



Nov. 2, 2023

**Planning Commission
Meeting**

Information Packet

PLEDGE OF ALLEGIANCE

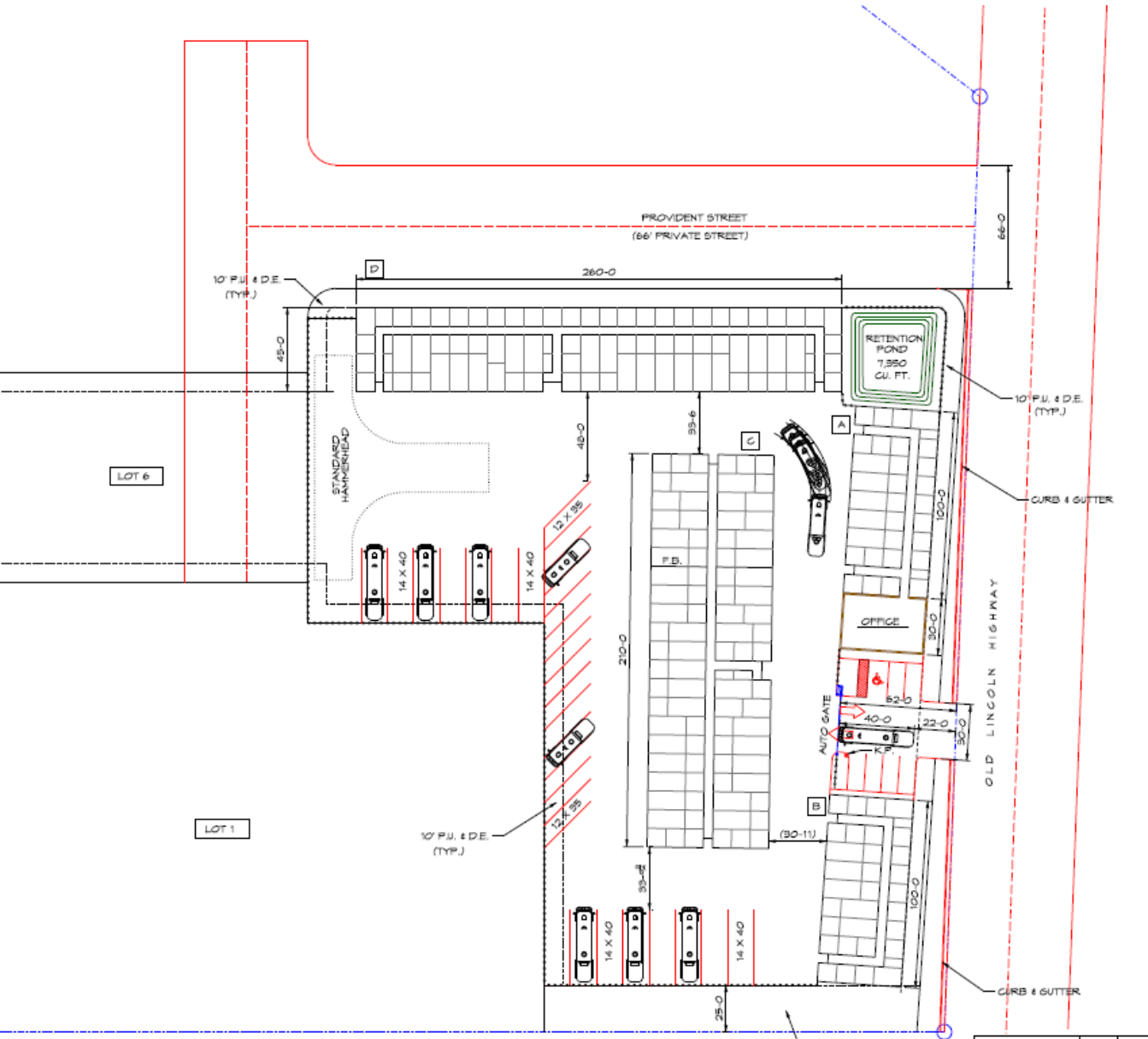
ROLL CALL

AGENDA:

- 1.Consideration to approve the CUP for TTK
Secure – Office, Self-Storage, Recreational
Parking
- 2.Discussion of Third Amendment to Development
Agreement for Lakeview Business Park West
- 3.Discussion of West Bank Study – Dan England
- 4.Approval of minutes from July 20, 2023 Planning
Commission meeting
- 5.Report from City Council liaison Mayor
Critchlow
- 6.Adjourn

AGENDA ITEM #1

Discussion of CUP for TTK Secure – Office,
Self-Storage & RV parking



NEIGHBORHOOD RESPONSE

The owners of the business to the East, JPH Enterprises – Jonathan Horne sent an email letter with concerns about storm drain runoff that has been, historically, a problem for their Storage Units. They came to the public hearing on Oct. 19th and stood to share their concerns. Their letter is included as Exhibit A.

PLANNING COMMISSION ANALYSIS

This CUP was reviewed by the Planning Commission during the October 19th, 2023 regular meeting. The group was asked to address stacking and entrance into the storage facility off of Old Lincoln Highway, and to increase the distance from the road to the entrance gate. They were asked about the roadway to the Northwest, Provident Street, and if that was going to be built out. There was also a discussion on the Storm Drain Plan for this property. The lighting plan was questioned and the Planning Commission asked TTK to address this in their next meeting.

PLANNING STAFF ANALYSIS

This property is in the MD Zoning District and is permitted for Offices and needs a Conditional Use Permit for the Commercial Storage aspect.

In the opinion of the Staff, this is a good use for this property. There is commercial storage currently across the street. The retention pond was originally required with the Providence Business Park approval and TTK is going to build out the retention pond and fence it.

Exhibit A

To Whom it May Concern:

We have just received notification, today, October 18, of a CUP hearing tomorrow, October 19, with a request for information by 5 p.m. today. We don't feel we have been given enough notice to prepare for this.

We recently purchased this property and did due diligence in checking the zoning requirements in our area. The purchase was made with the knowledge and understanding that the land adjacent to ours was not zoned for other storage units.

We are very concerned with runoff water coming from the land the storage units are proposed to be built on in addition to the runoff we receive from the Providence Industrial Park. The capacity of the retention pond does not seem sufficient to handle the existing drainage problem. The proposed build out and fencing of the retention pond will not solve the drainage issue and will make the problem worse as this development will increase the runoff. We had a storm in October that flooded some of our storage units and left a large amount of silt that came from the land requesting the Conditional Use Permit. Developing this property without addressing the drainage issue will exacerbate this problem. We have only owned this property for two months and have already been flooded. The neighbor has also told us this has been an ongoing problem for them as the water runs down their driveway following a storm.

We request that you reschedule this hearing to give us and the neighbors more time to consider the impact of this future development.

Sincerely,
JPH Enterprises – Jonathan Horne
801-364-0400

STANDARDS FOR GRANTING CONDITIONAL USE PERMITS – STATE OF UTAH

Conditional uses can be problems for cities and towns. They are a problem because many cities and towns think that they have more discretion than they actually do in the granting or denying of a conditional use permit application. These cities and towns treat conditional use permit applications like zone change requests. A conditional use permit application is not the same as a request to change a zone.

A conditional use only exists if it is created by the land use ordinance.

In addition, a city or town must provide an appeal process from any decision on a conditional use permit application. This appeal process must allow anyone who is aggrieved by the decision that either granted or denied a conditional use to appeal that decision. This appeal must be to someone other than the body that initially decided on the conditional use permit. After this internal appeals process has been completed, the aggrieved party can petition the district court to review the city's decision.

The best practice is to avoid, as much as possible, having conditional uses. If the use is not appropriate, the ordinance should make it a non-permitted use. If the use is appropriate, it should be a permitted use. **Conditional uses should be the exception and not the rule.** Putting a conditional use in the ordinance is inviting the use to occur. If a city does not want a particular use in a particular area, the best practice is to not allow it. If they want it then make it permitted.

Standard: Environmental Concerns Conditions:

1. Enforcing well-head protections standards, when applicable.
2. **Requiring planting to control dust, runoff and erosion.**
3. Enforcing necessary standards for the protection of water shed.
4. Controlling the disposal of hazardous materials.
5. Requiring no special uses of resources.

1. GENERAL REVIEW CRITERIA: An applicant for a conditional use in the zone must demonstrate:

1. The application complies with all applicable provisions of this chapter, state and federal law;
2. The structures associated with the use are compatible with surrounding structures in terms of use, scale, mass and circulation;
3. The use is not detrimental to the public health, safety and welfare;
4. The use is consistent with the City General Plan as amended;
5. Traffic conditions are not adversely effected by the proposed use including the existence or need for dedicated turn lanes, pedestrian access, and capacity of the existing streets;
6. There is sufficient utility capacity;
7. There is sufficient emergency vehicle access;
8. The location and design of off-street parking as well as compliance with off-street parking standards;
9. A plan for fencing, screening, and landscaping to separate the use from adjoining uses and mitigate the potential for conflict in uses;
10. Exterior lighting that complies with the lighting standards of the zone.
11. **Within and adjoining the site, impacts on the aquifer, slope retention, and flood potential have been fully mitigated and is appropriate to the topography of the site.**

Exhibit B



Exhibit C



Exhibit D



Photometric Report (Type C)

Filename: 49165-SU.IES
[TESTLAB] Best Test Service Shenzhen co.,ltd
[ISSUEDATE] 2017-04-11
[MANUFAC] SUNLITE
[LUMINAIRE] 49165-SU

Maximum Candela = 2686.72 at 10 H 6 V

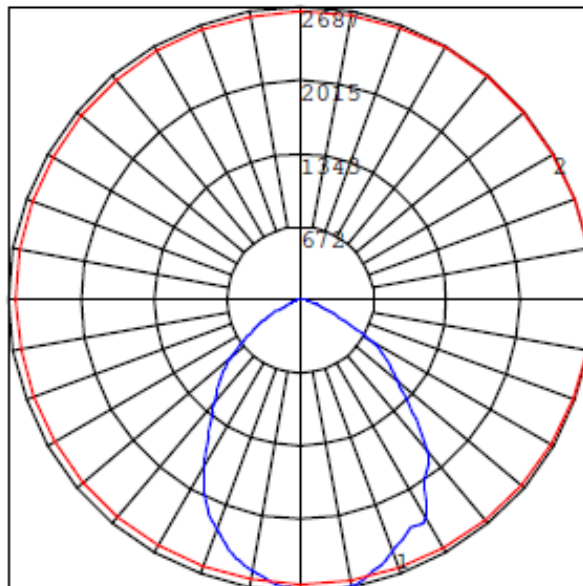
Classification:

Road Classification: Type II, Very Short, Cutoff (deprecated)
Upward Wast Light Ratio: 0.00
Luminaire Efficacy Rating (LER): 115
Maximum UGR: N.A.
Indoor Classification: Direct
BUG Rating : B2-U1-G1

Polar Candela Curves:

Vertical Plane Through:
1) 10 - 190 Horizontal

Horizontal Cone Through:
2) 6 Vertical



AG132® Copyright 1999-2021 by Lighting Analysts, Inc.
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.



Photometric Report (Type C)

Filename: 49165-SU.IES
 [TESTLAB] Best Test Service Shenshen co;led
 [ISSUEDATE] 2017-04-11
 [MANUFAC] SUNLITE
 [LUMINAIRE] 49165-SU

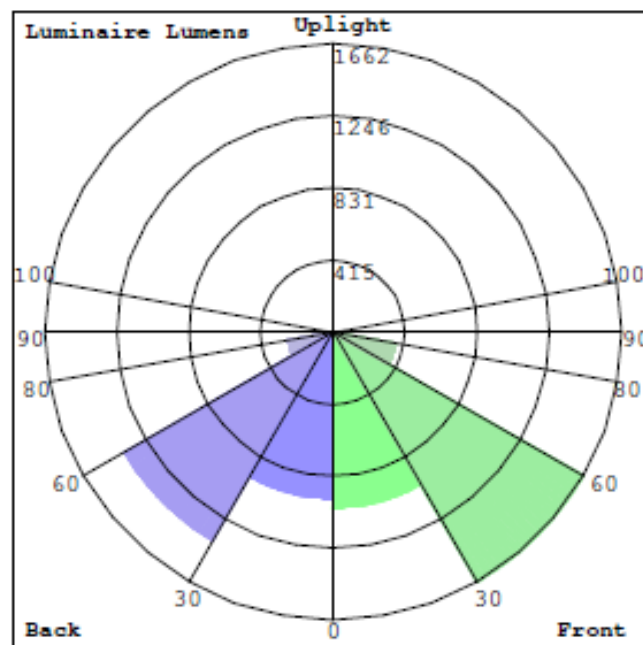
Maximum Candela = 2686.72 at 10 H 6 V

Classification:

Road Classification: Type II, Very Short, Cutoff (deprecated)
 Upward Waste Light Ratio: 0.00
 Luminaire Efficacy Rating (LER): 115
 Maximum UGR: N.A.
 Indoor Classification: Direct
 BUG Rating : B2-U1-G1

LCS Summary:

LCS Zone	Lumens	%Lamp	%Lum
FL (0-30)	1011.0	17.8	17.8
FM (30-60)	1661.8	29.3	29.3
FH (60-80)	364.8	6.4	6.4
FVH (80-90)	15.1	0.3	0.3
BL (0-30)	957.9	16.9	16.9
BM (30-60)	1385.0	24.4	24.4
BH (60-80)	262.6	4.6	4.6
BVH (80-90)	9.3	0.2	0.2
UL (90-100)	0.4	0.0	0.0
UH (100-180)	0.1	0.0	0.0
Total	5668.0	99.9	100.0
BUG Rating	B2-U1-G1		



AG132® Copyright 1999-2021 by Lighting Analysts, Inc.
 Calculations based on published IES Methods and recommendations, values rounded for display purposes.
 Results derived from content of manufacturers photometric file.

AGENDA ITEM #2

Discussion of Third Amendment to
Development Agreement for Lakeview
Business Park West



Planning and Zoning

336 W. Main Street • Grantsville, UT 84029

Phone: (435) 884-1674 • Fax: (435) 884-0426

Permit # 2023141

Third Amendment to Development Agreement for Lakeview Business Park West Summary and Recommendation

Parcel ID: 22-037-0-0002, **Meeting Date:** November 2, 2023
01-134-0-0010, and others

Property Address: 242 South Sheep Lane, **Current Zone/Proposed Zone** MG
Grantsville

Applicant Name: RG Lakeview, LLC
Request: Bryan Economy, Dominion Engineering
Prepared by: Cavett Eaton

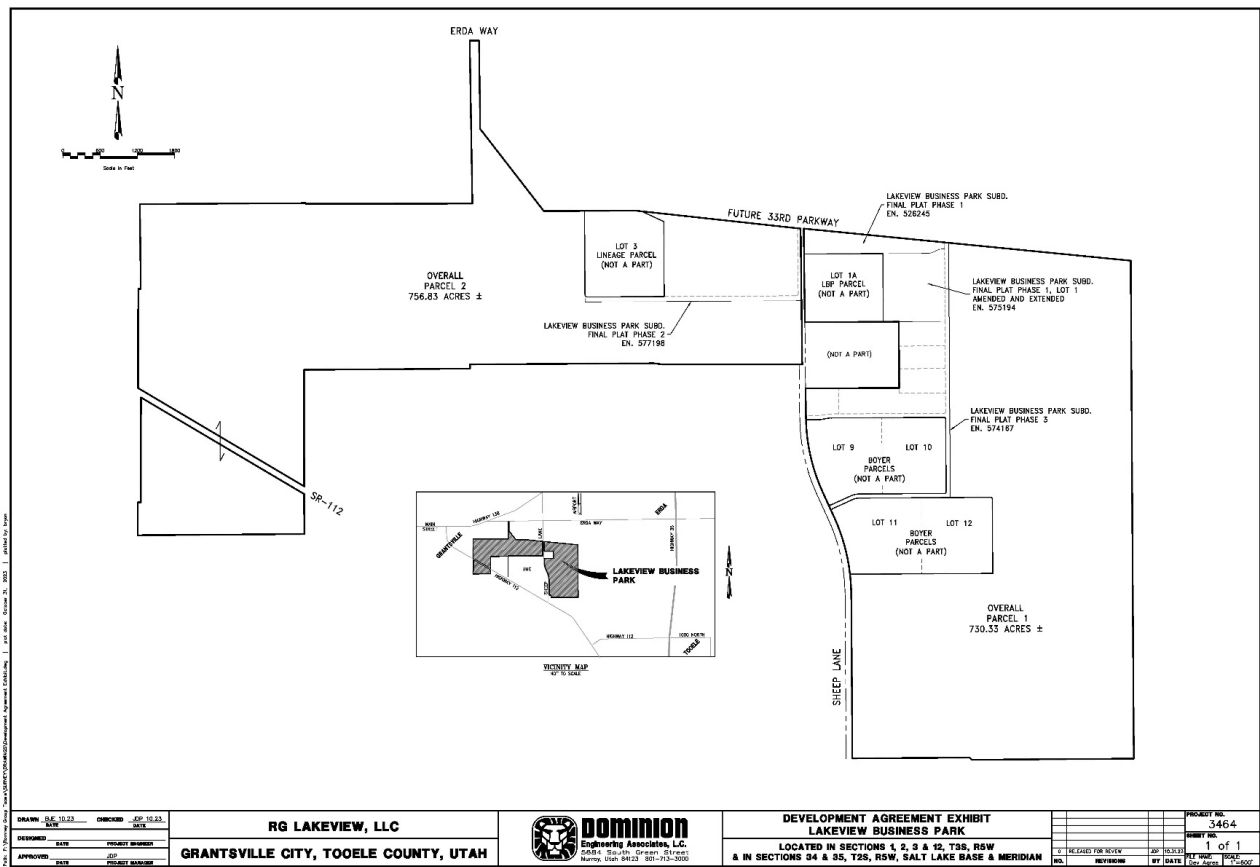
PROJECT DESCRIPTION

Third Amendment to Development Agreement for Lakeview Business Park West

This is a request to amend the current Development Agreement with Lakeview Business Park and Grantsville City.

The amendment to the Development Agreement would provide RG Lakeview, LLC, the developer, to process "Subdivision plat amendments and vacations within the Developer's Property" through Grantsville City's planning staff, acting as the "land use authority". This amendment would not require review or approval by the City Council or City Planning Commission for any subdivision plan amendments or vacations within Lakeview Business Park. If approved, the City Council would approve this Amendment by enacting and publishing an ordinance.

SITE & VICINITY DESCRIPTION



ISSUES OF CONCERN/PROPOSED MITIGATION

Third Amendment to Development Agreement for Lakeview Business Park

(Proposed Amendment Number 2)

2. Plat Amendments. Subdivision plat amendments and vacations within the Developer's Property will be performed by the City's planning staff, acting as the "land use authority" under Utah Code Ann. § 10-9a-101, et seq., and do not require review or approval by the City Council or City Planning Commission. Subdivision plat amendments shall be approved by planning staff if the proposed plat amendment satisfies the requirements set forth in Utah Code § 10-9a-609 and Section 21.8.1 of the City's Land Use, Development, and Management Code. The City Council shall approve this Amendment by enacting and publishing an ordinance.

CITY AND STATE CODE CONSIDERATIONS

As per GLUDMC, Chapter 2 Definitions

(149) IMPROVEMENTS AGREEMENT (DEVELOPMENT AGREEMENT). An agreement between Grantsville City and a developer, wherein the developer agrees to install improvements required by this Code, subdivision regulations, or by the Planning Commission and/or City Council for the necessary proper development of the proposed land development.

Utah Code § 10-9a-609

Index	Utah Code
Title 10	Utah Municipal Code
Chapter 9a	Municipal Land Use, Development, and Management Act
Part 6	Subdivisions
Section 609	Land use authority approval of vacation or amendment of plat -- Recording the amended plat (Effective 5/14/2019)

Effective 5/14/2019

10-9a-609. Land use authority approval of vacation or amendment of plat -- Recording the amended plat.

- (1) The land use authority may approve the vacation or amendment of a plat by signing an amended plat showing the vacation or amendment if the land use authority finds that:
 - (a) there is good cause for the vacation or amendment; and
 - (b) no public street or municipal utility easement has been vacated or amended.
- (2)
 - (a) The land use authority shall ensure that the amended plat showing the vacation or amendment is recorded in the office of the county recorder in which the land is located.
 - (b) If the amended plat is approved and recorded in accordance with this section, the recorded plat shall vacate, supersede, and replace any contrary provision in a previously recorded plat of the same land.
- (3)
 - (a) A legislative body may vacate a subdivision or a portion of a subdivision by recording in the county recorder's office an ordinance describing the subdivision or the portion being vacated.
 - (b) The recorded vacating ordinance shall replace a previously recorded plat described in the vacating ordinance.
- (4) An amended plat may not be submitted to the county recorder for recording unless it is:
 - (a) signed by the land use authority; and
 - (b) signed, acknowledged, and dedicated by each owner of record of the portion of the plat that is amended.
- (5) A management committee may sign and dedicate an amended plat as provided in Title 57, Chapter 8, Condominium Ownership Act.
- (6) A plat may be corrected as provided in Section 57-3-106.

Amended by Chapter 384, 2019 General Session

GLUDMC 21.8.1 Vacating Or Changing A Subdivision Plat

(1) Subject to Section 21.8.3, and provided that notice has been given pursuant to Section 1.18, the City Council may, with or without a petition, consider and resolve any proposed vacation, alteration, or amendment of a subdivision plat, any portion of a subdivision plat, or any lot contained in a subdivision plat.

(2) If a petition is filed, the City Council shall hold a public hearing within 45 days after the petition is filed or, if applicable, within 45 days after receipt of the planning commission's recommendation under Subsection (3), if:

(a) any owner within the plat notifies the City of their objection in writing within ten days of mailed notification; or

(b) a public hearing is required because all of the owners in the subdivision have not signed the revised plat.

(3) The planning commission shall consider and provide a recommendation for a proposed vacation, alteration, or amendment under Subsection (1) before the City Council takes final action. The planning commission shall give its recommendation within 30 days after the proposed vacation, alteration, or amendment is referred to it, or as that time period is extended by agreement with the applicant.

(4) The public hearing requirement of Subsection (1) does not apply and the City Council may consider at a public meeting an owner's petition to alter a subdivision plat if the petition seeks to join two or more of the owner's contiguous, residential lots and notice has been given pursuant to local ordinance.

(5) Each request to vacate or alter a street or alley, contained in a petition to vacate, alter, or amend a subdivision plat, is also subject to Section 21.8.3.

(6) Any fee owner, as shown on the last county assessment rolls, of land within the subdivision that has been laid out and platted as provided in this part may, in writing, petition to have the plat, any portion of it, or any street or lot contained in it, vacated, altered, or amended as provided in this section and Section 21.8.3.

(7) Each petition to vacate, alter, or amend an entire plat, a portion of a plat, or a street or lot contained in a plat shall include:

(a) the name and address of all owners of record of the land contained in the entire plat;

(b) the name and address of all owners of record of land adjacent to any street that is proposed to be vacated, altered, or amended; and

(c) the signature of each of these owners who consents to the petition.

(8) The owners of record of adjacent parcels that are described by either a metes and bounds description or a recorded plat, may exchange title to portions of those parcels, if the exchange of title is approved by the Zoning Administrator in accordance with this Subsection. The Zoning Administrator is designated as the land use authority for the purpose of reviewing and approving boundary line adjustments pursuant to the provisions of this subsection and Utah Code Ann. Section §10-9a-608(7) (2014). The Zoning Administrator shall approve an exchange of title under this Subsection if no new dwelling lot or housing unit will result from the exchange of title; and the exchange of title will not result in a violation of any land use ordinance. If an exchange of title is approved under this Subsection, a notice of approval shall be recorded in the office of the county recorder which is executed by each owner included in the exchange and by the Zoning Administrator, contains an acknowledgment for each party executing the notice in accordance with the provisions of Utah Code Ann. §57-2a (1988 – 2007), Recognition of Acknowledgments Act, recites the descriptions of both the original parcels and the parcels created by the exchange of title and contains a certificate of approval by the City, signed by the Zoning Administrator and attested by the City Recorder. A conveyance of title reflecting the approved change

shall be recorded in the office of the county recorder. A notice of approval recorded under this subsection does not act as a conveyance of title to real property and is not required for the recording of a document purporting to convey title to real property.

(9)

(a) The name of a recorded subdivision may be changed by recording an amended plat making that change, as provided in this section and subject to Subsection (9)(c).

(b) The surveyor preparing the amended plat shall certify that the surveyor:

(i) holds a license in accordance with Utah Code Ann. §58-22 (1994 – 2017), Professional Engineers and Professional Land Surveyors Licensing Act;

(ii) has completed a survey of the property described on the plat in accordance with Utah Code Ann. Section §17-23-17 (2016) and has verified all measurements; and

(iii) has placed monuments as represented on the plat.

(c) An owner of land may not submit for recording an amended plat that gives the subdivision described in the amended plat the same name as a subdivision in a plat already recorded in the county recorder's office.

(d) Except as provided in Subsection (9)(a), the recording of a declaration or other document that purports to change the name of a recorded plat is voidable. (Utah Code Ann. §1 0- 9a-608 (2014))

21.8.2 City Council Consideration Of Petition To Vacate Or Change A Plat

(1) If the City Council is satisfied that the public interest will not be materially injured by the proposed vacation, alteration, or amendment, and that there is good cause for the vacation, alteration, or amendment, the land use authority may vacate, alter, or amend the plat or any portion of the plat, subject to Section 21.8.3.

(2) The City Council may approve the vacation, alteration, or amendment by signing an amended plat showing the vacation, alteration, or amendment.

(3) The City Council shall ensure that the amended plat showing the vacation, alteration, or amendment is recorded in the office of the county recorder in which the land is located.

(4) If an entire subdivision is vacated, the City Council shall ensure that a resolution containing a legal description of the entire vacated subdivision is recorded in the county recorder's office. (Utah Code Ann. §1 0-9a-609 (2014))

PLANNING STAFF ANALYSIS

It is becoming more common in our daily interaction with developers that they feel they need to have a quicker turn around on projects. To shorten the time frame they are requesting only staff approval on development processes. We are seeing this in recent legislative action on the Hill.

PLANNING STAFF RECOMMENDATION

City Staff feels that it is important that the Planning Commission and the City Council are kept informed as to any changes made with this property and all recorded properties in Grantsville City now and in the future. Bypassing these Administrative and Legislative Bodies within Grantsville City with a staff approval process reduces the decision making processes we have in place that provide a diversified and experienced perspective and a more complete informed decision.

WHEN RECORDED, RETURN TO:

RG Lakeview, LLC
Attn: Anthon Stauffer
2265 East Murray Holladay Road
Holladay, UT 84117

Affecting Parcels described on Attachment “1”

**THIRD AMENDMENT TO DEVELOPMENT AGREEMENT
FOR
LAKEVIEW BUSINESS PARK WEST**

THIS THIRD AMENDMENT TO DEVELOPMENT AGREEMENT (“**Amendment**”) is made and entered into this ____ day of November, 2023 by and between GRANTSVILLE CITY, a political subdivision of the State of Utah (the “**City**”) and RG LAKEVIEW, LLC, a Utah limited liability company (“**Developer**”).

RECITALS

A. City and Developer’s predecessor-in-interest, RG IV, LLC, a Utah limited liability company (“**RG IV**”) executed that certain Development Agreement for Lakeview Business Park West recorded on May 6, 2020 with the Tooele County Recorder as Entry No. 509563 (the “**Original DA**”).

B. Developer and RG IV are parties to that certain Assignment and Assumption Agreement, dated July 2, 2020 and recorded with the Tooele County Recorder on July 7, 2020 as Entry No. 514570, whereby RG IV assigned all of its rights, title, interest, and obligations in the Original DA to Developer and confirmed that the approximately 900 acres identified as Adjacent Property in the DA had been annexed by City and made subject to the DA and included within the definition of Property, as defined and used in the DA.

C. Developer and City executed that certain First Amendment to Development Agreement for Lakeview Business Park West, dated December 15, 2021 and recorded with the Tooele County Recorder on July 14, 2022, as Entry No. 576635 (“**First Amendment**”), whereby approximately 400 acres of real property was included as part of the Property, subject to the limitations contained therein.

D. Developer and City executed that certain Second Amendment to Development Agreement for Lakeview Business Park West, dated June 24, 2022 and recorded with the Tooele County Recorder on July 14, 2022, as Entry No. 576636 (“**Second Amendment**”), whereby the Master Plan for the Project was amended. The Original DA as amended by the First Amendment and Second Amendment are collectively referred to herein as the “**Current DA**”. The Current DA as amended by this Amendment is referred to herein as the “**DA**”

E. The Parties desire to amend the Current DA with respect to the Property owned by Developer more particularly described in Attachment “1” and depicted on Attachment “2” to this Amendment (“**Developer’s Property**”) in the manner set forth in this Amendment.

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 Parties hereby

agree to the following:

AGREEMENT

1. Incorporation/Interpretation. All of the terms of the Current DA are incorporated into this Amendment, except as revised below. In the event of a conflict between the Current DA and this Amendment, this Amendment shall control. Capitalized terms in this Amendment shall have the same meaning given in the Current DA, except if there is a conflict, then this Amendment's definition shall control. The Parties acknowledge the truth and accuracy of the above recitals and incorporate the same herein by this reference.

2. Plat Amendments. Subdivision plat amendments and vacations within the Developer's Property will be performed by the City's planning staff, acting as the "land use authority" under Utah Code Ann. § 10-9a-101, *et seq.*, and do not require review or approval by the City Council or City Planning Commission. Subdivision plat amendments shall be approved by planning staff if the proposed plat amendment satisfies the requirements set forth in Utah Code § 10-9a-609 and Section 21.8.1 of the City's Land Use, Development, and Management Code. The City Council shall approve this Amendment by enacting and publishing an ordinance.

3. Property Description. The parties confirm that the real property described in Attachment "1" and depicted in Attachment "2" to this Amendment is included within the "Property" as defined in Section 1.2.32 of the Original DA, as amended by Section 2 of the First Amendment.

4. Ratification; Effectiveness. The Current DA, as amended herein, shall remain in full force and effect. On or after the effective date of this Amendment, each reference in the Current DA to "this Agreement," "hereunder," "hereof," "herein" or words of like import shall mean and be a reference to the DA. This DA (including the Amendment) may be further amended in a writing executed only by and between City and Developer. This Amendment shall terminate at the same time and shall have the same Effective Date as the Original DA.

IN WITNESS WHEREOF, the Parties hereto have executed this DA by and through their respective, duly authorized representatives as of the day and year first herein above written.

DEVELOPER:

RG LAKEVIEW, LLC,
a Utah limited liability company

By: _____

Name: _____

Its: _____

DEVELOPER ACKNOWLEDGMENT

STATE OF UTAH)
)
) :ss.
)
 COUNTY OF _____)

On the _____ day of _____, 2023, personally appeared before me _____, who being by me duly sworn, did say that he/she is the _____ of RG Lakeview, 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

CITY:

Approved as to form and legality:

GRANTSVILLE CITY,
a Utah political subdivision

Brett M. Coombs
City Attorney

By: _____
Name: Neil A. Critchlow
Its: Mayor

Attest:

Braydee Baugh
City Recorder

CITY ACKNOWLEDGMENT

STATE OF UTAH)
 :ss.
COUNTY OF TOOELE)

On the _____ day of _____, 2023, personally appeared before me Neil A. Critchlow 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 Neil A. Critchlow acknowledged to me that the City executed the same.

NOTARY PUBLIC

ATTACHMENT 1
(Legal Description of the Property)

Overall Parcel 1 (East of Sheep Lane)

A parcel of land located in a portion of Section 1 and in a portion of Section 12, Township 3 South, Range 5 West, Salt Lake Base and Meridian, Tooele County, Utah, more particularly described as follows:

BEGINNING at a point on the east boundary and right-of-way line of Sheep Lane as shown on that certain Road Dedication Plat for Sheep Lane - SR 112 to SR 138, dated 2-APR-2019, which is 427.31 feet South 00°39'55" East along the section line (basis of bearings) and North 89°20'05" East 50.00 feet from the Northwest corner of said Section 1, and running thence South 84°23'36" East 5283.88 feet to the east line of said Section 1; thence South 00°22'10" East 1673.05 feet along the Section line to the Southeast corner of said Section 1; thence South 00°20'45" East 2635.35 feet along the Section line to the Southeast corner of said Section 1; thence South 00°21'26" East 2640.77 feet along the Section line to the East Quarter corner of said Section 12; thence South 00°22'15" East 1060.00 feet along the Section line; thence South 89°36'48" West 2604.73 feet to a point on a 2827.53 foot radius non-tangent curve to the right and to an existing fence line; thence Northwesterly 51.23 feet along the arc of said curve, and fence through a central angle of 01°02'17" (chord bears North 47°17'19" West 51.23 feet) to a non-tangent line; thence South 89°36'48" West 1884.92 feet to the Easterly boundary and right-of-way line of said Sheep Lane; thence North 00°22'15" West 2631.04 feet along said Sheep Lane to a point of curvature with a 3050.00 foot radius curve to the left; thence Northwesterly 1286.65 feet along the arc of said curve and Sheep Lane through a central angle of 24°10'13" (chord bears North 12°27'22"W 1277.13 feet) to a tangent line; thence North 24°32'28" West 450.88 feet along said Sheep Lane to a point of curvature with a 2950.00 foot radius curve to the right; thence Northerly 1229.08 feet along the arc of said curve and Sheep Lane through a central angle of 23°52'17" (chord bears North 12°36'20" West 1220.21 feet) to a tangent line; thence North 00°40'11" West 470.50 feet along said Sheep Lane to the Southwest corner of Lot 2, Miller Motorsports Business Park PUD No. 1 as recorded 4/14/09 as Entry No. 324129 in the Office of the Tooele County Recorder; thence North 89°40'28" East 1505.84 feet, more or less, along said Lot 2 to the Southeast corner of said Lot 2; thence North 00°19'32" West 1065.00 feet along said Lot 2 to the Northeast corner of said Lot 2 and the southerly boundary of Lot 1, Lakeview Business Park Subdivision Final Plat Phase 1 as recorded 11/03/2020 as Entry No. 526245 in the Office of the Tooele County Recorder; thence South 89°40'28" West 1512.18 feet along the north boundary of said Lot 2 and south boundary of said Lot 1 to said east boundary and right-of-way of Sheep Lane; thence North 00°39'55" West 1506.49 feet along said road to the POINT OF BEGINNING.

LESS AND EXCEPTING THEREFROM:

All of Lots 9, 10, 11 and 12, Lakeview Business Park Subdivision Final Plat Phase 3 according to the official plat thereof recorded June 7, 2022 as Entry No. 574167 in the

office of the Tooele County Recorder.

ALSO LESS AND EXCEPTING THEREFROM:

All of Lot 1A, Lakeview Business Park Subdivision Final Plat Phase 1, Lot 1 Amended and Extended according to the office plat thereof recorded June 21, 2022 as Entry No. 575194 in the office of the Tooele County Recorder.

Overall Parcel 2 (West of Sheep Lane)

A parcel of land located in the North Half of Section 2 and Section 3, Township 3 South, Range 5 West, the Southeast Quarter of Section 34 and the Southwest Quarter of Section 35, Township 2 South, Range 5 West, Salt Lake Base and Meridian, more particularly described as follows:

BEGINNING at a point being South 00°39'55" East 426.31 feet along the east line of Section 2 (basis of bearings), Township 3 South, Range 5 West, Salt Lake Base and Meridian from the Tooele County Dependent Resurvey monument marking the Northeast Corner of said Section 2, and thence along said east line South 00°39'55" East 2185.26 feet; thence South 89°59'46" West 2247.13 feet; thence North 82°37'30" West 141.69 feet; thence South 89°38'53" West 2954.65 feet; thence South 00°13'35" East 68.10 feet to the Tooele County Dependent Resurvey monument marking the West Quarter corner of said Section 2; thence along the quarter section line South 89°35'44" West 2669.13 feet; thence South 00°03'27" East 1876.25 feet to the northerly right of way line of State Highway 112; thence along said line North 59°22'23" West 3105.07 feet to the west line of said Section 3; thence along said west line North 00°07'13" East 275.54 feet to the Tooele County Dependent Resurvey monument marking the West Quarter corner of said Section 3; thence along the west line of said Section 3 North 00°07'22" East 1320.18 feet; thence North 89°38'44" East 39.50 feet ; thence North 00°33'47" West 16.44 feet; thence North 00°33'47" West 1347.90 feet; thence North 89°39'47" East 2668.35 feet; thence South 00°03'37" East 10.72 feet; thence North 89°56'36" East 989.29 feet; thence North 89°56'36" East 1689.11 feet; thence North 00°55'40" West 2623.04 feet; thence North 89°55'32" East 150.00 feet; thence South 00°46'18" East 1421.79 feet; thence South 37°43'59" East 1671.48 feet; thence North 89°39'44" East 1464.74 feet; thence South 83°48'21" East 2680.83 feet to the POINT OF BEGINNING.

TOGETHER WITH:

A parcel of land located in the Southwest Quarter of Section 3, Township 3 South, Range 5 West, Salt Lake Base and Meridian, more particularly described as follows:

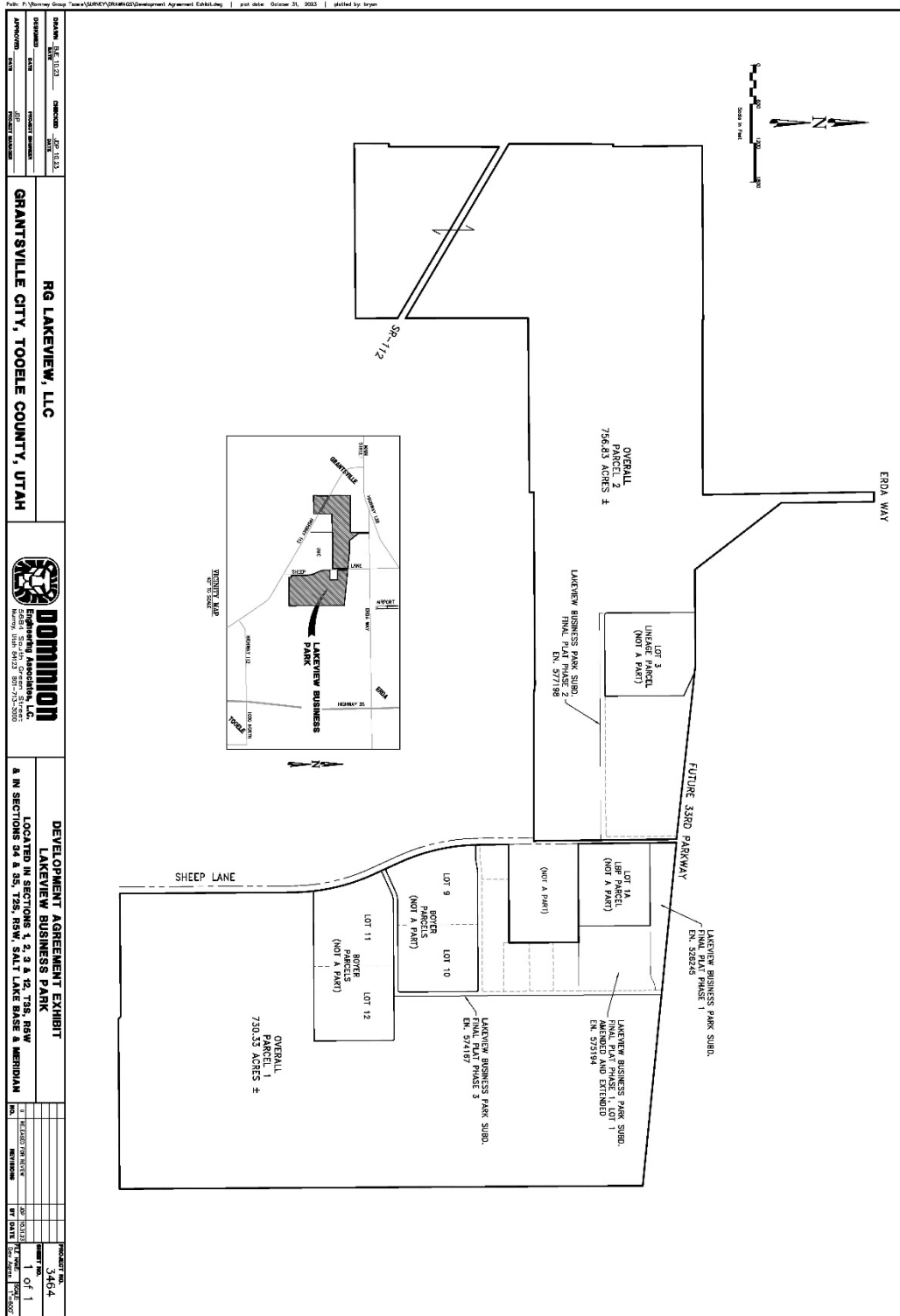
BEGINNING at the Southwest corner of Section 3, Township 3 South, Range 5 West, Salt Lake Base and Meridian, and running thence along the west line of said Section 3 North 00°07'13" East 528.87 feet (basis of bearings); thence South 89°52'47" East 47.80 feet; thence North 00°07'13" East 1687.68 feet to a point on the southerly right of way line of State Highway 112; thence along said line South 59°22'23" East 3050.03

feet to a point on the quarter section line; thence along said quarter section line South 00°03'27" East 642.85 feet to the South Quarter corner of said Section 3; thence South 89°34'37" West 2677.74 feet along the south line of said Section 3 to the POINT OF BEGINNING.

LESS AND EXCEPTING THEREFROM:

All of Lot 3, Lakeview Business Park Subdivision Final Plat Phase 2 according to the official plat thereof recorded June 30, 2022 as Entry No. 577198 in the office of the Tooele County Recorder.

ATTACHMENT 2 (Depiction of the Property)



AGENDA ITEM #3

Discussion of West Bank Study – Dan England



WEST BANK & NORTHWEST AREA MASTER DEVELOPMENT PLAN & CAPITAL FACILITIES PLAN



P S O M A S
WCG
WALL CONSULTANT GROUP



Jones & DeMille
Engineering

DRAFT - JUNE 2023

Page Left Intentionally Blank

TABLE OF CONTENTS

01	EXISTING CONDITIONS Executive Summary	1 2
02	MASTER DEVELOPMENT PLAN PROCESS Introduction & Background Project Process Overview Preliminary Concepts Land Use Model	4 5 5 6 12
03	COMMUNITY ENGAGEMENT Introduction Key Takeaways Interactive Website Surveys & Results	15 16 16 16 17
04	PREFERRED PLAN Best Practices Community Character Standards Preferred Concept Implementation	18 19 22 37 39
05	CAPITAL FACILITIES PLAN Introduction & Background Transportation Culinary Water Sewer Water Storm Water Geotechnical Report	40 41 43 47 59 65 83

ACKNOWLEDGMENTS

STAKEHOLDER GROUP

Planning Commission

Derek Dalton
Jaime Topham
John Limburg
Kevin Hall
Rick Barchers
Robbie Palmer
Shane Watson

City Council

Mayor Neil Critchlow
Darrin Rowberry
Jeff Hutchins
Jewel Allen
Jolene Jenkins
Scott Bevan

City Staff

Jesse Wilson
Dan England
Cavett Eaton
Sherrie Broadbent

City Residents:

Abigail Hogan
Alisha Hagey
Brittany Coggle
Carly Sayer
Dana Lee
Dana Solomon
Eric Johnsen
Jaymie Nelson
Jennifer Orrden

City Residents Continued:

Kris Loertscher
Laurie Hurst
Mandy Dimick
Mark Gilbert
Mikayla Dalley
Norma Allred
Savannah Phillips
Thomas Farley
Traci Graft
Truxton Moulton
Tyler Baxter
Kerry Pinkham

Large Property Owners:

Christopher Robinson
Guy Haskel
Paul Linford
Paul Watson
Ryan Anderton
Shaun Johnson
Skylar Tolbert
Travis Taylor

Other Interested Parties:

Robert Stewart – UDOT
Grants Farnsworth – UDOT
Rachelle Custer – Tooele Co.
Trish DuClos –Tooele Co.

PROJECT TEAM

Psomas

Chris Hupp
Christian Kirkham
Dylan Cindrich
Tanner Snow

Wall Consultant Group (WCG)

Jeremy Searle
Scott Johnson
Shawn Seager

Jones and DeMille

Matt Laurendeau
James Saunders
Tyson Roper
Ty Koppenhafer
Ricky Anderson
David Aust

Atlas Technical Consultants

Robert Miller

SPECIAL THANKS

Survey and Public Engagement Participants

Thank you to all the residents, workers, property owners, and employers that participated with the interviews, interactive map, and surveys. We appreciate the feedback and have incorporated it into all aspects of this project.

01

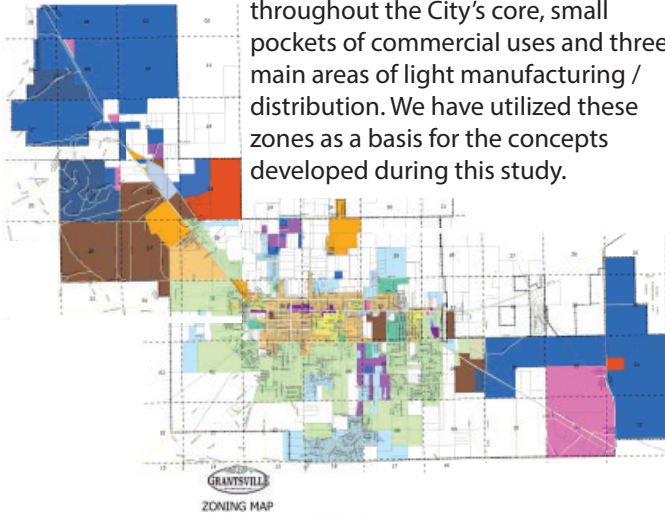
EXISTING CONDITIONS

“I like that it’s a small community, yet you have access to almost every store you could possibly need ”

- SURVEY PARTICIPANT

Grantsville Zoning Map

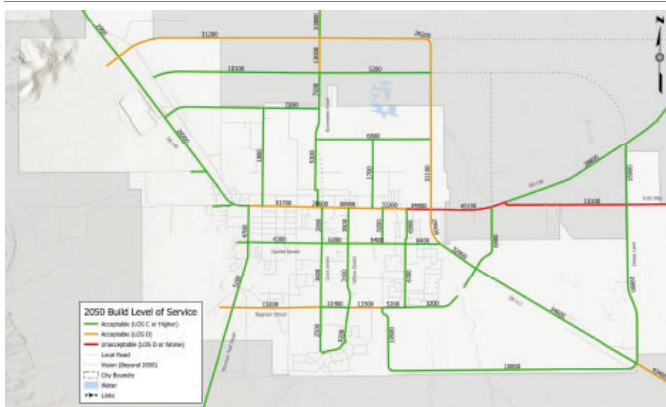
The Zoning Map adds increased detail to the various land uses, with significant areas of general manufacturing on the north and east of the City, a range of residential uses throughout the City's core, small pockets of commercial uses and three main areas of light manufacturing / distribution. We have utilized these zones as a basis for the concepts developed during this study.



Grantsville Transportation Master Plan (TMP)

The TMP analyzes the existing transportation network and conditions, with itemized deficiencies in the existing network. It also establishes a proposed future transportation network to accommodate the potential for doubling the Grantsville City population by 2060. One of the major concerns is traffic on Main Street in Grantsville and alternative ways to circulate traffic without adding burden to the existing network. The figure below show the future "Build Level of Service" indicating larger circulator with increased capacity outside of the City core.

Figure 17: 2050 Build Level of Service



Grantsville Future Annexation Expansion Map

The annexation map shows a proposed future annexation combined boundary of 98,773 acres. The City's existing boundary is 24,058 Acres. Approximately 40% of this study is within the existing Grantsville City boundary with the remaining portion in the proposed future annexation boundary.



02

MASTER DEVELOP PLAN PROCESS

“Keep Grantsville the rural community that it is.”

- SURVEY PARTICIPANT

Introduction & Background

Grantsville City is historically a rural agricultural community with a great quality of life. As the City's General Plan states, it "is known for providing a community comprised of open space, convenient access to the natural environment and a strong sense of community." This small town character and feel of the City is what makes it so special, and a place where residents want to live. The public feedback received for this study confirmed the City's desire to keep a small town feeling alive. Great places like Grantsville inevitably retain and attract more residents, and with that comes more development. A productive mindset for the community then, is not to debate whether growth should occur, but rather where and how growth should occur. Creating a cohesive plan for the "where and how" development will occur provides a far more desirable outcome than if left up to individual property owners alone.

One of the key concerns from the City staff and elected officials was that there was no established vision for the study area. Development projects were being submitted without a clear plan for how the overall development should occur. In order to hold the development community to a standard, a standard must first be set and approved by City Council to have any ability of being enforced. Transportation connections, open space, agricultural preservation, and other elements were reactionary to development plans that were being submitted. In response, the City prepared a request for proposals to craft a master development and capital facilities plan for this area given a longer-term development time horizon.

Project Process Overview

This project has been sectioned into five major phases which are: kick-off and existing conditions, public visioning process, alternatives analysis, preferred scenario, and public hearings. These phases help the City, its residents, property owners, stakeholders, and the project team work together to best understand the needs of the community in terms of culture, vision, development potential, fiscal and infrastructure needs, and best practices for rural sustainable development.

Kick-Off & Existing Conditions

The process for this project began with meetings with elected officials and City staff to better understand some of the opportunities, constraints, and vision for the project area. In addition to this meeting, stakeholder interviews were held to further detail this vision. An initial analysis was then conducted for the projected study area land use absorption rates (or the yearly rate at which certain land uses could be developed given internal and external market conditions).

Following this, the project team compiled and analyzed relevant plans, existing and approved development, City Code, existing zoning and future land use maps, UDOT roadway plans, utility and infrastructure files, aerial photography, demographics, property ownership, existing land uses, sensitive land, and topography to better understand the opportunities and constraints provided in the kick-off and stakeholder interview meetings information.



Alternatives Analysis

Based on the findings and vision established in the first phase, three concept scenarios were developed. These were established without major distinction for open space, schools, or other civic uses to better focus on the right street network and mix of land uses. These were submitted to the steering committee for review, then public feedback was gathered in reference to the alternatives.

Public Visioning

During this phase of the Plan, we gathered input on how the various stakeholders (including residents, staff, elected officials, property owners, and businesses) would like the area to develop, what they would like to see happen, and any other feedback. This incorporated the opportunity to see potential development scenarios and leave specific feedback for what is desired for this area.



Preferred Scenario & Capital Facilities Plan

Portions of each of the three scenarios were selected by the public and steering committee, and a preferred scenario was then developed with a supportive Capital Facilities Plan. The Capital Facilities Plan shows the infrastructure needs based on the preferred scenario.

Public Hearings

Public hearings were held for the Planning Commission and City Council to consider official adoption of the Master Development Plan and Capital Facilities Plan.

Preliminary Concepts

The most fundamental decisions in crafting a master development plan (MDP) begin with land use, or in other words, what to put where. Land use planning envisions the future of an area and interacts with the transportation, demographics, economic vitality, and community character. The purpose of a MDP is to reflect a community's vision and promote thoughtful, equitable, and accessible distribution of different land uses, including residential, commercial, office, industrial/manufacturing, agricultural, and open space. The MDP is a tool that can address issues and concerns specific to its location and resolve those while preventing future issues.

Preliminary Concept Land Use Designations

There were 10 land use designations utilized for these preliminary concepts and an eleventh category for growth boundary. Growth boundaries are typically set to help control development over a certain period of time. These boundaries delineate where growth can and can not occur, thus preserving area outside of the boundary to remain in a natural or agricultural state. The 10 land use designation are described below with their equivalent zoning distinctions:

- **Commercial** – This land use is restricted for a range of commercial uses and includes the following Grantsville City Zones: CN, CS, CG, CD, and MU*
- **Mixed-Use** – This land use is featured in concept 1 of the alternative scenarios only, and is meant to contain an integrated mix of commercial, office, and residential uses. If a development clearly distinguishes uses with little to no integration, this land use designation should not be utilized. The mixed-use land use corresponds with a range of City Zones: R-1-12, R-1-8, RM-7, RM-15, CN, CS, CG, CD, and MU
- **Office** – The office land use is restricted for professional offices varying in size, height, and trade. The Grantsville Zones associated with this use are: CS*, CG*, CD*, MD*, & MG*
- **High Intensity Residential** – The high intensity residential land use is reserved for locations supporting commercial, office, and mixed-use areas. It helps satisfy the state requirements for moderate income housing and typically takes the form of smaller lot detached or attached housing product types. The land use corresponds with the following Grantsville City Zones: RM-7** and RM-15**

(*Dedicated for the land uses' primary restricted use.

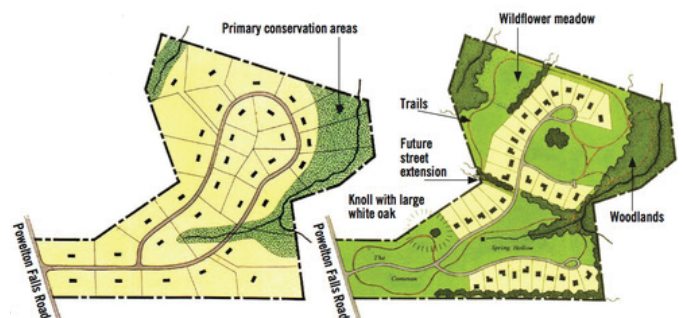
(**Zoning shall be designated by the City Council based on the project's designated land use and development context at the time of submittal.)

- **Medium Intensity Residential** – The medium intensity residential land use is typically used to support commercial, office, and manufacturing land uses as well as buffer high and low intensity residential land uses. Residential product types typically come in the form of medium to small lot detached and larger attached units (ex. duplexes, triplexes, and fourplexes). This land use category relates to City Zones: R-1-12**, R-1-8**, and RM-7**
- **Low-Intensity Residential** – Low intensity residential is reserved for medium to large lot detached units, and is used to buffer medium and very low intensity residential uses, manufacturing, and existing lower intensity residential development. The corresponding zones are: R-1-21**, R-1-12**, and R-1-8**



- **Very Low-Intensity Residential** – Very low intensity residential is typically used to buffer the growth boundary and in hillside areas with larger slopes. It may also be used in agricultural areas to preserve larger farmable areas. In these cases, residential units should be clustered to help with efficiency of the land utilized for farming purposes. The related Grantsville City Zones are: A-10, RR-5**, RR-2.5**, RR-1**, R-1-21**
- **Open Space** – The open space land use is restricted for active and passive recreational and farming purposes. Regional parks, trails, agricultural ground, and sensitive land areas all fall within this land use. Although, there is no existing zone that aligns perfectly for the recreational use, the SA* and A-10* zones may be used.
- **Agriculture** – Agricultural land uses are important for the preservation of the character of Grantsville. The existing Grantsville zone is A-10. Although, this land use is found sparingly in the preferred scenario plan additional agricultural area could be designated through a number of preservation methods. These methods include:
 - **Land Use Regulation** – Land use regulation is often utilized to preserve lands for near- and medium-terms and has the ability to grow and adapt to the ongoing changing environment. Often this is only utilized as a temporary solution.

- **Conservation Subdivision / Cluster Development** – Conservation subdivisions encourage clustered housing and other development while preserving the majority of the remainder of the “developed” land as open space under a conservation easements. (Ex. On a five-acre parcel you could develop five one-acre lots with no public open space; five half-acre lots, eight third-acre lots, or 10 quarter-acre lots with approximately 2.5 acres of conserved land each.)



- **Conservation & Farmland Preservation Easements** – Are voluntary legal (easement) agreements that permanently limit the use of land for agricultural and open space purposes. These must be entered into by the land owner and the legal governing body.
- **Agriculture Conservation Easement Purchase Program (ACEP)** – This federal program provides funding to help protect sensitive lands, working farms, and ranches through conservation easements.
- **Greenbelts, Greenways, & Green Wedges** – Are sections of undeveloped land which encircles cities, townships, or major areas of development. They are typically used as growth boundaries and also serve the residents by providing large natural open spaces within close proximity. (Stansbury Park currently maintains a Greenbelt Service Area.)



- **Transfer of Development Rights (TDR) Program** – TDR programs limit development in key locations transferring that potential development to other targeted locations where development is more appropriate. Once the development rights have been transferred that land is placed under a conservation easement. Development potential is not reduced only transferred.

TDR OVERVIEW



TDRs - Allow you to transfer the right to develop land from a desired preservation area to another area within the City.



Your Land - When the rights to develop your land are sold, you can still use your land for agriculture, homestead & open space purposes.



TDR Purpose - Ultimately, this allows the River Bottoms to be preserved as open space and farm land forever.

SELLER PROCESS



Calculate TDRs = (A-F) x B
A - Total Area of Property
F - Floodway & 30% Slope Area
B - Base Density Designation*



Submit Application**

Receive:

- TDR Certificate
- Deed of Severance



Sell TDRs

- Connect with a Buyer
- Receive Payment
- Record a Deed of Transfer

BUYER PROCESS



Find & Secure Property

Proof of Program Intent

- Find Property in Sending Area
- Write LOI or Buy Property



Submit Application**

Receive:

- Amount of TDRs Required
- Deed of Transfer



Develop Property

- Guaranteed TDR Use
- Complete Approval Process
- Start Building

- **TDR Bank** – Allows for a municipality to control the transfer of development by purchasing the development rights and reallocating them when and where they desire. The TDR bank typically is created in tandem with a TDR program.
- **Private Land Trusts and Easements** – A land trust is a legal entity formed by an individual or group to purchase and manage property for the intent of preserving the land for a particular use. That use may be recreation, agricultural, or to buffer from other development.
 - **Utah Open Lands Program** – The Utah Open Lands program is a land trust designed to permanently protect land in Utah, by acquiring the title or trust of a conservation easement. They maintain stewardship of these properties for public use.
 - **Bureau of Land Management (BLM)**– Their “mission is to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations.” BLM owns thousands of acres within Tooele County.

- **United States Forest Service (USFS)** – Is a federal agency that owns and maintains national forests, grasslands, and mountain range land. USFS owns over 67,000 acres in west of Grantsville.
- **Flex-Use/Manufacturing** – Flex Uses consist of light and general manufacturing, research, and distribution uses. This land use is typically paired with major roadways as larger volumes of truck traffic can be present. Corresponding Zoning designations are MD, MG, and MG-EX.



(*Dedicated for the land uses' primary restricted use.

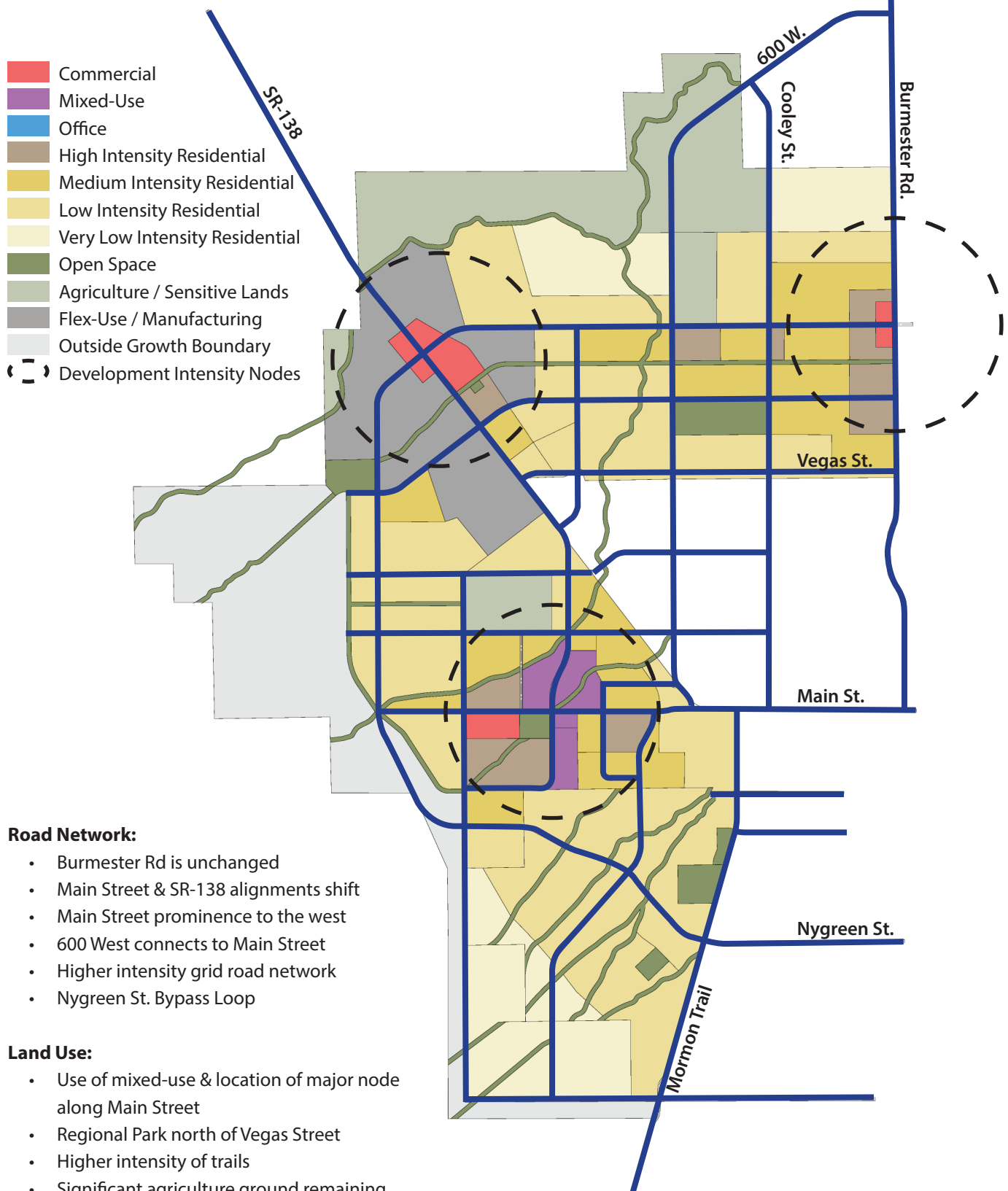
(**Zoning shall be designated by the City Council based on the project's designated land use and development context at the time of submittal.)

Preliminary Concepts

The following pages contain the preliminary concepts for the West Bank and North West Area. These concepts focused on a range of transportation networks, and land use scenarios that would balance the long-term development and financial needs and vision of the city with the projected growth of Grantsville. Each concept took a unique approach to major nodes, land use distribution, transportation connections and network, and distribution of residential intensities.

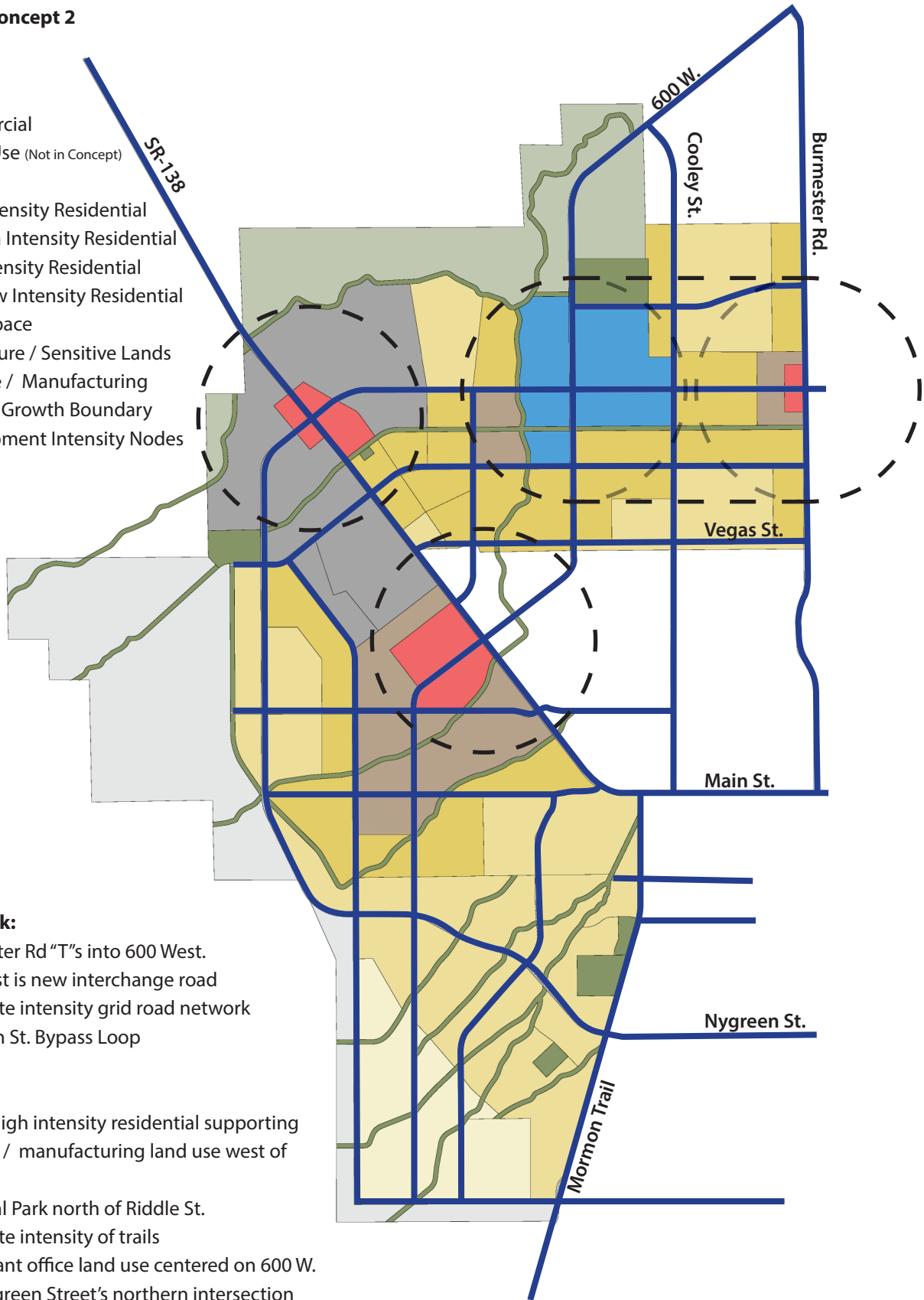


Preliminary Concept 1



Preliminary Concept 2

- Commercial
- Mixed-Use (Not in Concept)
- Office
- High Intensity Residential
- Medium Intensity Residential
- Low Intensity Residential
- Very Low Intensity Residential
- Open Space
- Agriculture / Sensitive Lands
- Flex-Use / Manufacturing
- Outside Growth Boundary
- Development Intensity Nodes



Road Network:

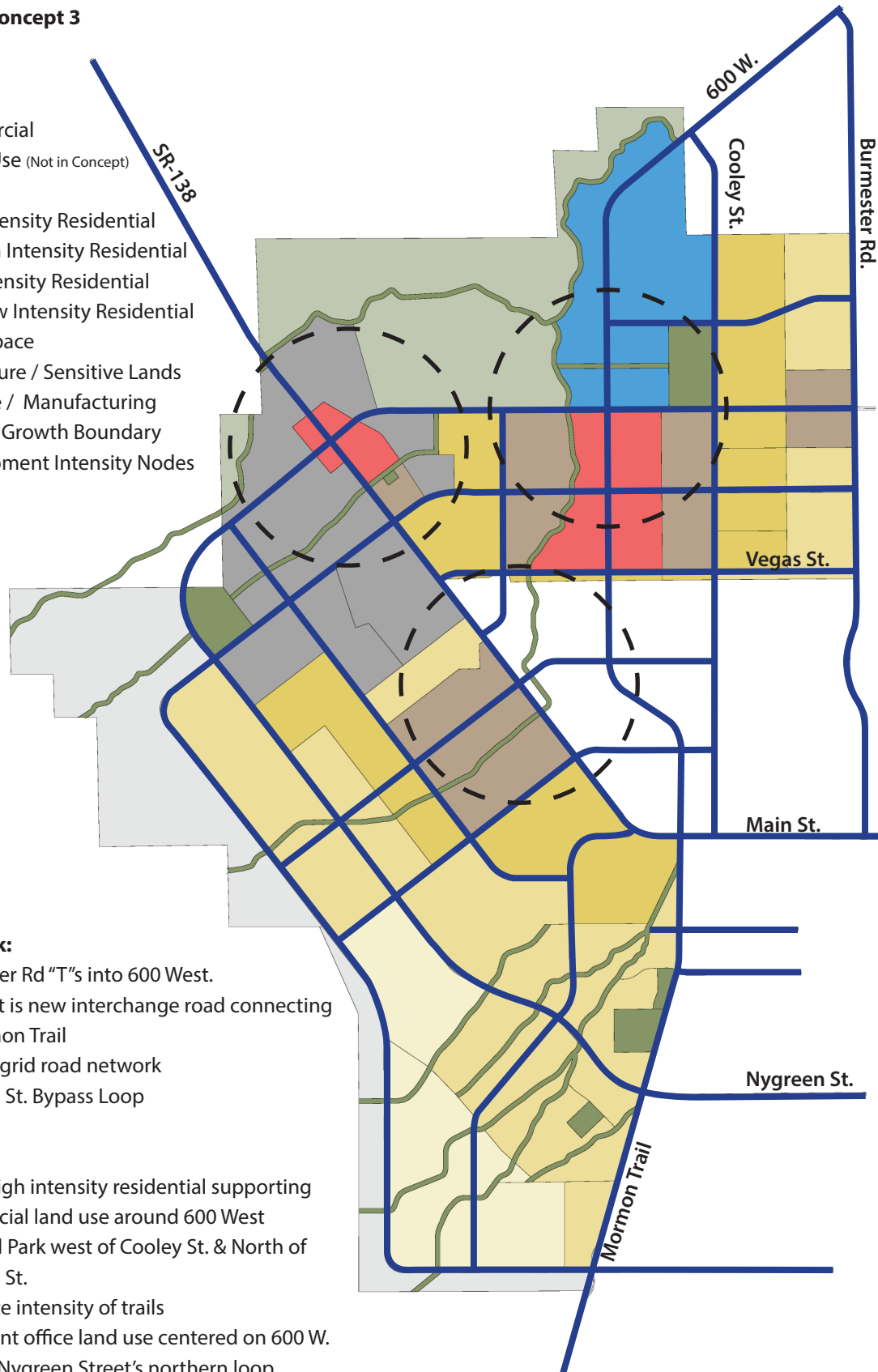
- Burmester Rd "T"s into 600 West.
- 600 West is new interchange road
- Moderate intensity grid road network
- Nygreen St. Bypass Loop

Land Use:

- Use of high intensity residential supporting flex-use / manufacturing land use west of SR-138
- Regional Park north of Riddle St.
- Moderate intensity of trails
- Significant office land use centered on 600 W. and Nygreen Street's northern intersection
- More low intensity residential

Preliminary Concept 3

- Commercial
- Mixed-Use (Not in Concept)
- Office
- High Intensity Residential
- Medium Intensity Residential
- Low Intensity Residential
- Very Low Intensity Residential
- Open Space
- Agriculture / Sensitive Lands
- Flex-Use / Manufacturing
- Outside Growth Boundary
- Development Intensity Nodes



Road Network:

- Burmester Rd "T"s into 600 West.
- 600 West is new interchange road connecting to Mormon Trail
- Rotated grid road network
- Nygreen St. Bypass Loop

Land Use:

- Use of high intensity residential supporting commercial land use around 600 West
- Regional Park west of Cooley St. & North of Nygreen St.
- Moderate intensity of trails
- Significant office land use centered on 600 W. & north Nygreen Street's northern loop
- More high and very low intensity residential

Land Use Model

Land use models are simplifications of existing and future built environment conditions. They take into consideration a wide range of uses and needs based on the current and projected population and that population's distribution. The purpose of these models is to establish metrics for the feasible makeup of land uses. These models do not dictate where land uses go but rather how much should be included based on market data in the study area and similar locations.

The model utilized for this development takes into account a number of inputs from existing Grantsville conditions and similar rural communities as well as larger communities which have transitioned from a more rural nature. Among these inputs are current and projected distribution and needs of parks, open spaces, and trails; retail, office, industrial and other employment uses, schools, churches, and other civic uses; and roads, utilities, and other city facilities.

To correctly calibrate this model to Grantsville, a vision first needed to be established. This was completed during the public engagement and existing conditions review portions of the project. As previously stated many residents wanted to keep the rural character of the City, but add specific elements which increased the quality of life and access to amenities and services. Given this vision, a baseline density was established to guide the model and create a max population.

LAND USE MODEL - MAX RESIDENTS INPUTS		
TYPE	EXISTING	FUTURE
Study Area Acreage	10,635	10,635
Grantsville Dwellings / Acre	1.5 - 3.9	2.5*
Residents / Dwelling	3.7	3.5**
POPULATION	14,209***	93,056****

* - Current Average Dwellings / Acre in Grantsville

** - Projected Residents / Dwelling at Full Build-Out (2089+ assuming 400 permits issued / year - based on Grantsville & 10 similar rural communities.)

*** - Number based on 2020 U.S. Census, Kem C. Gardner 2017-2021

Population Projections: gardner.utah.edu/wp-content/uploads/HousingUnits-FS-May2022.pdf?x71849. U.S. Grantsville 2020 Census Population - 12,617; Kem C. Gardner Estimated Population 2017 - 11,000 | 2018 - 11,568 | 2019 - 12,064 | 2020 - 12,617 | 2021 - 13,574; Population change over last 5 years - 4.68%. (Grantsville 2022 population = 13,574 x 1.0468 = 14,209)

**** - Projected Population for Study Area at Full Build-Out = 10,635 x 2.5 x 3.5.

With the max population established, specific acreages for commercial, office, residential, flex use, manufacturing, and civic uses could be established. These were again calculated based on existing conditions for Grantsville and similar communities, market data, and state requirements for moderate income housing. The inputs for this land use model are as follows:

LAND USE MODEL - OPEN SPACE INPUTS	
INPUT	DATA
Study Area Acreage	10,635
Future % Open Space	30%
Open Space % Breakdown	55% Community Open Space 45% Local Open Space
Max Distance to Dwellings	1/4 Mile

Open space is undeveloped land, a naturally landscaped area, or a formal or human-made landscaped area that provides an aesthetic, recreational, environmental, historical use; or a connective link or buffer between other resources. Open space can further be broken into two classifications, specifically public and private. These classifications denote the nature of who has access to use the space.

With this in place, understanding the difference between community open space and local open space becomes critical. Community open space refers to larger public open spaces (Ex. Regional trail networks or native or formal parks two acres or greater). Local open spaces may still be public (native or formal two acre parks or less) but typically are privately owned or home owners association HOA maintained (Ex. Agricultural land, private undeveloped property, improved park strips and pocket parks).

Inputs for distance to parks comes from a range of project team and outside research that has been done on park proximity and planning across the United States [smartcitiesdive.com/ex/sustainablecitiescollective/pedestrians-and-park-planning-how-far-will-people-walk/24937/#:~:text=The%20quarter-mile%20standard%20is%20also%20supported%20by%20park,a%20park%-20for%20everyday%20outings%20and%20playground%20opportunities.%22, and nrapa.org/our-work/partnerships/initiatives/park-access/].



LAND USE MODEL - EMPLOYMENT INPUTS			
COMMERCIAL / RETAIL			
SF / Resident	Floor Area Ratio (FAR)	Capture Rate	Jobs / 1K SF
20	.30	110%	1.67
FLEX / MANUFACTURING / INDUSTRIAL			
SF / Resident	FAR	Capture Rate	Jobs / 1K SF
--	.40	85%	1.33
OFFICE			
SF / Resident	FAR	Capture Rate	Jobs / 1K SF
--	.30	80%	2.86

The projected population for the study area at full build-out is 93,056. Approximately 54% or 50,000 residents of that population is estimated to fall between the ages of 18 - 65 (or typical working age) [[census.gov/quickfacts/grantsvillecityutah](https://www.census.gov/quickfacts/grantsvillecityutah), and worldpopulationreview.com/us-cities/grantsville-ut-population]. As of 2019, more than 70% of Tooele County commuted outside of the County for work each day [tooeleco.org/wp-content/uploads/2022/05/tooele-county-general-plan-2022.pdf]. If this rate were to continue this would add an additional 35,000+ trips in and out of the City each day during rush hour times. Not planning for a larger workforce in the City would cause significant impacts to current and proposed transportation networks.

The floor area ratios (FAR), commercial sf per resident, capture rates, and jobs per 1,000 sf came from research in commercial, retail, flex, manufacturing, industrial, and office developments located in Grantsville, Tooele Valley; and Salt Lake, Davis, Weber, and Utah Counties. Hundreds of properties were evaluated based on property ownership, parking provided, building coverage, jobs provided, commercial capacity, and code requirements of the project's respective jurisdictions.



LAND USE MODEL - SCHOOL INPUTS			
HIGH SCHOOL (HS)			
Population % (5 - 10)	Existing Students / HS	Future S / HS	AC / School
8.4%	1,434	1,890	8
MIDDLE SCHOOL (MS)			
Pop. % (11 - 13)	Ext. S / MS	Future S / MS	AC / School
8.1%	637	870	12
ELEMENTARY SCHOOL (ES)			
Pop. % (5 - 10)	Ext. S / ES	Future S / ES	AC / School
14.9%	483	575	50

A critical first step in establishing base requirements that generate the need for additional elementary, middle, and high school facilities, is understanding existing demographics and population projections. Taking into consideration the existing and projected ages for elementary, middle, and high school kids for the study area mixed with projected school capacities is essentially how this component of the land use model is calculated.

The inputs for schools come from a range of data sources. These data sources include background information on existing and projected school population sizes, school acreages, and Grantsville demographics. Existing data came from the Tooele School district's school population averages over the last five years based on school designations, with supportive existing and projected data coming from the Alpine, Canyons, Davis, Nebo, and Provo School Districts [greatschools.org/utah/tooele/tooele-district/, niche.com/k12/d/tooele-school-district-ut/, schooldigger.com/go/UT/district/01050/search.aspx, [LandVision - digitalmapcentral.com/](https://LandVision-digitalmapcentral.com/)].

In addition to public schools, several charter school exist throughout the valley. Although the population for these schools is growing, consistent or projected data was not available. Given this issue, we did not discount the student population and projected school requirements for these facilities.



LAND USE MODEL - CIVIC INPUTS

LIBRARY

Population / Facility	AC / Facility
10,000 Residents / 1 AC	2

MUSEUM / HISTORIC SITE

Population / Facility	AC / Facility
10,000 Residents / 1 AC	Facility Size Varies

POLICE STATION

Population / Facility	AC / Facility
20,000 Residents / 1 AC	1.5 - 5

FIRE STATION

Population / Facility	AC / Facility
8,000 Residents / 1 AC	1.2

CEMETERY

Population / Facility	AC / Facility
1,500 Residents / 1 AC	10

HOSPITAL

Population / Facility	AC / Facility
3,000 Residents / 1 AC	10 - 30

The inputs for civic uses come from a wide range of sources including Utah communities observational research, aha.org, wbdg.org, statista.com/topics/1469/libraries, nfpa.org, governing.com/, and nfdi.org/. Information and input was received from Tooele, Davis, Salt Lake, Uintah, Utah, Wasatch, and Weber County Library systems as well as various police and fire departments in the same counties for typical facility needs. In addition to contacting these agencies, a catalog of civic uses is kept to determine average facility sizes, and facility acres per resident in Utah, Arizona, Idaho, Colorado, New Mexico, and Nevada. As for the historic and museum sites, this information has a higher level of variability. The sample size for baseline data was pulled from over 50+ Utah communities varying in size, scale, and rural nature. Existing demographics and existing facility acreage was gathered offering a statistically valid level of confidence.

Placement, spacing, and response times for civic uses were also gathered from first hand information, best practices, and extensive visual surveys.



LAND USE MODEL - CHURCH INPUTS

CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS

Population %	Members/ Congregation	Congregations/ Facility	AC / Facility
70.2%	400	3	3.7

CATHOLIC

Pop. %	Members/ Congregation	Congregations/ Facility	AC / Facility
19.3%	600	1	5

OTHER RELIGIOUS FACILITIES

Pop. %	Ext. S / ES	Future S / ES	AC / Facility
2.8%	600	1	3.5

An additional element of the operational needs of these facilities also comes from activity rates within the various religious institutions. Facility and congregation sizes come from church representatives as well as property search data from Tooele, Davis, Salt Lake, Uintah, Utah, Wasatch, and Weber Counties. Congregation and population information comes from church representative contacts and the following sources bestplaces.net/religion/county/utah/tooele, census.gov, usreligioncensus.org, churchofjesuschrist.org.

Additional modeling inputs for water systems; wastewater planning, stormwater, roadway, parks recreation and trail facilities, and public safety facilities; geotechnical analysis, and other utilities will be further outlined in the Capital Facilities section.

03

COMMUNITY ENGAGEMENT

“Preserve the rural feel that everyone has requested, while so providing trails for being out in nature.”

- SURVEY PARTICIPANT

Introduction

As part of this process the project team was tasked to perform outreach to residents, property owners, employers, City staff, and elected officials. Several stakeholders were interviewed from late October through January 2023. Individuals with a variety of backgrounds were selected, ranging from residents and property owners, to community leaders and City officials.

Social media, and an interactive website were utilized to offer outlets to give feedback, and allow residents the opportunity to share their vision for the study area. The interactive website gave individuals the opportunity to voice their opinions through surveys, a forum, and interactive map. Everyone was asked to share their ideas, goals, concerns, opportunities, constraints, and vision for the future of the area.

Key Takeaways

- Maintain Grantsville's rural small town feel and buffer less intense development from more intense development.
- Higher intensities should be kept along major corridors where it makes sense, thus preserving other areas for lower intensity development.
- Preserve as much agricultural and open space land as possible.
- Provide more entertainment, recreation, employment and commercial opportunities (things to do, grocery stores, restaurants, camping, trails, and other outdoor recreation)
- Make sure there is enough infrastructure and resources including water to support growth in this area.
- Provide a range of housing types.
- Preserve the drainage corridors and natural open space.
- Education is needed on:
 - How property rights work
 - How commercial, retail, office, employment and other land uses are triggered and developed
 - How open space is preserved, built, paid for, and maintained
 - What the State requires for moderate income housing and affordable housing within Cities like Grantsville

Interactive Website



Click on one of the items below to leave feedback!



Click the Interactive Map

Please leave your ideas, thoughts, opportunities, and concerns with transportation and land uses in the West Bank Area. Click the link below to provide your feedback!

START: 8 Nov 2022 END: 27 Jun 2023

[See Project Map](#)

Select A Preferred Concept Plan

We have developed three concepts with varying transportation networks, and land use patterns. Please select the option or option parts you like the best!

START: 8 Nov 2022 END: 27 Jun 2023

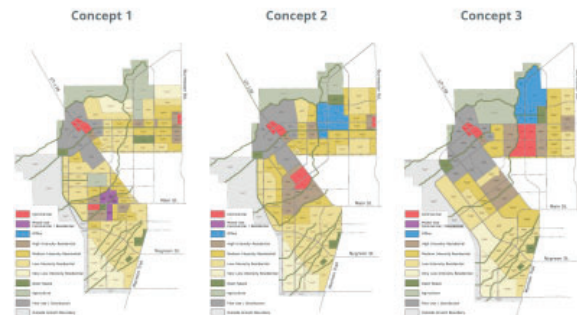
[Take The Survey](#)

Westbank Vision Survey

This survey gives you the opportunity to leave specific feedback about your vision for the West Bank area.

START: 8 Nov 2022 END: 27 Jun 2023

[Take The Survey](#)



Contact Us

Name:

Subject:

Question/Comment:

Email:

☐ Agree to terms and conditions

[Submit](#)

Master Development Plan (MDP) / Capital Facilities Plan (CFP) Update

- Area Plan Kick-Off
The Planning Process started in August, 2022.
- Alternatives Analysis
Based on existing conditions, and initial public engagement, the team will develop several scenarios and analyze which best fit the goals of the City, the desires of residents, market realities, and environmental conditions.
- Public Visioning Process
During this phase of the Plan, we will gather your input on how you would like the area to develop, what you would like to see happen, and any other feedback you have. You will have the opportunity to see potential development scenarios and leave specific feedback for what you would like to see in this area.
- Current Phase**
Preferred Scenario & Capital Facilities Plan
In this phase the best scenario or portions of various scenarios will be chosen by the public and steering committee for official consideration and adoption. The Capital Facilities Plan will show the infrastructure needs based on the preferred scenario.
- Public Hearing
A final public hearing will be held for the City Council to consider official adoption of the MDP/CFP.

Surveys & Outreach Results

During the public engagement portion of the project, there were over 1,000 visitors to the project website. Below are additional details about the public engagement process:

110 Unique Survey Users

180+ Comments, discussions, & Map interactions

350+ Unique Site Users

20 Stakeholder Interviews

Top Feedback

1. **Improved Trails & Trailheads**
(Walking, hiking, biking)
2. **Upgraded Recreation Amenities**
(Parks, playgrounds, & others)
3. **Commercial Development** (Grocery stores & restaurants)
4. **Agricultural land** (Please preserve it)
5. **Range of Housing Types** (Not enough water)
6. **Natural Drainage Corridors** (Open space & trail preservation)
7. **Entertainment Opportunities** (Not enough water)
8. **Camping, RV Sites & Other Outdoor Recreation Opportunities**
(Keep these close access)
9. **Employment District** (Higher paying local jobs)
10. **Office Development** (Office space for rent)



04

PREFERRED PLAN

“I like the orientation of the road network, increased amount of commercial, but would like to see more open space, and a regional park.”

- SURVEY PARTICIPANT

Best Practices

The following are best practices for smart and sustainable development:

- Focus intensities around key intersections, major traffic corridors, and where infrastructure is readily accessible.
- Maximize efficiency of existing and planned infrastructure by placing most intense development at major nodes.
- Preserve and enhance cultural and natural amenities.
- Buffer less-compatible land uses and facilitate compatible land uses.
- Optimize land use designations based on opportunities and constraints.
- Step intensities down progressively away from major development nodes and intersections.
- Provide safe and efficient multi-modal access to businesses and residents and consider proximity to other land uses, neighboring jurisdictions, and transportation networks.
- Ensure land uses and intensities are context-appropriate.
- Provide active and passive recreation opportunities within close proximity to residents.
- Balance land uses based on current and projected demographic information and market trends.
- Establish a redundant roadway, walkway, and bikeway network allowing multiple routes of travel.

The following principles help illustrate what would be required given public sentiments that were expressed during the public engagement process of this study:

Public Sentiment: Open space amenities & more trails

Open spaces are typically paid for in a few different ways. Public open space is generally paid for with property and sales tax and impact fees, or is privately developed then dedicated to the public for use. Typically these spaces are maintained by taxes. Private open space amenities are budgeted into the total cost of a development and are typically maintained by a private Home Owners Association (HOA). These types of open spaces can be naturally landscaped or man-made landscaped areas.

Private open space amenities are normally developed in later phases of a project to ensure enough members in the HOA can reasonably pay for their maintenance. The same applies to public open spaces. The more residents there are paying taxes to maintain open space, the more money there is to develop and maintain increasing amounts of public open space including trails.

Private land or HOA maintained open spaces are for the private exclusive use of the owner or HOA members respectively. Much of the land considered as open space in the Tooele Valley area as, previously mentioned, is privately-owned undeveloped land with some State- Federal- and United States Forest Service-owned land. Several trails in the valley currently used by ATV or horse users are technically on private undeveloped land, which could be shut down at any moment by the land owner. Many residents view these as “public open space” when in reality they are not. To ensure open space amenities are publicly-accessible and preserved, they need to be incorporated into the governing agencies planning efforts and the land needs to be purchased and improved upon by that City, County, State, or Federal entity. As a rule of thumb larger trail systems are usually constructed by private developers as planned, incorporated, and enforced by government agencies, or as part of a major public facility enhancement (ex. the Midvalley Highway project.).

Provisions should also be added to regulating codes to guide community development to incorporate varying categories of open space. Varying categories of open space are denoted in the community character section below. Individuals seeking to develop an area tend to provide the minimum requirements. If these regulations aren’t included, open space will either not be provided or not be provided in a manner that promotes the health of its residents.

A diverse network of integrated open space is critical to create vibrant healthy and inviting neighborhoods and communities. As such, part of the public engagement process was dedicated to understanding the specific amenities and open space categories residents desired. Existing open space types and classifications were analyzed to see what gaps may exist within the Tooele and Rush Valleys. Missing or insufficient public amenities were added to the Open Space / Recreation Preference Survey. The graph below shows the percentage of resident survey respondents that desired each listed missing or insufficient public amenity.

Public Sentiment: Stop the growth of the City

Most of the population growth in 2021 and 2022 in Tooele County was due to in-migration <https://gardner.utah.edu/wp-content/uploads/UPC-2021-Estimates-Newsmaker-Slides.pdf?x71849> and <https://gardner.utah.edu/wp-content/uploads/Tooele-Proj-Feb2022.pdf?x71849> however, historically (pre 2021) population growth has primarily been due to natural increase. The population change from 2010 to 2020 was just under 4,000 residents with an estimated 70% of that growth coming from natural increase. A productive mindset for the community, then is to discuss where growth should occur, which can be regulated and planned for in the land use plan. Deciding where development makes the most sense, where specific uses should be located, and where areas should be preserved is within the control of the community and should be reflected in the land use plan.

Public Sentiment: Grocery store in Grantsville/more jobs

Retailers and employers require communities to reach certain demographic thresholds in order to open a new location. Municipal incentives can entice these users to develop in one location over another, but that user must already have the location in their growth plan. Municipalities or Counties can incentivize users to come, but can not make up for large gaps in commercial and employment users required demographic metrics for locating their businesses.

Examples:

- Costco requires within a 5-mile trade area radius, 200,000 people and a median income of \$75,000. Their target demographic also includes college educated, 2-person+ households.
- Whole Foods requires an even higher population (250,000 within a 3-mile trade area radius with a median income of \$75,000).
- A typical medium-sized grocery store requires about 7,000 - 10,000 residents within a 1-mile radius, and 40,000 - 50,000 residents within a 3-mile radius.

Less than half of Grantsville's approximate 13,574 residents fall within a 1-mile radius of Soelberg's Market (Grantsville's existing small-sized grocery store) putting Grantsville outside of the typical medium-sized Grocery store requirements. In order to attract a mid- or large-sized grocer the population would need to grow.

Public Sentiment: Large lots & development costs

Residents have stated the desire for only large lot development throughout the city, but unfortunately this displaces younger generations from being able to raise families where they grew up, and older generations to continue to live in their communities. Many younger generations can only afford to live in small lot, townhome, condo, or apartments homes when they first start out. A lack of variety of housing types puts more demand on a limited supply, which drives prices up and makes communities unaffordable. In addition, older generations need for larger lots diminish as their ability to maintain and get around their property decreases. Only allowing large lots will likely cause you and your children to have to leave your community. Planning for you and your families future in the City, ensures your ability to be a lifetime resident.



As for cost of development within large lot communities, the burden of open space amenities and infrastructure gets pushed to the few, making the large lots even more expensive, and commercial development impossible. The reason for this is, large lot communities increase the distances between properties, adding significant, often unsustainable costs to infrastructure (utilities and road development and maintenance; public services providers like fire and police; water use needs access; etc.). For government agencies to be able to service a community, a mix of unit types is required, with the more intense development often subsidizing less intense development.



To further explain this subsidy we will use general terms to compare typical one-acre lot development with quarter-acre lot development:

LOT COMPARISON		
TYPICAL LOT INFO	1-ACRE LOT	.25-ACRE LOT
Lot Size	43,560 SF	10,890 SF
Lot Width	200'	100'
Home Size	4,500	2,500
Irrigated Landscaping	24,500	6,500
Water Use (600 gal / 1,000 sf irrigated landscape / week)	14,700 gal / week	3,900 gal / week
Road/Utility Length Need	200'	100'
Market Rate (MR)	Land value (LV) + improved value (IV)	
Taxable Value Calculation (TVC)	MR x 55% (Home taxable value receives a 45% reduction from MR)	
Market Rate (2021)	\$700,000	\$490,000
Taxable Value (See TVC)	\$385,000	\$269,500
Approx. Property Tax (.0138 tax rate)	\$5,313	\$3,719

A one-acre lot pays approximately \$.22 per square foot less in property taxes than a quarter-acre lot despite needing twice the amount of roads and utilities, public services, etc. and 10,800 more gallons per week in water use. The more compact the development the lower your property taxes will be to support the maintenance and development of infrastructure. In addition, more intense development requires significantly less water use than less intense development. Comparing multifamily townhome dwellings with one-acre lots, the property taxes for townhomes are approximately \$2 more per square foot, the infrastructure needs are 90% less, and the water usage is 14,000+ gallons less per week.

The "Public Sentiment: Large lots & development costs" section is not meant to advocate for all new development to be small lot or multifamily, only illustrate the cost of large lot development and its need for subsidy by mixed residential development types.

Public Sentiment: Water Use/Availability/Efficiency

The majority of water use in residential areas comes from landscape irrigation. Single family homes, townhomes, and apartment homes indoor water use is approximately the same, but their outdoor use is drastically different as shown in the previous public sentiment. The easiest and best solutions for reducing water consumption is to utilize waterwise landscape design, limit non-functional lawn areas or replace with more waterwise lawn options, water landscapes in the early morning or evening, implement water reuse, and use water conservation and low impact development methods.



Public Sentiment: Walkability

Several residents stated the desire for walkability. Walkable communities require more than just trails. To put it simply, walkability means it is suitable and safe for walking, or close enough to be reached by walking. The average person will walk up to 5 minutes (1/4 mile) before choosing to drive. For a community to be "walkable" it needs to be safe and more compact. Given that only a portion of residents desired walkability, a range of housing types as mentioned in the "Public Sentiment: Large lots & development costs" section can help support residents in all stages of life and Grantsville community life styles.

Community Character Standards

Quality community character can be costly if the development standards do not focus on the fundamental principles of what makes a quality community. To achieve quality community character, development standards must be established to protect the community environment, welcome contextual variation, and promote the health and safety of its residents. This can be accomplished by integrating open space and trails with a mix of housing types, introducing traffic calming measures and multi-modal street networks in various forms, allowing the surrounding atmosphere and function of the place to lead the design, and incorporating innovative solutions to resolve issues rather than only typical solutions. Three key areas to focus on are:

- **Community Design** – this element covers the architecture (orientation and facades), streets (design and details), and theme (sustainability and branding elements)
- **Community Layout** – this element addresses the architecture (variation), block (length and permeability), and multimodal network connectivity
- **Open Space** – this element outlines standards for open space types and categories

Community Design

Community design in its simplest form is broken into three areas, architecture, streets, and theme. These areas define the community and if addressed properly can produce wonderful vibrant communities. The following sections will help clarify key design elements to establish healthy communities. These sections will focus on items allowable by state code.

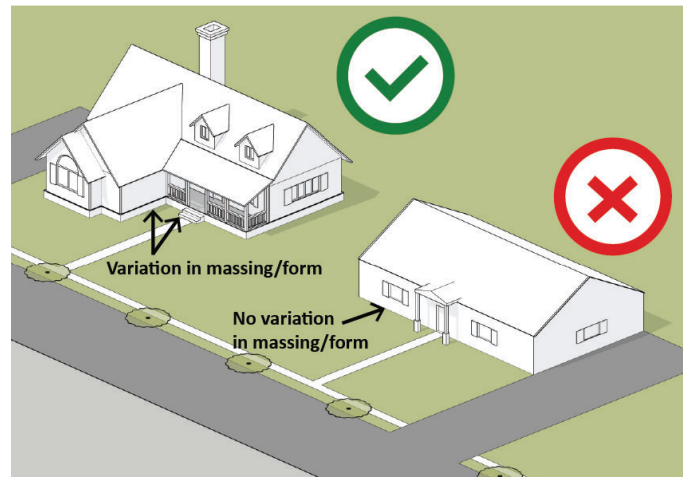


Before addressing the architectural section, it should be noted that Utah House Bill 98 prohibits municipalities from imposing “a requirement for a building design element on a one to two family dwelling or townhome...[unless] agreed to under a development agreement.” [le.utah.gov/~2021/bills/static/HB0098.html](https://legislature.utah.gov/~2021/bills/static/HB0098.html). “Building Design element means:

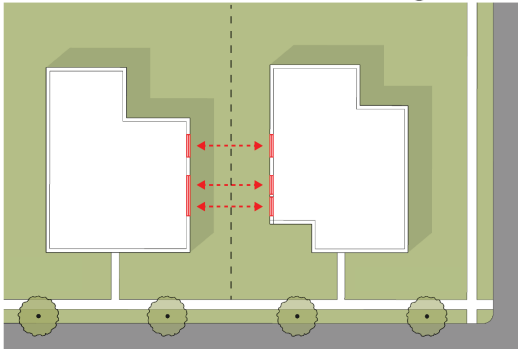
- Exterior color
- Type or style of exterior cladding material
- Style dimensions or materials of a roof structure, roof pitch, or porch
- Exterior non-structural architectural ornamentation
- Location, design, placement, or architectural styling of a window or door
- Location, design, placement, or architectural styling of a garage door, not including a rear-loading garage door
- Number or type of rooms
- Interior layout of a room
- Minimum square footage over 1,000 square feet not including a garage
- Rear yard landscaping requirements
- Minimum building dimensions or
- A requirement to install front yard fencing”

Architecture:

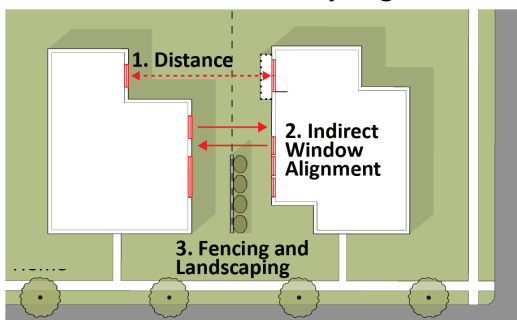
- **Orientation** – Buildings should be oriented towards the street, positively defining and framing adjacent streets, and/or public or common spaces by:
 - Matching or complementing adjacent building setbacks;
 - Matching or complementing adjacent building heights and massing;
 - Completing the streetscape pattern of the street(s) they front.



AVOID: Windows with Direct Alignment



OK: Windows with Privacy Alignment



Houses should be designed to relate to their neighbors rather than as a stand-alone building. State Code prohibits portions of this section unless added within a development agreement. This is one of the more important pieces to help create great communities, and can be accomplished by:

- Orienting the side yards in order to preserve the privacy of the outdoor spaces of both.
- Adjusting side yard and rear yard volumes to provide as much distance as possible between the facades in order to preserve privacy of the outdoor spaces of both.
- Placing windows (with different sizes) in side and rear yards designed with care and sensitivity for the preservation of privacy between buildings. (This item is called out in the HB 98 as prohibited unless it is part of a development agreement.)
- Adding jogs in the principal and secondary frontage for residential units with little to no architectural ornamentation. In addition, when projects enter a development agreement, the principal and secondary frontage should contain architectural ornamentation congruent with the architectural styles utilized by the development group.

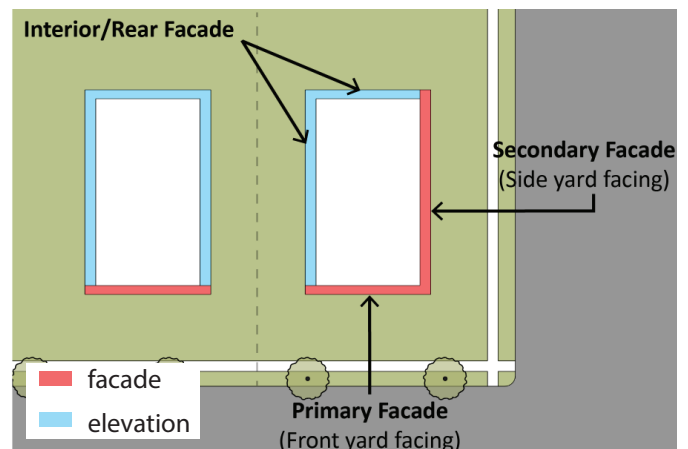
- Garage setbacks should be 20' or greater with principle building (or living space) 15' or greater minimizing the attention being paid to the car. The main entry should be the most prominent feature on the front facade.



- **Facades** – Buildings should be designed with frontages that engage the street by providing direct access to the public realm (street or Community Space).

The community character standards differentiate between the facade and elevation of buildings. Facades are the vertical portions of the buildings that face public streets. Elevations are the vertical portions of building not facing onto public thoroughfares. Facades are more highly regulated than elevations.

Lots with secondary frontage will continue the same material treatment from principle frontage facade on the secondary frontage facade.



Streets:

The design of the street can do as much for community character as the architecture of the buildings. Place great buildings on a wide street with an unpleasant environment and the buildings will more rapidly become run down [\[tinyurl.com/23v94wpa\]](https://tinyurl.com/23v94wpa), [\[sciencedirect.com/science/article/pii/S1687404813000102\]](https://www.sciencedirect.com/science/article/pii/S1687404813000102), [\[nacto.org/publication/urban-street-stormwater-guide/streets-are-ecosystems/the-role-of-streets/\]](https://nacto.org/publication/urban-street-stormwater-guide/streets-are-ecosystems/the-role-of-streets/), [\[journals.sagepub.com/doi/10.1177/0042098020957198\]](https://journals.sagepub.com/doi/10.1177/0042098020957198). This section outlines principles of good street design. For cross sections please refer to the 2023 Transportation Master Plan.

- **Design & Details** – Streets should be context appropriate, and help establish the community's identity. (Ex. to establish a quite residential neighborhood, the streets should be narrower with plantings, trees, furniture, and lighting on a pedestrian scale to help make the setting feel more intimate and inviting.) In order to allow the streets to fit their context, thought must be placed on the specific characteristics of the community, and the needs of that street. A few key areas to focus on are:

- Modes of transportation using the street
 - Pedestrians, Bikes, Cars, Bus, etc.
- Safety and function of the street
 - Type of curb and gutter or bioswale, separation/interaction of modal paths, multimodal/single mode intersection treatments, number/width of lanes or paths, parking, medians, use of park strips, curves and turn radii, visibility, slopes, and access
- Materials and permeability of the street
 - Are lane and path materials concrete, asphalt, composite, pavers, gravel, dirt; are medians and park strips raised, planted, hard surface, gravel, irrigated, etc;
- Features included with in the street right-of-way
 - Furniture, trees, plantings, signage, lighting, and utilities

Below are a few principles that help facilitate great streets:

- A street's designed speed should take into consideration lane width, straights/curves, land use type/density, modal paths and conflicts, road surface, parking presence, pedestrian proximity, traffic calming measures, approaching context, and lastly road classification.



The street shown above has a posted speed of 25 mph but fits the size of an arterial road. Long wide straight roads encourage higher speeds.

- Promote traffic calming measure for residential communities including trees in parkstrips, on-street parking, bulb-outs and chokers, lateral shifts, chicanes and curves, narrower lanes, fewer lanes, medians, raised intersections, speed cushions or humps, speed tables, and roundabouts and traffic circles
- Create physical barriers between higher and slower modes of traffic. Trees, light poles, park strips, planters, street furniture, fences, are all examples of physical barriers that can be used to create separation between modes.
- Design elements and details should be pedestrian scaled. Lighting and other elements should be appropriately sized to create the highest utility and aesthetic for individuals who use the space.
- Street, sign, and other lighting should be dark sky compliant so as to protect the rural feel and night sky of Grantsville. This can be accomplished by only allowing full cut-off fixtures which reduce glare and avoid unnecessary light pollution.



Theme:

The last item within the community character element covers the sustainability and brand/overall feeling of the development. This is an important item to include given the large amount of residents who wanted to keep the current “feel” of Grantsville intact. Some of the most common words used from the public engagement were: open, rural, natural.

To keep the rural, open, and natural feeling the following principles may be utilized:

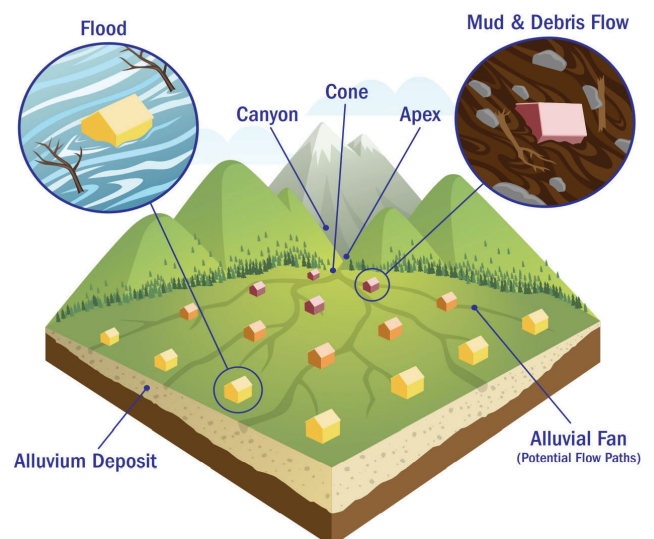
- **Sustainability** – An emphasis on sustainability and sustainable design practices should be implemented and maintained for Grantsville. In the City’s context, five main sub-elements rise in importance: agriculture, hillside and slope protection, alluvial fans and wetlands, water conservation, and low impact development (LID)
- **Agricultural Land** – Agricultural land in growing areas tends to be the least expensive land to develop due to its “development ready” potential. This is because developers look at a potential property to purchase based on how much work it will take to develop the site versus how much the land costs. In the case of Grantsville, much of the agricultural ground falls outside of the City’s current boundary (approximately 4,775 acres of the total 7,850 acres) making most of the agricultural ground more expensive to develop due to the cost of infrastructure, water, and other services. Despite the cost to develop in these areas, significant development pressure has occurred over the last several years. Measures should be made now to help preserve agricultural ground or offset the desire to develop agricultural ground. Promote the measures outlined on page 7 and 8.

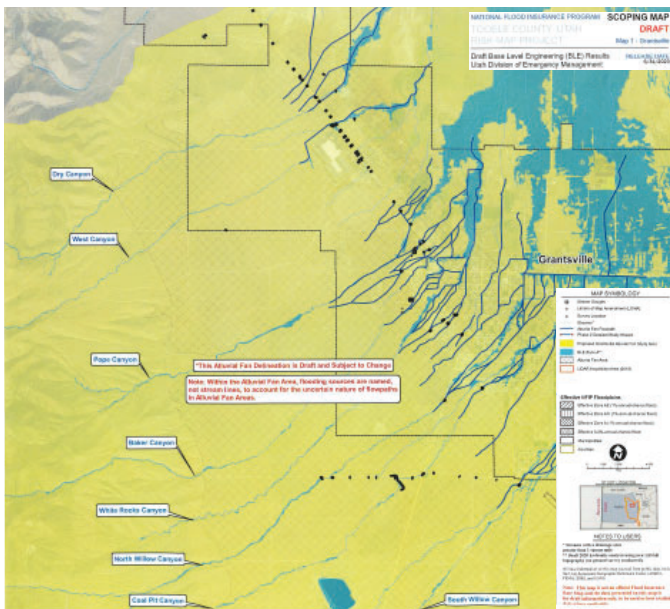


- **Hillside & Slope Protection** – With heavy amounts of rain, developing the foothills could cause future property damage if not planned for. To help prevent potential incidents, development should be discouraged in the area shown below.



- **Alluvial Fans & Wetlands** – Alluvial fans and wetlands have a significant level of volatility and developmental constraints should be analyzed and mitigated if development is permitted to occur within these areas. There are two strategies that can be implemented to protect property within an alluvial fan area (tinyurl.com/y8w5y5ac):
 - Large structural flood control measures, such as check dams (See the Water section of the Capital Facilities Plan for more information)
 - Or avoidance of the affected area





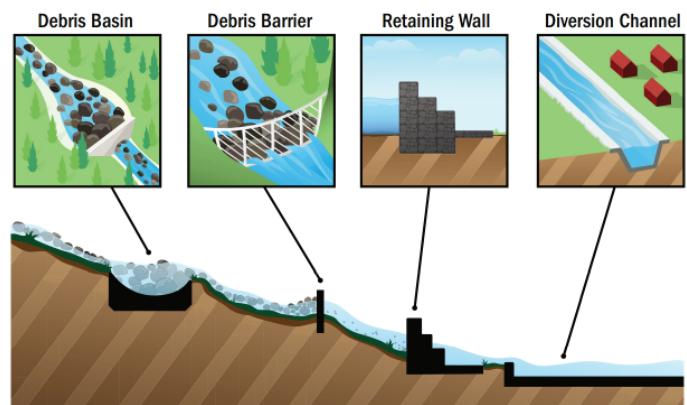
According to the Federal Emergency Management Agency's (FEMA) Best Practices for Building and Developing on Alluvial Fans ([floodhazards.utah.gov/wp-content/uploads/2021/11/AlluvialFanFINAL.pdf](https://www.floodhazards.utah.gov/wp-content/uploads/2021/11/AlluvialFanFINAL.pdf)), there are five steps for avoiding loss of property in an alluvial fan:

- **Step One:** Map the Alluvial Fan
- **Step Two:** Avoid Any Development in an Alluvial Fan
- **Step Three:** Mitigate Your Risk
- **Step Four:** Consider Building Codes When Permitting Development or Redevelopment
- **Step Five:** Protect Your Home or Business

In step three there are a few measures outlined to help mitigate risk within these areas. A few of those mitigation step are:

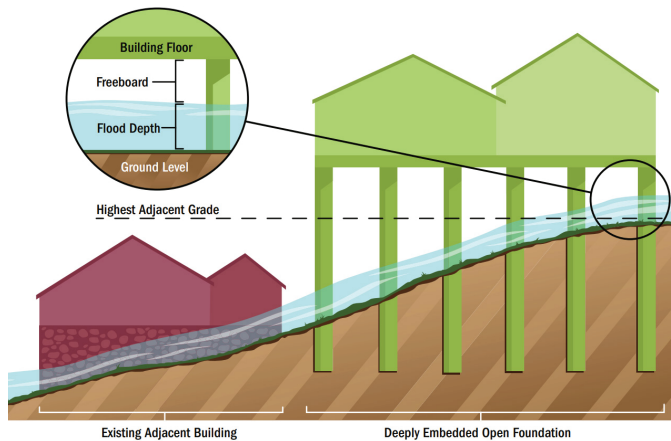
- "Fully understand [your risk] by conducting detailed local or regional studies" A study is taking place to better understand risks associated with the Alluvial Fan in this area.

- "Add alluvial fan areas to a community's regulatory flood map, specifically identifying fan apexes and meandering flow paths zones." When the study mentioned above is complete, these areas should be added to the City's map layers.
- "In the most dangerous areas of the alluvial fan, communities should...convert them to open space and prohibit new construction and reconstruction." As part of the land use map, these areas are currently shown as open space corridors with an 75' buffer (150' total from edge to edge) from the deepest portion of the drainage corridor.
- "Use strict floodplain management, zoning, and subdivision regulations similar to the no-rise requirement in floodways to prohibit or limit growth in high-risk areas."
- "Communities should adopt and enforce strict floodplain management and building code requirements for substantial improvements in Special Flood Hazard Areas (SFHAs) and in alluvial fan areas to ensure that they exceed the minimum requirements."
- **Utilize Large-scale Mitigation Measures:**
 - "Ensure there are proper warning systems and evacuation plans are in place that anticipate flash flooding or debris events."
 - "Strongly encourage whole-fan and/or local protection to be structurally designed to mitigate the risk of hazards to [proposed or] existing development." These mitigation activities include debris fences, dikes, levees, channels, detention basins, and debris basins



- **Utilize Individual Mitigation Measures:**

- Elevate buildings on open foundations or armored fill
- Reinforce the uphill side of structures against debris impact
- Build floodwalls or berms around the property



For more information and recommendations for mitigation see: nap.nationalacademies.org/read/5364/chapter/7, cedb.asce.org/CEDBsearch/record.jsp?dockey=0100001, and hazards.utah.gov/floods/

- **Water Conservation, Preservation, & Low Impact Development (LID) (Water Conservancy Plan as required by Utah State Code Section 73-10-32)**

Utah is a semi-arid to desert climate. Whether rainfall is plentiful or not, measures should be taken to help minimize wasteful or unnecessary water use practices. These wasteful practices include leaky waterlines and systems, irrigating landscape when raining or over watering landscape, non-functional lawn areas, non-waterwise appliances, and running faucets when not in use. Some best practices or ways to combat the misuse of water are:

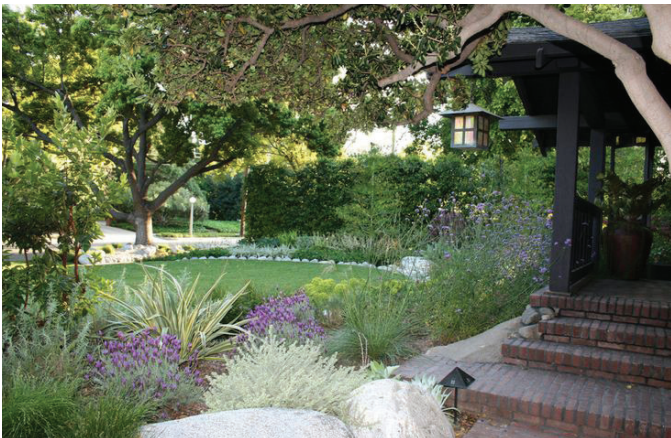
- **Water System Management** – This management process evaluates and assesses the existing water system and replaces or improves under performing sections and facilities. It also adds meters in critical areas to watch for water leakage. Leakage represents the largest real losses for most water systems [epa.gov/sites/default/files/2016-12/documents/wc_best_practices_to_avoid_supply_expansion_2016_508.pdf].

- **Metering** – Ensure meters are located at each user location to track water consumption and distribute the cost of the system on those consuming the most water using a conservation rate structure. A conservation rate structure incentives users to reduce water use to be under certain thresholds of cost/gallon of water use. [[HB 251 le.utah.gov/~2023/bills/static/SB0251.html](http://HB251.le.utah.gov/~2023/bills/static/SB0251.html)]
- **Rain Water Harvesting** – Allows users to capture and store water on site for future outdoor irrigation needs. This is regulated by Utah State Code, but each residential unit can store up to 2,500 gallons per year [waterrights.utah.gov/forms/rainwater.asp].



- **Sustainable Water Use Practices** – Changing user habits to utilize smart water sensing irrigation systems, waterwise appliances and toilets, turning off water when not in use, watering landscape the right amount and at the right times. [[HB 349 le.utah.gov/~2023/bills/static/HB0349.html](http://HB349.le.utah.gov/~2023/bills/static/HB0349.html)]

- **Waterwise Landscape Design** – When individuals hear the term waterwise landscape design they typically think no lawn and only use rock or bark mulch. A waterwise landscape design is a design that is thoughtful in its placement or use of lawn and utilizes more drought tolerant native plants. It may also mean replacing typical lawns with other more waterwise plant substitutions. The use of rock or bark mulch, drip irrigation systems, and less water intensive plants is encouraged in waterwise landscape design. The state also offers incentives for implementing water efficient landscaping [[HB 277](#) and [SB 118](#)]. Grantsville recently passed a waterwise landscape code, which should be promoted for existing development and required for future development.



- **Greywater Systems & Water Reuse** – Greywater systems or water reuse takes water that has already been used (from places like your laundry, shower, and sink) and uses it for a secondary purpose (like watering gardens or landscaping) before allowing it to enter the sewer system. [epa.gov/waterreuse].
- **Low Impact Development (LID)** – “LID refers to engineered systems, either structural or natural, that use or mimic natural processes to promote infiltration, evapotranspiration, and or reuse of storm water as close to its source as possible to protect water quality and aquatic habitat” [documents.deq.utah.gov/water-quality/stormwater/updes/DWQ-2019-000161.pdf].

Green infrastructure includes LID practices but is a broader practice that also includes ecological services. Examples of green infrastructure are:



- Bioswales
- Bioremediation
- Downspout Disconnection
- Green Parking
- Green & Blue Roofs
- Green Streets & Alleys
- Infiltration Basins
- Permeable Pavements
- Rain Gardens
- Rainwater Harvesting
- Subsurface Detention
- Urban Tree Canopy



For more information visit: epa.gov/green-infrastructure/what-green-infrastructure,&sustainableinfrastructure.org/

- **Branding** – Creating a brand or cohesive feel which incorporates the context of the development is critical. Many communities can feel stale or cookie cutter due to lazy development practices. Often these lazy development practices are defended as a way to make developments more affordable, when in reality the cost difference between thoughtful and lazy development practices are negligible. Thoughtful development practices include incorporating views and viewsheds, integrating the terrain features into the design, consistent treatments and design elements, blend open spaces with development, capture the areas unique identity with the community details, fuse surrounding development with the community's edges, understand and implement future residents desires, and facilitate placemaking opportunities. The levels at which branding may occur are varied but adding these considerations to community design helps ensure quality development.



Community Layout

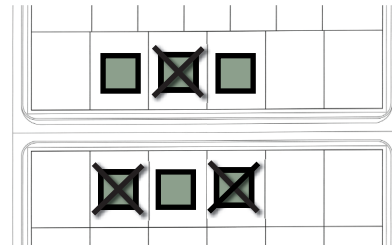
Community layout address the variation of the development and helps accentuate the brand and design of the community. This section further address the architecture, block sizes, and transportation network connectivity.

Architectural Variation:

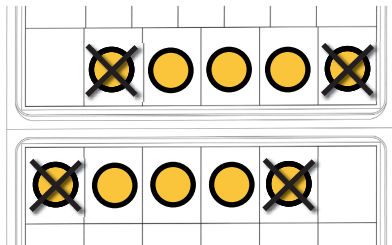
Communities should provide a variety of home styles on each street to create a diverse and interesting street scene. Variation can be achieved through a combination of styles, colors, and floor plans. The variation principles below help illustrate how this could be done:

Residential Development Guidelines

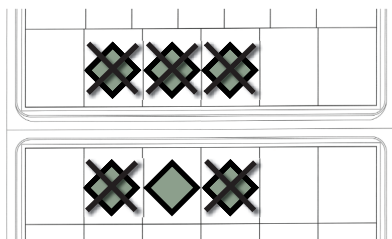
- Single family homes with more simplistic architectural styles (Ex. Traditional) should not be built on adjacent lots or on lots directly across from one another on the same street.



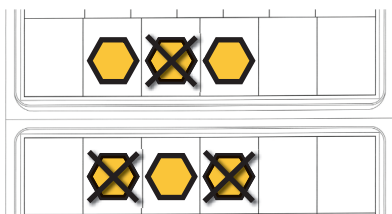
- Single family homes with more ornate architectural styles (Ex. Craftsman, Farmhouse, Modern) styles should not exceed three consecutive lots of the same style on either side of the street.



- Single family homes with the same color scheme shall not be built on adjacent lots or on lots directly across or diagonally from one another on the same street.



- Single family homes with the same floor plan and style shall not be built on adjacent lots or on lots directly across from one another on the same street.



-

Neighborhood blocks should be designed, even in rural communities, to be permeable for various modes of transportation or recreation. To this end block lengths should not exceed 1,000 feet without a break for modes of transportation to move through the neighborhood. This allows increased multimodal activity, and greater connectivity for residents and city services. See the diagram below for guidelines on network connectivity.



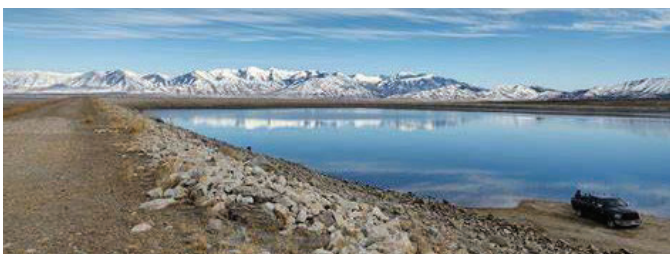
Open Space Types

Providing quality and accessible open space is the most commonly stated concern among residents, and is consistently one of the most underdeveloped areas within developments. This section is meant to help establish guidelines for how a variety of open space amenities can be established throughout the study area.

The following are best practices for open space and recreation placement, programming, and design:

- Encourage open space to be developed as part of a neighborhood or community during the planning and development phases.
- Catalogue existing public open spaces by type (aesthetic, recreational, environmental, connective link, or buffer), programmed amenities, and size.
- Provide open space close to residents. Open spaces within 1/4 mile of a resident receive significantly more use than those outside of that range.*
- Place open space adjacent to roadways and maintain pedestrian-scale lighting. Doing so increases the user safety and access as well as ease of maintenance.
- Preserve and enhance cultural and natural amenities.
- Design the open space in tandem with local residents and the surrounding context including land features, views, nearby open space types and programming.
- Diversify active and passive recreation opportunities for all user abilities.
- Preserve open space areas based on current and projected land uses and demographics.
- Plan, design, and preserve trail networks and incorporate required connections to these networks to be made or stubbed within a mile of regional trails or connective network trails.
- Connect all open spaces, where feasible by multi-use pathways preferably detached of public street right-of-ways.

* The National Recreation and Park Association (NRPA) states that “the typical park and recreation agency has 10.4 acres of parkland for every 1,000 residents.” [nrpa.org/].



Delineating open space types helps distinguish the general use of each open space and increases usable open space as the types differentiate end goals of each amenity. Amenities may fit into multiple open space types. Descriptions of each open space type are as follows:

- **Aesthetic** – this open space type is meant to preserve views, maintain historic or rural character, increase community interest, or signify entrance of a location.
- **Recreational** – this open space type is for active and passive recreation uses.
- **Environmental** – the environmental open space type is established to conserve wetlands, agricultural land, critical habitats, wildlife preserves, and other sensitive lands.
- **Historical** – historical open space types are meant to protect or promote historic locations, buildings, and features.
- **Connective Link** – this type is specific to connectivity of various modes and is intended to join source locations to destination locations.
- **Buffer** – this open space type’s primary use is to separate non-compatible land uses or establish boundaries for development.



Open Space Categories

The open space categories below illustrate the various Open Space/ Recreation amenities that may be suitable for Grantsville and give an overview of their general character, type, classification, location, size, and spacing.

PLAZA

	GENERAL CHARACTER
	TYPE
	Aesthetic, Historic, Connective Link
	CLASSIFICATION
	Public, Private
LOCATION	
Important Intersections, Vista Termini, or Entrances to Community / Civic Buildings	
SIZE	
4,000 – 1 Acre	
SPACING	
N/A	


- **Plaza** – A plaza is a more urbanized public community space that offers opportunities for civic gathering. Plazas add to the vibrancy of streets within the more urban, higher intensity areas. They create formal community spaces available for civic purposes and commercial activity. These spaces are typically defined by building frontages and contain a mix of hardscape and planting areas with various types of seating and trees provided for shade.

COURTYARD

	GENERAL CHARACTER
	TYPE
	Aesthetic, Recreation
	CLASSIFICATION
	Public, Semi-Public, Private
LOCATION	
Locations Supported by Adjacent Use Pattern	
SIZE	
600 - 6,000 SF	
SPACING	
75+ Attached Unit Communities, or Medium+ Retail / Office Properties	

- **Square** – A square is a public community space available for civic purposes, commercial activity, unstructured recreation and other passive uses. The square should have an urban, formal character and be defined by the surrounding building frontages or adjacent tree-lined streets. All buildings adjacent to the square should front onto the square, with adjacent streets lined with appropriately scaled trees. Shaded areas for seating should be provided, with the potential addition of a civic element or small structure such as an open shelter, pergola, monument or fountain.

SQUARE

	GENERAL CHARACTER
	TYPE
	Aesthetic, Recreation, Historic, Connective Link
	CLASSIFICATION
	Public, Private
LOCATION	
Important Intersections or Nodes	
SIZE	
5,000 SF – 4 Acres	
SPACING	
N/A	

- **Courtyard** – A courtyard is a developed space that offers a variety of opportunities for public, semi-public and private gatherings. Courtyards provide a more intimate spatial experience apart from the streets within the more urban, higher intensity areas. They can be formal, paved spaces framed by buildings or restful, garden spaces that can be experienced visually from within building spaces such as offices, retail shops or residences. Building frontages, walls or fences typically define these spaces with a mix of hardscape and planting surfaces dependent upon location and expected use patterns. Shade and heating units should be provided to extend the seasonal use for gatherings or dining, with various forms of seating

GREEN	
	GENERAL CHARACTER
	TYPE
	Aesthetic, Recreation, Connective Link
	CLASSIFICATION
	Public, Private
	LOCATION
	Vista Protection, Central Community Gathering Space
	SIZE
	11,000 SF – 2 Acre
	SPACING
	75+ Unit Communities, or Large Retail / Office Properties

- Green** – A Green is a public community space available for civic purposes, commercial activity, unstructured recreation and other passive uses. Greens are primarily naturally landscaped with many shaded places to sit. The space may include thoughtful open lawn areas, paths, civic elements, fountains or open shelters. Greens are typically adjacent to a public right of way and are spatially defined by buildings which front onto this space.

NEIGHBORHOOD PARK	
	GENERAL CHARACTER
	TYPE
	Aesthetic, Recreation, Environment, Buffer
	CLASSIFICATION
	Public, Private
	LOCATION
	Typically within Residential Communities
	SIZE
	2 – 10 Acre
	SPACING
	Within 1/2 Mile - 1 Mile of Each Residential Unit*

- Pocket Park** – Small and frequently dispersed throughout the community, these infill spaces support passive recreation that ensures walkable green space access for everyone within the immediate neighborhood. They may contain specialized facilities that serve a specific demographic or limited population or group such as tots, pets or senior citizens. Thematic elements and uses may be determined by the needs of the target demographic or the nature of the location within the community. Pocket Parks must be adjacent to a public right of way and be fully developed and maintained as finished recreational open spaces. Native landscapes and natural areas do not constitute a Pocket Park.

POCKET PARK	
	GENERAL CHARACTER
	TYPE
	Aesthetic, Recreation
	CLASSIFICATION
	Public, Private
	LOCATION
	In Neighborhoods Along Minor Collectors or Local Roads
	SIZE
	20,000 SF – 1 Acre
	SPACING
	Within 1/2 Mile of Each Residential Unit*

* Each residential unit should be within 1/4 mile of a pocket park, neighborhood park, or regional park.

- Neighborhood Park** – The neighborhood park remains the basic unit of the local open space system and serves as the recreational and social focus of the neighborhood. The focus is on informal active and passive recreation. The park should be centrally located within the neighborhood and may function as the recreational hub of adjacent neighborhoods. These parks are frequently developed adjacent to civic uses such as an elementary school.

Parks should be connected to the greater community through multi-use pathways or trails. Parks should also be adjacent to a public right of way on at least one side, with a minimum of 25 percent of the total park perimeter on a street.

REGIONAL PARK	
 	GENERAL CHARACTER
	TYPE
	Aesthetic, Recreation, Environment, Buffer
	CLASSIFICATION
	Public
	LOCATION
	Near Important Intersections, or Community / Civic Buildings
	SIZE
	11 – 100+ Acre
	SPACING
	Within 3 Miles of Each Residential Unit*

* Each residential unit should be within 1/4 mile of a pocket park, neighborhood park, or regional park.




- Regional Park** – Regional parks are diverse in nature, serving a broader purpose than the neighborhood or pocket park. While there may be overlap in amenities within these park categories, the focus of a regional park is meeting regionally-based recreation, athletic, and open space needs. These parks should be centrally located within the greater region and should function as the recreational hub for the region. Regional parks should be connected to the region through multi-use pathways, trails, and streets with a minimum of 50 percent of the total park perimeter on a street.

- Community Garden** – Space programmed specifically for edible or ornamental gardening. Located in the center of a neighborhood to provide convenient and safe access. Oftentimes, community gardens may be included in pocket parks and parks. They are a valued asset in urban or higher intensity areas where residential yards are rare.

Community orchards and vineyards may also be included in this category of open space as long as they are operated as a non-profit organization that provides produce to the local community and they are not a commercial or agricultural use. Appropriate irrigation sources must be provided, and the garden must be locally managed and maintained. Seasonal farmer's markets may occur in these spaces.

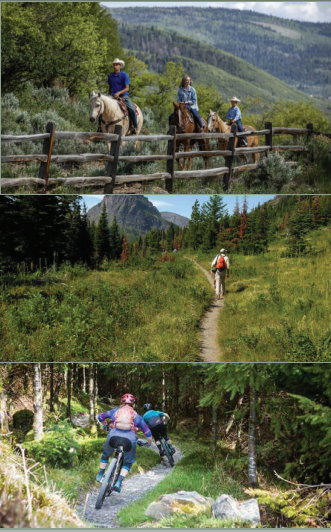
COMMUNITY GARDEN	
 	GENERAL CHARACTER
	TYPE
	Aesthetic, Historic, Environment
	CLASSIFICATION
	Semi-Public, Private
	LOCATION
	Typically within Residential Communities
	SIZE
	Neighborhood Context Appropriate
	SPACING
	300+ Unit Communities, or Rural Communities

- Special Use** – This category covers a broad range of parks and recreation facilities oriented toward single purpose uses. Special uses generally fall into three categories: Historic/Cultural/Social Sites (ex. Historic areas, performing arts parks, arboretums, ornamental gardens, indoor theaters, churches, public buildings and amphitheaters). Recreation facilities (i.e., either specialized or single-purpose facilities) fall into this category, for example, community centers, senior centers, hockey arenas, golf courses, campgrounds, skate and water parks. Frequently, community buildings and recreational facilities are located within parks.

SPECIAL USE	
  	GENERAL CHARACTER
	TYPE
	Aesthetic, Recreation, Environment, Historic
	CLASSIFICATION
	Public, Private
	LOCATION
	Varies
	SIZE
	Varies
	SPACING
	N/A


PASEO	
	GENERAL CHARACTER
	TYPE
	Aesthetic, Connective Link
	CLASSIFICATION
	Public
	LOCATION
	Key Through-Blocks Connecting Adjacent Non-Homogeneous uses
	SIZE
	Minimum Width 15 FT
	SPACING
	N/A

- Paseo** – Pedestrian passages or paseos are linear public community spaces that connect one street to another at through-block locations. Pedestrian passages create linkages through buildings or lots at designated locations. These pathways may provide direct pedestrian access to residential, commercial, office, or educational addresses. Pedestrian passages allow for social and commercial activity to spill into the public realm and should consist of a hardscape pathway with landscaped edges and must be connected to public paths or thoroughfares at both ends of the corridor.

TRAIL	
	GENERAL CHARACTER
	TYPE
	Aesthetic, Recreation, Historic, Connective Link
	CLASSIFICATION
	Public
	LOCATION
	Drainage and Canal Corridors**, and Natural Open Space Areas
	SIZE
	Minimum Clear Surface Width 6 FT
	SPACING
	N/A

- Multi-Use Path** – A multi-use path is an improved linear public transportation and recreation corridor that accommodates two or more users on the same, undivided pathway. Path users could include pedestrians, bicyclists, skaters, etc. A multi-use path frequently provides an important place for active recreation and creates a connection to regional paths and biking trails. Multi-use paths should be clearly defined with refined paving materials that provide for safe use and low maintenance.


Pedestrian amenities add to recreational opportunities, and may include drinking fountains, scenic viewpoints, fitness stations, bike repair stations, and directional signs. These elements may be spread along the pathway or grouped in high use areas.

MULTI-USE PATH	
	GENERAL CHARACTER
	TYPE
	Aesthetic, Recreation, Connective Link
	CLASSIFICATION
	Public, Private
	LOCATION
	Drainage, Canal, and Road Corridors**, and Between Open Spaces and Communities
	SIZE
	Minimum Paved Width 10 FT
	SPACING
	N/A

**All Drainage, Canal, and Major Road Corridors should contain a multi-use path or trail.

- Trail** – A trail is an unimproved, or semi-improved, linear public transportation and recreation corridor that traverses more natural areas or connecting corridors. Trails could include pedestrians, bicyclists, and equestrian users. A trail provides an important place for active recreation and serves as the backbone for regional non-vehicular connectivity.


Pedestrian amenities add to recreational opportunities, and may include drinking fountains, scenic viewpoints, fitness stations, bike repair stations, parks, and directional signs. These elements may be spread along the pathway or grouped in high use areas.

STREAM/RIVER CHANNEL OR CANAL	
	GENERAL CHARACTER
	TYPE
	Aesthetic, Recreation, Environment
	CLASSIFICATION
	Public, Private
	LOCATION
	Stream/River Channel or Canal
	SIZE
	N/A
	SPACING
	N/A


- **Stream/River Channel or Canal** - Linear space defined by a waterway. The space should serve as a pedestrian connection or recreational opportunity, enhancing adjacent property values. It can serve as a secondary connection to a natural open space or a greenway. Paths and trails that parallel a water course may also serve as maintenance easements, and serve to enhance, support, and connect other regional trail networks.

- **Natural Open Space & Greenway** – Natural open space or greenway areas may occur at the edges of the rural neighborhoods or serve as boundaries to development. These may be areas of hillsides, forests, rangelands, or agricultural land that lies outside of the development limits.

Selection of an area for preservation may not be required by legislation or ordinance but may be preserved through formal open space or preservation easements or by definition within a development agreement. Trails or raised trails may occur in these areas with low impact paving materials so there is minimal disturbance to the existing landform and vegetated patterns. Developed trail heads at key locations may contain parking and other facilities to support recreational opportunities.

NATURAL OPEN SPACE & GREENWAYS	
	GENERAL CHARACTER
	TYPE
	Aesthetic, Recreation, Environment, Historic, Buffer
	CLASSIFICATION
	Public, Private
	LOCATION
	N/A
	SIZE
	N/A
	SPACING
	N/A

- **Sensitive Lands** – Sensitive Lands contain elements that can influence or limit development through physical or regulatory restrictions. The types of lands represented in this typology may include steep slopes, wetlands, critical habitats, stream corridors, ridgelines, and unique vegetation patterns. Non-physical, locational characteristics, such as critical viewsheds and highway corridor buffers, may also be factors that determine the extent of sensitive land designations. Additional elements may relate to historic or culturally significant landforms or existing development patterns or structures. Preservation of these areas in a natural state may be based on regulatory controls, cost controls or amenity-based strategies.

SENSITIVE LANDS	
	GENERAL CHARACTER
	TYPE
	Aesthetic, Recreation, Environment, Buffer
	CLASSIFICATION
	Public, Private
	LOCATION
	N/A
	SIZE
	N/A
	SPACING
	N/A

Preferred Concept

Following the public outreach the feedback was analyzed and a preferred concept created. This concept was a direct result of the key themes, ideas, and concerns residents had for the study area. As additional information was provided from City staff, residents, and property owners, further refinement was made to the concept plan. This plan incorporates portions of each of the preliminary concepts as selected by residents (see concept on the following page). The table below delineates the plan by total acreage, total residential units, acreage and percentages of land uses, and overall job creation.

PREFERRED CONCEPT		
GENERAL PROJECT INFO		
Total Acres	10,635	
Total Residential Units	25,240	
Residential Units / Acre	2.37	
Network Roads Acres	492	
Outside Growth Boundary Acres	347	
OPEN SPACE		
Community Open Space / %	1,732 acres / 16.3%	
Local Open Space / %*	1,458 acres / 13.7%	
Total Open Space / %*	3,190 acres / 30%	
LAND USES		
Population / Facility	AC	Jobs
Commercial	313	6,850
Office	196	8,250
Civic	355	2,850
Religious	145	--
Flex-Use / Manufacturing	916	21,200
NON-RESIDENTIAL TOTAL	1,925	39,150
High Intensity	465	--
Medium Intensity	1,999	--
Low Intensity	3,131	--
Very Low Intensity	987	--
RESIDENTIAL TOTAL	6,139	--

*Local Open Space is not included in the preferred scenario, but is required as part of the 30% open space



This information and plan represents the vision of Grantsville City and its residents, a sustainable balance of land uses, best practices in large long-ranged master planned communities, smart growth principles, and a development time horizon of over 60 years. The mix of development and services facilitates the future needs and demands as the City grows. The mix supports maintaining Grantsville City's existing growth patterns, and character, as the overall density is less than the existing City's average. This plan also provides for growth in commercial development and employment centers, open space networks and recreation, 1/2 mile transportation corridor network, general connectivity, environmental constraint planning and mitigation, and preservation of historic Grantsville.

The Land Use and Civic Use Legends provide clarity for the plans distribution of uses and services, keeping with best practices in the location and response times of emergency services. This plan also distributes open space, civic, and religious uses based on trends in communities across Utah and the Western United States.

Residential Property Types Minimum Lot Sizes

- **Detached****
 - Large Lot SF – 21,780 SF / lot
 - Medium Lot SF – 7,000 SF / lot
 - Small Lot SF – 3,000 SF / lot
- **Attached****
 - Twinhome – 1,500 / unit
 - Triplex – 1,500 / unit
 - Fourplex – 1,500 / unit
 - Townhomes – 1,800 SF / lot
 - Condos – 600 SF / unit
 - Apartments – 600 SF / unit

**Minimum square footage over 1,000 square feet not including a garage can not be regulated by a City according to Utah House Bill 98 unless agreed to in a development agreement.

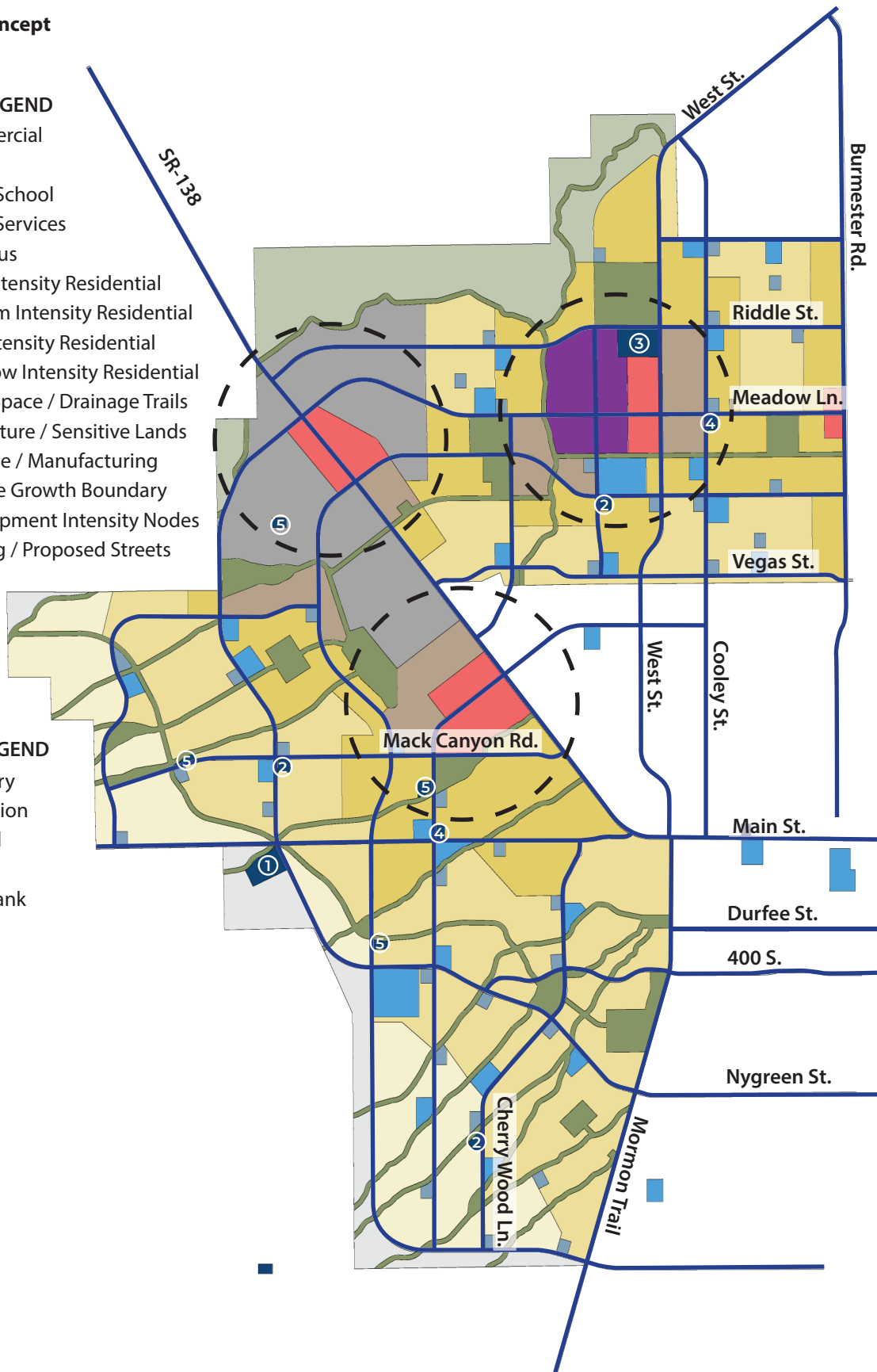
Preferred Concept

LAND USE LEGEND

- Commercial
- Office
- Civic - School
- Civic - Services
- Religious
- High Intensity Residential
- Medium Intensity Residential
- Low Intensity Residential
- Very Low Intensity Residential
- Open Space / Drainage Trails
- Agriculture / Sensitive Lands
- Flex-Use / Manufacturing
- Outside Growth Boundary
- Development Intensity Nodes
- Existing / Proposed Streets

CIVIC USE LEGEND

- ① Cemetery
- ② Fire Station
- ③ Hospital
- ④ Library
- ⑤ Water Tank



Road Network Adjustments:

- Burmester Rd. "T"s into West St.
- West St./Mormon Trail becomes the new interchange road
- Moderate to High intensity grid road network
- Main St. SR-138 Unchanged
- Nygreen St./Meadow Ln. Bypass Loop
- Secondary Bypass Loop South of Nygreen/Meadow Ln. Bypass Loop
- Main St. / Mack Canyon Rd. continuation to the West

Land Use Adjustments:

- Use of high intensity residential supporting flex-use / manufacturing land use west of SR-138 and around the office / commercial centers
- Regional Park north of Riddle St.
- Regional Park West of the Walmart Distribution Center
- Moderate to High intensity of trails
- Significant office land use centered on West St. and Meadow Ln. intersection
- More low and very-low intensity residential
- Significant open space, agriculture, and sensitive lands preserved in concept
- Land use buffers around historic Grantsville

Implementation

The following steps should be taken upon approval of the West Bank and Northwest Area Master Development Plan and Capital Facilities Plan:

1. Attach the Community Character Standards to Development Agreements for Projects within the Study Area

As part of Utah House Bill 98 municipalities are allowed to impose requirements "for a building design element on a one to two family dwelling or townhome...agreed to under a development agreement." <https://le.utah.gov/~2021/bills/static/HB0098.html>. These community character standards help create high quality amenity rich communities that preserve the character and culture of Grantsville without incurring significant cost on the part of the developer.

2. Adjust the General Plan Future Land Use Map to Reflect the Study Area Preferred Concept

Several locations on the map have been identified that would modify the existing general plan land use map. These areas of adjusted land uses should be updated as part of this plan's adoption. Zoning updates may be done in the near-term or as development or redevelopment occurs. Those locations that increase intensity may help to meet specific State requirements for moderate-income housing.

3. Integrate the Road Network Into the Recently Updated Transportation Master Plan (TMP)

In this process we corresponded with the project team for the TMP and City Staff to incorporate proposed development, and transportation networks. Street networks in a few key locations were modified to incorporate a more regional approach to connectivity west of SR-138, and West St. becoming the new interchange road which connects to Rush Valley.

4. Require FEMA's Steps in the "Best Practices for Building and Developing on Alluvial Fans" Document (floodhazards.utah.gov/wp-content/uploads/2021/11/AlluvialFanFINAL.pdf)

- **Step One:** Map the Alluvial Fan
- **Step Two:** Avoid Any Development in an Alluvial Fan
- **Step Three:** Mitigate Your Risk
- **Step Four:** Consider Building Codes When Permitting Development or Redevelopment
- **Step Five:** Protect Your Home or Business

5. Adjust the Grantsville City Growth Boundary Map

Adjust the City's growth boundary map to reflect the study area boundary

6. Adopt a Growth Boundary for the West Bank

Add a growth boundary to the zoning map restricting development beyond the line delineated on the Foothills Zone Map on page 25

05

CAPITAL FACILITIES PLAN

“Any developed areas need to have the road structure to accommodate it...Housing developments need to take into account the impact on services, schools roads, utilities, and infrastructure.”

- SURVEY PARTICIPANT

Introduction & Background

This Capital Facilities Plan (CFP) covers the transportation, culinary water, sewer water, and preliminary geotechnical investigation of the West Bank and Northwest Area Master Development Plan (MDP). This chapter will cover the five subsection previously mentioned and provide detailed summaries of the facilities and infrastructure required for this development area. These capital facilities sections look at provided data of areas outside of the study's boundary for a universal view on how these facilities will complement existing and proposed City infrastructure.



Transportation

During the process of this MDP the City was completing the Transportation Master Plan for the existing City boundary. This MDP and CFP incorporated the information gathered for that process, and made modification and adjustments to create a unified network for the City and the study area.

Culinary Water

To accurately evaluate the hydraulics that result from a major trunkline network needed for the study, a hydraulic model was set up. The base model was created using the existing Grantsville system water model, provided by the city; a Digital Elevation Model (DEM) created by the JDE GIS department for the purpose of extracting spot elevations; and the Land Use Map created by the Psomas planning department. After creating the base model in ArcGIS Pro, the proposed water system's major trunkline network was modeled using the Innovyze InfoWater Pro Version 2023 program. This model allows for the evaluation of pressure zones, size pipes, locate pressure reducing valve (PRV) locations, optimize system layouts and configurations, test tank elevations and locations, and analyze different iterations of the system based on specific common scenarios. Due to the iterative nature of modeling, this software is extremely useful for providing a comprehensive, optimized view of the existing and future systems.

The existing system information was reviewed and used as the template for the future system to keep system components as uniform as possible. Because the existing system is already constructed and developed, it functions independently. Any changes made to the existing system are going to be more cost prohibitive than changes on undeveloped land and will upset existing users that are already a part of the system. To avoid user-upset and save on costs, the model planned for the existing and future systems to function separately. These considerations in the model will provide a high-functioning overall system while reducing the city's cost absorption to improve the existing water system.

The major road network proposed in this study was used as the skeletal structure to layout the trunkline network to future service areas. Because this is a feasibility study, this level of study did not require minor roads and developments to be modeled. To achieve system representation, junctions were strategically placed at the beginning, middle, and end of pipes; along major roads and intersections; and at other locations as necessary. Junctions were used to represent the nearby demand values based on the future land-use categories. The demand allocator tool within InfoWater was used to assign storage-demand data to the placed junctions, based on the nearest connection locations, and to associated land-use type assumed in the study's MDP.

Sewer Water

The Sewer Water Capital Facilities Plan (CFP) modeled the feasibility of expanding the West Bank area of Grantsville City. The expansion would involve the addition and development of 10,600 acres of land, characterized by a significant difference of 925 feet (ft) in elevation. The model assessed how the future sewer system could connect to the existing system and how the projected future land-use will influence the design of the new system.

The modeling efforts considered issues of land elevation, system connectivity, and projected land-use. This comprehensive approach aimed to facilitate the city's expansion while optimizing economic feasibility and efficiency of infrastructure development.

The model accounted for feasibility by allowing phased build-outs of the sewer system, rather than requiring the entire expansion be completed at once. A phased build-out refers to building smaller developments over time and developing the city utility systems just before the building of said developments. This allows impact fees to be commensurate with city expenses due to expansion and avoids furnishing facilities that are only at minimal capacity.

Due to the amount of land being developed, a phased build-out approach was taken in developing this model. Building in phases balances achieving the entire build-out and avoiding overextension of development. This gradual approach will enable a more cost-effective and economically viable expansion of the city, aligning with the city's needs for growth and development.

Storm Water

Grantsville City is located at the eastern base of the Stansbury Mountain Range and borders the south end of the Great Salt Lake. The terrain surrounding Grantsville slopes toward the Great Salt Lake in a northeastern-bound direction on the west side of the city and in a northern-bound direction on the south side of and through the city. This study looked at the watersheds that would affect the proposed West Bank area as seen in Figure 3.5. Project Area Basins.

The West Bank area of Grantsville was recently studied by FEMA and classified as an alluvial fan. These conditions result in water moving down the Stansbury Mountains and spreading out on the relatively flat landscape at the base of the mountains. The soil at the base of the mountain is mostly sand, gravel, silt, and clay, which naturally allows the water to spread out in braided stream networks and sheet flow conditions rather than staying in defined channels. As a result, FEMA draft mapping shows much of Grantsville in a Zone A flood zone as shown in Figure 3.6. FEMA Map Draft Base Level Engineering Results. These same conditions were also observed in this study and confirm FEMA's classification of the area as an alluvial fan. This report looked at design storms with standard 100-year return periods and 24-hour durations, often referred to as 100-year 24-hour storms.

The Capital Facilities Plan, prepared by Ensign Engineering in 2022, along with the Storm Water Management Study for Baker and Pope Watersheds Grantsville City and Tooele County, prepared by AQUA Engineering in 2015, were used as reference materials for this study. This study differentiates from the former studies with a more refined/updated analysis and the accommodation of the proposed developments. These differences are discussed in more detail within the body of this report.

As Grantsville continues to develop to the west, additional infrastructure should be constructed to handle flows from the upstream watersheds and to stabilize the alluvial nature of the drainage. This will provide additional protection to the proposed developments and existing City.

This study will look at two approaches for handling stormwater. The first aspect is controlling external flows, defined as flows originating outside the study boundary, primarily from the Stansbury Mountains. The external flows will be captured by cutoff channels and directed to debris/detention basins to reduce peak flows through or around Grantsville. The second aspect is controlling internal flows, defined as drainage within the study boundary. Criteria defined in the Capital Facilities Plan (CFP) prepared by Ensign Engineering and recommendations provided in this study will require developments to manage and attenuate storm water that falls within the development and discharge as needed to defined channels.

Geotechnical

This report is intended to be preparatory, or preliminary study and should not be used for final design. It is intended to provide a high-level assessment of the geotechnical conditions that could impact future development of areas included in the proposed Grantsville West Bank study area. A more in-depth site investigation, with additional borings and engineering analysis, should be completed for the design of any new development in the area.

A seismic site evaluation is not included within this report, but one should be performed for any future projects. The conclusions and recommendations presented in this report are based on the data acquired and analyzed during this study, our engineering analysis, and on prudent engineering judgment and experience. This study does not include an assessment of potentially toxic or hazardous materials that may be present on or beneath the site. As mentioned previously, this report should not be used for final design and a thorough geotechnical investigation and geotechnical engineering analysis will be needed for each development project and street construction.

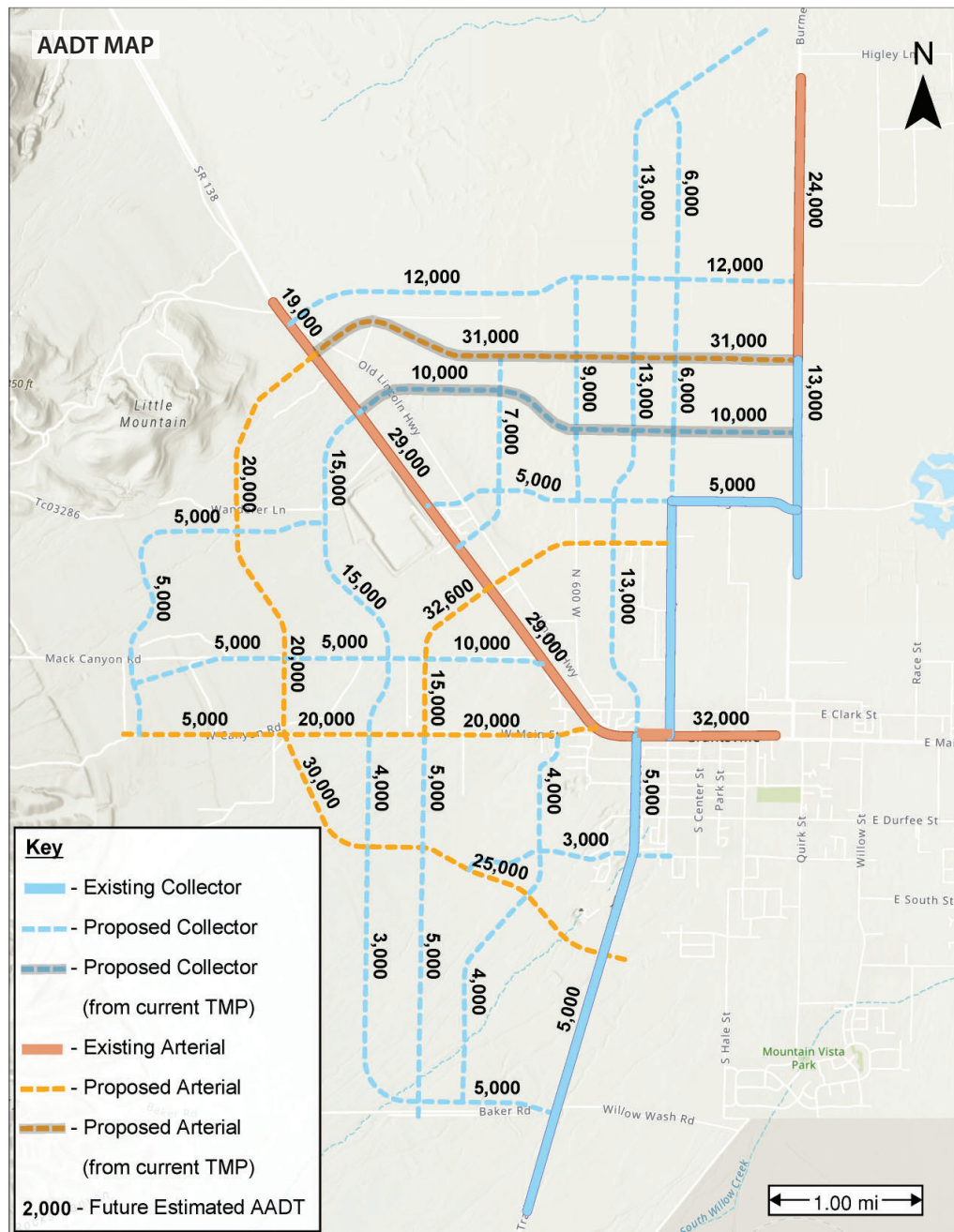
Pertinent geologic and geotechnical literature pertaining to the area and other project information was reviewed. The literature included various publications and maps issued by the United States Geological Survey (USGS) and Utah Geologic Survey (UGS). Details of the findings from the geologic and geotechnical literature will be discussed in the subsequent sections.

Transportation

Annual Average Daily Traffic (AADT)

The projected future AADTs completed for this study were based on the land uses and roadway network shown in the Grantsville West Bank Master Development Plan Preferred Concept Plan.

Trip generation rates published in the Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition were used to calculate the number of daily trips generated by each area in the Preferred Concept. These trips were assigned to the roadway network based on local and regional trip attractions. Trip attractions include commercial and employment areas both inside and outside the study area. Trips were assigned to roadways designated as collectors or arterials in this plan and in the Grantsville Transportation Master Plan (TMP) (August 2022).

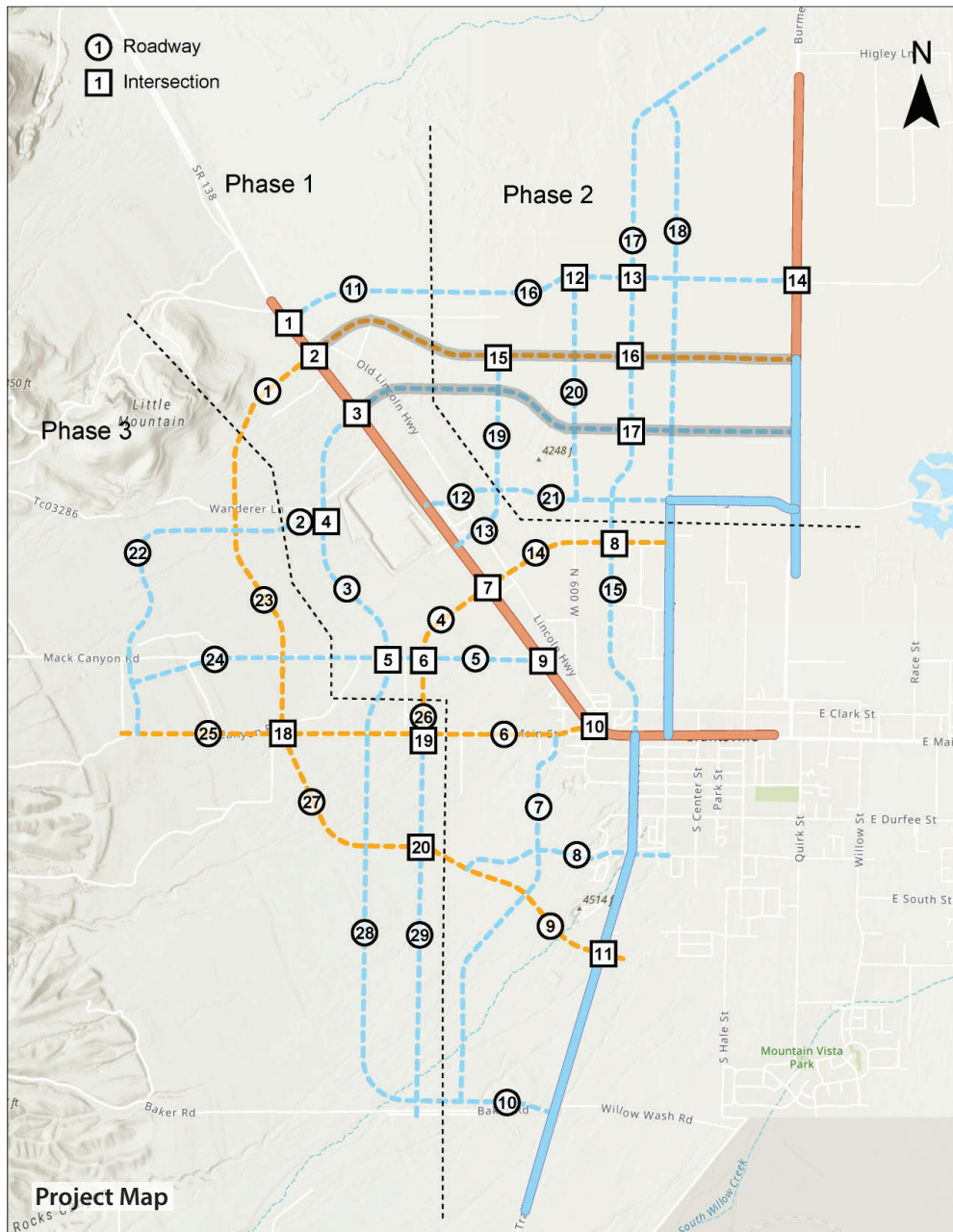


Functional Classification

The functional classification of each roadway shown in the Preferred Concept was designated based on functional classifications established in the Grantsville TMAP and following the ITE guideline that arterial roads should be spaced approximately one mile apart.

Roadways in the Preferred Concept that coincide with arterial roadways in the Grantsville TMAP were designated as arterials. Roadways in the Preferred Concept that were extensions of arterial roadways in the Grantsville TMAP were also designated as arterials.

Additional roadways in the Preferred Concept were designated as arterials such that the ITE recommended arterial spacing of one mile would be met where possible. All other roadways in the figure were designated as collectors.



Future Projects

New roadways that will need to be constructed in the Grantsville West Bank area were identified in the attached figure, and a brief description and cost estimate has been provided in the attached tables. The roadway sizes (number of lanes) were determined using the LOS thresholds for ADT outlined in Table 3 and Table 4 in the Grantsville TMP for arterial and collector streets. Streets were sized such that with future 2050 AADTs the roadways would operate at LOS D or better.

Intersection projects were identified considering the functional classification and AADT of each roadway and the combined 2050 AADT of each intersection.

Any intersection of two arterial roadways, any intersection of an arterial roadway and a collector roadway with a future 2050 AADT of more than 5,000, or any intersection where the combined 2050 AADT would be greater than 55,000 was identified as a location for a future traffic signal. Intersections with a combined 2050 AADT between 25,000 and 55,000 was identified as a location for a future dual-lane roundabout. Intersections with a combined 2050 AADT of 25,000 or less were identified as locations for future single-lane roundabouts. Intersections with a combined 2050 AADT of less than 15,000 or with one or more legs with a future 2050 AADT of less than 5,000 were not identified as locations for future traffic signals or roundabouts and were assumed to be stop-controlled.

Future Roadway Projects							
Project Number	Description	Improvement Scope	Proposed	Length (ft)	Right of Way	Design and Construction	Total
Phase #1 (2023-2033)							
1	New Arterial	New Roadway	5	4230	\$6,479,514	\$13,156,990	\$19,636,504
2	New Collector	New Roadway	3	1700	\$2,181,780	\$3,807,230	\$5,989,010
3	New Collector	New Roadway	3	12100	\$15,529,140	\$27,098,519	\$42,627,659
4	New Arterial	New Roadway	5	5310	\$8,133,858	\$16,516,222	\$24,650,080
5	New Collector	New Roadway	3	8040	\$10,318,536	\$18,005,958	\$28,324,494
6	New Arterial	New Roadway	5	5450	\$8,348,310	\$16,951,678	\$25,299,988
7	New Collector	New Roadway	3	14950	\$19,186,830	\$33,481,228	\$52,668,058
8	New Collector	New Roadway	3	7650	\$9,818,010	\$17,132,535	\$26,950,545
9	New Arterial	New Roadway	5	7980	\$12,223,764	\$24,820,989	\$37,044,753
10	New Collector	New Roadway	3	4240	\$5,441,616	\$9,495,679	\$14,937,295
11	New Collector	New Roadway	3	5850	\$7,507,890	\$13,101,350	\$20,609,240
12	New Collector	New Roadway	3	2870	\$3,683,358	\$6,427,500	\$10,110,858
13	New Collector	New Roadway	3	2770	\$3,555,018	\$6,203,545	\$9,758,563
14	New Arterial	New Roadway	5	7300	\$11,182,140	\$22,705,917	\$33,888,057
15	New Collector	New Roadway	3	8270	\$10,613,718	\$18,521,054	\$29,134,772
Phase #2 (2033-2040)							
16	New Collector	New Roadway	3	13020	\$26,517,834	\$46,273,910	\$33,238,239
17	New Collector	New Roadway	3	19070	\$38,839,869	\$67,775,995	\$48,683,043
18	New Collector	New Roadway	3	15050	\$30,652,335	\$53,488,659	\$38,420,545
19	New Collector	New Roadway	3	5010	\$10,203,867	\$17,805,859	\$12,789,829
20	New Collector	New Roadway	3	8320	\$16,945,344	\$29,569,810	\$21,239,796
21	New Collector	New Roadway	3	6630	\$13,503,321	\$23,563,442	\$16,925,463
Phase #3 (2040-2050)							
22	New Collector	New Roadway	3	12760	\$44,025,828	\$76,825,550	\$32,574,495
23	New Arterial	New Roadway	5	11440	\$47,111,064	\$95,661,465	\$38,483,162
24	New Collector	New Roadway	3	7550	\$26,049,765	\$45,457,124	\$19,274,094
25	New Arterial	New Roadway	5	12310	\$50,693,811	\$102,936,420	\$41,409,766
26	New Arterial	New Roadway	5	1160	\$4,776,996	\$9,699,939	\$3,902,139
27	New Arterial	New Roadway	5	8590	\$35,374,479	\$71,829,719	\$28,896,010
28	New Collector	New Roadway	3	17230	\$59,448,669	\$103,738,576	\$43,985,780
29	New Collector	New Roadway	3	14280	\$49,270,284	\$85,977,183	\$36,454,843

Future Intersection Projects				
Project Number	Description	Responsibility	Improvement Scope	Estimated Cost
Phase #1 (2023-2033)				
1	New Collector / Main St	UDOT	New Signal	\$483,000
2	New Arterial / Main St	UDOT	New Signal	\$517,500
3	New Collector / Main St	UDOT	New Signal	\$483,000
4	New Collector / New Collector	City	New Roundabout (1-Lane)	\$1,559,578
5	New Collector / New Collector	City	New Roundabout (1-Lane)	\$1,559,578
6	New Arterial / New Arterial / New Collector	City	New Signal	\$483,000
7	New Arterial / Main St	UDOT	New Signal	\$517,500
8	New Arterial / New Collector	City	New Signal	\$483,000
9	New Collector / Main St	UDOT	New Signal	\$483,000
10	New Arterial / Main St	UDOT	New Signal	\$517,500
11	Nygreen St / Mormon Trail Rd	City	New Signal	\$517,500
Phase #2 (2033-2040)				
12	New Collector / New Collector	City	New Roundabout (1-Lane)	\$2,474,982
13	New Collector / New Collector	City	New Roundabout (1-Lane)	\$2,474,982
14	New Collector / Burmester Rd	City	New Signal	\$766,500
15	New Collector / New Arterial	City	New Signal	\$766,500
16	New Collector / New Arterial	City	New Signal	\$766,500
17	New Collector / New Collector	City	New Roundabout (2-Lane)	\$3,268,418
Phase #3 (2040-2050)				
18	New Arterial / New Arterial	City	New Signal	\$1,391,250
19	New Arterial / New Arterial	City	New Signal	\$1,391,250
20	New Arterial / New Collector	City	New Signal	\$1,391,250

Culinary Water

System Performance Scenarios

The hydraulic model was used to check multiple scenarios for system performance in accordance with Utah drinking water laws. The scenarios evaluated include Average Day Demand (ADD), Peak Day Demand (PDD), Peak Instantaneous Demand (PID), and PDD + Fire Flow. The scenarios include minimum system pressures that must be checked for system function.

Average Day Demand (ADD) represents the average volume of water consumed or demanded by users within a specific area over a 24-hour period. ADD is an important parameter used in water distribution system modeling to estimate the water requirements and plan for adequate supply.

Peak Day Demand (PDD) represents the maximum water demand that occurs within a water distribution system during a typical day. This parameter is useful for sizing pipes, pumps, and storage facilities to ensure that the system can handle the peak demand and maintain sufficient water pressure.

Peak Instantaneous Demand (PID) refers to the maximum rate of water consumption that occurs within a water distribution system at any given instant. It represents the highest demand experienced by the system and is crucial for sizing infrastructure components such as pipes, pumps, and storage facilities to ensure adequate capacity to meet peak demands and maintain system performance.

PDD + Fire Flow combines the concepts of Peak Daily Demand (PDD) and Fire Flow. Fire Flow refers to the amount of water required to combat a fire in a specific area. By considering both the peak daily demand and the additional demand for fire suppression, water modeling helps determine the necessary infrastructure capacity to effectively meet these requirements.

Modeling Design Factors

The hydraulic model was created to evaluate future scenarios. The Equivalent Residential Connection (ERC) section below describes the assigned rate values per ERC by scenario. These calculations were used as a global demand factor and adjusted for the required scenario.

Fire-flow tests were not performed to calibrate the model, because the model represents a future system, making fire-flow tests impossible. Hazen-Williams roughness values were assigned based on pipe material. A roughness value of 150 was used for PVC, which is the assumed material for the future system. The system model was continually updated as adjustments were made during the modeling process. The model represents the estimated conditions that will occur once Grantsville City has achieved full build-out.

Conversion factors to determine the various demand scenarios were determined by using the Grantsville City Capital Facilities Plan (CFP) and were applied to the future model. The conversion factors are shown in Table 1.1. Conversion Factors for Water Model.

Table 1.1. Conversion Factors for Water Model

	Demand (gdp/ERC)	Conversion Factor
Average Day Demand	807	1.00
Peak Day Demand	1,416	1.7546
Peak Instantaneous Demand		2.1*
Fire Flow	2,050	n/a

*Based on 5,000 ERCs per pressure zone and using the equation $PID = (10.8 \text{ (ERCs in zone)}^{.64}) / (\text{ERCs in zone}) + 1.58$

Water Demand Analysis

Several proposed land-use maps were developed by Psomas and reviewed by City officials and residents. With public input, Grantsville City selected one of the proposed future land-use map options, which was then used to determine projected water usage.

- **Equivalent Residential Connection (ERC) projections** – ERC calculations are commonly used in water modeling to estimate water demand, assess system capacity, and plan for future water supply requirements. This study utilized ERC calculations for the following purposes:
 - **Quantifying Water Demand:** By assigning an ERC value to different land-uses or developments, water demand can be quantified and compared across various sectors. This allows water planners and modelers to estimate the total water consumption based on the number of equivalent residential connections associated with each land-use type.

- **Evaluating System Capacity:** Water modeling involves assessing the capacity of water supply systems, including sources, treatment plants, storage facilities, and distribution networks. By converting the water demand of different land uses into ERC units, modelers can analyze the impact of various developments on the overall system capacity and identify potential constraints or areas of concern.
- **Planning and Scenario Analysis:** Water modeling often involves evaluating different scenarios and planning for future water supply needs. ERC calculations enable modelers to estimate the additional water demand generated by new developments or changes in land use patterns. This information helps in evaluating the adequacy of existing infrastructure, identifying necessary upgrades or expansions, and making informed decisions regarding water resource management and allocation.
- **Conservation and Efficiency Analysis:** Equivalent Residential Connection values can be used to assess the effectiveness of water conservation measures or efficiency improvements. By comparing the water demand before and after implementing water-saving initiatives, the impact in terms of the number of ERCs can be determined. This analysis aids in understanding the potential water savings and benefits of conservation strategies.

Overall, ERC calculations provide a standardized approach for quantifying and comparing water demand across different land-uses in water modeling. They assist in assessing system capacity, planning for future needs, and evaluating the impact of various factors on water resources and infrastructure.

- **ERC Calculations** – ERCs were calculated for the West Bank study by considering the storage-demand per acre associated with specific land-use categories. Utah Code R309-510 for land-use was utilized as a foundation and supplemented by general land-use trends observed in the state. See Exhibit 1. Minimum Sizing Requirements. By assigning appropriate demands to each land-use type, the system was effectively modeled to assess feasibility and provide accurate projections.

ERCs are the standard method for allocating water demands in civil engineering. ERCs are used to create a baseline to compare water usage from different land use categories. The basic unit of an ERC is a residential unit, which is one ERU. Other land-use categories, industrial or commercial for example, may have much larger demands than a residential unit, and so more demand is allocated to those land uses. For example, an industrial building may require 15 times more water, so the industrial land-use would have 15 ERCs compared to the 1 ERC for a residential unit.

ERCs are calculated by dividing the average residential sewer demand by the number of residential units.

$$ERC = \frac{\text{total residential water demand}}{\text{total \# of residential units}}$$

After the demand per ERC has been calculated, the number of ERCs can be found for the non-residential land use categories. Table 1.2. ERCs by Connection Type shows the quantity of ERCs per connection-type in the West Bank Study. The amount of ERCs per acre was used to determine the demand allocations for the water model.

Table 1.2. ERCs by Connection Type

Connection Type	Acres	ERCs
Attached Residential	458.00	2,640.71
Mixed Residential	1,696.00	7,140.92
Detached Residential	2,886.00	9,396.99
Detached Rural Residential	954.00	1,947.39
Churches	144.19	225.14
Civic Uses	73.36	63.67
Commercial	296.20	266
Flex Use/Distribution	917.19	1,236
Office	213.24	279
Open Space	1,063.70	3,929
Outside Growth Boundary	328.12	1,269
Agriculture/ Sensitive Lands	683.39	2,186.86
Schools	283.58	380.06
Total	9,996.97	30,960.54

- **Level of Service Requirements** – According to the Grantsville CFP, Grantsville City currently has a total of 5,975 ERCs, and this model anticipates that the number of additional ERCs after full build-out is 30,961 ERCs, equaling a total of 36,936 ERCs or a 518.18% increase of ERCs. This represents a significant increase and will require all levels of the water system be increased to accommodate such a level of expansion.

Table 1.3. Level of Service Requirements lists the necessary increases in source requirements, storage requirements and water rights to accommodate the future system at full build-out. Note: the water model was designed to accommodate construction in phases. This means that the system will be able to function without an entire build-out. Smaller phases can be constructed, allowing the cost of water system development to remain consistent with the growing expansion of the city.

Table 1.3. Level of Service Requirements

Source Requirements	33,548.30	Pump Rate (gpm)
	50,322.45	Well Capacity (gpm, safe yield)
Storage Requirements	492,000	Fire Flow Storage (gallons)
	863,618.9	Indoor Storage (gallons)
	12,292,535.6	Outdoor Irrigation Storage
	13,648,154	Total Storage (gallons)
Water Rights	74.75	Diversion Amount (cfs)
	42,048.06	Annual Diversion (ac-ft)

Water Rights

Grantsville City holds a considerable volume of water rights acquired from several sources, namely Well 3 Park, Well 4 South, South Willow Well, Hunsaker Well, and the North Well. These sources collectively contribute to the city's overall water supply infrastructure, ensuring a reliable water source for its residents and various purposes.

To meet the growing population's increasing demand and maintain the desired level of service at full build-out, Grantsville City must augment its existing water rights portfolio. To accommodate this requirement, an additional diversion amount of 74.75 cubic feet per second or an annual diversion of 42,048.06 acre-feet (ac-ft) per year is necessary. Water rights can be acquired in tandem with development to not pose a large, instantaneous risk and financial obligation to the city.

Source Needs

The city will need an additional 33,548.30 gpm or 50,322 gpm of safe-yield well water to accommodate future growth. This is based on the projected land use and the ERC calculations.

Grantsville's existing water supply source comes from five existing wells. As the city continues to grow and expand, additional wells will need to be located and drilled to keep up with demand. This study has not located new sources, since new wells would be best located by a hydrogeological engineer based on underground geological features at the time each is required.

Storage Needs

To ensure compliance with storage and pressure requirements for the anticipated influx of new residents, five additional storage tanks must be strategically positioned within the new build-out area. The size of each tank needs to be determined at the time of design to accommodate the development area that will be supplied. The location of these tanks should allow for a phased build out, starting with the construction of the tank closest to the next development and expanding outward until the entire West Bank area is developed. See Table 1.4. Tank Elevations and Tie-In Locations.

The extra tanks are designed to create internal redundancies in the system, in case of tank failure. The total storage requirement — including internal use, external use, and Fire Flow storage — is 13,648,154. The average storage per tank is approximately 275,000 gallons. However, each tank must be sized according to its service area.

- **Fire Flow** – To ensure public safety and to combat any fires that may happen within the city, every water tank must have a designed and designated fire flow reserved that can be drawn from in the event of an emergency. The required fire flow capacity for the West Bank area is 492,000 gallons at full build-out.

The required fire flow reserve must be distributed throughout the different tanks in the system, and each tank must be designed and modeled to provide sufficient flow commensurate with the demands of its specific service area.

For phased build-out, each development within the West Bank study area must have adequate fire flow reserves before construction. The phased approach is still achievable, but the tank that will supply the fire flow reserve for that area must be built first.

- **Proposed Locations** – Implementing these additional storage tanks is crucial to meet the growing demands for water storage and to maintain optimal pressure levels within Grantsville’s expanding community. Strategically locating the tanks will enhance the water distribution system’s efficiency and effectiveness, ensuring an uninterrupted and reliable water supply for new residents.

Table 1.4. Tank Elevations and Tie-In Locations

ID	Elevation (ft)	Tie-In Location
Tank 1	5,052.85	Southwest corner of future system. Ties into pressure zone 9.
Tank 2	5,214.00	Westernmost fixture in future system. Ties into pressure zone 15.
Tank 3	4,640.00	Ties into pressure zone 1.
Tank 4	4,536.00	Ties into pressure zone 1.
Tank 5	4,530.00	Ties into pressure zone 16.

Transmission/Distribution System

- **Major Trunkline Layout and Sizing** – The system layout for the anticipated expansion into the Grantsville West Bank encompasses the integration of various essential components, including storage tanks, pressure reducing valves (PRVs), and major trunklines, see Figure 1.1. Proposed System Layout.

To ensure the system’s integrity and longevity, the trunklines were sized and calibrated to ensure optimum performance. The sizing of these trunklines was designed to prevent pipe velocities from exceeding 5 feet per second during normal PDD conditions and under 10 feet per second during PDD + Fire Flow conditions, thus mitigating the risk of high internal forces and unnecessary wear and tear on the system. By maintaining pipe velocities under 5 feet per second during PDD, the infrastructure is safeguarded, and its long-term sustainability is promoted.

Moreover, the pipe sizing process also considers the objective of effectively meeting service demands. The pipes are sized to accommodate the projected water requirements and ensure an optimal flow rate throughout the system. The largest modeled pipe measures 42 inches in diameter located at the far west end of the West Bank development.

This pipe supplies water to the system by connecting the westernmost tank to the pipe network. This specific pipe is located on the westernmost edge of the study area, where the steepest elevation changes are occurring, so the internal velocity of the water is a concern. The cross-sectional area was increased to lower the velocity and protect the pipe and system. While there is a range of pipe sizes, the majority of pipes in the system range from 8 inches to 30 inches in diameter. This range of pipe sizes strikes a balance between meeting the necessary service demands and ensuring efficient water distribution.

- **Pressure Zones** – The West Bank water distribution system model incorporates a total of 22 PRVs. The considerable quantity of PRVs is primarily attributed to the substantial difference in elevation, amounting to approximately 983 feet, observed across the system. See Figure 1.3.

Proposed System Pressure Zone Overview.

The significant variation in elevation leads to a rapid accumulation of pressure within the system. To maintain the desired pressure range and prevent any excessive pressure buildup, the installation of PRVs is essential. These valves play a crucial role in containing and regulating the pressure levels to ensure that the system operates within the targeted range.

At the request of City personnel, the target pressure range throughout the system was set between 50-110 pounds-per-square-inch (psi). This range falls within the state’s regulated range of 40-120 psi, and is carefully designed to protect homeowners from experiencing excessively high pressure while also guaranteeing sufficient pressure for the optimal utilization of home fixtures.

Table 1.5. Pressure Zones

Zone ID	Minimum Elevation (ft)	Maximum Elevation (ft)	Peak Day Demand	Equalization Storage	Pipe Length (ft)	Minimum Pressure	Maximum Pressure
PZM9	4828.8	4914.5	338.6	152,537	8357	66.7	102.8
PZM8	4712.8	4814.5	520.1	234,315	6176	53.6	97.4
PZM7	4845.1	4957.6	233.9	105,377	1945	52.1	100.1
PZM6	4826.9	4918.5	910.8	410,329	3683	65.9	104.2
PZM5	4851.5	4940.9	322.1	145,099	1829	59.2	97.7
PZM4	4679.4	4813.1	1425.1	642,036	14939	53.4	110.1
PZM3	4506.7	4659.6	3840.7	1,730,325	25450	56.9	115.6
PZM2	4222.7	4350.7	12213.5	5,502,441	124368	51.9	96.0
PZM17	4618.0	4655.7	272.1	122,577	2981	63.0	79.7
PZM16	4449.9	4449.9	217.1	97,817	2473	77.1	77.1
PZM15	4974.8	5090.0	287.1	129,331	8871	61.7	109.4
PZM14	4521.4	4684.7	1085.0	488,805	13385	52.5	122.8
PZM13	4517.6	4647.0	668.3	301,060	7105	50.4	106.4
PZM12	4690.6	4759.7	307.9	138,711	3814	74.7	104.3
PZM11	4630.0	4759.9	1865.0	840,219	16938	75.3	130.8
PZM10	4524.5	4596.1	399.4	179,938	3545	89.8	121.1
PZM1	4344.1	4523.3	4295.6	1,935,239	31353	57.4	130.4

Included below is the pipe summary by pressure zone that specifies how much piping is included in each pressure zone and the size of the piping. This is included to help with quantity estimates for each zone for a phased build-out. See Figure 1.2. Pipe Summary by Pressure Zone.

Future Improvement Impacts on Existing System

The implementation of looping and the addition of more water tanks in the existing system of Grantsville City will significantly enhance its robustness and enable the provision of consistent water pressure, even during scenarios involving high fire flow or substantial demand such as high drought years when Grantsville Irrigation Company is not able to provide irrigation water during peak demand. The design of the new system accounts for the avoidance of disruptive measures such as tearing up and replacing existing infrastructure.

By incorporating looping, water can flow through multiple interconnected pathways, creating redundancies, improving

the system's resilience and making maintenance easier. This looping configuration ensures that water can be efficiently distributed from various directions, reducing the risk of pressure drops and enhancing the overall performance of the system.

Furthermore, the addition of more water tanks strategically placed within the system provides additional storage capacity, allowing for better regulation of water pressure and accommodating fluctuating demands. This ensures that the system can meet the needs of both regular water consumption and emergency situations, such as firefighting.

Importantly, the design of the new system aims to minimize the need for upsizing or changing existing lines within the town, thus avoiding the associated costs. By leveraging existing infrastructure and optimizing its functionality, Grantsville City can achieve system improvements and increased robustness while minimizing disruptions and expenditure.

The following Tables are sourced from Utah Code R309-510 and outline minimum sizing requirements for source demand, storage demand, and distribution systems.

Table 1.6. Utah Code R309-510-1 Source Demand for Indoor Use

Table 510-1 Source Demand for Indoor Use		
Type of Connection	Peak Day Demand	Average Yearly Demand
Year-Round Use		
Residential	800 gpd/conn	146,000 gal./conn
ERC	800 gpd/ERC	146,000 gal./ERC
Seasonal/Non-Residential Use		
Modern Recreation Camp	60 gpd/person	(see note 1)
Semi-Developed Camp		
a. With pit privies	5 gpd/person	(See note1)
b. With flush toilets	20 gpd/person	(See note 1)
Hotels, Motel & Resort	150 gpd/unit	(See note1)
Labor Camp	50 gpd/person	(See note1)
Recreational Vehicle Park	100 gpd/pad	(See note1)
Roadway Rest Stop	7 gpd/vehicle	(See note1)
Recreational Home Development	400 gpd/conn	(See note1)

Table 1.8. Utah Code R309-510-3 Source Demand for Irrigation

Table 510-3 Source Demand for Irrigation (Outdoor Use)		
Map Zone	Peak Day Demand (gpm/irrigated acre)	Average Yearly Demand (AF/ irrigated acre)
1	2.26	1.17
2	2.80	1.23
3	3.39	1.66
4	3.96	1.87
5	4.52	2.69
6	4.90	3.26

Table 1.9. Utah Code R309-510-4 Storage Volume for Indoor Use

Table 510-4 Storage Volume for Indoor Use	
Type	Volume Required(gallons)
Community Systems	
Residential; per single resident service connection	400
Non-Residential; per Equivalent Residential Connection (ERC)	400
Non-Community Systems	
Modern Recreation Camp; per person	30
Semi-Developed Camp; per person	
a. with Pit Privies	2.5
b. with Flush Toilets	10
Hotel, Motel, & Resorts; per unit	75
Labor Camp; per unit	25
Recreational Vehicle Park; per pad	50
Roadway Rest Stop; per vehicle	3.5
Recreational Home Development; per connection	400

R309-510-8(2)(b) Required equalization storage for indoor use is provided in Table 510-4. Storage requirements for non-community systems not listed in this table shall be determined by calculating the average day demands from the information given in Table 510-2.

Table 1.7. Utah Code R309-510-2 Source Demand for Indoor Use - Individual Establishments

Table 510-2 Source Demand for Indoor Use – Individual Establishments	
Type of Establishment	Peak Day Demand (gpd)
Airports	
a. per passenger	3
b. per employee	15
Boarding Houses	
a. for each resident boarder and employee	50
b. for each nonresident boarders	10
Bowling Alleys, per alley	
a. with snack bar	100
b. with no snack bar	85
Churches, per person	5
Country Clubs	
a. per resident member	100
b. per nonresident member	25
c. per employee	15
Dentist's Office	
a. per chair	200
b. per staff member	35
Doctor's Office	
a. per patient	10
b. per staff member	35
Fairgrounds, per person	1
Fire Stations, per person	
a. with full time employees and food prep	70
b. with no <u>full time</u> employees and no food prep	5
Gyms	
a. per participant	25
b. per spectator	4
Hairdresser	
a. per chair	50
b. per operator	35
Hospitals, per bed space	250
Industrial Buildings, per <u>8 hour</u> shift, per employee (exclusive of industrial waste)	
a. with showers	35
b. with no showers	15
Launderette, per washer	580
Movie Theaters	
a. auditorium, per seat	5
b. drive-in, per car space	10
Nursing Homes, per bed space	280
Office Buildings & Business Establishments, per shift, per employee (sanitary wastes only)	
a. with cafeteria	25
b. with no cafeteria	15
Picnic Parks, per person (toilet wastes only)	5
Restaurants	
a. ordinary restaurants (not <u>24 hour</u> service)	35 per seat
b. <u>24 hour</u> service	50 per seat
c. single service customer utensils only	2 per customer
d. or, per customer served (includes toilet & kitchen wastes)	10
Rooming House, per person	40
Schools, per person	
a. boarding	75
b. day, without cafeteria, gym or showers	15
c. day, with cafeteria, but no gym or showers	20
d. day, with cafeteria, gym and showers	25
Service Stations (b), per vehicle served	10
Skating Rink, Dance Halls, etc., per person	
a. no kitchen wastes	10
b. additional for kitchen wastes	3
Ski Areas, per person (no kitchen waste)	10
Stores	
a. per public toilet room	500
b. per employee	11
Swimming Pools and Bathhouses(c), per person	10
Taverns, Bars, Cocktail Lounges, per seat	20
Visitors Centers, per visitor	5

Table 1.10. Utah Code R309-510-5 Storage Volume for Irrigation Use

Table 510-5 Storage Volume for Irrigation Use	
Map Zone	Volume Required (gallons/irrigated acre)
1	1,782
2	1,873
3	2,528
4	2,848
5	4,081
6	4,964

Page Intentionally Left Blank

SYSTEM LAYOUT FIGURES

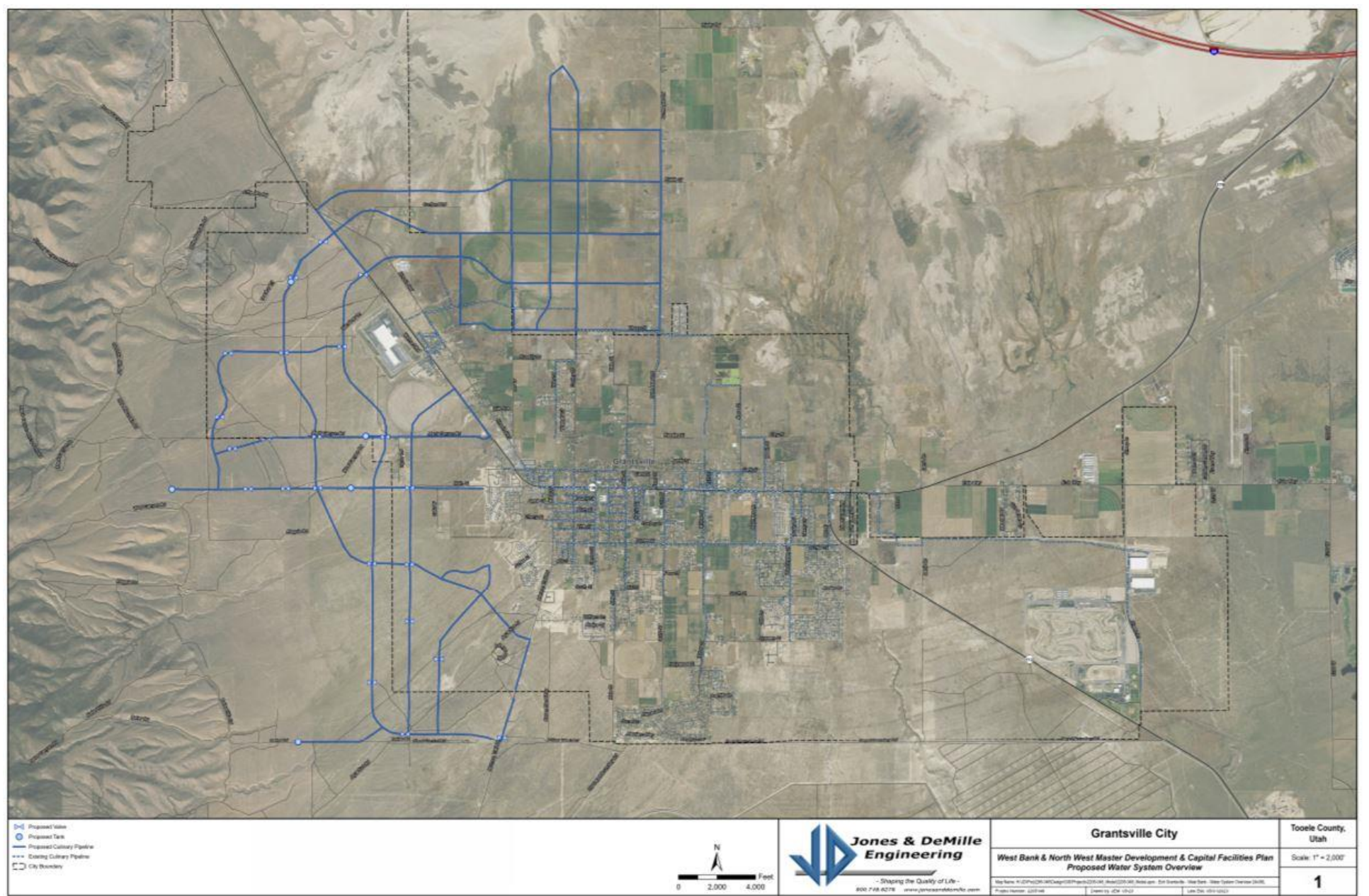


Figure 1.1. Proposed System Layout

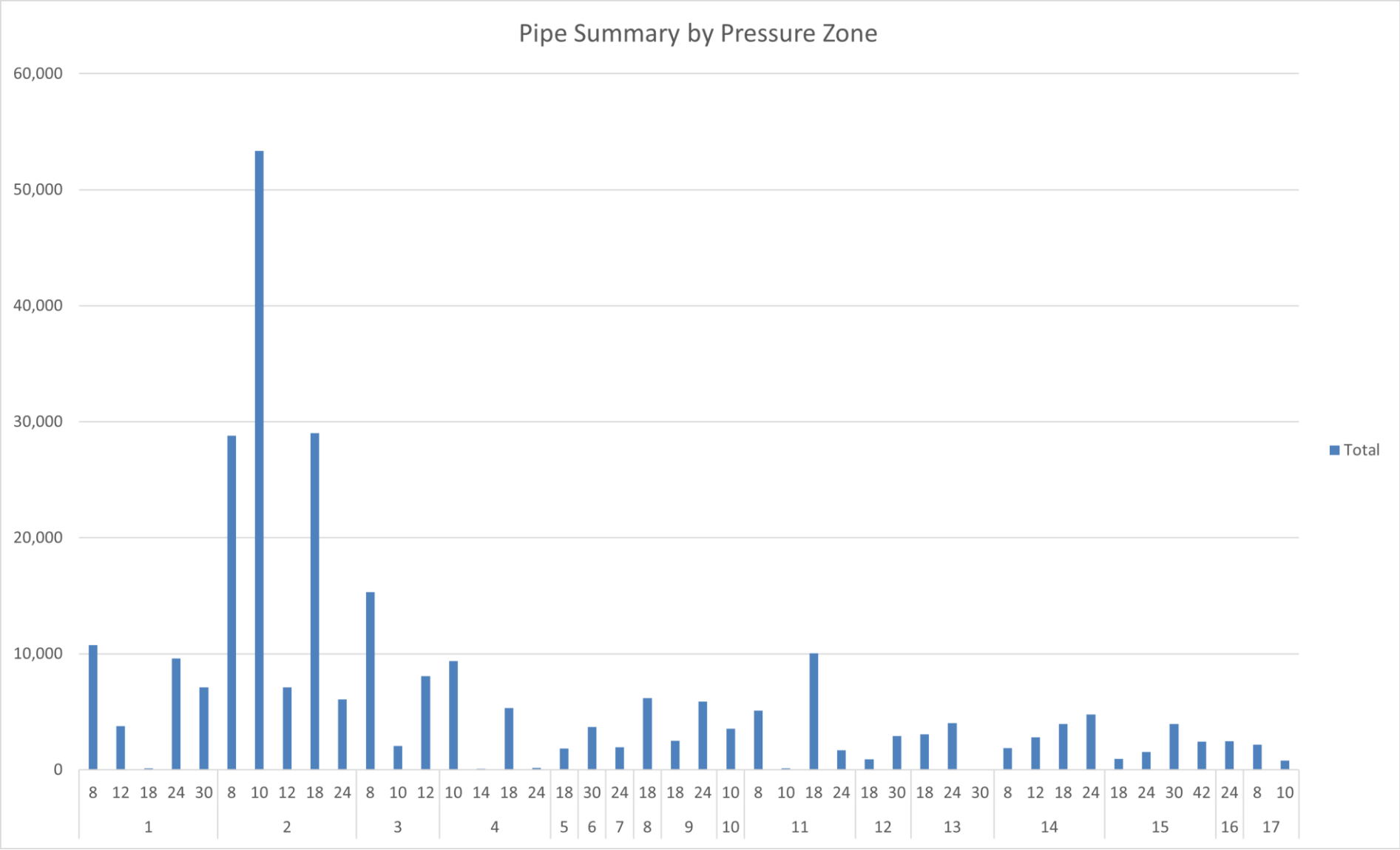


Figure 1.2. Pipe Summary by Pressure Zone

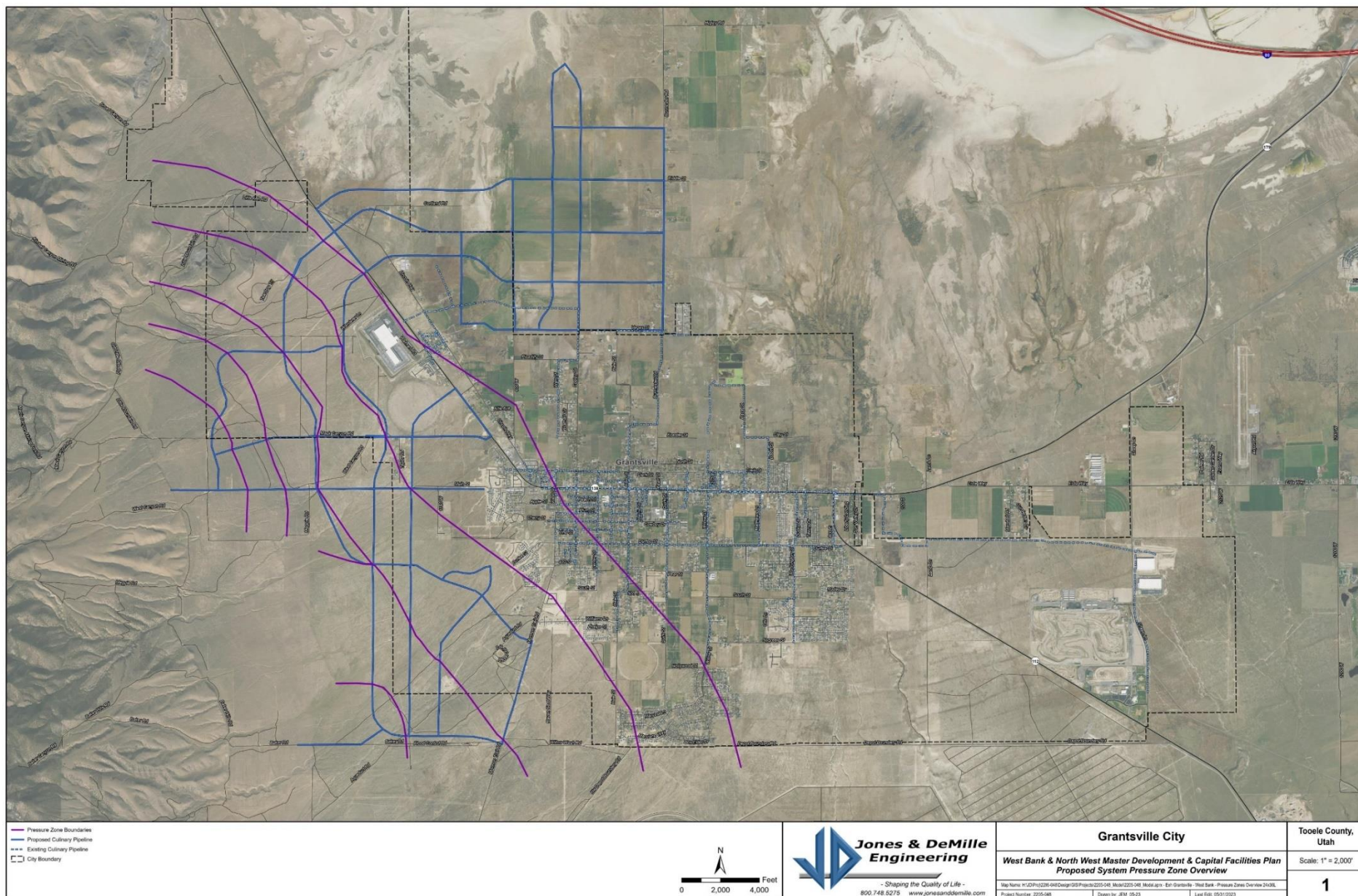


Figure 1.3. Proposed System Pressure Zone Overview

System Schematic - WM - Grantsville

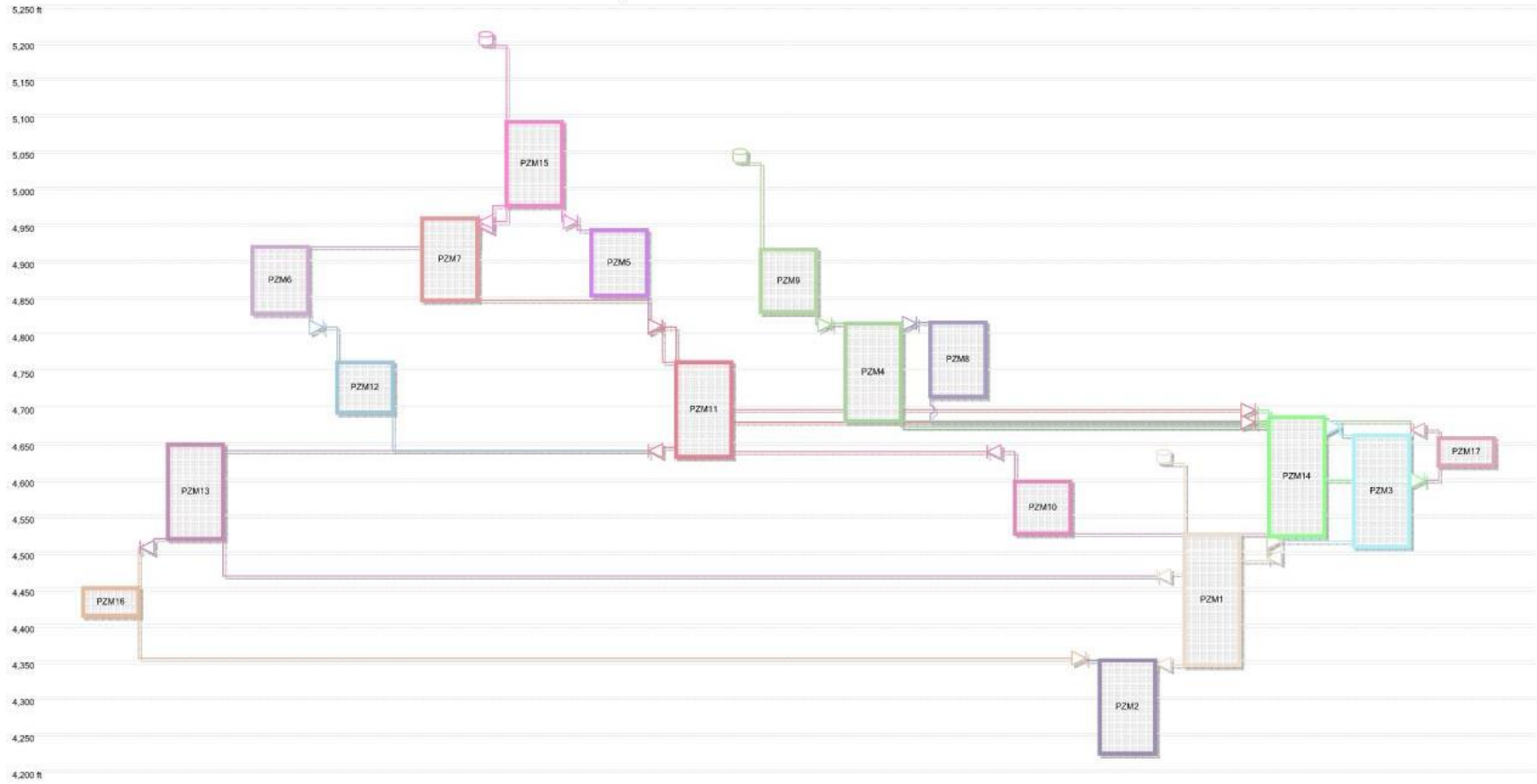


Figure 1.4. System Schematic

Sewer Water

Demand Assumptions

Demand assumptions refer to the underlying factors and considerations used to estimate the future wastewater generation and flow rates within the sewer system. These assumptions play a crucial role in determining capacity requirements and design parameters of the sewer infrastructure.

- **Data and Future Build-outs** – One of the primary demand assumptions made in the sewer water CFP was the reliability of average/historical data to forecast future sewer system demands. The demands were allocated based on the indoor water usage of the city. This water usage was calculated using the Land Use map and the State of Utah's code R309-510-8 Storage Volume for Indoor Use. See Table 2.1. Indoor Storage Volume Per Acre.

Potential factors that might affect future water usage patterns should be considered. Changes in population demographics, economic conditions, technological advancements, and water conservation practices could influence water consumption trends in the future. As such, periodic reviews and updates should be undertaken to ensure continual accuracy of demand assumptions.

- **Daily Peaking Factor** – The sewer model incorporates a daily peaking factor of 2.25. This factor assumes that the peak wastewater flow rate experienced during a typical day will be approximately 2.25 times higher than the average daily flow rate. This peaking factor is applied to account for fluctuations in water usage throughout the day.

Various factors contribute to the daily peaking factor, including residential and commercial activities, industry operations, and peak periods of water usage (e.g., morning and evening routines).

Table 2.1. Indoor Storage Volume Per Acre

Connection Type	Acres	ERUs	Indoor Storage Volume (gpd)	Indoor Water Use Per Acre (gpm/ac)	Total Water Use Per Acre (gpm/ac)
Attached Residential	458.00	2640.71	1,860,362	2.821	2.582
Mixed Residential	1696.00	7140.92	4,726,664	1.935	1.514
Detached Residential	2886.00	9396.99	3,758,796	0.904	0.938
Detached Rural Residential	954.00	1947.39	394,606	0.287	0.269
Churches	144.19	225.14	123,000.00	0.592	0.511
Civic Uses	73.36	63.67	9,000.00	0.085	0.072
Commercial	296.20	266	80,801.70	0.189	0.178
Flex Use/Distribution	917.19	1,236	570,581.55	0.432	0.409
Office	213.24	279	4,178.11	0.014	0.013
Open Space	1063.70	3,929	0.0	0.000	0.000
Outside Growth Boundary	328.12	1,269	0.0	0.000	0.000
Agriculture/ Sensitive Lands	683.39	2186.86	0.0	0.000	0.000
Schools	283.58	380.06	208,058	0.510	0.476
Total	9996.97	30,960.54	863,618.86		

By considering this factor in the sewer model, engineers and planners can design the system to accommodate peak demands and ensure its reliable performance — even during periods of high-water usage.

Worth noting, the peaking factor of 2.25 may vary depending on the specific characteristics of the area under consideration. Local data and historical trends should be analyzed to determine an appropriate peaking factor that aligns with the local water-usage patterns.

- **Assumptions for Planned Land Use** – The sewer capital facilities plan (CFP) incorporates assumptions regarding planned land use as outlined in the land use map. The land use map identifies the future allocation of land for various purposes, such as residential, commercial, industrial, institutional, or recreational use.

These assumptions consider the projected growth and development of the area, accounting for factors such as population growth, economic trends, and urban planning objectives. By aligning the sewer system design with planned land use, the CFP aims to accommodate the anticipated wastewater generation from different land-use categories.

However, land-use plans are subject to change due to evolving city needs, regulatory requirements, or shifts in priorities for development. As such, the demand assumptions should be periodically reviewed and updated to reflect any modifications or new information regarding planned land-use.

Model and Design Approach

Sewer modeling for Grantsville and the West Bank was accomplished using Storm and Sanitary Analysis (SSA).

SSA is a software tool developed by Autodesk, which is used for the analysis and design of stormwater and sanitary sewer systems. It is part of Autodesk's Civil 3D software suite and is primarily used by civil engineers and urban planners for infrastructure projects.

The process of modeling a sewer system using SSA involves several steps. The first step was to collect all the necessary data for modeling the sewer system. This included gathering information about the area's topography, land-use, existing infrastructure, and any relevant regulatory requirements.

Light Detection and Ranging (LiDAR) is surveying and imaging technology that is used in drones, airplanes and satellites to collect topographical data. LiDAR was used to collect elevations for the entire study area. The LiDAR data used was collected by the Utah Department of Emergency Management in 2018 and has a resolution of 1 meter per pixel, which is considered high-resolution for aerial and satellite imagery.

Using the collected data, a digital representation of the sewer system was created. This involved defining the pipe network, locating junction manholes, identifying required locations for lift stations, and other relevant components. The network was created using ArcGIS Pro and imported into SSA.

After the network was created, hydraulic properties such as pipe diameter, slope, roughness coefficients, and junction manhole depths need to be assigned to each component. These properties are essential for simulating the flow of water through the system accurately. PVC pipe was assumed for the piping with a roughness coefficient of 150.

After all hydraulic properties have been defined, flow simulations were performed by SSA to simulate the flow of water through the sewer system. The hydraulic calculation run by the program considers factors such as pipe capacity, flow rates, velocities, and water levels at different points in the network.

Gravity flow through pipelines was planned for all pipes where possible. The goal was to limit the number of lift stations needed, because these add to capital and maintenance costs. However, there were multiple locations where the elevations would not allow gravity flow to the sewer treatment plan, so lift stations were located in key locations to pump to the sewer plant.

ERU Projections

To accurately model the future sewer system, an Equivalent Residential User (ERU) calculation was made. ERUs are the standard method for allocating sewer demands in civil engineering. ERUs are used to create a baseline to compare sewer usage from different land-use categories. The basic unit of an ERU is a residential unit, which is one ERU. Other land-use categories — industrial or commercial, for example — may have much larger demands than a residential unit, and so more demand is allocated to those land-uses. For example, an industrial building may generate 15 times more waste, so the industrial land-use would have 15 ERUs compared to the 1 ERU for a residential unit.

ERUs are calculated by dividing the average residential sewer demand by the number of residential units.

$$ERU = \frac{\text{total residential sewer demand}}{\text{total \# of residential units}}$$

After the demand per ERU has been calculated, the number of ERUs can be found for the non-residential land-use categories. For modeling purposes, the value of indoor water use per acre was also calculated by dividing the total indoor water use for each connection type by the total acreage of each connection type, see Table 2.2. Indoor Water Use per Acre.

Table 2.2. Indoor Water Use Per Acre

Connection Type	Indoor Water Use Per Acre (gpm/ac)
Attached Residential	2.582
Mixed Residential	1.514
Detached Residential	0.938
Detached Rural Residential	0.269
Churches	0.511
Civic Uses	0.072
Commercial	0.178
Flex Use/Distribution	0.409
Office	0.013
Open Space	0.000
Outside Growth Boundary	0.000
Agriculture/ Sensitive Lands	0.000
Schools	0.476

Collection System

- Major Trunkline Layout and Sizing** – After multiple iterations and fine tuning, the optimized sewer model incorporated a range of pipe sizes, with most pipes being 8-12 inches in diameter. However, the trunkline connecting to the treatment facility is larger, so modeling indicated that the pipe needs to be 48 inches in diameter. The trunklines primarily rely on gravity flow to transport wastewater to the treatment facility. However, a significant number of pipes on the north end of the development require pumping through a lift station to reach the treatment facility. See Figure 2.1 Trunkline Overview for a layout of the sewer trunkline network along with sizes.

To comply with the State of Utah's code, R 317-3, which specifies pipe sizing and minimum slopes, some pipes in the system were upsized. This ensures adherence to the code requirements and promotes efficient wastewater flow. The connector branch leading to the treatment facility has a maximum flow of 20,000 gallons per minute (gpm) when accounting

for a peaking factor. Other pipes in the system have lower flows based on their position within the overall system.

The northeast end of the system presents unique topographical challenges, as it is considerably flatter compared to the rest of the system. As a result, this area requires pumping via a lift station, as it cannot rely on gravity flow alone.

- Lift Stations** – Much of the land to the north and northwest of the sewer plant lies lower in elevation and therefore cannot be gravity flowed to the sewer plant. Optimizations to the SSA model were made so that only two or three lift stations will be needed for final build-out. A second sewer model was created to analyze the challenge of collecting and conveying sewage from the lowest point in the system to the treatment facility. The second model anticipates the need for the construction of an intermediate lift station that could be phased out once the northernmost lift station is built.

The four lift stations are listed in Table 2.3. Lift Station Sizing Requirements below along with the required pumping flow and head. The lift station locations can also be found in Figure 2.2 Lift Station Overview. Initial conversations with City Public Works requested lift stations to handle flows of 1,500-2,000 gpm. However, this required significantly more lift stations that would cause significant long-term maintenance, therefore the number of identified lift stations were minimized.

Each lift station should be designed with multiple pumps. This provides redundancy, but also allows for pump additions to the lift stations as demand requires.

Lift Station #3 is termed as an intermediate lift station. Flow could gravity flow past this lift station to Lift Station #2. However, the decision to implement an intermediate lift station and phase it out later enables the sewer system to be built in manageable phases, avoiding the need to construct a large lift station located three miles from the treatment plant before any development occurs. This phased approach aligns the construction of lift stations with the pace of development, ensuring more efficient resource-allocation and cost-effectiveness. The flows in Table 2.3. Lift Station Sizing Requirements below for Lift Station #2 shows flows if Lift Station #2 were to phase out or remain.

The phased approach allows for gradual construction based on development progress, avoiding the need for a premature and distant lift station. By planning for the intermediate lift station's abandonment at the end of the final build-out, overall system maintenance could be reduced, resulting in improved efficiency and cost savings.

In summary, the design of the new sewer system prioritizes minimal impact on the existing system. By achieving gravity flow outside of the existing system, the need for costly upsizing of existing pipes and disruptive tie-ins is avoided. The impact on the existing system is primarily focused on the upsizing of the Northwest Lift Station to handle the increased flow from the new development.

Table 2.3. Lift Station Sizing Requirements

Lift Station	Lift Station Location	Flow Requirements (gpm)	Elevation Head (ft)
Lift Station #1	Burmester Road & Meadow Lane	7,287	43.00
Lift Station #2	40 38' 36.71 N 112 29' 09.66" E	2,625	24.96
Lift Station #3	Higley Road & Burmester Road	5,575 (with Lift Station #3 phased out) 3,475 (if Lift Station #3 remains)	28.00
Northeast Lift Station #4	Vegas Street	27,100 (Additional Flow)	Existing Head

Future Improvement Impacts on Existing System

- Existing Collector Sizes and Impacts** – The design of the new sewer system aims to minimize its impact on the existing system. This is primarily achieved by ensuring that gravity flow can be achieved outside of the existing system. By avoiding the need to tie the new system into the existing system, extensive and costly upsizing of multiple existing pipes is avoided. Instead, the new sewer lines are placed in largely undeveloped areas, reducing the need for disruptive and expensive construction work.

Connecting the new system to the existing system at multiple points outside of the collector to the treatment plant is deemed unnecessary and costly. It would require significant road repairs and replacements and could potentially disrupt the city residents. Therefore, it is not considered a beneficial option for the overall system.

The most notable impact of the new system on the existing system is the need to substantially upsize the Northwest Lift Station. This is necessary to accommodate the additional flow from the northern part of the development. This specific upgrade represents the primary interaction between the new and existing systems.

SEWER SYSTEM LAYOUT FIGURES

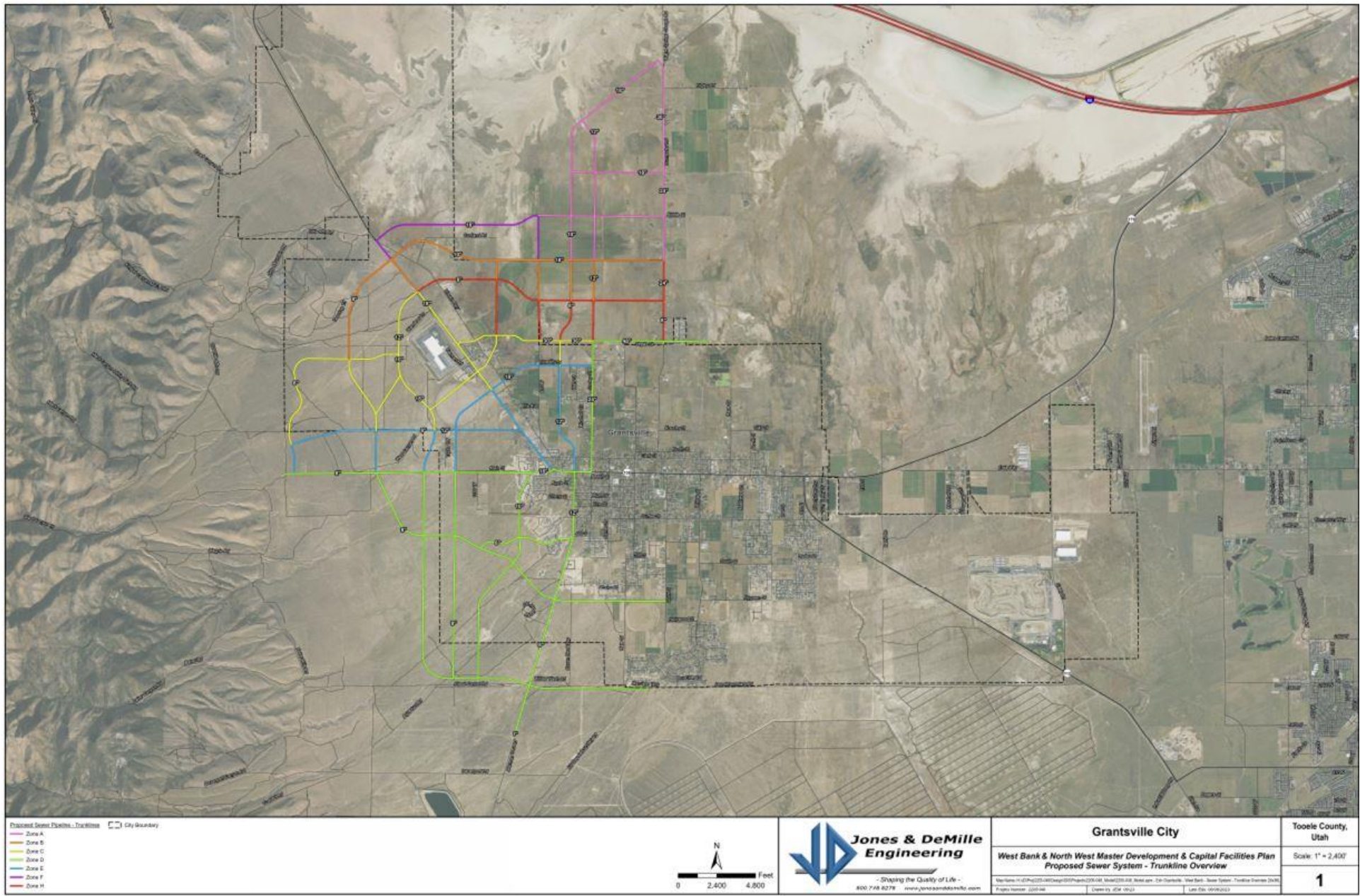


Figure 2.1. Trunkline Overview

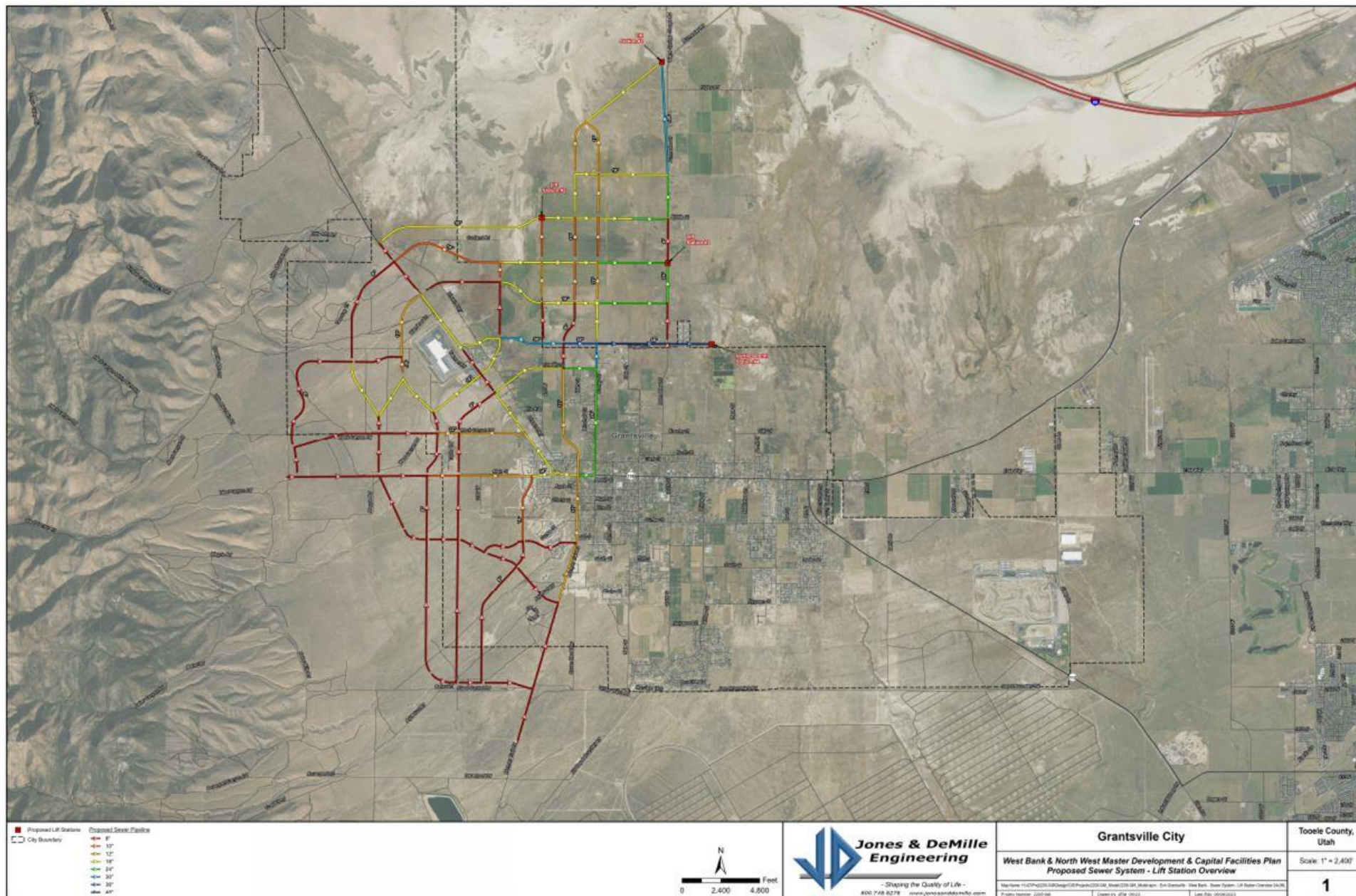


Figure 2.2. Lift Station Overview

Storm Water

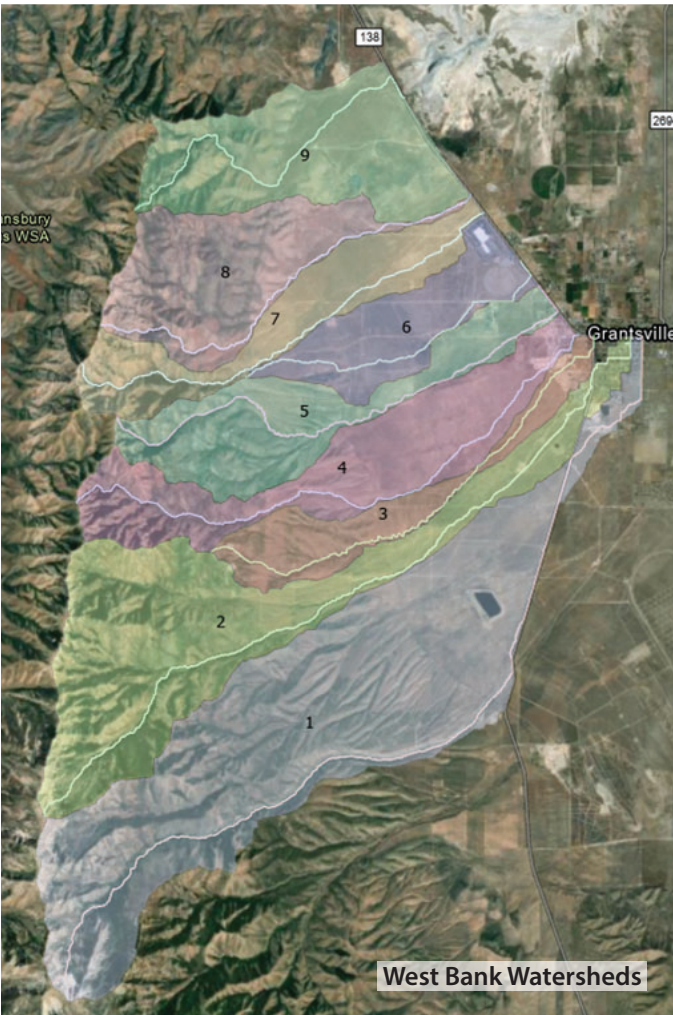
Major Flood Protection Infrastructure (External Flows)

Nine watersheds, shown in Figure 3.5. Project Area Basins, were identified as flowing either through or near the defined West Bank area. These watersheds along the West Bank of Grantsville are classified by steep mountain drainages in the upper portions of the watershed and a low-sloping valley before entering the Great Salt Lake. The alluvial nature of the watersheds presents a challenge to contain and convey external flows. Hydraulic calculations were performed for each watershed using a HEC-RAS 2D model. The 2D model was developed based on existing conditions to provide insight on flow behavior and the alluvial nature of the external flooding sources. Hydrologic and Hydraulic model inputs are further defined below.

- Defined Goals and Criteria** – The following goals and criteria were used to direct the analysis of the West Bank stormwater external flows:
 - Safely manage the 100-year 24-hour storm flows through or around the study area.
 - Prevent external inflows from entering man-made pipe and channel infrastructure as much as possible to reduce sediment removal and ongoing maintenance cost. This includes directing flows to open channel drainages as much as possible.
- Hydrologic Calculations** – To achieve the most accurate hydrologic calculations possible, the best data available was utilized. There are four major characteristics of a watershed that, if accounted for accurately, will increase the accuracy of the Hydrologic model. These four characteristics include the delineation of the watershed, curve number, time of concentration and the precipitation intensity that falls within the watershed. These inputs were modeled in the Army Corps HEC-HMS software to estimate peak flows from the nine watersheds.

LiDAR available from the Association of Governance, Risk and Compliance (AGRC) was used in ArcGIS to delineate nine sub-basins within the West Bank Study area. LiDAR data consisted of a 1-meter digital elevation model from 2018. These nine sub-basins drain through the proposed study area. Watersheds to the south also drain through the existing city and newly developed areas.

Figure 3.1. West Bank Watersheds shows the location of these watersheds overlayed on satellite imagery.



The nine identified sub-basins correlate with watersheds identified and named in previous studies including the City’s Capital Facilities Plan (Ensign Engineering 2022). The correlated watershed names are summarized in Table 3.1. Sub-Basin Number and Name.

Table 3.1. Subbasin Number and Name

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

Table 3.2. Area Weighted Curve Numbers

Subbasin	Subbasin Name	Area (Square Miles)	CN
1	South Willow and Coal Pit Canyon	20.1	68.26
2	North Willow Canyon	12.2	70.45
3	White Rocks	3.5	63.41
4	Baker Canyon	7.4	65.38
5	Pope Canyon	5.8	67.97
6	West Canyon 1	3.9	62.73
7	West Canyon 2	4.8	63.86
8	Dry Canyon	6	70.42
9	Unnamed	7.1	66.08

Curve Numbers (CNs) were assigned based on the best available data to estimate the runoff generated during storm events. Soil data was taken from the United States Department of Agriculture (USDA) 2Soil Survey Geographic Database (SSURGO) from 2022. Landcover Data from the National Land Cover Data (NLCD) from 2019 was used in combination with Soil data to estimate CN's. Area-weighted curve numbers were calculated from each of the 9 basins and can be seen in Table 3.2. Area Weighted Curve Numbers.

Rainfall data was taken from NOAA Atlas 14 for each sub-basin. Due to the elongated nature of the watersheds, an average rainfall over each watershed area was used for model inputs. In previous studies, a single point has been used as the rainfall in several basins. In upper portions of the South Willow watershed, the rainfall depth associated with a 100-year 24-hour storm event are as high as 4.55 inches, while locations within Grantsville are as low as 2.31 inches.

Due to the high variability in rainfall depth between the mountain regions of the basins and location within the city, the area averaged rainfall depth provides the best estimate for rainfall depth over the entirety of the watershed. Summary of rainfall depths for each basin can be seen in Table 3.4. NOAA Atlas Rainfall Depths.

Table 3.3. Lag Times for Each Identified Watershed

Subbasin	Subbasin Name	Longest Flow Path (ft)	Time of Concentration (min)	Lag Time (0.6*TOC) (min)
1	South Willow and Coal Pit Canyon	91,350	387	232
2	North Willow Canyon	76,760	299	180
3	White Rocks	47,800	352	211
4	Baker Canyon	57,600	346	208
5	Pope Canyon	51,580	271	163
6	West Canyon 1	31,490	343	206
7	West Canyon 2	45,200	275	165
8	Dry Canyon	41,500	168	101
9	Unnamed	36,000	200	120

The Time of Concentration (TOC), the time for water to flow from the most remote point in the watershed to the watershed outlet, for the basins were estimated using the Soil Conservation Services (SCS) Velocity Method as described in the National Engineering Handbook (NEH) Part 630 Chapter 15. Lag times — the time it takes a drainage to respond to a storm event — were also estimated using NEH Part 630 Chapter 15 (NRCS 2019). The times of concentration and lag times used for each basin are shown in Table 3.3. Lag Times for Each Identified Watershed.

Table 3.4. NOAA Atlas Rainfall Depths

Subbasin	Subbasin Name	NOAA Atlas Average Rainfall Depth (Inches)			
		10 Year 24 Hour	25 Year 24 Hour	50 Year 24 Hour	100 Year 24 Hour
1	South Willow and Coal Pit Canyon	2.28	2.67	2.97	3.27
2	North Willow Canyon	2.46	2.88	3.21	3.54
3	White Rocks	1.89	2.2	2.44	2.68
4	Baker Canyon	1.98	2.31	2.56	2.81
5	Pope Canyon	2.07	2.42	2.68	2.95
6	West Canyon 1	1.78	2.07	2.29	2.52
7	West Canyon 2	2.06	2.4	2.66	2.93
8	Dry Canyon	2.2	2.57	2.85	3.15
9	Unnamed	1.94	2.26	2.50	2.75

The nine watersheds were modeled using these hydrologic inputs, soil, landcover data and watershed areas in HEC-HMS. A frequency storm model was used to model the rainfall event using NOAA Atlas data. Modeled flows can be seen in Table 3.5. Existing Conditions Flow Summary.

Table 3.5. Existing Conditions Flow Summary

Subbasin	Subbasin Name	10 Year 24 Hour Peak Discharge (CFS)	25 Year 24 Hour Peak Discharge (CFS)	50 Year 24 Hour Peak Discharge (CFS)	100 Year 24 Hour Peak Discharge (CFS)
1	South Willow and Coal Pit Canyon	611	1207	1813	2582
2	North Willow Canyon	655	1171	1676.3	2300
3	White Rocks	19	72.4	142.4	242
4	Baker Canyon	105.5	298.2	525.4	832
5	Pope Canyon	161.1	360.1	573.1	849
6	West Canyon 1	13.2	69.8	155.5	286
7	West Canyon 2	57.8	176.3	319.7	516

This study's predicted flows are much higher than predictions from previous studies. A sensitivity analysis showed the discrepancy in rainfall data provided the reduced flows shown in the Storm Water Management Study (Aqua 2015). In this study, rainfall data was either taken at the bottom of both Baker Canyon and Pope Canyon watersheds, rather than taking it at the centroid as an average over the watershed area.

A detailed exhibit with the watersheds and estimated 100-year 24-hour peak flows is included in Figure 3.7. Stormwater 100-Year Flows.

- **Existing Conditions 2D Model** – A HEC-RAS 2D hydraulic model was developed to gain insight into the flow behavior and risk associated with external flows entering the study boundary.

The preliminary flood inundation model was developed by completing a paper study of the area which included using the best available public data, identifying any known culverts. LiDAR available from the Association of Governance, Risk and Compliance (AGRC) was used, which consisted of a 1-meter digital elevation model from 2018. Some development has occurred since 2018. After the preliminary

model was created it was run to evaluate the behavior of the model to see if preliminary results made sense. The model results were shared with the city and a site visit was arranged to further calibrate the model. A site visit in April of 2023 was conducted with key City personnel to explain how existing infrastructure conveyed storm water and known problem areas.

The site visit confirmed that developments to date have not incorporated infrastructure to convey or divert large external storm flows. Results from the 100-year storms with a 24-hour duration can be seen in Figure 8. Stormwater RAS Results.

The model results show the alluvial nature of the lower watersheds. An on-site visit in May of 2023

confirmed that natural drainage becomes shallow and branching as they proceed down the watershed. Sandy topsoil within the drainages is prone to erosion and redirection of these flows. Without major infrastructure to contain and direct flows to establish drainages external flows pose a significant flooding risk to the existing City and the Project area.



The site visits also showed major issues with current stormwater practices within existing development. Stormwater discharges from developments are directed under fences into downstream neighborhoods.



Instances of culverts across SR-138 into parking lots and backyards were also observed. In one location, a resident built a berm to protect their home from stormwater discharged by the culvert. Figure 3. Existing Drainage Obstructed by a Road shows a road has no inlet culvert directing flows over and down the roadway.

This obstruction to the major existing drainage is not only a hazard to the roadway infrastructure, but it also poses a risk to residents who would become trapped in their neighborhood if this road were to be flooded and washed out. This existing drainage terminates at a residential property near Mormon Trail, directing flows further into the city. See Figure 3.4. Aerial View of Existing Drainage Obstructed by a Road.

- **Proposed alternatives for major flood protection insurance** – Four alternatives for external stormflow were developed in coordination with Grantsville City. All four alternatives along with high-level cost estimates can be found in 4.2 Stormwater Alternatives Maps and Cost Estimates and are outlined below:
 - **Alternative 1** – Alternative 1 uses the concept of creating a cutoff ditch around the study boundary. Along the southern boundary of the study is an existing cutoff ditch. This alternative would extend the existing cutoff ditch around the development, directing the entirety of flows to the east. This would involve expanding the capacity of the existing cutoff ditch and extending it towards the north to the Great Salt Lake.



The cutoff ditch would be a large (approximately 45-feet wide and 10-feet deep with a 2:1 side slope) ditch to convey all the water from offsite around the city. The ditch would be armored to reduce the erosion potential caused by the high-water velocities and fine soil. The flow through the cutoff ditch would be as much as 9,500 CFS during a peak storm event. Preliminary cost estimates projected this would be the least expensive option. However, the feasibility of constructing the ditch with this alternative is at a disadvantage. For Alternative 1 to work correctly, most of the ditch would need to be built all at once, not allowing for construction in phases. The size of the ditch would also cut off access to the trails and recreation opportunities that the Stansbury Mountains provide.

- **Alternative 2** – Alternative 2 is similar to Alternative 1; however, it utilizes a large retention basin. Alternative 2 would improve and extend the existing cutoff ditch along the south boundary of the study to the east and north towards the Great Salt Lake. In addition, one large retention basin would be constructed in the center of the watersheds and new cutoff ditches would be used to direct flows towards the central basin. The ditches would be armored to reduce the erosion potential caused by the high-water velocities and fine soils. The large basin would then meter flows at a controlled rate through the city in an armored channel.

Like Alternative 1, Alternative 2 did not give very much flexibility to phase in improvements as development occurred. The alternative requires the construction of a very large detention basin to contain all the flows, the construction of which would be very costly. This basin would likely need to be maintained as a medium- to high-hazard dam due to its location and the risk it could pose to the developments below it.

- **Alternative 3** – Also like Alternative 1, Alternative 3 would only use cutoff ditches to direct flow around the city. This alternative would intercept half of the external flows from the west and all the water coming from the south before routing them to the existing cutoff ditch along the south boundary of the study to ultimately continue to the east through the cutoff ditch and north towards the Great Salt Lake.

The other half of the flows would be captured by constructing a new cutoff ditch to direct flows to the Northwest and then towards the Great Salt Lake. The ditches would be armored to reduce the erosion potential caused by the high-water velocities and fine soils.

The disadvantages of Alternative 3 were the same as Alternative 1 but with a higher construction cost due to the increased length of channel. This alternative was not selected as the preferred alternative.

- **Alternative 4** – Alternative 4 would construct five debris/detention basins across the watersheds with smaller cutoff ditches to convey flows to these basins. Two of the Basins would be located along the existing cutoff ditch, and improvements to it would be needed. The existing ditch would need to be extended to the east and north to convey stormwater towards the Great Salt Lake. The cutoff ditches needed to route water to each of the basins will be armored to reduce the erosion potential caused by the high-water velocities and fine soils. Channels through the city would also need to be armored and improved to handle flows from the five basins.

Alternative 4 is advantageous because it allows for flexibility to phase-in construction of the improvements when they are needed rather than having to build it all at once. The basins and cutoff ditches also could be slid upstream or downstream of the watershed to allow room for development if needed. In coordination with Grantsville City, Alternative 4 was identified as the preferred alternative. Alternative 4 best aligns with the city's goals while allowing phased construction. Individual basins will also allow for alternative placement, accounting for additional future development.

- **Funding opportunities for major flood protection infrastructure** – Due to the nature of the large-scale infrastructure needed to handle storm flows and the high-dollar amount associated with the needed infrastructure, several funding opportunities were identified. Federal Funding opportunities require a benefit-cost-analysis of impacts to existing infrastructure to assess the economics of funding.

Strategic planning to maximize the benefit-cost-analysis may be required to take full advantage of these opportunities. Funding opportunities are summarized and identified below.

The Natural Resources Conservation Service (NRCS) provides funding through what is commonly referred to as The Watershed Protection and Flood Prevention Act (PL-566). PL566 requires direct benefits to rural communities and has varying cost-share requirements based on the primary purpose of the project. For flood control projects, the PL-566 program will pay 100 percent of construction costs, excluding culverts and roadway crossings as well as any property rights (e.g., land purchase, easements, or water rights). This process involves an initial Preliminary Investigation Feasibility Study (PIFR), Environmental Assessment or Environmental Impact Statement (EA or EIS), and final design and construction phases. This process typically takes three to five years to reach the construction phase. Grantsville City would need to reapply for funding at each stage and be accepted. Design and planning costs are covered by the NRCS, expecting direct city involvement. To apply to have a PIFR completed, a simple letter outlining the project's needs can be submitted to the Utah NRCS.

FEMA funds flood protection projects through several programs, including the Building Resilient Infrastructure and Communities (BRIC) program. The program will fund up to 75 percent of the total project costs. Typically, a scoping study is completed before final design and construction funding is applied for, requiring a two-stage process. Like the PL-566 process, the BRIC funding process typically takes three to five years to reach construction.

Note that both FEMA and NRCS funding comes through the federal government, and federal funds cannot be used as a match for either source. However, both funding programs can be applied to a project if there are standalone parts of the project.

Another potential source of funding could arise from developing an impact fee assessment. This would involve developing an impact fee for developers when they direct their stormwater into existing infrastructure. Impact fees would require the city to develop the needed infrastructure before development could occur. Impact fees could be implemented to pay back infrastructure not covered by grant funding.

Individual Site Development (Internal)

- **Site Development Goals** – Goals for internal flows of the West Bank stormwater project are defined below:
 - Eliminate increased peak runoff which naturally occurs with development due to an increase in imperviousness (i.e., do not increase downstream flows from pre-development or existing/natural conditions).
 - Define and maintain capacity in major conveyance features, such as regional detention basins, channels, culverts, and other infrastructure that is existing or proposed.
 - Require site-specific solutions to be implemented for conveyance and detention/retention as required to maintain pre-development flows.
 - Recommend criteria to include in Grantsville City storm drainage manual for development adherence.
- **Site development criteria and requirements** – The recommended on-site stormwater criteria will require that an analysis be performed by the developer and approved by the designated City engineer. The analysis should involve enough detail to provide assurance that the developed area does not pose a flood risk to residents downstream of or within the development. The requirements in terms of the analysis, approach, and report submittal are outlined below:
 - **Hydrology Methods**
 - Utilize the SCS or TR-55 method for sizing of conveyance and detention/retention facilities within adherence to the methodology guidelines.
 - The Rational Method may be used for sizing of conveyance features only within adherence to the methodology guidelines.
 - **Considerations for offsite and onsite drainage**
 - Drainage designs must consider offsite drainage in the analysis and how to safely convey any offsite drainage through the development. The drainage study should clearly show and analyze the offsite and onsite drainage and pre-development and post-development conditions.
 - **Conveyance**
 - Size all minor conveyance, including stormdrain inlets and piping to major conveyance features for a minimum of the 10-year 24-hour storm event.

- Size all major conveyance, including storm drainage piping connecting to inlets and minor piping for a minimum of the 50-year 24-hour event.
- The combination of conveyance features such as piping, ditches, swales, curb and gutter, must convey the 100-year 24-hour storm event to any detention and retention facilities.
- Minimum pipe diameter: 15 inches.
- **Detention/Retention Basins**
 - Size all detention, retention, or a combination or detention and retention basins to release a maximum peak flow equal to the 10-year 24-hour and 100-year 24-hour pre-development peak flow.
 - Design detention/retention facilities with a minimum of 1 foot of freeboard.
 - If the entire drainage area cannot be routed to the detention/retention basins, increase size/effectiveness of the detention pond to compensate for areas that are released without being routed through the detention/retention basins.
- **Combination of Conveyance and Detention/Retention**
 - The combination of conveyance and detention/retention must show that pre-development flows downstream of the development are maintained in the post-development condition, and the combination must consider offsite and onsite flows. This will ensure that downstream infrastructure continues to have sufficient capacity.
 - Identify major drainage features upstream and downstream affecting the development, particularly major drainage features which will receive flow from the development.
- **FEMA Floodplains**
 - Drainage studies must identify and consider impacts to existing FEMA floodplains. If the development is within a current effective FEMA floodplain, a floodplain development permit is required. This permit may require additional analysis, studies, and coordination to meet the community, state, and federal FEMA requirements (see standard floodplain development permit).
 - Identify any floodplain map boundaries on maps and figures.
- **Drainage Report**
 - Drainage reports should be well-written with maps, figures, and tables addressing each of the required criteria above.
 - Show all references, criteria, guidelines, models, and other information used.
 - Clearly identify pre-development and post-development flows, drainage areas, etc.
 - The appendix should include model inputs/outputs, and other pertinent information.
 - The drainage models used should be submitted with the report.
 - Reference the existing and proposed major drainage features in the project area.
- **Regional Basin Locations** – Regional basin locations are recommended as shown in Figure 3.8. Stormwater RAS Results. Regional basins would allow for a reduced crossing of Highway 138 and downstream infrastructure and channels. Downstream infrastructure will be required to convey non-attenuated flows if regional basins are not used in strategic locations. Basins should be placed low enough to retain storm flows from the designated drainage pathways and high enough to substantially benefit from reduced infrastructure and channel sizes.

Additional basins were considered on the east side of SR-138; however, they did not provide much advantage to the overall system. Once flows have reached any area on the other side of SR-138, attenuated flows do not benefit from reduced infrastructure.

References

- Aqua Engineering. 2015. "Storm Water Management Study for Baker and Pope Watersheds Grantsville City and Tooele County."
- Chow, V.T., 1959, Open-channel hydraulics: New York, McGraw-Hill Book Co., Chapter 5.
- Ensign Engineering. 2022. "Capital Facilities Plan, Impact Fee Facilities Plan, and Impact Fee Analysis Updates."
- NOAA. 2019. "NOAA Atlas 14 Precipitation Frequency Estimates in GIS Compatible Format."
- U.S. Department of Agriculture, Soil Conservation Service, June 1986, Urban Hydrology for Small Watersheds, Technical Release 55.
- USDA. 2022. "Soil Survey Geographic Database."
- USGS. 2019. "National Land Cover Database."

Page Intentionally Left Blank

SUPPLEMENTARY MAPS

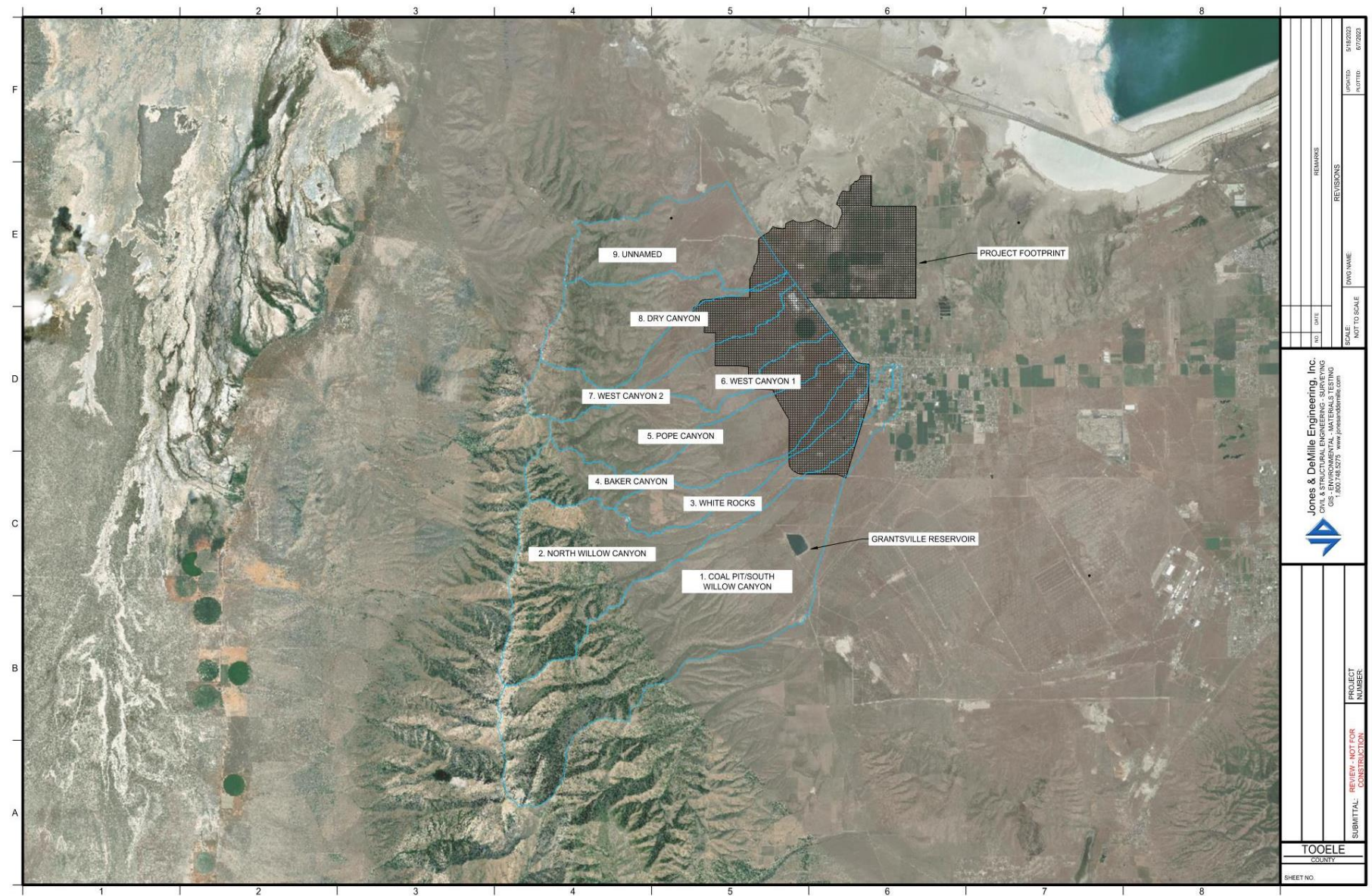


Figure 3.5. Project Area Basins

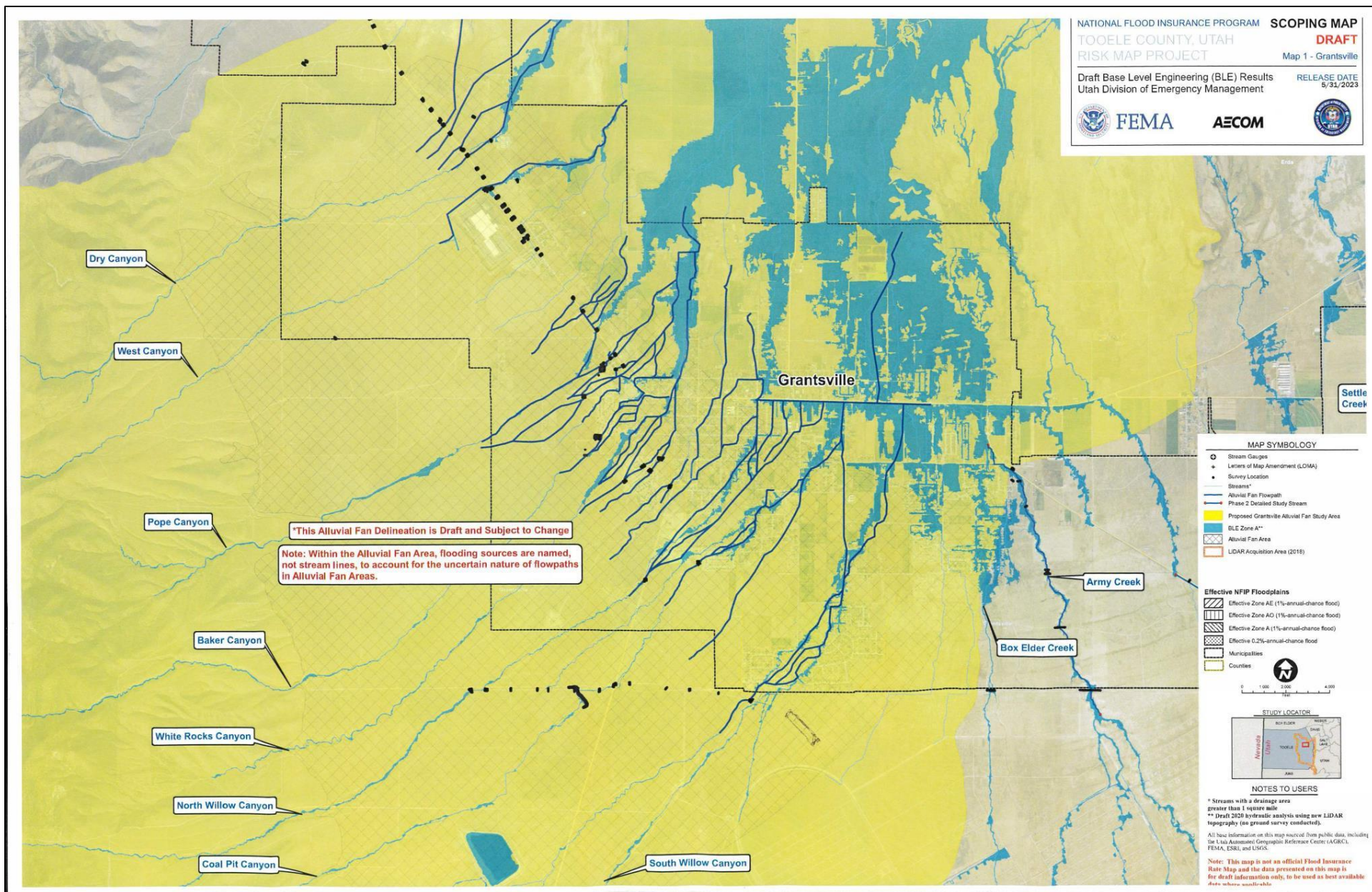


Figure 3.6. FEMA Map Draft Base Level Engineering Results

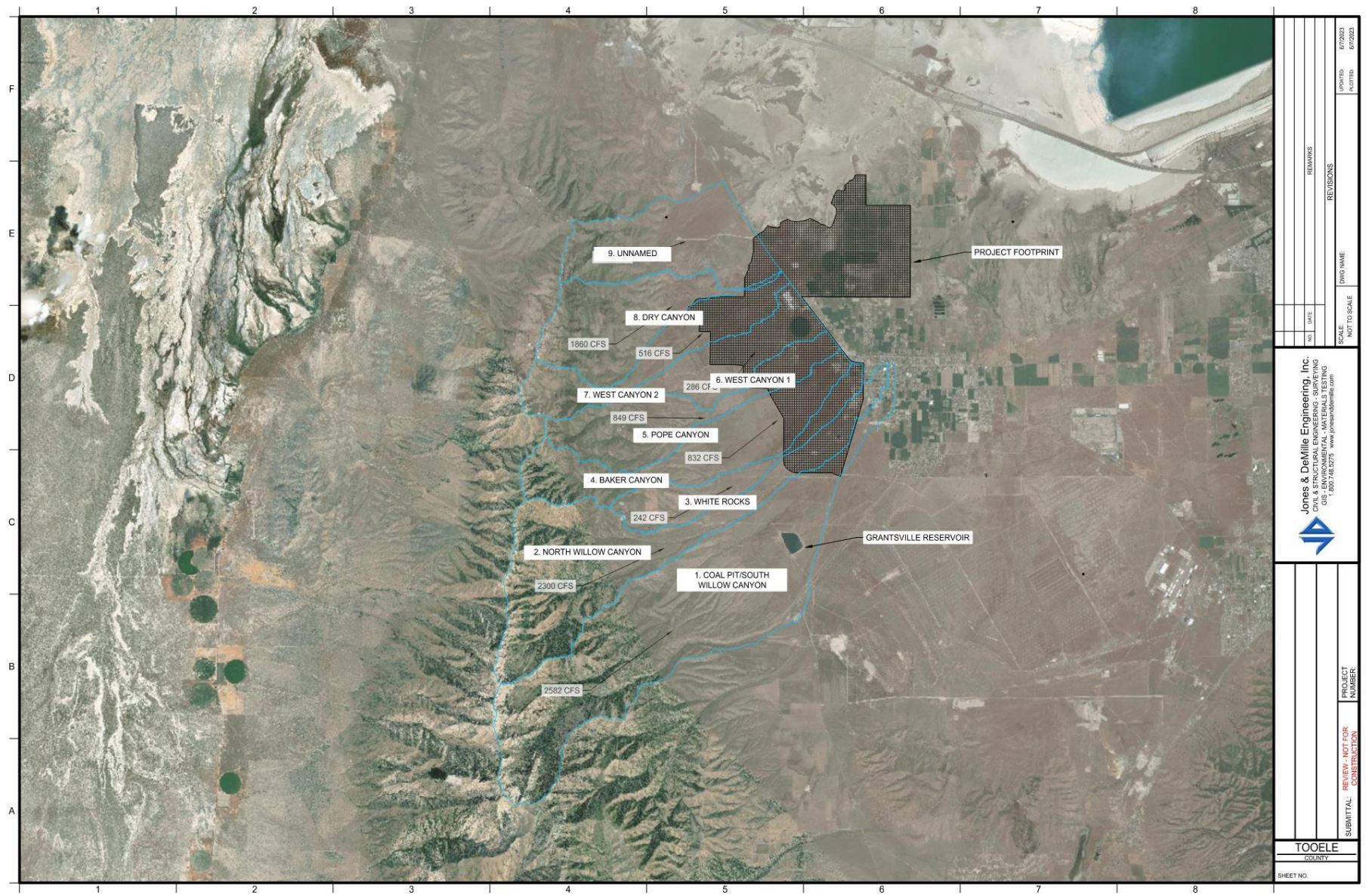


Figure 3.7. Stormwater 100-Year Flows

4.2. STORMWATER ALTERNATIVES MAPS AND COST ESTIMATES

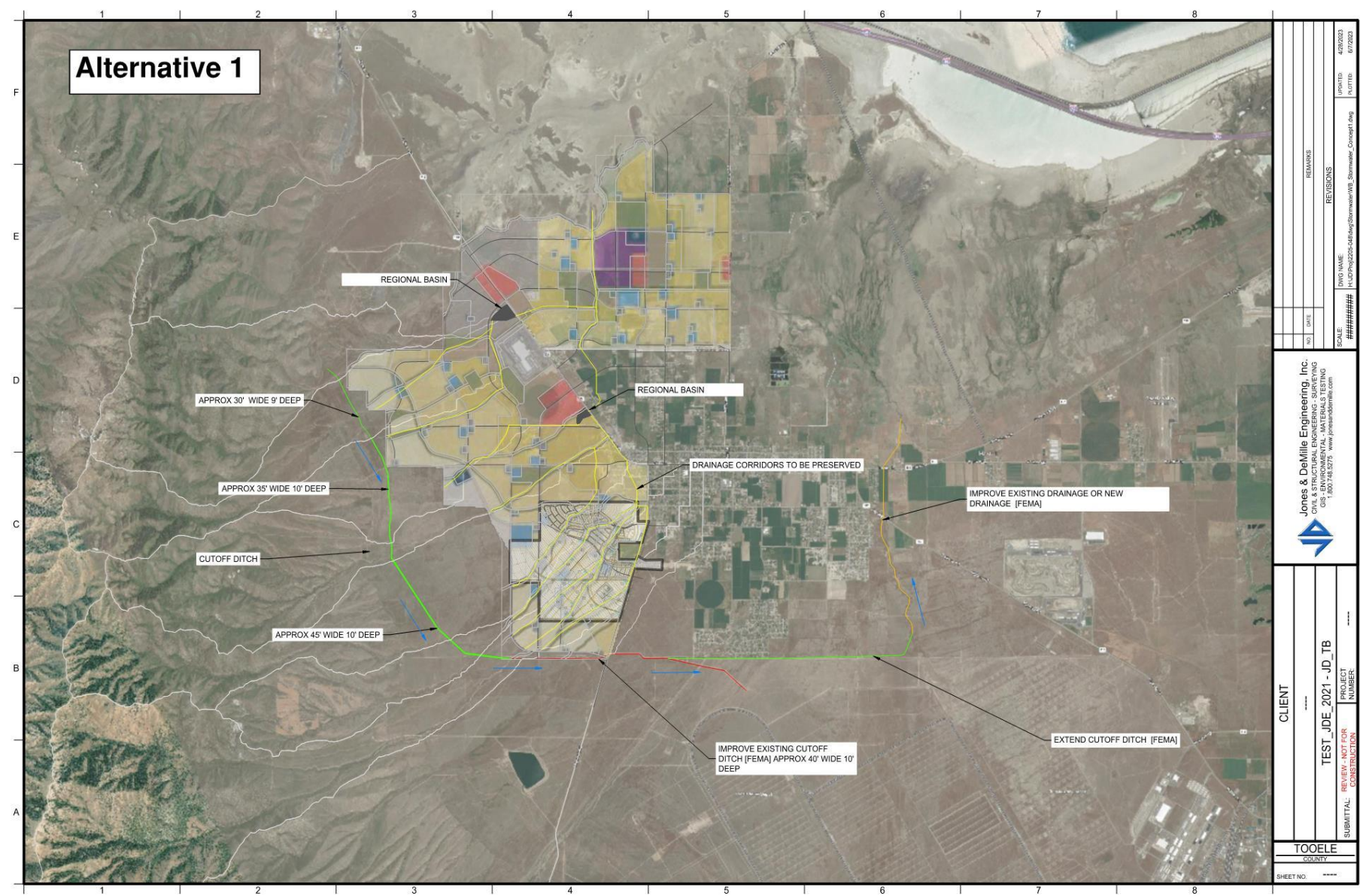


Figure 3.9. Stormwater Alternative 1 Map

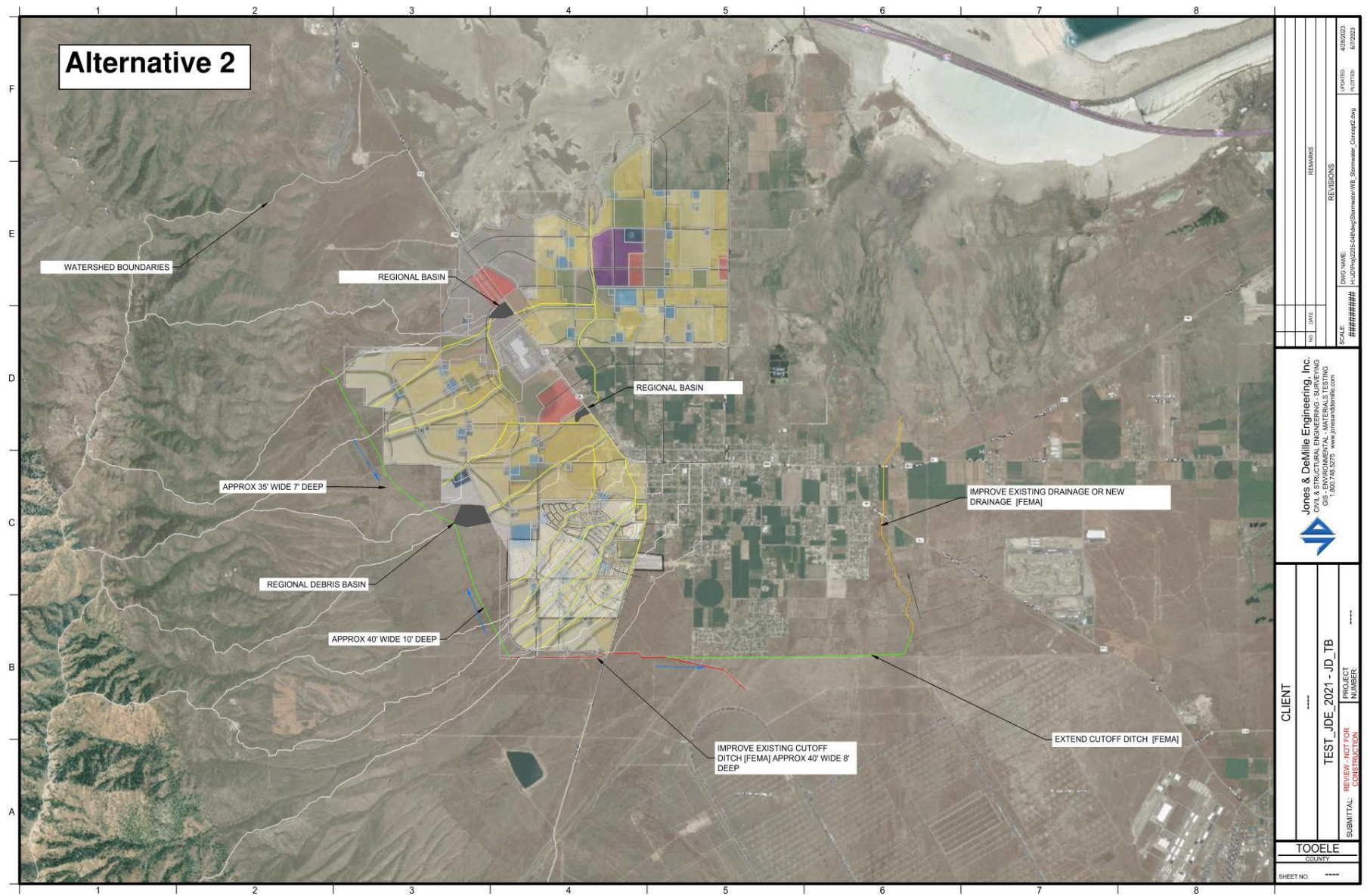


Figure 3.10. Stormwater Alternative 2 Map

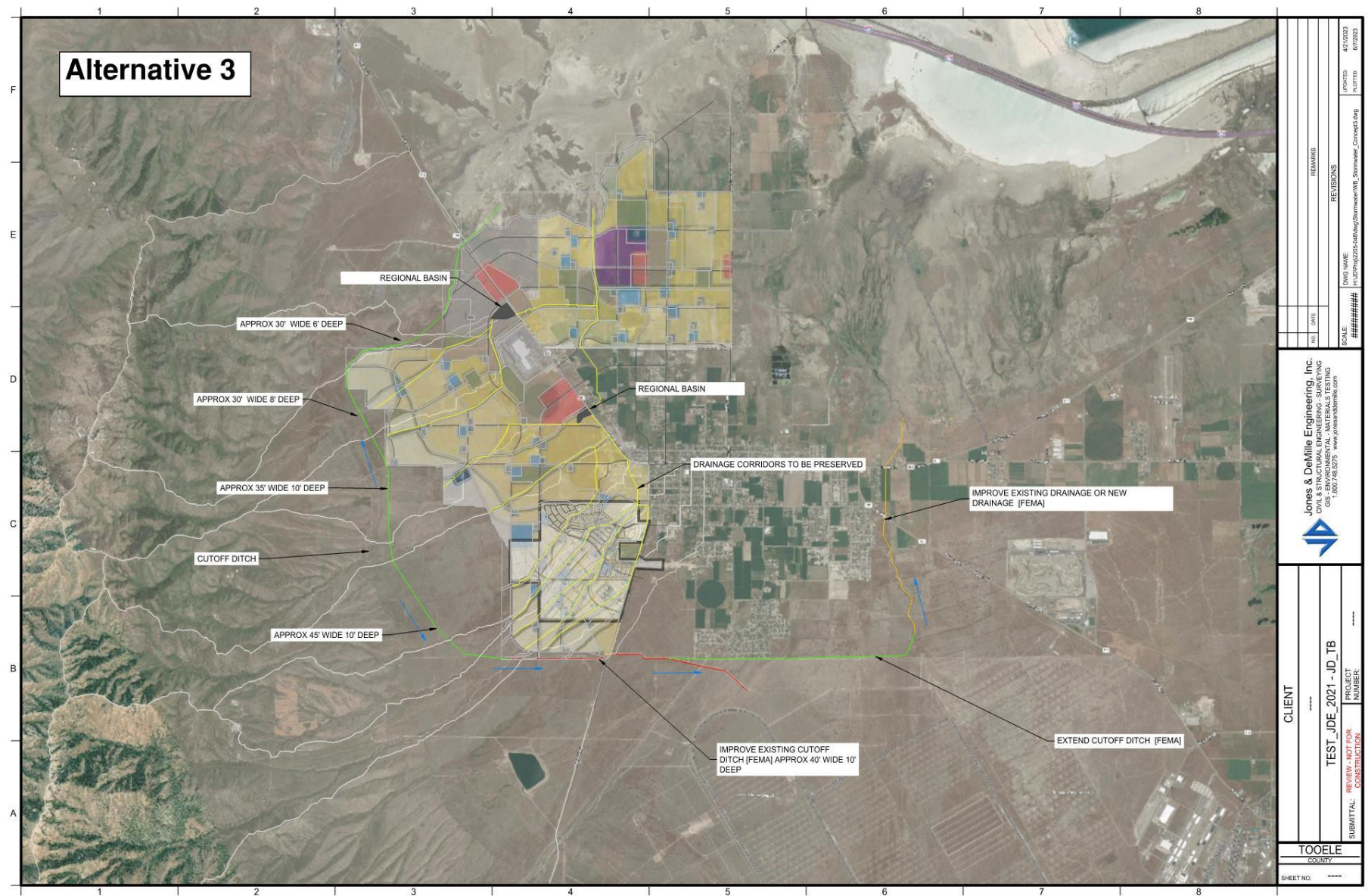


Figure 3.11. Stormwater Alternative 3 Map

Owner: Granstville City
Project: West Bank Stormwater Master Plan
Project #: 2205-048
PM: Matt Laurendeau
Date: 4/21/2023



1-800-748-5275
www.jonesanddemille.com

Alternative 1

ENGINEER'S OPINION OF PROBABLE COST					
Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Price
Construction					
1	Mobilization and Survey	LS	1	\$ 5,000,000.00	\$ 5,000,000.00
2	Channel Excavation	CY	770,000	\$ 9.00	\$ 6,930,000.00
3	Channel Riprap (9" D50 1.5' thick)	CY	250,000	\$ 90.00	\$ 22,500,000.00
4	Road Crossings	LS	1	\$ 5,000,000.00	\$ 5,000,000.00
5	Land Acquisition	LS	1		\$ -
6	Acquire Additional Channel ROW	Acre	200	\$ 100,000.00	\$ 20,000,000.00
7	General Site Improvements	LS	1	\$ 1,000,000.00	\$ 1,000,000.00
Construction Subtotal =					\$ 59,430,000.00
Professional Services and Permitting					
1	Engineering Design	LS	1	\$ 11,886,000.00	\$ 11,886,000.00
2	Construction Management	LS	1	\$ 5,943,000.00	\$ 5,943,000.00
3	Environmental Permitting	LS	1	\$ 500,000.00	\$ 500,000.00
Professional Services and Permitting Subtotal =					\$ 18,329,000.00
Contingency					
1	Construction Contingency (30%)	LS	1	\$ 17,829,000.00	\$ 17,829,000.00
2	Uncosted Items (10%)	LS	1	\$ 5,943,000.00	\$ 5,943,000.00
Contingencies Subtotal =					\$ 23,772,000.00
Total Probable Construction Cost					\$ 101,531,000.00

Figure 3.13. Stormwater Alternative 1 Cost Estimate

Owner: Granstville City
Project: West Bank Stormwater Master Plan
Project #: 2205-048
PM: Matt Laurendeau
Date: 4/21/2023



1-800-748-5275
www.jonesanddemille.com

Alternative 2

ENGINEER'S OPINION OF PROBABLE COST					
Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Price
Construction					
1	Mobilization and Survey	LS	1	\$ 7,500,000.00	\$ 7,500,000.00
2	Channel Excavation	CY	670,000	\$ 9.00	\$ 6,030,000.00
3	Channel Riprap (9" D50 1.5' thick)	CY	230,000	\$ 90.00	\$ 20,700,000.00
4	Road Crossings	LS	1	\$ 4,000,000.00	\$ 4,000,000.00
5	Debris Basin	LS	1	\$ 31,000,000.00	\$ 31,000,000.00
6	Land Acquisition	LS	1		\$ -
7	Acquire Additional Channel ROW	Acre	200	\$ 100,000.00	\$ 20,000,000.00
8	General Site Improvements	LS	1	\$ 1,000,000.00	\$ 1,000,000.00
Construction Subtotal =					\$ 89,230,000.00
Professional Services and Permitting					
1	Engineering Design	LS	1	\$ 17,846,000.00	\$ 17,846,000.00
2	Construction Management	LS	1	\$ 8,923,000.00	\$ 8,923,000.00
3	Environmental Permitting	LS	1	\$ 500,000.00	\$ 500,000.00
Professional Services and Permitting Subtotal =					\$ 27,269,000.00
Contingency					
1	Construction Contingency (30%)	LS	1	\$ 26,769,000.00	\$ 26,769,000.00
2	Uncosted Items (10%)	LS	1	\$ 8,923,000.00	\$ 8,923,000.00
Contingencies Subtotal =					\$ 35,692,000.00
Total Probable Construction Cost					\$ 152,191,000.00

Figure 3.14. Stormwater Alternative 2 Cost Estimate

Owner: Granstville City
 Project: West Bank Stormwater Master Plan
 Project #: 2205-048
 PM: Matt Laurendeau
 Date: 4/21/2023



1-800-748-5275
www.jonesanddemille.com

Alternative 3

ENGINEER'S OPINION OF PROBABLE COST					
Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Price
Construction					
1	Mobilization and Survey	LS	1	\$ 7,000,000.00	\$ 7,000,000.00
2	Channel Excavation	CY	850,000	\$ 9.00	\$ 7,650,000.00
3	Channel Riprap (9" D50 1.5' thick)	CY	350,000	\$ 90.00	\$ 31,500,000.00
4	Road Crossings	LS	1	\$ 5,000,000.00	\$ 5,000,000.00
6	Land Acquisition	LS	1		\$ -
7	Acquire Additional Channel ROW	Acre	350	\$ 100,000.00	\$ 35,000,000.00
8	General Site Improvements	LS	1	\$ 1,000,000.00	\$ 1,000,000.00
Construction Subtotal =					\$ 86,150,000.00
Professional Services and Permitting					
1	Engineering Design	LS	1	\$ 17,230,000.00	\$ 17,230,000.00
2	Construction Management	LS	1	\$ 8,615,000.00	\$ 8,615,000.00
3	Environmental Permitting	LS	1	\$ 500,000.00	\$ 500,000.00
Professional Services and Permitting Subtotal =					\$ 26,345,000.00
Contingency					
1	Construction Contingency (30%)	LS	1	\$ 25,845,000.00	\$ 25,845,000.00
2	Uncosted Items (10%)	LS	1	\$ 8,615,000.00	\$ 8,615,000.00
Contingencies Subtotal =					\$ 34,460,000.00
Total Probable Construction Cost					\$ 146,955,000.00

Figure 3.15. Stormwater Alternative 3 Cost Estimate

Owner: Granstville City
 Project: West Bank Stormwater Master Plan
 Project #: 2205-048
 PM: Matt Laurendeau
 Date: 4/21/2023



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	\$ 7,500,000.00	\$ 7,500,000.00
2	Channel Excavation	CY	530,000	\$ 9.00	\$ 4,770,000.00
3	Channel Riprap (9" D50 1.5' thick)	CY	225,000	\$ 90.00	\$ 20,250,000.00
4	Road Crossings	LS	1	\$ 2,000,000.00	\$ 2,000,000.00
5	Debris Basins	LS	1	\$ 27,500,000.00	\$ 27,500,000.00
6	Land Acquisition	LS	1		\$ -
7	Acquire Additional Channel ROW	Acre	340	\$ 100,000.00	\$ 34,000,000.00
8	General Site Improvements	LS	1	\$ 1,000,000.00	\$ 1,000,000.00
Construction Subtotal =					\$ 96,020,000.00
Professional Services and Permitting					
1	Engineering Design	LS	1	\$ 19,204,000.00	\$ 19,204,000.00
2	Construction Management	LS	1	\$ 9,602,000.00	\$ 9,602,000.00
3	Environmental Permitting	LS	1	\$ 500,000.00	\$ 500,000.00
Professional Services and Permitting Subtotal =					\$ 29,306,000.00
Contingency					
1	Construction Contingency (30%)	LS	1	\$ 28,806,000.00	\$ 28,806,000.00
2	Uncosted Items (10%)	LS	1	\$ 9,602,000.00	\$ 9,602,000.00
Contingencies Subtotal =					\$ 38,408,000.00
Total Probable Construction Cost					\$ 163,734,000.00

Figure 3.16. Stormwater Alternative 4 Cost Estimate

Geotechnical Report

Field Exploration

- **Test Pits** – A total of eight (8) possible test pit locations were selected. Out of these original locations, five (5) were completed on April 12, 2023. The other three (3) were not completed due to accessibility issues and limited time. The test pits were excavated by Direct Push Services using a mini hydraulic excavator to depths of approximately 6 to 8 feet below the existing ground surface. The subsurface soil and groundwater conditions were logged in the field by an Atlas field representative. Disturbed bulk soil samples were recovered at approximate depth intervals.

The location of the test pits is shown on Figure A1 in Appendix A. Test pits 2, 5, and 6 were not completed, so these are not included on Figure A1. The test pit logs with descriptions of the various soils encountered in each exploration are also included in Appendix A.

- **Laboratory Testing** – Laboratory tests were performed on selected samples to determine the physical and engineering properties of the subsurface soils. Results of the laboratory testing are presented on the boring logs and in Appendix B. The following soil tests were performed for this study.
 - **Moisture Content (ASTM D2216)** – Moisture tests were conducted on selected samples to measure the in-place moisture content of the subsurface soils. Moisture content provides information for evaluating the physical characteristics of subsurface soils.
 - **Particle Size Analysis (Wet and Dry Sieve) or Fines Content (ASTM D422 or D1140)** – Sieve analysis or fines content (minus No. 200 sieve) tests were conducted on selected samples to determine the soil particle size distribution. This information is useful for characterizing the soil type according to the USCS.
 - **Compaction Test, i.e. Standard Proctor (ASTM D698)** – Test to evaluate the optimum moisture content at which a soil will achieve its maximum density were performed on representative samples. This information can be used as a correlation to soil strength and suitability for supporting applied loads.

Subsurface Conditions

- **Geologic Description** – The geology map (Clark et al, 2020) is provided on Figure A2 in Appendix A. The approximate test pit locations are shown as blue circles. The description of the identified soils with the approximate project extents include:
 - **Qa; Alluvium, undivided (Holocene)** – Primarily clay, silt, and sand deposited in a broad, flat area in northern Tooele Valley; sediment reflects local sources; locally merges with alluvial-fan deposits and playa mud, and locally includes lacustrine and eolian deposits; thickness generally less than about 20 feet (6 m)
 - **Qafy; Younger fan alluvium, post-Lake Bonneville (Holocene to uppermost Pleistocene)** – Poorly sorted gravel, sand, silt, and clay; deposited by streams, debris flows, and flash floods on alluvial fans and in mountain valleys; merges with unit Qal; includes alluvium and colluvium in canyon and mountain valleys; may include areas of eolian deposits and lacustrine fine-grained deposits below the Bonneville shoreline; includes active and inactive fans younger than Lake Bonneville, but may also include some older deposits above the Bonneville shoreline; in Puddle Valley and west of Cedar Mountains commonly includes eolian silt and sand cover typically less than 6 feet (2 m) thick; locally, unit Qafy spreads out on lake terraces and, due to limitations of map scale, is shown to abut Lake Bonneville shorelines even though it is not cut by these shorelines; Qafy also locally drapes over, but does not completely conceal shorelines; thickness variable, up to 50 feet (15 m) or more.
 - **Qla; Lacustrine and alluvial deposits, undivided (Holocene to upper Pleistocene)** – Sand, gravel, silt, and clay; consists of alluvial deposits reworked by lakes, lacustrine deposits reworked by streams and slope wash, and alluvial and lacustrine deposits that cannot be readily differentiated at map scale; grade into other lacustrine and alluvial deposits; west of Cedar Mountains includes more sand than typical gravelly exposures elsewhere, probably due to source material; in Puddle Valley and west of Cedar Mountains commonly includes eolian silt and sand cover commonly less than 6 feet (2 m) thick; thickness locally exceeds 30 feet (10 m).

- **Qlf; Lacustrine fine-grained deposits (Holocene to upper Pleistocene)** – Sand, silt, marl, and calcareous clay of Great Salt Lake and Lake Bonneville; thin to very thick bedded; may include ostracode- and gastropod-rich layers; locally includes the white marl of Gilbert (1890); locally may include small areas of sand and gravel; can include thin eolian sand deposits at surface; in Puddle Valley and west of Cedar Mountains commonly includes eolian silt and sand cover commonly less than 6 feet (2 m) thick; near the margin of Great Salt Lake locally includes thin Qlk deposits at surface; thickness 10 to 100 feet (3–30 m) or more.

These descriptions are generally similar to the soils that were observed during the site investigation. It should be noted that there can be significant variation in alluvial and lacustrine deposits due to the inherent chaotic nature of water deposition and the shifting shoreline of lakes. There can be a significant variation over a relatively short distance both spatially and with depth.

- **Subsurface Conditions** – The subsurface conditions for TP-1, TP-3, and TP-4 were generally similar with an approximate 0.5-foot-thick topsoil layer, followed by a silt layer, and then silty gravels with cobbles and boulders. Atlas was provided borings logs from another project located roughly in the same general area as these test pits and the boring logs indicated similar subsurface conditions. The subsurface conditions for TP-7 and TP-8 was generally similar. The topsoil transitioned to varying silt-clay mixtures, with groundwater present at about 4 to 5 feet.

Additional details of the subsurface soil conditions encountered in the test pits are included on the logs in Appendix A. The lines designating the interface between soil types on the exploration logs generally represent approximate boundaries. In situ, the transition between soil types may be gradual or distinct and will likely vary with location. The laboratory test results are included in Appendix B.

- **Groundwater Conditions** – Groundwater was not encountered during the subsurface exploration for TP-1, TP-3, or TP-4. Groundwater in TP-7 and TP-8 was encountered at depths of approximately 5 and 4 feet, respectively. This relatively shallow groundwater could be problematic for construction and will be discussed further in the Geologic Hazards Section.

Groundwater levels may vary with changes in precipitation, seasonal weather, surface water, local irrigation practices, and other site-specific factors. Localized perched water may occur after periods of heavy rainfall. Consequently, the groundwater table may fluctuate seasonally or over other time periods.

Geologic Hazards and Geotechnical Issues that Could Impact Construction

The relatively shallow groundwater and soil conditions observed in TP-7 and TP-8 could prove challenging for construction. It will make the area more susceptible to liquefaction; and the area generally north of Grantsville is classified as having a high potential for liquefaction (Black et al, 1999). This area is also listed as having potentially expansive clays by Black et al (1999).

Saturated fine-grained soils will likely provide relatively poor support for foundation loads and roadways. Construction of multi-story or large buildings with heavy foundation loads in this area could require an alternative to shallow foundations. The subgrade for roadways may require additional stabilization. Additionally shallow foundations, or roadway embankments, could be susceptible to time-dependent consolidation settlement. Any excavations below the groundwater would require dewatering which typically significantly increases construction costs. Also, any materials below the water table would need to be dried to reach optimum moisture content for compaction. This would add additional costs if these materials are intended to be reused.

The soil conditions observed in TP-1, TP-3, and TP-4 are generally better for construction. The generally non-saturated granular soils should provide relatively sufficient support for building foundations and roadways. Although the larger cobbles/boulders observed could be difficult to compact and may need to be either crushed or removed. The area generally west of town is classified as potentially susceptible to debris flows according to Black et al (1999). This would be consistent with the cobbles and boulders observed in the test pits and care should be taken to mitigate potential flooding issues.

Based on the soils observed in TP-7 and TP-8, similar fine-grained soils are estimated to have a low California Bearing Ratio (CBR) of about 3. The shallow gravels observed in TP-1, TP-3, and TP-4 are estimated to have a significantly higher CBR, with an estimate of around 10. These values can be used for an initial high level pavement design, but as stated before, additional borings and analysis must be completed before final design.

The difference in CBR values could have a significant impact on the pavement design. Depending on the traffic loading, the relative thickness of the asphalt, subbase, base layers could increase by 100% to support the same traffic volume for the lower CBR value.

Limitations

The recommendations contained within this report are based upon the soil and groundwater conditions encountered in the test pits at the time of exploration. It is the responsibility of the client to ensure the information and recommendations contained herein are provided to the design team. This report was prepared at your request for our services, and in accordance with currently accepted geotechnical engineering practice. No warranty based on the contents of this report is intended, and none shall be inferred from the statements or opinions expressed herein.

The scope of our services for this report did not include an environmental assessment or investigation for the presence or absence of wetlands or hazardous or toxic materials in the soil, surface water, groundwater, or air, on, below, or around this site. Any statements within this report or on the attached figures, logs or records regarding odors noted or other items or conditions observed are for the information of the Client only.

References

- Black, B.D., Solomon, B.J., and Harty, K.M., 1999. Geology and geologic hazards of Tooele Valley and the West Desert Hazardous Industry Area, Tooele county, Utah. Utah Geologic Survey Special Survey Study 96.
- Clark, D.L., Oviatt, C.G., Dinter, D.A., 2020. Geologic Map of the Tooele 30'x60' Quadrangle, Tooele, Salt Lake, and Davis Counties, Utah. Utah Geological Survey Map 284 M.

APPENDIX A

DEVELOPMENT PLAN, MAPS, AND SUBSURFACE EXPLORATION



FIGURE A1
Exploration Location Map

SOURCE: Google Earth
SCALE: Not to Scale



Grantsville West Bank
Unincorporated
Tooele County
Atlas Project Number: 22.07445

- Qa Alluvium, undivided
- Qafy Younger fan alluvium, post-Lake Bonneville
- Qla Lacustrine and alluvial deposits, undivided
- Qh Human disturbance
- Qlf Lacustrine fine-grained deposits, Great Salt Lake and Lake Bonneville

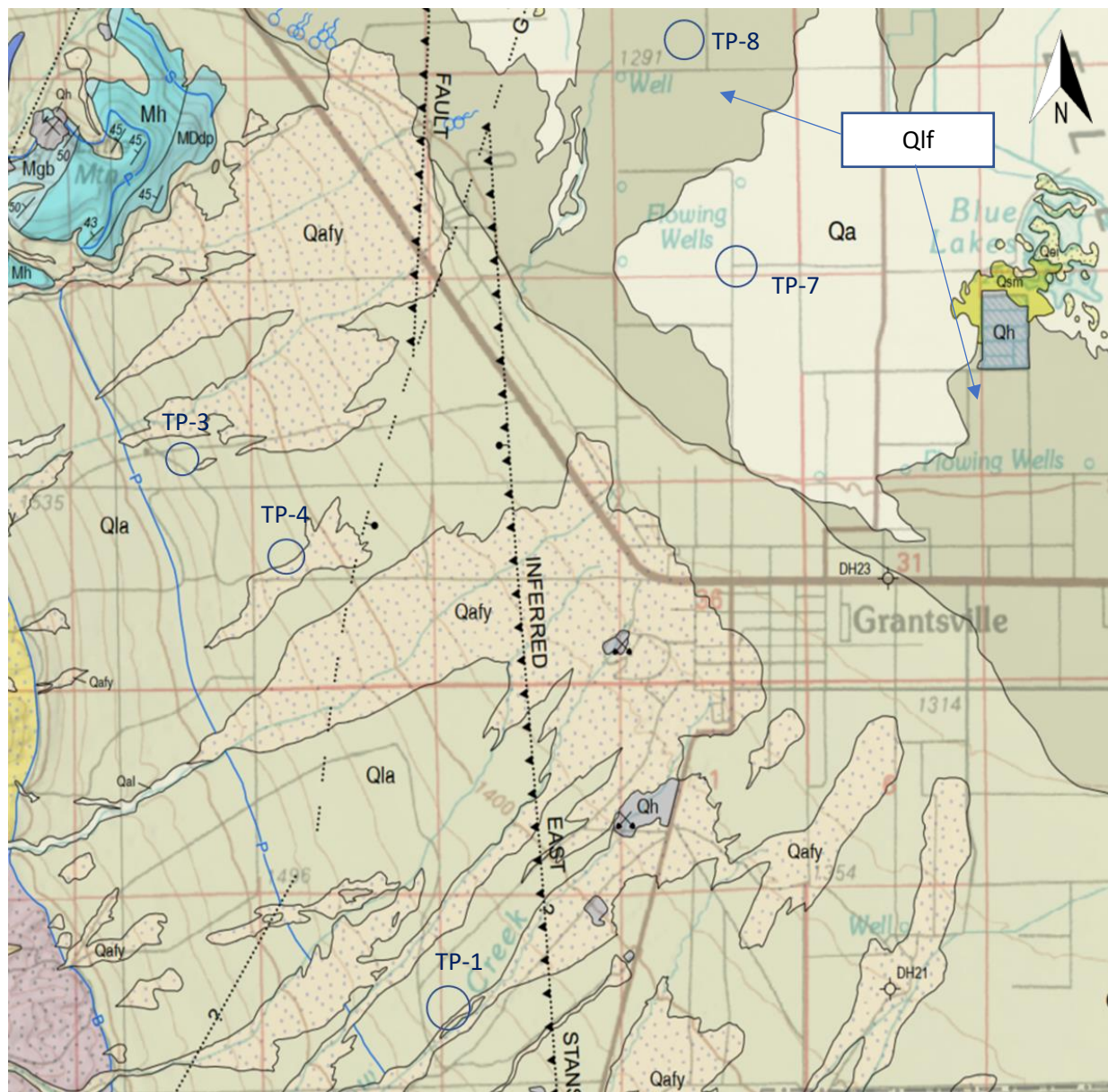


FIGURE A2
Geology Map

SOURCE: Geologic Map of the Tooele 30'x60' Quadrangle, Tooele, Salt Lake, and Davis Counties

AUTHORS: Clark, Oviatt, Dinter (2020)

ATLAS

Grantsville West Bank
Unincorporated
Tooele County
Atlas Project Number: 22.07445



358 South 700 East, B518
Salt Lake City
Telephone: (801)935-4917

TEST PIT NUMBER TP-1

PAGE 1 OF 1

CLIENT Jones and DeMille Engineering

PROJECT NAME Grantsville West Bank Geotechnical Study

PROJECT NUMBER 22.07445

PROJECT LOCATION Unincorporated Tooele County

DATE STARTED 4/12/23 COMPLETED 4/12/23

GROUND ELEVATION TEST PIT SIZE ~1' wide

EXCAVATION CONTRACTOR Direct Push

GROUND WATER LEVELS:

EXCAVATION METHOD Mini Excavator

AT TIME OF EXCAVATION --- Groundwater was not observed

LOGGED BY RM CHECKED BY RM

AT END OF EXCAVATION ---

NOTES

AFTER EXCAVATION ---

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0			
0.5			Brown Silty Topsoil; Vegetation Roots
5			Moist Brown Silt with Gravel, Cobbles, and Boulders
8.0			

Bottom of test pit at 8.0 feet.



358 South 700 East, B518
Salt Lake City
Telephone: (801)935-4917

TEST PIT NUMBER TP-3

PAGE 1 OF 1

CLIENT	Jones and DeMille Engineering	PROJECT NAME	Grantsville West Bank Geotechnical Study
PROJECT NUMBER	22.07445	PROJECT LOCATION	Unincorporated Tooele County
DATE STARTED	4/12/23	COMPLETED	4/12/23
EXCAVATION CONTRACTOR	Direct Push	GROUND ELEVATION	
EXCAVATION METHOD	Mini Excavator	TEST PIT SIZE	~1' wide
LOGGED BY	RM	CHECKED BY	RM
NOTES			
		GROUND WATER LEVELS:	
		AT TIME OF EXCAVATION	--- Groundwater was not observed
		AT END OF EXCAVATION	---
		AFTER EXCAVATION	---

MATERIAL DESCRIPTION

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	
0			
			0.5 Brown Silty Topsoil; Vegetation Roots
			Brown Sandy Silt
			1.5
			Moist Brown Silt with Gravel, Cobbles, and Boulders
5			5.0
			Moist Light Brown Sandy Silt with Gravel, Cobbles, and Boulders
			8.0

Bottom of test pit at 8.0 feet.



358 South 700 East, B518
Salt Lake City
Telephone: (801)935-4917

TEST PIT NUMBER TP-4

PAGE 1 OF 1

CLIENT	Jones and DeMille Engineering	PROJECT NAME	Grantsville West Bank Geotechnical Study
PROJECT NUMBER	22.07445	PROJECT LOCATION	Unincorporated Tooele County
DATE STARTED	4/12/23	COMPLETED	4/12/23
EXCAVATION CONTRACTOR	Direct Push	GROUND ELEVATION	
EXCAVATION METHOD	Mini Excavator	TEST PIT SIZE	~1' wide
LOGGED BY	RM	CHECKED BY	RM
NOTES			
		GROUND WATER LEVELS:	
		AT TIME OF EXCAVATION	--- Groundwater was not observed
		AT END OF EXCAVATION	---
		AFTER EXCAVATION	---

MATERIAL DESCRIPTION

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	
0			
			0.5 Brown Silty Topsoil; Vegetation Roots
			Brown Sandy Silt
			2.0
			Moist Brown Silt with Gravel, Cobbles, and Boulders
5			
			8.0

Bottom of test pit at 8.0 feet.

CLIENT Jones and DeMille Engineering

PROJECT NAME Grantsville West Bank Geotechnical Study

PROJECT NUMBER 22.07445

PROJECT LOCATION Unincorporated Tooele County

DATE STARTED 4/12/23

COMPLETED 4/12/23

GROUND ELEVATION

TEST PIT SIZE ~1' wide

EXCAVATION CONTRACTOR Direct Push

GROUND WATER LEVELS:

EXCAVATION METHOD Mini Excavator

AT TIME OF EXCAVATION --- Water Flowed Into Excavation at ~5 ft


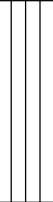

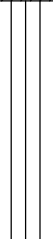

LOGGED BY RM

CHECKED BY RM

AT END OF EXCAVATION ---

NOTES

AFTER EXCAVATION ---

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0			
			0.5 Light Reddish Brown Clayey Topsoil
			Moist Reddish Brown to Dark Brown Silt
			3.5 Moist Light Brown Clay
5			4.0 Moist to Wet Light Grey Silt; Blocky with Rust Staining
			8.0

Bottom of test pit at 8.0 feet.



358 South 700 East, B518
Salt Lake City
Telephone: (801)935-4917

TEST PIT NUMBER TP-8

PAGE 1 OF 1

CLIENT Jones and DeMille Engineering

PROJECT NAME Grantsville West Bank Geotechnical Study

PROJECT NUMBER 22.07445

PROJECT LOCATION Unincorporated Tooele County

DATE STARTED 4/12/23

COMPLETED 4/12/23

GROUND ELEVATION

TEST PIT SIZE ~1' wide

EXCAVATION CONTRACTOR Direct Push

GROUND WATER LEVELS:

EXCAVATION METHOD Mini Excavator

AT TIME OF EXCAVATION --- 4

LOGGED BY RM

CHECKED BY RM

AT END OF EXCAVATION ---

NOTES

AFTER EXCAVATION ---

MATERIAL DESCRIPTION

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	
0			
			0.5 Light Reddish Brown Clayey Topsoil
			Moist Reddish Brown to Dark Brown Silt
			3.0
			Moist Light Brown Silty Clay
			4.0
			Wet Light Grey Silt; Blocky with Rust Staining
5			
			6.0

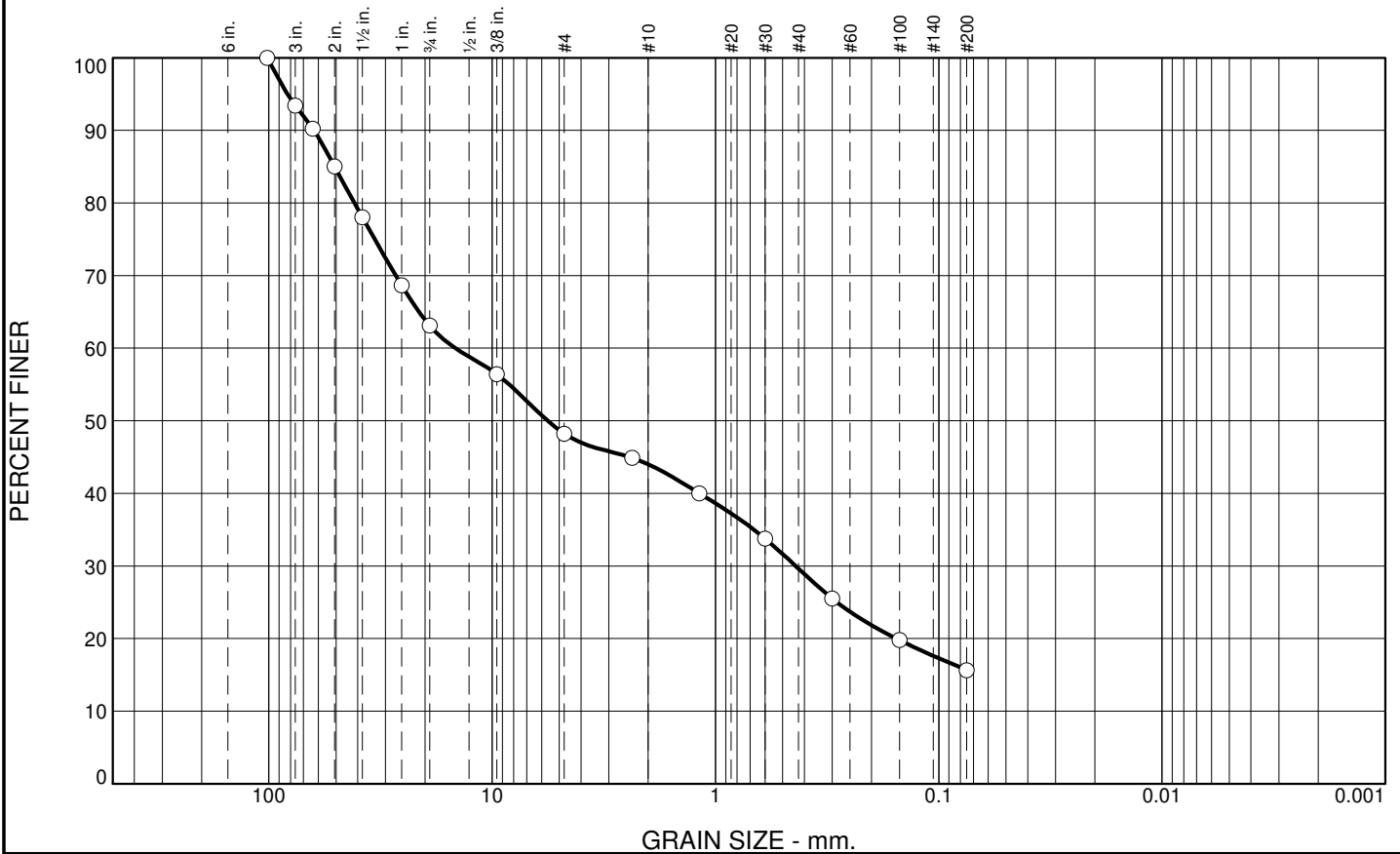
Bottom of test pit at 6.0 feet.

GENERAL BH / TP / WELL - GINT STD US.GDT - 5/31/23 14:52 - S:\GEO\PROJECTS\ATC PROJECTS\22.07445 GRANTSVILLE WEST BANK\FIELD\GRANTSVILLE TEST PITS.GPJ

APPENDIX B

LABORATORY TEST RESULTS

Particle Size Distribution Report



% +3"	% Gravel	% Sand		% Fines	
		Coarse	Fine	Silt	Clay
7	49	14	14	16	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
4	100		
3	93		
2.5	90		
2	85		
1.5	78		
1	69		
.75	63		
.375	56		
#4	48		
#8	45		
#16	40		
#30	34		
#50	26		
#100	20		
#200	16		

* (no specification provided)

<u>Material Description</u>		
Medium brown silty gravel with sand		
<u>Atterberg Limits</u>		
PL= NP	LL= NV	PI= NP
<u>Coefficients</u>		
D ₉₀ = 62.7079	D ₈₅ = 50.7489	D ₆₀ = 14.6400
D ₅₀ = 5.6466	D ₃₀ = 0.4375	D ₁₅ =
D ₁₀ =	C _u =	C _c =
<u>Classification</u>		
USCS= GM	AASHTO= A-1-b	
<u>Remarks</u>		
MOISTURE: 4.66%		

Source of Sample: 22.07445
Sample Number: Test Pit #3

Date: 04-19-23

CONSOLIDATED ENGINEERING LABORATORIES

Client: Atlas

Project: Grantsville Test Pits

San Ramon, California

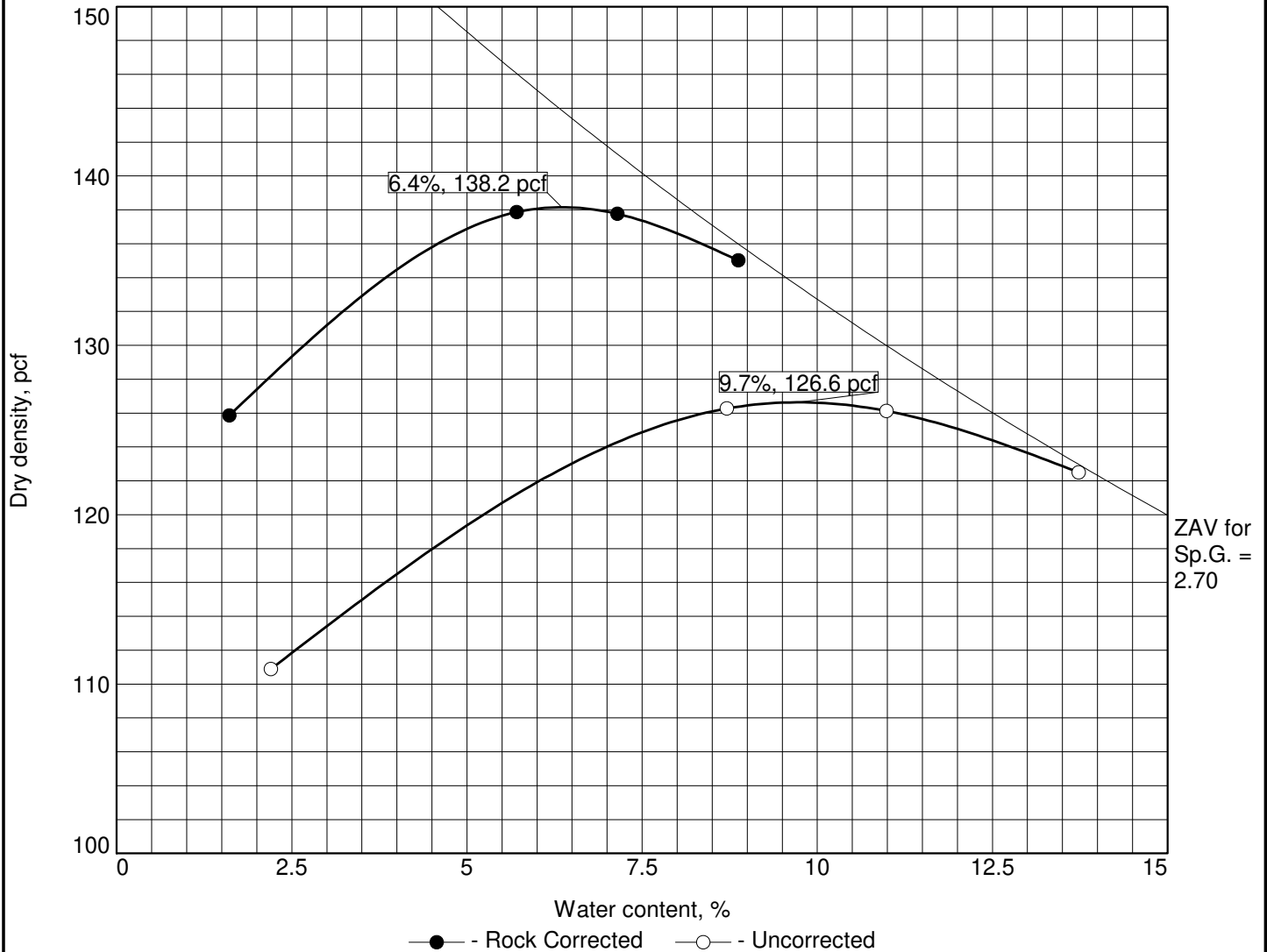
Project No: 22.07445

Figure

Tested By: DR

Checked By: KC

COMPACTION TEST REPORT



Test specification: ASTM D 698-91 Procedure C Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

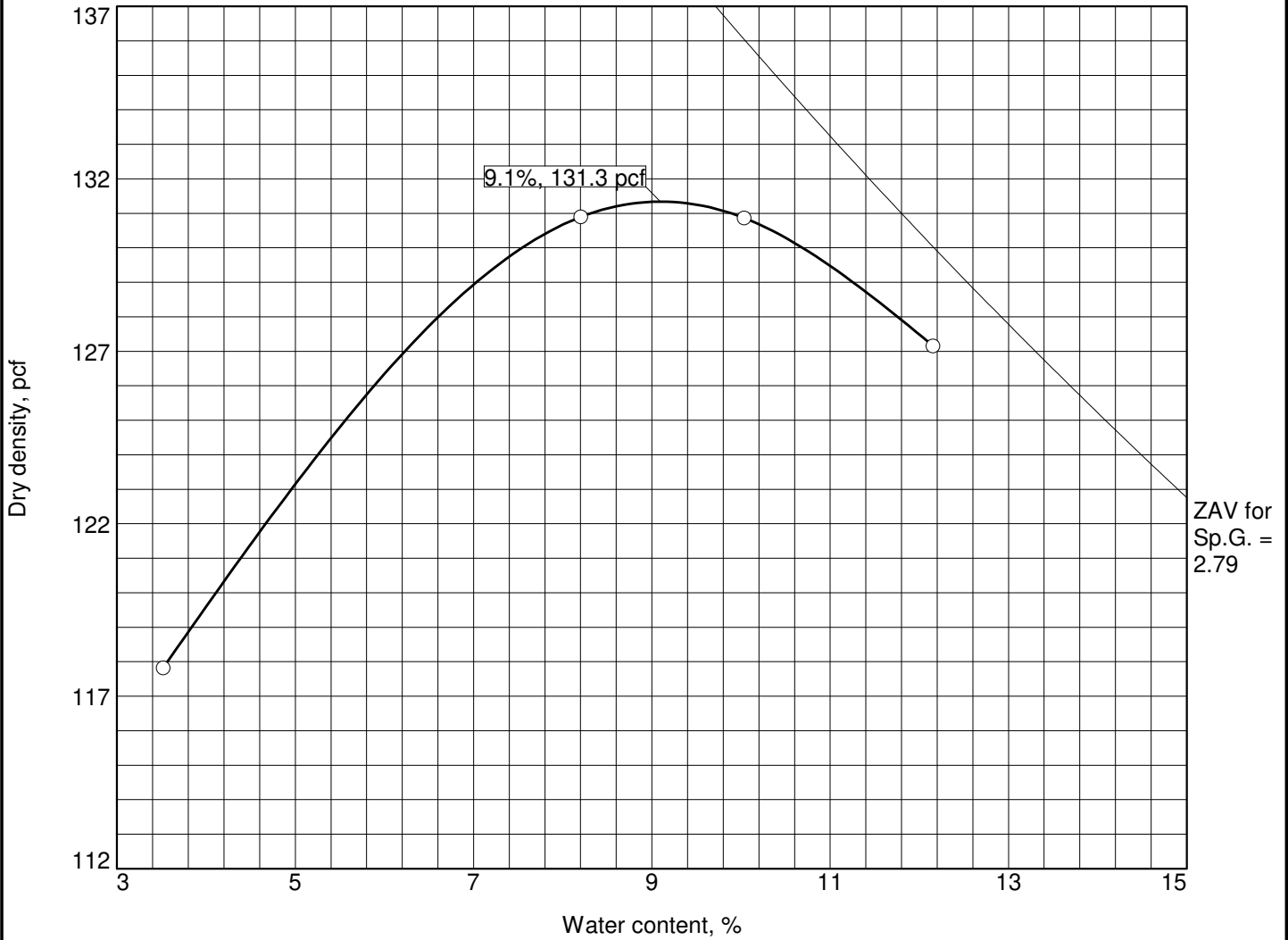
Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
	GM	A-1-b			NV	NP	37	16

ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 138.2 pcf		126.6 pcf	Medium brown silty gravel with sand
Optimum moisture = 6.4 %		9.7 %	
Project No. 22.07445 Client: Atlas Project: Grantsville Test Pits <input type="radio"/> Source of Sample: 22.07445 Sample Number: Test Pit #3			Remarks: MOISTURE: 4.66%
CONSOLIDATED ENGINEERING LABORATORIES San Ramon, California			
			Figure

Figure

Tested By: DR Checked By: KC

COMPACTION TEST REPORT



Test specification: ASTM D 698-91 Procedure C Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
					NV	NP		

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 131.3 pcf Optimum moisture = 9.1 %	Medium brown silty gravel with sand
Project No. 22.07445 Client: Atlas Project: Grantsville Test Pits Source of Sample: 22.07445 Sample Number: Test Pit #8 CONSOLIDATED ENGINEERING LABORATORIES San Ramon, California	Remarks: MOISTURE: 37.47 ** NO ROCK CORRECTION APPLIED **

Figure

Tested By: DR Checked By: KC

AGENDA ITEM #3

Approval of minutes from July 20, 2023
Planning Commission Meeting

Action Summary

#1 Matthews Ranch Development Concept	Discussion
#2 Approval of Minutes for 01/05, 05/18 & 07/06/23 P&Z	Approved w/changes

MINUTES OF THE GRANTSVILLE CITY PLANNING COMMISSION MEETING HELD 07/20/23. THE MEETING WAS HELD IN THE GRANTSVILLE CITY HALL AT 429 EAST MAIN STREET AND ON ZOOM.

Commission Members Present: Commission Chair: Jaime Topham, Vice-Chair: John Limburg, Rick Barchers, Kevin Hall, Cavett Eaton.

Appointed Officers and Employees Present: Mayor Critchlow, City Planning and Zoning Administrator Cavett Eaton, DRC specialist Gary Pinkham, Public Works Deputy Director Christy Montierth
On Zoom: Aqua Consultant Shay Stark

Citizens and Guests Present: Mary Chappell, Marlo Meno
On Zoom: Greg Wilding

Commission Chair: Jaime Topham called meeting to order at 7:00 PM

1. Discussion of Matthews Ranch Development Revised Concept Plan

Mary Chappell – Okay, so let's just talk about Matthews Lane first, because that'll be easiest.

Dan's notes say, "Frontage improvements and dedication is required to log the property they develop. First dedication with map about 14 feet. Second additional dedication with improvements about 23 feet." So, when we talked about that, we were only aware of the 14 feet. It continues with "22 feet to be dedicated when property on the east side is improved." We're aware of that, but I think the frontage improvements are known. We know we have to give the 14 feet and we're okay with that. The mayor called us after the meeting. But this first dedication with map of about 14 feet in the second additional dedication we provide 23.

Marlo Meno – Yeah, do you guys know what that?

Marlo Meno – Mayor, do you want to address that? You were talking about that.

Mayor Critchlow – I want to address that.

That is unacceptable to me. You guys, we don't need 23 feet. We need a curb, gutter, sidewalk, park strip, and that doesn't add up to 23 feet. And I voiced my opinion on that already.

Jaime Topham – What have we figured out about this road?

Mayor Critchlow – It is 31 feet from fence to fence and they're going to give another 14 feet, which equals their 45 feet of their half of the road. That gives you a lane both ways and a turn lane.

Jaime Topham – Developed initially.

Mayor Critchlow – That has to be in there.

Jaime Topham – Okay.

Mayor Critchlow – And that gives you plenty of room to do that.

Gary Pinkham – Did we ever determine had that road been dedicated and/or is it rolled into somebody's property now, or?

Mayor Critchlow – The city took it over, okay? And this is the story that... What's the aunt's names that needed to get down there?

Mary Chappell – Pratt's mom was the best... Matthews. It was with Hunter Matthews. She was married to George. He passed away. Pratt was her son. I think most people probably know Pratt.

So, Elizabeth agreed, her sister was a Booth, and they lived on Booth Street. I think y'all know about that. They needed to have access to get to their livestock and their sheep south of Durfee. Elizabeth agreed to just put a lane through there so her sister and her husband could get up there because they were having to go all the way out to the highway and come around.

So that is, it literally was like never meant to be road, it was just a lane.

Marlo Meno – I don't know when the city took over it.

Mayor Critchlow – Early '50s. That's the best I can find somewhere.

Gary Pinkham – I'm just curious. From a legal standpoint with the County is that lane described and not included in either this parcel or the one across the street?

Mayor Critchlow – It's not included in the one across the street. They haven't dedicated anything.

Greg Wilding – It's not included in the Matthews either, in their property boundary.

Gary Pinkham – My thoughts from a couple of weeks ago is what lane is there? The east and west property holders on each side of the street should give enough to get the equivalent of their half up to 45, like the mayor's talking. I agree with you on that.

Jaime Topham – So you're going to dedicate 14 feet and improve it. Improve so that there's going to be 45 total.

Mayor Critchlow – That'd be three lanes of traffic. One south, one north and one turn lane.

Jaime Topham – And that's even prior to the other side of the street improving their side?

Mayor Critchlow – Correct.

John Limburg – Which may never happen.

Jaime Topham – Which may never, ever, ever happen.

Mayor Critchlow – Which makes it as wide as Main Street right down here.

Rick Barchers – Well that's all fine and dandy. But what happens when we get up there by the store and those other folks' yards and-

Jaime Topham – It's still two lanes and a turn lane.

Rick Barchers – We're just going to leave it like that?

Jaime Topham – Just like Main Street is currently, right there.

Rick Barchers – Then that will make it a collector?

Mayor Critchlow – Dustin's house has already donated, has already given up 20 feet across his. That's the crookedest... That Family Dollar thing, I am completely boggled over that-

Rick Barchers – I am, too.

Mayor Critchlow – Because it goes like this out and around. I'm not sure even what is ours and what's theirs.

Rick Barchers – Right. That's kind of where I'm going with that.

Jaime Topham – But that's another day's stuff.

Mayor Critchlow – Another day's stuff. We're just going to deal with these three lanes.

Rick Barchers – But we're going to get 90 feet out of it in the end. That's all that matters to me. Not at your guys' expense.

Marlo Meno – I know, but just you need to be aware that this going in and we know that there's going to be 45 feet and we need to have you guys be okay with that.

John Limburg – We're okay with it. Who's doing the other 45?

Mary Chappell – Future developer on the east side of the road?

Derek Dalton – Is there even 45 feet to give up though on that side?

Mayor Critchlow – Johnson's can give up 45 feet, but they're going to have to do some shaking up there with Dick and Karen's house.

Derek Dalton – So it's not going to be just a straight road.

Mayor Critchlow – Well these three lanes will be straight.

Rick Barchers – Those three lanes will be straight and then when the rest of it's developed it'll look like Quirk.

Mary Chappell – Well I'm not sure. That was kind of my question too is in the transportation plan, I went and looked at it. It said that that would become a collector I think by 2031 or something like that. I don't have the transportation plan right in front of me. What was the city's plan?

John Limburg – Well I think we're saying it's going to be... I mean that wasn't part of that traffic study to have all of this in here. It's going to have to become a collector now.

Mary Chappell – We're just talking, regardless that that what we're we going to do.

Mayor Critchlow – They did. That's what that was factored in them doing.

John Limburg – On the original traffic study?

Mayor Critchlow – Yeah.

Marlo Meno – It has that it's a collector in the traffic study. So that was like if nothing were to happen, if that needed to happen by 2031, my question is what was the city planning to do there?

Rick Barchers – Yeah, it's a problem.

Jaime Topham – Well so what Dan has said is that we make all of these plans but that doesn't mean the city develops it. It develops when the property develops. Not necessarily that the city will take over and do it unless they absolutely need it. Right?

John Limburg – I guess what I'm saying, the traffic study included this development?

Mayor Critchlow – No it included a development along there.

Mary Chappell – Knowing what it was zoned.

Jaime Topham – Because it was originally future line use, not zoned for commercial.

Rick Barchers – So if this was a collector 90 feet all the way through in the future, where's this jog we were talking about? Where's that going to be? Or is there going to be one?

Mayor Critchlow – At this point there's going to be three lanes of traffic; one north, one south, one turn lane.

Rick Barchers – We're supposed to be planning for the future, so.

Mayor Critchlow – I know.

Rick Barchers – Up here it's going to jog at the Dollar Store?

Mayor Critchlow – The city botched it. I'm just going to tell you right up front. They didn't do what they were supposed to do to make that road wide enough.

Kevin Hall – So can ask a question with that mayor? We're supposed to plan. It seems to me like we got an issue on Durfee Street. We got an issue on Willow Street with these traffic boggles. There's an opportunity, even if the city gave concessions to... See because there's a possibility that the Johnson's, because of their heritage may go, those kids may farm until the cows come home there. So how do we ever get the collector road or what we're supposed to have there so that we don't in the future create a bottleneck there? Because we have enough of that as it is. It seems to me like again, I'm not saying necessarily that you have to foot the bill, the developer has to foot all the bill for that.

It made sense to me, and I said this again way back when Kyle wanted to build a house there, that somebody allowed a Family Dollar. I suggested that the city before Kyle build a house there, buy whatever we need there so we don't have to tear them houses down when we improve that road.

And it makes sense to me to somehow negotiate that we'd have a street. That's what it's supposed to be. So that somewhere down the road we don't all have to fight about it. Because, if Cody and the kids weren't farming, I'd feel differently.

Mary Chappell – Let's be realistic though. Cody, they could sell the land tomorrow. The problem is the home, the problem is the home.

Mayor Critchlow – The only home that really is an issue is the one that's Jeremy Watkins. It goes right into his front porch, right?

John Limburg – All right. So, what we're trying to do is go, "Hey, we're going to approve this at 45 feet with three lanes and then kicking the rest of it down the road." And then when we go to have this issue with... Nobody's going to tell him he has to tear his house down to build a road. It's not going to happen.

Rick Barchers – What I was talking to John about here real briefly is this commercial area that's attached to Main Street up here, would that be in the... If theoretically we made the street jog, would we be able to do that into that area? And I'm not saying at you guys' expense, I'm just saying would we be theoretically able to do that as opposed to just saying, "Well, we got a bottleneck too bad, we screwed up a hundred years ago. It doesn't matter."

Because how much of that commercial would we be having to get out of there? That would be my question. Do you see what I'm saying there, Gary?

John Limburg – I think it's mistake to approve it with only half, thinking that we're going to get the other half cause we're not.

Derek Dalton – So I missed how wide the road is right now. I was talking to Kevin.

Mayor Critchlow – It's 31 feet from fence to fence and 14 feet makes 45. Now knowing that the family has given that up over the years and the city just basically was just a lane and dirt road and then they decided they were going to pave it, and Matthews were never compensated for that. Nothing that I have seen said they were compensated for that.

John Limburg – I get that. I totally understand that you guys. But what I don't want to do is create a situation where we're approving something right here and then 20 years down the road we have a massive problem and we can't do what we just... We can't build the other half of the road.

Rick Barchers – Well we can't require them to build the other half of the road.

John Limburg – Even on Durfee, where we've got to widen that, we're not going to go ask the homeowners there to pay to foot the bill there. So that's going to be the same situation. The City's going to end up paying for this at some point.

Mayor Critchlow – And if you go up to Durfee Street where those power poles are, okay. Wherever that is. Okay. Those are going to be in the park strip. And if you go from there out to the, so that's the center, if you go across to these other guys, that's a very wide road. And it's that wide most of the way down there already paved on most of it, if you drive down there. Durfee Street has an easement that's very wide going through down that section.

John Limburg – I get that. We're not going to have those homeowners paid to develop that road at this point. You know what I mean? Just like we're not going to do it 15 years from now, Jeremy.

Marlo Meno – Is there room to go 90 feet on Durfee?

Mayor Critchlow – You know, I have not measured that. I was going and didn't, in fact I will go and do that tomorrow.

Rick Barchers – Who was in charge? Who was in charge? You or Dan when you guys were out there.

Mary Chappell – But I think in the transportation plan, from what I saw, I was confused by the transportation plan. Maybe you guys can help me out on it. Because I saw stuff that got approved this year. But it said in there it addressed Durfee all the way to 112 that needed to be widened. It was like, "Okay by 2031, we'd like to have a feature over that." I never saw anything for Durfee. Like it said that it was an issue but I never saw where it was going to get addressed, by what year. I don't know if that was just missed or if I read it wrong.

We were looking at it last night. I'm like, "I don't understand what the transportation plan role is for Durfee." I know Matthews Lane is a collector but I don't know about it, like it doesn't say anything about it.

Jaime Topham – I don't know.

Rick Barchers – Wasn't Durfee supposed to be a collector too? Or no. It's supposed to be an arterial, isn't it? Or am I crazy?

Mary Chappell – Do you have the transportation plan you can bring up?

Cavett Eaton – I may have to do some digging.

Rick Barchers – That's something that we talked about though in our joint meeting is, that's going to have to be the master plan width by what is it, 2031 or something like that, Mayor, with that before they even develop anything anyway? So that would be from Willow to all the way out to 112.

Mary Chappell – I didn't see where it was addressed in the time. Like it brought it up that it could be an issue. But I didn't see a target date where it was going to be addressed. From what I could see unless I was reading it wrong.

John Limburg – Probably they just omitted it. It's probably just a miss.

Mary Chappell – It might be, because there's, I mean tons of roads are on there that and the goal for when they're going to be done. But I just never saw that one unless they named it something else. But in one part it said Durfee to 112, so.

Okay, so this is just needing widening road, plan for future lanes. So, what do we need to plan on doing for Durfee?

John Limburg – I think we have two different things, right? One for Durfee. But I was just, let's go back to Matthews.

You guys are just sitting here saying, "We're going to give you this and this is what we're going to do." And we can go, "Yeah, that works for this." But I think we have to figure out in the city,

like what their plan is right to go. Because I think that's going to become an issue down the road. And I think that you take care of it now and you figure out how it's going to be taken care of. Because if you go pave that road now and it needs to jog eventually. And we need to ask you guys for more property up there where Jeremy's house is, and we need to give you a concession on that. It's too late after the real estate.

I know it sucks for you guys, but I think the city... We've got to get the city to consent. It sucks for them right now to say we can't do... Like you guys are in here to figure this out, right?

Mary Chappell – Yeah. And we're comfortable with that 14 feet, but that corner commercial lot, we have zero desire for that to be a city road.

Rick Barchers – Where's this at?

Mary Chappell – On the corner of Main and Matthew's Lane.

Rick Barchers – Right. Okay.

Mary Chappell – Our desire for that to be a street is negative.

Mayor Critchlow – See and I haven't even researched out to the point of finding out where Family Dollar was supposed to be. Which I'll do. Okay. So, we'll work on that. Kind of look at the plan tonight and tell me what you guys think of the plan. We'll work on the road.

Jaime Topham – Well the plan was here last time.

Mary Chappell – No, we adjusted everything that was said. We added the overflow. I'm not sure where his red line going through here, wanting it to go to the back. And Greg, I don't know if you've looked at this But, we had talked about was having to go around along the west edge of our property to feed down there.

Mayor Critchlow – Okay. So, what we talked about, okay is who's going to take care of that right there going under that easement if something goes wrong and breaks whatever? If you bring it out of the storm pond over here for the other property and you put it in the pipe and take it down Durfee and over to there and feed it into this area, which is a storm detention, evidently, then that 20 feet would go back to your guys.

It'd be under the road. We could have access to it. Back there is... Kevin, you grew up here. You know what that sidewalk in between Main and the high school looked like it was a mess.

Anyway, so the 20 feet would go would just be back. There's a couple of things that I had concerns out and I'm just going to throw them out here. I'm not sure why he decided we wanted to have a second access up here to go into somebody else's property. Okay.

Jaime Topham – Is there something that's going to be built there?

Cavett Eaton – I think he's considering that road will continue someday. He's just trying to make sure that that's not-

Marlo Meno – Well we've committed to make sure Jed and Guy have access to their property, it's with that lower road. That's not what worries me.

Mary Chappell – And they have a right of way here on the west side anyway. From Durfee. Right away from Durfee next to Schultz's.

Cavett Eaton – Dan just tries to think down the road and he's saying if this road continues and go across if give access for the future

Rick Barchers –But it doesn't leave there. This access you're talking about is that leaving that property landlocked for future development?

Marlo Meno – We're making sure it's not landlocked, it's just we're doing the one access down below and they know they've got access under. So that's where the third access to their property.

Jaime Topham – Would it be a problem to add that second access?

Greg Wilding – No, that's not a problem. Mary, that works better for your layout anyway. The thing about the single family is it's not like an exclusive HOA maintained project. Those are city street standards and public roads and your layout actually works a little better and would likely add another lot if we made that connection there. Just so you know.

And let me go ahead and comment on the storm drain line that runs through the project. As we work out our storm drain master plan, we're going to need a trunk line like that anyways, because we'll be picking up storm water after it's detained on the commercial site and on the apartment site and such. And it looks like eventually we're going to be heading to that north-westerly corner. So, everything's generally going to head that way after it's detained and we'll need a trunk line there anyways.

The discussion that we'll simply need to have is how big does the line need to be to accommodate the city's offsite stuff that's coming through us? But we'll be putting a line there regardless.

Marlo Meno – Great. And this comment about maintaining, I think we're all fine just moving the line over.

Greg Wilding – And so, one thing I was unclear on, I can't read these notes too well here, but do we still want to have a trail run running along that west side?

Marlo Meno – That's what we're saying. They're thinking they don't want to maintain that.

Mayor Critchlow – Is the Homeowners Association going to take care of it if it's there?

Marlo Meno – Well, I don't know that there will be one for the single-family homes necessarily.

Mary Chappell – I mean, do you really want a HOA?

Mayor Critchlow – No.

Mary Chappell – But I will also say, do the landowners on that side want that there? There's nothing that it's being farmed over there. I don't know if they're going to want, do you know what I mean? To have a sidewalk right there and people want their ground.

John Limburg – Are you guys planning on putting the fence all the way around this? That would make a difference there, right?

Mary Chappell – I'm sure the back yards would have a fence. Yeah, and so, but that's what I'm saying. It would be beyond that, the sidewalk back beyond that.

Jaime Topham – But the developer, you, wouldn't be doing the backyards on the single family. It would be the homeowners?

Greg Wilding – We would certainly have fences going around the town home projects, the 55 and older and then certainly portions of the apartment project. Probably not fenced along the roadway but in the backyards.

Jaime Topham – What about the park area?
I think that that's...

Greg Wilding – Yeah, that should definitely have a fence running down that project down the north side of the single family.

Jaime Topham – And the west side?

Greg Wilding – The west side. Oh, so you're talking along the 20-foot trail easement area right now?

Jaime Topham – Yes. Yeah.

Greg Wilding – You know, Mary and Marlo, let me let you speak to that.

Derek Dalton – If we're going to give back that 20 foot trail, could we get more road lane?

John Limburg – I mean yeah, in AutoCAD that'd be really easy to move that over.

Jaime Topham – Last time you guys were here we kind of talked about that road's really, to get at the width is really important. Is there something that you guys need in order to give us that road? Did you guys talk about that?

Marlo Meno – We did talk about the setbacks that we have, but it was all in the context of the 14 feet, not 90.

Rick Jaime Topham – Well aren't we supposed to just be discussing a concept?

Jaime Topham – But we kind of were telling you we really want that road fully. I understand what the mayor has said, I understand what you guys have said. Is there something that would work great for you in order for you to give up more of that so that we can get the 90-foot eventual road without doing a jog in the future? Get the land space.

Marlo Meno – So more means 60 feet?

Jaime Topham – Is that what that means?

Marlo Meno – So, you want all 90 feet and that would mean the 30 plus us giving the additional 60?

Jaime Topham – No, no. The other side would still have to do some but not... Like how far of offset is Family Dollar and those houses that it would make it... So if we had, in the perfect world we ran the road right in front of their place the way that it would be appropriate, how far west do we need to go to get that done?

Shay Stark – Hey Jamie, can I speak to that?

Jaime Topham – Yes please.

Shay Stark – Because I talked to Dan before he left and we kind of talked about that a little bit. To get the 90 feet, that 20, 22 feet that was shown on the east side as a future dedication with that development, my understanding is, from what Dan told me, was that was taking into account how far back he felt that we could encroach into Family Dollar. The one house there is the real key here because he didn't want to encroach back any further into that property than, if I understood right, then they... Next to it there on Jeremy Watkins property there, there was a portion that was dedicated to the city. He didn't want it to encroach any further back than that. And so that was kind of the controlling factor on it, on how all of this, to line it up and come straight through is based off of that line, is what I understand.

So essentially that's where his concept of to get the 90 feet, we have 31 feet of it of existing right of way. 14 feet would come in with the first dedication to get to 45 feet, which would basically, as the mayor pointed out, would give the three traffic lanes and provide a little bit of a shoulder on it, on each side of those I believe, is what I'm seeing. Looks like maybe a five foot shoulder on each side. And then the 23 feet in what's called the second dedication would basically widen that street out, widen the pavement out to the rest of the way for whether it was developed with curb and gutter to have a parking lane or to have the full six-foot width shoulder area and then the drainage and the sidewalk. So that's where that 23 feet comes in. So, debate about whether we need 22, 23 feet on each side, that I think is a kind of, well it is part of the discussion but I think that needs to be nailed down. But that's how you get to the 90 foot right of way.

Jaime Topham – Okay. So you guys would need it, you have 37 feet in addition to what you've done. So, it'd be 68 total feet that you'd be giving because you've already given up the 31.

Marlo Meno – In addition to the 14 or just 37?

Jaime Topham – No. Total. So, you'd have to move your line back 37 feet in order for us to get that.

John Limburg – Enough right of way to get a 90-foot road past Jeremy's place. That's kind of what, if it's a stretch you'd have to move it back 37 feet to get enough to get the 90 feet and still have the right setback of Jeremy's house.

Mayor Critchlow – The problem is, you guys. I told Dan that that is only 20 feet from Dustin, from that road over to Dustin he's already given to the street. Now we're going to say we want another two feet out of Dustin. Plus that takes it further up. I mean he's already given 20 feet up and that's what they asked for. That's what he gave.

Mary Chappell – Well he's got that shop right up next to... No, that's probably right up at that 20 feet.

Mayor Critchlow – His shop is set back.

Mary Chappell – I'm saying if you go two feet more is it going to hit his shop?

Mayor Critchlow – No, but he's given what we've asked him and that's all we should ask him.

Jaime Topham – Then it would be 39 feet from your whole side if that's the case, we're only going to do 20 on that side, it would be 39 feet. I get where you're coming from. Hang on.

Let's see if the ladies would like something that they need from, or like something as a benefit to their project to give us the 39 feet that we need. If the answer is no, then we got to decide what we're going to do. But if there's something that would be beneficial to your project in order to get that 39 feet.

Derek Dalton – Did you say that we weren't going to expand this commercial property?

Mary Chappell – We would like some commercial property.

Derek Dalton – No, I'm saying the road to, are we talking about the entire Matthews lane? I thought there was a spot that you said you were not...

Mary Chappell – Well we don't want to have to give up 68 feet of that quarter.

John Limburg – Because it takes a chunk of that land out.

Mary Chappell – No, you're right. Yeah. So it'd 39 feet from the road now over, or the fence line over, right?

John Limburg – Mayor, let me ask you a question. So if you're not going to ask for that two feet from him now, later, you're definitely not going to want to ask for it. It's like I think we got to get it figured out now and instead of just going, "This is an issue that we're going to have to deal with down the road."

Jaime Topham – And if there's something that can benefit the project then it makes sense to make that trade baby, right?

Kevin Hall – Well that's my point exactly. I mean I just think it's, again, it's a bad situation. Something was created a long time ago with Jeremy for sure. And it just seems to be like that if we can solve the problem now, if we have to give concessions to make that happen, I just think that everybody benefits from that in the future.

Marlo Meno – So we've got a few little variances, right? It's like a setback on the back on the sides. None of them really equate to that. What I would say is it's density that equates to that and we've really tried to pull back and say, "We won't put the density in there," but that would be the thing that we would be able to trade off.

Kevin Hall – To me personally it would be worth it to me to create some more density there somewhere to make up. So that 20 years from now if Cody and them never sell, it's there.

Jaime Topham – Even if they do sell this would solve the problem and keep the road straight.

Kevin Hall – Exactly. Keep the road straight. There's a job there.

Mary Chappell – There is probably density and we probably have to look at going up on apartments.

Marlo Meno – I going to say I really struggle with lots being small.

Jaime Topham – How big are these lots? Sorry.

Marlo Meno – They're 4,000 square feet on the single family.

Jaime Topham – What about, so how much open space are you giving right now?

Mary Chappell – This is a typo on here. It's actually 25%. It's 25.

Jaime Topham – So what if we give less open space?

Mary Chappell – Yeah, so taking some of the park back and we go up on apartments and get the density that we need.

John Limburg – When you say up on apartments, you're like a third story?

Mary Chappell – Like a third story. I want to make sure you guys understand this and maybe this is too much information but right now it is... I'm sorry, we're only under contract for right now with Soelberg's.

It's not like we have a developer that's ready to go in and do all of this. I mean truly I would think that how many apartment homes do we have on here? 275. We do another story up. I don't know that Grantsville could even support that right now or in my view what we're doing here is for the future and when we're ready to sell, we'll sell and have this plan in place. So it's not like it's all happening tomorrow is what I'm saying. We want to be responsible with how we do it.

Jaime Topham – I think that we all understand that and which is also why we're saying we really want to fix this road now because once we approve this, there isn't any going back and fixing it.

Kevin Hall – I think the value is going to increase over time. For instance, if these commercial lots are worth a million dollars today, whenever that is in 10 years they might be 2 million. In theory they're not going to go down in price. That's what I'm trying say. It's not going down in price. None of them.

Mary Chappell – So, but is that enough to just say three story? I think maximum density that was zoned for this will go up on the apartments and they could have more-

John Limburg – I don't have a problem with an extra story as long as we can get a fire truck to him. I think we talked about that.

Rick Barchers – Then are you going to get the parking for that extra story too?

Jaime Topham – I think that it would be better if we have less of that park, and have the road have less park and then you guys, you can re figure that.

Rick Barchers – But we're also talking about that 20-foot trail

Jaime Topham – Yeah. And you're already losing the 20-foot trail, which is fine. Makes sense. If you're going to route that around-

Rick Barchers – Well they're gaining the 20 feet

Jaime Topham – Okay. So, you're taking it off the plan that we currently are looking at and you're gaining...

Mary Chappell – So we move the plan over the 20 feet over and we're still going to need to come up with 19 more.

Jaime Topham – Right. Give or take.

Mary Chappell – The city could do the park. How does the city feel about developing the park. We give the city the park to develop.

Jaime Topham – The mayor's the only one I see here that can even remotely answer that question.

Mary Chappell – Can we go up on the apartments and have Grantsville City take care of this park to make it nice for the community?

Jaime Topham – How big is it right now?

Mary Chappell – Six acres.

Jaime Topham – So fire marshal's trying to join the meeting.

Rick Barchers – I mean there's going to be other issues that are going to come up and just because we're saying as a concept we like this, I mean there might be something in the engineering, just because the engineering throws up an issue, we're not just going to say, "Oh yeah, well we said way back in the concept plan." Do you see what I'm saying?

Mary Chappell – Oh totally.

Rick Barchers – And when it comes to some of these setbacks and other things, those are there again, just to get Solberg's. I mean these are all different things that, they're chips to think about. So, I mean just because we say, "Okay, so we're giving up 10% of the, or half of this park and all those setbacks." Do you see where I'm going with that?

Marlo Meno – Well there's not all those. There's like-

Rick Barchers – Yeah, I know. Well if there's two, there's all those. But no, I'm just saying, so weigh those things out. That make sense?

Mary Chappell – I think the city... Just thinking about this sitting here, I think the city needs to be prepared to tell us what they're willing to do on the maximum density to go up that ground. That they're willing to accept there and what they're willing to do with the park.

Rick Barchers – Well maximum density would be the, what it's zoned at. Well no we don't have a maximum density, they just have to meet the minimum lots and setbacks.

Jaime Topham – But that's what we're talking about. So, this is what in my mind, this is that unique development that the PUD really matters more. And it's because not that what they want to do is so unique, it doesn't fit the property. But because the city has a unique need and that unique need is for them to give up way more than they actually have to because they've already dedicated 31 feet to the city.

Rick Barchers – I would really like to have Dan in here to say just exactly how much that's going to be too. So I mean because if you're sliding, if you're gaining this 20 foot to slide everything over, then all of a sudden all that changes.

Jaime Topham – So here we're saying that they need, Dan was saying they need 37 feet, they need to dedicate 37 feet. But we're also saying that they've already, these people down here have already given up 20 feet. So, we are going to actually add, instead of making this 22 feet, we're going to say this has got to be 39 feet. That means this whole thing needs to shift 39 feet from the center line.

Rick Barchers – That's just up at the top.

Mary Chappell – That is the most valuable piece of property in Grantsville, that corner right there.

John Limburg – I'm sure it is.

Jaime Topham – That is why I wanted Solberg's there.

Mary Chappell – And I'm just being honest. I mean can we still have that developed with commercial businesses? That's important.

Jaime Topham – You're at 228 and we're having, we need essentially 39. Well yeah, essentially 39 feet. But that's from the... I don't know where the measurements are honestly. Is that from the center line of Matthew's Lane?

Mary Chappell – I don't really know where the line should be at Family Dollar.

Jaime Topham – On this map, on this detail it says 240 feet. Is that from the corner of your property line?

Mary Chappell – We're making, well it's my assumption. I think it's from the corner of our property line, right Greg, from Main Street, the corner of Matthew's Lane and-

Greg Wilding – Yeah, that's correct.

Jaime Topham – So then they've taken out 14 feet?

John Limburg – Brett. Yes, Brett. We have with Family Dollar. If they did put that in their own spot, what kind of power does the city have to make them go fix that so we don't run into an issue with Family Dollar to make them move that over or give up some more land?

Brett Coombs - I mean it becomes pretty difficult because the city approved where it would've been at. I mean the city would've signed off on where it's at currently and it didn't make him go back. So, it would be a taking at this point and the city would have to go through and make sure that they're compensated for their loss.

Mary Chappell – I apologize because obviously I don't know what I'm talking about with development and stuff, but for a collector, 90 feet, does that equal two lanes and a center lane? Two lanes on each side of the center lane?

Mayor Critchlow – Two lanes on the center line and one parking lane on the other side. Okay? That's a wide road, you guys. That's the Main Street.

Mary Chappell – Let's talk about that because when you, I'm just picturing Walmart in Tooele. When you come to a light at an intersection, you have one left hand turn, that's three lanes potentially of traffic that would turn on Main.

Jaime Topham – Going out of Walmart onto Main Street.

Mary Chappell – Yeah. So if we were to look at that and going off of Matthew's Lane to Main Street, right? Where are the five lanes going to go? There's no road through.

Jaime Topham – That's a different conversation. Does it make sense to have this be a collector?

Rick Barchers – Not a traffic engineer.

John Limburg – That's the thing, we got to have somebody tell us. We can't make that decision.

Rick Barchers – That's what the traffic study was for.

Mayor Critchlow – Yeah. That traffic study was come up with 90 feet because that's what Dan told him to put there.

John Limburg – So we need to have somebody come back and tell us that.

Mayor Critchlow – Right there on my little notes that I'm putting, we're going to have a discussion about roads.

Mary Chappell – It's like okay, if there's three lanes on Main Street and you've got two lanes coming to go on Main plus the center lane to turn left, where are these two lanes going to go?

Rick Barchers – Well the future collector is going to assume that Main Street's going to be a much busier and wider road. The same with Durfee. So, currently, yeah, making that a collector would be silly because until the improvements are done on Durfee and Main Street, it really would be pointless. So that in theory plays to why they only have to pave half of it.

John Limburg – Yeah but we got to have it ready for, we have to go 90 even it's got to be ready for it.

Rick Barchers – Well land dedication versus improving It's different.

Jaime Topham – Yeah.

John Limburg – And we don't need 90 but we need someone to tell us that. We can't make that decision, so.

Jaime Topham – I don't know. With your logic, if it's only a block long. It's kind of two blocks. Grantsville block, because we like things big here. Still only, you're never going to have two lanes of traffic going south and then two lanes of traffic going north. Are you? Because then when you get to the end of it, how do you deal with those two lanes?

Mayor Critchlow – When that property, when that road and the stuff was coming out, if you go further to the south that the city's allowed people to build in front of it. Okay? All the way to the south past Johnson's, past Durfee Street, the stake center. It's a good thing we're not having to run that. Okay, see this field over here and they let the stake center take part of it and then this field and then if you go further south. Right there. There's no road. No way it can go through there.

Mary Chappell – So, it's literally going to be a five-lane road to collect to Solberg's? But it's really going to be the highest traffic draw. There's nothing going to be bigger than that, what's on that corner.

Rick Barchers – Those apartments, I'm just saying there's a lot of people in that development that are going to be going out onto that street too.

Mary Chappell – Right. But that's what I'm saying, it is the draw. Nothing's going to really go further through it onto Durfee, they're going to turn and that's it.
Yes.

Christy Montierth – What you'll need is a right turn lane. You will need four, more or less four. Four lanes would get us to where traffic could flow, there's going to be a turning lane so they can still turn left into the property. A deceleration and acceleration lane to turn right into the property as well as come out of the property. A lane to go north and a lane to go south. That gives you the four lanes.

Jaime Topham – This is a maybe Gary thing. Gary, how wide do we need for four lanes?

Gary Pinkham – A 66 foot right away, if we were to give up most of the park strip or all of the park strip, you'd gain 13 feet there, which is a center turn lane. You'd still have parking on both sides, you'd have two through lanes and a turn lane with in a 66 foot right away.

Jaime Topham – Would that give us a right turn lane as well?

Gary Pinkham – What that does, probably with the 20 feet that's been given up above 20 feet were projected on down through the Johnson's. That would mean they'd have to do 15 to get us to 66 in length.

Marlo Meno – So help us just, I know you said a lot of things and I was listening. But on your 66 feet, does that give us four lanes or does that give us three lanes?

Gary Pinkham – It would give us parking, parking, Northbound, the Southbound, and a center turn lane.

Jaime Topham – What about a right-hand turn?

Mayor Critchlow – This guy in this lane is going to be a right-hand turn lane. The center lane that goes through there, it's the left-hand turn lane and these people are coming in this way.

Gary Pinkham – With a 66 foot right away, we could still have turn lanes and through lanes, et cetera. We can still accommodate the intersection at Main.

Marlo Meno – And we would restrict the parking on the street in those areas. Just at the end so they could have the turn lane.

Rick Barchers – Well, I got no problem with at Main. Because that helps solve the problem up on that end.

Gary Pinkham – You do the same at either end. When you come up to the intersection, you just eliminate the parking the last couple 100 feet, or 300 feet. And what was a parking becomes a right turning lane.

If you think about, it isn't about how it's painted, or striped. If you think about Main Street in in Tooele in front of the Key Bank how everybody pulls up on the park strip by Key Bank and turns up onto Utah Ave. That's what you're doing. You eliminate that parking and that becomes your turn.

Rick Barchers – So we'd have five lanes like we got up there at Key Bank

Gary Pinkham – No, that's a wider street up there. We could have parking here, drop the parking, that becomes a turn lane, what is your normal through lanes, stays a through lane. If we look at this, I don't think there are going to be any through lanes.

Rick Barchers – So the only difference between this and any other collector is the parking on the sides. I mean, to make it a collector, you'd have that parking on either side. I don't really think that's going to be an issue on this street. That's just my opinion.

Gary Pinkham – I think you could work with what's there, and a 66 foot right away and do the designing we need on each end with paint striping and eliminate the park strips on this road, and we got plenty.

Rick Barchers – Or at least eliminate park strips on the ends near the intersection.

Mayor Critchlow – There are different load sections for... Instead of 90 feet, you can do 84 feet and I'm trying to think of all the other ones we have.

Gary Pinkham – I think within a 66 foot right away, which with the existing 30, if we project the 20 feet. I vaguely remember this discussion. We only want 20 feet here because we didn't want to encroach any closer to the front of the existing houses. But if that 20-foot line was projected all the way to Durfee, which would be Johnson's property. These folks would need to put 15 here to have 66 feet. If we eliminate park strips, which are 13 feet, 6 and a half feet on each side, we go from 42 to 55 feet wide, which gives us room for center lane and our through lanes.

Rick Barchers – Well, if we got enough parking in this development, I don't see a need for parking on the street.

Gary Pinkham – That's another option, is you could eliminate the parking and even have another lane or whatever.

Rick Barchers – So in the future, maybe they could just eliminate the parking and put an extra lane.

Gary Pinkham – If they needed to. Yeah. It depend on how heavily both sides develop. But I don't know.

Marlo Meno – The main thing I feel better about is that it would be safe to turn in. Because we look at the commercial, we're going to have Soelberg's have more commercial than the apartments, right? And so being able to safely turn in with the turning lane, with three lanes. We don't need street parking. We just say no street parking. I feel like that's reasonable for that road. I feel like that's reasonable.

John Limburg – Well, if a guy were to ride his bike down that road. If you're taking the parking out, is there a path for somebody to ride a bike down that road?

Gary Pinkham – By eliminating park strip, you can have a center turn lane, a Northbound lane, and a Southbound lane, and you can have parking on either side. Or if the city wanted to, for John we could eliminate parking on one side and paint that side green. Then you could ride your bike there.

John Limburg – A lot of people in this town would actually like that.

Gary Pinkham – I really think the 66 foot right away, even if we reconfigure the roadway section, will take care of the traffic for this development, and minimize the need for-

Marlo Meno – We don't level Jeremy's house, Justin doesn't have to dig up his fence and it'll work. I don't know about how many Family Dollar. But it feels to me that was much better.

Jaime Topham – Family Dollar has to lose some.

John Limburg – If they come back and say 66 feet is good if the city is good with that and they think that gets everything that they need, I'm more than happy to say yes. I just don't want them to say, "No, we are going to need..." If he comes back and says that has to be a collector, and it's going to be 90. We're not traffic engineers, we can't design this road. That's what we're doing right now.

Marlo Meno – No, but if this not as if, it's not like we're saying we're going to put a tunnel, or a bridge, or... Right.

Jaime Topham – Well, quite frankly, they took Worthington, that was supposed to be a collector and turned it into a non-collector, so...

John Limburg – Way back when, whenever they were designing Quirk Street, they had a bend in it, and somebody didn't think to fight it then. And now everybody gets to hit that bend every single time they drive down Quirk street. And I don't think that... We got to be ahead of that.

Jaime Topham – So if we were talking about allowing that to be 66 foot right away, would we have to amend the master transportation plan? Brett? If we allow a 66 foot right away, would we have to then amend the master transportation planned to change that from a collector to a, what is it? Regular city street.

Brett Coombs – It's just like a general plan in your zoning map, right? Yeah, it's there, it's been approved, it's your guidance. And so, you have to stick with the guide unless you amend it.

Jaime Topham – So, ladies, back to what you're asking of us, if we went that direction and asked Dan and appropriate people to find out if that would work for the city and not cause a traffic nightmare, that also would mean that we'd be back to this discussion of not giving up, you're not giving up 39 feet, you're only giving up 15 feet, extra feet. So, then we'd be less likely to give up the density.

Mary Chappell – I do have a question. Is there going to need to be a sidewalk?

Jaime Topham – I would think so.

Mary Chappell – Yeah, I'm not saying... I guess the question is, Greg, do we have this set up so there is a sidewalk down Matthews Lane?

Greg Wilding – Down Matthews Lane? Well, it would have been. The Matthews Lane would not be, per our plan right now, it would not be centered on that existing... So it would be centered on that existing asphalt road, not pushed over on your side.

Rick Barchers – Wasn't there supposed to be a trail go through there? Didn't Dan say something about that or am I nuts? Now, I know you don't want to have another Dan discussion.

Marlo Meno – I think we had all the sidewalks connect and get to the parking. Then also connect to the trail section on the fact that path that we just axed. The sidewalks are connecting so they can get to the parking.

Jaime Topham – Greg. Does this plan that you've presented us tonight that Dan has marked up, does that have sidewalks on Matthews Lane?

Greg Wilding – So it's intended to have sidewalks there, but per your discussion today, the question is where they would be. The intent was that it would be a full width right of way. Now we haven't talked a whole lot about how much of that we're going to construct. But yes, the intent was that this would have the standard side of road cross section of the 90-foot cross section. So, whatever your 90-foot section was, we would start at that property line when we offset it to 14 or 20 feet, whatever was decided, it would be constructed to the standard of the 90-foot right of way until we get over and out of right of way.

Jaime Topham – Yes, it needs to have a sidewalk. How's that? Where it ends up being and, on whose property, it has to have a sidewalk.

John Limburg – So Gary, did your calculations include the sidewalk?

Gary Pinkham – I think it was 15 now. We could do the 5-foot sidewalk on their side of the street. The curb and gutter next to the sidewalk. And that leaves us 37 and a half feet for three lanes of travel. There would be no parking, which is would be a Northbound, a Southbound and a center turn if we going to set it that way. And then in the future, when the other 20 feet gets dedicated, we could get to 66 feet of right of way. But that would let us finish the East side of the street with our curb and gutter etc.

Jaime Topham – So it wouldn't have the landscape, the detail that up there. It would not have that landscape section?

Gary Pinkham – This goes away. This curb gets put there. And we would have 37 and a half feet of asphalt at this point in time.

Rick Barchers – Oh, for right now.

Gary Pinkham – Yup. Which gives us room for three lanes. Now without any parking there. In the future when the other 20 feet gets dedicated, we can finish the 66-foot street.

John Limburg – If they build the road now does that get you to the crown of the road? To the center of the road, the crown, the center line?

Gary Pinkham – We'd have to probably project past the crown and in the future regrade the road once we have the full width. Because otherwise we're going to get in trouble with drainage. But again, that's an easy fix.

Jaime Topham – So, mayor, you're always asking us at the end what you need to take back to city council. I think what you need to take back to city council is if city council is open to changing this to a local roadway, 66 feet.

Mayor Critchlow – Already in my notes.

Jaime Topham – Okay, But, now it's said on the record.

Marlo Meno – We need to probably just talk about the other variances.

Jaime Topham – Yep. Let's jump into them.

Marlo Meno – Do we need to talk about Durfee where we're selling the street. What we're going to need to do next.

Jaime Topham – So you saw the note about Durfee street needs a dedication for a 90 foot right of way for improvements are being done.

Mary Chappell – So I guess we need to understand what the measurement is now that we have talked about changing things. We need to figure out what we need to do there, right?

Jaime Topham – So at the top of the drawing Dan says “need to dedicate about 20 feet for a 90-foot collector street per city transportation plan.” That's the top note. Does that answer that question?

Mary Chappell – Yeah. Greg, I don't know if you want to talk about the variances or you want us to...

Greg Wilding – You know what? It's all right, why don't you guys go through them. And I don't have any questions about Durfee street, I understand that. The nice thing about Durfee there's a section line running down it, so I understand how we can do that and there won't be confusion there. As far as if you want to hit the exceptions now, maybe just read through the list that we've developed.

Mary Chappell – Yeah. So, the first one is rear yard setbacks on the single family. So that's one. And then the separation between buildings on both multifamily. We want that to be 15 feet between the ‘55 and older’ community and the townhomes.

Jaime Topham – What is the normal setback?

Mary Chappell – You say that when they're connected that the 15 feet is normally on each end which makes that 30.

Jaime Topham – And you're asking for 15?

Mary Chappell – And we're asking for 15 between.

Greg Wilding – The codes not real clear for this zone what the setback would be between buildings of this style. It specifies what it would be if it's a twin home development. And a twin home development typically has, it's just a small lot development except for one side of it, the home is connected to the home on the adjacent lot. And so, in that case, your code talks about a separation from the building over to a lot line. And in both cases here, the town homes and 55 and older, we won't actually have lot lines, they both work like a town home development and they would plat with a private ownership being the footprint of the structure. So, the code doesn't really address that for this. And so, we just want to make sure, I don't know if it's necessarily an exception as much as it is a clarification, we'd like 15 feet between the buildings.

Jaime Topham – Shay.

Shay Stark – Can Cavett pull up the MU ordinance that was passed last night.

Rick Barchers – Right. Because I think it did spell that out. I'm pretty sure it did. Well, maybe we can just look at that later. I don't know. But I think it did spell it out. Sure. Sure. Go ahead and why don't you just go ahead and give us the lists and we can look at them for next time.

Marlo Meno – Okay the next one is the 29 feet curb to curb. What do you want, 26? And that's for the 55 and over and the town homes. The other streets standard.

Greg Wilding – And there, it looks like there's a comment about that on our town home. I can't quite read it there. But on our town home project on this first sheet, there's a comment about that.

Jaime Topham – It says these will need to be private streets, 26 foot right of way from back of curb to back of curb. Driveway 22 feet to face of the building. That's what it says. His other note is, where will the snow be stacked in the town home area?

Rick Barchers – And the parking.

Greg Wilding – Yeah, the parking we're meeting your code I believe right now on that for visitor parking.

Rick Barchers – Well, if it does, it does. These are the things you're asking for though, that's kind of...

Marlo Meno – Yeah. We did feel like we need a parking exemption on townhomes or the 55 and over. But on the apartment complex, we do want to go 1.5 stalls instead of two on the apartment building.

Jaime Topham – Why? What's that? Space?

Greg Wilding – Yeah, to save on land area. It's just burning up a lot of ground. And we've designed them this way before, but we'd also like it to utilize this green space and not necessarily impervious our pavement.

Jaime Topham – Then one of his other notes in the apartment area is, will there be any shading for the parking areas?

Greg Wilding – Mary and Marlo, I'll let you answer that. I assume covered parking.

Rick Barchers – So I've got three so far, side setbacks on townhomes and 55+ community. And the 26-foot street, and the 1.5 spaces instead of two, did I miss one?

Marlo Meno – Well, so yeah, so it's actually, it's the 20 foot on all backyards or the rear yard on a single-family lot. Then the 15 foot we're questioning if that was really a variance or not. But if it's in the code, okay, right? So that ones are just making sure that's what we need. And that's only on the town homes and the 55 plus. Then the 26-wide drive, I don't believe that's a variance, where that's what it needs to be, that's what it is. So, we should be good there. That's not one. And then the last one is that 1.5 parking stalls instead of two.

Mary Chappell – With the discussion on the roads, right? You think we're going to need to go up. That would be the concession

Jaime Topham – Well if the city is okay with a 66 foot right of way then you're not dedicating 39 feet, you're dedicating 14 feet, 15 feet. Yeah, it's 15. And if you're not going to do that back 20 foot in the back. It's a gain of five actually.

Mary Chappell – But that's the things the city asked for. Is that 20 feet on the West side. The 15 feet of additional roadway.

Jaime Topham – yes, I agree. But I guess I missed what the ask is.

Mary Chappell – No, I'm saying, I don't understand where the extra 5 feet comes in when we were going to have to ask for concessions for the 20 feet anyway. If the 20 feet goes away, we're not asking for the concessions we have for that, but the three levels was for 14 feet we thought we'd have to give.

Rick Barchers – I'll be 100% honest with you on the thought process here that I'm going through on the parking on the apartments. You're already asking to go to one and a half instead of two and you want to add a third story to it.

Greg Wilding – The intent is not to increase the unit count by going to a third story.

Jaime Topham – Well I guess that's where I'm confused because I thought that that discussion about going to a third story was when we were talking about you need to give up 39 feet.

Mary Chappell – We didn't know we were going to have to do that. We had that down when we thought we had to give up 14, so we came in.

Derek Dalton – You had three stories with giving up 14 feet?

Jaime Topham – Oh, that was not clear, for sure.

Marlo Meno – We weren't planning on getting maximum density out of it though. Right?

Derek Dalton – So your 1.5 is calculated off three stories?

Marlo Meno – No I did it off of the two stories.

Mary Chappell – So if we went to three stories and had additional density we'd have to get rid of the building? So we have parking? We'd have to adjust that. We would still keep the parking at 1.5 per unit regardless.

Jaime Topham – I'm kind of back to the, I'd rather the park be smaller and you do the right amount of parking than to go up?

Rick Barchers – I would agree with that.

Jaime Topham – So I think parks are important, but parking is really important. We all know what happens when we don't have enough parking or the right size of parking.

Marlo Meno – So are you asking us to have two parking spots per apartment and decrease the size of the park?

Jaime Topham – I think that's what my preference would be. Does anyone else have thoughts on that?

Rick Barchers – I would agree. Parking's a big deal for me. What are your thoughts?

Marlo Meno – So I think the concern with the decreasing the size of the park was the city didn't want to do anything smaller.

Jaime Topham – It's at six acres. Isn't our minimum five?

Marlo Meno – 10.

Jaime Topham – Is the code 10? Or, well, our master plan.

Rick Barchers – That's what we're requesting.

Jaime Topham – Okay. Hold on. What is our master plan? Our master plan is five. I thought so because that's what I remember when we finished it. So, you could still do the five, I mean I don't know how much acreage you need in order to get two spaces per.

Marlo Meno – We could cut back the park size and add more parking.

Jaime Topham – Yes.

Marlo Meno – Okay. We'll have to look at that.

Jaime Topham – So are you planning ... I mean it's drawn out like you're planning on finishing this park out. Is that accurate?

Marlo Meno – Finishing what part out?

Jaime Topham – The park. You would actually have the amenities built?

Marlo Meno – We need to figure out which phase and when that would be up. Yeah.

Jaime Topham – Okay. Because we are in a concept and it's drawn in, I want to know if this legit or not.

Mary Chappell – Well, we need to determine too is that going to be a public park for all of Grantsville and if it is, does it get turned over to the city and the city maintains it once it's built? Or is that part of the HOA and only the community will have access to it?

Jaime Topham – We'll see. If it's going to be five acres, then the city should be willing to take it because that's what we said in our master plan. I'm hearing different from the park service.

Mary Chappell – Are you ready for another splash path?

Jaime Topham – Well, I guess that depends on what-

Rick Barchers – The kids are, yes.

Mary Chappell – I just feel like those are the type of people that will be in there.

Jaime Topham – But I'm also hearing from you guys that who knows whatever future developer comes in and does it, then maybe they don't put in splash paths. Right? Because you're not sure that all that's going to develop right away, so you leave it to develop over time. So, then we probably have some time before those things actually come to evolve. Because it'll be over by then.

So really when we're looking at this concept, what we're really looking at is that we have a five-acre section that will be a park or an open space and it doesn't really matter what the conclusions are at this point.

Rick Barchers – As a concept also understand that we're not saying that this density is actually going to be okay and meet every particular thing. We would still have to have plans written out.

Marlo Meno – We'll do all that.

Rick Barchers – Does that make sense? Well, I mean you're talking about the 20-foot setbacks and the 15-foot on the curbing or setback side to side and those sorts of things. Plus, we're talking about the street. We got to make sure that that's all defined and everything too. So, we can say, yeah, this'll work if all these things because we don't know that it's all, does that make sense? But as a concept, I'm good with it.

Jaime Topham – I was going to say, so just to be very clear, this is concept. We're not binding the city to accepting any kind of anything at this point. I think what I'm hearing from you guys is you want kind of a "yes or no" if we're going to allow a 15-foot setback, 20-foot on the single-family homes, I think what Rick's, hopefully, I think what you're trying to say is we can't guarantee that.

Marlo Meno – So what's the process then? Do we need to worry about it? I mean it's like what you guys were talking about earlier today. I know it's a genuine question. Right? Doesn't even matter yet. We're going to decide that later. We think we're going to want this we would give you the heads up?

Mary Chappell – We're going to say yes conditionally. But I guess that's ... we brought this so you guys would know and wouldn't be blindsided with anybody after, these are things we want in the end, and do you feel good about it with what we presented? Or do you feel like sure, for concept this looks good, but I'm telling you when you bring it back for the next phase, you're not going to get that. We don't want to do that.

Cavett Eaton – So did you guys received the PUD application information that I sent you guys? So that's the next process.

Mary Chappell – That's the next step.

Cavett Eaton – Start filling that out and saying just like you're doing right now. We want this, we're willing to give this and do that very same thing.

Mary Chappell – So this concept is, fine.

Cavett Eaton – And that's the next process. And that's actually an application with approval. And that's where you get approved.

Mary Chappell – So that's where they approve. Are we there at this point where we can bring that forward or are we still at the concept where we need to have this more filled in?

Rick Barchers – Here's kind of what I'm seeing. I'm kind of seeing you've asked for four different things. The 1.5 parking spots in the apartment complex is probably going to be a no, I mean just from what I'm hearing.

Marlo Meno – So, what we did was you'll say no to that and we'll come back on it.

Rick Barchers – And these other things are up for discussion. We still don't know exactly what needs to be done on the street if the city's going to approve. Do you see where I'm going?

Jaime Topham – So the 20-foot setbacks in the family homes?

Rick Barchers – I don't know. I don't even know what the code is. It might meet code, I don't know.

Marlo Meno – It doesn't.

Rick Barchers – Shaving five feet. Are they going to gain that by gaining the 20 feet on the other end? I mean, I don't know.

Marlo Meno – We need to get the concept.

Jaime Topham – You don't ... Okay. You don't have to bring it as a concept. The concept plan will never ever vest you in anything you have. If you want to be vested in something and get an actual approval, then you have to file the preliminary plan and the PUD application.

Marlo Meno – Okay. So that's next.

Cavett Eaton – So then those can come together and the preliminary is kind of the drawing and the big picture. The PUD is, "This is what we're asking for, this is what it looks like." If those two came together as they approve it, then it gets tweaked a little bit because it's going to come in with things that need to change

Jaime Topham – I know that you guys are asking for an agreement so you can move forward particularly with the Solberg's thing. The problem that we have is that we don't know exactly what we can do because we've got this road issue. It's up to you what you do next. If you want to go and redo your concept so it shows that 15 feet, what we just talked about today, that would be great. It helps us but it does delay your process and you're not going to get any kind of vesting based on the concept. It's kind of up to you what you want to do.

Yeah. We've said to the mayor, "We want you to take to the city council can we change this so that it's not change the road from a designation of a collector to a local roadway so that 66-foot right of way would be appropriate. We kind of have to have that information before you go here.

Mary Chappell – Totally. So, Greg, I'm just going to ask you if we were to move forward to the plat plan next, that's a lot more work than a concept, right? So, I mean if the decision goes through that, "No, this is or is not going to work with the collectors," we make the assumption for the plat that it 66 feet is okay and if not more changes are going to be made. So, Greg, what would you recommend there?

Greg Wilding – It would be nice to know right out of the gates what the city would like us to do, particularly with Matthews. I would say that we've probably got enough information from the

city and their opinion right now on the exception items that we probably could proceed to a preliminary if we have the answer on Matthews.

Mary Chappell – That's right. We'll make the adjustment on the parking and we're going to go forward with those other two.

If preliminary is approved at some point do we have to have a development agreement? That's where I'm like, "How does ..." to be able to have things come in so they can commit the same thing?

Brett Coombs – The city will require a development agreement. Well the city will request a development agreement so that all the parties are on the same page of what's being done.

Where in the process that development agreement comes in is something that is up to negotiation between you guys. Whether you do it upfront or at the backend.

Mary Chappell – But that needs to be done before we can move forward with any construction on that ground? Like Solberg's can't move forward until we have it done.

Brett Coombs – That's right.

Mary Chappell – It might be beneficial to try to do that parallel with the Plat plan. Yeah, we need to bring it together. Okay.

Jaime Topham – Yeah. I can't give you a solid yes because we're kind of working on our process.

Mary Chappell – Yeah, I know. We're trying to work with you on the process. We get it, right? We totally get it. But the more we can work on and get ready the better.

Jaime Topham – And we appreciate the transparency and the willing to work and the making all the revisions and taking our feedback and our input.

Marlo Meno – We really want it to be nice. I mean we want it to be something very positive and nice for the city.

Jaime Topham – Yeah. You guys are kind of being our guinea pigs into how we craft process and ...

Rick Barchers – We want this to work. We do. Everybody does.

Greg Wilding – Can we get these drawings emailed to us with the notes on them please? That'd be awesome.

Mary Chappell – Thank you.

Cavett Eaton – I'll get this to you tomorrow, Greg. Thanks.

Greg Wilding – Thanks you very much.

2. Approval of minutes from the Jan. 5, May 18, and July 6, 2023 Planning Commission meetings

John Limburg – July 6th. Anyway, I put in there, it said ... maybe it's 26. Oh, right in the middle it says John Limburg, but it said iron framed and I said Aaron trained and then down below it says iron framed again, and I said Aaron trained.

Rick Barchers – I just wanted to make a note that I appreciate the interpretation of my accent there. Yeah. 16 talks about a guard jack instead of a guard shack.

Yeah. I said there's a guard jack? Just curious. I guess that's in case somebody has a flat tire? That doesn't make sense even. So it's supposed to be a guard shack. And then Greg Wilding says, "Not a guard jacket," should be, "Not a guard shack but an automatic gate."

Jaime Topham – Do you two have anything?

John Limburg – No.

Jaime Topham made a motion that we approve all three minutes from January 5th, May 18th and July 6th with the changes requested by John and Rick. John Limburg seconded the motion. All in favor? Motion carries unanimously.

3. Report from City Council liaison Mayor Critchlow

Mayor Critchlow – I made some notes. I just want to explain my frustration with this. Up on Nygreen, we ask that the people at President's Park, at the school, people down Nygreen we asked them for their land because that actually went clear to the north fence line and we didn't give them anything. It just wasn't fair to me. That means a lot to me to be fair with people and compensate them if we're going to try to take something huge. That's why I'm a little frustrated with that. I apologize for some comments I made. Some of them, not so much. I apologize. But you guys, I appreciate what you're doing. This is a hard thing to do. They are the guinea pigs, but as long as we treat everybody fairly, we'll end up in the right place.

4. Adjourn

Jaime Topham – So, Cavett, before we adjourn, we would like to set another work meeting to talk about our PUDs. We're going to be specific in our agenda that half an hour is going to be dedicated and they've promised half an hour will be dedicated to the process and half an hour will be dedicated to conversation about what we will or won't accept on variances. Right?

Cavett Eaton – The 3rd is our next meeting. August 3rd. 3rd and 17th. Thursday.

Jaime Topham – Do you guys have a preference, 3rd or 17th?

John Limburg – Doesn't matter to me. Either way.

Jaime Topham – Let's plan 6:00 on the 3rd. Anything else?

Jaime Topham made a motion to adjourn. Rick Barchers seconded the motion. All in favor. Voting was unanimous. Motion passed.

Meeting Adjourned at 8:37pm

AGENDA ITEM #4

Report from City Council liaison Mayor
Critchlow

AGENDA ITEM #5

Adjourn