GRANTSVILLE

CITY COUNCIL

# November 6th, 2024

# City Council Meeting

# Information Packet

# Agenda Item #1

Swearing in new Grantsville City Officer Dave Morris

# Agenda Item #2

Public Comment

# Agenda Item #3

Summary Action Items

a. Approval of Minutes from the October 9th Work Meeting, the October 16th Regular Meeting, and the October 23rd Special Meeting
b. Approval of Bills

**MINUTES OF THE SPECIAL MEETING OF THE GRANTSVILLE CITY COUNCIL, HELD ON OCTOBER 9, 2024 AT THE GRANTSVILLE CITY HALL, 429 EAST MAIN STREET, GRANTSVILLE, UTAH AND ON ZOOM. THE MEETING BEGAN AT 7:00 P.M.**

**Mayor and Council Members Present:**

Mayor Critchlow
Jolene Jenkins
Scott Bevan
Heidi Hammond
Jeff Williams
Rhett Butler

**Council Members Not Present:**

**Appointed Officers and Employees Present:**

Gina Roberts, Deputy City Recorder
Tysen Barker, City Attorney
Robert Sager, Police Chief

**Citizens and Guests Present:** There were many members of the public present in person and via Zoom

Mayor Critchlow led the Pledge of Allegiance

**AGENDA:**

1. **Public Comment**
   Kevin Casey stood for public comment. Mr. Casey opposes having a city manager and felt that having a city manager is not in the best interest of the community. Kevin Hall stood for public comment. Mr. Hall commended Councilwoman Hammond for her efforts with Main Street. Mr. Hall expressed concerns over recent changes in staff employees and financial obligations. Jewel Allen stood for public comment. Ms. Allen talked about the process the previous city council used to make the decision to create a city manager position and its purpose. Teresa Wilson stood for public comment. Ms. Wilson was in support of retaining the city manager position. Whit Cook stood for public comment. Mr. Cook expressed that he thought that having a city manager would split the executive power of the city. Jesse Wilson stood for public comment. Mr. Wilson discussed his experience in being the city manager and was is support of retaining the city manager position. Kevin Butler stood for public comment. Mr. Butler expressed his concern with the city and encouraged the leaders to work together. Katelyn Butler stood for public comment. Ms. Butler expressed her concerns over the schools and their ability to meet the needs of the growing population. Michael Vanwyck stood for public comment. Mr. Vanwyck expressed his concern over only having one person leading the city. KennaRae Arave stood for public comment. Ms. Arave stood in support of retaining the city manager position. Michelle Pitt stood for public comment. Ms. Pitt made comments opposing the need for a city manager. Stephanie Anderson stood for public comment. Ms. Anderson stood in support of having

a city manager. Alta Calcagno Batterman stood for public comment. Ms. Batterman talked about the need to work together and do whatever it takes for the betterment of the city. Derek Dalton stood for public comment. Mr. Dalton expressed concern over the growth and changes in the city and feels that the city would benefit from only having a mayor. Mike Colson stood for public comment. Mr. Colson stood in support of the process of implementing the city manager position and in retaining the position. Nic Jenkins stood for public comment. Mr. Jenkins expressed concern in the potential rotation of mayors and supports a city manager to maintain stability in the leadership of the city. Ken Judd stood for public comment. Mr. Judd stood in support of having a leader to provide continuity within the leadership of the city. Liz Allen stood for public comment. Ms. Allen acknowledged the intent and efforts of the elected officials but that she felt that having a professional would benefit the city.

2. **Discussion regarding continuing the City Manager role**
   The mayor and councilmember expressed their appreciation of the comments made.

3. **Adjourn**

   **Motion:** Councilmember Jenkins made the motion to adjourn

   **Second:** Councilmember Hammond seconded the motion.

   **Vote:** The vote was as follows: Councilmember Hammond, “Aye”, Councilmember Butler, “Aye”, Councilmember Bevan, “Aye”, Councilmember Williams “Aye”, and Councilmember Jenkins, “Aye”. The motion carried.

**Meeting ended at: 8:09**

**MINUTES OF THE WORK MEETING OF THE GRANTSVILLE CITY COUNCIL, HELD ON OCTOBER 16TH, 2024 AT THE GRANTSVILLE CITY HALL, 429 EAST MAIN STREET, GRANTSVILLE, UTAH AND ON ZOOM. THE MEETING BEGAN AT 6:30 P.M.**

**Mayor and Council Members Present:**

Mayor Critchlow
Jolene Jenkins
Scott Bevan
Heidi Hammond
Jeff Williams
Rhett Butler

**Council Members Not Present:**

**Appointed Officers and Employees Present:**

Braydee Baugh, City Recorder
Tysen Barker, City Attorney
Robert Rouselle, City Engineer (via Zoom)
Christy Montierth (via Zoom)
Shay Stark, City Planner (via Zoom)
Robert Sager, Police Chief
Shelby Moore, Zoning Administrator

**Citizens and Guests Present:** There were many members of the public present in person and via Zoom

**AGENDA:**

1. **Discussion regarding Sun Sage Terrace PID**

Larry Jacobson stood to represent this item. Mr. Jacobson advised after reviewing the project, they are able to fulfill the Council's request of ½ acre lots. Mr. Jacobson would like to know what amenities the City would like to see. Benjamin Wilhelm stood to represent the PID portion of this project. Mr. Wilhelm briefed the council on what a PID is and what that increase would be. Councilmember Hammond asked if the City is going to be maintaining the open space and how Public Works will feel about maintenance. Councilmember Hammond was concerned with the parking available if there were soccer fields intended to support games at this location.

2. **Adjourn**

**Motion:** Councilmember Butler made the motion to adjourn

**Second:** Councilmember Williams seconded the motion.

**Vote:** The vote was as follows: Councilmember Hammond, "Aye", Councilmember Butler, "Aye", Councilmember Bevan, "Aye", Councilmember Williams "Aye", and Councilmember Jenkins, "Aye". The motion carried.

**Meeting ended at: 6:47 pm**

**MINUTES OF THE SPECIAL MEETING OF THE GRANTSVILLE CITY COUNCIL, HELD ON OCTOBER 23rd, 2024 AT THE GRANTSVILLE CITY HALL, 429 EAST MAIN STREET, GRANTSVILLE, UTAH AND ON ZOOM. THE MEETING BEGAN AT 6:00 P.M.**

**Mayor and Council Members Present:**

Mayor Critchlow
Jolene Jenkins
Scott Bevan
Heidi Hammond
Jeff Williams
Rhett Butler

**Council Members Not Present:**

**Appointed Officers and Employees Present:**

Braydee Baugh, City Recorder
Tysen Barker, City Attorney
Shelby Moore, Zoning Administrator

**Citizens and Guests Present: Derek Dalton, Michael VanWyck, Thane Smith, Josh Romney, Anthon Stauffer**

**AGENDA:**

1. **Discussion regarding Deseret Meadows PUD**

Thane Smith stood to represent this item. The first variance front yard setbacks, Planning Commission recommended 25' and the applicant is requesting 11 feet. Mr. Smith explained the applicant worked with the utility companies to make sure they were accommodating their needs for the utility easements. Mr. Smith advised the smaller set backs encourage the community to interact with each other. Councilmember Hammond asked for clarification regarding the 22' set back for the garage and the 11' set-back for living space. Mr. Smith explained the garages would be further back than the front of the homes. Councilmember Jenkins asked how the setbacks addressed sight triangles. Ms. Moore advised the sight triangles are for the corners per code and the applicant has provided proof of meeting this requirement. Ms. Moore advised the code for all three zoning districts allow for negotiations related to set backs for the PUDs. Councilmember Butler asked what the real number for the development could be; considering the roads, open space, etc. Anthon Stauffer advised RM-15 means 15 units per acre including going vertical. Councilmember Hammond asked if the developer spoke to the School District, the church, and addressing the 20 acres of commercial. Mr. Smith

advised the School District did not have a plan to place a school on the west site of Grantsville. Mr. Stauffer advised he spoke to the School District and the developer was advised there are no immediate plans to place a school in this area, but would like to continue working with the school district. Mr. Smith advised he spoke to 3 individuals with the church. Mr. Smith continued the church advised they have not received any requests for a church in the area. Mr. Smith continued the code that was applicable at the time of application did not require 50% commercial. Councilmember Jenkins advised she has concerns with the traffic in the area and the safety of the area. Matt Christensen stood to represent this item. Mr. Christensen advised that traffic studies are completed for each project and provided to the City as part of the review process. Mr. Smith advised there is more than 50' from the right of way to the back of the homes. Josh Romney stood to represent this item. Councilmember Jenkins asked if the term "conditional" requires the City to approve the project. Mr. Barker advised the Conditional Use is the mechanism that PUD's are approved. Mr. Barker continued that under the Conditional Use code, it would be to place conditions. Mr. Barker advised because the PUD is only under the Conditional Use code, there are not necessarily conditions that must be met. Councilmember Jenkins advised the housing development in Clinton is a nightmare for parking. Mr. Romney asked how many parking spots in Clinton per house there are as this project has 4 per home. Councilmember Bevan asked if there was a stop light on the East end of this project. BJ Ryan with Lennar Homes advised the front yard landscaping will be completed. Councilmember Butler advised he is concerned about the minimum lot sizes for townhomes. Mr. Smith asked if there was a resolution for any issues the Council may currently have. Mr. Stauffer advised there have been a lot of modifications to the original plan and the current concept plan. Councilmember Williams advised he would go to see project in Utah county to see if the project fits the vision for Grantsville. Councilmember Hammond expressed concern with the Mixed-Use zoning and larger lots mixed into the development and thinks apartments would be applicable to this area. Councilmember Bevan advised he would like more commercial to be provided. Councilmember Jenkins advised she wanted to see more commercial. Mr. Stauffer advised there is also commercial across the highway. Councilmember Butler asked if the commercial space increase by 2 acres what the number of units changes by. Mr. Romney advised the number would be the same, but reduce the size of the lot. Councilmember Butler asked if there was a PID for this project. Mr. Smith advised

there is not currently the need for a PID, but until there is actually an identified reason for a PID they would not rule it out.

**2. Adjourn**

**Motion:** Councilmember Butler made the motion to adjourn

**Second:** Councilmember Hammond seconded the motion.

**Vote:** The vote was as follows: Councilmember Hammond, "Aye", Councilmember Butler, "Aye", Councilmember Bevan, "Aye", Councilmember Williams "Aye", and Councilmember Jenkins, "Aye". The motion carried.

**Meeting ended at: 9:00 pm**

# Agenda Item #4

Consideration of Ordinance 2024-30 amending the Impact Fees and Building Fees

**GRANTSVILLE CITY**
**ORDINANCE NO. 2024-30**

**AN ORDINANCE OF GRANTSVILLE CITY AMENDING THE IMPACT FEES AND BUILDING FEES**

Be it enacted and ordained by the City Council of Grantsville City, Utah as follows:

**WHEREAS,** Grantsville City has reviewed the impact fees and building fees to ensure they align with the costs associated with growth and development within the City; and

**WHEREAS,** the City Council previously approved impact fees for various services and the Capital Facilities Plan, attached as Exhibit B for reference, on August 21, 2024, through Resolution 2024-63, adopting the Impact Fee Facilities Plan to support infrastructure and service needs as the City grows; and

**WHEREAS,** the City has further evaluated these fees based on the report titled "Impact Fee and Building Department Updates 2024," attached hereto as Exhibit A, which outlines adjustments needed to support the ongoing infrastructure and service requirements of new developments; and

**WHEREAS,** it is the intent of the City Council to adopt revised impact fees and building fees that reflect the current economic conditions and growth patterns within the City.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF GRANTSVILLE CITY, STATE OF UTAH, AS FOLLOWS:

**Section 1. Amendment of Impact and Building Fees:** The impact fees for transportation, public safety, parks, and other applicable areas, along with building fees, are hereby amended in accordance with the schedules and details contained in Exhibit A, the "Impact Fee and Building Department Updates 2024" report.

**Section 2. Effective Date:** This Ordinance shall take effect immediately upon its passage and approval as provided by law.

**Section 3. Severability clause:** If any part or provision of this Ordinance is held invalid or unenforceable, such invalidity or unenforceability shall not affect any other portion of this Ordinance and all provisions, clauses and words of this Ordinance shall be severable.

ADOPTED AND PASSED BY THE CITY COUNCIL OF GRANTSVILLE CITY, THIS 6TH DAY OF NOVEMBER, 2024.

BY THE ORDER OF THE GRANTSVILLE CITY COUNCIL:

_____
By Mayor Neil Critchlow

ATTEST

_____
Braydee Baugh, City Recorder

Approved as to Form:

_____
Tysen J. Barker, Grantsville City Attorney

# Exhibit “A”

Impact Fee and Building Department Updates 2024

**Building Fees**
General Building Fees
Single Family Dwelling Permit Fees
Multi-Family Building Permit Fees
Commercial/Industrial Building Permit Fees

## General Building Fees

| | |
|---|---|
| **Building Permit Fee** | Minimum of $150.00 |
| **State Surcharge** | 1% of Building Permit Fee |
| **Cut Permit Fee:** | |
| Single Excavation | $25.00 plus any applicable inspection fee or service fee performed |
| Excavating more than 100 lineal feet or a series or exploratory or repair holes | $25.00 for each 100 lineal feet or fraction thereof, plus any applicable inspection or service fees. (Performance Bond is required) |
| **Demolition Permits** | $150 + 1% State Surcharge |
| **Plan Check Fee:** | |
| Total permit value <$15,000 | $100.00 fee |
| Total permit value >$15,000 | ~~.0063~~ x total permit value (minimum of $100.00) .0052 |
| **Re-Inspection Fee** | $50.00 (after two) |
| **Work Without a Permit** | Double the standard permit fee |
| **Zoning Inspection Fee:** | |
| Plan Check | $25.00 |
| Permit Fee | $25.00 |

**Notwithstanding the above schedule of fees, should the plan check, inspection, or other related cost of the City exceed those fees identified herein, the applicant shall be required to pay the actual costs incurred by the City, when said additional costs are determined and documented to exceed the fees paid by the applicant.**

*TOTAL PERMIT VALUE WILL BE DETERMINED USING BUILDING VALUATION DATA FROM THE ICC (International Code Council) — UPDATED ANUALLY ON JANUARY 1ST.

HISTORY
*Amended by Ord. 2020-28 on 10/7/2020*
*Amended by Ord. 2024-04 on 1/17/2024*

## Single Family Dwelling Permit Fees

| | |
|---|---|
| Building Permit Fee | ~~.008 x~~ total permit value*. .0073 |
| Plan Check Fee .0052 | ~~.0063~~ x total permit value. (This fee does not apply to manufactured or mobile homes unless sitting on a foundation, or agricultural buildings) |

Transportation Impact Fee $2,754.42/Dwelling Unit

| | |
|---|---|
| Water Cap Impact Fee | ~~$3,036.00~~ (for a 3/4 inch meter) $3,432.76 |
| Indoor Water Acquisition Impact Fee | ~~$4,033.00~~/dwelling unit $5,545.00 |
| Outdoor Water Acquisition Impact Fee | ~~$6,336.00-$39,427.00~~ $8,561.98 - $53,280.00 |
| | Outdoor water acquisition fee will be waived if you provide enough shares of secondary water to cover the requirements for landscape watering according to Grantsville City Ordinance. Shares must be in appurtenant to the property. |
| Outdoor Water Acquisition Impact Fee (Xeriscape reduction) | ~~$4,338.00-$26,995.00~~ $7,802.69 - $48,555.00 |
| Sewer Cap Impact Fee | ~~$1,529.00~~ $5,120.79 |
| Public Safety Impact Fee | ~~$590.00~~/ dwelling unit $996.12 |
| Park Impact Fee | ~~$1,925.00~~/ dwelling unit $3,952.56 |
| Temporary Water Connection | Water will be metered and charged the standard city rates. Damage to meter will result in a meter replacement fee. |
| Water Meter | $350.00 for 3/4 inch meter |
| State Surcharge | 1% of building permit fee (this goes to the State) |
| Sewer Lateral Inspection | $125.00 - must be a Licensed Bonded Contractor! |
| Credit/Debit Card Fee | 2.5% |
| Recovery Right | Request a recovery right review for the parcel |

**Note: A few subdivisions in the City have 1-inch water lines. These subdivisions will be required to pay the increased water, sewer, and meter charges on all building permits unless changed to ¾ inch prior to permit issuance.**

Outdoor Water Acquisition Fee Tables

*TOTAL PERMIT VALUE WILL BE DETERMINED USING BUILDING VALUATION DATA FROM THE ICC (International Code Council) — UPDATED ANUALLY ON JANUARY 1ST.

HISTORY
*Amended by Ord. 2020-28 on 10/7/2020*
*Amended by Ord. 2022-06 on 5/4/2022*
*Amended by Ord. 2024-04 on 1/17/2024*

**Multi-Family Building Permit Fees**

***Grantsville City does not sell water rights.***

Transportation Impact Fee $1,558.05

| | |
|---|---|
| **Indoor Water Acquisition Impact Fee** | ~~$2,128.00~~/ dwelling unit $3,000.00 |
| **Outdoor Water Acquisition Impact Fee** | $8,561.98 - $53,280.00<br>~~$6,336.00 - $39,427.00~~ (based on square footage of the irrigation area). |
| | Outdoor water acquisition fee will be waived if you provide enough shares of secondary water to cover the requirements for landscape watering according to Grantsville City Ordinance. Shares must be in appurtenant to the property. This amount will vary depending on the number of shares. Lots that are 1/2 acre or larger may require two (2) shares of secondary water. Please verify with Grantsville Irrigation Company. |
| **Building Permit Fee** | ~~.0075~~ x total permit value*. .0068 |
| **Plan Check Fee** | ~~.0049~~ x total permit value. .0040 |
| **Park Impact Fee** | ~~$1,925.00~~ / dwelling unit $3,952.56 |
| **Sewer Cap Impact Fee** | ~~$1,529.00~~ for 3/4 meter $5,120.79 |
| **Water Cap Impact Fee** | ~~$3,036~~ for 3/4 meter $3,432.76 |
| **Public Safety Fee** | $255.00/ dwelling unit $430.33 |
| **Temporary Water Connection** | Water will be metered and charged the standard city rates. Damage to meter will result in a meter replacement fee. |
| **Water Meter** | $350.00 for 3/4 inch meter. Larger meter sizes will be priced at request. |
| **State Surcharge** | 1% of building permit fee (this goes to the State) |
| **Sewer Lateral/Offsite Inspection** | $125.00 - Must be Licensed Bonded Contractor! |
| **Recovery Rights** | Request a recovery right review for the building |
| **Credit/Debit Card Fee** | 2.5% |

*TOTAL PERMIT VALUE WILL BE DETERMINED USING BUILDING VALUATION DATA FROM THE ICC (International Code Council) — UPDATED ANUALLY ON JANUARY 1ST.

HISTORY
*Amended by Ord. 2020-28 on 10/7/2020*
*Amended by Ord. 2022-06 on 5/4/2022*
*Amended by Ord. 2024-04 on 1/17/2024*

## Commercial/Industrial Building Permit Fees

***Grantsville City does not sell water rights.*** Transportation Impact Fee $1,029.43/1,000 sf Building Area

| | |
|---|---|
| Indoor Water Acquisition Impact Fee | ~~$168.00/ f~~ixture unit $277.00 |
| Outdoor Water Acquisition Impact Fee | Irrigated Acres not capped. Calculated: Irrigated acres x 3.33 acre feet/ irrigated acre x (~~18,500~~/ac-ft) $25,000 |

| | |
|---|---|
| Building Permit Fee | ~~.0075~~ x total permit value*. .0068 |
| Indoor Water Cap Impact Fee | ~~$31.00~~/unit $35.00 |
| Outdoor Water Cap Impact Fee | ~~$19,186/~~ irrigatedper acre $21,694.03 |
| | Outdoor water acquisition fee will be waived if you provide enough shares of secondary water to cover the requirements for landscape watering according to Grantsville City Ordinance. Shares must be in appurtenant to the property. |
| Plan Check Fee | .0049 x total permit value.. (This fee does not apply to manufactured or mobile homes unless siting on a foundation, or agricultural buildings). |
| Sewer Cap Impact Fee | ~~$64.00~~/ fixture unit fixture $213.37 |
| Public Safety Fee | ~~$0.54/square foot building area~~ $953.80/1,000 sq ft building area |
| Temporary Water Connection | Water will be metered and charged the standard city rates. Damage to meter will result in a meter replacement fee. |
| Water Meter | $350.00 for 3/4 inch meter. Larger meter sizes will be priced at request. |
| State Surcharge | 1% of building permit fee (this goes to the State) |
| Sewer Lateral/Offsite Inspection | $125.00 - must be a Licensed Bonded Contractor! |
| Recovery Rights | Request a recovery right review for the building |
| Credit/Debit Card Fee | 2.5% |

**Note: Deseret Peak has its own impact fees. Please see ordinance**

TOTAL PERMIT VALUE WILL BE DETERMINED USING BUILDING VALUATION DATA FROM THE ICC (International Code Council) — UPDATED ANUALLY ON JANUARY 1ST.

HISTORY
*Amended by Ord. 2020-28 on 10/7/2020*
*Amended by Ord. 2022-06 on 5/4/2022*
*Amended by Ord. 2024-04 on 1/17/2024*

# Exhibit “B”

Capital Facilities Plan, Impact Fee Facilities Plan, and Impact Fee Analysis 2024 Amendments

ENSIGN

THE STANDARD IN ENGINEERING

PROJECT:

# CAPITAL FACILITIES PLAN, IMPACT FEE FACILITIES PLAN, AND IMPACT FEE ANALYSIS 2024 AMENDMENTS

PREPARED FOR:

**Grantsville City**
429 East Main Street
Grantsville, Utah 84029

DATE:

July 2024


PREPARED BY:

**Matthew Sanford, EIT & Conor Dunkel, PE**

REVIEWED BY:

**Robert Rousselle, PE**

**ENSIGN ENGINEERING & LAND SURVEYING**

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Sandy, Utah 84070
801.255.0529 Main
801.255.4449 Fax
www.ensigneng.com




# ACKNOWLEDGMENTS

A special thanks to all who contributed to the development of this plan. Its completion was made possible by the effort, support, and collaboration from each person involved. The participation of the following individuals is greatly appreciated.

**GRANTSVILLE CITY COUNCIL**

Mayor Neil Critchlow
Rhett Butler
Scott Bevan
Jeff Williams
Jolene Jenkins
Heidi Hammond

**PLANNING COMMISSION**

Rick Barchers
Derek Dalton
Kevin Hall
Rob Jaterka
Jeff Downward

**GRANTSVILLE CITY STAFF**

Sherrie Broadbent (Finance Director)
James Waltz (Public Works Director)
Christy Montierth (Deputy Public Works Director)
Andy Jensen (Building Official)
Shelby Moore (Planning and Zoning Administrator)
Braydee Baugh (City Recorder)
Jason Smith (Fire Chief)
Robert Sager (Chief of Police)

**H.W. LOCHNER**

Brad Lucas

## CERTIFICATION AND DECLARATION OF IMPACT FEE ANALYSIS

In accordance with Utah Code Annotated, 11-36a-306(1) and (2), I, Robert Joseph Rousselle, on behalf of Ensign Engineering and Land Surveying, LLC, certify that I am a Registered Professional Engineer holding Certificate 7885569-2202 in the State of Utah.

I declare, to the best of my knowledge, information, and belief that the Impact Fee Facilities Plans and Impact Fee Analyses included herein include only the costs of public facilities that are:

- Allowed under the Impact Fees Act;
- Actually incurred; or
- Projected to be incurred or encumbered within six (6) years after the day on which each impact fee is paid;
- Does not include costs for operation and maintenance of public facilities;
- Does not include costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents;
- Offsets costs with grants or alternate sources of payment;
- Complies in each and every relevant respect with the Impact Fees Act.

I make this certification and declaration with the following conditions:

1. All of the recommendations for implementation of the Capital Facilities Plans (CFP) made in the CFP documents or in the Impact Fee Analysis documents are followed in their entirety by Grantsville City and its elected officials.
2. All information provided to Ensign Engineering and Land Surveying, LLC, its contractors or suppliers is assumed to be correct, complete, and accurate. This includes information provided by Grantsville City and outside sources.

**Ensign Engineering and Land Surveying, LLC**

**Robert Joseph Rousselle**
**Associate**

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# GLOSSARY OF TECHNICAL TERMS

**80th Percentile Rainfall Event**

Storm event in which precipitation is greater than or equal to 80 percent of all storm events averaged over a given period of record.

**Average Daily or Day Demand**

The average yearly demand volume expressed as a flow rate. Demand is typically used in irrigation or drinking water terminology.

**Average Daily or Day Flow**

The average yearly flow volume expressed as a flow rate. Term typically used in wastewater terminology.

**Average Yearly Demand**

Amount of water delivered to consumers by a public water system during a typical year. Demand is typically used in irrigation or drinking water terminology.

**Bonds**

Fixed-income instrument representing a loan made by an investor to a borrower (typically corporate or governmental). Bonds are used by companies, municipalities, states, and sovereign governments to finance projects and operations.

**Build-Out**

The maximum number of ERCs or EDUs allowed by the planning jurisdiction in its service area.

**Buy-in Costs**

Depreciated costs for municipal or service district assets which have excess capacity and can be contributed to existing or future development.

**Capital Facilities Plan**

A plan to assist a jurisdiction to use its funding wisely and efficiently to maximize funding opportunities. A capital facilities plan will assist in determining needs, prioritizing projects, coordinating related projects, and applying for load, bonds, and grant opportunities.

**Collection System**

Wastewater system consisting of manholes, gravity pipes, force mains, interceptors, trunk lines, lift stations, and appurtenances.

**Collector Line**

Sanitary sewer line which receives wastewater flow from lateral sewer lines and conveys flow to a trunk line or an interceptor line.

**Cost Estimate**

Typically an Engineer's Estimate of Probably Costs for a project improvement based on recently bid projects and current construction climate. A cost estimate may include design fees, permitting, administrative costs, and contingency.

**Curve Number**

Empirical parameter used in hydrology for predicting storm water runoff potential for a given drainage area based on land use, soil group, and soil moisture derived by the National Resources Conservation Service (NRCS). Term typically used in storm water terminology.

**Debt Service**

Money required to cover the payment of interest and principal on a loan or other debt for a particular time period.

**Demand**

The drinking water flow rate or volume consumed by water system users.

**Demographics**

Characteristics of human population and population segments.

**Detention**

Term typically used in storm water terminology to define a storm water storage site which stores and releases storm water at a controlled discharge rate.

**Disinfection**

A process which inactives pathogenic organisms in water by chemical oxidants or equivalent agents.

**Distribution System**

Drinking water system's network of pipes, valves, fitting, and appurtenances.

**Drinking Water**

Water suitable to be ingested by humans. Sometimes referred to as Culinary or Potable Water.

**Dwelling Unit(s)**

Dwelling Unit (DU) is a structure or the part of a structure used as a home, residence, or sleeping place by one person who maintains a household or by two or more persons who maintain a common household.

**Equivalent Residential Connection(s), Dwelling Unit(s) or Residential Unit(s)**

An ERC, EDU, or ERU is a unit of measurement used to compare water demand from non-residential connections to residential connections. Water use criteria from source (wells and springs) and metered data are established based on average demand or consumption by residential connections. This is compared with non-residential uses.

**Excess Capacity**

Excess capacity used for engineering purposes is when the demand is less than capacity. An example of excess capacity is when the water demand (consumption) of drinking water system users is less than the drinking water system supply.

**Fixture Unit**

A unit of measure expressing the hydraulic loading imposed by any sanitary fixture on the system of pipe work to which it discharges. Fixture units are typically defined in the International Plumbing Code (IPC).

**Fire Flow**

Available flowrate of water supply for firefighting with a residual pressure of 20 psi. Typically measured as a rate of flow (gpm) for a specific period of time or duration (hours).

**Flood Hazard Zone**

Flood Hazard Zone is an area identified on a Flood Insurance Rate Map (FIRM) which specifies a Base Flood Elevation (BFE) or flood depth.

**Head**

Also referred to as Pressure Head is a measurement of water pressure in a hydraulic setting expressed as feet of water. One (1) lbs per square inch (psi) of head equals 2.31 feet.

**Head Loss**

Measurement of energy dissipated in a fluid system due to friction along the length of a pipe or hydraulic system, and those due to fittings, valves and other system structures.

**HEC**

Computer software for hydrologic engineering and planning analysis.

**HEC-RAS**

Computer program which models the hydraulics of water flow through natural rivers and channels.

**Hydrology**

Scientific study of the properties, distribution, and effects of water on the earth's surface, in the soil and underlying rocks, and in the atmosphere.

**Hydrologic Soil Group**

Natural Resource Conservative Service (NRCS) classification system in which soils are categorized into four (4) runoff potential groups. This groups consist of soil groups A, B, C, or D.

**Indoor Use**

Hydraulic loading imposed by any sanitary fixture on the system of pipe work to which it discharges inside a building.

**Infiltration**

Process by which water enters the soil and recharges streams, lakes, rivers, and underground aquifers. Term typically used in storm water terminology.

**Infiltration Rate**

Flow rate by which water enters the soil and recharges streams, lakes, rivers, and underground aquifers. Typically, specified in inches per hour. Term typically used in storm water terminology.

**Inflation**

Rate at which prices for goods and services increases.

**Interceptor Lines**

Major sanitary sewer line that receives flow from trunk sanitary sewer lines.

**Interest**

Amount paid to borrow money or the cost charged to lend money. Interest is most often reflected as an annual percentage of the amount of a loan.

**Impact Fee**

Payment of money imposed upon new development activity as a condition of development approval to mitigate the impact of the new development on public infrastructure.

**Impact Fee Analysis**

The written analysis of each impact fee required by Utah Code Section 11-36a-303.

**Impact Fee Facilities Plan**

Plan required by Utah Code Section 11-36a-301.

**Impervious**

Term typically used in storm water terminology to define an area which is impervious such as asphalt pavement or a concrete sidewalk.

**Level of Service**

Defined performance standard or unit of demand for each capital component of a public facility within a service area.

**LID**

Low Impact Development is a storm water management strategy which seeks to mitigate the impacts of increased runoff and storm water pollution by managing runoff as close to its source as possible.

**Manning's n**

Unitless coefficient which represents the roughness or friction applied to the flow of a conduit or a channel.

**Master Plan**

Dynamic long-term planning document providing a conceptual layout to guide future growth and development.

**Major Head losses**

Major head losses or friction losses is the loss of pressure or "head" in pipe flow due to the effect of the fluid's viscosity near the surface of the pipe or duct.

**Minor Head losses**

Minor head losses are local pressure losses or pressure drops of various hydraulic elements such as bends, fittings, valves, elbows, tees or heated channels.

**Multi-Unit**

Typically a dwelling unit with multiple units such as an apartment building or a duplex.

**NOAA ATLAS 14 Precipitation Data**

Point precipitation frequency estimates for a specific area in the United States available on NOAA's website.

**Non-Residential**

A non-residential use such as a warehouse, commercial building, or business.

**Occurrence**

Term used in storm water terminology to estimate the frequency of a storm water event.

**Outdoor Use**

Hydraulic loading imposed on the system typically by an irrigation system.

**Peak Day Demand**

Amount of water utilized by a water supplier on the day of highest consumption, generally expressed in gallons per day (gpd) or millions of gallons per day (MGD). Demand is typically used in irrigation or drinking water terminology.

**Peak Day Flow**

Amount of wastewater utilized by a wastewater supplier on the day of highest consumption, generally expressed in gallons per day (gpd) or millions of gallons per day (MGD).

**Peak Discharge**

Maximum rate of flow during a storm event. Term typically used in storm water terminology.

**Peaking Factors**

Ratio of a peak day or instantaneous flow/demand to the average day or daily flow/demand.

**Peak Inflow**

Highest inflow of wastewater into a wastewater treatment facility.

**Peak Instantaneous Demand**

Calculated or estimated highest demand which can be expected through any water main of the distribution network of a water system at any instant in time, generally expressed in gpm or cfs.

**Peak Instantaneous Flow**

Calculated or estimated highest flowrate which can be expected through any wastewater collection system at any instant in time, generally expressed in gpm or cfs.

**Peak Rainfall Depth**

The point at which the amount of rain received is at its highest depth.

**Percolation Rate**

Flow rate by which water enters the soil and recharges streams, lakes, rivers, and underground aquifers. Typically, specified in minutes per inch. Term typically used in storm water terminology.

**Pervious**

Term typically used in storm water terminology to define an area which is pervious or allows storm water to infiltrate into the soil such as a parking strip or lawn.

**Planning Period**

The period of time, typically in years, used in a plan. A planning period of 10-years is typically used in Impact Fee Facilities Plans. Master or General Plans may use planning periods from 20 to 50 years.

**Pressure Reducing Valve**

Valve provided to reduce pressure in a water distribution system. Typically, used to reduce pressure greater than 100 psi to 50 – 65 psi depending on specific distribution system requirements.

**Pressure Zone**

A pressure zone in a distribution system is established with a minimum and maximum pressure range which is maintained without the use of ancillary control equipment (e.g. booster pumps, pressure reducing valves, etc.). Maximum static pressures in a typical drinking water pressure zone are 100 to 120 psi with minimum static pressures from 50 to 65 psi.

**Professional Expenses**

Expenses of a professional consultant. An example is engineering design and construction administrative fees from an engineering company.

**Proportionate Share**

Cost of public facility improvements which are roughly proportionate and reasonably related to the service demands and needs of any development activity.

**Retention**

Term typically used in storm water terminology to define a storm water storage site which retains storm water without releasing at a controlled discharge rate and instead infiltrates stored storm water into the ground.

**Runoff**

Precipitation which does not soak or absorb into the soil surface.

**Runoff Coefficients**

Percentage of precipitation leaving a particular site as runoff.

**Safety Factor**

Engineering term utilized to describe how much stronger a system or structure is than it is required to be to fulfil its purpose under expected conditions.

**SCS Method**

Soil Conservation Service (SCS) Method is a hydrologic modeling method for computing the volume of surface runoff for a given rainfall event from small agricultural, forest, and urban watersheds.

**Service Area**

Geographic area designated by an entity which a facility, or a defined set of facilities, provides service within the area.

**Single Family**

Residence used by a single private family which serves no other purpose.

**Source**

Term used in irrigation or drinking water terminology to specify where the supply of water originates.  Examples include groundwater wells or springs.

**Static Pressure**

The pressure exerted by a liquid or gas, especially water or air, on a body at rest.

**Storm and Sanitary Analysis**

Comprehensive hydrology and hydraulic analysis application which assists in planning and design of storm water and sanitary sewer systems.

**Storm Event**

Amount of precipitation which occurs during a specific duration and recurrence interval for the location of the storm event. An example is a 100-year storm event during a 24-hour duration.

**Surplus Capacity**

The amount of surplus or excess capacity a system has available to future development.

**SWMM Method**

Storm Water Management Model (SWMM) Method is used throughout the world for planning, analysis and design related to storm water runoff, combined and sanitary sewers, and other drainages. SWMM is a Windows-based, open source, desktop program.

**Time of Concentration**

Time required for water to flow from the most remote point in a watershed to the point of interest within the watershed. It is a function of topography, geology and land use within the watershed and is computed by summing all the travel times for consecutive components of the drainage conveyance system.

**Total Dynamic Head**

Total Dynamic Head is the total equivalent height that water needs to be pumped or lifted vertically while also factoring in the friction losses of the pipe and minor head losses in valves and fittings.

**TR-55**

Technical Release 55 (TR-55) presents simplified procedures to calculate storm runoff volume, peak rate of discharge, hydrographs, and storage volumes required for storm water detention or retention.

**Transmission Pipeline**

For drinking water or irrigation, a transmission pipeline is typically defined as the pipe from a storage reservoir to the distribution system. A transmission pipeline typically does not have any user water connections.

**Trunk Line**

Sewer line which receives wastewater flow from the collector sanitary sewer lines and conveys this wastewater either to an interceptor line or a wastewater treatment or reclamation facility.

**Waterline**

A line formed by the surface of the water on a structure.

**Water Line**

Pipe or conduit which contains and conveys water.

**Water Right**

The right to use water diverted at a specific location on a water source, and putting it to recognized beneficial uses at set locations.

**Water Wise, Waterwise, or Water-Wise**

Generally a functional, attractive, and easily maintained landscape in its natural surroundings. A water wise landscape helps conserve water. Note: Local jurisdiction may have specific definition of water wise landscaping.

# ABBREVIATIONS AND UNITS

| | |
|---|---|
| **ac** | acre [area unit of measurement] |
| **ac-ft** | acre-foot (1 acre-foot = 325,851 gallons) [volume unit of measurement] |
| **AWWA** | American Water Works Association |
| **BFE** | Base Flood Elevation |
| **C** | Runoff Coefficient |
| **CN** | Curve Number(s) |
| **CFP** | Capital Facilities Plan |
| **cfs** | cubic feet per second [flow rate unit of measurement] |
| **cfs/acre** | cubic feet per acre [flow rate per area unit of measurement] |
| **CMP** | Corrugated Metal Pipe |
| **d/D** | depth to diameter ratio |
| **DIP** | Ductile Iron Pipe |
| **DEQ** | Department of Environmental Quality |
| **DU** | Dwelling Unit(s) |
| **EDU** | Equivalent Dwelling Unit(s) |
| **Ensign** | Ensign Engineering and Land Surveying |
| **EPA** | U.S. Environmental Protection Agency |
| **ERC** | Equivalent Residential Connection(s) |
| **ERU** | Equivalent Residential Units(s) |
| **FEMA** | Federal Emergency Management Agency |
| **FIRM** | Flood Insurance Rate Map(s) |
| **ft** | foot [length unit of measurement] |
| **ft/s or fps** | feet per second [velocity unit of measurement] |
| **FU** | Fixture Unit |
| **gal** | gallons [volume unit of measurement] |
| **gpd** | gallons per day [flow rate unit of measurement] |
| **gpm** | gallons per minute [flow rate unit of measurement] |
| **HDPE** | High-density Polyethylene [material used for various building materials] |
| **HEC** | Hydrologic Engineering Center |
| **HEC-RAS** | Hydrologic Engineering Center – River Analysis System |
| **hr** | hour [time unit of measurement] |
| **ID** | Inside Diameter |

| | |
|---|---|
| **IFFP** | Impact Fee Facilities Plan |
| **IPC** | International Plumbing Code |
| **i** | Average Rainfall Intensity (inches per hour) |
| **I&I** | Inflow and Infiltration |
| **in.** | inch [length unit of measurement] |
| **L** | Length (ft) |
| **LID** | Low Impact Development |
| **LOS** | Level of Service |
| **MG** | million gallons [volume unit of measurement] |
| **MGD** | millions of gallons per day [flow rate unit of measurement] |
| **mi** | mile [length unit of measurement] |
| **min** | minute [time unit of measurement] |
| **MP** | Master Plan |
| **NOAA** | National Oceanic Atmospheric Administration |
| **NOI** | Notice of Intent |
| **NOT** | Notice of Termination |
| **NRCS** | Natural Resources Conservation Service |
| **PF** | Peaking Factor |
| **PRV** | Pressure Reducing Valve |
| **psi** | pounds per square inch [pressure unit of measurement] |
| **PVC** | Polyvinyl Chloride [type of plastic pipe] |
| **Q** | Flow Rate or Peak Rate of Runoff (cubic feet second) |
| **RCP** | Reinforced Concrete Pipe |
| **s** | second [time unit of measurement] |
| **SCADA** | Supervisory Control And Data Acquisition |
| **SCS** | Soil Conservation Service |
| **SF** | Safety Factor |
| **SR** | State Route |
| **SSA** | Storm and Sanitary Analysis |
| **SWMP** | Storm Water management Program |
| **SWPPP** | Storm Water Pollution Prevention Plan |
| **Tc** | Time of Concentration |
| **UAC** | Utah Administrative Code |
| **V** | Velocity (fs/s or fps) |

| | |
|---|---|
| **WSFU** | Water Supply Fixture Unit |
| **WW** | Wastewater |
| **WWTF** | Wastewater Treatment Facility |
| **WWRF** | Wastewater Reclamation Facility |
| **yr** | year [time unit of measurement] |

# EXECUTIVE SUMMARY

The City of Grantsville is amending its Capital Facilities Plan (CFP), Impact Fee Facilities Plan (IFFP), and Impact Fee Analysis (IFA) in order to ensure the current level of service (LOS) provided to citizens meets demands and can be maintained as the City continues to grow. The CFP, IFFP, and IFA contained in this plan update projects identified in the previous Capital Facility Plans (2013, 2016, and 2022 CFPs), propose new projects, and update impact fees associated with planned development.

First, a demographic analysis of Grantsville City's current population, land-use, development patterns, and development potential was completed. The results of the analysis have been used as a basis for projection of future growth over a 10-year planning period and its distribution throughout the planning area. These future growth projections were used as one of the factors to estimate future utility demands and infrastructure requirements for the community. The existing conditions resulting from this analysis are shown in Table 1-1 and the future growth projections are shown in Table 1-2.

**Table 1-1: Existing Demographic Conditions**

| Service Connection Type | Service Connections | Units | ERC / Unit | ERCs |
|---|---|---|---|---|
| Single Family | 4,267 | 4,274 | 1.00 | 4,274 |
| Multi-Unit | 47 | 291 | 0.55 | 160 |
| Trailer | 9 | 216 | 1.13 | 244 |
| Commercial | 107 | 146 | 7.92 | 1,156 |
| Church | 10 | 11 | 9.28 | 102 |
| School | 7 | 10 | 5.22 | 52 |
| Construction Water | 13 | 13 | 4.83 | 63 |
| City Rate | 5 | 34 | 8.60 | 292 |
| **Total** | **4,465** | **4,995** | | **6,343** |

**Table 1-2: Future Growth Projections**

| Year: | | 2023 | | 2024 | | 2025 | | 2026 | | 2027 | | 2028 | | 2029 | | 2030 | | 2031 | | 2032 | | 2033 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Projected Population:** | | **13,847** | | **14,504** | | **15,194** | | **15,916** | | **16,677** | | **17,476** | | **18,314** | | **19,193** | | **20,119** | | **21,090** | | **22,108** | |
| **Growth Rate:** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | |
| **Service Connection Type** | **ERC / Unit** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** |
| Single Family | 1.00 | 4,274 | 4,274 | 4,488 | 4,488 | 4,712 | 4,712 | 4,948 | 4,948 | 5,195 | 5,195 | 5,455 | 5,455 | 5,728 | 5,728 | 6,014 | 6,014 | 6,315 | 6,315 | 6,631 | 6,631 | 6,963 | 6,963 |
| Multi-Unit | 0.55 | 291 | 160 | 306 | 168 | 321 | 177 | 337 | 185 | 354 | 195 | 372 | 205 | 391 | 215 | 411 | 226 | 432 | 238 | 454 | 250 | 477 | 262 |
| Trailer [1] | 1.13 | 216 | 244 | 216 | 244 | 216 | 244 | 216 | 244 | 216 | 244 | 216 | 244 | 216 | 244 | 216 | 244 | 216 | 244 | 216 | 244 | 216 | 244 |
| Commercial | 7.92 | 146 | 1,156 | 153 | 1,212 | 161 | 1,275 | 169 | 1,338 | 177 | 1,402 | 186 | 1,473 | 195 | 1,544 | 205 | 1,624 | 215 | 1,703 | 226 | 1,790 | 237 | 1,877 |
| Church [2] | 9.28 | 11 | 102 | 11 | 102 | 12 | 111 | 12 | 111 | 13 | 121 | 13 | 121 | 14 | 130 | 15 | 139 | 15 | 139 | 16 | 148 | 17 | 158 |
| School [3] | 5.22 | 10 | 52 | 10 | 52 | 11 | 57 | 11 | 57 | 12 | 63 | 13 | 68 | 13 | 68 | 14 | 73 | 15 | 78 | 16 | 84 | 17 | 89 |
| Construction Water | 4.83 | 13 | 63 | 14 | 68 | 15 | 72 | 16 | 77 | 17 | 82 | 18 | 87 | 19 | 92 | 20 | 97 | 21 | 101 | 22 | 106 | 23 | 111 |
| City Rate [4] | 8.60 | 34 | 292 | 35 | 301 | 38 | 327 | 38 | 327 | 38 | 327 | 38 | 327 | 39 | 335 | 40 | 344 | 40 | 344 | 40 | 344 | 40 | 344 |
| **Total** | | **4,995** | **6,343** | **5,233** | **6,635** | **5,486** | **6,975** | **5,747** | **7,287** | **6,022** | **7,629** | **6,311** | **7,980** | **6,615** | **8,356** | **6,935** | **8,761** | **7,269** | **9,162** | **7,621** | **9,597** | **7,990** | **10,048** |
| *Increase from 2023* | | *-* | *-* | *238* | *292* | *491* | *632* | *752* | *944* | *1,027* | *1,286* | *1,316* | *1,637* | *1,620* | *2,013* | *1,940* | *2,418* | *2,274* | *2,819* | *2,626* | *3,254* | *2,995* | *3,705* |

*[1] Trailer units are not expected to increase.*

*[2] Church growth rate is 1 church per 1,280 population.*

*[3] School growth rate is 1 school per 1,160 population.*

*[4] City Rate growth rate is based on anticipated City projects.*

Next, an analysis of the existing facilities for each utility (drinking water, public safety, parks, wastewater, water rights acquisition, storm drainage, and transportation) was completed. A level of service was proposed for each utility which was used to determine the capacity of existing facilities and future projects required to meet the demands of future development. A cost estimate was completed for each proposed project, and proportionate shares were determined based on the proportion of future development expected to be served by the facility within the planning period. The amount of each project which is eligible for impact fees was calculated by multiplying the proportionate share by the estimated project cost (inflated to the proposed construction year). The proposed system improvements for each utility along with the results of these calculations are shown in the following five tables.

**Table 1-3: Drinking Water System Improvements**

| Project | Construction Year | Current Year (2023) Cost Estimate | Construction Year Cost Estimate | Proportionate Share | Impact Fee Eligible Cost |
|---|---|---|---|---|---|
| Hunsaker Well Rehabilitation | 2024 | $264,654.17 | $264,654.17 [2] | 100% | $264,654.17 |
| Southwest Well No. 1 | 2025 | $2,921,854.32 | $3,129,963.39 | 0% [3] | $0.00 |
| Southwest Well No. 2 | 2030 | $2,862,765.23 | $3,642,236.84 | 100% | $3,642,236.84 |
| West Bank Well No. 1 | 2031 | $2,887,128.41 | $3,801,796.78 | 0% [3] | $0.00 |
| Southwest Tank No. 1 | 2025 | $3,839,078.10 | $4,112,516.44 | 15.7% | $646,074.28 |
| Southwest Tank No. 2 | 2026 | $3,780,827.64 | $4,191,871.19 | 0% [3] | $0.00 |
| West Bank Tank No. 1 | 2029 | $6,147,238.50 | $7,556,525.67 | 0% [3] | $0.00 |
| Wells and Booster Pumps Electrical Improvements | 2024 | $220,906.49 | $220,906.49 [2] | 36.9% | $81,454.87 |
| SR-138 Water Line Extension | 2024 | $4,601,294.50 | $4,762,339.81 | 0% [3] | $0.00 |
| Southwest Tank No. 1 Transmission Line | 2025 | $2,403,557.50 | $2,574,750.88 | 0% [3] | $0.00 |
| Generator | 2025 | $269,200.00 | $288,373.77 | 36.9% | $106,332.09 |
| SR-112 Water Line Extension | 2026 | $512,627.50 | $568,359.27 | 0% [3] | $0.00 |
| Southeast Water Line Project | 2026 | $1,442,156.82 | $1,598,945.04 | 0% [3] | $0.00 |
| Burmester Water Pipeline Project | 2028 | $940,526.85 | $1,117,050.86 | 36.9% | $411,890.27 |
| Public Works Improvements | 2026 | $1,008,975.00 [1] | $1,118,668.62 | 36.9% | $412,486.79 |
| **Total** | | **$34,102,791.03** | **$38,948,959.22** | | **$5,565,129.30** |

*[1] The cost shown for the Public Works Improvements project is half of the total cost estimate because this project cost will be split evenly between the wastewater and drinking water utilities.*

*[2] The cost for the project was not inflated because the cost shown is the actual project cost.*

*[3] The proportionate share is 0% because the project is expected be constructed by developers.*

**Table 1-4: Public Safety System Improvements**

| Project | Construction Year | Current Year (2023) Cost Estimate | Construction Year Cost Estimate | Proportionate Share | Impact Fee Eligible Cost |
|---|---|---|---|---|---|
| Satellite Fire Station East | 2025 | $3,123,189.55 | $3,345,638.73 | 62.3% | $2,083,929.44 |
| 2 Aerial Platform Trucks | 2025 | $2,570,940.00 | $2,754,055.20 | 62.3% | $1,715,444.25 |
| Pumper Truck | 2025 | $535,612.50 | $573,761.50 | 62.3% | $357,384.22 |
| Existing Fire Station Expansion | 2025 | $744,055.03 | $797,050.35 | 37.4% | $297,830.33 |
| Animal Control Shelter | 2025 | $2,932,511.50 | $3,141,379.63 | 16.6% | $520,748.81 |
| **Total** | | **$9,906,308.58** | **$10,611,885.41** | | **$4,975,337.05** |

**Table 1-5: Parks System Improvements**

| Project | Construction Year | Current Year (2023) Cost Estimate | Construction Year Cost Estimate | Proportionate Share | Impact Fee Eligible Cost |
|---|---|---|---|---|---|
| Pickleball Courts at Cherry St Park | 2024 | $0.00 [1] | $0.00 | 37.4% | $0.00 |
| Improvements to Eastmoor Park | 2024 | $349,628.10 | $361,865.08 | 37.4% | $135,216.55 |
| Soccer Fields at Hollywood Park | 2024 | $0.00 [1] | $0.00 | 37.4% | $0.00 |
| Desert Edge Park | 2026 | $1,974,627.37 | $2,189,304.66 | 0% [2] | $0.00 |
| Highlands Park | 2027 | $3,169,643.06 | $3,637,238.32 | 0% [2] | $0.00 |
| President's Park | 2028 | $1,583,442.69 | $1,880,633.20 | 100% | $1,880,633.20 |
| Scenic Slopes Park | 2029 | $4,226,406.45 | $5,195,332.64 | 100% | $5,195,332.64 |
| Clark Farm Park | 2030 | $3,175,477.22 | $4,040,093.82 | 4.81% | $194,193.84 |
| Twenty Wells Park | 2032 | $8,628,500.00 | $11,759,759.81 | 0% [2] | $0.00 |
| **Total** | | **$23,107,724.89** | **$29,064,227.53** | | **$7,405,376.23** |

*[1] The cost shown does not include the amount to be paid with grant money.*

*[2] The proportionate share is 0% because the project is expected be constructed by developers.*

**Table 1-6: Wastewater System Improvements**

| Project | Construction Year | Current Year (2023) Cost Estimate | Construction Year Cost Estimate | Proportionate Share | Impact Fee Eligible Cost |
|---|---|---|---|---|---|
| West Street Collector | 2024 | $1,173,619.54 [1] | $1,173,619.54 [2] | 12.8% | $150,522.25 |
| Willow Street Sewer Improvements | 2025 | $1,161,165.20 | $1,243,869.19 | 13.7% | $170,994.42 |
| Northwest Interceptor Extension | 2025 | $1,747,153.80 | $1,871,594.83 | 0% [4] | $0.00 |
| SR112 Interceptor | 2025 | $2,574,853.35 | $2,758,247.28 | 0% [4] | $0.00 |
| West Bank Interceptor | 2025 | $4,231,202.40 | $4,532,569.79 | 0% [4] | $0.00 |
| Southeast Sewer Line | 2026 | $1,415,384.80 | $1,569,262.43 | 0% [4] | $0.00 |
| SR138 Interceptor | 2028 | $1,185,626.50 | $1,408,152.36 | 0% [4] | $0.00 |
| Northwest Interceptor Replacement | 2031 | $7,005,127.30 | $9,224,414.93 | 11.2% | $1,033,712.75 |
| Northwest Lift Station - Upsize Force Main | 2027 | $181,440.00 | $208,206.57 | 99.9% | $208,025.93 |
| Proposed Wastewater Treatment Facility | 2025 | $30,910,559.75 | $32,905,575.54 | 18.5% | $6,095,757.87 |
| Public Works Improvements | 2026 | $1,008,975.00 [3] | $1,118,668.62 | 36.9% | $412,486.79 |
| **Total** | | **$52,595,107.64** | **$58,014,181.09** | | **$8,071,500.00** |

*[1] The cost shown for the West Street Collector project is the total cost less the amount to be paid with grant money.*

*[2] The cost for the West Street Collector project was not inflated because the cost shown is the actual project cost.*

*[3] The cost shown for the Public Works Improvements project is half of the total cost estimate because this project cost will be split evenly between the wastewater and drinking water utilities.*

*[4] The proportionate share is 0% because the project is expected be constructed by developers.*

**Table 1-7: Transportation System Improvements**

| Project | Construction Year | Current Year (2023) Cost Estimate | Construction Year Cost Estimate | Proportionate Share | Impact Fee Eligible Cost |
|---|---|---|---|---|---|
| Sheep Lane | 2024 | $17,870,743.00 | $18,496,219.01 | 27.5% | $5,082,930.41 |
| Nygreen Street (Section 3) | 2026 | $1,832,173.80 [1] | $2,031,363.84 | 17.9% | $363,443.72 |
| Mack Canyon Road | 2026 | $620,120.33 [1] | $687,538.50 | 33.6% | $230,917.02 |
| Cherry Street | 2027 | $1,746,674.00 | $2,004,348.59 | 7.49% | $150,157.43 |
| **Total** | | **$22,069,711.13** | **$23,219,469.93** | | **$5,827,448.58** |

*[1] The cost shown is for the portion of the project funded by the City, not the entire project cost.*

Impact fees were then calculated considering buy-in costs to be charged for existing facilities with excess capacity, the proposed system improvements, and any loans which are anticipated to fund proposed projects. There is no impact fee charged for storm drainage because the required projects are associated with correcting existing deficiencies, and it is the responsibility of the developers, not the City, to construct facilities required to meet the specified level of

service. The impact fee for water rights acquisition is calculated by multiplying the required quantity of water rights shown in Table 1-12 and Table 1-13 by the typical cost of water rights of $25,000 per acre-foot. The proposed impact fees for each utility are shown in Table 1-8 through Table 1-14.

**Table 1-8: Proposed Drinking Water Impact Fees**

| Water Meter Size (inches) | Maximum Flow Rate (gpm) | ERCs | Impact Fee |
|---|---|---|---|
| 3/4 | 25 [1] | 1 | $3,432.76 |
| 1 | 40 [1] | 1.6 | $5,492.42 |
| 1 1/2 | 50 [1] | 2 | $6,865.52 |
| 2 | 100 [1] | 4 | $13,731.05 |
| 3 | 200 [2] | 8 | $27,462.09 |
| 4 | 400 [2] | 16 | $54,924.19 |
| 6 | 800 [2] | 32 | $109,848.38 |
| 8 | 1,000 [2] | 40 | $137,310.47 |
| Non-Residential Development Indoor | | | $35.00 per fixture unit |
| Non-Residential Development Outdoor | | | $21,694.03 per irrigated acre |

*[1] From AWWA M6 Table 5-3 Displacement Meters.*

*[2] From AWWA M6 Table 5-3 Electromagnetic and Ultrasonic Meter Type 1.*

**Table 1-9: Proposed Public Safety Impact Fees**

| Land Use | Impact Fee |
|---|---|
| Single Family | $996.12 per Dwelling Unit |
| Multi-Unit | $430.33 per Dwelling Unit |
| Non-Residential | $953.80 per 1,000 sq ft building area |

**Table 1-10: Proposed Parks Impact Fees**

| Land Use | Impact Fee |
|---|---|
| Single Family and Multi-Unit | $3,952.56 per Dwelling Unit |

**Table 1-11: Proposed Wastewater Impact Fees**

| Water Meter Size (inches) | Maximum Flow Rate (gpm) | ERCs | Impact Fee |
|---|---|---|---|
| 3/4 | 25 [1] | 1 | $5,120.79 |
| 1 | 40 [1] | 1.6 | $8,193.26 |
| 1 1/2 | 50 [1] | 2 | $10,241.58 |
| 2 | 100 [1] | 4 | $20,483.15 |
| 3 | 200 [2] | 8 | $40,966.30 |
| 4 | 400 [2] | 16 | $81,932.61 |
| 6 | 800 [2] | 32 | $163,865.22 |
| 8 | 1,000 [2] | 40 | $204,831.52 |
| Non-Residential Development | | | $213.37 per fixture unit |

*[1] From AWWA M6 Table 5-3 Displacement Meters.*

*[2] From AWWA M6 Table 5-3 Electromagnetic and Ultrasonic Meter Type 1.*

**Table 1-12: Indoor Use Water Rights Requirements**

| Land Use | Water Right Quantity (ac-ft) | Impact Fee | Unit |
|---|---|---|---|
| Single Family Residential | 0.218 | $5,450.00 | per Dwelling Unit |
| Multi-Unit Residential | 0.120 | $3,000.00 | per Dwelling Unit |
| Non-Residential | 0.00908 | $227.00 | per fixture unit |

**Table 1-13: Outdoor Use Water Rights Requirements**

| Land Use | Water Right Quantity (ac-ft) |
|---|---|
| **No Waterwise Landscaping** | |
| Category 1 | = (lot size[1], acres) * (0.64) * (3.33 ac-ft/irr. ac) |
| Category 2 | = (irrigated area, acres) * (3.33 ac-ft/irr. ac) |
| **Waterwise Landscape Front Yard Only** | |
| Category 1 | = (lot size[1], acres) * [(0.18) * (2.28 ac-ft/irr. ac) + (0.46) * (3.33 ac-ft/irr. ac)] |
| Category 2 | = (front yard irrigated area, acres) * (2.28 ac-ft/irr. ac) + (remaining irrigated area, acres) * (3.33 ac-ft/irr. ac) |
| **Waterwise Landscape Entire Lot** | |
| Category 1 | Reduction not allowed (use front yard only formula) |
| Category 2 | = (irrigated area, acres) * (2.28 ac-ft/irr. ac) |

**Table 1-14: Proposed Transportation Impact Fees**

| Development Type | Peak Hour Trips Rate | Impact Fee | Units |
|---|---|---|---|
| Single Family | 0.99 | $2,754.42 | per Dwelling Unit |
| Multi-Unit | 0.56 | $1,558.05 | per Dwelling Unit |
| Trailer | 0.46 | $1,279.83 | per Dwelling Unit |
| Industrial / Manufacturing | 0.37 | $1,029.43 | per 1,000 sf Building Area |
| Warehousing | 0.09 | $250.40 | per 1,000 sf Building Area |
| Retail | 3.295 | $9,167.48 | per 1,000 sf Building Area |
| Church | 0.049 | $136.33 | per 1,000 sf Building Area |
| School | 0.0665 | $185.07 | per Student |

# SECTION 1: INTRODUCTION

## 1.1 PURPOSE AND SCOPE

Grantsville City is amending its Capital Facilities Plan (CFP), Impact Fee Facilities Plan (IFFP), and Impact Fee Analysis (IFA) to ensure the City's infrastructure will continue to meet the demands of its residents, to plan for improvements needed to meet new demands of future residents, and to collect funding for these projects necessitated by future growth. This plan builds upon information presented in the City's previous CFPs, IFFPs, and IFAs from 2013, 2016, and 2022.

## 1.2 CAPITAL FACILITIES PLAN AND IMPACT FEE FACILITIES PLAN OVERVIEW

Capital facilities plans provide a path forward for the City by identifying future capital improvement projects necessary to maintain the current LOS provided by the City to its current and future residents. This capital facilities plan addresses the following:

- Complete a 10-year population and demographic projection within existing City limits by reviewing U.S. Census Data, Utah Division of Drinking Water (UDDW) data, an analysis of recent impact fees paid to the City, Utah State demographic data, and other demographic data sources.
- Identify existing City infrastructure using City records, past and present master plans, and the previous CFP.
- Identify new, proposed, and previously undocumented improvements for each infrastructure and public safety element.
- Calculate existing levels of service (LOS) using specified standards.
- Identify system deficiencies and surpluses.
- Identify present and future demands on the system.
- Identify Capital Improvement Projects (CIP) necessary to remedy deficiencies and meet the demands of new and proposed development.
- Identify and quantify all revenue sources for potential improvements.
- Prioritize and schedule each CIP within the 10-year planning period.
- Solicit and document input from City officials, staff, stakeholders, and affected entities during the CFP process.

Per Impact Fees Act, 11-36a-301, before imposing an impact fee the City shall prepare an impact fee facilities plan to determine the public facilities required to serve development resulting from a new development activity. An impact fee facilities plan shall:

- Identify the existing level of service.
- Establish a proposed level of service.
- Identify any excess capacity to accommodate future growth at the proposed level of service.
- Identify demands placed upon existing public facilities by new development activity at the proposed level of service.
- Identify the means by which the political subdivision or private entity will meet those growth demands.

Impact fees may not be used to directly improve the existing level of service. Existing deficiencies must use funding other than impact fees to be corrected or improved (11-36a-302).

### 1.3 IMPACT FEE ANALYSIS OVERVIEW

Per Impact Fees Act, 11-36a-304, an impact fee analysis shall:

- Identify any existing capacity of a public facility.
- Identify system improvements required to maintain the level of service for the anticipated development activity.
- Demonstrate how the anticipated impacts are related to the development activity.
- Estimate the proportionate share of the costs of existing capacity that will be recouped and the cost of system improvements related to the development activity.
- Identify the manner of financing each public facility, and the extent to which development activity will contribute to the financing and cost of existing public facilities and future system improvements.
- Identify the extent to which development activity is entitled to a credit against impact fees, extraordinary costs in servicing the newly developed properties, and the time-price differential of amounts paid at different times.

In calculating an impact fee, a local political subdivision or private entity may include (Impact Fees Act, 11-36a-305):

- The construction contract price.
- The cost of acquiring land, improvements, materials, and fixtures.
- The cost for planning, surveying, and engineering fees for services provided for and directly related to the construction of the system improvements.
- For a political subdivision, debt service charges, if the political subdivision might use impact fees as a revenue stream to pay the principal and interest on bonds, notes, or other obligations issued to finance the costs of the system improvements.
- One or more expenses for overhead.

In addition to preparing an impact fee analysis, a summary of the impact fee analysis shall be prepared so that it can be understood by a layperson (Impact Fees Act, 11-36a-303).

## 1.4 IMPACT FEE REQUIREMENTS

The authority to implement impact fees in Utah was established with the Impact Fee Act, Utah Code – Title 11 – Chapter 36a. The Impact Fees Act grants the City the ability to impose fair impact fees on new development in accordance with requirements set forth in the act to maintain existing levels of service. Impact fees on new development help distribute the cost associated with providing expanded services to a greater population over a larger area to ensure that the existing LOS is not diminished with new and anticipated development. In order to establish an impact fee, the City must complete an Impact Fee Facilities Plan and Impact Fee Analysis which meet the provisions of the Impact Fees Act as discussed in Sections 1.2 and 1.3. Additionally, the City must comply with the Impact Fees Act requirements of enactment, notice, proceeds, and challenges discussed below. Refer to Appendix B for the City's current Impact Fee Ordinance. The details of the Impact Fees Act described in this plan are a summary of the code for reference purposes; the original and complete text of Utah Code 11-36a should be referred to in conjunction with this document.

### *1.4.1 Prohibitions*

The City may not in accordance with Utah Code Section 11-36a-202:

- Impose an impact fee to:
    - Cure deficiencies in a public facility serving existing development.
    - Raise the established level of service of a public facility serving existing development.

- Recoup more than the local political subdivision's or private entity's costs actually incurred for excess capacity in an existing system improvement.

- Delay the construction of a school or charter school because of a dispute with the school or charter school over impact fees.
- Impose or charge any other fees as a condition of development approval unless those fees are a reasonable charge for the service provided.
- Impose an impact fee on:
  - Residential components of development to pay for a public safety facility that is a fire suppression vehicle.
  - A school district or charter school for a park, recreation facility, open space, or trail.

### *1.4.2 Enactment*

In order to impose impact fees, an impact fee enactment shall be passed in accordance with Section 11-36a-402. The imposed impact fees may not exceed the highest fee justified by the impact fee analysis and may not take effect until 90 days after the impact fee enactment is approved. An impact fee enactment shall contain:

- A provision establishing one or more service areas within which the City calculates and imposes impact fees for various land use categories.
- A schedule of impact fees for each type of development activity that specifies the amount of the impact fee to be imposed for each type of system improvement or the formula that the City will use to calculate each impact fee.
- A provision authorizing the City to adjust the standard impact fee at the time the fee is charged to:
  - Respond to unusual circumstances; or
  - Respond to a request for a prompt and individualized impact fee review for the development activity of the State, a school district, or a charter school and an offset or credit for a public facility for which an impact fee has been or will be collected; and
  - Ensure that the impact fees are imposed fairly.
- A provision governing the calculation of the amount of the impact fee to be imposed on a particular development that permits adjustment of the amount of the impact fee based upon studies and data submitted by the developer.

- A provision that allows a developer, including a school district or a charter school, to receive a credit against or proportionate reimbursement of an impact fee if the developer:
    - Dedicates land for a system improvement;
    - Builds and dedicates some or all of a system improvement; or
    - Dedicates a public facility that the City and the developer agree will reduce the need for a system improvement.
- A provision that requires a credit against impact fees for any dedication of land for, improvement to, or new construction of, any system improvements provided by the developer if the facilities are system improvements or are dedicated to the public and offset the need for an identified system improvement.

### *1.4.3 Notice*

Before preparing or amending an impact fee facilities plan, a local political subdivision or private entity shall provide written notice in accordance with Section 11-36a Part 5 of its intent to prepare or amend an impact fee facilities plan that shall:

- Indicate that the local political subdivision or private entity intends to prepare or amend an impact fee facilities plan.
- Describe or provide a map of the geographic area where the proposed impact fee facilities will be located.
- Be provided for the geographic area where the proposed impact fee facilities will be located, as a class A notice under Section 63G-30-102, for at least 10 days.

Before adopting or amending the impact fee facilities plan, the City shall:

- Give public notice of the plan or amendment at least 10 days before the day on which the public hearing is scheduled.
- Make a copy of the plan or amendment, together with a summary designed to be understood by a lay person, available to the public.
- Place a copy of the plan or amendment and summary in each public library within the local political subdivision.
- Hold a public hearing to hear public comment on the plan or amendment.

Before preparing or contracting to prepare an impact fee analysis, the City shall provide a public notice, as a class A notice under Section 63G-30-102, for at least 10 days. Before adopting an impact fee enactment, the City shall:

- Comply with the notice requirements of Section 10-9a-205 as if the impact fee enactment were a land use regulation.
- Hold a hearing in accordance with Section 10-9a-502 as if the impact fee enactment were a land use regulation.
- Receive the protections of Section 10-9a-801 as if the impact fee were a land use regulation.
- At least 10 days before the day on which a public hearing is scheduled:
    - Make a copy of the impact fee enactment available to the public.
    - Provide notice of the City's intent to enact or modify the impact fee, specifying the type of impact fee being enacted or modified, as a class A notice under Section 63G-30-102, for at least 10 days.
- Submit a copy of the impact fee analysis and a copy of the summary of the impact fee analysis on its website or to each public library within the local political subdivision.

### *1.4.4 Proceeds*

To collect impact fees in accordance with Section 11-36a Part 6 the City shall:

- Establish a separate interest bearing ledger account for each type of public facility for which an impact fee is collected.
- Deposit a receipt for an impact fee in the appropriate ledger account.
- Retain the interest earned on each fund or ledger account in the fund or ledger account.
- At the end of each fiscal year, prepare a report that:
    - For each fund or ledger account, shows the source and amount of all money collected, earned, and received by the fund or ledger account during the fiscal year and each expenditure from the fund or ledger account.
    - Accounts for all impact fee funds that the local political subdivision has on hand at the end of the fiscal year.
    - Identifies the impact fee funds by:
        - The year in which the impact fee funds were received;
        - The project from which the impact fee funds were collected;
        - The project for which the impact fee funds are budgeted; and

        - The projected schedule for expenditure.
    - Is:
        - In a format developed by the state auditor;
        - Certified by the local political subdivision's chief financial officer; and
        - Transmitted to the state auditor within 180 days after the day on which the fiscal year ends.

The City may expend impact fees only for a system improvement identified in the impact fee facilities plan and for the specific public facility type for which the fee was collected. The City shall expend or encumber an impact fee collected with respect to a lot for a permissible use and within six years after the impact fee with respect to that lot is collected. The City may hold the fees for longer than six years if it identifies, in writing an extraordinary and compelling reason why the fees should be held longer than six years and an absolute date by which the fees will be expended.

The City shall refund any impact fee paid by a developer, plus interest earned, when the developer does not proceed with the development activity and has filed a written request for a refund, the fee has not been spent or encumbered, and no impact has resulted.

### *1.4.5 Challenges*

In accordance with Utah Code Section 11-36a Part 7.

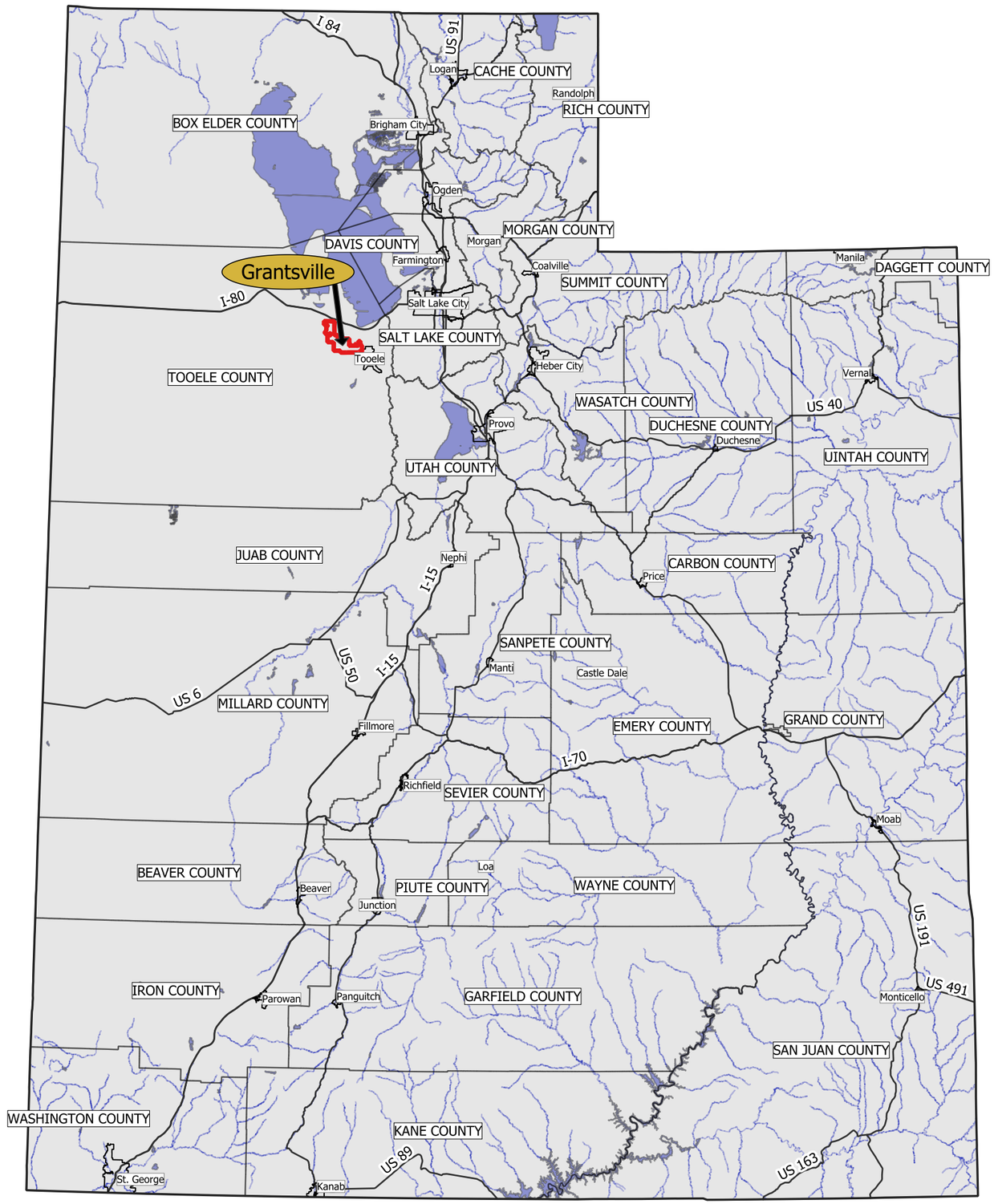
- A person or an entity residing in or owning property within a service area, or an organization, association, or a corporation representing the interests of persons or entities owning property within a service area, has standing to file a declaratory judgment action challenging the validity of an impact fee.
- A person or entity required to pay an impact fee who believes the impact fee does not meet the requirements of law may file a written request for information with the City.
- Within two weeks after the receipt of the request for information, the City shall provide the person or entity with the impact fee analysis, the impact fee facilities plan, and any other relevant information relating to the impact fee.
- A person or entity that has paid an impact fee that the City imposed may challenge whether the City complied with the notice and other procedural requirements of the Impact Fees Act with respect to the imposition of the impact fee.

- If a challenge is successful the remedy shall be a refund of the difference between what the person or entity paid as an impact fee and the amount the impact fee should have been if it had been correctly calculated.
- If an impact fee that is the subject of an advisory opinion is listed as a cause of action in litigation, the substantially prevailing party on that cause of action may collect reasonable attorney fees and court costs pertaining to the development of that cause of action and shall be refunded an impact fee held to be in violation of the Impact Fees Act, based on the difference between the impact fee paid and what the impact fee should have been if it had been correctly calculated.

## 1.5 BACKGROUND

Grantsville City is situated in Tooele County at the northwestern end of the Tooele Valley and at the south end of the Great Salt Lake. The City's location is shown in Figure 1-1 and Figure 1-2. Grantsville is located both in the floor of the valley with western portions of the City entering into the foothills of the Stansbury Mountains to the west. The Tooele Valley is on the eastern end of the basin and range topography of the Great Basin Desert.

Grantsville City, like much of Utah, has experienced rapid growth in the past decade and is projected to continue for the next decade and beyond. This growth is coinciding with a transition period for the City as it grows from a bedroom community supported largely by jobs in the greater Tooele Valley or Salt Lake City metropolitan area, to a City with a sizable commercial presence. From the Wal-Mart distribution center in the northwest corner of the city to the Purple Mattress warehouse and Lakeview Business Center in the Deseret Peak portion of the City, the City is poised for continued growth in these sectors. Recent residential growth in the southern and western portions of the City indicate a growing local population to service these new industries. As the cost of real-estate rises in the Salt Lake Valley and it nears build-out capacity, jobs that Grantsville City residents formerly commuted to could instead be re-located to Grantsville City itself. This growth and associated developments will bring needed improvements and extensions of the City's existing infrastructure to maintain existing levels of service.





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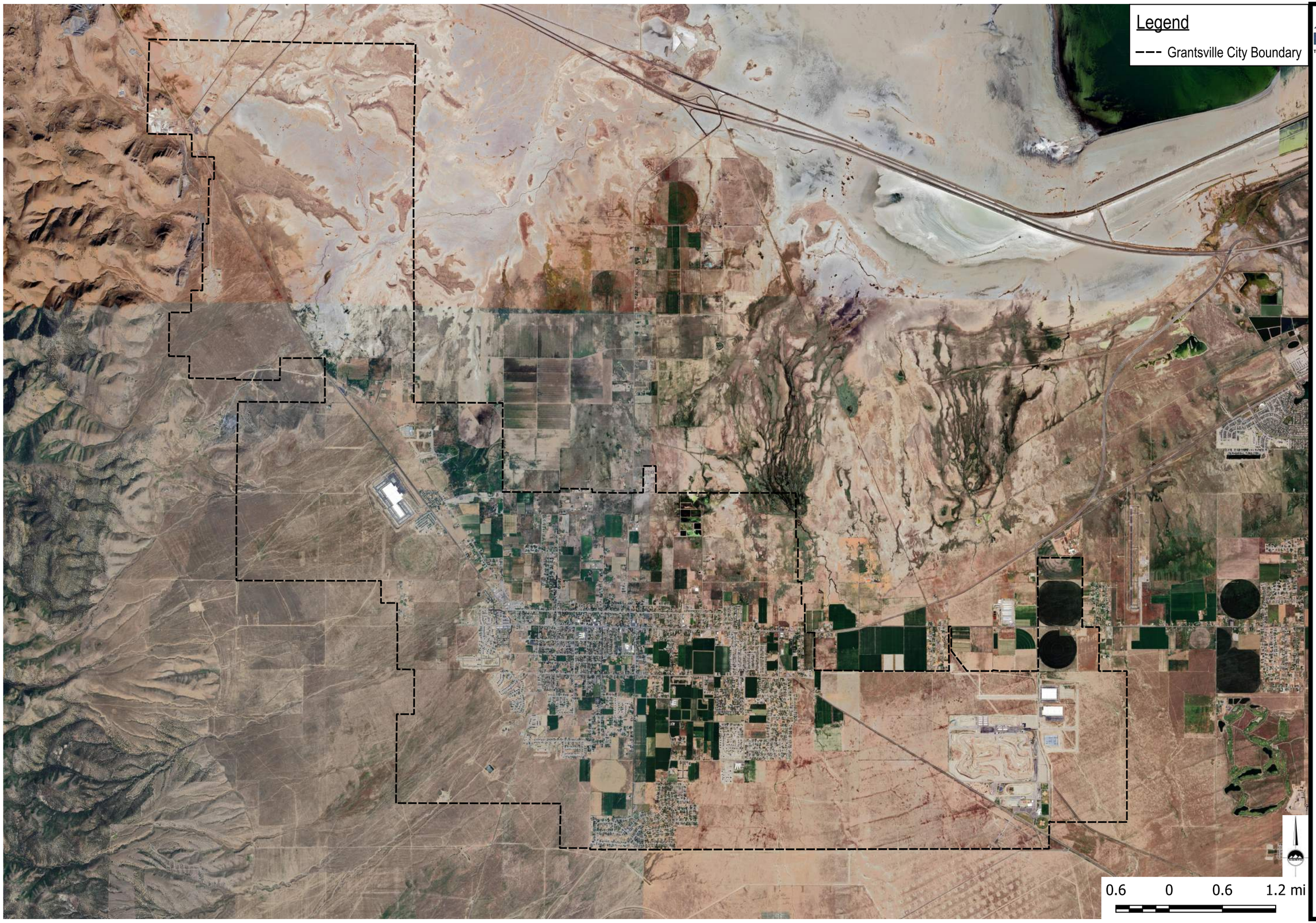

# GRANTSVILLE CFP, IFFP, AND IFA

GRANTSVILLE, UTAH

LOCATION MAP

PROJECT NUMBER 10766D
PRINT DATE 2024-04-23
PROJECT MANAGER R. ROUSSELLE
DESIGNED BY M. SANFORD

**FIG 1-1**




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# GRANTSVILLE CFP, IFFP, AND IFA

GRANTSVILLE, UTAH

**CITY AERIAL OVERVIEW**

| PROJECT NUMBER | PRINT DATE |
|---|---|
| 10766D | 2024-04-23 |
| PROJECT MANAGER | DESIGNED BY |
| R. ROUSSELLE | M. SANFORD |

**FIG 1-2**

## 1.6 INFLATION RATE

Inflation must be accounted for when calculating impact fees, so for the purposes of this CFP, IFFP, and IFA an annual inflation rate of 3.5% is used. It is recognized that the current economic climate is unpredictable and inflation rates vary significantly, but these rates are predicted to stabilize over time so 3.5% is believed to be a reasonably accurate rate. However, if this predicted rate is not consistent with actual inflation rates over time, then the City should revisit and update any cost-estimates contained in this plan to reflect an accurate inflation rate.

# SECTION 2: DEMOGRAPHICS

## 2.1 INTRODUCTION

Grantsville City is transitioning from a small bedroom community supporting the regional economy to a small city experiencing rapid growth. Many residents commute to work in the Salt Lake Valley, while others increasingly work locally providing services for the County and the community. Local work is concentrated in mineral extraction and waste disposal companies located in the West Desert and around the south arm of the Great Salt Lake along with warehousing, distribution, and manufacturing located in the Tooele Valley. Warehousing and distribution jobs increased in recent years with the arrival of a Walmart Distribution Center in the northwest corner of the City and a Purple Mattress warehouse in the southeast. The construction of the Lakeview Business Park, adjacent to the Utah Motorsports Campus in the Deseret Peak area of the City, will result in a substantial increase in warehousing and distribution jobs in the future. It is anticipated that the Flux and West areas of the City will see a significant increase in residential and commercial development. The City is working on a plan called the West Bank & Northwest Area Master Development Plan & Capital Facilities Plan to address this area. Even with this considerable anticipated growth, the City recognizes the importance in preserving its character and rural community.

A demographic analysis of Grantsville City's current population, land-use, development patterns, and development potential has been completed. The results of the analysis have been used as a basis for projection of future growth and its distribution throughout the planning area. These future growth projections will be used as one of the factors to estimate future utility demands and infrastructure requirements for the community.

## 2.2 PLANNING PERIOD

This plan focuses on growth projected in the next 10 years to determine future capital facility needs. The planning period begins at the end of 2023 and finishes at the end of 2033. Anytime a year is stated throughout this plan it is referring to the end of the specified year.

## 2.3 PLANNING AREAS

In order to identify areas that are showing recent growth trends and more accurately determine needed improvements, the entire planning area has been divided into six distinct planning areas: Flux, North, Central, South, West, and Deseret Peak. Major roads, transitions in existing

development density, or changes in land use have been used as boundaries to the extent possible to define these planning areas. Reference Figure 2-1 for graphical representations of these areas.

## 2.4 LAND USE AND BUILD-OUT CAPACITY

Grantsville City limits encompass approximately 25,522 gross acres. Much of this land is currently undeveloped, particularly in the area northwest of the City along SR 138 (Flux and West areas) and the Deseret Peak area. Future land use areas per the City's current zoning designations are shown in Figure 2-2. The Grantsville City General Plan provides values for maximum allowable densities for each land use type (Table 2-1), and Ensign assumed an actual build-out density for each land use type in order to project future development. Table 2-2 shows the remaining developable acreage broken out by land use type and planning area. The total land available for development was reduced by 30% to account for future hardscapes (streets, sidewalks, curbs, and gutters), potentially undevelopable land, and other public uses.

**Table 2-1: Land Use Densities**

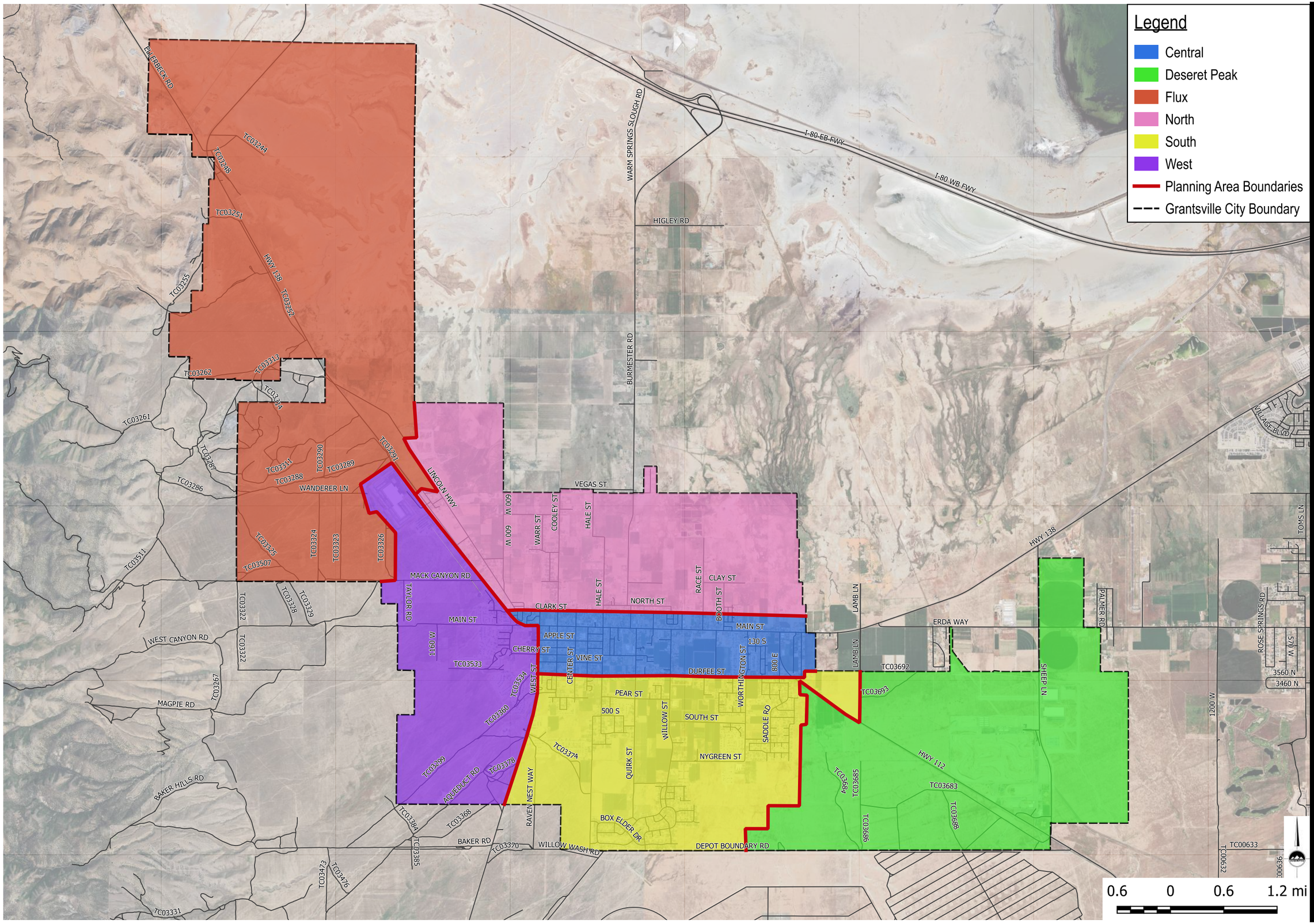
| Land Use | Maximum Land Use Density (Units/Acre) | Assumed Density (Units/Acre) |
|---|---|---|
| Commercial | - | 3 |
| Mixed-Use Density | 10 to 15 | 5 |
| High Single Family Residential | 6 | 3.5 |
| Medium Density Residential | 3 | 1.75 |
| Low Density Residential | 2 | 1 |
| Rural Residential-1 | 0.1 to 1 | 0.5 |
| Rural Residential-2 | 0.1 to 0.2 | 0.15 |
| Industrial | - | 0.25 |
| Municipal / School | - | 0.1 |
| Park & Open Space | - | 0.01 |
| General Manufacturing | - | 0.25 |

*Note: Assumed density was assigned to Park and Open Space to be able to determine future infrastructure improvements.*

**Table 2-2: Build-Out Units and Remaining Developable Acreage**

| Area | Commercial | | General Manufacturing | | High Single Family Residential | | Medium Density Residential | | Low Density Residential | | Rural Residential-1 | | Rural Residential-2 | | Industrial | | Municipal / School | | Mixed-Use Density | | Park & Open Space | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Acres | Units | Acres | Units | Acres | Units | Acres | Units | Acres | Units | Acres | Units | Acres | Units | Acres | Units | Acres | Units | Acres | Units | Acres | Units | Acres | Units |
| Central | - | - | - | - | 76 | 268 | 45 | 78 | - | - | - | - | - | - | - | - | 34 | 3 | 147 | 736 | 16 | 0.16 | 319 | 1,085 |
| Deseret Peak | 618 | 1,854 | 1,009 | 252 | - | - | - | - | - | - | - | - | - | - | 334 | 84 | - | - | - | - | 1,404 | 14 | 3,365 | 2,204 |
| Flux | 1,131 | 3,393 | - | - | - | - | - | - | - | - | 472 | 236 | 281 | 42 | 3,738 | 934 | - | - | 42 | 210 | - | - | 5,664 | 4,815 |
| North | 90 | 269 | - | - | 57 | 200 | - | - | - | - | 1,563 | 782 | - | - | 102 | 26 | 116 | 12 | 43 | 213 | 0.43 | 0.004 | 1,972 | 1,501 |
| South | - | - | - | - | - | - | 81 | 142 | 1,396 | 1,396 | 210 | 105 | - | - | - | - | 16 | 2 | 29 | 144 | 9 | 0.09 | 1,741 | 1,788 |
| West | - | - | - | - | 236 | 824 | 24 | 41 | 1,182 | 1,182 | 122 | 61 | - | - | 9 | 2 | 52 | 5 | 41 | 203 | - | - | 1,664 | 2,319 |
| **Totals** | **1,839** | **5,516** | **1,009** | **252** | **369** | **1,292** | **149** | **261** | **2,578** | **2,578** | **2,367** | **1,183** | **281** | **42** | **4,183** | **1,046** | **218** | **22** | **301** | **1,506** | **1,430** | **14** | **14,724** | **13,713** |

*Notes: Units per land use type are based on the assumed build-out densities outlined in Table #.*
*The remaining developable acreage is based on a GIS analysis completed in 2021.*




0.6 0 0.6 1.2 mi


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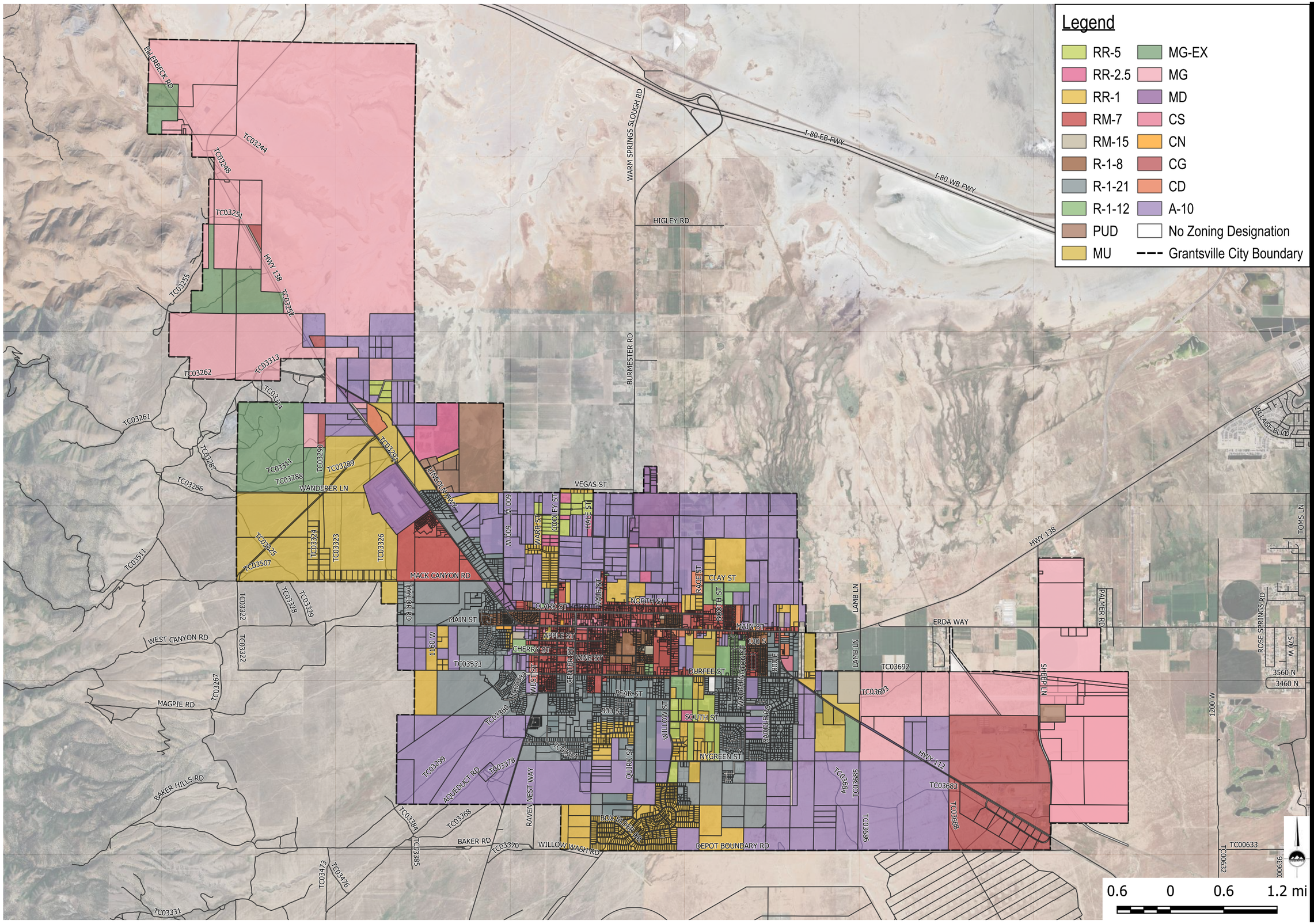

# GRANTSVILLE CFP, IFFP, AND IFA

GRANTSVILLE, UTAH

**PLANNING AREAS**

| PROJECT NUMBER | PRINT DATE |
|---|---|
| 10766D | 2024-04-23 |
| PROJECT MANAGER | DESIGNED BY |
| R. ROUSSELLE | M. SANFORD |

**FIG 2-1**




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# GRANTSVILLE CFP, IFFP, AND IFA

GRANTSVILLE, UTAH

**FUTURE LAND USE MAP**

| PROJECT NUMBER | PRINT DATE |
|---|---|
| 10766D | 2024-04-23 |
| PROJECT MANAGER | DESIGNED BY |
| R. ROUSSELLE | M. SANFORD |

**FIG 2-2**

## 2.5 PLANNING CONVERSIONS

The Equivalent Residential Connection (ERC) is the recognized standard planning unit when planning for future utility infrastructure needs. One ERC represents a single family dwelling with known demand characteristics or requirements. Other types of uses are typically factored based upon comparison of their demand versus the residential single family unit. The types of uses for Grantsville City are categorized as shown in Table 2-3. The Construction Water connection type represents water drawn from a hydrant for construction use, and the City Rate connection is water usage from City buildings and parks.

In order to determine the total number of ERCs, it is necessary to convert the number of physical units and metered service connections on the system to ERCs. The existing numbers of units and service connections for Grantsville were determined from the City's monthly water meter reports. The conversion between service connections and ERCs has been calculated (Appendix C) using approved methods as outlined in the State of Utah Administrative Code R309-510, and the results are summarized in Table 2-3.

**Table 2-3: Existing (2023) Service Connections and ERCs**

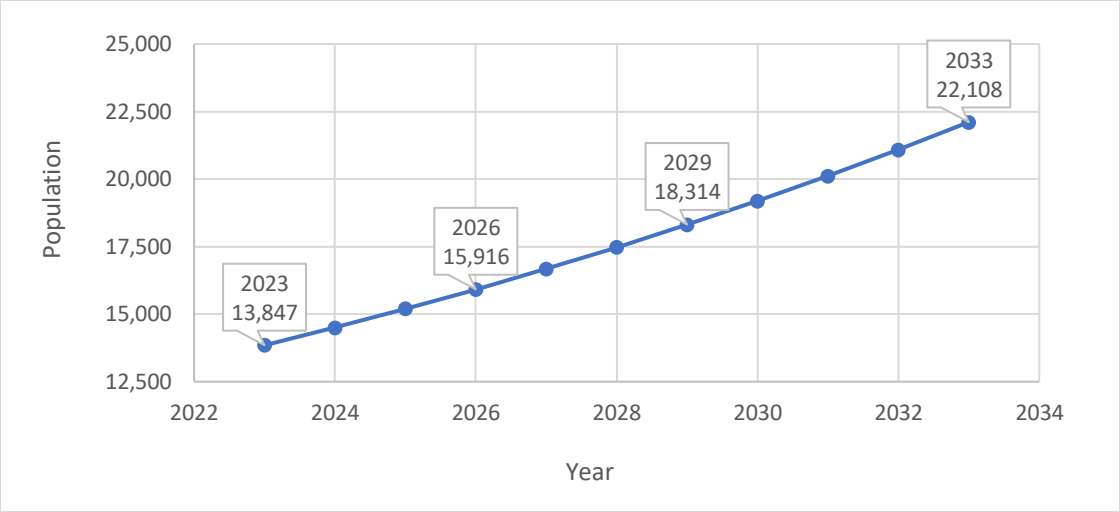
| Service Connection Type | Service Connections | Units | ERC / Unit | ERCs |
|---|---|---|---|---|
| Single Family | 4,267 | 4,274 | 1.00 | 4,274 |
| Multi-Unit | 47 | 291 | 0.55 | 160 |
| Trailer | 9 | 216 | 1.13 | 244 |
| Commercial | 107 | 146 | 7.92 | 1,156 |
| Church | 10 | 11 | 9.28 | 102 |
| School | 7 | 10 | 5.22 | 52 |
| Construction Water | 13 | 13 | 4.83 | 63 |
| City Rate | 5 | 34 | 8.60 | 292 |
| **Total** | **4,465** | **4,995** | | **6,343** |

## 2.6 POPULATION

The Utah Division of Drinking Water (UDDW) estimated Grantsville's 2018 population to be 10,660. Based on an analysis of past impact fees and building permits, Ensign estimated Grantsville's 2021 end of year population to be 12,791. The number of residential ERCs in the City at the end of 2021 was 4,323 as determined from water meter reports. These residential ERCs include the Single Family, Multi-Unit, and Trailer service connection types. This equates to a ratio of 2.96 persons per ERC, which is used to estimate the population beyond 2021. Based on the number of residential ERCs shown in Table 2-3, the City's estimated current

(2023) population is 13,847. The following graph (Figure 2-3) illustrates the projected population growth over the planning period. The method of estimating the future growth is discussed in Section 2.7.

**Figure 2-3: 10-Year Population Projection**




## 2.7 GROWTH PROJECTIONS

Like much of Utah, Grantsville City experienced steady growth of approximately 1.5% to 2.5% between 2010 and 2014, with a growth rate that has accelerated exponentially since 2015. Looking back at recent history, an article from the Deseret News dated April 26, 1999 had projected that Grantsville's population at the time, 5,800, would increase 72% by the year 2020. The City ended up growing by 121% during this timeframe. Municipalities in Salt Lake Valley have seen this type of exponential growth in the 2000s to keep up with the booming economy. An example of this growth was Draper which grew from a population of 25,220 persons in 2000 to 42,275 persons in 2010 (67.6% growth) according to the U.S. Census Bureau. This high level of growth is expected to continue in Grantsville as a large majority of current development in Salt Lake Valley is higher density residential infill projects leaving people looking for affordable single family homes to venture farther from the Salt Lake Valley into Tooele Valley. Additionally, a significant amount of future development in Grantsville is currently in the planning process. As previously mentioned the City is preparing a study for the West Bank and Northwest areas. These areas along with the Lakeview Business Park in the Deseret Peak planning area are anticipated to be the largest contributors to the growth of the City in the next 10 years.

Recently, Grantsville has observed annual growth rates of about 4% from 2016-2019, increasing to 6.6% in 2020, and approximately 8.5% for 2021. However, growth rates this large are not expected to be sustained for multiple years. Applying an 8.5% annual growth rate over the planning period results in an overall growth rate of about 120% in 10 years, nearly double the historical growth rates in Grantsville and Draper. Reviewing growth rates for various size cities throughout America, 75 to 80% growth in 10 years is the highest rate observed for a city similar in size to Grantsville. The growth rate for Grantsville from 2021 to 2022 decreased to about 5% and from 2022 to 2023 was just over 3%. Considering the proposed developments, input from City staff, and the predicted growth in the Salt Lake and Tooele Valley and surrounding cities, it is anticipated a 5% rate of growth will continue for the entire planning period, resulting in an overall 60% growth in 10 years. Due to the significant change of growth rates seen in recent years along with an unstable economic climate and varying construction pricing and supplies available, the actual City growth may differ from these estimated projections. Therefore, the City should revisit the demographic projections of this plan on a yearly basis and compare with the actual growth rates occurring in the City. If the actual growth differs significantly from the projections, then the demographic projections need to be amended, and this CFP/IFFP/IFA in its entirety needs to be amended as the results contained throughout this plan are based on the assumption that the demographic projections accurately represent future conditions of the City.

The yearly unit and ERC projections over the planning period for each connection type are shown in Table 2-4. The 5% annual growth rate was applied to Single Family, Multi-Unit, Commercial, and Construction Water connection types to project the number of future units and thus ERCs. New trailer units are not expected to be constructed in Grantsville, so the future number of trailer units and ERCs are shown to remain unchanged. Future Church and School units were projected by maintaining a set unit density relative to the City's population, which were determined by the existing conditions in 2021. At this time, there was one church per 1,280 residents and one school per 1,160 residents. Lastly, the City Rate growth was estimated based on anticipated City projects and their predicted construction years.

## 2.8 DISTRIBUTION OF GROWTH

Uncertainties arise in predicting growth in a City due to different factors that can influence when and where it may occur. However, an analysis of past impact fee locations can provide an indication as to where growth is likely to continue. This, coupled with longer historic growth

patterns, proximity to existing infrastructure, and input from the City can allow for a reasonable projection of growth. Additionally, the distribution of growth among the six planning areas requires taking into consideration the existing land uses and available capacity of each area. To determine the available capacity, Ensign used Automated Geographic Reference Center (AGRC) parcel data for Tooele County and filtered it to find all parcels available for development in each area. Considering each of these factors, the percentages of growth expected to occur in each planning area were determined and used to project units and ERCs per area for the planning period, shown in Table 2-5.

**Table 2-4: Projected Units and ERCs**

| Year: | | 2023 | | 2024 | | 2025 | | 2026 | | 2027 | | 2028 | | 2029 | | 2030 | | 2031 | | 2032 | | 2033 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Projected Population:** | | **13,847** | | **14,504** | | **15,194** | | **15,916** | | **16,677** | | **17,476** | | **18,314** | | **19,193** | | **20,119** | | **21,090** | | **22,108** | |
| **Growth Rate:** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | |
| **Service Connection Type** | **ERC / Unit** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** |
| Single Family | 1.00 | 4,274 | 4,274 | 4,488 | 4,488 | 4,712 | 4,712 | 4,948 | 4,948 | 5,195 | 5,195 | 5,455 | 5,455 | 5,728 | 5,728 | 6,014 | 6,014 | 6,315 | 6,315 | 6,631 | 6,631 | 6,963 | 6,963 |
| Multi-Unit | 0.55 | 291 | 160 | 306 | 168 | 321 | 177 | 337 | 185 | 354 | 195 | 372 | 205 | 391 | 215 | 411 | 226 | 432 | 238 | 454 | 250 | 477 | 262 |
| Trailer [1] | 1.13 | 216 | 244 | 216 | 244 | 216 | 244 | 216 | 244 | 216 | 244 | 216 | 244 | 216 | 244 | 216 | 244 | 216 | 244 | 216 | 244 | 216 | 244 |
| Commercial | 7.92 | 146 | 1,156 | 153 | 1,212 | 161 | 1,275 | 169 | 1,338 | 177 | 1,402 | 186 | 1,473 | 195 | 1,544 | 205 | 1,624 | 215 | 1,703 | 226 | 1,790 | 237 | 1,877 |
| Church [2] | 9.28 | 11 | 102 | 11 | 102 | 12 | 111 | 12 | 111 | 13 | 121 | 13 | 121 | 14 | 130 | 15 | 139 | 15 | 139 | 16 | 148 | 17 | 158 |
| School [3] | 5.22 | 10 | 52 | 10 | 52 | 11 | 57 | 11 | 57 | 12 | 63 | 13 | 68 | 13 | 68 | 14 | 73 | 15 | 78 | 16 | 84 | 17 | 89 |
| Construction Water | 4.83 | 13 | 63 | 14 | 68 | 15 | 72 | 16 | 77 | 17 | 82 | 18 | 87 | 19 | 92 | 20 | 97 | 21 | 101 | 22 | 106 | 23 | 111 |
| City Rate [4] | 8.60 | 34 | 292 | 35 | 301 | 38 | 327 | 38 | 327 | 38 | 327 | 38 | 327 | 39 | 335 | 40 | 344 | 40 | 344 | 40 | 344 | 40 | 344 |
| **Total** | | **4,995** | **6,343** | **5,233** | **6,635** | **5,486** | **6,975** | **5,747** | **7,287** | **6,022** | **7,629** | **6,311** | **7,980** | **6,615** | **8,356** | **6,935** | **8,761** | **7,269** | **9,162** | **7,621** | **9,597** | **7,990** | **10,048** |
| *Increase from 2023* | | *-* | *-* | *238* | *292* | *491* | *632* | *752* | *944* | *1,027* | *1,286* | *1,316* | *1,637* | *1,620* | *2,013* | *1,940* | *2,418* | *2,274* | *2,819* | *2,626* | *3,254* | *2,995* | *3,705* |

*[1] Trailer units are not expected to increase.*
*[2] Church growth rate is 1 church per 1,280 population.*
*[3] School growth rate is 1 school per 1,160 population.*
*[4] City Rate growth rate is based on anticipated City projects.*

**Table 2-5: Distribution of Projected Units and ERCs**

| Year: | | 2023 | | 2024 | | 2025 | | 2026 | | 2027 | | 2028 | | 2029 | | 2030 | | 2031 | | 2032 | | 2033 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Projected Population:** | | **13,847** | | **14,504** | | **15,194** | | **15,916** | | **16,677** | | **17,476** | | **18,314** | | **19,193** | | **20,119** | | **21,090** | | **22,108** | |
| **Growth Rate:** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | | **5.0%** | |
| **Area** | **Percentage of Growth** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** | **Units** | **ERCs** |
| Central | 8.10% | 2,216 | 2,774 | 2,235 | 2,797 | 2,256 | 2,825 | 2,277 | 2,850 | 2,299 | 2,878 | 2,323 | 2,906 | 2,347 | 2,937 | 2,373 | 2,970 | 2,400 | 3,002 | 2,429 | 3,037 | 2,459 | 3,074 |
| *Increase from 2023* | | *-* | *-* | *19* | *24* | *40* | *51* | *61* | *76* | *83* | *104* | *107* | *133* | *131* | *163* | *157* | *196* | *184* | *228* | *213* | *264* | *243* | *300* |
| Deseret Peak | 16.02% | 92 | 292 | 130 | 339 | 170 | 393 | 212 | 443 | 256 | 498 | 302 | 554 | 351 | 614 | 402 | 679 | 456 | 744 | 512 | 813 | 571 | 885 |
| *Increase from 2023* | | *-* | *-* | *38* | *47* | *79* | *101* | *120* | *151* | *165* | *206* | *211* | *262* | *260* | *322* | *311* | *387* | *364* | *452* | *421* | *521* | *480* | *594* |
| Flux | 39.80% | 174 | 252 | 269 | 369 | 369 | 504 | 473 | 628 | 583 | 764 | 698 | 904 | 819 | 1,054 | 946 | 1,215 | 1,079 | 1,374 | 1,219 | 1,548 | 1,366 | 1,727 |
| *Increase from 2023* | | *-* | *-* | *95* | *116* | *195* | *252* | *299* | *376* | *409* | *512* | *524* | *652* | *645* | *801* | *772* | *962* | *905* | *1,122* | *1,045* | *1,295* | *1,192* | *1,475* |
| North | 2.38% | 574 | 899 | 580 | 906 | 586 | 914 | 592 | 921 | 598 | 929 | 605 | 938 | 612 | 947 | 620 | 956 | 628 | 966 | 636 | 976 | 645 | 987 |
| *Increase from 2023* | | *-* | *-* | *6* | *7* | *12* | *15* | *18* | *22* | *24* | *31* | *31* | *39* | *39* | *48* | *46* | *58* | *54* | *67* | *62* | *77* | *71* | *88* |
| South | 10.26% | 1,623 | 1,797 | 1,648 | 1,827 | 1,674 | 1,862 | 1,700 | 1,894 | 1,729 | 1,929 | 1,758 | 1,965 | 1,789 | 2,003 | 1,822 | 2,045 | 1,856 | 2,086 | 1,893 | 2,131 | 1,930 | 2,177 |
| *Increase from 2023* | | *-* | *-* | *24* | *30* | *50* | *65* | *77* | *97* | *105* | *132* | *135* | *168* | *166* | *207* | *199* | *248* | *233* | *289* | *269* | *334* | *307* | *380* |
| West | 23.44% | 316 | 329 | 372 | 398 | 431 | 477 | 492 | 551 | 557 | 631 | 625 | 713 | 696 | 801 | 771 | 896 | 849 | 990 | 932 | 1,092 | 1,018 | 1,198 |
| *Increase from 2023* | | *-* | *-* | *56* | *68* | *115* | *148* | *176* | *221* | *241* | *301* | *308* | *384* | *380* | *472* | *455* | *567* | *533* | *661* | *616* | *763* | *702* | *868* |
| **Total** | | **4,995** | **6,343** | **5,233** | **6,635** | **5,486** | **6,975** | **5,747** | **7,287** | **6,022** | **7,629** | **6,311** | **7,980** | **6,615** | **8,356** | **6,935** | **8,761** | **7,269** | **9,162** | **7,621** | **9,597** | **7,990** | **10,048** |
| *Increase from 2023* | | *-* | *-* | *238* | *292* | *491* | *632* | *752* | *944* | *1,027* | *1,286* | *1,316* | *1,637* | *1,620* | *2,013* | *1,940* | *2,418* | *2,274* | *2,819* | *2,626* | *3,254* | *2,995* | *3,705* |

# SECTION 3: DRINKING WATER

## 3.1 CAPITAL FACILITIES PLAN AND IMPACT FEE FACILITIES PLAN

### *3.1.1 Inventory of Existing Facilities*

Grantsville City's drinking water system consists of six water sources (Table 3-1) with associated water rights, five water storage tanks, two booster pump stations, and a distribution system as outlined below (Figure 3-1).

**Table 3-1: Existing Sources**

| Source | Type/ Equipment | Casing, (inches) / Depth (feet) | Pump Setting (feet) | Equipped Capacity (gpm) | Well Completion Date | Cost [2] |
|---|---|---|---|---|---|---|
| Cherry Street (Park) Well | Well / 150 Hp Sub. Pump and Motor | 12 / 480 | 150 | 1,030 | 1975 | $9,618.00 [3] |
| South Willow Well | Well / 100 Hp Sub. Pump and Motor | 16 / 395 | 254 | 620 | May 15, 1998 | $2,600.00 [3] |
| Hunsaker Well | Well / 125 Hp Sub. Pump and Motor | 16 / 650 | 470 | 275 [1] | October 20, 2004 | N/A [4] |
| South Well | Well / 100 Hp Hollow Shaft Pump and Motor | 16 / 520 | 420 | 750 | December 22, 1995 | $197,555.36 [3] |
| North Well | Well / 150 Hp Sub. Pump and Motor | 16 / 550 | 510 | 1,200 | February 20, 2019 | $1,499,501.65 |
| Marshall Well | Well / 450 Hp Vertical Turbine Pump and Motor | 16 / 610 | 410 | 2,500 | 2024 | N/A [5] |
| **Total** | | | | **6,375** | | **$1,709,275.01** |

*[1] The Hunsaker Well is equipped and able to pump at 500 gpm however, the drawdown in the well limits pumping to approximately 275 gpm. The City is rehabilitating the Hunsaker Well which may increase the equipped capacity.*

*[2] The costs shown are historical costs which may include initial construction, acquiring land, improvements, planning, and engineering.*

*[3] The City does not have records of the original construction costs, but recorded costs of improvements made to the wells are included.*

*[4] The Hunsaker Well cost was excluded because Tooele County constructed the well at its own cost.*

*[5] The Marshall Well cost was excluded because it was paid for by the Redevelopment Agency (RDA).*

Grantsville City's existing five storage tanks provide drinking water, irrigation, and fire suppression for the City. The City's drinking water system supplies approximately 2/3 of the City

with irrigation and the Grantsville Irrigation Company supplies the remaining 1/3. Table 3-2 lists the City's five storage tanks along with historic construction costs.

**Table 3-2: Existing Storage Tanks**

| Tank | Diameter / Dimensions (feet) | Depth (feet) | Primary Supply Source(s) | Equipped Capacity (Million Gallons) | Cost [1] |
|---|---|---|---|---|---|
| North Tank (Rect.) | 49.5 x 50.5 | 12.5 | North Well and Cherry Street Well | 0.225 | N/A |
| North Tank (Circ.) | 80 | 14 | North Well and Cherry Street Well | 0.5 | N/A |
| South Tank | 94 | 21 | South Well | 1.0 | N/A |
| South Willow Tank | 83 | 25.5 | South Willow Well, Hunsaker Well, and Marshall Well | 1.0 | $12,308.53 [2] |
| Lakeview Business Park Tank | 92 | 26 | South Willow Well and Marshall Well | 1.2 | $1,746,515.04 |
| **Total** | | | | **3.925** | **$1,758,823.57** |

*[1] The costs shown are historical costs which may include initial construction, acquiring land, improvements, planning, and engineering.*

*[2] The City does not have records of the original construction cost, but recorded costs of improvements made to the tank are included.*

Grantsville's existing distribution system is shown in Figure 3-1. The City has two booster pump stations which are listed in Table 3-3. The total recorded historic cost for the distribution system is $16,226,356.31.

**Table 3-3: Existing Booster Pump Stations**

| Booster Pump Station | Primary Supply | Equipped Capacity (gpm) | Completion Date | Cost |
|---|---|---|---|---|
| West Bank Booster Pump Station | South Tank | 540 (1 pump), 995 (2 pumps), 1,350 (3 pumps) [1] | 2015 | N/A |
| North Well Booster Pump Station | North Well | 300 (1pumps), 600 (2 pumps), 900 (3 pumps), 1,200 (4 pumps), 1,500 gpm (5 pumps) | 2023 | N/A |

*[1] Equipped capacities assume both the Hunsaker and South Willow Wells are pumping to the South Willow Tank at the same time the booster pump station is operating.*

The existing Public Works Building serves both drinking water and wastewater facilities. The building was constructed in 2021 for a cost of $222,483.40 attributed to water facilities.

The City has long-term debt associated with a bond issued to finance the Main Street Water Replacement Project as shown in Table 3-4. The Water Revenue Bond was used to finance improvements to the distribution system.

**Table 3-4: Existing Water Long-Term Debt**

| Bond | Date of Issue | Interest Rate | Final Maturity Date | Original Bond, Note Issue | Principal Outstanding at June 30, 2023 | Total Interest Payments (2023-2033) |
|---|---|---|---|---|---|---|
| Water Revenue Bond, Series 2018 | December, 2018 | 1.50% | August, 2039 | $2,700,000.00 | $3,039,000.00 | $344,640.00 |

Pressure Zones
1
2
3
4
City Boundary

Legend
<4"
4"
6"
8"
10"
12"
14"
16"
20"
24"
Tank
Well
PRV
Booster Pump
Grantsville City Boundary
MG - Million Gallons
OF - Overflow Elevation
psi - Pounds per Square-Inch

Cherry Street (Park) Well

North Tanks (0.225 MG & 0.5 MG, Zone 1, OF=4,507') and Well

North Well Booster Pump Station

South Tank (1.0 MG, Zone 2, OF=4,610') and Well

West Bench Booster Pump Station

Lakeview Business Park Tank (1.2 MG, Zone 3, OF=4,712')

Hunsaker Well

South Willow Well

Marshall Well

South Willow Tank (1.0 MG, Zone 3, OF=4,712')

Zone 1:
Top - 55 psi
Bottom - 110 psi

Zone 2:
Top - 55 psi
Bottom - 85 psi

Zone 3:
Top - 55 psi
Bottom - 110 psi
Bottom ~148 (Deseret Peak Area)

0.4 0 0.4 0.8 mi


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GRANTSVILLE, UTAH 84029

*CONTACT:*
MAYOR NEIL A. CRITCHLOW
PHONE: 435-884-3411


# GRANTSVILLE CFP, IFFP, AND IFA

GRANTSVILLE, UTAH

EXISTING DRINKING WATER SYSTEM


PROJECT NUMBER 10766D
PRINT DATE 2024-07-12
PROJECT MANAGER R. ROUSSELLE
DESIGNED BY M. SANFORD


FIG 3-1

### *3.1.2 Level of Service*

Level of Service (LOS) standards used for this plan listed below were previously established in the Grantsville City Capital Facilities Plan dated May 2022 by Ensign Engineering and Land Surveying.

- **Unit Average Day Demand = 807 gpd/ERC (0.618 ac-ft/year/ERC)**
  - Indoor Demand = 195 gpd/ERC (0.218 ac-ft/year/ERC)
  - Outdoor Demand = 612 gpd/ERC (0.400 ac-ft/year/ERC)
- **Unit Peak Day Demand = 1,416 gpd/ERC (0.983 gpm/ERC)**
  - Indoor Demand = 275 gpd/ERC (0.191 gpm/ERC)
  - Outdoor Demand = 1,141 gpd/ERC (0.792 gpm/ERC)
- **Peak Instantaneous Demand:**
  - Indoor Demand = $10.8*(ERCs)^{0.64}$ gpm/ERC
  - Outdoor Demand = 1.58 gpm/ERC
- **Fire Flow:**
  - Industrial/Commercial Buildings = 2,050 gpm for 4 hours (492,000 gallons)
  - Residential = 1,500 for 2 hours

- **Drinking Water System Capacity Requirements:**
  - **Sources:**
    - Supply Peak Day Demand
  - **Storage:**
    - Storage for Average Day Demand plus Fire Flow (Industrial/Commercial Buildings Fire Flow)
  - **Distribution**:
    - Per UAC R309-105-9, distribution systems should maintain a minimum pressure at all points in the system during**;**
      - Peak Day Demand plus Fire Flow - 20 psi
      - Peak Instantaneous Demand – 30 psi
      - Peak Day Demand – 40 psi
    - Max Velocity Requirements:
      - Peak Day and Peak Instantaneous Demand - 5 fps
      - Peak Day Demand plus Fire Flow – 10 fps

### *3.1.3 Capacity of Existing Facilities*

As mentioned in Section 3.1.2, source capacity requirements are based on peak day demand. The current peak day demand was calculated based on demographic projections established in Section 2.7 and the source level of service shown in Section 3.1.2. This demand was compared with the equipped capacity to determine the source excess shown in the table below.

**Table 3-5: Capacity of Existing Sources**

| Current (2023) ERCs | Peak Day LOS (gpm/ERC) | Peak Day Demand (gpm) | Equipped Capacity (gpm) | Excess / (Deficit) (gpm) |
|---|---|---|---|---|
| 6,343 | 0.983 | 6,235 | 6,375 | 140 |

The City's current average day demand plus the fire flow storage requirement shown in Section 3.1.2 was compared with the equipped storage capacity to calculate the current storage deficit as shown in Table 3-6.

**Table 3-6: Capacity of Existing Storage**

| Current (2023) ERCs | Average Day LOS (gpd/ERC) | Fire Storage (gal) | Average Day Demand (gpd) | Average Day Demand Plus Fire Storage (gal) | Equipped Capacity (gal) | Excess / (Deficit) (gal) |
|---|---|---|---|---|---|---|
| 6,343 | 807 | 492,000 | 5,118,801 | 5,610,801 | 3,925,000 | (1,685,801) |

Drinking water distribution systems are pressurized and the City of Grantsville is capable of pumping drinking water from its lowest pressure zone, zone 1, to pressure zone 3. It is also capable of distributing from its pressure zone 3 tanks, South Willow and Lakeview Business Park, to all its pressure zones. Therefore, the distribution system serves the entire City equally and has excess capacity to accommodate any future development.

### *3.1.4 Demands of Future Development*

The future requirements for the drinking water system (see Table 3-7) were determined by utilizing the projected growth in the planning period shown in Table 2-4 and the levels of service from Section 3.1.2.

**Table 3-7: Future Drinking Water Requirements**

| Year | ERCs | Sources | | Storage | | |
|---|---|---|---|---|---|---|
| | | Peak Day Demand (gpm) | Excess / (Deficit) (gpm) | Average Day Demand (gpd) | Average Day Demand Plus Fire Storage (gal) | Excess / (Deficit) (gal) |
| 2023 | 6,343 | 6,235 | 140 | 5,118,801 | 5,610,801 | (1,685,801) |
| 2024 | 6,635 | 6,522 | (147) | 5,354,445 | 5,846,445 | (1,921,445) |
| 2025 | 6,975 | 6,856 | (481) | 5,628,825 | 6,120,825 | (2,195,825) |
| 2026 | 7,287 | 7,163 | (788) | 5,880,609 | 6,372,609 | (2,447,609) |
| 2027 | 7,629 | 7,499 | (1,124) | 6,156,603 | 6,648,603 | (2,723,603) |
| 2028 | 7,980 | 7,844 | (1,469) | 6,439,860 | 6,931,860 | (3,006,860) |
| 2029 | 8,356 | 8,214 | (1,839) | 6,743,292 | 7,235,292 | (3,310,292) |
| 2030 | 8,761 | 8,612 | (2,237) | 7,070,127 | 7,562,127 | (3,637,127) |
| 2031 | 9,162 | 9,006 | (2,631) | 7,393,734 | 7,885,734 | (3,960,734) |
| 2032 | 9,597 | 9,434 | (3,059) | 7,744,779 | 8,236,779 | (4,311,779) |
| 2033 | 10,048 | 9,877 | (3,502) | 8,108,736 | 8,600,736 | (4,675,736) |

Future requirements for the distribution system were determined based on the distribution of growth throughout the City shown in Table 2-5.

### *3.1.5 Proposed Projects*

Proposed projects were determined to meet the demands of future development shown in the previous section and by utilizing the distribution of growth in the planning period to place future projects. The proposed projects are shown in Figure 3-2. The City is currently rehabilitating along with replacing the pump/motor of the Hunsaker Well anticipating the well's equipped capacity will increase from 275 gpm (Table 3-1) to 350 gpm. Additionally, three wells and three storage tanks are proposed as shown in Table 3-8 and Table 3-9, along with the planning year, construction year, and cost estimates (see Appendix D).

**Table 3-8: Proposed Source Projects**

| Source | Type / Equipment | Casing (inches) / Depth (feet) | Pump Setting (feet) | Equipped Capacity (gpm) | Construction Priority | | Current Year (2023) Cost Estimate |
|---|---|---|---|---|---|---|---|
| | | | | | Begin Planning | Begin Construction | |
| Hunsaker Well Rehabilitation | Well Rehab | 16 / 650 | 470 | 350 | 2023 | 2024 | $264,654.17 [1] |
| Southwest Well No. 1 | Well / Line Shaft Pump | 16 / 600 | 450 | 2,000 | 2024 | 2025 | $2,921,854.32 |
| Southwest Well No. 2 | Well / Line Shaft Pump | 16 / 600 | 450 | 1,000 | 2029 | 2030 | $2,862,765.23 |
| West Bank Well No. 1 | Well / Line Shaft Pump | 16 / 600 | 550 | 2,000 | 2030 | 2031 | $2,887,128.41 |
| **Total** | | | | **5,350** | | | **$8,936,402.13** |

[1] *The cost shown is the actual cost for engineering and construction of the project.*

**Table 3-9: Proposed Storage Projects**

| Storage | Equipped Capacity (gal) | Construction Priority | | Current Year (2023) Cost Estimate |
|---|---|---|---|---|
| | | Begin Planning | Begin Construction | |
| Southwest Tank No. 1 | 2,000,000 | 2024 | 2025 | $3,839,078.10 |
| Southwest Tank No. 2 | 1,500,000 | 2025 | 2026 | $3,780,827.64 |
| West Bank Tank No. 1 | 1,500,000 | 2028 | 2029 | $6,147,238.50 |
| **Total** | **5,000,000** | | | **$13,767,144.24** |

Proposed distribution system projects are shown in Table 3-10. The City purchased one 350 kW trailer mounted, diesel generator in 2023 and will be updating its existing well houses and booster pump stations in 2024 with manual transfer switches and generator plugs to be able to operate any of the existing wells and booster pumps during a power outage. They also will purchase an additional trailer mounted, diesel generator in order to power the Marshall Well and North Well and Booster Pump Station site. These sites have a higher power draw requiring two 350 kW generators to operate during a power outage. The water distribution and transmission projects shown in Table 3-10 are required to extend water service to future development while providing vital water distribution looping for the water system.

**Table 3-10: Proposed Distribution System Projects**

| Distribution Project | Description | Construction Priority | | Current Year (2023) Cost Estimate |
|---|---|---|---|---|
| | | Begin Planning | Begin Construction | |
| Wells and Booster Pumps Electrical Improvements | Electrical Improvements to install manual transfer switches and generator plugs at City's existing sources and booster pump stations. | 2023 | 2024 | $220,906.49 [1] |
| SR-138 Water Line Extension | Extend approximately 14,650 linear feet of 12-inch diameter water line and 17,400 linear feet of 16-inch diameter water line along SR 138 and install a PRV Station. | 2024 | 2024 | $4,601,294.50 |
| Southwest Tank No. 1 Transmission Line | Construct approximately 3,660 linear feet of 12-inch diameter and 10,750 linear feet of 16-inch diameter water line for the Southwest Tank No. 1 and install a PRV station. | 2024 | 2025 | $2,403,557.50 |
| Generator | Purchase 350 kW Trailer Mounted Diesel Generator including cables, connectors, and appurtenances. | 2024 | 2025 | $269,200.00 |
| SR-112 Water Line Extension | Extend approximately 3,950 linear feet of 12-inch diameter water line along SR 112. | 2025 | 2026 | $512,627.50 |
| Southeast Water Line Project | Construct approximately 9,380 linear feet of 12-inch diameter water line in the southeast portion of the City and two PRV Stations. | 2025 | 2026 | $1,442,156.82 |
| Burmester Water Pipeline Project | Extend approximately 7,757 linear feet of 12-inch diameter water line along Burmester Street. | 2027 | 2028 | $940,526.85 |
| **Total** | | | | **$10,390,269.66** |

[1] *The cost shown is the actual cost for engineering and construction of the project.*

The City also plans to expand the Public Works site to add a shop area, expected to begin construction in 2026. The estimated cost is $2.02 million and will be split evenly between the drinking water and wastewater utility.

### *3.1.6 Methods of Financing*

The intent is to fund the majority of the projects though impact fees. The portion of the projects not eligible for impact fees may be funded through grants, loans, developer dedications, or reserves in the Water Fund.

Pressure Zone Borders
Pressure Zones
1
2
3
4
City Boundary

Legend
<4"
4"
6"
8"
10"
12"
14"
16"
20"
24"

Tank
Well
PRV
Booster Pump
Grantsville City Boundary
MG - Million Gallons
OF - Overflow Elevation
psi - Pounds per Square-Inch

Continues 1.2 miles

Zone 4:
Top - 65 psi
Bottom - 120 psi

SR-138 Water Line Extention

Burmester Water Pipeline

Public Works Improvements

West Bank Tank No. 1 (1.5 MG, Zone 3, OF=4,712') and Well

North Tanks (0.225 MG & 0.5 MG, Zone 1, OF=4,507') and Well

Southwest Tank No. 2 (1.5 MG, Zone 4, OF=4,862') and Well

Southwest Tank No. 1 (2.0 MG, Zone 3, OF=4,712') and Well

North Well Booster Pump Station

South Tank (1.0 MG, Zone 2, OF=4,610') and Well

West Bench Booster Pump Station

Lakeview Business Park Tank (1.2 MG, Zone 3, OF=4,712')

Cherry Street (Park) Well

Hunsaker Well

Marshall Well

South Willow Well

South Willow Tank (1.0 MG, Zone 3, OF=4,712')

SR-112 Water Line Extention

Southeast Water Line

Zone 1:
Top - 55 psi
Bottom - 110 psi

Zone 2:
Top - 55 psi
Bottom - 85 psi

Zone 3:
Top - 55 psi
Bottom - 110 psi
Bottom ~148 (Deseret Peak Area)

*Proposed project locations are approximate and are subject to change

0.5 0 0.5 1 mi


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429 E MAIN STREET
GRANTSVILLE, UTAH 84029

CONTACT:
MAYOR NEIL A. CRITCHLOW
PHONE: 435-884-3411

# GRANTSVILLE CFP, IFFP, AND IFA

GRANTSVILLE, UTAH

PROPOSED DRINKING WATER SYSTEM

PROJECT NUMBER 10766D
PRINT DATE 2024-07-25
PROJECT MANAGER R. ROUSSELLE
DESIGNED BY M. SANFORD

FIG 3-2

## 3.2 IMPACT FEE ANALYSIS

### *3.2.1 Existing Facilities*

As shown in Section 3.1.3, the City's sources have excess capacity to serve future development. This excess capacity along with the proportionate share and historic construction costs are shown in Table 3-12. The proportionate share was calculated by dividing the excess capacity by the current equipped capacity. There is no excess storage capacity so no buy-in cost can be charged for storage facilities. As discussed in Section 3.1.3, the existing distribution system benefits all of the City proportionally as the City is able to pump or gravity flow water throughout the drinking water system. Therefore, the proportionate share for the existing distribution system was calculated based on the proportion of future ERCs expected to be served within the planning period as shown in Table 3-11. The existing Publics Works Building will utilize the same proportionate share as it is considered beneficial to both existing and future development. Another item eligible to charge a buy-in cost for is the interest payment amount due within the planning period for the Water Revenue Bond shown in Table 3-4. This loan was used to fund past improvements to the distribution system which benefited existing and future development, so the buy-in cost was calculated using the same proportionate share as the existing distribution system. The proportionate share for each existing facility was multiplied by the historic construction costs in order to calculate the impact fee eligible buy-in costs (Table 3-12).

**Table 3-11: Existing Drinking Water Facilities Proportionate Share**

| Facility | Total ERCs (Year 2033) | Increase in ERCs (Year 2023-2033) | Proportionate Share |
|---|---|---|---|
| Existing Distribution System, Public Works Building, and Water Revenue Bond Interest Payments | 10,048 | 3,705 | 36.9% |

**Table 3-12: Drinking Water Buy-In Costs**

| Facility | Cost [1] | Existing Capacity (gpm) | Excess Capacity (gpm) | Proportionate Share | Buy-In Cost |
|---|---|---|---|---|---|
| Sources | $1,709,275.01 | 6,375 | 140 | 2.19% | $37,491.71 |
| Existing Distribution System | $16,226,356.31 | N/A | N/A | 36.9% | $5,983,145.91 |
| Public Works Building | $222,483.40 [2] | N/A | N/A | 36.9% | $82,036.33 |
| Water Revenue Bond Interest Payments (2023-2033) | $344,640.00 | N/A | N/A | 36.9% | $127,079.14 |
| **Total** | | | | | **$6,229,753.09** |

*[1] The costs shown are historical costs which may include initial construction, acquiring land, improvements, planning, and engineering.*

*[2] The cost shown for the Public Works Building is the cost associated with drinking water facilities.*

### *3.2.2 System Improvements*

The drinking water system improvements needed to accommodate future development within the planning period were determined in Section 3.1.5. The proportionate shares for sources and storage were calculated based on the increase in system capacity to meet the level of service, as shown in Table 3-13 and Table 3-14. It can be seen a portion of the Southwest Tank No. 1 project is associated with correcting the existing deficiency, which was excluded from the proportionate share calculation. The City does not charge impact fees for projects which are expected to be constructed by developers so they have a proportionate share of 0%. If it is determined the City will pay for any portion of these projects as the development agreements are finalized then this plan should be amended to include the project.

**Table 3-13: Proposed Source Projects Proportionate Share**

| Project | Equipped Capacity (gpm) | Future (2033) Deficit (gpm) | Proportionate Share |
|---|---|---|---|
| Hunsaker Well Rehabilitation | 75 [1] | 3,502 | 100% |
| Southwest Well No. 1 | 2,000 | 3,427 | 0% [2] |
| Southwest Well No. 2 | 1,000 | 1,427 | 100% |
| West Bank Well No. 1 | 2,000 | 427 | 0% [2] |

*[1] The increase in equipped capacity resulting from the proposed project is shown as opposed to the total capacity of the facility.*
*[2] The proportionate share is 0% because the project is expected be constructed by developers.*

**Table 3-14: Proposed Storage Projects Proportionate Share**

| Project | Equipped Capacity (gal) | Existing (2023) Deficit (gal) | Future (2033) Deficit (gal) | Proportionate Share |
|---|---|---|---|---|
| Southwest Tank No. 1 | 2,000,000 | 1,685,801 | 4,675,736 | 15.7% |
| Southwest Tank No. 2 | 1,500,000 | 0 | 2,675,736 | 0% [1] |
| West Bank Tank No. 1 | 1,500,000 | 0 | 1,175,736 | 0% [1] |

*[1] The proportionate share is 0% because the project is expected be constructed by developers.*

The proposed distribution system projects and the Public Works Improvements project were determined to be beneficial to both existing and future development, so the proportionate share was calculated based on the ERCs expected to be served within the planning period as shown in Table 3-15.

**Table 3-15: Proposed Distribution System and Public Works Proportionate Share**

| Project | Total ERCs (Year 2033) | Increase in ERCs (Year 2023-2033) | Proportionate Share |
|---|---|---|---|
| Distribution Projects and Public Works Improvements | 10,048 | 3,705 | 36.9% |

The cost of each project which is attributed to new development in the planning period, and therefore eligible for impact fees, was calculated by multiplying the total project cost by the proportionate share as shown in Table 3-16. In order to account for the time-price differential inherent with future costs, the current year cost estimates were inflated at a rate of 3.5% to the anticipated construction year.

**Table 3-16: Drinking Water Impact Fee Eligible Costs**

| Project | Construction Year | Current Year (2023) Cost Estimate | Construction Year Cost Estimate | Proportionate Share | Impact Fee Eligible Cost |
|---|---|---|---|---|---|
| Hunsaker Well Rehabilitation | 2024 | $264,654.17 | $264,654.17 [2] | 100% | $264,654.17 |
| Southwest Well No. 1 | 2025 | $2,921,854.32 | $3,129,963.39 | 0% [3] | $0.00 |
| Southwest Well No. 2 | 2030 | $2,862,765.23 | $3,642,236.84 | 100% | $3,642,236.84 |
| West Bank Well No. 1 | 2031 | $2,887,128.41 | $3,801,796.78 | 0% [3] | $0.00 |
| Southwest Tank No. 1 | 2025 | $3,839,078.10 | $4,112,516.44 | 15.7% | $646,074.28 |
| Southwest Tank No. 2 | 2026 | $3,780,827.64 | $4,191,871.19 | 0% [3] | $0.00 |
| West Bank Tank No. 1 | 2029 | $6,147,238.50 | $7,556,525.67 | 0% [3] | $0.00 |
| Wells and Booster Pumps Electrical Improvements | 2024 | $220,906.49 | $220,906.49 [2] | 36.9% | $81,454.87 |
| SR-138 Water Line Extension | 2024 | $4,601,294.50 | $4,762,339.81 | 0% [3] | $0.00 |
| Southwest Tank No. 1 Transmission Line | 2025 | $2,403,557.50 | $2,574,750.88 | 0% [3] | $0.00 |
| Generator | 2025 | $269,200.00 | $288,373.77 | 36.9% | $106,332.09 |
| SR-112 Water Line Extension | 2026 | $512,627.50 | $568,359.27 | 0% [3] | $0.00 |
| Southeast Water Line Project | 2026 | $1,442,156.82 | $1,598,945.04 | 0% [3] | $0.00 |
| Burmester Water Pipeline Project | 2028 | $940,526.85 | $1,117,050.86 | 36.9% | $411,890.27 |
| Public Works Improvements | 2026 | $1,008,975.00 [1] | $1,118,668.62 | 36.9% | $412,486.79 |
| **Total** | | **$34,102,791.03** | **$38,948,959.22** | | **$5,565,129.30** |

*[1] The cost shown for the Public Works Improvements project is half of the total cost estimate because this project cost will be split evenly between the wastewater and drinking water utilities.*

*[2] The cost for the project was not inflated because the cost shown is the actual project cost.*

*[3] The proportionate share is 0% because the project is expected be constructed by developers.*

In addition to impact fee eligible project costs, planning costs can also be included in the calculation of impact fees. The cost for the current amendment to the drinking water section of this CFP, IFFP, and IFA was $7,980.05. Due to the uncertainty which comes with long-term development projections, this plan is expected to be amended annually going forward. The future professional expenses expected to occur within the planning period were inflated at a 3.5% rate as shown in Table 3-17.

**Table 3-17: Drinking Water Professional Expenses**

| Year | Cost |
|---|---|
| 2023 | $0.00 |
| 2024 | $7,980.05 |
| 2025 | $8,259.36 |
| 2026 | $8,548.43 |
| 2027 | $8,847.63 |
| 2028 | $9,157.30 |
| 2029 | $9,477.80 |
| 2030 | $9,809.52 |
| 2031 | $10,152.86 |
| 2032 | $10,508.21 |
| 2033 | $10,875.99 |
| **Total** | **$93,617.15** |

### *3.2.3 Methods of Financing*

The drinking water system improvements are expected to be funded through impact fees, loans, developer dedications, and Water Fund reserves as discussed in Section 3.1.6. The City expects to finance the proposed Southwest Tank No. 1 project with a loan, which is necessary to prevent the impact fee fund balance from going negative (see Section 3.2.5). This loan was assumed to be a 30-year bond with a 4.0% interest rate, 1.5% cost of insurance, 0.5% bond insurance, and a $20,000 surety policy. The interest cost for this bond attributed to development within the planning period can be included in the impact fee calculation.

**Table 3-18: Drinking Water Future Debt Financing**

| Project | Proceeds | Par Amount [1] | Debt Service (Interest) | Debt Service (Principal + Interest) | Proportionate Share | Impact Fee Eligible Debt Service (Interest) |
|---|---|---|---|---|---|---|
| Southwest Tank No. 1 | $4,112,516.44 | $4,214,766.77 | $3,097,444.63 | $7,312,211.40 | 15.7% | $486,607.00 |

[1] *Includes cost of issuance, bond insurance, and surety policy.*

### *3.2.4 Impact Fee Calculation*

Impact fees to be charged per ERC for each project were calculated by dividing the impact fee eligible costs by the number of ERCs expected to be served within the planning period, determined from Table 2-4. The City does not charge impact fees to the construction water and City rate connection types so they were excluded from the calculation. The increase in ERCs in the planning period for all other connection types totals 3,605 ERCs.

**Table 3-19: Drinking Water Impact Fee Calculation**

| Project | Impact Fee Eligible Cost | Planning Period (2023-2033) ERCs [1] | Cost per ERC |
|---|---|---|---|
| Buy-In Cost | $6,229,753.09 | 3,605 | $1,728.09 |
| Hunsaker Well Rehabilitation | $264,654.17 | 3,605 | $73.41 |
| Southwest Well No. 2 | $3,642,236.84 | 3,605 | $1,010.33 |
| Southwest Tank No. 1 | $646,074.28 | 3,605 | $179.22 |
| Southwest Tank No. 1 Debt Service (Interest) | $486,607.00 | 3,605 | $134.98 |
| Wells and Booster Pumps Electrical Improvements | $81,454.87 | 3,605 | $22.59 |
| Generator | $106,332.09 | 3,605 | $29.50 |
| Burmester Water Pipeline Project | $411,890.27 | 3,605 | $114.26 |
| Public Works Improvements | $412,486.79 | 3,605 | $114.42 |
| Professional Expenses | $93,617.15 | 3,605 | $25.97 |
| **Total** | | | **$3,432.76** |

[1] *Does not include Construction Water or City Rate ERCs.*

The City charges impact fees to residential users based on their water meter size. A 3/4 inch water meter was determined to be equivalent to one ERC, and the remaining meter sizes were converted to ERCs based on the maximum flow rates from AWWA Manual M6, Table 5-3. Non-residential users are charged impact fees based on the number of fixture units in a development. A typical ERC was determined to have 24 fixture units as calculated in Appendix E. The results of these impact fee calculations are summarized in Table 3-20.

**Table 3-20: Proposed Drinking Water Impact Fees**

| Water Meter Size (inches) | Maximum Flow Rate (gpm) | ERCs | Impact Fee |
|---|---|---|---|
| 3/4 | 25 [1] | 1 | $3,432.76 |
| 1 | 40 [1] | 1.6 | $5,492.42 |
| 1 1/2 | 50 [1] | 2 | $6,865.52 |
| 2 | 100 [1] | 4 | $13,731.05 |
| 3 | 200 [2] | 8 | $27,462.09 |
| 4 | 400 [2] | 16 | $54,924.19 |
| 6 | 800 [2] | 32 | $109,848.38 |
| 8 | 1,000 [2] | 40 | $137,310.47 |
| Non-Residential Development Indoor | | | $35.00 per fixture unit |
| Non-Residential Development Outdoor | | | $21,694.03 per irrigated acre |

[1] *From AWWA M6 Table 5-3 Displacement Meters.*

[2] *From AWWA M6 Table 5-3 Electromagnetic and Ultrasonic Meter Type 1.*

### *3.2.5 Impact Fee Cashflow*

The anticipated impact fee revenues and expenses over the 10-year planning period are shown in Table 3-21. The expenses represent only what is attributable to planning period development and include capital project costs, the expenditure of buy-in costs, and proposed bond payments. The impact fee cashflow (Table 3-22) estimates the end of year impact fee fund balance throughout the planning period by comparing the impact fee revenues, total expenses, and interest income calculated at 5.44% of the fund balance.

### *3.2.6 Impact Fee Credits*

There are procedures in place for credits, appeals, and exemptions of impact fees for Grantsville City. Refer to Appendix B for the City's current impact fee ordinance.

**Table 3-21: Drinking Water Impact Fee Revenues and Expenses**

| Year | ERCs [1] | Annual ERC Increase [1] | Impact Fee Revenues | Impact Fee Eligible Project Costs | Bond Payments | Bond Proceeds | Buy-In Cost Expenses | Professional Expenses | Total Expenses |
|---|---|---|---|---|---|---|---|---|---|
| 2023 | 5,988 | - | - | - | - | - | - | - | - |
| 2024 | 6,266 | 278 | $954,307.80 | ($346,109.04) | - | - | ($480,408.14) | ($7,980.05) | ($834,497.24) |
| 2025 | 6,576 | 310 | $1,064,156.18 | ($752,406.36) | - | $646,074.28 | ($535,706.92) | ($8,259.36) | ($650,298.37) |
| 2026 | 6,883 | 307 | $1,053,857.89 | ($412,486.79) | ($38,291.49) | - | ($530,522.66) | ($8,548.43) | ($989,849.37) |
| 2027 | 7,220 | 337 | $1,156,840.75 | - | ($38,291.49) | - | ($582,365.27) | ($8,847.63) | ($629,504.39) |
| 2028 | 7,566 | 346 | $1,187,735.61 | ($411,890.27) | ($38,291.49) | - | ($597,918.05) | ($9,157.30) | ($1,057,257.11) |
| 2029 | 7,929 | 363 | $1,246,092.56 | - | ($38,291.49) | - | ($627,295.53) | ($9,477.80) | ($675,064.82) |
| 2030 | 8,320 | 391 | $1,342,209.89 | ($3,642,236.84) | ($38,291.49) | - | ($675,681.96) | ($9,809.52) | ($4,366,019.81) |
| 2031 | 8,717 | 397 | $1,362,806.46 | - | ($38,291.49) | - | ($686,050.48) | ($10,152.86) | ($734,494.83) |
| 2032 | 9,147 | 430 | $1,476,087.60 | - | ($38,291.49) | - | ($743,077.34) | ($10,508.21) | ($791,877.04) |
| 2033 | 9,593 | 446 | $1,531,011.79 | - | ($38,291.49) | - | ($770,726.73) | ($10,875.99) | ($819,894.22) |
| **Total** | | **3,605** | **$12,375,106.53** | **($5,565,129.30)** | | | **($6,229,753.09)** | **($93,617.15)** | **($11,548,757.19)** |

*[1] Does not include Construction Water or City Rate ERCs.*

**Table 3-22: Drinking Water Impact Fee Cashflow**

| Year | Impact Fee Revenues | Total Expenses | Interest Income | End of Year Balance |
|---|---|---|---|---|
| 2023 | - | - | - | $80,352.82 |
| 2024 | $954,307.80 | ($834,497.24) | $4,371.19 | $204,534.57 |
| 2025 | $1,064,156.18 | ($650,298.37) | $11,126.68 | $629,519.07 |
| 2026 | $1,053,857.89 | ($989,849.37) | $34,245.84 | $727,773.43 |
| 2027 | $1,156,840.75 | ($629,504.39) | $39,590.87 | $1,294,700.66 |
| 2028 | $1,187,735.61 | ($1,057,257.11) | $70,431.72 | $1,495,610.88 |
| 2029 | $1,246,092.56 | ($675,064.82) | $81,361.23 | $2,147,999.85 |
| 2030 | $1,342,209.89 | ($4,366,019.81) | $116,851.19 | ($758,958.88) |
| 2031 | $1,362,806.46 | ($734,494.83) | - | ($130,647.24) |
| 2032 | $1,476,087.60 | ($791,877.04) | - | $553,563.32 |
| 2033 | $1,531,011.79 | ($819,894.22) | $30,113.84 | $1,294,794.73 |

# SECTION 4: PUBLIC SAFETY

## 4.1 CAPITAL FACILITIES PLAN AND IMPACT FEE FACILITIES PLAN

### *4.1.1 Inventory of Existing Facilities*

Grantsville City's public safety services consist of a Police Department, Animal Control, and Fire Department. There is also an Emergency Medical Technician (EMT)/ambulance service which the City has contracted with through Mountain West Hospital, but this will not be included in impact fee calculations because it is not a City run service.

The Utah Impact Fees Act defines a public safety facility as "a building constructed or leased to house police, fire, or other public safety entities; or a fire suppression vehicle costing in excess of $500,000." The City does not currently have any fire suppression vehicles which cost more than $500,000. The existing buildings associated with City's public safety services are listed in Table 4-1 along with the floor area and historical construction cost. The City Hall building is included in the public safety section of this plan, but it is not eligible for impact fees because it does not house any public safety services.

**Table 4-1: Existing Public Safety Facilities**

| Facility | Construction Year | Floor Area (sq ft) | Cost [1] |
|---|---|---|---|
| Justice Center (Police Station) | 2017 | 8,450 [2] | $3,905,831.64 |
| Animal Shelter | 1983 | 1,155 | $10,006.00 |
| Fire Station | 2007 | 15,500 | $2,376,472.15 |
| City Hall | 1996 | 7,000 | $526,910.54 |
| **Total** | | | **$6,819,220.33** |

*[1] The costs shown are historical costs which may include initial construction, acquiring land, improvements, planning, and engineering.*

*[2] The Justice Center is shared between the Police Department and the Justice Court. The total building floor area is 12,947 square feet, but the area of the portion occupied by the Police Department is 8,450 square feet.*

The locations of these facilities are shown in Figure 4-1. The Police Department also operates a firearms range off Mormon Trail Road, but this is not included in this plan as it does not meet the definition of a public safety facility. See Appendix F for more detailed information about the Police Department staffing and Justice Center layout.

The City does have long-term debt associated with existing public safety facilities in the form of revenue bonds issued for the Fire Station and Justice Center. The details of these bonds are shown in the following table.

**Table 4-2: Existing Public Safety Long-Term Debt**

| Bond | Date of Issue | Interest Rate | Final Maturity Date | Original Bond, Note Issue | Principal Outstanding at June 30, 2023 | Total Interest Payments (2023-2033) |
|---|---|---|---|---|---|---|
| MBA Lease Revenue Bond, Series 2006 (Fire Station) | May 25, 2006 | 3.50% | January, 2037 | $2,000,000.00 | $1,185,000.00 | $298,130.00 |
| MBA Lease Revenue Bond, Series 2016 (Justice Center) | December, 2016 | 2.50% | October, 2047 | $2,700,000.00 | $2,377,000.00 | $510,400.00 |
| **Total** | | | | **$4,700,000.00** | **$3,562,000.00** | **$808,530.00** |

### *4.1.2 Level of Service*

The previous Grantsville City Capital Facilities Plan dated May, 2022 established levels of service for each department as shown in Table 4-3. This plan will continue to utilize these levels of service.

**Table 4-3: Public Safety Level of Service**

| Department | Staff Level of Service | Facility Level of Service |
|---|---|---|
| Police | 1.49 officers per 1,000 population | 118.6 sq ft building area per officer |
| Fire | 3.52 firefighters per 1,000 population | 0.0754 fire stations per 1,000 population |
| Animal Control | 0.156 officers per 1,000 population | 90.3 sq ft building area per 1,000 population |

#### *4.1.2.1 Police Department*

At the time of the previous plan, the Police Department had 18 full-time officers excluding the Animal Control Officer, and Police Chief Enslen stated one additional officer was needed to provide the appropriate level of service. 19 officers at the City's 2021 population of 12,791 is equivalent to a rate of 1.49 officers per 1,000 population. This is in the range of typical levels of service provided by other police departments with a 2016 study by the FBI finding the average officer rate for cities with 10,000 to 24,999 population in the mountain west region was 1.7 officers per 1,000 population.

The required building area for the Police Department was determined from the rate of officers per building area for the former Grantsville Police Station when it reached its capacity. The police station used prior to the Justice Center was determined to be at capacity at the time of the Grantsville City Capital Facilities Plan prepared by AQUA Engineering dated April, 2013. The former station was 1,423 square feet, and there were 12 officers employed when it was at capacity, equivalent to a rate of 118.6 square feet per officer.

#### *4.1.2.2 Fire Department*

The Fire Department had 30 volunteer firefighters at the time of the previous CFP, and Fire Chief Daniels stated he needed 15 additional volunteers to provide adequate service to the City. 45 firefighters at the City's 2021 population of 12,791 is equivalent to a rate of 3.52 firefighters per 1,000 population.

At the time of the previous plan, Chief Daniels stated the existing fire station has 20% excess capacity in the training area and office spaces, and the rest of the station is at capacity. The floor area of the training area and offices is approximately 2,750 square feet, and therefore has an excess capacity of 550 square feet. It was determined 14,950 square feet (15,500 – 550) of station floor area was required to provide adequate service. This is 96.5% of the total station area which equates to 0.0754 stations per 1,000 population at the City's 2021 population.

#### *4.1.2.3 Animal Control*

There was one Animal Control Officer when the previous CFP was written, and Chief Enslen had stated an additional Animal Control Officer was required. Two officers at the 2021 population equals a rate of 0.156 officers per 1,000 population.

Based on input from Chief Enslen and a calculation (see Appendix F) following the methodology provided in the article Calculating Shelter Capacity by UC Davis Koret Shelter Medicine Program, it was determined the Animal Control Shelter was at capacity in 2021. The shelter is approximately 1,155 square feet which equals 90.3 square feet per 1,000 population at the City's 2021 population.

### *4.1.3 Capacity of Existing Facilities*

The capacity of existing public safety facilities was calculated based on the current City population and the appropriate levels of service for each facility type, as shown in the following three tables.

**Table 4-4: Capacity of Existing Police Facilities**

| Population (2023) | Police Officers per 1,000 Population | Police Officers Required | Building Area per Officer (sq ft) | Building Area Required (sq ft) | Existing Building Area (sq ft) | Excess / (Deficit) (sq ft) |
|---|---|---|---|---|---|---|
| 13,847 | 1.49 | 21 | 118.6 | 2,490.6 | 8,450 | 5,959.4 |

**Table 4-5: Capacity of Existing Fire Facilities**

| Population (2023) | Stations Per 1,000 Population | Number of Stations Required | Existing Number of Stations | Excess / (Deficit) |
|---|---|---|---|---|
| 13,847 | 0.0754 | 1.04 | 1 | (0.04) |

**Table 4-6: Capacity of Existing Animal Control Facilities**

| Population (2023) | Building Area per 1,000 Population (sq ft) | Building Area Required (sq ft) | Existing Building Area (sq ft) | Excess / (Deficit) (sq ft) |
|---|---|---|---|---|
| 13,847 | 90.3 | 1,250.4 | 1,155 | (95.4) |

### *4.1.4 Demands of Future Development*

Based on the demographic projections discussed in Section 2.7 and the levels of service established in Section 4.1.2, the requirements for public safety facilities to accommodate future development were calculated as shown in Table 4-7. It can be seen there are no additional facilities required for the Police Department, as the existing Justice Center has capacity to meet the demands of future development through the end of the planning period. However, both the Fire Department and Animal Control require additional facilities to be built within the planning period to accommodate future growth.

**Table 4-7: Future Public Safety Requirements**

| Year | Population | Police | | | Fire | | Animal Control | |
|---|---|---|---|---|---|---|---|---|
| | | Police Officers Required | Building Area Required (sq ft) | Excess / (Deficit) (sq ft) | Number of Stations Required | Excess / (Deficit) | Building Area Required (sq ft) | Excess / (Deficit) (sq ft) |
| 2023 | 13,847 | 21 | 2,491 | 5,959 | 1.04 | (0.04) | 1,250 | (95.4) |
| 2024 | 14,504 | 22 | 2,609 | 5,841 | 1.09 | (0.09) | 1,310 | (155) |
| 2025 | 15,194 | 23 | 2,728 | 5,722 | 1.15 | (0.15) | 1,372 | (217) |
| 2026 | 15,916 | 24 | 2,846 | 5,604 | 1.20 | (0.20) | 1,437 | (282) |
| 2027 | 16,677 | 25 | 2,965 | 5,485 | 1.26 | (0.26) | 1,506 | (351) |
| 2028 | 17,476 | 26 | 3,084 | 5,366 | 1.32 | (0.32) | 1,578 | (423) |
| 2029 | 18,314 | 27 | 3,202 | 5,248 | 1.38 | (0.38) | 1,654 | (499) |
| 2030 | 19,193 | 29 | 3,439 | 5,011 | 1.45 | (0.45) | 1,733 | (578) |
| 2031 | 20,119 | 30 | 3,558 | 4,892 | 1.52 | (0.52) | 1,817 | (662) |
| 2032 | 21,090 | 31 | 3,677 | 4,773 | 1.59 | (0.59) | 1,904 | (749) |
| 2033 | 22,108 | 33 | 3,914 | 4,536 | 1.67 | (0.67) | 1,996 | (841) |

### *4.1.5 Proposed Projects*

#### *4.1.5.1 Police Department*

Grantsville City plans to upgrade the existing Justice Center around 2026 by adding additional office space, equipment storage, and vehicle bays.

#### *4.1.5.2 Fire Department*

The City plans to construct one fire station within the planning period to satisfy the level of service requirements for future development. The City also plans to construct two more fire stations, as shown in Figure 4-1, but these projects will likely occur beyond the 10-year planning period. Additionally, based on Fire Chief Daniels' recommendations, an expansion of the existing fire station to add sleeping quarters for 6 to 8 staff is required in order to support the staff needed to provide adequate service to the City.

The proposed fire station (Satellite Fire Station East), is expected to begin the planning process in 2024 with construction to begin in 2025. This station is currently proposed to be located on the east side of the City, as shown in Figure 4-1, but this location is subject to change as the planning process begins. Additional fire vehicles will also be required to support the proposed fire station. Chief Daniels recommends this station be equipped to serve 80% industrial/commercial buildings and 20% residential, and the

vehicles required for this are listed in Table 4-8. Also shown in the table are the current year cost estimates (see Appendix G) and the recommended planning and construction years for the proposed projects.

#### *4.1.5.3 Animal Control*

The City plans to construct a new Animal Control Shelter to meet the demands of future development. This shelter is proposed to be 4,500 square feet and located just north of the existing Justice Center as shown in Figure 4-1. Again, this location is subject to change as the planning process is underway. Recommended planning and construction years as well as the current year cost estimate for the proposed Animal Control Shelter are shown in Table 4-8.

#### *4.1.5.4 City Hall*

The City also plans to construct a new City Hall within the planning period. It is anticipated to be located north of the Justice Center and estimated to be 20,000 square feet.

**Table 4-8: Proposed Public Safety Projects**

| Project | Construction Priority | | Current Year (2023) Cost Estimate |
|---|---|---|---|
| | Begin Planning | Completion | |
| Satellite Fire Station East | 2024 | 2025 | $3,123,189.55 |
| *2 Aerial Platform Trucks* | *2024* | *2025* | *$2,570,940.00* |
| *Pumper Truck* | *2024* | *2025* | *$535,612.50* |
| *Mini Pumper Truck* | *2024* | *2025* | *$267,806.25* |
| *Heavy Duty Rescue Truck* | *2024* | *2025* | *$482,051.25* |
| *Tender Tank and Tractor* | *2024* | *2025* | *$214,245.00* |
| *2 Brush Trucks* | *2024* | *2025* | *$214,245.00* |
| Existing Fire Station Expansion | 2024 | 2025 | $744,055.03 |
| Animal Control Shelter | 2024 | 2025 | $2,932,511.50 |
| Justice Center Upgrades | 2025 | 2026 | N/A |
| City Hall | 2029 | 2030 | $9,054,623.98 |
| **Total** | | | **$20,139,280.06** |

### *4.1.6 Methods of Financing*

Funding for the City's public safety facilities typically comes from impact fees, grants, loans, taxes, and reserves in the Capital Project Fund. At this time, it is not expected that any of the proposed projects listed above will be funded through grants.

## Legend

- Existing Facilities
- Proposed Facilities:
  - Within Planning Period
  - Outside Planning Period
- Grantsville City Boundary

| | Existing Facilities |
|---|---|
| 1 | Fire Station |
| 2 | Animal Control Shelter |
| 3 | Justice Center |
| 4 | Ambulance / EMT Station |

| | Proposed Facilities |
|---|---|
| 5 | City Hall |
| 6 | Animal Control Shelter |
| 7 | Satellite Fire Station East |
| 8 | Satellite Fire Station Northwest |
| 9 | Satellite Fire Station South |

*Proposed project locations are approximate and subject to change.

0.3 0 0.3 0.6 mi


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# GRANTSVILLE CFP, IFFP, AND IFA

GRANTSVILLE, UTAH

**PUBLIC SAFETY FACILITIES**

| PROJECT NUMBER | PRINT DATE |
|---|---|
| 10766D | 2024-06-17 |
| PROJECT MANAGER | DESIGNED BY |
| R. ROUSSELLE | M. SANFORD |

**FIG 4-1**

## 4.2 IMPACT FEE ANALYSIS

### *4.2.1 Existing Facilities*

As determined in Section 4.1.3, the only existing public safety facility with excess capacity to serve future development is the Justice Center. A proportionate share for this project was calculated by dividing the increase in building area required in the planning period by the total building area. The proportionate share was multiplied by the historic project cost in order to calculate a buy-in cost, see Table 4-9. The interest payments due within the planning period for the existing loans associated with public safety facilities are also eligible for buy-in costs. However, since there is no excess capacity for the existing Fire Station, a buy-in cost cannot be charged for the revenue bond which funded this station. The interest payments on the revenue bond which funded the Justice Center can be charged as a buy-in cost based on the proportionate share calculated for the facility, as shown in the following table.

**Table 4-9: Public Safety Buy-In Costs**

| Facility | Cost [1] | Existing Building Area (sq ft) | Planning Period (2023-2033) Building Area Required (sq ft) | Proportionate Share | Buy-In Cost |
|---|---|---|---|---|---|
| Justice Center | $3,905,831.64 | 8,450 | 1,423 | 16.8% | $657,843.74 |
| Justice Center Revenue Bond Interest Payments (2023-2033) | $510,400.00 | N/A | N/A | 16.8% | $85,964.65 |
| **Total** | | | | | **$743,808.39** |

*[1] The costs shown are historical costs which may include initial construction, acquiring land, improvements, planning, and engineering.*

### *4.2.2 System Improvements*

The system improvements for public safety facilities proposed in the planning period were determined in Section 4.1.5. The upgrades to the Justice Center are not impact fee eligible because the Justice Center is currently adequate to meet the level of service through the end of the planning period, as discussed in Section 4.1.4. The proposed City Hall project is also not impact fee eligible as it does not directly serve any public safety facilities. Proportionate shares for the Satellite Fire Station East and the Animal Control Shelter were calculated in Table 4-10 based on the requirements to meet the level of service for future development at the end of the planning period, excluding the portion of each project associated with correcting the existing deficiencies. The fire vehicles associated with the proposed station were calculated at the same proportionate share as the station. However, the proposed vehicles which cost less than $500,000 are not eligible for impact fees per Utah Code Section 11-36a-102. The Existing Fire

Station Expansion project is beneficial to both existing and future development, so a proportionate share was calculated based on the increase in population in the planning period, as shown in Table 4-11.

**Table 4-10: Proposed Public Safety Projects Proportionate Share**

| Project | Building Area (sq ft) | Existing (2023) Deficit | Future (2033) Deficit | Proportionate Share |
|---|---|---|---|---|
| Satellite Fire Station East and Vehicles | N/A | 0.04 stations | 0.67 stations | 62.3% |
| Animal Control Shelter | 4,500 | 95.4 sq ft | 841 sq ft | 16.6% |

**Table 4-11: Proposed Fire Station Expansion Proportionate Share**

| Project | Population (Year 2033) | Increase in Population (Year 2023-2033) | Proportionate Share |
|---|---|---|---|
| Existing Fire Station Expansion | 22,108 | 8,261 | 37.4% |

The cost of each project which is eligible for impact fees is based on the portion of the project associated with serving future development in the planning period, excluding any portion of the project attributed to correcting the existing deficiency. This was calculated in Table 4-12 by multiplying the total project cost by the proportionate share shown above. In order to account for the time-price differential inherent with future costs, the current year cost estimates were inflated at a rate of 3.5% to the anticipated construction year.

**Table 4-12: Public Safety Impact Fee Eligible Costs**

| Project | Construction Year | Current Year (2023) Cost Estimate | Construction Year Cost Estimate | Proportionate Share | Impact Fee Eligible Cost |
|---|---|---|---|---|---|
| Satellite Fire Station East | 2025 | $3,123,189.55 | $3,345,638.73 | 62.3% | $2,083,929.44 |
| 2 Aerial Platform Trucks | 2025 | $2,570,940.00 | $2,754,055.20 | 62.3% | $1,715,444.25 |
| Pumper Truck | 2025 | $535,612.50 | $573,761.50 | 62.3% | $357,384.22 |
| Existing Fire Station Expansion | 2025 | $744,055.03 | $797,050.35 | 37.4% | $297,830.33 |
| Animal Control Shelter | 2025 | $2,932,511.50 | $3,141,379.63 | 16.6% | $520,748.81 |
| **Total** | | **$9,906,308.58** | **$10,611,885.41** | | **$4,975,337.05** |

In addition to impact fee eligible project costs, planning costs can also be included in the calculation of impact fees. The cost for the current amendment to the public safety section of this CFP and IFA was $4,187.07. Due to the uncertainty that comes with long-term development projections, this plan is expected to be amended annually going forward. The future professional

expenses expected to occur within the planning period were inflated at a 3.5% rate as shown in the following table.

**Table 4-13: Public Safety Professional Expenses**

| Year | Cost |
|---|---|
| 2023 | $0.00 |
| 2024 | $4,187.07 |
| 2025 | $4,333.61 |
| 2026 | $4,485.29 |
| 2027 | $4,642.27 |
| 2028 | $4,804.75 |
| 2029 | $4,972.92 |
| 2030 | $5,146.97 |
| 2031 | $5,327.12 |
| 2032 | $5,513.57 |
| 2033 | $5,706.54 |
| **Total** | **$49,120.11** |

### *4.2.3 Methods of Financing*

As discussed in Section 4.1.6, public safety system improvements are expected to be financed through impact fees, loans, and reserves in the Capital Project Fund. The City expects to finance the Satellite Fire Station East and 2 Aerial Platform Trucks projects with loans, which are necessary to prevent the impact fee fund balance from going negative (see Section 4.2.5). These loans were assumed to be 30-year bonds with a 4.0% interest rate, 1.5% cost of issuance, 0.5% bond insurance, and a $20,000 surety policy. The interest costs for these bonds attributed to development within the planning period can be included in the impact fee calculation. Table 4-14 shows the details of these bonds along with the impact fee eligible interest costs.

**Table 4-14: Public Safety Future Debt Financing**

| Project | Proceeds | Par Amount [1] | Debt Service (Interest) | Debt Service (Principal + Interest) | Proportionate Share | Impact Fee Eligible Debt Service (Interest) |
|---|---|---|---|---|---|---|
| Satellite Fire Station East | $3,345,638.73 | $3,432,551.50 | $2,522,592.31 | $5,955,143.81 | 62.3% | $1,571,270.78 |
| 2 Aerial Platform Trucks | $2,754,055.20 | $2,840,967.98 | $2,087,835.81 | $4,928,803.79 | 62.3% | $1,300,469.92 |

[1] *Includes cost of issuance, bond insurance, and surety policy.*

### *4.2.4 Impact Fee Calculation*

Impact fees for public safety facilities are calculated based on the building area of proposed development in order to make the fees equitable for the varying demands of different development types. Future building areas were projected based on assumed average building areas per unit, for each development type, multiplied by the projected units shown in Table 2-4 (see Appendix F). These assumed averages were determined in the previous CFP/IFA based on an analysis of existing buildings in the City and data from the U.S. Census Bureau. The construction water and City rate development types were excluded from these calculations because there are no buildings associated with construction water and the City does not charge impact fees for their own buildings. Impact fees were calculated in Table 4-15 by dividing the impact fee eligible cost of each project by the projected increase in building area in the planning period. Per Utah Code Section 11-36a-202, impact fees for fire suppression vehicles can only be charged to non-residential development, so an additional fee to be charged to non-residential development was calculated in Table 4-16 based on the projected increase in building area for non-residential development only.

**Table 4-15: Public Safety Impact Fee Calculation**

| Project | Impact Fee Eligible Cost | Planning Period (2023-2033) Building Area (1,000 sq ft) | Cost per Building Area (1,000 sq ft) |
|---|---|---|---|
| Buy-In Cost | $743,808.39 | 12,948 | $57.44 |
| Satellite Fire Station East | $2,083,929.44 | 12,948 | $160.94 |
| Satellite Fire Station East Debt Service (Interest) | $1,571,270.78 | 12,948 | $121.35 |
| Existing Fire Station Expansion | $297,830.33 | 12,948 | $23.00 |
| Animal Control Shelter | $520,748.81 | 12,948 | $40.22 |
| Professional Expenses | $49,120.11 | 12,948 | $3.79 |
| **Total** | | | **$406.74** |

**Table 4-16: Public Safety Fire Vehicles Impact Fee Calculation**

| Project | Impact Fee Eligible Cost | Planning Period (2023-2033) Building Area (1,000 sq ft) [1] | Cost per Building Area (1,000 sq ft) |
|---|---|---|---|
| 2 Aerial Platform Trucks | $1,715,444.25 | 6,166 | $278.20 |
| 2 Aerial Platform Trucks Debt Service (Interest) | $1,300,469.92 | 6,166 | $210.90 |
| Pumper Truck | $357,384.22 | 6,166 | $57.96 |
| **Total** | | | **$547.05** |

[1] *Includes only non-residential development building area (commercial, church, school).*

In order to simplify the process of charging impact fees, the fees for residential development are charged based on dwelling units. The impact fee per 1,000 square feet of building area calculated in Table 4-15 was converted to an impact fee per dwelling unit based on the average building areas per unit shown in Appendix F. Since building areas for non-residential development vary more than residential buildings, the non-residential impact fee is charged per building area which was calculated as the sum of the fees shown in Table 4-15 and Table 4-16. The results of these calculations are shown in the table below.

**Table 4-17: Proposed Public Safety Impact Fees**

| Land Use | Impact Fee |
|---|---|
| Single Family | $996.12 per Dwelling Unit |
| Multi-Unit | $430.33 per Dwelling Unit |
| Non-Residential | $953.80 per 1,000 sq ft building area |

### *4.2.5 Impact Fee Cashflow*

The anticipated impact fee revenues and expenses over the 10-year planning period are shown in Table 4-18. The expenses represent only what is attributable to planning period development and include capital project costs, the expenditure of buy-in costs, and proposed bond payments. The impact fee cashflow (Table 4-19) estimates the end of year impact fee fund balance throughout the planning period by comparing the impact fee revenues, total expenses, and interest income calculated at 5.44% of the fund balance.

### *4.2.6 Impact Fee Credits*

The City currently has procedures in place for credits, appeals, and exemptions of impact fees, refer to Appendix B for the City's current impact fee ordinance.

**Table 4-18: Public Safety Impact Fee Revenues and Expenses**

| Year | Residential Building Area Increase (sq ft) | Non-Residential Building Area Increase (sq ft) | Impact Fee Revenues | Impact Fee Eligible Project Costs | Bond Payments | Bond Proceeds | Buy-In Cost Expenses | Professional Expenses | Total Expenses |
|---|---|---|---|---|---|---|---|---|---|
| 2023 | - | - | - | - | - | - | - | - | - |
| 2024 | 539,956 | 409,591 | $610,290.19 | - | - | - | ($54,545.54) | ($4,187.07) | ($58,732.61) |
| 2025 | 564,446 | 591,588 | $793,839.43 | ($4,975,337.05) | - | $3,799,373.69 | ($66,406.93) | ($4,333.61) | ($1,246,703.90) |
| 2026 | 594,892 | 468,104 | $688,444.56 | - | ($225,979.56) | - | ($61,062.48) | ($4,485.29) | ($291,527.33) |
| 2027 | 622,889 | 591,588 | $817,610.76 | - | ($225,979.56) | - | ($69,764.12) | ($4,642.27) | ($300,385.95) |
| 2028 | 655,784 | 627,345 | $865,095.49 | - | ($225,979.56) | - | ($73,707.75) | ($4,804.75) | ($304,492.06) |
| 2029 | 688,679 | 549,373 | $804,105.92 | - | ($225,979.56) | - | ($71,118.36) | ($4,972.92) | ($302,070.83) |
| 2030 | 721,574 | 708,614 | $969,369.25 | - | ($225,979.56) | - | ($82,155.37) | ($5,146.97) | ($313,281.90) |
| 2031 | 759,367 | 685,858 | $963,036.73 | - | ($225,979.56) | - | ($83,019.15) | ($5,327.12) | ($314,325.82) |
| 2032 | 797,160 | 767,127 | $1,055,922.87 | - | ($225,979.56) | - | ($89,858.52) | ($5,513.57) | ($321,351.64) |
| 2033 | 837,402 | 767,127 | $1,072,291.06 | - | ($225,979.56) | - | ($92,170.17) | ($5,706.54) | ($323,856.27) |
| **Total** | **6,782,149** | **6,166,315** | **$8,640,006.25** | **($4,975,337.05)** | | | **($743,808.39)** | **($49,120.11)** | **($3,776,728.32)** |

**Table 4-19: Public Safety Impact Fee Cashflow**

| Year | Impact Fee Revenues | Total Expenses | Interest Income | End of Year Balance |
|---|---|---|---|---|
| 2023 | - | - | - | $181,509.53 |
| 2024 | $610,290.19 | ($58,732.61) | $9,874.12 | $742,941.23 |
| 2025 | $793,839.43 | ($1,246,703.90) | $40,416.00 | $330,492.76 |
| 2026 | $688,444.56 | ($291,527.33) | $17,978.81 | $745,388.79 |
| 2027 | $817,610.76 | ($300,385.95) | $40,549.15 | $1,303,162.74 |
| 2028 | $865,095.49 | ($304,492.06) | $70,892.05 | $1,934,658.23 |
| 2029 | $804,105.92 | ($302,070.83) | $105,245.41 | $2,541,938.72 |
| 2030 | $969,369.25 | ($313,281.90) | $138,281.47 | $3,336,307.54 |
| 2031 | $963,036.73 | ($314,325.82) | $181,495.13 | $4,166,513.57 |
| 2032 | $1,055,922.87 | ($321,351.64) | $226,658.34 | $5,127,743.14 |
| 2033 | $1,072,291.06 | ($323,856.27) | $278,949.23 | $6,155,127.16 |

# SECTION 5: PARKS

## 5.1 CAPITAL FACILITIES PLAN AND IMPACT FEE FACILITIES PLAN

### *5.1.1 Inventory of Existing Facilities*

Grantsville City currently has six City parks as shown in Figure 5-1. These parks have a varying level of amenities ranging from Eastmoor Park with no amenities to Cherry Street Park with an array of amenities as listed in Table 5-1. Historic costs are not listed because the City does not have records of the costs for any existing parks. The City does not have any long-term debt associated with their park facilities.

**Table 5-1: Existing Park Facilities**

| Facility | Area (ac) | Amenities |
|---|---|---|
| Old Lincoln Park | 1.08 | Restroom, dog park, pavilion, playground, and drinking fountains |
| Academy Square | 0.65 | Pavilion |
| Rodeo Grounds | 6.26 | Arena |
| Eastmoor Park | 1.73 | None |
| Cherry Street Park | 19.58 | Playground, picnic benches, soccer fields, tennis courts, baseball fields, softball fields, restrooms, skate park, four pavilions, T-ball field, water fountain, and the "tot park" |
| Hollywood Park | 12.69 | Shaded playground, restrooms, pavilion, basketball hoops, soccer field, ball field, splash pad |
| **Total** | **41.99** | |

### *5.1.2 Level of Service*

The existing level of service for park facilities is 4 acres of park area per 1,000 population, as established in the City's previous Capital Facilities Plans as well as the current Grantsville General Plan dated January 15, 2020. This CFP/IFFP will continue to use the established level of service of **4 acres per 1,000 population**.

### *5.1.3 Capacity of Existing Facilities*

The City's six existing parks occupy 41.99 acres, but a total park area of 55.39 acres is required in order to meet the level of service, as shown in Table 5-2. Therefore, there is no remaining capacity for the existing park facilities to serve future development, and the City needs to construct 13.4 acres of parks financed independent of impact fees.

**Table 5-2: Capacity of Existing Parks**

| Population (2023) | Park Area LOS (ac/1,000 Population) | Park Area Required (ac) | Existing Park Area (ac) | Excess / (Deficit) (ac) |
|---|---|---|---|---|
| 13,847 | 4 | 55.39 | 41.99 | (13.40) |

### *5.1.4 Demands of Future Development*

Utilizing the demographic projections from Section 2.7, the park area required to meet the level of service throughout the planning period was calculated as shown in the following table. An additional 46.44 acres of parks will need to be constructed by the end of the planning period (2033).

**Table 5-3: Future Park Requirements**

| Year | Population | Park Area Required (ac) | Excess / (Deficit) (ac) |
|---|---|---|---|
| 2023 | 13,847 | 55.39 | (13.40) |
| 2024 | 14,504 | 58.02 | (16.03) |
| 2025 | 15,194 | 60.78 | (18.79) |
| 2026 | 15,916 | 63.66 | (21.67) |
| 2027 | 16,677 | 66.71 | (24.72) |
| 2028 | 17,476 | 69.90 | (27.91) |
| 2029 | 18,314 | 73.26 | (31.27) |
| 2030 | 19,193 | 76.77 | (34.78) |
| 2031 | 20,119 | 80.48 | (38.49) |
| 2032 | 21,090 | 84.36 | (42.37) |
| 2033 | 22,108 | 88.43 | (46.44) |

### *5.1.5 Proposed Projects*

Grantsville City plans to construct six new parks in the planning period to satisfy the future park area requirements. These parks are listed in Table 5-4 along with the proposed areas, recommended years to begin planning and complete the project by, and the current year cost estimates. See Appendix H for these cost estimates. Additionally, the City plans to complete three improvement projects to existing parks by 2033, also listed in the table below.

**Table 5-4: Proposed Park Projects**

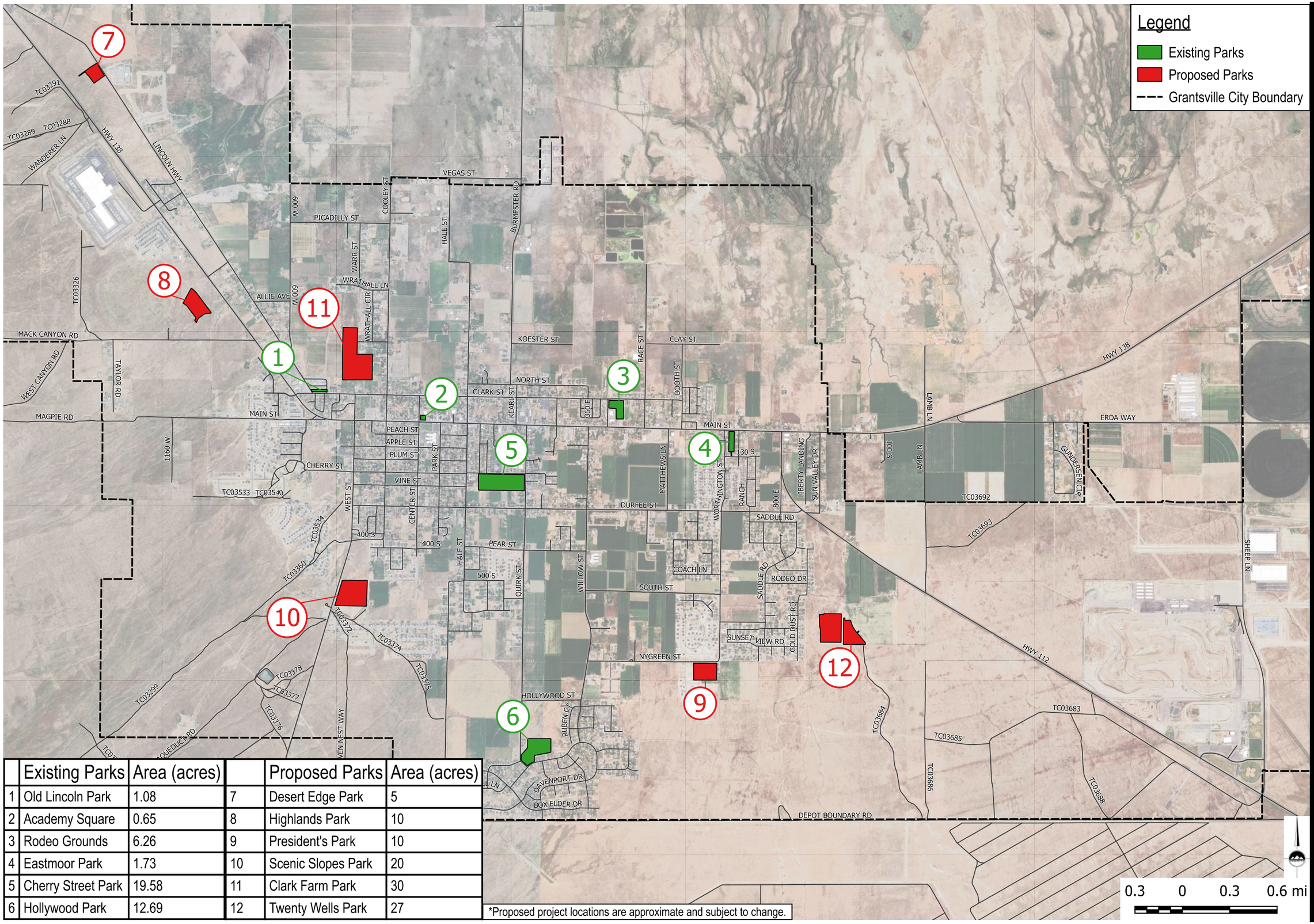
| Project | Proposed Area (ac) | Construction Priority | | Current Year (2023) Cost Estimate |
|---|---|---|---|---|
| | | Begin Planning | Completion | |
| Pickleball Courts at Cherry St Park | N/A | N/A [1] | 2024 | $636,483.32 |
| Improvements to Eastmoor Park | N/A | N/A [1] | 2024 | $349,628.10 |
| Soccer Fields at Hollywood Park | N/A | 2023 | 2024 | $255,600.00 |
| Desert Edge Park | 5 | 2024 | 2026 | $1,974,627.37 |
| Highlands Park | 10 | 2025 | 2027 | $3,169,643.06 |
| President's Park | 10 | 2026 | 2028 | $1,583,442.69 |
| Scenic Slopes Park | 20 | 2027 | 2029 | $4,226,406.45 |
| Clark Farm Park | 30 | 2028 | 2030 | $3,175,477.22 |
| Twenty Wells Park | 27 | 2030 | 2032 | $8,628,500.00 |
| **Total** | **102** | | | **$23,999,808.21** |

[1] *The City has already begun the planning process.*

The proposed locations of these parks are shown in Figure 5-1, but these are approximate locations which are subject to change, and the exact locations will be determined during the planning phase of each project. It should be noted the City does not maintain parks less than 10 acres but will work with developers for impact fee credits associated with parks less than 10 acres which are HOA maintained. The City also has the option to utilize parks as retention/detention basins, although this is typically not permitted.

### *5.1.6 Methods of Financing*

The City funds park projects as much as possible through grants and impact fees. Parks may also be funded through loans, developer dedications, taxes, and reserves in the Capital Project Fund. The Cherry St Park Pickleball Courts and Hollywood Park Soccer Fields are expected to be fully funded with ARPA grant money.




| | Existing Parks | Area (acres) | | Proposed Parks | Area (acres) |
|---|---|---|---|---|---|
| 1 | Old Lincoln Park | 1.08 | 7 | Desert Edge Park | 5 |
| 2 | Academy Square | 0.65 | 8 | Highlands Park | 10 |
| 3 | Rodeo Grounds | 6.26 | 9 | President's Park | 10 |
| 4 | Eastmoor Park | 1.73 | 10 | Scenic Slopes Park | 20 |
| 5 | Cherry Street Park | 19.58 | 11 | Clark Farm Park | 30 |
| 6 | Hollywood Park | 12.69 | 12 | Twenty Wells Park | 27 |

*Proposed project locations are approximate and subject to change.

0.3 0 0.3 0.6 mi

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PHONE: 435-884-3411

# GRANTSVILLE CFP, IFFP, AND IFA

GRANTSVILLE, UTAH

**PARK FACILITIES**

PROJECT NUMBER 10766D
PRINT DATE 2024-07-12
PROJECT MANAGER R. ROUSSELLE
DESIGNED BY M. SANFORD

**FIG 5-1**

## 5.2 IMPACT FEE ANALYSIS

### *5.2.1 Existing Facilities*

As discussed in Section 5.1.3, there is no excess capacity for existing parks to serve future development. Therefore, no buy-in cost can be charged for existing park facilities.

### *5.2.2 System Improvements*

The system improvements for park facilities which are needed to meet the demands of future development in the planning period were determined in Section 5.1.5. A proportionate share for each new park project was calculated based on the added park acreage to meet the level of service, as shown in Table 5-5. It can be seen Desert Edge Park and a portion of Highlands Park are associated with correcting the existing deficiency, which was excluded from the proportionate share calculation. Additionally, Desert Edge, Highlands, and Twenty Wells Parks are expected to be constructed by developers so they have a proportionate share of 0%. If it is determined the City will pay for any portion of these projects as the development agreements are finalized then this plan should be amended to include the project. The improvement projects to existing parks are beneficial to both existing and future development, so a proportionate share was calculated based on the increase in population in the planning period, see Table 5-6.

**Table 5-5: Proposed Parks Proportionate Share**

| Project | Park Area (ac) | Existing (2023) Deficit (ac) | Future (2033) Deficit (ac) | Proportionate Share |
|---|---|---|---|---|
| Desert Edge Park | 5 | 13.40 | 46.44 | 0% [1] |
| Highlands Park | 10 | 8.40 | 41.44 | 0% [1] |
| President's Park | 10 | 0 | 31.44 | 100% |
| Scenic Slopes Park | 20 | 0 | 21.44 | 100% |
| Clark Farm Park | 30 | 0 | 1.44 | 4.81% |
| Twenty Wells Park | 27 | 0 | 0 | 0% [1] |

[1] *The proportionate share is 0% because the project is expected be constructed by developers.*

**Table 5-6: Proposed Park Improvements Proportionate Share**

| Project | Population (Year 2033) | Increase in Population (Year 2023-2033) | Proportionate Share |
|---|---|---|---|
| Park Improvement Projects | 22,108 | 8,261 | 37.4% |

The cost of each project which is eligible for impact fees is based on the portion of the project associated with serving future development in the planning period, excluding any portion of the project attributed to correcting the existing deficiency. This was calculated in Table 5-7 by

multiplying the total project cost by the proportionate share shown above. In order to account for the time-price differential inherent with future costs, the current year cost estimates were inflated at a rate of 3.5% to the anticipated construction year.

**Table 5-7: Parks Impact Fee Eligible Costs**

| Project | Construction Year | Current Year (2023) Cost Estimate | Construction Year Cost Estimate | Proportionate Share | Impact Fee Eligible Cost |
|---|---|---|---|---|---|
| Pickleball Courts at Cherry St Park | 2024 | $0.00 [1] | $0.00 | 37.4% | $0.00 |
| Improvements to Eastmoor Park | 2024 | $349,628.10 | $361,865.08 | 37.4% | $135,216.55 |
| Soccer Fields at Hollywood Park | 2024 | $0.00 [1] | $0.00 | 37.4% | $0.00 |
| Desert Edge Park | 2026 | $1,974,627.37 | $2,189,304.66 | 0% [2] | $0.00 |
| Highlands Park | 2027 | $3,169,643.06 | $3,637,238.32 | 0% [2] | $0.00 |
| President's Park | 2028 | $1,583,442.69 | $1,880,633.20 | 100% | $1,880,633.20 |
| Scenic Slopes Park | 2029 | $4,226,406.45 | $5,195,332.64 | 100% | $5,195,332.64 |
| Clark Farm Park | 2030 | $3,175,477.22 | $4,040,093.82 | 4.81% | $194,193.84 |
| Twenty Wells Park | 2032 | $8,628,500.00 | $11,759,759.81 | 0% [2] | $0.00 |
| **Total** | | **$23,107,724.89** | **$29,064,227.53** | | **$7,405,376.23** |

*[1] The cost shown does not include the amount to be paid with grant money.*
*[2] The proportionate share is 0% because the project is expected be constructed by developers.*

In addition to impact fee eligible project costs, planning costs can also be included in the calculation of impact fees. The cost for the current amendment to the parks section of this CFP and IFA was $4,187.07. Due to the uncertainty that comes with long-term development projections, this plan is expected to be amended annually going forward. The future professional expenses expected to occur within the planning period were inflated at a 3.5% rate as shown in the following table.

**Table 5-8: Parks Professional Expenses**

| Year | Cost |
|---|---|
| 2023 | $0.00 |
| 2024 | $4,187.07 |
| 2025 | $4,333.61 |
| 2026 | $4,485.29 |
| 2027 | $4,642.27 |
| 2028 | $4,804.75 |
| 2029 | $4,972.92 |
| 2030 | $5,146.97 |
| 2031 | $5,327.12 |
| 2032 | $5,513.57 |
| 2033 | $5,706.54 |
| **Total** | **$49,120.11** |

### *5.2.3 Methods of Financing*

As discussed in Section 5.1.6, the parks system improvements are expected to be funded through impact fees, loans, developer dedications, taxes, and Capital Project Fund reserves. The Cherry St Park Pickleball Courts and Hollywood Park Soccer Fields are expected to be fully funded with ARPA grant money, so they have been excluded from the impact fee calculation. The City expects to finance the Scenic Slopes Park project with a loan, which is necessary to prevent the impact fee fund balance from going negative (see Section 5.2.5). This loan was assumed to be a 30-year bond with a 4.0% interest rate, 1.5% cost of issuance, 0.5% bond insurance, and a $20,000 surety policy. The interest cost for this bond attributed to development within the planning period can be included in the impact fee calculation. Table 5-9 shows the details of this bond along with the impact fee eligible interest cost.

**Table 5-9: Parks Future Debt Financing**

| Project | Proceeds | Par Amount [1] | Debt Service (Interest) | Debt Service (Principal + Interest) | Proportionate Share | Impact Fee Eligible Debt Service (Interest) |
|---|---|---|---|---|---|---|
| Scenic Slopes Park | $5,195,332.64 | $5,319,239.29 | $3,909,124.78 | $9,228,364.07 | 100.0% | $3,909,124.78 |

[1] *Includes cost of issuance, bond insurance, and surety policy.*

### *5.2.4 Impact Fee Calculation*

Impact fees for parks are charged based on the number of dwelling units. Per Utah Code Section 11-36a-202, it is prohibited to charge schools impact fees for park facilities. Additionally,

park facilities only benefit residential development in the City, so only single family, multi-unit, and trailer developments are charged impact fees for parks and were the only development types considered in the impact fee calculation shown in Table 5-10. The growth of these development types was projected in Table 2-4, which resulted in an increase of 2,875 residential dwelling units in the planning period.

**Table 5-10: Parks Impact Fee Calculation**

| Project | Impact Fee Eligible Cost | Planning Period (2023-2033) Dwelling Units [1] | Cost per Dwelling Unit |
|---|---|---|---|
| Improvements to Eastmoor Park | $135,216.55 | 2,875 | $47.03 |
| President's Park | $1,880,633.20 | 2,875 | $654.13 |
| Scenic Slopes Park | $5,195,332.64 | 2,875 | $1,807.07 |
| Scenic Slopes Park Debt Service (Interest) | $3,909,124.78 | 2,875 | $1,359.70 |
| Clark Farm Park | $194,193.84 | 2,875 | $67.55 |
| Professional Expenses | $49,120.11 | 2,875 | $17.09 |
| **Total** | | | **$3,952.56** |

[1] *Includes only residential dwelling units (single family, multi-unit, trailer).*

**Table 5-11: Proposed Parks Impact Fees**

| Land Use | Impact Fee |
|---|---|
| Single Family and Multi-Unit | $3,952.56 per Dwelling Unit |

### *5.2.5 Impact Fee Cashflow*

The anticipated impact fee revenues and expenses over the 10-year planning period are shown in Table 5-12. The expenses represent only what is attributable to planning period development and include capital project costs, the expenditure of buy-in costs, and proposed bond payments. The impact fee cashflow (Table 5-13) estimates the end of year impact fee fund balance throughout the planning period by comparing the impact fee revenues, total expenses, and interest income calculated at 5.44% of the fund balance.

### *5.2.6 Impact Fee Credits*

The City currently has procedures in place for credits, appeals, and exemptions of impact fees, refer to Appendix B for the City's current impact fee ordinance.

**Table 5-12: Parks Impact Fee Revenues and Expenses**

| Year | Dwelling Units [1] | Annual Dwelling Unit Increase [1] | Impact Fee Revenues | Impact Fee Eligible Project Costs | Bond Payments | Bond Proceeds | Professional Expenses | Total Expenses |
|---|---|---|---|---|---|---|---|---|
| 2023 | 4,781 | - | - | - | - | - | - | - |
| 2024 | 5,010 | 229 | $905,137.13 | ($135,216.55) | - | - | ($4,187.07) | ($139,403.61) |
| 2025 | 5,249 | 239 | $944,662.76 | - | - | - | ($4,333.61) | ($4,333.61) |
| 2026 | 5,501 | 252 | $996,046.09 | - | - | - | ($4,485.29) | ($4,485.29) |
| 2027 | 5,765 | 264 | $1,043,476.86 | - | - | - | ($4,642.27) | ($4,642.27) |
| 2028 | 6,043 | 278 | $1,098,812.75 | ($1,880,633.20) | - | - | ($4,804.75) | ($1,885,437.95) |
| 2029 | 6,335 | 292 | $1,154,148.65 | ($5,195,332.64) | - | $5,195,332.64 | ($4,972.92) | ($4,972.92) |
| 2030 | 6,641 | 306 | $1,209,484.54 | ($194,193.84) | ($307,612.14) | - | ($5,146.97) | ($506,952.95) |
| 2031 | 6,963 | 322 | $1,272,725.56 | - | ($307,612.14) | - | ($5,327.12) | ($312,939.25) |
| 2032 | 7,301 | 338 | $1,335,966.59 | - | ($307,612.14) | - | ($5,513.57) | ($313,125.70) |
| 2033 | 7,656 | 355 | $1,403,160.17 | - | ($307,612.14) | - | ($5,706.54) | ($313,318.68) |
| **Total** | | **2,875** | **$11,363,621.11** | **($7,405,376.23)** | | | **($49,120.11)** | **($3,489,612.24)** |

[1] *Includes only residential dwelling units (single family, multi-unit, trailer)*

**Table 5-13: Parks Impact Fee Cashflow**

| Year | Impact Fee Revenues | Total Expenses | Interest Income | End of Year Balance |
|---|---|---|---|---|
| 2023 | - | - | - | $1,077,104.27 |
| 2024 | $905,137.13 | ($139,403.61) | $58,594.47 | $1,901,432.25 |
| 2025 | $944,662.76 | ($4,333.61) | $103,437.91 | $2,945,199.32 |
| 2026 | $996,046.09 | ($4,485.29) | $160,218.84 | $4,096,978.97 |
| 2027 | $1,043,476.86 | ($4,642.27) | $222,875.66 | $5,358,689.21 |
| 2028 | $1,098,812.75 | ($1,885,437.95) | $291,512.69 | $4,863,576.71 |
| 2029 | $1,154,148.65 | ($4,972.92) | $264,578.57 | $6,277,331.01 |
| 2030 | $1,209,484.54 | ($506,952.95) | $341,486.81 | $7,321,349.41 |
| 2031 | $1,272,725.56 | ($312,939.25) | $398,281.41 | $8,679,417.13 |
| 2032 | $1,335,966.59 | ($313,125.70) | $472,160.29 | $10,174,418.30 |
| 2033 | $1,403,160.17 | ($313,318.68) | $553,488.36 | $11,817,748.16 |

# SECTION 6: WASTEWATER

## 6.1 CAPITAL FACILITIES PLAN AND IMPACT FEE FACILITIES PLAN

### *6.1.1 Inventory of Existing Facilities*

Grantsville City's wastewater collection system consists of trunk lines, interceptor lines, collector lines, lift stations, force mains, and the Wastewater Treatment Facility (WWTF), as shown in Figure 6-1. The major gravity sewer lines and their historic construction costs are listed in Table 6-1. The minor gravity sewer lines owned by the City (all sewer lines not listed in Table 6-1) have historic construction costs totaling $10,053,823.31.

**Table 6-1: Existing Major Gravity Sewer Lines**

| Pipeline | Diameter | Material | Length (ft) | Minimum Slope | Flow Capacity (gpm) [2] | Cost [3] |
|---|---|---|---|---|---|---|
| Main Trunk | 18-inch | Concrete | 2,340 | 0.113% [1] | 1,252 | N/A |
| Central Trunk | (2) parallel 12-inch | PVC | 1,690 | 0.194% [1] | 1,113 | N/A |
| Central Interceptor | 12-inch and 15-inch | PVC | 2,480 | 0.194% [1] | 556 | N/A |
| Hale Street Collector | 12-inch | PVC | 3,990 | 0.37% | 768 | $1,060,736.07 |
| Northwest Interceptor | 12-inch, 15-inch, and 18-inch | PVC | 17,770 | 0.12% | 1,289 [4] | $749,254.71 |
| Burmester Collector | 12-inch | PVC | 4,730 | 0.194% [1] | 556 | $226,236.98 |
| West Interceptor | 10-inch | PVC | 6,440 | 0.25% | 388 | $1,712,065.24 |
| Northeast Interceptor | 18-inch and 24-inch | PVC | 9,180 | 0.345% | 2,186 | $1,083,869.01 |
| Matthew's Lane Collector | 12-inch and 15-inch | PVC | 7,670 | 0.20% | 564 | $2,039,059.07 |
| Worthington Street Collector | 12-inch | PVC | 11,760 | 0.194% [1] | 556 | $193,636.00 |
| Main Street Trunk | 18-inch | PVC | 2,460 | 0.20% | 1,664 | $653,987.65 |
| Lakeview Business Park Offsite Gravity Line | 18-inch and 21-inch | PVC | 20,440 | 0.06% | 912 | $3,398,037.81 |
| Deseret Peak Collector | 8-inch, 10-inch, 12-inch, and 15-inch | PVC | 7,630 | 1.60% | 542 | $190,270.90 |
| **Total** | | | **98,580** | | | **$11,307,153.44** |

*[1] The regulatory minimum slope per UAC R317-3-2 is used when the actual minimum slope is unknown.*

*[2] The flow capacity was calculated based on d/D=0.67 and the minimum slope of the pipeline.*

*[3] The costs shown are historical costs which may include initial construction, acquiring land, improvements, planning, and engineering.*

*[4] The flow capacity is 944 gpm for the 15-inch portion of the pipeline and 1,289 gpm for the 18-inch portion, but the 18-inch is the controlling portion because it collects significantly more flow than the 15-inch.*

The City's existing lift stations and associated force mains are detailed in Table 6-2. Additional existing lift stations include the Sheep Lane, Deseret Peak, Utah Motorsports Campus (UMC), and Tooele Valley Airport Lift Stations. However, the Sheep Lane Lift Station is no longer in use,

the Deseret Peak Lift Station is county owned, and the UMC and Tooele Valley Airport Lift Stations are privately owned so these are not included in the table.

**Table 6-2: Existing Lift Stations**

| Lift Station | Associated Force Main(s) | Flow Capacity (gpm) | Cost [1] |
|---|---|---|---|
| Northwest | 6-inch and 10-inch | 1,200 | $500,000.00 |
| Northeast | 8-inch | 2,170 | $400,000.00 |
| **Total** | | | **$900,000.00** |

*[1] The costs shown are historical costs which may include initial construction, acquiring land, improvements, planning, and engineering.*

The capacity and historic cost of the City's Wastewater Treatment Facility is shown in Table 6-3. The WWTF was originally designed to treat an average day flow of 1.5 million gallons per day (MGD), but in 2019 permit requirements were updated to require greater nutrient removal which limits the average day capacity of the facility to 1 MGD (per the 2022 Wastewater Treatment Plant Study by AQUA Engineering).

**Table 6-3: Existing Wastewater Treatment Facility**

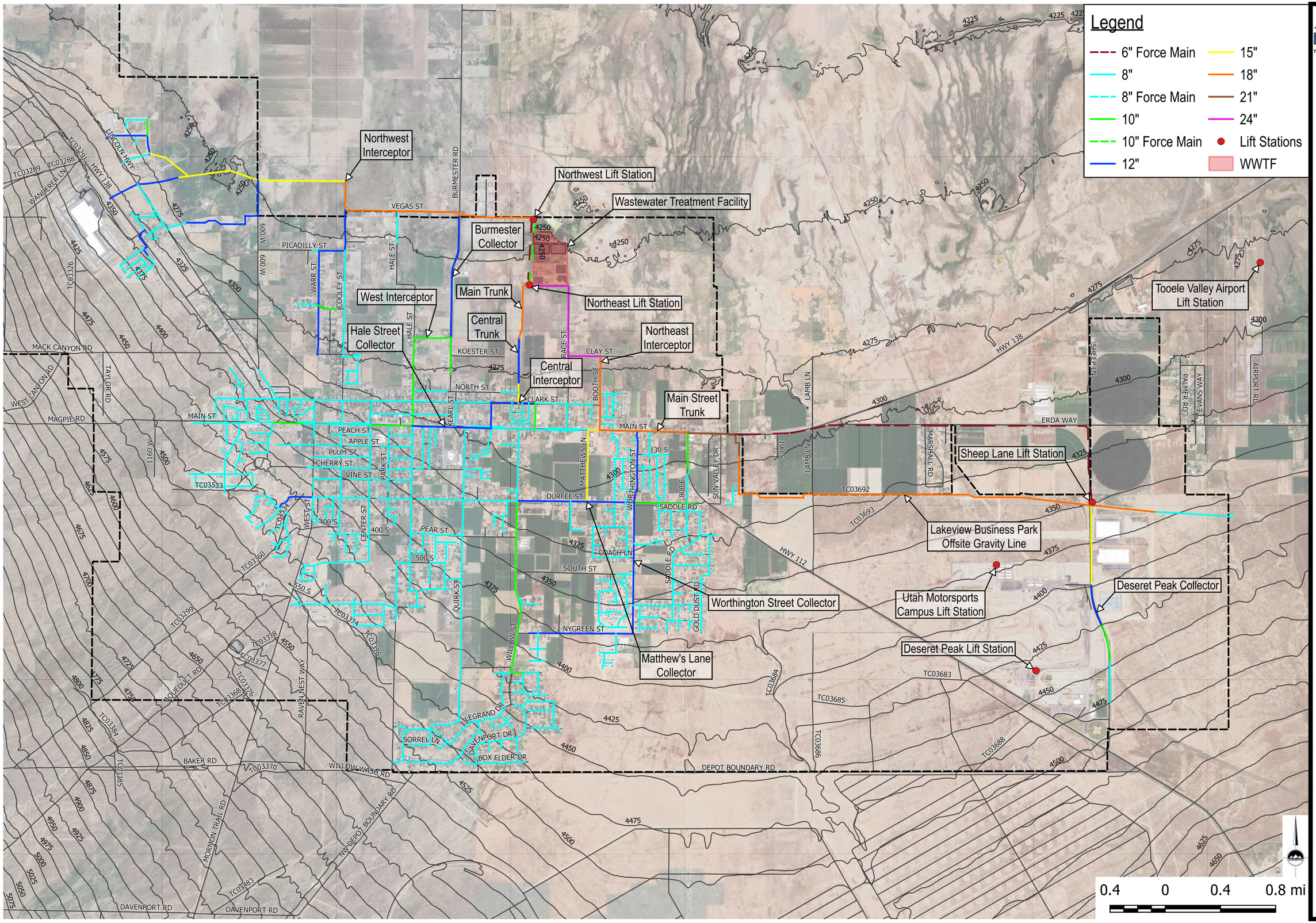
| Facility | Capacity | | Cost [2] |
|---|---|---|---|
| | Average Day Flow (MGD) | Peak Day Flow (MGD) | |
| Wastewater Treatment Facility | 1.00 [1] | 2.25 | $5,559,563.47 |

*[1] The WWTF was originally designed to treat an average day flow of 1.5 MGD, but currently can only treat 1 MGD due to updated nutrient removal requirements.*

*[2] The costs shown are historical costs which may include initial construction, acquiring land, improvements, planning, and engineering.*

As discussed in Section 3.1.1, the existing Public Works Building serves both drinking water and wastewater facilities. The building was constructed in 2021 for a cost of $222,483.40 attributed to wastewater utilities.

The City has long-term debt associated with existing wastewater facilities in the form of a revenue bond, as detailed in Table 6-4. This Sewer Revenue Bond was used to finance improvements to the collection system.




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PHONE: 435-884-3411


# GRANTSVILLE CFP, IFFP, AND IFA

GRANTSVILLE, UTAH

**EXISTING WASTEWATER SYSTEM**

| PROJECT NUMBER | PRINT DATE |
|---|---|
| 10766D | 2024-03-08 |
| PROJECT MANAGER | DESIGNED BY |
| R. ROUSSELLE | M. SANFORD |

**FIG 6-1**

**Table 6-4: Existing Wastewater Long-Term Debt**

| Bond | Date of Issue | Interest Rate | Final Maturity Date | Original Bond, Note Issue | Principal Outstanding at June 30, 2023 | Total Interest Payments (2023-2033) |
|---|---|---|---|---|---|---|
| Sewer Revenue Bond, Series 2018 | December, 2018 | 1.75% | August, 2049 | $4,880,000.00 | $4,498,000.00 | $678,405.00 |

### *6.1.2 Level of Service*

The level of service standards to be used for this plan, shown in Table 6-5, were previously established in the Grantsville City Capital Facilities Plan dated May 2022. These standards were calculated based on measured flow data (see Appendix I), and peaking factors were determined from the Grantsville City – Sanitary Sewer Flow Monitoring 2018 – Flow and Model Summary by AQUA Engineering. The City should look at the wastewater flow and ERC data on a periodic basis to assess the accuracy of the level of service as growth occurs.

**Table 6-5: Wastewater Level of Service**

| Component | Parameter | Level of Service | |
|---|---|---|---|
| Collection System | Average Day Flow | 150 gpd/ERC | |
| | Peaking Factors | *Miles From WWTF* | *Factor* |
| | | <1 | 1.85 |
| | | >1 and <1.6 | 2.25 |
| | | >1.6 | 4 |
| Lift Stations | Peak Inflow | 0.35 gpm/ERC | |
| Wastewater Treatment Facility | Average Day Flow | 150 gpd/ERC | |
| | Peak Day Flow | 175 gpd/ERC | |
| | Peak Instantaneous Flow | 0.4 gpm/ERC | |

### *6.1.3 Capacity of Existing Facilities*

The capacity of the City's major gravity sewer lines was determined by modeling the existing conditions of the entire wastewater collection system and then analyzing the flow in each of the major sewer lines. The total capacity of each pipe is defined as the flow by which the depth to diameter ratio (d/D) is equal to 0.67, also stated as the pipe flowing 67% full by depth. The excess capacity for each pipeline was calculated by dividing the estimated current flow in the pipe by the total capacity flow of the pipe at the most critical point (largest d/D) along the whole pipeline. The resulting excess capacities for each major gravity sewer line are shown in the following table.

**Table 6-6: Capacity of Existing Major Gravity Sewer Lines**

| Pipeline | Current (2023) Peak Day Flow (gpm) | Flow Capacity (gpm) | Excess / (Deficit) (gpm) |
|---|---|---|---|
| Main Trunk | 548 | 1,252 | 704 |
| Central Trunk | 548 | 1,113 | 565 |
| Central Interceptor | 415 | 556 | 141 |
| Hale Street Collector | 362 | 768 | 406 |
| Northwest Interceptor | 818 | 1,289 | 471 |
| Burmester Collector | 643 | 556 | (87) |
| West Interceptor | 640 | 388 | (252) |
| Northeast Interceptor | 954 | 2,186 | 1,232 |
| Matthew's Lane Collector | 231 | 564 | 333 |
| Worthington Street Collector | 64 | 556 | 492 |
| Main Street Trunk | 551 | 1,664 | 1,113 |
| Lakeview Business Park Offsite Gravity Line | 263 | 912 | 649 |
| Deseret Peak Collector | 241 | 542 | 301 |

It can be seen the City's major sewer lines all have excess capacity to accommodate future growth except for the Burmester Collector and West Interceptor. However, the construction of the West Street Collector (discussed in Section 6.1.5) will divert a portion of the flow away from the Burmester Collector and West Interceptor bringing them back within their capacities.

It was not feasible to complete a pipe by pipe analysis of every single sewer line in the collection system beyond the major sewer lines, and any inaccuracies in the modeled conditions would be emphasized in these smaller diameter sewer lines which are upstream of the major sewer lines. The sewer lines other than the major pipelines are typically constructed to serve a single subdivision and designed to have sufficient capacity to serve the build-out conditions of the subdivision. Therefore, all of these existing minor sewer lines should have excess capacity to serve any future development in their service area and are considered beneficial to both future and existing development. Additionally, the majority of existing and future development connect or will connect to a minor sewer line, as opposed to connecting directly to a major pipeline, so the system of minor sewer lines as a whole can be considered to be beneficial to the entire City, even though each line individually serves only a limited portion of the City. For the purposes of this plan, the minor sewer lines (all pipes not listed in Table 6-6) are considered to be a whole system which serves the entire City and has excess capacity to accommodate any future development.

The capacities of the City's lift stations were calculated by comparing the current (year 2023) modeled inflow with the total capacity of each lift station. The total capacities were determined by the design flows of the equipped pumps excluding any redundant or standby pumps. These results are shown the following table.

**Table 6-7: Capacity of Existing Lift Stations**

| Lift Station | Current (2023) Peak Day Flow (gpm) | Flow Capacity (gpm) | Excess / (Deficit) (gpm) |
|---|---|---|---|
| Northwest | 818 | 1,200 | 382 |
| Northeast | 954 | 2,170 | 1,216 |

The Wastewater Treatment Facility's capacity was determined by comparing the flow capacity for both average day and peak day conditions with the current inflow at the facility, which was calculated based on existing ERCs and the level of service. As shown in Table 6-8, the WWTF currently has excess capacity, but not much as it is at 95% of the average day capacity.

**Table 6-8: Capacity of Existing Wastewater Treatment Facility**

| Current (2023) ERCs | Average Day | | | Peak Day | | |
|---|---|---|---|---|---|---|
| | Current Flow (MGD) | Flow Capacity (MGD) | Excess / (Deficit) (MGD) | Current Flow (MGD) | Flow Capacity (MGD) | Excess / (Deficit) (MGD) |
| 6,343 | 0.951 | 1.00 | 0.049 | 1.11 | 2.25 | 1.14 |

### *6.1.4 Demands of Future Development*

The future requirements for sewer lines and lift stations were determined by adding the demands of future development to the sewer model and analyzing when and where any deficiencies appear in the system. These estimated demands were based on the demographic projections per planning area shown in Table 2-5 and the level of service from Section 6.1.2. The future requirements for the WWTF were determined from the level of service and the projected ERCs for the whole City, as shown in the following table.

**Table 6-9: Future Wastewater Treatment Facility Requirements**

| Year | ERCs | Average Day Flow (MGD) | Excess / (Deficit) (MGD) | Peak Day Flow (MGD) | Excess / (Deficit) (MGD) |
|---|---|---|---|---|---|
| 2023 | 6,343 | 0.951 | 0.049 | 1.11 | 1.14 |
| 2024 | 6,635 | 0.995 | 0.005 | 1.16 | 1.09 |
| 2025 | 6,975 | 1.05 | (0.046) | 1.22 | 1.03 |
| 2026 | 7,287 | 1.09 | (0.093) | 1.28 | 0.975 |
| 2027 | 7,629 | 1.14 | (0.144) | 1.34 | 0.915 |
| 2028 | 7,980 | 1.20 | (0.197) | 1.40 | 0.854 |
| 2029 | 8,356 | 1.25 | (0.253) | 1.46 | 0.788 |
| 2030 | 8,761 | 1.31 | (0.314) | 1.53 | 0.717 |
| 2031 | 9,162 | 1.37 | (0.374) | 1.60 | 0.647 |
| 2032 | 9,597 | 1.44 | (0.440) | 1.68 | 0.571 |
| 2033 | 10,048 | 1.51 | (0.507) | 1.76 | 0.492 |

### *6.1.5 Proposed Projects*

The wastewater projects required to meet the demands of development within the planning period were determined based on future deficiencies identified in the sewer model analysis as well as development anticipated to occur in areas of the City not currently served by sewer infrastructure. The locations of the proposed projects can be seen in Figure 6-2. The proposed gravity sewer lines (Table 6-10) were sized to have sufficient capacity to serve projected development for 30 years beyond the expected construction date. The minimum slope for each pipeline was chosen as the larger of the minimum existing ground slope along the expected alignment or the minimum regulatory slope per UAC R317-3-2. Since these existing ground slopes will likely change as roads are built and development will probably occur at a rate and in locations somewhat different than projected in this plan, the City should reevaluate and amend this plan periodically and consider the proposed diameters and alignments may change when the project is designed. The West Street Collector has already been designed at the time of writing this plan, and it is expected to begin and complete construction in 2024. The cost estimate shown for this project is the actual cost bid for the project in December, 2023 plus the cost of engineering and construction management. The cost estimates for the remaining gravity sewer projects were calculated based on the costs per linear foot for each diameter are shown in Appendix J.

**Table 6-10: Proposed Gravity Sewer Lines**

| Pipeline | Diameter (in) | Length (ft) | Minimum Slope | Flow Capacity (gpm) | Construction Priority | | Current Year (2023) Cost Estimate |
|---|---|---|---|---|---|---|---|
| | | | | | Begin Planning | Begin Construction | |
| West Street Collector | 12 | 6,600 | 1.06% | 1,300 | N/A | 2024 | $2,173,619.54 |
| Willow Street Sewer Improvements | 10 | 3,380 | 0.25% | 386 | 2024 | 2025 | $1,161,165.20 |
| Northwest Interceptor Extension | 18 | 4,410 | 0.28% | 1,969 | 2024 | 2025 | $1,747,153.80 |
| SR112 Interceptor | 15 and 18 | 6,570 | 0.13% | 825 and 1,342 | 2024 | 2025 | $2,574,853.35 |
| West Bank Interceptor | 18 | 10,680 | 1.08% | 3,867 | 2024 | 2025 | $4,231,202.40 |
| Southeast Sewer Line | 10 | 4,120 | 1.27% | 875 | 2025 | 2026 | $1,415,384.80 |
| SR138 Interceptor | 15 | 3,050 | 0.14% | 856 | 2027 | 2028 | $1,185,626.50 |
| Northwest Interceptor Replacement | 18, 24, and 42 | 16,580 | 2.07%, 0.08%, and 0.04% | 5,354, 2,267, and 7,129 | 2030 | 2031 | $7,005,127.30 |
| **Total** | | | | | | | **$21,494,132.89** |

The Northeast Lift Station was determined to have sufficient capacity to accommodate development through the end of the planning period, and the undeveloped area north of the WWTF, which would require lift stations to be constructed upon development, is not expected to develop within the planning period. However, results from the sewer model analysis show the Northwest Lift Station is predicted to reach its capacity within the planning period. As shown in Table 6-11, it is proposed to replace the existing 6-inch diameter force main of the Northwest Lift Station with a 16-inch diameter force main. This would increase the flow capacity of the lift station from 1,200 gpm to 1,600 gpm which is enough to serve future development for the entire planning period. Additionally, when the Northwest Lift Station eventually reaches its capacity and needs to be replaced, the proposed 16-inch force main can be utilized as a part of the replacement project which significantly extends the design life of this project.

**Table 6-11: Proposed Lift Station Projects**

| Project | Description | Length (ft) | Flow Capacity (gpm) | Construction Priority | | Current Year (2023) Cost Estimate |
|---|---|---|---|---|---|---|
| | | | | Begin Planning | Begin Construction | |
| Northwest Lift Station - Upsize Force Main | Upsize 6" diameter force main to 16" | 2,380 | 1,600 | 2026 | 2027 | $181,440.00 |

As shown in Table 6-9, the existing WWTF is predicted to exceed its capacity in 2025. The City plans to correct this with the construction of a new WWTF as detailed in the 2022 Wastewater Treatment Plant Study by AQUA Engineering. The new WWTF is proposed to have the capacities shown in Table 6-12 and is expected to begin construction in 2025. The cost estimate was derived from the estimate given in the 2022 Wastewater Treatment Plant Study and increased in order to account for inflation and funding requirements.

**Table 6-12: Proposed Wastewater Treatment Facility**

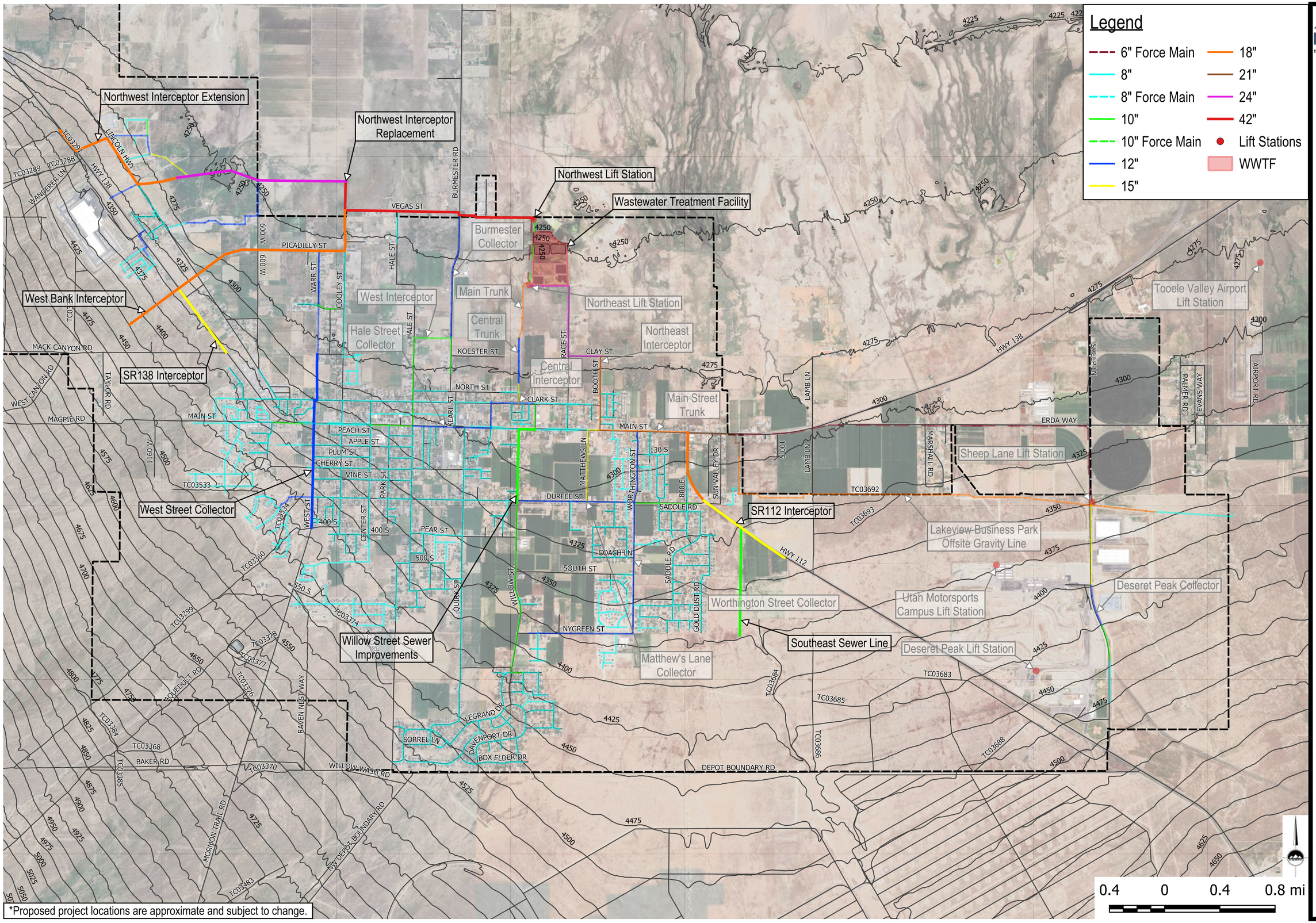
| Project | Capacity | | Construction Priority | | Current Year (2023) Cost Estimate |
|---|---|---|---|---|---|
| | Average Day Flow (MGD) | Peak Hour Flow (MGD) | Begin Planning | Begin Construction | |
| Proposed Wastewater Treatment Facility | 3.0 | 7.0 | N/A [1] | 2025 | $30,910,559.75 |

[1] *The City has already begun the planning process.*

As mentioned in Section 3.1.5, the City also plans to expand the Public Works site to add a shop area, expected to begin construction in 2026. This project is estimated to cost $2.02 million and will be split evenly between the drinking water and wastewater utility.

### *6.1.6 Methods of Financing*

Each project will be funded to the extent possible through impact fees. The portion of each project not eligible for impact fees may be funded through grants, loans, developer dedications, or reserves in the Sewer Fund. The West Street Collector project will be partially funded with grant money in the amount of $1.0 million. All the other proposed gravity sewer projects listed in Table 6-10 are expected to be funded through impact fees, loans, and developer dedications.




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PHONE: 435-884-3411

# GRANTSVILLE CFP, IFFP, AND IFA

GRANTSVILLE, UTAH

**PROPOSED WASTEWATER SYSTEM**

| PROJECT NUMBER | PRINT DATE |
|---|---|
| 10766D | 2024-04-22 |
| PROJECT MANAGER | DESIGNED BY |
| R. ROUSSELLE | M. SANFORD |

**FIG 6-2**

## 6.2 IMPACT FEE ANALYSIS

### *6.2.1 Existing Facilities*

Grantsville City's existing wastewater facilities which have excess capacity to serve future development are listed in Table 6-14. Also shown are the historic construction costs for each project as well as the total and excess capacities which were discussed in Section 6.1.3. Proportionate shares were calculated by dividing the anticipated flow due to growth in the planning period by the total capacity. As discussed in Section 6.1.3, the City's existing minor gravity sewer lines also have excess capacity to accommodate future growth and are considered to be a whole system which benefits both existing and future development. Therefore, the proportionate share for minor sewer lines was calculated based on the proportion of future ERCs expected to be served within the planning period, as shown in Table 6-13. The existing Public Works Building will utilize this same proportionate share as it is also considered beneficial to both existing and future development. Another item eligible to charge a buy-in cost for is the interest payments amount due within the planning period for the Sewer Revenue Bond (Section 6.1.1). This loan was used to fund past improvements to the collection system which benefit existing and future development, so the buy-in cost was calculated utilizing the same proportionate share as the minor sewer lines. The proportionate share for each existing facility was multiplied by the historic construction cost in order to calculate the impact fee eligible buy-in costs (Table 6-14). The City has elected to not charge a buy-in cost for the Northwest Interceptor and the WWTF, even though they have excess capacity, because they are both expected to be replaced within the planning period.

**Table 6-13: Existing Wastewater Facilities Proportionate Share**

| Facility | Total ERCs (Year 2033) | Increase in ERCs (Year 2023-2033) | Proportionate Share |
|---|---|---|---|
| Minor Sewer Lines, Public Works Building, and Sewer Revenue Bond Interest Payments | 10,048 | 3,705 | 36.9% |

**Table 6-14: Wastewater Buy-In Costs**

| Facility | Cost [1] | Flow Capacity (gpm) | Planning Period (2023-2033) Flow (gpm) | Proportionate Share | Buy-In Cost |
|---|---|---|---|---|---|
| Main Trunk | N/A | 1,252 | 77 | 6.15% | $0.00 |
| Central Trunk | N/A | 1,113 | 77 | 6.92% | $0.00 |
| Central Interceptor | N/A | 556 | 53 | 9.52% | $0.00 |
| Hale Street Collector | $1,060,736.07 | 768 | 54 | 7.03% | $74,606.02 |
| Northwest Interceptor | $749,254.71 | 1,289 | 471 | 36.5% | $0.00 [2] |
| Northeast Interceptor | $1,083,869.01 | 2,186 | 423 | 19.4% | $209,751.26 |
| Matthew's Lane Collector | $2,039,059.07 | 564 | 53 | 9.39% | $191,453.95 |
| Worthington Street Collector | $193,636.00 | 556 | 53 | 9.52% | $18,441.99 |
| Main Street Trunk | $653,987.65 | 1,664 | 293 | 17.6% | $115,138.12 |
| Lakeview Business Park Offsite Gravity Line | $3,398,037.81 | 912 | 250 | 27.4% | $931,943.42 |
| Deseret Peak Collector | $190,270.90 | 542 | 126 | 23.3% | $44,272.42 |
| Northwest Lift Station | $500,000.00 | 1,200 | 382 | 31.8% | $159,166.67 |
| Northeast Lift Station | $400,000.00 | 2,170 | 423 | 19.5% | $77,972.35 |
| Wastewater Treatment Facility | $5,559,563.47 | 1.00 (MGD) | 0.049 (MGD) | 4.86% | $0.00 [2] |
| Minor Gravity Sewer Lines | $10,053,823.31 | N/A | N/A | 36.9% | $3,707,147.23 |
| Public Works Building | $222,483.40 [3] | N/A | N/A | 36.9% | $82,036.33 |
| Sewer Revenue Bond Interest Payments (2023-2033) | $678,405.00 | N/A | N/A | 36.9% | $250,148.34 |
| **Total** | | | | | **$5,862,078.09** |

*[1] The costs shown are historical costs which may include initial construction, acquiring land, improvements, planning, and engineering.*

*[2] The City is not charging a buy-in cost for the Northwest Interceptor and WWTF because they are expected to be replaced.*

*[3] The cost shown for the Public Works Building is the cost associated with wastewater facilities.*

### *6.2.2 System Improvements*

The wastewater system improvements needed to accommodate future development within the planning period were determined in Section 6.1.5. A proportionate share for each of these projects was calculated by estimating the flow to each facility contributed by the anticipated planning period development, which was divided by the total flow capacity of the facility (see Table 6-15). The City does not charge impact fees for projects which are expected to be constructed by developers so they have a proportionate share of 0%. If it is determined the City will pay for any portion of these projects as the development agreements are finalized then this plan should be amended to include the project. The Public Works Improvements project was determined to be beneficial to both existing and future development, so the proportionate share was calculated based on the ERCs expected to be served within the planning period as shown in Table 6-16.

**Table 6-15: Proposed Wastewater Projects Proportionate Share**

| Project | Flow Capacity (gpm) | Planning Period (2023-2033) Flow (gpm) | Proportionate Share |
|---|---|---|---|
| West Street Collector | 1,300 | 167 | 12.8% |
| Willow Street Sewer Improvements | 386 | 53 | 13.7% |
| Northwest Interceptor Extension | 1,969 | 255 | 0% [4] |
| SR112 Interceptor | 825 and 1,342 | 149 | 0% [4] |
| West Bank Interceptor | 3,867 | 335 | 0% [4] |
| Southeast Sewer Line | 875 | 46.1 | 0% [4] |
| SR138 Interceptor | 856 | 50.5 | 0% [4] |
| Northwest Interceptor Replacement | 5,354, 2,267, and 7,129 | 273, 294, and 782 | 11.2% [1] |
| Northwest Lift Station - Upsize Force Main | 400 [2] | 399.7 [3] | 99.9% |
| Proposed Wastewater Treatment Facility | 3.0 (MGD) | 0.56 (MGD) | 18.5% |

*[1] A proportionate share was calculated for each diameter of the project, which was scaled based on the length of each stretch then added together.*

*[2] The increase in flow capacity resulting from the proposed project upgrades is shown as opposed to the total capacity of the facility.*

*[3] The flow shown is the planning period flow exceeding the existing capacity of the facility before the proposed project upgrades.*

*[4] The proportionate share is 0% because the project is expected be constructed by developers.*

**Table 6-16: Proposed Public Works Improvements Proportionate Share**

| Project | Total ERCs (Year 2033) | Increase in ERCs (Year 2023-2033) | Proportionate Share |
|---|---|---|---|
| Public Works Improvements | 10,048 | 3,705 | 36.9% |

The cost of each project which is attributed to new development in the planning period, and therefore eligible for impact fees, was calculated by multiplying the total project cost by the proportionate share as shown in Table 6-17. In order to account for the time-price differential inherent with future costs, the current year cost estimates were inflated at a rate of 3.5% to the anticipated construction year.

**Table 6-17: Wastewater Impact Fee Eligible Costs**

| Project | Construction Year | Current Year (2023) Cost Estimate | Construction Year Cost Estimate | Proportionate Share | Impact Fee Eligible Cost |
|---|---|---|---|---|---|
| West Street Collector | 2024 | $1,173,619.54 [1] | $1,173,619.54 [2] | 12.8% | $150,522.25 |
| Willow Street Sewer Improvements | 2025 | $1,161,165.20 | $1,243,869.19 | 13.7% | $170,994.42 |
| Northwest Interceptor Extension | 2025 | $1,747,153.80 | $1,871,594.83 | 0% [4] | $0.00 |
| SR112 Interceptor | 2025 | $2,574,853.35 | $2,758,247.28 | 0% [4] | $0.00 |
| West Bank Interceptor | 2025 | $4,231,202.40 | $4,532,569.79 | 0% [4] | $0.00 |
| Southeast Sewer Line | 2026 | $1,415,384.80 | $1,569,262.43 | 0% [4] | $0.00 |
| SR138 Interceptor | 2028 | $1,185,626.50 | $1,408,152.36 | 0% [4] | $0.00 |
| Northwest Interceptor Replacement | 2031 | $7,005,127.30 | $9,224,414.93 | 11.2% | $1,033,712.75 |
| Northwest Lift Station - Upsize Force Main | 2027 | $181,440.00 | $208,206.57 | 99.9% | $208,025.93 |
| Proposed Wastewater Treatment Facility | 2025 | $30,910,559.75 | $32,905,575.54 | 18.5% | $6,095,757.87 |
| Public Works Improvements | 2026 | $1,008,975.00 [3] | $1,118,668.62 | 36.9% | $412,486.79 |
| **Total** | | **$52,595,107.64** | **$58,014,181.09** | | **$8,071,500.00** |

*[1] The cost shown for the West Street Collector project is the total cost less the amount to be paid with grant money.*

*[2] The cost for the West Street Collector project was not inflated because the cost shown is the actual project cost.*

*[3] The cost shown for the Public Works Improvements project is half of the total cost estimate because this project cost will be split evenly between the wastewater and drinking water utilities.*

*[4] The proportionate share is 0% because the project is expected be constructed by developers.*

In addition to impact fee eligible project costs, planning costs can also be included in the calculation of impact fees. The cost for the current amendment to the wastewater section of this CFP and IFA was $7,980.05. Due to the uncertainty that comes with long-term development projections, this plan is expected to be amended annually going forward. The future professional expenses expected to occur within the planning period were inflated at a 3.5% rate as shown in the following table.

**Table 6-18: Wastewater Professional Expenses**

| Year | Cost |
|---|---|
| 2023 | $0.00 |
| 2024 | $7,980.05 |
| 2025 | $8,259.36 |
| 2026 | $8,548.43 |
| 2027 | $8,847.63 |
| 2028 | $9,157.30 |
| 2029 | $9,477.80 |
| 2030 | $9,809.52 |
| 2031 | $10,152.86 |
| 2032 | $10,508.21 |
| 2033 | $10,875.99 |
| **Total** | **$93,617.15** |

### *6.2.3 Methods of Financing*

As discussed in Section 6.1.6, the wastewater system improvements are expected to be funded through impact fees, loans, developer dedications, and Sewer Fund reserves. The West Street Collector project will be partially funded through a grant worth $1.0 million, so only the project costs exceeding this grant amount are impact fee eligible. The City expects to finance the Proposed Wastewater Treatment Facility project with a loan, which is necessary to prevent the impact fee fund balance from going negative (see Section 6.2.5). This loan was assumed to be a 30-year bond with a 4.0% interest rate, 1.5% cost of issuance, 0.5% bond insurance, and a $20,000 surety policy. The interest cost for this bond attributed to development within the planning period can be included in the impact fee calculation. Additionally, a portion of the engineering cost of the Wastewater Treatment Facility project will be funded through a $1 million bond with a 0% interest rate. This will be a 20-year bond and is also assumed to have 1.5% cost of issuance, 0.5% bond insurance, and a $20,000 surety policy. Table 6-19 shows the details of these bonds along with the impact fee eligible interest cost.

**Table 6-19: Wastewater Future Debt Financing**

| Project | Proceeds | Par Amount [1] | Debt Service (Interest) | Debt Service (Principal + Interest) | Proportionate Share | Impact Fee Eligible Debt Service (Interest) |
|---|---|---|---|---|---|---|
| Proposed Wastewater Treatment Facility | $31,905,575.54 | $32,563,687.05 | $23,931,150.46 | $56,494,837.52 | 18.5% | $4,433,245.62 |
| Proposed Wastewater Treatment Facility Engineering Loan | $1,000,000.00 | $1,040,000.00 | $0.00 | $1,040,000.00 | 18.5% | $0.00 |

[1] *Includes cost of issuance, bond insurance, and surety policy.*

### *6.2.4 Impact Fee Calculation*

Impact fees to be charged per ERC for each project were calculated by dividing the impact fee eligible costs by the number of ERCs expected to be served within the planning period, determined from Table 2-4. The construction water and City rate connection types were excluded from this calculation because construction water is not served by wastewater facilities and the City does not charge themselves impact fees. The increase in ERCs in the planning period for all other connection types totals 3,605 ERCs.

**Table 6-20: Wastewater Impact Fee Calculation**

| Project | Impact Fee Eligible Cost | Planning Period (2023-2033) ERCs [1] | Cost per ERC |
|---|---|---|---|
| Buy-In Cost | $5,862,078.09 | 3,605 | $1,626.10 |
| West Street Collector | $150,522.25 | 3,605 | $41.75 |
| Willow Street Sewer Improvements | $170,994.42 | 3,605 | $47.43 |
| Northwest Interceptor Replacement | $1,033,712.75 | 3,605 | $286.74 |
| Northwest Lift Station - Upsize Force Main | $208,025.93 | 3,605 | $57.70 |
| Proposed Wastewater Treatment Facility | $6,095,757.87 | 3,605 | $1,690.92 |
| Proposed Wastewater Treatment Facility Debt Service (Interest) | $4,433,245.62 | 3,605 | $1,229.75 |
| Public Works Improvements | $412,486.79 | 3,605 | $114.42 |
| Professional Expenses | $93,617.15 | 3,605 | $25.97 |
| **Total** | | | **$5,120.79** |

[1] *Does not include Construction Water or City Rate ERCs.*

The City charges impact fees to residential users based on their water meter size. A 3/4 inch water meter was determined to be equivalent to one ERC, and the remaining meter sizes were converted to ERCs based on the maximum flow rates from AWWA Manual M6, Table 5-3. Non-residential users are charged impact fees based on the number of fixture units in a development. A typical ERC was determined to have 24 fixture units as calculated in Appendix I. The results of these impact fee calculations are summarized in the following table.

**Table 6-21: Proposed Wastewater Impact Fees**

| Water Meter Size (inches) | Maximum Flow Rate (gpm) | ERCs | Impact Fee |
|---|---|---|---|
| 3/4 | 25 [1] | 1 | $5,120.79 |
| 1 | 40 [1] | 1.6 | $8,193.26 |
| 1 1/2 | 50 [1] | 2 | $10,241.58 |
| 2 | 100 [1] | 4 | $20,483.15 |
| 3 | 200 [2] | 8 | $40,966.30 |
| 4 | 400 [2] | 16 | $81,932.61 |
| 6 | 800 [2] | 32 | $163,865.22 |
| 8 | 1,000 [2] | 40 | $204,831.52 |
| Non-Residential Development | | | $213.37 per fixture unit |

*[1] From AWWA M6 Table 5-3 Displacement Meters.*

*[2] From AWWA M6 Table 5-3 Electromagnetic and Ultrasonic Meter Type 1.*

### *6.2.5 Impact Fee Cashflow*

The anticipated impact fee revenues and expenses over the 10-year planning period are shown in Table 6-22. The expenses represent only what is attributable to planning period development and include capital project costs, the expenditure of buy-in costs, and proposed bond payments. The impact fee cashflow (Table 6-23) estimates the end of year impact fee fund balance throughout the planning period by comparing the impact fee revenues, total expenses, and interest income calculated at 5.44% of the fund balance.

### *6.2.6 Impact Fee Credits*

The City currently has procedures in place for credits, appeals, and exemptions of impact fees, refer to Appendix B for the City's current impact fee ordinance.

**Table 6-22: Wastewater Impact Fee Revenues and Expenses**

| Year | ERCs [1] | Annual ERC Increase [1] | Impact Fee Revenues | Impact Fee Eligible Project Costs | Bond Payments | Bond Proceeds | Buy-In Cost Expenses | Professional Expenses | Total Expenses |
|---|---|---|---|---|---|---|---|---|---|
| 2023 | 5,988 | - | - | - | - | - | - | - | - |
| 2024 | 6,266 | 278 | $1,423,579.07 | ($150,522.25) | - | $185,250.00 | ($452,054.84) | ($7,980.05) | ($425,307.15) |
| 2025 | 6,576 | 310 | $1,587,444.29 | ($6,266,752.29) | ($9,633.00) | $5,910,507.87 | ($504,089.93) | ($8,259.36) | ($878,226.70) |
| 2026 | 6,883 | 307 | $1,572,081.93 | ($412,486.79) | ($358,488.62) | - | ($499,211.64) | ($8,548.43) | ($1,278,735.48) |
| 2027 | 7,220 | 337 | $1,725,705.57 | ($208,025.93) | ($358,488.62) | - | ($547,994.54) | ($8,847.63) | ($1,123,356.72) |
| 2028 | 7,566 | 346 | $1,771,792.66 | - | ($358,488.62) | - | ($562,629.41) | ($9,157.30) | ($930,275.33) |
| 2029 | 7,929 | 363 | $1,858,846.06 | - | ($358,488.62) | - | ($590,273.05) | ($9,477.80) | ($958,239.47) |
| 2030 | 8,320 | 391 | $2,002,228.12 | - | ($358,488.62) | - | ($635,803.75) | ($9,809.52) | ($1,004,101.90) |
| 2031 | 8,717 | 397 | $2,032,952.85 | ($1,033,712.75) | ($358,488.62) | - | ($645,560.33) | ($10,152.86) | ($2,047,914.56) |
| 2032 | 9,147 | 430 | $2,201,938.85 | - | ($358,488.62) | - | ($699,221.52) | ($10,508.21) | ($1,068,218.35) |
| 2033 | 9,593 | 446 | $2,283,871.46 | - | ($358,488.62) | - | ($725,239.06) | ($10,875.99) | ($1,094,603.68) |
| **Total** | | **3,605** | **$18,460,440.86** | **($8,071,500.00)** | | | **($5,862,078.09)** | **($93,617.15)** | **($10,808,979.35)** |

*[1] Does not include Construction Water or City Rate ERCs.*

**Table 6-23: Wastewater Impact Fee Cashflow**

| Year | Impact Fee Revenues | Total Expenses | Interest Income | End of Year Balance |
|---|---|---|---|---|
| 2023 | - | - | - | $80,352.82 |
| 2024 | $1,423,579.07 | ($425,307.15) | $4,371.19 | $1,082,995.94 |
| 2025 | $1,587,444.29 | ($878,226.70) | $58,914.98 | $1,851,128.50 |
| 2026 | $1,572,081.93 | ($1,278,735.48) | $100,701.39 | $2,245,176.34 |
| 2027 | $1,725,705.57 | ($1,123,356.72) | $122,137.59 | $2,969,662.78 |
| 2028 | $1,771,792.66 | ($930,275.33) | $161,549.66 | $3,972,729.77 |
| 2029 | $1,858,846.06 | ($958,239.47) | $216,116.50 | $5,089,452.85 |
| 2030 | $2,002,228.12 | ($1,004,101.90) | $276,866.23 | $6,364,445.31 |
| 2031 | $2,032,952.85 | ($2,047,914.56) | $346,225.82 | $6,695,709.42 |
| 2032 | $2,201,938.85 | ($1,068,218.35) | $364,246.59 | $8,193,676.52 |
| 2033 | $2,283,871.46 | ($1,094,603.68) | $445,736.00 | $9,828,680.30 |

# SECTION 7: WATER RIGHTS ACQUISITION

## 7.1 CAPITAL FACILITIES PLAN AND IMPACT FEE FACILITIES PLAN

### *7.1.1 Inventory of Existing Facilities*

Grantsville City currently holds an estimated 10,082.61 acre-feet of municipal use water rights per the Utah Division of Water Rights website as of March, 2024. A list of these water rights numbers can be found in Appendix K. The historic cost to purchase these water rights totals $37,110,137.98, which represents all available records of water rights purchases but does not account for the full quantity of water rights held by the City. There is no existing long-term debt associated with water rights acquisition.

It should be noted some of the City's largest water rights are not quantified in acre-feet but instead specify an allowed diversion in cubic feet per second. This can be converted to acre-feet per year, but due to fluctuations in use at different times of day and different times of year, it is quite unlikely the City could actually divert the full flow all day, every day. This is why the listed water rights quantity is an estimated value, while the actual quantity of water rights the City can divert is likely much less than what is estimated.

Tooele Valley is closed to water rights appropriations except for small amounts of shallow ground water that would otherwise flow to the Great Salt Lake. Therefore, the City can only acquire additional water rights through developer contributions or by purchasing existing water rights and, if needed, filing change applications to convert them to municipal use.

### *7.1.2 Level of Service*

The level of service standards for water rights acquisition were previously established in the Grantsville City Capital Facilities Plan dated May, 2022. The indoor water use level of service was determined from the drinking water indoor average day demand (Section 3.1.2), which was calculated from the City's water use data. The outdoor use level of service was determined based on state standards and assuming an irrigation efficiency of 60%. These levels of service are shown in Table 7-1. For the purposes of estimating city-wide water rights demands, it is assumed there is an average of 0.12 irrigated acres per ERC based on an analysis of residential lots in Grantsville and estimates made by nearby cities.

**Table 7-1: Water Rights Level of Service**

| Parameter | Level of Service |
|---|---|
| Indoor Use | 0.218 acre-feet/year/ERC |
| Outdoor Use | 3.33 acre-feet/year/irrigated acre |

### *7.1.3 Capacity of Existing Facilities*

The capacity of the City's held water rights to serve future development is difficult to accurately estimate. Based on the estimated quantity of the City's water rights and the level of service, an excess capacity of unused water rights can be estimated as shown in the following table.

**Table 7-2: Estimated Capacity of Water Rights**

| Current (2023) ERCs | Water Demand | | | Existing Water Rights (ac-ft) | Excess / (Deficit) (ac-ft) |
|---|---|---|---|---|---|
| | Indoor Use (ac-ft) | Outdoor Use (ac-ft) | Total (ac-ft) | | |
| 6,343 | 1,385.49 | 2,537.20 | 3,922.69 | 10,082.61 | 6,159.92 |

However, the actual quantity of water rights the City has available for future development is likely much less than what is shown in Table 7-2. One reason for this, as discussed in Section 7.1.1, is the total quantity of water rights is expected to be significantly less than what is estimated to be held. Additionally, some of the water rights held by the City have been allocated to developments yet to be built or have been banked for future development, which further reduces the excess capacity of existing water rights. Lastly, in order to calculate the city-wide water demand the broad assumption of 0.12 irrigated acres per ERC was made, which most likely does not reflect the true outdoor water demand. Therefore, the estimated excess capacity shown in Table 7-2 should be considered a high-level estimate which significantly overestimates the actual excess quantity of water rights the City currently holds. Furthermore, whatever excess of water rights does exist needs to be maintained in order to cover existing platted subdivisions and other such commitments while accounting for the uncertainty in quantity, possible reductions and cuts due to ongoing droughts, and being able to vary diversion through the year rather than a presumed constant pumping. For the purposes of this plan there is considered to be no excess capacity of water rights available to accommodate future growth.

### *7.1.4 Demands of Future Development*

The future water rights demand of development anticipated in the planning period was estimated based on the demographics calculated in Section 2.7 and the level of service from

Section 7.1.2. Due to the reasons discussed in Section 7.1.3, these results should be considered high-level estimates, serving as a general guideline for the City's planning purposes.

**Table 7-3: Future Water Rights Requirements**

| Year | ERCs | Water Demand | | |
|---|---|---|---|---|
| | | Indoor Use (ac-ft) | Outdoor Use (ac-ft) | Total (ac-ft) |
| 2023 | 6,343 | 1,385.49 | 2,537.20 | 3,922.69 |
| 2024 | 6,635 | 1,449.27 | 2,654.00 | 4,103.27 |
| 2025 | 6,975 | 1,523.54 | 2,790.00 | 4,313.54 |
| 2026 | 7,287 | 1,591.69 | 2,914.80 | 4,506.49 |
| 2027 | 7,629 | 1,666.39 | 3,051.60 | 4,717.99 |
| 2028 | 7,980 | 1,743.06 | 3,192.00 | 4,935.06 |
| 2029 | 8,356 | 1,825.18 | 3,342.40 | 5,167.58 |
| 2030 | 8,761 | 1,913.65 | 3,504.40 | 5,418.05 |
| 2031 | 9,162 | 2,001.24 | 3,664.80 | 5,666.04 |
| 2032 | 9,597 | 2,096.25 | 3,838.80 | 5,935.05 |
| 2033 | 10,048 | 2,194.77 | 4,019.20 | 6,213.97 |

### *7.1.5 Proposed Projects*

The City does not need to acquire the full quantity of water rights anticipated to be required by future development because it is expected many of these developments will acquire the water rights themselves and then transfer them to the City. The City requires large developments to contribute the water rights themselves, but smaller developments have the option to pay an impact fee in lieu of contributing water rights. Therefore, the City only needs to acquire the quantity of water rights anticipated to be paid for by impact fees, but this quantity is not able to be accurately predicted. Additionally, since it is desired to maintain an excess of water rights, as discussed in Section 7.1.3, and due to the increasingly limited availability of water rights for sale in the Tooele Valley, the City should plan to purchase any water rights listed for a reasonable price as soon as they become available. So, there are no specifically proposed water rights acquisition projects, but instead there is the ongoing consideration that the City should continue to seek out available water rights to purchase. It is expected water rights will typically cost around $25,000 per acre-foot, based on recent listings for water rights in the Tooele Valley and recent purchases made by the City.

### *7.1.6 Methods of Financing*

The City expects to finance water rights acquisitions solely through developer contributions and impact fees.

## 7.2 IMPACT FEE ANALYSIS

### *7.2.1 Existing Facilities*

As discussed in Section 7.1.3, for the purposes of this plan there is considered to be no excess capacity of water rights and therefore no buy-in costs to be charged.

### *7.2.2 System Improvements*

There are no specific system improvements proposed for water rights acquisition, as mentioned in Section 7.1.5. The City will purchase additional water rights as they become available.

### *7.2.3 Methods of Financing*

The City will finance water rights purchases with impact fees, and other demands for water rights will be met through developer contributions.

### *7.2.4 Impact Fee Calculation*

As discussed in Section 7.1.5, the City requires large developments to contribute the required quantity of water rights themselves, but smaller developments have the option to pay an impact fee in lieu of water rights. The impact fee is calculated as the required quantity of water rights multiplied by $25,000 per acre-foot (the current average cost of water rights in the Tooele Valley). The required quantity of water rights is determined based on various conditions of the development, and are calculated separately for indoor and outdoor water usage.

#### *7.2.4.1 Indoor Use*

The indoor use water right quantity for single family residential and multi-unit residential connections was determined by multiplying the indoor level of service (0.218 ac-ft/yr/ERC) times the equivalent ERCs per unit. As determined in Section 2.5, single family residential equals 1.00 ERC per unit and multi-unit residential equals 0.55 ERCs per unit. The indoor quantity for non-residential development is based on fixture units and was calculated using 24 fixture units per ERC. The required water rights quantity and the equivalent impact fees for each development type are summarized in Table 7-4.

**Table 7-4: Indoor Use Water Rights Requirements**

| Land Use | Water Right Quantity (ac-ft) | Impact Fee | Unit |
|---|---|---|---|
| Single Family Residential | 0.218 | $5,450.00 | per Dwelling Unit |
| Multi-Unit Residential | 0.120 | $3,000.00 | per Dwelling Unit |
| Non-Residential | 0.00908 | $227.00 | per fixture unit |

*7.2.4.2 Outdoor Use*

Additional land use classifications were established for the calculation of required outdoor water rights. Category 1 includes single family homes only, while Category 2 covers all other types of development not included in Category 1. Water rights for Category 1 are calculated based on total lot size assuming that on average 64% of the lot area will be irrigated (see Appendix K). Additionally, it was found that as lot sizes increase above an acre the irrigated area does not increase proportionally. Therefore, the lot size for Category 1 is capped at 1 acre, so any lots larger than this would still use 1 acre in the calculation. The calculation for Category 2 is based directly on irrigated area. The formulas for the required water rights quantity (in ac-ft) are as follows:

- Category 1 = (lot size, acres) * (0.64) * (3.33 ac-ft/irr. ac)
- Category 2 = (irrigated area, acres) * (3.33 ac-ft/irr. ac)

The outdoor water rights requirements for typical residential lot sizes, without waterwise landscaping, are listed in the following table.

**Table 7-5: Outdoor Use Requirements (No Waterwise Landscaping)**

| Category 1 Lot Size | Water Right Quantity (ac-ft) | Impact Fee |
|---|---|---|
| 7,000 sq ft | 0.34 | $8,561.98 |
| 8,000 sq ft | 0.39 | $9,785.12 |
| 10,000 sq ft | 0.49 | $12,231.40 |
| 14,000 sq ft | 0.68 | $17,123.97 |
| 1/2 acre | 1.07 | $26,640.00 |
| 2/3 acre | 1.42 | $35,520.00 |
| 3/4 acre | 1.60 | $39,960.00 |
| 1.0 acre | 2.13 | $53,280.00 |
| > 1.0 acre | 2.13 | $53,280.00 |

The outdoor water rights impact fee for Category 2 developments with no waterwise landscaping is calculated as follows:

- **<u>Category 2</u> = (irrigated area, acres) * (3.33 ac-ft/irr. ac) * $25,000**

*7.2.4.3 Waterwise Landscaping*

In order to promote water conservation efforts for future development, the City allows a reduction in the required outdoor use water rights for developments which implement waterwise landscaping. The definition of waterwise landscaping is intended as "landscaping for water conservation with (1) no more than 35% of the total landscaped area planted in lawn, (2) planting beds and landscape plants watered with a drip-irrigation system, (3) watering zones separate for lawn and landscape plants, (4) back flow preventer required (5) and landscape plants should be waterwise, adapted to our local climate, able to thrive on less water." Refer to the Grantsville City Municipal Code and Land Use Code for the most current version of the waterwise landscaping definition. To qualify for the waterwise landscaping reduction, the waterwise landscaping and irrigation must be installed entirely during initial construction. Due to the challenges associated with monitoring and enforcing the requirements in residential backyards, the City only allows Category 1 development to receive a reduction for waterwise landscaping in the front yard. For purposes of calculating water rights requirements, the definition of front yard is intended to be "a yard extending across the full width of a parcel measured perpendicularly from the front boundary of the parcel to the front wall(s) of the main building situated on the parcel. For corner lots the front yard would include the side yard to the privacy fence, assumed to be located 5 feet forward from the back of the house." See Appendix K for a sketch depicting this definition, and refer to the Grantsville City Municipal Code and Land Use Code for the most current definition. Category 2 development can choose to receive a waterwise landscaping reduction for landscaping in the front yard only or the entire irrigated area. The outdoor use level of service is reduced from 3.33 to 2.28 acre-feet/year/irrigated acre for waterwise landscaping (see Appendix K for calculations). It was estimated the average residential front yard irrigated area in Grantsville is 18% of the total lot size. The lot size for Category 1 is again capped at 1 acre as done for the no waterwise calculation. The formulas to calculate outdoor use water rights for waterwise landscaping in the front yard only are:

- Category 1 = (lot size, acres) * [(0.18) * (2.28 ac-ft/irr. ac) + (0.46) * (3.33 ac-ft/irr. ac)]
- Category 2 = (front yard irrigated area, acres) * (2.28 ac-ft/irr. ac) + (remaining irrigated area, acres) * (3.33 ac-ft/irr. ac)

The outdoor water rights requirements for typical residential lot sizes, for waterwise landscaping in the front yard only, are given in Table 7-6.

**Table 7-6: Outdoor Use Requirements (Waterwise Landscaping Front Yard Only)**

| Category 1 Lot Size | Water Right Quantity (ac-ft) | Impact Fee |
|---|---|---|
| 7,000 sq ft | 0.31 | $7,802.69 |
| 8,000 sq ft | 0.36 | $8,917.36 |
| 10,000 sq ft | 0.45 | $11,146.69 |
| 14,000 sq ft | 0.62 | $15,605.37 |
| 1/2 acre | 0.97 | $24,277.50 |
| 2/3 acre | 1.29 | $32,370.00 |
| 3/4 acre | 1.46 | $36,416.25 |
| 1.0 acre | 1.94 | $48,555.00 |
| > 1.0 acre | 1.94 | $48,555.00 |

The outdoor water rights impact fee for Category 2 developments with waterwise landscaping in the front yard only is calculated as follows:

- **Category 2 = (front yard irrigated area, acres) * (2.28 ac-ft/irr. ac) + (remaining irrigated area, acres) * (3.33 ac-ft/irr. ac) * $25,000**

Category 1 developments utilizing waterwise landscaping for the entire lot would still use the front yard only formula above. Category 2 developments which are waterwise landscaping the entire lot calculate outdoor use water rights quantity with the following formula:

- Category 2 = (irrigated area, acres) * (2.28 ac-ft/irr. ac)

The outdoor water rights impact fee for Category 2 developments with waterwise landscaping on the entire lot is calculated as follows:

- **Category 2 = (irrigated area, acres) * (2.28 ac-ft/irr. ac) * $25,000**

A summary of all the water rights quantity formulas for each land use and landscaping condition discussed above is shown in Table 7-7 below.

**Table 7-7: Summary of Outdoor Use Water Rights Requirements**

| Land Use | Water Right Quantity (ac-ft) |
|---|---|
| **No Waterwise Landscaping** | |
| Category 1 | = (lot size[1], acres) * (0.64) * (3.33 ac-ft/irr. ac) |
| Category 2 | = (irrigated area, acres) * (3.33 ac-ft/irr. ac) |
| **Waterwise Landscape Front Yard Only** | |
| Category 1 | = (lot size[1], acres) * [(0.18) * (2.28 ac-ft/irr. ac) + (0.46) * (3.33 ac-ft/irr. ac)] |
| Category 2 | = (front yard irrigated area, acres) * (2.28 ac-ft/irr. ac) + (remaining irrigated area, acres) * (3.33 ac-ft/irr. ac) |
| **Waterwise Landscape Entire Lot** | |
| Category 1 | Reduction not allowed (use front yard only formula) |
| Category 2 | = (irrigated area, acres) * (2.28 ac-ft/irr. ac) |

[1] *Lot size capped at 1 acre.*

*7.2.4.4 Example Calculations*

For example, the impact fee for a single family development on a 2 acre lot with waterwise landscaping would be calculated as follows:

- Indoor use quantity = 0.218 ac-ft
- Outdoor use quantity = (1 ac) * [(0.18) * (2.28 ac-ft/irr. ac) + (0.46) * (3.33 ac-ft/irr. ac)] = 1.9422 ac-ft
- Total quantity = (0.218 ac-ft) + (1.9422 ac-ft) = 2.16 ac-ft
- Total impact fee = (2.16 ac-ft) * $25,000 = $54,000

For an apartment building with 15 units, 1/8 acre irrigated area, and waterwise landscaping for the entire lot, the impact fee is calculated as:

- Indoor use quantity = (15 units) * (0.120 ac-ft/unit) = 1.8 ac-ft
- Outdoor use quantity = (1/8 ac) * (2.28 ac-ft/irr. ac) = 0.285 ac-ft
- Total quantity = (1.8 ac-ft) + (0.285 ac-ft) = 2.09 ac-ft
- Total impact fee = (2.09 ac-ft) * $25,000 = $52,250

The impact fee for a commercial development with 50 fixture units that will be irrigating 2,000 square feet and will not utilize waterwise landscaping would be calculated as follows:

- Indoor use quantity = (50 fixture units) * (0.00908 ac-ft/fixture unit) = 0.454 ac-ft
- Outdoor use quantity = (2,000 sq ft) / (43,560 sq ft/ac) * (3.33 ac-ft/irr. ac) = 0.153 ac-ft
- Total quantity = (0.454 ac-ft) + (0.153 ac-ft) = 0.61 ac-ft
- Total impact fee = (0.61 ac-ft) * $25,000 = $15,250

### *7.2.5 Impact Fee Credits*

Water rights can be transferred to the City in lieu of paying the impact fees. The quantity to be transferred is calculated as discussed in Section 7.2.4. The water rights required must be transferred to City as 100% owner. If the quantity of water rights required is only a portion of the total right pledged, the City must be identified as the owner of the required portion, or the required portion must be segregated from the base right and transferred to City as 100% owner. Additionally, the water rights transferred to cover the indoor use requirement must be municipal use rights or change applications prepared to convert water rights to municipal rights. For the outdoor use requirement, municipal use water rights, change applications prepared to convert water rights to municipal rights, or Grantsville Irrigation Co. shares are accepted by the City. Refer to the Grantsville City Municipal Code and Land Use Code for the requirements to transfer Grantsville Irrigation Co. shares. The City currently has procedures in place for credits, appeals, and exemptions of impact fees, see Appendix B for the City's current impact fee ordinance.

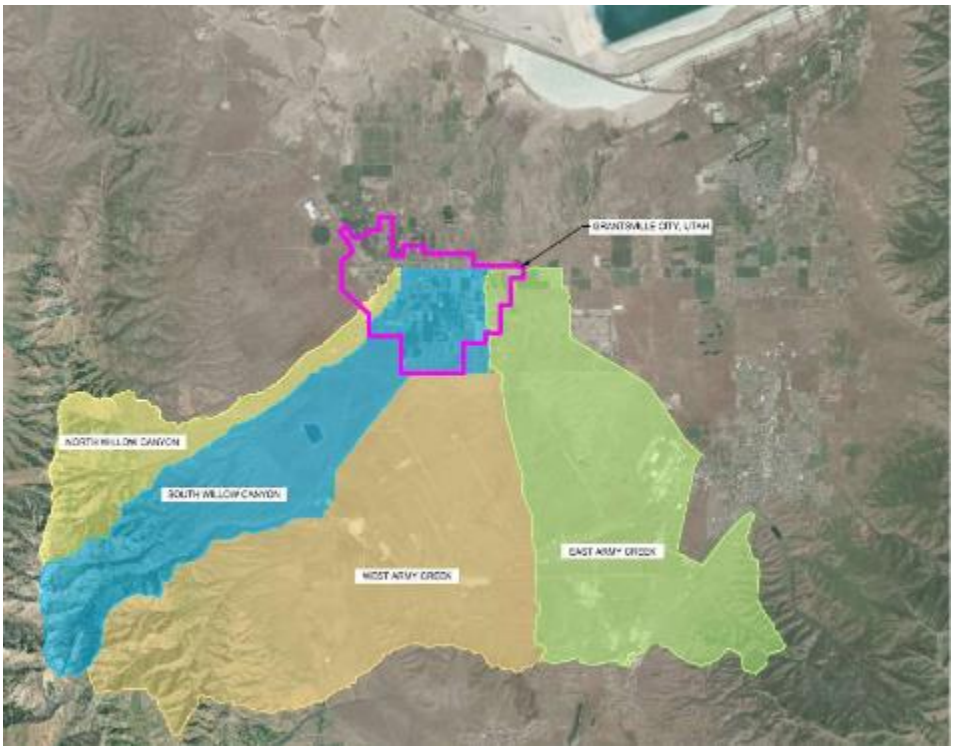
# SECTION 8: STORM DRAINAGE

## 8.1 CAPITAL FACILITIES PLAN AND IMPACT FEE FACILITIES PLAN

### *8.1.1 Inventory of Existing Facilities*

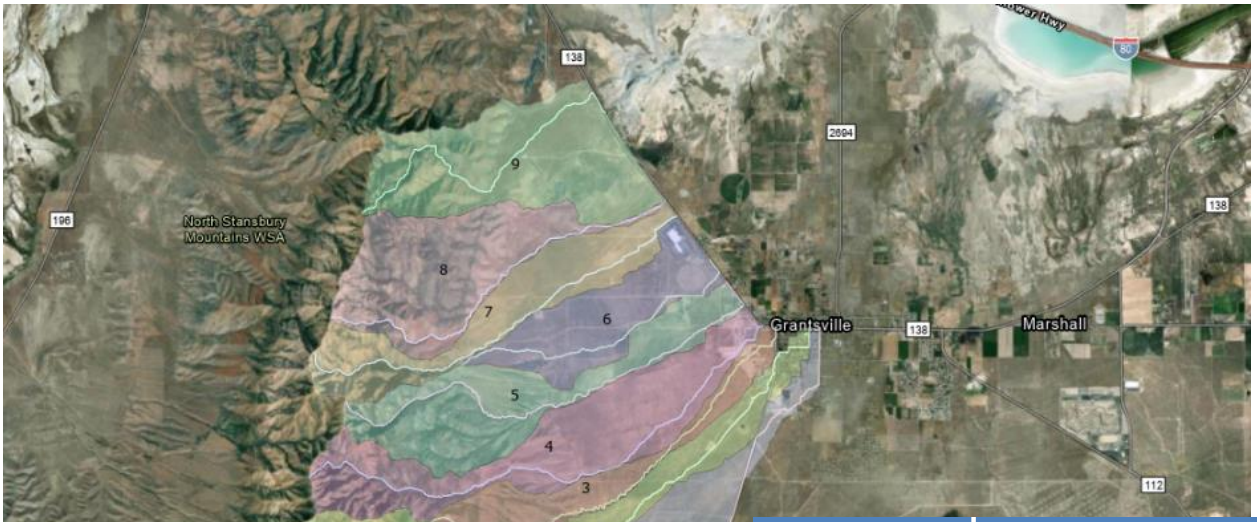
Grantsville City is situated at the base of the Stansbury Mountains and about six (6) miles south of the Great Salt Lake. The terrain of the City slopes gently northeasterly closer to the Stansbury Mountains and then northerly for the remainder of the City. The watersheds surrounding the City are shown in Figure 8-1 and Figure 8-2.

**Figure 8-1: Existing Grantsville City Watersheds (Four Major)**




*Source: Figure 2-1 from Grantsville City FEMA BRIC Flood Protection Scoping Study dated February 6, 2024 by Jones & DeMille Engineering*

**Figure 8-2: Existing Grantsville City Watersheds (West Bank Area)**

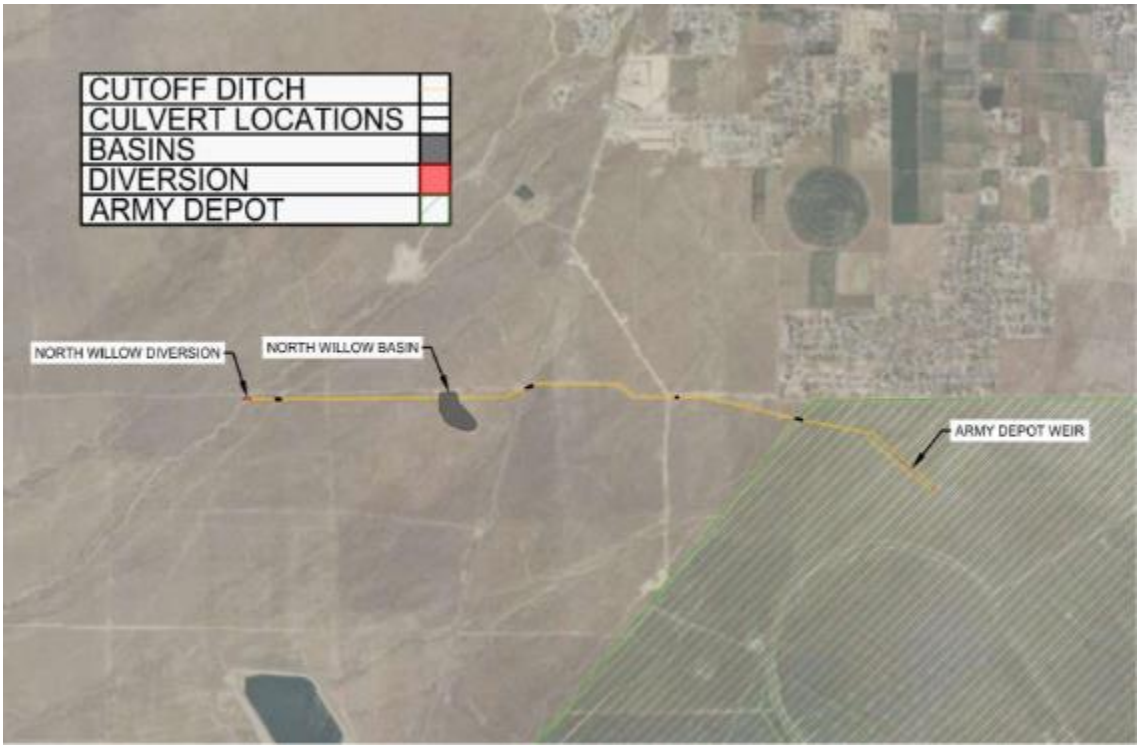



| Subbasin | Subbasin Name |
|---|---|
| 1 | South Willow and Coal Pit Canyon |
| 2 | North Willow Canyon |
| 3 | White Rocks |
| 4 | Baker Canyon |
| 5 | Pope Canyon |
| 6 | West Canyon 1 |
| 7 | West Canyon 2 |
| 8 | Dry Canyon |
| 9 | Unnamed |

*Source: Figures 1 and 2 of 2024 Final Draft Grantsville West Bank Development Stormwater Master Plan Report by Jones & DeMille Engineering.*

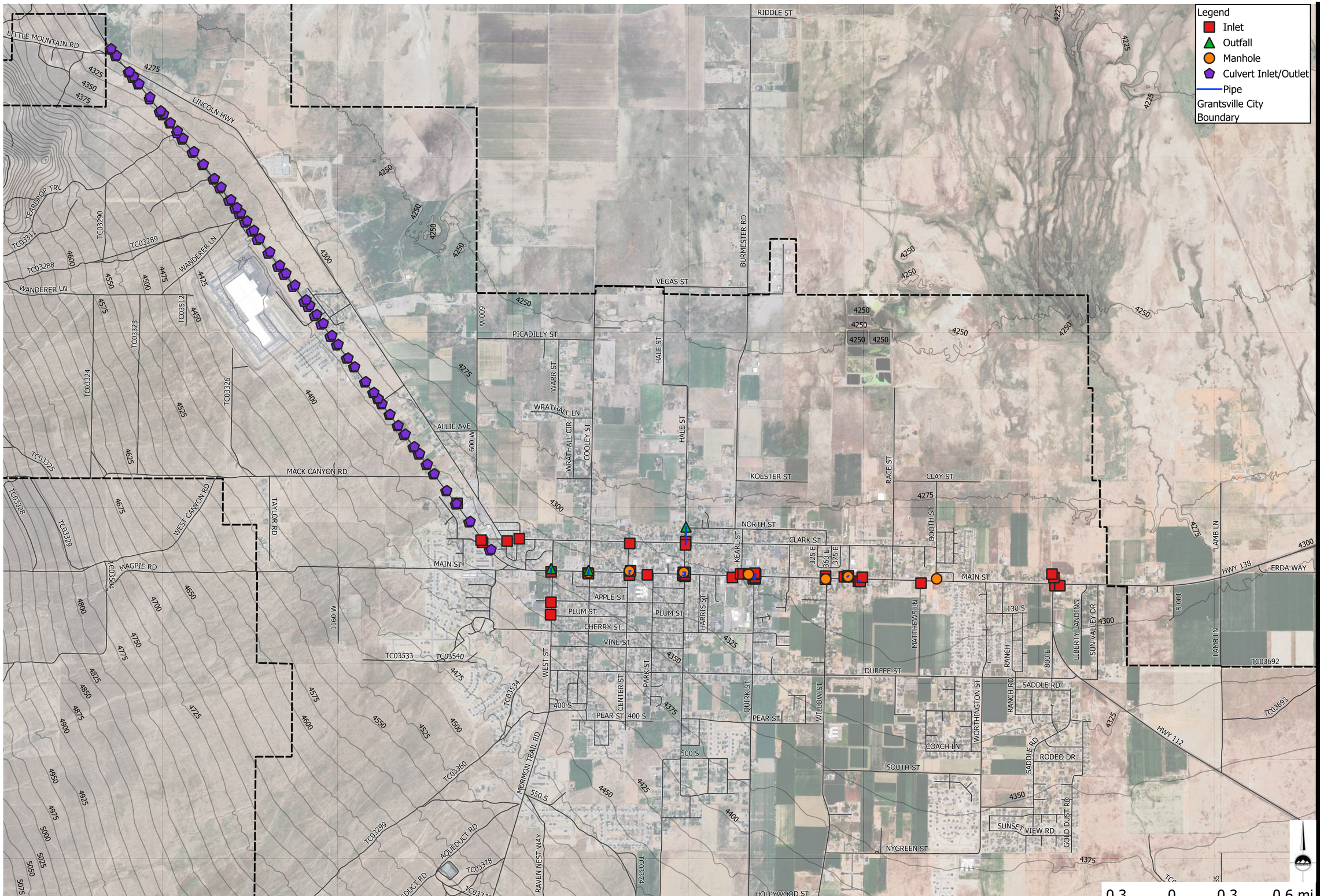
Tooele County has constructed flood control facilities, consisting of debris/detention basins and a cut-off ditch, which are located just south of the City (Figure 8-3).

**Figure 8-3: Existing Flood Protection Infrastructures**




*Source: Figure 4-1 from Grantsville City FEMA BRIC Flood Protection Scoping Study dated February 6, 2024 by Jones & DeMille Engineering*

These facilities intercept runoff from the North Willow, South Willow Canyon, and West Army Creek and discharge east of Grantsville into an existing natural drainage. Also south of the City is the existing Grantsville Irrigation Company Reservoir, which collects the majority of flows from the South Willow Canyon and discharges any overflow into the County's flood control facilities. Grantsville City's storm drainage system consists of gutters, grates, detention/retention ponds, storm inlets, pipes, and culverts. There are upwards of 50 culverts crossing SR-138 ranging from corrugated metal pipe to an 8-foot wide by 4-foot tall concrete box culvert. The main drainage system within the City is located mostly along Main Street and Clark Street as shown in Figure 8-4. The City does not currently have costs of past storm drain projects, therefore historical construction costs have not been listed.




This figure was created using information gathered from construction drawings for the capital water and sewer project and Google Earth imagery. Due to this limited information, this figure is likely not a complete representation of the City's storm drainage system and may contain minor inaccuracies. However, a more in-depth analysis of the existing system is outside the scope of this plan, and the figure is sufficient for the purposes of this plan.


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CRITCHLOW
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# GRANTSVILLE CFP, IFFP, AND IFA

GRANTSVILLE, UTAH

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |

## EXISTING STORM DRAINAGE SYSTEM

PROJECT NUMBER: 10766
PRINT DATE: 04-10-2024
DRAWN BY: M. SANFORD
CHECKED BY: R. ROUSSELLE
PROJ. MANAGER: R. ROUSSELLE

**FIG 8-4**

### *8.1.2 Level of Service*

The level of service standards to be used for this plan are shown in Appendix L which were previously established in the Grantsville City Capital Facilities Plan dated May 2022 and since updated by the Grantsville City Storm Drainage Design Guidelines adopted by City Council on April 3, 2024.

### *8.1.3 Capacity of Existing Facilities*

Existing Grantsville City storm drainage studies, Storm Water Management Study for Baker and Pope Watersheds Grantsville City and Tooele County dated April 2015 by AQUA Engineering, Grantsville City FEMA BRIC Study Flood Protection Scoping Study dated February 6, 2024 by Jones & DeMille Engineering, and Grantsville West Bank Development Stormwater Master Plan Report dated July, 2024 by Jones & DeMille Engineering all identify the need for upstream diversion, detention, and retention to protect the existing developed areas of Grantsville City. Therefore, the existing storm drainage system is not sufficient to meet the level of service, and there is no surplus capacity.

### *8.1.4 Demands of Future Development*

The requirements for future development are based on the level of service requirements stated in Section 8.1.2. It is anticipated developers will construct future storm drainage improvements.

### *8.1.5 Proposed Projects*

The future requirements for the storm drainage system outside of development constructed improvements were determined in the FEMA BRIC Study and West Bank Development Stormwater Master Plan. The FEMA BRIC Study analyzed the North Willow Canyon, South Willow Canyon, West Army Creek, and East Army Creek. These watersheds and storm drainage improvements were also incorporated into the West Bank Development Stormwater Master Plan.

The City is in the process of constructing the Clark Street Storm Drain Improvements project with an estimated construction cost of $1,762,257.79. The City has received funding through Utah State via a Water Infrastructure Grant to construct this project. This project is shown in Figure 8-5.







1 DRAINAGE SETTLING BASIN
Scale: None

HORIZONTAL GRAPHIC SCALE
80 0 40 80 160
( IN FEET )
HORZ: 1 inch = 80 ft.

NORTH

NOTES AND ASSUMPTIONS:

| PIPE CAPACITY (CFS) AT SLOPE | 0.5% | 0.6% | 1.0% | 1.42% | 1.87% |
|---|---|---|---|---|---|
| 36-INCH | 51.2 | 56.1 | 72.5 | 86.3 | 99.1 |

BAKER BASIN 1:
EXISTING Q100 AFTER IMPROVEMENTS IN UPPER BASINS = 43.26 CFS

POPE BASIN 6:
EXISTING Q100 AFTER IMPROVEMENTS UPPER BASINS = 10.63 CFS

COMBINED OFFSITE:
EXISTING Q100 AFTER IMPROVEMENTS UPPER BASINS = 53.89 CFS

SR-138 TO WEST STREET AND MAIN STREET TO CLARK STREET (31.5 ACRES):
RATIONAL (C=0.41, Tc=59 MIN) Q100 = 24.8 CFS

COMBINED OFFSITE AND ONSITE:
EXISTING Q100 AFTER IMPROVEMENTS UPPER BASINS = 79.5 CFS

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CLIENT
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# BAKER DRAINAGE BASIN 1
# DRAINAGE INFRASTRUCTURE PLANNING
## GRANTSVILLE, UTAH

2024-04-19

**CLARK STREET STORM DRAIN IMPROVEMENTS PROJECT EXHIBIT**

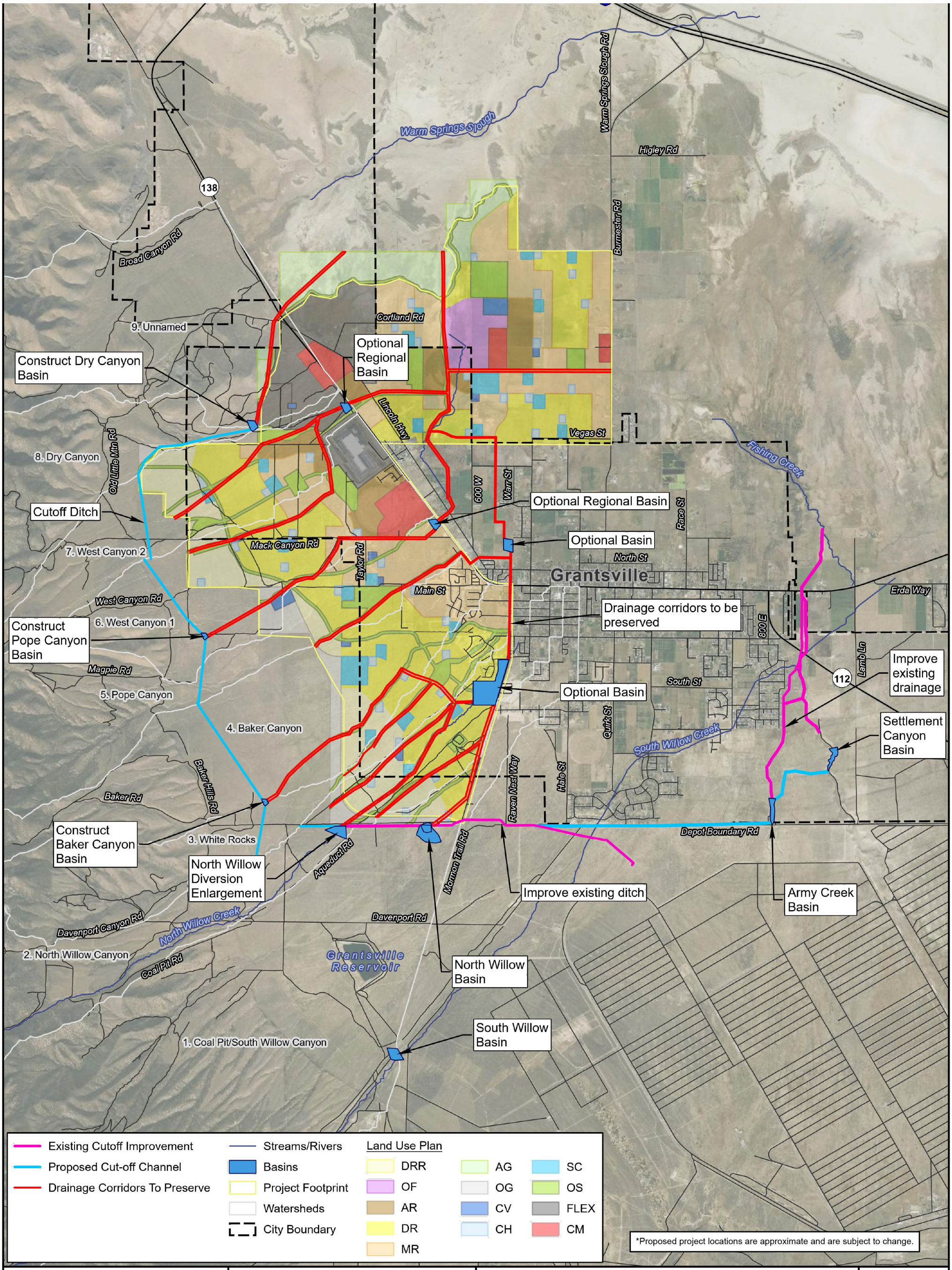
PROJECT NUMBER 11637
PRINT DATE 2024-04-19
PROJECT MANAGER R. ROUSSELLE
DESIGNED BY M. SANFORD

**FIG 8-5**

Four alternatives of proposed projects were established for the West Bank Development Stormwater Master Plan. Alternative 4 was the selected alternative in the study. Alternative 4 constructed five debris/detention basins across the watersheds with smaller cutoff ditches to convey flows to these basins as depicted in Figure 8-6 at a cost of $143,215,000 (Appendix M).

### *8.1.6 Methods of Financing*

The projects listed are not attributable to new growth, so impact fees cannot be charged. Storm drainage projects may be funded through grants, loans, developer dedications, taxes, or the Capital Project Fund.




Jones & DeMille Engineering

**Grantsville City**

***West Bank & North West Master Development & Capital Facilities Plans***
***Stormwater - Alternative 4 Overview***

Map Name: H:\JD\Proj\2205-048\Design\GIS\Projects\2205-048_Model\2205-048_Model.aprx - Exh Grantsville - West Bank - Stormwater - Alternative 4 Overview 11x17P

Project Number: 2205-048 | Drawn by: JEM 04-24 | Last Edit: 04/04/2024

**Tooele County, Utah**

Scale: 1" = 1 mile

**Figure 12**

PROJECT NUMBER | PRINT DATE 2024-04-19

PROJECT MANAGER | DESIGNED BY

**FIG 8-6**

# WEST BANK DEVELOPMENT STORMWATER
## MASTER PLAN ALTERNATIVE 4 PROJECT

SOURCE: GRANTSVILLE WEST BANK DEVELOPMENT, STORMWATER MASTER PLAN REPORT, JONES & DEMILLE ENGINEERING, APRIL 5, 2024

GRANTSVILLE, UTAH


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**RICHFIELD** Phone: 435.896.2983

## 8.2 IMPACT FEE ANALYSIS

As discussed in Section 8.1, there are no storm drainage projects eligible for impact fees. The required projects are associated with correcting existing deficiencies in the system so there is no surplus capacity. Therefore, no buy-in costs can be charged to future development. Additionally, it is the responsibility of the developers, not the City, to construct facilities required to meet the specified level of service. Thus, the City will not require additional storm drainage projects for new development and have no facilities for which to charge impact fees.

# SECTION 9: TRANSPORTATION

## 9.1 CAPITAL FACILITIES PLAN AND IMPACT FEE FACILITIES PLAN

### *9.1.1 Inventory of Existing Facilities*

Grantsville City constructs and maintains transportation facilities to provide mobility for residents and visitors to the community. The City transportation network includes three basic types of roadways: arterials, collectors, and local streets, as shown in Figure 9-1.

**Arterials** - These high-capacity facilities include highways emphasizing through movement of traffic. Land access is subordinate to this primary function. Generally, these roadways operate at high speeds and serve regional trips. Currently Main Street (SR-138) and SR-112 are the only arterials located within the City limits, both are State routes owned and maintained by Utah Department of Transportation (UDOT). Capital costs associated with these roadways have not been included this analysis.

**Collectors** - These roadways accumulate traffic from local streets and distribute to higher capacity arterial facilities. Collectors provide both mobility and land access. Generally, trip lengths, speeds, and volumes are moderate. Travel demand impacts from future developments were evaluated on collector roadways. Erda Way, Durfee Street, Mormon Trail Road, Burmester Road, Quirk Street, Willow Street, and Sheep Lane are the existing primary collectors located within the City limits. Additionally, in 2023 the City completed a project paving a 24-feet wide section of Nygreen Street from Willow Street to Adams Avenue which was previously unpaved. The total cost of this project was $451,359.70. The City does not have records of construction costs for any other existing roadways.

**Local Streets** - Their primary function is to provide land access. Travel speeds and volumes are generally low, trips are shorter, and through traffic is usually discouraged. Capital improvements to local streets are generally assumed to be included in the construction of future developments and are not included in this analysis.

**Figure 9-1: Existing Roadway Functional Classification**




*Source: Grantsville City Transportation Master Plan, 2022*

### *9.1.2 Level of Service*

The Grantsville City Transportation Master Plan, August 2022 (TMP) includes an evaluation of existing roadways by using Highway Capacity Manual (HCM) methodologies. This Federally funded manual includes the industry standard for analyzing and classifying the performance of transportation facilities. The manual includes performance measures for roadways by assigning a Level of Service (LOS) based on the degree of mobility provided. The LOS performance measures range from the following classifications of A to F:

**LOS A**: Represents primarily free-flow operation. Motorists are almost completely unimpeded in their ability to maneuver within the traffic stream.

**LOS B**: Characterized by reasonably unimpeded operation. The ability of motorists to maneuver with the traffic stream is slightly restricted.

**LOS C**: Represents stable operation. The ability to maneuver within the traffic stream is restricted but not congested. Travel speed is reduced.

**LOS D**: Represents a less stable condition in traffic operations. Small increases in flow may cause substantial increases in delay and reduction in travel speed.

**LOS E**: Characterized by unstable operation. High traffic volumes contribute to significant congestion and delay.

**LOS F**: Characterized by traffic flow at extremely low speed, high congestion, and extensive queueing. The traffic volume exceeds the capacity of the roadway.

Ideally, all transportation facilities would perform at LOS A, providing maximum mobility and minimal delay; however, limited financial resources, impacts to private right-of-way, and preservation of environmental resources makes this impractical. The Grantsville TMP was developed with the assumption that LOS D would be the minimum acceptable LOS for roadways within the City limit during peak hours. This threshold is used for capacity analysis of existing roadways and future transportation projects in this CFP and IFA.

For planning level analysis of the Grantsville transportation network, peak hour service flow rates were developed to estimate the LOS performance, capacity, and utilization of collector and arterial roadways. Table 9-1 shows the LOS D peak hour flow rates for various lane configurations and roadway types. These values are based on data provided in the Grantsville TMP. Figure 9-2 shows the existing LOS of current collector and arterial roadways within the City during peak hours.

**Table 9-1: Collector Peak Hour Service Flow Rates**

| Road Classification | Lanes | LOS D Peak Hour Flow Rate (Veh/Hr) |
|---|---|---|
| Collector | 2 | 1,216 |
| | 3 | 1,347 |
| Arterial | 2-3 | 1,518 |
| | 4-5 | 3,297 |

**Figure 9-2: Existing Arterial and Collector LOS**




*Source: Grantsville City Transportation Master Plan, 2022*

### *9.1.3 Capacity of Existing Facilities*

The Grantsville TMP includes an analysis of existing collector and arterial roadways in the City. The map in Figure 9-2 shows the LOS of each facility and average daily traffic volumes. The only roadway with an existing deficiency is Main Street (SR-138), which has been excluded from this analysis because it falls under UDOT jurisdiction. All other collector and arterial roadways within City limits currently operate at a LOS of C or better, and therefore have excess capacity to serve future development. Table 9-2 includes a summary of peak hour volumes (PHV), flow rates, and capacity for collectors in Grantsville. This data is based on traffic volumes included in the TMP. The amount of excess capacity was calculated for each roadway by subtracting the existing peak hour volumes from the LOS D service flow rates included in Table 9-1.

**Table 9-2: Capacity of Existing Roadways**

| Roadway | Segment Limits | Current (2023) Peak Hour Volume (Veh/Hr) [1] | LOS D Flow Rate (Veh/Hr) | Excess / (Deficit) (Veh/Hr) |
|---|---|---|---|---|
| Erda Way | Main Street to Sheep Lane | 408 | 1,216 | 808 |
| Erda Way | Sheep Lane to City Limits | 551 | 1,216 | 665 |
| Durfee Street | West Street to Quirk Street | 332 | 1,216 | 884 |
| Durfee Street | Quirk Street to SR-112 | 681 | 1,216 | 535 |
| Mormon Trail Road | City Limits to Pear Street | 84 | 1,216 | 1,132 |
| West Street | Pear Street to Main Street | 287 | 1,216 | 929 |
| Burmester Road | North Street to Vegas Street | 131 | 1,216 | 1,085 |
| Burmester Road | Vegas Street to City Limits | 133 | 1,216 | 1,083 |
| Quirk Street | Legend Drive to Durfee Street | 657 | 1,216 | 559 |
| Quirk Street | Durfee Street to Main Street | 643 | 1,216 | 573 |
| Willow Street | Legend Drive to Main Street | 360 | 1,216 | 856 |
| Sheep Lane | SR-112 to Erda Way | 430 | 1,216 | 786 |
| Sheep Lane | Erda Way to SR-138 | 372 | 1,216 | 844 |
| Nygreen Street | Willow Street to Adams Avenue | 20 | 1,216 | 1,196 |

[1] *Based on data collected for the Grantsville TMP, 2022*

### *9.1.4 Demands of Future Development*

Travel resulting from new development in Grantsville City was estimated by comparing trips currently generated with anticipated trips generated at the end of the planning period. The demographics data provided in Section 2.7 of this plan provides estimated growth projections for the major categories of existing development and new development through the next 10 years. A trip generation value was calculated for each development type by using rates available in the ITE Trip Generation Manual (11th Edition), multiplied by the quantity of each development type. Table 9-3 includes the rates and units of measure for estimating the trips generated by developments. The various categories of developments shown were used to estimate existing and future travel demand in the City.

**Table 9-3: ITE Trip Generation Factors**

| No. | Description | Average Peak Hour Rate | Unit |
|---|---|---|---|
| 140 | Manufacturing | 0.74 | Trips per 1,000 SF |
| 150 | Warehousing | 0.18 | Trips per 1,000 SF |
| 210 | Single-Family Detached Housing | 0.99 | Trips per House |
| 220 | Multifamily Housing (Low-Rise) | 0.56 | Trips per Unit |
| 240 | Mobile Home Park | 0.46 | Trips per Home |
| 520 | Elementary School | 0.74 | Trips per Student |
| 522 | Middle/Jr High School | 0.67 | Trips per Student |
| 525 | High School | 0.52 | Trips per Student |
| 560 | Church | 0.49 | Trips per 1,000 SF |
| 822 | Strip Retail Plaza (<40k) | 6.59 | Trips per 1,000 SF |

*Source: ITE Trip Generation Manual, 11th Edition*

To estimate travel demand generated by schools, the number of students for each school was multiplied by the associated ITE factor to determine estimated trips. The total number of trips was divided by the total number of students to develop a weighted average of trips per student for the City (see Table 9-4).

**Table 9-4: Grantsville School Attendance**

| School | Students [1] | ITE Rate | Trips |
|---|---|---|---|
| Grantsville Elementary | 800 | 0.74 | 592 |
| Willow Elementary | 750 | 0.74 | 555 |
| Twenty Wells Elementary | 500 | 0.74 | 370 |
| Grantsville Junior High | 550 | 0.67 | 369 |
| Grantsville High | 1075 | 0.52 | 559 |
| **Total** | **3,675** | | **2,445** |
| | **Average Trips per Student:** | | **0.665** |

[1] *Values provided by Tooele School District*

Trips associated with future development only include trips that begin and/or end inside the City limits. Based on the geography and roadway network of Grantsville, pass-through traffic was assumed to be isolated to SR-138 (Main Street), SR-112, Mormon Trail Road, and Burmester Road. Trips on all other roadways were assumed to include an origin and/or destination within the City limits. To estimate trips within the City, all trips generated by residential units were counted. Trips generated by commercial developments were assumed to include 50% originating inside City limits and 50% outside City limits. Commercial development trips were reduced by 50% to avoid double-counting trips within the City. Trips for schools were reduced by 90% based on an assumption that the majority of students live within the City and many

teachers and other staff live outside the City. Calculations assumed that 90% of church attendees live within the City. Table 9-5 includes an estimate of existing and future peak hour trips that will be generated in the City. Single family, multi-unit, and trailer quantities are based on values provided in Section 2.7. Industrial/manufacturing, warehousing, retail, and church quantities were based on results from a Google Mapping and Street View survey conducted by Lochner. Growth rates for all types of development are based on data provided in Section 2.7.

**Table 9-5: Future Transportation Demands**

| Development Type | Peak Hour Trips Rate | Current (2023) | | | Future (2033) | | |
|---|---|---|---|---|---|---|---|
| | | Units | | Trips | Units | | Trips |
| Single Family | 0.99 | 4,274 | Dwelling Units | 4,231 | 6,963 | Dwelling Units | 6,893 |
| Multi-Unit | 0.56 | 291 | Dwelling Units | 163 | 477 | Dwelling Units | 267 |
| Trailer | 0.46 | 216 | Dwelling Units | 99 | 216 | Dwelling Units | 99 |
| Industrial / Manufacturing | 0.37 [1] | 607 | 1,000 SF Building | 224 | 988 | 1,000 SF Building | 366 |
| Warehousing | 0.09 [1] | 1,706 | 1,000 SF Building | 154 | 2,779 | 1,000 SF Building | 250 |
| Retail | 3.295 [1] | 221 | 1,000 SF Building | 729 | 360 | 1,000 SF Building | 1,187 |
| Church | 0.049 [2] | 297 | 1,000 SF Building | 15 | 484 | 1,000 SF Building | 24 |
| School | 0.0665 [2] | 3,675 | Students | 244 | 5,986 | Students | 398 |
| **Total** | | | | **5,859** | | | **9,484** |
| | | | | | | **Increase:** | **3,625** |

*[1] Rates reduced by 50% to estimate external City origin/destination trips.*
*[2] Rates reduced by 90% to estimate external City origin/destination trips.*

### *9.1.5 Proposed Projects*

The Grantsville TMP includes an analysis of future road conditions and a recommendation for future roadway projects to accommodate future travel demand at LOS D through the year 2031. Table 9-6 includes a list of these projects. This CFP/IFA document assumes no additional roadway improvements are needed from 2031 to 2033. Many of the projects will be funded by the Federal Government, the State of Utah, Grantsville, and private funding sources. Only projects or portions of projects funded by Grantsville City are eligible for funding through impact fees. Of the projects listed in Table 9-6, the City anticipates the following will be funded by the City and constructed by 2033:

- Nygreen Street (Section 2, Willow Street to Worthington Street)
- Nygreen Street (Section 3, Worthington Street to East of Gold Dust Road)
- Mathews Lane
- Worthington Street (Durfee Street to Nygreen Street)

- Sheep Lane
- Mack Canyon Road
- Cherry Street
- Durfee Street

**Table 9-6: Transportation Master Plan 2031 Capital Improvement Projects**

| Project No. | Project Name | Length (ft) | Collector/ Arterial | ROW Width | Project Cost | Funding Source |
|---|---|---|---|---|---|---|
| 1 | Northern Arterial (as collector) | 26,420 | Collector | 108 | $40,248,603 | Developers |
| 2 | Vegas Street | 4,350 | Collector | 90 | $6,130,736 | City |
| 3 | Race Street E/W | 9,110 | Collector | 90 | $12,839,312 | TBD |
| **4** | **Mack Canyon Road** | **1,320** | **Collector** | **90** | **$1,860,361** | **1/3 City, 2/3 Developers** |
| 5 | Main Street (SR-138) | 12,500 | Arterial | 106 | $18,551,803 | UDOT |
| 6 | Nygreen Street (Section 1) | 9,080 | Arterial | 108 | $13,445,667 | Developers |
| **7** | **Nygreen Street (Section 2)** | **4,390** | **Arterial** | **108** | **$6,500,713** | **City** |
| **8** | **Nygreen Street (Section 3)** | **2,870** | **Collector** | **90** | **$4,044,876** | **City/Developers [1]** |
| 9 | Cooley Street | 8,170 | Collector | 90 | $11,514,509 | TBD |
| 10 | Kearl Street | 1,550 | Collector | 90 | $2,184,515 | TBD |
| 11 | Race Street (N/S) | 5,490 | Collector | 90 | $7,737,412 | TBD |
| **12** | **Matthews Lane** | **2,730** | **Collector** | **73** | **$1,755,955** | **1/2 City, 1/2 Developers** |
| 13 | Southern Collector | 5,150 | Collector | 90 | $7,258,228 | Developers |
| **14** | **Worthington Street** | **4,990** | **Collector** | **90** | **$7,032,730 [2]** | **City** |
| 15 | SR-112 Extension | 13,490 | Collector | 108 | $20,550,857 | Developers |
| 16 | Lamb Lane | 5,360 | Collector | 90 | $7,554,194 | Developers |
| **17** | **Sheep Lane** | **12,680** | **Collector** | **90** | **$17,870,743** | **City** |
| **18** | **Cherry Street** | **2,440** | **Collector** | **66** | **$1,746,674** | **City** |
| **19** | **Durfee Street** | **1,360** | **Collector** | **90** | **$537,801** | **City** |
| **Total** | | | | | **$189,365,689** | |

*[1] It is anticipated the City will pay for the portion of the Nygreen Street (Section 3) project from Worthington Street to Saddle Road, and developers will pay for the remaining portion of the project.*

*[2] The City anticipates there will not be improvements on the portion of Worthington Street from Main Street to Durfee Street even though the TMP proposes improvements from Main Street to Nygreen Street, so the cost estimate was reduced from the $10,964,857 shown in the TMP.*

### *9.1.6 Methods of Financing*

The City uses a variety of funding sources to construct transportation infrastructure to meet the mobility needs of residents and businesses and to accommodate for future growth. SR-138

(Main Street) and SR-112 are State routes that provide regional mobility for motorists traveling to destinations in Grantsville and other locations in Tooele County and Utah. The State provides funding for these routes. The remainder of the public roadways in Grantsville are funded by the City using the following sources of revenue:

**Federal Funding**: The Federal-Aid Highway Program provides assistance to local public agencies for constructing specific transportation projects. These projects are administered by UDOT and included in the Surface Transportation Program (STP). They are generally prioritized for roadways with a functional class of “collector” or higher and include improvements in mobility, air quality, or safety.

**State Funding**: The Class B & C road funding program was established by the Utah Legislature in 1937 as a means of providing assistance to counties and incorporated municipalities for the improvement of local roads and streets throughout the state. These funds are subject to administrative direction by UDOT. During the State fiscal year 2023, Grantsville received $411,175.90 from this program. Similar to Federal programs, Utah also has funding sources for transportation projects that are prioritized throughout the State. These sources include the following: Joint Highway Committee, Safe Sidewalk Program, Transportation Alternatives Program, and Safe Routes to School Program.

**City Funding**: Grantsville could use a variety of revenue sources for transportation improvements including the following: private funding, general fund, general obligation bonds, special improvement districts, special assessment areas. The City has considered the available funding sources and will use the most applicable funds for each use.

**Impact Fees**: Impact fees are a common revenue stream used to assist in construction of infrastructure to accommodate growth within a city. Infrastructure constructed with impact fees would not be needed if there was no additional development within the City.

## 9.2 IMPACT FEE ANALYSIS

### *9.2.1 Existing Facilities*

As discussed in Section 9.1.3, the existing roadways in the City have excess capacity to serve future development. However, since there are no available records of the construction costs of these roadways, a buy-in cost can only be charged for the recent Nygreen Street paving project, as shown in Table 9-7. The proportionate share for this was calculated by dividing the increase in peak hour volume projected in the planning period by the total capacity of the road (LOS D flow rate).

**Table 9-7: Transportation Buy-In Cost**

| Project | Project Cost | Current (2023) PHV (Veh/Hr) [1] | Future (2033) PHV (Veh/Hr) [1] | PHV Increase (2023-2033) (Veh/Hr) | LOS D Flow Rate (Veh/Hr) | Proportionate Share | Buy-In Cost |
|---|---|---|---|---|---|---|---|
| Nygreen Street Paving | $451,359.70 | 20 | 1,017 | 997 | 1,216 | 81.99% | $370,070.41 |

[1] *Based on data collected for the Grantsville TMP, 2022*

### *9.2.2 System Improvements*

The transportation system improvement projects which will be funded by the City and are expected to be constructed by the end of the planning period were determined in Section 9.1.5. The proportionate share for each proposed project was calculated based on TMP analysis results estimating the current and future traffic volumes for each road. The estimated future (2033) peak hourly trips in excess of the existing road capacity was divided by the increase in road capacity due to the proposed project, as shown in Table 9-8.

**Table 9-8: Proposed Transportation Projects Proportionate Share**

| Project Name | Current (2023) Capacity (Veh/Hr) | Future (2033) | | Future (2033) PHV in Excess of Current (2023) Capacity (Veh/Hr) | Capacity Increase from Project (Veh/Hr) | Proportionate Share |
|---|---|---|---|---|---|---|
| | | PHV (Veh/Hr) | Capacity (Veh/Hr) | | | |
| Mack Canyon Road | 28 | 471 | 1,347 | 443 | 1,319 | 33.6% |
| Nygreen Street (Section 2) | 1,216 | 1,017 | 1,347 | -199 | 131 | 0.0% |
| Nygreen Street (Section 3) | 0 | 241 | 1,347 | 241 | 1,347 | 17.9% |
| Matthews Lane | 1,216 | 708 | 1,347 | -508 | 131 | 0.0% |
| Worthington Street | 1,216 | 778 | 1,347 | -438 | 131 | 0.0% |
| Sheep Lane | 1,216 | 1,252 | 1,347 | 36 | 131 | 27.5% |
| Cherry Street | 28 | 117 | 1,216 | 89 | 1,188 | 7.49% |
| Durfee Street | 1,216 | 1,158 | 1,347 | -58 | 131 | 0.0% |

There are four proposed projects (Nygreen Street Section 2, Matthews Lane, Worthington Street, and Durfee Street) with a proportionate share of 0% and are not eligible for impact fees because the estimated peak hourly volume at the end of the planning period does not exceed the current capacity of the road. For the remaining projects, the cost of each project which is attributed to new development in the planning period, and therefore eligible for impact fees, was calculated by multiplying the project cost by the proportionate share as shown in Table 9-9. The project costs included in this calculation are the costs anticipated to be funded by the City and do not include costs expected to be paid by developers (see Table 9-6 for this breakdown). In order to account for the time-price differential inherent with future costs, the current year cost estimates were inflated at a rate of 3.5% to the anticipated construction year.

**Table 9-9: Transportation Impact Fee Eligible Costs**

| Project | Construction Year | Current Year (2023) Cost Estimate | Construction Year Cost Estimate | Proportionate Share | Impact Fee Eligible Cost |
|---|---|---|---|---|---|
| Sheep Lane | 2024 | $17,870,743.00 | $18,496,219.01 | 27.5% | $5,082,930.41 |
| Nygreen Street (Section 3) | 2026 | $1,832,173.80 [1] | $2,031,363.84 | 17.9% | $363,443.72 |
| Mack Canyon Road | 2026 | $620,120.33 [1] | $687,538.50 | 33.6% | $230,917.02 |
| Cherry Street | 2027 | $1,746,674.00 | $2,004,348.59 | 7.49% | $150,157.43 |
| **Total** | | **$22,069,711.13** | **$23,219,469.93** | | **$5,827,448.58** |

*[1] The cost shown is for the portion of the project funded by the City, not the entire project cost.*

In addition to impact fee eligible project costs, planning costs can also be included in the calculation of impact fees. The cost for the current amendment to the transportation section of this CFP and IFA was $11,297. Due to the uncertainty that comes with long-term development projections, this plan is expected to be amended annually going forward. The cost for next year's amendment to the transportation section is anticipated to be $6,000. The future professional expenses expected to occur within the planning period were inflated at a 3.5% rate as shown in the following table.

**Table 9-10: Transportation Professional Expenses**

| Year | Cost |
|---|---|
| 2023 | $0.00 |
| 2024 | $11,927.00 |
| 2025 | $6,000.00 |
| 2026 | $6,210.00 |
| 2027 | $6,427.35 |
| 2028 | $6,652.31 |
| 2029 | $6,885.14 |
| 2030 | $7,126.12 |
| 2031 | $7,375.53 |
| 2032 | $7,633.68 |
| 2033 | $7,900.85 |
| **Total** | **$74,137.97** |

### *9.2.3 Methods of Financing*

The four transportation system improvements which are eligible for impact fees (Sheep Lane, Nygreen Street Section 3, Mack Canyon Road, and Cherry Street) are expected to be funded through a combination of impact fees and developer dedications. The City expects to finance the Sheep Lane project with a loan, which is necessary to prevent the impact fee fund balance from going negative (see Section 9.2.5). This loan was assumed to be a 30-year bond with a 4.0% interest rate, 1.5% cost of issuance, 0.5% bond insurance, and a $20,000 surety policy. The interest cost for this bond attributed to development within the planning period can be included in the impact fee calculation. Table 9-11 shows the details of this bond along with the impact fee eligible interest cost.

**Table 9-11: Transportation Future Debt Financing**

| Project | Proceeds | Par Amount [1] | Debt Service (Interest) | Debt Service (Principal + Interest) | Proportionate Share | Impact Fee Eligible Debt Service (Interest) |
|---|---|---|---|---|---|---|
| Sheep Lane | $18,496,219.01 | $18,886,143.39 | $13,879,482.94 | $32,765,626.33 | 27.5% | $3,814,209.05 |

[1] *Includes cost of issuance, bond insurance, and surety policy.*

### *9.2.4 Impact Fee Calculation*

Transportation impact fees were determined based on the increase in peak hour trips within the City over the planning period (see Table 9-5). Impact fees were calculated by dividing the impact fee eligible costs by this increase in peak hour trips as shown in the following table.

**Table 9-12: Transportation Impact Fee Calculation**

| Project | Impact Fee Eligible Cost | Planning Period (2023-2033) Peak Hour Trips | Cost per Peak Hour Trip |
|---|---|---|---|
| Buy-In Cost | $370,070.41 | 3,625 | $102.09 |
| Sheep Lane | $5,082,930.41 | 3,625 | $1,402.15 |
| Sheep Lane Debt Service (Interest) | $3,814,209.05 | 3,625 | $1,052.17 |
| Nygreen Street (Section 3) | $363,443.72 | 3,625 | $100.26 |
| Mack Canyon Road | $230,917.02 | 3,625 | $63.70 |
| Cherry Street | $150,157.43 | 3,625 | $41.42 |
| Professional Expenses | $74,137.97 | 3,625 | $20.45 |
| **Total** | | | **$2,782.24** |

The City charges impact fees for transportation based on development type. This was calculated by multiplying the cost per peak hour trip shown above by the peak hour trips rates discussed in Section 9.1.4.

**Table 9-13: Proposed Transportation Impact Fees**

| Development Type | Peak Hour Trips Rate | Impact Fee | Units |
|---|---|---|---|
| Single Family | 0.99 | $2,754.42 | per Dwelling Unit |
| Multi-Unit | 0.56 | $1,558.05 | per Dwelling Unit |
| Trailer | 0.46 | $1,279.83 | per Dwelling Unit |
| Industrial / Manufacturing | 0.37 | $1,029.43 | per 1,000 sf Building Area |
| Warehousing | 0.09 | $250.40 | per 1,000 sf Building Area |
| Retail | 3.295 | $9,167.48 | per 1,000 sf Building Area |
| Church | 0.049 | $136.33 | per 1,000 sf Building Area |
| School | 0.0665 | $185.07 | per Student |

### *9.2.5 Impact Fee Cashflow*

The anticipated impact fee revenues and expenses over the 10-year planning period are shown in Table 9-14. The expenses represent only what is attributable to planning period development and include capital project costs, the expenditure of buy-in costs, and proposed bond payments. The impact fee cashflow (Table 9-15) estimates the end of year impact fee fund balance throughout the planning period by comparing the impact fee revenues, total expenses, and interest income calculated at 5.44% of the fund balance.

### *9.2.6 Impact Fee Credits*

The City currently has procedures in place for credits, appeals, and exemptions of impact fees, refer to Appendix B for the City's current impact fee ordinance.

**Table 9-14: Transportation Impact Fee Revenues and Expenses**

| Year | Peak Hour Trips | Annual Peak Hour Trips Increase | Impact Fee Revenues | Impact Fee Eligible Project Costs | Bond Payments | Bond Proceeds | Buy-In Cost Expenses | Professional Expenses | Total Expenses |
|---|---|---|---|---|---|---|---|---|---|
| 2023 | 5,859 | - | - | - | - | - | - | - | - |
| 2024 | 6,148 | 289 | $802,787.51 | ($5,082,930.41) | - | $5,082,930.41 | ($29,455.86) | ($11,927.00) | ($41,382.86) |
| 2025 | 6,450 | 302 | $839,830.26 | - | ($300,143.14) | - | ($30,815.04) | ($6,000.00) | ($336,958.18) |
| 2026 | 6,767 | 318 | $884,414.82 | ($594,360.74) | ($300,143.14) | - | ($32,450.93) | ($6,210.00) | ($933,164.81) |
| 2027 | 7,101 | 333 | $926,743.63 | ($150,157.43) | ($300,143.14) | - | ($34,004.06) | ($6,427.35) | ($490,731.98) |
| 2028 | 7,451 | 350 | $975,104.89 | - | ($300,143.14) | - | ($35,778.53) | ($6,652.31) | ($342,573.98) |
| 2029 | 7,819 | 368 | $1,024,015.94 | - | ($300,143.14) | - | ($37,573.17) | ($6,885.14) | ($344,601.45) |
| 2030 | 8,205 | 386 | $1,073,504.27 | - | ($300,143.14) | - | ($39,389.00) | ($7,126.12) | ($346,658.26) |
| 2031 | 8,611 | 406 | $1,129,107.58 | - | ($300,143.14) | - | ($41,429.19) | ($7,375.53) | ($348,947.87) |
| 2032 | 9,037 | 426 | $1,185,347.33 | - | ($300,143.14) | - | ($43,492.74) | ($7,633.68) | ($351,269.56) |
| 2033 | 9,484 | 447 | $1,245,009.78 | - | ($300,143.14) | - | ($45,681.88) | ($7,900.85) | ($353,725.87) |
| **Total** | | **3,625** | **$10,085,866.02** | **($5,827,448.58)** | | | **($370,070.41)** | **($74,137.97)** | **($3,890,014.83)** |

**Table 9-15: Transportation Impact Fee Cashflow**

| Year | Impact Fee Revenues | Total Expenses | Interest Income | End of Year Balance |
|---|---|---|---|---|
| 2023 | - | - | - | $0.00 |
| 2024 | $802,787.51 | ($41,382.86) | - | $761,404.65 |
| 2025 | $839,830.26 | ($336,958.18) | $41,420.41 | $1,305,697.14 |
| 2026 | $884,414.82 | ($933,164.81) | $71,029.92 | $1,327,977.06 |
| 2027 | $926,743.63 | ($490,731.98) | $72,241.95 | $1,836,230.67 |
| 2028 | $975,104.89 | ($342,573.98) | $99,890.95 | $2,568,652.53 |
| 2029 | $1,024,015.94 | ($344,601.45) | $139,734.70 | $3,387,801.72 |
| 2030 | $1,073,504.27 | ($346,658.26) | $184,296.41 | $4,298,944.15 |
| 2031 | $1,129,107.58 | ($348,947.87) | $233,862.56 | $5,312,966.42 |
| 2032 | $1,185,347.33 | ($351,269.56) | $289,025.37 | $6,436,069.57 |
| 2033 | $1,245,009.78 | ($353,725.87) | $350,122.18 | $7,677,475.66 |

# Appendix A: References


1. Impact Fees Act. Title 11, Chapter 36a, Utah State Code
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7. Grantsville City, Utah - Culinary Water and Wastewater Systems Master Plan. AQUA Engineering, dated June 2005.
8. Capital Facilities Plan and Impact Fee Analysis Grantsville City Revision. AQUA Engineering, dated August 2016.
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25. Trip Generation Manual, 11th Edition. Institute of Transportation Engineers dated September 2021.
26. Grantsville City FEMA BRIC Flood Protection Scoping Study. Jones & DeMille Engineering dated February 6, 2024.
27. West Bank & Northwest Area Master Development Plan & Capital Facilities Plan. PSOMAS, Wall Consultant Group, and Jones & DeMille Engineering dated July 2024.

# Appendix B: Grantsville City Current Impact Fee Ordinance

**Title 13 Impact Fees**
Chapter 13-1 General Provisions

**Chapter 13-1 General Provisions**
13-1-1 Definitions
13-1-2 Collection Procedures Exemptions
13-1-3 Accounting
13-1-4 Refunds – Credits – Challenges – Appeals
13-1-5 Parks and Recreation Facilities Impact Fee
13-1-6 Public Safety (Fire and Police) Capital Facilities Impact Fees
13-1-7 Culinary Water Capital Facilities Impact Fee
13-1-8 Water Rights Acquisition Impact Fee
13-1-9 Wastewater Capital Facilities Impact Fee
(Adopted by ordinance 2017-10, effective July 11, 2017)

**13-1-1 Definitions**

A. The definitions referred to in Utah Code Annotated § 11-36a-102, 2014 as amended, shall apply to the terms used in this chapter. (Adopted 07-16-1997 by Ord. No. 97-28; amended 10-15-1997 by Ord. No. 97-33, included unrevised in Ord. No. 2006-01 on 02-1-06.)
B. The term "Service Area" as used in this chapter and the area of Grantsville City, which will be served by the impact fees imposed by this chapter, shall constitute the entire corporate boundaries of Grantsville City, Tooele County, Utah unless otherwise indicated. (Adopted 07-16-1997 by Ord. No. 97-28; amended 10-15-1997 by Ord. No. 97-33.)
C. Equivalent Residential Connection (ERC) for the purposes of Section 30-1-7 (Culinary Water Capital Facilities Impact Fee) of this Chapter is defined as the storage and distribution requirement that will allow a peak usage of 900 gallons of water per day with an average flow of 475 gallons of water per day per connection for each single family dwelling unit. The Culinary Water Capital Facilities impact fee for nonresidential development shall be calculated by estimating the water service demands of the use and then converting it to an ERC, which shall then be multiplied by the impact fee specified in Section 30-1-7 herein for each ERC. Equivalent Residential Connection may also be specified as an equivalent residential user/unit or ERU. (Adopted 10-15-1997 by Ord. No. 97-33, amended on 02-1-06 by Ord. No. 2006-01)
D. Equivalent Residential Connection (ERC) for the purposes of Section 30-1-8 (Water Source Impact Fee) shall be calculated as follows: The water right required for indoor use is based upon two criteria; a) that the water right will allow the extraction of 800 gallons per day per connection, and b) that the yearly extraction be sufficient to provide 0.45 acre-feet per connection. The indoor water source (rights) acquisition impact fee for nonresidential development shall be calculated by estimating the indoor water service demands of the use and then converting it to an ERC, which shall then be multiplied by the impact fee specified in Section 30-1-8 herein for each ERC. No development, however, shall pay a water source impact fee of less than required for one ERC. The ERC for outdoor water use is based on .12 irrigated acres per ERC, 3.96 gallons per irrigated acre (.0099 cfs/acre) and 3.0 acre feet of water rights for each irrigated acre. Equivalent Residential Connection may also be specified as an equivalent residential user/unit or ERU. (Subsection (D) adopted 02-1-06 by Ord. No. 2006-01)
E. Equivalent Residential Connection (ERC) for the purposes of Section 30-1-9 (Wastewater Capital facilities Impact Fee) of this Chapter is defined as 280 gallons of wastewater per day. The wastewater impact fee for a nonresidential development shall be calculated by estimating the wastewater flow per day and then converting it to an ERC, which shall then be multiplied by the impact fee specified in Section 30-1-9 herein for each ERC. Equivalent Residential Connection may also be specified as an equivalent residential user/unit or ERU. (Subsection (E) adopted 02-1-06 by Ord. No. 2006-01)

**13-1-2 Collection Procedures-Exemptions**
After the effective date of this Ordinance, no application for a building permit as set forth herein, shall be approved by Grantsville City unless the applicable impact fee has been paid or is adjusted or waived by the City Council.

The impact fees imposed by this Ordinance shall not apply to the following development activities:

A. Residential development activities that do not increase the number of residential dwelling units.
B. Nonresidential development activities that do not increase the total square footage in an existing nonresidential development.
C. Proposed development for which a building permit has been issued prior to the effective date of the enactment of an impact fee.
D. Any new subdivision or planned unit development(except minor subdivisions or small planned unit developments of six or less lots), shall be required to provide, prior to final approval, sufficient water rights to the City or dedicated private water resources to provide for all of the indoor and outdoor water uses required for the development.
E. Low income housing and other development activities with broad public purposes may be exempted from the payment of impact fees by the City Council. Low income housing shall be defined by the regulations adopted or used by the Tooele County Housing Authority.

(Originally adopted 07-16-1997 by Ord. No. 97-28; Subsection (D) was added by Ord. No. 99-13 on 04-21-1999; Subsection (E) was added by Ord. No. 2002-1 on 01-09-2002.)

**13-1-3 Accounting**

The City Treasurer shall establish separate interest-bearing ledger accounts for each type of public facility for which an impact fee is collected. The City shall also deposit impact fee receipts in the appropriate ledger account and retain the interest earned on each fund or account in the fund. The City Treasurer shall, at the end of each fiscal year prepare and submit a report to the City Council on each fund or account showing the source and amount of all monies collected, earned or received by the fund or account and each expenditure from the fund or account including other expenditures to support this impact fee process.

(Adopted on 07-16-1997 by Ord. No.97-28, included unrevised in Ord. No.99-13, adopted 4-21-1999.)

**13-1-4 Refunds - Credits - Challenges - Appeals**

A. Refunds. The City shall refund any impact fee paid by a developer, plus interest earned when:
    1. The developer does not proceed with the development activity and has filed a written request for a refund; or
    2. The fees have not been timely spent or encumbered as required by law; or
    3. No impact has resulted.
B. Credits. Credits against the amount of an impact fee due from a proposed development may be provided for by the dedication of land or the provision of City resources or facilities by an applicant when such land, facilities or resources are determined to provide additional City facilities or resource capacity to meet the demand generated by the development and when either:
    1. Costs. The costs of such land, facilities or resources have been included in the City impact fee calculation methodology or the land dedicated or facilities provided is determined by the City Council to be a reasonable substitute for the cost of facilities or resources which are included in the City's impact fee calculation methodology. Applications for a credit will be made to the City and will be submitted at or before the time when the impact fee is due. The application for a credit will be accompanied by relevant documentary evidence indicating the eligibility of the applicant for the credit. The City Recorder will present an application for any credit to the City Council, accompanied by a recommendation by the Mayor. Any credit determined appropriate by the City Council shall be applied against the impact fee calculated to be due; provided, however, that in no event shall a credit be granted in an amount exceeding the impact fee due.
    2. Unusual Circumstances. The City Council may adjust the impact fee at the time the fee is charged, to respond to unusual circumstances in specific cases and ensure that the impact fees are imposed fairly. The City Council may also adjust an impact fee based upon studies and data submitted by a developer.
C. Challenges. Any person claiming that the impact fee required by this ordinance has no reasonable relationship to the needs created by or benefits conferred upon the proposed development and does not demonstrably benefit the new development or is otherwise constitutionally invalid or unlawful pursuant to the standards of applicable case law or statutes then in effect, must file a written challenge with the City Recorder in order to obtain a final determination regarding the application of the impact fee to the development by the City

Council, which may include a request for a credit against the impact fees paid. Such a determination shall be a necessary prerequisite before filing any legal challenge to the basis of or the amount of the impact fee in question. Any challenge to an impact fee must be filed within 30 days after paying an impact fee. The City Council shall make its decision no later than 30 days after the date the challenge to the impact fee is filed.

D. Arbitration. In addition to the procedure under the foregoing paragraph to challenge an impact fee, a person or entity may submit an impact fee challenge to arbitration, if the person or entity resides in or owns property within the impact fee service area or is an organization, association, or corporation representing the interests of a person or entity owning property within the impact fee service area and files a written request for arbitration with the Grantsville City Council within 30 days after the day the impact fee is paid. If a person or entity files a written request for arbitration an arbitrator or arbitration panel shall be selected as follows:
    1. the City Council and the person or entity filing the request may agree on a single arbitrator within ten days after the day the request for arbitration is filed; or
    2. if a single arbitrator is not agreed to, an arbitration panel shall be created with the following members:
        a. each party shall select an arbitrator within 20 days after the date the request is filed; and
        b. the arbitrators selected by each party shall select a third arbitrator.
    3. The arbitration panel shall hold a hearing on the challenge within 30 days after the date the single arbitrator is agreed upon or within 30 days after the two arbitrators are selected. The arbitrator or arbitration panel shall issue a decision in writing within ten days from the date the hearing is completed. Except as provided in this section, each arbitration shall be governed by Utah Code Ann. Title 78B, Chapter 11, Utah Uniform Arbitration Act. The parties may agree to binding arbitration, formal, nonbinding arbitration or informal, nonbinding arbitration. If the parties agree in writing to binding arbitration, the arbitration shall be binding, the decision of the arbitration panel shall be final, neither party may appeal the decision of the arbitration panel and notwithstanding Subsection (C) above, the person or entity challenging the impact fee may not file an action under Subsection (C) or Utah Code Ann. §11-36a-701, et al. If the parties agree to formal, nonbinding arbitration, the arbitration shall be governed by the provisions of Utah Code Ann. Title 63G, Chapter 4, Administrative Procedures Act. For purposes of applying Utah Code Ann. Title 63G, Chapter 4, Administrative Procedures Act, to a formal, nonbinding arbitration under this section, notwithstanding Utah Code Ann. §63G-4-502, "agency" means a local political subdivision. An appeal from a decision in an informal, nonbinding arbitration may be filed with the district court in which Grantsville City is located. Each authorized appeal to the district court shall be filed within 30 days after the date the arbitration panel issues a decision. The district court shall consider de novo each appeal filed from an informal, nonbinding arbitration filed under this subsection. A person or entity that files an appeal to the district court after an informal nonbinding arbitration decision under this subsection may not file an action under Subsection (C) of this provision or Utah Code Ann. §11-36a-701, et al. The filing of a valid written request for arbitration within 30 days after the date the impact fee is paid tolls all time limitations under Utah Code Ann. §11-36a-701, et al. until the date the arbitration panel issues a decision. The person or entity filing a request for arbitration and Grantsville City shall equally share all costs of an arbitration proceeding under this section. Except as provided for herein, this subsection shall not be construed to prohibit a person or entity from challenging an impact fee as provided in Subsection (C) or Utah Code Ann. §11-36a-701, et al.

E. Oversized Water Services - No Appeal Allowed. If the developer or owner of property knowingly requests or installs a water service, at its option, that is larger than is required by this Chapter or any other part of this Code, the impact fees associated with the requested service size, shall be charged and collected by the City. No credit, challenge, appeal or arbitration related to the impact or other fees knowingly paid for an oversized service, shall be allowed under this Chapter, after the impact fee has been paid to the City. If an oversized water service has been installed and the impact fee for the same has not been paid, the developer or owner may replace the oversized service, with a properly sized service, provided the City is paid for its costs to inspect the new installation. (Adopted 02-04-2009 by Ord. 2009-03).

(Section 30-1-4 originally adopted on 02-05-1997, amended and renumbered on 07-16-1997 by Ord. No.97-28, amended 04-21-99 by Ord. No. 99-13.)

**13-1-5 Parks And Recreation Facilities Impact Fee**

As a condition for the issuance of a building permit for the new construction or placement of any structure for a single or multi-family dwelling within Grantsville City's Boundaries, the developer, owner or builder shall pay an impact fee of $936.00 for each single family dwelling unit and $936.00 for each individual dwelling unit in a multi-family dwelling. The City council may adjust the standard impact fee at the time of the fee is charged to respond to unusual circumstances in specific cases and ensure that the impact fees are imposed fairly.

(Originally adopted on 02-05-1997 by Ord. No. 97-5, included unrevised and renumbered in Ord. No. 99-13 adopted 04-21-99)

**13-1-6 Public Safety (Fire And Police) Capital Facilities Impact Fees**

As a condition for the issuance of a building permit for the new construction or placement of any structure for a single or multi-family dwelling within Grantsville City's Boundaries, the developer, owner or builder shall pay a public safety (fire and police) capital facilities impact fee of $1235.00 for each single-family dwelling unit and $417.00 per unit for each individual dwelling unit in a multi-family dwelling. Prior to the issuance of a building permit for any nonresidential development activity within the District's boundaries, the developer, owner or builder thereof, shall pay a public safety facilities impact fee of $0.52 per square feet for each square foot of said nonresidential development. The City Council may adjust the standard impact fee at the time the fee is charged to respond to unusual circumstances in specific cases and ensure that the impact fees are imposed fairly. The City Treasurer shall deposit 67% of all Public Safety Impact Fees collected pursuant to this Section into a separate interest-bearing ledger account for fire department capital facilities and 33% of said fees into a separate interest-bearing ledger account for police department capital facilities.

(Adopted 07-16-1997 by Ord.No.97-28, amended 07-08-1998 by Ord. No. 98-17, included unrevised in Ord. No. 99-13 adopted 04-21-99).

**13-1-7 Culinary Water Capital Facilities Impact Fee**

As a condition for the issuance of a building permit or as a condition of obtaining culinary water service for any new residential construction or development within Grantsville City's boundaries that requires a new or expanded culinary water service, the developer, owner or builder shall pay a culinary water (source development, storage and distribution) capital facilities impact fee based upon the size of the culinary water service meter connection necessary for the development as follows:

| Meter Size in Inches | Max Flow Rate (GPM) | ERC's | Impact Fee per Meter Size |
|---|---|---|---|
| 3/4" | 25 | 1.00 | $2,545.00 |
| 1" | 40 | 1.60 | $4,072.00 |
| 1 1/2" | 50 | 2.00 | $5,090.00 |
| 2" | 100 | 4.00 | $10,180.00 |
| 3" | 150 | 6.00 | $15,270.00 |
| 4" | 200 | 8.00 | $20,360.00 |
| 6" | 500 | 20.00 | $50,900.00 |

As a condition for the issuance of a building permit or as a condition of obtaining culinary water service for any new residential construction or development or any other activity within Grantsville City's boundaries that requires a new or expanded culinary water service, the developer, owner or builder shall pay a culinary water (source development,

storage and distribution) capital facilities impact fee based upon the number of fixture units for indoor water use or the number of fixture units per acre for outdoor water use as follows:

Non-Residential(Indoor Use) $127.00 per fixture unit
Non-Residential (Outdoor Use) $73.00 per fixture unit per acre

The City council may adjust the standard water capital facilities impact fee at the time of the fee is charged, to respond to unusual circumstances in specific cases and ensure that the impact fees are imposed fairly. (Originally adopted 07-16-1997 by Ord. No. 97-28, amended 04-21-1999 by Ord. No. 99-13; amended 02-1-06 by Ord. No. 2006-01)

**13-1-8 Water Rights Acquisition Impact Fee**

A. As a condition for the issuance of a building permit or as a condition of obtaining culinary water service for any new residential or commercial construction or development or any other activity within Grantsville City's boundaries that requires culinary water for indoor or outdoor use or a new or expanded culinary water service, the developer, owner or builder, when required by this ordinance, shall pay an indoor and outdoor culinary water right acquisition impact fee for the development as follows:
    1. Indoor Use Impact Fee: $1,260.00 per Equivalent Residential Connection (ERC). (.45 acre-feet x $2,800.00 per acre foot of water)
    2. Outdoor Use Impact Fee: The typical outdoor use impact fee for developed property including residential lots shall be calculated by multiplying the irrigated acreage of each lot by 3.0 (which is the required acre feet of water rights per irrigated acre) and then multiplying the resulting acre feet of required water for the lot by $2,800.00.

       Irrigated acreage for residential lots of up to and including one acre in size shall be determined by multiplying the total acreage of the lot by 64%. No additional outdoor use impact fee shall be charged for residential lots over one acre in size and therefore the outdoor use impact fee is capped at $6,118.56 for residential lots of one acre in size or larger.

       Example One: A residential lot of 7000 total square feet = .16 acres x .64 irrigated area of .1028 acre x 3.0 = .3085 acre feet of water x $2,800 = $863.91 as the outdoor use impact fee.

       Example Two: A lot of 21,780 total square feet = .5 acres x .64 = irrigated area of .32 acre x 3.0 = .96 acre

       feet of water x $2,800 = $2,688.00 as the outdoor use impact fee.

       (Adopted 04-21-1999 by Ord. No. 99-13; amended 12-19-2001 by Ord. No. 2001-19).

B. The City Council may adjust the standard culinary water acquisition impact fee at the time the fee is charged to respond to unusual circumstances for specific cases and to ensure that the impact fees are imposed fairly. Developments that provide a permanent secondary water source (non-culinary waterworks sources) for outdoor use on the property may petition the City Council for a waiver of the Outdoor Use Impact Fee, which may be granted, provided that said water right can be verified as supplying adequate water for outdoor purposes on the property and adequate assurance is given that no Grantsville City culinary water will be used for outdoor purposes on the property in perpetuity. Adequate assurance for purposes of the waiver shall be by transfer to the City of water rights or shares to be held by the City for future use on the property or within the City. Assessments or similar usage charges paid by the City to the provider of secondary water may be collected by the City from the owner or tenant of the property in connection with the City's billing for culinary water. (Adopted 04-21-1999 by Ord. No. 99-03; amended 12-03-2003 by Ord. 2003-29).

   All charges provided for hereunder shall be charged with the sewer and culinary water fees and shall constitute one charge. If any part of the account for either the secondary water assessment or the City sewer or culinary water charges becomes delinquent, as in this Code provided, the City shall discontinue the water service until all delinquencies have been paid in full, including the reconnection fee. (Included 03-02-

2005 by Ord. No.2005-04)

C. (Subsection (C) was repealed on October 17, 2007 by Ord. No. 2007-36)
D. Any new subdivision or planned unit development (except minor subdivisions and small planned unit developments), shall be required to provide, prior to final approval, sufficient water rights to the City or dedicated private water resources to provide for all of the indoor and outdoor water uses required for the development. Unless otherwise provided for, the impact fees specified in this Section shall apply to all development in subdivisions and planned unit developments initiated prior to April 23, 1999 and shall be collected as provided in subsection (A) above. (Adopted 04-21-1999 by Ord. No. 99-13; amended 12-19-2001 by Ord. No.2001-19).
E. The Outdoor Use Impact fee is based upon a typical irrigated residential lot or development as defined above. The Outdoor use Impact fee for residential lots up to one acre in size shall be strictly applied without regard to claims of restricted irrigation areas, since these claims can rarely be verified or enforced. The water rights acquisition fee for industrial or commercial purposes shall be based upon an estimate of the indoor and outdoor water usage specified for the project, but shall in no event be less than the minimum impact fee specified above. (Adopted 04-21-1999 by Ord. No. 99-13; amended 12-19-2001 by Ord. No. 2001-19)
F. No owner or possessor of real property within Grantsville City has the right to use City culinary water for outdoor use (irrigation) on more than the irrigated acreage as defined in subsection (A) above or in the development plan as otherwise approved by the City. Owners or possessors of such real property, who do not have access to non-city secondary water, may at their option irrigate more than the specified irrigated acreage of their property or lot with City culinary water until such time as the City determines by a formally adopted Resolution that its culinary water supply is insufficient to continue to allow such irrigation. Any such Resolution may temporarily terminate the use of culinary water on more than the allowed irrigated acreage until the water shortage abates or the Resolution may permanently terminate such use. Any person who irrigates more of their property than the allowed irrigated acreage as defined herein, after a Resolution prohibiting said use is adopted, shall be guilty of guilty of a Class “C” Misdemeanor. Nothing contained in this Section shall prohibit the City from otherwise limiting the outside use of culinary water in times of emergency or shortage. (Adopted 12-19-2001 by Ord. No.2001-19)

**13-1-9 Wastewater Capital Facilities Impact Fee**

As a condition for the issuance of a building permit or as a condition of obtaining wastewater (sewer) service for any new residential construction or development within Grantsville City’s boundaries that requires a new or expanded wastewater service, the developer, owner or builder shall pay a wastewater capital facilities impact fee based upon the size of the wastewater service meter connection necessary for the development as follows:

| Meter Size In | (GPM) | (ERC's) | Impact Fee Meter Size |
|---|---|---|---|
| 3/4" | 20 | 1.00 | $3,257.00 |
| 1" | 38 | 1.90 | $6,188.30 |
| 1 1/2" | 48 | 2.38 | $7,751.66 |
| 2" | 95 | 4.75 | $14,884.49 |
| 3" | 143 | 7.13 | $23,222.41 |
| 4" | 190 | 9.50 | $30,941.50 |

| | | | |
|---|---|---|---|
| 6" | 475 | 23.75 | $77,353.75 |

As a condition for the issuance of a building permit or as a condition of obtaining wastewater (sewer) service for any new commercial construction or development or any other activity within Grantsville City's boundaries that requires a new or expanded wastewater service, the developer, owner or builder shall pay a wastewater capital facilities impact fee based upon the number of fixture units necessary for the development as follows:

Non-Residential Wastewater $162.00 per fixture unit

(Originally adopted 7-16-1997 by Ord. No. 97-28, amended and renumbered on 04-21-1999 by Ord. No. 99-13; amended 02-01-2006 by Ord. No. 2006-01).

# Appendix C: Demographic Calculations

# ERC per Unit Calculation

| Service Connection Type | Average Units | Monthly Average Water Use (gal) | Water Use (gal) per Unit | Water Use (gal) per ERC | ERC per Unit |
|---|---|---|---|---|---|
| Residential | 3,647 | 34,435,000 | 9,443 | 9,443 | **1.00** |
| Multi-Unit | 264 | 1,372,579 | 5,194 | | **0.55** |
| Other Residential | 226 | 2,411,368 | 10,690 | | **1.13** |
| Commercial | 136 | 10,156,947 | 74,741 | | **7.92** |
| Church | 11 | 959,053 | 87,606 | | **9.28** |
| School | 11 | 539,632 | 49,293 | | **5.22** |
| Construction Water | 21 | 947,474 | 45,575 | | **4.83** |
| City Rate | 32 | 2,558,083 | 81,209 | | **8.60** |

Note: ERC per unit calculation was compelted for 2022 CFP, IFFP, and IFA Updates. The ERC per unit has not been updated for the 2024 CFP, IFFP, and IFA Amendments.

# Appendix D: Drinking Water Cost Estimates

# ENGINEERS ESTIMATE OF PROBABLE COSTS

These costs are opinions only and should not be considered as a formal construction estimate. These quantites and costs are based on information derived from the master plan and are therefore subject to change. Ensign has no control over costs of labor, materials, bidding procedures, unidentified field conditions, or other factors. Ensign cannot and does not make any warranty, promise, or guarantee as to the accuracy of this estimate.

ENSIGN
THE STANDARD IN ENGINEERING

Project: Grantsville City CFP, IFFP, and IFA
By: Matthew Sanford
Date: 7/12/2024

Project No.: 10766D
Checked By: Robert Rousselle

| ITEM | DESCRIPTION | UNIT | QUANTITY | UNIT COST [1] | COST |
|---|---|---|---|---|---|
| **Southwest Well No. 1** | | | | | |
| 1 | Well Flush Line | LS | 1 | $50,000.00 | $50,000.00 |
| 2 | Exploratory and Municipal Production Well Drilling and Completion | LF | 600 | $2,300.00 | $1,380,000.00 |
| 3 | Municipal Well Equipment, Connection to Existing Infrastructure, and Modification to Electrical/Controls | LS | 1 | $860,000.00 | $860,000.00 |
| 4 | Mobilization | LS | 1 | $17,000.00 | $17,000.00 |
| 5 | Furnish and Install 12-inch Water Main Including Fittings and Appurtenances | LF | 3,110 | $80.00 | $248,800.00 |
| 6 | Furnish and Install 12-inch Isolation Valve | EA | 2 | $2,200.00 | $4,400.00 |
| 7 | Furnish and Install 12-inch Tee and (3) 12-inch Butterfly Valves, Including Fittings and Appurtenances | EA | 1 | $12,000.00 | $12,000.00 |
| 8 | Furnish and Install 2-inch Combination Air Vac Valve | EA | 1 | $12,000.00 | $12,000.00 |
| 9 | Disinfection and Testing Water Line | LF | 3,110 | $0.50 | $1,555.00 |
| 10 | Revegetation | SF | 124,400 | $0.05 | $6,220.00 |
| 11 | Easement Acquisition | AC | 1.43 | $45,000.00 | $64,256.20 |
| | | | | **Subtotal** | **$2,656,231.20** |
| | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | | | | $265,623.12 |
| | | | | **Total Southwest Well No. 1 Cost** | **$2,921,854.32** |
| **Southwest Well No. 2** | | | | | |
| 1 | Well Flush Line | LS | 1 | $50,000.00 | $50,000.00 |
| 2 | Exploratory and Municipal Production Well Drilling and Completion | LF | 600 | $2,300.00 | $1,380,000.00 |
| 3 | Municipal Well Equipment, Connection to Existing Infrastructure, and Modification to Electrical/Controls | LS | 1 | $860,000.00 | $860,000.00 |
| 4 | Mobilization | LS | 1 | $15,000.00 | $15,000.00 |
| 5 | Furnish and Install 10-inch Water Main Including Fittings and Appurtenances | LF | 220 | $70.00 | $15,400.00 |
| 6 | Furnish and Install 12-inch Water Main Including Fittings and Appurtenances | LF | 2,410 | $80.00 | $192,800.00 |
| 7 | Furnish and Install 12-inch Isolation Valve | EA | 2 | $2,200.00 | $4,400.00 |
| 8 | Furnish and Install 12-inch x 10-inch Tee, (2) 12-inch Butterfly Valves, and (1) 10-inch Butterfly Valve, Including Fittings and Appurtenances | EA | 1 | $12,000.00 | $12,000.00 |
| 9 | Furnish and Install 2-inch Combination Air Vac Valve | EA | 1 | $12,000.00 | $12,000.00 |
| 10 | Disinfection and Testing Water Line | LF | 2,630 | $0.50 | $1,315.00 |
| 11 | Revegetation | SF | 105,200 | $0.05 | $5,260.00 |
| 12 | Easement Acquisition | AC | 1.21 | $45,000.00 | $54,338.84 |
| | | | | **Subtotal** | **$2,602,513.84** |
| | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | | | | $260,251.38 |
| | | | | **Total Southwest Well No. 2 Cost** | **$2,862,765.23** |
| **West Bank Well No. 1** | | | | | |
| 1 | Well Flush Line | LS | 1 | $50,000.00 | $50,000.00 |
| 2 | Exploratory and Municipal Production Well Drilling and Completion | LF | 600 | $2,300.00 | $1,380,000.00 |
| 3 | Municipal Well Equipment, Connection to Existing Infrastructure, and Modification to Electrical/Controls | LS | 1 | $860,000.00 | $860,000.00 |
| 4 | Mobilization | LS | 1 | $16,000.00 | $16,000.00 |
| 5 | Furnish and Install 12-inch Water Main Including Fittings and Appurtenances | LF | 2,930 | $80.00 | $234,400.00 |
| 6 | Furnish and Install 12-inch Isolation Valve | EA | 2 | $2,200.00 | $4,400.00 |
| 7 | Furnish and Install 2-inch Combination Air Vac Valve | EA | 1 | $12,000.00 | $12,000.00 |
| 8 | Disinfection and Testing Water Line | LF | 2,930 | $0.50 | $1,465.00 |
| 9 | Revegetation | SF | 117,200 | $0.05 | $5,860.00 |
| 10 | Easement Acquisition | AC | 1.35 | $45,000.00 | $60,537.19 |
| | | | | **Subtotal** | **$2,624,662.19** |
| | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | | | | $262,466.22 |
| | | | | **Total West Bank Well No. 1 Cost** | **$2,887,128.41** |
| **Southwest Tank No. 1** | | | | | |
| 1 | Mobilization | LS | 1 | $171,000.00 | $171,000.00 |
| 2 | Site Clearing and Grubbing | LS | 1 | $21,000.00 | $21,000.00 |
| 3 | Earthwork / Fine Grading | CY | 10,000 | $11.00 | $110,000.00 |
| 4 | Construct 2.0 M.G. Buried Tank | LS | 1 | $3,000,000.00 | $3,000,000.00 |
| 5 | Furnish and Install Tank Valve Vault | LS | 1 | $125,000.00 | $125,000.00 |
| 6 | Electrical and Telemetry | LS | 1 | $120,000.00 | $120,000.00 |
| 7 | Disinfection and Testing Tank | LS | 1 | $20,000.00 | $20,000.00 |
| 8 | Revegetation | LS | 1 | $30,000.00 | $30,000.00 |
| | | | | **Subtotal** | **$3,597,000.00** |
| | Engineering, Surveying, and Construction Management and Inspection Costs (6.73%) | | | | $242,078.10 |
| | | | | **Total Southwest Tank No. 1 Cost** | **$3,839,078.10** |
| **Southwest Tank No. 2** | | | | | |
| 1 | Mobilization | LS | 1 | $169,000.00 | $169,000.00 |
| 2 | Site Clearing and Grubbing | LS | 1 | $16,000.00 | $16,000.00 |
| 3 | Earthwork / Fine Grading | CY | 7,500 | $11.00 | $82,500.00 |
| 4 | Construct 1.5 M.G. Buried Tank | LS | 1 | $2,250,000.00 | $2,250,000.00 |
| 5 | Furnish and Install Tank Valve Vault | LS | 1 | $125,000.00 | $125,000.00 |
| 6 | Electrical and Telemetry | LS | 1 | $120,000.00 | $120,000.00 |
| 7 | Disinfection and Testing Tank | LS | 1 | $20,000.00 | $20,000.00 |
| 8 | Revegetation | LS | 1 | $30,000.00 | $30,000.00 |
| 9 | Furnish and Install 16-inch Water Main Including Fittings and Appurtenances | LF | 3,580 | $110.00 | $393,800.00 |
| 10 | Furnish and Install 12-inch Water Main Including Fittings and Appurtenances | LF | 1,090 | $80.00 | $87,200.00 |
| 11 | Furnish and Install 16-inch Isolation Valve | EA | 3 | $4,300.00 | $12,900.00 |
| 12 | Furnish and Install 12-inch Isolation Valve | EA | 1 | $2,200.00 | $2,200.00 |
| 13 | Furnish and Install 16-inch x 12-inch Tee, (2) 16-inch Butterfly Valves, and (1) 12-inch Butterfly Valve, Including Fittings and Appurtenances | EA | 1 | $19,000.00 | $19,000.00 |
| 14 | Furnish and Install 4-inch Combination Air Vac Valve | EA | 1 | $16,000.00 | $16,000.00 |
| 15 | Furnish and Install 10-inch PRV Station | EA | 1 | $100,000.00 | $100,000.00 |
| 16 | Disinfection and Testing Water Line | LF | 4,670 | $0.50 | $2,335.00 |
| 17 | Easement Acquisition | AC | 2.14 | $45,000.00 | $96,487.60 |
| | | | | **Subtotal** | **$3,542,422.60** |
| | Engineering, Surveying, and Construction Management and Inspection Costs (6.73%) | | | | $238,405.04 |
| | | | | **Total Southwest Tank No. 2 Cost** | **$3,780,827.64** |
| **West Bank Tank No. 1** | | | | | |
| 1 | Mobilization | LS | 1 | $274,000.00 | $274,000.00 |
| 2 | Site Clearing and Grubbing | LS | 1 | $16,000.00 | $16,000.00 |
| 3 | Earthwork / Fine Grading | CY | 7,500 | $11.00 | $82,500.00 |

| | | | | | |
|---|---|---|---|---|---|
| 4 | Construct 1.5 M.G. Buried Tank | LS | 1 | $2,250,000.00 | $2,250,000.00 |
| 5 | Furnish and Install Tank Valve Vault | LS | 1 | $125,000.00 | $125,000.00 |
| 6 | Electrical and Telemetry | LS | 1 | $120,000.00 | $120,000.00 |
| 7 | Disinfection and Testing Tank | LS | 1 | $20,000.00 | $20,000.00 |
| 8 | Revegetation | LS | 1 | $30,000.00 | $30,000.00 |
| 9 | Furnish and Install 20-inch Water Main Including Fittings and Appurtenances | LF | 10,650 | $195.00 | $2,076,750.00 |
| 11 | Furnish and Install 20-inch Isolation Valve | EA | 8 | $7,500.00 | $60,000.00 |
| 14 | Furnish and Install 4-inch Combination Air Vac Valve | EA | 4 | $16,000.00 | $64,000.00 |
| 15 | Furnish and Install 16-inch PRV Station | EA | 2 | $190,000.00 | $380,000.00 |
| 16 | Connect to Water Main | EA | 2 | $18,000.00 | $36,000.00 |
| 17 | Disinfection and Testing Water Line | LF | 10,650 | $0.50 | $5,325.00 |
| 18 | Easement Acquisition | AC | 4.89 | $45,000.00 | $220,041.32 |
| | | | | **Subtotal** | **$5,759,616.32** |
| | | | | Engineering, Surveying, and Construction Management and Inspection Costs (6.73%) | $387,622.18 |
| | | | | **Total West Bank Tank No. 1 Cost** | **$6,147,238.50** |

| **SR-138 Water Line Extension** | | | | | |
|---|---|---|---|---|---|
| 1 | Mobilization | LS | 1 | $199,000.00 | $199,000.00 |
| 2 | Saw Cut Asphalt | LF | 32,530 | $4.50 | $146,385.00 |
| 3 | Furnish and Install 16-inch Water Main Including Fittings and Appurtenances | LF | 17,400 | $110.00 | $1,914,000.00 |
| 4 | Furnish and Install 12-inch Water Main Including Fittings and Appurtenances | LF | 14,650 | $80.00 | $1,172,000.00 |
| 5 | Furnish and Install 8-inch Water Main Including Fittings and Appurtenances | LF | 480 | $60.00 | $28,800.00 |
| 6 | Furnish and Install 16-inch Isolation Valve | EA | 13 | $4,300.00 | $55,900.00 |
| 7 | Furnish and Install 12-inch Isolation Valve | EA | 11 | $2,200.00 | $24,200.00 |
| 8 | Furnish and Install 12-inch x 8-inch Tee, (2) 12-inch Butterfly Valves, and (1) 8-inch Butterfly Valve, Including Fittings and Appurtenances | EA | 2 | $12,000.00 | $24,000.00 |
| 9 | Furnish and Install 4-inch Combination Air Vac Valve | EA | 7 | $16,000.00 | $112,000.00 |
| 10 | Furnish and Install 2-inch Combination Air Vac Valve | EA | 6 | $12,000.00 | $72,000.00 |
| 11 | Furnish and Install 10-inch PRV Station | EA | 1 | $100,000.00 | $100,000.00 |
| 12 | Connect to Water Main | EA | 4 | $18,000.00 | $72,000.00 |
| 13 | Disinfection and Testing Water Line | LF | 32,530 | $0.50 | $16,265.00 |
| 14 | Pavement Restoration | LF | 32,530 | $6.50 | $211,445.00 |
| 15 | Traffic Control | LS | 1 | $35,000.00 | $35,000.00 |
| | | | | **Subtotal** | **$4,182,995.00** |
| | | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $418,299.50 |
| | | | | **Total SR-138 Water Line Extension Cost** | **$4,601,294.50** |

| **Southwest Tank No. 1 Transmission Line** | | | | | |
|---|---|---|---|---|---|
| 1 | Mobilization | LS | 1 | $104,000.00 | $104,000.00 |
| 2 | Furnish and Install 16-inch Water Main Including Fittings and Appurtenances | LF | 10,750 | $110.00 | $1,182,500.00 |
| 3 | Furnish and Install 12-inch Water Main Including Fittings and Appurtenances | LF | 3,660 | $80.00 | $292,800.00 |
| 4 | Furnish and Install 16-inch Isolation Valve | EA | 8 | $4,300.00 | $34,400.00 |
| 5 | Furnish and Install 12-inch Isolation Valve | EA | 3 | $2,200.00 | $6,600.00 |
| 6 | Furnish and Install 16-inch Tee and (3) 16-inch Butterfly Valves, Including Fittings and Appurtenances | EA | 1 | $19,000.00 | $19,000.00 |
| 7 | Furnish and Install 4-inch Combination Air Vac Valve | EA | 4 | $16,000.00 | $64,000.00 |
| 8 | Furnish and Install 2-inch Combination Air Vac Valve | EA | 1 | $12,000.00 | $12,000.00 |
| 9 | Furnish and Install 10-inch PRV Station | EA | 1 | $100,000.00 | $100,000.00 |
| 10 | Connect to Water Main | EA | 2 | $18,000.00 | $36,000.00 |
| 11 | Disinfection and Testing Water Line | LF | 14,410 | $0.50 | $7,205.00 |
| 12 | Revegetation | SF | 576,400 | $0.05 | $28,820.00 |
| 13 | Easement Acquisition | AC | 6.62 | $45,000.00 | $297,727.27 |
| | | | | **Subtotal** | **$2,185,052.27** |
| | | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $218,505.23 |
| | | | | **Total Southwest Tank No. 1 Transmission Line Cost** | **$2,403,557.50** |

| **SR-112 Water Line Extension** | | | | | |
|---|---|---|---|---|---|
| 1 | Mobilization | LS | 1 | $21,000.00 | $21,000.00 |
| 2 | Saw Cut Asphalt | LF | 3,950 | $4.50 | $17,775.00 |
| 3 | Furnish and Install 12-inch Water Main Including Fittings and Appurtenances | LF | 3,950 | $80.00 | $316,000.00 |
| 4 | Furnish and Install 12-inch Isolation Valve | EA | 3 | $2,200.00 | $6,600.00 |
| 5 | Furnish and Install 12-inch Tee and (3) 12-inch Butterfly Valves, Including Fittings and Appurtenances | EA | 1 | $12,000.00 | $12,000.00 |
| 6 | Furnish and Install 2-inch Combination Air Vac Valve | EA | 1 | $12,000.00 | $12,000.00 |
| 7 | Connect to Water Main | EA | 1 | $18,000.00 | $18,000.00 |
| 8 | Disinfection and Testing Water Line | LF | 3,950 | $0.50 | $1,975.00 |
| 9 | Pavement Restoration | LF | 3,950 | $6.50 | $25,675.00 |
| 10 | Traffic Control | LS | 1 | $35,000.00 | $35,000.00 |
| | | | | **Subtotal** | **$466,025.00** |
| | | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $46,602.50 |
| | | | | **Total SR-112 Water Line Extension Cost** | **$512,627.50** |

| **Southeast Water Line Project** | | | | | |
|---|---|---|---|---|---|
| | Mobilization | LS | 1 | $62,000.00 | $62,000.00 |
| | Furnish and Install 12-inch Water Main Including Fittings and Appurtenances | LF | 9,380 | $80.00 | $750,400.00 |
| | Furnish and Install 12-inch Isolation Valve | EA | 7 | $2,200.00 | $15,400.00 |
| | Furnish and Install 2-inch Combination Air Vac Valve | EA | 4 | $12,000.00 | $48,000.00 |
| | Furnish and Install 10-inch PRV Station | EA | 2 | $100,000.00 | $200,000.00 |
| | Connect to Water Main | EA | 1 | $18,000.00 | $18,000.00 |
| | Disinfection and Testing Water Line | LF | 9,380 | $0.50 | $4,690.00 |
| | Revegetation | SF | 375,200 | $0.05 | $18,760.00 |
| | Easement Acquisition | AC | 4.306703398 | $45,000.00 | $193,801.65 |
| | | | | **Subtotal** | **$1,311,051.65** |
| | | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $131,105.17 |
| | | | | **Total Southeast Water Line Project Cost** | **$1,442,156.82** |

[1] Unit costs are from the 2022 Grantsville CFP/IFA and inflated to current year (2023).

# Appendix E: Drinking Water Calculations

# Monthly Well Production Data

| Month, Year | Total Water Use (gal) | Average Day Water Use (gpd) |
|---|---|---|
| January, 2016 | 24,429,000 | 788,032 |
| February, 2016 | 40,080,000 | 1,382,069 |
| March, 2016 | 25,100,000 | 809,677 |
| November, 2016 | 25,025,000 | 834,167 |
| December, 2016 | 24,937,000 | 804,419 |
| **5-month avg:** | **27,914,200** | **923,673** |
| January, 2017 | 27,183,000 | 876,871 |
| February, 2017 | 24,723,000 | 882,964 |
| March, 2017 | 27,304,000 | 880,774 |
| November, 2017 | 26,452,000 | 881,733 |
| December, 2017 | 25,406,000 | 819,548 |
| **5-month avg:** | **26,213,600** | **868,378** |
| January, 2018 | 29,591,000 | 954,548 |
| February, 2018 | 24,087,000 | 860,250 |
| March, 2018 | 25,668,000 | 828,000 |
| November, 2018 | 27,631,000 | 921,033 |
| December, 2018 | 28,098,000 | 906,387 |
| **5-month avg:** | **27,015,000** | **894,044** |
| January, 2019 | 29,771,000 | 960,355 |
| February, 2019 | 26,596,000 | 949,857 |
| March, 2019 | 27,769,000 | 895,774 |
| November, 2019 | 23,413,000 | 780,433 |
| December, 2019 | 30,688,783 | 989,961 |
| **5-month avg:** | **27,647,557** | **915,276** |
| January, 2020 | 31,354,190 | 1,011,425 |
| February, 2020 | 25,775,376 | 888,806 |
| March, 2020 | 34,882,618 | 1,125,246 |
| November, 2020 | 33,982,520 | 1,132,751 |
| December, 2020 | 28,534,024 | 920,452 |
| **5-month avg:** | **30,905,746** | **1,015,736** |
| January, 2021 | 27,393,864 | 883,673 |
| February, 2021 | 25,298,272 | 903,510 |
| March, 2021 | 32,604,168 | 1,051,747 |
| November, 2021 | 30,671,000 | 1,022,367 |
| December, 2021 | 29,917,904 | 965,094 |
| **5-month avg:** | **29,177,042** | **965,278** |

Note: Water data shown is from the 2022 CFP, IFFP, and IFA Updates and was analyzed for the plan. This data and level of service (LOS) has not been updated for the 2024 CFP, IFFP, and IFA Amendments.

## Indoor Use Average Day Demand Calculation

| Year | ERCs | November-March Average Day Indoor Use (gpd) | Calculated Average Day Indoor Demand (gpd/ERC) | Variability Factor | L.O.S. Average Day Indoor Demand (gpd/ERC) |
|---|---|---|---|---|---|
| **2016** | **5,028** | **923,673** | **183.7** | **6%** | **195** |
| 2017 | 5,340 | 868,378 | 162.6 | 6% | 172 |
| 2018 | 5,345 | 894,044 | 167.3 | 6% | 177 |
| 2019 | 5,206 | 915,276 | 175.8 | 6% | 186 |
| 2020 | 5,559 | 1,015,736 | 182.7 | 6% | 194 |
| 2021 | 5,975 | 965,278 | 161.6 | 6% | 171 |

## Outdoor Use Average Day Demand Calculation

| Net Irrigation Demand (ac-ft/irr. ac/yr) | Irrigation Efficiency | Gross Irrigation Demand (ac-ft/irr. ac/yr) | Average Irrigated Area (ac/ERC) | Irrigated Days per Year | L.O.S. Average Day Outdoor Demand (gpd/ERC) |
|---|---|---|---|---|---|
| 2.0 | 60% | 3.33 | 0.12 | 213 | **612** |

Note: Water data shown is from the 2022 CFP, IFFP, and IFA Updates and was analyzed for the plan. This data and level of service (LOS) has not been updated for the 2024 CFP, IFFP, and IFA Amendments.

# Daily Well Production Data

| Month, Year | Peak Day Total Use (kgal) |
|---|---|
| January, 2020 | N/A |
| February, 2020 | N/A |
| March, 2020 | 1,023.9 |
| November, 2020 | 1,212.3 |
| December, 2020 | 1,125.4 |
| **Max, 2020:** | **1,212.3** |
| January, 2021 | 1,147.7 |
| February, 2021 | 1,065.1 |
| March, 2021 | 1,394.6 |
| November, 2021 | 1,171.7 |
| December, 2021 | 1,530.2 |
| **Max, 2021:** | **1,530.2** |

Note: Water data shown is from the 2022 CFP, IFFP, and IFA Updates and was analyzed for the plan. This data and level of service (LOS) has not been updated for the 2024 CFP, IFFP, and IFA Amendments.

## Indoor Use Peak Day Demand Calculation

| Year | ERCs | November-March Peak Day Indoor Use (gpd) | Calculated Peak Day Indoor Demand (gpd/ERC) | Variability Factor | L.O.S. Peak Day Indoor Demand (gpd/ERC) |
|---|---|---|---|---|---|
| 2020 | 5,559 | 1,212,300 | 218.1 | 5% | 229 |
| **2021** | **5,975** | **1,530,200** | **256.1** | **5%** | **269** |

**(Round up to 275)**

## Outdoor Use Peak Day Demand Calculation

| Net Irrigation Demand (gpm/irr. ac) | Irrigation Efficiency | Gross Irrigation Demand (gpm/irr. ac) | Average Irrigated Area (ac/ERC) | L.O.S. Peak Day Outdoor Demand (gpd/ERC) |
|---|---|---|---|---|
| 3.96 | 60% | 6.60 | 0.12 | **1,141** |

Note: Water data shown is from the 2022 CFP, IFFP, and IFA Updates and was analyzed for the plan. This data and level of service (LOS) has not been updated for the 2024 CFP, IFFP, and IFA Amendments.

# Outdoor Use Peak Instantaneous Demand Calculation

| Net Irrigation Demand (gpm/irr. ac) | Irrigation Efficiency | Gross Irrigation Demand (gpm/irr. ac) | Average Irrigated Area (ac/ERC) | L.O.S. Peak Instantaneous Outdoor Demand (gpm/ERC) |
|---|---|---|---|---|
| 7.92 | 60% | 13.2 | 0.12 | **1.58** |

Note: Water data shown is from the 2022 CFP, IFFP, and IFA Updates and was analyzed for the plan. This data and level of service (LOS) has not been updated for the 2024 CFP, IFFP, and IFA Amendments.

# Fixture Units per ERC

| Single Family 5 Bed, 3 Bath = 1 ERC | | | |
|---|---|---|---|
| **Fixture** | **Fixture Count** | **Water Supply Fixture Units** | **Total wsfu** |
| Kitchen sink, Private, Faucet | 1 | 1.40 | 1.4 |
| Dishwashing machine, Private, Automatic | 1 | 1.40 | 1.4 |
| Washing machine (8 lb), Private, Automatic | 1 | 1.40 | 1.4 |
| Exterior hose bib | 3 | 2.20 | 6.6 |
| Shower head, Private, Mixing valve | 3 | 1.40 | 4.2 |
| Lavatory, Private, Faucet | 3 | 0.70 | 2.1 |
| Water closet, Private, Flushtank | 3 | 2.20 | 6.6 |
| - | 0 | 0.00 | 0 |
| **Totals** | **15** | **10.7** | **24** |

State of Utah

SPENCER J. COX
*Governor*

DEIDRE HENDERSON
*Lieutenant Governor*

Department of
Environmental Quality

Kimberly D. Shelley
*Executive Director*

DIVISION OF DRINKING WATER
Tim Davis
*Director*

April 4, 2022

James P. Waltz
Grantsville City
429 East Main Street
Grantsville, Utah 84029

Subject: **Revised System-Specific Minimum Sizing Standards**
Grantsville City, System #23002, File #12921

Dear James Waltz:

Based on the water use data submitted to the Division of Water Rights (DWRi), the following system-specific minimum sizing standards have been set for Grantsville City:

**Peak Day Source Demand (gal/day/ERC) – 1,416 gal/day/ERC**
**Average Annual Demand (gal/yr/ERC) – 201,531 gal/yr/ERC**
**Equalization Storage (gal/day/ERC) – 807 gal/day/ERC**
**Fire Storage (gal) – 492,000 gallons**

These standards are effective as of the date of this letter. A summary of the water use data and calculations used to set the minimum sizing standards is attached for your reference. The actual sizing standard is based on the information presented in the submitted engineering report. The Division plans to evaluate these standards every 3 years, or upon request.

**Water System Background**

The Grantsville City water system is a community water system serving approximately 12,791 people. The existing system has the following active facilities: three gas chlorination treatment plants, five storage tanks, two pump stations, and five well sources. An additional pump station and well source are in the construction phase.

A minimum sizing standard was set on June 1, 2020. Grantsville City is currently having a consultant prepare the Grantsville City Capital Facility Plan (CFP) and Impact Fee Analysis (IFA) updates. During the preparation of the CFP and IFA updates, it was discovered that the number of service connections might be artificially high due to how the connections have been counted. In addition, the current method for supplying outdoor water will be transitioned from the Grantsville Irrigation

Company to the existing distribution system. Therefore, appropriate system-specific sizing is necessary to account for this increase in outdoor water use.

The number of equivalent residential connections was originally calculated using yearly water use reports rather than monthly water use reports. The yearly reports count every time an existing unit is transferred to a new owner which overestimates the number of service connections. The residential usage is incomplete for 2019. Therefore, the residential usage for 2020 and 2021 was used.

The average and peak day demands were estimated by calculating the indoor and outdoor demands separately. The indoor average day demand is based on Grantsville's monthly water source data from 2016 to 2021 while the indoor peak day demand is based on Grantsville's source production data from 2020 to 2021. Only data for the months of November to March were considered in the indoor demand analysis. A variability factor of 5% was applied to the indoor demand. This variability factor is based on the original system-specific minimum sizing standard.

The outdoor demand analysis was completed for April to October which is approximately 213 days. Outdoor water use was estimated using the Division of Water Rights irrigation duty and system-specific assumptions. The estimated irrigation demand is a little more conservative than the demands specified in R309-510, Minimum Sizing Requirements.

**Minimum Sizing Standard Background**

Per Utah Code 19-4-114, the information needed for the Division of Drinking Water (the Division) to set system-specific minimum sizing standards may be based on water use data submitted to the DWRi, or alternatively, a community water system can submit an engineering study to the Division if the water system's water use data is not representative of future use or the water system does not yet have actual water use data.

Actual water use data was available through DWRi but it currently doesn't reflect the current water system conditions. Therefore, an engineering study was submitted to the Division for review. The Division reviewed the engineering study and find that it is consistent with the Division's Detailed Guidance for Water Use Data Reporting and Setting System-Specific Minimum Sizing Requirements. Therefore, the Division is revising the system-specific minimum sizing standard for the Grantsville City water system.

**Water Use Data Definitions**

*Peak Day Source Demand* is the total flow into a public water system to meet the demand of the water system on the day of highest water consumption in a calendar year.

*Average Annual Demand* is the total quantity of drinking water flowing into a public water system within a calendar year.

*Total Equivalent Residential Connections (ERCs)* term represents the number of residential service connections and the number of equivalent residential connections for non-residential connections (commercial, industrial, institutional connections).

*Minimum Equalization Storage* requirement is a volume that is equivalent to the amount of water needed to meet the average day culinary demand for public water systems. Equalized storage per ERC is calculated by dividing the Average Annual Demand per ERC data by the number of operational days in a year.

*Fire Storage* was set based on information from Travis Daniels with Grantsville City Fire Department on April 24, 2020. The fire demand agreed upon is 2,050 gpm for 4 hours (492,000 gallons).

**Storage Capacity**

Based on your systems storage facilities and the storage minimum sizing requirement established in this letter, your system is *deficient* with the minimum storage capacity requirements. It is our understanding that the system has plans for a future storage tank within the next year to meet the anticipated demands. If the growth slows then Grantsville City will plan accordingly to resolve any storage deficiencies associated with the change in the system-specific sizing standard.

**Source Capacity**

The Division has documentation of established safe yields for all your system sources. Using total system wide safe yields and the source minimum sizing requirement established in this letter indicates your water system is *deficient* with minimum source capacity requirements. The Division has record of a proposed well source called the Marshall Well (WS008) which is in the final steps of construction. The well is anticipated to produce 2,000 gpm which will resolve this deficiency.

If you have any questions regarding this letter, please contact Chris Martin, of this office, at (385) 271-7040, or Michael Newberry, Engineering Manager, at (385) 515-1464.

Sincerely,

Michael Newberry, P.E.
Engineering Manager

CM/mrn/mdb

Enclosures
1. Utah Department of Environmental Quality Division of Drinking Water Minimum Sizing Standards Summary Report

cc: Wade Tolbert, Tooele Health Department, wtolbert@tooelehealth.org
Robert Rouselle, Ensign, rrousselle@ensignutah.com
James Waltz, Grantsville City, jwaltz@grantsvilleut.gov
Chris Martin, Division of Drinking Water, cmartin@utah.gov
Hunter Payne, Division of Drinking Water, hnpayne@utah.gov
Travis Daniels, firechief@grantsvilleut.gov
Ted Black, Office of the State Fire Marshal, tblack@utah.gov

DDW-2022-005675

# Utah Department of Environmental Quality
# Division of Drinking Water
# Minimum Sizing Standards

| Grantsville City | PWS ID: UTAH23002 |
|---|---|

James P. Waltz
429 E Main St
Grantsville, UT 84029
Phone: 435-884-0621
Emergency Phone:
EMAIL: jwaltz@grantsvilleut.gov

System Type: Community
Population: 12,791

**MINIMUM SIZING STANDARD**

| | |
|---|---|
| Date Standard effective | 3/30/2022 |
| Peak Day Source Demand per ERC (gal/day) | **1,416** |
| Average Annual Demand per ERC (gal/year) | **201,531** |
| Equalization Storage per ERC (gal/day) | **807** |

**MINIMUM SIZING STANDARD CALCULATIONS**

| | | | Variability Factor | | |
|---|---|---|---|---|---|
| Data from these reporting years | 2019 | to | 2021 | | |
| Max Peak Day Source Demand per ERC (gal/day) | 870 | x | 21% | = | 1,050 |
| Max Average Annual Demand per ERC (gal/day) | 124,749 | x | 6% | = | 124,749 |
| Max Equalization Storage per ERC (gal/day) | 341 | x | 6% | = | 341 |

**DWRi WATER USE DATA REPORTED**

| Data Year | Peak Day Source Demand (gal/day) | Average Annual Demand (gallons) | ERCs | Peak Demand per ERC (gal/day) | Avg Annual Demand per ERC (gal/year) | Equalization Storage per ERC (gal/day) | Op Days |
|---|---|---|---|---|---|---|---|
| 2021 | 4,506,519 | 647,785,271 | 5,975 | 754 | 108,416 | 297 | 365 |
| 2020 | 3,369,299 | 622,851,152 | 5,559 | 625 | 115,415 | 316 | 365 |
| 2019 | 3,695,150 | 569,682,045 | 5,206 | 696 | 109,386 | 300 | 365 |
| Variability | | | 15% | 21% | 6% | 6% | |

| Data Year | Peak Month Average (gal/day) | Peak Month Average per ERC (gal/day) | Ratio of PD/ERC to PM Avg/ERC |
|---|---|---|---|
| 2021 | 3,309,805 | 554 | 1.4 |
| 2020 | 3,066,041 | 568 | 1.1 |
| 2019 | 3,294,038 | 632 | 1.1 |

| CAPACITY CALCULATIONS FOR STORAGE | | | |
|---|---|---|---|
| STORAGE CALCULATION | | | |
| Equalization per ERC (gal): | 807 | | |
| Existing Storage (gal): | 3,925,000 | | |
| ERCs: | 5,975 | | |
| Required Storage w/o Fire Flow (gal) | 4,821,825 | | |
| Required Fire Storage (gal): | 492,000 | | |
| Required Storage w/ Fire (gal): | 5,313,825 | | |
| Storage Deficiency: | 1,388,825 | 26.1% | |
| Storage Deficienct | | | |

| CAPACITY CALCULATIONS FOR SOURCES | | | |
|---|---|---|---|
| SOURCE CALCULATION | | | |
| Peak Day Source Demand per ERC (gpm) | 0.98 | | |
| Existing Source Capacity (gpm): | 6,753 | | |
| ERCs: | 5,975 | | |
| Required Source Capacity (gpm) | 5,875 | | |
| Source Deficiency (gpm): | 1,122 | 19.1% | |
| Source Deficient | | | |

| SYSTEM STORAGE AND SOURCE INVENTORY | | | | | |
|---|---|---|---|---|---|
| SYSTEM STORAGE DETAILS | | | SYSTEM SOURCE DETAILS | | |
| ST001 | Square North Tank | 225,000 Gal | WS003 | Well 3 Park | 1,000 GPM |
| ST002 | Round North Tank | 500,000 Gal | WS004 | Well 4 South | 547 GPM |
| ST003 | South Tank | 1,000,000 Gal | WS005 | South Willow Well | 1,640 GPM |
| ST004 | South Willow Well Tank | 1,000,000 Gal | WS006 | Hunsaker Well | 433 GPM |
| ST005 | Lakeview Business Park Tank | 1,200,000 Gal | WS007 | North Well Replacement | 1,133 GPM |
| | | | WS008 | Marshall Well (Proposed) | 2,000 GPM |
| | | | | | |
| | | | | | |
| | | | | | |
| **Storage Totals:** | | **3,925,000 GAL** | **Source Totals:** | | **6,753 GPM** |

# Appendix F: Public Safety Calculations

**Police Department Staff**

20 full time officers/ 1 K-9

Chief, Investigation Lieutenant, Patrol Lieutenant, Investigation Sergeant, (2) Patrol Sergeants, 3 Detectives, 1 School Resource Officer (also considered a Detective), 10 Patrol Officers and K-9 Ludo.

Civilian Staff full time

1 Administrative Assistant that also serves as the evidence technician, secretary, and records manager.

1 secretary/ records manager

1 victim advocate.

Part time

1 secretary record clerk

1 Animal Control/ordinance compliance officer

9 crossing guards

Volunteer

4 victim advocate volunteers/internship

1 Reserve Officer

**Justice Center**

The Police Department operates from the Grantsville City Justice Center located at 50 North Bowery Street. The building is shared with the Grantsville City Justice Court (constructed in 2017) and consists of 12,947 square feet. The Police Department portion of the building occupies approximately 8,450 square feet and includes a one-vehicle sally port, two holding cell/interview rooms, a patrol operations room, two patrol supervisor offices, an evidence room, an evidence packaging room, a kitchen, a briefing room, locker room with two bathrooms/showers, an exercise room, an investigations area with three cubicles, two interview rooms, and two supervisor offices, a front desk reception area with four cubicles and a Chief's office, a records area, a lobby with an interview room and a multi-purpose room used for training. There is also a detached two-bay garage for vehicle and equipment storage and maintenance. The Police Department also operates a firearms range off the Mormon Trail,

which consists of a pistol range, rifle range, competition shooting range, pavilion with picnic tables, and a storage compartment. Several law enforcement agencies use the range.

# Animal Shelter Required Physical Holding Capacity Calculation

| Year 2021 | Intake | Outake | Monthly Intake Avg | Daily Intake Avg |
|---|---|---|---|---|
| Dogs | 146 | 136 | 12.17 | 0.400 |
| Cats | 79 | 76 | 6.58 | 0.216 |

| | Avg Holding Period | RPHC |
|---|---|---|
| Dogs | 16.8 | 6.7 |
| Cats | 21.2 | 4.6 |

| Sept. 2021 | Intake | Outake | Avg Holding Period | Daily Intake Avg |
|---|---|---|---|---|
| Dogs | 15 | 15 | 21.60 | 0.500 |
| Cats | 10 | 10 | 15.11 | 0.333 |

| Oct. 2021 | Intake | Outake | Avg Holding Period | Daily Intake Avg |
|---|---|---|---|---|
| Dogs | 9 | 9 | 25.56 | 0.290 |
| Cats | 9 | 9 | 22.33 | 0.290 |

| Nov. 2021 | Intake | Outake | Avg Holding Period | Daily Intake Avg |
|---|---|---|---|---|
| Dogs | 7 | 7 | 1.14 | 0.233 |
| Cats | 12 | 12 | 26.17 | 0.400 |

| Dec. 2021 | Intake | Outake | Avg Holding Period | Daily Intake Avg |
|---|---|---|---|---|
| Dogs | 8 | 8 | 19.00 | 0.258 |
| Cats | 1 | 0 | N/A | 0.032 |

| Development Type | Average Building Area per Unit (sq ft) |
|---|---|
| Single Family | 2,449 |
| Multi-Unit | 1,058 |
| Commercial | 58,513 |
| Church | 22,756 |
| School | 100,728 |

*Source: 2022 Grantsville CFP/IFA*

| Year | Single Family | | | Multi-Unit | | | Commercial | | | Church | | | School | | | Residential Building Area Increase (sq ft) | Non-Residential Building Area Increase (sq ft) | Total Building Area Increase (sq ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Units | Annual Unit Increase | Building Area Increase (sq ft) | Units | Annual Unit Increase | Building Area Increase (sq ft) | Units | Annual Unit Increase | Building Area Increase (sq ft) | Units | Annual Unit Increase | Building Area Increase (sq ft) | Units | Annual Unit Increase | Building Area Increase (sq ft) | | | |
| 2023 | 4,274 | - | - | 291 | - | - | 146 | - | - | 11 | - | - | 10 | - | - | - | - | - |
| 2024 | 4,488 | 214 | 524,086 | 306 | 15 | 15,870 | 153 | 7 | 409,591 | 11 | - | - | 10 | - | - | 539,956 | 409,591 | 949,547 |
| 2025 | 4,712 | 224 | 548,576 | 321 | 15 | 15,870 | 161 | 8 | 468,104 | 12 | 1 | 22,756 | 11 | 1 | 100,728 | 564,446 | 591,588 | 1,156,034 |
| 2026 | 4,948 | 236 | 577,964 | 337 | 16 | 16,928 | 169 | 8 | 468,104 | 12 | - | - | 11 | - | - | 594,892 | 468,104 | 1,062,996 |
| 2027 | 5,195 | 247 | 604,903 | 354 | 17 | 17,986 | 177 | 8 | 468,104 | 13 | 1 | 22,756 | 12 | 1 | 100,728 | 622,889 | 591,588 | 1,214,477 |
| 2028 | 5,455 | 260 | 636,740 | 372 | 18 | 19,044 | 186 | 9 | 526,617 | 13 | - | - | 13 | 1 | 100,728 | 655,784 | 627,345 | 1,283,129 |
| 2029 | 5,728 | 273 | 668,577 | 391 | 19 | 20,102 | 195 | 9 | 526,617 | 14 | 1 | 22,756 | 13 | - | - | 688,679 | 549,373 | 1,238,052 |
| 2030 | 6,014 | 286 | 700,414 | 411 | 20 | 21,160 | 205 | 10 | 585,130 | 15 | 1 | 22,756 | 14 | 1 | 100,728 | 721,574 | 708,614 | 1,430,188 |
| 2031 | 6,315 | 301 | 737,149 | 432 | 21 | 22,218 | 215 | 10 | 585,130 | 15 | - | - | 15 | 1 | 100,728 | 759,367 | 685,858 | 1,445,225 |
| 2032 | 6,631 | 316 | 773,884 | 454 | 22 | 23,276 | 226 | 11 | 643,643 | 16 | 1 | 22,756 | 16 | 1 | 100,728 | 797,160 | 767,127 | 1,564,287 |
| 2033 | 6,963 | 332 | 813,068 | 477 | 23 | 24,334 | 237 | 11 | 643,643 | 17 | 1 | 22,756 | 17 | 1 | 100,728 | 837,402 | 767,127 | 1,604,529 |
| **Total** | | | | | | | | | | | | | | | | **6,782,149** | **6,166,315** | **12,948,464** |

# Appendix G: Public Safety Cost Estimates

# ENGINEERS ESTIMATE OF PROBABLE COSTS

These costs are opinions only and should not be considered as a formal construction estimate. These quantites and costs are based on information derived from the master plan and are therefore subject to change. Ensign has no control over costs of labor, materials, bidding procedures, unidentified field conditions, or other factors. Ensign cannot and does not make any warranty, promise, or guarantee as to the accuracy of this estimate.

ENSIGN
THE STANDARD IN ENGINEERING

Project: Grantsville City CFP, IFFP, and IFA
By: Matthew Sanford
Date: 4/24/2024

Project No.: 10766D
Checked By: Robert Rousselle

| ITEM | DESCRIPTION | UNIT | QUANTITY | UNIT COST [1] | COST |
|---|---|---|---|---|---|
| **Satellite Fire Station East** | | | | | |
| 1 | Mobilization | LS | 1 | $112,000.00 | $112,000.00 |
| 2 | Station Cost | SF | 6,000 | $374.93 | $2,249,580.00 |
| | | | | **Subtotal** | **$2,361,580.00** |
| | | | | Contingency (15%) | $354,237.00 |
| | | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $271,581.70 |
| | | | | Administrative and Legal Costs (5%) | $135,790.85 |
| | | | | **Total Satellite Fire Station East Cost** | **$3,123,189.55** |
| **Fire Vehicles** | | | | | |
| 1 | Aerial Platform Truck | EA | 2 | $1,285,470.00 | $2,570,940.00 |
| 2 | Pumper Truck | EA | 1 | $535,612.50 | $535,612.50 |
| 3 | Mini Pumper Truck | EA | 1 | $267,806.25 | $267,806.25 |
| 4 | Heavy Duty Rescue Truck | EA | 1 | $482,051.25 | $482,051.25 |
| 5 | Tender Tank and Tractor | EA | 1 | $214,245.00 | $214,245.00 |
| 6 | Brush Truck | EA | 2 | $107,122.50 | $214,245.00 |
| | | | | **Total Fire Vehicles Cost** | **$4,284,900.00** |
| **Existing Fire Station Expansion** | | | | | |
| 1 | Mobilization | LS | 1 | $27,000.00 | $27,000.00 |
| 2 | Expansion Cost | LS | 1 | $535,612.50 | $535,612.50 |
| | | | | **Subtotal** | **$562,612.50** |
| | | | | Contingency (15%) | $84,391.88 |
| | | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $64,700.44 |
| | | | | Administrative and Legal Costs (5%) | $32,350.22 |
| | | | | **Total Existing Fire Station Expansion Cost** | **$744,055.03** |
| **Animal Control Shelter** | | | | | |
| 1 | Mobilization | LS | 1 | $106,000.00 | $106,000.00 |
| 2 | Shelter Cost | SF | 4,500 | $469.20 | $2,111,400.00 |
| | | | | **Subtotal** | **$2,217,400.00** |
| | | | | Contingency (15%) | $332,610.00 |
| | | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $255,001.00 |
| | | | | Administrative and Legal Costs (5%) | $127,500.50 |
| | | | | **Total Animal Control Shelter Cost** | **$2,932,511.50** |
| **City Hall** | | | | | |
| 1 | Mobilization | LS | 1 | $326,000.00 | $326,000.00 |
| 2 | Building Cost | SF | 20,000 | $321.37 | $6,427,400.00 |
| 3 | Land Acquistion | AC | 1 | $93,196.58 | $93,196.58 |
| | | | | **Subtotal** | **$6,846,596.58** |
| | | | | Contingency (15%) | $1,026,989.49 |
| | | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $787,358.61 |
| | | | | Administrative and Legal Costs (5%) | $393,679.30 |
| | | | | **Total City Hall Cost** | **$9,054,623.98** |

[1] Unit costs are from the 2022 Grantsville CFP/IFA and inflated to current year (2023).

# Appendix H: Parks Cost Estimates

# ENGINEERS ESTIMATE OF PROBABLE COSTS

These costs are opinions only and should not be considered as a formal construction estimate. These quantites and costs are based on information derived from the master plan and are therefore subject to change. Ensign has no control over costs of labor, materials, bidding procedures, unidentified field conditions, or other factors. Ensign cannot and does not make any warranty, promise, or guarantee as to the accuracy of this estimate.

ENSIGN
THE STANDARD IN ENGINEERING

Project: Grantsville City CFP, IFFP, and IFA
By: Matthew Sanford
Date: 7/12/2024

Project No.: 10766D
Checked By: Robert Rousselle

| ITEM | DESCRIPTION | UNIT | QUANTITY | UNIT COST [1] | COST |
|---|---|---|---|---|---|
| **Desert Edge Park** | | | | | |
| 1 | Mobilization | LS | 1 | $71,000.00 | $71,000.00 |
| 2 | Earthwork | CY | 12,100 | $8.03 | $97,163.00 |
| 3 | Erosion Control and Revegetation | LS | 1 | $35,000.00 | $35,000.00 |
| 4 | Fine Grading | SY | 24,200 | $1.61 | $38,962.00 |
| 5 | Hydroseed | SF | 152,000 | $0.11 | $16,720.00 |
| 6 | Irrigation System | SF | 152,000 | $0.21 | $31,920.00 |
| 7 | Restroom | LS | 1 | $221,743.58 | $221,743.58 |
| 8 | Paved Parking Lot | SF | 11,800 | $4.82 | $56,876.00 |
| 9 | Trees | EA | 25 | $803.42 | $20,085.50 |
| 10 | Lights | EA | 15 | $6,320.23 | $94,803.45 |
| 11 | Amenities [2] | LS | 1 | $273,215.95 | $273,215.95 |
| 12 | Land Acquistion | AC | 5 | $107,122.50 | $535,612.50 |
| | | | | **Subtotal** | **$1,493,101.98** |
| | | | | Contingency (15%) | $223,965.30 |
| | | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $171,706.73 |
| | | | | Administrative and Legal Costs (5%) | $85,853.36 |
| | | | | **Total Desert Edge Park Cost** | **$1,974,627.37** |
| **Highlands Park** | | | | | |
| 1 | Mobilization | LS | 1 | $114,000.00 | $114,000.00 |
| 2 | Earthwork | CY | 24,200 | $8.03 | $194,326.00 |
| 3 | Erosion Control and Revegetation | LS | 1 | $56,000.00 | $56,000.00 |
| 4 | Fine Grading | SY | 48,400 | $1.61 | $77,924.00 |
| 5 | Hydroseed | SF | 305,000 | $0.11 | $33,550.00 |
| 6 | Irrigation System | SF | 305,000 | $0.21 | $64,050.00 |
| 7 | Restroom | LS | 1 | $221,743.58 | $221,743.58 |
| 8 | Paved Parking Lot | SF | 11,800 | $4.82 | $56,876.00 |
| 9 | Trees | EA | 50 | $803.42 | $40,171.00 |
| 10 | Lights | EA | 30 | $6,320.23 | $189,606.90 |
| 11 | Amenities [2] | LS | 1 | $277,233.05 | $277,233.05 |
| 12 | Land Acquistion | AC | 10 | $107,122.50 | $1,071,225.00 |
| | | | | **Subtotal** | **$2,396,705.53** |
| | | | | Contingency (15%) | $359,505.83 |
| | | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $275,621.14 |
| | | | | Administrative and Legal Costs (5%) | $137,810.57 |
| | | | | **Total Highlands Park Cost** | **$3,169,643.06** |
| **Twenty Wells Park [3]** | | | | | |
| 1 | Land Acquisition | LS | 1 | $1,050,000.00 | $1,050,000.00 |
| 2 | Landscaping / Scrapping / Haul Off-On | LS | 1 | $1,700,000.00 | $1,700,000.00 |
| 3 | Irrigation Lines | LS | 1 | $600,000.00 | $600,000.00 |
| 4 | Water Lines | LF | 1,850 | $70.00 | $129,500.00 |
| 5 | Sewer | LF | 500 | $110.00 | $55,000.00 |
| 6 | Storm Drain | LS | 1 | $175,000.00 | $175,000.00 |
| 7 | Buildings | LS | 1 | $1,250,000.00 | $1,250,000.00 |
| 8 | Pickle Ball Courts | LS | 1 | $350,000.00 | $350,000.00 |
| 9 | Baseball / Softball Fields | LS | 1 | $750,000.00 | $750,000.00 |
| 10 | Dugouts | LS | 1 | $240,000.00 | $240,000.00 |
| 11 | Fire Hydrants | LS | 1 | $24,000.00 | $24,000.00 |
| 12 | Fencing | LS | 1 | $210,000.00 | $210,000.00 |
| 13 | Concrete (Sidewalk) | LF | 3,100 | $9.68 | $30,000.00 |
| 14 | Concrete (C&G) | LF | 4,350 | $25.29 | $110,000.00 |
| 15 | Lights | LS | 1 | $275,000.00 | $275,000.00 |
| 16 | Stands | LS | 1 | $75,000.00 | $75,000.00 |
| 17 | Additional Sports Fields | LS | 1 | $110,000.00 | $110,000.00 |
| 18 | Goal Posts for Football | LS | 1 | $200,000.00 | $200,000.00 |
| 19 | Soccer Goals | LS | 1 | $75,000.00 | $75,000.00 |
| 20 | Score Board | LS | 1 | $125,000.00 | $125,000.00 |
| 21 | Parking Lot | SF | 110,530 | $2.94 | $325,000.00 |
| 22 | Parking Lot Lights | LS | 1 | $45,000.00 | $45,000.00 |
| 23 | Power | LS | 1 | $125,000.00 | $125,000.00 |
| 24 | Gas | LS | 1 | $75,000.00 | $75,000.00 |
| 25 | Materials | LS | 1 | $525,000.00 | $525,000.00 |
| | | | | **Total Twenty Wells Park Cost** | **$8,628,500.00** |
| **President's Park** | | | | | |
| 1 | Mobilization | LS | 1 | $57,000.00 | $57,000.00 |
| 2 | Earthwork | CY | 24,200 | $8.03 | $194,326.00 |
| 3 | Erosion Control and Revegetation | LS | 1 | $28,000.00 | $28,000.00 |
| 4 | Fine Grading | SY | 48,400 | $1.61 | $77,924.00 |
| 5 | Hydroseed | SF | 305,000 | $0.11 | $33,550.00 |
| 6 | Irrigation System | SF | 305,000 | $0.21 | $64,050.00 |
| 7 | Restroom | LS | 1 | $221,743.58 | $221,743.58 |
| 8 | Paved Parking Lot | SF | 11,800 | $4.82 | $56,876.00 |
| 9 | Trees | EA | 50 | $803.42 | $40,171.00 |
| 10 | Lights | EA | 30 | $6,320.23 | $189,606.90 |
| 11 | Amenities [2] | LS | 1 | $234,062.68 | $234,062.68 |
| 12 | Land Acquistion [4] | AC | 0 | $107,122.50 | $0.00 |
| | | | | **Subtotal** | **$1,197,310.16** |
| | | | | Contingency (15%) | $179,596.52 |
| | | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $137,690.67 |
| | | | | Administrative and Legal Costs (5%) | $68,845.33 |
| | | | | **Total President's Park Cost** | **$1,583,442.69** |
| **Scenic Slopes Park** | | | | | |
| 1 | Mobilization | LS | 1 | $152,000.00 | $152,000.00 |

| | | | | | |
|---|---|---|---|---|---|
| 2 | Earthwork | CY | 48,400 | $8.03 | $388,652.00 |
| 3 | Erosion Control and Revegetation | LS | 1 | $74,000.00 | $74,000.00 |
| 4 | Fine Grading | SY | 96,800 | $1.61 | $155,848.00 |
| 5 | Hydroseed | SF | 610,000 | $0.11 | $67,100.00 |
| 6 | Irrigation System | SF | 610,000 | $0.21 | $128,100.00 |
| 7 | Restroom | LS | 1 | $221,743.58 | $221,743.58 |
| 8 | Paved Parking Lot | SF | 11,800 | $4.82 | $56,876.00 |
| 9 | Trees | EA | 100 | $803.42 | $80,342.00 |
| 10 | Lights | EA | 60 | $6,320.23 | $379,213.80 |
| 11 | Amenities [2] | LS | 1 | $1,491,895.09 | $1,491,895.09 |
| 12 | Land Acquistion [4] | AC | 0 | $107,122.50 | $0.00 |
| | | | | **Subtotal** | **$3,195,770.47** |
| | | | | Contingency (15%) | $479,365.57 |
| | | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $367,513.60 |
| | | | | Administrative and Legal Costs (5%) | $183,756.80 |
| | | | | **Total Scenic Slopes Park Cost** | **$4,226,406.45** |

| **Clark Farm Park** | | | | | |
|---|---|---|---|---|---|
| 1 | Mobilization | LS | 1 | $114,000.00 | $114,000.00 |
| 2 | Earthwork | CY | 72,600 | $8.03 | $582,978.00 |
| 3 | Erosion Control and Revegetation | LS | 1 | $56,000.00 | $56,000.00 |
| 4 | Fine Grading | SY | 145,200 | $1.61 | $233,772.00 |
| 5 | Hydroseed | SF | 915,000 | $0.11 | $100,650.00 |
| 6 | Irrigation System | SF | 915,000 | $0.21 | $192,150.00 |
| 7 | Restroom | LS | 1 | $221,743.58 | $221,743.58 |
| 8 | Paved Parking Lot | SF | 11,800 | $4.82 | $56,876.00 |
| 9 | Trees | EA | 150 | $803.42 | $120,513.00 |
| 10 | Lights | EA | 90 | $6,320.23 | $568,820.70 |
| 11 | Amenities [2] | LS | 1 | $153,613.71 | $153,613.71 |
| 12 | Land Acquistion [4] | AC | 0 | $107,122.50 | $0.00 |
| | | | | **Subtotal** | **$2,401,116.99** |
| | | | | Contingency (15%) | $360,167.55 |
| | | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $276,128.45 |
| | | | | Administrative and Legal Costs (5%) | $138,064.23 |
| | | | | **Total Clark Farm Park Cost** | **$3,175,477.22** |

[1] Unit costs are from the 2022 Grantsville CFP/IFA and inflated to current year (2023).

[2] Amenities vary by park but generally include benches, playground equipment, sports fields, pavillions, etc.

[3] Cost estimate provided by developer.

[4] Land acquisition is not included because the City already owns the land or the land will be dedicated to the City.

# Appendix I: Wastewater Calculations

# WWTF Flow Data 2020

| Month | Average Daily Flow (MGD) | | Peak Instantaneous Flow (gpm) | Peak Daily Flow (MGD) |
|---|---|---|---|---|
| January | 0.715 | | 1,265 | 0.782 |
| February | 0.719 | | 1,358 | 0.795 |
| March | 0.794 | | 1,338 | 0.902 |
| April | 0.768 | | 1,369 | 0.832 |
| May | 0.750 | | 1,370 | 0.812 |
| June | 0.753 | | 1,385 | 0.845 |
| July | 0.749 | | 1,375 | 0.785 |
| August | 0.745 | | 1,385 | 0.813 |
| September | 0.828 | | 1,385 | 1.387 |
| October | 0.747 | | 1,385 | 0.814 |
| November | 0.760 | | 1,385 | 0.846 |
| December | 0.748 | | 1,385 | 0.796 |
| **Average:** | **0.756** | **Max:** | **1,385** | **0.902** |

**Note: August and September were excluded from the Peak Daily Flow calculation because the flow meter was destroyed from a storm, and these are inaccurate readings. Flow meter maxed out at 1,385 gpm, so Peak Instantaneous Flow may be inaccurate.*

# WWTF Flow Data 2021

| Month | Average Daily Flow (MGD) | | Peak Instantaneous Flow (gpm) | Peak Daily Flow (MGD) |
|---|---|---|---|---|
| January | 0.749 | | 1,385 | 0.814 |
| February | 0.745 | | 1,385 | 0.831 |
| March | 0.760 | | 1,385 | 0.850 |
| April | 0.777 | | 1,385 | 0.832 |
| May | 0.759 | | 1,385 | 0.823 |
| June | 0.764 | | 2,375 | 0.939 |
| July | 0.857 | | 1,672 | 0.931 |
| August | 0.878 | | 1,848 | 0.964 |
| September | 0.873 | | 1,640 | 0.971 |
| October | 0.864 | | 2,375 | 0.970 |
| November | 0.855 | | 1,648 | 0.919 |
| December | 0.846 | | 1,943 | 0.922 |
| **Average:** | **0.811** | **Max:** | **2,375** | **0.971** |

**Note: Flow meter maxed out at 1,385 gpm until June when the max was increased to 2,375, so Peak Instantaneous Flow may be inaccurate.*

Note: WWTF flow data shown is from the 2022 CFP, IFFP, and IFA Updates and was analyzed for the plan. This data and level of service (LOS) has not been updated for the 2024 CFP, IFFP, and IFA Amendments.

## Average Day Flow Calculation

| Year | ERCs | Average Day Flow (MGD) | Average Day Flow (gpd/ERC) |
|---|---|---|---|
| 2020 | 5,559 | 0.756 | 136 |
| 2021 | 5,975 | 0.811 | 136 |

**(Round up to 150)**

## Peak Day Flow Calculation

| Year | ERCs | Peak Day Flow (MGD) | Peak Day Flow (gpd/ERC) |
|---|---|---|---|
| 2020 | 5,559 | 0.902 | 162 |
| 2021 | 5,975 | 0.971 | 163 |

**(Round up to 175)**

## Peak Instantaneous Flow Calculation

| Year | ERCs | Peak Instantaneous Flow (gpm) | Peak Instantaneous Flow (gpm/ERC) | Peaking Factor |
|---|---|---|---|---|
| 2020 | 5,559 | 1,385 | 0.249 | 2.4 |
| 2021 | 5,975 | 2,375 | 0.397 | **3.8** |

Note: Wastewater flow data shown is from the 2022 CFP, IFFP, and IFA Updates and was analyzed for the plan. This data and level of service (LOS) has not been updated for the 2024 CFP, IFFP, and IFA Amendments.

## Sheep Lane Lift Station

**Year 2020**

| Month | Peak Inflow (gpm) |
|---|---|
| January | 563 |
| February | 532 |
| March | 531 |
| April | 540 |
| May | 548 |
| June | 566 |
| July | 568 |
| August | 561 |
| September | 576 |
| October | 547 |
| November | 540 |
| December | 624 |
| **Max:** | **624** |
| **ERCs:** | **5,559** |
| **gpm/ERC:** | **0.112** |

## Northwest (North) Lift Station

**Year 2020**

| Month | Peak Inflow (gpm) |
|---|---|
| January | 1,473 |
| February | 1,881 |
| March | 1,881 |
| April | 1,694 |
| May | 2,016 |
| June | 1,728 |
| July | 1,933 |
| August | 1,670 |
| September | 1,849 |
| October | 1,713 |
| November | 1,881 |
| December | 1,749 |
| **Max:** | **2,016** |
| **ERCs:** | **5,559** |
| **gpm/ERC:** | **0.363** |

*Note: Data assumes that all four pumps were running simultaneously, which is not likely, so calculated demand may be an overestimation.*

## Northeast (South) Lift Station

**Year 2020**

| Month | Peak Inflow (gpm) |
|---|---|
| January | 1,641 |
| February | 1,603 |
| March | 1,546 |
| April | 1,513 |
| May | 1,449 |
| June | 1,392 |
| July | 1,268 |
| August | 1,229 |
| September | 1,390 |
| October | 1,277 |
| November | 1,090 |
| December | 842 |
| **Max:** | **1,641** |
| **ERCs:** | **5,559** |
| **gpm/ERC:** | **0.295** |

Note: Lift Station flow data shown is from the 2022 CFP, IFFP, and IFA Updates and was analyzed for the plan. This data and level of service (LOS) has not been updated for the 2024 CFP, IFFP, and IFA Amendments.

| Single Family 5 Bed, 3 Bath = 1 ERC | | | |
|---|---|---|---|
| **Fixture** | **Fixture Count** | **Water Supply Fixture Units** | **Total Fixture Units** |
| Kitchen sink, Private, Faucet | 1 | 1.4 | 1.4 |
| Dishwashing machine, Private, Automatic | 1 | 1.4 | 1.4 |
| Washing machine (8 lb), Private, Automatic | 1 | 1.4 | 1.4 |
| Exterior hose bib | 3 | 2.2 | 6.6 |
| Shower head, Private, Mixing valve | 3 | 1.4 | 4.2 |
| Lavatory, Private, Faucet | 3 | 0.7 | 2.1 |
| Water closet, Private, Flushtank | 3 | 2.2 | 6.6 |
| **Total** | | | **24** |

# Appendix J: Wastewater Cost Estimates

# ENGINEERS ESTIMATE OF PROBABLE COSTS

These costs are opinions only and should not be considered as a formal construction estimate. These quantites and costs are based on information derived from the master plan and are therefore subject to change. Ensign has no control over costs of labor, materials, bidding procedures, unidentified field conditions, or other factors. Ensign cannot and does not make any warranty, promise, or guarantee as to the accuracy of this estimate.

ENSIGN
THE STANDARD IN ENGINEERING

Project: Grantsville City CFP, IFFP, and IFA
By: Matthew Sanford
Date: 4/24/2024

Project No.: 10766D
Checked By: Robert Rousselle

| ITEM | DESCRIPTION | UNIT | QUANTITY | COST PER LF |
|---|---|---|---|---|
| **8-inch Diameter Sewer** | | | | |
| 1 | Mobilization and permits | LS/LF | 1 | $13.25 |
| 2 | Traffic control and flagging | LS/LF | 1 | $6.75 |
| 3 | De-watering | LS/LF | 1 | $3.50 |
| 4 | Saw cut, remove, and dispose of existing asphalt | LF | 1 | $2.55 |
| 5 | Remove and dispose of excavated material | CY/LF | 3.14 | $42.70 |
| 6 | Trench box 10'Hx16'L | LF | 1 | $0.62 |
| 7 | 8-inch diameter sewer | LF | 1 | $38.20 |
| 8 | Bedding sand | CY/LF | 0.1 | $1.50 |
| 9 | Granular borrow | CY/LF | 2.32 | $63.10 |
| 10 | 5-foot diameter concrete manhole on 6-foot x 6-foot concrete base (manhole spacing every 400-feet) | LF | 0.0025 | $25.00 |
| 11 | Untreated base course | CY/LF | 0.51 | $20.40 |
| 12 | Asphalt road (3-inch) | SY/LF | 1.76 | $26.57 |
| | | | **Subtotal** | **$244.14** |
| | | | Contingency (20%) | $48.83 |
| | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $29.30 |
| | | | Administrative and Legal Costs (5%) | $14.65 |
| | | | **Total 8-inch Diameter Sewer Cost per LF** | **$336.91** |
| **10-inch Diameter Sewer** | | | | |
| 1 | Mobilization and permits | LS/LF | 1 | $13.25 |
| 2 | Traffic control and flagging | LS/LF | 1 | $6.75 |
| 3 | De-watering | LS/LF | 1 | $3.50 |
| 4 | Saw cut, remove, and dispose of existing asphalt | LF | 1 | $2.55 |
| 5 | Remove and dispose of excavated material | CY/LF | 3.14 | $42.70 |
| 6 | Trench box 10'Hx16'L | LF | 1 | $0.62 |
| 7 | 10-inch diameter sewer | LF | 1 | $43.00 |
| 8 | Bedding sand | CY/LF | 0.1 | $1.50 |
| 9 | Granular borrow | CY/LF | 2.32 | $63.10 |
| 10 | 5-foot diameter concrete manhole on 6-foot x 6-foot concrete base (manhole spacing every 400-feet) | LF | 0.0025 | $25.00 |
| 11 | Untreated base course | CY/LF | 0.51 | $20.40 |
| 12 | Asphalt road (3-inch) | SY/LF | 1.76 | $26.57 |
| | | | **Subtotal** | **$248.94** |
| | | | Contingency (20%) | $49.79 |
| | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $29.87 |
| | | | Administrative and Legal Costs (5%) | $14.94 |
| | | | **Total 10-inch Diameter Sewer Cost per LF** | **$343.54** |
| **12-inch Diameter Sewer** | | | | |
| 1 | Mobilization and permits | LS/LF | 1 | $13.25 |
| 2 | Traffic control and flagging | LS/LF | 1 | $6.75 |
| 3 | De-watering | LS/LF | 1 | $3.50 |
| 4 | Saw cut, remove, and dispose of existing asphalt | LF | 1 | $2.55 |
| 5 | Remove and dispose of excavated material | CY/LF | 3.14 | $42.70 |
| 6 | Trench box 10'Hx16'L | LF | 1 | $0.62 |
| 7 | 12-inch diameter sewer | LF | 1 | $47.82 |
| 8 | Bedding sand | CY/LF | 0.1 | $1.50 |
| 9 | Granular borrow | CY/LF | 2.32 | $63.10 |
| 10 | 5-foot diameter concrete manhole on 6-foot x 6-foot concrete base (manhole spacing every 400-feet) | LF | 0.0025 | $25.00 |
| 11 | Untreated base course | CY/LF | 0.51 | $20.40 |
| 12 | Asphalt road (3-inch) | SY/LF | 1.76 | $26.57 |
| | | | **Subtotal** | **$253.76** |
| | | | Contingency (20%) | $50.75 |
| | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $30.45 |
| | | | Administrative and Legal Costs (5%) | $15.23 |
| | | | **Total 12-inch Diameter Sewer Cost per LF** | **$350.19** |
| **15-inch Diameter Sewer** | | | | |
| 1 | Mobilization and permits | LS/LF | 1 | $13.25 |
| 2 | Traffic control and flagging | LS/LF | 1 | $6.75 |
| 3 | De-watering | LS/LF | 1 | $3.50 |
| 4 | Saw cut, remove, and dispose of existing asphalt | LF | 1 | $2.55 |
| 5 | Remove and dispose of excavated material | CY/LF | 3.14 | $42.70 |
| 6 | Trench box 10'Hx16'L | LF | 1 | $0.62 |
| 7 | 15-inch diameter sewer | LF | 1 | $75.75 |
| 8 | Bedding sand | CY/LF | 0.1 | $1.50 |
| 9 | Granular borrow | CY/LF | 2.32 | $63.10 |
| 10 | 5-foot diameter concrete manhole on 6-foot x 6-foot concrete base (manhole spacing every 400-feet) | LF | 0.0025 | $25.00 |
| 11 | Untreated base course | CY/LF | 0.51 | $20.40 |
| 12 | Asphalt road (3-inch) | SY/LF | 1.76 | $26.57 |
| | | | **Subtotal** | **$281.69** |
| | | | Contingency (20%) | $56.34 |
| | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $33.80 |
| | | | Administrative and Legal Costs (5%) | $16.90 |
| | | | **Total 15-inch Diameter Sewer Cost per LF** | **$388.73** |
| **18-inch Diameter Sewer** | | | | |

| | | | | |
|---|---|---|---|---|
| 1 | Mobilization and permits | LS/LF | 1 | $13.25 |
| 2 | Traffic control and flagging | LS/LF | 1 | $6.75 |
| 3 | De-watering | LS/LF | 1 | $3.50 |
| 4 | Saw cut, remove, and dispose of existing asphalt | LF | 1 | $2.55 |
| 5 | Remove and dispose of excavated material | CY/LF | 3.14 | $42.70 |
| 6 | Trench box 10'Hx16'L | LF | 1 | $0.62 |
| 7 | 18-inch diameter sewer | LF | 1 | $81.15 |
| 8 | Bedding sand | CY/LF | 0.1 | $1.50 |
| 9 | Granular borrow | CY/LF | 2.32 | $63.10 |
| 10 | 5-foot diameter concrete manhole on 6-foot x 6-foot concrete base (manhole spacing every 400-feet) | LF | 0.0025 | $25.00 |
| 11 | Untreated base course | CY/LF | 0.51 | $20.40 |
| 12 | Asphalt road (3-inch) | SY/LF | 1.76 | $26.57 |
| | | | **Subtotal** | **$287.09** |
| | | | Contingency (20%) | $57.42 |
| | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $34.45 |
| | | | Administrative and Legal Costs (5%) | $17.23 |
| | | | **Total 18-inch Diameter Sewer Cost per LF** | **$396.18** |

| **24-inch Diameter Sewer** | | | | |
|---|---|---|---|---|
| 1 | Mobilization and permits | LS/LF | 1 | $13.25 |
| 2 | Traffic control and flagging | LS/LF | 1 | $6.75 |
| 3 | De-watering | LS/LF | 1 | $3.50 |
| 4 | Saw cut, remove, and dispose of existing asphalt | LF | 1 | $2.55 |
| 5 | Remove and dispose of excavated material | CY/LF | 3.14 | $42.70 |
| 6 | Trench box 10'Hx16'L | LF | 1 | $0.62 |
| 7 | 24-inch diameter sewer | LF | 1 | $92.00 |
| 8 | Bedding sand | CY/LF | 0.1 | $1.50 |
| 9 | Granular borrow | CY/LF | 2.32 | $63.10 |
| 10 | 5-foot diameter concrete manhole on 6-foot x 6-foot concrete base (manhole spacing every 400-feet) | LF | 0.0025 | $25.00 |
| 11 | Untreated base course | CY/LF | 0.51 | $20.40 |
| 12 | Asphalt road (3-inch) | SY/LF | 1.76 | $26.57 |
| | | | **Subtotal** | **$297.94** |
| | | | Contingency (20%) | $59.59 |
| | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $35.75 |
| | | | Administrative and Legal Costs (5%) | $17.88 |
| | | | **Total 24-inch Diameter Sewer Cost per LF** | **$411.16** |

| **42-inch Diameter Sewer** | | | | |
|---|---|---|---|---|
| 1 | Mobilization and permits | LS/LF | 1 | $13.25 |
| 2 | Traffic control and flagging | LS/LF | 1 | $6.75 |
| 3 | De-watering | LS/LF | 1 | $3.50 |
| 4 | Saw cut, remove, and dispose of existing asphalt | LF | 1 | $2.55 |
| 5 | Remove and dispose of excavated material | CY/LF | 3.14 | $42.70 |
| 6 | Trench box 10'Hx16'L | LF | 1 | $0.62 |
| 7 | 42-inch diameter sewer | LF | 1 | $110.00 |
| 8 | Bedding sand | CY/LF | 0.1 | $1.50 |
| 9 | Granular borrow | CY/LF | 2.32 | $63.10 |
| 10 | 5-foot diameter concrete manhole on 6-foot x 6-foot concrete base (manhole spacing every 400-feet) | LF | 0.0025 | $25.00 |
| 11 | Untreated base course | CY/LF | 0.51 | $20.40 |
| 12 | Asphalt road (3-inch) | SY/LF | 1.76 | $26.57 |
| | | | **Subtotal** | **$315.94** |
| | | | Contingency (20%) | $63.19 |
| | | | Engineering, Surveying, and Construction Management and Inspection Costs (10%) | $37.91 |
| | | | Administrative and Legal Costs (5%) | $18.96 |
| | | | **Total 42-inch Diameter Sewer Cost per LF** | **$436.00** |

# APPENDIX K: WATER RIGHTS CALCULATIONS

| WR # | Use | Quantity (ac-ft) | Grouped With |
|---|---|---|---|
| 15-91 | Mun | 590.5523 | |
| 15-293 | Mun | 142 | |
| 15-305 | - | - | 15-91 |
| 15-376 | Mun | 868.76 | - |
| 15-381 | Mun | 312.16 | |
| 15-388 | - | - | 15-91 |
| 15-399 | Mun | 161.68 | |
| 15-477 | - | - | 15-91 |
| 15-481 | Mun | 294.56 | |
| 15-505 | Mun | 202 | |
| 15-506 | - | - | 15-91 |
| 15-516 | Mun | 3619.84 | - |
| 15-635 | Mun | 112.88 | |
| 15-636 | - | - | 15-635 |
| 15-638 | - | - | 15-381 |
| 15-639 | - | - | 15-381 |
| 15-775 | - | - | 15-293 |
| 15-776 | - | - | 15-293 |
| 15-787 | Mun | 240.964 | |
| 15-814 | Mun | 177.66 | |
| 15-815 | - | - | 15-814 |
| 15-829 | Mun | 1.4 | |
| 15-916 | Mun | 4.82 | |
| 15-938 | Mun | 6.77 | |
| 15-940 | - | - | 15-938 |
| 15-965 | Mun | 4.25 | |
| 15-1033 | Mun | 3.84 | |
| 15-1053 | - | - | 15-787 |
| 15-1060 | Mun | 97 | |
| 15-1139 | - | - | 15-293 |
| 15-1153 | - | - | 15-787 |
| 15-1154 | - | - | 15-787 |
| 15-1155 | - | - | 15-787 |
| 15-1156 | - | - | 15-787 |
| 15-1199 | - | - | 15-814 |
| 15-1201 | - | - | 15-814 |
| 15-1228 | - | - | 15-965 |
| 15-1292 | Mun | 139.556 | |
| 15-1308 | - | - | 15-787 |
| 15-1309 | - | - | 15-787 |
| 15-1382 | - | - | 15-1060 |
| 15-1383 | - | - | 15-1060 |
| 15-1384 | - | - | 15-1060 |
| 15-1385 | - | - | 15-1060 |
| 15-1388 | Mun | 93.34 | |
| 15-1389 | Mun | 12.4275 | |
| 15-1390 | - | - | 15-814 |
| 15-1391 | - | - | 15-814 |
| 15-1392 | - | - | 15-814 |
| 15-1393 | - | - | 15-814 |
| 15-1699 | Mun | 10.86 | - |
| 15-1938 | Mun | 320 | |
| 15-1989 | Rec | - | - |
| 15-2625 | Mun | 0.45 | |
| 15-2761 | - | - | 15-91 |
| 15-2770 | - | - | 15-1292 |
| 15-2791 | - | - | 15-916 |
| 15-4170 | - | - | 15-1388 |
| 15-4201 | - | - | 15-1388 |
| 15-4254 | Mun | 15 | |
| 15-4431 | Mun | 32 | |
| 15-4454 | Mun | 20 | |
| 15-4511 | Mun | 513.5 | |
| 15-4524 | Mun | 21.92 | |
| 15-4525 | Mun | 18.98 | |
| 15-4526 | Mun | 55.788 | |
| 15-4528 | Mun | 20 | |
| 15-4628 | Mun | 2 | |
| 15-4634 | - | - | 15-91 |
| 15-4654 | Mun | 10 | |
| 15-4656 | - | - | 15-1292 |
| 15-4668 | Mun | 600 | |
| 15-4890 | Mun | 102.75 | |
| 15-4918 | - | - | 15-1033 |
| 15-4927 | - | - | 15-1292 |
| 15-5072 | Mun | 50 | |
| 15-5099 | Mun | 48.64 | |
| 15-5101 | Mun | 24.6 | |
| 15-5148 | - | - | 15-1060 |
| 15-5149 | - | - | 15-1060 |
| 15-5173 | Mun | 10 | |
| 15-5228 | Mun | 150 | |
| 15-5232 | Mun | 100 | |
| 15-5246 | Mun | 42.2 | |
| 15-5345 | Mun | 16.35 | |
| 15-5393 | Mun | 27.162 | |
| 15-5402 | Mun | 65 | |
| 15-5436 | Mun | 134 | |
| 15-5517 | Mun | 49.64 | |
| 15-5535 | - | - | 15-965 |
| 15-5548 | Mun | 42.65 | |
| 15-5571 | Mun | 260 | |
| 15-5573 | Mun | 87.12 | |
| 15-5668 | Mun | 80.54 | |
| 15-5689 | - | - | 15-1389 |
| 15-5690 | - | - | 15-1388 |
| 15-5691 | - | - | 15-4526 |
| 15-5697 | Mun | 40 | |
| 15-5701 | Mun | 25 | |
| | | **10,082.6098** | |

# GRANTSVILLE CITY

## XERISCAPE IRRIGATION DEMANDS (60% EFF)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AVERAGE GROWING SEASON:<br>(@ Elevation 4800 +/- feet average) | | | | | | 213 | Days (Conservative) |
| UTAH IRRIGATION ZONE: | | | | | | 4 | UDDW<br>(moderately high) |
| UTAH WATER RIGHTS DUTY ZONE<br>(AF/ACRE) | | | | | | 4 | |
| * PEAK DAY CONSUMPTIVE USE (C.U./ET)<br>(NWS station at Tooele using data from Grantsville) | Turf | | peak month | | July | 5.08 | in/month |
| (115% * ave day of peak month) | Turf grass = | 0.16 | $\frac{in}{day}$ * | 1.15 | = | 0.19 | in/day |
| * SEASONAL CONSUMPTIVE USE (C.U.)/ET | Turf grass = | 24.3 | $\frac{in}{yr}$ * | 1.00 | = | 24.28 | in/yr |

SEASONAL GROSS REQUIREMENTS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SEASONAL CONSUMPTIVE USE (C.U.) = | | | | | | 24.28 | in/yr |
| | | | | Less soil moisture | - | 0.75 | in/yr |
| | | | | (fine sands 0.75 in/ft*1ft effective root zone) | | | |
| | | | | Less rainfall average (during Irrigation season) 80% of rain during irrig season | - | 8.472 | in/yr |
| NET SEASONAL CONSUMPTIVE USE (C.U.)/ET | | | | | = | 15.06 | in/yr |

GROSS IRRIGATION REQUIREMENTS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Assumed Efficiency = 60.0%<br>Seasonal: | | | | | | | |
| Net C.U./Efficiency | | 15.06 | $\frac{in}{yr}$ ÷ | 60.0% | = | 25.10 | in/yr |
| IF NO RAIN OCCURS AND NO SOIL MOISTURE<br>(SEASONAL CONSUMPTIVE USE (C.U.)) | | 24.3 | $\frac{in}{yr}$ ÷ | 60.0% | = | 40.47 | in/yr |
| AC-FT/ACRE Conversion | 40.47 | $\frac{in}{yr} * 43{,}560 \frac{ft^2}{acre} * 7.48 \frac{gal}{ft^3} \Big/ 12 \frac{in}{ft} * 325{,}851 \frac{gal}{acre \cdot ft}$ | | | = | **3.37** | **ac-ft/acre** |
| **If conservation is practiced** | | | Turf | 35% | | 3.37 | ac-ft/acre |
| | | | Xeriscape | 65% | | 1.69 | ac-ft/acre (assumed 35% of turf) |
| | | | **Weighted Average** | **100%** | | **2.28** | **ac-ft/acre** |
| | | | | | | 0.683512 | |
| | | | | | | 0.316488 | |
| Peak Day<br>Peak C.U. / Efficiency | | 0.188 | $\frac{in}{day}$ ÷ | 60.0% | = | 0.314 | in/day |
| gpm/ac Conversion | 0.314 | $\frac{in}{day} * 43{,}560 \frac{ft^2}{acre} * 7.48 \frac{gal}{ft^3} \Big/ 12 \frac{in}{ft} * 1{,}440 \frac{min}{day}$ | | | = | **5.92** | gpm/ac |
| **If conservation is practiced** | | | Turf | 35% | | 5.92 | gpm/acre |
| | | | Xeriscape | 65% | | 2.96 | gpm/acre (assumed 35% of turf) |
| | | | **Weighted Average** | **100%** | | **4.00** | **gpm/acre** |
| gpd/ac Conversion with no conservation | | 5.92 | $\frac{gpm}{acre} * 1{,}440 \frac{min}{day}$ | | = | **8,530** | **gpd/ac**<br>(Peak Day Demand) |
| **gpd/acre conversion if conservation practiced** | | 4.00 | $\frac{gpm}{acre} * 1{,}440 \frac{min}{day}$ | | = | **5,760** | **gpd/ac**<br>(Peak Day Demand) |

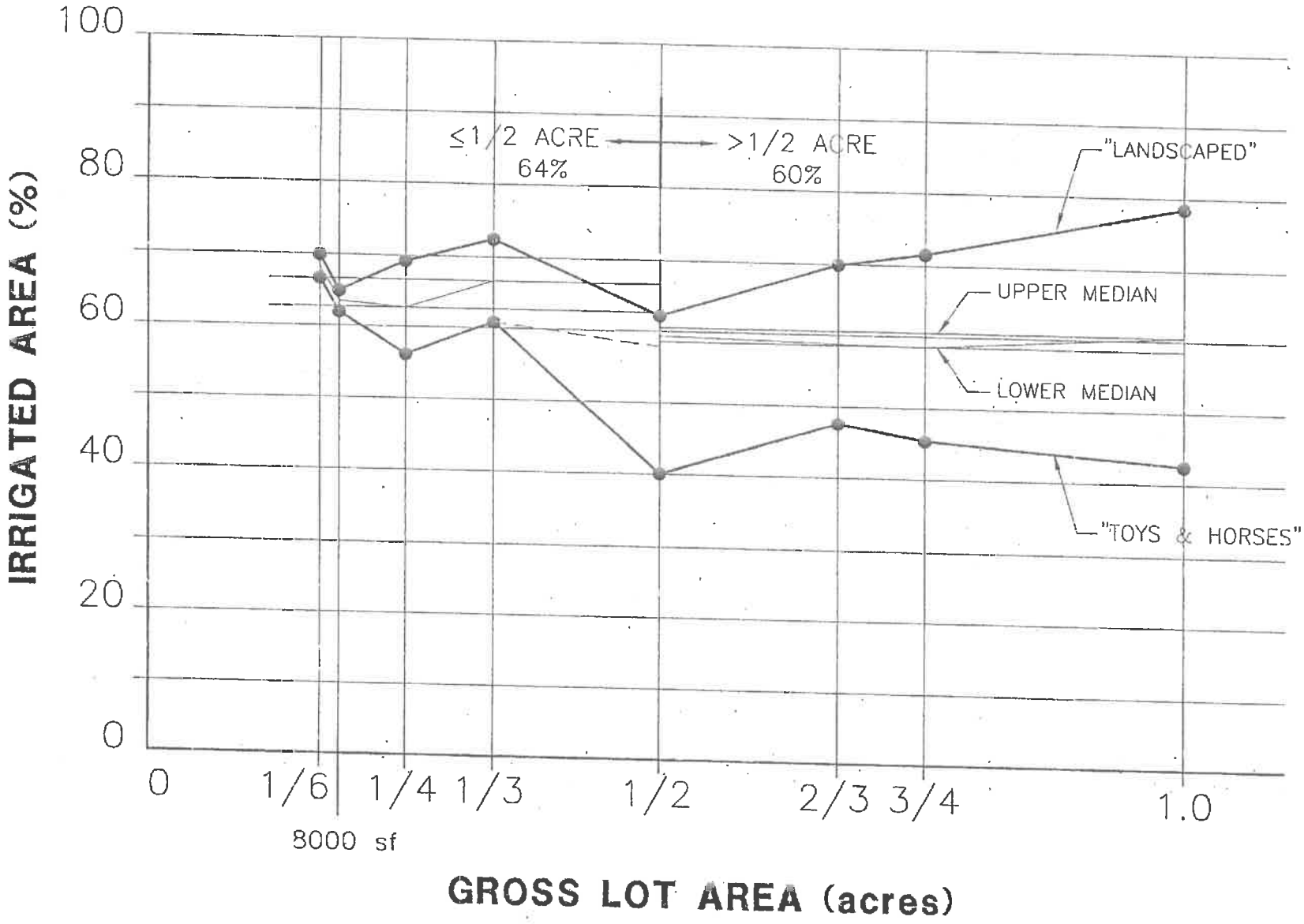
* Data taken from the Utah Division of Water Rights Consumptive Use Tables (http://nrwrt1.nr.state.ut.us/techinfo/consumpt/default.htm).

Ref: Ames Irrigation Handbook Third Edition 1967

Note: Xeriscape or Waterwise Irrigation Demand calculations shown is from the 2022 CFP, IFFP, and IFA Updates and was analyzed for the plan. This data and level of service (LOS) has not been updated for the 2024 CFP, IFFP, and IFA Amendments.

10-04 12 P CAD\Irr Graph

# PERCENTAGE OF LOT IRRIGATED



# IRRIGATED ACREAGE WORKSHEET - 1/6 ACRE LAWN

| | | |
|---|---|---|
| LOT AREA (square feet) | 7,200 | 80'x90' average lot size for very high density development |
| HOME FOOTPRINT | (1,200) | Assumes garage (25' x 25'), split level home (30' x 40') |
| DRIVEWAY | (600) | 20' x 30' |
| PATIO | (225) | 15' x 15' |
| SIDEWALK | (120) | 4' by 30' |
| RV PAD | 0 | none |
| PLAY ITEMS | (100) | 10' x 10' sand box |
| OUTBUILDINGS | (80) | 8' x 10' tuff shed |
| ANIMAL CONTAINMENT | (72) | 6' x 12' dog run |
| PARK STRIP (length of frontage - drive width) | 240 | 4' x (80' - 20') |
| **TOTAL IRRIGATED AREA (square feet)** | **5,043** | **70.0%** |

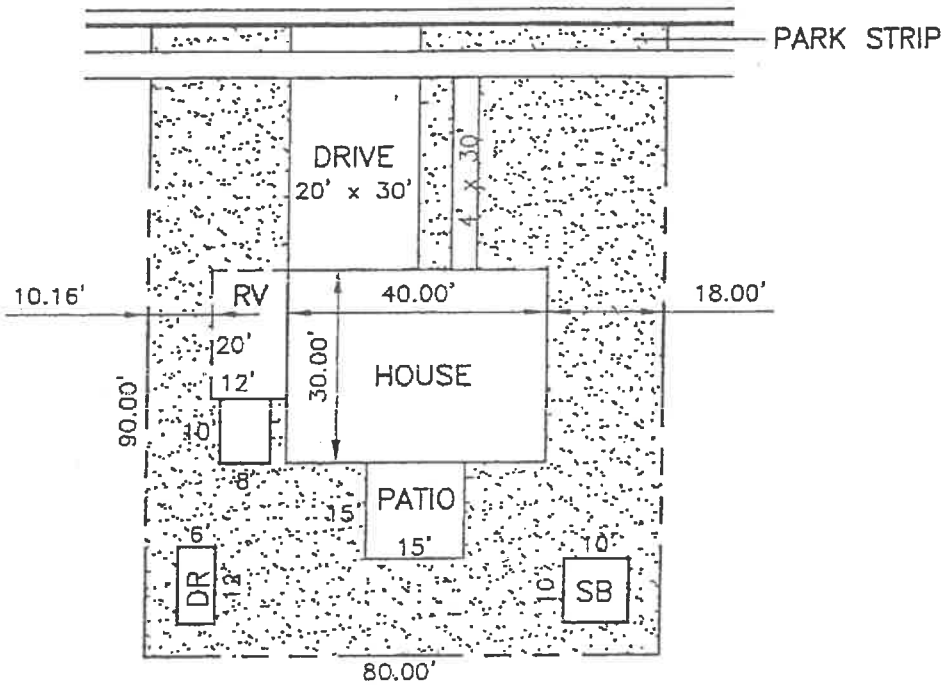
NOTE: Actual irrigated acreage will vary from lot to lot. This worksheet is intended to be an average only. Where actual data exists, it should be used.

# IRRIGATED ACREAGE WORKSHEET - 1/6 ACRE RV

| | | |
|---|---|---|
| LOT AREA (square feet) | 7,200 | 80'x90' average lot size for very high density development |
| HOME FOOTPRINT | (1,200) | Assumes garage (25' x 25'), split level home (30' x 40') |
| DRIVEWAY | (600) | 20' x 30' |
| PATIO | (225) | 15' x 15' |
| SIDEWALK | (120) | 4' by 30' |
| RV PAD | (240) | 12' x 20' |
| PLAY ITEMS | (100) | 10' x 10' sand box |
| OUTBUILDINGS | (80) | 8' x 10' tuff shed |
| ANIMAL CONTAINMENT | (72) | 6' x 12' dog run |
| PARK STRIP (length of frontage - drive width) | 240 | 4' x (80' - 20') |
| **TOTAL IRRIGATED AREA (square feet)** | **4,803** | **66.7%** |

NOTE: Actual irrigated acreage will vary from lot to lot. This worksheet is intended to be an average only. Where actual data exists, it should be used.

# 1/6 ACRE - RV


PARK STRIP
DRIVE
20' x 30'
4' X 30'
10.16'
RV
40.00'
18.00'
20'
12'
30.00'
HOUSE
90.00'
10'
8'
PATIO
15'
15'
6'
DR
12'
10'
SB
10'
80.00'

# IRRIGATED ACREAGE WORKSHEET - 8,000 SF LAWN

| | | |
|---|---|---|
| LOT AREA (square feet) | 8,000 | 80' x 100' lot size for high density development |
| HOME FOOTPRINT | (1,600) | Assumes garage (25' x 25'), split level home (35' x 45.7') |
| DRIVEWAY | (750) | 25' x30' |
| PATIO | (300) | 15' x 20' |
| SIDEWALK | (120) | 4' by 30' |
| RV PAD | 0 | none |
| PLAY ITEMS | (100) | 10' x 10' sandbox |
| OUTBUILDINGS | (80) | 8' x 10' tuff shed |
| ANIMAL CONTAINMENT | (72) | 6' x 12' dog run |
| PARK STRIP (length of frontage - drive width) | 220 | 4' x (80' - 25') |
| **TOTAL IRRIGATED AREA (square feet)** | **5,198** | **65.0%** |

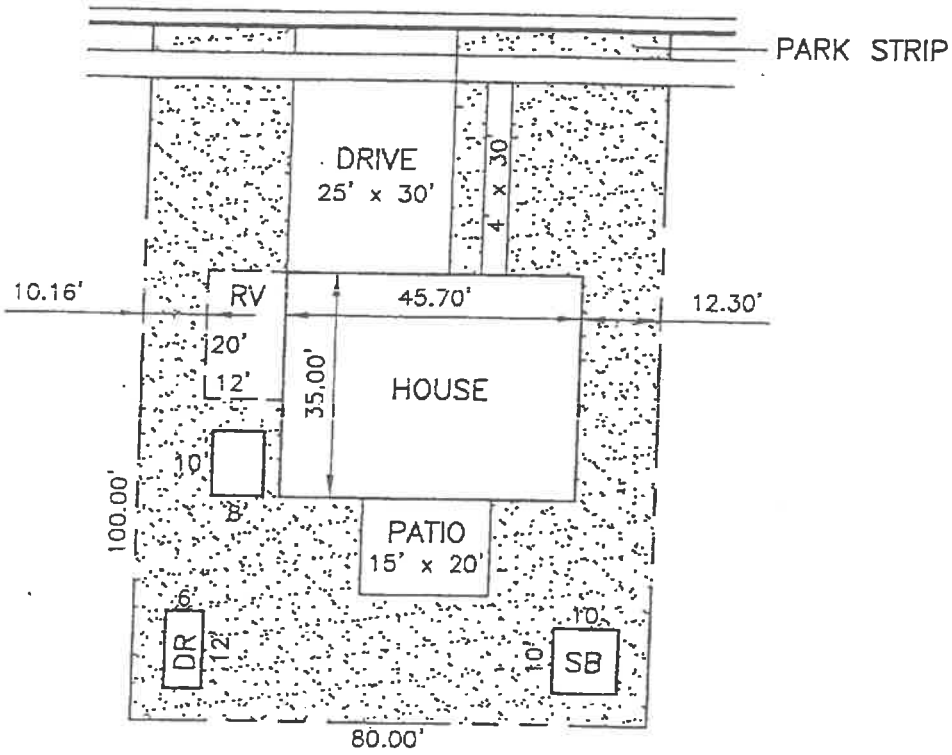
NOTE: Actual irrigated acreage will vary from lot to lot. This worksheet is intended to be an average only. Where actual data exists, it should be used.

# IRRIGATED ACREAGE WORKSHEET - 8,000 SF RV

| | | |
|---|---|---|
| LOT AREA (square feet) | 8,000 | 80' x 100' lot size for high density development |
| HOME FOOTPRINT | (1,600) | Assumes garage (25' x 25'), split level home (35' x 45.7') |
| DRIVEWAY | (750) | 25' x30' |
| PATIO | (300) | 15' x 20' |
| SIDEWALK | (120) | 4' by 30' |
| RV PAD | (240) | 12' x 20' |
| PLAY ITEMS | (100) | 10' x 10' sandbox |
| OUTBUILDINGS | (80) | 8' x 10' tuff shed |
| ANIMAL CONTAINMENT | (72) | 6' x 12' dog run |
| PARK STRIP (length of frontage - drive width) | 220 | 4' x (80' - 25') |
| **TOTAL IRRIGATED AREA (square feet)** | **4,958** | **62.0%** |

NOTE: Actual irrigated acreage will vary from lot to lot. This worksheet is intended to be an average only. Where actual data exists, it should be used.

# 8,000 SF - RV

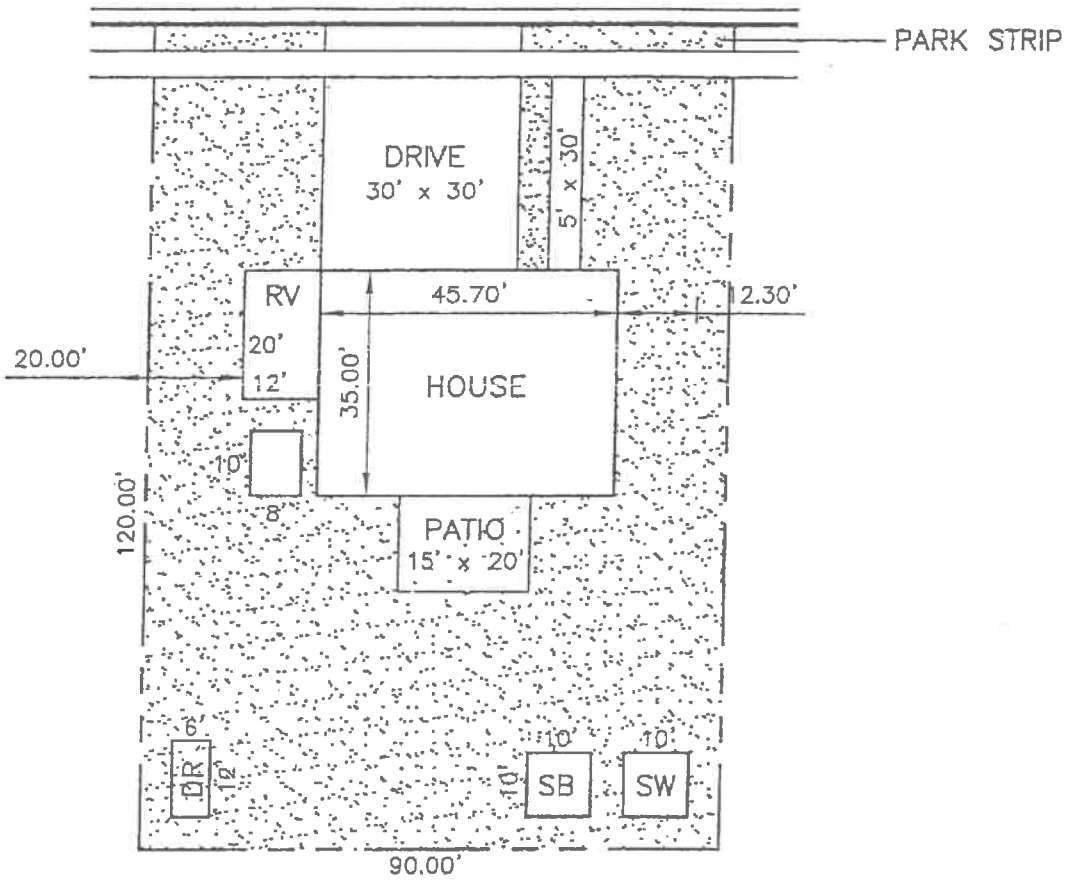

PARK STRIP
DRIVE
25' x 30'
4' x 30'
10.16'
RV
45.70'
12.30'
20'
12'
35.00'
HOUSE
10'
8'
100.00'
PATIO
15' x 20'
6'
DR
12'
10'
SB
10'
80.00'

# IRRIGATED ACREAGE WORKSHEET - 1/4 ACRE LAWN

| | | |
|---|---|---|
| LOT AREA (square feet) | 10,800 | 90' x 120' average lot size for high density development |
| HOME FOOTPRINT | (1,600) | Assumes garage (25' x 35'), split level home (35' x 45.7') |
| DRIVEWAY | (900) | 30' x30' |
| PATIO | (300) | 15' x 20' |
| SIDEWALK | (150) | 5' by 30' |
| RV PAD | (240) | 12' x 20' |
| PLAY ITEMS | (200) | 10' x 10' sandbox, 10' x 10' swing set |
| OUTBUILDINGS | (80) | 8' x 10' tuff shed |
| ANIMAL CONTAINMENT | (72) | 6' x 12' dog run |
| PARK STRIP (length of frontage - drive width) | 240 | 4' x (90' - 30') |
| **TOTAL IRRIGATED AREA (square feet)** | **7,498** | **69.4%** |

NOTE: Actual irrigated acreage will vary from lot to lot. This worksheet is intended to be an average only. Where actual data exists, it should be used.

# 1/4 ACRE LOT - LAWN

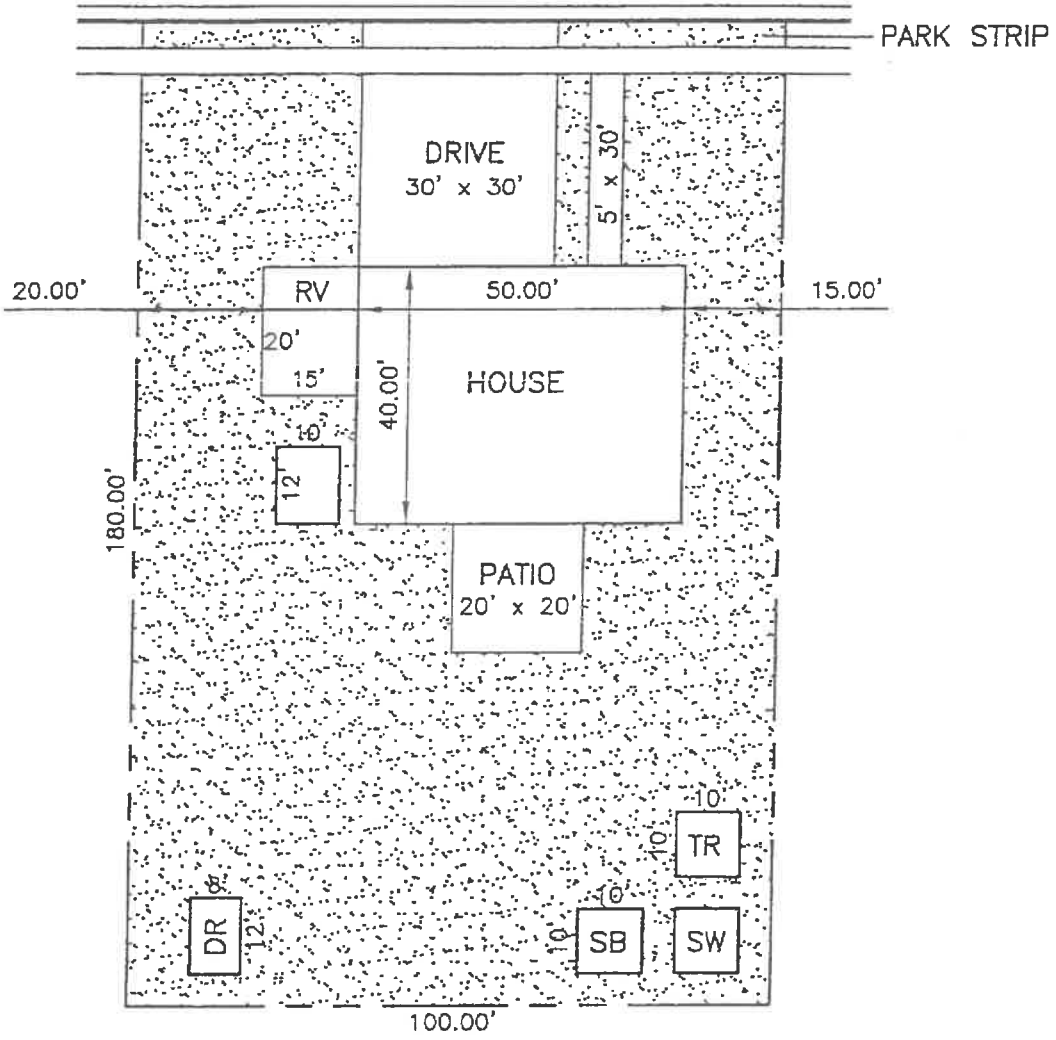


# IRRIGATED ACREAGE WORKSHEET - 1/4 ACRE SHOP

| | | |
|---|---|---|
| LOT AREA (square feet) | 10,800 | 90' x 120' average lot size for high density development |
| HOME FOOTPRINT | (1,600) | Assumes garage (25' x 35'), split level home (35' x 45.7') |
| DRIVEWAY | (900) | 30' x30' |
| PATIO | (300) | 15' x 20' |
| SIDEWALK | (150) | 5' by 30' |
| RV PAD | (240) | 12' x 20' |
| PLAY ITEMS | (200) | 10' x 10' sandbox, 10' x 10' swing set |
| OUTBUILDINGS | (1,500) | 20' x 30' shop, 90' x 10' gravel access drive |
| ANIMAL CONTAINMENT | (72) | 6' x 12' dog run |
| PARK STRIP (length of frontage - drive width) | 240 | 4' x (90' - 30') |
| **TOTAL IRRIGATED AREA (square feet)** | **6,078** | **56.3%** |

NOTE: Actual irrigated acreage will vary from lot to lot. This worksheet is intended to be an average only. Where actual data exists, it should be used.

# 1/3 ACRE LOT - LAWN

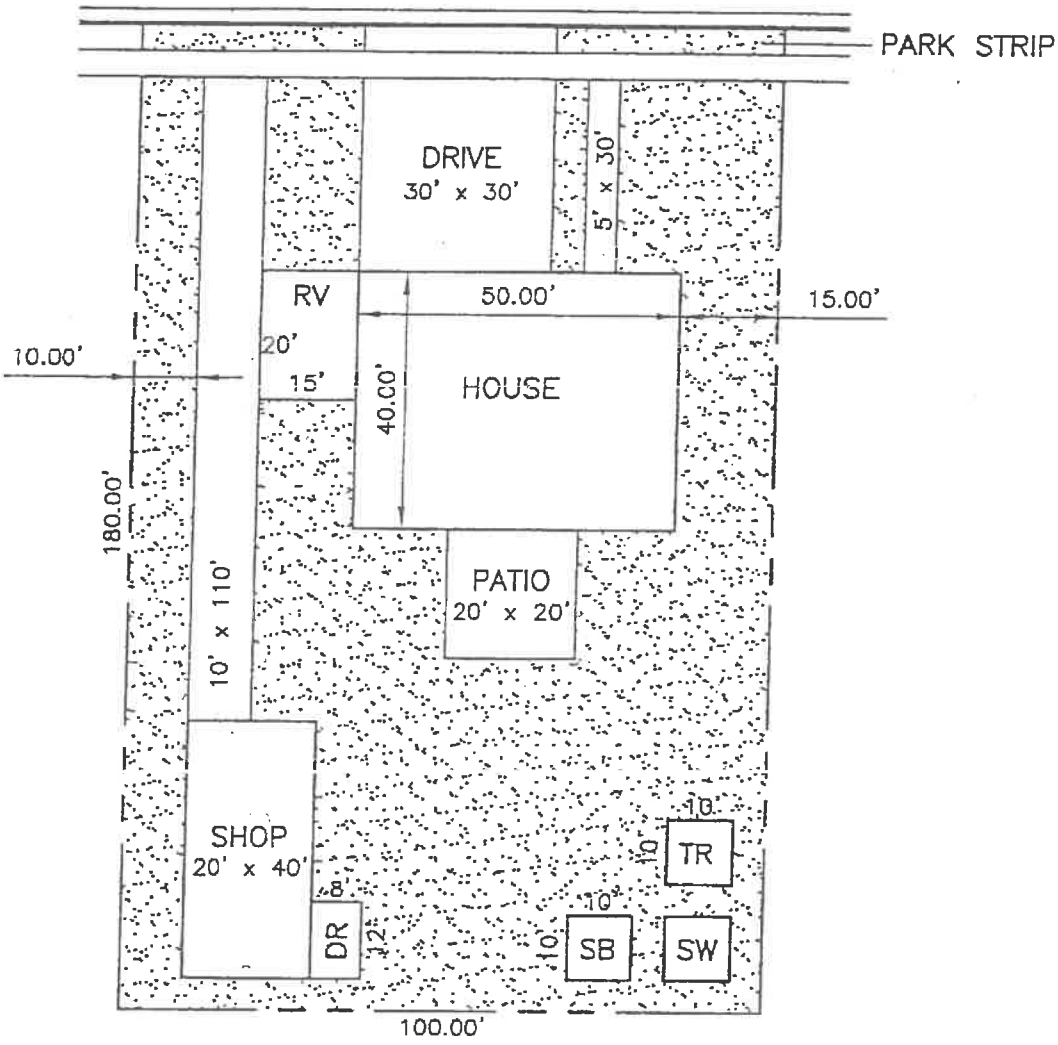


# IRRIGATED ACREAGE WORKSHEET - 1/3 ACRE SHOP

| | | |
|---|---|---|
| LOT AREA (square feet) | 14,500 | 100' x 145' average lot size for medium density development |
| HOME FOOTPRINT | (2,000) | Assumes garage (25' x 35'), split level home (40' x 50') |
| DRIVEWAY | (900) | 30' x30' |
| PATIO | (400) | 20' x 20' |
| SIDEWALK | (150) | 5' x 30' |
| RV PAD | (300) | 15' x 20' |
| PLAY ITEMS | (300) | 10' x 10' sandbox, 10' x 10' swing set, 10' x 10' trampoline |
| OUTBUILDINGS | (1,800) | 20' x 40' shop 100' x 10' gravel access drive |
| ANIMAL CONTAINMENT | (96) | 8' x 12' dog run |
| PARK STRIP (length of frontage - drive width) | 280 | 4' x (100' - 30') |
| **TOTAL IRRIGATED AREA (square feet)** | **8,834** | **60.9%** |

NOTE: Actual irrigated acreage will vary from lot to lot. This worksheet is intended to be an average only. Where actual data exists, it should be used.

# 1/3 ACRE LOT - SHOP



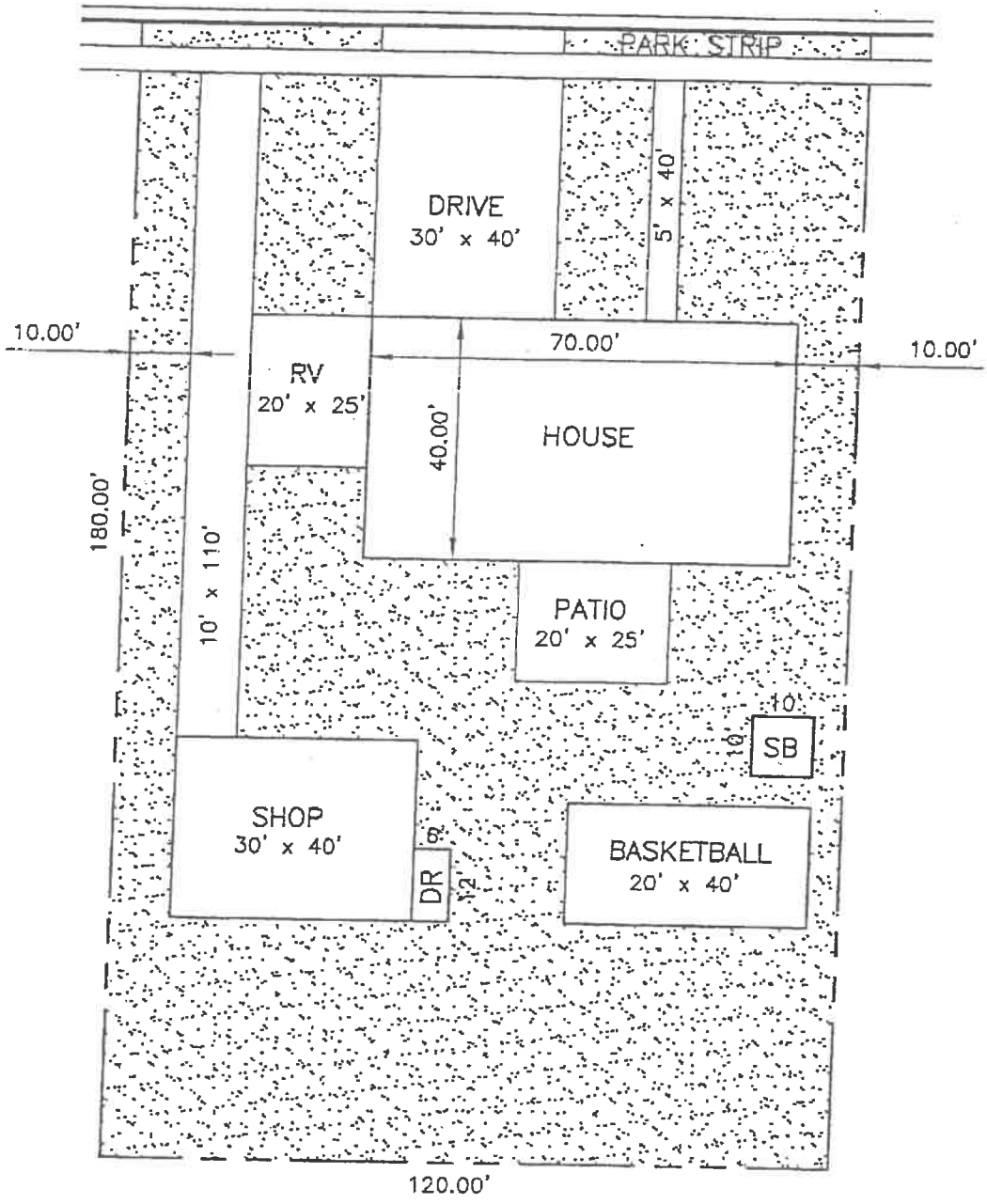
# IRRIGATED ACREAGE WORKSHEET - 1/2 ACRE LAWN

| | | |
|---|---|---|
| LOT AREA (square feet) | 21,600 | 120' x 180' average lot size for medium density development |
| HOME FOOTPRINT | (2,800) | Assumes garage (25' x 35'), split level home (40' x 70') |
| DRIVEWAY | (1,200) | 30' x 40' |
| PATIO | (500) | 25' x 20' |
| SIDEWALK | (200) | 5' x 40' |
| RV PAD | (500) | 20' x 25' |
| PLAY ITEMS | (900) | 10' x 10' sandbox, 20' x 40' basketball court |
| OUTBUILDINGS | (2,300) | 30' x 40' shop, 110' x 10' gravel access drive |
| ANIMAL CONTAINMENT | (72) | 6' x 12' dog run |
| PARK STRIP (length of frontage - drive width) | 360 | 4' x (120' - 30') |
| **TOTAL IRRIGATED AREA (square feet)** | **13,488** | **62.4%** |

NOTE: Actual irrigated acreage will vary from lot to lot. This worksheet is intended to be an average only. Where actual data exists, it should be used.

Assumes that large animals are kept on property, along with feed storage for the animal.

# 1/2 ACRE LOT - LAWN



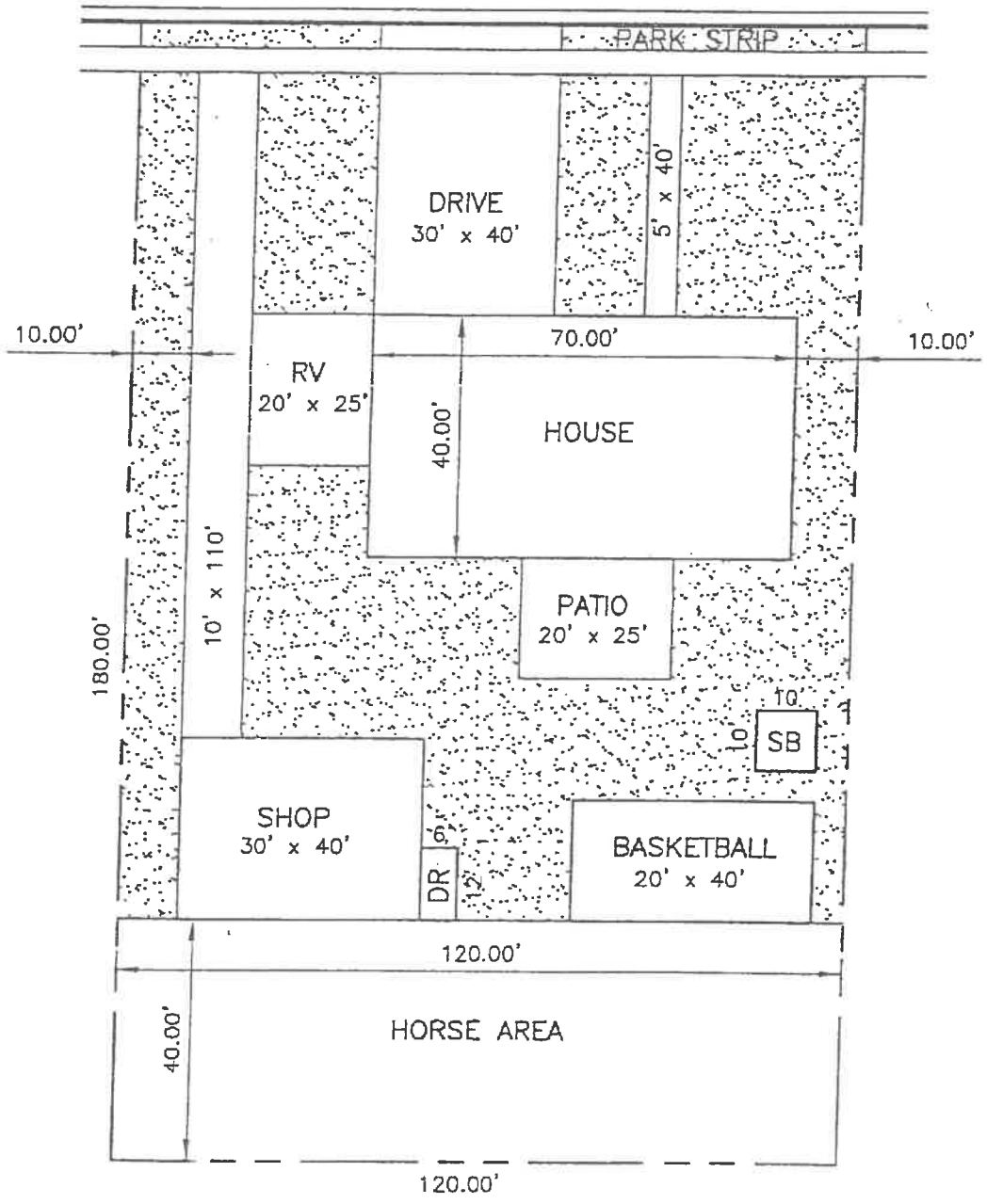
# IRRIGATED ACREAGE WORKSHEET - 1/2 ACRE HORSE

| | | |
|---|---|---|
| LOT AREA (square feet) | 21,600 | 120' x 180' average lot size for medium density development |
| HOME FOOTPRINT | (2,800) | Assumes garage (25' x 35'), split level home (40' x 70') |
| DRIVEWAY | (1,200) | 30' x 40' |
| PATIO | (500) | 25' x 20' |
| SIDEWALK | (200) | 5' by 40' |
| RV PAD | (500) | 20' x 25' |
| PLAY ITEMS | (900) | 10' x 10' sandbox, 20' x 40' basketball court |
| OUTBUILDINGS | (2,300) | 30' x 40' shop, 110' x 10' gravel access drive |
| ANIMAL CONTAINMENT | (4,872) | 6' x 12' dog run, 40' x 120' large animal corral & support area |
| PARK STRIP (length of frontage - drive width) | 360 | 4' x (120' - 30') |
| **TOTAL IRRIGATED AREA (square feet)** | **8,688** | **40.2%** |

NOTE: Actual irrigated acreage will vary from lot to lot. This worksheet is intended to be an average only. Where actual data exists, it should be used.

Assumes that large animals are kept on property, along with feed storage for the animal, and no animal containment area (pasture) is irrigated.

# 1/2 ACRE LOT - HORSE

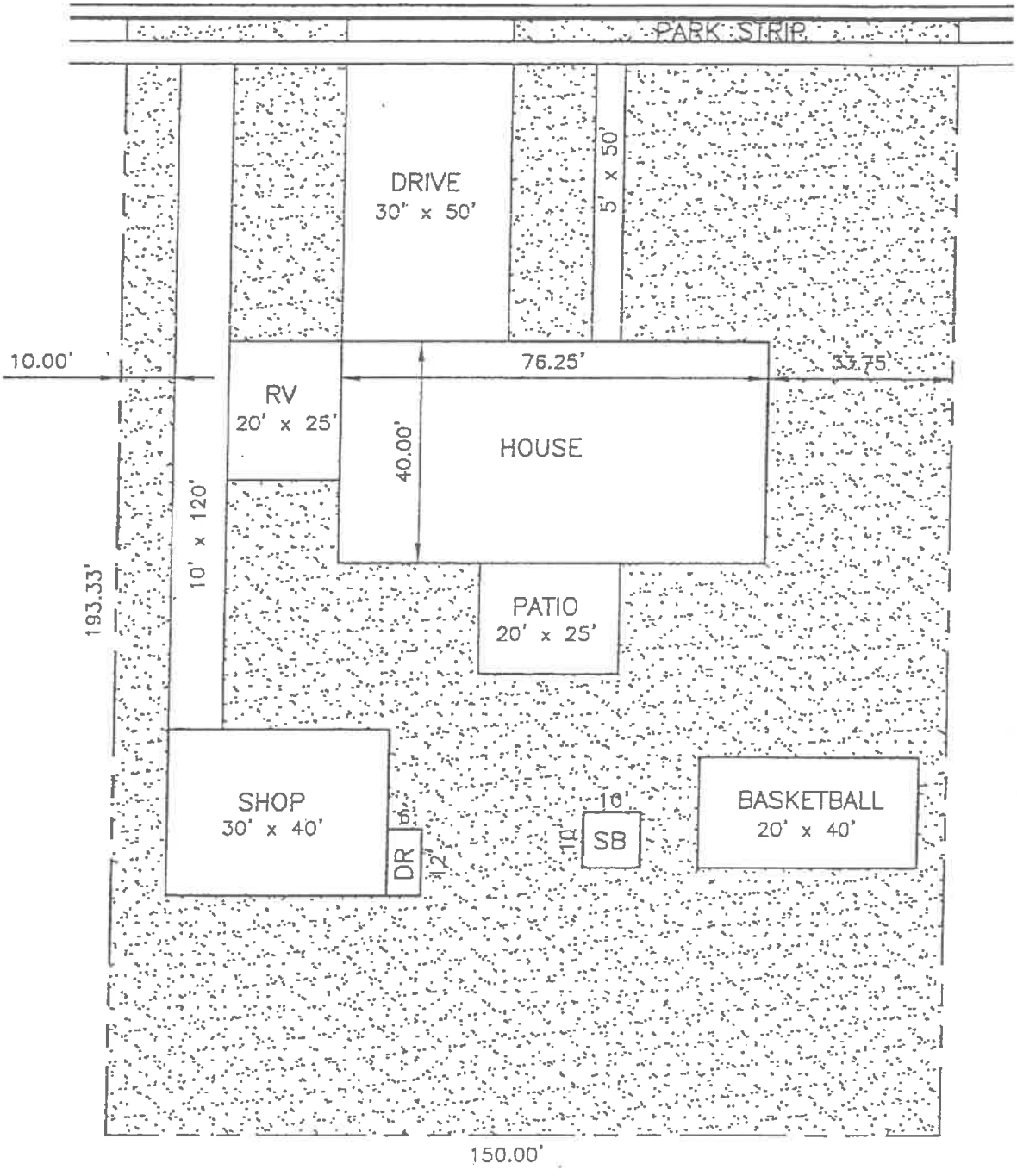


# IRRIGATED ACREAGE WORKSHEET - 2/3 ACRE LAWN

| | | |
|---|---|---|
| LOT AREA (square feet) | 29,000 | 150' x 193.33' average lot size for medium density developme |
| HOME FOOTPRINT | (3,050) | Assumes garage (25' x 35'), split level home (40' x 76.25') |
| DRIVEWAY | (1,500) | 30' x 50' |
| PATIO | (500) | 20' x 25' |
| SIDEWALK | (250) | 5' by 50' |
| RV PAD | (500) | 20' x 25' |
| PLAY ITEMS | (900) | 10' x 10' sandbox, 20' x 40' basketball court |
| OUTBUILDINGS | (2,400) | 30' x 40' shop, 120' x 10' gravel access drive |
| ANIMAL CONTAINMENT | (72) | 6' x 12' dog run |
| PARK STRIP (length of frontage - drive width) | 480 | 4' x (150' - 30') |
| **TOTAL IRRIGATED AREA (square feet)** | **20,308** | **70.0%** |

NOTE: Actual irrigated acreage will vary from lot to lot. This worksheet is intended to be an average only. Where actual data exists, it should be used.

# 2/3 ACRE LOT - LAWN



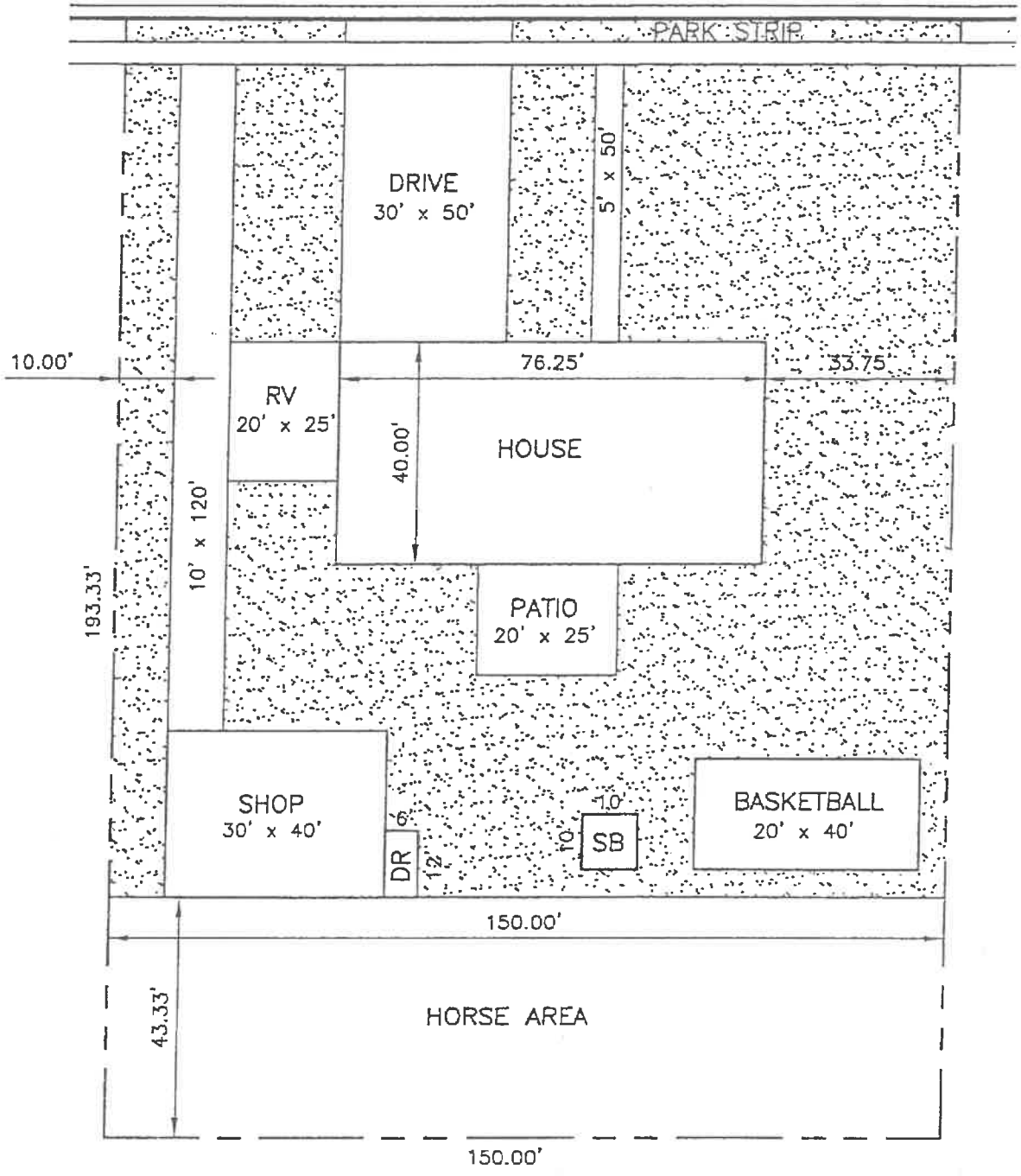
# IRRIGATED ACREAGE WORKSHEET - 2/3 ACRE HORSE

| | | |
|---|---|---|
| LOT AREA (square feet) | 29,000 | 150' x 193.33' average lot size for medium density developme |
| HOME FOOTPRINT | (3,050) | Assumes garage (25' x 35'), split level home (40' x 76.25') |
| DRIVEWAY | (1,500) | 30' x 50' |
| PATIO | (500) | 20' x 25' |
| SIDEWALK | (250) | 5' by 50' |
| RV PAD | (500) | 20' x 25' |
| PLAY ITEMS | (900) | 10' x 10' sandbox, 20' x 40' basketball court |
| OUTBUILDINGS | (2,400) | 30' x 40' shop, 120' x 10' gravel access drive |
| ANIMAL CONTAINMENT | (6,572) | 6' x 12' dog run, 40' x 120' large animal corral & support area |
| PARK STRIP (length of frontage - drive width) | 480 | 4' x (150' - 30') |
| **TOTAL IRRIGATED AREA (square feet)** | **13,809** | **47.6%** |

NOTE: Actual irrigated acreage will vary from lot to lot. This worksheet is intended to be an average only. Where actual data exists, it should be used.

Assumes that large animals are kept on property, along with feed storage for the animal, and no animal containment area (pasture) is irrigated.

# 2/3 ACRE LOT - HORSE

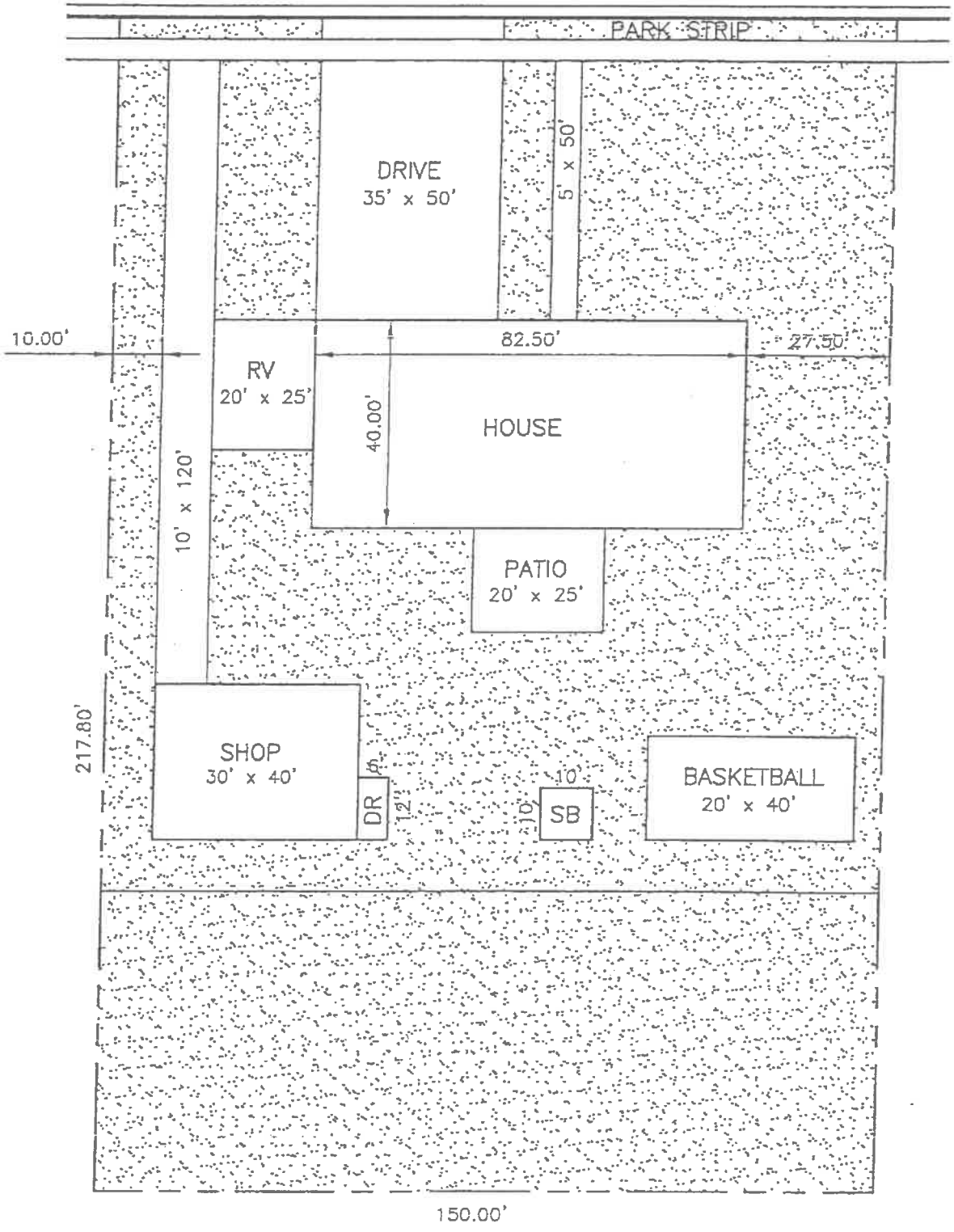


# IRRIGATED ACREAGE WORKSHEET - 3/4 ACRE LAWN

| | | |
|---|---|---|
| LOT AREA (square feet) | 32,670 | 150' x 217.8' average lot size for medium density development |
| HOME FOOTPRINT | (3,300) | Assumes garage (25' x 35'), split level home (40' x 82.5') |
| DRIVEWAY | (1,750) | 35' x 50' |
| PATIO | (500) | 20' x 25' |
| SIDEWALK | (250) | 5' by 50' |
| RV PAD | (500) | 20' x 25' |
| PLAY ITEMS | (900) | 10' x 10' sandbox, 20' x 40' basketball court |
| OUTBUILDINGS | (2,400) | 30' x 40' shop, 120' x 10' gravel access drive |
| ANIMAL CONTAINMENT | (72) | 6' x 12' dog run |
| PARK STRIP (length of frontage - drive width) | 460 | 4' x (150' - 35') |
| **TOTAL IRRIGATED AREA (square feet)** | **23,458** | **71.8%** |

NOTE: Actual irrigated acreage will vary from lot to lot. This worksheet is intended to be an average only. Where actual data exists, it should be used.

# 3/4 ACRE LOT - LAWN



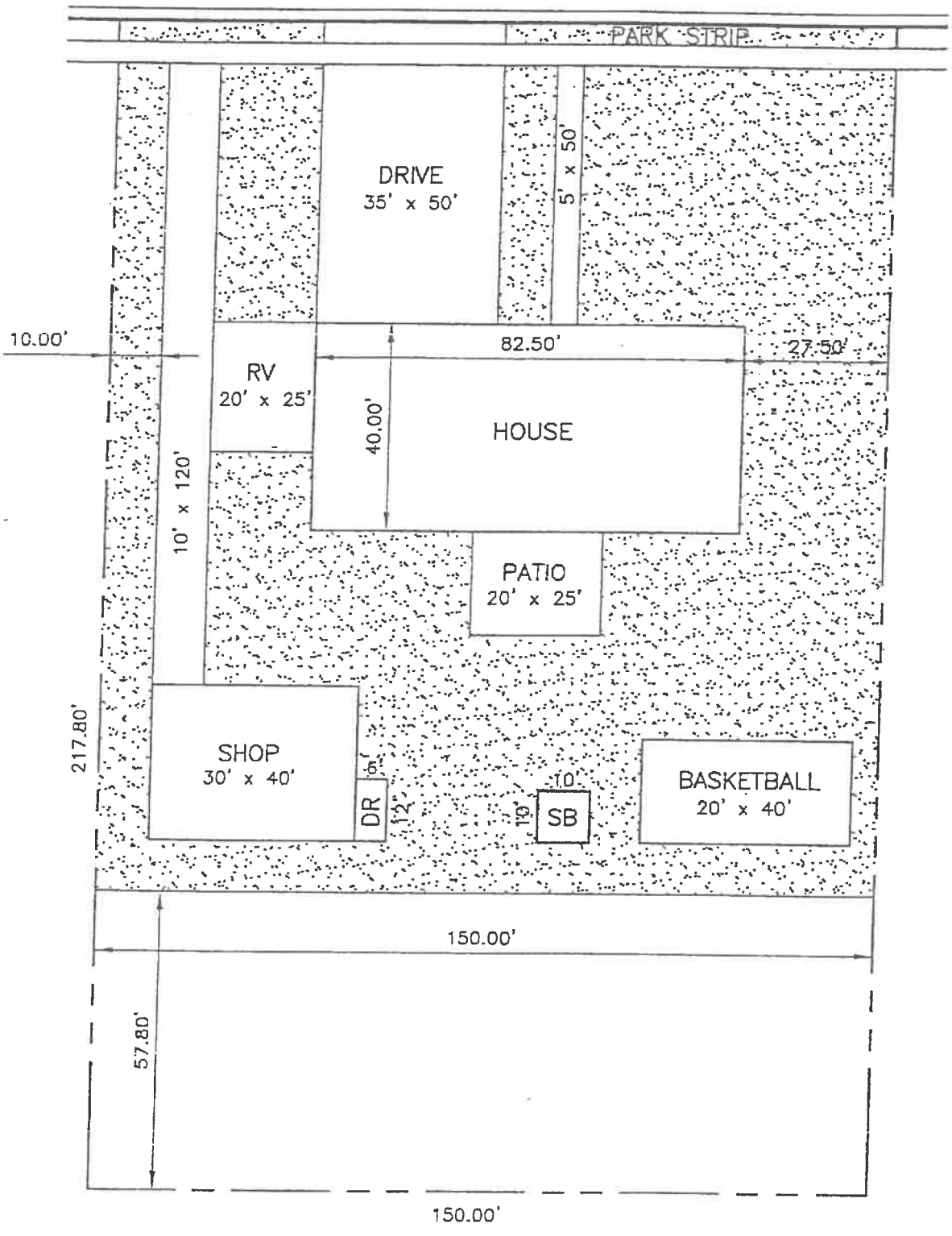
# IRRIGATED ACREAGE WORKSHEET - 3/4 ACRE HORSE

| | | |
|---|---|---|
| LOT AREA (square feet) | 32,670 | 150' x 217.8' average lot size for medium density development |
| HOME FOOTPRINT | (3,300) | Assumes garage (25' x 35'), split level home (40' x 82.5') |
| DRIVEWAY | (1,750) | 35' x 50' |
| PATIO | (500) | 20' x 25' |
| SIDEWALK | (250) | 5' by 50' |
| RV PAD | (500) | 20' x 25' |
| PLAY ITEMS | (900) | 10' x 10' sandbox, 20' x 40' basketball court |
| OUTBUILDINGS | (2,400) | 30' x 40' shop, 120' x 10' gravel access drive |
| ANIMAL CONTAINMENT | (8,742) | 6' x 12' dog run, 57.5' x 150' large animal corral/support area |
| PARK STRIP (length of frontage - drive width) | 460 | 4' x (150' - 35') |
| **TOTAL IRRIGATED AREA (square feet)** | **14,788** | **45.3%** |

NOTE: Actual irrigated acreage will vary from lot to lot. This worksheet is intended to be an average only. Where actual data exists, it should be used.

Assumes that large animals are kept on property, along with feed storage for the animal, and no animal containment area (pasture) is irrigated.

# 3/4 ACRE LOT - HORSE

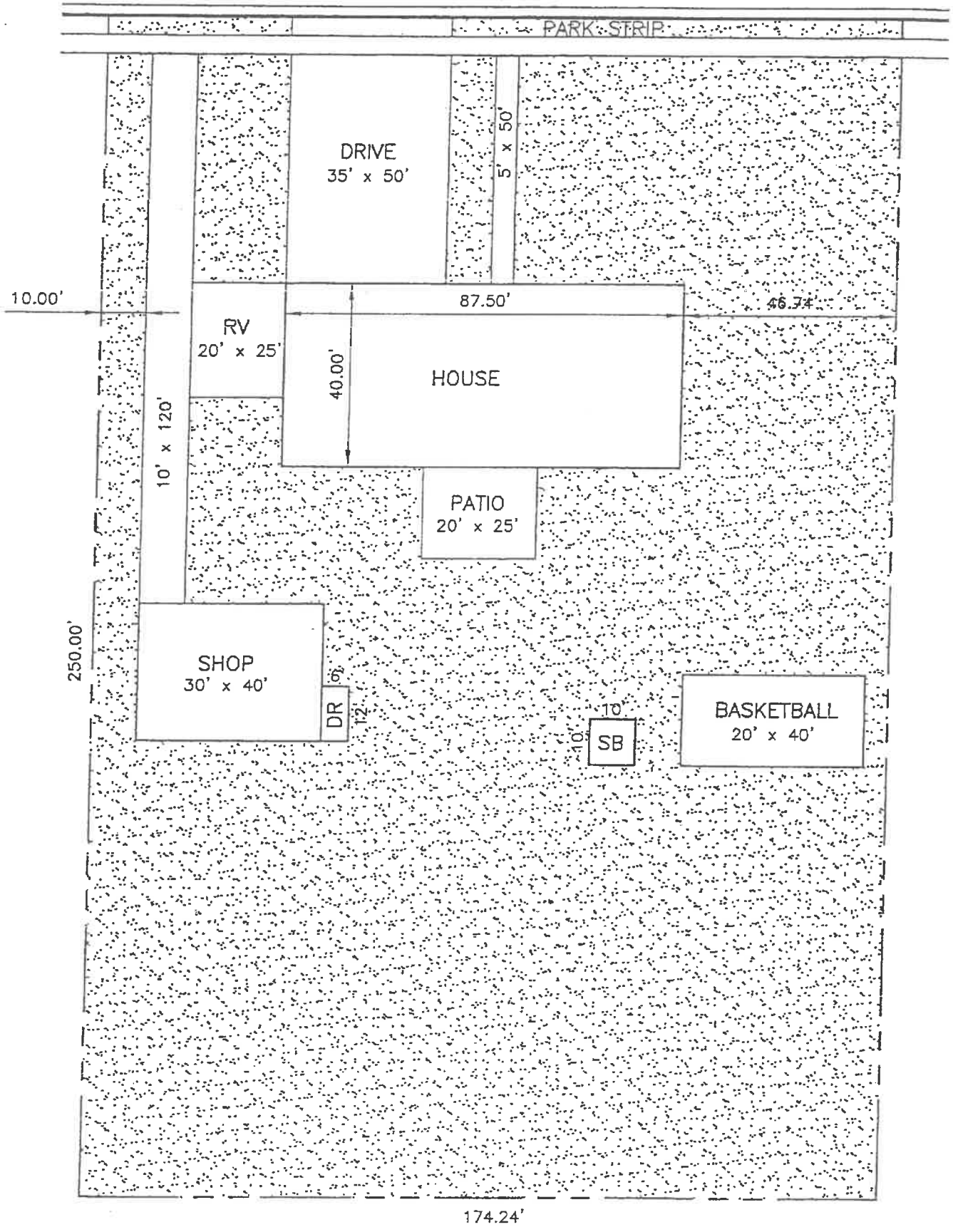


# IRRIGATED ACREAGE WORKSHEET - 1 ACRE LAWN

| | | |
|---|---|---|
| LOT AREA (square feet) | 43,560 | 174.24' x 250' average lot size for low density development |
| HOME FOOTPRINT | (3,500) | Assumes garage (25' x 35'), split level home (40' x 87.5') |
| DRIVEWAY | (1,750) | 35' x 50' |
| PATIO | (500) | 20' x 25' |
| SIDEWALK | (250) | 5' by 50' |
| RV PAD | (500) | 20' x 25' |
| PLAY ITEMS | (900) | 10' x 10' sandbox, 20' x 40' basketball court |
| OUTBUILDINGS | (2,400) | 30' x 40' shop, 120' x 10' gravel access drive |
| ANIMAL CONTAINMENT | (72) | 6' x 12' dog run |
| PARK STRIP (length of frontage - drive width) | 557 | 4' x (174.24' - 35') |
| **TOTAL IRRIGATED AREA (square feet)** | **34,245** | **78.6%** |

NOTE: Actual irrigated acreage will vary from lot to lot. This worksheet is intended to be an average only. Where actual data exists, it should be used.

# 1 ACRE LOT - LAWN



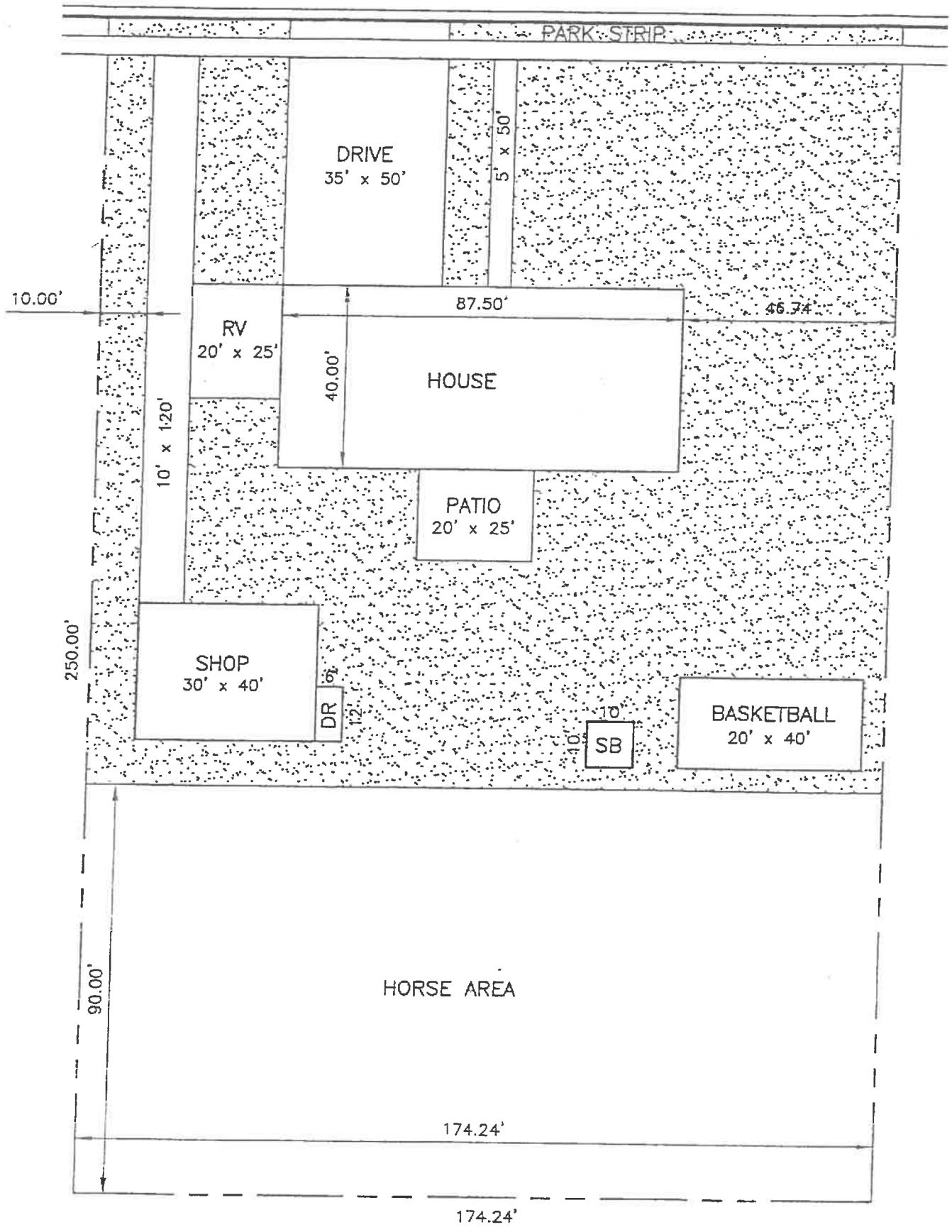
# IRRIGATED ACREAGE WORKSHEET - 1 ACRE HORSE

| | | |
|---|---|---|
| LOT AREA (square feet) | 43,560 | 174.24' x 250' average lot size for low density development |
| HOME FOOTPRINT | (3,500) | Assumes garage (25' x 35'), split level home (40' x 87.5') |
| DRIVEWAY | (1,750) | 35' x 50' |
| PATIO | (500) | 20' x 25' |
| SIDEWALK | (250) | 5' by 50' |
| RV PAD | (500) | 20' x 25' |
| PLAY ITEMS | (900) | 10' x 10' sandbox, 20' x 40' basketball court |
| OUTBUILDINGS | (2,400) | 30' x 40' shop, 120' x 10' gravel access drive |
| ANIMAL CONTAINMENT | (15,754) | 6' x 12' dog run, 90' x 174.24' large animal corral/support area |
| PARK STRIP (length of frontage - drive width) | 557 | 4' x (174.24' - 35') |
| **TOTAL IRRIGATED AREA (square feet)** | **18,563** | **42.6%** |

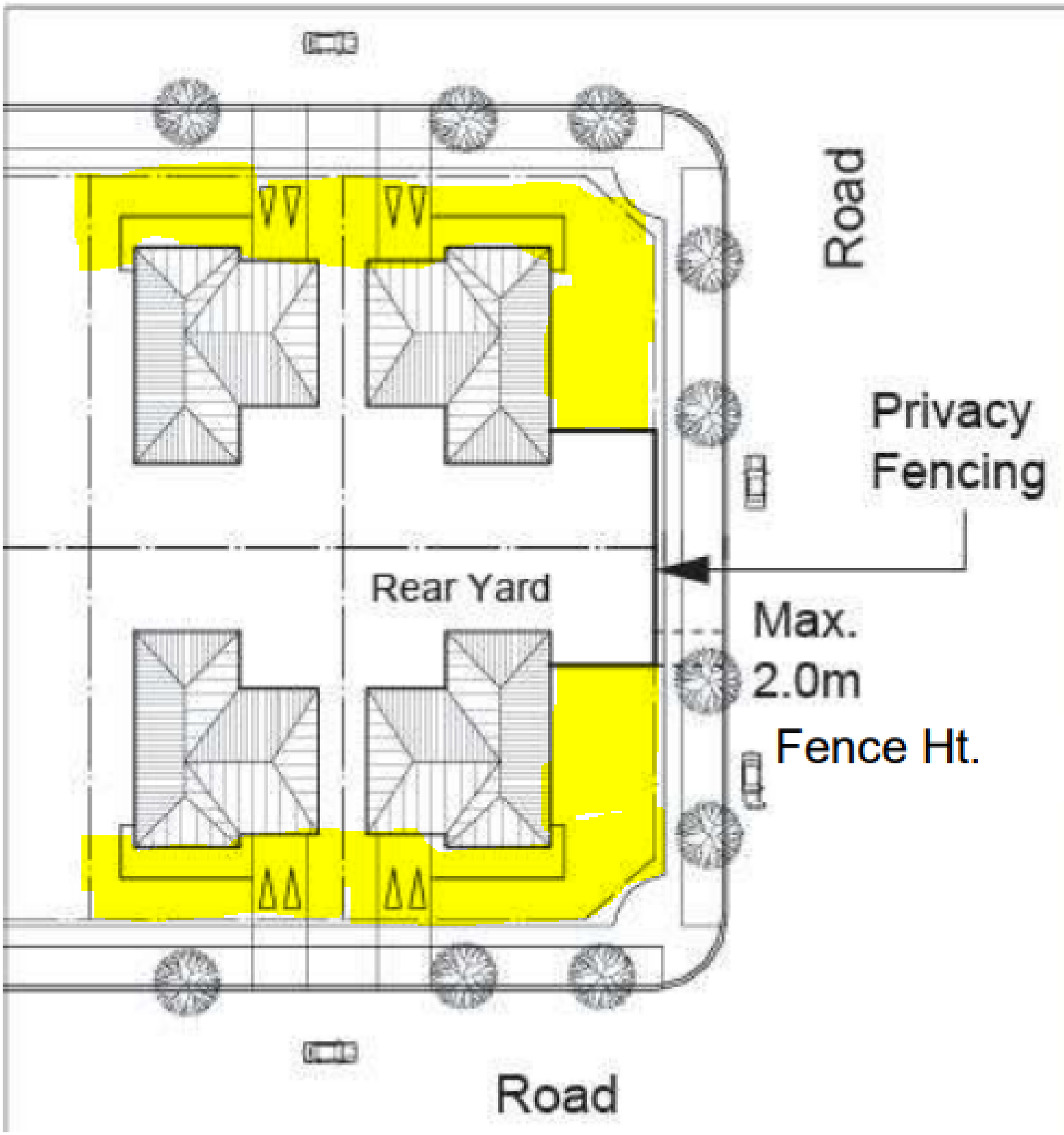
NOTE: Actual irrigated acreage will vary from lot to lot. This worksheet is intended to be an average only. Where actual data exists, it should be used.

Assumes that large animals are kept on property, along with feed storage for the animal, and no animal containment area (pasture) is irrigated.

# 1 ACRE LOT - HORSE



# Front Yard Definition for Waterwise Landscaping



# Appendix L: Grantsville City Storm Drainage Design Guidelines

# GRANTSVILLE CITY
# STORM DRAINAGE DESIGN GUIDELINES

**1. Storm Water Collection System Requirements**

a) Design Storms

i. The storm water pipe collection system shall be designed to convey the 24-hour duration – 10-year storm water event if continuous pathway to the Great Salt Lake. Collection systems for basin and street shall be sized for the 24-hour duration – 100-year storm water event when discharging to a detention /retention basin.

b) Storm Water Runoff into Street Encroachment Requirements

i. Flow from the 10-year storm shall not extend more that halfway into the travel lane adjacent to the curb and a minimum 12-foot wide travel lane shall be maintained for emergency vehicles. If there is a curb then no more than 8-feet from the curb face.

c) Easement and Access Requirements

i. Easement widths and access for drainage channels, detention basins, lots line swales, and public storm drainage lines shall be reviewed and approved by the City Engineer.

d) Acceptable Pipe Materials

i. Acceptable pipe materials include corrugated HDPE with smooth interior, corrugated PVC with smooth interior, and reinforced concrete pipe (RCP). Corrugated metal pipe (CMP0 is not acceptable for public improvements.

e) Minimum Pipe Diameter

i. The minimum pipe diameter for any public storm water collection system pipe is 15-inches.

f) Manhole Spacing

i. Minimum manhole spacing is 400-feet from pipes 21-inch diameter, unless otherwise approved by the City Engineer.

g) Manhole Drops

i. A minimum drop of 0.10feet is required at all storm drainage structures between the inlet and outlet pipe. Where changes in pipe sized occur in a manhole the inlet pipe crown must match the larger outlet pipe crown.

h) Cover

i. Minimum cover is 18-inches or 6 inches below the pavement section which ever is greater. Unless approved by City Engineer

i) Catch Basin Requirements

i. Catch basins will not be allowed on the radius of curves at intersections.

ii. Flow through catch basins shall not be allowed unless designed as a combination box with manhole lid access.

iii. A snout or similar oil/debris/water separator is required prior to a detention basin, retention basin, or any other discharges from a development into a public drainage.

j) Detention/Retention Basin Requirements

i. Maximum water level depths greater than 3-feet are required to have a 4-foot minimum fence around the basin to prevent animals and children from being harmed in the basin.

ii. Project needs to address the frontage storm water as part of the project.

iii. Retention basins shall completely infiltrate and drain within 72-hours from the beginning of a storm event for vector control. Percolation tests shall be completed for all infiltration basins and submitted with drainage calculations to the City for review.

k) Manning's n Values

i. n value for linings shall be determined per an approved Engineers Manual based on size and placement of materials. Calculations shall include the reference used for the n value for review by the City Engineer.

l) Rip-rap Sizing

i. Channel Riprap sizing calculations shall utilize the *Truckee Meadows Regional Drainage Manual* dated April 30, 2009 (see https://www.washoecounty.gov/csd/engineering_capitalprojects/files-engineering-capital-projects/tmrdm_final_043009.pdf)

m) Erosion Control

i. The developer would need to provide a copy of their Erosion Control Plans, SWPPP, Notice of Intent (NOI), and Notice of Termination (NOT) with the State if their construction project is greater than 1 acre.

## 2. Hydrology Requirements

a) Rainfall Data

i. NOAA Atlas 14 shall be used for rainfall in the City of Grantsville (see https://hdsc.nws.noaa.gov/hdsc/pfds_map_cont.html)

b) Design Storms

i. Detain 100-year 24-hour storm for project site

ii. For the West Bank drainage areas draining into your project you may discharge at the following rates until the 100-year storm volume that shall perc in 3 days:

**Table 1: Recommended Unit Discharge Requirement for the Baker and Pope Watersheds**

| 24-hour Duration Storm Event | Baker and Pope Watershed Peak Unit Discharge (cfs/acre) | All Other Watersheds Peak Unit Discharge (cfs/acre) |
|---|---|---|
| 10 year | 0.003 | 0.05 |
| 100 year | 0.01 | 0.15 |

Source: Table 17 in Section 5 from the Storm Water Management Study for Bake and Pope Watersheds dated April 2015 by AQUA Engineering

iii. Refer to Figure 1 for a map of Baker and Pope Watersheds.

## 3. Drainage Report Requirements

a) If discharge will be above the allowed discharge per area rates shown on Table 1 then a pre and post development hydrologic analysis will be required showing flows will not cause a negative affect downstream. The Rational Method (Q=CiA) may be used in computations for the rate of runoff for urban and small watershed 100 acres or less.

i. Q = peak rate of runoff, cubic feet per second

ii. C = runoff coefficient

iii. i = average rainfall intensity, inches per hour

b) The SCS method, SCS TR-55 "Urban Hydrology for Small Watershed", HEC-1/HEC-HMS, or other methods shall be used for larger watersheds.

c) Table 2 shall be used for runoff coefficients.

**Table 2: Runoff Coefficients**

| Land Use Type | Runoff Coefficients "C" |
|---|---|
| Rural | 0.25-0.35 |
| Single Family Residential | 0.45-0.60 |
| Multi-Residential | 0.60-0.70 |
| Neighborhood Commercial | 0.85 |
| Community Commercial | 0.85 |
| Tourist Commercial | 0.85 |
| Office | 0.85 |
| Manufacturing | 0.85-0.90 |
| Distribution and Warehousing | 0.85-0.90 |
| Public Facility | 0.50-0.85 |
| Pavement and Concrete Surfaces | 0.90-0.95 |
| Park | 0.25 |
| Open Space (0-5% grade – vegetated) | 0.20-.030 |
| Open Space (0-5% grade – no vegetation) | 0.30-0.40 |
| Open Space (5-15% grade – vegetated or unvegetated) | 0.40-0.50 |
| Open Space (Over 15% grade – sparsely vegetated, rock or clay soils | 0.40-0.60 |

i. Weighted values of the runoff coefficient "C" may be required where land use is most accurately described as a mixture of the land uses listed above or where it is a mixture of pervious and impervious areas and not represented by a single entry in **Table 2**

d) Intensity-Duration-Frequency curves for NOAA Atlas 14 shall be used for determining the applicable intensity. (see https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=ut)

e) Definition for Tome of Concentration

i. $t_c = 10$ or $\frac{L}{V \times 60}$ whichever is greater

$t_c$ = initial time of concentration at inlet, minutes
L = length from uppermost point of watershed inlet, feet
V = channel or overland velocity, feet per second

ii. Given the time of concentration at a design point, the time of concentration at the next design point is determined by adding travel time, expressed as:

iii. $t = \frac{L}{V \times 60}$.

t = travel time, minutes
L = length of channel or conduit between design points, feet
V = channel or conduit, feet per second

**4. Submittal Requirements for Drainage Drawings and Report**

a) Project Drawings

i. Hydraulic grade line (HGL) profiles, (see sample sheet).

ii. Location and size of all existing and proposed structures.

iii. Proposed materials.

iv. Pertinent elevations and slopes.

v. Pipe capacity and 10-year and 100-year flows and velocities.

b) Drainage Report – The following standards apply to the Drainage Report (public and private).

1. Title Page:
   a. Project name.
   b. Preparer's name, firm, date.
   c. Professional engineer's seal of preparer and signature.
2. Introduction:
   a. Site location:
      i. Street location, parcel number(s), and section reference.
      ii. Adjacent developments.
   b. Site description:
      i. Topography, ground cover, etc.
      ii. Existing drainage facilities, major drainage facilities, flood hazard areas, irrigation ditches, other site conditions that must be considered.
   c. Proposed project description.
   d. Other previous studies relevant to site.
3. Historic drainage system (discuss the following):
   a. Major basins and offsite contributions:
      i. Relationship to major drainage facilities.
      ii. Major basin drainage characteristics (topography, runoff, cover, use, erosion, etc.).
   b. Sub-basin and site drainage (1 and 2 may be tabulated on map):
      i. Minor (10-year) and major (100-year) storm flows for each sub-basin affecting the site.
      ii. Existing drainage patterns: channelized or overland flow, point of discharge, etc.
      iii. Effect of historic flows on adjacent properties.
4. Proposed (developed) drainage system (discuss each of the following):
   a. Criteria:
      i. Size of major basins, tributary sub-basins, and other offsite contributions.
      ii. Hydrologic method to be used for analysis (Rational, SCS, etc.).
      iii. Design storm intensities (minor 10-year, major 100-year) or as required by the City Engineer.
   b. Runoff and other contributions:
      i. Historic storm flow rates and paths.

ii. Developed storm flow rates and paths for minor and major storms.
iii. Contributions added form open joined system.
iv. Demonstrate that flows are routed to a public system with adequate capacity.

c. Piping:
i. Demonstrate the capacity of the storm drain system, including all downstream improvements.
ii. Verify storm flows from inlets to ultimate outlets of the drainage system.

d. Retention system including:
i. Volume required to hold 100-year storm with 1-foot freeboard minimum.
ii. Show the overflow location for volumes over the 100-year storm.
iii. Passage of storms exceeding the 5-year up to the 100-year.
iv. Engineer to provide detailed description of downstream constraints (or none) and design calculations on how to mitigate the problem.
v. Need for detention shall be clearly identified in the preliminary or schematic report and the necessary detention area shall be identified on preliminary plans.

e. Streets (This information may be shown on the plans.):
i. Depth and velocity of flow for major and minor storms. Demonstrate that a 12-foot clear lane exists for emergency vehicles at all times.
ii. Drainage system.

f. Open channel flow (This information may be shown on the plans.):
i. Type.
ii. Depth and velocity.
iii. Freeboard.
iv. HEC-RAS analysis when required by the City Engineer.

g. Storm drains and culverts (Show all data on plans.)

**5. Areas within flood hazard zone when applicable**

a) Impacts.

b) Protection.

c) Compliance with Federal Emergency Management Administration (FEMA) requirements, RMC 18.12 "Flood Hazard Areas", and critical flood zones. Show existing and proposed CLOMR and LOMR information, and show status of submittal and review process.

**6. Conclusions**

a) Benefits

b) Adverse effects with solutions for mitigation of impacts

**7. Appendices**

a) <u>Hydrologic and hydraulic computations:</u>
i. List and explain basin assumptions and input factors used
1) Tabularized and/or discussed as necessary.
2) Indicate any sensitivity analysis performed.
3) Include source tables and references for parameters, such as soil groups, SCS curve numbers, C values, n values, etc.

ii. Historic runoff:
1) Off-site.
2) On-site.

iii. Developed runoff:
   1) Off-site – Flows that have been concentrated into one area from the project shall not flow higher than the project flow in that area.
   2) On-site.

iv. Detention for up to the 100-year storm.

v. Hydraulic computations:
   1) Hydraulic grade line (HGL) minor storm.
   2) Hydraulic grade line (HGL) major storm.
   3) Inlet/outlet calculations.

vi. Rip-rap sizing.

b) Drainage plan:
   i. Site drainage plan:
      1) Show the existing and proposed contours for the property.
      2) The site drainage plan may be at the same scale as the grading plan but must meet legibility requirements for scanned documents. Show all sub-drainage areas per catch basin or channel and tabulate existing and proposed drainage showing length, assumed velocity and time of concentration on various runs of grass, gutters, etc., cumulative time of concentration, average rainfall intensity, area, runoff coefficient (weighted if necessary), and peak flows for 10-year and 100-year storms.
      3) All inlets and manholes shall be labeled to correspond to tabular numbering system used in drainage report. Pipe sizes, grades, velocities, peak flows and hydraulic grade lines shall be shown for all parts of the system in a tabular form on the plans.
      4) Both location plan (overall drainage) and sub-drainage plan shall be signed and sealed by a Utah Registered Civil Engineer and shall be included in the construction plans for the subdivision/development.
      5) On grading plans show peak flows for 10-year and 100-year storms at inlets and other sub-basin points of concentration, at discharge points and in channels. Show peak flows entering and leaving the site; trace path leaving site to nearest major drainage facility without adverse impact to downstream owners.
      6) On plan and profile sheets, show peak flows for 10-year and 100-year storms at all inlets and in pipes as per above, and in pipes show slope, velocity, and capacity, and hydraulic grade line if surcharged.
      7) If the lot cannot drain the yard to the street, then a basin shall be located in the rear yard to prevent storm runoff from draining to the neighbors from the back of the property.

   ii. Benchmarks – To be shown on plans with benchmarks to match the existing state approved benchmarks.

   iii. Existing and proposed property lines.

   iv. Existing and proposed drainage easements.

   v. Street names, grades, widths and rights-of-way or easements.

   vi. Routing and accumulative flows at the upstream and downstream ends of the site and at various critical points on-site for both minor and major runoff. Inflow and outflow for both storms for all sub basins.

vii. Street cross sections showing 100-year flood levels, no more than ½ way into the outside travel lane for emergency vehicle clear lane.

viii. Existing and proposed major drainage facilities.

ix. Open channel flow in major channels shall be provided with the following information on plans:
   1) Channel and hydraulic grade line (HGL) profiles.
   2) Cross sections and required rights-of-way at 100-foot intervals.
   3) Location and size of all existing and proposed structures.
   4) Channel section and lining details.
   5) Freeboard for 100-year flows.
   6) Channel capacity and storm flows, 10-year and 100-year flows and velocities.

# APPENDIX M: STORM DRAINAGE COST ESTIMATES

**Owner:** Granstville City
**Project:** West Bank Stormwater Master Plan
**Project #:** 2205-048
**PM:** Matt Laurendeau
**Date:** 1/4/2024

Jones & DeMille Engineering
1-800-748-5275
www.jonesanddemille.com

# Alternative 4

| ENGINEER'S OPINION OF PROBABLE COST | | | | | |
|---|---|---|---|---|---|
| **Item No.** | **Item Description** | **Unit** | **Estimated Quantity** | **Unit Price** | **Price** |
| **Construction** | | | | | |
| 1 | Mobilization and Survey | LS | 1 | $ 7,500,000 | $ 7,500,000 |
| 2 | Channel Excavation | CY | 530,000 | $ 10 | $ 5,300,000 |
| 3 | Channel Riprap (9" D50 1.5' thick) | CY | 225,000 | $ 90 | $ 20,250,000 |
| 4 | Road Crossings | LS | 1 | $ 2,000,000 | $ 2,000,000 |
| 5 | Settlement Canyon Debris Basin | LS | 1 | $ 18,517,000 | $ 18,517,000 |
| 6 | Army Creek Debris Basin | LS | 1 | $ 21,415,000 | $ 21,415,000 |
| 7 | South Willow Debris Basin | LS | 1 | $ 4,616,000 | $ 4,616,000 |
| 8 | North Willow Debris Basin | LS | 1 | $ 4,445,000 | $ 4,445,000 |
| 9 | North Willow Div Debris Basin | LS | 1 | $ 1,357,000 | $ 1,357,000 |
| 10 | Baker Canyon Debris Basin | LS | 1 | $ 1,428,000 | $ 1,428,000 |
| 11 | Pope Canyon Debris Basin | LS | 1 | $ 1,428,000 | $ 1,428,000 |
| 12 | Dry Canyon Debris Basin | LS | 1 | $ 2,856,000 | $ 2,856,000 |
| 13 | Acquire Additional Channel ROW | Acre | 340 | $ 10,000 | $ 3,400,000 |
| 14 | General Site Improvements | LS | 1 | $ 1,000,000 | $ 1,000,000 |
| | | | | **Construction Subtotal =** | **$ 94,512,000** |
| **Professional Services and Permitting** | | | | | |
| 1 | Engineering Design | LS | 1 | $ 4,726,000 | $ 4,726,000 |
| 2 | Construction Management | LS | 1 | $ 5,671,000 | $ 5,671,000 |
| 3 | Environmental Permitting | LS | 1 | $ 500,000 | $ 500,000 |
| | | | | **Professional Services and Permitting Subtotal =** | **$ 10,897,000** |
| **Contingency** | | | | | |
| 1 | Construction Contingency (30%) | LS | 1 | $ 28,354,000 | $ 28,354,000 |
| 2 | Uncosted Items (10)%) | LS | 1 | $ 9,452,000 | $ 9,452,000 |
| | | | | **Contingencies Subtotal =** | **$ 37,806,000** |
| | | | | **Total Probable Construction Cost** | **$ 143,215,000** |

Figure 16. Stormwater Alternative 4 Cost Estimate

# Agenda Item #5

## Consideration of Ordinance 2024-31 Amending the Fee Schedule and Standards Notes

**GRANTSVILLE CITY**
**ORDINANCE NO. 2024-31**

**AN ORDINANCE OF GRANTSVILLE CITY AMENDING THE STANDARD NOTES FOR GRANTSVILLE CITY CONSTRUCTION PLANS**

Be it enacted and ordained by the City Council of Grantsville City, Utah as follows:

**WHEREAS,** the City Council of Grantsville City recognizes the importance of maintaining current and effective construction standards within the City to ensure public safety, uniformity, and compliance with applicable regulations;

**WHEREAS,** the Grantsville City Standard Notes outline essential construction requirements and specifications for development within the City, which are applied to all residential, commercial, and public infrastructure projects;

**WHEREAS,** the amendments to the Standard Notes will specify the conditions and qualifications for the use of A-1-a 3-inch minus material in trench backfill, and outline the necessary protocols for fill approval and testing as per the American Association of State Highway and Transportation Officials (AASHTO) 145 soil classification system;

**WHEREAS,** the revised Standard Notes, attached hereto as Exhibit A, will reflect these updates to ensure that all future construction projects adhere to the new standards for quality and safety;

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF GRANTSVILLE CITY, STATE OF UTAH, AS FOLLOWS:

**Section 1. Amendment to Standard Notes:** The Grantsville City Standard Notes are amended to require that all fill material in public rights-of-way meet A-1-a 3-inch minus specifications, unless alternative materials receive prior approval from the City Engineer or Public Works Director. Developers opting for alternative materials must hire a City-approved independent geotechnical firm to ensure proper placement, compaction, and testing, with all associated costs covered by the developer.

**Section 2. Effective Date:** This Ordinance shall take effect immediately upon its passage and approval as provided by law.

**Section 3. Severability clause:** If any part or provision of this Ordinance is held invalid or unenforceable, such invalidity or unenforceability shall not affect any other portion of this Ordinance and all provisions, clauses and words of this Ordinance shall be severable.

ADOPTED AND PASSED BY THE CITY COUNCIL OF GRANTSVILLE CITY, THIS 6TH DAY OF NOVEMBER, 2024.

BY THE ORDER OF THE GRANTSVILLE CITY COUNCIL:

_____
By Mayor Neil Critchlow

ATTEST

_____
Braydee Baugh, City Recorder

Approved as to Form:

_____
Tysen J. Barker, Grantsville City Attorney

# Exhibit “A”

Grantsville City Chapter 1 Standard Notes

CHAPTER 1 STANDARD NOTES

The Grantsville City Standard Notes are required to be included as part of all construction plans for residential or commercial development. Plans submitted by public or private entities for all other types of projects within City right-of-way, its easements or property shall reference the Grantsville City Standard Notes and Specifications.

## 1.1 Grantsville City General Notes

1. All work done or improvements installed within Grantsville City including but not limited to excavation, construction, roadwork and utilities shall conform to the Grantsville City Construction Standards and Specifications, City Municipal Code, the latest edition of the APWA Manual of Standard Specifications and Manual of Standard Plans, the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD) and any state or federal regulations and permit requirements of various governing bodies. The contractor is responsible to have a copy of these specifications and to know and conform to the appropriate codes, regulations, drawings, standards and specifications.

2. The existence and location of any overhead or underground utility lines, pipes, or structures shown on these plans are obtained by a research of the available records. Existing utilities are located on plans only for the convenience of the Contractor. The contractor shall bear full responsibility for the protection of utilities and the engineer bears no responsibility for utilities not shown on the plans or not in the location shown on the plans. This includes all service laterals of any kind. The Contractor shall, at his own expense, locate all underground and overhead interferences, which may affect his operation during construction and shall take all necessary precautions to avoid damage of the same. The Contractor shall use extreme caution when working near overhead utilities so as to safely protect all personnel and equipment, and shall be responsible for all cost and liability in connection therewith.

3. The Contractor shall take all precautionary measures necessary to protect existing utility lines, structures, survey monuments and street improvements which are to remain in place, from damage, and all such improvements or structures damaged by the Contractor's operations shall be repaired or replaced satisfactory to the City Engineer and owning utility company at the expense of the Contractor.

4. All construction shall be as shown on these plans, any revisions shall have the prior written approval of the City Engineer and Public Works Director.

5. Permits are required for any work in the public way.The Contractor shall secure all permits and inspections required for this construction.

6. Curb, gutter, and sidewalk, found to be unacceptable per City Standards and APWA shall be removed and replaced.

7. Contractor shall provide all necessary horizontal and vertical transitions between new construction and existing surfaces to provide for proper drainage and for ingress and egress to new construction. The extent of transitions to be as shown on plans.

8. Any survey monuments disturbed shall be replaced and adjusted per Tooele County Surveyors requirements.

9. All privacy walls, new or existing, are only shown on civil plans for the purpose of reviewing grading relationships; flood control and sight distance at intersections. All walls shall have a minimum 2 ft x 2 ft x 30-inch-deep spot footings. Bottom of all footings on all walls shall be a minimum of 30 inches below finished grade. Walls greater than 6 feet require a separate permit and inspection by the Building Department.

10. All construction materials per APWA must be submitted and approved by the City Engineer prior to the placement of asphalt within City Right of Way. Grantsville Public Works will approve pipe zone material to be placed.

11. Request for inspection by the Grantsville City Engineering Dept. shall be made by the contractor at least 48 hours before the inspection services will be required.

12. Work in public way, once begun, shall be prosecuted to completion without delay as to provide minimum inconvenience to adjacent property owners and to the traveling public. Please see Code 17 General Provisions for more details.

13. The Contractor shall take all necessary and proper precautions to protect adjacent properties from any and all damage that may occur from storm water runoff and/or deposition of debris resulting from any and all work in connection with construction.

14. Power poles and/or other existing facilities not in proper location based on proposed improvements shown hereon will be relocated at no expense to the Grantsville City. Power lines and all other aerial utilities are to be buried and poles removed as determined by the City Engineer.

15. Curb and gutter with agrade of less than four-tenths of one percent shall be constructed by forming. Each joint shall be checked for a grade prior to construction and water tested as soon as possible after construction.

16. Contractor to follow Grantsville City Noise Ordinance Standards Code Ordinance 2018-19

17. Contractors are responsible for all OSHA requirements on the project site.

18. A UPDES (Utah Pollutant Discharge Elimination System) permit is required for all construction activities as per state law as well as providing a Storm Water Pollution Prevention Plan to the City.

19. All City maintained utilities including; waterline, fire hydrants, streetlight wiring, and storm drain must be in public right of way or in recorded easements.

20. Contractor shall work Grantsville City regular working hours of Monday through Friday 7:00 am to 4:00 pm

21. Prior to 90% bond release, a legible as-built drawing must be submitted to the Grantsville City. As-builts must show all changes and actual field locations of storm drainage, waterlines, irrigation, street lighting, and power. As-builts will be held to the same standard as approved design drawings, no “redlined plans” allowed. In the absence of changes, copies of the approved drawings will be required stating “installed as per drawings”. As-built drawings for new developments shall be submitted to the City in the following formats and quantities prior to the 90% bond release: 1 .dxf copy, 1 .pdf copy, and 1 GIS Shape file containing the same.

22. Filter fabric wrapped around an inlet grate is not an acceptable inlet sediment barrier. See Grantsville City Construction Standards and Specifications for details of approved storm water BMPs which specifically states the utilization of an Oil Water Snout Separator.

23. Asphalt paving is not allowed without a written exception from the Engineering Department and Public Works Department below an ambient temperature of 50 degrees and rising.

24. To ensure proper planting, protection and irrigation of trees, mitigating risk of tree failure or future damage to infrastructure, contractors are required to follow the standards and specifications of the ISA – International Society of Arboriculture.

25. When a proposed development borders a collector, minor collector or arterial street and is required to construct collector street fencing along the back of sidewalk, the development shall also be required put in a concrete mow strip from the back of sidewalk to underneath the fence panels. Concrete mow strips shall also be required between the sidewalk and fencing along the rear of double frontage lots.

26. Concrete for all surface improvements including but not limited to; sidewalk, driveway entrances, pedestrian ramps, curb and gutter, water ways, manhole, vault and valve collars, and any other cast in place surface concrete features shall be constructed with minimum 4,500 psi concrete.

27. Culinary Water and Sewer service laterals shall be marked on the top back of curb and lip of curb at their actual location of crossing the curb and gutter. Pins or stamps shall be used and must be installed while the concrete is still wet and will readily accept the marker. Grinding marking due to dry cement is not allowed.

## 1.2 Grantsville City Traffic Notes

1. When a designated “Safe Route To School” is encroached upon by a construction work zone the safe route shall be maintained in a manner acceptable to Grantsville City.

2. If the improvements necessitate the obliteration, temporary obstruction, temporary removal or relocation of any existing traffic pavement marking, such pavement marking shall be restored or replaced with like materials to the satisfaction of the City Engineer, Public Works Director or designee.

3. The street Sign Contractor shall obtain street names and block numbering from the Planning Department prior to construction.

4. The Contractor shall be responsible for providing and installing all permanent signs shown on the plans. Street name signs shall conform in their entirety to current City Standards and the latest Manual of Uniform Traffic Control Devices (MUTCD) manual. All other signs shall be standard size unless otherwise specified on the plans. All sign posts shall be installed in accordance with the current City Standards and the latest Manual of Uniform Traffic Control Devices (MUTCD) manual.

5. All permanent traffic control devices called for hereon shall be in place and in final position prior to allowing any public traffic onto the portions of the road(s) being improved hereunder, regardless of the status of completion of paving or other off-site improvements called for per approved construction drawings unless approved by the City Engineer & Public Works Director.

6. The Contractor shall be responsible for notifying Utah Transit Authority (UTA) if applicable, if the construction interrupts or relocates a bus stop or has an adverse effect on bus service on that street to arrange for temporary relocation of stop.

7. Before any work is started in the right-of-way, the contractor shall install all advance warning signs for the construction zone. The contractor shall install temporary stop signs at all new street encroachments into existing public streets. All construction signing, barricading, and traffic delineation shall conform to the Manual of Uniform Traffic Control Devices (MUTCD) per the current edition adopted by UDOT and be approved by the Grantsville City before construction begins. Traffic control plans shall be submitted as part of the engineering construction package and approved by the Grantsville City Engineer and Public Works Director.

8. All signs larger than 36” X 36” or 1296 square inches per sign pole shall be mounted on a Slip Base system per UDOT standard drawing SN 10B (detail drawing attached to standard drawings) with a “Z” bar backing. Signs of this size are not allowed to be mounted on a yielding pole.

9. Sign components such as sheeting, EC film, inks, letters and borders are all required to be from the same manufacturer. Only EC film may be used to achieve color. Vinyl EC film is not accepted.

10. All new roundabouts, crosswalks, stop bars and legends shall be installed with Paint and Glass Bead.

11. Paving asphalt binder grade shall be PG 58-28 unless otherwise approved by the City Engineer. Asphalt aggregate size shall be ½ inch for residential and collector roads. No more than 15% RAP (reclaimed asphalt pavement) by weight will be allowed in the asphalt mix design for the paving of public and private streets. Up to the 15 percent will be allowed with no change in the specific binder grade. The asphalt mix design shall have no more than 3½ % air voids.

14. Potholing: All potholes must be saw cut square and have a minimum size of 1 square foot or remove and retain round core. When repairing a pothole, sand or pea gravel meeting Grantsville City standard shall be placed over the exposed utility to a depth of 6 inches. The pothole shall be filled with flow fill, and the round core shall be replaced in the flow fill, with epoxy seal applied around the joint. For larger cuts, following the pea gravel will be flowable fill up to 1 inch below the bottom edge of the existing asphalt. The remaining portion of the hole shall be filled with asphalt, which will have an overall thickness of the existing asphalt plus 1 inch.

15. All fill within the public right of way shall be A-1-a 3-inch minus, unless approved by the City Public Works Director or the City Engineer. with the exception of top soil in the park strip for landscaping and trench backfill. Trench backfill material under pavements or surface improvements shall be clean, nonclumping, granular and flowable, 3-inch minus, A-1-a soils according to AASHTO 145 soil Classification System, unless approved by the City Public Works Director or the City Engineer. Lime treated flowable fills, if approved, shall have a 28-day strength of 65 PSI. If the developer chooses to utilize material other than A-1-a 3-inch minus for trench back fill, then a City approved Geotechnical Engineer Company is required to approve the material is suitable for fill. Any fill material used shall be 3 inch minus material. The developer is required to cover all costs for an independent Geotechnical Engineering Company, approved by the City Public Works Director or City Engineer, based on the company's established fee schedule. No fill placement, compaction, or testing shall proceed unless the independent Geotechnical Engineering Company is on-site. If the fill being used on the project does not meet A-1-a standards or is not the same material the contracted Geotechnical Engineer approved for the project then the City Inspector can shut down the project with a stop work order. Work shall not resume until unsuitable fill material has been removed and replaced by the developer's contractor at the developer's expense. If the independent Geotechnical Engineering Company observing the fill placement, compaction, and testing is not on-site then the City Inspector can shut down the project with a stop work order. Work shall not resume until the independent geotechnical engineering company observing fill placement, compaction, and testing is on-site.

16. All traffic road closures involving 1 or more lanes of traffic must receive prior approval from the City Engineer, Public Works Director or his/her representative. VMS PCMS boards must be placed a minimum of 7 days in advance of any lane closure on collector, minor collector or arterial street. VMS PCMS boards must also be placed in advance of any lane closures on a subdivision street per the City Engineer's direction.

17. Roundabouts, including their ingress and egress, shall be constructed with concrete pavement. Engineer shall design cross section and submit to the City for review and approval.

## 1.3 Grantsville City Grading Notes

1. In the event that any unforeseen conditions not covered by these notes are encountered during grading operations, the Owner and City Engineer shall be immediately notified for direction.

2. It shall be the responsibility of the Contractor to perform all necessary cuts and fills within the limits of this project and the related off-site work, so as to generate the desired subgrade, finish grades and slopes shown.

3. Contractor shall take full responsibility for all excavation. Adequate shoring shall be designed and provided by the Contractor to prevent undermining of any adjacent features or facilities and/or caving of the excavation.

4. The Contractor is warned that an earthwork balance was not necessarily the intent of this project. Any additional material required or leftover material following earthwork operations becomes the responsibility of the Contractor.

5. Contractor shall grade the pavement area subgrade to the lines (horizontal) and elevations (vertical) shown on the plans within a tolerance of 0.1 + to 0.1 -.

6. All cut and fill slopes shall be protected until effective erosion control has been established.

7. The Contractor shall obtain all necessary permits for construction water from Grantsville City Engineering and Utilities Department.

8. The Contractor shall maintain the streets, sidewalks and all other public right-of way in a clean, safe and usable condition. All spills of soil, rock or construction debris shall be promptly removed from the publicly owned property during construction and upon completion of the project. All adjacent property, private or public shall be maintained in a clean, safe and usable condition.

9. In the event that any temporary construction item is required that is not shown on these drawings, the Developer agrees to provide and install such item at his own expense and at the direction of the City Engineer. Temporary construction includes ditches, berms, road signs and barricades, etc.

10. All grading work shall conform to the soils report as prepared by the Soils Engineer and approved by the City Engineer, and as shown on these plans.

11. All quality control testing shall be performed by an independent licensed and Certified third-party testing service.

## 1.5 Grantsville City Fire Department Notes

1. On any new home or building installation, accessible fire hydrants shall be installed before combustible construction commences and said fire hydrants shall be in good working order with an adequate water supply.

2. Contractor shall call the Public Works Department and Engineering Department for underground inspection, pressure and flush verification of all fire hydrants and fire lines before back filling.

3. Painting of the curbs and hydrant and any work necessary for protection of hydrants from physical damage shall be approved before being constructed. Hydra-finders will be installed per Grantsville City Standards detail.

4. A flow test must be witnessed by the Fire Department prior to occupancy for verification of required on-site water supply.

5. All on-site fire main materials must be U.L. listed and A.W.W.A. approved.

6. The turning radius for any fire apparatus access road and/or fire lane, public or private, shall be not less than forty-eight feet (48') outside radius equaling 96' or larger and twenty-two feet (22') inside radius and shall be paved.

7. A fire apparatus road shall be required when any portion of an exterior wall of the first story is located more than one-hundred fifty feet (150') from Fire Department vehicle access roads and/or fire lanes, public or private, in excess of one hundred fifty feet (150') in length shall be provided with an approved turn around area. Contractor/Engineer shall follow latest International Fire Code regulations at all times in regards to distance.

8. Access roads shall be marked by placing approved signs at the start of the designated fire lane, one sign at the end of the fire lane and width signs at intervals of one-hundred feet (100') along all designated fire lanes. Signs to be placed on both sides of an access roadway if needed to prevent parking on either side. Signs shall be installed at least 5', measured from the bottom edge of the sign to the near edge of pavement. Where parking or pedestrian movements occur, the clearance to the bottom of the sign shall be at least 7'. The curb along or on the pavement or cement if curb is not present, shall be painted with red weather resistant paint in addition to the signs.

9. Electrically controlled access gates shall be provided with an approved emergency vehicle detector/receiver system. Said system shall be installed in accordance with the Grantsville City F.D. approval. Gates are only allowed with prior approval.

10. All private underground fire lines that service automatic fire sprinkler systems shall be no smaller than eight (8) inches in diameter and have a Post Indicator Valve (PIV) between the water main and the building. If a PIV isn't feasible due to site constraints, a Water Indicator Valve (WIV) may be used with the approval of the City Engineer or Fire Code Official. For a WIV to be allowed, another valve must be installed on the fire service line back at the connection to the water main, which will be maintained by the City as part of its culinary water system. All fire lines material shall be Ductile Iron. (Ductile Iron from the PIV to the building shall be permitted or Ductile Iron from the main water line to the WIV).

11. Post Indicator Valves (PIV) shall be between 6 and 40 feet from buildings not exceeding three stories or equivalent in height and between 30 and 40 feet on buildings in excess of three or more stories in height or equivalent.

12. Roads and accesses shall be designed and maintained to support the imposed loads of fire apparatus. Surface shall be paved before the application of combustible material.

13. All new buildings equipped with a Fire Department Connection (FDC) must have inlets secured with Knox brand locking FDC cap(s) with a swivel collar. All new buildings are also required to have a Knox brand key lock box mounted on the exterior building, such that Fire Department personnel may gain access in case of an emergency.

## 1.6 Grantsville City Water Notes

1. The following Grantsville City Water Notes are intended for general water standards only and are not all inclusive. The City has included the Culinary Water Design and Construction Standards within the City Construction Standards and Specifications.

2. No work shall begin until the water plans have been released for construction by the Engineering Department. Following water plan approval, forty-eight (48) hour notice shall be given to the Engineering Department and the Public Works Department prior to the start of construction. Notice must be given by 2:00 P.M. the business day prior to an inspection.

3. All work within Grantsville City shall conform to Grantsville City Standards and Specifications, AWWA and APWA.

4. For Residential Developments - The developer shall purchase and install meter boxes and setters according to City Standards on newly developed lots and real property at the time of water main installation. Water meters will be supplied and installed by the Grantsville Utilities Department (at Developer's expense). The developer shall also provide the site address, lot number, meter size and pay meter fees prior to building permit approval. The developer should also pay for rental of a hydrant meter, and/or use the Grantsville City Public Water Standpipe located by the Public Works Building.

5. For Commercial and Condominium Developments - The developer shall purchase and install meter boxes and setters according to City Standards. Water meters will be supplied by Grantsville City Public Works Department (at Developer's expense) and installed by Developer.

6. All water facilities shall be filled, disinfected, pressure tested, flushed, filled and a series of Bac-T testing performed by the City shall be obtained prior to commissioning the new water line to the Grantsville City Culinary Water Distribution System.

7. Grantsville City Utilities Department must approve water shut down which may require evening and weekend shut down as deemed necessary, requiring the contractor to be billed for overtime. 48 hour notice is required.

8. Water stub-out installations will not be construed as a commitment for water service.

9. Conditional Approval of Valved Outlet (6" and Larger): In the event the water plans show one or more valved outlets extending out of paved areas, installations of these outlets is acceptable, however, if the outlets are incorrectly located or not used for any reason when the property is developed, the developer shall abandon the outlets at the connection to the active main in accordance with the city standards and at the developer's expense.

10. All lines to be pressure tested according to Grantsville City and AWWA standards and chlorinated prior to use and final acceptance.

11. All fittings to be coated with poly fm grease and wrapped with 8-mil thick polyethylene.

12. No other utility lines may be placed in the same trench with water line unless approved by the City Engineer.

13. Any conflict with existing utilities shall be immediately called to the attention of the City Engineer or designee.

14. All water vaults will be constructed per Grantsville City standard drawings and specifications. No vaults are allowed in traffic areas without prior approval of the City Engineer.

15. Landscaping and irrigation adjacent to vaults shall drain away from vaults.

16. Once the waterline has been tested, approved and city water is flowing through the pipe, only City personnel are authorized to shut down and charge the waterline.

17. Megalug following ring or an approved equivalent shall be used on all fittings.

18. APWA plan 562, stainless steel tie-down restraints with turnbuckles or 5/8" epoxy green rebar is acceptable. Megalug followers required on all fittings and all dimensions of thrust blocking still apply.

19. Water mains will be hot tapped as called out on the approved plans. Under special circumstances, when a contractor submits a request for a shutdown contrary to the approved plans and the request is approved at the discretion of the City Engineer or designee, the contractor must provide 48-hour notice to neighbors and those affected. If businesses are impacted by the shutdown it will be done after hours and all overtime fees for City personnel, equipment and vehicles must be paid in advance.

20. Contractors are required to write the lot number with a black permanent marker on the inside of the water meter barrels as they are installed.

# Agenda Item #6

## Consideration of Ordinance 2024-32 amending Chapter 13 of the Grantsville Municipal Code

**GRANTSVILLE CITY**
**ORDINANCE NO. 2024-32**

**AN ORDINANCE OF GRANTSVILLE CITY AMENDING CHAPTER 13 OF THE GRANTSVILLE CITY CODE TO UPDATE IMPACT FEES, INCLUDING THE ADDITION OF A TRANSPORTATION IMPACT FEE.**

Be it enacted and ordained by the City Council of Grantsville City, Utah as follows:

**WHEREAS,** the Grantsville City Council previously approved updates to various impact fees at its meeting on August 21, 2024, adopting Resolution 2024-63, which incorporated those changes into the City's Impact Fee Schedule; and

**WHEREAS,** it has been determined that Chapter 13 of the Grantsville City Code does not currently include provisions for a Transportation Impact Fee, which is necessary to support the City's transportation infrastructure needs in relation to new development; and

**WHEREAS,** the amendments proposed herein have been reviewed and recommended for approval by the City Council and the necessary studies and analyses required by law have been completed to justify the establishment of a transportation impact fee; and

**WHEREAS,** Grantsville City finds that amending Chapter 13 to include these impact fees will ensure the City's ability to meet the demand for public facilities caused by new development and maintain the level of services needed for the health, safety, and general welfare of the public; and

**WHEREAS,** the proposed amendments to Chapter 13 have been made available for public inspection and review, including Exhibit A (attached hereto), which outlines the detailed changes to the Impact Fee Schedule; and

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF GRANTSVILLE CITY, STATE OF UTAH, AS FOLLOWS:

**Section 1. Amendments:** Chapter 13 of the Grantsville City Code is hereby amended to update the Impact Fees for Parks and Recreation, Public Safety (Fire and Police), Culinary Water, Water Rights Acquisition, Wastewater, and Transportation, as detailed in Exhibit A. This amendment also establishes a new Transportation Impact Fee based on the type of development, to be imposed as a condition of obtaining a building permit for new residential or commercial developments within Grantsville City boundaries.

**Section 2. Effective Date:** This Ordinance shall take effect immediately upon its passage and approval as provided by law.

**Section 3. Severability clause:** If any part or provision of this Ordinance is held invalid or unenforceable, such invalidity or unenforceability shall not affect any other portion of this Ordinance and all provisions, clauses and words of this Ordinance shall be severable.

ADOPTED AND PASSED BY THE CITY COUNCIL OF GRANTSVILLE CITY, THIS 6TH DAY OF NOVEMBER, 2024.

BY THE ORDER OF THE GRANTSVILLE CITY COUNCIL:

_____
By Mayor Neil Critchlow

ATTEST

_____
Braydee Baugh, City Recorder

Approved as to Form:

_____
Tysen J. Barker, Grantsville City Attorney

# Exhibit “A”

Chapter 13 Updates

**Title 13 Impact Fees**
Chapter 13-1 General Provisions

**Chapter 13-1 General Provisions**
13-1-1 Definitions
13-1-2 Collection Procedures-Exemptions
13-1-3 Accounting
13-1-4 Refunds - Credits - Challenges - Appeals
13-1-5 Parks And Recreation Facilities Impact Fee
13-1-6 Public Safety (Fire And Police) Capital Facilities Impact Fees
13-1-7 Culinary Water Capital Facilities Impact Fee
13-1-8 Water Rights Acquisition Impact Fee
13-1-9 Wastewater Capital Facilities Impact Fee

(Adopted by ordinance 2017-10, effective July 11, 2017)

## 13-1-1 Definitions

A. The definitions referred to in Utah Code Annotated § 11-36a-102, 2014 as amended, shall apply to the terms used in this chapter. (Adopted 07-16-1997 by Ord. No. 97-28; amended 10-15-1997 by Ord. No. 97-33, included unrevised in Ord. No. 2006-01 on 02-1-06.)

B. The term “Service Area” as used in this chapter and the area of Grantsville City, which will be served by the impact fees imposed by this chapter, shall constitute the entire corporate boundaries of Grantsville City, Tooele County, Utah unless otherwise indicated. (Adopted 07-16-1997 by Ord. No. 97-28; amended 10-15-1997 by Ord. No. 97-33.)

C. Equivalent Residential Connection (ERC) for the purposes of Section 30-1-7 (Culinary Water Capital Facilities Impact Fee) of this Chapter is defined as the storage and distribution requirement that will allow a peak usage of 900 gallons of water per day with an average flow of 475 gallons of water per day per connection for each single family dwelling unit. The Culinary Water Capital Facilities impact fee for nonresidential development shall be calculated by estimating the water service demands of the use and then converting it to an ERC, which shall then be multiplied by the impact fee specified in Section 30-1-7 herein for each ERC. Equivalent Residential Connection may also be specified as an equivalent residential user/unit or ERU. (Adopted 10-15-1997 by Ord. No. 97-33, amended on 02-1-06 by Ord. No. 2006-01)

D. Equivalent Residential Connection (ERC) for the purposes of Section 30-1-8 (Water Source Impact Fee) shall be calculated as follows: The water right required for indoor use is based upon two criteria; a) that the water right will allow the extraction of 800 gallons per day per connection, and b) that the yearly extraction be sufficient to provide 0.45 acre-feet per connection. The indoor water source (rights) acquisition impact fee for nonresidential development shall be calculated by estimating the indoor water service demands of the use and then converting it to an ERC, which shall then be multiplied by the impact fee specified in Section 30-1-8 herein for each ERC. No development, however, shall pay a water source impact fee of less than required for one ERC. The ERC for outdoor water use is based on .12 irrigated acres per ERC, 3.96 gallons per irrigated acre (.0099 cfs/acre) and 3.0 acre feet of water rights for each irrigated acre. Equivalent Residential Connection may also be specified as an equivalent residential user/unit or ERU. (Subsection (D) adopted 02-1-06 by Ord. No. 2006-01)

E. Equivalent Residential Connection (ERC) for the purposes of Section 30-1-9 (Wastewater Capital facilities Impact Fee) of this Chapter is defined as 280 gallons of wastewater per day. The wastewater impact fee for a nonresidential development shall be calculated by estimating the wastewater flow per day and then converting it to an ERC, which shall then be multiplied by

the impact fee specified in Section 30-1-9 herein for each ERC. Equivalent Residential Connection may also be specified as an equivalent residential user/unit or ERU. (Subsection (E) adopted 02-1-06 by Ord. No. 2006-01)

## 13-1-2 Collection Procedures-Exemptions

After the effective date of this Ordinance, no application for a building permit as set forth herein, shall be approved by Grantsville City unless the applicable impact fee has been paid or is adjusted or waived by the City Council.

The impact fees imposed by this Ordinance shall not apply to the following development activities:

A. Residential development activities that do not increase the number of residential dwelling units.

B. Nonresidential development activities that do not increase the total square footage in an existing nonresidential development.

C. Proposed development for which a building permit has been issued prior to the effective date of the enactment of an impact fee.

D. Any new subdivision or planned unit development(except minor subdivisions or small planned unit developments of six or less lots), shall be required to provide, prior to final approval, sufficient water rights to the City or dedicated private water resources to provide for all of the indoor and outdoor water uses required for the development.

E. Low income housing and other development activities with broad public purposes may be exempted from the payment of impact fees by the City Council. Low income housing shall be defined by the regulations adopted or used by the Tooele County Housing Authority.

(Originally adopted 07-16-1997 by Ord. No. 97-28; Subsection (D) was added by Ord. No. 99-13 on 04-21-1999; Subsection (E) was added by Ord. No. 2002-1 on 01-09-2002.)

## 13-1-3 Accounting

The City Treasurer shall establish separate interest-bearing ledger accounts for each type of public facility for which an impact fee is collected. The City shall also deposit impact fee receipts in the appropriate ledger account and retain the interest earned on each fund or account in the fund. The City Treasurer shall, at the end of each fiscal year prepare and submit a report to the City Council on each fund or account showing the source and amount of all monies collected, earned or received by the fund or account and each expenditure from the fund or account including other expenditures to support this impact fee process.

(Adopted on 07-16-1997 by Ord. No.97-28, included unrevised in Ord. No.99-13, adopted 4-21-1999.)

## 13-1-4 Refunds - Credits - Challenges - Appeals

A. Refunds. The City shall refund any impact fee paid by a developer, plus interest earned when:

1. The developer does not proceed with the development activity and has filed a written request for a refund; or

2. The fees have not been timely spent or encumbered as required by law; or

3. No impact has resulted.

B. Credits. Credits against the amount of an impact fee due from a proposed development may be provided for by the dedication of land or the provision of City resources or facilities by an applicant when such land, facilities or resources are determined to provide additional City facilities or resource capacity to meet the demand generated by the development and when either:

    1. Costs. The costs of such land, facilities or resources have been included in the City impact fee calculation methodology or the land dedicated or facilities provided is determined by the City Council to be a reasonable substitute for the cost of facilities or resources which are included in the City's impact fee calculation methodology. Applications for a credit will be made to the City and will be submitted at or before the time when the impact fee is due. The application for a credit will be accompanied by relevant documentary evidence indicating the eligibility of the applicant for the credit. The City Recorder will present an application for any credit to the City Council, accompanied by a recommendation by the Mayor. Any credit determined appropriate by the City Council shall be applied against the impact fee calculated to be due; provided, however, that in no event shall a credit be granted in an amount exceeding the impact fee due.

    2. Unusual Circumstances. The City Council may adjust the impact fee at the time the fee is charged, to respond to unusual circumstances in specific cases and ensure that the impact fees are imposed fairly. The City Council may also adjust an impact fee based upon studies and data submitted by a developer.

C. Challenges. Any person claiming that the impact fee required by this ordinance has no reasonable relationship to the needs created by or benefits conferred upon the proposed development and does not demonstrably benefit the new development or is otherwise constitutionally invalid or unlawful pursuant to the standards of applicable case law or statutes then in effect, must file a written challenge with the City Recorder in order to obtain a final determination regarding the application of the impact fee to the development by the City Council, which may include a request for a credit against the impact fees paid. Such a determination shall be a necessary prerequisite before filing any legal challenge to the basis of or the amount of the impact fee in question. Any challenge to an impact fee must be filed within 30 days after paying an impact fee. The City Council shall make its decision no later than 30 days after the date the challenge to the impact fee is filed.

D. Arbitration. In addition to the procedure under the foregoing paragraph to challenge an impact fee, a person or entity may submit an impact fee challenge to arbitration, if the person or entity resides in or owns property within the impact fee service area or is an organization, association, or corporation representing the interests of a person or entity owning property within the impact fee service area and files a written request for arbitration with the Grantsville City Council within 30 days after the day the impact fee is paid. If a person or entity files a written request for arbitration an arbitrator or arbitration panel shall be selected as follows:

    1. the City Council and the person or entity filing the request may agree on a single arbitrator within ten days after the day the request for arbitration is filed; or

    2. if a single arbitrator is not agreed to, an arbitration panel shall be created with the following members:

        a. each party shall select an arbitrator within 20 days after the date the request is filed; and

b. the arbitrators selected by each party shall select a third arbitrator.

3. The arbitration panel shall hold a hearing on the challenge within 30 days after the date the single arbitrator is agreed upon or within 30 days after the two arbitrators are selected. The arbitrator or arbitration panel shall issue a decision in writing within ten days from the date the hearing is completed. Except as provided in this section, each arbitration shall be governed by Utah Code Ann. Title 78B, Chapter 11, Utah Uniform Arbitration Act. The parties may agree to binding arbitration, formal, nonbinding arbitration or informal, nonbinding arbitration. If the parties agree in writing to binding arbitration, the arbitration shall be binding, the decision of the arbitration panel shall be final, neither party may appeal the decision of the arbitration panel and notwithstanding Subsection (C) above, the person or entity challenging the impact fee may not file an action under Subsection (C) or Utah Code Ann. §11-36a-701, et al. If the parties agree to formal, nonbinding arbitration, the arbitration shall be governed by the provisions of Utah Code Ann. Title 63G, Chapter 4, Administrative Procedures Act. For purposes of applying Utah Code Ann. Title 63G, Chapter 4, Administrative Procedures Act, to a formal, nonbinding arbitration under this section, notwithstanding Utah Code Ann. §63G-4-502, "agency" means a local political subdivision. An appeal from a decision in an informal, nonbinding arbitration may be filed with the district court in which Grantsville City is located. Each authorized appeal to the district court shall be filed within 30 days after the date the arbitration panel issues a decision. The district court shall consider de novo each appeal filed from an informal, nonbinding arbitration filed under this subsection. A person or entity that files an appeal to the district court after an informal nonbinding arbitration decision under this subsection may not file an action under Subsection (C) of this provision or Utah Code Ann. §11-36a-701, et al. The filing of a valid written request for arbitration within 30 days after the date the impact fee is paid tolls all time limitations under Utah Code Ann. §11-36a-701, et al. until the date the arbitration panel issues a decision. The person or entity filing a request for arbitration and Grantsville City shall equally share all costs of an arbitration proceeding under this section. Except as provided for herein, this subsection shall not be construed to prohibit a person or entity from challenging an impact fee as provided in Subsection (C) or Utah Code Ann. §11-36a-701, et al.

E. Oversized Water Services - No Appeal Allowed. If the developer or owner of property knowingly requests or installs a water service, at its option, that is larger than is required by this Chapter or any other part of this Code, the impact fees associated with the requested service size, shall be charged and collected by the City. No credit, challenge, appeal or arbitration related to the impact or other fees knowingly paid for an oversized service, shall be allowed under this Chapter, after the impact fee has been paid to the City. If an oversized water service has been installed and the impact fee for the same has not been paid, the developer or owner may replace the oversized service, with a properly sized service, provided the City is paid for its costs to inspect the new installation. (Adopted 02-04-2009 by Ord. 2009-03).

(Section 30-1-4 originally adopted on 02-05-1997, amended and renumbered on 07-16-1997 by Ord. No.97-28, amended 04-21-99 by Ord. No. 99-13.)

**13-1-5 Parks And Recreation Facilities Impact Fee**

As a condition for the issuance of a building permit for the new construction or placement of any structure for a single or multi-family dwelling within Grantsville City's Boundaries, the developer, owner or builder shall pay an impact fee of ~~$936.00~~ for each single family dwelling unit and ~~$936.00~~ for each individual dwelling unit in a multi-family dwelling. The City council may adjust the standard impact fee at the time of the fee is charged to respond to unusual circumstances in specific cases and ensure that the impact fees are imposed fairly.

$3,952.56

(Originally adopted on 02-05-1997 by Ord. No. 97-5, included unrevised and renumbered in Ord. No. 99-13 adopted 04-21-99)

$430.33

**13-1-6 Public Safety (Fire And Police) Capital Facilities Impact Fees**

$996.12

As a condition for the issuance of a building permit for the new construction or placement of any structure for a single or multi-family dwelling within Grantsville City's Boundaries, the developer, owner or builder shall pay a public safety (fire and police) capital facilities impact fee of ~~$1235.00~~ for each single-family dwelling unit and ~~$417.00 per~~ unit for each individual dwelling unit in a multi-family dwelling. Prior to the issuance of a building permit for any nonresidential development activity within the District's boundaries, the developer, owner or builder thereof, shall pay a public safety facilities impact fee of ~~$0.52 per square feet for each square foot~~ of said nonresidential development. The City Council may adjust the standard impact fee at the time the fee is charged to respond to unusual circumstances in specific cases and ensure that the impact fees are imposed fairly. ~~The City Treasurer shall deposit 67% of all Public Safety Impact Fees collected pursuant to this Section into a separate interest-bearing ledger account for fire department capital facilities and 33% of said fees into a separate interest-bearing ledger account for police department capital facilities.~~

$953.80 per 1,000 sq ft building area

(Adopted 07-16-1997 by Ord.No.97-28, amended 07-08-1998 by Ord. No. 98-17, included unrevised in Ord. No. 99-13 adopted 04-21-99).

**13-1-7 Culinary Water Capital Facilities Impact Fee**

As a condition for the issuance of a building permit or as a condition of obtaining culinary water service for any new residential construction or development within Grantsville City's boundaries that requires a new or expanded culinary water service, the developer, owner or builder shall pay a culinary water (source development, storage and distribution) capital facilities impact fee based upon the size of the culinary water service meter connection necessary for the development as follows:

| Meter Size in Inches | Max Flow Rate (GPM) | ERC's | Impact Fee per Meter Size |
|---|---|---|---|
| 3/4" | 25 | 1.00 | ~~$2,545.00~~ $3,432.76 |
| 1" | 40 | 1.60 | ~~$4,072.00~~ $5,492.42 |
| 1 1/2" | 50 | 2.00 | ~~$5,090.00~~ $6,865.52 |
| 2" | 100 | 4.00 | ~~$10,180.00~~ $13,731.05 |
| 3" | 150 | 6.00 | ~~$15,270.00~~ $27,462.09 |
| 4" | 200 | 8.00 | ~~$20,360.00~~ 54,924.19 |
| 6" | 500 | 20.00 | ~~$50,900.00~~ $109,848.38 |

As a condition for the issuance of a building permit or as a condition of obtaining culinary water service for any new residential construction or development or any other activity within Grantsville City's

boundaries that requires a new or expanded culinary water service, the developer, owner or builder shall pay a culinary water (source development, storage and distribution) capital facilities impact fee based upon the number of fixture units for indoor water use or the number of fixture units per acre for outdoor water use as follows:

Non-Residential (Indoor Use) ~~$127.00~~ $35.00 per fixture unit
Non-Residential (Outdoor Use) ~~$73.00 per fixture unit per acre~~ $21,694.03 per irrigated acre

The City council may adjust the standard water capital facilities impact fee at the time of the fee is charged, to respond to unusual circumstances in specific cases and ensure that the impact fees are imposed fairly. (Originally adopted 07-16-1997 by Ord. No. 97-28, amended 04-21-1999 by Ord. No. 99-13; amended 02-1-06 by Ord. No. 2006-01)

## 13-1-8 Water Rights Acquisition Impact Fee

A. As a condition for the issuance of a building permit or as a condition of obtaining Citywater service for any new residential or commercial construction or development or any other activity within Grantsville City's boundaries that requires City water for indoor or outdoor use or a new or expanded City water service, the developer, owner or builder, when required by this ordinance, shall pay an indoor and outdoor water right acquisition impact fee for the development as follows: $5,450

1. Single Family Residential: ~~.$4,033.00~~ per Dwelling Unit. (0.218 acre-feet per year per Equivalent Residential Connection (ERC)x ~~$18,500.00~~ $25,000 per acre foot of water)

   Multi-Unit Residential: ~~$2,218.00~~ $3,000 per Dwelling Unit. (0.120 acre-feet per Dwelling Unit x ~~$18,500.00~~ $25,000 per acre-foot of water)

   Non-Residential: ~~$168.00~~ $227 per Fixture Unit. (0.00908 acre-feet per Fixture Unit x ~~$18,500.00~~ $25,000 per acre-foot of water)

2. Outdoor Use Impact Fee:

   Outdoor use impact fee shall be calculated utilizing the Grantsville Water Rights Dedication Requirements and then multiplying the resulting acre feet of required water for the lot by~~$182,5800.00.&~~ $25,000.00

   No additional outdoor use impact fee shall be charged for single family residential lots (Category 1) over one acre in size and therefore the outdoor use impact fee is capped at ~~$39,427.00~~ $53,280.00 (no waterwise landscaping) and ~~$26,995.00~~ $48,555.00 (waterwise landscape front yard only) for single family residential lots (Category 1) of one acre in size or larger; provided that irrigation of more than 0.64 acres per lot may be temporarily or permanently terminated by Resolution, as provided in subsection (F)

   Example ~~One~~: A single family residential lot of 8,000 total square feet, no waterwise landscaping = (8,000 square feet / 43,560 square feet per acre x 0.64= irrigated area of 0.1175 acre x 3.33 = .39 acre feet of water x ~~$18,500~~ $25,000 = ~~$7,24099.91~~ $9,785.12 as the outdoor use impact fee.

   ~~Example Two: An industrial warehouse, 1/2 acre irrigated area (1/8 acre front yard), waterwise landscape front yard only= 0.125 acres (front yard, waterwise)x .2.28 acre-feet~~

~~per irrigated acre + 0.375 irrigated acres (back yard, no waterwise) x1.53 acrefeet of water x $18,500= $28,305.00 as the outdoor use impact fee.~~

*See the Impact Fee Analysis for more examples.

(Adopted 04-21-1999 by Ord. No. 99-13; amended 12-19-2001 by Ord. No. 2001-19)

B. Developments providing a permanent secondary water source (non-City waterworks sources) for outdoor use on the property may petition the City Council for a waiver of the Outdoor Use Impact Fee, which may be granted, provided that said water right can be verified as supplying adequate water for outdoor purposes on the property and adequate assurance is given that no Grantsville City will be used for outdoor purposes on the property in perpetuity. Adequate assurance for purposes of the waiver may be by transfer to the City of water shares to be held by the City foruse on the property or within the City. Secondary water user fees and related charges may be collected by the City from the owner or tenant of the property in connection with the City's billing for culinary water and other City services. (Adopted 04-21-1999 by Ord. No. 99-03; amended 12-03-2003 by Ord. 2003-29).All charges provided for hereunder shall be charged with the City sewer and water fees and shall constitute one charge. If any part of the account for either the secondary water assessment or the City sewer or charges becomes delinquent, as in this Code provided, the City shall discontinue the water service until all delinquencies have been paid in full, including the reconnection fee. (Included 03-02-2005 by Ord. No.2005-04)C. Subsection (C) was repealed on October 17, 2007 by Ord. No. 2007-36)D. Any new subdivision or planned unit development (except(i) developments of one to four family dwellings, and (ii) amendments to existing platted subdivisions that require only up to a total of two acre-feet of additional indoor water and only up to a total of eight acre-feet of additional outdoor water for full development,shall be required to provide, prior to final approval, sufficient water rights to the City or dedicated private water resources to provide for all of the indoor and outdoor water uses required for the development. Unless otherwise provided for, the impact fees specified in this Section shall apply to all development in subdivisions and planned unit developments initiated prior to April 23, 1999 and shall be collected as provided in subsection (A) above. (Adopted 04-21-1999 by Ord. No. 99-13; amended 12-19-2001 by Ord. No.2001-19).

A. The Outdoor Use Impact fee is based upon a typical irrigated single family residential lot (Category 1) or development as defined in the Grantsville Water Rights Dedication Requirements.. The Outdoor Use Impact fee for residential lots (Category 1) up to one acre in size shall be strictly applied without regard to claims of restricted irrigation areas, since these claims can rarely be verified or enforced. The water rights acquisition fee for all development that does not fall under Category 1 as defined in the Grantsville Water Rights Dedication Requirements shall be based upon an estimate of the indoor and outdoor water usage specified for the project, (Adopted 04-21-1999 by Ord. No. 99-13; amended 12-19-2001 by Ord. No. 2001-19)

B. No owner or possessor of real property within Grantsville City has the right to use City water for outdoor use (irrigation) on more than the irrigated acreage as defined in subsection (A) above or in the development plan as otherwise approved by the City. Owners or possessors of such real property, who do not have access to non-City secondary water, may at their option irrigate more than the specified irrigated acreage of their property or lot with City y water until such time as the City determines by a formally adopted Resolution that itsCity water supply is insufficient to continue to allow such irrigation. Any such Resolution may temporarily terminate the use of culinary water on more than the allowed irrigated acreage until the water shortage abates or the Resolution may permanently terminate such use. Any person who irrigates more of their property than the allowed irrigated acreage as defined herein, after a Resolution prohibiting said use is adopted, shall be guilty of guilty of a Class "C" Misdemeanor. Nothing contained in this Section shall prohibit the City from otherwise limiting the outside use of Citywater in times of emergency or shortage. (Adopted 12-19-2001 by Ord. No.2001-19)

HISTORY
*Amended by Ord. 2024-11 on 5/1/2024*

## 13-1-9 Wastewater Capital Facilities Impact Fee

As a condition for the issuance of a building permit or as a condition of obtaining wastewater (sewer) service for any new residential construction or development within Grantsville City's boundaries that requires a new or expanded wastewater service, the developer, owner or builder shall pay a wastewater capital facilities impact fee based upon the size of the wastewater service meter connection necessary for the development as follows:

| Meter Size In | (GPM) | (ERC's) | Impact Fee Meter Size |
|---|---|---|---|
| 3/4" | 20 | 1.00 | ~~$3,257.00~~ $5,120.79 |
| 1" | 38 | 1.90 | ~~$6,188.30~~ $8,193.26 |
| 1 1/2" | 48 | 2.38 | ~~$7,751.66~~ $10,241.58 |
| 2" | 95 | 4.75 | ~~$14,884.49~~ $20,483.15 |
| 3" | 143 | 7.13 | ~~$23,222.41~~ $40,966.30 |
| 4" | 190 | 9.50 | ~~$30,941.50~~ $81,932.61 |
| 6" | 475 | 23.75 | ~~$77,353.75~~ $163,865.22 |

As a condition for the issuance of a building permit or as a condition of obtaining wastewater (sewer) service for any new commercial construction or development or any other activity within Grantsville City's boundaries that requires a new or expanded wastewater service, the developer, owner or builder shall pay a wastewater capital facilities impact fee based upon the number of fixture units necessary for the development as follows: $213.37

Non-Residential Wastewater ~~$162.00 pe~~r fixture unit

(Originally adopted 7-16-1997 by Ord. No. 97-28, amended and renumbered on 04-21-1999 by Ord. No. 99-13; amended 02-01-2006 by Ord. No. 2006-01).

### 13-1-10 Transportation Impact Fee

As a condition for the issuance of a building permit for any new residential construction or development within Grantsville City's boundaries impact fees for transportation will be based on development type.

| Development Type | Peak Hour Trips Rate | Impact Fee | Units |
|---|---|---|---|
| Single Family | 0.99 | $2,754.42 | per Dwelling Unit |
| Multi-Unit | 0.56 | $1,558.05 | per Dwelling Unit |
| Trailer | 0.46 | $1,279.83 | per Dwelling Unit |
| Industrial / Manufacturing | 0.37 | $1,029.43 | per 1,000 sf Building Area |
| Warehousing | 0.09 | $250.40 | per 1,000 sf Building Area |
| Retail | 3.295 | $9,167.48 | per 1,000 sf Building Area |
| Church | 0.049 | $136.33 | per 1,000 sf Building Area |
| School | 0.0665 | $185.07 | per Student |

# Agenda Item #7

Consideration of Resolution 2024-86 approving the amendments to the Twenty Wells MDA

**GRANTSVILLE CITY**
**RESOLUTION NO. 2024-84**

**A RESOLUTION APPROVING THE AMENDED MASTER DEVELOPMENT AGREEMENT FOR THE ESTATES AT TWENTY WELLS**

Be it resolved by the City Council of Grantsville City, Utah as follows:

**WHEREAS,** the Developer of The Estates at Twenty Wells PUD ("Developer") and Grantsville City ("City") previously entered into a Master Development Agreement, outlining the rights and responsibilities for the development of the property located in the Planned Unit Development subdivision; and

**WHEREAS,** the City and Developer desire to amend certain terms and conditions of the Master Development Agreement, as set forth in the attached Amended Master Development Agreement for The Estates at Twenty Wells (attached hereto as Exhibit A); and

**WHEREAS,** the City Council has reviewed the amended agreement and found that it conforms with the intent of the City's General Plan, the requirements of the Grantsville Land Use Development Code (GLUDMC), and the public interest; and

**WHEREAS,** the City Council desires to approve the amended agreement to promote responsible development, ensure compliance with City requirements, and enhance public infrastructure in Grantsville City;

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF GRANTSVILLE CITY, STATE OF UTAH, AS FOLLOWS:

**Section 1. Approval of Amended Agreement:** The Grantsville City Council hereby approves the Amended Master Development Agreement for The Estates at Twenty Wells, which is attached hereto as Exhibit A.

**Section 2. Effective Date:** This resolution shall take effect immediately upon its passage and approval as provided by law.

**Section 3. Severability clause.** If any part or provision of this Resolution is held invalid or unenforceable, such invalidity or unenforceability shall not affect any other portion of this Resolution and all provisions, clauses and words of this Resolution shall be severable.

ADOPTED AND PASSED BY THE CITY COUNCIL OF GRANTSVILLE CITY, THIS 6TH DAY OF NOVEMBER, 2024.

BY THE ORDER OF THE GRANTSVILLE CITY COUNCIL:

_____

By Mayor Neil Critchlow

ATTEST

_____

Braydee Baugh, City Recorder

# EXHIBIT “A”

Amended Master Development Agreement for The Estates at Twenty Wells

**WHEN RECORDED, RETURN TO:**

**Braydee Baugh**
**Grantsville City Recorder**
**429 East Main Street**
**Grantsville City, Utah 84029**

# GRANTSVILLE CITY
# MASTER DEVELOPMENT AGREEMENT
# FOR
# THE ESTATES AT TWENTY WELLS PUD

THIS MASTER DEVELOPMENT Agreement ("**Agreement**") is made and entered as of the ____ day of _____ 20___, by and between Grantsville City, a municipal corporation of the State of Utah ("**City**") and The Vistas at Riverbend LLC, a Utah limited liability company ("**Developer**").

## RECITALS

A. The capitalized terms used in this Agreement and in these Recitals are defined in Section 1.2, below.

B. Developer is developing the Property as a Planned Unit Development subdivision. Developer and the City desire that the Property be developed in a unified and consistent fashion pursuant to the Final Plat. The Parties desire to enter into this Agreement to specify the rights and responsibilities of the Developer to develop the Property as expressed in this Agreement and the rights and responsibilities of the City to allow and regulate such development pursuant to the requirements of this Agreement.

C. The Parties understand and intend that this Agreement is a "development agreement" within the meaning of, and entered into pursuant to the terms of Utah Code Ann. §10-9a-101. This Agreement conforms with the intent of the City's General Plan and the Zoning.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the City and Developer hereby agree to the following:

## TERMS

1. **Definitions** As used in this Agreement, the words and phrases specified below shall have the following meanings:

1.1. **Agreement** means this Master Development Agreement including all of its Exhibits and Addenda.

1.2**Applicant** means a person or entity submitting a Development Application.

**1.3 Buildout** means the completion of all of the development on the entire Project in accordance with this Agreement.

**1.4 City** means Grantsville City, a political subdivision of the State of Utah.

**1.5 City's Future Laws** means the ordinances, policies, standards, and procedures which may be in effect as of a particular time in the future when a Development Application is submitted for a part of the Project, and which may or may not be applicable to the Development Application depending upon the provisions of this Agreement.

**1.6 Council** means the elected City Council of the City.

**1.7 Default** means a breach of this Agreement as specified herein.

**1.8 Developer** means The Vistas at Riverbend LLC, and its successors/assignees as permitted by this Agreement.

**1.9 Development** means the development of a portion of the Property pursuant to an approved Development Application.

**1.10 Development Application** means an application to the City for development of a portion of the Project or any other permit, certificate or other authorization from the City required for development of the Project.

**1.11 Final Plat** means the recordable map or other graphical representation of land prepared in accordance with Utah Code Ann. § 10-9a-603, and approved by the City, subdividing any portion of the Project.

**1.12 GLUDMC** means the Grantsville Land Use and Development Code.

**1.13 LUDMA** means the Land Use, Development, and Management Act, Utah Code Ann. § 10-9a-101.

**1.14 Maximum Residential Units** means the development on the Property of The Estates at Twenty Wells PUD will be determined by the approved layout of the preliminary plat, vesting the maximum residential units. The maximum residential units cannot exceed 987 residential dwelling units.

**1.15 Master Plan** means *The Estates of Twenty Wells Master Plan* which is included as Exhibit B, and is a conceptual plan and provides for the general locations of land density, roads, and open space applicable to Development within the Planned Community which was approved by the City Council on September 4, 2024 pursuant to a P.U.D. application for the property.

**1.16 Notice** means any notice to or from any Party to this Agreement that is either required or permitted to be given to another party.

**1.17 Party/Parties** means, in the singular, Developer or the City, in the plural Developer and the City.

**1.18 Final Plat** means the final plat for the development of the Project, which has been approved by the City. ~~and which is attached as Exhibit "B."~~

**1.19 Project** means the residential subdivision to be constructed on the Property pursuant to this Agreement with the associated Public Infrastructure and private facilities, and all of the other aspects approved as part of this Agreement.

**1.20 Property** means the real property owned by and to be developed by Developer more fully described in **Exhibit A**.

**1.21 Public Infrastructure** means those elements of infrastructure that are planned to be dedicated to the City or other public entities as a condition of the approval of a Development Application.

**1.22 Residential Dwelling Unit** means a structure or portion thereof designed and

intended for use as attached residences as illustrated on the Final Plan.

**1.23 Zoning** means the zoning of the Property.

**1.24 Phasing** means the phasing in which the development is built.

## 2 Development of the Project

**2.1 Compliance with the Final Plat and this Agreement** Development of the Project shall be in accordance with LUDMA, GLUDMC, the City's Future Laws (to the extent they are applicable as specified in this Agreement), the Final Plat and this Agreement.

**2.2 Maximum Residential Units.** At Buildout, Developer shall be entitled to have developed the Maximum Residential Units of the type and in the general location as shown on the Final Plan.

**2.3 Phasing.** The developer shall build the development in phases no larger than 250 lots. The developer may submit the next phase for final plat approval when 50% of the 250 lots are sold. The developer shall provide a mix of each type of dwelling unit when phasing the development. The developer will submit to the city for approval no more than 50 lots at a time in each phase. If a mix of dwelling types within each phase of 250 cannot be achieved, the developer will work with the City in good faith to achieve a satisfactory remedy.

## 3 Vested Rights.

**3.1 Vested Rights Granted by Approval of this Agreement** To the maximum extent permissible under the laws of Utah and the United States and at equity, the Parties intend that this Agreement grants to Developer all rights to develop the Project in fulfillment of this Agreement, LUDMA, GLUDMC, the Zoning of the Property, and the Final Plat except as specifically provided herein. The Parties specifically intend that this Agreement grant to Developer the "vested rights" identified herein as that term is construed in Utah's common law and pursuant to Utah Code Ann. § 10-9a-509.

**3.2 Exceptions** The vested rights and the restrictions on the applicability of the City's Future Laws to the Project as specified in Section 3.1 are subject to the following exceptions:

**3.2.1** **Master Developer Agreement** The City's Future Laws or other regulations to which the Developer agrees in writing;

**3.2.2** **State and Federal Compliance** The City's Future Laws or other regulations which are generally applicable to all properties in the City and which are required to comply with State and Federal laws and regulations affecting the Project;

**3.2.3** **Codes** Any City's Future Laws that are updates or amendments to existing building, fire, plumbing, mechanical, electrical, dangerous buildings, drainage, or similar construction or safety related codes, such as the International Building Code, the APWA Specifications, AAHSTO Standards, ASBA standards, CPSC Standards, IPEMA Standards, ASTM, the Manual of Uniform Traffic Control Devices or similar standards that are generated by a nationally or statewide recognized construction/safety organization, or by the State or Federal governments and are required to meet legitimate concerns related to public health, safety or welfare;

**3.2.4** **Taxes** Taxes, or modifications thereto, so long as such taxes are lawfully imposed and charged uniformly by the City to all properties, applications, persons and entities similarly situated; or,

**3.2.5** **Fees** Changes to the amounts of fees for the processing of Development Applications that are generally applicable to all development within the City (or a portion of the City as specified in the lawfully adopted fee schedule) and which are adopted pursuant to State law.

**3.2.6** **Impact Fees** Impact Fees or modifications thereto which are lawfully adopted, and imposed by the City pursuant to Utah Code Ann. Section 11-36a-101.

**3.2.7** **Planning and Zoning Modification** Changes by the City to its planning principles and design standards as permitted by Local, State or Federal law.

**3.2.8** Compelling, Countervailing Interest. Laws, rules or regulations that the City's land use authority finds on the record, are necessary to avoid jeopardizing a compelling, countervailing public interest pursuant to Utah Code Ann. § 10-9a-509(1)(a)(i).

**4** **Term of Agreement** Unless earlier terminated as provided for herein, the term of this Agreement shall be until January 31, 2032. If the Developer has not been declared to be currently in Default as of January 31, 2032 (and if any such Default is not being cured) then this Agreement shall be automatically extended until January 31, 2035. This Agreement shall terminate automatically at Buildout.

**5** **Addendum No. 1.** Addendum No. 1 contains the provisions of this Agreement that are specific to the development of the Project. If there is a conflict between this Agreement and Addendum No. 1, then Addendum No. 1 shall control.

**6** **Public Infrastructure**

6.1 **Construction by Developer** at Developer's cost and expense, shall have the right and the obligation to construct or cause to be constructed and install all Public Infrastructure reasonably and lawfully required as a condition of approval of a Development Application pursuant to GLUDMC. Such construction must meet all applicable standards and requirements and must be approved by the City's engineer. Because Developer is obligated to construct and warrant all Public Infrastructure of this Agreement, the City shall not process or approve a Development Application from any other person or entity for any portion of the property unless that person or owner is a permitted assignee of the rights and responsibilities of the Developer pursuant to Section 14, or Developer has otherwise confirmed in writing to the City that such person or entity has entered into a written agreement with Developers regarding the performance of Developer's responsibilities with respect to the portion of the property that is subject of the Development Application.

6.2 **Responsibility before Acceptance** Developer shall be responsible for all Public Infrastructure covered by this Agreement until final inspection of the same has been performed by the City, and a final acceptance and release has been issued by the City Council. The City shall not, nor shall any officer or employee thereof, be liable or responsible for any accident, loss or damage

happening or occurring to the Public Infrastructure, nor shall any officer or employee thereof, be liable for any persons or property injured by reason of said Public Infrastructure; all of such liabilities shall be assumed by the Developer.

6.3 **Warranty** Developer shall repair any defect in the design, workmanship or materials in all Public Infrastructure which becomes evident during a period of one year following the acceptance of the improvements by the City Council or its designee (Durability Testing Period). If during the Durability Testing Period, any Public Infrastructure shows unusual depreciation, or if it becomes evident that required work was not done, or that the material or workmanship used does not comply with accepted standards, said condition shall, within a reasonable time, be corrected.

6.4 **Timing of Completion of Public Infrastructure** In accordance with the diligence requirements for the various types of approvals as described in the GLUDMC, construction of the required Public Infrastructure shall be completed prior to December 31, 2030. Upon a showing of good and sufficient cause by Developer the City shall, in accordance with the provisions of GLUDMC, extend the time of performance if requested prior to expiration of the completion date.

6.5 **Bonding** In connection with any Development Application, Developer shall provide bonds or other development security, including warranty bonds, to the extent required by GLUDMC, unless otherwise provided by Utah Code § 10-9a-101, as amended. The Applicant shall provide such bonds or security in a form acceptable to the City or as specified in GLUDMC. Partial releases of any such required security shall be made as work progresses based on GLUDMC.

6.6 **City Completion** The Developer agrees that in the event he does not: (a) complete all improvements within the time period specified under paragraph two above, or secure an extension of said completion date, (b) construct said improvements in accordance with City standards and as set forth in Paragraph one above, and (c) pay all claimants for material and labor used in the construction of said improvements, the City shall be entitled to declare the developer(s) in default, request and receive the funds held by the guarantor as surety and utilize the monies obtained to install or cause to be installed any uncompleted improvements and/or to pay any outstanding claims, as applicable. Provided however, that the City shall not be responsible for any work beyond the amount of funds so provided. Any funds remaining after completion of the improvements shall be returned to the Guarantor. The Developer further agrees to be personally liable for any cost of improvements above the amount made available under the terms of this agreement.

**7. Upsizing/Reimbursements to Developer**

7.1. **Upsizing:** The City shall not require Developer to "upsize" any future Public Infrastructure (i.e., to construct the infrastructure to a size larger than required to service the Project) unless financial arrangements reasonably acceptable to Developer are made to

compensate Developer for the incremental or additive costs of such upsizing to the extent required by law. Except for, as stated in Addendum No. 1 Project Specific Items agreed to be completed by the Developer of The Estates at Twenty Wells PUD

8. **Default**

8.1. **Notice** If the Developer or the City fails to perform their respective obligations hereunder or to comply with the terms hereof, the Party believing that a Default has occurred shall provide Notice to the other Party.

8.2. **Contents of the Notice of Default** The Notice of Default shall:

8.2.1. Specific Claim. Specify the claimed event of Default.

8.2.2. Applicable Provisions. Identify with particularity the provisions of any applicable law, rule, regulation or provision of this Agreement that is claimed to be in Default; and

8.2.3. Optional Cure. If the City chooses, in its discretion, it may propose a method and time for curing the Default which shall be of no less than thirty (30) days duration, if weather conditions permit.

8.3. **Remedies** Upon the occurrence of any Default, and after notice as required above, then the parties may have the following remedies:

8.3.1. Law and Equity. All rights and remedies available at law and in equity, including, but not limited to, injunctive relief and/or specific performance.

8.3.2. Security. The right to draw on any security posted or provided in connection with the Project and relating to remedying of the particular Default.

8.3.3. Future Approvals. The right to withhold all further reviews, approvals, licenses, building permits and/or other permits for development of the Project in the case of a default by Developer until the Default has been cured.

8.4. **Public Meeting** Before any remedy in Section 8.3 may be imposed by the City the party allegedly in Default shall be afforded the right to attend a public meeting before the City Council and address the City Council regarding the claimed Default.

8.5. **Default of Assignee** A default of any obligations expressly assumed by an assignee shall not be deemed a default of Developer.

8.6. **Limitation on Recovery for Default – No Damages against the City** Anything in this Agreement notwithstanding Developer shall not be entitled to any claim for any monetary damages as a result of any breach of this Agreement and Developer waives any claims thereto. The sole remedy available to Developer and any assignee shall be that of specific performance.

9. **Notices** All notices required or permitted under this Agreement shall, in addition to any other means of transmission, be given in writing by certified mail and regular mail to the following address:

**To the Developer:**

The Vistas at Riverbend LLC
13331 S. Redwood Rd
Riverton, Utah 84065

**To the City:**

Grantsville City
Attn: City Recorder
429 East Main Street
Grantsville, Utah 84029

10. **Dispute Resolution.** Any disputes subject to mediation or arbitration shall be resolved pursuant to Addendum No. 2.

11. **Incorporation of Recitals and Exhibits.** The Recitals and Exhibits "A" - "B" are hereby incorporated into this Agreement.

12. **Headings.** The captions used in this Agreement are for convenience only and are not intended to be substantive provisions or evidence of intent.

13. **No Third-Party Rights/No Joint Venture.** This Agreement does not create a joint venture relationship, partnership or agency relationship between the City, and Developer. Except as specifically set forth herein, the parties do not intend this Agreement to create any third-party beneficiary rights.

14. **Assignability.** The rights and responsibilities of Master Developer under this Agreement may be assigned in whole or in part, respectively, by Developer with the consent of the City as provided herein.

14.1. **Sale of Lots.** Developer's selling or conveying lots in any approved subdivision shall not be deemed to be an assignment.

14.2. **Related Entity.** Developer's transfer of all or any part of the Property to any entity "related" to Developer (as defined by regulations of the Internal Revenue Service in Section 165), Developer's entry into a joint venture for the development of the Project or Developer's pledging of part or all of the Project as security for financing shall also not be deemed to be an assignment. Developer shall give the City Notice of any event specified in this sub-section within ten (10) days after the event has occurred. Such Notice shall include providing the City with all necessary contact information for the newly responsible party.

14.3. **Process for Assignment.** Developer shall give Notice to the City of any proposed assignment and provide such information regarding the proposed assignee that the City may reasonably request in making the evaluation permitted under this Section. Such Notice shall include providing the City with all necessary contact information for the proposed assignee. Unless the City objects in writing within twenty (20) business days of notice, the City shall be deemed to have approved of and consented to the assignment. The City shall not unreasonably withhold consent.

14.4. **Partial Assignment.** If any proposed assignment is for less than all of Master Developer's rights and responsibilities, then the assignee shall be responsible for the performance of each of the obligations contained in this MDA to which the assignee succeeds. Upon any such approved partial assignment Master Developer shall not be released from any future obligations as to those obligations which are assigned but shall remain jointly and severally liable with assignee(s) to perform all obligations under the terms of this Agreement which are specified to be performed by the Developer.

14.5. **Complete Assignment.** The developer may request the written consent of the City of an assignment of Developer's complete interest in this Agreement. In such cases, the proposed assignee shall have the qualifications and financial responsibility necessary and adequate, as required by the City, to fulfill all obligations undertaken in this Agreement by Developer. The City shall be entitled to review and consider the ability of the proposed assignee to perform, including financial ability, past performance and experience. After review, if the City gives its written consent to the assignment, the Developer shall be released from its obligations under this Agreement for that portion of the Property for which such assignment is approved.

15. **No Waiver.** Failure of any Party hereto to exercise any right hereunder shall not be deemed a waiver of any such right and shall not affect the right of such party to exercise at some future date any such right or any other right it may have.

16. **Severability.** If any provision of this Agreement is held by a court of competent jurisdiction to be invalid for any reason, the Parties consider and intend that this Agreement shall be deemed amended to the extent necessary to make it consistent with such decision and the balance of this Agreement shall remain in full force and effect.

17. **Force Majeure.** Any prevention, delay or stoppage of the performance of any obligation under this Agreement which is due to strikes, labor disputes, inability to obtain labor, materials, equipment or reasonable substitutes therefor; acts of nature, governmental restrictions, regulations or controls, judicial orders, enemy or hostile government actions, wars, civil commotions, fires or other casualties or other causes beyond the reasonable control of the Party obligated to perform hereunder shall excuse performance of the obligation by that Party for a period equal to the duration of that prevention, delay or stoppage.

18. **Time is of the Essence.** Time is of the essence to this Agreement and every right or responsibility shall be performed within the times specified.

19. **Appointment of Representatives.** To further the commitment of the Parties to cooperate in the implementation of this Agreement, the City and Developer each shall designate and appoint a representative to act as a liaison between the City and its various departments and the Developer. The initial representative for the City shall be the Mayor. The initial representative for Developer shall be Bryce Jeffery Newman. The Parties may change their designated representatives by Notice. The representatives shall be available at all reasonable times to discuss and review the performance of the Parties to this Agreement and the development of the Project.

20. **Applicable Law.** This Agreement is entered into in Tooele County in the State of Utah and shall be construed in accordance with the laws of the State of Utah irrespective of Utah's choice of law rules.

21. **Venue.** Any action to enforce this Agreement shall be brought only in the Third District Court, Tooele County in and for the State of Utah.

22. **Entire Agreement.** This Agreement, and all Exhibits thereto, documents referenced herein, is the entire agreement between the Parties and may not be amended or modified except either as provided herein or by a subsequent written amendment signed by all Parties.

23. **Mutual Drafting.** Each Party has participated in negotiating and drafting this Agreement and therefore no provision of this Agreement shall be construed for or against any Party based on which Party drafted any particular portion of this Agreement.

24. **No Relationship.** Nothing in this Agreement shall be construed to create any partnership, joint venture or fiduciary relationship between the parties.

25. **Amendment**. This Agreement may be amended only in writing signed by the parties

hereto.

26. **Recordation and Running with the Land.** This Agreement shall be recorded in the chain of title for the Project. This Agreement shall be deemed to run with the land. A secure copy of shall be filed with the City Recorder and each party shall also have an identical copy.

27. **Priority**. This Agreement shall be recorded against the Property senior to any respective covenants and any debt security instruments encumbering the Property.

28. **Authority.** The Parties to this Agreement each warrant that they have all of the necessary authority to execute this Agreement. Specifically, on behalf of the City, the signature of the Mayor of the City is affixed to this Agreement lawfully binding the City pursuant to Resolution No. 2020-12 adopted by the City on March 5, 2020.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement by and through their respective, duly authorized representatives as of the day and year first herein above written.

DEVELOPER
The Vistas at Riverbend LLC.

_____
By: William Mark Newman
Its: Owner

GRANTSVILLE CITY

_____
By: Neil A. Critchlow,
Its: Mayor

Approved as to form and legality:

_____
City Attorney

Attest:

_____
City Recorder

**CITY ACKNOWLEDGMENT**

STATE OF UTAH )
: SS.
COUNTY OF TOOELE )

On the _____ day of_____, 20__ personally appeared before me _____who being by me duly sworn, did say that he is the Mayor of Grantsville City, a political subdivision of the State of Utah, and that said instrument was signed in behalf of the City by authority of its City Council and said Mayor acknowledged to me that the City executed the same.

_____
NOTARY PUBLIC

My Commission Expires: _____

Residing at: _____

**DEVELOPER ACKNOWLEDGMENT**

STATE OF UTAH )
: Ss.
COUNTY OF _____ )

On the _____ day of _____, 20__, personally appeared before me _____, who being by me duly sworn, did say that Mark Newman is the owner of The Vistas at Riverbend LLC, a Utah limited liability company and that the foregoing instrument was duly authorized by the company at a lawful meeting held by authority of its operating agreement and signed in behalf of said company.

_____
NOTARY PUBLIC

My Commission Expires: _____

Residing at: _____

## TABLE OF EXHIBITS


| | |
|---|---|
| Exhibit “A” | Legal Description of Property |
| Exhibit “B” | Master Plan |
| Addendum No. 1 | Specific Project Terms |
| Addendum No. 2 | Dispute Resolution Procedures |

Exhibit “A”
Legal Description of Property

**(Parcels 01-069-0-0004, 01-069-0-0063, 01-069-0-0078, 01-069-0-0080, 01-069-0-0081, 01-069-0-0083,01-069-0-0085, 01-069-0-0086, 01-069-0-0090, 01-069-0-0100, 01-069-0-0106, 01-069-0-0107, and 01-076-0-0002)**

A parcel of land, situate in Section 4, and the Northwest Quarter of Section 9, Township 3 South, Range 5 West, Salt Lake Base and Meridian, said parcel is also located in Grantsville, Tooele County,
Utah, more particularly described as follows:
Beginning at the South Quarter Corner of Section 4, Township 3 South, Range 5 West, Salt Lake Base and Meridian, and running:
thence South 0°32'23" West 5.37 feet along the Quarter Section Line of said Section 9, to the north
Line of the future Nygreen Street;
thence North 89°45'24" West 1,317.49 feet along the north line of said future street, to the southeast corner of Lot 739 of Anderson Ranch Phase 7B, recorded as Entry no. 448597 in the Tooele
County Recorder’s Office;
thence South 0°14’34” West 545.08 feet along an existing fence line, and along the western boundary of the Grantsville soil conservation the northerly portion of which is the subject of that Boundary
Line Agreement recorded May 14, 2012 under Entry no. 369615, in the Tooele County Recorder’s Office;
thence South 89°54’22” West 1526.51 feet along said fence line to the corner thereof, said point Being on the Section Line, and along the northern boundary of said Grantsville soil conservation;
thence North 0°29'04" East 527.85 feet along said fence and Section Line, to the Southwest Corner of Section 4, Township 3 South, Range 5 West, Salt Lake Base and Meridian;
thence North 0°08'38" East 9.26 feet along the Section Line, to the southerly line of Anderson Ranch Phase 7A, Recorded as Entry no. 433547, in the Tooele County Recorder’s Office;
thence North 89°36'21" East 1,524.37 feet along the southerly line of said Anderson Ranch Phase
7A and the southerly line of said Anderson Ranch Phase 7B, to the southeast corner of Lot 739 of said
Anderson Ranch Phase 7B;
thence North 0°14'36" East 665.63 feet along the east line of said Anderson Ranch Phase 7B, to the northeast corner of Lot 743 of said subdivision, said point also being the southeast corner of Lot 630 of
Anderson Ranch Phase 6B, recorded as Entry no. 411212 in the Tooele County Recorder’s Office;
Thence North 0°14'13" East 244.27 feet along the east line of said Anderson Ranch Phase 6B;
thence North 0°06'06" East 430.98 feet along the east line of said Anderson Ranch Phase 6B, to a
point on the east line of Lot 540 of Anderson Ranch Phase 5B, recorded as Entry no. 388608 in the Tooele

County Recorder’s Office.
Thence North 0°19'46" East 365.74 feet along the east line of said Anderson Ranch Phase 5B; thence North 0°17'45" East 457.82 feet along the east line of said Anderson Ranch Phase 5B, to the northeast corner of Lot 546 of said Anderson Ranch Phase 5B, said point also being on the south line
Of Gold Dust Road;
Thence East 106.86 feet along said south line, to the east line of Gold Dust Road;
Thence South 1.31 feet along said east line;
Thence South 88°33'31" East 547.59 feet;
Thence North 0°08'09" East 1,820.93 feet;
Thence South 89°40'20" West 658.03 feet;
Thence North 0°08'09" East 948.64 feet, to the south line of State Road 112;
Thence South 54°59'02" East 1,606.82 feet along said south line, to the Quarter Section Line;
Thence South 0°08'54" West 1,133.60 feet along the Quarter Section Line;
thence North 89°32'33" East 487.295 feet along the northerly line of a Boundary Line Agreement
Recorded June 14, 2022 under Entry no. 574519, in the Tooele County Recorder’s Office, to an existing
Fence;
thence North 2°19'27" West 777.305 feet along said fence and the northwesterly line of said Boundary Line Agreement, to the south line of State Road 112;
Thence South 55°01'59" East 518.77 feet along said south line, to a point of curvature;
thence Southeasterly 864.50 feet along the arc of a 11,519.16-foot radius tangent curve to the left (center bears North 34°58'01" East and the long chord bears South 57°10'59" East 864.30 feet through a
Central angle of 4°18'00") along said south line to a point of tangency;
Thence South 59°19'59" East 186.52 feet along said south line, to an existing fence;
thence South 2°41'50" East 627.13 feet along said fence, to a rebar and cap set by Donald J. Rosenberg;
Thence South 0°07'50" West 1,604.36 feet along said fence, to the corner thereof;
thence South 89°36'52" West 1,799.59 feet along said fence, to the Quarter Section Line of said Section 4; thence South 0°08'54" West 536.56 feet along the Quarter Section Line, to the Point of Beginning.
Less and excepting an approximately 5-acre parcel to be deeded to the Corporation of The Church of Jesus Christ of Latter-Day Saints by separate document.

Contains 9,870,997 square feet or 226.61 acres.


PROFESSIONAL LAND SURVEYOR
6-21-23
No. 334575
DOUGLAS J
KINSMAN
STATE OF UTAH

Exhibit “B”
Master Plan

Addendum No. 1
Project Specific Items agreed to be completed by the Developer of
The Estates at Twenty Wells PUD.

1- Developer will install a concrete jersey barrier along Gold Dust Circle that leads into the Estates at Twenty Wells PUD from Anderson Ranch closing off access to that area to the best of our ability with that barrier within 60 days of the fully executed and recorded Development Agreement.
2- The Developer has agreed to modify the lots south of Nygreen St. from 1/3 acre lots to ½ acre lots. The lots to be modify are shown on the conceptual layout.
3- The Developer has agreed to modify the lots west of Harlow Ann BLVD. from high density residential lots to a minimum lot size of 1/3 acre lots. The lots to be modify are as shown on the conceptual layout.
4- The developer will work with the Public Works Department of Grantsville City to determine the layout for the approximately 21.17-acre Sports Park that will be constructed in the Twenty Wells PUD and dedicated upon completion to Grantsville City.
    a. The layout and phasing of the park will need to be approved prior to the final approval of the preliminary application and amended into the MDA as an addendum before the developer can move forward with the final application. If the design and phasing of the park cannot be achieved, the developer and the City will work in good faith to achieve a satisfactory remedy.
5- Developer agrees to add the following "Off Site" improvements to our required items for the Twenty Wells PUD:
    a. Design, furnish, construct, commission, and warranty approximately 5,300 linear feet of 12-inch diameter water line with connection to the 16-inch diameter water transmission line located north of the Army Depot northern property line through the Subdivision to State Route 112 in addition to the pressure reducing valves (PRV) and 8-inch to 12-inch diameter distribution water lines based on the City hydraulic water modeling results and the requirements of the City engineers.
    b. Design, furnish, construct, commission, and warranty sanitary sewer line along State Route 112 from Durfee Street to the subdivision. The subdivision will upsize to 15-inch diameter sanitary sewer pipe from the required 10"-inch diameter sanitary sewer pipe.
    c. Design, furnish, construct, commission, and warranty sanitary sewer line from Durfee Street to Main Street along State Route 112 which will be a complete upgrade installation of an 18- inch diameter sanitary sewer line.
    d. Design, furnish, construct, commission, and warranty an extension of Nygreen Street from Saddle Road to the east end of The Estates at Twenty Wells PUD which intersects Parcel # 01-069-0-0083 (Greg Dehaan Owner) of subject property.
6- Developer agrees to have approximately 31.24 acres commercial zoning/property along State Route Hwy 112 on the property that is within the boundary of the Estates at Twenty Wells PUD. The boundary survey which is found inside this agreement

outlines the total area that has been identified as being inside The Estates at Twenty Wells PUD.

7- The Developer, Builder, and all landowners of any of the residential properties being built agree to "not impose or implement a resale fee" of any kind in percentage or dollar amounts on any of the residential units that are built inside the Estates at Twenty Wells PUD. Any HOA's that will be set up and oversee any of the subdivisions inside the Estates at Twenty Wells PUD will be strictly forbidden from imposing such a fee now or anytime in the future on any home and language to that effect will be placed inside the CCR's of each HOA. Grantsville City will verify that the language forbidding the implementation of a resale fee of any kind is present in the bylaws of the CCR's that pertain to that HOA and must be recorded prior to the issuance of the building permit if that residential property falls inside any HOA.
8- The Developer will abide by all variances while building any residential unit and all variances will be guided by the accompanying variance table that follows on the next page.
9- Developer will install a precast 6-foot fence that borders the commercial property and the residences at Anderson Ranch.
10- The development gained a total of 136 additional units due to the variances we were granted using Grantsville City's zoning requirements, therefore, under the City zoning code, we will provide the required 50% of additional units as affordable housing units. That would require that the number of affordable housing units total 68 units that will be priced in accordance with the metric set forth by the affordable housing code.

Addendum No. 2
(Dispute Resolution)

1. **Meet and confer.** The City and Developer/Applicant shall meet within fifteen (15) business days of any dispute under this Agreement to resolve the dispute.

2. **Mediation.**

2.1. Mediation Process. If the City and Developer/Applicant are unable to resolve a disagreement subject to mediation, the Parties shall attempt within ten (10) business days to appoint a mutually acceptable mediator with knowledge of the legal issue in dispute. If the Parties are unable to agree on a single acceptable mediator, they shall each, within ten (10) business days, appoint their own representative. These two representatives shall, between them, choose the single mediator. Developer/Applicant shall pay the fees of the chosen mediator. The chosen mediator shall within fifteen (15) business days from selection, or such other time as is reasonable under the circumstances, review the positions of the Parties regarding the mediation issue and promptly attempt to mediate the issue between the Parties. If the Parties are unable to reach an agreement, the Parties shall request that the mediator notify the Parties in writing of the resolution that the mediator deems appropriate. The mediator's opinion shall not be binding on the Parties.

# Agenda Item #8

## Consideration of Resolution 2024-84 Approving the City Policy on Infrastructure Reimbursements and Pioneering Agreements

**GRANTSVILLE CITY**
**RESOLUTION NO. 2024-84**

**A RESOLUTION APPROVING THE CITY POLICY ON INFRASTRUCTURE REIMBURSEMENTS AND PIONEERING AGREEMENTS**

Be it resolved by the City Council of Grantsville City, Utah as follows:

**WHEREAS,** Grantsville City recognizes the importance of supporting growth-related infrastructure development within the community, in accordance with established goals and priorities; and

**WHEREAS,** it is in the public interest to provide a structured process for infrastructure reimbursements and pioneering agreements, which will promote efficient and equitable development; and

**WHEREAS,** the Grantsville City Community Development Department has developed a comprehensive policy for infrastructure reimbursements and pioneering agreements, which outlines eligibility criteria, application processes, and reimbursement guidelines as specified in Exhibit A attached hereto; and

**WHEREAS,** the proposed City Policy on Infrastructure Reimbursements and Pioneering Agreements establishes clear guidelines for Impact Fee Reimbursements and Pioneering Agreements, ensuring compliance with the Capital Facilities Plan (CFP), Impact Fee Facilities Plan (IFFP), and Impact Fee Analysis (IFA) to support responsible growth management; and

**WHEREAS,** the City Council has reviewed the proposed policy and finds it to be in the best interest of the City to adopt the policy as part of Grantsville City's development framework;

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF GRANTSVILLE CITY, STATE OF UTAH, AS FOLLOWS:

**Section 1. Approval of Policy:** The City Policy on Infrastructure Reimbursements and Pioneering Agreements, attached hereto as Exhibit A, is hereby approved and adopted by the City Council of Grantsville City.

**Section 2. Effective Date:** This resolution shall take effect immediately upon its passage and approval as provided by law.

**Section 3. Severability clause.** If any part or provision of this Resolution is held invalid or unenforceable, such invalidity or unenforceability shall not affect any other portion of this Resolution and all provisions, clauses and words of this Resolution shall be severable.

ADOPTED AND PASSED BY THE CITY COUNCIL OF GRANTSVILLE CITY, THIS 6TH DAY OF NOVEMBER, 2024.

BY THE ORDER OF THE GRANTSVILLE CITY COUNCIL:

_____
By Mayor Neil Critchlow

ATTEST

_____
Braydee Baugh, City Recorder

# EXHIBIT “A”

City Policy on Infrastructure Reimbursements and Pioneering Agreements

## City Policy on Infrastructure Reimbursements and Pioneering Agreements

**Section 1: Overview**

The Community Development Department is responsible for overseeing the receipt and processing of applications for infrastructure reimbursements. This policy outlines the eligibility criteria, application process, and reimbursement guidelines for impact fee reimbursements and pioneering agreements.

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**Section 2: Impact Fee Reimbursement**

**2.1 Eligibility for Impact Fee Reimbursement:**

- Growth-related infrastructure projects are eligible for 100% reimbursement through impact fees if they do not benefit existing users.
- If a portion of the infrastructure benefits existing users, only a proportionate share, as determined in the Capital Facilities Plan (CFP), Impact Fee Facilities Plan (IFFP), and Impact Fee Analysis (IFA), is eligible for reimbursement.
- Projects must be included or added into the CFP, IFFP, and IFA to be eligible for reimbursement.
- Each year, the Public Works Director will approve projects in the CFP, IFFP, and IFA.

**2.2 Application Process for Impact Fee Reimbursements:**

- Applications must be submitted through iWorQ with a one-time fee of $1,000.00 due upon submittal.
- The following documentation is required:
    - Scanned copies of invoices for completed work with proof of payment.
    - A summary of invoices in a spreadsheet.
    - A copy of the approved Master Development Agreement (MDA).

**2.3 Timing and Amount of Reimbursement:**

- The CFP, IFFP, and IFA are updated annually to include newly eligible projects approved by the Public Works Director.
- After the updated plan is approved by the City Council and Planning and Zoning Commission, partial reimbursement will be issued the following September.
- The reimbursement amount depends on:
    - The approved cost of the impact fee-eligible project.
    - Costs of other projects in the same category.
    - Total impact fees collected by the City the previous year.

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**Section 3: Pioneering Agreements**

**3.1 Eligibility for Pioneering Agreements:**

- Projects eligible for a pioneering agreement include capital improvement projects included in the CFP, IFFP, and IFA that haven't been used in impact fee calculations and are expected to be constructed entirely by developers.
- The projects must have an upsize component or excess capacity that will benefit future development connecting or utilizing this improvement.

**3.2 Application Process for a Pioneering Agreement:**

- Pioneering agreements will be referenced in the developer's Master Development Agreement (MDA) and attached as an exhibit upon approval.

**3.3 Reimbursement for Non-Impact Fee Eligible Infrastructure:**

- Reimbursement for non-impact fee eligible infrastructure will occur when other properties benefit from or connect to the infrastructure specified in the pioneering agreement.
- The timing of reimbursement will depend on future development activity.
- The pioneering agreement will expire 10 years from the date of execution or once the developer has recovered the costs specified in the agreement, whichever occurs first.
- Developers may request up to two 1 year extensions, which must be approved by the City Council prior to the expiration date.

---

**Section 4: Annual Review and Approval Process**

- The Public Works Director is responsible for reviewing and approving the projects included in the CFP, IFFP, and IFA each year.
- Updated plans will be submitted to the City Council and Planning and Zoning Commission for final approval.

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**Section 5: Timeline for Impact Fee Updates**

## Yearly Impact Fee Updates

| Activity | Timeline |
|---|---|
| Project Submittals | Due annually by November 15 |
| Project Review and Approval by Public Works Department | Middle of December |
| Prepare CFPs, IFFPs, and IFAs Amendments | Middle of November to Middle of February |
| Staff Review | February |
| Combined City Council and Planning Commission Work Meeting | 2nd Meeting in February |
| Planning Commision Approval | 1st meeting in March (public notice and hearing will occur during the same meeting) |
| City Council Approval | 2nd meeting in March (public notice and hearing on the same meeting) |
| Impact Fee Update Effective Dates | July 1st |
| Impact Fee Reimbursements | Following September after Approval |

This timeline ensures the timely submission, review, and approval of projects for infrastructure reimbursements and pioneering agreements each year. Dates may vary based on Council and Planning Commission approval.

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**Section 6: Contact Information**

For any questions or assistance with impact fee reimbursements or pioneering agreements, please contact the Community Development Department.

**Effective Date:** This policy is effective as of October 16, 2024.

# Agenda Item #9

Consideration of Resolution 2024–85 approving the Master Development Agreement for Deseret Meadows PUD

**GRANTSVILLE CITY**
**RESOLUTION NO. 2024-85**

**A RESOLUTION APPROVING THE MASTER DEVLOPMENT AGREEMENT FOR DESERET MEADOWS**

Be it resolved by the City Council of Grantsville City, Utah as follows:

**WHEREAS,** Grantsville City (the "City") and RG Grantsville 112, LLC (the "Developer") have prepared a Master Development Agreement ("MDA") for the proposed Deseret Meadows Development, which outlines the terms and conditions for the development of the property located north of State Route 112; and

**WHEREAS,** the City Council finds that the MDA is in accordance with the City's General Plan and land use requirements and will further the orderly and beneficial development of the City by establishing agreed-upon standards for infrastructure, open space, and residential and commercial development within Deseret Meadows; and

**WHEREAS,** the MDA includes provisions for water and wastewater service capacities, as detailed in the memorandum dated October 17, 2024, from Ensign Engineering (attached hereto as part of Exhibit A), which confirms the availability of City resources to support the development, subject to required infrastructure improvements by the Developer; and

**WHEREAS,** the MDA references Exhibit B, pertaining to the Deseret Meadows Planned Unit Development (PUD), which will be supplemented to the MDA if approved by the City Council; and

**WHEREAS,** the City Council has reviewed and considered the terms of the MDA, along with the supporting documents, and finds it to be in the best interest of the City and its residents;

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF GRANTSVILLE CITY, STATE OF UTAH, AS FOLLOWS:

**Section 1. Approval of MDA:** The Grantsville City Council hereby approves the Master Development Agreement between Grantsville City and RG Grantsville 112, LLC, for the Deseret Meadows Development, as outlined in Exhibit A.

**Section 2. Effective Date:** This resolution shall take effect immediately upon its passage and approval as provided by law.

**Section 3. Severability clause.** If any part or provision of this Resolution is held invalid or unenforceable, such invalidity or unenforceability shall not affect any other portion of this Resolution and all provisions, clauses and words of this Resolution shall be severable.

ADOPTED AND PASSED BY THE CITY COUNCIL OF GRANTSVILLE CITY, THIS 6TH DAY OF NOVEMBER, 2024.

BY THE ORDER OF THE GRANTSVILLE CITY COUNCIL:

_____
By Mayor Neil Critchlow

ATTEST

_____
Braydee Baugh, City Recorder

# EXHIBIT “A”

Master Development Agreement for Deseret Meadows

**WHEN RECORDED, RETURN TO:**

**Braydee Baugh**
**Grantsville City Recorder**
**429 East Main Street**
**Grantsville City, Utah 84029**

**GRANTSVILLE CITY**
**MASTER DEVELOPMENT AGREEMENT**
**FOR**
**DESERET MEADOWS**

THIS MASTER DEVELOPMENT Agreement ("**Agreement**") is made and entered as of the _____ day of _____, 2024 ("**Effective Date**"), by and between Grantsville City, a municipal corporation of the State of Utah ("**City**") and RG Grantsville 112, LLC, a Utah limited liability company ("**Developer**").

**RECITALS**

A. The capitalized terms used in this Agreement and in these Recitals are defined in Section 1.2, below.

B. On August 17, 2022 ("**Application Date**"), Developer as a co-applicant with its then buyer, submitted an application for a planned unit development for the Property. Subsequently, Developer supplemented its planned unit development application. The application, as supplemented, contemplates the development of the Property consistent with the City's planned unit development requirements. Developer and the City desire that the Property be developed in a unified and consistent fashion pursuant to the PUD. The Parties desire to enter into this Agreement to specify the rights and responsibilities of the Developer to develop the Property as expressed in this Agreement and the rights and responsibilities of the City to allow and regulate such development pursuant to the requirements of this Agreement.

C. The Parties understand and intend that this Agreement is a "development agreement" within the meaning of, and entered into pursuant to the terms of Utah Code Ann. §10-9a-101 et seq. This Agreement conforms with the intent of the City's General Plan and the Zoning.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the City and Developer hereby agree to the following:

**TERMS**

1. **Definitions.** As used in this Agreement, the words and phrases specified below have the following meanings:

1.1. **Agreement** means this Master Development Agreement including all of its Exhibits and Addenda.

1.2. **Applicant** means a person or entity submitting a Development Application.

1.3. **Buildout** means the completion of all of the development on the entire Project in accordance with this Agreement.
1.4. **City** means Grantsville City, a political subdivision of the State of Utah.
1.5. **City's Future Laws** means the ordinances, policies, standards, and procedures which may be in effect as of a particular time in the future when a Development Application is submitted for a part of the Project and which may or may not be applicable to the Development Application as provided in Section 3.2 below.
1.6. **Council** means the elected City Council of the City.
1.7. **Default** means a breach of this Agreement as specified herein.
1.8. **Developer** means RG Grantsville 112, LLC and its successors/assignees as permitted by this Agreement.
1.9. **Development** means the development of a portion of the Property pursuant to an approved Development Application.
1.10. **Development Application** means an application to the City for development of a portion of the Project or any other permit, certificate or other authorization from the City required for development of the Project.
1.11. **GLUDMC** means the Grantsville Land Use and Development Code, in effect on the Application Date.
1.12. **LUDMA** means the Land Use, Development, and Management Act, Utah Code Ann. § 10-9a-101 *et seq*.
1.13. **Maximum Residential Units** means the development on the Property of no more than 925 Residential Dwelling Units.
1.14. **Non-Residential Development** means development projects that are not Residential Dwelling Units, and include, without limitation, office uses, retail uses, and other commercial uses.
1.15. **Notice** means any notice to or from any Party to this Agreement that is either required or permitted to be given to another party.
1.16. **Party/Parties** means, in the singular, Developer or the City; in the plural Developer and the City.
1.17. **Project** means the residential subdivision to be constructed on the Property pursuant to this Agreement with the associated Public Infrastructure and private facilities, and all of the other aspects approved as part of this Agreement.
1.18. **Property** means the real property owned by and to be developed by Developer more fully described in **Exhibit A**.
1.19. **Public Infrastructure** means those elements of infrastructure that are planned to be dedicated to the City or other public entities as a condition of the approval of a Development Application.
1.20. **PUD** means the Deseret Meadows Planned Unit Development, dated October 1, 2024, and prepared by Focus Engineering & Surveying Inc., the standards and requirements of which are attached hereto as **Exhibit B**.
1.21. **Residential Dwelling Unit** means a structure or any separate portion thereof designed and intended for use as attached residences.
1.22. **Zoning** means the zoning districts and related standards that apply to the Property, including the RM-15 (45.47 acres); Mixed Use (44.18 acres); and R-1-21 (29.98 acres) zones.

2. **Development of the Project.**

2.1. **Compliance with the PUD and this Agreement.** Development of the Project shall be in accordance with LUDMA, GLUDMC, the City's Future Laws (to the extent they are applicable as specified in this Agreement), the PUD, and this Agreement.

2.2. **Maximum Residential Units.** At Buildout, Developer shall be entitled to develop the Maximum Residential Units of the type shown in the PUD. Developer is also entitled to develop Non-Residential Development consistent with the PUD.

2.3. **Future Subdivision Approvals**. The City's planning staff is hereby designated as the "land use authority", as defined in LUDMA for all subdivision plats and site plans and such subdivision plats or site plans do not require review or approval by the Council or City's Planning Commission, provided that said subdivision plats or site plans are consistent with this Agreement and the PUD. A subdivision plat is consistent with this Agreement and the PUD so long as it does not introduce uses not permitted within the Project or increase the number of Residential Units for the Project above the Maximum Residential Units. City shall approve all subdivision plats and site plans, provided that the same comply with applicable law.

3. **Vested Rights.**

3.1. **Vested Rights Granted by Approval of this Agreement.** As of the Effective Date, Developer has the vested right to proceed with the development of the Property in accordance with this Agreement, the PUD, LUDMA, and GLUDMC. To the maximum extent permissible under the laws of Utah and the United States and at equity, this Agreement grants to Developer "vested rights" as that term is construed in Utah's common law and pursuant to Utah Code § 10-9a-509, including the right to develop the Project in fulfillment of the terms and provisions of this Agreement and the laws and ordinances that apply to the Property as of the Application Date. The Parties intend that the rights granted to Developer under this Agreement are contractual and are in addition to those rights that exist under statute, common law and at equity.

3.2. **Exceptions.** The vested rights and the restrictions on the applicability of the City's Future Laws to the Project as specified in Section 3.1 are subject to the following exceptions:

3.2.1. Master Developer Agreement. The City's Future Laws or other regulations to which the Developer agrees to in writing after the Effective Date;

3.2.2. State and Federal Compliance. The City's Future Laws or other regulations which are generally applicable to all properties in the City and which are required to comply with State and Federal laws and regulations affecting the Project and other properties in the City;

3.2.3. Codes. Any City's Future Laws that are updates or amendments to existing building, fire, plumbing, mechanical, electrical, dangerous buildings, drainage, or

similar construction or safety related codes, such as the International Building Code or similar standards that are generated by a nationally or statewide recognized construction/safety organization, or by the State or Federal governments and are required to meet legitimate concerns related to public health, safety or welfare;

3.2.4. Taxes. Taxes, or modifications thereto, so long as such taxes are lawfully imposed and charged uniformly by the City to all properties, applications, persons and entities similarly situated;

3.2.5. Fees. Changes to the amounts of fees for the processing of Development Applications that are generally applicable to all development within the City (or a portion of the City as specified in the lawfully adopted fee schedule) and which are adopted pursuant to State law;

3.2.6. Impact Fees. Impact Fees or modifications thereto which are lawfully adopted, and imposed by the City pursuant to Utah Code Ann. Section §11-36a-101 *et seq*; and

3.2.7. Compelling, Countervailing Interest. Laws, rules or regulations that the City's land use authority finds, on the record, are necessary to avoid jeopardizing a compelling, countervailing public interest pursuant to Utah Code Ann. §10-9a-509(1)(a)(ii)(A), that was not known and not reasonably foreseeable as of the Effective Date.

4. **Term of Agreement.** Unless earlier terminated as provided for herein, the term of this Agreement begins on the date in the preamble to this Agreement and expires on September 30, 2034. If Developer has not been declared to be currently in Default as of August 31, 2034 (or if any such Default is being cured in accordance with this Agreement) then this Agreement will automatically extend until September 30, 2044. This Agreement will also terminate automatically when all certificates of occupancy have been issued for all Residential Dwelling Units at Buildout.

5. **PUD.**

5.1. **Effect of PUD**. Developer may develop the Property consistent with the PUD. GLUDMC and the Zoning are hereby modified, changed, and altered such that the Property can be developed consistent with the PUD and this Agreement, including those specific deviations to GLUDMC described on PUD Page 13, Deviations to the City Code - Single-family and Page 14 Deviations to the City Code – Multi-family. Any change to the PUD shall be processed in accordance with Section 25, Amendment, of this Agreement.

5.2. **Priority of Documents.** To the extent GLUDMC conflicts with the PUD or this Agreement as to the development of the Property, the PUD and this Agreement control.

5.3. **Phasing and Open Space.**

5.3.1. Preliminary Plat Required. Prior to submitting any final subdivision plat which includes Residential Dwelling Units, Developer shall submit a preliminary plat covering all remaining phases, specifically depicting the layout of units, open space

including specific amenities, and major utilities, ~~and planning staff is hereby designated as the "land use authority" as defined in LUDMA for all preliminary plats.~~ Upon approval of the preliminary plat for the Project and the preliminary plan, all final subdivision may be processed by planning staff through final approval, provided such plats are consistent with the approved preliminary plat. Deviations from the preliminary plat will be processed in accordance with Section 25 of this Agreement.

**Commented [A1]:** There is no reason for this to not go through Planning Commission for preliminary plat approval. This would be allowing a deviation to the state code, SB174 and HB476.

5.3.2. Residential Unit Phasing. All proposed phasing is subject this Agreement, the PUD, and GLUDMC Section 21.4.3. The phase which would achieve Buildout upon completion shall include all previously undeveloped area and incomplete Public Infrastructure identified in the PUD.

5.3.3. Open Space. Developer shall provide no less than the minimum open space consistent with GLUDMC and the PUD, as applicable. Open Space may be developed in differing proportions across phases, provided that (i) Developer shall complete no less than 50% of the total required open space for the residential portion of the project no later than when 50% of the Maximum Residential Units dwelling units have been constructed, and (ii) Developer shall complete all required open space and related improvements prior to or contemporaneously with completion of lot improvements for 70% of the Maximum Residential Units.

6. **Public Infrastructure.**

6.1. **Construction by Developer.**

6.1.1. Developer, at Developer's cost and expense, shall construct or cause to be constructed and installed all Public Infrastructure reasonably and lawfully required as a condition of approval of a Development Application pursuant to GLUDMC. Such construction must meet all applicable standards and requirements and must be approved by the City's engineer.

6.1.2. Developer, at Developer's cost and expense, shall construct or cause to be constructed and installed those improvements and connections identified in Section 3.2 of the Memorandum attached hereto as **Exhibit C** and incorporated by this reference as though fully written into this Agreement. Such construction must meet all applicable standards and requirements and must be approved by the City's engineer and the Memorandum.

6.1.3. Developer, at Developer's cost and expense, shall construct or cause to be constructed and installed solid fences (i) along the south border of the Property between the residential portions of the Project and State Road 112 (no fencing is required along the south border of the commercial development abutting State Road 112), and (ii) along the east border of the Property between the industrial uses to the east and the residential portions of the Project. The fences shall consist of masonry, concrete, stucco, "Masonite," metal or vinyl clad lap, or any material with similar appearance.

6.2. **Responsibility Before Acceptance.** Developer shall be responsible for all Public Infrastructure covered by this Agreement until final inspection of the same has been performed by the City, and a final acceptance and release has been issued by the Council. The City may not, nor may any officer or employee thereof, be liable or responsible for any accident, loss or damage happening or occurring to the Public Infrastructure, nor may any officer or employee thereof, be liable for any persons or property injured by reason of said Public Infrastructure; all of such liabilities shall be assumed by the Developer.

6.3. **Warranty.** Developer shall repair any defect in the design, workmanship or materials in all Public Infrastructure which becomes evident during a period of one year following the acceptance of the improvements by the City Council or its designee ("**Durability Testing Period**"). If, during the Durability Testing Period, any Public Infrastructure shows unusual depreciation, or if it becomes evident that required work was not done, or that the material or workmanship used does not comply with accepted standards, Developer shall correct said condition within a reasonable time at Developer's cost.

6.4. **Timing of Completion of Public Infrastructure.** In accordance with the diligence requirements for the various types of approvals as described in the GLUDMC, construction of the required Public Infrastructure shall be completed within eighteen months (18) after the City Council grants final plat approval on any Development Application, subject to an event of force majeure as described in Section 17. Upon a showing of good and sufficient cause by Developer the City shall, in accordance with the provisions of GLUDMC, extend the time of performance if requested prior to expiration of the completion date.

6.5. **Bonding.** In connection with any Development Application, Developer shall provide bonds or other development security, including warranty bonds, to the extent required by GLUDMC, unless otherwise provided by Utah Code § 10-9a-101, *et seq*. The Applicant shall provide such bonds or security in a form acceptable to the City or as specified in GLUDMC. Partial releases of any such required security shall be made as work progresses based on GLUDMC. A portion of these completion assurances shall be withheld by the City until the expiration of the Durability Testing Period.

6.6. **City Completion.** The Developer agrees that in the event it does not: (a) complete all improvements within the time period specified under paragraph 4 above, or secure an extension of said completion date, (b) construct said improvements in accordance with City standards and as set forth in Paragraph one above, and (c) pay all claimants for material and labor used in the construction of said improvements, request and receive the funds held by the guarantor as surety and utilize the monies obtained to install or cause to be installed any uncompleted improvements and/or to pay any outstanding claims, as applicable. Provided however, that the City may not be responsible for any work beyond the amount of funds so provided. Any funds remaining after completion of the improvements shall be returned to the guarantor. The Developer further agrees to be personally liable for any commercially reasonable cost of improvements above the amount made available under the terms of this agreement.

7. **Upsizing/Reimbursements to Developer.**

7.1. **Upsizing.** The City may not require Developer to "upsize" any future Public Infrastructure (i.e., to construct the infrastructure to a size larger than required to service the Project), including requiring Developer to widen the roadway from the widths depicted on the PUD, unless financial arrangements, such as impact fee credits or reimbursements from impact fees, in a form reasonably acceptable to Developer are made to compensate Developer for the incremental or additive costs of such upsizing to the extent required by law. The City acknowledges that the 90'-wide collector road identified in the PUD is an upsized improvement that provides a regional benefit, and the City shall reimburse Developer by providing an impact fee credit or direct reimbursement, in a form acceptable to Developer, for those portions of said collector road that are not attributable to the Project. Developer may utilize the upsized culinary and sewer improvements built in connection with the neighboring industrial park.

8. **Default.**

8.1. **Notice.** If Developer or the City fails to perform their respective obligations hereunder or to comply with the terms hereof, the Party believing that a Default has occurred shall provide Notice to the other Party.

8.2. **Contents of the Notice of Default**. The Notice of Default shall:

8.2.1. Specific Claim. Specify the claimed event of Default;

8.2.2. Applicable Provisions. Identify with particularity the provisions of any applicable law, rule, regulation or provision of this Agreement that is claimed to be in Default; and

8.2.3. Optional Cure. If the City chooses, in its discretion, it may propose a method and time for curing the Default which shall be of no less than thirty (30) days duration, if weather conditions permit.

8.3. **Remedies.** Upon the occurrence of any Default, and after notice as required above, then the parties may have the following remedies:

8.3.1. Law and Equity. All rights and remedies available at law and in equity, including, but not limited to, injunctive relief and/or specific performance.

8.3.2. Security. The right to draw on any security posted or provided in connection with the Project and relating to remedying of the particular Default.

8.3.3. Future Approvals. The right to withhold all further reviews, approvals, licenses, building permits and/or other permits for development of the Project in the case of a default by Developer until the Default has been cured.

8.4. **Public Meeting.** Before any remedy in Section 8.3 may be imposed by the City the party allegedly in Default shall be afforded the right to attend a public meeting before the City Council and address the City Council regarding the claimed Default.

8.5. **Default of Assignee.** A default of any obligations expressly assumed by an assignee may not be deemed a default of Developer.

8.6. **Limitation on Recovery for Default – No Damages against the City.** Anything in this Agreement notwithstanding Developer may not be entitled to any claim for any monetary damages as a result of any breach of this Agreement and Developer waives any claims thereto. The sole remedy available to Developer and any assignee shall be that of specific performance.

9. **Notices.** All notices required or permitted under this Agreement shall, in addition to any other means of transmission, be given in writing by certified mail and regular mail to the following address:

**To the Developer:**

RG Grantsville 112, LLC
Attn: Anthon Stauffer and Thane Smith
2265 E. Murray Holladay Road
Holladay, UT 84117
Email: Anthon@theromneygroup.com
Thane@theromneygroup.com

**To the City:**

Grantsville City
Attn: City Recorder
429 East Main Street
Grantsville, Utah 84029

10. **Dispute Resolution.**

10.1. **Meet and Confer**. The City and Developer/Applicant shall meet within fifteen (15) business days of any dispute under this Agreement to resolve the dispute.

10.2. **Mediation**.

10.2.1. Disputes Subject to Mediation. Disputes that are not subject to arbitration shall be mediated.

10.2.2. Mediation Process. If the City and Developer/Applicant are unable to resolve a disagreement subject to mediation, the Parties shall attempt within ten (10) business days to appoint a mutually acceptable mediator with knowledge of the legal issue in dispute. If the Parties are unable to agree on a single acceptable mediator they shall

each, within ten (10) business days, appoint their own representative. These two representatives shall, between them, choose the single mediator. Developer/Applicant shall pay the fees of the chosen mediator. The chosen mediator shall within fifteen (15) business days from selection, or such other time as is reasonable under the circumstances, review the positions of the Parties regarding the mediation issue and promptly attempt to mediate the issue between the Parties. If the Parties are unable to reach an agreement, the Parties shall request that the mediator notify the Parties in writing of the resolution that the mediator deems appropriate. The mediator's opinion may not be binding on the Parties.

11. **Incorporation of Recitals and Exhibits.** The Recitals and Exhibits "A" - "B" are hereby incorporated into this Agreement.

12. **Headings.** The captions used in this Agreement are for convenience only and a not intended to be substantive provisions or evidence of intent.

13. **No Third-Party Rights/No Joint Venture.** This Agreement does not create a joint venture relationship, partnership or agency relationship between the City, or Developer. Except as specifically set forth herein, the parties do not intend this Agreement to create any third-party beneficiary rights.

14. **Assignability.** The rights and responsibilities of Developer under this Agreement may be assigned in whole or in part, respectively, by Developer with the consent of the City as provided herein.

14.1. **Sale of Lots.** Developer's selling or conveying lots in any approved subdivision may not be deemed to be an assignment.

14.2. **Related Entity.** Developer's transfer of all or any part of the Property to: (i) any entity "related" to Developer (as defined by regulations of the Internal Revenue Service in Section 165); (ii) Lennar Homes of Utah, LLC, a Delaware limited liability company ("**Lennar**"); (iii) a joint venture for the development of the Project in connection with Developer's entry into said joint venture; or (iv) Developer's pledging of part or all of the Project as security for financing may also not be deemed to be an assignment requiring consent hereunder. If Developer transfers all or any part of the Property to Lennar, then Lennar can subsequently transfer all or any part of the Property to a landbank entity identified by Lennar without obtaining the City's consent. Developer shall give the City Notice of any event specified in this sub-section within ten (10) days after the event has occurred. Such Notice shall include providing the City with all necessary contact information for the newly responsible party.

14.3. **Process for Assignment.** Developer shall give Notice to the City of any proposed assignment and provide such information regarding the proposed assignee that the City may reasonably request in making the evaluation permitted under this Section. Such Notice shall include providing the City with all necessary contact information for the proposed assignee. Unless the City objects in writing within twenty (20) business days of notice, the

City shall be deemed to have approved of and consented to the assignment. The City may not unreasonably withhold consent.

14.4. **Partial Assignment.** If any proposed assignment is for less than all of Developer's rights and responsibilities, then the assignee shall be responsible for the performance of each of the obligations contained in this MDA to which the assignee succeeds. If any obligations or rights are retained by Development in the event of a partial assignment, such reservations shall be detained in the notice described herein.

14.5. **Complete Assignment.** Developer may request the written consent of the City of an assignment of Developer's complete interest in this Agreement for an assignment requiring consent hereunder but not for an assignment under Section 14.2. In such cases, the proposed assignee shall have the qualifications and financial responsibility necessary and adequate, as required by the City, to fulfill all obligations undertaken in this Agreement by Developer. The City shall be entitled to review and consider the ability of the proposed assignee to perform, including financial ability, past performance and experience. After review, if the City gives its written consent to the assignment, Developer shall be released from its obligations under this Agreement for that portion of the Property for which such assignment is approved.

15. **No Waiver.** Failure of any Party hereto to exercise any right hereunder may not be deemed a waiver of any such right and may not affect the right of such party to exercise at some future date any such right or any other right it may have.

16. **Severability.** If any provision of this Agreement is held by a court of competent jurisdiction to be invalid for any reason, the Parties consider and intend that this Agreement shall be deemed amended to the extent necessary to make it consistent with such decision and the balance of this Agreement shall remain in full force and affect.

17. **Force Majeure.** Any prevention, delay or stoppage of the performance of any obligation under this Agreement which is due to strikes, labor disputes, inability to obtain labor, materials, equipment or reasonable substitutes therefor; acts of nature, governmental restrictions, regulations or controls, judicial orders, enemy or hostile government actions, wars, civil commotions, fires or other casualties or other causes beyond the reasonable control of the Party obligated to perform hereunder shall excuse performance of the obligation by that Party for a period equal to the duration of that prevention, delay or stoppage.

18. **Time is of the Essence.** Time is of the essence to this Agreement and every right or responsibility shall be performed within the times specified.

19. **Appointment of Representatives.** To further the commitment of the Parties to cooperate in the implementation of this Agreement, the City and Developer each shall designate and appoint a representative to act as a liaison between the City and its various departments and the Developer. The initial representative for the City shall be **the Mayor**. The initial representative for Developer shall be **Thane Smith**. The Parties may change their designated representatives by Notice. The representatives shall be available at all reasonable times to discuss and review the performance of the Parties to this Agreement and the development of the Project.

20. **Applicable Law.** This Agreement is entered into in Tooele County in the State of Utah and shall be construed in accordance with the laws of the State of Utah irrespective of Utah's choice of law rules.

21. **Venue.** Any action to enforce this Agreement shall be brought only in the Third District Court, Tooele County in and for the State of Utah.

22. **Entire Agreement.** This Agreement, and all Exhibits thereto, documents referenced herein, is the entire agreement between the Parties and may not be amended or modified except either as provided herein or by a subsequent written amendment signed by all Parties.

23. **Mutual Drafting.** Each Party has participated in negotiating and drafting this Agreement and therefore no provision of this Agreement shall be construed for or against any Party based on which Party drafted any particular portion of this Agreement.

24. **No Relationship.** Nothing in this Agreement shall be construed to create any partnership, joint venture or fiduciary relationship between the parties.

25. **Amendment.** This Agreement may be amended only in writing signed by the parties hereto and processed consistent with GLUDMC, including Section 12.5 Adjustments to Development Plan.

26. **Recordation and Running with the Land.** This Agreement shall be recorded in the chain of title for the Project. This Agreement shall run with the land.

27. **Priority.** This Agreement shall be recorded against the Property senior to any respective covenants and any debt security instruments encumbering the Property.

28. **Authority.** The Parties to this Agreement each warrant that they have all of the necessary authority to execute this Agreement.

29. **No Boycott.** The undersigned certifies that it is not currently engaged in a boycott of the State of Israel and agrees not to engage in a boycott of the State of Israel during the term of this Agreement. The undersigned further acknowledges that its engagement in a boycott of the State of Israel would be in violation of Utah Code Section 63G-27-201 and could result in termination of this Agreement.

30. **Governmental Immunity.** Notwithstanding any other provision of this Agreement, the City does not waive, and expressly reserves, all privileges, immunities, and defenses available to it under the Utah Governmental Immunity Act, Utah Code Ann. §§ 63G-7-101 et seq., as amended. The execution of this Agreement and any performance hereunder may not be construed as a waiver of any rights, immunities, or protections afforded by the Utah Governmental Immunity Act or any other applicable law.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement by and through their respective, duly authorized representatives as of the day and year first herein above written.

DEVELOPER
RG GRANTSVILLE 112, LLC

_____
By: _____
Its: _____

GRANTSVILLE CITY

_____
By:
Its: [ ] Mayor [ ] City Manager

Approved as to form and legality:

_____
City Attorney

Attest:

_____
City Recorder

**CITY ACKNOWLEDGMENT**

STATE OF UTAH )
ss.
COUNTY OF TOOELE )

On the _____ day of_____, 20__ personally appeared before me _____who being by me duly sworn, did say that he is the Mayor of Grantsville City, a political subdivision of the State of Utah, and that said instrument was signed in behalf of the City by authority of its City Council and said Mayor acknowledged to me that the City executed the same.

_____
NOTARY PUBLIC

My Commission Expires: _____

Residing at: _____

**DEVELOPER ACKNOWLEDGMENT**

STATE OF UTAH )
:ss.
COUNTY OF _____ )

On the _____ day of _____, 20__, personally appeared before me _____, who being by me duly sworn, did say that he/she is the Manager of RG Grantsville 112, LLC, a Utah limited liability company and that the foregoing instrument was duly authorized by the company at a lawful meeting held by authority of its operating agreement and signed in behalf of said company.

_____
NOTARY PUBLIC

My Commission Expires: _____

Residing at: _____

**TABLE OF EXHIBITS**


| | |
|---|---|
| Exhibit “A” | Legal Description of Property |
| Exhibit “B” | PUD |
| Exhibit “C” | Ensign Memorandum |

# EXHIBIT A

(Legal Description of Property)

LEGAL DESCRIPTION OF DESERET MEADOWS

That certain real property located in Tooele County, State of Utah, more particularly described as follows:

A parcel of land located within the Northeast Quarter of Section 4, the Southeast Quarter of Section 4 and the Northwest Quarter of Section 3, Township 3 South, Range 5 West, Salt Lake Base and Meridian, the Southeast Quarter of Section 33 and the Southwest Quarter of Section 34, Township 2 South, Range 5 West, Salt Lake Base and Meridian, also located in Grantsville City, Tooele County, State of Utah, more particularly described as follows:

Beginning at the northeast corner of OQUIRRH ESTATES MINOR SUBDIVISION, according to the Official Plat thereof on file in Office of the Tooele County Recorder, recorded August 16, 2017 as Entry No. 453349 in Book 19 at Page 81, said point also being located N89°40’50”E 22.26 feet along the extension of the Northerly line of Section 4 and N00°30’55"W 29.57 feet from the Northeast Corner of Section 4, T2S, R5W, SLB&M; and running thence along the easterly line of said plat the following Three (3) courses: (1) S00°30’55”E 1,364.08 feet; thence $89°39'47"W 37.53 feet; thence (3) S00°08'25"W 385.61 feet; thence N69°54'07"W 386.75 feet; thence N20°08’18”E 1.84 feet; thence N69°37'47"W 66.00 feet, thence Southwesterly along the arc of a non-tangent curve to the right having a radius of 1,467.00 feet (radius bears: N69°54'29"W) a distance of 269.73 feet through a central angle of 10°32'04" Chord: S25°21'33"W 269.35 feet; thence Southwesterly along the arc of a non-tangent curve to the right having radius of 1.915.87 feet (radius bears: N60°46'41"W) a distance of 96.02 feet through a central angle of 02°52'17" Chord: S30°39'28"W 96.01 feet; thence $30°39’28”W 610.50 feet; thence N59°20’32”W 102.25 feet, thence along the are of a curve to the right with a radius of 11,426.16 feet a distance of 857.52 feet through a central angle of 04°18'00" Chord: N57°11'32"W 857.32 feet; thence N55°02'32"W 664.33 feet; thence N00°15’23”W 163.53 feet; thence S88°39'48"W 19.59 feet to the southeast corner of that parcel of land described in that certain Special Warranty Deed recorded April 30, 2008 as Entry No. 306567 in the Office of the Tooele County Recorder; thence along the easterly boundary of said parcel

N00°20’00”W 208.00 feet; thence N00°20’48”E 1,166.50 feet to a boundary established by Boundary Line Agreement, recorded December 15, 2017 as Entry No. 460094 in the Office of the Tooele County Recorder, thence along said boundary N89°48’00”E 967.15 feet to the northwest corner of said OQUIRRH ESTATES MINOR SUBDIVISION; thence along the northerly line of said plat N89°46’35”E 1,326.59 feet to the point of beginning.

Contains: 119.73 acres+/-

# EXHIBIT B

(PUD)

# EXHIBIT C

(Ensign Memorandum)

# MEMORANDUM

ENSIGN
THE STANDARD IN ENGINEERING

Structural Engineering
Municipal Services
Civil Engineering
Land Surveying

**Date:** October 17, 2024

*To:* *The Romney Group*
*Thane Smith*
*2265 East Murray Holladay Road*
*Holladay, UT 84117*
*Transmitted Via Email:* *thane@theromneygroup.com*
*CC:* *ncritchlow@grantsvilleut.govCC:*
*cmontierth@grantsvilleut.gov*
*smoore@grantsvilleut.gov*

*From:* *Robert Rousselle, PE*
*Diane Sawadogo, EIT*

*RE:* *Deseret Meadows Development*
*Granstville Water and Wastewater Capacity Analysis*
*Grantsville City, UT 84029*
*Ensign Engineering Project No.: 11637C*

## 1.1 INTRODUCTION

Ensign has evaluated the capacity of the Grantsville City water and wastewater systems to serve the proposed Deseret Meadows Development located north of State Route 112 and adjacent to and west of the Lakeview Business Park. The Project conceptual layout was provided by Focus Engineering & Surveying, LLC in the Deseret Meadows Master Development Plan print-dated May 2024. This mixed-use development consists of 925 units with a 10-acre park, 10.55 acres of open space and 6 acres of commercial development equating to 1,044 Equivalent Residential Connections (ERC) located in Grantsville City. We assumed sewer flow for townhomes is equivalent to a single-family resident or residential connection (ERC), and we assumed 1 acre of the 6 commercial acres is being irrigated. This analysis is intended to determine the feasibility of providing water and wastewater services to this development through the City's water and wastewater systems.

# SECTION 2: WATER AND WASTEWATER LEVEL OF SERVICE AND ESTIMATED DEMANDS/FLOWS

## 2.1 WATER LEVEL OF SERVICE

Grantsville's drinking water level of service has been established with the Grantsville Drinking Water Capital Facilities Plan to comply with Utah Administrative Code R309, which has been accepted by the Utah Division of Drinking Water. The following is a summary of the City's drinking water level of service.

- **Unit Average Day Demand = 807 gpd/ERC (0.618 ac-ft/year/ERC)**
  - Indoor Demand = 195 gpd/ERC (0.218 ac-ft/year/ERC)
  - Outdoor Demand = 612 gpd/ERC (0.400 ac-ft/year/ERC)
- **Unit Peak Day Demand = 1,416 gpd/ERC (0.983 gpm/ERC)**
  - Indoor Demand = 275 gpd/ERC (0.191 gpm/ERC)
  - Outdoor Demand = 1,141 gpd/ERC (0.792 gpm/ERC)
- **Peak Instantaneous Demand:**
  - Indoor Demand = $10.8*(ERCs)^{0.64}$ gpm/ERC
  - Outdoor Demand = 1.58 gpm/ERC
- **Fire Flow:**
  - Industrial/Commercial Buildings = 2,050 gpm for 4 hours (492,000 gallons)
  - Residential = 1,500 for 2 hours

- **Drinking Water System Capacity Requirements:**
  - **Sources:**
    - Supply Peak Day Demand
  - **Storage:**
    - Storage for Average Day Demand plus Fire Flow (Industrial/Commercial Buildings Fire Flow)
  - **Distribution**:
    - Per UAC R309-105-9, distribution systems should maintain a minimum pressure at all points in the system during**;**
      - Peak Day Demand plus Fire Flow - 20 psi

- Peak Instantaneous Demand – 30 psi
- Peak Day Demand – 40 psi

▪ Max Velocity Requirements:

- Peak Day and Peak Instantaneous Demand - 5 fps
- Peak Day Demand plus Fire Flow – 10 fps

## 2.2 WASTEWATER LEVEL OF SERVICE

Grantsville's wastewater level of service has been established with Wastewater Capital Facilities Plan to comply with Utah Administrative Code R317. The following is a summary of the City's wastewater level of service.

**Table 1 – Wastewater Level of Service**

| Component | Parameter | Level of Service | |
|---|---|---|---|
| Collection System | Average Day Flow | 150 gpd/ERC | |
| | Peaking Factors | *Miles From WWTF* | *Factor* |
| | | <1 | 1.85 |
| | | >1 and <1.6 | 2.25 |
| | | >1.6 | 4.0 |
| Lift Stations | Peak Inflow | 0.35 gpm/ERC | |
| Wastewater Treatment Facility | Average Day Flow | 150 gpd/ERC | |
| | Peak Day Flow | 175 gpd/ERC | |
| | Peak Instantaneous Flow | 0.4 gpm/ERC | |

- Manning's n – 0.013
- Minimum diameter of 8-inches
- Sewer Line Capacity – depth (d) over Diameter (D), d/D – 0.67
  - *For sewer lines, the capacity of a pipe is typically d/D=0.67.*
- Mean Velocities not less than 2 feet per second when flowing full (d/D=0.67)
- Max Velocities not greater than 15 feet per second unless special provisions are made

## 2.3 ESTIMATED WATER DEMANDS AND WASTEWATER FLOWS

Estimated water and wastewater demands were determined as follows for the development:

**Table 2 – Deseret Meadows Estimated Water Demands and Wastewater Flows**

| Demand Description | Quantity | Unit of Measurement |
|---|---|---|
| Proposed Indoor ERCs[1] | 1,044 | ERC[1] |
| Outdoor ERCs[1] | 179.60[2] | ERC[1] |
| Total ERCs[1] | 1,223.6 | ERC[1] |
| **Estimated Water Demands** | | |
| Water Average Day | 313,495.2[3] | gpd |
| Total Water Source | 341.634[4] | gpm |
| Total Water Storage | 313,495.2 | gallons |
| **Estimated Wastewater Flows** | | |
| Treatment Wastewater Average Day | 156,660[5] | gpd |
| Treatment Wastewater Peak (PF - 4) | 626,400 | gpd |

[1] *ERC = Equivalent Residential Connection*

*We assumed for the Commercial area that we have 3 units per acres and 7.92 ERCs per units*

*Indoor ERCs = 1044 ERCs = 925 ERCs plus (5 acres times 3 units/Acre times 7.92 ERCs/units*

[2]*Outdoor ERCs equal 10.55 irrigated acres divided by 0.12 irrigated acres per ERC plus 10 irrigated acres divided by 0.12 irrigated acres per ERC plus 1 irrigated acre divided by 0.12 irrigated acres per ERC..*

[3]*Water Average Day Demand equals 1044 indoor ERCs times 195 gpd/ERC plus 179.60 outdoor ERCs times 612 gpd/ERC.*

[4]*Source Demand equals 1044 indoor ERCs times 0.191 gpm/ERC plus 179.60 outdoor ERCs times 0.792 gpm/ERC.*

[5]*Wastewater Average Day Flow equals 1044 indoor ERCs times 150 gpd/ERC.*

# SECTION 3: WATER SYSTEM ANALYSIS

## 3.1 WATER SYSTEM ANALYSIS

As part of the analysis, Project water demands from the demand table (Table 3) were added to the system hydraulic water model to estimate their effect on the distribution system. The intent of the water model simulation is to ensure compliance with the State of Utah Division of Drinking Water system hydraulic modeling requirement R309-511 along with Grantsville City level of service requirements to determine the overall impact of Project demands on the existing City water system. Project demands were distributed between junctions within the proposed development as shown in Table 3.

**Table 3 – Deseret Meadows Development Junction Demands**

| Junctions | ERCs | ADD[1](gpd) | PDD[2](gpm) | PID[3](gpm) | PDD plus Fire Flow[4](gpm) |
|---|---|---|---|---|---|
| ER3 | 84.97 | 22,330.02 | 24.53 | 165.69 | 1,524.53 |
| J1098 | 84.97 | 22,330.02 | 24.53 | 165.69 | 1,524.53 |
| J1104 | 84.97 | 22,330.02 | 24.53 | 165.69 | 1,524.53 |
| J1108 | 119 | 23,205 | 24.53 | 165.69 | 1,524.53 |
| J1110 | 84.97 | 22,330.02 | 22.73 | 220.15 | 2,072.73 |
| J1116 | 84.97 | 22,330.02 | 24.53 | 165.69 | 1,524.53 |
| J1118 | 84.97 | 22,330.02 | 24.53 | 165.69 | 1,524.53 |
| J1120 | 84.97 | 22,330.02 | 24.53 | 165.69 | 1,524.53 |
| J1122 | 84.97 | 22,330.02 | 24.53 | 165.69 | 1,524.53 |
| J1126 | 84.97 | 22,330.02 | 24.53 | 165.69 | 1,524.53 |
| J1128 | 84.97 | 22,330.02 | 24.53 | 165.69 | 1,524.53 |
| J1130 | 84.97 | 22,330.02 | 24.53 | 165.69 | 1,524.53 |
| J1132 | 84.97 | 22,330.02 | 24.53 | 165.69 | 1,524.53 |
| J1134 | 84.97 | 22,330.02 | 24.53 | 165.69 | 1,524.53 |
| **Totals** | **1,223.60** | **313,495.20** | **341.63** | **2,539.81** | **NA** |

*Abbreviations: Average Day Demand (ADD), Peak Day Demand (PDD), Peak Instantaneous Demand (PID), Pressure Zone (PZ), Equivalent Residential Connections (ERC), gallons per minute (gpm), Residential (R), Commercial (C).*

*[1]ADD equals indoor 1,044 ERCs times 195 gpd/ERC plus outdoor 179.60 ERCs times 612 gpd/ERC*

*[2]PDD equals indoor 1,044 ERCs times 0.191 gpd/ERC plus outdoor 179.60 ERCs times 0.792 gpd/ERC*

*[3]PID equals total 1,223.6 ERCs times 1.85 gpm/ERC because the development is located in Pressure Zone 1*

*[4]PDD plus Fire Flow equals 1500 gpm plus PDD*

### 3.2 CONCLUSIONS

Based on the water model output and knowledge of the system along with available reference materials (master plans, capital facilities plans, etc.) the following conclusions are reached:

1. The development will satisfy the minimum pressure and fire flow requirements with 8-inch water lines on-site. However, it will need to connect to and extend the 12-inch water line along SR-112 to the southeast property planned by Twenty Wells Development through Lakeview Business Park connecting to the existing 12-inch water line in Lakeview Boulevard and connect to the 12-inch line through the Twenty Wells Development connecting to the 16-inch water transmission line by the US Army Depot. Additionally, the development must connect to the existing water line on Durfee Street. A PRV will need to be installed along SR-112 prior to the development to go from Pressure Zone 3 in Lakeview Business Park to Pressure Zone 1(Figure 1). These connections are required to meet 30 psi minimum pressures during peak instantaneous demand.
2. The system was modeled with all 8-inch diameter water lines within the development.
3. The development meets the minimum pressures during peak day demand, peak instantaneous demand, and the minimum fire flow requirement of 1,500 gpm (residential) / 2,050 gpm (commercial) at 20 psi residual pressure during peak day demand (Table 4) with the water system improvements completed under bullet point number 1.

**Table 4 – Deseret Meadows Development Water Junction Flows**

| Junctions | PDD Scenario[1] | | PID Scenario[2] | | PDD plus Fire Flow Scenario[3] | |
|---|---|---|---|---|---|---|
| | Meets Requirements | Pressure (psi) | Meets Requirements | Pressure (psi) | Meets Requirements | Available Fire Flow (gpm) |
| ER3 | Yes | 66.24 | Yes | 53.35 | Yes | 4,480.55 |
| J1098 | Yes | 73.42 | Yes | 56.47 | Yes | 3,715.59 |
| J1104 | Yes | 76.88 | Yes | 59.80 | Yes | 3,864.01 |
| J1108 | Yes | 77.75 | Yes | 60.89 | Yes | 3,911.10 |
| J1110 | Yes | 63.81 | Yes | 52.76 | Yes | 4,289.71 |

**Table 4 (Continued) – Deseret Meadows Development Water Junction Flows**

| Junctions | PDD Scenario[1] | | PID Scenario[2] | | PDD plus Fire Flow Scenario[3] | |
|---|---|---|---|---|---|---|
| | Meets Requirements | Pressure (psi) | Meets Requirements | Pressure (psi) | Meets Requirements | Available Fire Flow (gpm) |
| J1116 | Yes | 69.17 | Yes | 55.91 | Yes | 4,666.88 |
| J1118 | Yes | 73.42 | Yes | 56.42 | Yes | 3,722.20 |
| J1120 | Yes | 75.58 | Yes | 58.50 | Yes | 3,723.94 |
| J1122 | Yes | 74.71 | Yes | 57.63 | Yes | 3,655.96 |
| J1126 | Yes | 73.42 | Yes | 56.44 | Yes | 3,850.95 |
| J1128 | Yes | 72.12 | Yes | 55.25 | Yes | 3,791.58 |
| J1130 | Yes | 71.27 | Yes | 54.74 | Yes | 4,074.87 |
| J1132 | Yes | 68.77 | Yes | 54.29 | Yes | 3,810.40 |
| J1134 | Yes | 70.40 | Yes | 53.88 | Yes | 3,927.73 |

*Abbreviations: Average Day Demand (ADD), Peak Day Demand (PDD), Peak Instantaneous Demand (PID), Pressure Zone (PZ), Equivalent Residential Connections (ERC), gallons per minute (gpm), Residential (R), Commercial (C)*

*Requirements:*

*[1] PDD requirements are 40 psi min pressure and 5 fps max velocity.*

*[2] PID requirements are 30 psi min pressure and 5 fps max velocity.*

*[3] PDD plus Fire Flow requirements are 1,500 gpm min fire flow, 20 psi min pressure, and 10 fps max velocity.*

4. Due to the size of this development some of the modeled 8-inch water mains in the development may need to be increased depending how the project is phased. Water improvements will need to be reviewed with each phase submitted.
5. Actual field conditions may differ from the City's hydraulic water model and the developer shall confirm conditions with actual field measurements at existing and proposed fire hydrants. This should be coordinated with the Grantsville City Fire Department to complete fire hydrant fire flow tests prior to development to confirm fire flow matches the hydraulic model and after improvements are constructed to confirm adequate fire flow exists.
6. The developer constructed the 2,500 gpm Marshall Well for this development and the Lakeview Business Park.
7. The developer constructed the 1.2 million gallon (MG) Lakeview Business Park Tank for this development and the Lakeview Business Park.

8. Allocation of water system, source, and storage capacity will not be granted until the final plat is approved.

# SECTION 4: WASTEWATER SYSTEM ANALYSIS

## 4.1 WASTEWATER SYSTEM ANALYSIS

In order convey the wastewater generated by the Deseret Meadows Development to the Grantsville Wastewater Treatment Facility (WWTF), the developer will need to construct gravity sewer lines to flow into the existing sewer infrastructure, Lakeview Business Park Sewer Line, which consists of 12-inch to 18-inch diameter sewer lines. Table 5 shows the total flows at these junctions including existing flows and additional flows associated with the development.

**Table 5 – Deseret Meadows Development Wastewater Junction Flow**

| Junctions | ERCs | ADF[1] (gpd) | PDF[2] (gpm) | PIF[3](gpm) |
|---|---|---|---|---|
| MH_5006 | 1,044 | 156,600 | 626,400 | 417.60 |

*Abbreviations: Average Day Flow (ADF), Peak Day Flow (PDF), Peak Instantaneous Flow (PIF), Equivalent Residential Connections (ERC), gallons per minute (gpm).*

*[1]ADF equals 1,044 times 150 gpd/ERCs*

*[2]PDF equals 4 times ADF*

*[3]PIF equals 1,044 ERCs times 0.4 gpm/ERC*

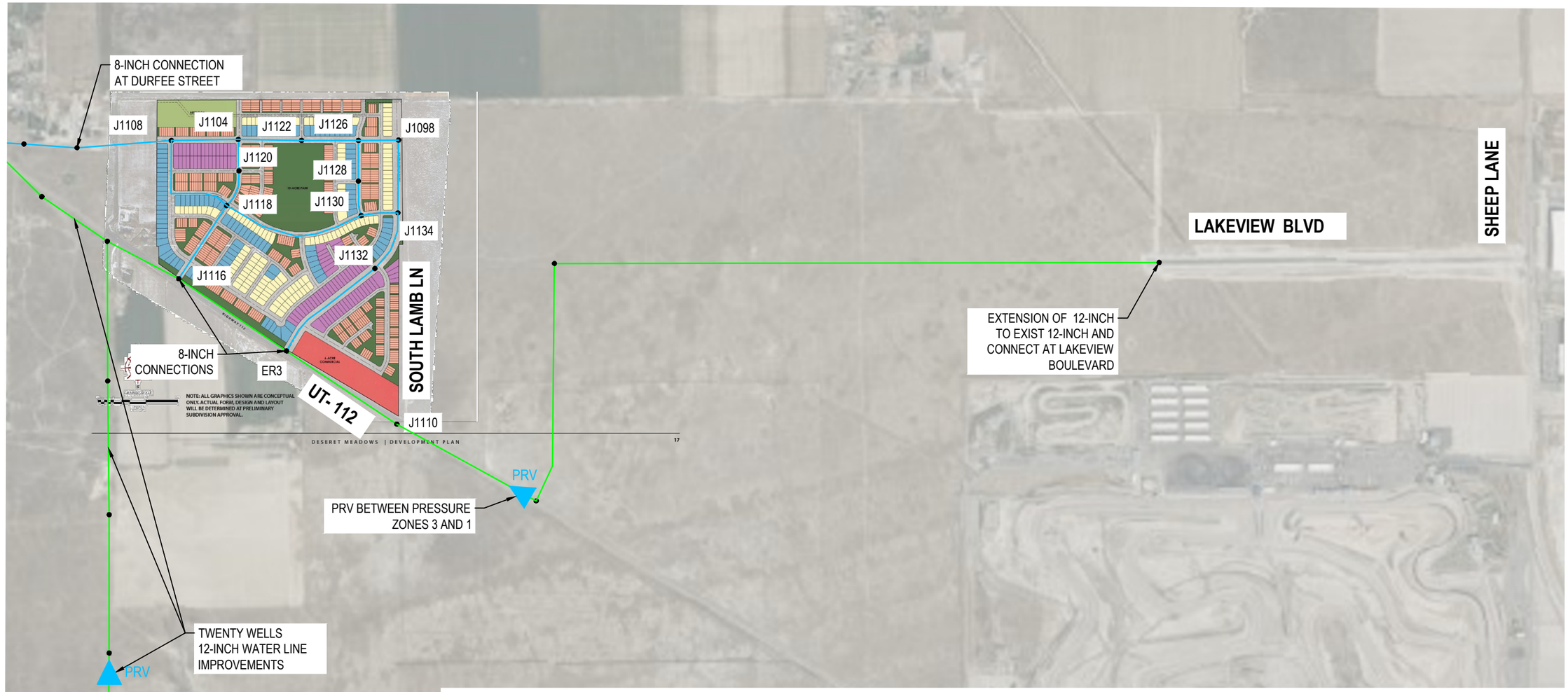
As part of the analysis, Project sewer flows from the estimated wastewater flow table (Table 5) were added to the downstream sewer main pipe with the least amount of excess capacity. The intent of the sewer collection analysis is to ensure compliance with the State of Utah Administrative Code requirements R317 along with Grantsville City level of service requirements to determine the overall impact of Project demands on the existing City wastewater system.
A computer aided simulation of the sanitary sewer collection system used the average day wastewater flow from the demand table to estimate the effects of West Haven Development on the collection system. The analysis accounted for the design parameters in UAC R317-3.2.3 which require the following:

- Minimum Size = 8-inch diameter
- Depth to diameter ratio not to exceed 0.67
- Minimum scour velocity = 2 feet per second (manning's n value of 0.013)
- Maximum velocity= 15 feet per second

## 4.2 CONCLUSIONS

Based on the wastewater system analysis and knowledge of the system along with available reference materials (master plans, capital facilities plans, etc.) the following conclusions are reached:

1. It is assumed the Project engineer has sized sewer piping within the Project to adequately convey the Project's estimated sewer flow to the existing City wastewater collection system.
2. Currently there is an 18-inch diameter sewer line running East to West built by the Lakeview Business Park Development. The entire wastewater system was analyzed assuming the Deseret Meadows Development sewage would flow into the Lakeview Business Park sewer line to the Northeast Interceptor then to the Northeast Lift Station where it would be pumped to the WWTF.
3. The wastewater analysis (Figure 2) indicates sufficient pumping capacity in the Northeast Lift Station to pump the additional sewage generation from the Project to the WWTF. All pipes between the proposed development and the Northwest Lift station have sufficient capacity.
4. Actual field conditions may differ from the City's sewer information they have on file either in the sewer model, GIS, or mapping and the developer shall confirm conditions with actual field measurements, if required.
5. The City is completing upgrades to the lift station motors and discharge line size with the new WWTF project at the Northeast Lift Station to increase capacity with the understanding each pump will be capable of 1,850 gpm.
6. Currently there is insufficient capacity in the WWTF to accommodate the proposed Project's anticipated sewer flows. The City is currently designing a new WWTF to increase the capacity, but it is not expected to have additional capacity in the facility for at least 3 years. The City will be monitoring sewer flows into the treatment plant as development occurs to make sure capacity is not exceeded.
7. Allocation of wastewater collection and wastewater treatment capacities will not be granted until the final plat is approved.




## LEGEND

- JUNCTIONS
- 8 - INCH WATERLINE
- 10 - INCH WATERLINE
- 12 - INCH WATERLINE
- PRV

NORTH

**HORIZONTAL GRAPHIC SCALE**

1000 0 500 1000 2000

( IN FEET )
HORZ: 1 inch = 1000ft.

ENSIGN
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Sandy, UT 84070
Phone: 801.255.0529
www.ensigneng.com

*FOR:*
GRANTSVILLE CITY
429 EAST MAIN STREET
GRANTSVILLE, UT, 84029

*CONTACT:*
GRANTSVILLE CITY
PHONE: 435.884.3411

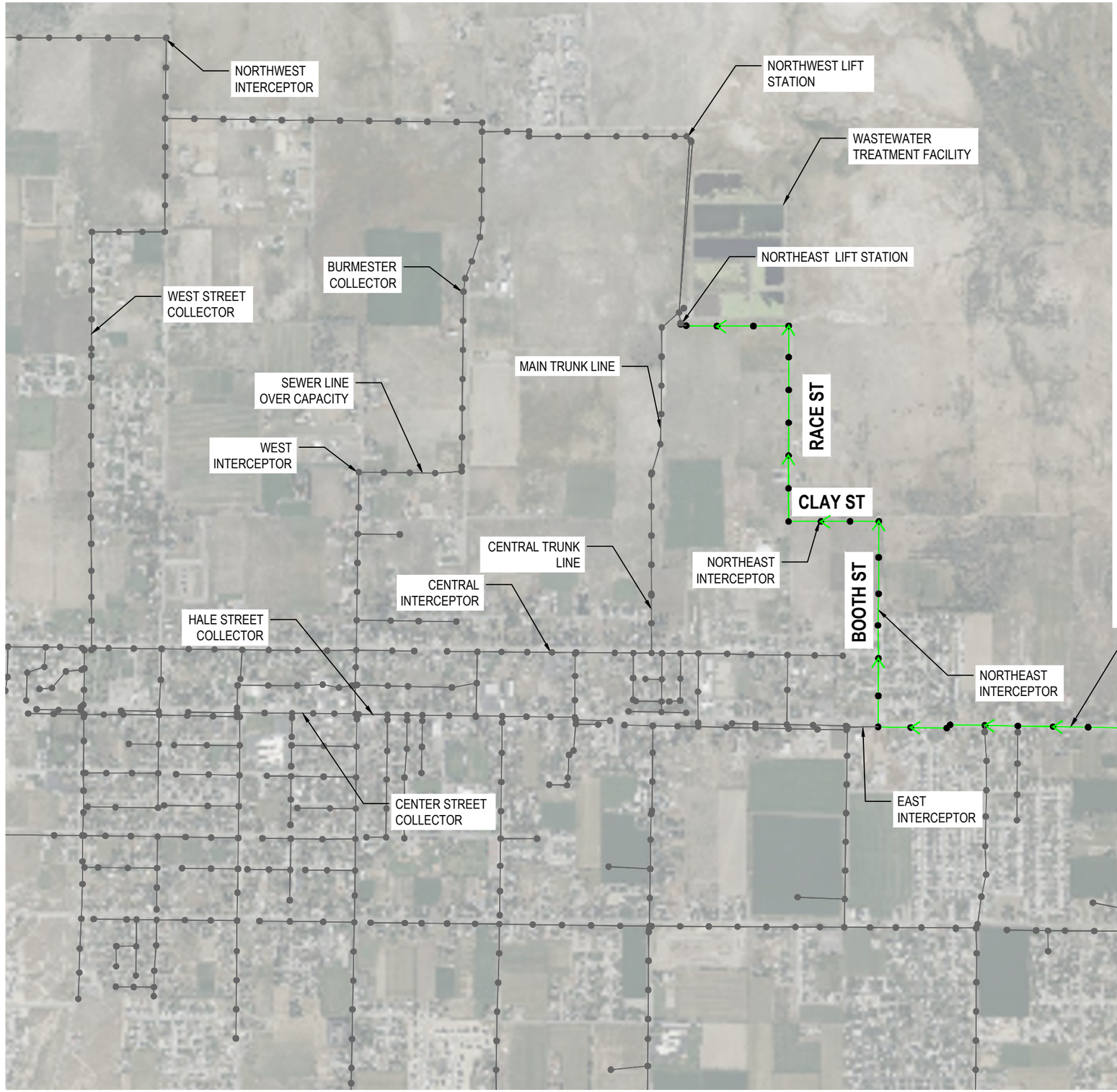
# DESERET MEADOWS COMMUNITY

NORTH OF STATE ROUTE 112 AND ADJACENT TO AND WEST OF THE LAKEVIEW BUSINESS PARK
GRANTSVILLE CITY, UT 84029

**JUNCTION AND AVAILABLE FIRE FLOW MAP**

| PROJECT NUMBER | PRINT DATE |
|---|---|
| 11637C | 2024-10-17 |
| PROJECT MANAGER | DESIGNED BY |
| R. ROUSSELLE | D.S |

**FIGURE 1**




## LEGEND

- MANHOLES
- SEWER LINE RUNNING TO NORTHWEST LIFT STATION

PIPES CAPACITY

- LESS THAN 0.67
- GREATER THAN 0.67

NORTH

**HORIZONTAL GRAPHIC SCALE**

1500 0 750 1500 3000

( IN FEET )
HORZ: 1 inch = 1500ft.


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*FOR:*
GRANTSVILLE CITY
429 EAST MAIN STREET
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# DESERET MEADOWS COMMUNITY

NORTH OF STATE ROUTE 112 AND ADJACENT TO AND WEST OF THE LAKEVIEW BUSINESS PARK
GRANTSVILLE CITY, UT 84029

**WASTEWATER SYSTEM ANALYSIS**

| PROJECT NUMBER | PRINT DATE |
|---|---|
| 11637C | 2024-10-16 |
| PROJECT MANAGER | DESIGNED BY |
| R. ROUSSELLE | D.S |

**FIGURE 2**

# Agenda Item #10

## Discussion regarding City Manager Position

GRANTSVILLE
- INC. 1867 -

## Current Budgeted City Manager/Part Time Mayor Expense

| Compensation | City Manager | Part-Time Mayor | Totals |
|---|---|---|---|
| Wage & RDA | $126,279.14 | $36,084.10 | $162,363.24 |
| Benefits | $32,187.14 | $3,200.66 | $35,387.80 |
| Health | $23,821.20 | $0.00 | $23,821.20 |
| Total Compensation | $182,287.48 | $39,284.76 | $221,572.24 |

## Estimated Full-Time Mayor Expense

| Compensation | Full-Time Mayor |
|---|---|
| Wage & RDA | $122,700.10 |
| Benefits | $31,282.90 |
| Health | $23,821.20 |
| Total Compensation | $177,804.20 |

## Estimated City Manager/Part-Time Mayor Expense

| Compensation | City Manager | Part-Time Mayor | Totals |
|---|---|---|---|
| Wage & RDA | $202,700.10 | $36,084.10 | $238,784.20 |
| Benefits | $51,494.90 | $3,200.66 | $54,695.56 |
| Health | $23,821.20 | $0.00 | $23,821.20 |
| Total Compensation | $278,016.20 | $39,284.76 | $317,300.96 |

**Approximate savings by choosing full-time Mayor option.** **$139,496.76**

**Amounts will vary based on the salary offered to each and benefits received.**

**Savings since City Manager resignation and Mayor's appointment to interim position.** **$19,793.73**

**Mayor Critchlow, acting as interim City Manager, is receiving a temporary wage.** **$97,970.50**

**Mayor is not receiving retirement, health, life, or disability benefits.**

# Agenda Item # 11

Council Reports

# Agenda Item # 12

Closed Session (Imminent Litigation, Personnel, Real Estate)

# Agenda Item # 13

Adjourn