ASHLAND WATER ADVISORY COMMITTEE
July 23, 2019
AGENDA

I. **CALL TO ORDER:** 4:00 PM, Siskiyou Room, 51 Winburn Way Ashland, OR

II. **ANNOUNCEMENTS**

III. **APPROVAL OF MINUTES:** June 25, 2019

IV. **PUBLIC FORUM**

V. **OLD BUSINESS**

A. Water Treatment Plant Update
- Next Steps

VI. **NEW BUSINESS**

A. Water System Master Plan
- Final Review-data update
- Water Master Plan summary
- Rate impacts
- Recommend adoption

VII. **ADJOURNMENT:** 6:00 PM

CITY OF ASHLAND

ASHLAND Water Advisory Committee
MINUTES
June 25, 2019

These minutes are pending approval by this Committee

CALL TO ORDER
Graf called the meeting to order at 4:10 PM

Committee Members Present: Pat Acklin, Joe Graf, Rich Miller, Don Morris, Donna Rhee, Alex Amarotico, Lesley Adams
Committee Members Absent: Kate Jackson, Darrell Boldt, John Williams
Staff present: Scott Fleury, Steve Walker, Kevin Caldwell, Taina Glick, Michael Morrison

ANNOUNCEMENTS
None

APPROVAL OF MINUTES
May 28, 2019 filed as presented.

PUBLIC FORUM
Heulz Gutcheon – Ashland
Spoke of having spoken to City Council regarding climate change and his frustration over use of code not updated to account for climate change. He introduced the concept of agriphotovoltaics and suggested utilizing anaerobic digesting at the wastewater treatment plant. Rhee

Old Business
WTP Update
Fleury introduced Pierre Kwan, Project Manager from HDR Engineering who presented project-to-date information and design of proposed water treatment plant (WTP). Presentation here. Morris inquired about seismic testing. Kwan answered in the affirmative and that findings have been incorporated into design. Rhee inquired about where creek water pushed through power house would be treated. Fleury explained existing infrastructure and potential for expanded micro-hydroelectric capabilities. Committee members and staff discussed possibility of utilizing excavated materials in this or other jobsites.

New Business
RH2 Master Plan Update
Rachel Lanigan provided updates on Chapter 5 System Analysis and Chapter 6 Capital Improvement Plan of the WMP update. Presentation here. Fleury informed group that any questions or comments should be forwarded to himself or Glick. Graf asked how TAP water moves to zones other than Crowson. Lanigan indicated that it does not. Discussion took place about cost/benefit of replacement of Granite Reservoir. Amarotico asked about the possibility for the WTP pump station to bypass the new WTP plant pump to provide water directly to the Crowson zone.

Prioritization of CIP update is:

- Projects currently planned in adopted Capital Improvements Plan
- Projects that resolve fire flow deficiencies
- Projects that reduce supply from Crowson to Granite zones
- Projects that address high pressure conditions

ASHLAND Water Advisory Committee
MINUTES
June 25, 2019

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Updates from the last meeting were:

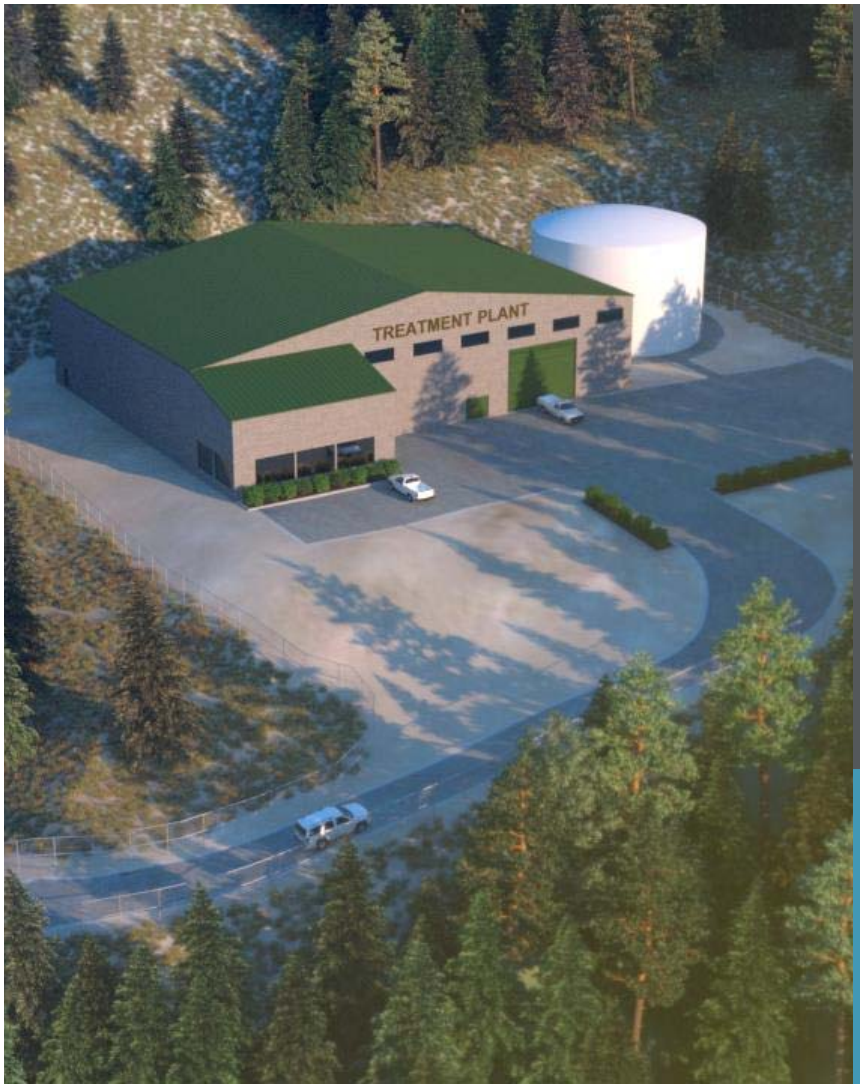
- Amended pressure zone adjustments
- Added long-term planning period (40+ years)
- Incorporated City staff direction on Granite Reservoir and boosting of TAP supply
- Adjusted project timing
- Pipe projects
    - Removed some proposed projects
    - Moved some proposed projects to annual maintenance budget from CIP

Committee members and staff discussed order of use of available water.

Next Committee meeting July 23, 2019 4:00 pm.

ADJOURNMENT: at 6:06 pm

Respectfully submitted,
Taina Glick
Public Works Administrative Assistant



Design of a 7.5 Million Gallon a Day Water Treatment Plant

Project #2018-20

Ashland Water Advisory Committee Briefing

June 25, 2019

Past Decisions and Current Issues

What Have We Been Doing?

Alternatives Reviewed

Path Forward

01 Past Decisions and Current Issues

Building Upon 2016-2018 Work

- New plant at the Granite Site
- Existing plant to be decommissioned
- 7.5 MGD expandable to 10.0 MGD in the future
- Incorporate clearwell for additional future storage
- Not membrane filtration processes
- Need to address taste-and-odor compounds, algae, and algal toxins

Issues We Are Facing Now

- Defining the treatment processes
- Obtaining Oregon Health Authority acceptance for the future processes and regulatory requirements
- How to fit everything onto the challenging Granite site
- Planning what to do with existing plant once new plant is operational
- Determining construction and lifecycle costs
- Identifying permitting requirements

02 What Have We Been Doing?

Two Phased Approach

- Phase 1A – Alternatives Evaluation
  - August 2018 to February 2019

- Phase 1B – Preliminary (30%) Design
  - February 2019 to July 2019

Phase 1A – Treatment Alternatives

- ✓ Conducted geotechnical investigations at the Granite site
- ✓ Completed ground survey of the proposed site and vicinity
- ✓ Identified and evaluated treatment processes
- ✓ Sized the new WTP clearwell/reservoir
- ✓ Identified and located buried and aboveground piping
- ✓ Prepared cost estimates for alternatives
- ✓ Prepared recommendation for the combined treatment / clearwell / piping alternative

Phase 1B – Preliminary Design

- ✓ Conducted additional geotechnical investigation
- ✓ Evaluated the potential of a secondary intake
- ✓ Completed construction and value engineering review
- ❑ Developing the plan and process for abandoning existing WTP
- ❑ Preparing 30-percent design documents
  - o Basis of Design Report
  - o Drawings
  - o Specifications table of contents

Overall site has shallow fractured bedrock
Steep rock hillsides
Available flat area is small so fill and/or blasting may be needed
Site's flat area is lower than HGL so pumping may be required
Site has debris that needs to be removed
Finished water and sewer connections are on the opposite side of the Ashland Creek

03 Alternatives Reviewed

Design Alternatives Evaluated

- What treatment process should the new plant have?
- How much new storage should we have associated with the Water Comprehensive Plan?
- How are we going to fit all the facilities on the site?
- How will we connect new plant to existing pipes?

Processes at New Plant

Same as existing plant

- Coagulation and filtration systems to remove turbidity and pathogens
- Chlorine addition to further disinfect the water

Processes at New Plant

New processes

- Ozone addition to eliminate taste-and-odor issues and destroy potential algal toxins

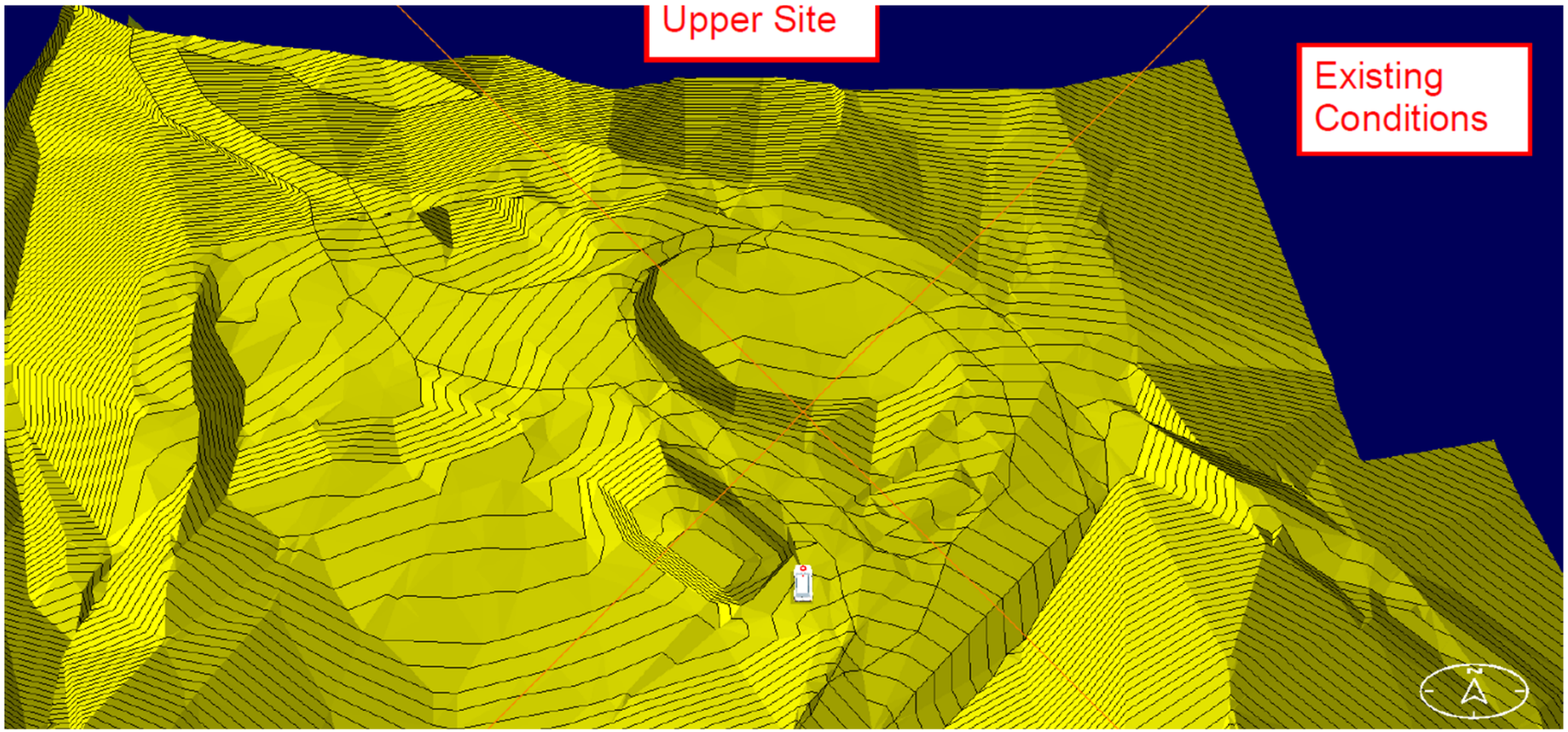
- Solids removal for better filter operations and greater disinfection

Storage Volumes

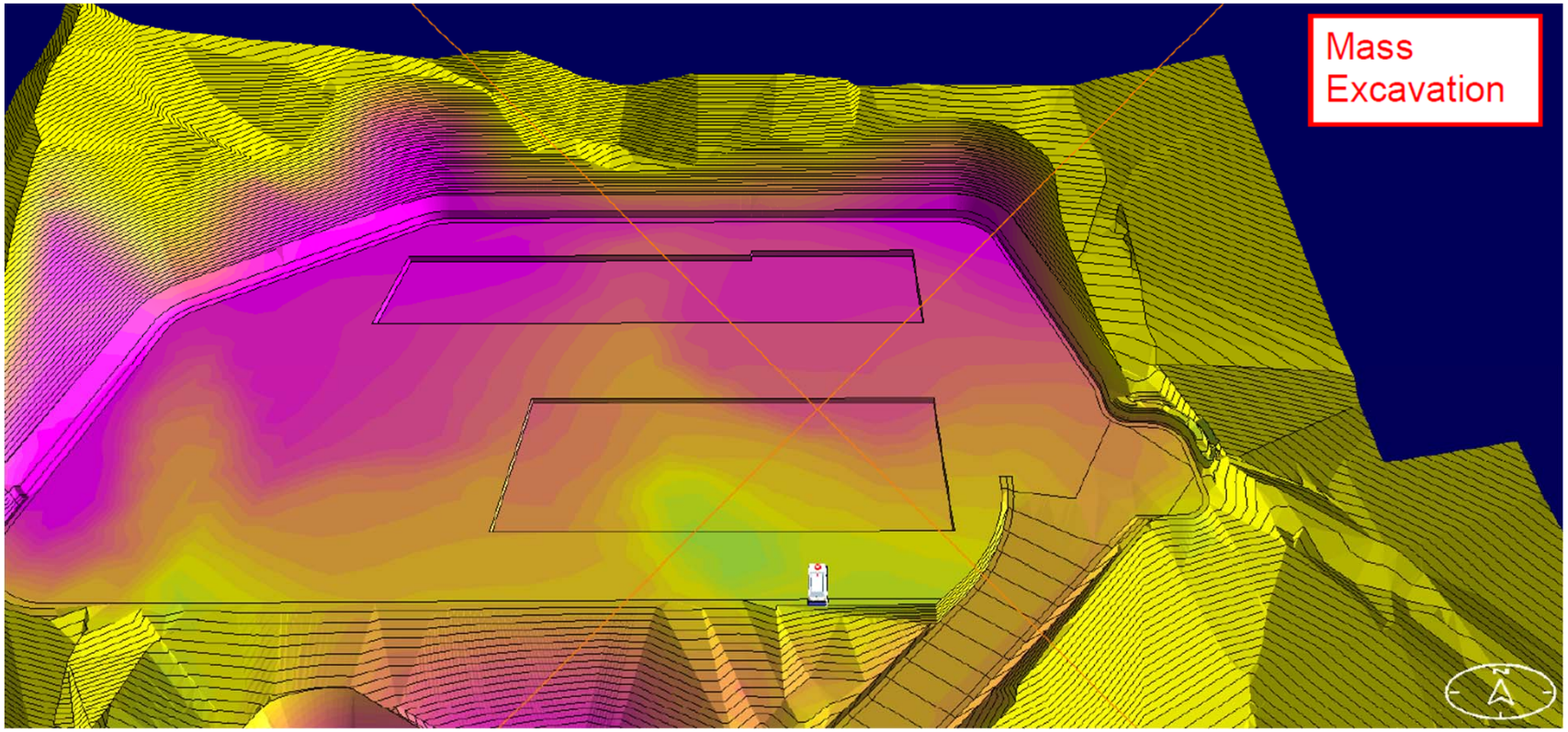
- New clearwell at plant site
- Around 850,000 gallons

- Used for:
  - Cleaning filters
  - Improving pumping operations
  - Time to disinfect the water
  - Storage for distribution system
  - Emergency water storage

Site Layout – Existing Area



Site Layout – An Initial Concept



Crossing Ashland Creek

- All existing pipes on the east side of the creek.
- New plant site is on the west side of the creek.
- We are evaluating:
  - Going over the creek on a new bridge for just piping.
  - Pipes buried underneath the creek

04 Path Forward

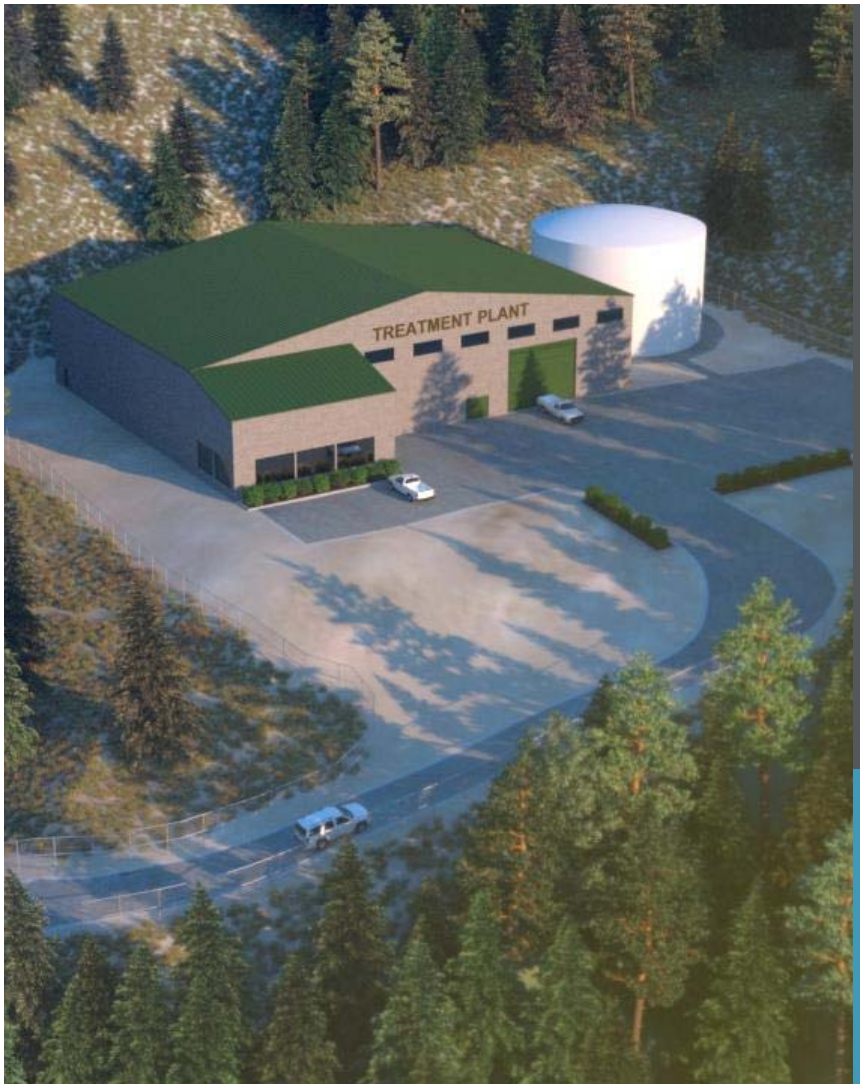
Follow-Up Activities

Phase 2 – Final Design (2019 to 2020)

- Distribution system study
- Final design – construction documents, reviews, cost estimates, value engineering/constructability reviews
- Permitting – City, County, and State
- Construction bidding

Phase 3 – Construction and Start-up (2020 to 2022)

- Build and start-up new facilities
- Decommission existing plant



Design of a 7.5 Million Gallon a Day Water Treatment Plant

Project #2018-20

Pierre Kwan – HDR

June 25, 2019

CITY OF ASHLAND
WATER MASTER PLAN STATUS UPDATE

AGENDA

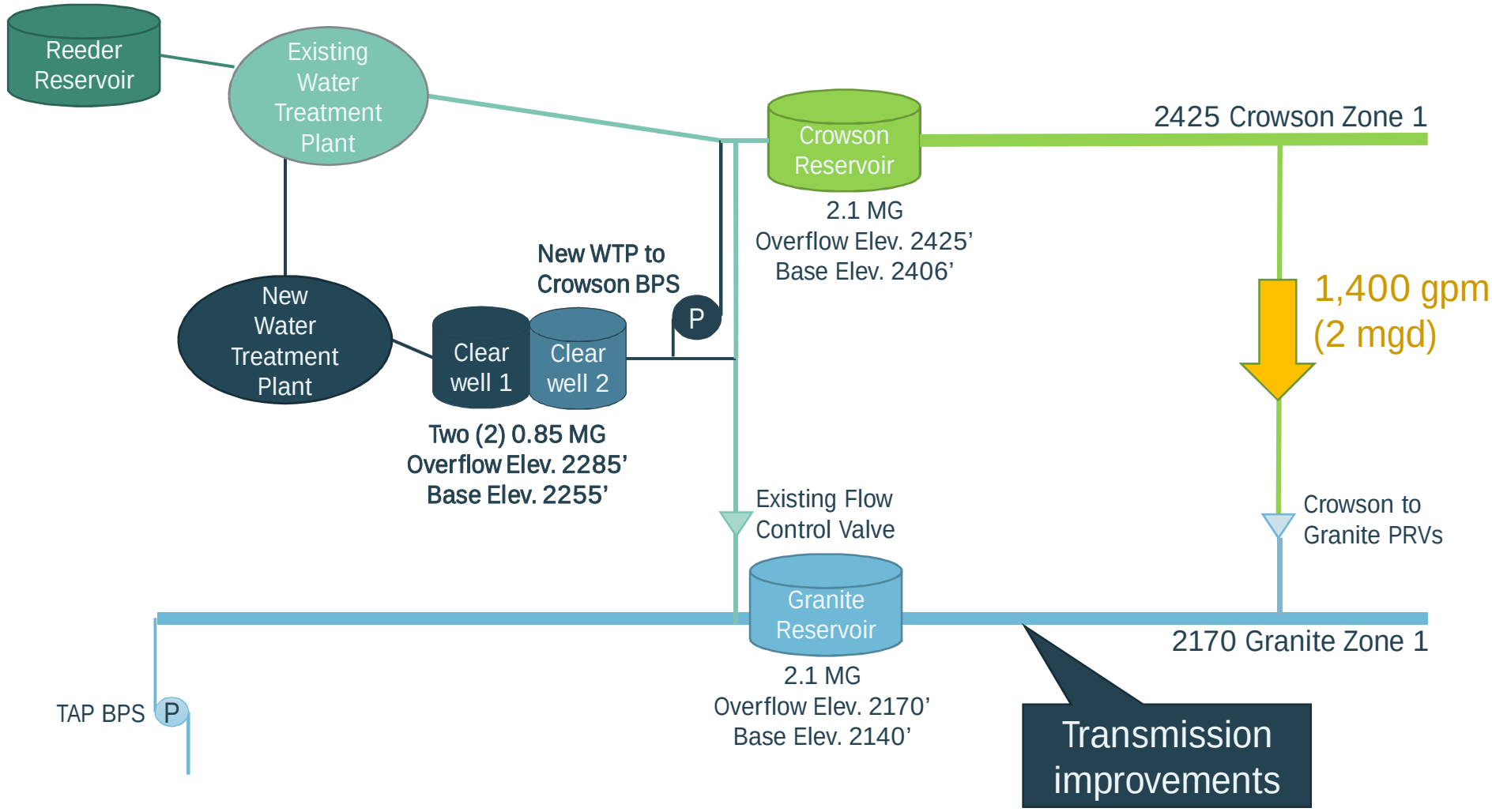
- Chapter 5 System Analysis Update
- Chapter 6 CIP Update
- Draft Water Master Plan

CHAPTER 5
SYSTEM ANALYSIS

WATER SYSTEM CHALLENGES

1. **Moving from a Gravity System to a Partial Gravity System**
2. Granite Reservoir is Aging and in a Poor Location
3. Oversized Alsing Reservoir
4. Fire Flow Deficiencies at Highest Customers (Park Estates and South Mountain)
5. TAP Emergency Supply Cannot Reach Crowson Zones
6. Pressure Extremes in Many Locations
7. Inability to Meet Higher Fire Flow Standards
8. Potential Storage Deficiency
9. Many Aging, Undersized Pipes

INTEGRATION OF THE NEW WTP



INTEGRATION OF THE NEW WTP - APPROACH

Phase 1

- Build the WTP to Crowson BPS to current demand needs (continue to rely on Crowson to Granite PRVs)
  - BPS Capacity = 3,200 gpm
- Reduce Crowson to Granite PRV settings to reduce flow
- Temporary replace PRV 9 (Grandview & Wimer)

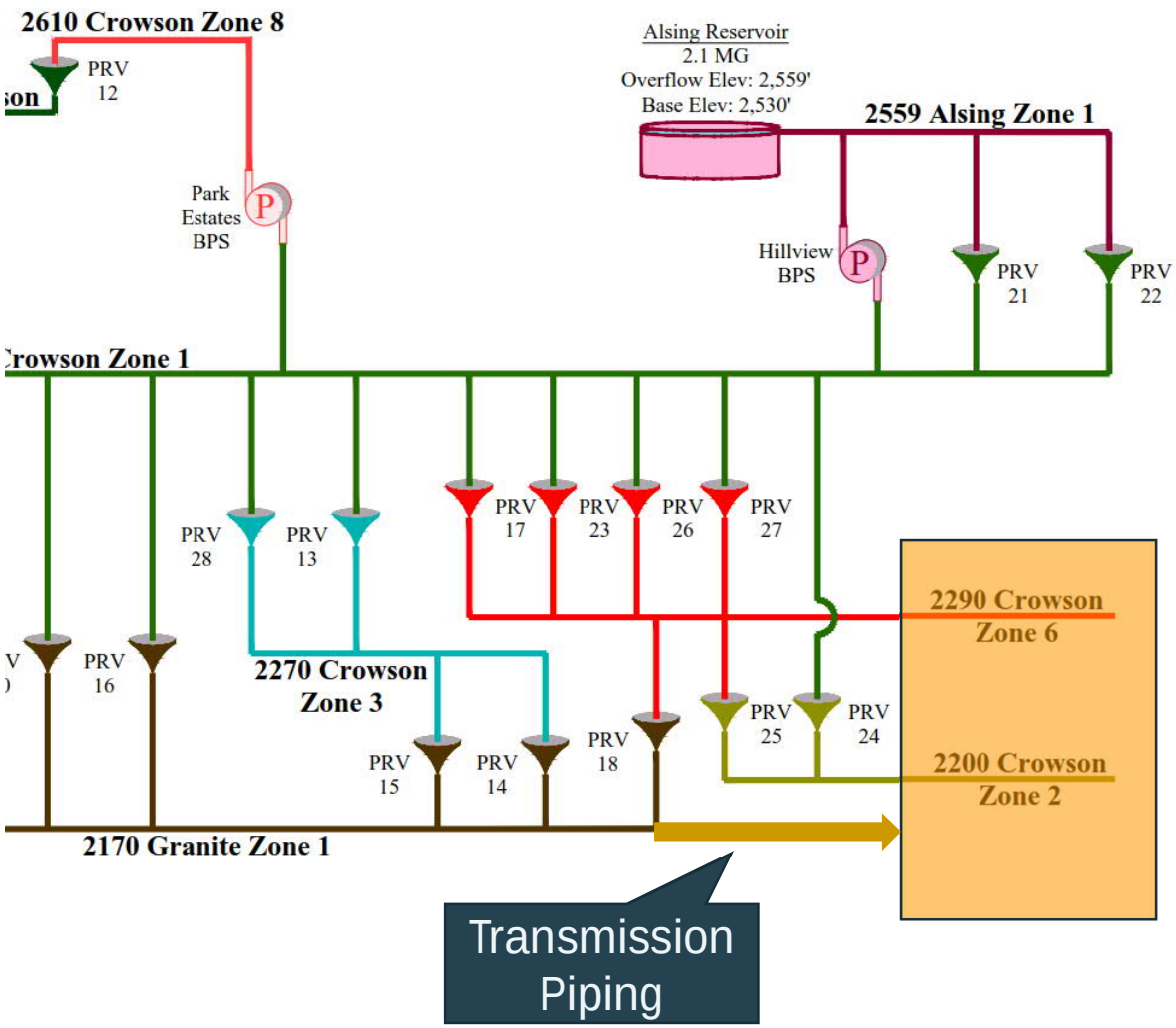
Phase 2

- Build Granite Zone Transmission Improvements
  - 16-inch Granite Street Pipe (FY30)
  - 12-inch Scenic Dr/Nutley St Pipe (Mid-Term)

INTEGRATION OF THE NEW WTP - APPROACH

Phase 3

- Rezone low-elevation Crowson zones to Granite
- **WTP to Crowson BPS Capacity = 1,650 gpm**



WATER SYSTEM CHALLENGES

1. Moving from a Gravity System to a Partial Gravity System
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8. **Potential Storage Deficiency**
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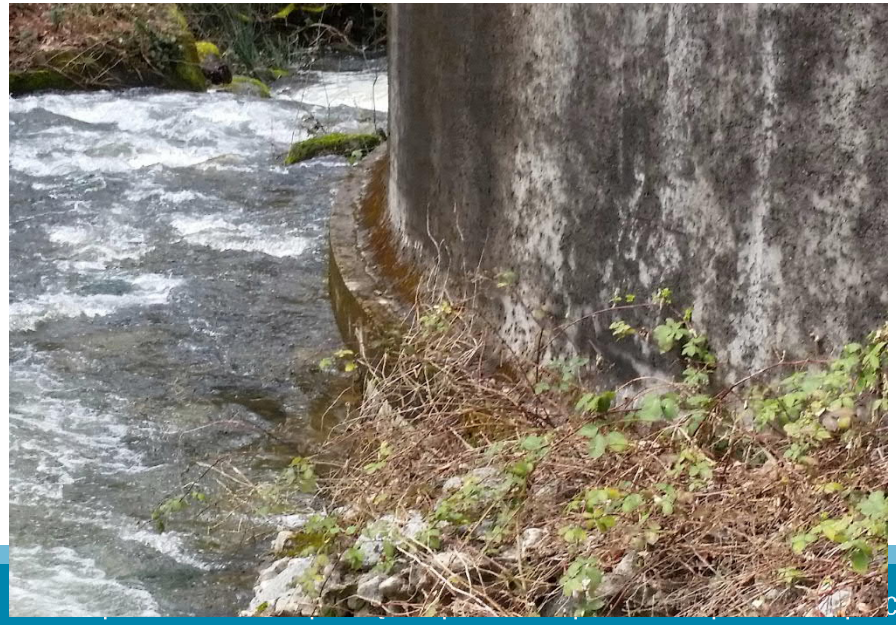
STORAGE REQUIREMENTS

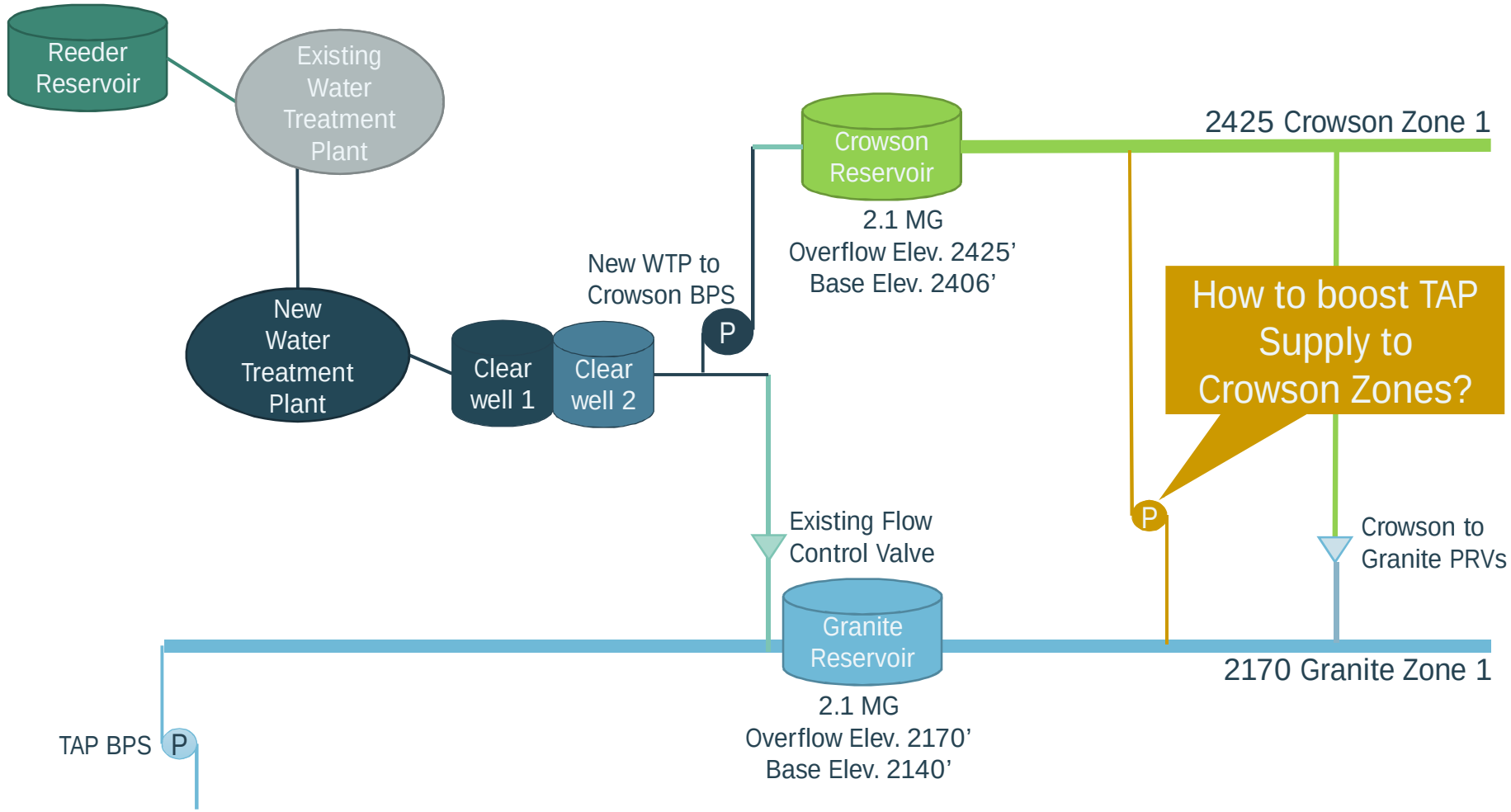
- Under current conditions and storage criteria, City is 0.37 MG deficient (1.34 MG in the future)
- Recommendations
  - Revise criteria to reflect emergency TAP supply and a new reliable, resilient WTP
  - Expand Alsing Zone
  - Implement conservation
- Results in excess storage capacity

GRANITE RESERVOIR REPLACEMENT

- Aging
- Requires major improvements (>$500k for basic improvements)
- Poor location



GRANITE RESERVOIR IS CRITICAL FOR THE TAP SUPPLY OPERATION



GRANITE RESERVOIR ALTERNATIVES

1. Repair Granite Reservoir
2. Replace (relocate) Granite Reservoir
3. Abandon Granite Reservoir, modify TAP BPS
4. Abandon Granite Reservoir, rely on new Granite to WTP BPS with complex operations

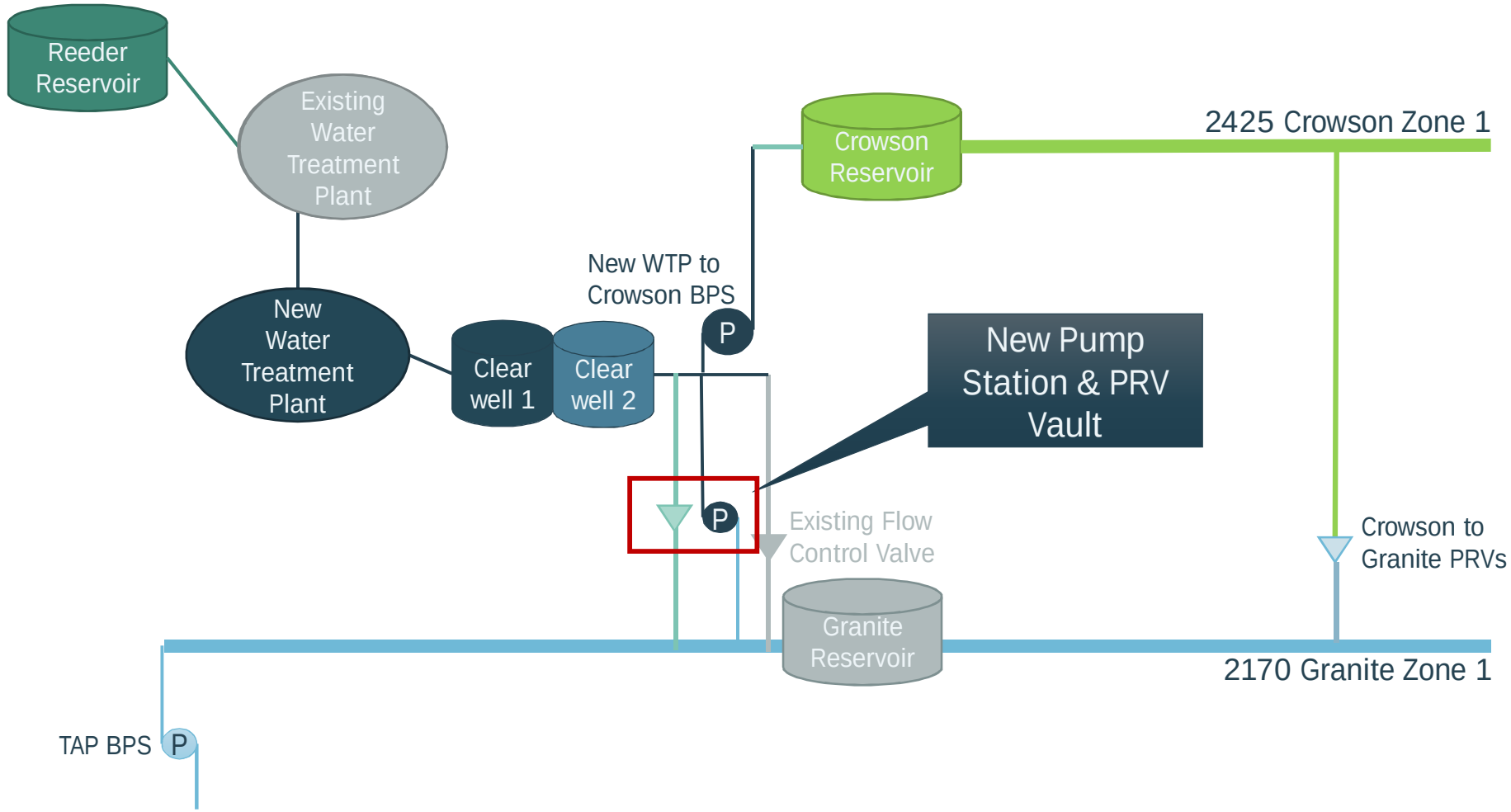
ALT 1 – REPAIR GRANITE RESERVOIR

- Pros
  - No change to current system hydraulics
  - Continues to simplify TAP Emergency Supply operations
  - Eliminates need for second WTP clearwell
- Cons
  - Costly repairs
  - Reservoir remains in a high risk location

ALT 3 – ABANDON GRANITE RESERVOIR, MODIFY TAP BPS

- Pros
  - No repairs needed for Granite Reservoir
  - Low cost
- Cons
  - Limits expansion of TAP BPS to 3.0 mgd
  - Creates a more complex operation
  - May require other transmission improvements to achieve an even hydraulic grade

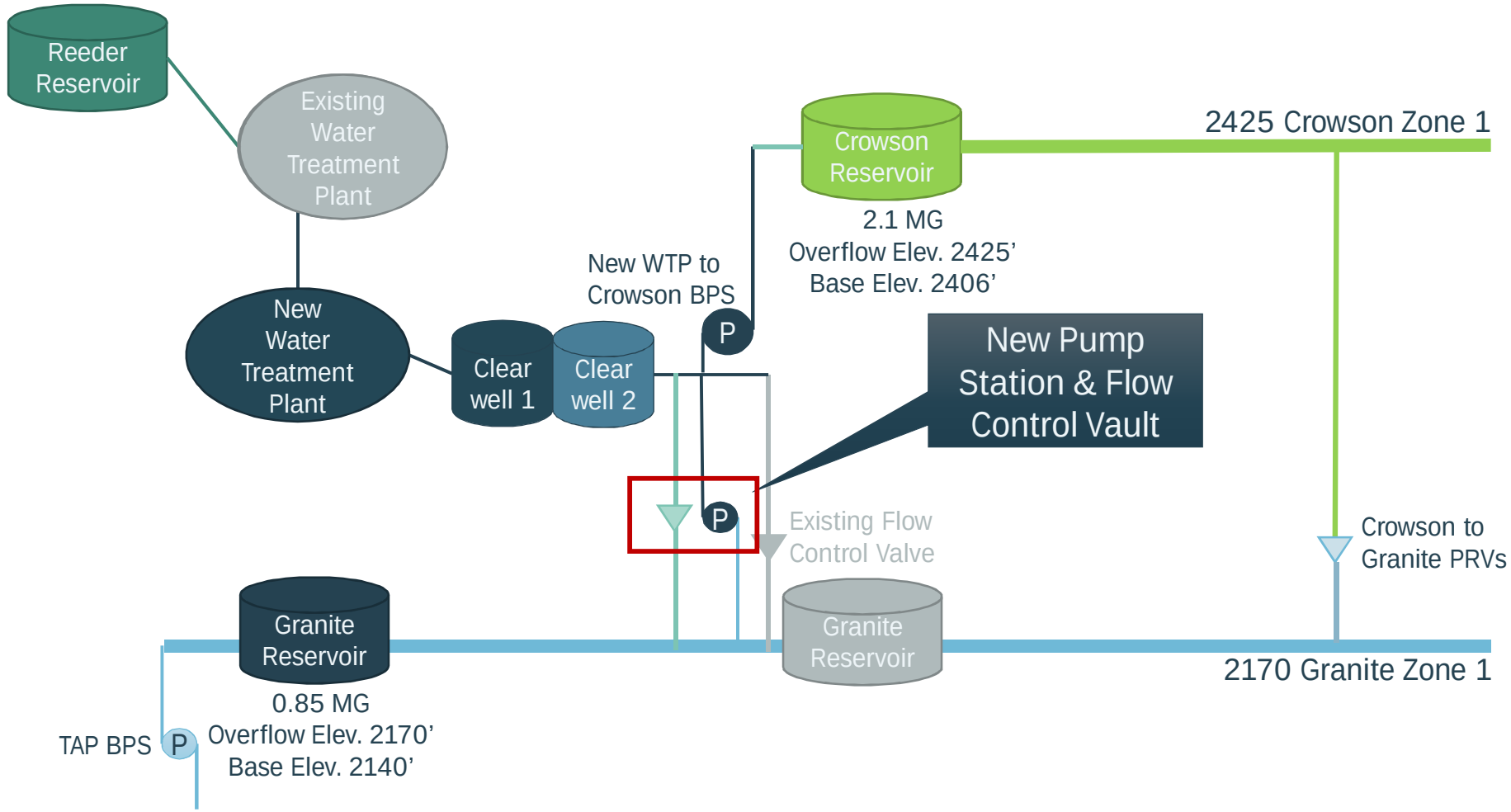
ALT 4 – ABANDON GRANITE RESERVOIR, NEW GRANITE TO WTP BPS, COMPLEX OPERATIONS



ALT 4 – ABANDON GRANITE RESERVOIR, NEW GRANITE TO WTP BPS, COMPLEX OPERATIONS

- Pros
  - No repairs needed for Granite Reservoir
  - Low cost
- Cons
  - Creates a complex operation
  - May require other transmission improvements to achieve an even hydraulic grade

ALT 2 – RELOCATE GRANITE RESERVOIR & BUILD TAP BPS

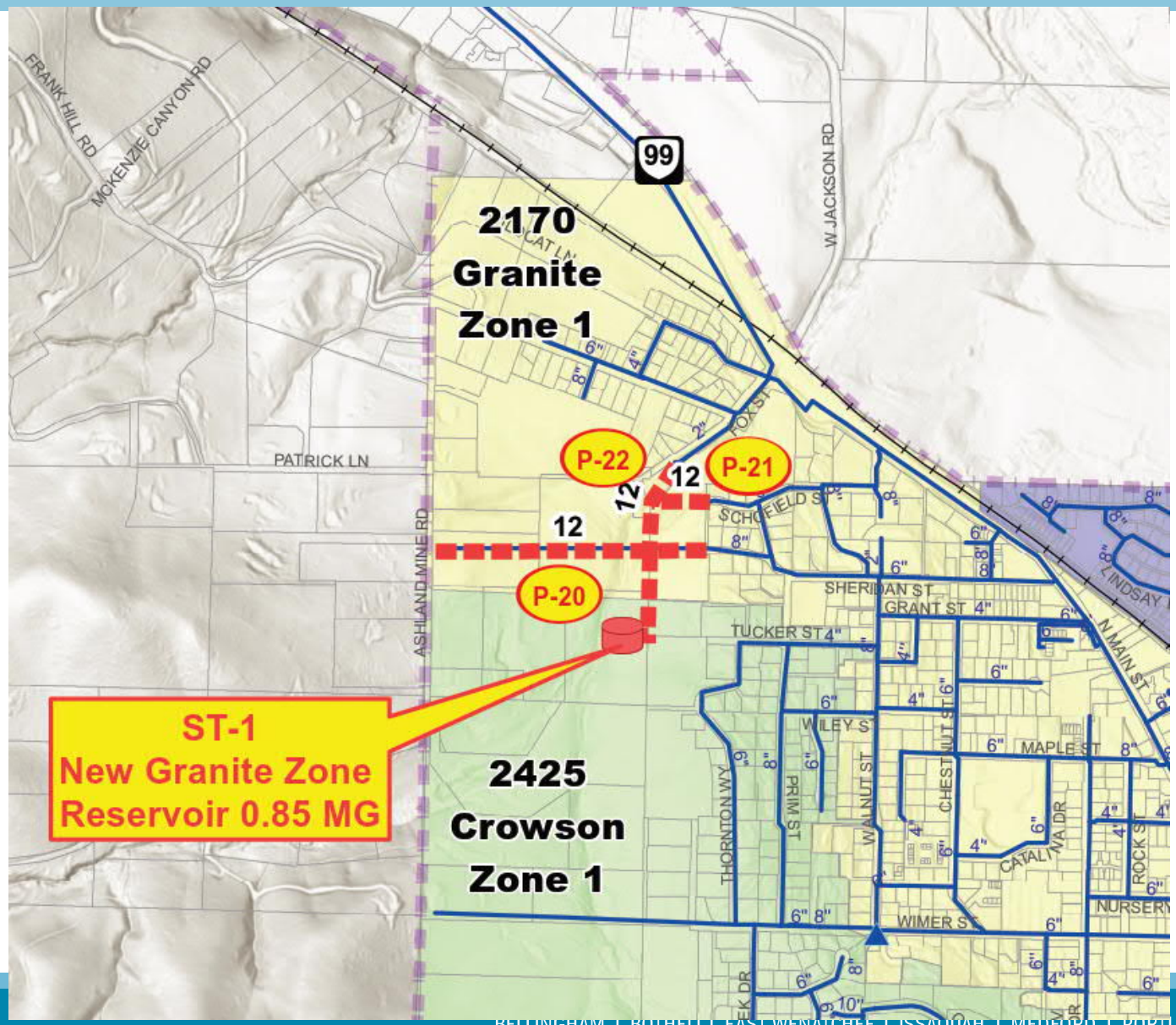


ALT 2 – RELOCATE GRANITE RESERVOIR & BUILD TAP BPS

- Pros
  - Ideal for operation of Granite Zone and TAP Emergency Supply
  - Eliminates need for second clearwell
  - Reduces cost of Granite Street pipe improvement
  - Coincides with pipes needed for new development

- Cons
  - Highest Cost
  - Requires short-term continued reliance on existing Granite Reservoir

NEW GRANITE RESERVOIR CONCEPTUAL LOCATION



NEW GRANITE RESERVOIR STRATEGY

1. Increase pipe size in Fox Street (scheduled for FY20)
2. Property acquisition
3. 16-inch pipe in Granite Street & 12-inch pipe in Scenic Dr/Nutley
4. New Granite to WTP Pump Station & Flow Control Valve
5. New Granite Reservoir & piping
6. Abandon existing Granite Reservoir

CIP Schedule for Mid-Term

WATER SYSTEM CHALLENGES

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ALSING RESERVOIR EXPANSION

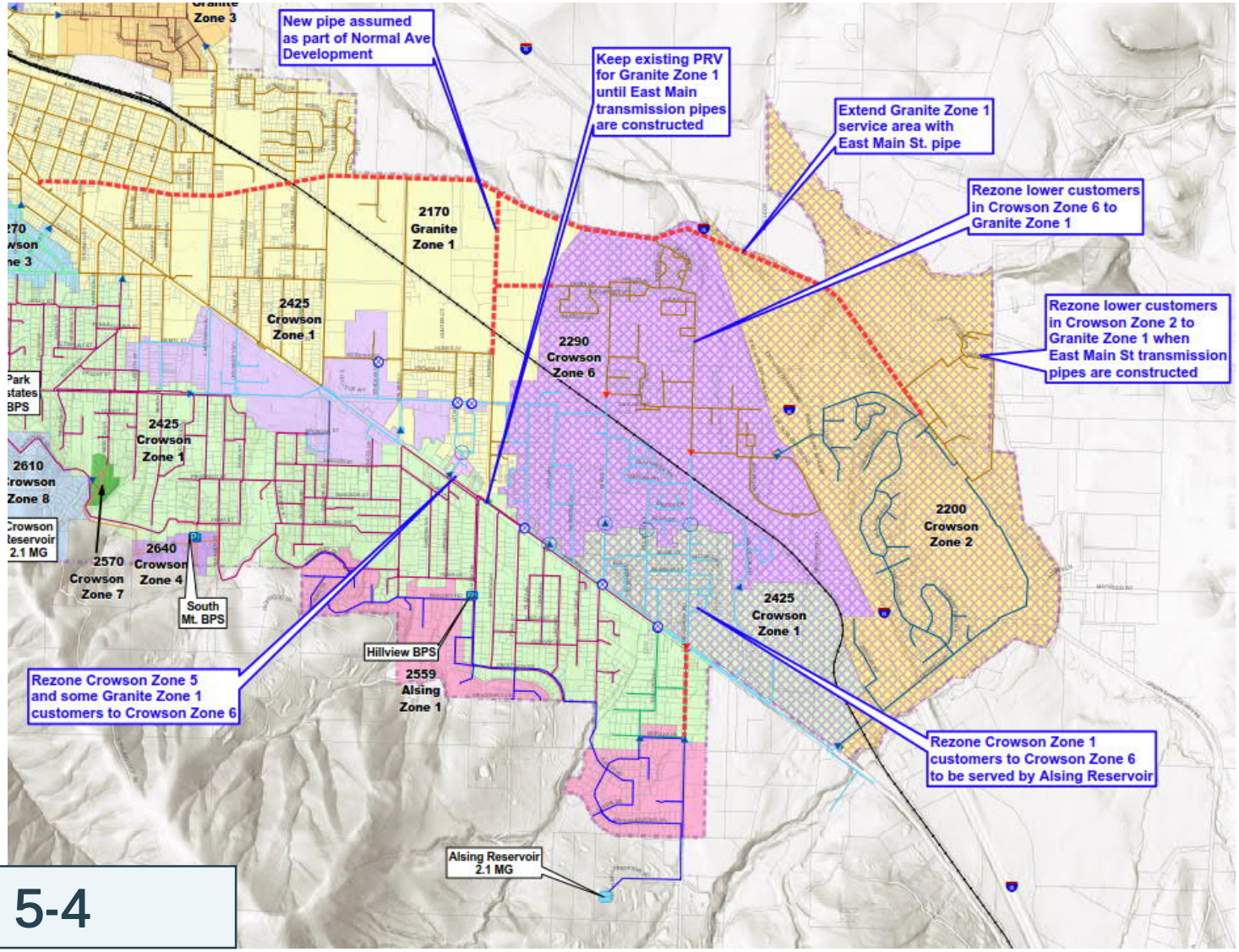

Figure 5-4

WATER SYSTEM CHALLENGES

1. Moving from a Gravity System to a Partial Gravity System
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P-3 AND P-6 CONNECT CROWSON ZONES 7 & 8, ABANDON SOUTH MTN BPS

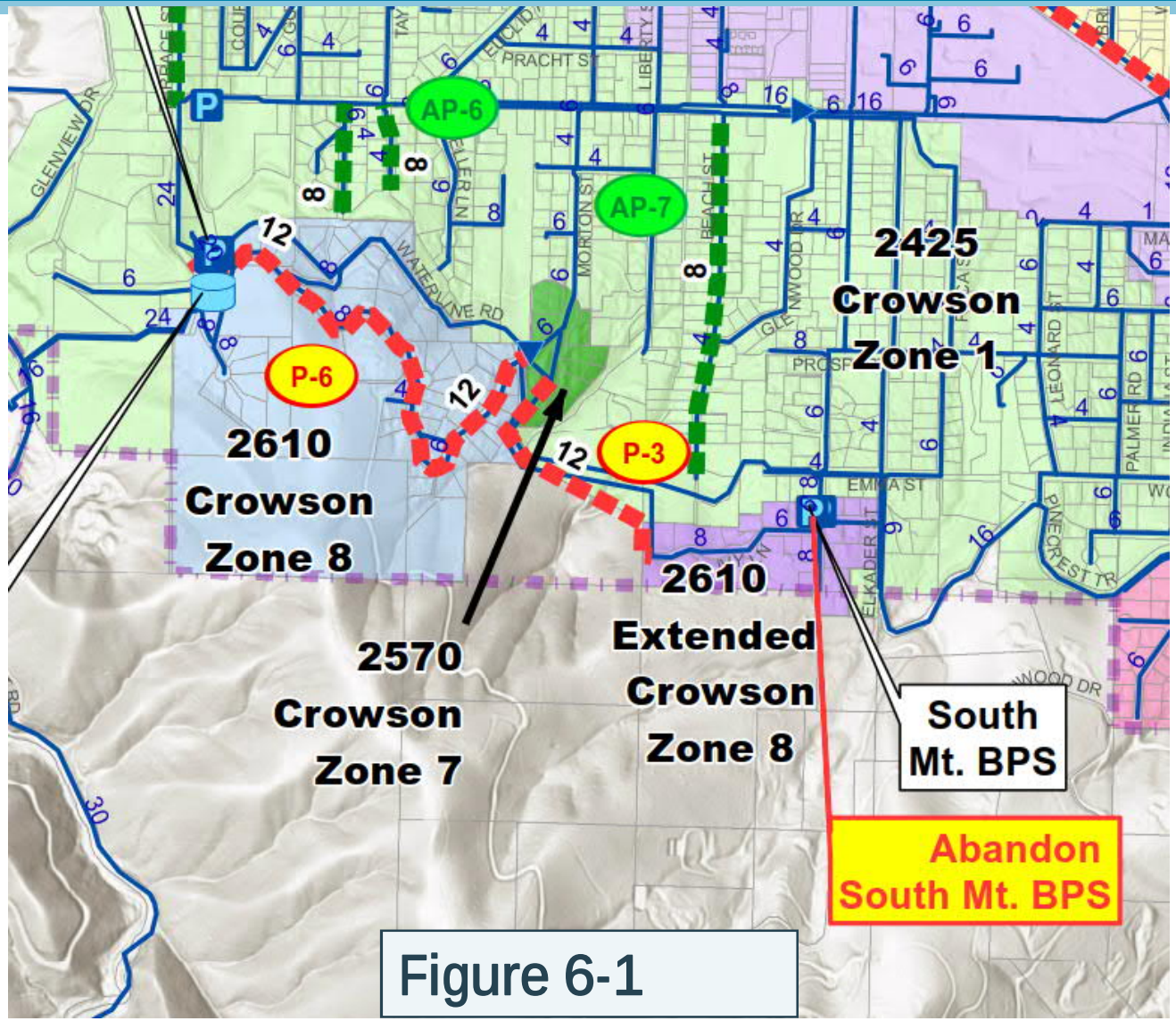

Figure 6-1

P-13 REZONING STUDY AND PIPE IMPROVEMENTS

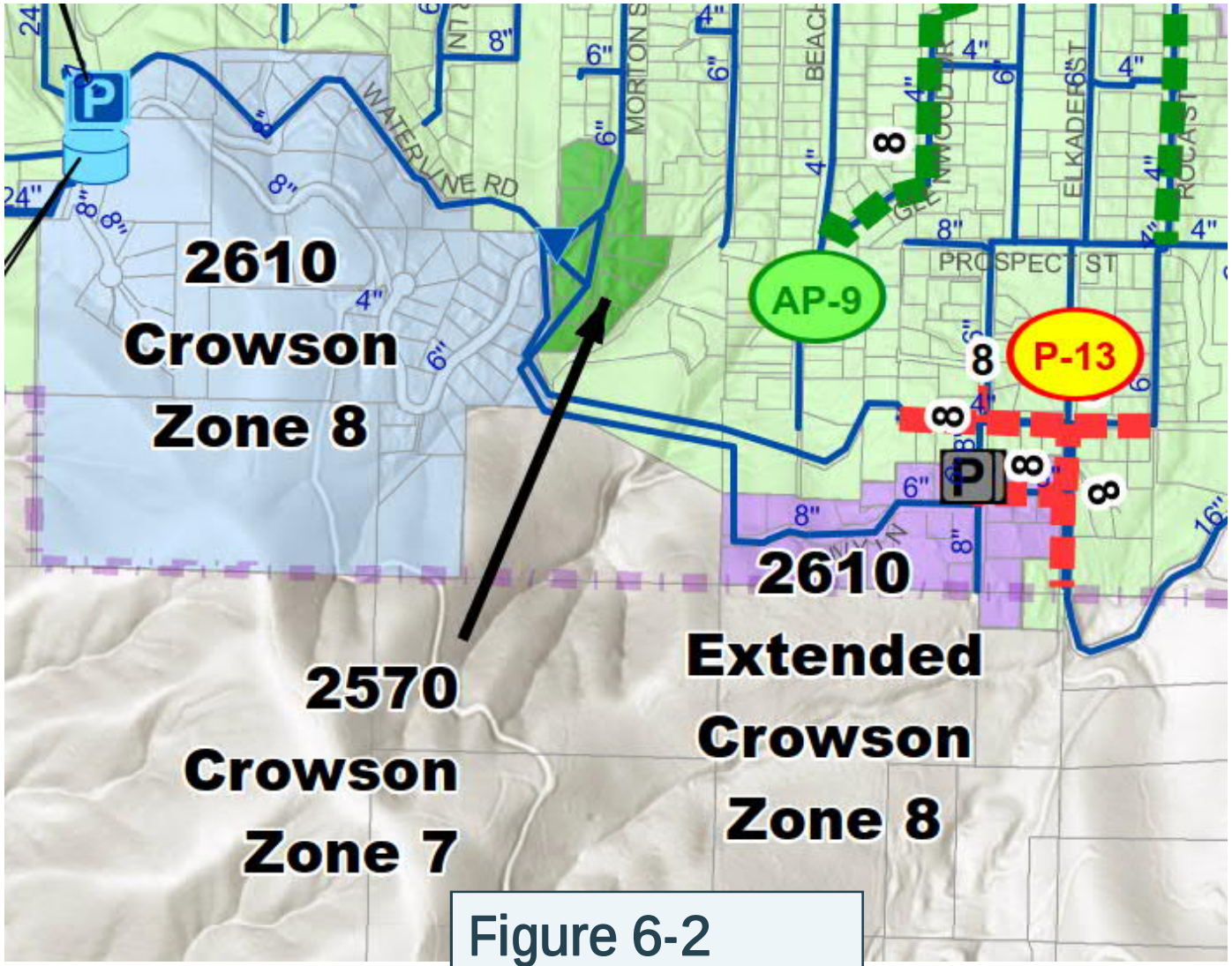

Figure 6-2

WATER SYSTEM CHALLENGES

1. Moving from a Gravity System to a Partial Gravity System
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5. TAP Emergency Supply Cannot Reach Crowson Zones
6. **Pressure Extremes in Many Locations**
7. **Inability to Meet Higher Fire Flow Standards**
8. Potential Storage Deficiency
9. **Many Aging, Undersized Pipes**

PIPE IMPROVEMENTS

- Rezone Studies
- Annual pipe improvement budget
- Focus on replacing undersized, aging pipes
- Focus on low fire flow areas, then on meeting new criteria

CHAPTER 6
CAPITAL IMPROVEMENT PLAN

PROJECT PRIORITIZATION

1. Currently planned projects for next two years
   - Current CIP
   - New WTP and associated infrastructure
   - Park Estates Pump Station and infrastructure
2. Projects that resolve significant fire flow deficiencies (<50 percent of criteria)
3. Projects that reduce supply from Crowson to Granite Zones (for improved operational efficiency)
4. Projects that correct high pressure conditions

CHANGES SINCE MAY AWAC MEETING

- Added a long-term planning period (FY40+)
- Incorporated City direction on Granite Reservoir and boosting of TAP Supply
- Adjusted timing of several projects
- Pipe Projects
  - Kept annual pipe improvements to ~$1M
  - Allocated smaller projects to $300,000 annual repair program
  - Identified/verified other projects
    - Removed some projects

CAPITAL IMPROVEMENT PLAN – SUPPLY

PROJECT NO.	DESCRIPTION	TOTAL PROJECT COST	PLANNING PERIOD (YEARS)			SDC ELIGIBILITY (%)
			SHORT-TERM	MID-TERM	LONG-TERM	
			FY20-29	FY30-39	FY40+	
S-1	Dam Safety Improvements	**$4.8M**	$4.8M	$ -	$ -	13%
S-2	Ashland (TID) Canal Piping	**$3.5M**	$3.5M	$ -	$ -	66%
S-3	East and West Forks Transmission Line Rehab	**$2.1M**	$2.1M	$ -	$ -	0%
S-4	Reeder Reservoir Intake Repairs	**$0.1M**	$0.1M	$ -	$ -	0%
S-5	Reeder Reservoir Sediment Removal	**$1.7M**	$0.6M	$0.6M	$0.6M	75%
S-6	7.5-MGD Water Treatment Plan	**$30.7M**	$30.7M	$ -	$ -	10%
S-7	WTP Backwash Recovery System	**$2.8M**	$ -	$2.8M	$ -	10%
S-8	TAP System Improvements	**$50K**	$50K	?	?	10%
S-9	Deferred WTP Improvement Projects	?	$ -	?	?	10%
	Total Supply Projects	**$45.8M**	**$41.9M**	**$3.4M**	**$0.6M**	

CAPITAL IMPROVEMENT PLAN – STORAGE

PROJECT NO.	DESCRIPTION	TOTAL PROJECT COST	PLANNING PERIOD (YEARS)			SDC ELIGIBILITY (%)
			SHORT-TERM	MID-TERM	LONG-TERM	
			FY20-29	FY30-39	FY40+	
ST-1	New 0.85-MG Granite Zone Reservoir	**$2.8M**	$ -	$2.8M	$ -	33%

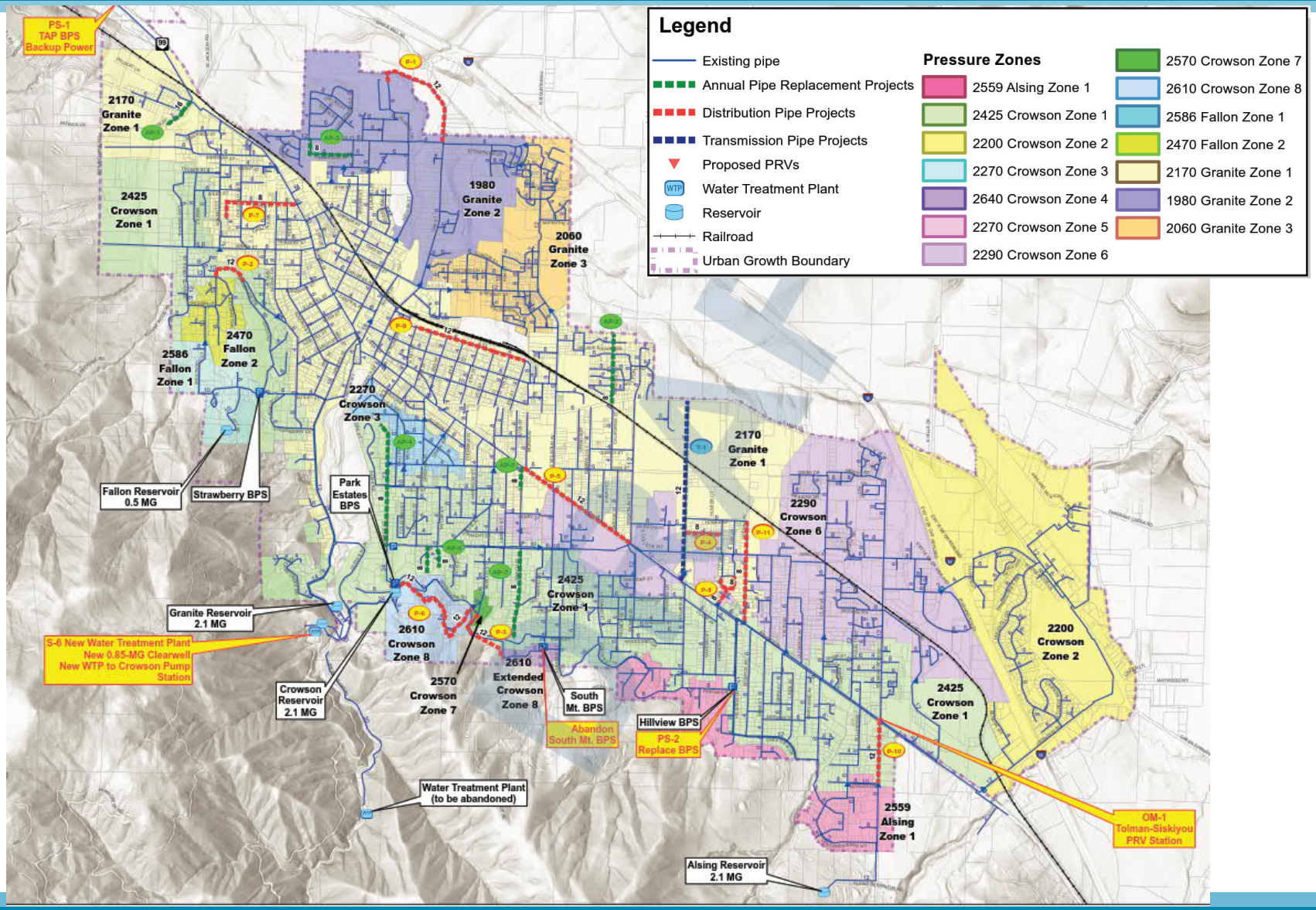
CAPITAL IMPROVEMENT PLAN – PUMPING

PROJECT NO.	DESCRIPTION	TOTAL PROJECT COST	PLANNING PERIOD (YEARS)			SDC ELIGIBILITY (%)
			SHORT-TERM	MID-TERM	LONG-TERM	
			FY20-29	FY30-39	FY40+	
PS-1	TAP BPS Backup Power	**$0.4M**	$0.4M	$ -	$ -	10%
PS-2	Hillview BPS Replacement	**$1.5M**	$1.5M	$ -	$ -	8%
PS-3	Granite to WTP BPS	**$0.6M**	$ -	$0.6M	$ -	10%
	Total Pumping Projects	**$2.5M**	**$1.9M**	**$0.6M**	**$ -**	

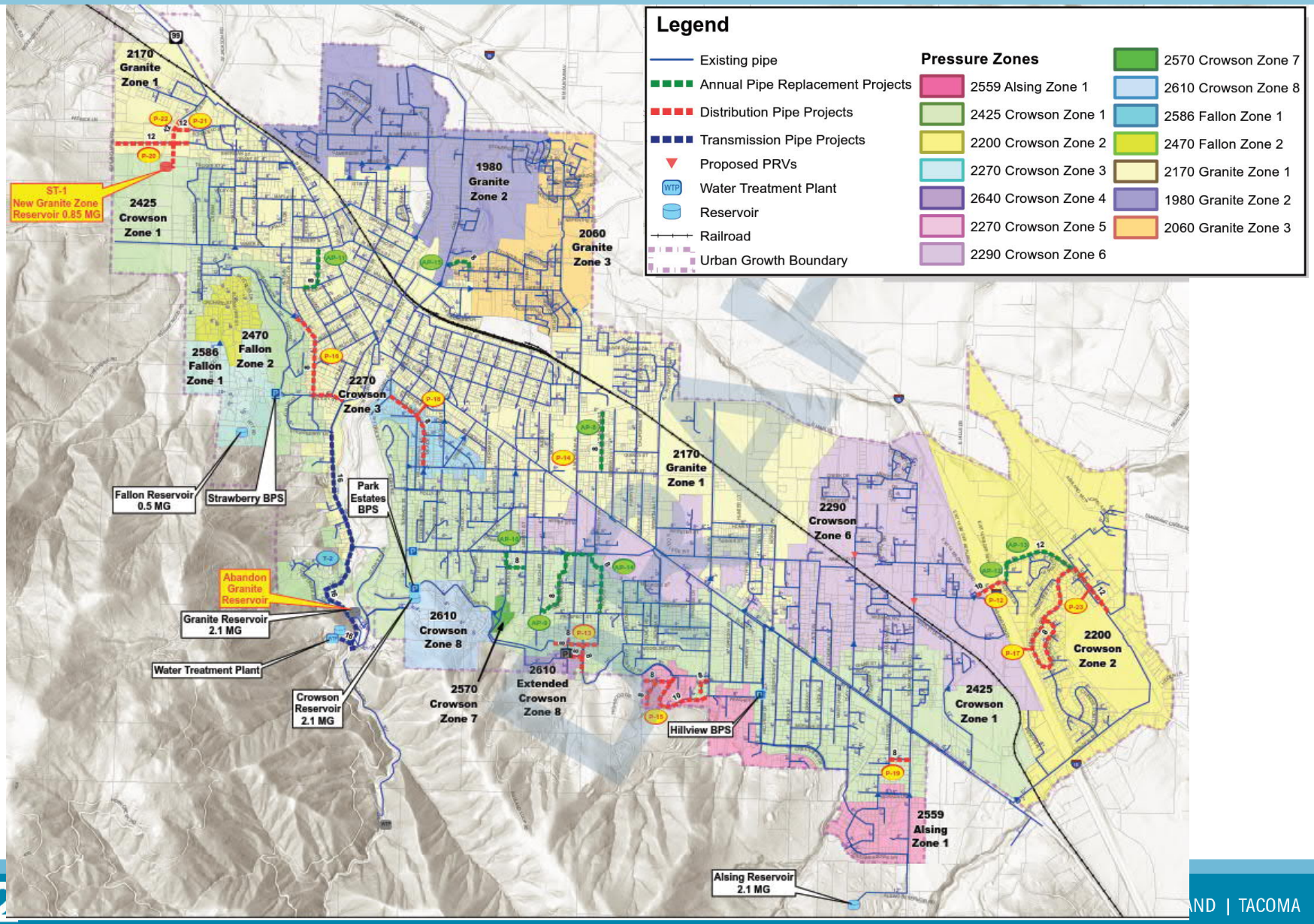
CAPITAL IMPROVEMENT PLAN – PIPING

PROJECT NO.	DESCRIPTION	TOTAL PROJECT COST	PLANNING PERIOD (YEARS)			SDC ELIGIBILITY (%)
			SHORT-TERM	MID-TERM	LONG-TERM	
			FY20-29	FY30-39	FY40+	
AP-1 to AP-25	Annual Pipe Replacement	**$9.0M**	$3.0M	$3.0M	$3.0M	10%
P-1 to P-32	Distribution Pipe Projects	**$15.5M**	$6.4M	$7.1M	$2.0M	10%
T1-T5	Transmission Pipe Projects	**$9.0M**	$0.6M	$2.2M	$6.2M	80%
	Total Pipe Projects	**$33.5M**	**$10.0M**	**$12.3M**	**$11.2M**	

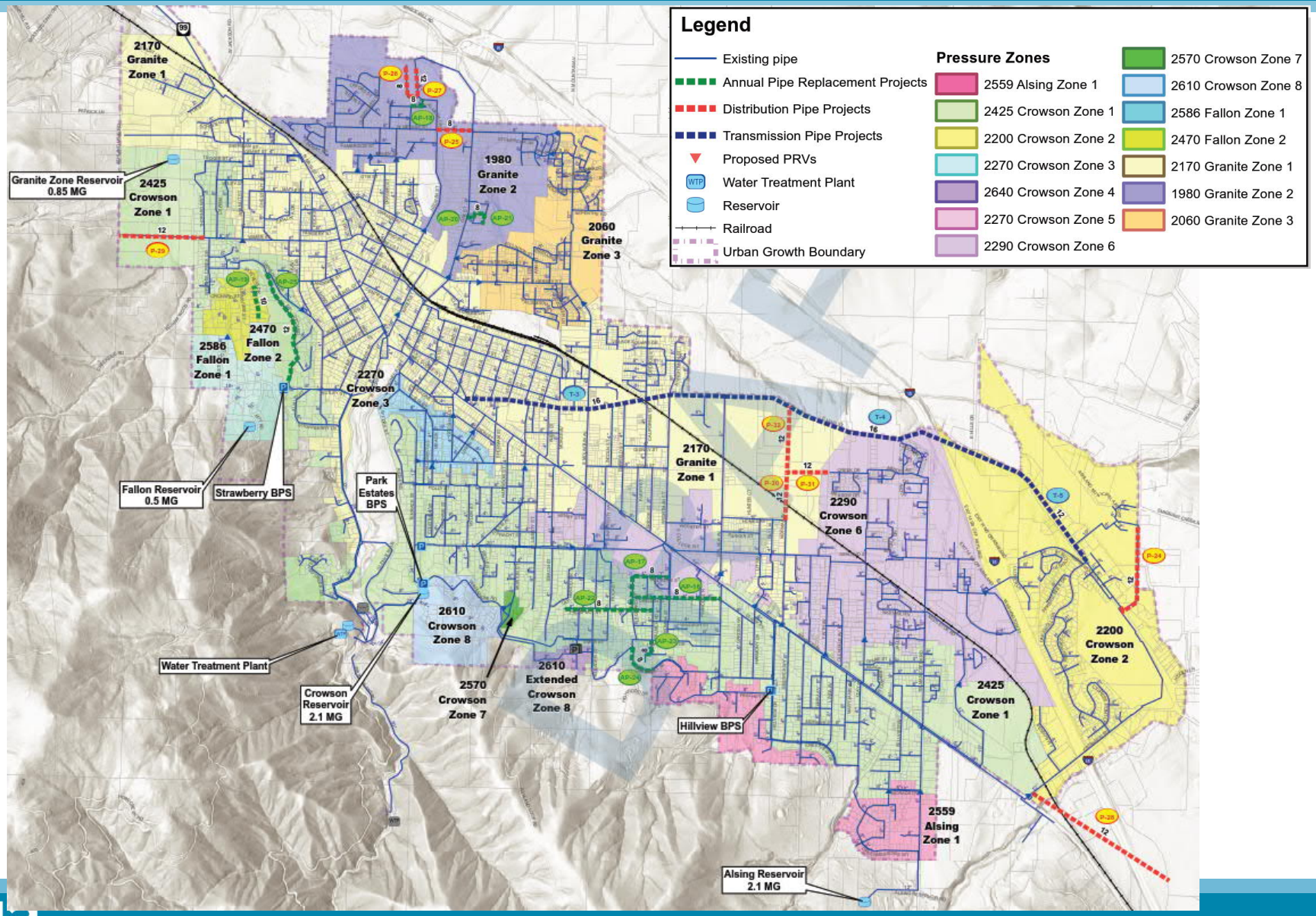
CIP FIGURE 6-1 SHORT-TERM



CIP FIGURE 6-2 MID-TERM



CIP FIGURE 6-3 LONG-TERM



CAPITAL IMPROVEMENT PLAN – O&M

PROJECT NO.	DESCRIPTION	TOTAL PROJECT COST	PLANNING PERIOD (YEARS)			SDC ELIGIBILITY (%)
			SHORT-TERM	MID-TERM	LONG-TERM	
			FY20-29	FY30-39	FY40+	
OM-1	Tolman Creek Road PRV Station	**$75K**	$75K	$ -	$ -	8%
OM-2	Hydrant Replacement Program	**$2.2M**	$0.6M	$1.6M	$ -	0%
OM-3	Telemetry Upgrades	**$80K**	$80K	$ -	$ -	10%
OM-4	AMI/AMR Evaluation	**$60K**	$60K	$ -	$ -	10%
OM-5	Pipe Connection/PRV Adjustments from Rezone Studies	**$200K**	$ -	**$200K**	$ -	0%
OM-6	Clay St and Tolman Creek Road PRV Stations	**$150K**	$ -	$150K	$ -	10%
OM-7	Pressure Relief Valves	**?**	?	$ -	$ -	10%
	Total O&M Projects	**$2.8M**	**$0.9M**	**$2.0M**	**$ -**	

CAPITAL IMPROVEMENT PLAN – STUDIES

PROJECT NO.	DESCRIPTION	TOTAL PROJECT COST	PLANNING PERIOD (YEARS)			SDC ELIGIBILITY (%)
			SHORT-TERM	MID-TERM	LONG-TERM	
			FY20-29	FY30-39	FY40+	
RS-1	TAP Water Master Plan & Future Updates	**$150K**	$50K	$50K	$50K	10%
RS-2	Risk and Resilience Assessment and Emergency Response Plan	**$150K**	$150K	$ -	$ -	10%
RS-3	Rezoning Study	**$50K**	$50K	$ -	$ -	10%
RS-4	Water Master Plan Updates	**$600K**	$100K	$250K	$250K	100%
	Total Recommended Studies	**$950K**	**$350K**	**$300K**	**$300K**	

TOTAL CIP

CATEGORY	TOTAL PROJECT COST	PLANNING PERIOD (YEARS)		
		SHORT-TERM	MID-TERM	LONG-TERM
		FY20-29	FY30-39	FY40+
SUPPLY	**$45.8M**	$41.9M	$3.4M	$0.6M
STORAGE	**$2.8M**	$ -	$2.8M	$ -
PUMP STATION	**$2.5M**	$1.9M	$0.6M	$ -
PIPES	**$33.5M**	$10.0M	$12.3M	$11.2M
OPERATIONS AND MAINTENANCE	**$2.8M**	$0.9M	$2.0M	$ -
RECOMMENDED STUDIES	**$1.0M**	$0.4M	$0.3M	$0.3M
TOTAL CIP	**$88.3M**	**$55.0M**	**$21.3M**	**$12.0M**

DRAFT WATER MASTER PLAN

WATER MASTER PLAN CHAPTERS

- Chapter 1 – Introduction
- Chapter 2 – Existing System
- Chapter 3 – Land Use & Population
- Chapter 4 – Demand Projections
- Chapter 5 – System Analysis
- Chapter 6 – Capital Improvement Plan
- Chapter 7 – Financial Analysis

QUESTIONS?