



N E V A D A

AGENDA

Regular Meeting

Planning Commission

Wednesday, April 10, 2024 • 5:00 PM

Members

Jenni McCullar - Chairwoman
Angela Lewis - Vice Chair
Humayoon Lodhi - Commissioner
Barry Williams Sr. - Commissioner
Cody Wagner - Commissioner
Jacob VanderHeiden - Commissioner
Robert Flores - Commissioner
Tessa Garvin - Alternate

Fernley City Council Chambers, 595 Silver Lace Boulevard, Fernley, NV 89408

Zoom information:

Please click the following link to join the webinar: <https://us02web.zoom.us/j/82966343247>, or one tap_mobile: 12532158782, Dial: 669 900 9128, Webinar ID: 829 6634 3247

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Public Comment: Those wishing to address the Planning Commission may submit public comment through the [online public comment form](#), or by sending an email to cityclerk@cityoffernley.org. Comments received prior to 4:00 pm the day of the meeting will be provided to the Planning Commission and added to the record but will not be read during the live meeting. Public comments received after 4 pm the day of the meeting will be included in the record but may not reach commission members before action is taken. Public comment, whether on action items or public comment, is limited to three (3) minutes per person. Unused time may not be reserved by the speaker, nor allocated to another speaker. The public may comment on any matter that is not specifically included on an agenda as an action item or comment on a specific agenda item. Items not included on the agenda cannot be acted upon other than to place them on a future agenda. Additionally, if you wish you can comment in person at the meeting or use the Raise your Hand feature in Zoom (*9 if you are participating via phone).

Accommodations: The Planning Commission and staff will make reasonable efforts to assist and accommodate individuals with disabilities desiring to attend the meeting. Please contact the City Clerk's Office at (775) 784-9830 in advance so that arrangements can be made.

Supporting Material: Staff reports and supporting material for the meeting are available at the City Clerk's Office, and on the City's website at www.cityoffernley.org. Pursuant to NRS 241.020(6), supporting material is made available to the general public at the same time it is provided to the City Council.

Order of Business: The presiding officer shall determine the order of the agenda. The Fernley Planning Commission may combine two or more agenda items for consideration; remove an item from the agenda; or delay discussion relating to an item on the agenda at any time. All items are action items unless otherwise noted. Items scheduled to be heard at a specific time will be heard no earlier than the stated time but may be heard later.

1. INTRODUCTORY ITEMS

- 1.1. Pledge of Allegiance**
- 1.2. Roll Call**
- 1.3. Public Forum**
- 1.4. (For Possible Action) Approval of Agenda**
- 1.5. (Possible Action) Approval of Minutes**

2. STAFF REPORTS

- 2.1. Discussion and possible action to adopt joint Resolution 24-007 accepting the 2022 City of Fernley Water System Plan Update**

3. GENERAL BUSINESS

- 3.1. Training - Presentation by the Planning Director on the difference between Zoning and Land Use and how they work together.**

4. PUBLIC HEARINGS

A. DISCUSSION WITH PLANNING COMMISSION & STAFF B. PUBLIC INPUT C. ADDITIONAL DISCUSSION WITH PLANNING COMMISSION & STAFF D. COUNCIL ACTION OR DIRECTION TO STAFF

- 4.1. (For Possible Action) Discussion and possible action on a conditional use permit application (CUP24002) submitted by Priority Engineering on behalf of VIA Real Estate to allow for outdoor storage and general retail on a site zoned General Commercial (C2) and located at approximately 1200 Fremont Street (APN: 021-271-03).**
- 4.2. (For Possible Action) Consideration, discussion, and possible action to recommend that the City Council approve Bill #347, an Ordinance amending Title 32, Chapter 3, Section 090 (Modifications and Appeals) of the Fernley Development Code to create a process to waive certain development standards in certain parts of town to aid in development and redevelopment efforts, and other matters related thereto.**
- 4.3. (For Possible Action) Discussion and possible action regarding a proposed development code text amendment (CA24004) to Fernley Municipal Code §32.03.050(c) to extend the submission requirement for a temporary use permit from seven days prior to thirty days prior to the requested date of the start of the proposed temporary use.**

5. CHAIR AND COMMISSION ITEMS

(SUMMARY OR ACTIVITY REPORTS ON PLANNING ISSUES, ACTIVITIES OR ORGANIZATIONS IN WHICH INDIVIDUAL MEMBERS MAY BE INVOLVED. THIS ITEM IS TO PROVIDE GENERAL INFORMATION TO THE COMMISSION AND PUBLIC. NO DISCUSSION SHALL TAKE PLACE AND NO ACTION WILL BE TAKEN.)

6. PLANNING DIRECTOR ITEMS

(ACTIVITY SUMMARY OR UPDATES ON PROJECTS THAT HAVE BEEN PREVIOUSLY REVIEWED BY THE PLANNING COMMISSION. THIS ITEM IS TO PROVIDE GENERAL INFORMATION TO THE COMMISSION AND PUBLIC. NO DISCUSSION SHALL TAKE PLACE AND NO ACTION WILL BE TAKEN.)

7. ADDRESS REQUEST(S) FOR FUTURE AGENDA ITEMS

8. PUBLIC FORUM

9. ADJOURNMENT

Next Meeting: Next meeting May 8th @5pm

**MINUTES OF THE
FERNLEY PLANNING COMMISSION MEETING
MARCH 13, 2024**

Chairwoman Jenni McCullar called the meeting to order at 5:00 pm.

1. INTRODUCTORY ITEMS

1.1. Pledge of Allegiance

1.2. Roll Call

Present: Chairwoman Jenni McCullar, Vice-Chair Angela Lewis, Commissioner Humayoon Lodhi, Commissioner Barry Williams, Commissioner Cody Wagner, Commissioner Jacob VanderHeiden, Commissioner Robert Flores, Alternate Commissioner Tessa Garvin, City Manager Ben Marchant, Deputy City Manager Lydia Altick, City Clerk Kim Swanson, Deputy City Clerk Brenda Gosser, Administrative Specialist I Sandy Harris, City Attorney Aaron Mouritsen, Planning Director Michele Rambo, Senior Planner Shay League, City Engineer Derek Starkey.

1.3. Public Forum

None at this time.

1.4. (For Possible Action) Approval of Agenda

Motion: I MOVE TO APPROVE THE AGENDA WITH ITEM 2.1 MOVED TO AFTER ITEM 3.4. **Action:** Approved. **Moved by:** Commissioner Humayoon Lodhi, **Seconded by:** Commissioner Barry Williams. **Vote:** Passed, **Summary:** Yes 7. **Yes:** Commissioner Williams, Chairwoman McCullar, Vice-Chair Lewis, Commissioner Wagner, Commissioner Lodhi, Commissioner VanderHeiden, Commissioner Flores.

1.5. (Possible Action) Approval of Minutes

Motion: I MOVE TO APPROVE THE LAST MEETING MINUTES. **Action:** Approved. **Moved by:** Commissioner Cody Wagner, **Seconded by:** Vice-Chair Angela Lewis. **Vote:** Passed, **Summary:** Yes 7. **Yes:** Commissioner Williams, Chairwoman McCullar, Vice-Chair Lewis, Commissioner Wagner, Commissioner Lodhi, Commissioner VanderHeiden, Commissioner Flores.

2. GENERAL BUSINESS

2.1. Training presentation from Wayne Carlson of POOL/PACT regarding Ethics in Government (NRS 281A).

This item was heard after Item 3.4

Wayne Carlson from POOL/PACT reviewed Nevada's ethics law NRS 281A and how public officials can apply the law. As public officials, the Planning Commission should know these

laws and how to avoid conflicts of interest between their private interests and their public duties. This is the second training session for the Planning Commission in 2024.

2.2. Administer Oath of Office to new Planning Commissioner Tessa Garvin.

City Clerk Kim Swanson administered Oath of Office to Tessa Garvin.

3. PUBLIC HEARINGS

3.1. (For Possible Action) Discussion and possible action regarding a conditional use permit application (CUP24001) submitted by Dragonfly Energy to request relief from development standards required by Fernley Municipal Code §32.09.090 for intensification of a substandard development and to establish a general production facility in one quarter of a previously vacant existing structure located at 2275 East Newlands Drive (APN: 021-251-18).

Shay League, Senior Planner, presented this item. Dragonfly Energy has devised a new process to create electrode feedstock material for battery cell production in their Sparks laboratory space and intends to test production on a large scale using 25% of the existing building space on this site. This site is a substandard development, meaning that it was originally constructed in accordance with the applicable regulations but no longer meets the standards of our current development code. Because this substandard development has been vacant for 6 months or greater, any new use establishment is considered an intensification of use. An intensification of use on such a site requires the site be brought up to the current development code standards.

There was no public input.

Dominic Sinnott gave a brief background on Dragonfly Energy. They are a lithium-ion battery company that has been in the Northern Nevada community for over 10 years. Fernley will serve as their major step in onshoring the battery manufacturing process from Asia to North America and using American technology and local work force to do that. They will be processing the materials that go into batteries.

Commissioner Cody Wagner questioned if there would be any storing of hazardous chemicals that fall under Nevada Division of Environmental Protection compliance and the construction of sidewalks.

Dominic Sinnott stated that there will be storage of different solvents and they are fully aware of the regulations that need to be followed and compliance standards. They are in talks with general contractors to construct the sidewalk.

Motion: I MOVE TO APPROVE THE CONDITIONAL USE PERMIT ASSOCIATED WITH CUP24001, SUBJECT TO CONDITIONS OF APPROVAL 1 - 18 AS PRESENTED AND MOVE TO ADOPT FINDINGS A THROUGH F, AND THE FACTS SUPPORTING THESE FINDINGS, AS SET FORTH IN THE STAFF REPORT. **Action:** Approved. **Moved by:** Commissioner VanderHeiden, **Seconded by:** Vice-Chair Lewis. **Vote:** Passed, **Summary:** Yes 7. **Yes:** Commissioner Williams, Chairwoman McCullar, Vice-Chair Lewis, Commissioner Wagner, Commissioner Lodhi, Commissioner VanderHeiden, Commissioner Flores.

3.2. (For Possible Action) Discussion and possible action regarding a recommendation to City Council for an annexation application (ANX24001) submitted by Summit Engineering on behalf of Lansing Companies regarding a request to annex into the City of Fernley a ±177.7-acre parcel generally located west of Duffy Drive, east of Truck Inn Way, and northwest of Nevada Pacific Parkway at Interstate 80 (APN: 021-581-08).

Shay League, Senior Planner, presented that this parcel is contiguous to City of Fernley boundaries and the applicant has filed a petition of annexation. The subject parcel is directly north of the 155.6-acre parcel the applicant recently annexed, and both parcels are intended to be developed as a project with the working name of "Nevada Pacific Industrial Park". Alongside the previously annexed parcel, if this parcel is annexed, the area for this industrial project will become 333.3-acres in size. The parcel is currently vacant and surrounded by similarly vacant parcels but abuts land undergoing the development process as part of the Victory Logistics project. Completion of the Victory Logistics project will extend the City of Fernley's industrial core northward towards this parcel.

Commissioner Cody Wagner asked if there had been any thought about annexing everything north of I80 in Lyon County to the City of Fernley.

Shay League, Senior Planner, stated that there has been thought as to possibly annexing all the county isles in the City of Fernley boundaries, but there has not been a discussion about moving northward. The Area Plan does include areas that are Lyon County. It would need to be an annexation originated by the City Council and would require input from the Board of Commissioners.

There was no public input.

Motion: I MOVE TO ADOPT THE FINDINGS RELATED TO CONSIDERATIONS OF APPROVAL A THROUGH D AS PRESENTED BY STAFF. I FURTHER MOVE TO RECOMMEND CITY COUNCIL ADOPT AN ORDINANCE THAT APPROVES THE ANNEXATION PETITION ASSOCIATED WITH ANX24001, CONVERTS THE ZONING OF THE ASSOCIATED PARCEL FROM RR5 TO GR20, AND PROHIBITS DEVELOPMENT ON THIS PARCEL UNTIL THE NORTH FERNLEY AREA PLAN IS COMPLETE. **Action:** Approved. **Moved by:** Commissioner Cody Wagner, **Seconded by:** Commissioner Humayoon Lodhi. **Vote:** Passed, **Summary:** Yes 7. **Yes:** Commissioner Williams, Chairwoman McCullar, Vice-Chair Lewis, Commissioner Wagner, Commissioner Lodhi, Commissioner VanderHeiden, Commissioner Flores.

3.3. (For Possible Action) Consideration and possible action regarding Resolution 24-005, and, if approved, a recommendation that City Council certify said resolution, for a master plan amendment application (MPA24001) submitted by Priority Engineering on behalf of VIA Real Estate to change the designated land use from Multi-Family Residential (MFR) to Commercial (C) at 1200 Fremont Street (APN: 021-271-03).

Shay League, Senior Planner, presented this item. The zone of this vacant parcel is Commercial, but the current designated land use is Multi-Family Residential (MFR). The applicant would like to develop a Tractor Supply on this parcel and has submitted a conditional use permit that will come before this Commission for consideration in April.

Kirt Anderson, Priority Engineering, and Greg Evangelatos, Nevada Planning Consultants, gave a brief presentation on the opportunities that Tractor Supply will bring to Fernley and Tractor Supplies background and foundation.

Commissioner Cody Wagner gave full disclosure in regard to knowing Mr. Evangelatos for several years. Mr. Evangelatos is a donor to the non-profit that he helps run and that he has no financial or other interest in this project that will affect his objectivity and he will be voting on this item.

Public input:

Neal McIntyre, Mayor, Fernley resident, stated that he is in favor of changing zone

William Shattnok, Fernley resident, stated that he is in favor of the zoning change.

Gary Fields, Fernley resident, stated that he is in favor of the zoning change.

Motion: I MOVE TO ADOPT RESOLUTION 24-005 AND RECOMMEND CITY COUNCIL CERTIFY THIS RESOLUTION AND APPROVE THE MASTER PLAN AMENDMENT APPLICATION ASSOCIATED WITH MPA24001. I FURTHER MOVE TO ADOPT FINDINGS A, B, AND C, AND THE FACTS SUPPORTING THESE FINDINGS, AS SET FORTH IN THE STAFF REPORT. **Action:** Approved. **Moved by:** Vice-Chair Angela Lewis, **Seconded by:** Commissioner Barry Williams. **Vote:** Passed, **Summary:** Yes 7. **Yes:** Commissioner Williams, Chairwoman McCullar, Vice-Chair Lewis, Commissioner Wagner, Commissioner Lodhi, Commissioner VanderHeiden, Commissioner Flores.

3.4. (For Possible Action) Consideration, discussion, and possible action to recommend that the City Council approve Bill #342, an Ordinance establishing a Development Agreement (DA22001) between the developer (Mark IV Capital) and the City of Fernley in association with the Victory Logistics District Planned Development relating to improvements of utilities, public services, streets, and other related items.

Aaron Mouritsen, City Attorney, introduced Chris Malena (Zoom) who will be presenting this development agreement on behalf of the City of Fernley. He is the City's outside legal planning attorney.

Chris Malena, outside council for the City of Fernley, gave a brief overview of what the Development Agreement is and why it is needed.

Michele Rambo, Planning Director, presented that the property owner, Mark IV Capital, and the City of Fernley have negotiated a Development Agreement to accompany the development of the Victory Logistics District Planned Development. This agreement outlines requirements for both the developer and the City to follow as the project develops over the next 20 years. Items discussed include a new fire station, how to address the need for future sewer infrastructure, traffic mitigation, and the need to move a City well if a railroad spur is expanded. In general, a Development Agreement is a contract between the City of Fernley and Mark IV Capital detailing the obligations of both parties for the development of the property. The proposed agreement outlines the timing and extent of public improvements to be installed by the Master Developer. It also provides the city with assurances that public services and infrastructure will be sufficient to protect the health, safety, and welfare of residents as the project grows.

No public input at this time.

Motion: I MOVE TO RECOMMEND THAT THE CITY COUNCIL APPROVE BILL #342, AN ORDINANCE ESTABLISHING A DEVELOPMENT AGREEMENT BETWEEN MARK IV CAPITAL AND THE CITY OF FERNLEY REGARDING THE IMPROVEMENTS OF UTILITIES, PUBLIC SERVICES, STREETS, AND OTHER RELATED ITEMS BASED ON THE FINDINGS OUTLINED IN THE STAFF REPORT. **Action:** Approved. **Moved by:** Commissioner Wagner, **Seconded by:** Commissioner Lodhi. **Vote:** Passed, **Summary:** Yes 7. **Yes:** Commissioner Williams, Chairwoman McCullar, Vice-Chair Lewis, Commissioner Wagner, Commissioner Lodhi, Commissioner VanderHeiden, Commissioner Flores.

Chairwoman McCullar called for a break 6:05 - 6:11.

4. CHAIR AND COMMISSION ITEMS

None at this time.

5. PLANNING DIRECTOR ITEMS

Michele Rambo, Planning Director, reported that the area plans should be available by the end of March or April; and the Planning Commissioners will be set up with City emails.

6. ADDRESS REQUEST(S) FOR FUTURE AGENDA ITEMS

None at this time.

7. PUBLIC FORUM

None at this time.

8. ADJOURNMENT

There being no further business to come before it, the Fernley Planning Commission meeting adjourned at 7:18 pm.

Approved by the Fernley Planning Commission on April 10, 2024, by a vote of:

AYES _____ NAYS: _____ ABSTENTIONS: _____ ABSENT: _____

Chairwoman Jenni McCullar

ATTEST:



CITY OF FERNLEY

Planning Commission AGENDA REPORT

Meeting Date: April 10, 2024

REPORT TO: Fernley Planning Commission

REPORT FROM: Derek Starkey, City Engineer

FINANCIAL IMPACT:

Yes: No: x

CURRENTLY BUDGETED:

Yes: No: x

FUND/ACCOUNT:

N/A

ACTION REQUESTED: Resolution

AGENDA ITEM:

Discussion and possible action to adopt joint Resolution 24-007 accepting the 2022 City of Fernley Water System Plan Update

AGENDA ITEM BRIEF:

This item will present the updated water system plan for adoption by joint resolution with the Planning Commission and City Council.

RECOMMENDED MOTION:

I move to adopt joint Resolution 24-007 number accepting the 2022 City of Fernley Water System Plan Update.

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A, or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

Planning Commission and City Council could choose not to accept the plan or to request modifications to the plan.

BACKGROUND:

In 2020, the City of Fernley contracted with Shaw Engineering to complete an update to its water system

plan. The last update to the plan occurred in 2008 and was completed by TRC Engineers, Inc.

The water system plan aids the City in water resource management and capital improvement planning for the City's water system as it continues to grow and serve new customers. In creating the plan, the City and Shaw utilized the following documents:

- 2008 Water Master Plan (TRC Engineers)
- 2018 Comprehensive Master Plan (Wood Rodgers and Lumos and Associates)
- 2019 Water Resource Plan (Farr West Engineers)
- Water Rate Study Technical Memorandum (Hansford Economic Consulting)
- Water Treatment Plant Expansion Study (CDM Smith)

The following sections summarize the assumptions and outcome of the update to the plan:

Existing and Planned Service Areas

The existing service area is comprised of the City's 129 square mile boundary. The actual area served by the current system is only about 14 square miles. The future planning areas in the South, Southwest and North are not included in this study. Water infrastructure planning will be included in those planning efforts and incorporated into this plan once they are complete.

Growth and Water Demand

Significant growth occurred from incorporation (2001) to the beginning of the Great Recession (2008). During this time the City experienced a 71.8% increase in population. Growth and development stalled for the years after the Recession but has increased in recent years. The City currently has 8,690 meter water service customers. With the update of the comprehensive plan in 2018 and the associated land use designations, the maximum estimated build out is 51,520 dwelling units. The maximum buildout is calculated by using the maximum number of dwelling units/acre and multiplying it by the number of acres of land available for that use. The planning horizon for the update is 20 years. These assumptions were used in water system planning and modeling to identify system needs.

Water Resources

The City currently pumps, treats and serves groundwater to its customers. It does this through six (6) municipal wells: Well 4, 9, 9A, 11, 13, and 14. The firm capacity of the wells is 8.65 million gallons a day. Firm capacity is available capacity with the largest producing well out of service. Total peak production capacity is estimated at 12.33 million gallons a day, assuming all well pumps are operating 24 hours a day.

The has approximately 8,900 ac-ft of groundwater rights in the Fernley Hydrographic Basin, 2,100 ac-ft of groundwater rights in the Brady Hot Springs Basin, and 9,700 ac-ft of Claim 3 surface water rights from the Truckee River.

Water Rates

The most recent rate study was completed in 2021 with a 3% increase/year approved for the next five (5) years. A new rate increase is proposed for fiscal year 2024-2025.

Groundwater/Surface Water Treatment

The City's water treatment plant was completed on July 20th, 2009. The plant has a capacity to treat up to 20 million gallons per day of groundwater. In the early 2000's the Environmental Protection Agency implemented

the Arsenic rule which adopted a new standard for arsenic in drinking water of 10 parts per billion, which replaced the old standard of 50 parts per billion. The average arsenic concentration varies in each well but ranges from 20-40 parts per billion before treatment. The City's treatment plant currently removes arsenic down to an average of 2 parts per billion.

The treatment plant was originally developed with the option to treat both groundwater and surface water. The City is currently completing the final work on a takeout structure at the Truckee Carson Irrigation District Canal with a pipeline to a pump station located at the water treatment plant site. Once operational, water will flow through the takeout structure into the pipeline and to the pump station. The pump station will pump the water into the water treatment plant for treatment.

Preliminary engineering for the surface water treatment infrastructure and source water testing are currently underway with a consultant. The improvements needed at the plant are beyond the scope of this update and are not included in this report. The improvements have been tentatively budgeted for in the City's five year capital improvement plan.

Existing Conditions

The existing system is currently in satisfactory condition with a majority of the sytem being less than 35 years old. However, there are still concerns about portions of the system:

- Groundwater pumping effect on the water table and aquifer levels.
- Groundwater production is limited with very little redundancy due to the number and capacity of the pumps.
- Water storage capacity is limited. There are currently four (4) storage tanks online.
- Below satisfactory pressures in developments at higher elevations
- Aging Wells 9 and 9A
- Aging Northeast Booster Pump Station
- Dead-end mains and aging distribution mains in older areas of the system.

The concerns are addressed through the design and construction of the proposed capital improvement projects identified in the plan.

Capital Improvements

The plan identifies major infrastructure projects needed to address issues in the existing system or to accommodate future growth. The projects are based on the City's understanding of its sytem needs as well as water system modeling using growth projections and land uses identified on the 2018 Comprehensive Plan. Below is a table of the projects along with their estimated costs. The projects are presented in a conceptual phase and final engineering and surveying would need to be completed on all the projects.

Project Name	Purpose	Cost Estimate	Status
EWWTP Potable Water Main and Fire Line	System Expansion	\$765,325	Completed in 2021
Cottonwood Lane Water Main Replacement and Extension	System Replacement and Expansion	\$525,312	Completed in 2023
Fixed Base Meter Reading	Administration and Billing	\$2,633,500	Ongoing
WTP Surface Water Pump Station and Intake	Production and Treatment	\$5,282,032	Substantially Complete

WTP Surface Water Treatment Integration	Production and Treatment	\$4,400,000	Preliminary design work started in 2024.
Water Resource Investigation Brady Hot Springs	Production and Growth	\$50,000	Budgeted in FY23/24.
Northeast Tank - NV Pacific Pkwy Connection Main	System redundancy and Growth	\$976,500	In 5 Year CIP
Northeast Booster Pump Station and 9/9A Improvements	System Efficiency and Maintenance	\$1,319,500	In 5 Year CIP
US95A Booster Pump Station *	System Deficiency (Pressure)	\$1290,500	In 5 Year CIP
Highway 50 Looping Main	Looping/Redundancy	\$5,059,840,	Budgeted for Design in FY24/25
Logan Lane to Vine Street Looping Main	Looping/Redundancy	\$817,740	In 5 year CIP
Mull Lane High Pressure Main and PRV	System growth	\$3,900,150	Longer Term CIP - Development Driven
Brady Hot Springs Well	System Redundancy and Growth	\$9,471,000	Longer Term CIP - Development Driven
Desert Shadows Lane Transmission Main and PRV	System Growth	\$6,577,875	Longer Term CIP - Development Driven
Southeast Tank and Transmission Main	Storage	\$5,124,600	Longer Term CIP - Development Driven
1.5 Million Gallon Tank at Ricci Site**	Storage	\$3,008,750	Budgeted for Design in FY24/25
1.5 Million Gallon Treated Water Reservoir	Storage/Treatment	\$2,192,044	Design in progress. Construction to begin 2024.

*Final project will be determined with Southwest Area Plan. This project would serve the existing developments.

**This project was identified as a more feasible alternative and is documented in the 2023 Water System Plan Amendment Technical Memorandum

RELEVANT LAWS, STATUTES, AND REGULATIONS:

Nevada Administrative Code 445A

FINANCIAL IMPLICATIONS:

There are no financial implications to adopting the plan. The plan does identify capital projects for the water

treatment and distribution system which will be funded for design and construction at a later date.

ATTACHMENTS:

1. !!!Final -2022 Redacted Water Plan Update
2. 2022 Water System Plan Joint Resolution 24-007
3. 2023 Water Plan CIP Amendment - Stamped

**CITY OF FERNLEY
DEPARTMENT OF PUBLIC WORKS**

**2022
Water Master Plan**

FERNLEY, LYON COUNTY, NEVADA

DECEMBER 2022

PREPARED FOR:

THE CITY OF FERNLEY, NEVADA

595 Silver Lace Boulevard
Fernley, Nevada 89408

PREPARED BY:

SHAW ENGINEERING

20 VINE STREET
RENO, NEVADA 89503
(775) 329-5559

**CITY OF FERNLEY
2022 WATER MASTER PLAN**

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1.0 EXECUTIVE SUMMARY

The City of Fernley has contracted *Shaw Engineering* to compose this *2022 Water Master Plan* as an update to the *2008 Water Master Plan previously completed by TRC Engineers, Inc.* This *Water Master Plan* utilizes the (1) *2018 Comprehensive Master Plan*, (2) *2019 Water Resources Master Plan*, (3) *Water Rate Study Technical Memorandum*, and (4) *Water Treatment Plant Expansion Study*. The *2022 Water Master Plan Update* was developed to aid the City in water resource management and capital improvement planning crucial to maintain the system and accommodate the City's expected growth.

1.1 Existing and Planned Service Area

The City of Fernley Boundary is shown in Exhibit 1. The existing service area currently covers approximately 14 square miles of the City's 129 square mile boundary, with varying elevations of 4,100 feet to 4,500 feet. The planned build-out service area covers approximately 18 square miles.

1.2 Growth and Water Demand

The population of the City of Fernley service area has experienced fluctuating increases since 2008. During the development of the previous water master plan, the City was at the end of a period of significant growth with the onset of the Great Recession starting in 2008. Between 2005 and 2011 the City of Fernley experienced a 71.8% increase in population. As the growth and development within Fernley tapered off throughout the Great Recession, the population of Fernley has been increasing at a relatively steady rate since 2011 at approximately 1.21%. This change in growth rate meant many of the preparations made to the City's water system before 2008 have allowed it to accommodate the moderate growth without major improvements.

The City of Fernley *2008 Water Master Plan* reported the City's annual maximum day demand (MDD) occurred in July 2006 with a demand of 10 million gallons per day (MGD) with an estimated service population of 6,920 customers. Between rate changes and construction water use, the City has since experienced MDDs of 5 to 6.5 MGD.

Based on the *2018 Comprehensive Master Plan* and associated land use designations, the maximum build-out of Single Family, Mixed, and Multi-Family land use would be 51,520 dwelling units. Maximum build-out is calculated using the maximum number of dwelling units per acre multiplied by the acreage available. As of July 2018, the City had 7,087 dwelling units. No timeline has been assumed for the build-out of the City of Fernley. Build-out of the known tentative maps provides a reasonable gauge for water infrastructure planning and, based on recent growth rates, provides a planning horizon beyond 20 years for this master plan update.

1.3 Water Resources

The City of Fernley currently operates six groundwater wells as a source of drinking water supply: Well 4, Well 9, Well 9A, Well 11, Well 13, and Well 14. The firm production capacity of the wells is 6,010 GPM (8.65 MGD). Although the firm pumping capacity is stated as 8.65 MGD the current total peak production capacity is estimated at 12.33 MGD, assuming all well pumps are operating 24 hours a day as discussed in the *2019 Water Resources Master Plan*. Additional groundwater is managed by the City of Fernley for irrigation of Desert Lakes Golf Course. In total, the City has approximately 8,900 acre-feet annually (AFA) of groundwater rights in the Fernley Hydrographic Area and 2,100 AFA of groundwater in the Brady's Hot Springs Hydrographic Area. The city is also the owner of record of approximately 9,700 AFA of surface water rights from the Truckee River under Claim No. 3 of the Orr Ditch Decree. Although the City is in the planning stages of

delivering surface water to its system and connecting Brady's Hot Springs water; only groundwater in the Fernley Hydrographic Area is currently being utilized for the community public water system. As discussed in the *2019 Water Resources Master Plan* the characteristics of the City's surface water and the lack of any production wells in Brady's Hot Springs hydrographic basin mean the City needs to continue to work diligently to protect and develop these critical resources.

1.4 Water Rates

Prior to the 2008 Water Master Plan, the City increased monthly rates and significantly increased connection fees for new services. The connection fee increases were coupled with issuing significant bonds. The bonds were utilized to fund both the construction of the Water Treatment Plant (WTP) for arsenic treatment as well as the expansion of the system to accommodate the record growth the City was experiencing. Once the Great Recession took a devastating toll on development (and new connections) in the City; existing customers were saddled with increased rates to cover bond debt payments owed by the City's Water Enterprise Fund. The City continues to update rate studies with the most recent one completed in September 2021.

1.5 Groundwater Treatment

On July 20th, 2009, the construction of the City's water treatment plant was completed with an average operating volume of four to six million gallons per day and a tentative maximum operating capacity of 20 MGD, and an expansion capacity of 30 MGD when needed in the future. In 2009 the Environmental Protection Agency mandated the maximum contaminant level (MCL) of arsenic in drinking water be limited to 10 parts per billion (ppb). With arsenic levels in Fernley ranging from 20 to 40 ppb; the City of Fernley Water Treatment Plant (WTP) came online in 2009. The WTP utilized coagulation, sedimentation, and microfiltration to treat groundwater to <2 ppb. The WTP has the capacity to treat up to 20 MGD of groundwater.

1.6 Future Surface Water Treatment

The WTP was originally developed with the option to treat both groundwater and surface water. Expanding the WTP to treat surface water would reduce the pumping stress on all 6 of the groundwater wells and expand the capacity of the system to serve up to a total of 27,432 ERCs compared to the existing capacity of 10,256 ERCs (limited by groundwater pumping capacity). Some infrastructure modifications are required at the plant for the treatment of surface water. Once surface water modifications are completed, the plant will have the capacity to treat up to 30 MGD of combined surface water and groundwater (15 MGD surface water only, estimated). The City is currently under construction on the surface water conveyance pump station and pipeline from the Truckee Canal to the plant. The City is also in the preliminary planning/design phases for the required plant modifications. Pilot testing is scheduled to begin in 2022. The treatment plant has a build-out capacity of 30 MGD.

1.7 Existing System Conditions

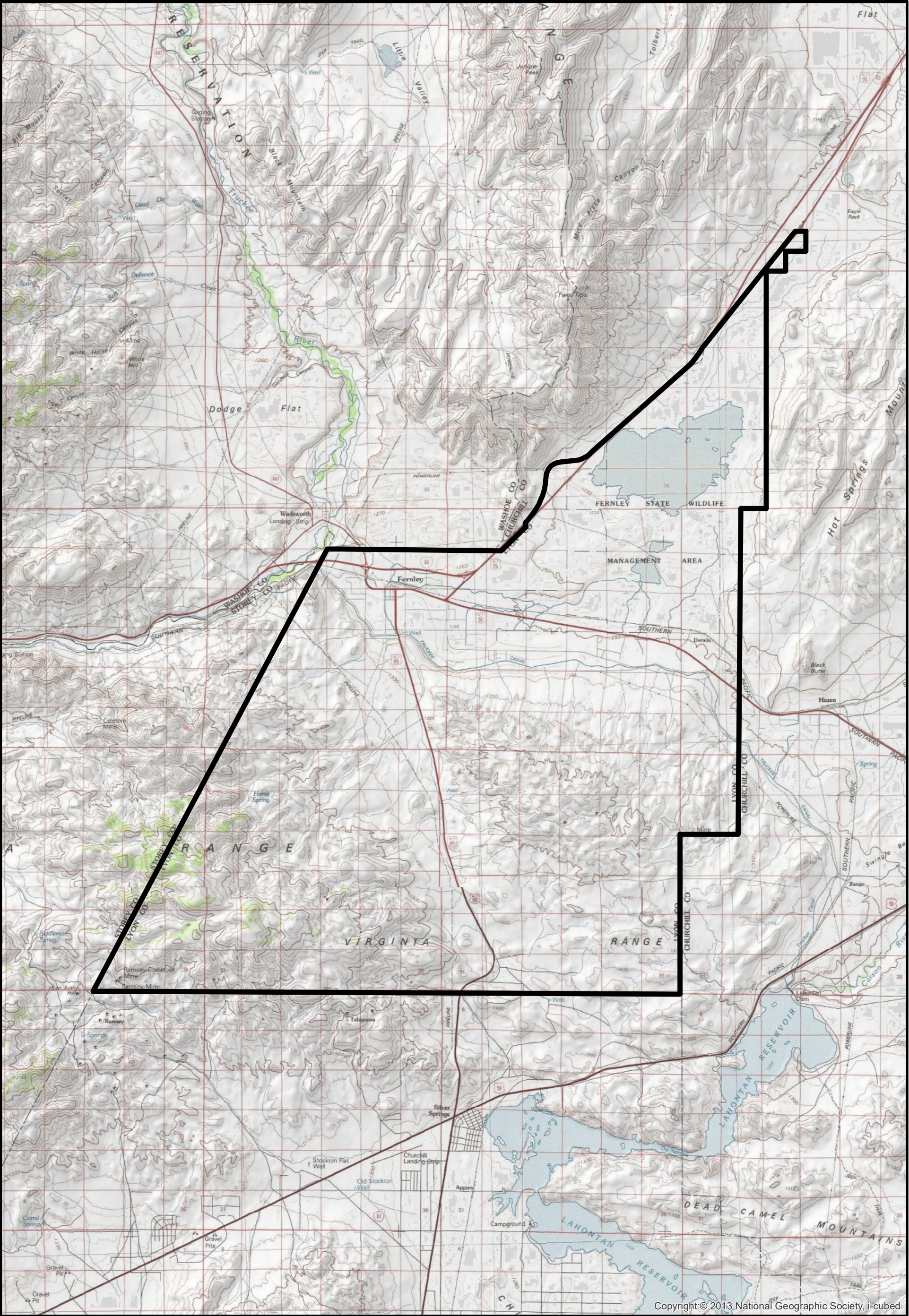
The existing water system is currently in satisfactory condition with a majority of the system less than 35 years old; however, there are still concerns with portions of the city's water distribution system.

1. Groundwater pumping effects on the water table and confined aquifer levels.
2. Groundwater production is limited with little redundancy due to the amount and capacity of the pumps. This leaves very little time for maintenance and rest periods as production needs to occur 23-24 hours a day during peak demand.
3. Water storage capacity is limited. There are currently four storage tanks online.

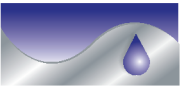
4. Below satisfactory pressures at higher elevations.
5. Aging Wells 9 and 9A.
6. Aging Northeast Booster Pump Station.
7. Dead-end and aging distribution system mains.

1.8 Capital Improvements

Due to significant infrastructure projects being completed between 2007 and 2010 (see Section 2.4), limited recent major capital improvements have been completed. As the City looks forward, capital improvements will be needed to both maintain existing infrastructure as well as accommodate anticipated growth/development. Projects to maintain the system will include projects such as meter replacements, redundant system storage, looping of dead-end lines, main replacements, and well rehabilitation. Projects to accommodate growth will include main extensions, pressure regulating stations, additional system storage, and new booster pump stations. This *Water Master Plan* lays out water resource and infrastructure projects to maintain infrastructure and accommodate future growth. The improvements are based on the City's understanding of existing infrastructure as well as planning and water modeling using growth projections presented in the *2018 Comprehensive Master Plan*. A summary of the recommended capital improvement projects is located in Table 1.1 along with their schedule and estimated cost at present value. The proposed projects and estimated costs are presented conceptually. It is assumed all proposed projects are feasible; however, no surveying or field investigations were performed to verify the feasibility of the proposed projects. Some recommended capital improvement projects contain 2 options in which the more feasible option was used in the yearly and total cost estimate. Individual cost estimates are also presented for reference.



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CITY OF FERNLEY
CITY BOUNDARY
EXHIBIT 1

Table 1.1: Proposed City of Fernley Capital Improvement Projects

Project	Date Recommended	Purpose	Cost Estimate
Project 1 – EWWTP Fire Line and Potable Water Main	2021 (completed)	System Expansion	\$765,325
Project 2 – Cottonwood Lane Water Main Extension*	2022 (Under Construction)	System Efficiency	\$525,312
Project 3 – Fixed Base Meter Reading*	2022-2025 (budgeted)	Administration and Billing	\$2,633,500
Project 4 – WTP Surface Water Pump Station and Intake	23-24 (In Progress)	Production	\$5,282,032
Project 5 – Water Resource Investigation – Brady Hot Springs	23-24	Production & Growth	\$50,000
Project 6 – General Well Improvements (Multiple Sites)	24-25	System Maintenance	\$231,250
Project 7 – WTP Treated Water Reservoir	24-25 (Under Design)	Storage	\$2,192,044
Project 8 – WTP Improvements for Treatment of Surface Water	24-25	Production	\$5,460,000
Project 9 – Northeast Tank – Nevada Pacific Parkway Connection Main	25-26	System Redundancy & Growth	\$976,500
Project 10A – NE BPS and Well 9/9A Improvements**	25-26	System Efficiency & Maintenance	\$1,104,175
Project 10B - NE BPS and Well 9/9A Improvements**	25-26	System Efficiency & Maintenance	\$1,319,500
Project 11 – US-95A Booster Pump Station**	26-27	System Deficiency (Low Pressure)	\$1,290,500
Project 12 – Highway 50 Looping Main	26-27	Looping/Redundancy	\$5,059,840
Project 13 – Logan Lane to Vine Street Loop (Development Driven)	27-28	Looping/Redundancy	\$817,740
Project 14 – Mull Lane High-Pressure Transmission Main and PRV	27-28	System Growth	\$3,900,150
Project 15 – Brady Hot Springs Well	27-28	System Redundancy & Growth	\$9,471,000
Project 16 – Desert Shadows Lane Transmission Mains and PRV	27-28	System Growth	\$6,577,875
Project 17 – Southeast Tank and Transmission Main	27-28	Storage	\$5,124,600
Project 18 – US-95A Booster Pump Station and Transmission Main**	27-28	System Deficiency (Low Pressure)	\$4,049,765
Fiscal Year 2022-2023 Sub-Total			\$775,312
Fiscal Year 2023-2024 Sub-Total			\$5,582,032
Fiscal Year 2024-2025 Sub-Total			\$8,133,294
Fiscal Year 2025-2026 Sub-Total			\$3,650,175
Fiscal Year 2026-2027 Sub-Total			\$6,475,340
Fiscal Year 2027-2028 Sub Total			29,941,130
TOTAL ALL PROJECTS			\$54,557,284

*In Progress

**Indicates similar project with alternative options for improvement

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2.0 INTRODUCTION

2.1 Purpose

The basis of the City of Fernley *2022 Water Master Plan* is (1) the *2018 Comprehensive Master Plan*; (2) the *2019 Water Resources Plan*; (3) the *2021 City of Fernley Water Rate Study Technical Memorandum*; and (4) the *2016 Water Treatment Plant Expansion Study*. The purpose of this *2022 Water Master Plan* is to aid the City in water resource management and introduce system improvements necessary to maintain the system, increase reliability and provide for the future needs of the system through the year 2040. This report provides an update of the *2008 Water Master Plan* prepared for the City of Fernley.

2.2 Water System Overview

The City of Fernley Public Works Department's Water Distribution and Treatment Divisions operate and manage the water system for the City of Fernley. The City's current Water system covers approximately 14 square miles. The City of Fernley Public Water System is permitted through the Nevada Division of Environmental Protection, Bureau of Safe Drinking Water as a community water system with water system ID NV0000062.

The City's potable water is provided via six groundwater wells located throughout the city. In the near future, the city plans to expand its Water Treatment Plant for the treatment of surface water from the Truckee River (via the Truckee Canal). Construction of the City of Fernley Water Treatment Plant in 2009 aided in achieving a goal concentration of arsenic of fewer than 10 parts per billion (ppb) in all drinking water as set by the Environmental Protection Agency. The Water Treatment Plant has a current operating capacity of 20 MGD, and an ultimate expansion capacity of 30 MGD to treat groundwater and surface water.

2.3 Planning Area

The City of Fernley boundary is shown in Exhibit 1. Elevations vary from 4050 feet to 7200 feet, with the majority of the developable land located between 4100 and 4500 feet. The *2018 Comprehensive Master Plan* covers approximately 128 square miles within the city boundary and details land use designations for each parcel (0).

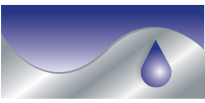
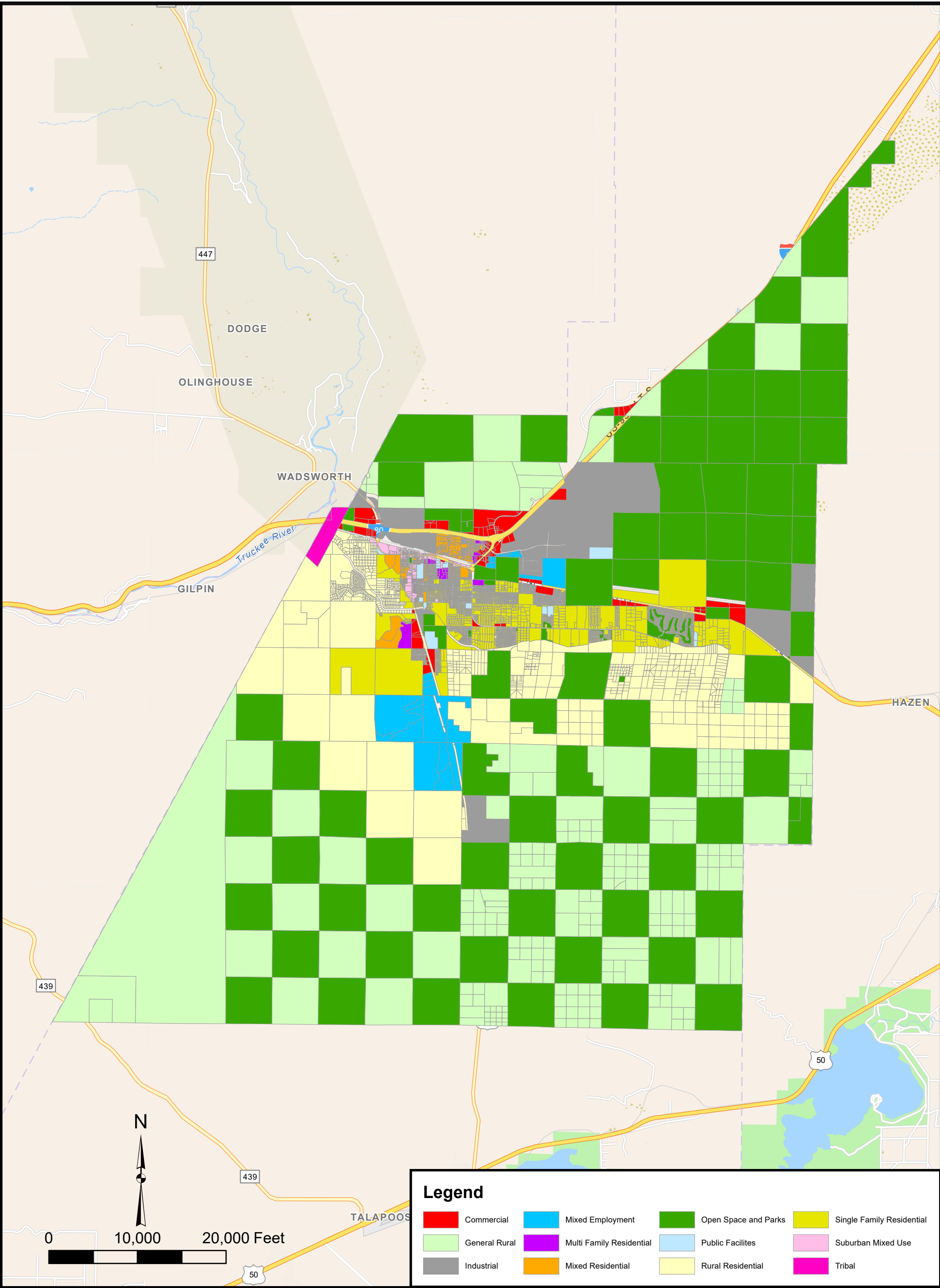
The *2018 Comprehensive Master Plan* established land use categories and a land use map within the City of Fernley boundary as a general guide for growth. Some of the categories will require very little water; for example, the rural residential lands with less than one dwelling unit per acre and no planned City services (large acreage development areas presumed to be served by domestic wells). This master plan provides planning and recommendations for residential land with densities greater than one dwelling unit per acre as well as parcels with land use designations of commercial or industrial.

As mentioned in the *2018 Comprehensive Master Plan* the city wants to encourage infill development while expanding municipal services in a reasonable and orderly fashion. Both infill and future development areas were analyzed for build-out in the water master plan. The infill development will generally occur in Central Fernley and Farm District Road future development areas. In addition to the future development in the infill areas, the *2018 Comprehensive Master Plan* finds three major future development areas and one special planning area. Infill areas, future development areas, and special planning areas are summarized in Table 2.1 with proposed uses. Locations of the development areas are detailed in 0.

Table 2.1: City of Fernley Infill Development, Future Development, and Special Planning Areas

Name of Area	Description and Uses
Infill Development	
Central Fernley	• Largely Commercial (C), Mixed Residential (MR), and Multi-Family Residential (MFR) Areas • Some Industrial (I) • Approximately 3,500 Acres • North-South circulation constraints due to railroad • Employment Center • Utilities available, looping issues • High-Density Housing around existing City of Fernley commercial core
Farm District Road	• Largely Single Family Residential (SFR) and Rural Residential (RR) Areas • Approximately 3,100 Acres • Utilities available, looping issues • North-South circulation constraints due to canal • Mild slopes • Mixed with agricultural and rural-type neighborhoods
Future Development	
North Fernley	• Largely Undeveloped Open Space and Parks (OSP); and General Rural (GR) Areas • Approximately 6,000 Acres • Mild slopes and physical constraints • Employment Center • High-Density Housing • Close to existing City of Fernley commercial core
South Fernley	• Largely Undeveloped Open Space and Parks (OSP); and Rural Residential (RR) Areas • Approximately 10,000 Acres • Minimal infrastructure improvements • Steep slopes • Larger estates • Water and wastewater not planned (domestic wells)
Southwest Fernley	• Largely Rural Residential (RR) • Some Single Family Residential (SFR), Commercial (C), Mixed Residential (MR), Multi-Family Residential (MFR), and Industrial (I) • Approximately 11,000 acres • Highest potential for development • Limited access to major transportation routes • Mixed mild and steep slopes • BC Ranch, the largest tentative development
Special Planning	
Stock Lane	• Rural Residential Area (RR) • Minimum lot size of 2 acres • Low-Density rural housing • Mild slopes

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2.4 Recent Major System Improvements

Prior to the 2008 Water Master Plan, multiple system expansion projects were in the planning and construction phases. These projects were developed to both bring the water treatment plant online as well as accommodate growth. Many of the recommended improvements in the 2008 water master plan have been completed along with various other improvements throughout the system; see the below list of recent major system rehabilitation and expansion projects:

1. 2022: 2.5 MG Sage Tank Interior and Exterior Recoat
2. 2021: EWWTP 10" Main Extension for Fire and Potable Service
3. 2020: Ricci and Cottonwood Canal Waterline Crossing Rehabilitation
4. 2019: Hardie Lane Water Main Replacement
5. 2017: NE Tank Interior/Exterior Recoat Project
6. 2012: Blend Tank Interior Recoat Project
7. 2010: Water Master Plan Project 12 – Wells 9 and 9A Transmission Main (NE Booster to Well 14)
8. 2009: 20 MGD City of Fernley Water Treatment Plant
9. 2009: Water Conveyance Infrastructure Project 9 – 2.5 MG Raw Water Tank and Piping
10. 2009: Water Conveyance Infrastructure Project 4 – Wells 4 & 11 Connections
11. 2009: Water Conveyance Infrastructure Project 3B – Truckee Canal Crossing (at Stock Lane)
12. 2008: Water Conveyance Infrastructure Project 3A-Stock Lane and Sage Street
13. 2008: Water Conveyance Infrastructure Project 2B – Well 13 to Mesa Drive
14. 2008: Water Conveyance Infrastructure Project 1B – Logan Lane to Mesa Drive Wells 14 and 9/9A Tie-In
15. 2008: Water Conveyance Infrastructure Project 1A – Mesa Drive Raw Water and Treated Water
16. 2007: Mesa Drive Water Main Extension

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SECTION 3

WATER SYSTEM FACILITIES

3.0 WATER SYSTEM FACILITIES

3.1 General

The following section summarizes the existing major facilities owned and operated by the City of Fernley Public Works Department. A map of the existing water system, including distribution piping location and size, existing groundwater production wells, and existing tanks is shown in Exhibit 3. Note that raw water transmission mains are not depicted.

3.2 Definitions

The following definitions are provided to clarify terms used throughout the *2022 Water Master Plan*:

Equivalent Residential Connection (ERC): Also known as a residential customer connection, this is the unit in which the City assesses water rights dedication and will-serves. One single-family residential connection represents one ERC; the industrial and commercial customer who has a water demand 10 times higher than that of a single-family residential connection would be allocated 10 ERCs. In terms of water quantity, one EDU is equivalent to 1,000 gallons per day (gpd). Or 1.12 acre-feet annually (AFA).

Groundwater: A water source pumped from groundwater wells.

Groundwater Collection Main: Also known as “Raw Water Main”, a water main specific to the groundwater collection system, and conveys untreated/non-potable water.

Groundwater Collection System: Pressurized conveyance system that collects and conveys groundwater from wells to the Water Treatment Plant.

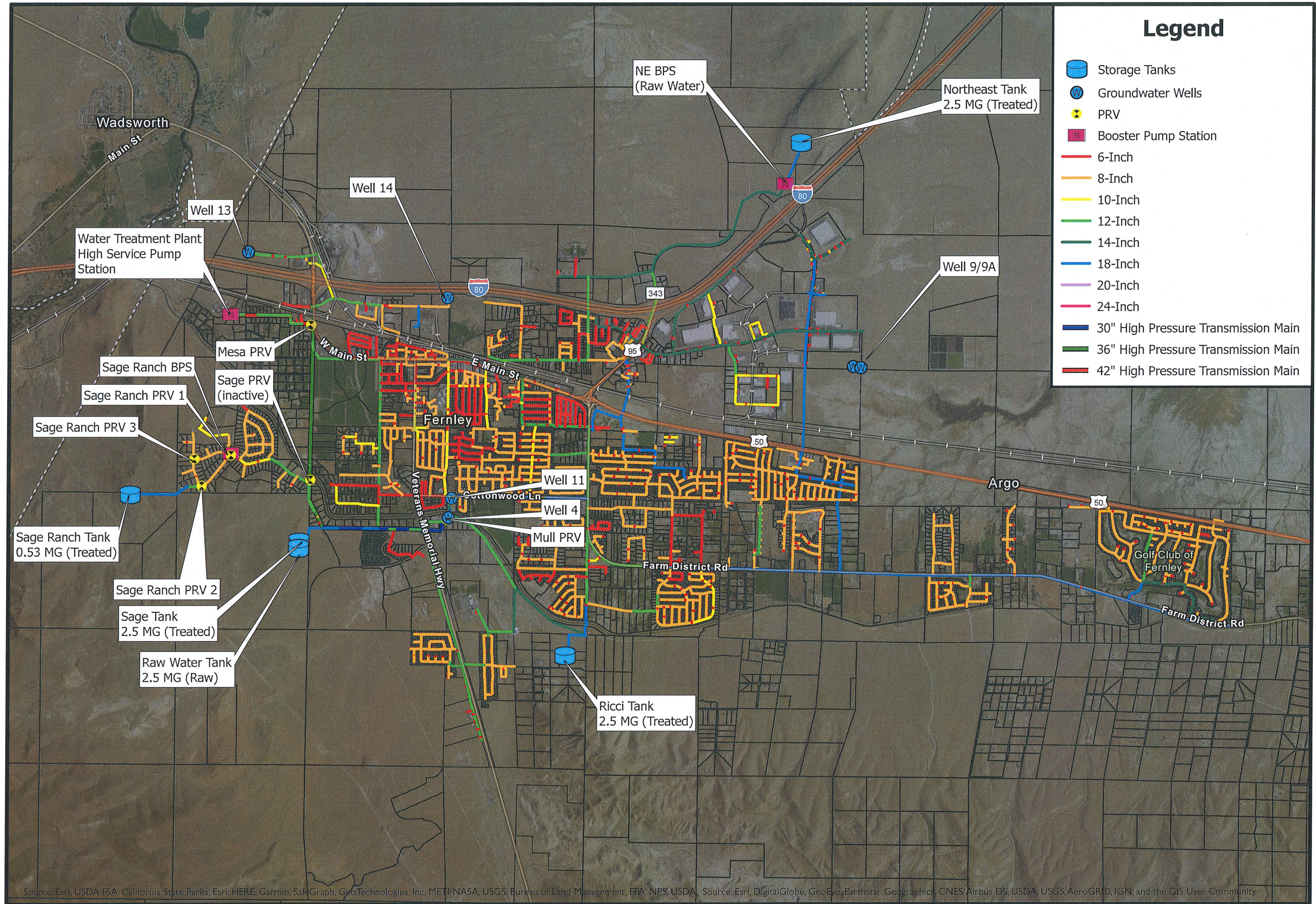
Groundwater Transmission Main: Water main specific to the groundwater collection system that conveys untreated/non-potable groundwater to the Water Treatment Plant.

High-Pressure Treated Water Transmission Main: Sometimes referred to as the *High-Pressure Transmission Main*, part of the treated water transmission system that will operate at a pressure higher than the water distribution system, allowing the City to deliver treated water to select points in the City’s distribution system. Pressure reducing stations reduce water pressure from the transmission mains to the normal operating pressure of the water distribution system.

Non-Potable Water: Water that does not meet EPA Safe Drinking Water Act standards for human consumption/drinking due to potential pathogenic/health issues.

Non-Potable Water System: Water system which conveys only non-potable water; untreated groundwater or untreated surface water.

Potable Water: Water that has been deemed appropriate for human consumption.



Legend

- Storage Tanks
- Groundwater Wells
- PRV
- Booster Pump Station
- 6-Inch
- 8-Inch
- 10-Inch
- 12-Inch
- 14-Inch
- 18-Inch
- 20-Inch
- 24-Inch
- 30" High Pressure Transmission Main
- 36" High Pressure Transmission Main
- 42" High Pressure Transmission Main

Source: Esri, USDA FSA, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc., METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Pressure Zones: Portions of the water distribution system which operate at specific hydraulic grades/pressures, as established by water storage tanks or pressure reducing stations.

Treated Water Conveyance System: As part of the *Water Conveyance Infrastructure Projects*, the *Treated Water Conveyance System* includes the transmission system, pump stations, and pressure reducing stations that convey treated water from the Water Treatment Plant to the water distribution system.

Water Capital Infrastructure Projects: Water projects developed pursuant to establishing the location of the Water Treatment Plant; (1) convey raw groundwater from the City's wells to the Water Treatment Plants; (2) convey treated water from the Water Treatment Plant to the distribution system; (3) additional water resource projects such as groundwater wells, water tanks, and pump stations.

Water Service Area: Also known as Service Territory; the area in which the City is capable of delivering water; the area served by, or potentially served by, the distribution system. In general, the service area is limited to land uses with: (1) residential density of 2 or more dwelling units per acre; and (2) non-residential land uses (commercial, industrial, tourist commercial, public facilities) which can be feasibly served by the water system.

3.3 Current System Operational Summary

3.3.1 Potable Water System

At the present time, the City of Fernley utilizes groundwater as its source of supply. Groundwater is collected via six production wells. There are two wells located off Mull Lane near the Truckee Canal east of Highway 95A, two wells are located in the industrial area near the south terminus of Nevada Pacific Parkway and two wells are located in the commercial and industrial area in the northwest area of town with one off Logan Lane and one off Commerce Center Drive.

Currently, the City's groundwater production system pumps directly to the Water Treatment Plant and utilizes the 2.5 MG raw water storage tank for excess storage capacity. The wells operate via SCADA control based on set points in the raw water tank. Raw water enters the water treatment plant and undergoes chemical addition, sedimentation, and membrane filtration. Once the water has been treated it is conveyed to the distribution system via an arterial high-pressure main followed by pressure reducing valves. The distribution system is composed of four (4) storage tanks referred to herein as the Sage Tank, the Ricci Tank, the Northeast Tank, and the Sage Ranch tank. The Sage, Ricci, and Northeast Tanks all "float" on Pressure Zone 1 of the water system. Pressure Zone 1 can vary in elevation head from ~4,306 feet (empty) to ~4,342 feet (at overflow). The Sage Ranch Tank is located in Pressure Zone 3, is filled via Sage Ranch Booster Pump Station, and serves the Sage Ranch subdivision. The tank also supplies water to Pressure Zone 2 within the subdivision.

American Water Works Association (AWWA) suggests that the quantity of operating storage be 20% of the of the average day demand (ADD) and additional storage for fire flow and emergency reserve (suggested as 75% of the operational capacity). The city currently has a storage capacity of 7.0 MGal in the distribution system, 2.5 MG of raw water storage, and 3.0 MG of treated water storage at the Water Treatment Plant (utilized for chlorine contact). Billing software and system analysis revealed that the City's current average day demand is approximately 3.88 MGD and the maximum day demand is 6.52 MGD based on the 2021 calendar year. The total suggested storage by AWWA is approximately 1.5 MGal. Recent growth has increased the ADD over the

past five years. This increase in ADD continues to tax available system storage. In addition, due to recent industrial developments, fire flow storage reserves in the system have increased to 960,000 gallons in pressure zone 1. The Water Treatment Plant, Pressure Reducing Valve (PRV) flow, and tank operating levels were analyzed for select peak days in July 2021 and revealed the maximum flow into the distribution system from storage occurred on July 28th, 2021. Approximately 900,000 gallons (13.7% of 2021 MDD) was delivered to the system from storage during the morning system peak flow. Based on this analysis the City's operating storage requirement is approximately 14% of MDD. While this number is significantly less than the 33% listed in the 2008 Water Master Plan and marginally less than the AWWA recommendation, it does align with other large systems in the region. In addition, the continual trend of increasing ADD and relatively static MDD shows that outdoor watering in the City is decreasing. This trend is reasonable given water rate increases and increased development using smaller lot sizes and generally less grass. While the City does have sufficient storage, Capital Improvement Projects have been planned to expand storage for immediate capacity to the Eastern portion of the City and areas where large growth is expected. In addition, the City has seen various industrial developments in the planning phases which could cause large increases in ADD and/or PHD over relatively short periods which would require additional system storage. Reference Section 3.12 for additional storage requirements.

The City of Fernley Water System utilizes pipes ranging in size from 6-inch to 24-inch except for the high-pressure transmission mains which utilize pipes ranging in size from 30 inches to 42 inches in diameter. The distribution system is served through a combination of the high service pump station (Mull and Mesa PRV Stations) and the four storage tanks.

The majority of the City's Water System (excluding the Sage Ranch tank and subdivision) is in a single pressure zone (Pressure Zone 1) with a hydraulic grade line (HGL) of 4342 (4542 for Sage Ranch Service Area) and serves elevations between 4095 and 4235. Exhibit 4 illustrates the water pressure zones with respect to the City's boundary.

The Sage Ranch Service area is supplied by the Sage Ranch Tank (0.53 MG) and three (3) PRV Stations to serve the Sage Ranch Subdivision. The Sage Ranch Tank is located in Pressure Zone 3; feeds down to Pressure Zone 2 and is supplied by the Sage Ranch Booster Pump Station which pumps water from Pressure Zone 1 to the tank in Pressure Zone 3 via a dedicated fill line.

Future development at higher elevations in the foothills around Fernley will not be able to be served by City's existing Pressure Zone 1 and new pressure zones and booster pump stations, backup power, storage tanks, and PRV stations will be required. Pressure Zone 1 is currently capable of serving parcels at elevations 4,235 feet and below. See Exhibit 4 for existing pressure zone mapping.

The majority of the imminent development within the City will be within Pressure Zone 1. Previous plans for large development south of the Truckee Canal have been eliminated from the City's Comprehensive Plan; however, current entitlement processes may result in developments being approved in the foothills area. BC Ranch located in the Southwest area of the City has an active development agreement and is tentatively planned to have multiple pressure zones. In addition, further development north of Desert Lakes Subdivision and areas within the industrial park in the northeast part of the City may necessitate PRV stations to create a lower pressure zone for the areas.

3.3.2 Alternative Water System

During the planning stages for meeting the EPA's arsenic rule, there was a focus on methods to limit the required treatment rate for the new arsenic treatment plant. Before the implementation of the new arsenic rule, the City was also investigating options to allow development in the City to place surface water from the Truckee Canal for beneficial use within new residential and commercial areas. In February 2004 the City of Fernley passed Resolution #04-008 and began to require all new developments within the City to install parallel "alternative" water infrastructure (purple pipe system).

The purpose of the *Alternative Water System* was to serve non-potable, mainly irrigation, water demands throughout the City. The system was initially developed as a purple pipe system to allow flexibility for the system to deliver surface water from the canal, untreated groundwater, and/or treated effluent from the East Wastewater Treatment Plant. Unfortunately, due to the timing, many of the new developments were approved before Resolution #04-008 took effect. As newer developments came in, alternative piping was installed; however, as development slowed, these systems became satellite piping systems with no interconnection to each other. Approximately 88,800 LF of alternative water mains are currently installed throughout these developments. As the City focused on preparing for the water treatment plant to come online TRC Engineers, Inc. completed the 2008 Alternative Water Master Plan.

By utilizing Truckee Canal surface water through the alternative system, the City would be able to appropriate water sources congruent with the manner of use of those water sources (Newlands Project surface irrigation water to residential and commercial irrigation water). At the time of the Alternative Water Master Plan, it was estimated that 77% of water use in the City during maximum day demands (in summer) was attributed to non-potable demands. Residential and commercial non-potable water demands were estimated to represent 53% and 12% of the maximum day demand, respectively; water for parks irrigation, and construction were estimated to represent 12% of the maximum day demand. The master plan was prepared to provide interconnection of satellite systems and connection of park water systems to allow the City to deliver 56 MG per month of surface water to irrigation connections. The potential irrigation demands for the alternative system to serve were scattered along Farm District Road as well as the parks throughout the City. Although development was installing piping networks within their respective project boundaries, the required improvements outlined in the 2008 Alternative Water Master Plan required significant capital projects associated with the interconnection of the systems. With no reliable funding or revenue stream, there were few options available to construct the projects other than bonding. In addition, the Water Treatment Plant was already equipped to meet all potable and non-potable demands in the City's water system and for the newer developments, there was not an obvious financial incentive to connect untreated groundwater or surface water alternative sources.

As the Great Recession took its toll on development in the region, the City of Fernley ultimately passed Resolution #12-012 and eliminated the requirement for an alternative water system to be constructed within new developments. The alternative water system requirements were viewed as a significant cost burden on new developments for a system that did not have an interconnected or developed source.

Currently, none of the alternative water systems installed are in use. All piping that was installed with development (Autumn Winds, Silverland Estates, Green Valley Estates, etc.) was filled, disinfected and pressure tested during the initial construction and acceptance phase. All purple pipe systems are physically separated from the potable system and also separated per NAC requirements for line separations; however, the stagnant water which may still be in many of the piping systems could become a health or safety risk to excavations and other construction work

close to the infrastructure. Although not specifically mentioned as a Capital Improvement Project, it is recommended the City investigate these purple pipe systems and further assess their liability. A capital project could be developed to inspect and drain all of the purple pipe infrastructure if it is deemed a significant hazard.

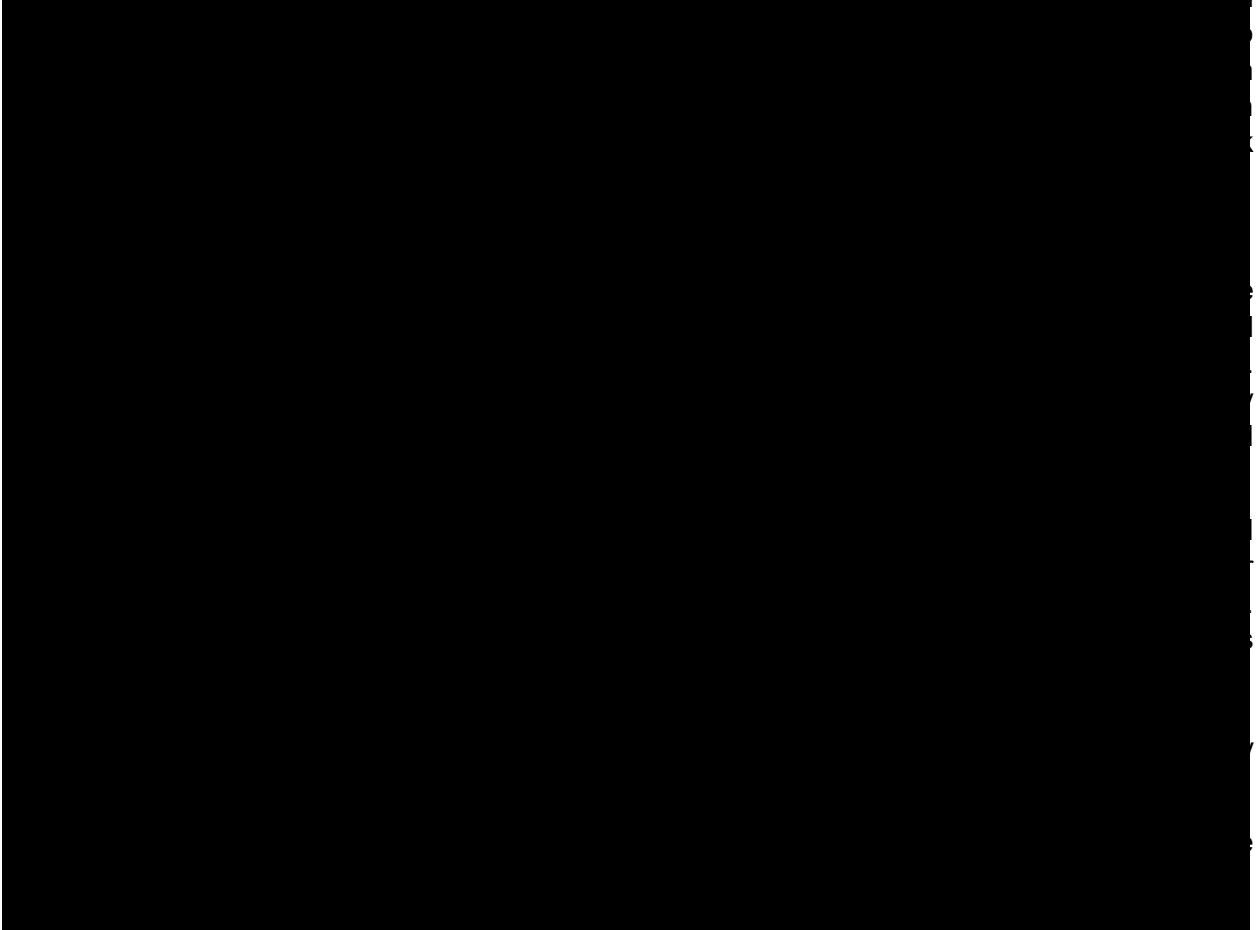
As the City moves forward, a single water system and a single source of potable water is planned to meet all development water demands. The current capacity of the Water Treatment Plant can meet the demands of the City, including increasing the population by 300% or more. Any immediate need for a parallel alternative water system is not critical to City growth.

If treatment costs or other potable water challenges arise there is a potential to reboot the alternative water system; however, it is more likely a system that limits the amount of infrastructure to maintain and provides developers a financial incentive will be needed. A limited alternative water system may only serve large water users such as parks, schools, open spaces/green belts, etc. In addition, as the cost of water rights rises and surface and groundwater resources become further stretched it may become financially beneficial for a treated effluent system to be developed within the City. A system that is financially beneficial would likely only occur if water rights begin to run out for new development or if the cost of water rights increases drastically. A treated effluent system would require significant infrastructure, including additional options to include mechanical and biological treatment at the East Wastewater Treatment Plant. There may also be options to include raw surface water as a source (for peak flows and redundancy) for a future alternative water system. Any future delivery of surface water through infrastructure other than Newlands Project facilities may require approval from the United States Bureau of Reclamation.

3.4 Emergency Response and System Catastrophic Failure

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A safe and reliable water system is crucial to the health, life, and safety of a City. This section will

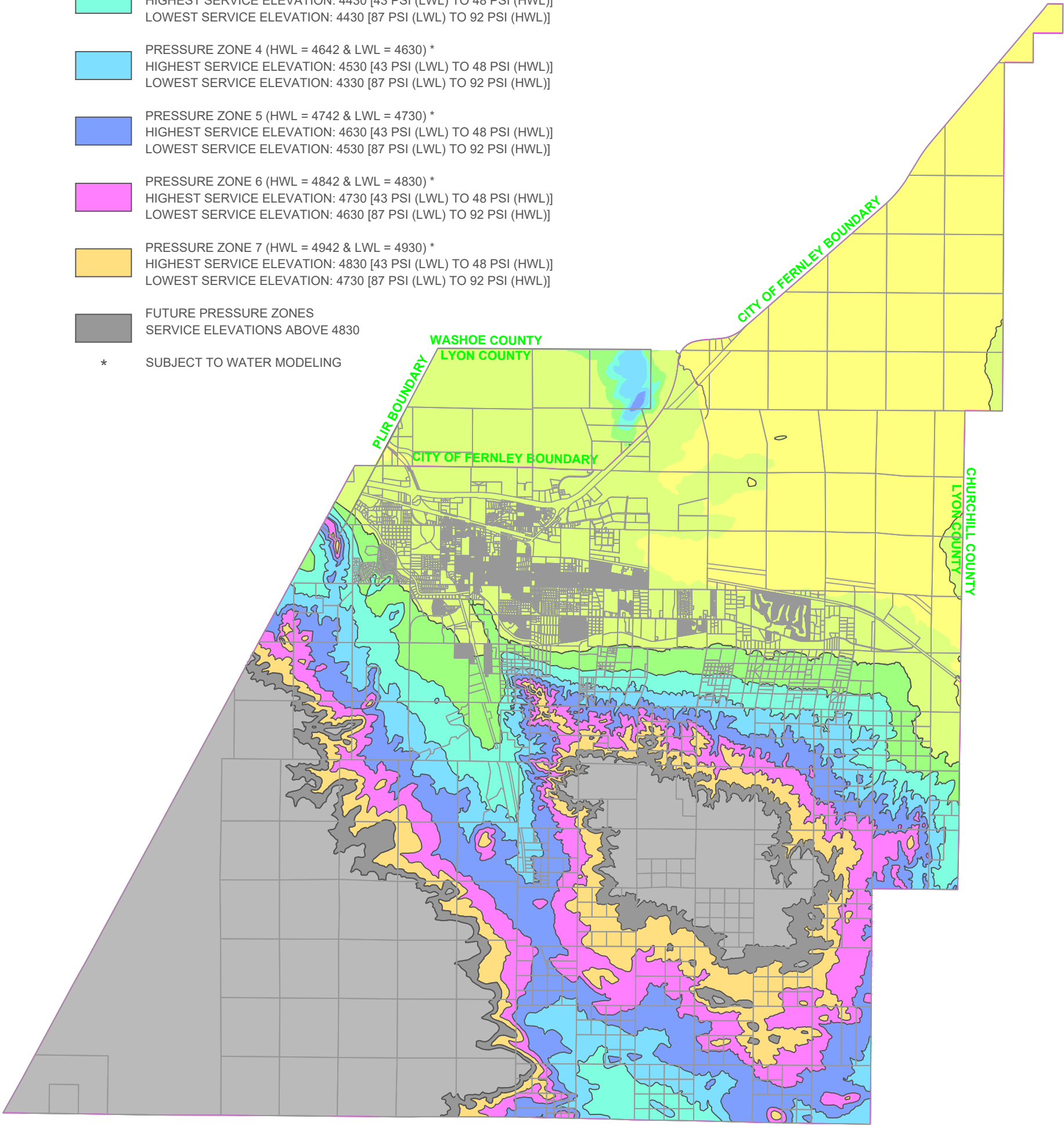
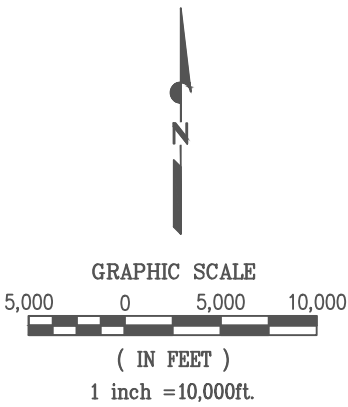


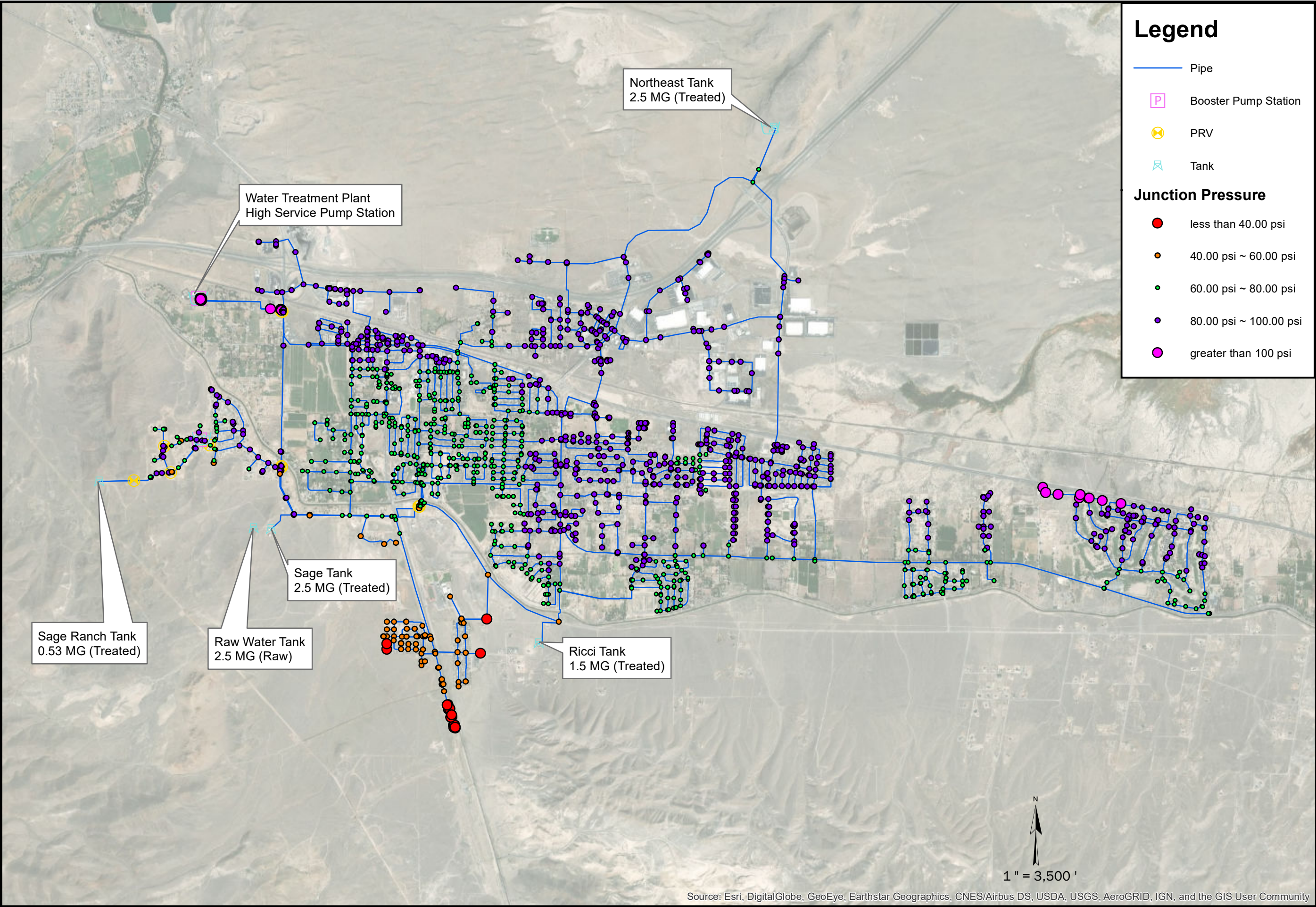
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CITY OF FERNLEY
PRESSURE ZONES:

- LOW ZONE
SERVICE ELEVATIONS BELOW 4110
- PRESSURE ZONE 1 (HWL = 4342 & LWL = 4330) *
HIGHEST SERVICE ELEVATION: 4230 [43 PSI (LWL) TO 48 PSI (HWL)]
LOWEST SERVICE ELEVATION: 4110 [95 PSI (LWL) TO 100 PSI (HWL)]
- PRESSURE ZONE 2 (HWL = 4442 & LWL = 4430) *
HIGHEST SERVICE ELEVATION: 4330 [43 PSI (LWL) TO 48 PSI (HWL)]
LOWEST SERVICE ELEVATION: 4230 [87 PSI (LWL) TO 92 PSI (HWL)]
- PRESSURE ZONE 3 (HWL = 4542 & LWL = 4530) *
HIGHEST SERVICE ELEVATION: 4430 [43 PSI (LWL) TO 48 PSI (HWL)]
LOWEST SERVICE ELEVATION: 4430 [87 PSI (LWL) TO 92 PSI (HWL)]
- PRESSURE ZONE 4 (HWL = 4642 & LWL = 4630) *
HIGHEST SERVICE ELEVATION: 4530 [43 PSI (LWL) TO 48 PSI (HWL)]
LOWEST SERVICE ELEVATION: 4330 [87 PSI (LWL) TO 92 PSI (HWL)]
- PRESSURE ZONE 5 (HWL = 4742 & LWL = 4730) *
HIGHEST SERVICE ELEVATION: 4630 [43 PSI (LWL) TO 48 PSI (HWL)]
LOWEST SERVICE ELEVATION: 4530 [87 PSI (LWL) TO 92 PSI (HWL)]
- PRESSURE ZONE 6 (HWL = 4842 & LWL = 4830) *
HIGHEST SERVICE ELEVATION: 4730 [43 PSI (LWL) TO 48 PSI (HWL)]
LOWEST SERVICE ELEVATION: 4630 [87 PSI (LWL) TO 92 PSI (HWL)]
- PRESSURE ZONE 7 (HWL = 4942 & LWL = 4930) *
HIGHEST SERVICE ELEVATION: 4830 [43 PSI (LWL) TO 48 PSI (HWL)]
LOWEST SERVICE ELEVATION: 4730 [87 PSI (LWL) TO 92 PSI (HWL)]
- FUTURE PRESSURE ZONES
SERVICE ELEVATIONS ABOVE 4830

* SUBJECT TO WATER MODELING





3.4.2 Catastrophic Failure Analysis

Four (4) emergency scenarios were analyzed using *Innovyze® InfoWater* hydraulic modeling and are listed in Table 3.1 to estimate the time until a failure causes negative pressures under Average Day Demand Conditions (3.88 MGD) and Maximum Day Demand (6.52 MGD). Time to system failure is based on the initial height in tanks. For the purpose of modeling, a diurnal curve was not used and the water elevation in the tanks was based on the Sage Tank being half full. When the system reaches this critical state, its supply can no longer keep up with demands and there are imminent risks of pipes collapsing due to negative pressure and low water levels in the tanks can also cause booster pump station failures. To check the results of failure during PHD, the model was assigned a pumping capacity of 8,560 GPM (12.32 MGD) for 24 hours. The system can currently operate with one tank offline however it will place a strain on the WTP High Service Pump Station. If the High Service Pump Station were to fail, the system would only be able to supply a couple of hours of peak demand before failure. Tables 3.1 and 3.2 lists the details of the Catastrophic Failure modeling.

Table 3.1: Emergency Scenario Summary (Average Day)

Scenario Failure	Initial Height of Water in Tank	Time to system failure ¹
Water Treatment Plant/High-Pressure Transmission Main	N/A	21 hours 10 minutes
Northeast Tank	16.27 ft	Failure Not Reached
Sage Tank	20 ft	Failure Not Reached
Ricci Tank	19.91 ft	Failure Not Reached
Well 11 (largest production well)	-	Failure Not Reached

¹ Conservative estimate based on modeling

Table 3.2: Emergency Scenario Summary (Maximum Day)

Scenario Failure	Initial Height of Water in Tank	Time to system failure ¹
Water Treatment Plant/High-Pressure Transmission Main	N/A	12 hours 21 minutes
Northeast Tank	16.27 ft	Failure Not Reached
Sage Tank	20 ft	Failure Not Reached
Ricci Tank	19.91 ft	Failure Not Reached
Well 11 (largest production well)	-	Failure Not Reached

¹ Conservative estimate based on modeling

While complete system failure was not reached in all scenarios, there would be an inherent risk that areas of the city served by the respective tanks will experience low or even negative pressures (particularly during a fire flow event).

Based on the potential failures reviewed in this section, the water treatment plant is the largest single risk and liability for providing water to the City. A complete outage of the High Service Pump Station or a loss of the clear water storage tank at the treatment plant would render the plant incapable of delivering drinking water into the system. Prior to the treatment plant coming online, wells were able to pump directly into the system, and because the system was equipped with multiple wells; the source capacity was diversified geographically throughout the City. To increase the reliability and mitigate the liability/vulnerability of the treatment plant providing water to the City, an emergency WTP Bypass protocol and associated infrastructure is recommended for the

system. This system would allow operators to have the materials on hand to respond to a single vault location and turn valves or install a short spool of pipe and provide a direct tie-over from the raw water system to the treated water system. The raw water system is continually monitored for bacteriological contaminants the same way the treated water system is with elevated arsenic levels being the only risk/contaminant of concern in the water. The protocols for implementing the emergency bypass must be coordinated with the BSDW. Widespread public notification should be issued to direct water users to cease all outdoor watering and conserve water as much as possible. A single connection point between the raw and treated water system would limit the source capacity in the treated water system therefore the system would only be able to supply average day demands. Fire flow would be able to be maintained in the system.

[END OF REDACTED SECTION]

3.5 Water Treatment Plant

On July 20th, 2009, the construction of the City of Fernley Water Treatment Plant was completed. The Water Treatment Plant was constructed to abide by the EPA's National Primary Drinking Water Regulations. The Water Treatment plant was designed with the intent to expand as the population of the City increases.

The Water Treatment Plant currently has the capacity to treat 20 MGD of groundwater provided solely by the six wells located throughout the city. Additional groundwater sources are required to deliver 20 MGD of groundwater to the plant. The plant currently treats groundwater for arsenic through coagulation, sedimentation, and microfiltration. As the population of the City expands, the Water Treatment plant can expand to treat a combination of surface water from the Truckee Canal as well as groundwater. Equipping the plant to treat surface water from the Truckee Canal may require additional processes to treat particulates such as turbidity and pathogens (reference the 2016 Surface Water Treatment Alternative Analysis completed by CDM Smith). Due to increased solids/sludge removal when treating surface water, it is estimated the plant will be capable of treating up to 15 MGD of surface water only. For the plant to treat the rated capacity of 20 MGD, groundwater sources of 10 MGD or more would be required. The plant has additional expansion options for a build-out treatment capacity of 30 MGD. Equipping the plant to treat surface water will require moderate improvements as well as conveyance infrastructure from the canal. The canal outtake would be located west of the WTP and divert water from the Truckee Canal into a pump station and convey the water to the WTP via a subsurface pipeline depicted in Exhibit 6.

Treated water from the WTP (after membrane filtration, pH adjustment, and chlorination) is stored in the 3.0 MG Treated Water Storage Reservoir at the WTP site. After storage, the WTP High Service Pump Station pumps treated water through the high-pressure transmission mains to the distribution system via three PRV stations. The High Service Pump Station is equipped with variable frequency drives and air-over-water hydropneumatic tanks to allow operational flexibility. The High Service Pump Station operating speeds (flow rate) are manually set by the WTP operators depending on distribution system tank levels and PRV station pressures. The High Service Pump Station was intended to transfer treated water into the distribution system and is not typically operated to service a portion of the water distribution system. Plant potable water, fire water, and irrigation water for the WTP are provided from the High Service Pump Station which can pose operational issues if the operators need to take the pump station offline for a short period during low demand times of the year. There is one additional connection served by the High Service Pump Station, which is a single-family home near the south end of Stock Lane, north of the canal. This connection was made during the initial construction of the high-pressure transmission mains. No fire flows are provided from the High Service Pump Station therefore the single residential connection, although not ideal, has pressure maintained from the hydropneumatic tanks if the pump station is taken offline for maintenance.

3.6 High-Pressure Transmission Mains and PRV Stations

As previously discussed, the City of Fernley currently utilizes a series of Pressure Reducing Valves (PRV) and high-pressure transmission mains to distribute water at adequate pressure to the entire distribution system. Currently, there are approximately 13,400 lineal feet of ductile iron high-pressure mains running from the Water Treatment plant down Mesa and Stock Lane and then along Mull Lane to the area around Well 11 and Well 4. There are three PRV stations in the water system; Mesa, Mull, and Sage. All water is delivered to the system via Mesa and Mull PRVs. Sage PRV was not connected during the initial pipeline construction due to utility conflicts uncovered during construction. The PRV stations are each equipped with two PRVs; high flow and low/average flow. The Mesa PRV is located at the corner of Mesa Drive and Stock Lane and

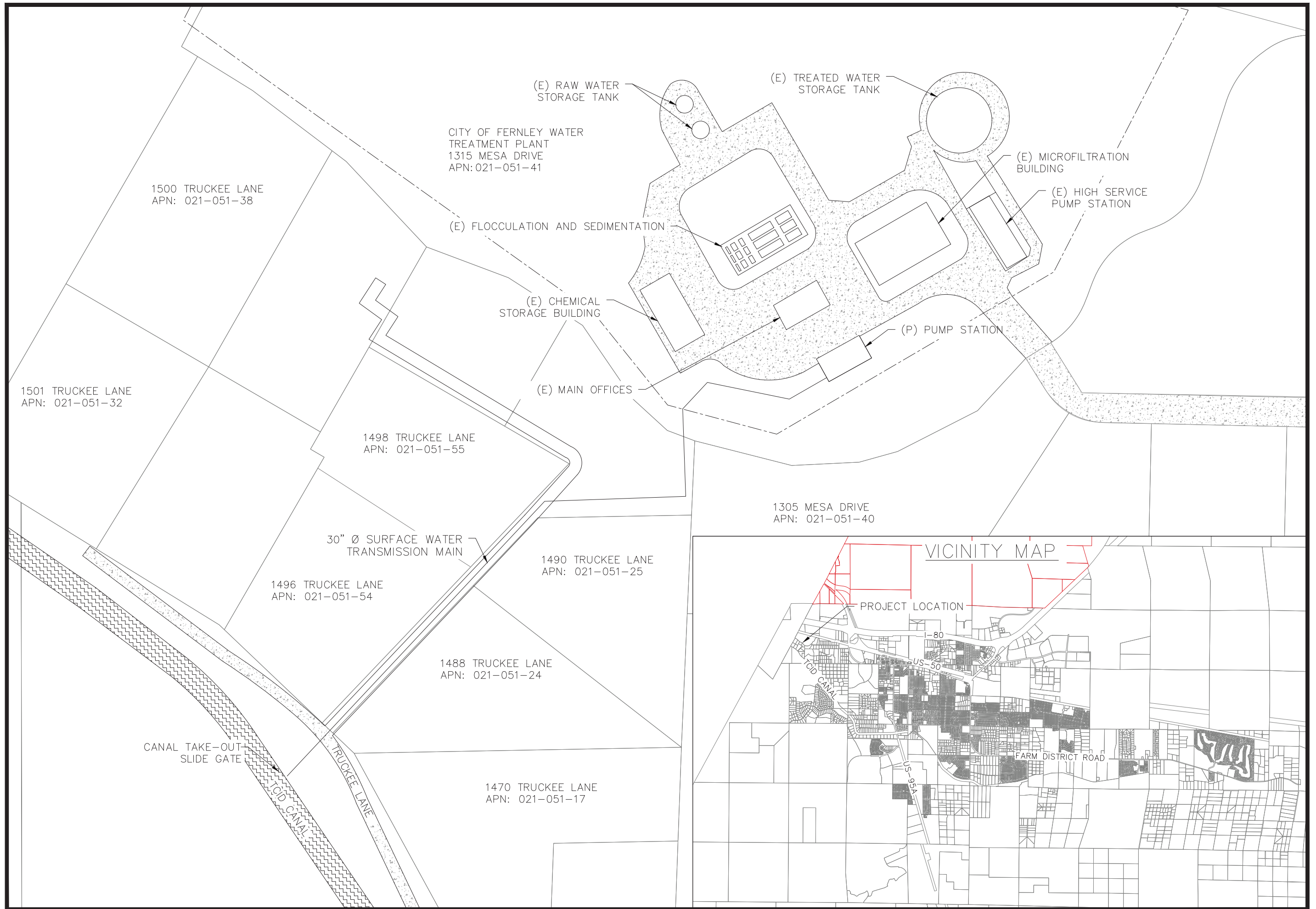
reduces pressures from approximately 100 PSI down to approximately 90 PSI. The Mull PRV is located on the south side of the canal on Mull Lane near Well 4 and reduces pressures from approximately 70 PSI down to approximately 60 PSI.

The high-pressure mains and PRVs were established based on initial hydraulic modeling completed by *Optimatics* during the planning and design of the WTP.

3.7 Capital Improvement Projects

To create a project plan for the existing treated water distribution system, *Innovyze InfoWater* water modeling software was utilized to analyze and identify potential areas in need of improvements. The potable drinking water system currently has a production capacity of 20 MGD with a plan to expand to 30 MGD in the future. The City currently operates with a maximum day demand of less than 7 MGD and a peak hour demand of approximately 11.5 MGD.

The current WTP is capable of treating up to 20 MGD of groundwater; however, the City's groundwater production capacity is only 12.32 MGD. The surface water outtake from the TCID Canal is currently being constructed as of September 2022. The 2016 CDM Smith surface water treatment review revealed the current plant with limited surface water expansion is estimated to only treat 15 MGD of surface water. A mix of both surface and groundwater coming into the plant will allow maximum day demands between 15 and 20 MGD to be met. To maximize treatment capacity and therefore the potable water source for the City of Fernley additional groundwater resources need to be brought online. Due to potential drought-caused reduced surface water flows, maintenance of the surface water delivery infrastructure, and other risks to the Truckee Canal surface water infrastructure; the City may benefit by having additional groundwater resources and pumping capacity to supplement all surface water coming into the plant, even if only on a temporary basis.



3.8 30 MGD Future Operational Concept

Completion of the *Capital Improvement Projects* will modify the City's water system operational concept. The groundwater collection system will continue to convey raw water from groundwater wells to the WTP. Surface Water may be introduced depending on approvals and the treated water conveyance infrastructure will continue to deliver treated water from the water treatment plant to the water distribution system.

To provide water service to the South Fernley and Farm District Road Development Areas and areas above the 4230' contour line, the high-pressure main will need to be extended to the east from the current terminus. This Transmission main will convey water to the new 3.0 MG Southeast tank. A PRV station at the Truckee River Ranch (Autumn Winds) Subdivision will provide additional water to the Farm District Road Area. The new high-pressure transmission main will connect to the existing 30-inch main at Well 4 and will extend approximately 7,600 lineal feet of 30-inch main to Ricci Lane, followed by 4,750 lineal feet of 24-inch transmission main to Painted Valley Road, and 11,350 lineal feet of 20-inch transmission main to the southeast Tank.

3.9 Production Wells

The City of Fernley's Potable Water supply system is currently sourced from multiple municipal groundwater wells located throughout the city. The description and location of each groundwater well are provided below. Well data was gathered from the *2019 Water Resources Master Plan* as well as discussions with City staff. The wells include:

- Well 4
- Well 8
- Well 9
- Well 9A
- Well 11
- Well 13
- Well 14

3.9.1 Well 4

Location: Approximately 1,000 feet east of US Alternate 95 on the south side of the Truckee Canal and approximately 750 feet south of existing Well 11.

- **Elevations**
 Finish Floor: 4,212.75 ft
 Well Depth: 703 ft below ground surface
 Pump Set: ~230 ft below ground surface
- **Design Point**
 Design Flow: 2,200 GPM at 320 ft TDH (rated)
 Actual Flow: 1,070 GPM to 1,600 GPM
 Average Annual Flow: 1,003 GPM
 Pump: J-Line 14 HC, 4 stage vertical turbine, line shaft
 Impeller Diameter: 11.313 inches
 Motor: 250 HP, 1,770 RPM
 Column/Shaft Tubing: 12-inch Column 1 15/16-inch shaft
- O & M Manual: Yes
- Chlorination: Liquid Sodium Hypochlorite
- Standby Power: Pony Motor m/V-Drive (diesel genset currently being added by the City)

- Controls: Water level in the Raw Tank turns the well on and off
- SCADA: Sierra Controls (6560 Controller)

Well 9/9A

Well 9 and 9A are located approximately 300 feet apart and their pumping water levels are influenced by one another during simultaneous operation which reduces the total production capacity of the wells to 1,460 GPM combined.

3.9.2 Well 9

Location: In the industrial area South of Newlands Drive and east of Nevada Pacific Parkway and ½ mile west of the East Wastewater Treatment Plant. The well is located approximately 9,000 feet (1.7 miles) South of the Northeast Tank. Well 9 is 300 feet +/- to the east of Well 9A.

- **Elevations**
Finish Floor: 4,118 ft
Well Depth: 330 ft below ground surface
Pump Set: at 230 ft below ground surface
- **Size**
Design flow: 1,100 GPM
Actual Flow: 1,400 GPM
Average Annual Flow: No Data
Pump: 4-stage vertical turbine, 12-inch bowls, line shaft
Motor: 125 HP, 1,770 RPM
Column Shaft Tubing: 10-inch column, 2 ½-inch Oil Tube, 1 11/16-inch shaft
- O & M Manual: No
- Chlorination: At the Blend Tank
- Standby Power: Mobile Power Generator at City Maintenance Yard
- Controls: Water level in the Blend Tank turns the well on and off
- SCADA: Hardwire to east lift SCADA pack 5203 Series 900

3.9.3 Well 9A

Location: In the industrial area South of Newlands Drive East of Nevada Pacific Industrial Parkway and ½ mile west of the East Wastewater Treatment Plant. The well is located approximately 9,000 feet (1.7 miles) south of the Northeast Tank. Well 9A is adjacent to Well 9.

- **Elevations**
Finish Floor: 4,118 ft
Well Depth: 343 ft below ground surface
Pump Set at 250 ft below ground surface
- **Size**
Design Flow: 1,100 GPM
Actual Flow: 1,100 GPM
Average Annual Flow: 488 GPM
Pump: Fairbanks Morse 12M, 4 Stage Vertical Turbine, 12-inch Bowls, line shaft
Motor: 125 HP, 1,770 RPM
Column Shaft Tubing: 10-inch Column, 2 ½-inch Oil Tube, 1 11/16-inch Shaft
- O & M Manual: No
- Chlorination: at the Blend Tank
- Standby Power: Mobile Power Generator at City
- Controls: Water level in the Blend Tank turns the well on and off

- SCADA: Hardwire to east lift SCADA pack 5203 Series 900

3.9.4 Well 11

Location: On Cottonwood Lane at the City Corporate Yard, north of the Truckee Canal and approximately 800 feet north of Well 4.

- **Elevations**
Finish Floor: 4,199.43 ft.
Well Depth: 745 ft. below ground surface
Pump Set at 238 ft below ground surface
- **Size**
Design Flow: 3,000 GPM at 360 ft TDH
Actual Flow: 2,300 to 2,550 GPM
Average Annual Flow: 1,549 GPM
Pump: Floway 14 DKH, 5 Stage Vertical Turbine, line shaft
Motor: 350 HP, 1,770 RPM
Column Shaft Tubing: 12-inch Column, 1 15/16-inch Shaft
- O & M Manual: Yes
- Chlorination: Liquid Sodium Hypochlorite
- Standby Power: 400 kW Natural Gas-Powered Generator
- Controls: Water level in the Raw Tank turns the well on and off
- SCADA: Sierra Controls (6562 Controller)

3.9.5 Well 13

Location: End of Commerce Drive ½ mile west of Love's Travel Stop at US Route 40 and Interstate 80 intersection.

- **Elevations**
Finish Floor: 4174.50 ft.
Well Depth: 430 ft. below ground surface
Pump Set at 200 ft below ground surface
- **Size**
Design Flow: 1,0000 GPM at 330 ft TDH
Actual Flow: Approximately 900 GPM
Average Annual Flow: 567 GPM
Pump: 7 Stage Vertical Turbine, line shaft
Motor: 125 HP, 1,770 HP
- O & M Manual: Yes
- Chlorination: Liquid Sodium Hypochlorite
- Standby Power: 200 kW Diesel powered generator
- Controls: Water level in the Raw Tank turns the well on and off
- SCADA: Model 5203 RTU, Series 900

3.9.6 Well 14

Location: 1 mile east of Pilot Travel Center near the eastern terminus of Logan Lane, north of Paramount Nevada Asphalt Co.

- **Elevations**
Finish Floor: 4,146 ft
Well Depth: 800 ft below ground surface
Pump Set at 200 ft below ground surface
- **Size**
Design Flow: 2,000 GPM at 38 ft TDH
Actual Flow: Actual Flow: 2,050 GPM
Average Annual Flow: 1,248 GPM
Column: 12-inch Column
Pump: 8 Stage Vertical Turbine, line shaft
Motor: 250 HP, 1,770 RPM
- O & M Manual: Yes
- Chlorination: Liquid Sodium Hypochlorite
- Standby Power: 300 kW Generator
- Controls: Water level in the Raw Tank turns the well on and off
- SCADA: Sierra Controls (Series 900)

3.10 Non-Potable Wells

The City owns and maintains a collection of wells used as non-potable water supply or as monitoring wells. The City's non-municipal wells are:

- Well 1 – Abandoned, not plugged or equipped
- Well 2 – Water table aquifer monitoring
- Well 5 – High manganese concentration, not plugged or equipped
- Well 8 – Drilled in 1978 to a depth of 340 ft, construction water only (truck fill station)

- Well 10 – Drilled in 1995, monitoring well, poor water quality
- Well 12 – Drilled in 2001 to a depth of 1,075 feet, not plugged or equipped
- Test Well 12 – Drilled in 2007 to a depth of 1,010 feet
- Well 26 (Armstrong Well) – Poor water quality, potential potable water with treatment, not plugged or equipped

3.11 Existing Storage Tanks

This section provides general information on the City's water storage tanks. The City's water distribution system includes five water storage tanks:

- Northeast Tank
- Blend Tank
- Sage Tank
- Ricci Tank
- Sage Ranch Tank

The Sage Tank, Sage Ranch Tank, and Ricci Tank are in the southwest portion of the City. The Blend tank and Northeast tank are located in the Northeast portion of the system. The storage tanks are welded steel tanks with overflow and drainage, maintenance access, interior, and exterior ladders, roof vents, roof hatches, and water level measurement devices. Overall, the tanks appear to meet the requirements of AWWA for storage structures. The Sage Tank is the primary means for operational control of the High Service Pump Station at the water treatment plant and the Ricci Tank is also monitored. The Sage, Sage Ranch, Ricci, and Northeast Tanks are equipped with altitude valves to prevent tank overflow in the case of failure.

3.11.1 Northeast Tank

The Northeast Tank was constructed in 1980. The tank is located 1.7 miles northwest of the East Wastewater Treatment Plant. The tank inlet/outlet piping is 14-inch from the Blend Tank booster pumping facility yard to the tank. A 12-inch drain line facing southwest of the tank is equipped in case of an overflow. A transducer located within the tank controls the booster pump at the Blend tank. The Northeast Tank was most recently re-coated on October 5, 2017, and had a new roof installed.

- Volume: 2.5 MG
- Diameter: 110 ft
- Height: 36 ft
- Base Elevation: 4,310.65 ft
- Overflow Elevation: 4,346.65
- Controls: Tank level is monitored by the WTP

3.11.2 Blend Tank (Raw Water, Northeast)

The Blend Tank was constructed in 1980. The tank is located adjacent to the Northeast (NE) booster pumping facility and 1,700 feet southwest of the Northeast Tank. Wells 9 and 9A pump directly to the blend tank via a 14-inch dedicated transmission line. The NE Booster Station pumps water from the Blend tank to Well 14 and continues to the WTP. There is a dedicated 18-inch raw water transmission main from the NE Booster to Well 14.

- Volume: 100,000 gallons
- Diameter: 27 ft

- Height: 24 ft
- Base Elevation: 4,154 ft
- Overflow Elevation: 4176 ft
- Re-Coating Date: 2011
- Controls: turns on Wells 9 and 9A

3.11.3 Raw Tank (Southwest)

The Raw Water Storage Tank was built in 2009. The Tank is located near the curve in Sage Drive west of US Highway 95A South and southwest of the Truckee Canal, adjacent to the Sage tank. The tank inlet/outlet piping is 18-inches in diameter. A 12-inch overflow and drain line drains downhill off-site.

- Volume: 2.5 MG
- Diameter: 105 ft
- Height: 40 ft
- Base Elevation: 4,304 ft
- Overflow Elevation: 4,342 ft
- Controls: Levels in the raw tank are monitored for controlling the NE Booster Pump Station and Wells 4, 11, 13, and 14.

3.11.4 Sage Tank (Southwest)

The Sage Tank was built in 1990. The Tank is located near the curve in Sage Drive west of US Highway 95A South and southwest of the Truckee Canal. The tank inlet/outlet piping is 18-inches in diameter. A 12-inch overflow and drain line drains downhill off-site.

- Volume: 2.5 MG
- Diameter: 105 ft
- Height: 40 ft
- Base Elevation: 4,306.92 ft
- Overflow Elevation: 4,346.92 ft
- Controls: Tank Levels control WTP High Service Pump Station

3.11.5 Ricci Tank (South)

The Ricci Tank was built in 1997. The tank is located south of the Truckee Canal off Ricci Lane and southeast of Fernley High School, the tank inlet/outlet piping is 14-inches in diameter. A 12-inch overflow and drain line drains downhill off-site. The Ricci Tank currently experiences a severe decrease in water level in High demand periods. CIP 8 is designed to help mitigate this issue.

- Volume: 1.5 MG
- Diameter: 82 ft
- Height: 40 ft
- Base Elevation: 4,307.01 ft
- Overflow Elevation: 4,347.01 ft
- Controls: Floats on the system, monitored at WTP for High Service Pump Station

3.11.6 Sage Ranch Tank (Zone 3, Southwest)

The 0.53 MG Sage ranch Tank was built by the Sage Management Company, Inc. in 2006. The tank was sized for 223 lots in the Sage Ranch Estates. The tank design incorporated storage for

2 hours of residential fire flow at 1,000 GPM (120,000 Gallons). The tank is located approximately ¼ mile west of the West end of Seabiscuit Drive. The tank inlet/outlet piping is 12-inches in diameter. The tank is filled from the Sage Ranch Booster Pump Station, it is located within the City's Pressure Zone 3 and provides water for the Sage Ranch Subdivision through PRVs to Pressure Zones 2 and 1.

- Volume: 0.53 Mg
- Diameter: 55 ft
- Height: 32 ft
- Base Elevation: 4,512 ft
- Overflow Elevation: 4,542 ft
- Controls: floats on 4542 pressure zone; water level controlled by an altitude valve; the water level in Sage ranch tank will turn on the Sage Ranch Pump Station.

3.12 Water Storage Facility Requirements

3.12.1 Storage Reservoir Sizing Criteria

The City's water storage tanks are designed to include three storage components: Operating Storage, Emergency Storage, and Fire Storage. The *2022 Water Master Plan Update* recommends the following criteria for sizing water storage tanks:

1. Operating Storage = 14% of maximum day demand
2. Emergency Storage = 100% of average day demand
3. Fire Storage = 1 fire event = 4,000 GPM for 4 hours

The storage requirement per ERC can be calculated using the equation:

$$\text{ERC Storage} = \text{Operating Storage} + \text{Emergency Storage}$$

$$\text{ERC Storage} = (14\% \times 578 \text{ gpd per ERC}) + 344 \text{ gpd per ERC}$$

$$\text{ERC Storage} = 419 \text{ gpd per ERC}$$

For sizing new tanks, the required storage volume can be calculated using the equation:

$$\text{Storage Volume} = \text{Operating Storage} + \text{Emergency Storage} + \text{Fire Storage}$$

$$\text{Storage Volume} = 419 \text{ gallons/ERC} + \text{Fire Storage (new pressure zones only)}$$

Table 3.1: Water Storage Criteria

Storage Component	Water Master Plan Update 2022	NAC 445A.6674
Operating Storage	$0.14 \times 578 \text{ gpd/ERC}$ =81 gallons/ERC	700 gal/ERC
Emergency Storage	$1.00 \times 344 \text{ gpd/ERC}$ =344 gallons/ERC (From residential Caselle data) ADD	$0.75 \times 700 \text{ gallons/ERC}$
Fire Storage	--	--
Total Storage	425 gallons/ERC + Fire Storage	1,225 gallons/ERC + Fire Storage

*Average Residential Day Demand is calculated in Section 6.7

3.12.2 Fire Storage Criteria

Considering the City's current storage reservoirs (Section 3.11), the fire storage component was calculated based on the following assumptions:

1. Pressure Zone 1 (4342 Zone) is served by 3 tanks; one fire storage component is adequate:
 - Fire Storage = 4,000 GPM for 4 hours = 960,000 gallons
2. The Sage Ranch Tank (Pressure Zones 2 and 3) has one residential fire storage component, sized specifically for Sage Ranch per the City's 2008 *Design Standards*.
 - Fire Storage = 1,000 GPM for 2 hours = 120,000 gallons

Total Existing Fire Storage = 960,000 + 120,000 = 1,080,000 gallons

3.12.3 Existing Water Storage Capacity

The storage sizing criteria outlined in Sections 3.12.1 and 3.12.2 are used to determine the system's storage capacity in terms of ERCs. First, the fire storage component is removed:

Operating Storage + Emergency Storage = Total Storage Volume – Fire Storage

Operating Storage + Emergency Storage = 7.03 MG – 1.08 MG = 5.95 MG

Operating Storage + Emergency Storage = 5.95 MG = ERC Capacity

Table 3.2 is a summary of the ERC Capacity for the City's storage facilities, including the future Southeast Tank. The ERC capacity was calculated using the ERC Storage of 425 gpd per ERC, and assuming fire storage in Zone 1 is equally distributed among Zone 1 storage tanks. 0 depicts a general zone of benefit for the Ricci Tank, Sage Tank, Northeast Tank, and Sage Ranch Tank.

Table 3.2: Water Storage ERC Capacity

	Volume (MG)	Fire Storage (gallons)	ERC Storage Capacity (Operating + Emergency)
Northeast Tank	2.5	370,000 (Zone 1)	5,011
Ricci Tank	1.5	220,000 (Zone 1)	3,012
Sage Tank	2.5	370,000 (Zone 1)	5,011
Sage Ranch Tank	0.53	120,000 (Zones 2 & 3)	964
TOTAL	7.03	1,080,000 TOTAL	13,998

3.13 Water Production Capacity Analysis

This section provides an analysis of the City's water storage capacity for 2022.

Current Water System – Year 2022

In 2022 the City's water Storage Capacity is 7.03 MG.

Removing the Fire Storage component, the available water storage is calculated:

Available Water Storage = 7.03 MG – 1.08 MG = 5.95 MG

Total groundwater production capacity = 8,560 GPM with all wells in operation

Production Capacity, with the largest well (Well 11) offline: 6,010 GPM

Firm Groundwater Production Capacity	6,010 GPM
<u>Maximum Day Demand (2021)</u>	<u>4,533 GPM</u>
Surplus(+)/Deficit(-)	(+)1,477 GPM

Groundwater production is at a surplus (1,477 GPM = 2.13 MGD); therefore, the groundwater production system has excess capacity to provide service to 3,679 future equivalent residential connections before a deficit occurs. While production requirements can be met for 3,679 future connections, storage and pressure requirements will dictate the construction of a new storage and/or pumping facility.

3.14 Pressure Reducing Stations

The City currently has five total pressure reducing stations; three (3) pressure reducing stations located within Sage Ranch Estates, one (1) located at the intersection of Mesa Drive and Main Street, and one (1) located southeast of the crossing of US-95A and the TCID Canal. The three stations in the Sage Ranch Estates development reduce pressure from the Sage Ranch Tank HGL between the gravity pressure zone (GPZ) 3 and 2 and between GPZ 2 and 1. The Mesa and Mull stations reduce pressure from the High Service Pump Station HGL. Additional pressure reducing stations will be necessary for the future as a result of the Capital Improvement Projects and future developments that will require the installation of pressure reducing stations in conjunction with booster pump stations and water tanks.

3.14.1 Sage Ranch PRV Stations

Sage Ranch Estates utilizes three (3) PRV stations. The 4542 hydraulic grade line (HGL) established by the Sage Ranch Tank is required to serve the higher elevations of Sage Ranch Estates. The PRV Stations are listed in Table 3.3.

Sage Ranch PRV-1 is located on the north side of Sage Street east of Seabiscuit Drive. PRV-1 supplies water to services located within the 4,342-gravity zone (GPZ 1) through a 10-inch main located in Sage Street.

Sage Ranch PRV-2 is located in Seabiscuit Drive east of Cable Canyon Way. PRV-2 supplies water to services located within the 4,442-pressure zone through an 8-inch main located in Seabiscuit Drive.

Sage Ranch PRV-3 is located in Sage Street east of Cable Canyon Way. PRV-3 supplies water to services located within the 4,442-pressure zone through an 8-inch main located in Sage Street.

Table 3.3: Sage Ranch PRV Station Summary

Sage Ranch PRV Stations	Station Elevation	From HGL	To HGL	Upstream Pressure (psi)	Low-Flow Valve Downstream Pressure (psi)	High-Flow Valve Downstream Pressure (psi)
SR-PRV-1 ¹	4252	4442	4342	83	40	N/A
SR-PRV-2	4318	4542	4442	97	54	49
SR-PRV-3	4302	4542	4442	103	60	55

¹Sage Ranch PRV-1 is closed when the Sage Ranch Pump Station is running.

3.14.2 Mesa Drive PRV Station

The high-pressure transmission main connects to the west side of the City's water distribution system via the Mesa PRV Station. The Mesa PRV is equipped with parallel low-flow and high-flow PRVs. The station is located at the corner of Mesa Drive and Sage Street. The PRV serves to reduce high pressure coming from the WTP High Service Pump Station. PRV operating conditions are listed in Table 3.4.

Table 3.4: Mesa Drive PRV Station Summary

Mesa PRV Stations	Station Elevation	From HGL	To HGL	Upstream Pressure (psi) ²	Low-Flow Valve Downstream Pressure (psi)	High-Flow Valve Downstream Pressure (psi)
MD-PRV-1	4150	4445 ¹	4350 ¹	128	87	85

¹Calculated assuming no head losses

²Peak pressure modeled based on High Service Pump Station operating at 100%

3.14.3 Mull Lane PRV Station

The high-pressure transmission main connects to the central area of the City's water distribution system via the Mull Lane PRV Station. The Mull PRV is equipped with parallel low flow and high flow PRVs. The station is located south of the Truckee Canal adjacent to Well 4. The PRV serves to reduce high pressures coming from the Water Treatment Plant pumping facility. The PRV is listed in Table 3.5.

Table 3.5: Mull Lane PRV Station Summary

Sage Ranch PRV Stations	Station Elevation	From HGL	To HGL	Upstream Pressure (psi) ²	Low-Flow Valve Downstream Pressure (psi)	High-Flow Valve Downstream Pressure (psi)
MD-PRV-1	4,213	4445 ¹	4166 ¹	100	60	57

¹Calculated assuming no head losses

²Peak pressure modeled based on High Service Pump Station operating at 100%

3.15 Booster Pump Stations

Currently, the City operates two booster pump stations as listed in Table 3.6. The NE Booster Pump Station is located at the Blend Tank site. The Sage Ranch Pump Station is located north of Sage Street on the east side of Seabiscuit Drive.

The NE Booster Pump Station is located adjacent to the Bland Tank and 1,700 feet southwest of the Northeast Tank. Water is pumped to the Blend Tank from Wells 9 and 9A. The NE Pump Station draws water from the Blend Tank and pumps it to the WTP/Raw Water Tank. During

normal operation, two pumps operate, and the third pump is in place for redundancy/firm capacity. All three pumps are equipped with 100 HP motors.

The Sage Ranch Pump Station was built by the Sage Management Company, Inc (former ownership under Sage Ranch Estates, LLC.). The pump station was sized for Sage Ranch Estates (223 lots) and is capable of pumping the maximum day demand with two pumps and a third pump was in place for redundancy/firm capacity. The pump station is capable of pumping to the Sage Ranch Tank, or directly to the Sage Ranch Estates 4542 pressure zone via a 6-inch dedicated main. The Sage Ranch Pump Station operation is dictated by water levels in the Sage Ranch Tank.

Table 3.6: Booster Pump Station Summary

Pump Station	Elevation	Station Capacity (GPM)	Suction Supply Zone	Discharge Zone	Controls
NE Booster	4153	1,500-1,600	Wells 9/9A	4342	WTP/Raw Tank
Sage Ranch	4250	400	Existing 4342	4542	Sage Ranch Tank

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SECTION 4 **DEVELOPMENT & GROWTH AREAS**

4.0 DEVELOPMENT AND GROWTH AREAS

4.1 General

This section provides a review of future development within the City of Fernley planning areas, including the build-out of the City's service area and proposed tentative maps.

4.2 Definitions

Single Family Residential (SFR): A developed property that serves the primary purpose of providing one detached dwelling unit for one family.

Mixed Residential (MR): A property containing multiple Serviceable Residential land use zones.

Multi-Family Residential (MFR): A classification of housing where multiple separate housing units for residential customers are housed within one building or several buildings within one complex.

General Rural (GR): A property zoned for but not limited to agricultural activities, resource extraction, timber harvesting, resource conservation, or public and private recreation.

Rural Residential (RR): A property zoned for residential use that is located in a less densely populated area than cities.

Commercial (C): A land use designation intended for use by for-profit businesses such as office complexes, shopping malls, service stations, and restaurants.

Suburban Mixed Use (SMU): A single property that includes a mix of retail, commercial, office, and other uses in a less intense or more suburban context to meet the needs of adjacent neighborhoods and employment areas.

Mixed Employment (ME): A concentrated area of employment and supporting uses such as small-scale commercial uses.

Industrial (I): A piece of property used for "heavy" industrial manufacturing that is likely to create large amounts of pollution (typically noise and air pollution). These land uses are typically placed away from residential areas.

Public Facilities (PF): Property intended to provide an area for buildings and facilities that are owned and operated by Federal, State, or local governments, public utilities, special districts, or nonprofit organizations which are used to provide governmental or public services.

Open Space and Parks (OSP): Land that is not intensively developed for residential, commercial, industrial, or institutional use. This includes agricultural and forest land, undeveloped shorelines and scenic lands, public parks, and preserves.

Tribal (T): Land that falls within the City Limits and is owned by a group of Native Americans recognized by the Federal Government as a Native American tribe.

4.3 Build-Out of 2018 Comprehensive Master Plan Area

The maximum build-out for the entire City of Fernley was analyzed using the City's 2018 *Comprehensive Master Plan* and associated land use designations. Table 4.1 is a summary of the estimated build-out of residential land. The estimated build-out would be 88,555 dwelling units; 51,520 dwelling units are on lands with densities greater than 3 dwelling units per acre and are likely to be served by the public water system. The commercial and industrial build-out would occupy 5,941.7 acres.

Table 4.1: Build-Out of 2018 Comprehensive Plan

Land Use Designation	Max Density (dwelling units per acre)	Acreage	Max Dwelling Unit Build-Out	ERC's Build- Out
Residential Build-Out				
Serviceable Residential				
Single Family Residential (SFR)	7	4,908.0	34,356	34,356
Mixed Residential (MR)	14	875.7	12,259	12,259
Multi-Family Residential (MFR)	30	163.5	4,905	4,905
Sub-Total Serviceable	-	5947.2	51,520	51,250
Non-Serviceable Residential				
General Rural (GR)	0.025	30,485.9	762	
Residential Rural (RR)	2	18,136.5	36,273	
Sub-Total Non-Serviceable	-	48,622.4	37035	0
Sub-Total Residential		54,569.6	88,555	51,250
Non-Residential Build-Out				
Commercial (C)	-	1,327.3	-	1,327*
Suburban Mixed Use (SMU)	30	288.7	8,661	289
Mixed Employment (ME)	30	2,180.1	65,403	2180
Industrial (I)	-	4,614.4	-	4614
Public Facilities (PF)	-	272.7	-	272
Open Space and Parks (OSP)	-	44,684.0	-	
Tribal (T)	-	271.7	-	
Sub-Total Non-Residential		53,638.9	74,064	8,682
TOTAL		108,208.5	162,619	59,932

*Average water demands of 1,000 GPD/acre for commercial

Build-out of this comprehensive plan would require the city to grow by over 800%. The timeline to achieve this growth is well beyond the typical planning horizon for infrastructure; therefore build-out of tentative maps will be utilized for future planning for this master plan.

4.4 Build-Out of Tentative Maps (updated data from the city on the progress of TMs and FMs)

The estimated number of future water customers is based on the build-out of tentative maps (T.M.s). Due to varying expiration dates of tentative maps, both active tentative maps, as well as recently expired tentative map unit counts, are included. The City of Fernley has currently approved 3,636 tentative map units.

To accurately estimate water demands for build-out/T.M. areas, a review of the current quantity of customers/connections was performed. Per the 2008 WMP, at the end of August 2007, the City had 7,141 water customer connections. The 2021 Hansford Economic Consulting Rate Study listed 7,277 Residential Connections and 226 Non-residential meters (2021 HEC rate study [Sep 2021] 7,503 meters). At the end of July 2021, data obtained from the City's Utility billing department listed 7,681 connections; however, after receiving the July 2021 data from Utility Billing, the data was analyzed, and it was determined the billing software duplicated some meter reading lines in the billing software data export and some meters had no usage. After removing duplicate meters and meters with no usage, it was determined the total number of existing meters/connections in the system is approximately 7,313 as of July 2021. Replacement of the radio read meters will assist in determining a more accurate number of connections.

**Table 4.2: Water Customer Connections
Based on Build-Out of T.M.s**

Customers billed in July 2021*	7,313
Tentative map units remaining to be recorded*	3,636
Future water total connections w/ build-out of T.M.'s	10,949

*To be updated on an annual basis

4.5 Tentative Development by Planning Areas

This section provides a review of Approved Tentative Maps by planning area, where "Tentative Maps" includes all residential development projects which have been approved by the City Council and the City Planning Commission. Some development projects are already under construction; in other words, a portion/phase(s) of the development has a final map, while the remainder of the development is still in the planning, design, and improvement plan review.

The City of Fernley *2018 Comprehensive Master Plan* has allocated four (4) areas for planned development and potential growth. Additionally, *Shaw Engineering* has included two (2) other areas which have recently experienced large growth. The boundaries of the planning areas are based on major transportation routes, and/or the area's topography and land uses. The land planning areas are illustrated in Exhibit 7.

Development in any of the four (4) planning areas is completely dependent upon market forces, available infrastructure, available water rights, developable land, and the City's *2018 Comprehensive Master Plan*. At this point, the City's approved tentative maps provide a reliable indicator of the City's future service commitments for the next 5-20 years

4.5.1 AREA 1 – South Fernley – Comprehensive Master Plan

Currently, there are no approved tentative maps for the South Fernley Area. This area was updated in the City's master planning efforts to remain rural. Due to the remote location and difficulty providing utilities and other infrastructure; the area was removed from being identified as a future service area for the City. As with other areas not master planned to be developed; a specific area plan would be required for development in this area to review, amongst other items, what City services are planned to be provided for the entire area.

4.5.2 AREA 2 – Southwest Fernley – Comprehensive Master Plan

The Southwest Fernley region has 2,701 total mapped units, of which 504 have been recorded with the Assessor's office. The number of approved tentative map units remaining is 2,035 and

162 units are pending approval. See Exhibit 9 for developments in the Southwest Fernley service area.

4.5.3 AREA 3 – Central Fernley

The Central Fernley region has 1,896 total mapped units, of which 765 have been recorded with the Assessor's office. The number of approved tentative map units remaining is 847 and 284 units are pending approval. See Exhibit 10 for Developments in the Central Fernley service area.

4.5.4 AREA 4 – Farm District Road

The Farm District Road region has a total of 1,428 total mapped units, of which 648 have been recorded with the Assessor's office. The number of approved tentative map units remaining is 780. See Exhibit 11 for Developments in the Farm District Road service area.

4.5.5 AREA 5 – Stock Lane – Comprehensive Master Plan

Currently, there are no approved tentative maps for the Stock Lane Area.

4.5.6 AREA 6 – North Fernley – Comprehensive Master Plan

Currently, there are no approved tentative maps for the North Fernley Area.

4.5.7 AREA 7 – Industrial Area

Two distinct industrial areas of the city are currently being developed. These areas are identified on Exhibit 7 as "Industrial Area East" and "Industrial Area West".

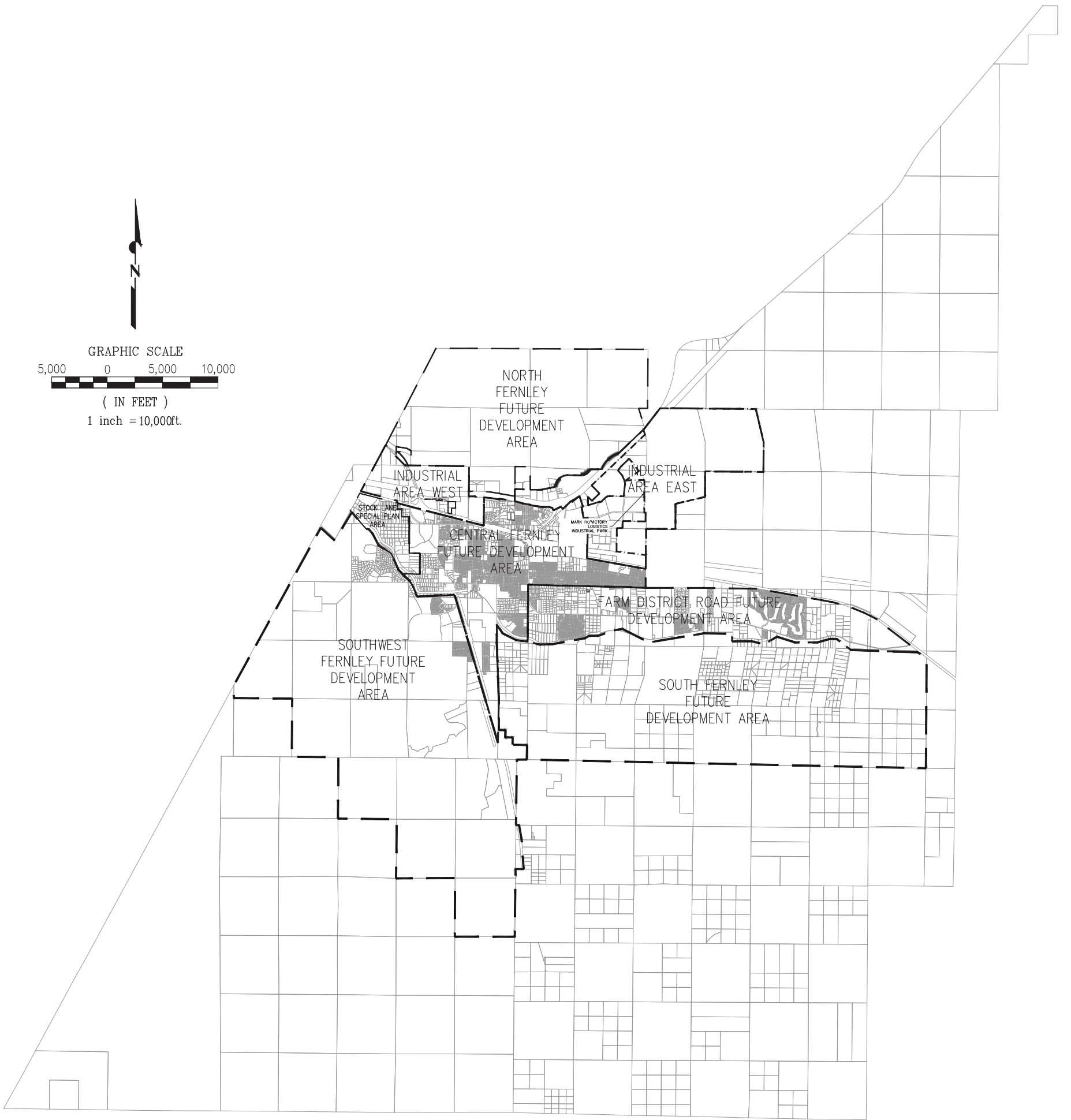
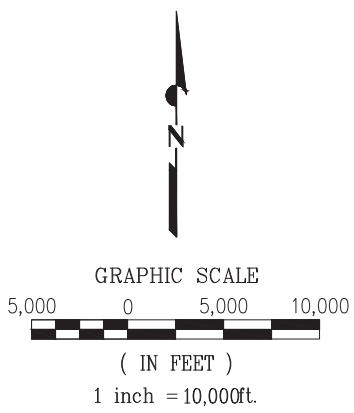
Industrial Area East:

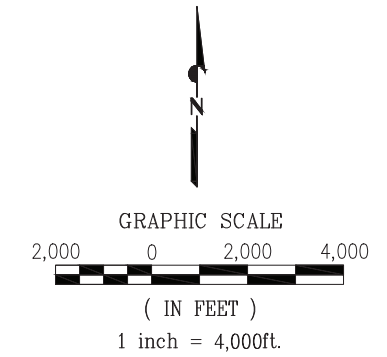
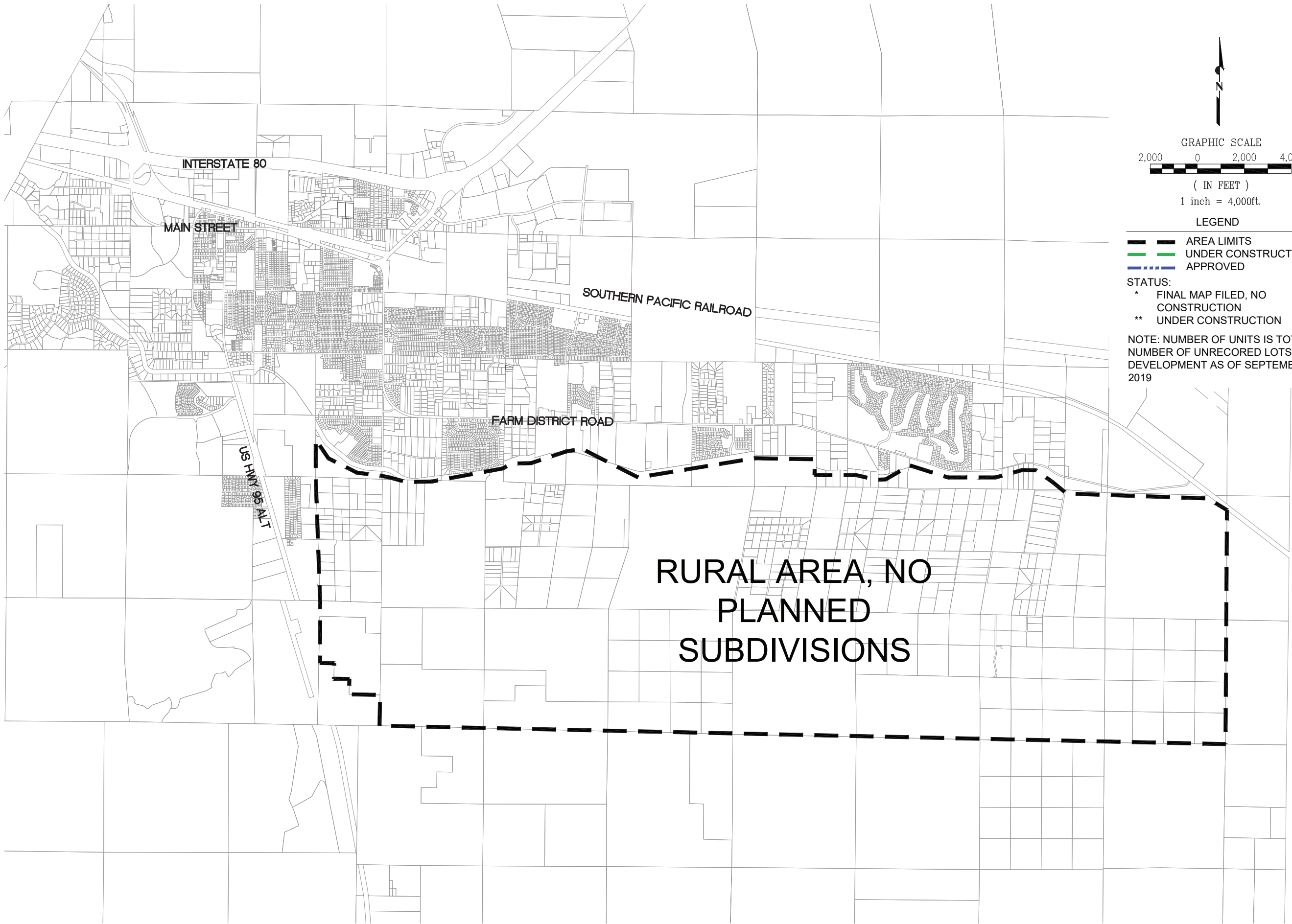
The industrial area east has the potential for the largest non-residential impact on the water system. The area encompasses over 2,800 acres. The majority of the property owners have tentative plans for large warehouse developments on most of the land on the south side of I-80 and unknown future development on the north side of I-80. The water demands for the areas have been estimated by the majority of property owners to be on the order of 1,400 to 9,100 ERCs. The range is due to whether the warehouse developments will be primarily logistics or manufacturing. The ERC estimates do not include the area on the north side of I-80. For planning purposes, 80% of the maximum ERC estimate (7,280) has been utilized for the build-out demands of the entire Industrial Area East.

Industrial Area West:

The industrial area west consists of scattered undeveloped parcels along Logan Lane as well as vacant land on the North side of I-80. The area encompasses approximately 930 Acres of undeveloped privately owned parcels. It is estimated a mixture of commercial, logistics centers, and manufacturing will be developed in this area. Build-Out water demand for this area has been estimated to be 1,000 Gallons per day per acre.

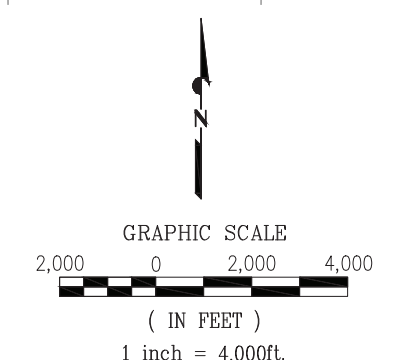
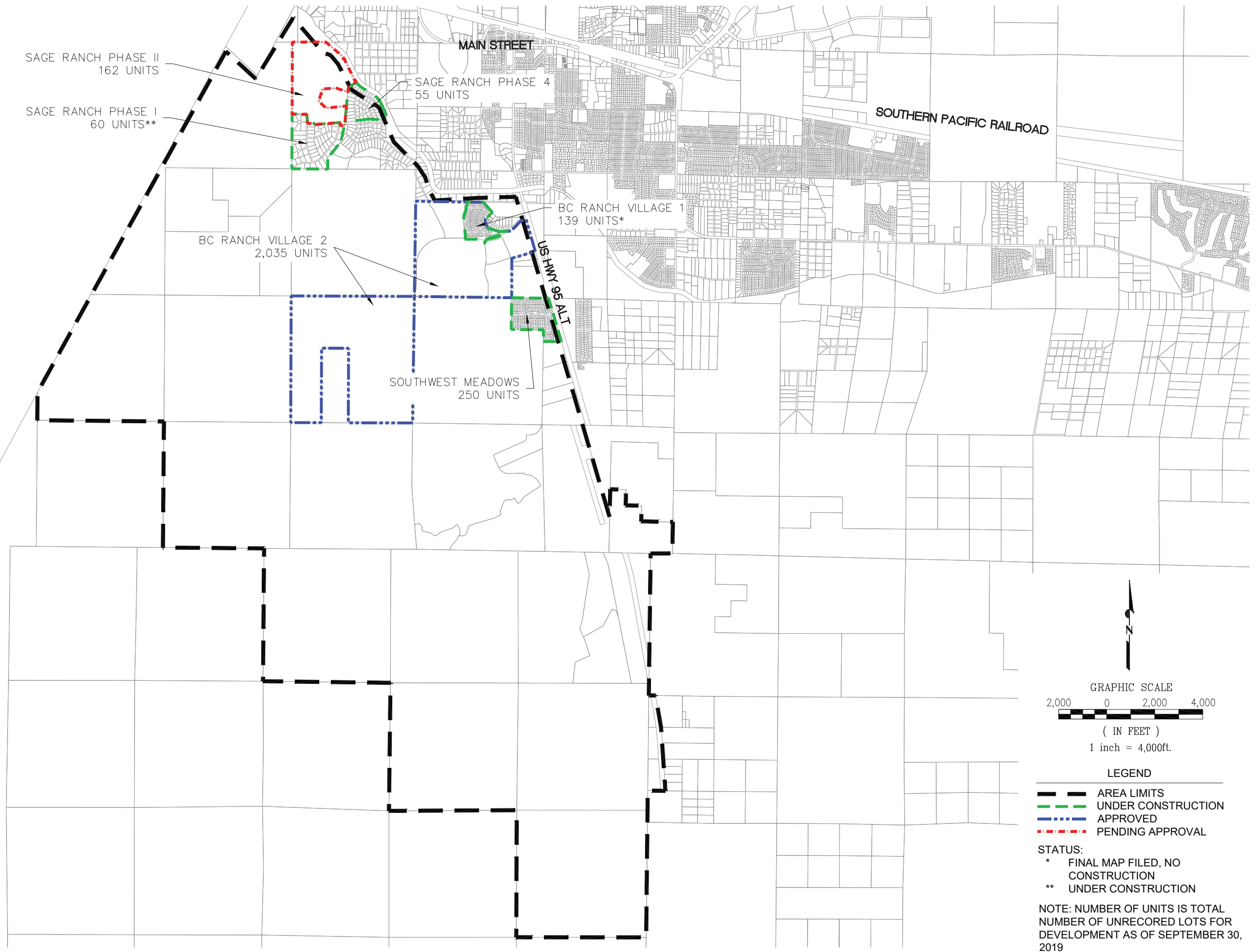
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- STATUS:
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NOTE: NUMBER OF UNITS IS TOTAL NUMBER OF UNRECORDED LOTS FOR DEVELOPMENT AS OF SEPTEMBER 30, 2019

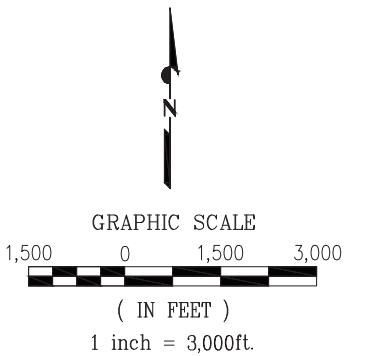


LEGEND

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	PENDING APPROVAL

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NOTE: NUMBER OF UNITS IS TOTAL NUMBER OF UNRECORDED LOTS FOR DEVELOPMENT AS OF SEPTEMBER 30, 2019

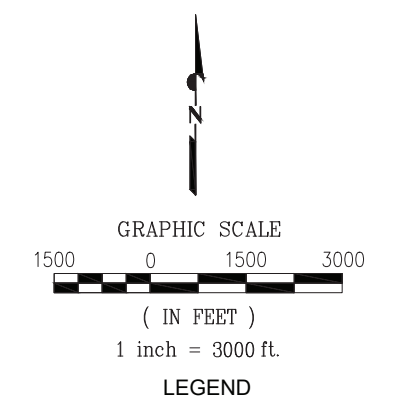


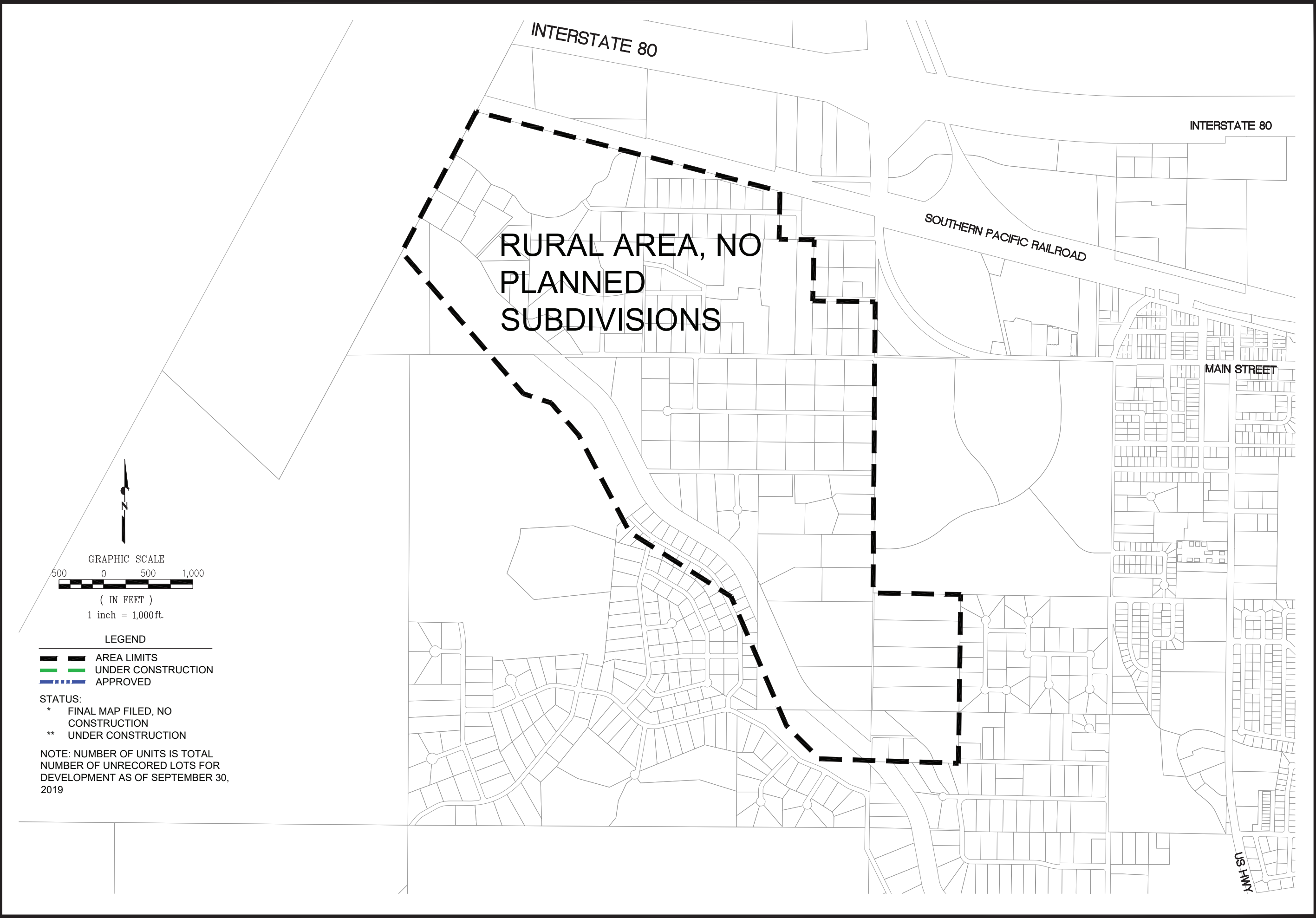
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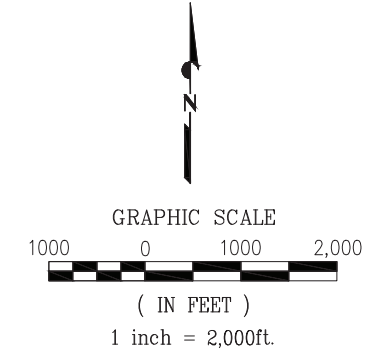
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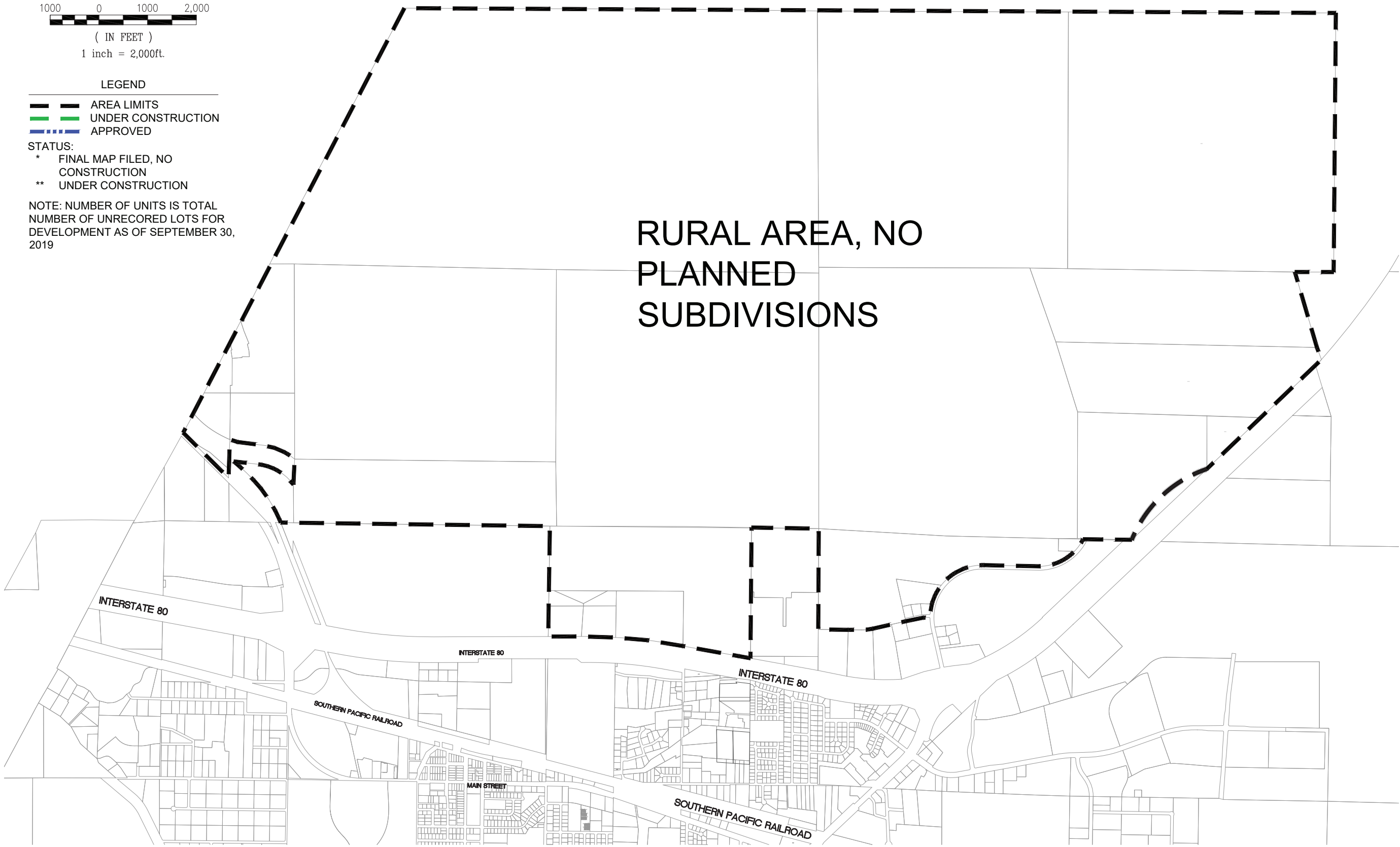


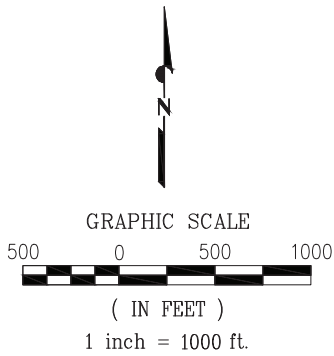


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NOTE: NUMBER OF UNITS IS TOTAL NUMBER OF UNRECORDED LOTS FOR DEVELOPMENT AS OF SEPTEMBER 30, 2019

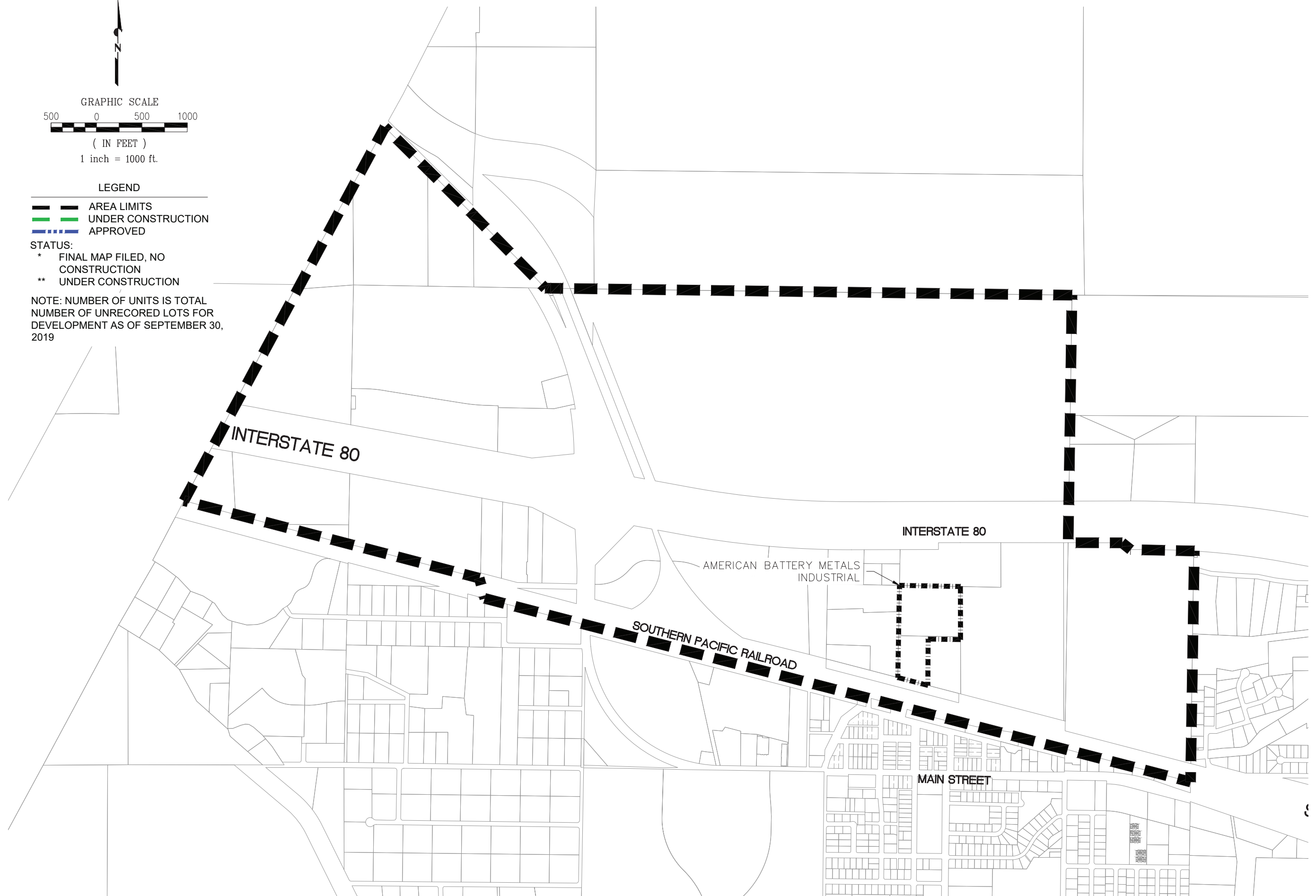
RURAL AREA, NO PLANNED SUBDIVISIONS

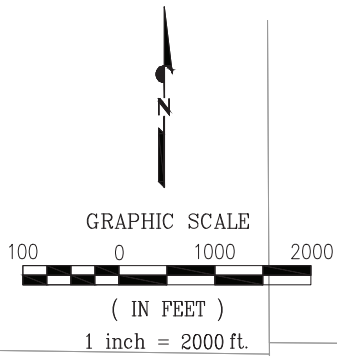




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NOTE: NUMBER OF UNITS IS TOTAL NUMBER OF UNRECORDED LOTS FOR DEVELOPMENT AS OF SEPTEMBER 30, 2019





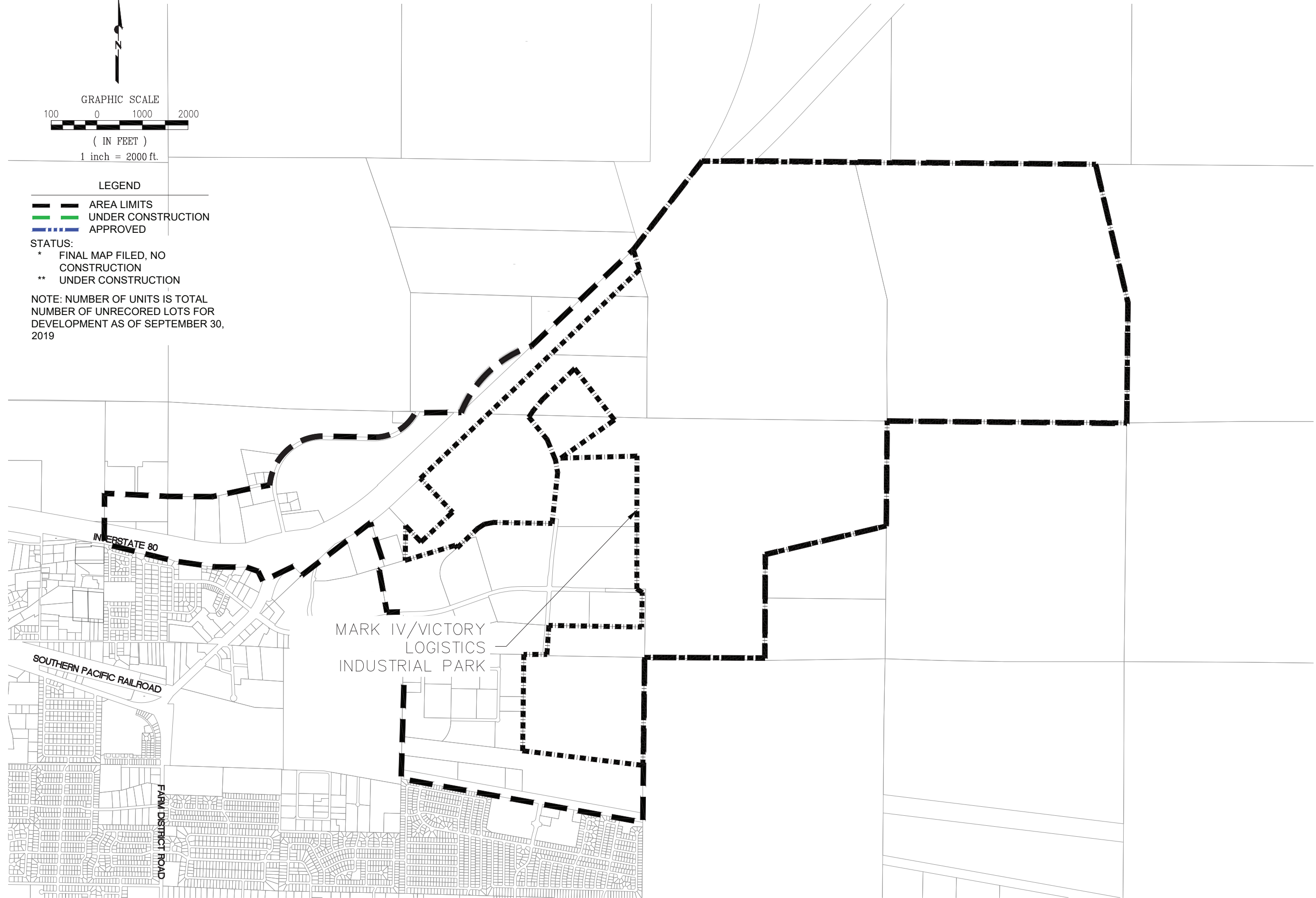
LEGEND

-  AREA LIMITS
-  UNDER CONSTRUCTION
-  APPROVED

STATUS:

- * FINAL MAP FILED, NO CONSTRUCTION
- ** UNDER CONSTRUCTION

NOTE: NUMBER OF UNITS IS TOTAL
NUMBER OF UNRECORDED LOTS FOR
DEVELOPMENT AS OF SEPTEMBER 30,
2019



4.6 Summary

In summary, the City of Fernley has 6,025 tentative map units. Of the 6,025 units, approximately 3,636 remain to be recorded with the county Assessor's Office. In addition, the City reports 446 units of potential development (submitted but unapproved tentative applications and pre-conference discussions only). A summary of the development areas is provided in Table 4.3. Areas such as Desert Lakes have been omitted from the count as there are very few units to be built out. Appendix B details each subdivision's status.

Table 4.3: Approved Tentative Maps and Tentative Map Applications

Region	Total Lots	Final Mapped Units/Lots	Approved Tentative Map Units*	Pending Approval
South Fernley	0	0	0	0
Southwest Fernley	2,701	504	2,035	162
Central Fernley	1,896	765	847	284
Farm District Road	1,428	674	754	0
Stock Lane	0	0	0	0
North Fernley	0	0	0	0
TOTAL	6,025	1,943	3,636	446

*Includes tentative maps with applications pending approval

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SECTION 5

GROWTH PROJECTIONS

5.0 GROWTH PROJECTIONS

5.1 General

Customer growth projections based on historical and planned growth patterns are vital to the design and upgrading of water distribution systems. Customer growth projections help provide a basis for water connection/meter pricing structures, planning for capital improvement projects, and water system design. Ideally, a water distribution system design would be flexible in its ability to evolve with changing growth patterns.

This section provides a growth projection based on Land Use assumptions detailed in the City of Fernley *2018 Comprehensive Master Plan*.

5.2 Growth Projections

The growth projections presented in this *Water Master Plan* are based on the Land Use Assumptions adopted by the *City's Comprehensive Plan*.

The projection of population growth in Fernley is provided in Table 5.1 through 2040.

Table 5.1: Population Growth Projection

Year	Population	Metered Connections	Percent Change	Change from previous year
2018	19,609	6,488	-	-
2019	19,923	6,592	1.6%	104
2020	20,202	6,684	1.4%	92
2021	20,464	6,771	1.3%	87
2022	20,689	6,845	1.1%	74
2023	20,917	6,921	1.1%	75
2024	21,126	6,990	1.0%	69
2025	21,295	7,046	0.8%	56
2026	21,444	7,095	0.7%	49
2027	21,573	7,138	0.6%	43
2028	21,681	7,173	0.5%	36
2029	21,767	7,202	0.4%	29
2030	21,833	7,224	0.3%	22
2031	21,898	7,245	0.3%	22
2032	21,942	7,260	0.2%	14
2033	21,986	7,274	0.2%	15
2034	22,030	7,289	0.2%	15
2035	22,074	7,304	0.2%	15
2036	22,096	7,311	0.1%	7
2037	22,118	7,318	0.1%	7
2038	22,140	7,326	0.1%	7
2039	22,160	7,333	0.1%	7
2040	22,148	7,340	0.1%	7
2018 to 2040 Annual Average	-	-	0.6%	42

SECTION 6

WATER DEMANDS AND DEMAND PROJECTIONS

6.0 WATER DEMANDS AND DEMAND PROJECTIONS

This section presents an analysis of the City's Water demand and demand patterns, including a water demand projection to 2040. Water demands are analyzed for residential and non-residential usage. In addition, water demand patterns are compared to groundwater production and seasonal variation.

6.1 Water Demands

Currently, the City of Fernley assesses water right dedications based on Equivalent Residential Connections (ERC). One single-family residential connection represents one ERC, whereas the commercial or industrial customer which would have a water demand 10 times that of a single-family residence would be assessed 10 ERCs. In terms of water quantity, one ERC is equivalent to 1,000 gallons per day (gpd), or 1.12 acre-feet per year (AFA or AFY). Therefore, water rights dedications are based on the 1.12 AFA/ERC Value.

The City of Fernley's water demands can be evaluated from two different perspectives. The City's groundwater pumping records and WTP Flow Meter are reliable indicators of the City's water use, which includes domestic water demand, industrial/commercial water demand, irrigation demand, construction water usage, and water system losses. Alternatively, the City's Rate Table Summaries provide reliable water use data by meter size and consumer type, e.g., residential, commercial, master meters, construction water, and non-billable City entities; however, the Rate Table Summaries do not reflect system losses. Therefore, in general, the groundwater pumping records provide an accurate glimpse of the City water demand as a whole.

Considering the average daily water treatment plant production (Table 6.2) over the last few years, and comparing the maximum days to the minimum days, it is apparent that outdoor water usage, including irrigation water and construction water, continues to be a large portion of the City's water demand during the peak demand season. Table 6.2 includes a comparison of the average daily WTP production for the maximum days and the minimum days. For the estimate of the outdoor water usage, it was assumed that the minimum monthly demand is the baseline potable water demand for the year.

To determine an appropriate Maximum Day Demand factor, the annual MDD factor was averaged for the last five years. The *2008 Water Master Plan* utilized an ADD to MDD factor of 2.1. As part of the data reviewed for this 2022 WMP update, it was observed base and average demands in the system vary. The change in yearly demands of the system can be attributed mainly to recent rate structure adjustments. To update the City's hydraulic model, the last 5-years of WTP daily and annual production amounts were analyzed. The data revealed that 2018 was the year with the highest demand, subsequently, 2018 flows were utilized to determine an Average Day Demand for the system of 3.672 MGD. To determine a new MDD factor for the last 5 years, MDD factors were averaged. The MDD factor recommended to be utilized for the City's system is 1.69 times ADD. Supporting data from WTP flow records are provided in Table 6.1.

Table 6.1: Average WTP Production: Average Day and Maximum Day

Year	Water Treatment Plant Production (MGal)			
	Yearly Production	Average Day Demand (ADD)	Maximum Day Demand (MDD)	MDD Factor
2012*	1,316.34	3.606	6.539	1.81
2013*	1,612.30	3.595	6.433	1.79
2014*	1,621.63	3.621	6.771	1.87
2015*	1,213.78	3.325	6.026	1.81
2016*	1,289.88	3.534	6.360	1.80
2017	1,230.64	3.372	5.932	1.76
2018	1,340.43	3.672	6.296	1.71
2019	1,296.64	3.552	6.031	1.70
2020	1,420.67	3.881	6.370	1.64
2021	1,418.27	3.885	6.528	1.68
Average	1,341.33	3.672	6.231	1.69

*Additional data outside of the 5 years of study

A thorough analysis of the City's raw water well production capacities is discussed in the 2018 Water Resources Master Plan. In the Water Resources Master Plan, it is identified current wells are sufficient for marginal/immediate growth in the system, however additional groundwater or surface water needs to be added to the system to meet 20-year buildout demands. As groundwater demands increase; pumping times at the wells will also increase during high-demand days in the summer. Longer pumping times on the City's wells will further tax the aquifer which can affect the overall capacity of the groundwater resource.

Table 6.2: Average Groundwater Well Production and Capacity

Well	Average Annual Pumping Rate (GPM)	Pumping Capacity (GPM)	Pumping Capacity (MGD)*
Well 4	1,003	1,600	1.536
Well 9	-	1,400	1.344
Well 9A	488	1,100	1.056
Well 11	1,549	2,550	2.448
Well 13	567	900	0.864
Well 14	1,284	2,050	1.968
Total	4,891	8,560	12.326
Firm Pumping Capacity**	-	6,010	8.654

*Based on wells pumping 16 hours per day

**Firm pumping capacity is based on the pumping capacity with the most productive well offline per NAC 445A.6672.3(b)

6.2 Peak Hour Flow Monitoring

During the summer of 2018, from June 6th through August 31st, the City WTP and Water Distribution operators performed a peak demand monitoring exercise. Based on experience operating the system, the City understood peak demand for the system occurred when the tank levels begin falling in the mornings during summer. The peak demand typically begins around 4:00 AM and lasts until around 8:00 AM when tank levels begin to stabilize. To calculate what the peak demand of the system is, operators recorded tank levels, PRV flows, and WTP flow at the beginning and end of the peak period every day. This provided the total gallons of water delivered into the system during the daily peak demand time. Based on those peak intervals, the flows going into the system from the plant and the tanks were calculated to be an 10.90 MGD PHD. Utilizing

a PHD of 10.90 MGD, the recommended peak factor for modeling purposes is 1.75 times MDD. Table 6.3 below provides a summary of the morning peak period flows recorded by the City's operators.

Table 6.3: 2021 Peak Hour Flow Recording Data June – Aug 2018

	Date	Time	Day	MGD	GPM
Minimum	07/11/2021	4am-9:45am	Sunday	8.3	5,763
Average*	-	-		9.5	6,597
Maximum	07/23/2021	4am-8:45am	Friday	10.9	7,569

*Calculated average of each day's peak hour demand recorded from July 1st through July 31st

6.3 Water Demands – Method 1: Comprehensive Master Plan Growth

The projected water system demands presented in this *Water Master Plan* are based on the City's *2018 Comprehensive Master Plan*. Refer to Section 5.0 for a discussion on the growth projection method. Table 6.4 is the water demand projection to 2040. Note that the 20 MGD maximum day demand is not projected to occur before 2040. Refer to Section 6.4 for Tentative Map growth rate projected water demands.

Table 6.4: Comprehensive Master Plan Projected Demands – 20 years

Year	Population	Metered Connections	ADD (MGD)	MDD (MGD)	Acre-Feet
2018	19,609	6,488	3.67	6.30	4,113.4
2019	19,923	6,592	3.78	6.48	4,230.0
2020	20,202	6,684	3.87	6.64	4,333.0
2021	20,464	6,771	3.96	6.79	4,430.5
2022	20,689	6,845	4.03	6.92	4,513.4
2023	20,917	6,921	4.11	7.06	4,598.5
2024	21,126	6,990	4.17	7.18	4,675.8
2025	21,295	7,046	4.23	7.28	4,738.5
2026	21,444	7,095	4.28	7.36	4,793.4
2027	21,573	7,138	4.32	7.44	4,841.6
2028	21,681	7,173	4.36	7.50	4,880.8
2029	21,767	7,202	4.39	7.55	4,913.3
2030	21,833	7,224	4.41	7.59	4,937.9
2031	21,898	7,245	4.43	7.63	4,961.5
2032	21,942	7,260	4.44	7.65	4,978.3
2033	21,986	7,274	4.46	7.68	4,993.9
2034	22,030	7,289	4.47	7.71	5,010.7
2035	22,074	7,304	4.49	7.73	5,027.5
2036	22,096	7,311	4.50	7.74	5,035.4
2037	22,118	7,318	4.50	7.76	5,043.2
2038	22,140	7,326	4.51	7.77	5,052.2
2039	22,162	7,333	4.52	7.78	5,060.0
2040	22,184	7,340	4.52	7.80	5,067.9

6.4 Water Demands – Method 2: Tentative Map Units

Method 2 of predicting future demands is analyzing the number of tentative map units to be built. While it is not certain what the timeframe will be for tentative map build-out, it will provide a future road map for infrastructure planning. As mentioned in Section 4.6 The City currently has 6,025 units planned or under construction. Given the current water customer count of 7,313, the build-out of all residential units would raise the number of customers to 10,949. Based on the number of customers the estimated, Average Day and Maximum Day demands would be 5.47 MGD and 9.25 MGD, respectively. Although the timeline is arbitrary; Table 6.5 was developed assuming all tentative maps will be built out in 20 years.

Table 6.5: Water Demand Projections – All T.M.'s in 20 Years

Year	Metered Connections	ADD (MGD)	MDD (MGD)	Acre-Feet
2018	6,488	3.24	5.48	2,895.85
2019	6,685	3.34	5.65	2,983.78
2020	6,887	3.44	5.82	3,073.94
2021	7,096	3.55	6.00	3,167.23
2022	7,313	3.66	6.18	3,264.08
2023	7,515	3.76	6.35	3,354.25
2024	7,717	3.86	6.52	3,444.41
2025	7,919	3.96	6.69	3,534.57
2026	8,121	4.06	6.86	3,624.73
2027	8,323	4.16	7.03	3,714.89
2028	8,525	4.26	7.20	3,805.05
2029	8,727	4.36	7.37	3,895.21
2030	8,929	4.46	7.55	3,985.37
2031	9,131	4.57	7.72	4,075.53
2032	9,333	4.67	7.89	4,165.69
2033	9,535	4.77	8.06	4,255.85
2034	9,737	4.87	8.23	4,346.01
2035	9,939	4.97	8.40	4,436.17
2036	10,141	5.07	8.57	4,526.33
2037	10,343	5.17	8.74	4,616.49
2038	10,545	5.27	8.91	4,706.66
2039	10,747	5.37	9.08	4,796.82
2040	10,949	5.47	9.25	4,886.98

6.5 Hydraulic Modeling Methodology

The City of Fernley Hydraulic Water Model was updated in 2011-2012 utilizing 1.4 x TMWA Rule 7 for demand allocation. The model has been recently calibrated to accurately reflect the demand on the system utilizing global demand multipliers to model ADD and MDD. PHD has also been modeled based on recent peak hour flow monitoring (Section 6.2). As final maps are recorded for new developments (Or new commercial connections activated) are constructed, they are added to the model utilizing 1.4 x TMWA Rule 7. The 1.4 x Rule 7 is relatively conservative; however, the use of global demand multipliers, factor out the excessively high theoretical demands. Once

new connections are added to the model, their actual demand on the system will be adjusted uniformly with the rest of the model and re-calibrated annually.

6.6 Demand Multiplying Factors

After model calibration and data analysis, Shaw Engineering determined updated demands and demand factors for design and modeling. Table 6.6 is a summary of the recommended residential water demand factors. The maximum day and peak hour demands are slightly lower than the current water model demand factors; however, with rising water rates residents have reduced outdoor watering. As outdoor watering is reduced further and the population grows; the peak factors will continue to adjust and flatten.

Table 6.6: System Demand Multipliers

	MDD	PHD
Demand Multiplier	ADD x 1.69	MDD x 1.75

6.7 Equivalent Residential Connections

As discussed, one ERC is the unit of measurement for water rights dedication for a single-family home. It is well known that 1,000 GPD ADD per home is a conservative number. To analyze actual hydraulic conditions, a review of groundwater pumping, WTP production, system losses, and actual consumption volumes was performed. Data was acquired from the City's wells, water treatment plant, and billing software to calculate an actual ERC value. The ERC value was analyzed based on observed average metered consumption through all domestic water meters in the system. In addition, multipliers were added to the average residential metered consumption to determine the equivalent residential resource/groundwater demand as well as the equivalent average residential WTP production demand (required flow into the distribution system). Due to the relatively elevated system losses in the distribution system discussed in Section 7.2, the estimated average production demand on the WTP for all residential connections was reviewed. The estimated actual ERC value based on averaging all residential flows is provided in Table 6.7 & Figure 6.1 below.

Table 6.7: Equivalent Residential Connection Demands

	ADD (GPD)
Average Residential Usage (Metered)	276
Average Residential WTP Production Demand*	328
Average Residential Resource Demand**	344

*Includes applying an additional multiplier of 18.8% for distribution system losses.

**Includes applying an additional multiplier of 5% for WTP losses

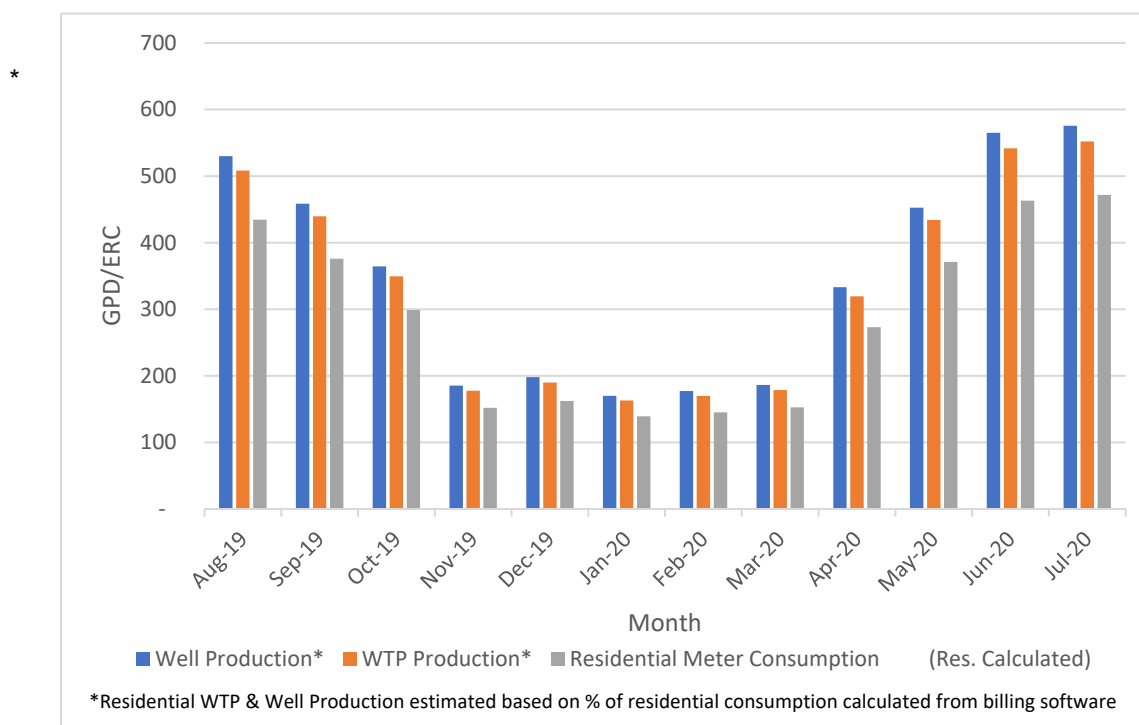


Figure 6.1: Single Family Residential 19/20 ERC Demands and Consumption [Demands retrieved from City Caselle Meter Billing Database]

6.8 Water Treatment Plant High Service Pump Station

The water conveyance system for the City of Fernley utilizes a central high service pump station at the WTP to deliver flow to storage tanks and customers throughout the City via two PRV connections to Gravity Pressure Zone 1. The pump station currently utilizes 3 pumps and an additional pump for redundancy. Each pump is equipped with a variable frequency drive (VFD) and the pump station has a firm capacity of 14,721 GPM (21.2 MGD). The high service pump station is piped for two additional pumps to be added in a future 30 MGD plant expansion. The pump station is capable of meeting all growth scenarios listed in this report assuming growth consistent with what has been observed in the past 10 years.

6.9 High-Pressure Transmission Mains

The City of Fernley currently utilizes a series of high-pressure transmission mains to deliver flow throughout the city with adequate pressure. One segment of the High-Pressure Transmission main acts as a central artery in which the City distributes the flow. This high-pressure transmission main begins at the Water Treatment Plant, heads east down Mesa Drive and South down Stock Lane then east down Sage Street to Mull Lane. To service continuing development in the eastern portions of the City, the high-pressure transmission main will need to be extended continuing down Mull Lane. The current transmission main is adequate for the current population; however, will not be able to serve immediate build-out scenarios for areas on the eastern portion of Farm District Road (See CIP 11 and 12). Immediate development areas within Central Fernley may not require extensions of the high-pressure transmission main. Growth/development to Southwest Fernley may require an extension of the high-pressure transmission main to the south and possibly an additional booster pump station.

6.10 Water Storage Facilities

The City of Fernley currently has 3 potable storage tanks in Gravity Pressure Zone 1 and the Sage Ranch Tank which serves the Sage Ranch Development Area (Pressure Zones 2 and 3). The total storage capacity of the City of Fernley potable water system is approximately 6.5 MG not including the Sage Ranch Tank. An assessment of the current state of development within the City shows that an additional estimated 3.0 MG of storage will be required to adequately serve the City of Fernley, and more specifically the industrial area, at peak hour flows and Fire Flow Storage through the year 2038. Although the storage tank location may change based on development patterns, it is estimated a tank South of the Canal near the eastern end of Farm District Road/Desert Shadows Lane will be preferable.

6.11 Rate Study Review

The City of Fernley currently uses the 2021 *City of Fernley Utility Rate Study* as a baseline for the City's water fee schedule. In 2021 the Connection fee for a single-family residential unit was \$6,825 and \$6,825 per 1,000 gallons of daily usage for commercial connections. Current meter rates are \$0.98 - \$1.13 per 1000 gallons depending on type and usage. The WRS recommended that by January 1st, 2017, the City increase its connection fees to \$7,150 for Single Family Residential Units. The meter rates were also recommended to slowly increase to \$3.60 per 1000 gallons monthly by July 1st, 2020. The purpose of the rate increase was due to a decrease in reserve funds and to create a more sustainable method of updating the current infrastructure. It is recommended the number of metered connections be reviewed further to ensure revenue estimates are as accurate as possible.

SECTION 7

INFASTRUCTURE PLANNING

7.0 INFRASTRUCTURE PLANNING

This section provides an overview of the proposed *Capital Improvement Projects (CIP)* planned over the next 5 years. Other proposed CIPs are shown in Exhibit 17. The estimated cost associated with each of the proposed projects is presented in Table 1.1.

7.1 Hydraulic Model Review

The current *Innovyze InfoWater* model utilized for development reviews and this Master Plan has been calibrated using data collected from the city and has identified area(s) with deficient pressure and/or flow. The model has demands added with each residential final map and commercial permit issuance in January of each year

7.1.1 Fernley High School Area

The Fernley High School Area has been identified as pressure deficient starting at Fernley High School and extending south along Highway 95A. Multiple junctions in this area fall below 40 psi during Maximum Day Demand violating NAC 445A.6711. This issue can be mitigated through CIP 8.

7.2 Water Loss Management

Data was collected from the Water Treatment Plant and the City's Caselle billing software to determine the water loss (non-revenue water) from the Water Treatment Plant to the water meters. August 2019 through July 2020 data was utilized for this analysis. Database outputs were scrubbed to remove duplicate meter readings and other billing software irregularities. Sources of water losses include maintenance flushing of water mains, unbilled authorized consumption, unauthorized or illegal consumption, minor data recording errors, and leaking mains and service laterals. Despite possible inaccuracies, due to the volume of losses, the majority of the water loss is believed to be due to leaks within the system and unauthorized or illegal consumption. Per AWWA, Acceptable system loss should be 6% or less. The average annual losses for the dataset retrieved are 17.1%. Figure 7.1 and Table 7.1 show the Water Treatment Plant production versus the billed/metered usage and water lost.

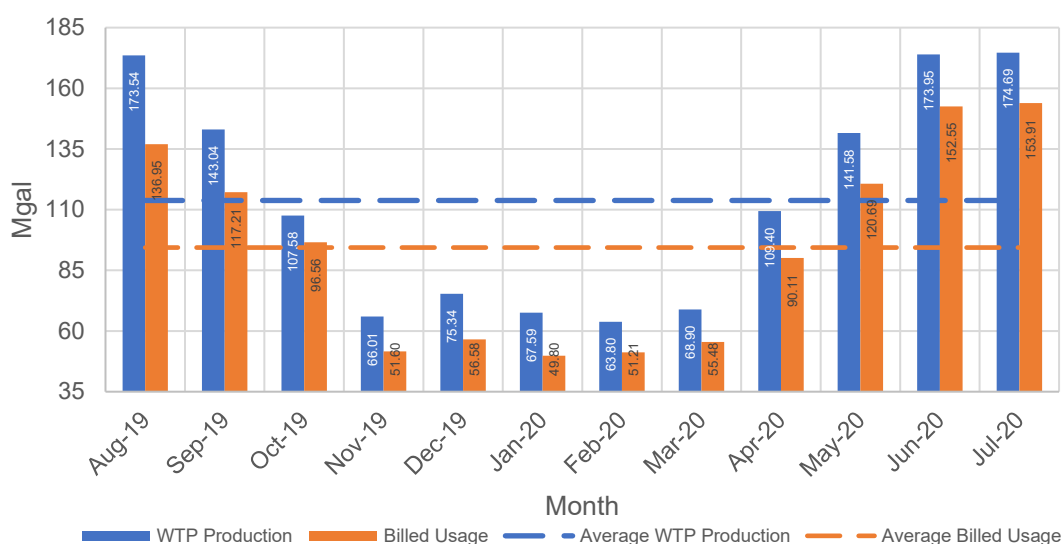


Figure 7.1: August 2019 - July 2020 Water Losses

Table 7.1: August 2019-July 2020 Water Loss Management¹

	Min (MGal/Month)	Max (MGal/Month)	Average (MGal/Month)
Water Treatment Plant Production	63.80	174.69	113.78
Metered Usage	49.80	153.91	94.39
Water Lost	11.02	36.60	19.40

¹Data Collected from 2019-2020 Billing and Water Treatment Plant Output Data

In addition to the unnecessary environmental impact of water losses, the revenue loss has a significant effect on the City's water enterprise fund (budget). From August 2019 thru July 2020 total revenue loss is estimated to be \$803,850. The estimated revenue lost does not include the cost of production and distribution. The total loss for the year is equivalent to 638 single-family residential connections. An estimated revenue loss was calculated utilizing \$3.45/1000 gal

Further identifying the loss of water throughout the system is deemed a high priority due to both the revenue and resource considerations. As the city moves towards fixed base meter reading, some data anomalies may be able to be reduced; however, a review of the distribution system for leaks may still be required. Different leak detection technologies are available for both ground survey instruments and in-pipe probe surveys. Temporary meters installed on mains feeding closed loop portions of the distribution system or pressure testing of areas of the system may also be feasible. The asbestos cement (transite) water mains throughout the older portions of the city should be the first areas to be reviewed with leak detection analysis. If the first sample areas of transite mains yield little to no leakage, some newer PVC mains throughout the City may need to be reviewed. Ultimately fixed base meter reading, temporary metering of main lines, and pressure testing may be the most viable options to narrow down potential problem areas. Leak detection methods such as low voltage conductivity sensing as shown in Figure 7.2 can be used; however other methods are available.

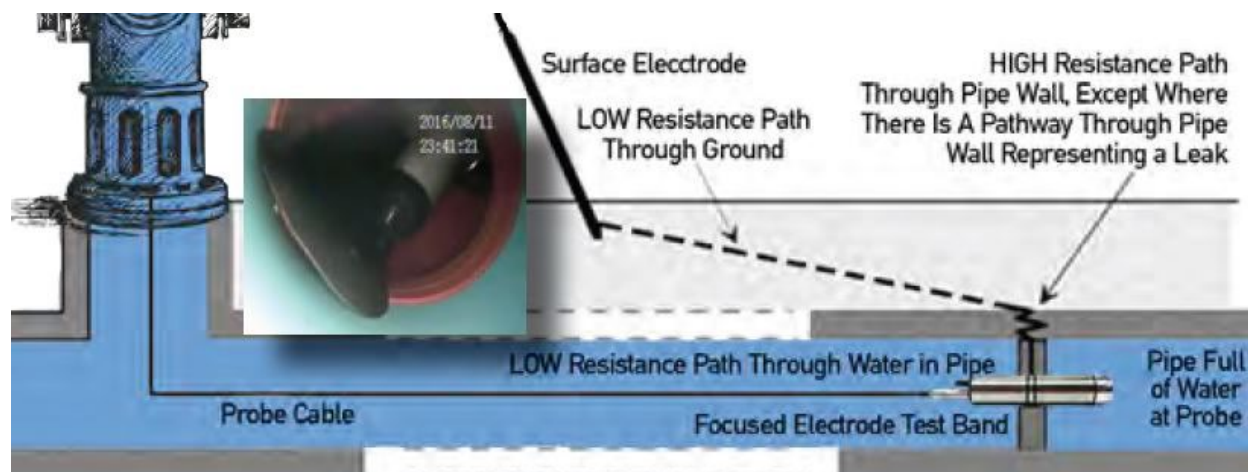


Figure 7.2: Low voltage conductivity sensing for water loss management

7.3 Planned Capital Improvement Projects – Deficiencies/Redundancy

The City has listed planned Capital Improvement Projects (CIP) in the *City of Fernley 2020-2021 Budget*. Essential Capital Improvement Projects have been developed based on existing infrastructure needs.

7.3.1 CIP 1 – EWWTP Fire Line and Potable Water Main Design

CIP 1 includes the design and connection of the East Wastewater Treatment Plant (EWWTP) to the Existing Water Distribution System. The new main connects to the distribution system in Nevada Pacific Parkway and extends 6,500 LF of 8-inch water main to the plant. Construction of this project has been completed.

7.3.2 CIP 2 – Cottonwood Lane Water Main Extension

CIP 2 includes the installation of 650 linear feet of 18-inch PVC waterline within Cottonwood Lane between Red Hawk Road and Rosewood Drive. The Project will also replace 1,500 linear feet of 6-inch AC water main with 18-inch PVC along Cottonwood Lane from Hardie Lane to Rose Lane. The project is currently in the final design phase and construction is planned for 2021.

7.3.3 CIP 3 – Fixed Base Meter Reading

The City of Fernley utilizes Sensus water meters throughout the system. Since 2013 the City has been replacing meters and/or meter registers/radios throughout the system. These new meters/registers allow the current drive-by meter reading to be performed; however, they are also equipped with a radio which is capable of sending a signal multiple times per hour to a fixed base receiving tower. This CIP will install three towers throughout the City with the plan to eliminate the need for drive-by meter readings. The fixed base system has other benefits such as same-day leak notification when a homeowner has a potential plumbing issue, advanced alerts for high usage, and reduced technician time by eliminating monthly drive-by as well as mid-month reads for service changes. Implementation of this project will be a combination of site electrical upgrades as well as Sensus radio/antenna equipment.

7.3.4 CIP 4 – WTP Surface Water Intake and Pump Station

This project will construct a canal intake structure, a raw water booster pump station to pump surface water to the WTP, and install a water distribution main from the plant to the canal for fire suppression and future system looping. Refer to the 2016 Surface Water Treatment Alternative Analysis completed by CDM Smith for additional details. This project is currently under construction and is scheduled to be completed in the Fall of 2023.

7.3.5 CIP 5 – Water Resource Investigation – Brady Hot Springs

The City hold 2,100 AFA of groundwater rights in the Brady Hot Springs Hydrographic basin which is Northeast adjacent to the Fernley Hydrographic basin. This project will investigate the feasibility of drilling a well within the Brady Hot Springs Basin to support the City's growing water demand during the winter months when surface water is not available.

7.3.6 CIP 6 – General Well Improvements

Project 6 includes general maintenance items to improve the longevity and maintenance of the City's well sites. Improvement items include new air conditioning and cooling units, electrical control upgrades and miscellaneous repairs and replacements to broken or aging equipment.

7.3.7 CIP 7 – WTP Surface Water Reservoir

Project 7 will include the design and construction of a new 1.5 MG potable water storage tank upstream of the high service pump station to reduce the peak demand on the water treatment plant. The construction of the tank will increase the potable water storage capacity at the treatment plant to 3.0 MG.

7.3.8 CIP 8 - WTP Improvements for Treatment of Surface Water

The City of Fernley currently holds surface water rights from the Truckee Canal. The WTP was designed to have the ability to be upgraded to treat surface water off of the canal during the original design. The 2016 Surface Water Treatability study details that in order to treat surface water the plant will need to be upgraded to include a flash mix system, solids drying ponds, chemical system upgrades, corrosion mitigation and SCADA and telemetry upgrades.

7.3.9 CIP 9 – Northeast Tank to Industrial Area Connection Main

The existing operation of the northeast industrial area relies on the Northeast Tank. Service from the Northeast Tank to the industrial area is provided via 13,300 LF of 14" Main and 2,900 LF of 12" main. CIP 4 includes the construction of approximately 1,900 LF of 14" Main connecting the Northeast Tank Feed/Drain line (14" AC) to the existing 14" C900 PVC main at the intersection of Duffy Road and Nevada Pacific Parkway. This would provide more capacity to the growing northeast industrial area and residential areas south of Highway 50.

7.3.10 CIP 10 – NE Booster Pump Station and Well 9/9A Improvements

CIP 10 is a project which will increase the reliability of the City's groundwater collection system and also has the opportunity to increase the capacity of groundwater to the water treatment plant. There are two options for the upgrades and capacity improvements of the Northeast Booster Pump Station and Wells 9 and 9A.

Project 10A

CIP 10A includes upgrading the Northeast Booster Pump Station to allow it to pump the full capacity of the combined flow rate from Wells 9 and 9A. Improvements will include replacement of suction piping between the pumps and blend tank at the booster pump station site, replacement of electrical/starters at the booster pump station site, installation of gensets at Wells 9/9A and the booster pump station and other miscellaneous piping and site improvements. A full explanation of Project 10A is detailed in Appendix A

Project 10B

CIP 10B is an alternative option to CIP 10A to abandon the Northeast Booster Pump Station and perform additional upgrades to Wells 9/9A. With this project, the NE Booster Pump Station would be abandoned and the yard piping or piping inside the building would be tied over to allow all equipment and tanks to be abandoned. To remove the NE Booster Station, Wells 9 and 9A would require chlorination to be added and the pumps to be upgraded to pump directly to the WTP via the raw water system. Similar to CIP 10A, gensets would also be required at the wells. The NE Booster Station is a remote facility with deferred maintenance. Abandoning the facility would simplify operations, reduce overhead costs, and save money over time. In addition, the pump upgrades at Wells 9 and 9A mean the full duty of the wells could be pumped to the WTP. A full explanation of Project 10B is detailed in Appendix A.

7.3.11 CIP 11 – US-95A Booster Pump Station and PRV

CIP 11 includes the design and construction of a Booster pump to be installed in the area of Fernley High School to serve planned and future developments in the Southwest Fernley Service Area. This project will help increase existing low pressures along US 95A and will aid development in the South. Additionally, a PRV will need to be installed along the 14-Inch main within Valley View Drive. As development comes in for service in this area there will be other potential issues with looping and upstream main upgrades depending on the size and needs of the developments.

7.4 Recommended Capital Improvement Projects – System Expansion

These capital improvement projects will increase the overall capacity of varying areas of the City's water system. These improvements are generally required to serve new growth areas of the system.

7.4.1 CIP 12 – Highway 50A Looping Main

CIP 9 introduces a loop connection to the existing 18-inch main within Nevada Pacific Parkway and an 8-inch connection in Pepper Lane within the Desert Lakes Subdivision. The looped connection will provide redundancy to the Desert Lakes subdivision and others on the east end of Farm District Road. Currently, there are a large number of connections that are served by a single main within Farm District Road; this looping main would increase system redundancy and eliminate dead end(s). Additional loops and future development would also be able to connect to the new main. Additionally, city staff has reported that the Ricci tank level decreases significantly in the morning. The incorporation of CIP 9 will assist in the moderation of the tank levels during high-demand periods.

7.4.2 CIP 13 – Logan Lane to Vine Street Loop

CIP 10 introduces a loop connection to the existing 8-inch main within Gazzigli Lane and the 8-inch main within Logan Lane. The looping will provide redundancy to the residential developments on Vine Street and the dead-end line in the industrial area of Logan Lane. This loop will help with water quality (loss of chlorine residual), increased fire flow, and an increase in the reliability of the system in the event of a main break.

7.4.3 CIP 14 – Mull Lane High-Pressure Transmission Main and PRV

CIP 14 will construct an extension of the 30-inch ductile iron pipe high-pressure transmission main from upstream of the Mull PRV approximately 6,400 lineal feet east to the existing Ricci Tank transmission line. This project will provide adequate pressure for future developments in the Farm District Road Service Area. A PRV station will be required to connect the new high-pressure main to the existing Ricci tank transmission main.

7.4.4 CIP 15 – Brady Hot Springs Well

Project 15 is a continuation of Project 5 and will include the design and construction of a new well, access road, power extension, and raw water transmission main. The purpose of Project 15 is to support the City's demand in the winter when surface water is not available.

7.4.5 CIP 16 – Desert Shadows Lane Transmission Main and PRV

CIP 16 will construct approximately 6,950 lineal feet of 24" and 8,100 lineal feet of 20" high-pressure transmission main extending from the extension of the Mull Lane high-pressure transmission main (CIP 11) to Clearwater Pkwy. The project will also include a PRV station and 2,800 linear feet of 20" gravity transmission and distribution main from the PRV to Farm District Road. This project will provide additional capacity in the Farm District Road Service Area as well as provide a direct source capacity expansion for a future Southeast Tank.

7.4.6 CIP 17 – Southeast Tank

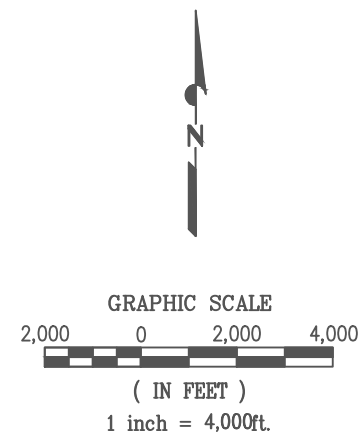
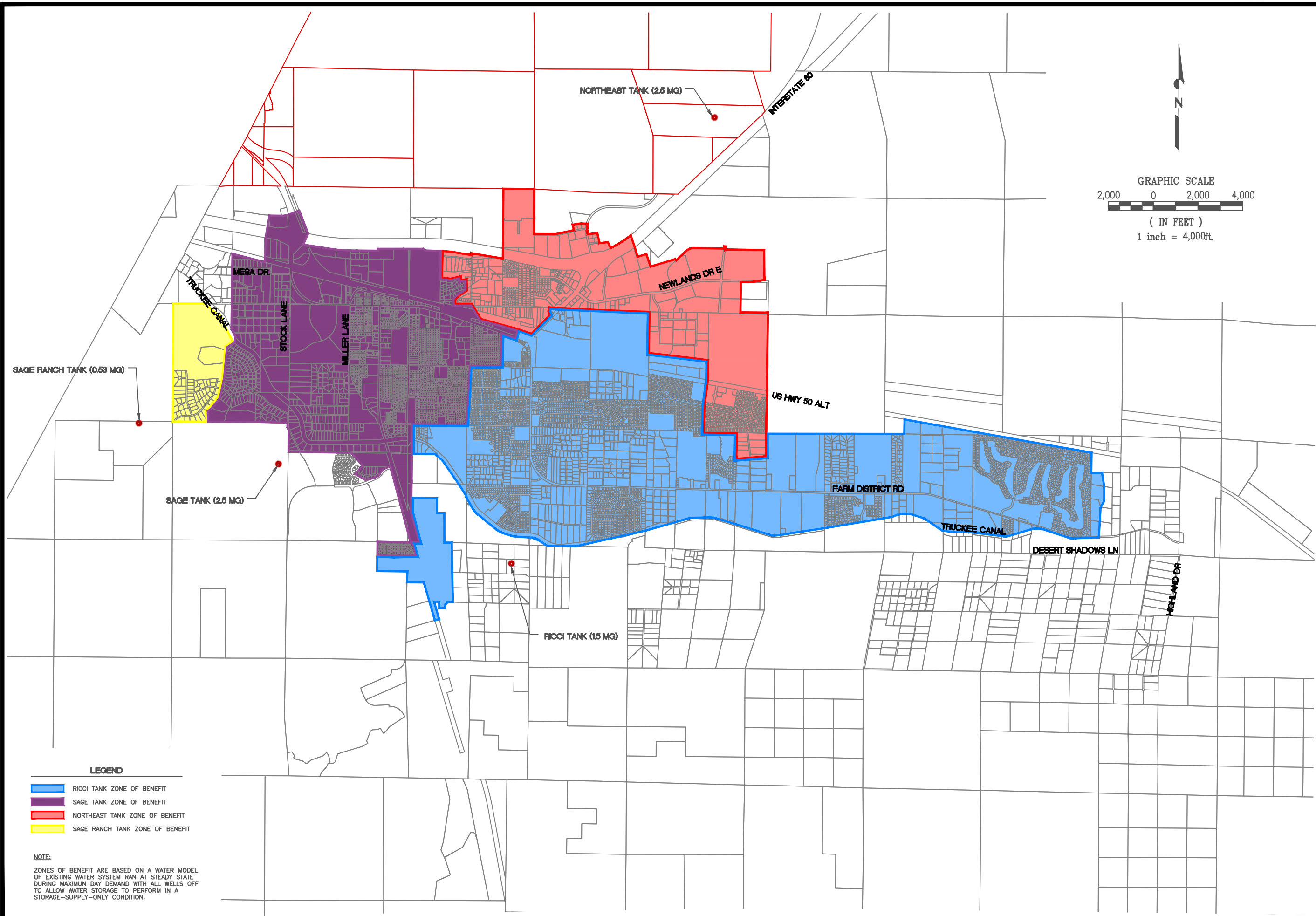
CIP 17 will include the construction of a 3.0 MG treated water tank to provide storage to facilitate growth on the eastern edge of the City of Fernley Service Area. This project will increase the available water storage capacity for all of Gravity Pressure Zone 1 and 2. In addition, this tank will increase fire flow available for the eastern end of Farm District Road and will allow many other areas of the system to increase fire flow commitments from the City (due to storage capacity

increases). The project will include a connection to the distribution system outlined in CIP 16. The project will include BLM permitting, site grading, and additional offsite access road and utilities.

7.4.7 CIP 18 – US-95A Booster Pump Station, PRV, and Transmission Main

CIP 14 includes the design and construction of a booster pump to be installed in the area of Fernley High School as well as upgraded distribution mains from Mull Lane to the southern terminus of the existing main in Highway 95A to serve planned future developments in the Southwest Fernley Service Area. This project will help with low pressures which currently exist along US 95A and will have a larger impact on allowing development to continue to the South. Additionally, a PRV will need to be installed along the 14-Inch main within Valley View Drive.

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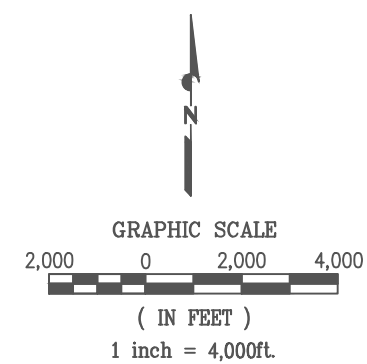
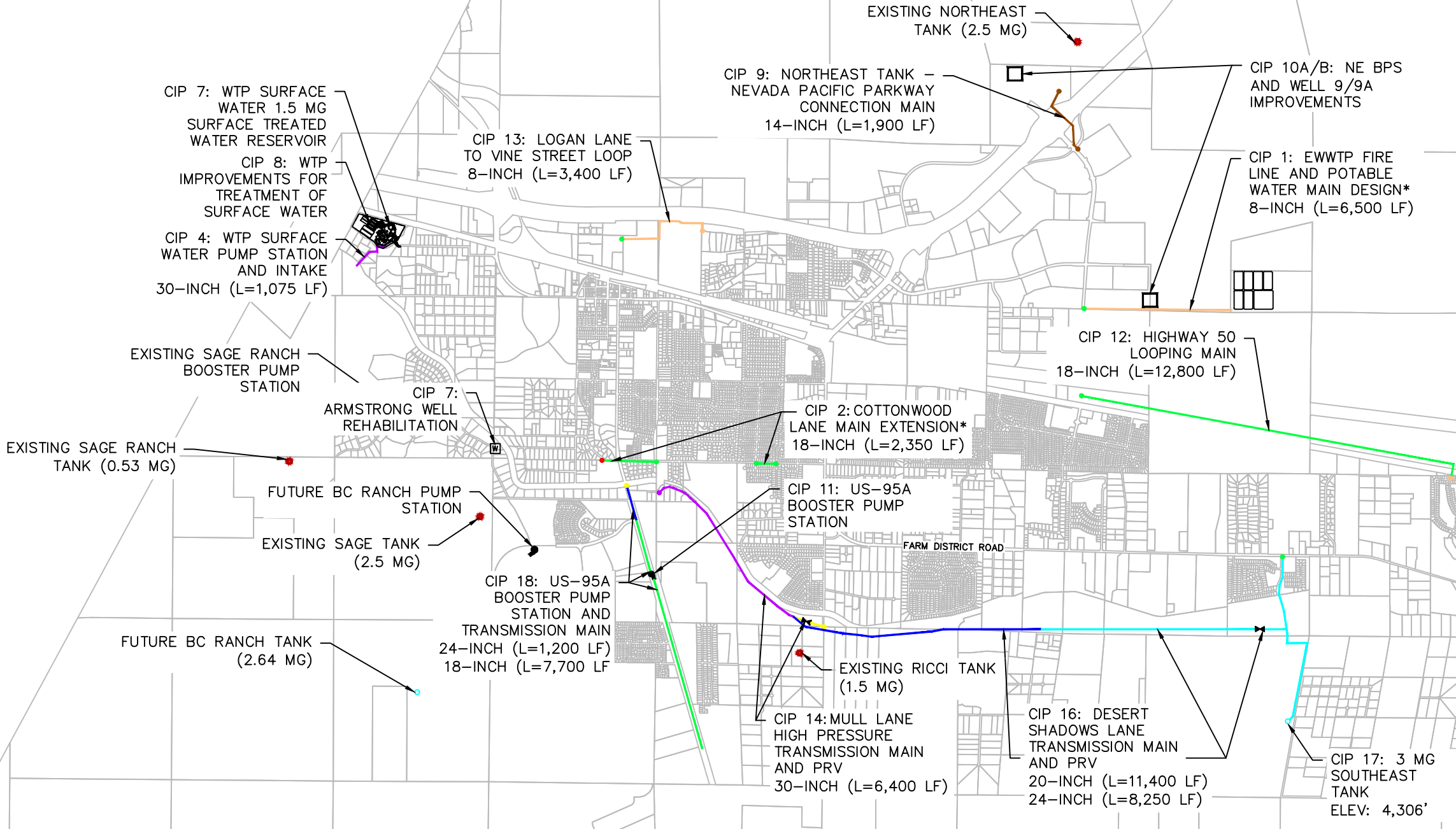


LEGEND

- RICCI TANK ZONE OF BENEFIT
- SAGE TANK ZONE OF BENEFIT
- NORTHEAST TANK ZONE OF BENEFIT
- SAGE RANCH TANK ZONE OF BENEFIT

NOTE:
 ZONES OF BENEFIT ARE BASED ON A WATER MODEL OF EXISTING WATER SYSTEM RAN AT STEADY STATE DURING MAXIMUM DAY DEMAND WITH ALL WELLS OFF TO ALLOW WATER STORAGE TO PERFORM IN A STORAGE-SUPPLY-ONLY CONDITION.

CIP'S NOT SHOWN
 CIP 0A: MAINTENANCE OF WATER DISTRIBUTION SYSTEM
 CIP 0B: FIRE HYDRANT REPLACEMENTS
 CIP 3: FIXED BASE METER READING
 CIP 5: WATER RESOURCE INVESTIGATION – BRADY HOT SPRINGS
 CIP 6: GENERAL WELL IMPROVEMENTS
 CIP 15: BRADY HOT SPRINGS WELL DEVELOPMENT



LEGEND

6-INCH Ø	
8-INCH Ø	
12-INCH Ø	
14-INCH Ø	
18-INCH Ø	
20-INCH Ø	
24-INCH Ø	
30-INCH Ø	
6-INCH CONNec.	
8-INCH CONNec.	
12-INCH CONNec.	
14-INCH CONNec.	
18-INCH CONNec.	
20-INCH CONNec.	
24-INCH CONNec.	
30-INCH CONNec.	

SECTION 8 PLANNED FACILITIES AND IMPROVEMENTS

8.0 PLANNED FACILITIES AND IMPROVEMENTS

8.1 General

The City of Fernley has experienced periods of rapid growth followed by a plateau. Currently, there are 7,945 tentative mapped units planned for the City, 3,884 of which have been final mapped. Due to the large amount of planned development, several water system facilities and transmission mains are being planned to serve the new developments and expand the water system capacity. The new facilities include storage tanks, booster pump stations, pressure reducing stations, and transmission mains. The construction of these system improvements and expansion are essential in providing water service where higher flows are to be expected with growth.

8.2 Proposed Water Pipelines

This *Water Master Plan* describes several transmission main projects. Some water mains are necessary to provide service to new development. The 20 MGD maximum day demand (MDD) is not projected to occur before 2040 however has been included in case a period of rapid growth occurs. Other water mains are suggested to increase system efficiency and reduce head losses. Table 10.1 includes summaries of the water transmission main projects described in this section. The projects are described in the proceeding sections.

Table 8.1: Water Pipeline Projects Summary for Upgrade and Expansion to 20 MGD Solution

Water Pipeline Project	Lineal Feet of Pipe	Purpose
24-inch Main– Highway 95A	800	20 MGD MDD
18-inch Main – Highway 95A	6,500	20 MGD MDD
30-inch High-Pressure Main – Mull Lane	6,400	20 MGD MDD
24-inch Main – Desert Shadows Lane	5,600	20 MGD MDD
20-Inch Main – Desert Shadows Lane	10,100	20 MGD MDD

8.2.1 24-inch Highway 95A Transmission Main

The 24-inch Highway 95A transmission main is proposed as part of the 20 MGD Solution. The project alignment begins at the intersection of Sage Street and Highway 95A, runs southeast along Highway 95A, and terminates at Fernley Hills Drive. The proposed alignment includes approximately 800 lineal feet of 24-inch transmission main.

The 24-inch main, as well as the 18-inch Highway 95A transmission main, will be important components to the source of supply for the future Highway 95A Booster Pump Station; therefore, the length will depend on the location of the pump station. Timing of the new 24-inch main will be dictated by growth along Highway 95A south. At present, the approved developments along Highway 95A include BC Ranch and Sario Ranch.

8.2.2 18-inch Highway 95A Transmission Main

The 18-inch Highway 95A transmission main is proposed as part of the 20 MGD Solution. The 18-inch water main would replace the existing 12-inch water main and will be required to provide an adequate source of supply to the future Highway 95A Booster Pump Station. The project alignment begins at Fernley Hills Drive as an extension of the 24-inch high-pressure transmission

main, runs southeast along Highway 95A, and terminates at Sario Residential development. The proposed alignment includes 6,500 lineal feet of 18-inch transmission main, assumed to be located along the west shoulder of Highway 95A.

The 18-inch main, as well as the 24-inch Highway 95A transmission main, will be important components to the source of supply for the future Highway 95A Booster Pump Station. Timing of the new 18-inch main will be dictated by growth along Highway 95A south. At present, the approved tentative developments along Highway 95A include BC Ranch and Sario Ranch.

8.2.3 30-Inch Mull Lane High-Pressure Transmission

The 30-Inch Mull Lane High-Pressure Transmission Main will connect upstream of the Mull Lane PRV and extend approximately 6,400 lineal feet southeast to the Ricci Tank which it will connect into the future Ricci PRV. The 30-Mull Lane High-Pressure Transmission.

The 30-Inch Main will be important as an additional source of supply for the Ricci Tank as well as providing extra capacity on the eastern side of Farm District Road. Timing of the new 30-Inch main will be dictated by growth along Farm District Road

8.2.4 24-Inch Desert Shadows Lane Transmission Main

The 24-inch Desert Shadows transmission main is proposed as part of the 20 MGD Solution. The project alignment begins north of the Ricci Tank connecting to the 30-Inch Mull Lane High Pressure Main and runs east along Desert Shadow Lane and will reduce to 20-Inch PVC at Painted Valley Lane. The proposed alignment includes approximately 5,600 lineal feet of 24-inch high-pressure transmission main.

The 24-inch main, as well as the 20-inch Desert Shadow Lane transmission main (Section 8.2.5), will be important components to the source of supply for new developments along Farm District Road. Timing of the new 24-inch main will be dictated by growth along Farm District Road.

8.2.5 20-Inch Desert Shadows Lane Transmission Main

The 20-inch Desert Shadows transmission main is proposed as part of the 20 MGD Solution. The project alignment begins at the connection of the 24-Inch main at Painted Valley Lane and runs east along Desert Shadow Lane and terminates at Painted Valley Lane. The proposed alignment includes approximately 10,100 lineal feet of 20-inch high-pressure transmission main.

The 20-inch main, as well as the 24-inch Desert Shadow Lane transmission main (Section 8.2.4), will be important components to the source of supply for new developments along Farm District Road. Timing of the new 20-inch main will be dictated by growth along Farm District Road.

8.3 Proposed Storage Tanks

As of the time of this *Water Master Plan*, several residential/commercial developments are planning new water storage tanks. Some of the proposed tanks will be located at higher elevations to allow new water pressure zones above the existing gravity zone. Table 8.2 is a summary of the water storage tanks described in this section. The projects are described in the proceeding sections.

Due to the City's limited water storage capacity, the construction of water storage tanks should be a high priority. However, the individual developers will be responsible for the design and construction of the water tanks.

Table 8.2: Proposed Storage Tanks

Tank	HWL Elevation	Volume	Notes
Southeast Tank	4342	3.0	20 MGD MDD
BC Ranch 1	4442	2.64	20 MGD MDD
BC Ranch Tank 2	4542	1.4	20 MGD MDD
BC Ranch Tank 3	4742	0.64	20 MGD MDD

8.3.1 Southeast Tank

The 3.0 MG Southeast Tank will be located south of Desert Shadow Lane, above the southwest end of Richards Way. In conjunction with the Mull Lane/Desert Shadows Lane Transmission Main, the 3 MG Southeast Tank is necessary to facilitate and sustain new growth along the Farm District Road corridor. The Following system improvements are required for potable water service.

- 3 MG Southeast Tank
- Mull Lane/Desert Shadows Lane Transmissions Main

The new Southeast Tank is required to sustain adequate pressures along Farm District Road as new developments are constructed. The Design for the Southeast Tank has been completed.

- Volume: 3.0 MG
- Diameter: 116 ft
- Height: 40 ft
- Base Elevation: 4,504 ft
- Overflow Elevation: 4,543 ft

8.3.2 BC Ranch Tank(s)

The BC Ranch Development will incorporate three storage tanks sized for the BC Ranch residential and commercial services. The BC Ranch Tanks are necessary to provide service to BC Ranch due to the elevations of the development.

BC Ranch Tank 1: Plans for the BC Ranch Tank 1 have been submitted to the City.

- Volume: 2.64 MG
- Diameter: 121.5 ft
- Height: 32 ft
- Base Elevation: 4,411.6 ft
- Overflow Elevation: 4,442 ft
- Controls: The BC Ranch 4442 Pressure Zone Pump Station will be controlled by the BC Ranch Tank 1

BC Ranch Tanks 2 and 3 are still in the planning phase.

8.4 Proposed Pressure Reducing Stations for the Water Conveyance Infrastructure System

Pressure Reducing (PRV) stations have been installed in areas of the city where water from the High-pressure transmission main enters the distribution system at a lower pressure. Table 8.3 summarizes the PRVs required to expand the current water conveyance system.

Table 8.3: PRV Stations for the Water Conveyance Infrastructure System

PRV Station	From HGL	To HGL	Notes
Ricci Tank PRV	WTP HPM	4342	20 MGD MDD

8.4.1 Ricci Tank PRV Station

The Ricci Tank PRV Station will transfer water from the Water Treatment Plant High-Pressure Transmission main to the existing 18-inch main that feeds the Ricci Tank.

8.5 Proposed Booster Pump Stations

Additional Booster Pump stations will be necessary in the future as a result of developments that will require boosted pressure, or higher hydraulic grade line (HGL) than the existing 4342 HGL. The booster pumps will be required to fill the tanks located in the upper zones and/or pressurize the upper zones. As of writing this Water Master Plan, the City has approved tentative maps/developments which will require the installation of booster pump stations. The location of these developments all fall within the Fernley Hills Zone (Sario Ranch, BC Ranch, Foothills of Fernley).

Table 8.4: Proposed Pump Station Summary

Pump Station	Elevation	Station Capacity	Suction Pressure Zone	Discharge Pressure Zone
Highway 95A	Undetermined	4.2-6.0 MGD	4,342	Undetermined
BC Ranch 1	4,352	3.7 MGD	WTP HPM	4,542

Highway 95A Pump Station

The pump station near Highway 95A south of town will be required to provide service to the Fernley Hills service area, south of Royal Oaks. The Highway 95A Pump Station will be fed by the Sage Street high-pressure transmission main. The ultimate pump station size will depend on potential growth along Highway 95A south.

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APPENDIX A CAPITAL IMPROVEMENT PROJECTS

CAPTIAL IMPROVEMENT PROJECT 0A – Maintenance of Water Distribution System

Project Description:

Every Water system requires regulatory maintenance to upkeep an efficient water system. Maintenance that falls under Capital Improvement Project 0A includes but is not limited to: replacing outdated pipes, broken or outdated pumps, pertinent equipment, tank recoating, etc.

CAPTIAL IMPROVEMENT PROJECT 0B – Fire Hydrant Replacements

Project Description:

The City of Fernley (COF) provides public fire hydrants for use by the North Lyon County Fire Protection District (NLCFD) to assist in fire suppression. This includes COF owned hydrants, auxiliary valves, and supporting water supply system piping. The existing fire hydrant system is directly connected to the City's treated drinking water supply piping. As such, an inter-local contract was necessary and approved during FY 15/16, establishing the parameters and requirements for the City and NLCFD to assist one another in addressing public safety concerns (both potable water standards and fire suppression assistance), as related to Fire Hydrant Maintenance. The inter-local agreement combined with the FY 15/16 Fire Hydrant Maintenance Program, and subsequent inspection and maintenance activities, indicated the need for fire hydrant replacement at a rate exceeding what was budgeted in the FY 15/16 O&M Water Distribution budget.

Project Components:

- Mueller A-423, 5 ¼ V0., Super Centurion, 250 PSI Hydrant(s)
- Applicable Fittings and Appurtenances

Engineering Disciplines:

- Civil Engineering

CAPTIAL IMPROVEMENT PROJECT 1 – EWWTP Fire Line and Water Main Design

Project Description:

The East Wastewater Treatment Plant does not currently have access to clean, treated drinking water. The site is served by a one-inch line that extends from one of the City's groundwater wells. The water is not treated and the pressure is not adequate to operate in any capacity for fire prevention. This project will extend an eight-inch water line from the existing lines within Nevada Pacific Parkway out to the plant. The line will be approximately 6500 feet long and will require valves placed every 500 feet and hydrants places every 300 feet. The line will provide drinking water to the wastewater employees as well as fire protection. The new waterline will also be utilized for future sludge removal processes.

Project Components:

- 8-Inch PVC Transmission Main, Valves, and Fittings
- Mueller A-423, 5 ¼ V0., Super Centurion, 250 PSI Hydrant(s)
- Applicable Fittings and Appurtenances

Engineering Disciplines:

- Civil Engineering and Surveying

CAPTIAL IMPROVEMENT PROJECT 2 – Cottonwood Lane Water Main Extension

Project Description:

Currently Cottonwood Lane contains largely 18-inch water mains that provide service to hundreds of residential developments in the area. The stretch of road between Rosewood and Cook way does not currently have a main running within the road. CIP 2 is currently in the design phase to install approximately 650 linear feet of 18-inch PVC Water Main to increase efficiency and redundancy within the Cottonwood lane Area. Additionally, the length of pipe between Rose Lane and Hardie Lane within Cottonwood Lane contains 6-inch AC pipe which will be replaced with approximately 1,700 lf 18-inch PVC.

Project Components:

- 2,350 lf of 18-inch PVC Main, Valves, and Fittings
- Jack and Bore

Engineering Disciplines:

- Civil Engineering and Surveying
- Geotechnical Investigation

CAPTIAL IMPROVEMENT PROJECT 3 – Water Meter Replacements – Fixed-Base Meter Reading

Project Description:

In 2013 the City of Fernley Public Works Department decided to begin upgrading the meter reading program to a system called “Flexnet”. The decision was made due to a large number of failing components in the current meter reading system, primarily radio read units (MXUs). The hardware and software, made by Sensus, is outdated and the warranty is no longer supported by their company. MXUs are an electronic component that transmits the meter reading to the trucks equipped with an antenna and a computer with the reading software installed. Currently, the city staff drive a route across the City to gather readings from every single meter. The “Flexnet” System would change the metering system to meet industry standards and an ever-growing population. With the “Flexnet” system, meter reads can be taken remotely without the need for a truck-mounted unit. The remote reading capability would provide access to all meter readings in “real-time”. The network will eventually require an antenna or set of antennas to relay information to a central network. New software can be used to track and graph a customer’s usage (similar to power bills in the region), which is a great tool for addressing high usage complaints and disputes.

Project Components:

- *Flexnet* Metering System

Engineering Disciplines:

- Electrical Engineering

CAPTIAL IMPROVEMENT PROJECT 4 – WTP Surface Water Pump Station and Intake

Project Description:

This project entails designing a preferred alternative for delivering surface water to the Fernley Water Treatment Plant. Additional services may include designing the preferred alternative upgrade to the treatment plant to successfully produce drinking water for the system users. A process for a preliminary engineering analysis was completed in Fiscal Year 17/18. Additionally, the project will continue a “source water” testing program which also began in FY 17/18. The next critical path step is the completion of 75% engineering plans for submittal to the Bureau of Reclamation (BOR) for consideration of an “Authorization for Use”.

The WTP completed construction in 2009 in which it was designed to have an operating capacity of 20 MGD utilizing groundwater with the opportunity to expand to 30 MGD to include surface water treatment. The scope of work for a consulting engineering firm includes Surveying of existing conditions, geotechnical investigation, outlet structure, and pipeline design, pump station design, efficiency study, and bidding services, the design portion and permitting are anticipated to take 6-12 months, though BOR authorization could take longer.

Project Components:

- TCID Diversion
- Disinfection Basins

Major Crossings/Permit Requirements:

- Private Property
- BOR
- TCID

Engineering Disciplines:

- Civil Engineering and Surveying
- Geotechnical Engineering
- Mechanical Engineering
- Electrical Engineering

CAPITAL IMPROVEMENT PROJECT 5 – Water Resource Investigation – Brady Hot Springs

Project 5 will include the investigation and feasibility study of developing a well Site in the Brady Hot Springs Hydrographic Basin. The City holds 2,100 AFA of groundwater rights in the Brady Hot Springs Hydrographic basin which is Northeast adjacent to the Fernley Hydrographic basin. This project will investigate the feasibility of drilling a well within the Brady Hot Springs Basin to support the City's growing water demand during the winter months when surface water is not available.

Project Components:

- Test Hole
- Hydrogeologic Investigation

Engineering Disciplines:

- Hydrogeology
- Civil Engineering

CAPTIAL IMPROVEMENT PROJECT 6 – General Well Improvements

Project Description:

Currently, the City of Fernley operates and maintains seven groundwater wells; six wells are connected to the raw water system, and one is used for construction and municipal water. The city also owns the Armstrong Well and Well 5 which are not in use. The Wells in operation are Well 4, 9, 9A, 11, 13, and 14 with Well 8 being used for construction water. All Well sites are currently in need of repaving to reduce future operations costs. Well 4 and 11 require a flush to waste assembly for surge anticipation purposes. The Well 5 building is not proposed for future use and for purposes of safety should be disassembled. Before the disassembly of Well 5, it is advised that the point of diversion and water rights for well 5 be permitted to a usable well. Well 8 is in need of metering and electronic control upgrades. The upgrade of Well 8 will require the review of current easements and property ownership. Well 13 is in need of Chlorination room upgrades and fencing adjustments.

Project Components:

- Asphalt paving
- Welling Piping and Appurtenances
- Metering and Electronic Controls
- General Building Construction Materials

Engineering Disciplines:

- Civil Engineering and Surveying
- Geotechnical Investigation

CAPTIAL IMPROVEMENT PROJECT 7 – WTP Treated Water Reservoir

Project Description:

The City of Fernley is currently constructing the required infrastructure to convey surface water from the TCID Canal to the Water Treatment Plant as of March 2023. The increase in supply and demand of treated water throughout the city will require more storage capacity at the Water Treatment Plant. CIP 7 is currently in the design phase and construction is anticipated to begin May 2024.

Project Components:

- 1.5 MG Tank
- Yard Piping

Permit Requirements:

- Building Permit
- NDEP Design Approval

Engineering Disciplines:

- Civil Engineering
- Geotechnical Investigation

CAPTIAL IMPROVEMENT PROJECT 8 – WTP Improvements for Treatment of Surface Water

Project Description:

This project entails the construction of all necessary equipment and facilities for the treatment of surface water. The Surface water treatment system will include a new flash mix system to introduce ferric chloride for coagulation, solids drying ponds, and new chlorination equipment. Additional equipment may be required to mitigate potential disinfection byproduct formation. The construction of the infrastructure required to treat surface water will soften the demand on the groundwater wells.

The WTP completed construction in 2009 in which it was designed to have an operating capacity of 20 MGD utilizing groundwater with the opportunity to expand to 30 MGD to include surface water treatment. The scope of work for a consulting engineering firm includes Surveying of existing conditions, geotechnical investigation, outlet structure, and pipeline design, pump station design, efficiency study, and bidding services, the design portion and permitting are anticipated to take 6-12 months, though BOR authorization could take longer.

Project Components:

- TCID Diversion
- Disinfection Basins

Major Crossings/Permit Requirements:

- Private Property
- BOR
- TCID

Engineering Disciplines:

- Civil Engineering and Surveying
- Geotechnical Engineering
- Mechanical Engineering
- Electrical Engineering

CAPTIAL IMPROVEMENT PROJECT 9 – Northeast Tank- Nevada Pacific Parkway Connection Main

Project Description:

The City of Fernley currently operates and maintains three (3) potable water storage tanks which are used to provide capacity during the maximum day and peak hour demands. The Northeast Tank is connected to the system via 6,900 LF of 14-Inch Main and 2,900 LF of 12-Inch Main. Due to the hydraulic connectivity of the Northeast Tank to the system, it does not see significant dips in water level, unlike the Ricci Tank. CIP 9 proposes to connect the Northeast Tank Feed Fill Line to the existing 14-Inch C900 PVC Stub located at the intersection of Duffy Lane and Nevada Pacific Parkway. This connection would provide the necessary hydraulic connectivity to provide more flow to the fast-paced growth within the northeast industrial area and residential areas south of Highway 50.

Project Components:

- Asphalt paving
- Welling Piping and Appurtenances
- Metering and Electronic Controls
- General Building Construction Materials
- Jack and Bore

Engineering Disciplines:

- Civil Engineering and Surveying
- Geotechnical Investigation

CAPTIAL IMPROVEMENT PROJECT: 10 – Northeast Booster Pump Station and Well 9/9A Improvements

Project Description:

The City currently operates Well 9 and 9A to flow to the Northeast Booster Pump Station which pumps to the Water Treatment Plant. The purpose of the Northeast Booster Pump Station is to provide chlorination and pressure to reach the Water Treatment Plant. The City has two options to improve the current state of the system listed below.

Project A

Project A includes the installation of two generators: one at the Well site as well as one at the Booster Pump station for backup power in case of an outage. The upgrade of the existing mechanical discharge piping at both well sites will be necessary as it is currently not sufficient in size. With the upgrade of the mechanical discharge piping, the well building is proposed to be rebuilt with larger capacity and Air conditioning units, and new Swamp Coolers for the buildings.

At the Northeast booster pump station, it is proposed that a third pump be installed, Pump A will be replaced and all pumps be equipped with Variable Frequency Devices (VFD) to match the output of Wells 9 and 9A. To increase the lifespan of the existing pump(s) it is suggested that flush to waste piping is properly sized and installed as well as the replacement of the existing suction headers. Lastly, it is proposed that the chlorination enclosure at the Northeast Booster Pump Station be rebuilt to enclose the chemical shower and include proper drainage or a double enclosed tank for chlorine containment.

Project B

Project B includes upgrades at Well 9/9A to eliminate the need for the Northeast Booster Pump Station (NE BPS). Similar to Project A Well 9/9A is still in need of backup power in case of an outage as well as upgrading the mechanical discharge piping. If Project B is pursued, new well buildings and power service upgrades (Meter and service lines) will be required to accommodate the new equipment installed. These upgrades include the installation of a chlorination enclosure at both well locations. Significant upgrades include the replacement of both well motors and pumps with Variable Frequency Devices to reach a higher HGL to pump to the Water Treatment Plant while Well 14 is also pumping downstream of Well 9/9A. It is up to the discretion of the city to choose to demolish the NE BPS or leave it in place.

Project Components:

Project A

- Generators
- Mechanical Discharge Piping
- Pump Replacements
- Swamp Coolers

Project B

- Demolition of NE BPS
- Pumps and Motors
- Chlorination Equipment
- Mechanical Discharge Piping

Engineering Disciplines:

- Civil Engineering and Surveying
- Geotechnical Investigation

CAPTIAL IMPROVEMENT PROJECT: 11 – US-95A BPS and PRS

Project Description:

The City of Fernley High Service Pump Station can currently serve areas under the 4,342' contour line with adequate pressure. The Fernley Hills area on Highway 95A South currently has the land capacity and zoning for growth but a large portion of this area falls above the current service elevation. Current Developments such as Desert Bluffs and Royal Oaks currently experience periods where adequate pressures are not achieved under Maximum Day Demand scenarios. To sustain and facilitate growth south of the Royal Oaks community, it is recommended that the construction of a pump station and pressure reducing station is located upstream of Royal Oaks to provide adequate pressure for the existing and future developments.

Project Components:

- Construction of Booster Pump Station
- Connection to 18-Inch Transmission Main

Major Crossings/Permit Requirements:

- NDOT US-95A

Engineering Disciplines:

- Civil Engineering and Surveying
- Mechanical Engineering
- Geotechnical Investigation
- Electrical Engineering

CAPTIAL IMPROVEMENT PROJECT 12 – Highway 50 Looping Main

Project Description:

Capital Improvement Project 12 proposes the installation of approximately 12,800 lineal feet of PVC water main with a connection point approximately 2,300 feet south of the termination point of Nevada Pacific Parkway and tying into the existing 8-inch main within Pepper Lane. The 18-inch transmission main will begin within Highway 50 right of way and head East-Southeast following Highway 50. The main will then cross under Highway 50 and tie into Pepper Lane. The loop will provide redundancy to the east end of Farm District Road to help avoid complete water service outages

Project Components:

- 12,800 lf of 18-inch PVC Main, Valves, and Fittings
- Jack and Bore

Major Crossings/Permit Requirements:

- NDOT US-50

Engineering Disciplines:

- Civil Engineering and Surveying
- Geotechnical Investigation

CAPTIAL IMPROVEMENT PROJECT 13 – Logan Lane to Vine Street Loop

Project Description:

Capital Improvement Project 13 proposes the installation of approximately 3,400 lineal feet of 8-inch PVC water main with an 18-inch connection point within Logan Lane and tying into the existing 8-inch main at the termination point of Gazzigli Lane. The 8-inch main will extend east down Logan Lane and proceed north towards Well 14 into Interstate 80 right of way. The main will then head due east and south into Gazzigli Lane. The loop will provide redundancy to the residential developments within Vine Street.

Project Components:

- 3,400 lf of 8-inch PVC Main, Valves, and Fittings

Major Crossings/Permit Requirements:

- NDOT I-80

Engineering Disciplines:

- Civil Engineering and Surveying
- Geotechnical Investigation

CAPTIAL IMPROVEMENT PROJECT 14 – Mull Lane High-Pressure Transmission Main and PRS

Project Description:

Alignment:

The project alignment begins upstream of the existing Mull Lane PRV Station and runs approximately 6400 lineal feet southeast and connects to the Ricci Tank PRV south of the Truckee Carson Irrigation District Canal. The 30-Inch Ductile Iron High-Pressure Transmission main will follow the Truckee Carson Irrigation District Canal to provide redundancy and higher flow capacity to the existing Ricci tank and developments served by the Ricci Tank.

Following or during the construction of the Mull Lane High-Pressure Transmission main the construction of the Ricci Tank PRV must commence for the effects of Project 14 to be noticeable. The Ricci Tank PRV will reduce pressures from the High-Pressure transmission main to pressures adequate to fill the Ricci Tank yet not too high as to over-pressurize that portion of the system. The PRV will be constructed downstream of the Ricci Tank at an elevation of approximately 4209' and reduce pressures to approximately 50 psi.

Project Components:

- 30-Inch Potable Water High-Pressure Transmission Main
- Connection to 30-Inch Main within Mull Lane
- Pressure Reducing Valve
- Connection to future 30-Inch High-Pressure Main
- Connection to existing 18-Inch Ricci Tank Main
- SCADA and Telemetry

Major Crossings/Permit Requirements:

- BOR

Engineering Disciplines:

- Civil Engineering and Surveying
- Electrical Engineering
- Geotechnical Investigation

CAPTIAL IMPROVEMENT PROJECT 15 – Brady Hot Springs

Well Development

Project Description:

The City of Fernley owns 2,100 AFA (1.87 MGD) of water rights within the Brady Hot Springs Hydrographic Basin (Basin #075) located Northeast of the City's center. This project will develop a well site that will pump groundwater from the Brady Hot Springs Basin into the existing Raw Water Main that connects Well 9/9A to the NE BPS. Significant infrastructure funding allocation will be required to develop the well site. Capital Improvement Project 10 would be separated into two phases: Feasibility and Design. The Feasibility phase would investigate the production potential of the well included test holes as well as a financial investigation to determine the cost/benefit of developing the well. The second phase would include all aspects of design relating the construction of the well site including site civil, access road, hydraulic analysis, electrical with service line extension, mechanical, and connection to the existing raw water transmission system.

Project Components:

- Backup Power Installation
- Steel Blank Casing
- Steel Slotted Casing/Screen
- Gravel Packing
- Sanitary Surface Seal
- Submersible Well Pump
- Meter
- Electrical/Telemetry Housing
- Well House
- Transmission main from well to Raw Water Line in Nevada Pacific Parkway
- Telemetry/SCADA System Integration

Engineering Disciplines:

- Civil Engineering and Surveying
- Mechanical Engineering
- Geotechnical Investigation

CAPTIAL IMPROVEMENT PROJECT 16 – Desert Shadows Lane Transmission Main and PRS

Project Description:

This Desert Shadows Lane Transmission Main will be constructed to provide capacity for future growth on the east end of Farm District Road and supply the future Southeast Tank. Project 15 will consist of approximately 5,600 lineal feet of 24-Inch PVC transmission main and approximately 10,100 lineal feet of 20-Inch PVC main connecting into the Mull Lane High Pressure Main and connecting to the future Southeast tank. Project 16 will require the construction of a PRV before connecting to the existing 18-Inch main within Farm District Road.

Project Components:

- 24-Inch Potable Water Transmission Main, Valves, and Fittings
- 20-Inch Potable Water Transmission Main, Valves, and Fittings
- Connection to 30- Inch High-Pressure Main
- Connection to Future Southeast Tank.

Major Crossings/Permit Requirements:

- BLM Building Permit

Engineering Disciplines:

- Civil Engineering and Surveying
- Geotechnical Investigation

CAPTIAL IMPROVEMENT PROJECT 17 – Southeast Tank

Project Description:

The Southeast Tank will be constructed to provide capacity for future growth on the east end of Farm District Road and supply the future Southeast Tank. Project 17 will consist of the construction of a 3 MG Tank that will tie into the Desert Shadows Lane Transmission Main and connect to Farm District Road via a 20-Inch PVC main through Clearwater Parkway. The proposed 3 MG Southeast Tank will float on the system with a base elevation of approximately 4,306'.

Project Components:

- 3 MG Tank
- 20-Inch Potable Water Transmission Main, Valves, and Fittings
- Connection to 18-Inch Transmission Main in Farm District Road

Major Crossings/Permit Requirements:

- TCID crossing @ Truckee Canal across Clearwater Parkway Bridge
- BLM Building Permit

Engineering Disciplines:

- Civil Engineering
- Geotechnical Investigation

CAPTIAL IMPROVEMENT PROJECT 18 – US-95A BPS, PRV, and Transmission Main

Project Description:

The City of Fernley High Service Pump Station can currently serve areas under the 4,342' contour line with adequate pressure. The Fernley Hills area on Highway 95A South currently has the land capacity and zoning for growth; however, a large portion of this area falls above the current service elevation. Current developments such as Desert Bluffs and Royal Oaks currently experience periods of low pressure under Maximum Day Demand scenarios. To sustain and facilitate growth south of the Royal Oaks community and other planned developments, it is recommended that the construction of a booster pump station is located upstream of Royal Oaks to provide adequate pressure for the existing and future developments. In addition to providing higher pressures, the Pump station will be required to provide higher flows in which the pipes currently within Highway 95A must be added to or upgraded from the current 12" main. *Shaw Engineering* recommends the pipe be replaced with 24" PVC from Mull Lane to the proposed connection with the Future BC Ranch Development and 18" PVC from the proposed connection to the end of the existing line.

Project Components:

- 24-Inch Potable Water Transmission Main, Valves, and Fittings
- 18-Inch Potable Water Transmission Main, Valves, and Fittings
- Construction of Booster Pump Station
- Connection to 18-Inch Transmission Main
- 14-Inch Pressure Reducing Valve

Major Crossings/Permit Requirements:

- NDOT US-95A

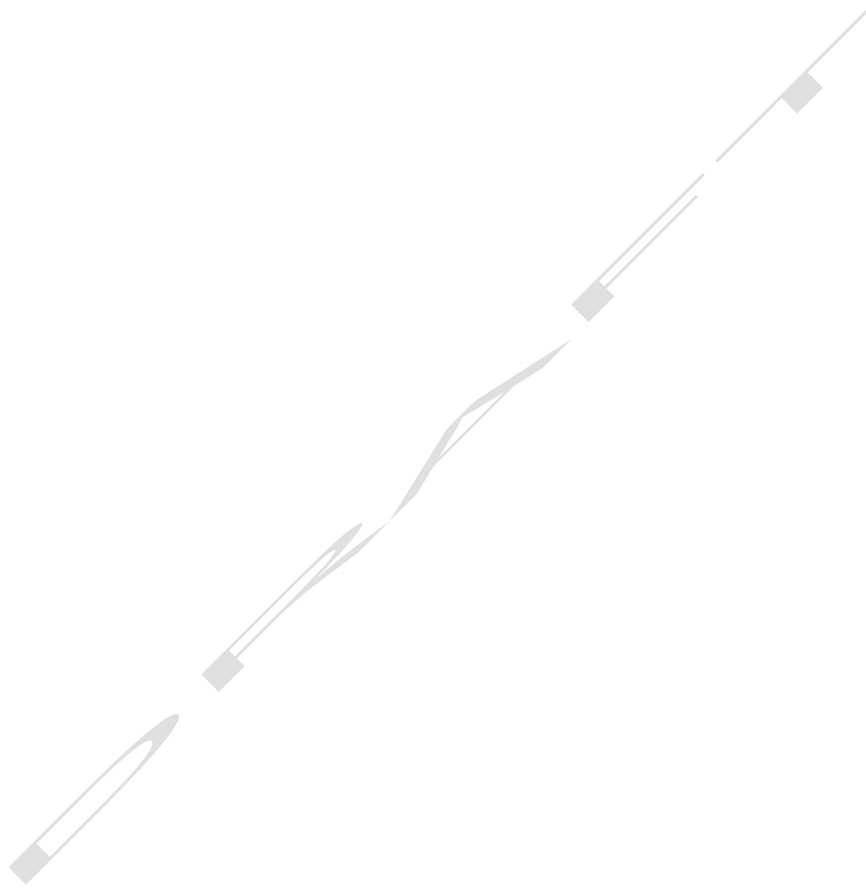
Engineering Disciplines:

- Civil Engineering and Surveying
- Mechanical Engineering
- Geotechnical Investigation
- Electrical Engineering

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APPENDIX B

**Residential Subdivision/Planned
Development Totals**



Subdivisions with Final Map Status				
Project Name	Location	Status	# of Recorded Final Maps	# of Sold Units
Sage Ranch Phase 4	Saddle Horn Way	Under Construction	55	54
Sage Ranch Phase 1	Sage St, W of Alt. 95	Under Construction	58	42
The Meadow	NEC Miller/Curtis	Under Construction	67	60
Southwest Meadows	Alt. 95, Royal Oaks Dr.	Under Construction	248	202
Seneca Falls	Shadow/Fall St.	Under Construction	49	37
Sierra Vista	Cottonwood/Bardot	Under Construction	77	28
Heritage	Cottonwood/Brigit	Under Construction	21	14
Tuscany Villas II	Cottonwood/Rosewood	Under Construction	31	10
Tuscany Villas I	Cottonwood/Rosewood	Under Construction	40	19
Green Valley Estates	Terminus of Opal or Canal	Under Construction	133	63
Mountain View Estates	Farm District Road/Crimson	Under Construction	30	23
Farm View Estates	Farm District Road, Farm Lane	Under Construction	25	2
Sundance	farm District Road/Shadow Lane	Under Construction	222	179
Upland Ranch Estates	Farm District Road/ Jennys Lane	Under Construction	496	327
Donner Trail Estates	South of 50 @Emigrant Way	Under Construction	944	858
Silverland Estates	Rainbow, Farm District Road & Jasmine	Under Construction	96	60
Autumn Winds	Farm District Road/Clearwater	Under Construction	194	192
Highland Estates Subdivision	APN(s): 020-831-01/10 & 020-832-01/8	Under Construction	18	14
Desert Lakes	Desert Lakes Golf Club	Under Construction	1003	883
Nelson Meadows Ph. 1	NEC Farm District Road/Browne	Under Construction	24	0
Sky Ridge Estates	Farm District Road/Desert Lakes	No Construction	26	0
BC Ranch Village 1	End of Fernley Hills Drive	No Construction	139	0
Total			3,996	3,067
Total Units Under Construction (Final Map-Sold Units)			929	

Subdivisions with Tentative Map Status			
Project Name	Location	Status	# Of Recorded Tentative Maps
Fernley Hills: BC Ranch Village 2	End of Fernley Hills Road	Tentative Subdivision Map	2035
Eagle Meadows	APN: 021-132-67	Tentative Subdivision Map	35
Hardie Lane Townhomes	Hardie & Cottonwood Lane	Tentative Subdivision Map	66
Sario Ranch	APN: 021-541-048	Tentative Subdivision Map	263
Sherwood	APN(s):021-092-23,26,46,47,54,55	Tentative Subdivision Map	69
Fernwood Estates	S of Eaglewood, N of Tanglewood, W of Granada	Tentative Subdivision Map	31
Tuscany Villas III	Cottonwood/Rosewood	Tentative Subdivision Map	76
Sunrise Trails	Terminus of Chisholm Trail	Tentative Subdivision Map	202
Donner Trail Estates Village 12	APN: 021-201-51	Tentative Subdivision Map	105
Clover Ranch	Farm District Road/Clover	Tentative Subdivision Map	28
Friendly Five	Farm District Road. East of Jessica	Tentative Subdivision Map	538
The Golf Club at Fernley	APN(s): 020-581-03,05	Tentative Subdivision Map	92
Nelson Meadows Remaining Phases	NEC Farm District Road/Browne	Tentative Subdivision Map	72
Total			3,612

Project	Project Name	Cost Estimate
CIP 0A	Maintenance of Water Distribution System	
CIP 0B	Fire Hydrant Replacements	
CIP 1	Project 1 – EWWTP Fire Line and Potable Water Main*	\$765,325
CIP 2	Project 2 – Cottonwood Lane Water Main Extension*	\$525,312
CIP 3	Project 3 – Fixed Base Meter Reading*	\$2,633,500
CIP 4	Project 4 – WTP Surface Water Pump Station and Intake	\$5,282,032
CIP 5	Project 5 – Water Resource Investigation – Brady Hot Springs	\$50,000
CIP 6	Project 6 – General Well Improvements	\$231,250
CIP 7	Project 7 – WTP Treated Water Reservoir	\$2,192,044
CIP 8	Project 8 – WTP Improvements for Treatment of Surface Water	\$5,460,000
CIP 9	Project 9 – Nevada Pacific Parkway Connection Main	\$976,500
CIP 10A	Project 10A – NE BPS and Well 9/9A Improvements	\$1,104,175
CIP 10B	Project 10B – NE BPS and Well 9/9A Improvements	\$1,319,500
CIP 11	Project 11 – US 95A Booster Pump Station and PRS	\$1,290,500
CIP 12	Project 12 – Highway 50 Looping Main	\$5,059,840
CIP 13	Project 13 – Logan Lane to Vine Street Loop	\$817,740
CIP 14	Project 14 – Mull Lane High Pressure Transmission Main and PRS	\$3,900,150
CIP 15	Project 15 – Brady Hot Springs Well Development	\$9,471,000
CIP 16	Project 16 – Desert Shadows Lane Transmission Main and PRV	\$6,577,875
CIP 17	Project 17 – Southeast Tank and Transmission Main	\$5,124,600
CIP 18	Project 18 – US-95A BPS and Main Upgrade	\$4,049,765
Total		\$55,322,609

Prepared By



City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 1 - EWWTP Fire Line and Potable Water Main				
Description	Qty	Unit	Unit Cost	Cost
8-Inch C900 PVC Main	6500	LF	\$ 90.00	\$ 585,000.00
Isolation Valves	13	EA	\$ 3,500.00	\$ 45,500.00
Fire Hydrants	7	EA	\$ 5,000.00	\$ 35,000.00
Subtotal				\$ 665,500.00
Mobilization/Demobilization	5%	LS	-	\$ 33,275.00
Contingency	10%	LS	-	\$ 66,550.00
Total				\$ 765,325.00

Prepared By



City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 2 - Cottonwood Lane Water Main Extension				
Description	Qty	Unit	Unit Cost	Cost
18-Inch C900 PVC Main	2350	LF	\$ 175.00	\$ 411,250.00
Fire Hydrants	1	EA	\$ 5,000.00	\$ 5,000.00
Isolation Valves	1	EA	\$ 4,000.00	\$ 4,000.00
Subtotal				\$ 420,250.00
Mobilization/Demobilization	10%	LS	-	\$ 42,025.00
Contingency	15%	LS	-	\$ 63,037.50
Preliminary Estimate of Probable Costs				\$ 525,312.50

Prepared By



City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 3 - Fixed Base Meter Reading				
Description	Qty	Unit	Unit Cost	Cost
Sensus Data Towers Equip and Integration	3	EA	\$ 750,000.00	\$ 2,250,000.00
Electrical Design and Coordination	1	LS	\$ 35,000.00	\$ 35,000.00
Cell Modems	1	LS	\$ 5,000.00	\$ 5,000.00
Subtotal				\$ 2,290,000.00
Mobilization/Demobilization	5%	LS	-	\$ 114,500.00
Contingency	10%	LS	-	\$ 229,000.00
Preliminary Estimate of Probable Costs				\$ 2,633,500.00

City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 4 - WTP Surface Water Pump Station and Intake				
Description	Qty	Unit	Unit Cost	Cost
Mobilization/Demobilization	1	LS	\$ 136,000.00	\$ 136,000.00
Outtake Structure	1	LS	\$ 465,000.00	\$ 465,000.00
Raw Water Meter Vault	1	LS	\$ 220,000.00	\$ 220,000.00
30-Inch Raw Water Pipeline	1034	LF	\$ 427.00	\$ 441,518.00
8-Inch PVC Water Pipeline	873	LF	\$ 90.00	\$ 78,570.00
Pump Station	1	LS	\$ 2,240,000.00	\$ 2,240,000.00
Flow Control Vault	1	LS	\$ 283,000.00	\$ 283,000.00
Meter Vault	1	LS	\$ 275,000.00	\$ 275,000.00
Site Piping	1	LS	\$ 260,000.00	\$ 260,000.00
Site Grading and Paving	1	LS	\$ 61,000.00	\$ 61,000.00
Roadway Construction	766	LF	\$ 135.00	\$ 103,410.00
Connect to Existing 24-Inch Flange	1	LS	\$ 14,000.00	\$ 14,000.00
12-Inch Hot Tap and 8-Inch Connection	1	LS	\$ 29,000.00	\$ 29,000.00
Connection to Existing Gas Pipeline	1	LS	\$ 35,500.00	\$ 35,500.00
Water Service Connections	4	EA	\$ 2,600.00	\$ 10,400.00
Install Fire Hydrants	2	EA	\$ 12,700.00	\$ 25,400.00
Access Manhole	1	EA	\$ 25,000.00	\$ 25,000.00
Box Culvert	1	LS	\$ 68,000.00	\$ 68,000.00
Channel Liner	1	LS	\$ 60,000.00	\$ 60,000.00
Record Drawings	1	LS	\$ 5,000.00	\$ 5,000.00
Subtotal				\$ 4,835,798.00
Contingency	2%	LS	-	\$ 96,715.96
Construction Management	1	LS	-	\$ 349,519.00
Preliminary Estimate of Probable Costs				\$ 5,282,032.96

Prepared By



City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 5 Water Resource Investigation - Brady Hot Springs				
Description	Qty	Unit	Unit Cost	Cost
Groundwater Modeling	1	LS	\$ 136,000.00	\$ 15,000.00
Testhole	1	LS	\$ 35,000.00	\$ 35,000.00
Subtotal				\$ 50,000.00
Preliminary Estimate of Probable Costs				\$ 50,000.00

Prepared By



City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 6 - General Well Improvements (Multiple Sites)				
Description	Qty	Unit	Unit Cost	Cost
Air Conditioning/Cooling	5	EA	\$ 2,000.00	\$ 10,000.00
Electronic Controls	1	LS	\$ 75,000.00	\$ 75,000.00
Miscellaneous Repairs and Replacements	1	LS	\$ 100,000.00	\$ 100,000.00
Subtotal				\$ 185,000.00
Mobilization/Demobilization	10%	LS	-	\$ 18,500.00
Contingency	15%	LS	-	\$ 27,750.00
Preliminary Estimate of Probable Costs				\$ 231,250.00

Prepared By



City of Fernley 2022 Water Master Plan Cost Estimate: CIP 7 - WTP Treated Water Reservoir				
Description	Qty	Unit	Unit Cost	Cost
Foundation and Site Preparation	1	LS	\$ 30,000.00	\$ 30,000.00
Yard Piping	1	LS	\$ 90,000.00	\$ 90,000.00
1.5 MG Welded Steel Storage Tank	1,500,000	Gal	\$ 0.45	\$ 675,000.00
Interior Blasting and Coating	1	LS	\$ 500,000.00	\$ 500,000.00
Exterior Blasting and Coating	1	LS	\$ 255,000.00	\$ 255,000.00
Cathodic Protection	1	LS	\$ 45,000.00	\$ 45,000.00
Telemetry and SCADA System	1	LS	\$ 40,000.00	\$ 40,000.00
Subtotal				\$ 1,635,000.00
Mobilization/Demobilization	10%	LS	-	\$ 163,500.00
Design	4%	LS		\$ 66,544.50
Construction Management	5%	LS		\$ 81,750.00
Contingency	15%	LS	-	\$ 245,250.00
Preliminary Estimate of Probable Costs				\$ 2,192,044.50

Prepared By



City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 8 - WTP Improvements for Treatment of Surface Water				
Description	Qty	Unit	Unit Cost	Cost
Flash Mix System	1	LS	\$ 500,000.00	\$ 500,000.00
Solids Drying Ponds	1	LS	\$ 2,300,000.00	\$ 2,300,000.00
Miscellaneous Chemical Equipment Upgrades	1	LS	\$ 500,000.00	\$ 500,000.00
Corrosion Mitigation	1	LS	\$ 500,000.00	\$ 500,000.00
SCADA and Telemetry	1	LS	\$ 100,000.00	\$ 100,000.00
Subtotal				\$ 3,900,000.00
Mobilization/Demobilization	10%	LS	-	\$ 390,000.00
Design	10%	LS		\$ 390,000.00
Construction Management	10%	LS		\$ 390,000.00
Contingency	10%	LS	-	\$ 390,000.00
Preliminary Estimate of Probable Costs				\$ 5,460,000.00

* Derek will send updated 8.5 estimate

Prepared By



City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 9 - Northeast Tank - Nevada Pacific Parkway Connection Main				
Description	Qty	Unit	Unit Cost	Cost
14" C900 PVC Main	1600	LF	\$ 225.00	\$ 360,000.00
Jack and Bore	615	LF	\$ 500.00	\$ 307,500.00
NDOT Easement Coordination	1	LS	\$ 30,000.00	\$ 30,000.00
Subtotal				\$ 697,500.00
Mobilization/Demobilization	10%	LS	-	\$ 69,750.00
Design	10%	LS		\$ 69,750.00
Construction Management	10%	LS		\$ 69,750.00
Contingency	10%	LS	-	\$ 69,750.00
Preliminary Estimate of Probable Costs				\$ 976,500.00

Prepared By



City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 10A - NE BPS and Well 9/9A Improvements				
Description	Qty	Unit	Unit Cost	Cost
Air Conditioning/Cooling	2	EA	\$ 2,000.00	\$ 4,000.00
Well Generator with Dual ATS	1	EA	\$ 200,000.00	\$ 200,000.00
BPS Generator with ATS	1	EA	\$ 150,000.00	\$ 150,000.00
Discharge Piping	1	LS	\$ 75,000.00	\$ 75,000.00
Building Expansions	1	LS	\$ 75,000.00	\$ 75,000.00
Booster Pump	1	EA	\$ 50,000.00	\$ 50,000.00
Starters/VFDs	3	EA	\$ 50,000.00	\$ 150,000.00
Suction Header	1	EA	\$ 50,000.00	\$ 50,000.00
Flush to Waste Piping	1	LS	\$ 7,500.00	\$ 7,500.00
Subtotal				\$ 761,500.00
Mobilization/Demobilization	10%	LS	-	\$ 76,150.00
Design	10%	LS		\$ 76,150.00
Construction Management	10%	LS		\$ 76,150.00
Contingency	15%	LS	-	\$ 114,225.00
Preliminary Estimate of Probable Costs				\$ 1,104,175.00

Prepared By



City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 10B - NE BPS and Well 9/9A Improvements				
Description	Qty	Unit	Unit Cost	Cost
Building and Pipe Upgrades	1	LS	\$ 250,000.00	\$ 250,000.00
Chlorination Systems	2	EA	\$ 35,000.00	\$ 70,000.00
Pipe Modifications at BPS	1	LS	\$ 40,000.00	\$ 40,000.00
NE BPS and Blend Tank Demolition	1	LS	\$ 50,000.00	\$ 50,000.00
Generators with ATS	1	EA	\$ 200,000.00	\$ 200,000.00
Motors and VFD's	1	LS	\$ 200,000.00	\$ 200,000.00
Power Service Upgrades	1	LS	\$ 100,000.00	\$ 100,000.00
Subtotal				\$ 910,000.00
Mobilization/Demobilization	10%	LS	-	\$ 91,000.00
Design	10%	LS		\$ 91,000.00
Construction Management	10%	LS		\$ 91,000.00
Contingency	15%	LS	-	\$ 136,500.00
Preliminary Estimate of Probable Costs				\$ 1,319,500.00

Prepared By



City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 11 - US 95A Booster Pump Station and PRS				
Description	Qty	Unit	Unit Cost	Cost
Booster Pumps, Motors, and VFD's	2	EA	\$ 75,000.00	\$ 150,000.00
Split Case Pump (Backup)	1	EA	\$ 75,000.00	\$ 75,000.00
Generator	1	EA	\$ 100,000.00	\$ 100,000.00
CMU Pumphouse Building and Fencing	500	EA	\$ 360.00	\$ 180,000.00
Hydropneumatic Tanks	4	EA	\$ 10,000.00	\$ 40,000.00
Piping Modifications	1	LS	\$ 65,000.00	\$ 65,000.00
SCADA	1	LS	\$ 25,000.00	\$ 25,000.00
Electrical and Controls	1	LS	\$ 75,000.00	\$ 75,000.00
Piping, Valves, and Meters	1	LS	\$ 85,000.00	\$ 85,000.00
PRV Vault	1	LS	\$ 75,000.00	\$ 75,000.00
Site Grading	1000	SF	\$ 20.00	\$ 20,000.00
Subtotal				\$ 890,000.00
Mobilization/Demobilization	10%	LS	-	\$ 89,000.00
Design	10%	LS		\$ 89,000.00
Construction Management	10%	LS		\$ 89,000.00
Contingency	15%	LS	-	\$ 133,500.00
Preliminary Estimate of Probable Costs				\$ 1,290,500.00

Prepared By



City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 12 - Highway 50 Looping Main				
Description	Qty	Unit	Unit Cost	Cost
18-Inch C900 PVC Main	12,800	LF	\$ 275.00	\$ 3,520,000.00
NDOT Easement Coordination	1	LS	\$ 30,000.00	\$ 30,000.00
Jack and Bore	140	LF	\$ 500.00	\$ 70,000.00
Isolation Valves	26	EA	\$ 6,000.00	\$ 156,000.00
Subtotal				\$ 3,776,000.00
Mobilization/Demobilization	10%	LS	-	\$ 377,600.00
Design	5%	LS		\$ 188,800.00
Construction Management	4%	LS		\$ 151,040.00
Contingency	15%	LS	-	\$ 566,400.00
Preliminary Estimate of Probable Costs				\$ 5,059,840.00

Prepared By



City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 13 - Logan Lane to Vine Street Loop				
Description	Qty	Unit	Unit Cost	Cost
8-Inch C900 PVC Main	3400	LF	\$ 120.00	\$ 408,000.00
Jack and Bore	90	LF	\$ 500.00	\$ 45,000.00
Easement Coordination	1	LS	\$ 30,000.00	\$ 30,000.00
Isolation Valves	8	EA	\$ 3,500.00	\$ 28,000.00
Fire Hydrants	4	EA	\$ 5,000.00	\$ 20,000.00
Subtotal				\$ 531,000.00
Design	12%	LS	-	\$ 63,720.00
Construction Management	12%	LS	-	\$ 63,720.00
Right of Way Permitting	5%	LS	-	\$ 26,550.00
Mobilization/Demobilization	5%	LS	-	\$ 26,550.00
Contingency	20%	LS	-	\$ 106,200.00
Preliminary Estimate of Probable Costs				\$ 817,740.00

Prepared By



City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 14 - Mull Lane High Pressure Transmission Main and PRS				
Description	Qty	Unit	Unit Cost	Cost
30-Inch DIP	6400	LF	\$ 425.00	\$ 2,720,000.00
Isolation Valves	7	EA	\$ 12,000.00	\$ 84,000.00
Pressure Reducing Valve	1	EA	\$ 75,000.00	\$ 75,000.00
SCADA and Telemetry	1	LS	\$ 10,000.00	\$ 10,000.00
Subtotal				\$ 2,889,000.00
Mobilization/Demobilization	10%	LS	-	\$ 288,900.00
Design	5%	LS		\$ 144,450.00
Construction Management	5%	LS		\$ 144,450.00
Contingency	15%	LS	-	\$ 433,350.00
Preliminary Estimate of Probable Costs				\$ 3,900,150.00

Prepared By



City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 15 - Brady Hot Springs Well Development				
Description	Qty	Unit	Unit Cost	Cost
Grading, Earthwork, and Discharge Pond	2000	SF	\$ 40.00	\$ 80,000.00
CMU Building and Fencing	500	SF	\$ 360.00	\$ 180,000.00
Well Drilling	1	LS	\$ 1,000,000.00	\$ 1,000,000.00
Well Pump and Motor	1	LS	\$ 70,000.00	\$ 70,000.00
Discharge Piping and Appurtanances	1	LS	\$ 50,000.00	\$ 50,000.00
Electrical Equipment	1	LS	\$ 150,000.00	\$ 150,000.00
Electrical Service Extension	27000	LF	\$ 65.00	\$ 1,755,000.00
SCADA and Telemetry	1	LS	\$ 30,000.00	\$ 30,000.00
Raw Water Transmission Main	27000	LF	\$ 130.00	\$ 3,510,000.00
NDOT Right of Way Coordination	1	LS	\$ 25,000.00	\$ 25,000.00
Access Road	1	LS	\$ 175,000.00	\$ 175,000.00
Isolation Valves	30	EA	\$ 5,000.00	\$ 150,000.00
Subtotal				\$ 7,175,000.00
Mobilization/Demobilization	6%	LS	-	\$ 430,500.00
Design	4%	LS		\$ 287,000.00
Construction Management	7%	LS		\$ 502,250.00
Contingency	15%	LS	-	\$ 1,076,250.00
Preliminary Estimate of Probable Costs				\$ 9,471,000.00

Prepared By



City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 16 - Desert Shadows Lane Transmission Main and PRV				
Description	Qty	Unit	Unit Cost	Cost
24-Inch DIP	8,250	LF	\$ 250.00	\$ 2,062,500.00
20-Inch DIP	11,400	LF	\$ 225.00	\$ 2,565,000.00
Isolation Valves	20	EA	\$ 8,500.00	\$ 170,000.00
Pressure Reducing Valve	1	EA	\$ 75,000.00	\$ 75,000.00
Subtotal				\$ 4,872,500.00
Mobilization/Demobilization	10%	LS	-	\$ 487,250.00
Design	5%	LS	-	\$ 243,625.00
Construction Management	5%	LS	-	\$ 243,625.00
Contingency	15%	LS	-	\$ 730,875.00
Preliminary Estimate of Probable Costs				\$ 6,577,875.00

Prepared By



City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 17 - Southeast Tank and Transmission Main				
Description	Qty	Unit	Unit Cost	Cost
Grading and Earthwork	1	LS	\$ 60,000.00	\$ 60,000.00
Foundation and Site Preparation	1	LS	\$ 150,000.00	\$ 150,000.00
Yard Piping	1	LS	\$ 35,000.00	\$ 35,000.00
3.5 MG Welded Steel Storage Tank	3500000	Gal	\$ 0.45	\$ 1,575,000.00
Interior Blasting and Coating	1	LS	\$ 750,000.00	\$ 750,000.00
Exterior Blasting and Coating	1	LS	\$ 350,000.00	\$ 350,000.00
Cathodic Protection	1	LS	\$ 30,000.00	\$ 30,000.00
20" C900 PVC Pipe	4800	LF	\$ 170.00	\$ 816,000.00
Tank Vent, Overflow, Manway etc	1	LS	\$ 35,000.00	\$ 35,000.00
Altitude Valve and Vault	1	LS	\$ 30,000.00	\$ 30,000.00
Telemetry and SCADA System	1	LS	\$ 25,000.00	\$ 25,000.00
Subtotal				\$ 3,796,000.00
Mobilization/Demobilization	10%	LS	-	\$ 379,600.00
Design	4%	LS		\$ 151,840.00
Construction Mangement	6%	LS		\$ 227,760.00
Contingency	15%	LS	-	\$ 569,400.00
Preliminary Estimate of Probable Costs				\$ 5,124,600.00

Prepared By



City of Fernley				
2022 Water Master Plan Cost Estimate: CIP 18 - US-95A BPS and Main Upgrades				
Description	Qty	Unit	Unit Cost	Cost
Booster Pumps, Motors, and VFD's	2	EA	\$ 75,000.00	\$ 150,000.00
Split Case Pump (Backup)	1	EA	\$ 75,000.00	\$ 75,000.00
Generator	1	EA	\$ 100,000.00	\$ 100,000.00
CMU Pumphouse Building and Fencing	500	EA	\$ 360.00	\$ 180,000.00
Hydropneumatic Tanks	4	EA	\$ 10,000.00	\$ 40,000.00
Piping Modifications	1	LS	\$ 75,000.00	\$ 75,000.00
SCADA	1	LS	\$ 25,000.00	\$ 25,000.00
Electrical and Controls	1	LS	\$ 100,000.00	\$ 100,000.00
Piping, Valves, and Meters	1	LS	\$ 85,000.00	\$ 85,000.00
Site Grading	1000	SF	\$ 20.00	\$ 20,000.00
8" Offsite Looping Main	3300	LF	\$ 125.00	\$ 412,500.00
Jack and Bore	26	LF	\$ 500.00	\$ 13,000.00
24-Inch C900 PVC Main	1,200	LF	\$ 210.00	\$ 252,000.00
18-Inch C900 PVC Main	7700	LF	\$ 180.00	\$ 1,386,000.00
Subtotal				\$ 2,913,500.00
Mobilization/Demobilization	10%	LS	-	\$ 291,350.00
Design	7%	LS		\$ 203,945.00
Construction Management	7%	LS		\$ 203,945.00
Contingency	15%	LS	-	\$ 437,025.00
Preliminary Estimate of Probable Costs				\$ 4,049,765.00

APPENDIX D

Peak Hour Flow Monitoring

Date	Day	Peak Hours	Total Hrs.	Flow Total Gals	Sage Total Gals	Ricci Total Gals	NE Total Gals	Peak Hours Gals	Flow Rate
6/6/2018	Wed	4:00a - 7:30a	3.50	801,570	168,316	201,358	163,410	1,334,655	6,355.5
6/7/2018	Thu	4:00a - 7:50a	3.80	806,892	110,053	130,291	92,362	1,139,598	4,998.2
6/8/2018	Fri	4:00a - 7:30a	3.50	801,570	161,843	197,410	156,306	1,317,128	6,272.0
6/9/2018	Sat	4:13a - 8:35a	4.30	966,726	77,684	110,550	71,048	1,226,008	4,752.0
6/10/2018	Sun	4:00a - 9:30a	5.50	1,030,590	135,948	138,187	120,782	1,425,506	4,319.7
6/11/2018	Mon	4:00a - 7:30a	3.50	655,830	110,053	165,824	142,096	1,073,803	5,113.3
6/12/2018	Tue	4:00a - 7:40a	3.70	770,340	116,527	138,187	99,467	1,124,521	5,065.4
6/13/2018	Wed	4:00a - 8:00a	4.00	916,080	174,790	201,358	170,515	1,462,743	6,094.8
6/14/2018	Thu	4:40a - 7:40a	3.00	687,060	103,579	122,394	92,362	1,005,396	5,585.5
6/15/2018	Fri	4:05a - 7:50a	3.83	877,147	168,316	197,410	170,515	1,413,388	6,150.5
6/16/2018	Sat	5:00a - 8:15a	3.25	703,755	103,579	118,446	85,258	1,011,038	5,184.8
6/17/2018	Sun	5:00a - 6:45a	1.75	378,945	45,316	67,119	49,734	541,114	5,153.5
6/18/2018	Mon	4:00a - 7:20a	3.33	693,306	168,316	205,306	163,410	1,230,339	6,157.9
6/19/2018	Tue	4:20a - 7:40a	3.33	693,306	110,053	126,342	99,467	1,029,169	5,151.0
6/20/2018	Wed	4:00a - 7:40a	3.67	840,503	194,211	221,099	184,725	1,440,538	6,542.0
6/21/2018	Thu	5:00a - 7:35a	2.58	590,872	103,579	114,498	92,362	901,311	5,822.4
6/22/2018	Fri	4:10a - 8:15a	4.08	985,320	226,580	236,892	206,039	1,654,831	6,759.9
6/23/2018	Sat	5:05a - 7:20a	2.25	534,060	84,158	94,757	63,943	776,918	5,754.9
6/24/2018	Sun	5:00a - 8:00a	3.00	662,040	103,579	114,498	99,467	979,584	5,442.1
6/25/2018	Mon	4:10a - 8:10a	4.00	999,360	194,211	228,996	198,934	1,621,501	6,756.3
6/26/2018	Tue	4:30a - 8:08a	3.63	846,371	123,000	134,239	106,572	1,210,182	5,556.4
6/27/2018	Wed	4:00a - 7:45a	3.75	983,700	181,264	221,099	198,934	1,584,997	7,044.4
6/28/2018	Thu	4:05a - 7:40a	3.58	909,248	110,053	138,187	106,572	1,264,060	5,884.8
6/29/2018	Fri	4:10a - 7:40a	3.50	931,560	161,843	213,203	177,620	1,484,225	7,067.7
6/30/2018	Sat	4:20a - 8:20a	4.00	932,640	135,948	138,187	99,467	1,306,242	5,442.7
7/1/2018	Sun	4:05a - 8:05a	4.00	966,000	103,579	134,239	99,467	1,303,285	5,430.4
7/2/2018	Mon	3:45a - 8:30a	4.75	1,246,020	194,211	221,099	206,039	1,867,369	6,552.2
7/3/2018	Tue	4:20a - 8:10a	3.83	924,945	148,895	142,135	113,677	1,329,652	5,786.1

7/4/2018	Wed	4:00a - 8:00a	4.00	999,360	187,737	217,151	184,725	1,588,973	6,620.7
7/5/2018	Thu	4:55a - 8:15a	3.33	831,967	90,632	106,601	85,258	1,114,458	5,577.9
7/6/2018	Fri	4:00a - 8:10a	4.17	1,093,874	194,211	232,944	206,039	1,727,068	6,902.8
7/7/2018	Sat	4:45a - 7:45a	3.00	724,500	103,579	114,498	92,362	1,034,939	5,749.7
7/8/2018	Sun	4:00a - 8:00a	4.00	932,640	129,474	153,980	134,991	1,351,085	5,629.5
7/9/2018	Mon	3:45a - 7:45a	4.00	1,066,080	194,211	228,996	198,934	1,688,221	7,034.3
7/10/2018	Tue	4:20a - 8:00a	3.67	916,913	155,369	161,876	134,991	1,369,149	6,217.8
7/11/2018	Wed	3:45a - 7:30a	3.75	1,014,975	207,158	248,737	198,934	1,669,804	7,421.4
7/12/2018	Thu	4:50a - 8:25a	3.58	924,284	142,421	146,083	127,886	1,340,676	6,241.5
7/13/2018	Fri	4:00a - 8:20a	4.33	1,171,958	220,106	252,685	220,249	1,864,997	7,178.6
7/14/2018	Sat	4:15a - 8:00a	3.75	936,900	135,948	138,187	113,677	1,324,712	5,887.6
7/15/2018	Sun	4:00a - 7:40a	3.67	855,697	168,316	189,514	149,201	1,362,728	6,188.6
7/16/2018	Mon	4:05a - 8:05a	4.00	1,090,800	200,685	228,996	206,039	1,726,520	7,193.8
7/17/2018	Tue	4:20a - 7:20a	3.00	811,980	129,474	146,083	113,677	1,201,214	6,673.4
7/18/2018	Wed	4:00a - 8:00a	4.00	1,082,640	220,106	248,737	220,249	1,771,731	7,382.2
7/19/2018	Thu	4:15a - 7:40a	3.41	880,394	129,474	146,083	120,782	1,276,733	6,240.1
7/20/2018	Fri	3:50a - 8:05a	4.25	1,150,305	226,580	256,633	227,354	1,860,871	7,297.5
7/21/2018	Sat	4:15a - 8:15a	4.00	1,015,920	129,474	146,083	120,782	1,412,259	5,884.4
7/22/2018	Sun	4:00a - 8:20a	4.33	901,506	220,106	225,047	184,725	1,531,384	5,894.5
7/23/2018	Mon	4:15a - 7:30a	3.25	920,205	161,843	205,306	177,620	1,464,974	7,512.7
7/24/2018	Tue	4:15a - 7:50a	3.58	894,427	135,948	150,032	127,886	1,308,293	6,090.7
7/25/2018	Wed	4:00a - 7:45a	3.75	1,061,775	187,737	225,047	191,830	1,666,389	7,406.2
7/26/2018	Thu	4:05a - 8:05a	4.00	1,082,640	116,527	138,187	120,782	1,458,135	6,075.6
7/27/2018	Fri	4:00a - 8:00a	4.00	1,165,920	194,211	236,892	206,039	1,803,062	7,512.8
7/28/2018	Sat	4:40a - 8:05a	3.43	885,557	123,000	130,291	113,677	1,252,525	6,086.1
7/29/2018	Sun	4:00a - 7:50a	3.83	988,829	135,948	161,876	134,991	1,421,645	6,186.4
7/30/2018	Mon	4:00a - 7:45a	3.75	983,700	187,737	217,151	191,830	1,580,418	7,024.1
7/31/2018	Tue	4:00a - 7:40a	3.67	993,322	123,000	146,083	113,677	1,376,083	6,249.2
8/1/2018	Wed	4:00a - 8:00a	4.00	1,165,920	207,158	240,840	220,249	1,834,167	7,642.4
8/2/2018	Thu	4:30a - 8:00a	3.50	947,310	116,527	138,187	120,782	1,322,805	6,299.1

8/3/2018	Fri	4:00a - 8:00a	4.00	1,165,920	181,264	228,996	198,934	1,775,114	7,396.3
8/4/2018	Sat	4:50a - 8:25a	3.58	939,106	110,053	118,446	99,467	1,267,072	5,898.8
8/5/2018	Sun	4:05a - 8:25a	4.50	1,124,280	135,948	161,876	142,096	1,564,200	5,793.3
8/6/2018	Mon	4:00a - 7:35a	3.58	1,043,498	161,843	201,358	184,725	1,591,424	7,408.9
8/7/2018	Tue	4:45a - 7:30a	2.75	744,315	116,527	130,291	113,677	1,104,809	6,695.8
8/8/2018	Wed	4:00a - 7:50a	3.83	1,116,368	174,790	217,151	191,830	1,700,139	7,398.3
8/9/2018	Thu	4:30a - 7:30a	3.00	811,980	110,053	130,291	106,572	1,158,896	6,438.3
8/10/2018	Fri	4:00a - 8:10a	4.17	1,215,472	161,843	217,151	206,039	1,800,504	7,196.3
8/11/2018	Sat	4:30a - 8:10a	3.67	916,913	142,421	150,032	134,991	1,344,357	6,105.2
8/12/2018	Sun	4:15a - 7:30a	3.25	839,085	110,053	150,032	120,782	1,219,951	6,256.2
8/13/2018	Mon	4:15a - 8:10a	3.92	1,224,216	123,000	193,462	184,725	1,725,403	7,335.9
8/14/2018	Tue	4:20a - 7:50a	3.50	947,310	129,474	150,032	120,782	1,347,597	6,417.1
8/15/2018	Wed	4:00a - 8:00a	4.00	1,249,200	161,843	209,255	184,725	1,805,022	7,520.9
8/16/2018	Thu	4:15a - 7:25a	3.17	725,993	123,000	122,394	106,572	1,077,960	5,667.5
8/17/2018	Fri	4:15a - 7:40a	3.42	996,862	155,369	197,410	85,258	1,434,898	6,992.7
8/18/2018	Sat	4:30a - 8:00a	3.50	874,440	123,000	78,964	113,677	1,190,081	5,667.1
8/19/2018	Sun	4:00a - 8:00a	4.00	949,440	135,948	157,928	142,096	1,385,412	5,772.5
8/20/2018	Mon	4:00a - 7:45a	3.75	1,093,050	174,790	209,255	191,830	1,668,924	7,417.4
8/21/2018	Tue	4:40a - 6:40a	2.00	582,960	77,684	90,809	78,153	829,606	6,913.4
8/22/2018	Wed	4:00a - 7:30a	3.50	1,020,180	161,843	205,306	184,725	1,572,054	7,486.0
8/23/2018	Thu	4:30a - 8:00a	3.50	947,310	116,527	134,239	127,886	1,325,962	6,314.1
8/24/2018	Fri	4:00a - 7:35a	3.58	1,043,498	155,369	201,358	177,620	1,577,845	7,345.6
8/25/2018	Sat	4:30a - 7:30a	3.00	749,520	103,579	110,550	99,467	1,063,116	5,906.2
8/26/2018	Sun	4:15a - 7:45a	3.50	859,740	116,527	138,187	120,782	1,235,235	5,882.1
8/27/2018	Mon	4:10a - 7:35a	3.42	996,862	155,369	193,462	177,620	1,523,312	7,423.5
8/28/2018	Tue	4:20a - 8:00a	3.67	1,008,516	110,053	126,342	113,677	1,358,588	6,169.8
8/29/2018	Wed	4:00a - 8:00a	4.00	1,165,920	181,264	209,255	191,830	1,748,268	7,284.4
8/30/2018	Thu	4:30a - 8:00a	3.50	947,310	129,474	130,291	113,677	1,320,751	6,289.3
8/31/2018	Fri	4:00a - 7:40a	3.67	993,322	194,211	228,996	206,039	1,622,568	7,368.6

CITY OF FERNLEY
RESOLUTION #24-007

**A RESOLUTION OF THE CITY OF FERNLEY TO ADOPT THE 2022
WATER SYSTEM PLAN UPDATE.**

WHEREAS, it is a function of the City of Fernley to operate and maintain a public water treatment and distribution system; and

WHEREAS, the City Council desires to provide safe and reliable drinking water to its customers in accordance with the requirements of Nevada Revised Statutes and Nevada Administrative Code and the requirements of its permit number NV0000062; and

WHEREAS, the current water system plan was last updated in 2008; and

WHEREAS, adoption of the 2018 update to the City of Fernley Comprehensive Plan and recent development trends necessitate updates to the water plan; and

WHEREAS, The Fernley Planning Commission, on April 10, 2024, held a public meeting and approved Resolution 24-007 adopting the 2022 Water System Plan update; and

WHEREAS, The Fernley City Council, on April 17, 2024, held a public meeting and approved Resolution 24-007 adopting the 2022 Water System Plan update; and

NOW, THEREFORE, BE IT RESOLVED, that the Fernley City Council adopts the 2022 Water System Plan Update;

BE IT FURTHER RESOLVED, that the Fernley Planning Commission approves and recommends that the City Council adopt the 2022 Water System Plan Update.

RESOLUTION PASSED, APPROVED, AND ADOPTED this 10th day of April 2024, by the following vote of the Fernley Planning Commission:

AYES:___ NAYS:___ ABSTENTIONS:___ ABSENT:___

By: _____
Jenni McCullar, Chairwoman

Date: _____

Attest: _____
Brenda Gosser, Deputy City Clerk

Date: _____

RESOLUTION PASSED, APPROVED, AND ADOPTED this 17th day of April 2024, by the following vote of the Fernley City Council:

AYES:___ NAYS:___ ABSTENTIONS:___ ABSENT:___

By: _____
Neal E. McIntyre, Mayor

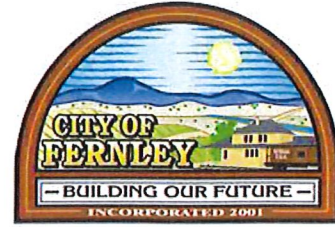
Date: _____

Attest: _____
Kim Swanson, City Clerk

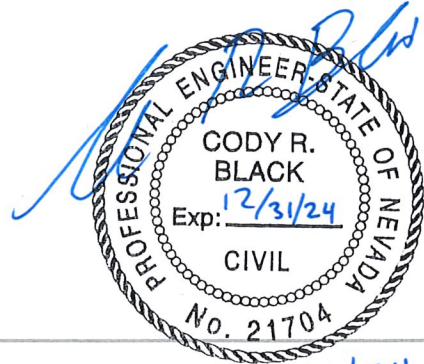
Date: _____

Technical Memorandum

City of Fernley Capital Improvement Project Planning



DATE: January 9, 2024
PREPARED FOR: Derek Starkey, P.E.
PREPARED BY: Cody Black, P.E.
Owen Wurgler, E.I.
SUBJECT: CIP Amendments and Recommendations



Purpose

After delivery of the 2022 City of Fernley Water Master Plan (WMP), additional review was completed regarding options to add storage to the system. Based on recent development trends and potential delays in BLM and USBR permitting, Shaw has reviewed adding additional storage at the Ricci Tank in lieu of building the Southeast storage reservoir listed in CIP 17. Additional hydraulic modeling was also completed to evaluate other combinations of CIP's which could be implemented to address decreasing redundancy in the system while simultaneously increasing hydraulic connectivity between the North and South Areas of the City. The hydraulic connectivity will also help the system prepare the system for growth.

The goal of this memo is to provide a sufficient overview of the projects that will allow the City to make well informed decisions regarding how to deliver resilient water service to the City's growing customer base and simplify the delivery of certain CIP's discussed in the 2022 Water Master Plan.

Project Assumptions

The system improvements in this memorandum assume the I-80 crossing between the Northeast Tank transmission main and the I-80 Industrial Area has been constructed. This I-80 crossing provides an arterial main to this future growth area and greater redundancy for areas along Farm District Road. Per CIP 9 listed in the 2022 WMP the main was included in the model as a 14 inch PVC Main.

Analysis Approach

In order to quantify the results of the model into meaningful information, Shaw will utilize the maximum day demand extended period simulation model which evaluates tank storage trends, treatment plant pumping, and pressure fluctuations throughout the day. For the purpose of this analysis, the 0.53 MG Sage Ranch Tank has been excluded as it does not affect Pressure Zone 1 under normal operations. Each project summary includes figures that display the tank levels, high service pump station run time and system pressures over a 72 hour period. Analyzing these characteristics allows the model to stabilize and provide a normalized result based off of the initial assumptions input in the model.

Background

Existing System

The City of Fernley water system currently experiences Maximum Day Demands between 6.5 MGD and 7.0 MGD with peak hour demands of approximately 11 MGD. For this extended period simulation, the system will experience multiple maximum day demand scenarios in a row of approximately 6.6 MGD. As a baseline comparison, tank level trends in the model have been provided in Figures 1 thru 3 below and a pressure map provided in Appendix A - Exhibit 1.

Figure 1: Existing Northeast Tank Level

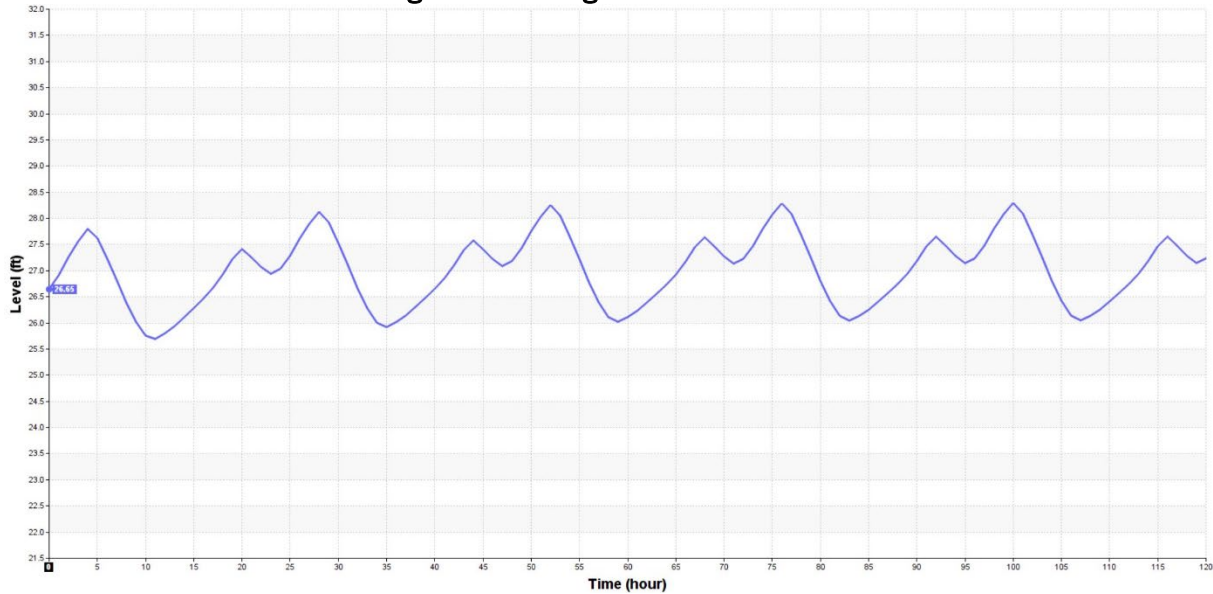


Figure 2: Existing Ricci Tank Level

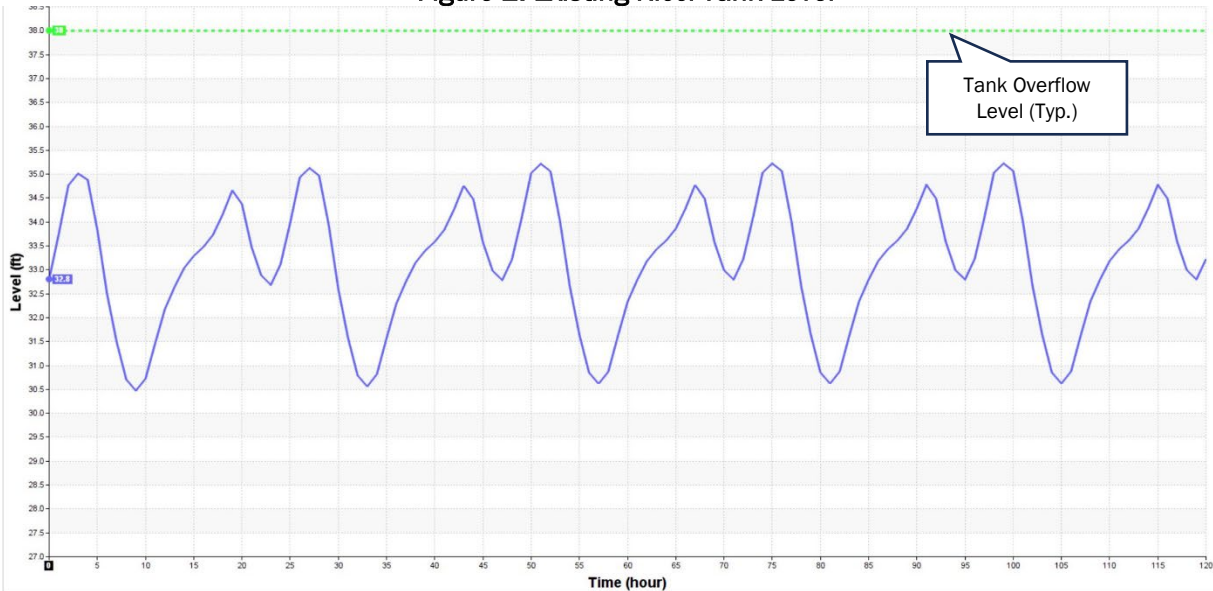


Figure 3: Existing Sage Tank Level Trends

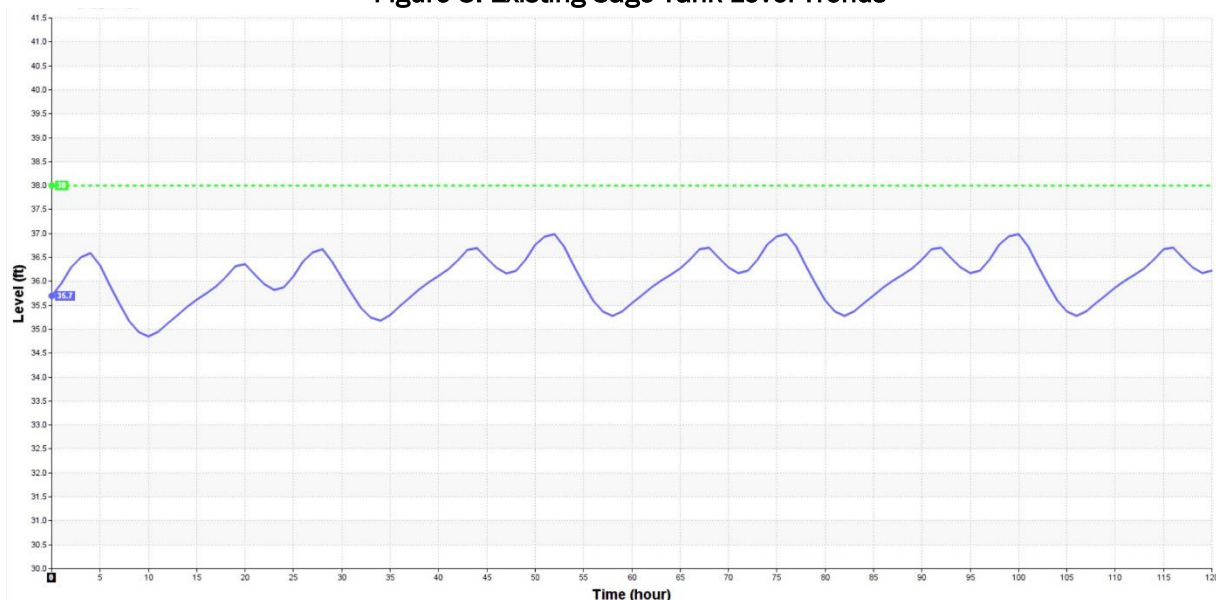


Table 1 below, summarizes the data in Figures 1 thru 3.

Table 1: Existing Tank Level Summary

Tank Name	High Level (ft)	Low Level (ft)	Change in Water Level (ft)	Time from High to Low
Northeast Tank	28.1	26.0	2.1	7 hours
Ricci Tank	35.1	30.6	4.5	5.5 hours
Sage Tank	37.0	35.3	1.7	6 hours

An evaluation of the high service pump station was performed to create a baseline to compare which amendments will have the largest effect on the High service pump station and indirectly the Raw water storage capacity and Well production. Figure 4 below depicts a time series graph of Flow vs Time for the 120 hour simulation. Table 2 shows the total pumped water each day with a maximum and minimum hour rate.

Figure 4: Existing High Service Pump Station Flows

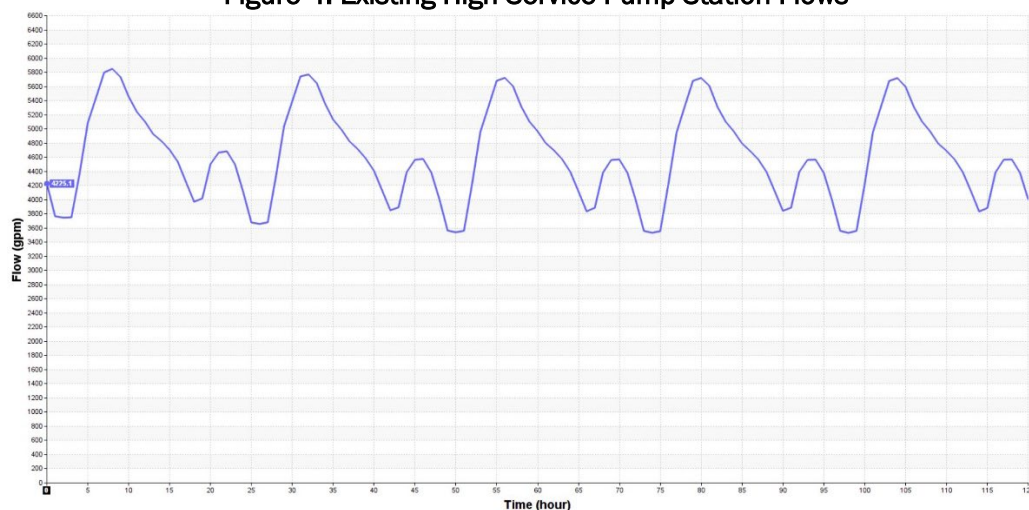


Table 2: Existing High Service Pump Station Flow Statistics

Maximum Pump Flow (gpm)	Minimum Pump Flow (gpm)	Average Pump Flow (gpm)	Max/Min Difference (gpm)
5,849	3,530	4,604	2,319

Footnotes:

1. Actual values may differ based on differences in day to day operations.

Existing System plus Interstate 80 Crossing (CIP 9)

The Interstate 80 Crossing will connect the Northeast Tank fill/transmission main directly to the industrial park via a 14-inch main crossing Interstate 80 and connecting to the existing 14-inch main within Nevada Pacific Parkway on the South side of I-80. This connection not only provides a redundant supply of water to the Industrial Park, it also increases the hydraulic connectivity between the North portion of the system and the South side of the system. This connection is critical because it distributes the demand on each storage facility more equally compared to the existing system configuration. The results of the Interstate 80 crossing are provided in Figures 4 thru 6 below to depict the effects of providing this hydraulic connection. Additionally, a Pressure Map is provided in Appendix A - Exhibit 2. The I-80 crossing will increase the response of the NE tank to demands in the system. As can be seen in the graphs below, after the I-80 crossing is added, the NE tank has a low water operating level of 25 to 25.3 feet compared to 26 feet currently. In addition, the Ricci tank level is better maintained with the crossing having a normal low water level of 31 feet as apposed to 20.5 feet currently.

Figure 5: I-80 Crossing - Northeast Tank Level

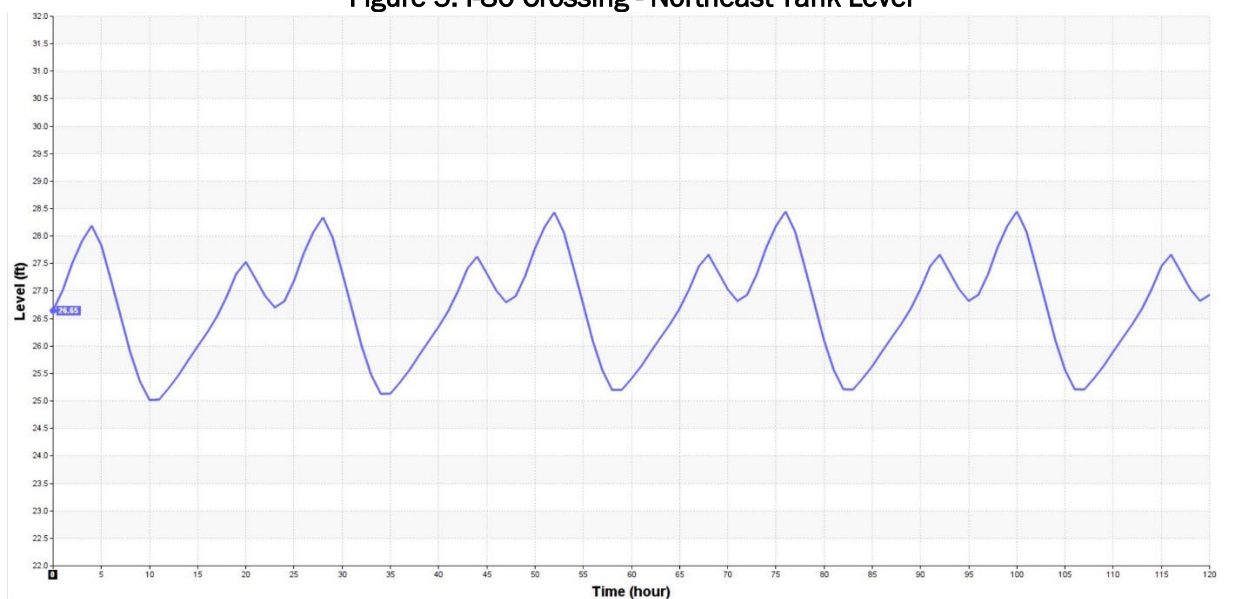


Figure 6: I-80 Crossing - Ricci Tank Level

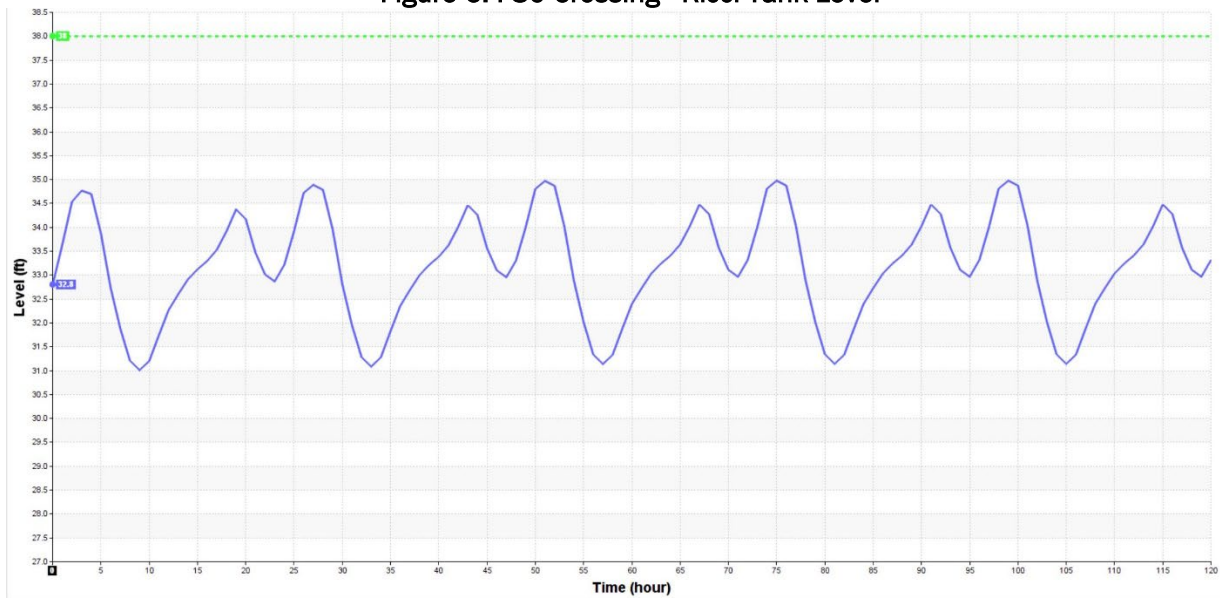


Figure 7: I-80 Crossing - Sage Tank Level

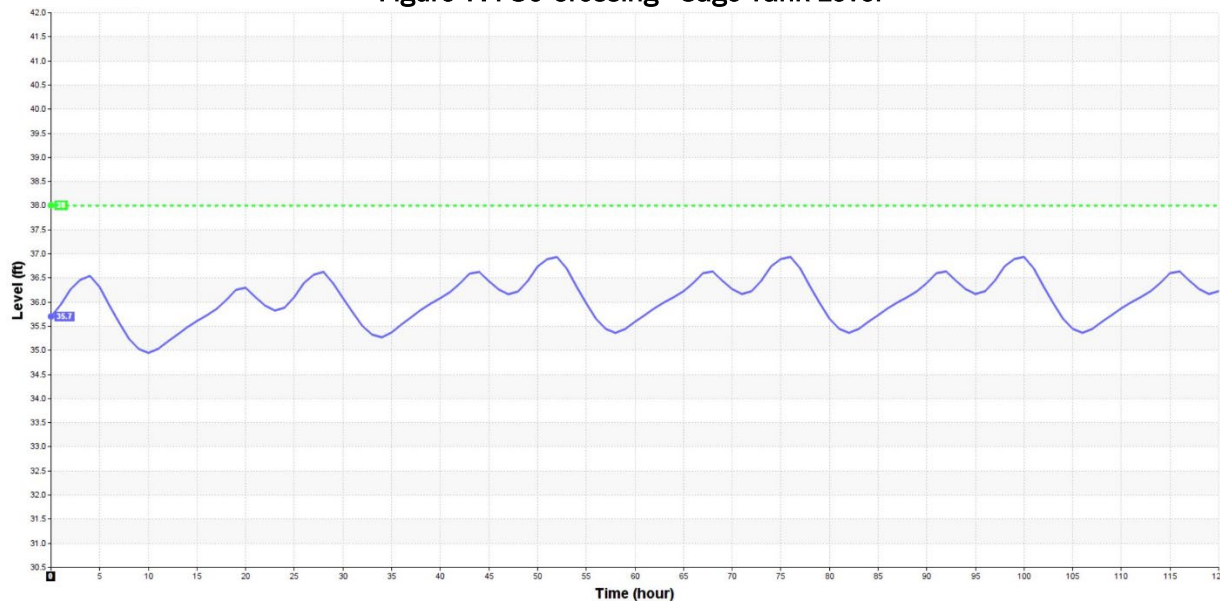
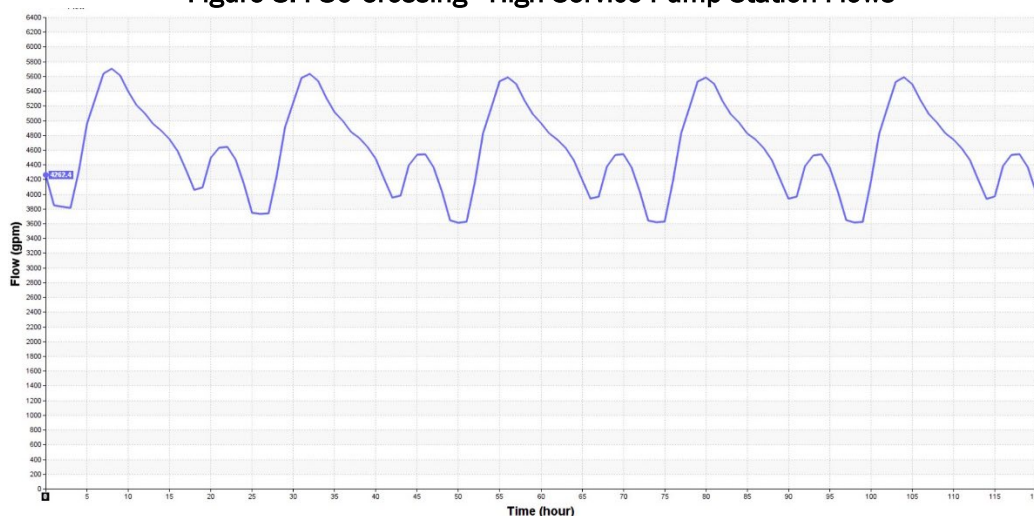


Table 2 below summarizes the data in Figures 4-6.

Table 3: I-80 Crossing Tank Level Summary

Tank Name	High Level (ft)	Low Level (ft)	Change in Water Level (ft)	Time from High to Low
Northeast Tank	28.4	25.2	3.2	6 hours
Ricci Tank	34.9	31.1	3.8	6 hours
Sage Tank	36.9	35.4	1.5	6 hours

Figure 8 below depicts a time series graph of Flow vs Time for the 120 hour simulation. Table 4 shows the total pumped water each day with a maximum and minimum hour rate.

Figure 8: I-80 Crossing - High Service Pump Station Flows**Table 4: I-80 Crossing High Service Pump Station Flow Statistics**

Maximum Pump Flow (gpm)	Minimum Pump Flow (gpm)	Average Pump Flow (gpm)	Max/Min Difference (gpm)
5,705	3,614	4,600	2,091

Footnotes:

1. Actual values may differ based on differences in day to day operations.

Capital Improvement Project Configurations

As shown above, the I-80 crossing is a significant improvement to the system. In addition, recommended Capital Improvement Project Amendments are provided below to resolve other concerns brought up by City engineering and water operations staff. The amendments are provided with model results to show the general impact on the system.

Amendment 1: Highway 50 Looping Main (CIP 12)

The Highway 50 loop main introduces a loop connection to the existing 18-inch main within Nevada Pacific Parkway and an 8-inch connection in Pepper Lane within the Desert Lakes Subdivision. The looped connection will provide redundancy to the Desert Lakes subdivision and others on the east end of Farm District Road. Currently, there are a large number of connections that are served by a single main within Farm District Road; this looping main would increase system redundancy and eliminate dead end(s). Additional loops and future development would also be able to connect to the new main. The scope of this project does not change from the recommendation provided for CIP 12 of the 2022 Water Master Plan, rather it provides a deeper look at the benefits of this project to help the City prioritize improvements. Table 3 below lists the subdivisions that would be left without water if the 18-inch main within Farm District Road Failed and the total Average Day Demand of each subdivision.

Table 5: Subdivisions affected by Farm District Road Main Failure

Existing Subdivisions		
<i>Subdivision Name</i>	<i>Number of Connections</i>	<i>Average Day Demand (GPD)</i>
Friendly 5 Village/Legacy Trails	75	20,700
Country Ranch Estates	109	30,084
Truckee River Ranch	194	53,544
Skyrdge Estates	26	7,176
Desert Lakes	1,003	276,828
TOTAL EXISTING	1,407	388,332
Future Tentative and Subdivision Maps		
<i>Subdivision Name</i>	<i>Number of Connections</i>	<i>Average Day Demand (GPD)</i>
Friendly 5 Village/Legacy Trails	338	93,288
Clements Ranch	241	66,516
TOTAL FUTURE	579	158,976
TOTAL	1,986	547,136

This project will have a minimal impact on the levels in the storage tanks; however, it is an important component in providing resilient water service to the residents living on the eastern side of the City. The following analysis assumes the I-80 crossing is installed. The graphs below show the Highway 50 loop.

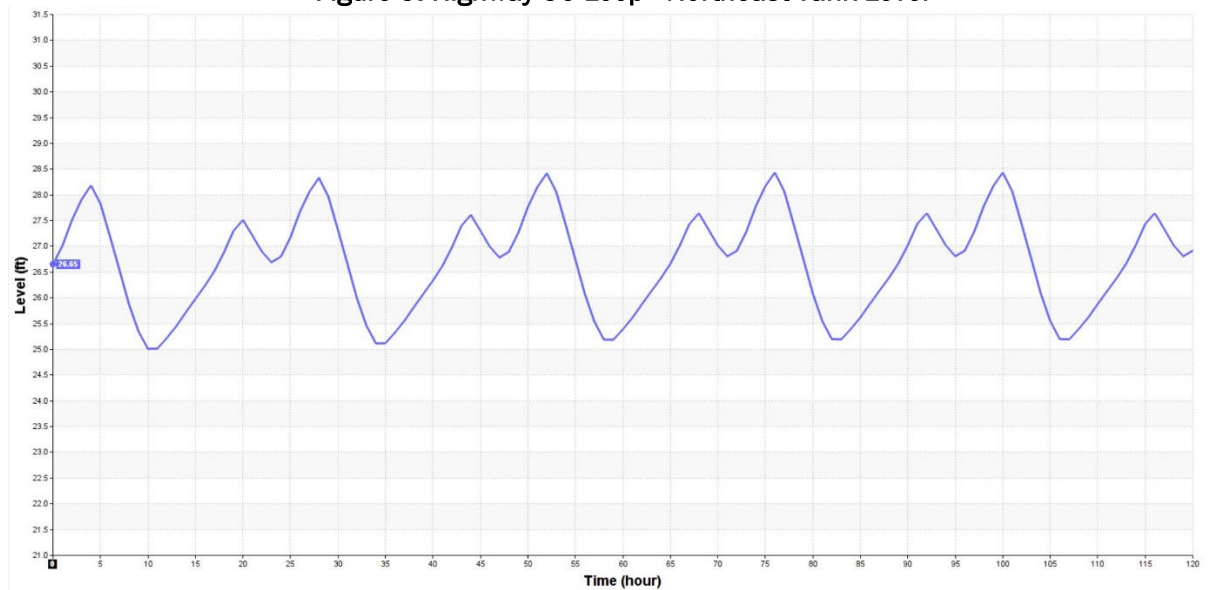
Figure 9: Highway 50 Loop - Northeast Tank Level

Figure 10: Highway 50 Loop - Ricci Tank Level

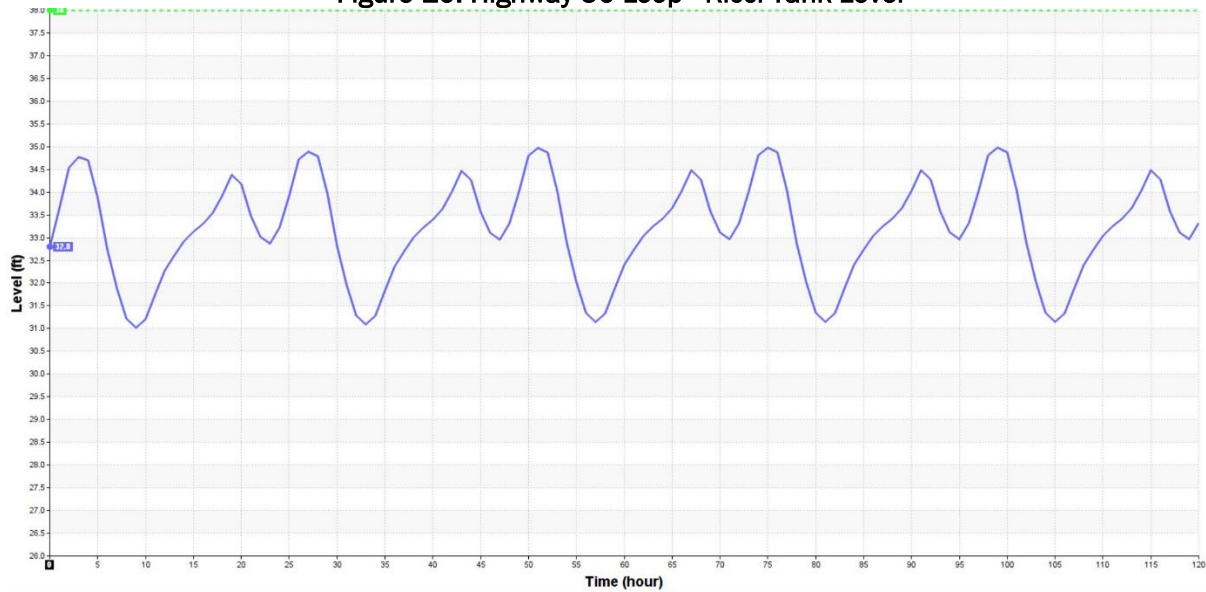


Figure 11: Highway 50 Loop - Sage Tank Level

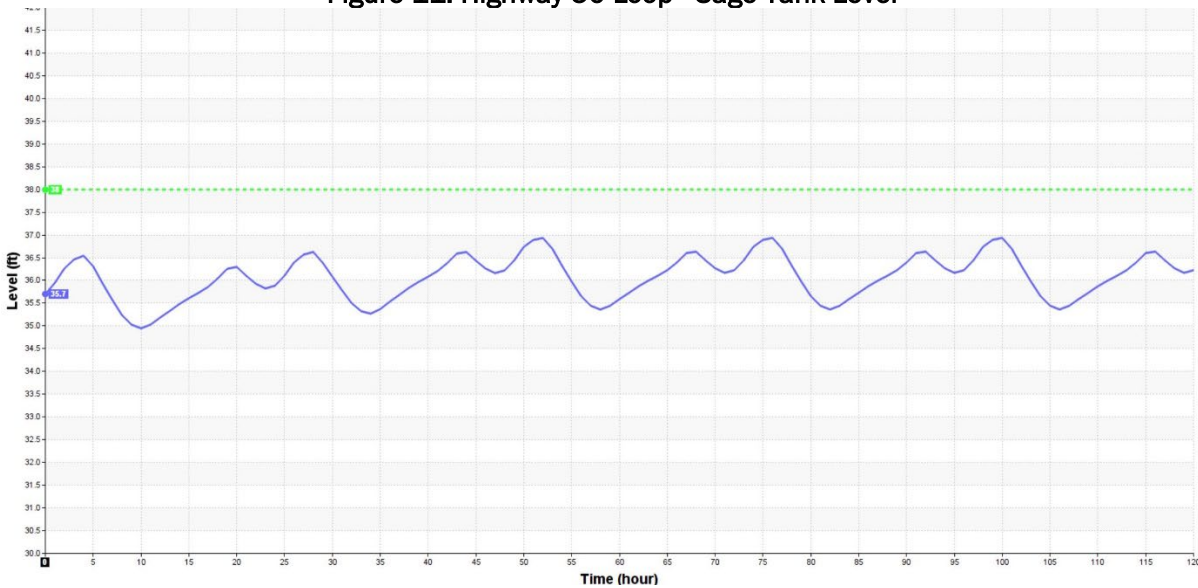
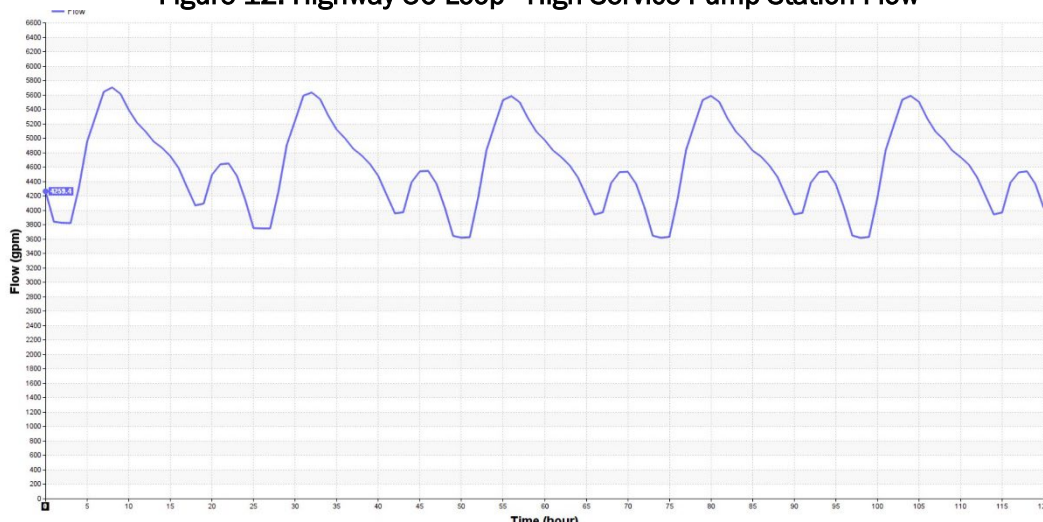


Table 3 below summarizes the data in Figures 7-9 on page 5.

Table 6: Highway 50 Crossing Tank Level Summary

Tank Name	High Level (ft)	Low Level (ft)	Change in Water Level (ft)	Time from High to Low
Northeast Tank	28.4	25.1	3.3	6 hours
Ricci Tank	35.0	31.1	3.9	6 hours
Sage Tank	37.0	35.4	1.6	6 hours

Figure 12 below depicts a time series graph of Flow vs Time for the 120 hour simulation. Table 7 shows the total pumped water each day with a maximum and minimum hour rate.

Figure 12: Highway 50 Loop - High Service Pump Station Flow**Table 7: Highway 50 Loop - High Service Pump Station Flows Statistics**

Maximum Pump Flow (gpm)	Minimum Pump Flow (gpm)	Average Pump Flow (gpm)	Max/Min Difference (gpm)
5,703	3,618	4,600	2,085

Footnotes:

1. Actual values may differ based on differences in day to day operations.

Amendment 2: Additional 1.5 MG Ricci Storage Tank

Storage within the distribution system is becoming scarce as more development is constructed within Fernley due to its location in the system, the Existing 1.5 MG Ricci Tank has the largest response to demands in the system with regards to tank level. The tank is sensitive to demands around Farm District Road and major portions of the residential neighborhoods in Central Fernley. The addition of a new 1.5 MG storage tank adjacent to the existing storage tank would increase storage capacity for this area and also allow a tank to be taken offline for periodic inspection and maintenance. Additional benefits of a new storage tank at the existing tank site are that it would alleviate the demand on the high service pump station (HSPS) during peak hour events. The HSPS flow varies throughout the day based on the tank levels. The pumps ramp up in the peak hour and level off for the rest of the day (and night during the summer) to completely fill the tanks in preparation for peak hour the next day. Lastly, adding storage at the Ricci tank site would allow the City to delay construction of the southeast storage tank previously recommended in CIP Project #17. There is sufficient land at the Ricci site to build the additional storage and this storage would be able to allow growth to continue throughout Pressure Zone #1, which encompasses most of the City. Constructing additional storage at the Ricci tank site in lieu of a new southeast storage tank would also delay the need for obtaining BLM permitting for the southeast tank site and would save significant capital improvement costs in the short term by eliminating the need to construct the tank transmission main required in Water Master Plan CIP #16.

Figure 13: Additional 1.5 MG Ricci Tank - Northeast Tank Level

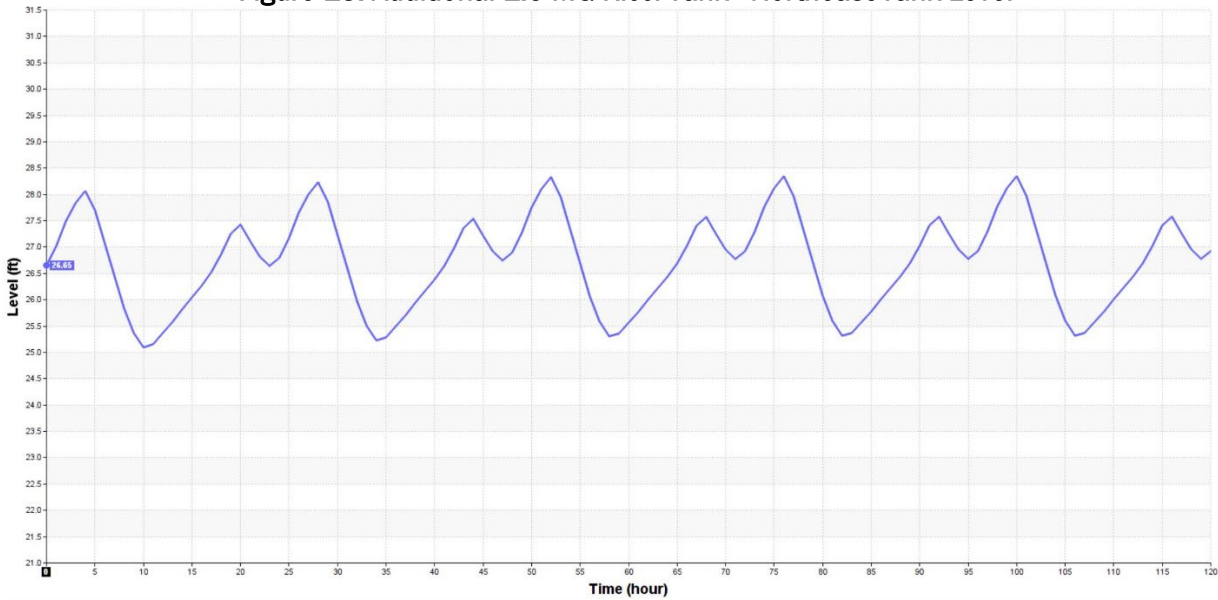


Figure 14: Additional 1.5 MG Ricci Tank - Ricci Tank Level

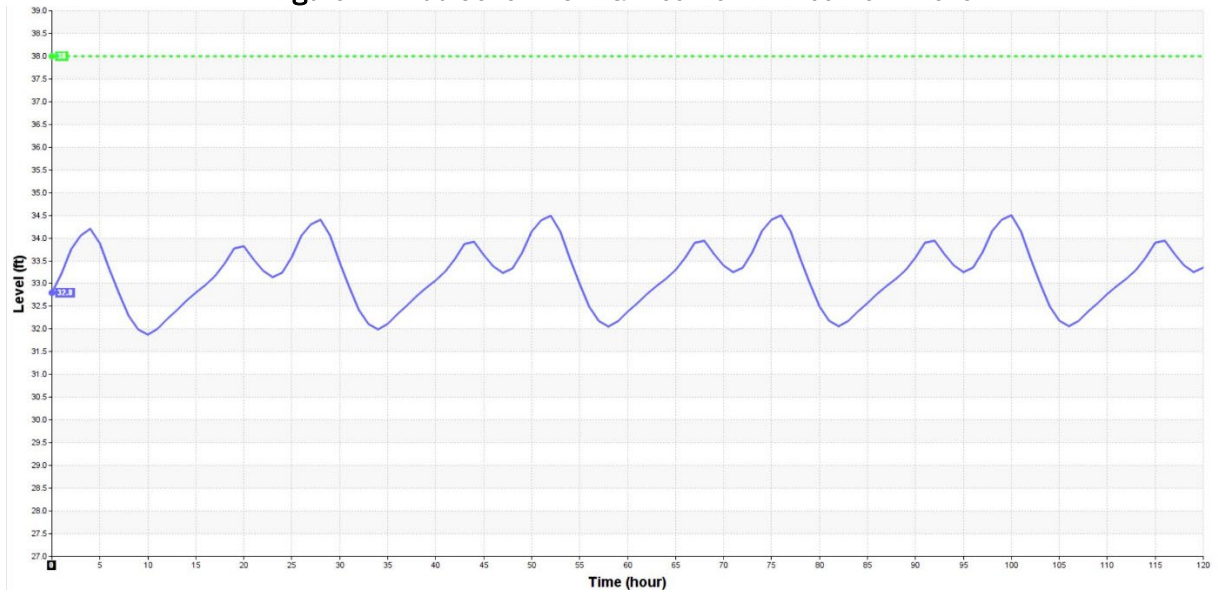


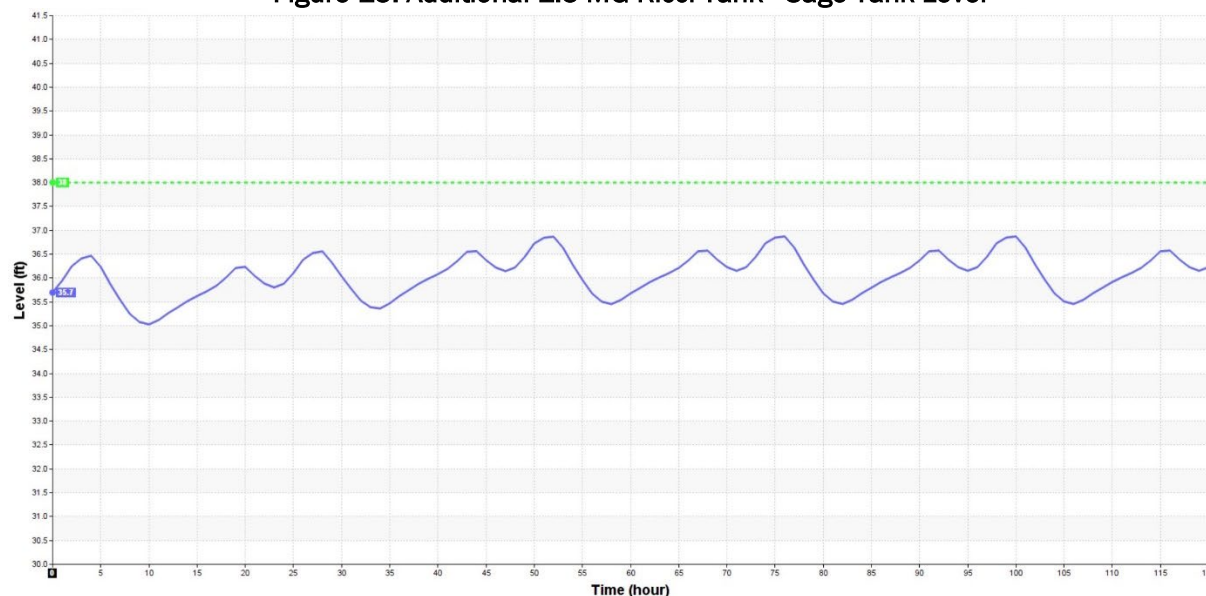
Figure 15: Additional 1.5 MG Ricci Tank - Sage Tank Level

Table 4 below summarizes the data in Figures 13-15. This data only represents the impacts of amendment #2 and assumes the other amendments/CIPs are not constructed.

Table 8: Additional Ricci Rank - Tank Level Summary

Tank Name	High Level (ft)	Low Level (ft)	Change in Water Level (ft)	Time from High to Low
Northeast Tank	28.3	25.3	3.0	6 hours
Ricci Tank	34.5	32.0	2.5	6 hours
Sage Tank	36.8	35.5	1.3	6 hours

Figure 16 below depicts a time series graph of Flow vs Time for the 120 hour simulation. Table 9 shows the total pumped water each day with a maximum and minimum hour rate.

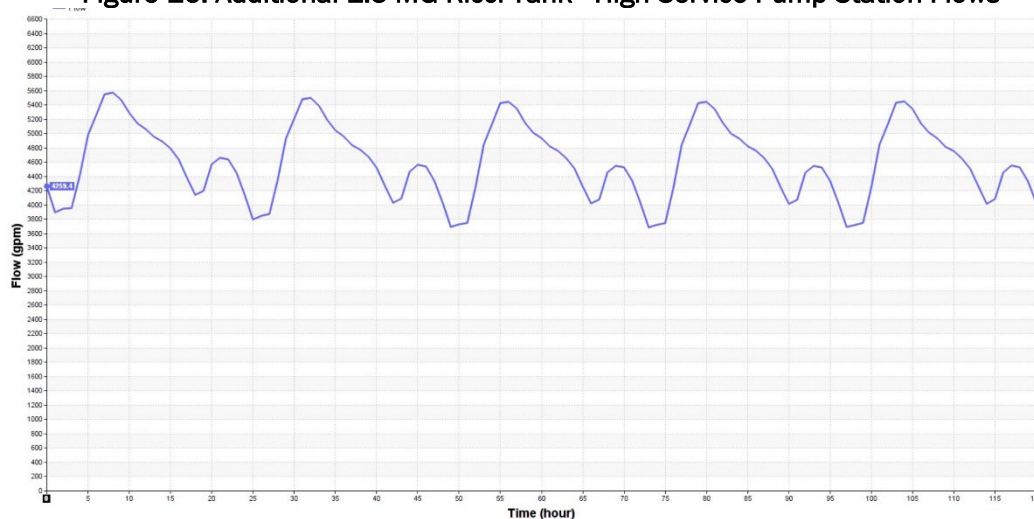
Figure 16: Additional 1.5 MG Ricci Tank - High Service Pump Station Flows

Table 9: Additional 1.5 MG Ricci Tank - High Service Pump Station Flow Statistics

Maximum Pump Flow (gpm)	Minimum Pump Flow (gpm)	Average Pump Flow (gpm)	Max/Min Difference (gpm)
5,573	3,687	4,603	1,885

Footnotes:

1. Actual values may differ based on differences in day to day operations.

Amendment 3: High Pressure Main Extension to Ricci Tank

Concern over maintaining the water level in the Ricci Tank is steadily rising as demand rises in the summer months when demand is at its peak. The Ricci Tank drops close to 5 feet as shown in Figure 2 whereas the Sage and Northeast Tanks only drop between 2 and 3 feet. Amendment 3 extends the high pressure main from upstream of the Mull Lane PRV with 30-inch ductile iron pipe approximately 6,400 lineal feet east to the existing Ricci Tank transmission main. This project will provide adequate pressure for future developments in the Farm District Road Service Area. A PRV station will be required to connect the new high-pressure main to the existing Ricci tank transmission main and would operate as a “Lag” PRV and would only open in periods of high demand. This will provide a direct connection from the HSPS to the Ricci Tank to ensure the tank level can easily be maintained and will reduce the strain on the HSPS during peak hour demand. As can be seen in Figure 18 below, the high pressure main extension keeps normal low water levels in the Ricci tank approximately 1.8 feet higher.

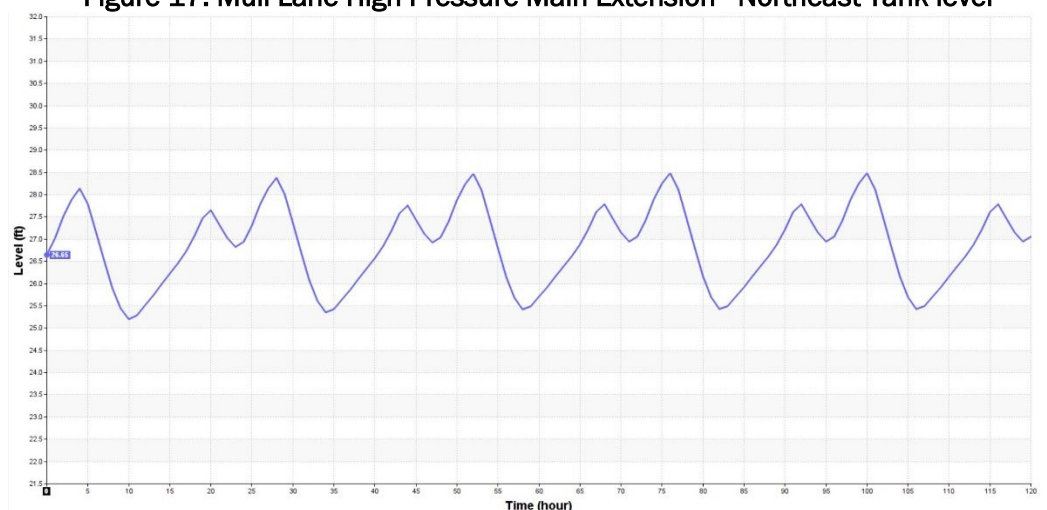
Figure 17: Mull Lane High Pressure Main Extension - Northeast Tank level

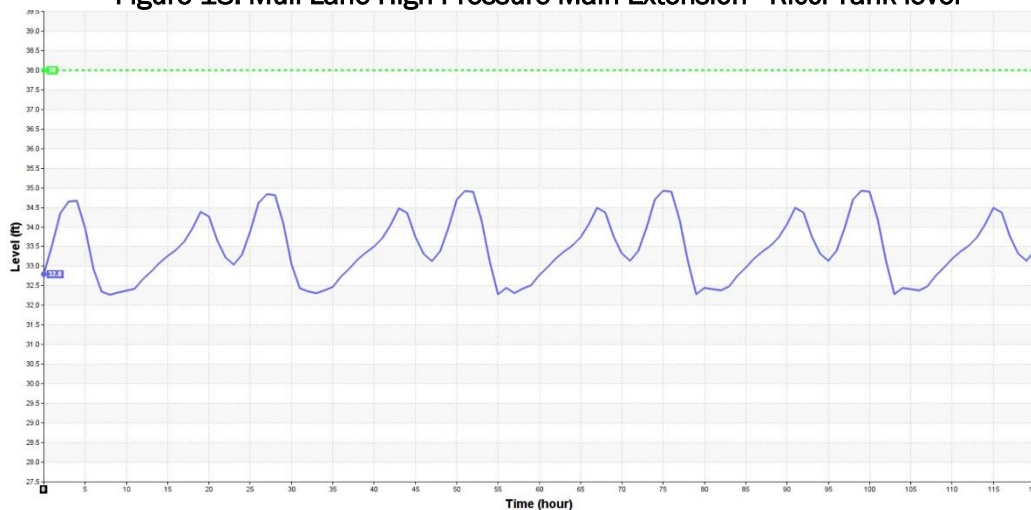
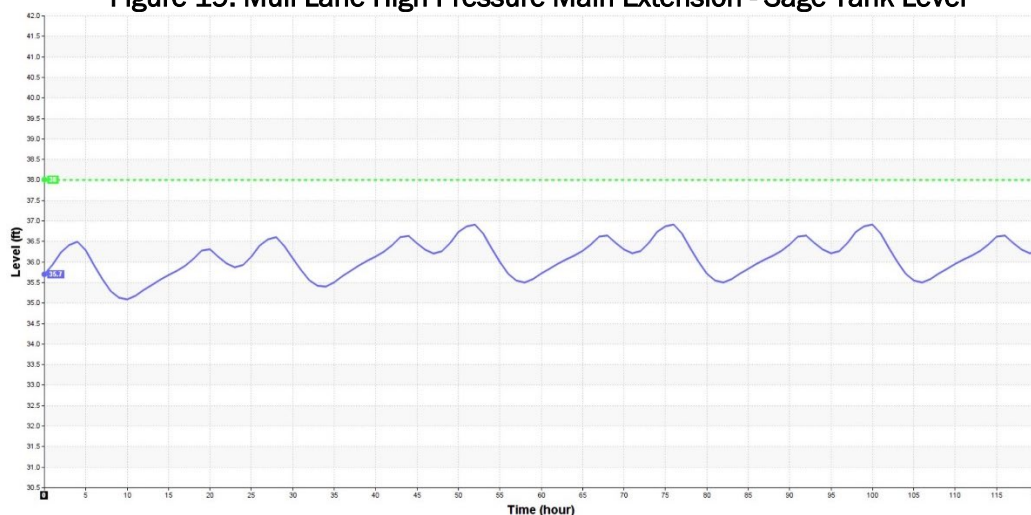
Figure 18: Mull Lane High Pressure Main Extension - Ricci Tank level**Figure 19: Mull Lane High Pressure Main Extension - Sage Tank Level**

Table 10 below summarizes the data in Figures 17-19 above. These results are standalone for the high pressure main extension and assume the other amendments/CIPs are not constructed.

Table 10: Mull Lane High Pressure Main Extension - Tank Level Summary

Tank Name	High Level (ft)	Low Level (ft)	Change in Water Level (ft)	Time from High to Low
Northeast Tank	28.5	25.4	3.1	6 hours
Ricci Tank	34.9	32.3	2.6	3 hours
Sage Tank	36.9	35.5	1.4	6 hours

Figure 20 below depicts a time series graph of Flow vs Time for the 120 hour simulation. Table 2 shows the total pumped water each day with a maximum and minimum hour rate.

Figure 20: Mull Lane High Pressure Main Extension - High Service Pump Station Flows

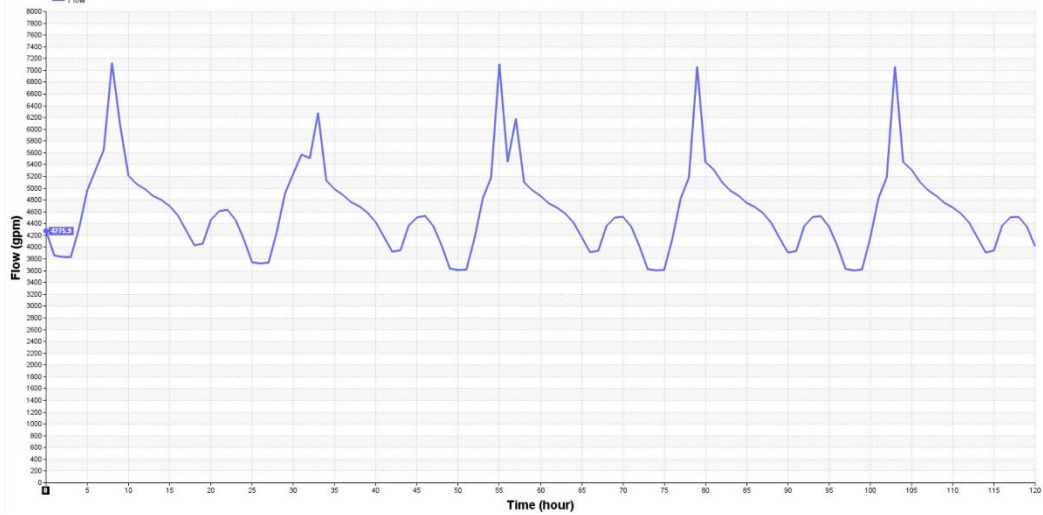


Table 11: Mull Lane High Pressure Main Extension - High Service Pump Station Flow Statistics

Maximum Pump Flow (gpm)	Minimum Pump Flow (gpm)	Average Pump Flow (gpm)	Max/Min Difference (gpm)
7,126	3,605	4,621	3,520

Footnotes:

1. Actual values may differ based on differences in day to day operations.
2. The Maximum flow value is dependent on the setting of the new PRV station to be located at the base of the Ricci Tank. For this model run the PRV was set to maintain an HGL of 4339 ft. The overflow of the Ricci Tank is ~4345 ft.

Conclusions and Recommendations

Multiple solutions have presented that some aspects of the operation of the water system will change if implemented. The general understanding of the concerns presented by City staff is storage capacity in the distribution system and hydraulic connectivity between the tanks that prevent the tanks from draining/filling at the same rate. Given the data provided, Shaw Engineering recommends three projects: 1) Interstate 80 Crossing, 2) Highway 50 Looping Main, and 3) an additional 1.5 MG Ricci Tank. These solutions will ensure that the City’s system has high hydraulic connectivity as well as redundancy between the North and South as well as East and West. A summary table providing the results of all the model runs are provided in Table 12 and 13 below for a side by side comparison of Tank and HSPS trends.

The Highway 50 looping main is the most critical project needed in terms of system reliability and there is difficulty in placing this type of project on a single developer. With the benefit to existing water customers, this project is recommended to be completed as soon as budget allows.

The I-80 crossing will have the best net benefit of getting the Northeast Tank to respond to demands in the system, however current development in the Mark IV Industrial Park will need this connection to support system expansion and fire flow for the park. Mark IV’s planning documents have also identified this project as likely necessary to develop their projects.

The additional 1.5 MG Ricci storage tank is recommended based on development trends. The City has identified a goal to provide all fire flow, emergency storage and operational storage within the distribution system storage reservoirs, as the water treatment plant tanks operate as chlorine contact

tanks. Utilizing the WTP tanks for emergency operational storage could impact chlorine residuals throughout the system and cause irregular operation of the WTP. With the requirement to maintain all system storage in the distribution system, the system only has approximately 477 ERC's remaining before additional storage needs to be built. Adding the 1.5 MG Ricci storage tank will provide the required storage for the City to serve an additional 3,579 ERC's. Assuming incremental growth continues this project is recommended to be constructed as soon as budget allows.

Table 12: Scenario Summary Table - Tank Trends

Scenario Name	Tank Name	High Level (ft)	Low Level (ft)	Change in Water Level (ft)	Time from High to Low
Existing	Northeast Tank	28.1	26.0	2.1	7 hours
	Ricci Tank	35.1	30.6	4.5	5.5 hours
	Sage Tank	37.0	35.3	1.7	6 hours
Interstate 80 Crossing	Northeast Tank	28.4	25.2	3.2	6 hours
	Ricci Tank	34.9	31.1	3.8	6 hours
	Sage Tank	36.9	35.4	1.5	6 hours
Highway 50 Looping Main	Northeast Tank	28.4	25.1	3.3	6 hours
	Ricci Tank	35.0	31.1	3.9	6 hours
	Sage Tank	37.0	35.4	1.6	6 hours
Additional 1.5 MG Ricci Tank	Northeast Tank	28.3	25.3	3.0	6 hours
	Ricci Tank	34.5	32.0	2.5	6 hours
	Sage Tank	36.8	35.5	1.3	6 hours
Mull Lane High Pressure Main Extension	Northeast Tank	28.5	25.4	3.1	6 hours
	Ricci Tank	34.9	32.3	2.6	3 hours
	Sage Tank	36.9	35.5	1.4	6 hours

Table 13: Scenario Summary Table - HSPS Stastics

Scenario Name	Maximum Pump Flow (gpm)	Minimum Pump Flow (gpm)	Average Pump Flow (gpm)	Max/Min Difference (gpm)
Existing	5,849	3,530	4,604	2,319
Interstate 80 Crossing	5,705	3,614	4,600	2,091
Highway 50 Looping Main	5,703	3,618	4,600	2,085
Additional 1.5 MG Ricci Tank	5,573	3,687	4,603	1,885
Mull Lane High Pressure Main Extension	7,126	3,605	4,621	3,520

APPENDIX A – Project Amendment Map

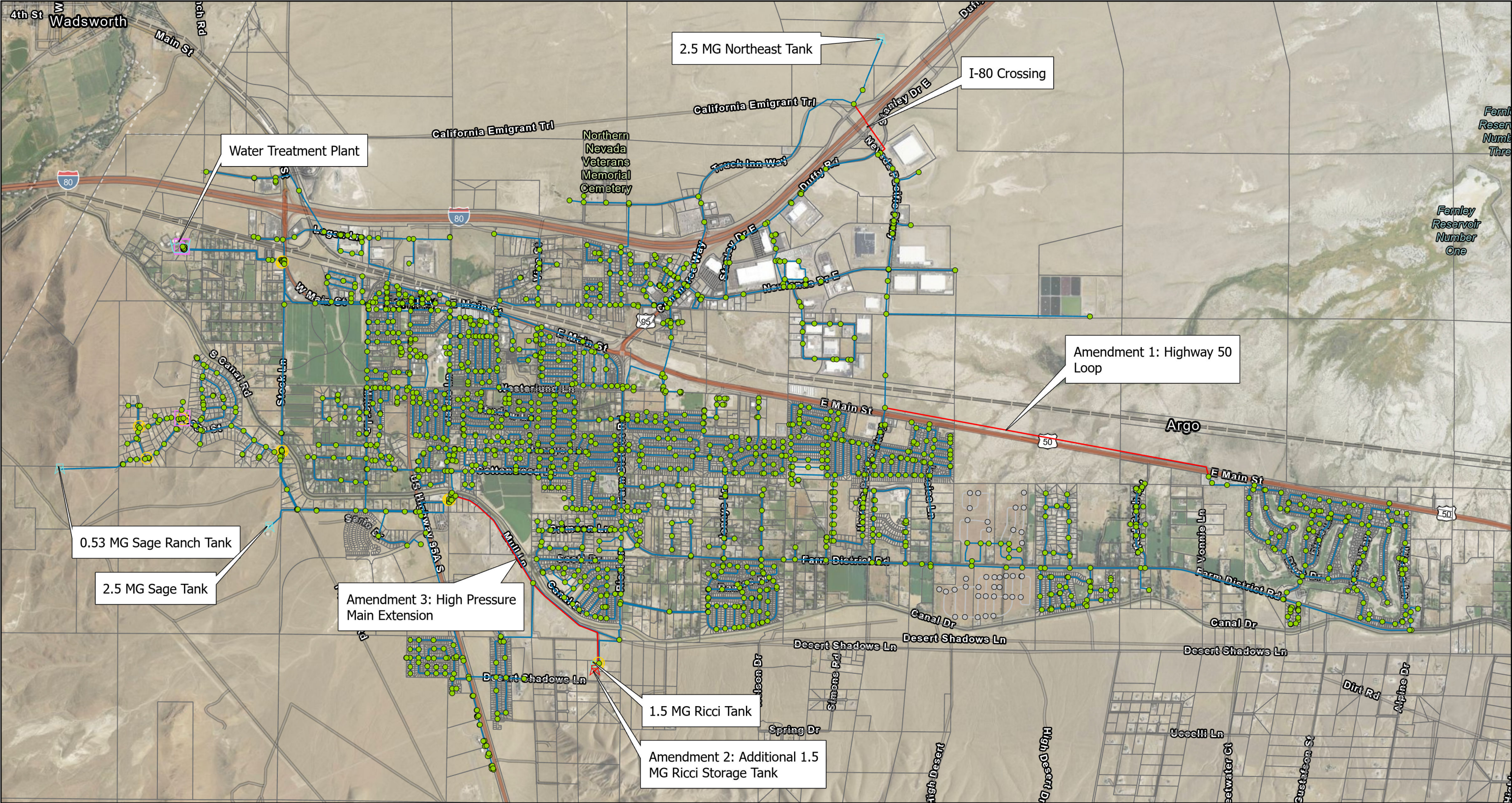


Exhibit A-1: Project Amendments

Legend

Junction

- Inactive
- Active

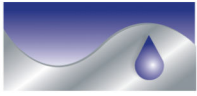
Type

- Active
- Inactive

Domain

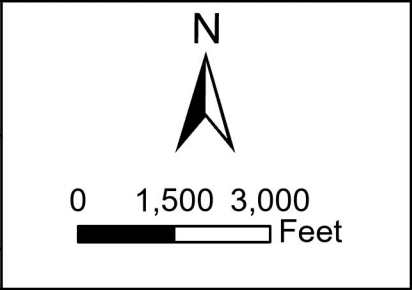
- Domain
- Inactive

<All other values>



SHAW ENGINEERING
Trusted Engineering Expertise

Publication Time:
1/9/2024 6:49 AM



APPENDIX B – COST ESTIMATES

Prepared By



City of Fernley				
CIP Amendment Technical Memorandum: I-80 Crossing				
Description	Qty	Unit	Unit Cost	Cost
14-Inch C900 PVC Main	1600	LF	\$ 225.00	\$ 360,000.00
Jack and Bore	615	LF	\$ 500.00	\$ 307,500.00
NDOT Permit Coordination	1	EA	\$ 30,000.00	\$ 30,000.00
Hot Taps/Tie-Ins	2	EA	\$ 20,000.00	\$ 40,000.00
Pavement Patching	1	LS	\$ 75,000.00	\$ 75,000.00
Traffic Control	1	LS	\$ 50,000.00	\$ 50,000.00
Subtotal				\$ 812,500.00
Mobilization/Demobilization	10%	LS	-	\$ 81,250.00
Design	10%	LS	-	\$ 81,250.00
Construction Management	10%	LS	-	\$ 81,250.00
Contingency	15%	LS	-	\$ 121,875.00
Total				\$ 1,178,125.00

Prepared By



City of Fernley				
CIP Amendment Technical Memorandum: Highway 50 Looping Main				
Description	Qty	Unit	Unit Cost	Cost
18-Inch C900 PVC Main	12,800	LF	\$ 275.00	\$ 3,520,000.00
Jack and Bore	140	LF	\$ 500.00	\$ 70,000.00
NDOT Permit Coordination	1	LS	\$ 30,000.00	\$ 30,000.00
Hot Taps/Tie-Ins	2	EA	\$ 20,000.00	\$ 40,000.00
Isolation Valves	26	EA	\$ 6,000.00	\$ 156,000.00
Subtotal				\$ 3,816,000.00
Mobilization/Demobilization	10%	LS	-	\$ 381,600.00
Design	10%	LS	-	\$ 381,600.00
Construction Management	10%	LS	-	\$ 381,600.00
Contingency	15%	LS	-	\$ 572,400.00
Preliminary Estimate of Probable Costs				\$ 5,533,200.00

Prepared By



City of Fernley				
CIP Amendment Technical Memorandum: Additional 1.5 MG Ricci Tank				
Description	Qty	Unit	Unit Cost	Cost
Foundation and Site Preparation	1	EA	\$ 200,000.00	\$ 200,000.00
Yard Piping and Valve Vault	1	LS	\$ 95,000.00	\$ 95,000.00
1.5 MG Welded Steel Storage Tank	1500000	Gal	\$ 0.55	\$ 825,000.00
Interior Blasting and Coating	1	LS	\$ 500,000.00	\$ 500,000.00
Exterior Blasting and Coating	1	LS	\$ 255,000.00	\$ 255,000.00
Site Improvements	1	LS	\$ 125,000.00	\$ 125,000.00
Fencing	1	LS	\$ 35,000.00	\$ 35,000.00
Telemetry and SCADA System	1	LS	\$ 40,000.00	\$ 40,000.00
Subtotal				\$ 2,075,000.00
Mobilization/Demobilization	10%	LS	-	\$ 207,500.00
Design	10%	LS	-	\$ 207,500.00
Construction Management	10%	LS	-	\$ 207,500.00
Contingency	15%	LS	-	\$ 311,250.00
Preliminary Estimate of Probable Costs				\$ 3,008,750.00

Prepared By



City of Fernley				
CIP Amendment Technical Memorandum: Mull Lane High Pressure Main Extension				
Description	Qty	Unit	Unit Cost	Cost
30-Inch DIP	6400	LF	\$ 425.00	\$ 2,720,000.00
Isolation Valves	7	EA	\$ 12,000.00	\$ 84,000.00
Pressure Reducing Valve	1	EA	\$ 100,000.00	\$ 100,000.00
Hot Taps/Tie-Ins	2	EA	\$ 20,000.00	\$ 40,000.00
SCADA and Telemetry	1	LS	\$ 35,000.00	\$ 35,000.00
Electrical Service	1	LS	\$ 50,000.00	\$ 50,000.00
Subtotal				\$ 3,029,000.00
Mobilization/Demobilization	10%	LS	-	\$ 302,900.00
Design	10%	LS	-	\$ 302,900.00
Construction Management	10%	LS	-	\$ 302,900.00
Contingency	15%	LS	-	\$ 454,350.00
Preliminary Estimate of Probable Costs				\$ 3,786,250.00



CITY OF FERNLEY

Planning Commission AGENDA REPORT

Meeting Date: April 10, 2024

REPORT TO: Fernley Planning Commission

REPORT FROM: Michele Rambo, Planning Director

FINANCIAL IMPACT:

Yes: No: X

CURRENTLY BUDGETED:

Yes: No: X

FUND/ACCOUNT:

N/A

ACTION REQUESTED:

AGENDA ITEM:

Training - Presentation by the Planning Director on the difference between Zoning and Land Use and how they work together.

AGENDA ITEM BRIEF:

Zoning and Land Use are often misunderstood or considered to be the same thing. In this short presentation, the Planning Director will explain what each of these terms mean and how they work together in the overall planning process.

RECOMMENDED MOTION:

N/A

BUSINESS IMPACT (per NRS Chapter 237):

N/A

See attached report for background, analysis, alternatives.

ALTERNATIVES:

N/A

BACKGROUND:

Zoning and Land Use, although sometimes assumed to be the same thing, are two distinct tools used by

planners and are regulated by two separate documents. However, they do work closely together when planning the future growth and development of a city. It is important to understand the difference between Zoning and Land Use and how they work together in order to make the most informed decisions possible.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

[Fernley Development Code](#)

[Fernley Comprehensive Master Plan](#)

FINANCIAL IMPLICATIONS:

N/A

ATTACHMENTS:

None



CITY OF FERNLEY

Planning Commission AGENDA REPORT

Meeting Date: April 10, 2024

REPORT TO: Fernley Planning Commission

REPORT FROM: Shay League

FINANCIAL IMPACT:

Yes: No: X

CURRENTLY BUDGETED:

Yes: No: X

FUND/ACCOUNT:

N/A

ACTION REQUESTED: Motion

AGENDA ITEM:

(For Possible Action) Discussion and possible action on a conditional use permit application (CUP24002) submitted by Priority Engineering on behalf of VIA Real Estate to allow for outdoor storage and general retail on a site zoned General Commercial (C2) and located at approximately 1200 Fremont Street (APN: 021-271-03).

AGENDA ITEM BRIEF:

The applicant represents Tractor Supply, which wants to construct a store on this parcel. A conditional use permit for the use "Outdoor Storage" is required when materials, goods, vehicles, or equipment are to be kept or placed outside an enclosed structure for 72 hours or more. The use "General Retail" would normally only require review and approval by the administrator; however, it is included alongside the application for "Outdoor Storage" to prevent the applicant from needing to file two separate applications for the two separate uses.

RECOMMENDED MOTION:

Approval

"I move to approve the conditional use permit associated with CUP24002, subject to conditions of approval 1 through 24 as presented by staff. I further move to adopt findings a through f, and the facts supporting these findings, as set forth in the staff report."

Denial

"Based on information received in written materials and at the public hearing on this matter, I move to deny the conditional use permit associated with CUP24002 because I am unable to make the following conditional use permit finding(s):"

"I am unable to make finding _____ as it relates to _____. (Repeat for each applicable finding.)"

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A, or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

Though no further language has been provided, all motions consistent with City of Fernley Planning Commission bylaws and rules of procedure are appropriate.

BACKGROUND:

Planning Commission unanimously adopted a resolution to amend the comprehensive plan land use designation on this parcel from Multi-Family Residential to Commercial at the March 2024 Planning Commission meeting. Discussion and possible certification of Planning Commission's resolution is set to go before City Council at the April 3, 2024, Council meeting.

FINDINGS:

a. The proposed conditional use will be in compliance with the comprehensive plan;

Should City Council approve MPA24001 on April 3, 2024, the proposed conditional use will be in compliance with the comprehensive plan. MPA24001 proposes a change to the land use designation Commercial (C). The zone of this parcel, General Commercial (C2), is an equivalent zoning district to the Commercial land use district. Both proposed uses are allowed within the C2 zone, though one requires a conditional use permit. Should Council not amend the land use designation of this parcel, staff recommends Planning Commission deny this conditional use because this finding cannot be made.

b. The conditional use will be compatible with the existing or permitted uses of adjacent properties.

Adjacent property use overview:

Direction	Designated Land Use	Current Land Use
Northeast	Commercial	Commercial (Raley's Shopping Center)
North, West, and Southwest	Mixed Residential	Single-Family Housing
South	Multi-Family Residential	Multi-Family Housing (The Fremont)
Southeast	Commercial	Commercial (Walgreens and Lickety Split Carwash)

Staff advises that the proposed uses are compatible with both the current and designated land uses of adjacent properties. The Tractor Supply store fits well with the neighboring commercial area that currently includes the Raley's shopping center, Walgreens, and the upcoming Lickety Split Carwash. Best practices for land use often locate multi-family residential homes adjacent to commercial uses and both near arterial streets such as HWY US 95A. Single-family housing and commercial uses are not always compatible; however, there is a significant land buffer between the site of the proposed use and the neighboring single-family homes to the North and West. The single-family homes located southwest of this site are buffered by Fremont Street.

c. The potential impairment of natural resources and the total population which the available natural resources

will support without unreasonable impairment;

There are no natural resources on this site, apart from the land itself and projected water usage. Given that this is infill development amid our primary business district, this parcel would not be appropriate for conservation efforts. Tractor Supply has addressed water usage concerns in their landscaping plan and intend to primarily install decomposed granite as a mulch material instead of turfgrass.

d. The availability and need for affordable housing in the community, including affordable housing that is accessible to persons with disabilities;

This project does not address availability and need for affordable housing in the community. Planning Commission does not necessarily need to determine that a project does support affordable housing in order to adopt this finding, but does need to consider housing needs. Adopting finding d asserts that Planning Commission did consider whether this project supports affordable ADA-accessible housing.

e. The conditional use permit has been conditioned to address identified impacts; and

Some of the possible impacts staff identified are as follows: neighborhood disturbance by outdoor storage, neighborhood disturbance during the construction phase, generation of stormwater runoff by the addition of paved or otherwise impermeable surfaces, and additional vehicle and pedestrian traffic.

Condition of approval 6 requires the outdoor storage area be screened from view, conditions 10 through 12 address possible nuisances during the construction phase, condition 17 requires construction of appropriate storm water treatment and drainage, and conditions 14-16 address traffic concerns. This developer will be required to dedicate and/or obtain right-of-way to build the northern portion of Fremont Street to the City of Fernley's 60-foot right-of-way standard (from the intersection of US 95A to their western property boundary), align their driveways with those south of Fremont Street, and make capacity improvements to the Fremont Street / US 95 A / Chisholm Trails intersection.

f. Public notice has been given, and a public hearing held, per the requirements of the Development Code and Nevada Revised Statutes.

Staff certifies that public notice was given in accordance with the applicable regulations. A public notice appeared in the March 26, 2024, edition of the Reno Gazette Journal. Staff mailed 51 individual letters to tenants and property owners within a 3-000-foot radius and provided a letter of notice for "The Fremont" management to disseminate via e-mail to all residents. A public hearing will be held during the April 10, 2024, Planning Commission meeting.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

General

[Nevada Revised Statutes \(NRS\), Chapter 278](#) - Planning and Zoning

[Fernley Municipal Code \(FMC\), Title 32](#) - Development Code

City of Fernley Public Works [Design Standards and Review Guidelines](#)

City of Fernley Public Works [Design Standard Details](#)

Specific

[NRS §278.315](#) - Granting of ... conditional use permits

[FMC §32.03.050\(b\)](#) - Conditional use permit

[FMC §32.06.100](#) - Zoning Districts, Commercial (C1, C2, and TC)

[FMC §32.07.310](#) - Outdoor storage

[FMC §32.09](#) - Development Standards

Note

This list is for quick reference and is not all-inclusive. City of Fernley Planning Department will monitor this section until the public hearing on April 10, 2024, but does not guarantee the included links will be functional and/or relevant beyond the meeting date.

FINANCIAL IMPLICATIONS:

N/A

ATTACHMENTS:

1. CUP24002 Conditions of Approval
2. Site Plan
3. Vicinity Map
4. Aerial Map
5. Trip Generation Evaluation
6. July 2021 Traffic Report Summary

Conditions of Approval for CUP24002

CONDITIONAL USE PERMIT

SCOPE AND DURATION OF APPROVAL

1. **APPROVAL**

THE CONDITIONAL USE PERMIT IS APPROVED AS SUBMITTED AND CONDITIONED. ANY SUBSTANTIVE CHANGES SHALL REQUIRE REVIEW AND APPROVAL BY PLANNING COMMISSION AS AN AMENDMENT TO THE CONDITIONAL USE PERMIT.

2. **PROJECT DESCRIPTION**

PROJECT APPROVAL IS LIMITED TO ESTABLISHING APPROXIMATELY 21,930 SQUARE-FEET OF THE "GENERAL RETAIL" USE AND 20,000 SQUARE-FEET OF THE "OUTDOOR STORAGE" USE ON A PARCEL 5.14-ACRES IN SIZE AND LOCATED AT 1200 FREMONT STREET (APN: 021-271-03).

3. **EXPIRATION DATE**

THE CONDITIONAL USE PERMIT SHALL EXPIRE WITHIN ONE YEAR OF THE DATE OF APPROVAL, UNLESS THE PERMITTED USE HAS BEEN ESTABLISHED OR CONSTRUCTION TO ACCOMMODATE THAT USE HAS BEGUN AND IS BEING DILIGENTLY PURSUED. A ONE-YEAR EXTENSION MAY BE GRANTED BY THE PLANNING COMMISSION IF REQUESTED PRIOR TO THE EXPIRATION DATE OF THE CONDITIONAL USE PERMIT.

4. **GOVERNING DOCUMENTS**

ALL CITY OF FERNLEY MUNICIPAL CODE (FMC) OR DEVELOPMENT CODE REFERENCES HEREIN PERTAIN TO THE VERSION OF THE CODE ESTABLISHED BY ORDINANCE NUMBER 2023-010, UNLESS OTHERWISE NOTED. THE DEVELOPER MAY SUBSTITUTE REQUIREMENTS ESTABLISHED IN FUTURE FMC UPDATES, IF APPROVED BY THE ADMINISTRATOR.

THE DEVELOPER SHALL ALSO COMPLY WITH ALL STANDARDS FOUND WITHIN "CITY OF FERNLEY DEPARTMENT OF PUBLIC WORKS DESIGN STANDARDS & REVIEW GUIDELINES" OF MAY 2008, "CITY OF FERNLEY STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION" OF JULY 15, 2008, AND "CITY OF FERNLEY COMPREHENSIVE MASTER PLAN" OF AUGUST 2018.

DESIGN STANDARDS

5. **SCREENING**

AS REQUIRED BY FMC §32.090.090(i), ALL TRASH ENCLOSURES MUST BE ARCHITECTURALLY COMPATIBLE WITH THE PROJECT, CONSTRUCTED OF SUBSTANTIAL BUILDING MATERIAL USED IN THE DESIGN OF THE BUILDING, AND THE GATES OF SAID ENCLOSURE SHALL BE CONSTRUCTED OF DURABLE SCREENING MATERIAL. A WOOD OR CHAIN LINK GATE FOR TRASH ENCLOSURES IS NOT PERMITTED.

ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL ALSO BE SCREENED BY AN OPAQUE ENCLOSURE, TO THE APPROVAL OF THE ADMINISTRATOR.

Conditions of Approval for CUP24002

CONDITIONAL USE PERMIT

6. OUTDOOR STORAGE

THE DEVELOPER SHALL COMPLY WITH FMC §32.07.310(b)(2) AND SCREEN THE "FENCED OUTDOOR DISPLAY AREA", WHICH IS CONSIDERED "OUTDOOR STORAGE", USING A FENCE OF OPEN-TYPE CONSTRUCTION WITH SCREENING MATERIAL ACCEPTABLE TO THE ADMINISTRATOR. THE ADMINISTRATOR RECOMMENDS, AND PLANNING COMMISSION CERTIFIES, THE EXPECTED STANDARD IS A DECORATIVE FENCE WITH METAL MESH ALONG THE FRONT (EASTERN) ELEVATION AND BLACK-COATED CHAIN-LINK FENCE WITH FIBER MESH SCREENING ALONG THE SIDE (NORTHERN) AND REAR (WESTERN) ELEVATIONS. ALL FENCING AND RELATED SCREENING MATERIALS SHALL BE MAINTAINED IN GOOD ORDER.

NEITHER THE DISPLAY AREAS ALONGSIDE THE BUILDING FRONTAGE, NOR THE PERMANENT TRAILER AND EQUIPMENT DISPLAY ALONG FREMONT STREET ARE CONSIDERED "OUTDOOR STORAGE", PROVIDED THE ITEMS DISPLAYED IN THESE AREAS ARE SIMILAR TO THE TYPE DEPICTED IN THE SUBMITTED PHOTO LOG. THE DISPLAY AREAS SHALL NOT INFRINGE UPON ACCESSIBILITY REQUIRED BY THE AMERICAN'S WITH DISABILITY ACT (ADA), NOR SHALL THE DISPLAY AREAS HINDER PEDESTRIAN CIRCULATION.

FINALLY, ALL DELIVERY AREAS SHALL BE KEPT CLEAR OF DEBRIS. FAILURE TO MAINTAIN THE STANDARDS OUTLINED WITHIN THIS CONDITION, AS DETERMINED BY THE ADMINISTRATOR OR A CODE ENFORCEMENT OFFICIAL, MAY RESULT IN THE REVOCATION OF OUTDOOR STORAGE AS A CONDITIONAL USE ON THIS SITE.

7. GENERAL DEVELOPMENT STANDARDS

THIS PROJECT SHALL COMPLY WITH ALL DEVELOPMENT STANDARDS FOUND WITHIN THE GOVERNING DOCUMENTS LISTED IN ITEM 4; THIS INCLUDES, BUT IS NOT LIMITED TO, ITEMS RELATED TO INTENSITY STANDARDS, LANDSCAPING AND SCREENING, LIGHTING, BUILDING PROJECTIONS, PARKING AND LOADING, AND ANY DEVELOPMENT STANDARDS REQUIRED FOR THE GENERAL COMMERCIAL ZONE, THE GENERAL RETAIL USE, AND/OR THE OUTDOOR STORAGE USE.

GRADING AND CIVIL PERMIT CONDITIONS

8. GEOTECHNICAL REPORT

THE DEVELOPER SHALL PROVIDE A FINAL GEOTECHNICAL REPORT FOR THE PROJECT IN CONFORMANCE WITH THE REQUIREMENTS OF THE DEVELOPMENT CODE FOR REVIEW AND APPROVAL BY THE CITY ENGINEER PRIOR TO ISSUE OF A GRADING OR BUILDING PERMIT.

9. GRADING PERMIT

THE DEVELOPER SHALL COMPLY WITH ALL GRADING REQUIREMENTS SET FORTH IN THE CITY OF FERNLEY DEVELOPMENT CODE, AS WELL AS ALL STATE AND FEDERAL REGULATIONS, INCLUDING, BUT NOT LIMITED TO, STORM WATER POLLUTION PREVENTION AND AIR QUALITY.

THE DEVELOPER SHALL PROVIDE VERIFICATION OF A CONSTRUCTION STORM WATER DISCHARGE PERMIT FROM THE NEVADA DEPARTMENT OF ENVIRONMENTAL PROTECTION (NDEP), AS WELL AS A SURFACE AREA DISTURBANCE PERMIT, IF APPLICABLE, PRIOR TO ISSUE OF A GRADING PERMIT. THIS REQUIREMENT IS SUBJECT TO APPROVAL OF THE CITY ENGINEER.

Conditions of Approval for CUP24002

CONDITIONAL USE PERMIT

CONSTRUCTION PHASE

10. CONSTRUCTION DEBRIS

ALL CONSTRUCTION SITES SHALL HAVE APPROVED TRASH RECEPTACLE(S) OR AN APPROVED TRASH REMOVAL PLAN IN PLACE AT THE TIME OF THE FIRST INSPECTION AND DURING CONSTRUCTION, UNTIL COMPLETION OF THE FINAL BUILDING PERMIT INSPECTION. THE RECEPTACLE(S) SHALL BE USED APPROPRIATELY TO MAINTAIN A CLEAN WORK SITE.

11. CONSTRUCTION HOURS

PRIOR TO THE START OF ANY CONSTRUCTION-RELATED ACTIVITY, THE DEVELOPER SHALL INSTALL SIGNS AT ALL ACCESS POINTS TO THE PROJECT THAT CLEARLY INDICATE THE HOURS OF ACTIVITY ON-SITE. ALL CONSTRUCTION-RELATED ACTIVITIES SHALL BE LIMITED TO BETWEEN THE HOURS OF 7:00 AM AND 7:00 PM, SEVEN DAYS PER WEEK. ONCE CONSTRUCTION IS FINISHED, THE DEVELOPER SHALL REMOVE THESE SIGNS.

12. PROJECT CONTACT

PRIOR TO ISSUE OF ANY GRADING, BUILDING, OR OTHER CONSTRUCTION-RELATED PERMIT, THE DEVELOPER SHALL DESIGNATE A PROJECT CONTACT PERSON TO THE ADMINISTRATOR. THE CONTACT PERSON SHALL BE AUTHORIZED TO CORRECT ANY PROJECT-RELATED ISSUES ON A 24-HOUR, 7-DAYS-PER-WEEK BASIS.

BUILDING PERMIT AND INSPECTION REQUIREMENTS

13. LANDSCAPING AND PHOTOMETRIC PLANS

THE DEVELOPER SHALL SUBMIT A LANDSCAPING PLAN IN ACCORDANCE WITH FMC §32.09.090 AND A PHOTOMETRIC PLAN IN ACCORDANCE WITH FMC §32.09.100 WITH THE BUILDING PERMIT APPLICATION. THESE PLANS ARE SUBJECT TO REVIEW AND APPROVAL BY THE ADMINISTRATOR OR THE ADMINISTRATOR'S DESIGNEE.

14. RIGHT-OF-WAY DEDICATION

PRIOR TO ISSUE OF A BUILDING PERMIT, THE DEVELOPER SHALL DEDICATE THE ULTIMATE RIGHT-OF-WAY WIDTH FOR FREMONT STREET ADJACENT TO THE PROJECT SITE AND ALL OTHER RIGHTS-OF-WAY REQUIRED FOR NECESSARY STREET IMPROVEMENTS THROUGH AN APPROPRIATE MAPPING PROCESS, AS DETERMINED BY THE CITY ENGINEER. THIS CONDITION IS SUBJECT TO APPROVAL OF THE ADMINISTRATOR, CITY ENGINEER, AND PUBLIC WORKS DIRECTOR.

15. FREMONT STREET IMPROVEMENTS

IN ACCORDANCE WITH FMC §32.09.140, THE EXISTING FREMONT STREET SHALL BE IMPROVED TO A FULL-WIDTH PAVEMENT SECTION THAT INCLUDES THE INSTALLATION OF STREET LIGHTING, CURB, GUTTER, AND SIDEWALK. THE NEW ROADWAY SHALL COMPLY WITH THE CITY'S 60-FOOT RIGHT-OF-WAY STANDARD. THE IMPROVEMENTS ARE REQUIRED ALONG THE ENTIRE LENGTH OF FREMONT STREET FROM THE INTERSECTION WITH US HIGHWAY 95A TO THE WESTERN PROPERTY LINE OF THE PROJECT.

Conditions of Approval for CUP24002

CONDITIONAL USE PERMIT

15. FREMONT STREET IMPROVEMENTS (CONTINUED)

THE PROJECT DRIVEWAYS SHALL BE ALIGNED WITH EXISTING DRIVEWAYS ALONG THE SOUTH SIDE OF THE ROAD. STRIPING PLANS FOR FREMONT STREET SHALL BE PROVIDED AND SHALL EXTEND TO THE FREMONT STREET/CHISHOLM TRAIL/US 95A INTERSECTION. THESE STRIPING PLANS SHALL PROVIDE TURN LANES FOR THE PROJECT, AND FOR THE EXISTING DRIVEWAYS ALONG THE SOUTH SIDE OF FREMONT STREET.

PRIOR TO ISSUE OF A BUILDING PERMIT, THE DEVELOPER SHALL SUBMIT OFF-SITE CIVIL IMPROVEMENT PLANS TO THE ENGINEERING DEPARTMENT FOR FREMONT STREET IMPROVEMENTS. PRIOR TO ISSUE OF A CERTIFICATE OF OCCUPANCY ON THIS SITE, ALL STREET IMPROVEMENTS SHALL BE APPROVED, CONSTRUCTED, AND ACCEPTED BY CITY OF FERNLEY.

16. FREMONT AND US95 INTERSECTION CAPACITY IMPROVEMENTS

THE JANUARY 15, 2024, TRIP GENERATION EVALUATION FROM HEADWAY TRANSPORTATION INDICATES THAT "THE RECOMMENDATIONS OF THE [JULY 12, 2021, TRAFFIC IMPACT STUDY FOR 1200 FREMONT STREET APARTMENTS] WOULD ALSO BE APPLICABLE TO THIS PROJECT SINCE THE TRIP GENERATION IS VERY SIMILAR".

FROM THE REFERENCED TRAFFIC IMPACT STUDY, THE EXISTING TRAFFIC VOLUMES PLUS PROJECT TRAFFIC WILL RESULT IN A LEVEL OF SERVICE D ON THE FREMONT STREET/CHISHOLM TRAIL/US 95A INTERSECTION. PER THE CITY OF FERNLEY DESIGN STANDARDS, SECTION 3.3.3.c.ii, THE DEVELOPER SHALL COMPLETE MITIGATION MEASURES FOR INTERSECTIONS THAT OPERATE AT A LEVEL OF SERVICE D OR LESS. POSSIBLE MEASURES INCLUDE (BUT ARE NOT LIMITED TO): SIGNALIZATION OR SIGNALIZATION IMPROVEMENTS, CHANNELIZED MEDIANS, TURNING LANES, STORAGE LANE INCREASE, RESTRICTED TURNS, AND/OR ADDITIONAL LANES.

PRIOR TO ISSUE OF A BUILDING PERMIT, THE DEVELOPER SHALL SUBMIT OFF-SITE CIVIL IMPROVEMENT PLANS TO THE ENGINEERING DEPARTMENT FOR TRAFFIC MITIGATION. THE 2021 TRAFFIC REPORT RECOMMENDS SIGNAL MODIFICATIONS AT THE FREMONT STREET/CHISHOLM TRAIL/US 95A INTERSECTION TO IMPLEMENT AN EASTBOUND (FREMONT STREET APPROACH) RIGHT-TURN OVERLAP PHASE TO OFFSET PROJECT IMPACTS. THE DEVELOPER SHALL COMPLETE THIS IMPROVEMENT.

SHOULD THE DEVELOPER DISAGREE WITH THE ABOVE RECOMMENDED MITIGATION, THE DEVELOPER MAY INSTEAD PROVIDE AN ANALYSIS AND RECOMMENDATION FOR AN ALTERNATIVE TRAFFIC MITIGATION MEASURE (OR MEASURES) ALONGSIDE THE OFF-SITE CIVIL IMPROVEMENT PERMIT APPLICATION. TRAFFIC MITIGATION MEASURE(S) ARE SUBJECT TO REVIEW BY THE CITY OF FERNLEY ENGINEER AND NEVADA DEPARTMENT OF TRANSPORTATION (NDOT).

PRIOR TO ISSUE OF ANY CERTIFICATE OF OCCUPANCY FOR THIS SITE, THE MITIGATION MEASURE(S) SHALL BE APPROVED, CONSTRUCTED, AND ACCEPTED BY CITY OF FERNLEY.

Conditions of Approval for CUP24002

CONDITIONAL USE PERMIT

17. STORM WATER TREATMENT AND DRAINAGE

THE DEVELOPER SHALL PROVIDE A FINAL DRAINAGE REPORT FOR THE PROJECT IN CONFORMANCE WITH FERNLEY MUNICIPAL CODE AND THE PUBLIC WORKS DESIGN MANUAL FOR REVIEW AND APPROVAL BY THE CITY ENGINEER. THE DEVELOPER SHALL UTILIZE STRUCTURAL CONTROLS FOR THE TREATMENT OF STORM WATER RUNOFF, IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES.

PRIOR TO ISSUE OF A BUILDING PERMIT, DRAINAGE CONVEYANCE FACILITIES AND OTHER IMPROVEMENTS SHALL BE CONSTRUCTED. DESIGN AND CONSTRUCTION OF ALL DRAINAGE CONVEYANCE FACILITIES IS SUBJECT TO APPROVAL OF THE ADMINISTRATOR, CITY ENGINEER, AND PUBLIC WORKS DIRECTOR.

18. WATER RIGHTS

PRIOR TO ISSUE OF A BUILDING PERMIT, AND IN ORDER TO BE SERVED BY THE CITY'S MUNICIPAL WATER SYSTEM, THE DEVELOPER SHALL DEDICATE THE APPROPRIATE AMOUNT OF WATER RIGHTS, AS CALCULATED BY THE CITY ENGINEER. FULFILLMENT OF THIS REQUIREMENT IS SUBJECT TO APPROVAL OF THE CITY ENGINEER AND PUBLIC WORKS DIRECTOR.

19. POSTAL SERVICE

PRIOR TO ISSUE OF A BUILDING PERMIT, THE DEVELOPER SHALL COMPLY WITH ALL REQUIREMENTS OF THE UNITED STATES POSTAL SERVICE FOR MAIL DELIVERY, MAILBOX DESIGN, AND MAILBOX LOCATION. THIS REQUIREMENT IS SUBJECT TO APPROVAL OF THE ADMINISTRATOR, CITY ENGINEER, FERNLEY POSTMASTER, AND PUBLIC WORKS DIRECTOR.

20. WATER AND SEWER SYSTEM MODELING

PRIOR TO ISSUE OF A BUILDING PERMIT, THE DEVELOPER SHALL COMPLETE WATER AND SEWER MODELING, AND CONSTRUCT ANY IMPROVEMENTS IDENTIFIED AS NECESSARY TO SERVE THE PROJECT IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS. THE FINAL REPORT GENERATED BY THE WATER AND SEWER MODELING PROCESS ALSO FULFILLS THE REQUIREMENT FOR AN INDEPENDENT SANITARY SEWER REPORT AS REQUIRED BY FERNLEY MUNICIPAL CODE §32, APPENDIX A-4, ITEM 62. THIS REQUIREMENT IS SUBJECT TO APPROVAL OF THE CITY ENGINEER AND PUBLIC WORKS DIRECTOR.

21. WATER SYSTEM LOOPING

PRIOR TO ISSUE OF A BUILDING PERMIT, THE DEVELOPER SHALL PROVIDE THE CITY WITH A UTILITY PLAN FOR THE WATER SYSTEM THAT DEMONSTRATES ADEQUATE SYSTEM LOOPING. THE PLAN SHALL BE IN CONFORMANCE WITH THE CITY OF FERNLEY'S MUNICIPAL CODE, NEVADA ADMINISTRATIVE CODE, AND THE PUBLIC WORKS DESIGN MANUAL. THIS REQUIREMENT IS SUBJECT TO THE APPROVAL OF THE CITY ENGINEER AND PUBLIC WORKS DIRECTOR.

22. PRIOR TO ISSUE OF ANY CERTIFICATE OF OCCUPANCY FOR THIS SITE, THE APPLICANT SHALL CONTRACT WITH A TRASH DISPOSAL COMPANY, SUBJECT TO APPROVAL BY THE ADMINISTRATOR.

Conditions of Approval for CUP24002

CONDITIONAL USE PERMIT

REGULATORY AGENCIES

23. NORTH LYON COUNTY LYON FIRE PROTECTION DISTRICT

THE NORTH LYON COUNTY FIRE PROTECTION DISTRICT MAY REQUIRE A DIRECT APPLICATION SUBMISSION TO THEIR ORGANIZATION FOR PROJECT REVIEW. THE DEVELOPER SHALL COMPLY WITH ALL REQUIREMENTS OF THE MOST RECENT FIRE CODE ADOPTED BY THE NORTH LYON COUNTY FIRE PROTECTION DISTRICT, SUBJECT TO THE APPROVAL OF THE FIRE CHIEF, FIRE MARSHAL, OR DESIGNEE.

24. FEDERAL, STATE, AND LOCAL AGENCIES

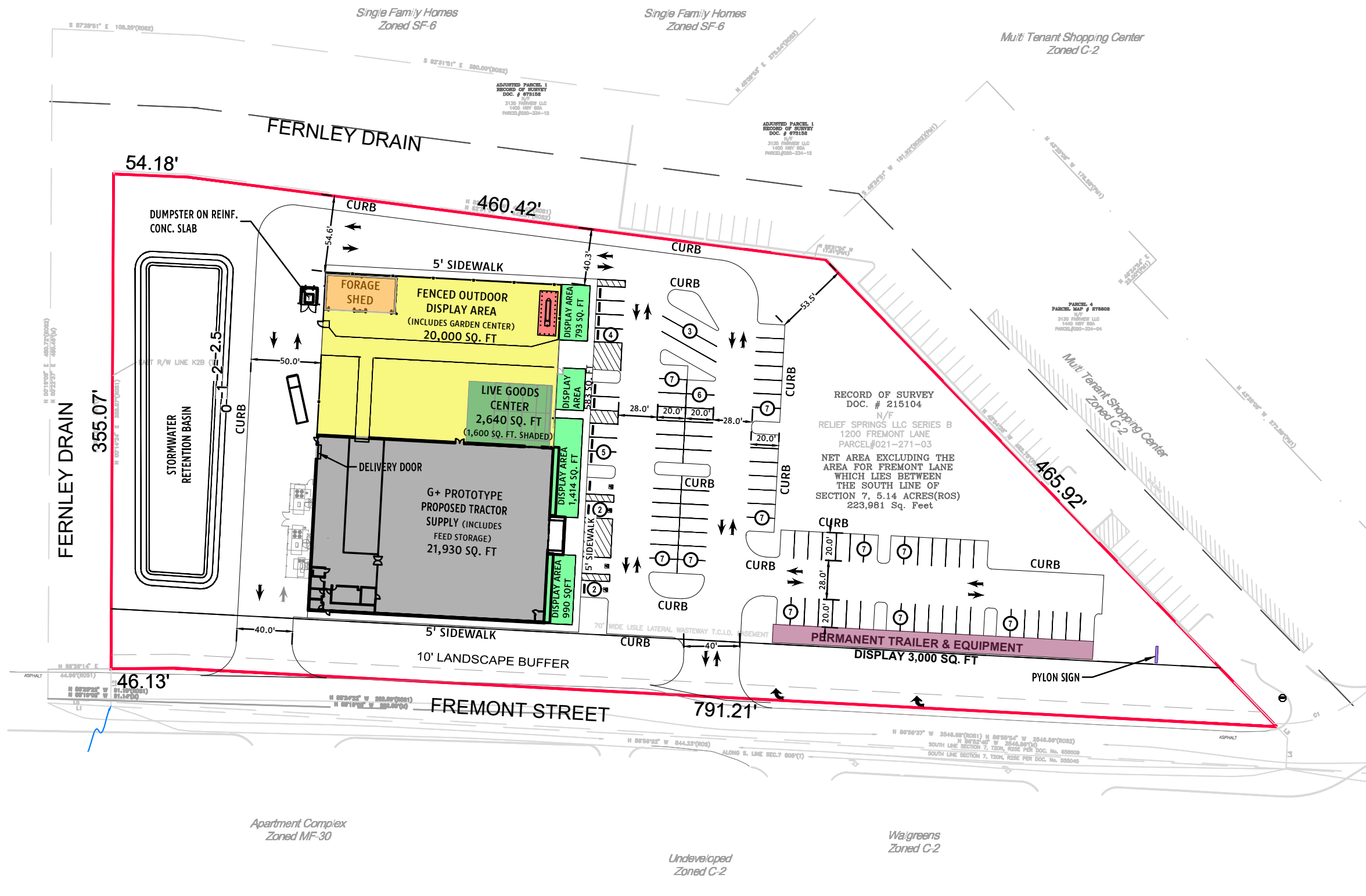
THE DEVELOPER SHALL COMPLY WITH ALL REQUIREMENTS OF ANY FEDERAL, STATE, LOCAL AGENCY, DEPARTMENT, OR LICENSED PROFESSIONAL WITH JURISDICTION OVER THE PROJECT INCLUDING, BUT NOT LIMITED TO: BUREAU OF RECLAMATION (BOR), NEVADA DEPARTMENT OF TRANSPORTATION (NDOT), NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP), NEVADA DIVISION OF WATER RESOURCES (NDWR), NEVADA BUREAU OF WATER POLLUTION CONTROL, NEVADA BUREAU OF SAFE DRINKING WATER, NEVADA STATE ENVIRONMENTAL COMMISSION, TRUCKEE CARSON IRRIGATION DISTRICT (TCID), THE CITY OF FERNLEY BUILDING OFFICIAL, THE CITY OF FERNLEY ENGINEER, CITY OF FERNLEY PLANNING DEPARTMENT, CITY OF FERNLEY PUBLIC WORKS DEPARTMENT, AND THE CITY OF FERNLEY PROFESSIONAL LAND SURVEYOR.

COLOR LEGEND

- FENCED OUTDOOR DISPLAY
- PYLON SIGN
- PERMANENT TRAILER & EQUIPMENT DISPLAY AREA
- PERMANENT SIDEWALK DISPLAY AREA
- LIVE GOODS CENTER
- BUILDING
- CUSTOMER PROPANE REFILL & SALES
- FORAGE SHED

SITE DATA:

- PARCEL AREA: 5.1± ACRES
- ZONING: C-2, GENERAL COMMERCIAL
- PARKING PROVIDED: 92 TOTAL STALLS
- FEMA: ZONE "X", AREA OF MINIMAL FLOODING, PER FIRM MAP 32019C0105E



TENANT SIGNATURE _____

NAME & TITLE/COMPANY (PRINTED) _____

DATE _____

LANDLORD SIGNATURE _____

NAME & TITLE/COMPANY (PRINTED) _____

DATE _____

No.	Revision Date	North	Scale

SITE PLAN

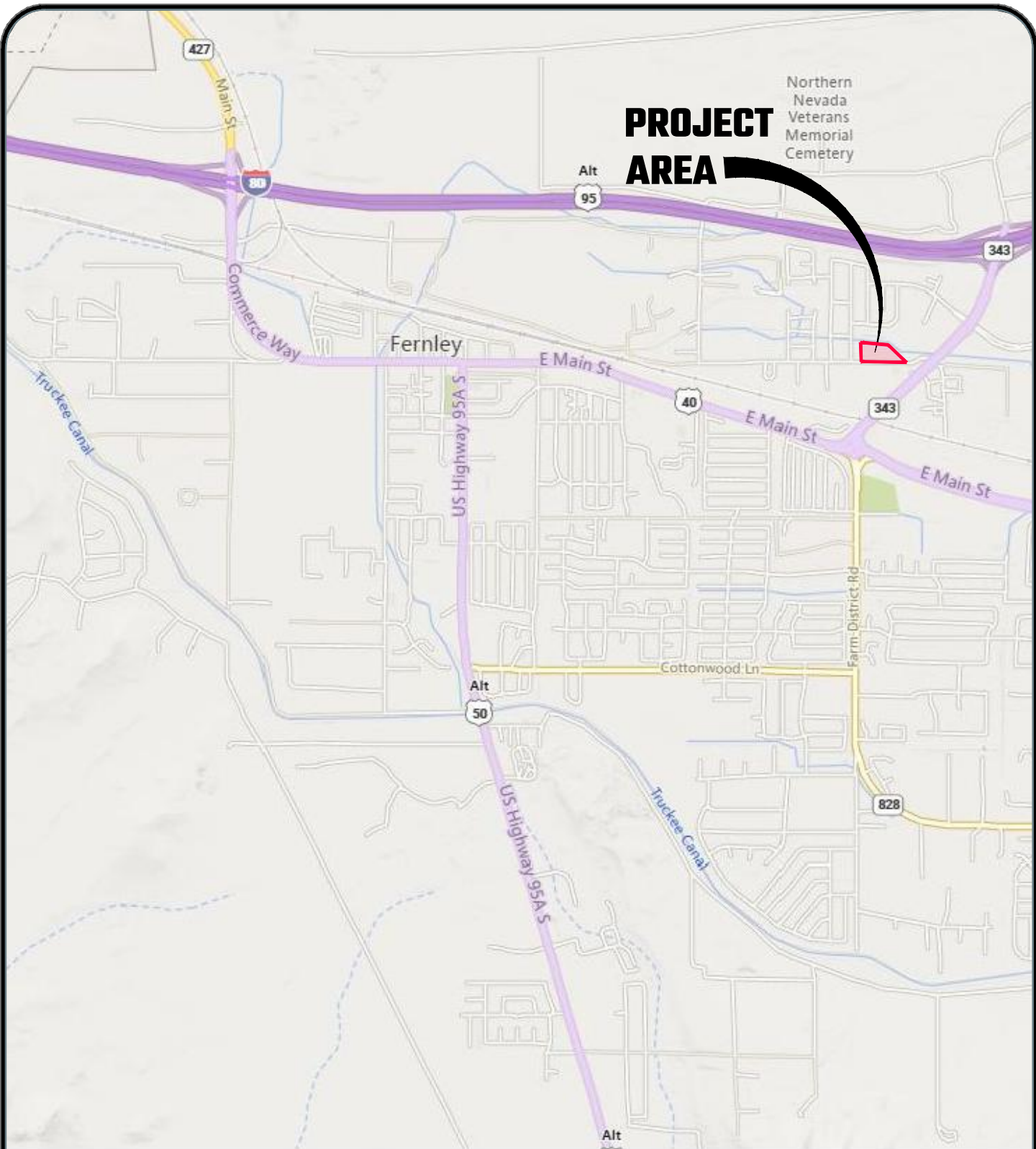
1200 FREMONT ST

FERNLEY, LYON COUNTY, NV 89408

Date	01/05/2024	Project No.	23-0016
CADD	BH	Scale:	AS NOTED
PM	BH	Sheet No.	

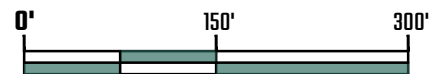
PRIORITY ENGINEERING, LLC

HQ: 23208 EMERSON WAY
LAND O' LAKES, FL 34639
PH: 813.406.4234



GRAPHIC SCALE: NOT TO SCALE

No.	Revision Date	VICINITY MAP 1200 FREEMONT ST FERNLEY, LYON COUNTY, NV			7B DEVELOPMENT TSC FERNLEY NV		 PRIORITY ENGINEERING, LLC HQ: 2320B EMERSON WAY LAND O' LAKES, FL 34639 PH: 813.406.4234
					Date 1/15/2024	Project No. 23-0016	
					CADD BAH	Scale: AS NOTED	
					PM KMA	Sheet No. 1 OF 1	



GRAPHIC SCALE: 1" = 150'

No.	Revision Date	AERIAL MAP 1200 FREEMONT ST FERNLEY, LYON COUNTY, NV			7B DEVELOPMENT TSC FERNLEY NV		 PRIORITY ENGINEERING, LLC HQ: 23208 EMERSON WAY LAND O' LAKES, FL 34639 PH: 813.406.4234
					Date 1/15/2024	Project No. 23-0016	
					CADD BAH	Scale: AS NOTED	
					PM KMA	Sheet No. 1 OF 1	



January 15, 2024

Alan Kirchhoff
VIA Real Estate, LLC
13105 Dover Avenue
Lubbock, TX 79424

Trip Generation Evaluation for Tractor Supply in Fernley, NV

Dear Mr. Kirchhoff,

This letter provides a trip generation evaluation for a Tractor Supply store to be located at 1200 Fremont Street in Fernley, NV. This project site was previously analyzed in the *Traffic Impact Study for 1200 Fremont Street Apartments* (Headway Transportation, July 12, 2021). The 2021 study provided an analysis of 114 apartment units and was approved by the City of Fernley with approval of the apartment project. This traffic evaluation provides a trip generation comparison of the proposed Tractor Supply store versus the previously approved apartments. The project location is shown in **Exhibit 1**, and the conceptual site plan for the proposed Tractor Supply store is provided in **Attachment A**.

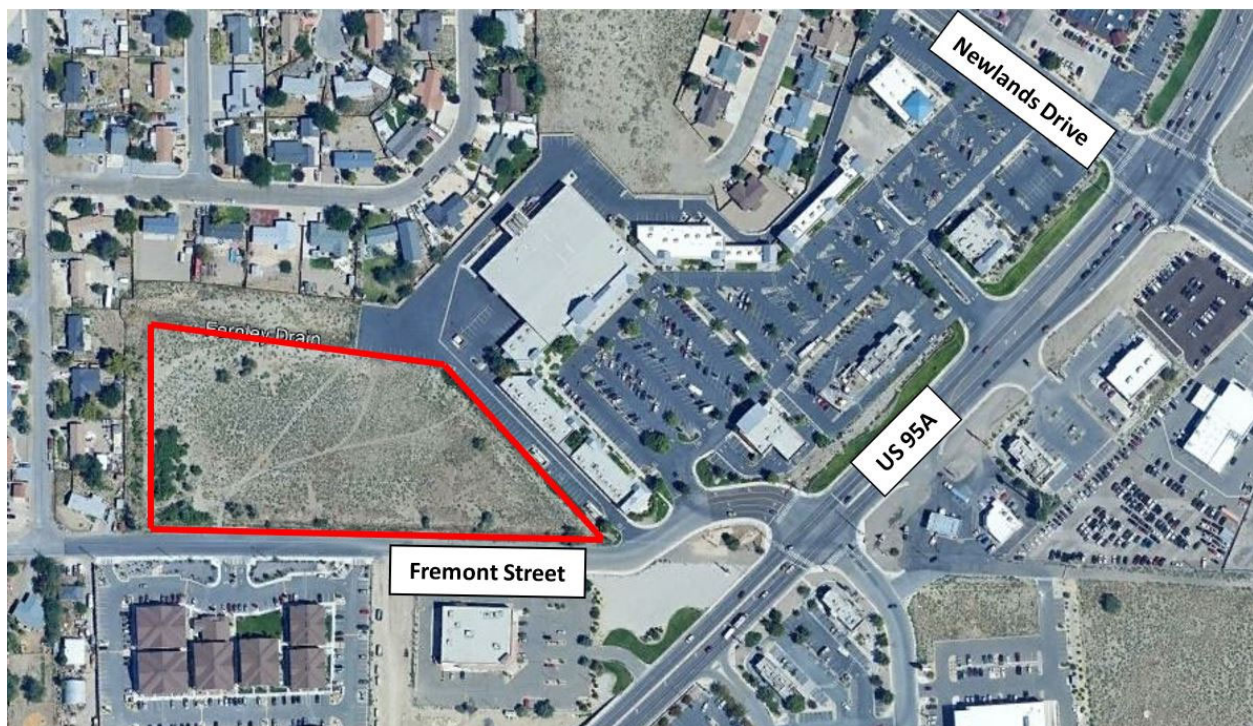


Exhibit 1: Project Location

Headway Transportation, LLC
5482 Longley Lane, Suite B, Reno, Nevada 89511
775.322.4300
www.HeadwayTransportation.com

Trip Generation

Trip generation estimates for the proposed Tractor Supply store were calculated based on trip generation rates for the Tractor Supply Store (810) land use from the *Trip Generation Manual, 11th Edition* published by the Institute of Transportation Engineers (ITE). The *Trip Generation Manual* includes PM peak hour trip rates, but does not include Daily or AM peak hour rates. For analysis purposes, the AM peak hour trips were calculated as 75 percent of the PM peak hour trips, which is conservative for retail/commercial land uses, and the Daily trips were calculated as 10 times the PM peak hour trips. **Table 1** shows the trip generation estimates for the proposed project, as well as a comparison to the trip generation estimates from the *Traffic Impact Study for 1200 Fremont Street Apartments*.

Table 1: Trip Generation Estimates

Land Use	Quantity	Daily	AM			PM		
		Total	Total	In	Out	Total	In	Out
Tractor Supply Store	41.93 ksf	590	44	21	23	59	28	31
Multifamily Housing (from 2021 study)	114 du	834	52	12	40	64	40	24
Difference		-244	-8	9	-17	-5	-12	7

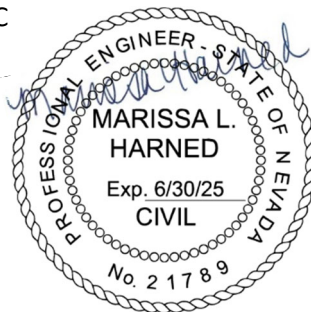
Source: Headway Transportation, 2024

As shown in the table, the proposed Tractor Supply store would generate approximately 590 Daily, 44 AM peak hour, and 59 PM peak hour trips, which is 244 fewer Daily trips, 8 fewer AM peak hour trips, and 5 fewer PM peak hour trips than the previously approved apartments at 1200 Fremont Street.

The proposed Tractor Supply store can be considered within the bounds of the previously approved *Traffic Impact Study for 1200 Fremont Street Apartments* (Headway Transportation, July 12, 2021) since the trip generation is less than the analyzed apartments. Therefore, no additional traffic analysis is recommended for this site. The recommendations of the prior traffic study would also be applicable to this project since the trip generation is very similar.

Sincerely,
Headway Transportation, LLC

Marissa Harned, PE
Associate



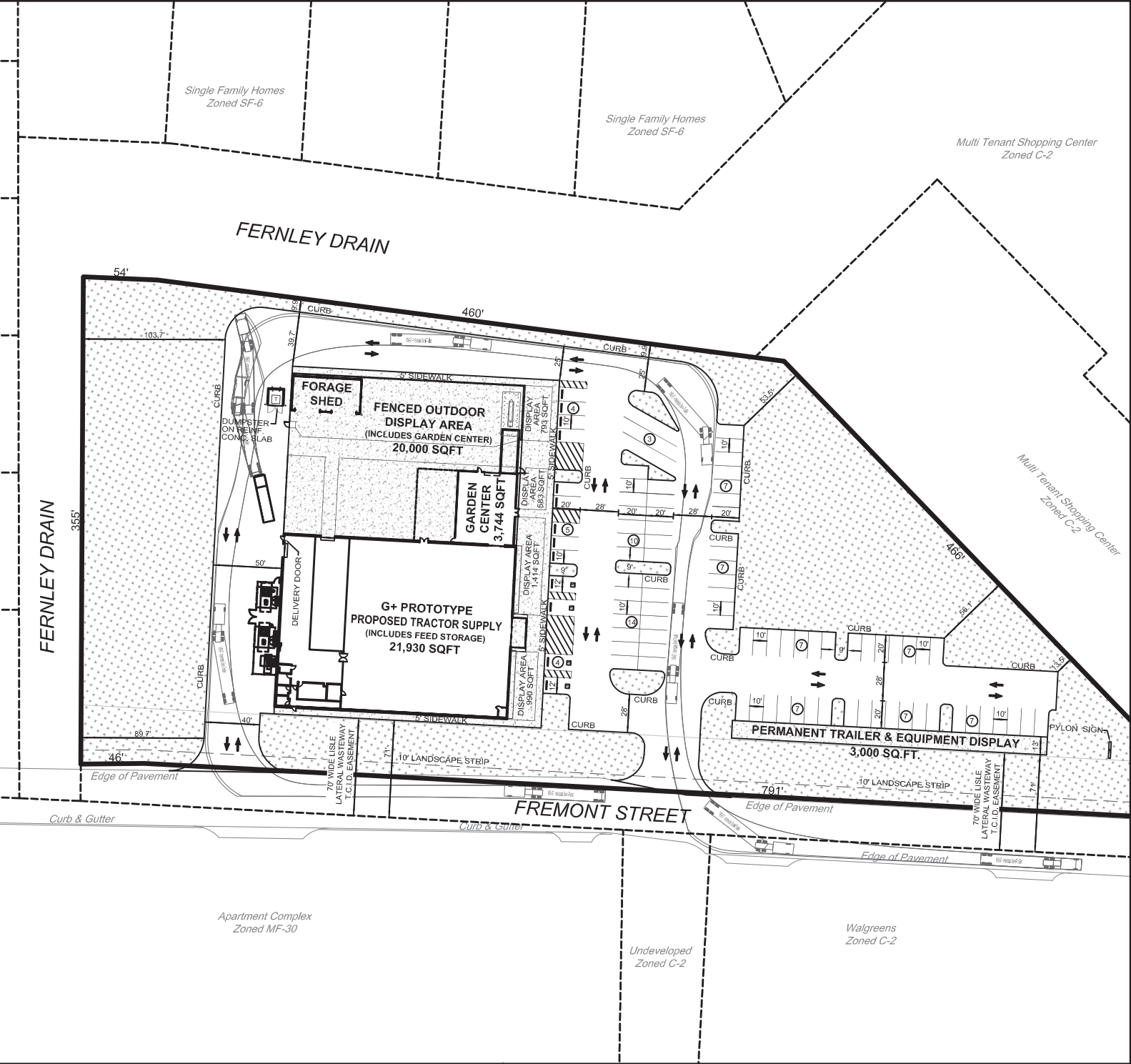
Marissa
Harned

Digitally signed
by Marissa Harned
Date: 2024.01.15
10:27:15 -08'00'

Attachments:
A – Preliminary Site Plan



Attachment A - Preliminary Site Plan



050100

1" = 100'

N

Lot Size = 5.1± acres

FEMA Info: Zone "X" (FIRM #32019C0105E)
Area of Minimal Flood Hazard

Zoning: C-2 "General Commercial"

Required Parking: 84 spaces
1 / 300sqft of GFA for retail
1 / 2,000sqft of GFA for outdoor storage

Provided Parking: 89 spaces

SITE PLAN FOR THIS PROPERTY IS BASED SOLELY ON INFORMATION PROVIDED BY THE SELLER OF SAID PROPERTY AND PUBLIC DATA. PLAN ACCURACY DEPENDS ENTIRELY UPON INFORMATION PROVIDED AND IS MADE WITHOUT BENEFIT OF TOPOGRAPHIC OR BOUNDARY SURVEY. IMPOSED BUILDING SETBACKS, RESTRICTIVE DEVELOPMENT COVENANTS, AVAILABILITY OF PUBLIC UTILITIES, AND LOCATION OF ANY TYPES OF EASEMENT WHICH MAY AFFECT THE UTILIZATION OF THE PROPERTY. THIS PLAN IS FOR SCHEMATIC PURPOSES ONLY AND IS NOT TO BE UNDERSTOOD OR CONSTRUED AS HAVING PROVIDED ENGINEERING OR SURVEYING SERVICES.

Prepared For:

TSC

TRACTOR SUPPLY CO.

1200 Fremont St
Fernley, Lyon County, NV 89408

Plan By:

Development By:

BURKHARDT

7B Building and Development
13105 Dover Avenue
Lubbock, TX 79424
Phone: 937.388.0060
www.burkhardtinc.com

7B Building and Development
13105 Dover Avenue
Lubbock, TX 79424
Phone: 806.368.7843

No.	Revision Desc.	Date
1	Original Issue	09.12.2023
2	Revised per Developer's Comments	09.20.2023

Date:

09.20.2023

Sheet:

Preliminary Site Plan

Sheet No.:

1 of 1

Page 200 of 236

TRAFFIC IMPACT STUDY

for

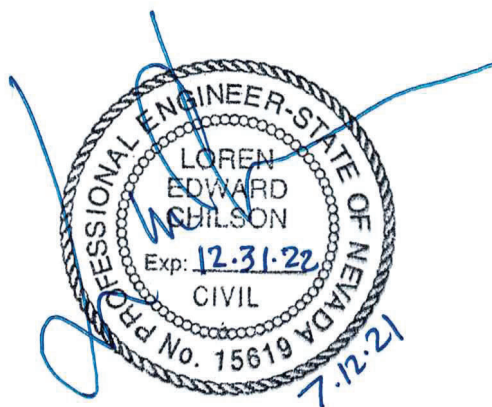
1200 Fremont Street Apartments

July 12, 2021

PREPARED FOR:

Wood Rodgers

PREPARED BY:



Headway Transportation, LLC
5482 Longley Lane, Suite B, Reno, Nevada 89511
775.322.4300
www.HeadwayTransportation.com

YOUR QUESTIONS ANSWERED QUICKLY

Why did you perform this study?

This Traffic Impact Study evaluates the potential traffic impacts associated with development of the 1200 Fremont Street Apartment project in Fernley, NV. This study was undertaken for planning purposes to determine the existing and future traffic conditions, quantify traffic volumes generated by the proposed project, identify potential impacts, and develop recommendations to mitigate impacts, if any are found.

What does the project consist of?

The proposed project consists of up to 114 multifamily residential units. The site is generally located north of Fremont Street between US 95A and Arrow Street. Two project access points are proposed on Fremont Street, both having side-street STOP control. The west access is proposed as an entry/exit allowing for all turning movements and the east access is proposed as exit only. An emergency vehicle entrance gate is proposed at the east access.

How much traffic will the project generate?

The project is anticipated to generate approximately 834 Daily trips, 52 AM peak hour trips, and 64 PM peak hour trips.

Does this project cause any traffic impacts?

Under the Baseline Plus Project scenario, all study intersections are anticipated to operate at acceptable levels of service (LOS “D” or better). Under the Future Year (20-Year Horizon) Plus Project scenario, it is anticipated that the US 95A / Fremont Street / Chisholm Trail intersection will operate at level of service “E” during the PM peak hour. However, this intersection will operate at level of service “E” with or without the project. It is important to note that NDOT is currently conducting analysis on the US 95A corridor to address long-term regional need and plan capacity improvements.

Are any improvements conditioned with other nearby projects?

The (South) Fremont Apartments project that is currently under construction is conditioned to construct a separate left, through, and right turn lane on the eastbound approach at the US 95A / Fremont Street / Chisholm Trail intersection. It is also conditioned to construct full pavement width for a collector street (60’ right-of-way) on Fremont Street along its property frontage.

The Sherwood Village project is conditioned to improve Fremont Street to collector standards including street lighting, curb, gutter, and sidewalk from US 95A to the western boundary of that project. It is also conditioned to construct separate westbound (Chisholm Trail approach) left, through, and right turn lanes at the US 95A / Fremont Street / Chisholm Trail intersection.



Are any improvements recommended with this project?

The project may need to construct curb, gutter, and sidewalk along the property frontage depending on the timing of this project versus the timing of the Fremont Street improvements conditioned with the Sherwood Village project.

It is recommended that this project construct minor signal modifications at the US 95A / Fremont Street / Chisholm Trail intersection to implement an eastbound (Fremont Street approach) right-turn overlap phase to offset the minor project impacts. This improvement is also identified in/consistent with the *Sherwood Village Traffic Analysis* (Solaegui Engineers, January 2020).





CITY OF FERNLEY

Planning Commission AGENDA REPORT

Meeting Date: April 10, 2024

REPORT TO: Fernley Planning Commission

REPORT FROM: Michele Rambo, Planning Director

FINANCIAL IMPACT:

Yes: No: X

CURRENTLY BUDGETED:

Yes: No: X

FUND/ACCOUNT:

N/A

ACTION REQUESTED: Motion

AGENDA ITEM:

(For Possible Action) Consideration, discussion, and possible action to recommend that the City Council approve Bill #347, an Ordinance amending Title 32, Chapter 3, Section 090 (Modifications and Appeals) of the Fernley Development Code to create a process to waive certain development standards in certain parts of town to aid in development and redevelopment efforts, and other matters related thereto.

AGENDA ITEM BRIEF:

As currently written, the City of Fernley Development Code tends to discourage development or redevelopment in three focused areas of the City, including the downtown core. Many attempts to locate businesses in these areas have failed due to the over-burdensome nature of the codes related to parking, landscaping, and street improvements. There is currently no mechanism to provide relief for these requirements when it makes sense to do so. Therefore, the City of Fernley Planning Department and Engineering Department have worked together to create the proposed waiver process, which is discussed in more detail later in this report.

RECOMMENDED MOTION:

I move to recommend that the City Council approve Bill #347, an Ordinance amending Title 32, Chapter 3, Section 090 (Modifications and Appeals) of the Fernley Development Code as presented by staff and subject to the findings outlined in the staff report.

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A, or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

I move to recommend that the City Council deny Bill #347, an Ordinance amending Title 32, Chapter 3, Section 090 (Modifications and Appeals) of the Fernley Development Code because Finding #____ can not be met for the following reason: _____.

BACKGROUND:

The City of Fernley Development Code includes methods to modify development requirements (Minor Modifications, Major Modifications, and Variances) but there is no mechanism to waive development requirements. While City Staff enforces development standards for all projects, there are times where the requirement for improvements hinders the ability to either develop a property or open a business. Two examples are provided below:

1. A resident came to the Planning Department wanting to open a yoga studio in a vacant unit near the intersection of Main Street and Highway 95A in downtown. Current code regulations require that a certain number of parking spaces be provided for the customers. However, the property did not have the needed spaces existing or the room to provide more parking spaces. Therefore, the yoga studio could not be approved and the unit is still vacant.

2. The owner of a property located at Highway 95A and Speedway Road approached the Planning Department wanting to develop his parcel. One of the required improvements to the site is the installation of curb, gutter, and sidewalk along the property frontages. This is a very typical requirement. However, the industrial area located along Speedway Road alternates between City of Fernley jurisdiction and Lyon County jurisdiction in several places. Lyon County has not required the projects in their jurisdiction install street improvements. The City Engineer felt that requiring the street improvements for this site would not be of any substantial benefit without similar improvements to connect to on adjacent properties.

Both of the examples above illustrate the rare instances where it may not be in the City of Fernley's best interest to strictly adhere to the code. When this happens, most other jurisdictions have a waiver process for developers and/or business owners to follow.

The Planning and Engineering Departments have worked together to develop the proposed waiver process. In an effort to keep the use of waivers from being abused, stipulations have been included that restrict their use to certain specific areas of town for a limited type of development standards (see the table below).

Area	Waivers Permitted
Downtown, specifically the area bordered by the railroad tracks to the north, Cedar Street to the south, Dallas Lane and Miller Lane to the west, and Hardie Lane to the east.	• Curb, gutter, and/or sidewalk • Parking (number of spaces) • Landscaping
US95A/Speedway Road industrial park	• Curb, gutter, and/or sidewalk • Landscaping

Industrial areas along Lyon Drive, Salvadore Drive, Resource Drive, and Industrial Drive	• Landscaping
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As with the existing modification processes allowed for in the Development Code, waivers would be approved by the Planning Commission in most instances. Waivers could be combined with other applications in which case the approval body of the development application would also approve the waiver. For example, a waiver combined with a Conditional Use Permit would be approved by the Planning Commission. If a waiver request is combined with a Tentative Subdivision Map, the waiver would ultimately be approved by the City Council.

FINDINGS:

In order to approve the proposed amendment, the following findings must be met:

1. The amendment is consistent with the City's Master Plan and otherwise consistent with state and federal law.

The creation of a limited waiver process is consistent with the following goals and/or action strategies of the Master Plan:

- a) LU.1.5 – Promote infill development.
Any development within both the downtown area and the Lyon Drive industrial area would be considered infill development. Current development standards have proven challenging for some of the proposed developments within these areas. Therefore, the creation of a waiver process would be consistent with this Master Plan goal by allowing flexibility and making development in these areas more attainable.
- b) LU.1.5.1 – Encourage the intensification of land use in the existing community core.
Fernley's "community core" includes the area surrounding the intersection of Main Street and Highway 95A which is also identified as the downtown area where waivers are specifically allowed. As mentioned throughout this report, the development of vacant sites and the redevelopment of the existing buildings or businesses can sometimes be a challenge due to current development standards. The proposed waiver process is, therefore, consistent with this Master Plan action strategy by eliminating the need for large parking lots and landscape in favor of increasing the intensity of the existing buildings. In addition, the waiver would make it easier to replace older buildings on small lots with a building consisting of a higher density.

In addition to the specific goals and/or action strategies discussed above, staff believes that the limited waiver process conforms to the overall spirit and intent of the Master Plan. In general, the Master Plan intends to allow such things as quality development, a vibrant downtown core, a diverse range of services, and job creation. All of these would be aided by the proposed waiver process and the increase in flexibility for the three areas of town facing some unique challenges.

2. Public notice was given, and a public hearing was held per the requirements of the Development Code and Nevada Revised Statutes.

The approval of the proposed waiver process will require two public hearings, one at both Planning Commission and City Council. Public hearing notices for each were sent per the Development Code and NRS

regulations.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

City of Fernley Development Code Section 32.03.090 (Modifications and Appeals)

FINANCIAL IMPLICATIONS:

None

ATTACHMENTS:

1. Bill 347
2. Redlined Code Section

BILL #347
CITY OF FERNLEY
ORDINANCE # _____

AN ORDINANCE AMENDING TITLE 32, CHAPTER 3, SECTION 090 (MODIFICATIONS AND APPEALS) OF THE FERNLEY DEVELOPMENT CODE TO CREATE A PROCESS TO WAIVE CERTAIN DEVELOPMENT STANDARDS IN CERTAIN PARTS OF TOWN TO AID IN DEVELOPMENT AND REDEVELOPMENT EFFORTS, AND OTHER MATTERS RELATED THERETO.

THE CITY COUNCIL OF THE CITY OF FERNLEY, hereinafter “the Council”, DO HEREBY ORDAIN:

Section 1. Title 32, Chapter 3, Section 090 is hereby amended as follows:

Sec. 32.03.090. - Modifications and appeals.

Purpose. The development review procedures in this section are intended to allow relief and flexibility in the development review process. Generally, it is the intent of the city to allow reductions or deviations from the minimum standards of this Code only in exchange for a higher level of quality development and compensating benefits.

- (a) *Summary table.* Table 32.03.090-1, summary of modification options, summarizes the principal tools that are available to provide relief from the strict application of the standards in this Code. The table includes procedures that allow reduction, adjustment, or exemption from certain code standards, and applicable limitations.

Table 32.03.090-1 - Summary of Modification Options

Procedure	Decision Making Body	Description	Limitations
Major Deviation	Planning Commission	Allows major deviations from certain standards, see NRS 278.315.	Special exceptions greater than 10% and less than 50% from development standards that can be quantified, see Section 32.03.090.C.6.
Minor Deviation	Administrator	Allows minor deviations from certain standards, see NRS 278.319.	Special exceptions up to 10% from development standard that can be quantified, see Section 32.03.090.D.5.
Variances	Planning Commission	Allows deviation from any development standard (except allowable use).	Hardship must be demonstrated. See approval criteria in Section 32.03.090.E.6.

Procedure	Decision Making Body	Description	Limitations
Waiver	Planning Commission – when a stand-alone application or part of an Administrative Review or Conditional Use Permit City Council – when part of a Tentative Subdivision Map	Allows the complete waiving of certain development standards under unique circumstances	Available only for the following standards within predetermined portions of the City: Curb/gutter/sidewalk Parking Landscaping See Section 32.03.090(d).

- (a) *Major deviations.* Authorized pursuant to NRS 278.315.
- (1) *Applicability.* This section authorizes the planning commission to approve (see NRS 278.315):
- Special exceptions greater than ten percent and less than 50 percent from requirements for land use in this title; or
 - Special exceptions from development standards that can be quantified.
 - This section does not authorize a use variance, or a deviation based on hardship or difficulty. However, an applicant may combine a request for a variance with a major deviation, and the city may process both applications concurrently. The section does not apply to parking or sign regulations of this title.
- (2) *Initiation.*
- The applicant files an application for a major deviation with the administrator. The major deviation request may be combined with the underlying application for which it is requested. However, the underlying application will not be approved until the major deviation is approved, unless it is possible to comply with the standards associated with the underlying application without the major deviation.
- (3) *Completeness.* See [section 32.02.030](#).
- (4) *Notice.* A notice setting forth the time, place and purpose of the hearing must be sent at least ten days before the hearing to:
- The applicant; and each owner, as listed on the county assessor's records, of real property located within 500 feet of the property in question;
 - Notify minimum of the 30 separately owned parcels nearest the property in question as listed on the county assessor's records; and
 - Notify each tenant of a mobile home park located within 500 feet of the property in question.
- (5) *Decision.*
- The planning commission will review the major deviation at a hearing. The hearing is held within 65 days after the filing of the application, unless a longer time or a different process of review is provided in a development agreement.
 - The planning commission may:

1. Grant the major deviation, which may be subject to conditions as provided in subsection (4);
 2. Deny the major deviation, with or without prejudice; or
 3. Continue or table the application.
 - c. If an application is tabled or continued, the planning commission shall hold a new public hearing within 65 days after the application was filed with the planning commission, unless a longer time or a different process of review is provided in an agreement entered into pursuant to NRS 278.0201.
 - d. The planning commission may impose conditions on a major deviation to safeguard the public health, safety, morals and general welfare and to protect the interests of the persons residing or working in the surrounding areas.
- (6) *Findings for approval.* If granting the approval of the major deviation, the planning commission must make findings that the proposed major deviation will be compatible with the existing or permitted uses of adjacent properties and is consistent with the City of Fernley Comprehensive Master Plan. The planning commission must conclude that:
- a. The request is consistent with the stated purposes of [title 32](#), zoning;
 - b. Granting the major deviation will not be materially detrimental to the public health, safety or welfare, or injurious to property or improvements in the vicinity;
 - c. Granting the major deviation is necessary for the preservation and enjoyment of a property right possessed by other property owners in the same vicinity and land use district and is denied to the property for which the major deviation is sought; and
 - d. Granting of the major deviation does not constitute a special privilege inconsistent with the limitations upon other properties in the vicinity and land use district in which the property is located.
- (7) *Subsequent applications.* If the planning commission denies a major deviation, unless the denial is specifically stated to be without prejudice, a new application for a substantially similar major deviation may not be submitted for at least six months following the denial.
- (8) *Appeals.* See subsection [32.09.090](#)(e), appeals.
- (9) *Scope of approval.*
- a. Lapse of major deviation.
 1. A major deviation automatically lapses and becomes void one year following the date on which the major deviation became effective, unless during this time a building permit is issued, and construction is commenced and diligently pursued toward completion on the site which was subject to the major deviation application.
 2. The administrator may renew the major deviation for an additional year if an application to renew the major deviation is filed with the administrator before the original expiration date.
- (10) *Revocation of major deviation.*
- a. A major deviation may be revoked by the planning commission for any of the following reasons:
 1. The recipient or his successor in interest violates any condition of the approval.

2. The approval was granted on the basis of false statements or a fraudulent application.
 3. The development as modified becomes a public nuisance.
- (11) *Recordkeeping.* Within ten days after the planning commission's final action, the administrative secretary to the planning commission must notify the applicant and the city clerk in writing of that action, including any conditions the planning commission imposed.
- (b) *Minor deviations.*
- (1) *Applicability.* This section allows deviations of less than ten percent from requirements for land use in this title. Does not apply to the sign chapter of this title.
 - (2) *Initiation.*
 - a. The applicant files an application for a minor deviation with the administrator. The minor deviation request may be combined with the underlying application for which the minor deviation is requested.
 - (3) *Notice.*
 - a. The applicant for a minor deviation must provide the written consent of the owner of any real property that would be affected by the deviation.
 - (4) *Decision.*
 - a. The administrator will approve, approve with conditions or deny the deviation. No public hearing is required.
 - b. The applicant must obtain the written consent of the owner of any real property be affected by the minor deviation. This includes any abutting property, unless the administrator determines that existing natural or man-made barriers or other factors resolve any potential impacts resulting from the deviation.
 - (5) *Approval criteria.*
 - a. The deviation shall not change any points of ingress or egress to the site or exceed the density.
 - b. The deviation shall not impair the purpose of the zoning district or any district regulations.
 - c. Any changes that might be affected by fire, building or health regulations must be reviewed and approved by the responsible agencies before any deviation is granted.
 - d. The administrator may require mitigation measures to address potential impacts arising from the deviation.
 - (6) *Subsequent applications.* No restriction.
 - (7) *Appeals.* See subsection [32.09.090\(e\)](#), appeals.
 - (8) *Scope of approval.* After a minor deviation is approved, the applicant may apply for a building permit or certificate of occupancy.
 - (9) *Recordkeeping.* The administrator and the applicant shall maintain a record of the minor deviation.
- (c) *Variances.*
- (1) *Applicability.*
 - a. This section authorizes the planning commission to grant a variance for the development of property if the variance is necessary:
 1. Prevent or to lessen any peculiar and exceptional practical difficulties, or exceptional and undue hardships, and

2. The difficulties or hardships would result from a strict application and enforcement of any provision of this title except the sign standards (see [chapter 32.10](#)).
 - b. A peculiar and exceptional practical difficulty or exceptional and undue hardship may result from the size, shape or dimensions of a site or the location of existing structures, or from geographic, topographic or other physical conditions on the site.
 - c. Cost to the applicant of strict compliance shall not be the sole reason for granting a variance.
 - d. Use variances are not allowed.
- (2) *Initiation.* The applicant files an application for a variance with the administrator. The variance request may be combined with the underlying application for which the variance is requested. However, the underlying application will not be approved until the variance is approved, unless it is possible to comply with the standards associated with the underlying application without the variance.
- (3) *Completeness.* See [section 32.03.030](#).
- (4) *Notice.* A notice setting forth the time, place and purpose of the hearing must be sent at least ten days before the hearing to:
- a. The applicant;
 - b. Each owner as listed on the county's assessor's records, of real property located within 500 feet of the property in question;
 1. The owner, as listed on the county assessor's records, of each of the 30 separately owned parcels nearest the property in question, to the extent this notice does not duplicate the notice given.
 - c. Each tenant of a mobile home park located within 100 feet of the property in question.
- (5) *Decision.*
- a. The planning commission will review the variance application at a public hearing.
 - b. The planning commission may:
 1. Grant the variance, which may be subject to conditions as provided in subsection 6 below; or
 2. Deny the variance, with or without prejudice; or
 3. Continue or table the application.
 - c. If an application is tabled or continued, the planning commission shall hold a new public hearing within 65 days after the application was filed with the planning commission, unless a longer time or a different process of review is provided in an agreement entered into pursuant to NRS 278.0201.
 - d. The planning commission may impose conditions on a variance to safeguard the public health, safety, morals and general welfare and to protect the interests of the persons residing or working in the surrounding areas.
- (6) *Findings for approval.* To approve or conditionally approve a variance, the planning commission must make findings of fact that:
- a. There are exceptional or extraordinary circumstances or conditions applicable to the property involved that do not generally apply to other properties classified in the same zoning district;

- b. Strict interpretation and enforcement of the specified provisions would deprive the applicant of privileges enjoyed by the owners of other properties classified in the same zoning district;
 - c. The variance will not constitute or grant a special privilege inconsistent with limitations on other properties classified in the same zoning district.
 - d. The variance will not substantially impair the public health, safety or welfare or materially injure properties or improvements in the vicinity.
 - e. The potential impairment of natural resources and the total population which available natural resources will support without unreasonable impairment has been considered.
 - f. The affect the availability of and need for affordable housing in the community, including affordable housing that is accessible to persons with disabilities has been considered.
 - g. Public notice was given, and a public hearing held per the requirements of the development code and the Nevada Revised Statutes.
- (7) *Subsequent applications.* If the planning commission denies a variance, unless the denial is specifically stated to be without prejudice, a new application for a substantially similar variance may not be submitted for at least six months following the denial.
- (8) *Appeals.* See subsection [32.09.090\(e\)](#), appeals.
- (9) *Scope of approval.*
 - a. *Lapse of variance.*
 - 1. A variance automatically lapses and becomes void two years following the date on which the variance became effective, unless during this time a building permit is issued, and construction is commenced and diligently pursued toward completion on the site which was subject to the variance application.
 - 2. The administrator may renew the variance for an additional year if an application to renew the variance is filed with the administrator before the original expiration date.
 - b. *Revocation of variance.* A variance may be revoked by the planning commission for any of the following reasons:
 - 1. The recipient or his successor in interest violates any condition of the variance.
 - 2. The variance was granted on the basis of false statements or a fraudulent application.
 - 3. The variance becomes a public nuisance.
- (10) *Recordkeeping.* Within ten days after the planning commission's final action, the administrative secretary to the planning commission must notify the applicant and the city clerk in writing of that action, including any conditions the planning commission imposed.
- (d) *Waivers.*
 - (1) *Purpose.*
The purpose of the waiver is to provide relief with respect to specific areas of the city that have significant restraints that hinder development or redevelopment.
 - (2) *Applicability.*

- a. A waiver allows the full waiver of certain development standards where the strict adherence to the standards may be considered excessive due to the site location and/or nature of the proposed use.
- b. A waiver can be used only for the development standards in the areas of the City identified in Table 32.03.090-1 below.

Table 32.03.090-1 – Waivers Available

Area	Waivers Permitted
Downtown, specifically the area bordered by the railroad tracks to the north, Cedar Street to the south, Dallas Lane and Miller Lane to the west, and Hardie Lane to the east.	• Curb, gutter, and/or sidewalk • Parking (number of spaces) • Landscaping
US95A/Speedway Road industrial park	• Curb, gutter, and/or sidewalk • Landscaping
Industrial areas along Lyon Drive, Salvadore Drive, Resource Drive, and Industrial Drive	• Landscaping

- (3) Initiation/Application.
 - a. The applicant files an application for a waiver with the administrator. The waiver request may be combined with the underlying application for which the waiver is requested.
 - b. The submittal package for a waiver must include the following items:
 1. Application
 2. Fee
 3. All items required in the submittal checklist found in Appendix A of this Chapter.
 4. Written explanation of why the waiver is necessary and how it complies with the items listed in subsection 5 (below).
 5. Any other plans, renderings, reports, or other information necessary to support the waiver request.
- (4) Completeness
 - a. Applications are subject to Section 32.02.030 of this Chapter.
- (5) Notice.
 - a. No public hearing is required for the waiver itself.
 - b. If a waiver is combined with another application, the notice requirements for that application apply.
- (6) Approval Criteria/Findings. To approve of a waiver, the Planning Commission or City Council must make all of the following findings:
 - a. There is evidence of circumstances beyond the reasonable control of the property owner such as:
 1. Unusual size, shape, or topography of the site; and/or
 2. Existing conditions on the site that make complying with the code impractical; and/or

3. The site is somehow legally nonconforming.
 - b. The waiver does not impair the purpose of the zoning district.
 - c. The waiver does not impact any fire, building, or health codes.
 - d. The waiver is consistent with the Master Plan.
 - e. The waiver is necessary to preserve a substantial property right enjoyed by surrounding properties.
 - (7) Decision.
 - a. Planning Commission shall approve all waivers except those combined with applications for which the City Council is the decision-making body.
 1. Planning Commission decisions may be appealed to the City Council per Section 32.03.090(f) of this code.
 - b. City Council shall approve waivers combined with Tentative Subdivision Maps.
 1. City Council decisions may be appealed per Section 32.03.090(f)(8).
 - c. City Staff and/or the approving body may include conditions and/or mitigation measures to address any potential impacts of the waiver.
 - (8) Precedents.
The fact that a waiver for the same or similar use has been granted previously shall not establish a precedent. Each waiver is considered on a case-by-case basis.
 - (9) Burden of Proof.
The applicant bears the burden of proof to establish that a waiver is warranted.
- (e) *Appeals.*
- (1) *Applicability.*
 - a. This section applies to any decision of the planning commission, administrator, or any other person appointed or employed by the city council who is authorized to make administrative decisions regarding the use of land under this title.
 - b. An applicant or any person aggrieved may appeal a decision subject to subsection (1) appeal if they claim that:
 1. The intent of a standard in this title was incorrectly interpreted;
 2. This title does not apply;
 3. A better form of design is proposed that does not require a waiver of the requirements of this title; or
 4. The decision would violate state or federal law.
 - c. This section does not apply to a recommendation or other action or decision routinely reviewed by the city council.
 - d. The right to appeal to the city council is waived upon failure to comply with the procedures set forth in this section.
 - (2) *Initiation.*
 - a. The appeal is initiated by filing a written notice of appeal with the city clerk which identifies all pertinent issues within 11 days after the action or decision.
 - b. The mayor or any member of the city council may request review of a planning commission action or decision with a written notice to the city clerk or orally at a meeting of the city council. Any such notice must be made within 11 days after the action or decision.
 - (3) *Completeness.* See [section 32.03.030](#).
 - (4) *Notice.* No specific notice is required by this Code. The city will provide notice by mail or email to the applicants or aggrieved parties who request personal notice.
 - (5) *Decision.*

- a. The city clerk shall set the matter for public hearing at the next available regular meeting of the city council.
 - b. The city council shall review the matter de novo.
 - c. The city council may affirm, modify, remand for further consideration or reverse the action or decision.
 - d. The city council shall render its decision within 60 days after a complete appeal is filed.
- (6) *Approval criteria.* In deciding an appeal, the Fernley City Council will consider:
- a. The statement of purpose underlying the regulation of the improvement of land expressed in Nevada state law;
 - b. The plain language of the regulation and principles of interpretation in this Chapter and Nevada law; and
 - c. Any applicable requirements of state or federal law.
- (7) *Subsequent applications.* After the city council renders a final decision, the city will not consider an appeal involving:
- a. The same property and issues, including the same regulations of this title involved in the subject of the appeal; or
 - b. Any issues that could have been raised during the original appeal.
- (8) *Appeals.*
- a. The decision of the Fernley City Council is a final decision for the purpose of judicial review.
 - b. Any person who has appealed a decision to the governing body in accordance with this section and is aggrieved with the decision of the Fernley City Council may appeal the decision, pursuant to NRS ch. 278, to a court having competent jurisdiction by filing a petition for judicial review within 25 days after the date of filing of notice of the decision with the clerk of the Fernley City Council.
- (9) *Scope of approval.* Any permit or decision rendered under this chapter shall comply with any order of the city council, as modified or reversed by a final decision on judicial review.
- (10) *Recordkeeping.* The city clerk will maintain a record of all appeals as provided by the city Charter and Nevada law.

Section 2. All ordinances or parts of ordinances in conflict herewith are hereby repealed.

Section 3. The City Clerk is instructed and authorized to publish the title of this ordinance as provided by law.

Section 4. This ordinance shall become effective upon passage, approval, and publication.

Section 5. The provisions of this ordinance shall be liberally construed to effectively carry out its purposes in the interest of the public health, safety, welfare, and convenience.

Section 6. In any subsection, phrase, sentence, or portion of this ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions.

Section 7. The City Council finds that this ordinance is not likely to impose a direct and significant economic burden upon a business or directly restrict the formation, operation, or expansion of a business, or is otherwise exempt from Nevada Revised Statutes Chapter 237.

BILL #347 BEING HEREBY PROPOSED on the ____ day of ____, 2024.

BILL #347 BEING HEREBY PASSED, APPROVED, and ADOPTED this ____ day of ____, 2024, by the following vote of the Council:

Ayes: _____ Nays: _____ Abstentions: _____ Absent: _____

FERNLEY CITY COUNCIL

By: _____ Date: _____
Neal E. McIntyre, Mayor

Attest By: _____ Date: _____
Kim Swanson, City Clerk

Sec. 32.03.090. - Modifications and appeals.

Purpose. The development review procedures in this section are intended to allow relief and flexibility in the development review process. Generally, it is the intent of the city to allow ~~significant~~ reductions or deviations from the minimum standards of this Code only in exchange for a higher level of quality development and compensating benefits.

- (a) *Summary table.* Table 32.03.090-1, summary of modification options, summarizes the principal tools that are available to provide relief from the strict application of the standards in this Code. The table includes procedures that allow reduction, adjustment, or exemption from certain code standards, and ~~any~~ applicable limitations.

Table 32.03.090-1 - Summary of Modification Options

Procedure	Decision Making Body	Description	Limitations
Major Deviation	Planning Commission	Allows major deviations from certain standards, see NRS 278.315.	Special exceptions greater than 10% and less than 50% from development standards that can be quantified, see Section 32.03.090.C.6.
Minor Deviation	Administrator	Allows minor deviations from certain standards, see NRS 278.319.	Special exceptions up to 10% from development standard that can be quantified, see Section 32.03.090.D.5.
Variances	Planning Commission	Allows deviation from any development standard (except allowable use).	Hardship must be demonstrated. See approval criteria in Section 32.03.090.E.6.
<u>Waiver</u>	<u>Planning Commission – when a stand-alone application or part of an Administrative Review or Conditional Use Permit</u> <u>City Council – when part of a Tentative Subdivision Map</u>	<u>Allows the complete waiving of certain development standards under unique circumstances</u>	<u>Available only for the following standards within predetermined portions of the City:</u> <u>Curb/gutter/sidewalk</u> <u>Parking</u> <u>Landscaping</u> <u>See Section 32.03.090(e).</u>

- (a) *Major deviations.* Authorized pursuant to NRS 278.315.

- (1) *Applicability.* This section authorizes the planning commission to approve (see NRS 278.315):

- a. Special exceptions greater than ten percent and less than 50 percent from requirements for land use in this title; or
 - b. Special exceptions from development standards that can be quantified.
 - c. This section does not authorize a use variance, or a deviation based on hardship or difficulty. However, an applicant may combine a request for a variance with a major deviation, and the city may process both applications concurrently. The section does not apply to parking or sign regulations of this title.
- (2) *Initiation.*
 - a. The applicant files an application for a major deviation with the administrator. The major deviation request may be combined with the underlying application for which it is requested. However, the underlying application will not be approved until the major deviation is approved, unless it is possible to comply with the standards associated with the underlying application without the major deviation.
- (3) *Completeness.* See [section 32.02.030](#).
- (4) *Notice.* A notice setting forth the time, place and purpose of the hearing must be sent at least ten days before the hearing to:
 - a. The applicant; and each owner, as listed on the county assessor's records, of real property located within 500 feet of the property in question;
 - b. Notify minimum of the 30 separately owned parcels nearest the property in question as listed on the county assessor's records; and
 - c. Notify each tenant of a mobile home park located within 500 feet of the property in question.
- (5) *Decision.*
 - a. The planning commission will review the major deviation at a hearing. The hearing is held within 65 days after the filing of the application, unless a longer time or a different process of review is provided in a development agreement.
 - b. The planning commission may:
 - 1. Grant the major deviation, which may be subject to conditions as provided in subsection (4);
 - 2. Deny the major deviation, with or without prejudice; or
 - 3. Continue or table the application.
 - c. If an application is tabled or continued, the planning commission shall hold a new public hearing within 65 days after the application was filed with the planning commission, unless a longer time or a different process of review is provided in an agreement entered into pursuant to NRS 278.0201.
 - d. The planning commission may impose conditions on a major deviation to safeguard the public health, safety, morals and general welfare and to protect the interests of the persons residing or working in the surrounding areas.
- (6) *Findings for approval.* If granting the approval of the major deviation, the planning commission must make findings that the proposed major deviation will be compatible with the existing or permitted uses of adjacent properties and is consistent with the City of Fernley Comprehensive Master Plan. The planning commission must conclude that:
 - a. The request is consistent with the stated purposes of [title 32](#), zoning;

- b. Granting the major deviation will not be materially detrimental to the public health, safety or welfare, or injurious to property or improvements in the vicinity;
 - c. Granting the major deviation is necessary for the preservation and enjoyment of a property right possessed by other property owners in the same vicinity and land use district and is denied to the property for which the major deviation is sought; and
 - d. Granting of the major deviation does not constitute a special privilege inconsistent with the limitations upon other properties in the vicinity and land use district in which the property is located.
- (7) *Subsequent applications.* If the planning commission denies a major deviation, unless the denial is specifically stated to be without prejudice, a new application for a substantially similar major deviation may not be submitted for at least six months following the denial.
- (8) *Appeals.* See subsection [32.09.090](#)(e), appeals.
- (9) *Scope of approval.*
 - a. Lapse of major deviation.
 - 1. A major deviation automatically lapses and becomes void one year following the date on which the major deviation became effective, unless during this time a building permit is issued, and construction is commenced and diligently pursued toward completion on the site which was subject to the major deviation application.
 - 2. The administrator may renew the major deviation for an additional year if an application to renew the major deviation is filed with the administrator before the original expiration date.
- (10) *Revocation of major deviation.*
 - a. A major deviation may be revoked by the planning commission for any of the following reasons:
 - 1. The recipient or his successor in interest violates any condition of the approval.
 - 2. The approval was granted on the basis of false statements or a fraudulent application.
 - 3. The development as modified becomes a public nuisance.
- (11) *Recordkeeping.* Within ten days after the planning commission's final action, the administrative secretary to the planning commission must notify the applicant and the city clerk in writing of that action, including any conditions the planning commission imposed.
- (eb) *Minor deviations.*
 - (1) *Applicability.* This section allows deviations of less than ten percent from requirements for land use in this title. Does not apply to the sign chapter of this title.
 - (2) *Initiation.*
 - a. The applicant files an application for a minor deviation with the administrator. The minor deviation request may be combined with the underlying application for which the minor deviation is requested.
 - (3) *Notice.*
 - a. The applicant for a minor deviation must provide the written consent of the owner of any real property that would be affected by the deviation.
 - (4) *Decision.*

- a. The administrator will approve, approve with conditions or deny the deviation. No public hearing is required.
 - b. The applicant must obtain the written consent of the owner of any real property be affected by the minor deviation. This includes any abutting property, unless the administrator determines that existing natural or man-made barriers or other factors resolve any potential impacts resulting from the deviation.
- (5) *Approval criteria.*
- a. The deviation shall not change any points of ingress or egress to the site or exceed the density.
 - b. The deviation shall not impair the purpose of the zoning district or any district regulations.
 - c. Any changes that might be affected by fire, building or health regulations must be reviewed and approved by the responsible agencies before any deviation is granted.
 - d. The administrator may require mitigation measures to address potential impacts arising from the deviation.
- (6) *Subsequent applications.* No restriction.
- (7) *Appeals.* See subsection [32.09.090](#)(e), appeals.
- (8) *Scope of approval.* After a minor deviation is approved, the applicant may apply for a building permit or certificate of occupancy.
- (9) *Recordkeeping.* The administrator and the applicant shall maintain a record of the minor deviation.

(~~d~~c) *Variances.*

- (1) *Applicability.*
- a. This section authorizes the planning commission to grant a variance for the development of property if the variance is necessary:
 - 1. Prevent or to lessen any peculiar and exceptional practical difficulties, or exceptional and undue hardships, and
 - 2. The difficulties or hardships would result from a strict application and enforcement of any provision of this title except the sign standards (see [chapter 32.10](#)).
 - b. A peculiar and exceptional practical difficulty or exceptional and undue hardship may result from the size, shape or dimensions of a site or the location of existing structures, or from geographic, topographic or other physical conditions on the site.
 - c. Cost to the applicant of strict compliance shall not be the sole reason for granting a variance.
 - d. Use variances are not allowed.
- (2) *Initiation.* The applicant files an application for a variance with the administrator. The variance request may be combined with the underlying application for which the variance is requested. However, the underlying application will not be approved until the variance is approved, unless it is possible to comply with the standards associated with the underlying application without the variance.
- (3) *Completeness.* See [section 32.03.030](#).
- (4) *Notice.* A notice setting forth the time, place and purpose of the hearing must be sent at least ten days before the hearing to:
- a. The applicant;

- b. Each owner as listed on the county's assessor's records, of real property located within 500 feet of the property in question;
 - 1. The owner, as listed on the county assessor's records, of each of the 30 separately owned parcels nearest the property in question, to the extend this noticed does not duplicate the notice given.
 - c. Each tenant of a mobile home park located within 100 feet of the property in question.
- (5) *Decision.*
 - a. The planning commission will review the variance application at a public hearing.
 - b. The planning commission may:
 - 1. Grant the variance, which may be subject to conditions as provided in subsection 6 below; or
 - 2. Deny the variance, with or without prejudice; or
 - 3. Continue or table the application.
 - c. If an application is tabled or continued, the planning commission shall hold a new public hearing within 65 days after the application was filed with the planning commission, unless a longer time or a different process of review is provided in an agreement entered into pursuant to NRS 278.0201.
 - d. The planning commission may impose conditions on a variance to safeguard the public health, safety, morals and general welfare and to protect the interests of the persons residing or working in the surrounding areas.
- (6) *Findings for approval.* To approve or conditionally approve a variance, the planning commission must make findings of fact that:
 - a. There are exceptional or extraordinary circumstances or conditions applicable to the property involved that do not generally apply to other properties classified in the same zoning district;
 - b. Strict interpretation and enforcement of the specified provisions would deprive the applicant of privileges enjoyed by the owners of other properties classified in the same zoning district;
 - c. The variance will not constitute or grant a special privilege inconsistent with limitations on other properties classified in the same zoning district.
 - d. The variance will not substantially impair the public health, safety or welfare or materially injure properties or improvements in the vicinity.
 - e. The potential impairment of natural resources and the total population which available natural resources will support without unreasonable impairment has been considered.
 - f. The affect the availability of and need for affordable housing in the community, including affordable housing that is accessible to persons with disabilities has been considered.
 - g. Public notice was given, and a public hearing held per the requirements of the development code and the Nevada Revised Statutes.
- (7) *Subsequent applications.* If the planning commission denies a variance, unless the denial is specifically stated to be without prejudice, a new application for a substantially similar variance may not be submitted for at least six months following the denial.
- (8) *Appeals.* See subsection [32.09.090\(e\)](#), appeals.
- (9) *Scope of approval.*

- a. *Lapse of variance.*
 1. A variance automatically lapses and becomes void two years following the date on which the variance became effective, unless during this time a building permit is issued, and construction is commenced and diligently pursued toward completion on the site which was subject to the variance application.
 2. The administrator may renew the variance for an additional year if an application to renew the variance is filed with the administrator before the original expiration date.
 - b. *Revocation of variance.* A variance may be revoked by the planning commission for any of the following reasons:
 1. The recipient or his successor in interest violates any condition of the variance.
 2. The variance was granted on the basis of false statements or a fraudulent application.
 3. The variance becomes a public nuisance.
- (10) *Recordkeeping.* Within ten days after the planning commission's final action, the administrative secretary to the planning commission must notify the applicant and the city clerk in writing of that action, including any conditions the planning commission imposed.

(d) Waivers.

(1) Purpose.

The purpose of the waiver is to provide relief with respect to specific areas of the city that have significant restraints that hinder development or redevelopment.

(2) Applicability.

- a. A waiver allows the full waiver of certain development standards where the strict adherence to the standards may be considered excessive due to the site location and/or nature of the proposed use.
- b. A waiver can be used only for the development standards in the areas of the City identified in Table 32.03.090-1 below.

Table 32.03.090-1 – Waivers Available

<u>Area</u>	<u>Waivers Permitted</u>
<u>Downtown, specifically the area bordered by the railroad tracks to the north, Cedar Street to the south, Dallas Lane and Miller Lane to the west, and Hardie Lane to the east.</u>	• <u>Curb, gutter, and/or sidewalk</u> • <u>Parking (number of spaces)</u> • <u>Landscaping</u>
<u>US95A/Speedway Road industrial park</u>	• <u>Curb, gutter, and/or sidewalk</u> • <u>Landscaping</u>
<u>Industrial areas along Lyon Drive, Salvadore Drive, Resource Drive, and Industrial Drive</u>	• <u>Landscaping</u>

(3) Initiation/Application.

- a. The applicant files an application for a waiver with the administrator. The waiver request may be combined with the underlying application for which the waiver is requested.
 - b. The submittal package for a waiver must include the following items:
 - 1. Application
 - 2. Fee
 - 3. All items required in the submittal checklist found in Appendix A of this Chapter.
 - 4. Written explanation of why the waiver is necessary and how it complies with the items listed in subsection 5 (below).
 - 5. Any other plans, renderings, reports, or other information necessary to support the waiver request.
- (4) Completeness
 - a. Applications are subject to Section 32.02.030 of this Chapter.
- (5) Notice.
 - a. No public hearing is required for the waiver itself.
 - b. If a waiver is combined with another application, the notice requirements for that application apply.
- (6) Approval Criteria/Findings. To approve of a waiver, the Planning Commission or City Council must make all of the following findings:
 - a. There is evidence of circumstances beyond the reasonable control of the property owner such as:
 - 1. Unusual size, shape, or topography of the site; and/or
 - 2. Existing conditions on the site that make complying with the code impractical; and/or
 - 3. The site is somehow legally nonconforming.
 - b. The waiver does not impair the purpose of the zoning district.
 - c. The waiver does not impact any fire, building, or health codes.
 - d. The waiver is consistent with the Master Plan.
 - e. The waiver is necessary to preserve a substantial property right enjoyed by surrounding properties.
- (7) Decision.
 - a. Planning Commission shall approve all waivers except those combined with applications for which the City Council is the decision-making body.
 - 1. Planning Commission decisions may be appealed to the City Council per Section 32.03.090(f) of this code.
 - b. City Council shall approve waivers combined with Tentative Subdivision Maps.
 - 1. City Council decisions may be appealed per Section 32.03.090(f)(8).
 - c. City Staff and/or the approving body may include conditions and/or mitigation measures to address any potential impacts of the waiver.
- (8) Precedents.

The fact that a waiver for the same or similar use has been granted previously shall not establish a precedent. Each waiver is considered on a case-by-case basis.
- (9) Burden of Proof.

The applicant bears the burden of proof to establish that a waiver is warranted.
- (e) *Appeals.*
 - (1) *Applicability.*

- a. This section applies to any decision of the planning commission, administrator, or any other person appointed or employed by the city council who is authorized to make administrative decisions regarding the use of land under this title.
 - b. An applicant or any person aggrieved may appeal a decision subject to subsection (1) appeal if they claim that:
 - 1. The intent of a standard in this title was incorrectly interpreted;
 - 2. This title does not apply;
 - 3. A better form of design is proposed that does not require a waiver of the requirements of this title; or
 - 4. The decision would violate state or federal law.
 - c. This section does not apply to a recommendation or other action or decision routinely reviewed by the city council.
 - d. The right to appeal to the city council is waived upon failure to comply with the procedures set forth in this section.
- (2) *Initiation.*
- a. The appeal is initiated by filing a written notice of appeal with the city clerk which identifies all pertinent issues within 11 days after the action or decision.
 - b. The mayor or any member of the city council may request review of a planning commission action or decision with a written notice to the city clerk or orally at a meeting of the city council. Any such notice must be made within 11 days after the action or decision.
- (3) *Completeness.* See [section 32.03.030](#).
- (4) *Notice.* No specific notice is required by this Code. The city will provide notice by mail or email to the applicants or aggrieved parties who request personal notice.
- (5) *Decision.*
- a. The city clerk shall set the matter for public hearing at the next available regular meeting of the city council.
 - b. The city council shall review the matter de novo.
 - c. The city council may affirm, modify, remand for further consideration or reverse the action or decision.
 - d. The city council shall render its decision within 60 days after a complete appeal is filed.
- (6) *Approval criteria.* In deciding an appeal, the Fernley City Council will consider:
- a. The statement of purpose underlying the regulation of the improvement of land expressed in Nevada state law;
 - b. The plain language of the regulation and principles of interpretation in this Chapter and Nevada law; and
 - c. Any applicable requirements of state or federal law.
- (7) *Subsequent applications.* After the city council renders a final decision, the city will not consider an appeal involving:
- a. The same property and issues, including the same regulations of this title involved in the subject of the appeal; or
 - b. Any issues that could have been raised during the original appeal.
- (8) *Appeals.*
- a. The decision of the Fernley City Council is a final decision for the purpose of judicial review.

- b. Any person who has appealed a decision to the governing body in accordance with this section and is aggrieved with the decision of the Fernley City Council may appeal the decision, pursuant to NRS ch. 278, to a court having competent jurisdiction by filing a petition for judicial review within 25 days after the date of filing of notice of the decision with the clerk of the Fernley City Council.
 - (9) *Scope of approval.* Any permit or decision rendered under this chapter shall comply with any order of the city council, as modified or reversed by a final decision on judicial review.
 - (10) *Recordkeeping.* The city clerk will maintain a record of all appeals as provided by the city Charter and Nevada law.
- ([Ord. No. 2020-005, § 1\(Exh. A\), 3-4-2020](#))



CITY OF FERNLEY

Planning Commission AGENDA REPORT

Meeting Date: April 10, 2024

REPORT TO: Fernley Planning Commission

REPORT FROM: Shay League

FINANCIAL IMPACT:

Yes: No: X

CURRENTLY BUDGETED:

Yes: No: X

FUND/ACCOUNT:

N/A

ACTION REQUESTED: Motion

AGENDA ITEM:

(For Possible Action) Discussion and possible action regarding a proposed development code text amendment (CA24004) to Fernley Municipal Code §32.03.050(c) to extend the submission requirement for a temporary use permit from seven days prior to thirty days prior to the requested date of the start of the proposed temporary use.

AGENDA ITEM BRIEF:

Staff requests an amendment to the municipal code that will change the required submission date of a temporary use permit application from seven to thirty days prior to the start of the requested temporary use.

RECOMMENDED MOTION:

Approval

"I move to recommend City Council approve the municipal code amendment associated with CA24004 as presented by staff."

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A, or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

Denial

"I move to recommend City Council deny the municipal code amendment associated with CA24004 because

_____."

Note

Though no further motion language has been suggested, all motions consistent with the Fernley Planning Commission bylaws and rules of procedure are appropriate.

BACKGROUND:

Fernley Municipal Code requires a temporary use permit for special events and also requires the applicant to submit the application at least 7 days prior to all temporary uses. City of Fernley Planning Department has been working to streamline the process to obtain a temporary use permit and hopes to set up the process and the Planning Department as a one-stop shop for all temporary use permit needs.

To hold a special event in City of Fernley, in addition to obtaining a temporary use permit, applicants may additionally need to fill out and pay for separate applications with the City of Fernley Public Works Department (if the event will be held on City property), the City of Fernley Business License Department (if the event will be selling anything), and North Lyon County Fire Protection District. As part of those application processes, the applicant is also expected to contact the City of Fernley Building Department (for carnivals, tents, and other structures), the Lyon County Sheriff NHP (for crowd and/or traffic control), the Nevada Department of Transportation (for parades or other things that may occupy NDOT's right-of-way), the State of Nevada Health Department (if selling or serving food), and others.

The process as it currently exists is cumbersome; Planning Department wants to cut down the amount of running around, additional fees, and chaos required to hold a special event in Fernley. To allow time for routing through all these separate departments and agencies, rather than require our citizens and community stakeholders to do it, we need more time than the 7 days we allot for the other types of temporary use permits that only Planning Department processes.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

General

[Nevada Revised Statutes \(NRS\) Chapter 268](#) - Powers and Duties Common to Cities and Towns Incorporated Under General or Special Laws

[Fernley Municipal Code \(FMC\) Title 32](#) - Development Code

Specific

[NRS §268.014](#) - Codification of ordinances; publication of code

[FMC §1.01.03](#) - Official Municipal Code, Amendments

[FMC §32.03.050\(c\)](#) - Entitlements, Temporary use permits

FINANCIAL IMPLICATIONS:

N/A

ATTACHMENTS:

1. Code Amendment Suggestion

(a) *Administrative review.*

Purpose: Administrative review determines whether the proposed use, building, structure addition or change to any building, structure or use will conform to the city's zoning code, building and fire codes and other applicable ordinances and requirements. Administrative Review insures the development of an aesthetically acceptable and well-ordered community serving the interests of public health, safety and general welfare.

(1) *Applicability.* Administrative review is required:

- a. Where indicated in the use table;
- b. For any public facility, commercial, industrial or multifamily (three units or more) construction or addition when a conditional use permit is not required or
- c. Where specifically required in this title.

(2) *Initiation.* The applicant files an application for administrative review with the administrator.

(3) *Completeness.* See section 32.03.030.

(4) *Notice.* Not required.

(5) *Decision.*

- a. Within 30 days from the date the administrative review application is deemed complete:
 1. The administrator shall review the application for compliance with this title; and
 2. The administrator shall approve, conditionally approve or deny the administrative review application; and
 3. If the application is approved or conditionally approved, the administrator shall submit to the applicant a letter and conditions of approval relative to the administrative review.
- b. Issuance of the administrative review does not occur until all the conditions of approval are satisfied.
- c. If the conditions of approval are not satisfied within two years of the date of the letter from the administrator, or within another specified time limit stated as a condition of approval, the approval is automatically rescinded.

(6) *Approval criteria.* The administrative review application shall comply with all applicable requirements of this title, including the following:

- a. The proposed development shall not create unsafe traffic conditions or cause a reduction in the level of service on surrounding streets, taking into consideration:
 1. Any change in traffic conditions on abutting streets created by additional trips generated by the proposed development;

2. The layout of the site with respect to locations and dimensions of vehicular and pedestrian entrances, exits, drives, walkways and fire-department access lanes;
3. The arrangement and adequacy of off-street parking facilities to prevent traffic congestion;
4. The location, arrangement and dimensions of truck loading and unloading facilities;
5. The surfacing and lighting of off-street parking;
6. Design of proposed building; and
7. Location of refuse storage and disposal facilities.

(7) *Subsequent applications.*

- a. An administrative review permit may be amended if:
 1. A condition of approval cannot be met;
 2. There are substantial changes in the project; or
 3. The administrator determines that proposed changes to an approved project will impact surrounding properties.
- b. Amendments to administrative reviews must follow the same procedure as a new application, including the application fee and information required by the appendices to this code.

(8) *Appeals.* See subsection 32.09.090(e), appeals.

(9) *Scope of approval.*

- a. *Administrative review certificate.* After the applicant satisfies the conditions of approval, the administrator will issue a certificate indicating that the conditions are satisfied.
- b. *Responsibility.* The property owner shall comply with and maintain the conditions of approval of an administrative review permit. An administrative review runs with the land, subject to termination in accordance with the procedures in this section.
- c. *Modifications.* In issuing building permits, the administrator may approve minor adjustments of the location and/or dimensions of buildings, parking areas and roadways if they do not change any points of ingress or egress to the site or reduce the parking or landscaping requirements to less than the minimum required by this title. No modification of an approved application can be approved unless specifically provided in writing.
- d. *Expiration of administrative review.*
 1. An applicant has one year to establish the permitted use after the administrative review is approved.
 - 2.

If the permitted use is not established or construction to accommodate that use begun and diligently pursued during this time, the administrative review or administrative review permit becomes null and void. If the use is established during this time, the administrative review permit is valid until revoked unless there is a specific expiration date.

3. The administrator may extend the expiration date for up to one year if:

A. The applicant files a written request, which includes the current status of the project, with the administrator before the approval expires.

(10) *Revocation.*

a. The administrator may revoke an administrative review if:

1. The permit holder violates any condition of the permit;
2. The permitted use becomes a public nuisance; or
3. The permit was granted on the basis of false statements or fraudulent application.

b. If the administrator has reason to believe that an administrative review permit is subject to revocation, the administrator may institute proceedings to revoke the permit.

(11) *Recordkeeping.* The administrator and the applicant shall maintain a record of the administrative review and administrative review permit.

(b) *Conditional use permit.*

Purpose: This subsection promotes the public health, safety and general welfare by providing for special safeguards in the location and design of certain uses in certain zoning districts, and by allowing for minor adjustments in the impact of some regulations as specifically provided elsewhere in this title.

(1) *Applicability.*

a. This subsection applies to:

1. Any use designated as a conditional use in the use table (chapter 32.06); or
2. Any other situation where this title requires conditional use approval.

b. This section does not authorize a use variance, or a deviation based on hardship or difficulty. However, an applicant may combine a request for a variance with a conditional use permit, and the city may process both applications concurrently.

c. A conditional use permit application may be processed concurrent with a zoning map amendment (rezoning) application.

d. Multiple applications submitted for a single development project may be processed concurrently to allow for an expedited review and processing schedule for a project. The time frame and approval process for a consolidated application shall follow the longest time frame and approval process required from among the multiple applications. For

example, multiple applications for zoning map amendment and conditional use permit may be processed concurrently, in which case both applications would be considered based on the more extensive zoning map amendment procedure, and the city council would be the final decision body on both applications unless otherwise provided by law.

(2) *Initiation.* The applicant files an application for a conditional use permit with the administrator.

(3) *Completeness.* See section 32.03.030.

(4) *Notice.* See NRS 278.315 and chapter 32.03.

(5) *Decision.*

a. For purposes of this section, the approving agency for a conditional use permit is:

1. The planning commission; or
2. The city council if the planning commission's decision is appealed.

b. The planning commission will hold a public hearing within 65 days after the application is filed, unless a longer time or a different process of review is provided in a development agreement (see NRS 278.0201).

c. The planning commission shall:

1. Approve the conditional use permit;
2. Approve the conditional use permit with conditions;
3. Deny the conditional use permit, with or without prejudice;

d. The approving agency may impose conditions on the conditional use permit to safeguard the public health, safety, morals and general welfare. The conditions may address, but are not limited to, compatibility, site design, architecture, landscaping, building materials, access, internal circulation, lighting, signage, parking, operation of the use, the mitigation of potential impacts, and any other criteria permitted by state law.

e. An application may be tabled or continued so long as a new public hearing is held within 65 days after the application is heard, unless a longer time or a different process of review is provided in a development agreement (see NRS 278.0201 and NRS 278.315.2).

f. Within ten days after final action and at the conclusion of any appeal period, the planning commission's administrative secretary or the city clerk will notify the applicant in writing of that action, including any conditions imposed by the planning commission or city council. The planning commission's administrative secretary must also notify the city clerk's office if the planning commission takes final action.

g. After a conditional use is approved, the administrator shall issue the permit when all conditions of approval, except for continuing conditions, are satisfied.

(6) *Findings for approval.*

- a. The approving agency must make findings that the proposed conditional use will be in compliance with the master plan;
- b. The conditional use will be compatible with the existing or permitted uses of adjacent properties;
- c. The potential impairment of natural resources and the total population which the available natural resources will support without unreasonable impairment;
- d. The availability of and need for affordable housing in the community, including affordable housing that is accessible to persons with disabilities;
- e. The conditional use permits impacts have been conditioned to address identified impacts; and
- f. Public notice has been given and a public hearing held per the requirements of the development code and the Nevada revised statutes.

(7) *Amendments.*

- a. A conditional use permit must be amended if:
 1. One or more of the conditions of approval cannot be met;
 2. There are substantial material changes in the project; or
 3. The Administrator determines that proposed changes to an approved project will materially impact surrounding properties.
- b. Amendments to conditional use permits must follow the same procedure as for a new application.

(8) *Appeals.* See subsection 32.09.090(e), appeals.

(9) *Scope of approval.*

- a. *Compliance certificate.* After the applicant satisfies the conditions of approval, the administrator will issue a certificate indicating that the conditions are satisfied.
- b. *Responsibility.* The property owner is responsible for compliance with and maintenance of the conditions of approval of a conditional use permit for a particular use on a particular piece of property.
- c. *Duration.*
 1. A conditional use permit runs with the land, subject to termination in accordance with the procedures set forth in this section.
 2. Upon cessation of an established use for which a conditional use permit has been issued, the approved conditional use permit and any conditions thereto shall run with the land for a period not to exceed one year from the date the business license associated with the use expires.

3. A conditional use permit issued by the administrator is valid until revoked, unless it contains a specified expiration date.
 4. If a final subdivision map is recorded on any portion of a project while a conditional use permit for the project is in effect, the use of that portion of the project is considered established, even if construction has not taken place, unless the subdivision map is amended or reverted to acreage.
- d. *Rescission.* If any conditions of approval (other than continuing conditions) are not satisfied within one year after final action is taken, or within another time limit specified in the permit, the approval is automatically rescinded.
- e. *Expiration of an approved conditional use permit.*
1. An applicant has one year to establish the permitted use after the conditional use permit is approved.
 2. If the permitted use is not established or construction to accommodate that use begun and diligently pursued during this time, the conditional use permit becomes null and void. If the use is established during this time, the conditional use permit is valid until revoked unless there is a specific expiration date.
 3. The approving agency may extend the expiration date for up to one year if:
 - A. If a permit holder is unable to establish the permitted use or begin construction to accommodate it within one year or the time specified in the conditional use permit, the approving agency may extend the expiration date. The extension may not exceed one year beyond the original expiration date. To obtain an extension, the applicant must submit a written request to the approving agency before the permit expires.
- f. If the administrator has reason to believe that a conditional use permit is subject to revocation, the administrator may institute proceedings to revoke the permit. Before revoking any conditional use permit, the body which approved it must hold a public hearing as provided in this chapter.
1. The administrator may revoke a conditional use permit if:
 - A. The permit holder violates any condition of the permit;
 - B. The permitted use becomes a public nuisance; or
 - C. The permit was granted on the basis of false statements or fraudulent application.
- (10) *Recordkeeping.* The administrator and the applicant shall maintain a record of the conditional use permit.
- (c) Temporary use permits.
- (1) *Applicability.*

- a. Where indicated in the use table; or
 - b. Where specifically required in this title.
- (2) *Initiation.* The applicant files an application for temporary use permit with the administrator. **Temporary use permits for special events should be submitted to the administrator at least thirty days prior to the requested date of the proposed special event. All other temporary use permit applications should be submitted to the administrator at least seven days prior to the requested date of the proposed temporary use.** ~~and~~ Both temporary use permit application types shall be accompanied by the associated fee as established by resolution of the ~~Ce~~ity ~~Ce~~ouncil.
- (3) *Completeness.* See section 32.03.030.
- (4) *Notice.* Not required.
- (5) *Decision.*
- a. The administrator shall review the application for compliance with this title; and
 - b. The administrator shall approve, conditionally approve or deny the temporary use permit application; and
 - c. If the application is approved or conditionally approved, the administrator shall submit to the applicant a letter and conditions of approval relative to the temporary use permit.
- (6) *Approval criteria.*
- a. Temporary use permits may be approved by the administrator only upon a finding that all of the following criteria have been met:
 - 1. The proposed temporary use will be located, operated, and maintained in a manner consistent with the policies of the comprehensive plan and the provisions of this code;
 - 2. Approval of the application will not be detrimental to property or improvements in the surrounding area or to the public health, safety, or general welfare; and
 - 3. The proposed temporary use complies with all applicable standards of this code unless otherwise expressly stated.
 - b. In approving a temporary use permit, the administrator (or, upon appeal, the planning commission) may impose conditions, stipulations, or limitations as are deemed necessary to ensure that the activity will be consistent with this section and the proposed temporary use. Such conditions may include, but are not limited to the following:
 - 1. Provision for temporary parking facilities, including vehicle ingress and egress;
 - 2. Measures to prevent or reduce nuisance factors such as glare, excessive illumination, noise, vibration, smoke, dust, dirt, odors, gases, and heat;
 - 3. Regulation of placement, height, size, and location of structures, facilities, landscaping and equipment, including provision for buffering and separation;
 - 4. Provision for sanitary facilities and for waste collection and disposal;
 - 5. Measures to promote safety and security;

6. Regulation of signs and other attention-gaining devices;
 7. Regulation of operating hours and duration of the temporary commercial use;
 8. Regulation of the hours and duration of set-up and dismantling activities;
 9. Compliance with applicable provisions of the Fernley Municipal Code (FMC);
 10. Any other conditions that will ensure the operation of the proposed temporary use is conducted in an orderly, efficient manner and in accordance with the intent and purpose of this code.
- (7) *Subsequent applications.* Amendments to temporary use permits must follow the same procedure as a new application, including the application fee and information required by the appendices to this Code.
- (8) *Appeals.* See subsection 32.09.090(e), appeals.
- (9) *Scope of approval.*
- a. *Responsibility.* The holder of a temporary use permit shall be responsible for leaving the property free of debris, litter, or other evidence of the temporary use immediately upon completion or removal of the use. If the holder of the temporary use permit is not the record owner of the property, the holder and the property owner(s) are jointly and severally responsible for compliance with this subsection.
 - b. *Time limits.* Temporary use permits shall be valid for a period of time, not to exceed 30 days, unless a longer period of time is specified in the code.
 - c. *Lapse of approval.* A temporary use permit shall lapse if not used within the dates approved.
 - d. *Complaints regarding approved temporary use permits.* Complaints regarding approved temporary use permits shall be processed in accordance with the provisions in chapter 32.05, violations, enforcement, and penalties.
- (10) *Revocation.* A temporary use permit may be revoked or modified by the administrator, upon notice to the permit holder, if the director finds that:
- a. The permit was obtained by misrepresentation or fraud;
 - b. The activity is not in compliance with the permit or any condition of approval;
 - c. The use to be allowed by means of the permit is conducted in violation of any applicable statute, ordinance, or regulation; or
 - d. The permit is being employed to circumvent the limitations of this Code.
- (11) *Recordkeeping.* The administrator and the applicant shall maintain a record of the temporary use permit.

~~(Ord. No. 2020-005, § 1(Exh. A), 3-4-2020)~~ Ordinance reference to be updated by City Clerk when adopted.