

**REGULAR MEETING AGENDA OF THE  
CUSTOMER ADVISORY COMMITTEE OF  
CITRUS HEIGHTS WATER DISTRICT (CHWD)  
TUESDAY, SEPTEMBER 10, 2019 beginning at 6:30 PM**

**CITRUS HEIGHTS COMMUNITY CENTER  
6300 FOUNTAIN SQUARE DRIVE, CITRUS HEIGHTS, CA**



In compliance with the Americans with Disabilities Act, if you have a disability and need a disability-related modification or accommodation to participate in this meeting, please contact the General Manager at (916) 725-6873. Requests must be made as early as possible, and at least one full business day before the start of the meeting.

Customer Advisory Committee meetings are video recorded, and available for web streaming at [www.chwd.org](http://www.chwd.org) and [www.youtube.com](http://www.youtube.com).

**CALL TO ORDER:**

**ROLL CALL OF COMMITTEE MEMBERS:**

**PLEDGE OF ALLEGIANCE:**

**PUBLIC COMMENT:**

The Public shall have the opportunity to directly address the Customer Advisory Committee on any item of interest to the public before or during the Committee's consideration of that item pursuant to Government Code Section 54954.3. Public comment on items of interest within the jurisdiction of the Committee is welcome. The Committee Chair will limit comments to three (3) minutes per speaker.

**REVIEW AND REORDERING OF THE AGENDA:**

Agenda items may be moved to accommodate those in attendance wishing to address that item. Please inform staff at (916) 725-6873 or at [cac@chwd.org](mailto:cac@chwd.org), if you feel that you may need an accommodation.

(A) Action Item

(D) Discussion Item

(I) Information Item

**BUSINESS:**

B-1. Approval of Meeting #7 Summary – June 11, 2019 (A)

B-2. Phasing and Implementation Plan of the Preferred Alternative (I/D)

1. Discuss and provide feedback on Technical Memorandum No. 6: Phasing Plan.
2. Discuss and provide feedback on Technical Memorandum No. 7: Implementation Plan

B-3. Meter Replacement Program Introduction (I/D)

Receive a report on the purpose and scope of the Phasing and Implementation Plan.

**COMMITTEE MEMBERS' AND FACILITATOR REPORTS:**

- C-1. Facilitator's Report (I)
- C-2. Committee Members' Reports (I)

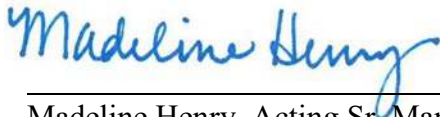
**FUTURE CHWD COMMUNITY ADVISORY COMMITTEE MEETING DATES:**

October 23, 2019      6:30 PM      Regular Meeting

**ADJOURNMENT:**

**CERTIFICATION:**

I do hereby declare and certify that this agenda for this Regular Meeting of the Customer Advisory Committee of the Citrus Heights Water District was posted in a location accessible to the public at the District Administrative Office Building, 6230 Sylvan Road, Citrus Heights, CA 95610 and the Citrus Heights Community Center, 6300 Fountain Square Drive, Citrus Heights, CA 95610 at least 72 hours prior to the regular meeting in accordance with Government Code Section 54954.2.



\_\_\_\_\_  
Madeline Henry, Acting Sr. Management Services  
Specialist/Chief Board Clerk

Dated: September 5, 2019



## Customer Advisory Committee Meeting #7 Summary

Tuesday, June 11, 2019, 6:30-9:30 pm

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### ***INTRODUCTION***

Jenna Moser, Chair of the Customer Advisory Committee (CAC), called the meeting to order at 6:33 p.m. After welcoming the members of the CAC, she turned the meeting over to Laura Mason-Smith, the CAC meeting facilitator, who reviewed with the CAC the **Meeting Agenda**:

1. Public Comment
2. Introductions
3. Approve minutes of March 19, 2019 CAC Meeting #6
4. Review the Remaining Top Two Spending/Funding Alternatives
5. Review the Market Research Results
6. Determine the Top Alternative Recommendation
7. Preview CAC Meeting #8 on September 10, 2019
8. Public Comment
9. Close

Laura reiterated that meeting materials are provided electronically to the CAC members in advance of and following their meetings and are posted on the CHWD website, [Customer Advisory Committee Section](#). In addition, meeting summaries that provide an overview of each of the CAC meetings as well as a video of the meetings are posted to the website to be available to the CAC members and the general public.



## Customer Advisory Committee Meeting #6 Summary

Tuesday, June 11, 2019, 6:30-9:30 pm

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### ATTENDEES

#### CAC Members:

Kimberly Berg	Commercial Representative
Julie Beyers	Residential Representative
Ray Bohlke	Residential Representative
Deborah Cartwright	Residential Representative
Patti Catalano	Residential Representative
Michael Goble	Residential Representative
Suzanne Guthrie	Residential Representative
Bren Martinez	Residential Representative
Dave Mitchell	Institutional Representative
James Monteton	Residential Representative
Jenna Moser	Residential Representative and CAC Chair
Richard Moses	Residential Representative and CAC Vice Chair
Mike Nishimura	Commercial Representative
Peg Pinard	Residential Representative
Chris Ralston	Institutional Representative
Ray Riehle	CHWD Director
Javed Siddiqui	Residential Representative

#### Unable to attend were:

Katherine Cooley	Institutional Representative
Wes Ervin	Commercial Representative
Andrew Johnson	Alternate
Doug MacTaggart	Residential Representative
Richard Moore	Residential Representative
David Paige	Residential Representative
Aimee Pfaff	Residential Representative
Cyndi Price	Institutional Representative
Noe Villa	Institutional Representative

#### CHWD Staff and Board:

Chris Castruita	Management Services Supervisor/Chief Board Clerk
Tamar Dawson	Assistant Engineer
Paul Dietrich	Project Manager
David Gordon	Operations Manager
Madeline Henry	Management Services Specialist/Deputy Board Clerk
Rex Meurer	Water Efficiency Supervisor
Missy Pieri	Engineering Manager/District Engineer
Caryl Sheehan	CHWD Board Chair
Hilary Straus	General Manager
Susan Talwar	Administrative Services Manager

#### Consultants:

Andrew MacDonald	Harris & Associates
Roger Kohne	Technical Support
Habib Isaac	Raftelis Financial Consultants, Inc.
Bryan Godbe	Godbe Research
Laura Mason-Smith	Mason-Smith Success Strategies



## Customer Advisory Committee Meeting #6 Summary

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### ***PUBLIC COMMENT***

Community member Sherland Clark, a resident and homeowner for over 42 years, thanked the District and the CAC for such a progressive public process and for providing the opportunity for community input. She recommended that the District minimize or rectify damage to any personal property when implementing the water main replacement project. It was confirmed by District Engineer Missy Pieri that there is a contingency built into all construction projects for these types of situations.

### ***APPROVAL OF MARCH 19, 2019, CAC MEETING #6 MINUTES***

The minutes of the March 19, 2019, CAC Meeting #6 were unanimously approved without comments or changes.

### ***CAC PROCESS OVERVIEW***

Missy Pieri, District Engineer and Project 2030 Manager, provided an overview of where the CAC is in the Project 2030 process and outlined what is still to come. Missy also thanked the CAC members for their ongoing thoughtful and active participation in the process.

### ***REVIEW OF THE REMAINING TWO SPENDING/FUNDING ALTERNATIVES***

Habib Isaac reviewed the top two Spending/Funding Alternatives that the CAC had identified at their March 19, 2019 meeting and that had moved forward for Market Research:

Alt #	Funding Description	System Replaced by 2080	Project Cost-- 2018 \$	Annual Spending 2018 \$	Additional Interest
5.4	Prefunding (\$22.5M), with Debt (4% of funding)	72%	\$390M	\$7.8M	\$48M
6.4	Prefunding (\$29.4M), with Debt (9% of funding)	89%	\$480M	\$9.6M	\$132M

Alternative	Prefunding	Annualized (10 years)	Projected Monthly Meter Surcharge (1 inch)
5.4	\$22.5 M	\$2.25 M	\$8.63
6.4	\$29.4 M	\$2.94M	\$11.27



## **Customer Advisory Committee Meeting #6 Summary**

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### ***RESEARCH RESULTS***

Bryan Godbe, with Godbe Research, provided a detailed overview of the market research results covering the following topics related to the Top Two Spending/Funding Alternatives:

1. Research objectives
2. Methodology overview
3. Key findings
4. Summary and recommendations

The key findings and summary of recommendations are available in [Technical Memo No. 5](#). A question-and-answer period also occurred after the review to answer any CAC questions.

### ***THE TOP ALTERNATIVE RECOMMENDATION***

The CAC members indicated their initial informal assessment of the two Alternatives. They then officially voted for Alternative 5.4 as their Top Recommendation. The final voting results were 11 members for Alternative 5.4 and 3 members for Alternative 6.4; however, the members voting for Alternative 6.4 also indicated that they could support Alternative 5.4. Given that the market research results showed that both Alternatives 5.4 and 6.4 have a majority of research respondents' support that is not significantly different, the CAC members explained some of their reasons for choosing Alternative 5.4, as paraphrased below:

1. We had a couple of really great Alternatives, and I'm really pleased with either of those Alternatives. The next big challenge will be finding out and deciding on how the public education and engagement process will be done.
2. This increase in funding (via rate increase or surcharge), when it is implemented, will likely be only one of several increases of utility bills that customers may receive, so the gentler the increase the more likely the District will get more support.
3. The main deciding factor was the fact that at the end of the market research, there was no statistical difference between the two Alternatives. Therefore, I went with my opinion of what would be the best option for the community at large that I believe the majority would support.



## **Customer Advisory Committee Meeting #6 Summary**

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### ***THE TOP ALTERNATIVE RECOMMENDATION (continued)***

4. If the survey respondents had been given the specific projected monthly rate increase amounts, I believe they would have given a more realistic response. That is why I chose Alternative 5.4.
5. I agree that, with no statistical difference, when the survey tested for rate sensitivity that flipped my support to the less expensive Alternative.
6. I agree with all those comments; each of the individual survey respondents provided input on one option and didn't have the opportunity to choose between the two options. So, I think the CAC should appear as the tie breaker since we know all the Alternatives, have been in this process for over a year, have been exposed to much more information about the issues surrounding Project 2030, and know much more than the survey respondents.
7. There was a very large percentage of respondents that indicated they didn't know or have an opinion, which is surprising; maybe they are overwhelmed by data. We've been in this process for over a year. If the respondents had all the facts we have been exposed to, I think they would sway toward the 5.4 Alternative.
8. I appreciate the rate sensitivity and the monthly surcharge information. We need to be sensitive to our population, some of whom are on fixed incomes, and the impacts to our rate payers.
9. I'm extremely confident in the integrity of the Citrus Heights Water District and the fact that the District will do the right thing for the community. I think the District will get way beyond the water main replacement goals and will want to do even more for the customers.
10. My concern on this is that I think it would have been more worthwhile to have chosen Alternative 6.4 to have 89% of the water mains replaced rather than 72%. I would have preferred the Alternative 6.4 to replace more pipes, but Alternative 5.4 is still fine.
11. I preferred the higher completion number of Alternative 6.4 and thought the difference in cost would be worth it, since water is an essential service. But I can also support Alternative 5.4.



## Customer Advisory Committee Meeting #6 Summary

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### **CAC PROCESS AND LOGISTICS OVERVIEW**

The CAC reviewed the updated schedule of 2019 CAC meetings ([see the CAC Document Library on the website for the schedule graphic](#)). These after-dinner meetings and the high-level topics anticipated for each of the meetings are.

<b>Workshop #8: September 10, 2019, 6:30-9:15 pm, Citrus Heights Community Center</b>
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- |  |
|--|
| <ul style="list-style-type: none"><li>• Review Implementation Plan</li><li>• Review Final Board Recommendation</li></ul> |
|--|

### **CAC MEMBER CLOSING COMMENTS**

The CAC members indicated what they were taking away from the Meeting as:

1. The thoughtfulness of this group makes me confident that there are great quality people in this group who would be excellent candidates to serve on the CHWD Board of Directors.
2. I'm very satisfied with the outcome. I can talk with my neighbors and customers and feel really strong with the outcome of Alternative 5.4.
3. I found out tonight that community engagement and education will be extremely important and that the District needs to improve this. Flyers that come in the mail typically go into the trash; so there will need to be a lot more work done and a better approach for younger generations. One idea is to present to elementary schools to talk about water conservation efforts and teach them about infrastructure.
4. It's been a pleasure to be part of the discussion process.
5. I think there is a lot of momentum and energy in the right direction. I think that Alternative 5.4 has a good chance to get legs.
6. I am satisfied with the process. I've never participated in anything like this, so I have enjoyed learning and, when there is an increase, I will understand what's gone into it. Thank you.
7. I enjoyed being part of the process and am happy with the results. I may not be happy with a rate increase, but I think it will be justified.





## Customer Advisory Committee Meeting #6 Summary

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### ***CAC MEMBER CLOSING COMMENTS (continued)***

8. It's been a good process, and there's been lots of education. I wish everybody could have this level of education, so we need to share what we've learned.
9. I enjoyed also learning the backside of the survey process; it is interesting to look at the questions and takeaways and how those inform the materials presented this evening. The pieces that help the decision making, such as rate sensitivity as part of the big picture, were very interesting.
10. A challenge is for the District to distinguish itself. It's probably useful to be "out of the gate" first to promote the District's assets—the great CHWD water, the reliability of our water (especially when electricity may not be reliable), and that we all have a share in maintaining our water.
11. Often it helps to listen and be the speaker at almost anything to talk about our Water District and how wonderful our water is. That's the kind of thing that will help get the word out.
12. This CAC process has really been great, and I feel surprised and good because the District made the process so informative and easy.
13. I'm really happy about the process overall and happy to be a participant, so thank you for that. I'm curious about the public outreach and would like to be able to hear feedback as the public gets more educated about the project. It would be nice to be able to hear that more and more people are on board with it in a positive way.
14. It's been an honor and privilege to be on the CAC and I've learned a lot as a result of this process. I agree that it will be easier to talk with other people who ask questions.
15. Thanks to everyone. I've taken a lot of education away from this experience, and it's been a great opportunity to serve our community. I hope everyone feels those same warm feelings of being able to give back in a really concrete way that we can tell other people about.

### ***PUBLIC COMMENTS***

None



## Customer Advisory Committee Meeting #6 Summary

Tuesday, June 11, 2019, 6:30-9:30 pm

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### ***CLOSE***

CAC Chair Jenna Moser thanked the CAC members, District staff, and consultants for their participation and adjourned the meeting at 8:28 pm.

### APPROVED:

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MADELINE HENRY  
Deputy Secretary  
Citrus Heights Water District

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JENNA MOSER, Chair  
Customer Advisory Committee  
Citrus Heights Water District

# CITRUS HEIGHTS WATER DISTRICT

## DISTRICT STAFF REPORT TO CUSTOMER ADVISORY COMMITTEE OF CITRUS HEIGHTS WATER DISTRICT SEPTEMBER 10, 2019 MEETING

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SUBJECT : Phasing and Implementation Plan of the Preferred Alternative  
STATUS : Action Item  
REPORT DATE : September 4, 2019  
PREPARED BY : Missy Pieri, Engineering Manager/District Engineer

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### **OBJECTIVE:**

Review and Discuss the Phasing and Implementation Plan of the Preferred Alternative.

### **BACKGROUND AND ANALYSIS:**

#### *Introduction and Background*

At the October 18, 2017 Board Meeting, the Citrus Heights Water District (CHWD) Board of Directors approved the Professional Services Agreement with Harris & Associates for the Project 2030 Water Main Replacement Study (Study).

The building blocks of the Study include:

- Asset Inventory
- Water Demand Forecast
- Water Main Replacement and Costs
- Water Main Replacement Phasing Plan
- Funding Strategy/Rate Options Analysis
- Implementation Plan
- Market Research on the final 2 options.

At Customer Advisory Committee (CAC) Meeting #2, held on August 28, 2018, the Project Team provided a briefing on the Water Demand Forecast, summarized in Technical Memorandum No. 1: Water Demand Forecast. This memo considers key assumptions such as population change, land development, legislative/regulatory mandates and other factors that could impact future District-wide water usage. The water demands will be used to determine future water main sizes that are proposed to be replaced and will assist in the prioritization of water main replacements.

At CAC Meeting #3, held on December 11, 2018, the Project Team provided a briefing on the Infrastructure Challenges, summarized in Technical Memorandum No. 2: Infrastructure Challenges (Technical Memo No. 2) and Water Main Assessment summarized in Technical Memorandum No. 3: Water Main Assessment (Technical Memo No. 3).

Technical Memo No. 2 identifies the infrastructure challenges, water supply challenges, and regulatory challenges that will likely impact the replacement of water mains beginning in 2030 and beyond.

Technical Memo No. 3 summarizes the key assumptions and methodology used to create the water main assessment and replacement cost estimates. This information will serve as the foundation for developing water main replacement phasing options and associated funding strategies.

At the CAC Meeting #4, held on February 5, 2019, the Project Team provided a briefing on the Spending and Funding Options, summarized in Technical Memorandum No. 4: Spending and Funding Options (Technical Memo No. 4).

Technical Memo No. 4 identifies various Spending and Funding Options and analyzes twenty-one (21) unique Spending and Funding Alternatives (Alternatives). The key considerations used to evaluate each Alternative include, but are not limited to, the amount of water main replaced, revenue adjustments and fluctuations, and pipe survival probability/relative risk.

At the February 5 Meeting, staff reviewed each of the 21 unique Alternatives along with key considerations for each Alternative with the CAC, and requested feedback on both Technical Memo No. 4 and the Alternatives presented.

At the CAC Meeting #5, held on February 26, 2019, the Project Team provided a brief background and reviewed previously presented information including the 21 unique Alternatives. Key considerations of each Alternative were also reviewed. CAC members were broken into smaller groups to discuss the Alternatives in greater detail. Access to the financial models were provided through the use of computers with preloaded dashboards to better visualize and compare the data discussed in Technical Memo No. 4. Each small group had access to (rotating) members of the Project Team. Each group selected their top Alternatives and briefly reported back to the full CAC their reasoning/priorities and resulting top Alternatives. The CAC workshop facilitator gathered and provided a visual summary of the small group selections. Finally, individual voting was used to gain consensus on the top Alternatives to move forward to the next CAC Meeting scheduled in March. The top Alternatives including the results of the individual voting are summarized in Table 1.

**Table 1**  
**Voting Results of Top Alternatives**

<b>Alternative #</b>	<b>Funding Description</b>	<b>For More Info., See TM # 4, Page Number</b>	<b>Project Cost—2018 \$ (Millions)</b>	<b>Annual Spending 2018 \$ (Millions)</b>	<b>% of System Replaced by 2080 (50 years starting in 2030)</b>	<b>Total Votes</b>
4.4	Prefunding, with Debt	19	320	6.4	59	10
5.2	Prefunding, No Debt	21	390	7.8	72	9
5.4	Prefunding, with Debt	23	390	7.8	72	12
6.4	Prefunding, with Debt	27	480	9.6	89	10
7.4	Prefunding, with Debt	31	510	10.2	94	6

At the CAC Meeting #6, held on March 19, 2019, the Project Team facilitated the review of the top five Alternatives. The Project Team provided a brief background and presented additional information on the top five Alternatives, including Key Considerations of each Alternative. CAC members broke into small groups to discuss the five Alternatives in greater detail. Access to the financial models were provided through the use of computers with preloaded dashboards to better visualize and compare the data. Each

group selected their top two Alternatives and gave brief reports on each small group's reasoning/priorities and resulting top Alternatives. The CAC workshop facilitator gathered and provided a visual summary of the small group selections. Finally, individual voting was used to select the top two Alternatives to move forward for Market Research Testing.

The CAC also received an overview of the Market Research Testing process and schedule, and feedback was requested.

At the CAC Meeting #7, held on June 11, 2019, the Project Team facilitated the review of the top two Alternatives and presented the results of the Market Research Testing of the top two Alternatives. CAC members indicated their initial informal assessment of the two Alternatives. They then officially voted for Alternative 5.4 as their Top Recommendation. The CAC members explained some of their reasons for choosing Alternative 5.4. The Project Team will now prepare an Implementation and Phasing Plan for the selected Alternative 5.4. The Project Team then highlighted the key steps to the Phasing and Implementation Plan.

#### September 10, 2019 CAC Meeting #8 Goals

At the CAC Meeting #8, to be held on September 10, 2019, the Project Team will provide a briefing on the preferred Alternative Phasing Plan, summarized in Technical Memorandum No. 6: Phasing Plan (Technical Memo No. 6) and Implementation Plan summarized in Technical Memorandum No. 7: Implementation Plan (Technical Memo No. 7).

Technical Memo No. 6 provides a phasing plan on which water mains will be replaced and in what order for the preferred Alternative 5.4.

Technical Memo No. 7 identifies the recommended actions for project preparation leading up to the year 2030 and during water main replacement starting in the year 2030 and continuing through 2080. Some of the actions include field inspections, computer model update(s), financial planning, and public engagement.

#### Next Steps

The next steps will be for the Project Team to complete the following items:

- Compile all of the Technical Memorandums into one report and submit to the CAC (expected in fourth quarter of 2019)
- Develop a public engagement strategy for Project 2030
- Continue to refine the financial program including pre-funding
- Present the Preferred Alternative including the public engagement strategy and financial program to the Board of Directors for consideration and possible action to begin implementation (expected in first quarter of 2020)

#### **RECOMMENDATION:**

Provide input and feedback to be included in the Project 2030 Study Technical Memorandum No. 6: Phasing Plan and Technical Memorandum No. 7: Implementation Plan.

#### **ATTACHMENTS:**

Technical Memorandum No. 6: Phasing Plan

Technical Memorandum No. 7: Implementation Plan

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**DRAFT**

# **Technical Memorandum No. 6**

## **Phasing Plan**

### **Project 2030 Water Main Replacement**

**September 2019**

Prepared for:



**6230 Sylvan Road  
Citrus Heights, CA 95610**

Prepared by:



**3620 American River Drive, Suite 175  
Sacramento, CA 95864**

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## Section 1 – Executive Summary

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This Technical Memorandum (TM) summarizes the Phasing Plan for the preferred Spending and Funding Alternative (Alternative 5.4) chosen by the Customer Advisory Committee (CAC) at the June 11, 2019 CAC meeting. Alternative 5.4 is described below in Table 1.

**Table 1 – Summary of Preferred Alternative 5.4**

Alternative	Funding Description	Cost (2018 \$)	Avg. Annual Spending	Pre-Funding	System Replaced by 2080
5.4	Pre-funding with Debt	\$390 million	\$7.8 million	\$22.5 million	72%

Through the District’s Geographic Information System (GIS) analysis and discussions with District staff, the water main replacements were broken in to three (3) linear projects (LPs) and thirty (30) area-based Project Area (PAs). Implementation of Project 2030 through the use of PAs is intended to take advantage of economies of scale and to reduce disruption associated with construction by completing all pipeline replacements in one PA before moving on to another PA.

These projects were then prioritized using the asset management model and grouped to meet the annual and decade spending of \$7.8 million and \$78 million, respectively.

Table 2 below summarizes the per decade estimated replacement costs.

**Table 2 – Water Main Replacement Costs per Decade**

Decade Ending	Est. Cost (2018 \$)
2040	\$77,452,500
2050	\$78,890,000
2060	\$79,589,000
2070	\$77,423,000
2080	\$76,118,000
<b>Total</b>	<b>\$389,472,500</b>

## **Section 2 – Introduction**

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Renewal and replacement of infrastructure, funding of improvements, and public understanding of the value of water are the most important issues to water system managers. The Citrus Heights Water District (CHWD or District) is currently using a 30-year Capital Improvement Plan that was developed in 1998 as a key planning tool in determining annual capital improvement projects, which includes water main replacement. As the above Plan is nearing the end of its term, the District is undertaking a process to review and refine its long term water main replacement program, which the District titled Project 2030 - Water Main Replacement Study. Key elements of this Study include: 1) Asset Inventory and Project Polygon Development, 2) Water Demand Forecast, 3) Water Main Assessment, 4) Water Main Replacement Phasing Options and Preferred Option, 5) Project Cost Estimates, 6) Funding Strategy, including Water Rate Options and Debt Service Options, and 7) Phasing and Implementation Plan.

## **Section 3 – Purpose**

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The purpose of this Technical Memorandum is to provide a Phasing Plan for the prioritization of water main replacements from the year 2030 through 2080. The prioritization process is based on minimizing risk associated with output from the asset management model. Recall from Technical Memorandum 3, Water Main Assessment, the assessment of risk used a conventional practice of considering factors that contribute to the likelihood of failure (LOF) and consequence of failure (COF) of any given pipeline segment. The Phasing Plan is intended as a guide to allocate geographic groupings of pipe replacement projects to the appropriate decade.

## **Section 4 – Data Sources**

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### **4.1 CHWD GIS**

Data from the District's GIS model, which includes all transmission and distribution pipeline elements in the system, is used as the data source for this analysis. Spatial relationships between the pipes such as roadways and physical barriers (e.g. creeks) are used to group the entire pipeline system into project areas. The following attributes associated with each pipe element are used in this analysis: installation date, diameter and length.

### **4.2 Model Output**

Output from the CHWD asset management model is organized in five (5) datasets that define projected risk for the decades ending in 2040, 2050, 2060, 2070 and 2080. The Total Risk and

Risk Grading associated with each pipe segment, for each dataset, are used in cost estimation and prioritization.

Recall from Technical Memorandum 3, Water Main Assessment, Total Risk is the product of the Consequence of Failure (COF) and the Likelihood of Failure (LOF) assigned to the element, and that the Risk Grading is a ranking from 1 to 5 with 1 being low risk and 5 being high risk. In general, the pipes with a higher risk will be replaced before pipes with a lower risk.

### **4.3 Cost Estimate**

A present value has been estimated and assigned to every pipeline element in the GIS. This value represents the replacement cost in 2018 dollars and is based on the cost estimating tool specifically prepared for Project 2030. By determining the replacement cost for pipelines in the system, pipes can be grouped together to meet the water main replacement spending of \$78 million dollars per decade, per the preferred Spending and Funding Alternative.

## **Section 5 – Methodology**

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### **5.1 Delineation of Projects**

The water mains located throughout the District can be categorized into two general categories, Linear Projects (LPs) and Project Areas (PAs) and are further described below.

#### **5.1.1 Linear Projects (LPs)**

Linear Projects (LPs) consist of large diameter supply pipelines. Since the large diameter transmission pipelines supply large amounts of water from the source of supply (either from the surface water source of San Juan Water District's treatment plant or from the District's various wells) to the distribution system, replacement of the LPs must be meticulously planned to accommodate supply redundancy, specialized control valves, other supply-related infrastructure, and large continuous excavations. Figure 1 provides a map of the LPs.

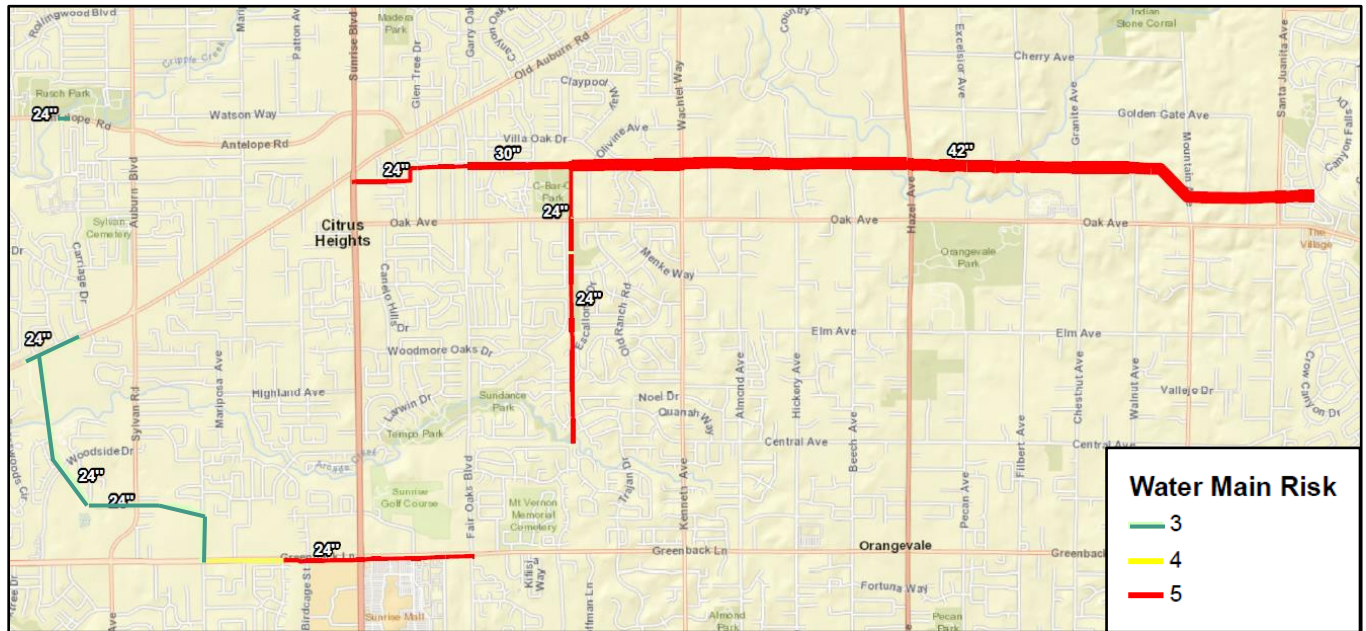


Figure 1 – Map of Linear Projects

### 5.1.2 Project Areas (PAs)

Projects Areas (PAs) are neighborhood level areas consisting of smaller diameter transmission pipelines (14-inch, 16-inch and 18-inch) and distribution pipelines (12-inch and smaller). The boundaries of PAs are generally defined by major arterials, creeks and other similar continuous boundaries. Implementation of PAs is intended to take advantage of economies of scale and to reduce disruption associated with construction by completing all pipeline replacements in one PA before moving on to another PA. Thirty (30) PAs were identified though GIS analysis and discussions with District staff. Figure 2 provides a map of the PAs.



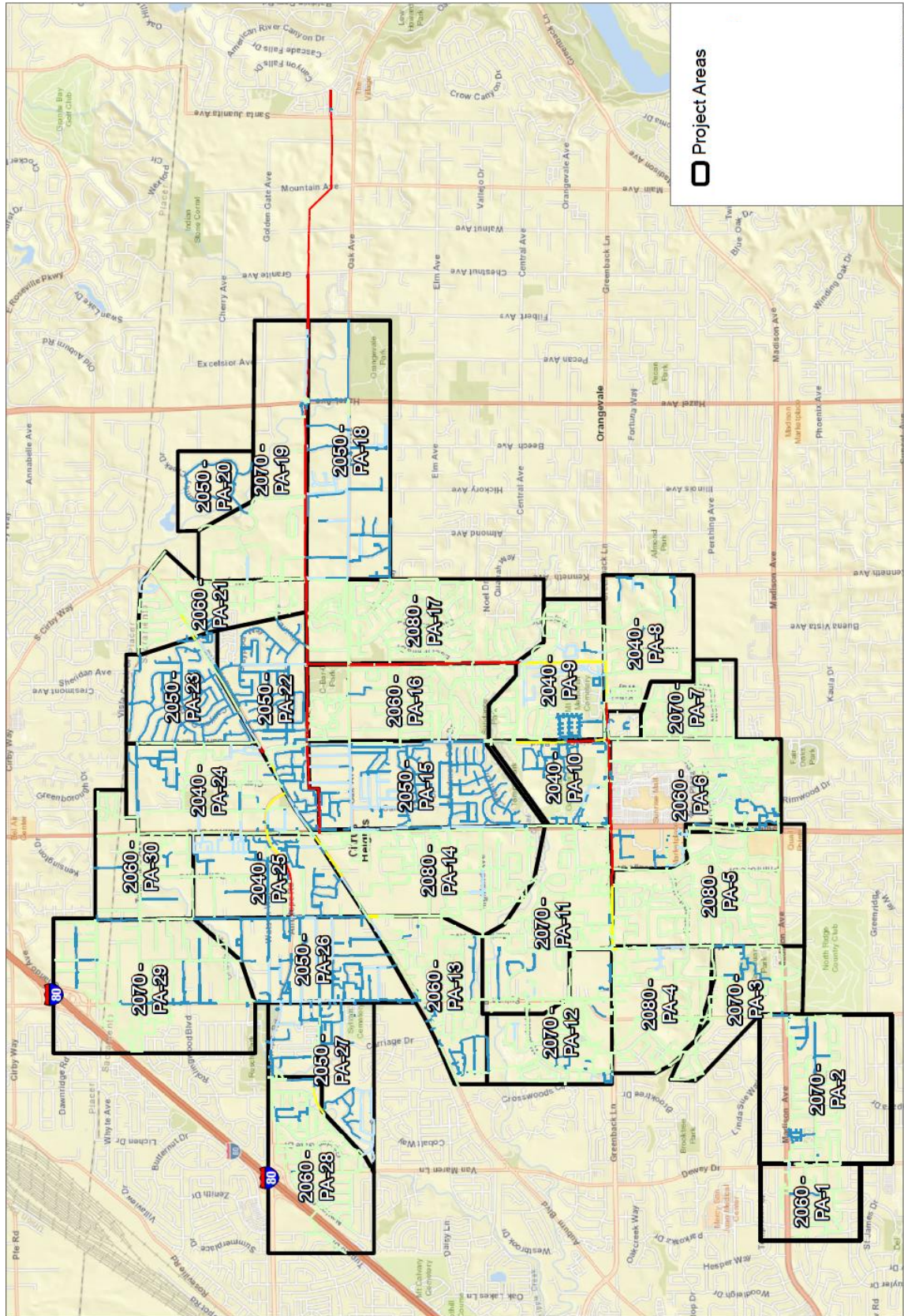


Figure 2 – Map of Project Areas

## 5.2 Project Rank

The LPs are ranked independently from the PAs as these projects have very high COFs that tend to skew model output concerning Total Risk. The LPs are considered high priority projects.

The PAs are considered relative to each other. A weighted average of Total Risk was calculated for each PA by decade. In general, as pipes deteriorate as a function of age, the Total Risk increases. Figure 3 shows the weighted average Total Risk for each PA by decade.

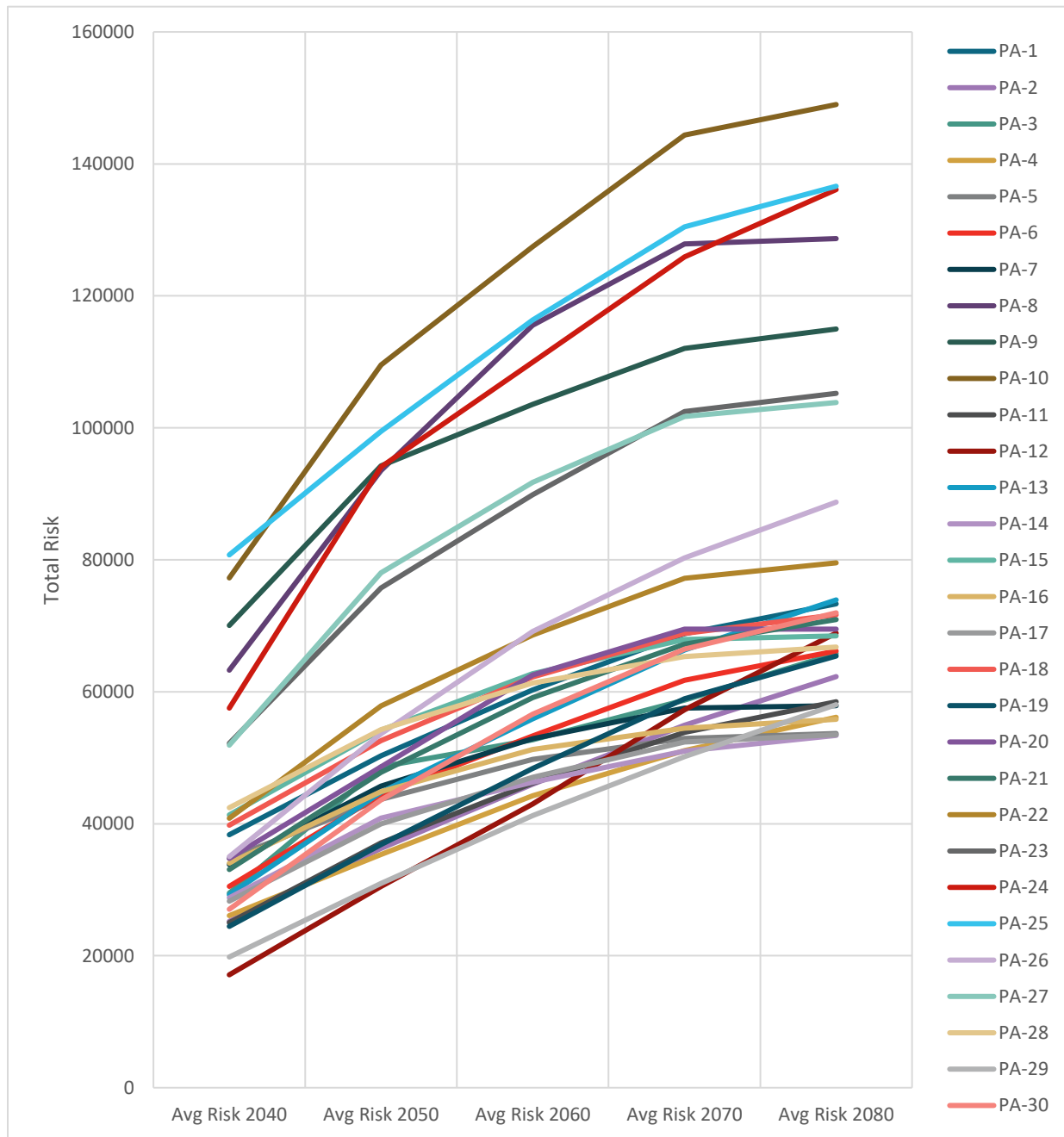


Figure 3 – PA Weighted Average Total Risk

Note in Figure 3 how all PAs have increased total risk as they move through the decades, but the relative placement remains generally the same. This relative placement of PAs is then used to determine Ranking – the highest risk PAs are scheduled for replacement first. The Ranking is detailed in Section 6, per decade, from top to bottom matching the order from Figure 3.

### 5.3 Project Cost Profiles

A project cost profile was prepared for each PA including the following information:

- Pipe length by Risk Grading and decade
- Replacement cost by Risk Grading and decade

Table 3 is an example showing the estimated project cost profile for PA-18. Pipes with a Risk Grade 3 and higher are the only pipelines included in the project costs and are highlighted in red in the table below. These costs are used in Section 6 to estimate cost of replacement in the recommended year. Note in Section 6 that PA-18 is recommended for replacement in 2050. Based on the below table, approximately 26,007 feet of pipe will need to be replaced at an estimated cost of \$8,773,000.

**Table 3 – Project Cost Profile for PA-18**

Risk Grade	Length (feet of pipe)					Estimated Cost (replacement in 2018 dollars)				
	2040	2050	2060	2070	2080	2040	2050	2060	2070	2080
5	0	0	17	35	35	\$0	\$0	\$12,000	\$24,000	\$24,000
4	0	125	143	125	125	\$0	\$51,000	\$63,000	\$51,000	\$51,000
3	15,379	25,882	29,735	32,546	35,495	\$5,449,000	\$8,722,000	\$9,912,000	\$10,800,000	\$11,721,000
2	9,764	1,656	2,732	1,155	0	\$3,054,000	\$517,000	\$857,000	\$360,000	\$0
1	11,408	8,888	3,924	2,690	896	\$3,575,000	\$2,786,000	\$1,232,000	\$841,000	\$281,000

## Section 6 – Ranking

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The linear projects and project areas allocated to each decade and the estimated costs, over the 2030 to 2080 time period, are provided in the following tables.

Table 4 shows projects recommended for replacement in the decade ending in 2040 and the estimated cost.

**Table 4 – 2040 Projects and Estimated Cost**

<b>Project</b>	<b>Est. Cost (2018 \$)</b>
LP - 42-inch	\$23,925,000
LP - 24-inch	\$20,400,000
LP - 30-inch	\$2,712,500
PA-10	\$3,352,000
PA-25	\$7,175,000
PA-9	\$7,592,000
PA-24	\$8,312,000
PA-8	\$3,984,000
<b>Total</b>	<b>\$77,452,500</b>

Table 5 shows projects recommended for replacement in the decade ending in 2050 and the estimated cost.

**Table 5 – 2050 Projects and Estimated Cost**

<b>Project</b>	<b>Est. Cost (2018 \$)</b>
PA-27	\$7,613,000
PA-23	\$13,477,000
PA-26	\$11,471,000
PA-22	\$13,019,000
PA-20	\$2,429,000
PA-18	\$8,773,000
PA-15	\$22,108,000
<b>Total</b>	<b>\$78,890,000</b>



Table 6 shows projects recommended for replacement in the decade ending in 2060 and the estimated cost.

**Table 6 – 2060 Projects and Estimated Cost**

<b>Project</b>	<b>Est. Cost (2018 \$)</b>
PA-28	\$13,356,000
PA-1	\$5,939,000
PA-21	\$10,671,000
PA-30	\$8,321,000
PA-13	\$10,850,000
PA-6	\$13,875,000
PA-16	\$16,577,000
<b>Total</b>	<b>\$79,589,000</b>

Table 7 shows projects recommended for replacement in the decade ending in 2070 and the estimated costs.

**Table 7 – 2070 Projects and Estimated Cost**

<b>Project</b>	<b>Est. Cost (2018 \$)</b>
PA-3	\$7,277,000
PA-12	\$12,687,000
PA-7	\$9,421,000
PA-2	\$9,840,000
PA-11	\$17,668,000
PA-19	\$6,008,000
PA-29	\$14,522,000
<b>Total</b>	<b>\$77,423,000</b>

Table 8 shows projects recommended for replacement in the decade ending in 2080 and the estimated costs.

**Table 8 – 2080 Projects and Estimated Cost**

<b>Project</b>	<b>Est. Cost (2018 \$)</b>
PA-5	\$21,262,000
PA-14	\$18,255,000
PA-17	\$22,661,000
PA-4	\$13,940,000
<b>Total</b>	<b>\$76,118,000</b>

## **Section 7 – Next Steps**

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To complete the Project 2030 Study, Technical Memorandum No. 7, Implementation Plan, will be completed along with this Memo and be presented to the CAC for feedback. The Implementation Plan will describe the recommended actions for project preparation (2020-2030) and project implementation (2030-2080). All technical memos (1 through 7) will then be compiled into a final report. This final report is anticipated to be completed in the fourth quarter of 2019.

**DRAFT**

# **Technical Memorandum No. 7** **Implementation Plan**

## **Project 2030 Water Main Replacement**

**September 2019**

Prepared for:



**6230 Sylvan Road**  
**Citrus Heights, CA 95610**

Prepared by:



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## Section 1 – Executive Summary

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This Technical Memorandum (TM) summarizes the Implementation Plan for the preferred Spending and Funding Alternative (Alternative 5.4) chosen by the Customer Advisory Committee (CAC) at the June 11, 2019 CAC meeting. Alternative 5.4 is described below in Table 1.

**Table 1 – Summary of Preferred Alternative 5.4**

<b>Alternative</b>	<b>Funding Description</b>	<b>Cost (2018 \$)</b>	<b>Avg. Annual Spending</b>	<b>PreFunding</b>	<b>System Replaced by 2080</b>
5.4	Prefunding with Debt	\$390 million	\$7.8 million	\$22.5 million	72%

Project Preparation (2020-2030) and Project Implementation (2030-2080) include the following actions, many occurring simultaneously:

- asset management model refinement,
- pipe inspection including steam crossings,
- hydraulic model coordination,
- financial planning,
- public engagement,
- coordination of capital planning with other jurisdiction,
- monitoring of key water utility management trends, and
- projecting activity levels and resource needs.

## **Section 2 – Introduction**

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Renewal and replacement of infrastructure, funding of improvements, and public understanding of the value of water are the most important issues to water system managers. The Citrus Heights Water District (CHWD or District) is currently using a 30-year Capital Improvement Plan that was developed in 1998 as a key planning tool in determining annual capital improvement projects, which includes water main replacement. As the 1998 plan is nearing the end of its term, the District is undertaking a process to review and refine its long term water main replacement program, which the District titled Project 2030 - Water Main Replacement Study (Study). Key elements of this Study include: 1) Asset Inventory and Project Polygon Development; 2) Water Demand Forecast; 3) Water Main Assessment; 4) Water Main Replacement Phasing Options and Preferred Option; 5) Project Cost Estimates; 6) Funding Strategy, including Water Rate Options and Debt Service Options and 7) Phasing and Implementation Plan.

## **Section 3 – Purpose**

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The purpose of this Technical Memorandum is to provide the recommended actions for project preparation leading up to the year 2030 and during water main replacement starting in 2030 and continuing through 2080. Included are recommendations for managing and updating the asset management model which was developed during the Water Main Assessment element; updating the financial model and planning public engagement efforts.

## **Section 4 – Project Preparation (2020-2030)**

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This Section will describe the recommended actions that will be required to occur from 2020-2030, prior to actual water main replacement.

### **4.1 Refine Asset Management Model**

The primary tool used for assessing risk and prioritizing project phasing is the asset management model (Model). It is recommended to review and revise the various elements of the Model as described below. It is further recommended that the Model be reviewed and updated, if necessary, at intervals throughout the Project Implementation period (2030-2080) to ensure the results take into account new data the District collects throughout the project period.

#### **4.1.1 Clarify Risk Grading**

Applying Risk Grades for each pipe segment led to the phasing decisions for the 2030-2080 time period. These Risk Grades were based on industry pipe performance data and applied through the use of a simple matrix in the Model to generate Risk Grading on a scale of 1 to 5, with 1 representing low risk and 5 representing high risk. A result of this approach was an overwhelming percentage of Grade 3 risks which represented “medium” risk. It is recommended the District refine the consequences-of-failure factors to yield more granular results and additional spread to risk grading through the Risk Grading process.

#### **4.1.2 Customization of Deterioration Curves**

As mentioned earlier, the current asset management model contains limited pipe condition data specific to the District. Therefore, deterioration of pipe condition due to age is the primary variable accounting for risk over time. Deterioration is currently modeled based on data collected nation-wide on pipes of similar material, diameter and age. The District plans to develop customized pipe deterioration curves based on the District’s own data over the next 10-years (2020-2030).

The data needed to customize the deterioration curves includes: 1) the locations of leaks or breaks, 2) reason for leak or break and 3) the associated costs to repair them. A Field Inspection Program (FIP) will be prepared to assist the District with collection of this data over the next 10-years. The FIP will include a plan to conduct non-invasive testing, such as acoustic testing, and a program for collecting coupon pipe samples to perform material testing.

#### **4.1.3 Integrate Economic Modeling Features**

The District recently upgraded the asset management model software to Info Asset Manager, which includes an economic modeling feature.

Some additional data and programming are required to perform economic modeling including discount rate, inflation, estimated maintenance costs, unit costs, establishment of a base year for calculating present value, and other similar data and preferences as defined by the software. These additional features will enable the District to better understand the total costs and benefits related to pipe replacement phasing and therefore make more informed decisions around the future phasing and funding.

#### **4.1.4 Periodically Update Model from GIS**

GIS data within the asset management model is designed to be updated periodically. The District should update the asset management model GIS following routine comprehensive updates to the District GIS. This will ensure that decisions made using the asset management model reflect the most current system information.

## **4.2 Coordinate with Hydraulic Model**

The hydraulic model and the asset management model are constructed on parallel platforms from a common source, Innovyze. The assumptions used for each model should be highly coordinated and output from the two models should be used in future phasing recommendations.

In general, the asset management model assesses system condition and the hydraulic model assesses capacity. Any system component exhibiting deficient condition and deficient capacity should be made a high priority project.

### **4.2.1 Determine the Replacement Size**

The asset management model currently assumes pipes will be replaced in kind, e.g. a 12-inch pipe will be replaced with a 12-inch pipe. Wherever the system would benefit from a change in pipe size as determined by updated hydraulic modeling, projects should be redefined with the updated pipe diameter.

### **4.2.2 Identify Opportunities for Realignment**

The asset management model assumes pipes will be replaced in the same alignment. Wherever the system would benefit from a change in alignment as determined by updated hydraulic modeling or other means, projects should be redefined with the updated alignment.

### **4.2.3 Identify Opportunities for Redundancy**

The asset management model assumes no additional pipes will be installed to support current customers. When the system would benefit from greater redundancy as determined by updated hydraulic modeling, e.g. to meet fire protection requirements, projects should be redefined with the addition of the required pipe.

### **4.2.4 Complete Pressure Reduction Analysis**

The District plans to complete a feasibility study to explore inline hydroelectric generation in conjunction with reducing pressures throughout the District. This study should be prepared prior to 2030 as a cost saving measure to minimize retrofit of replacement pipeline whose design may need to be adjusted pending the study's conclusions.

## **4.3 Inspect Pipelines and Stream Crossings**

As described above, the FIP will be used in refining the asset management model which is an indirect method of condition assessment. Additionally, the FIP can be used as a direct method of condition assessment. Specifically, the inspection of the stream crossings are needed to confirm and monitor pipe conditions. Regular field inspections of the District's seventeen (17) creek crossing should be completed using a stream crossing condition assessment checklist. These



pipes are ranked high in several areas of consequence of failure (COF) and, due to age, rank high in likelihood of failure (LOF). This combination places these pipes near the top of the Risk Grades. Regular field inspections including establishing a baseline condition for each stream crossing would assist the District in deciding when these pipes should be replaced.

#### **4.4 Update Financial Planning**

Through a series of workshops, the District evaluated 21 different water main replacement spending and funding alternatives and compared key considerations for each. The alternative selected by the Customer Advisory Committee for implementation included a total spending amount of \$390 million dollars (2018 dollars) over a 50-year time period. This level of spending will average approximately \$7.8 million annually and replace approximately 72% of the system over the 2030-2080 time period. For comparison, the District currently spends about \$2 million per year on main replacement.

The selected alternative contains financial components including 1) prefunding 2) pay-as-you-go and 3) debt financing. During the project preparation all three of these will be built into a comprehensive financial plan.

The Project 2030 prefunding target in the selected project alternative is \$22.5 million, or \$2.25 million annualized. Prefunding will need to be presented to the District's Board of Directors in the coming months for consideration and possible action to be programmed into the financial plan for immediate implementation. Over the 10-year prefunding period, the District has several options for implementing the necessary rate adjustments, including the implementation of a multi-year rate increase approval or a specific flat fee increase for Project 2030. A Proposition 218 Notice will need to be completed if the Board approves the prefunding concept.

#### **4.5 Continue Public Engagement**

The District made a substantial commitment to public engagement throughout the Study, holding eight (8) Customer Advisory Committee (CAC) workshops to educate a group of customer representatives on the goals and objectives of the Study. A market research firm was also engaged by the District to collect additional customer feedback on the two final capital spending and funding alternatives and their corresponding impacts on future rates. Although the results did not indicate a statistically significant difference between the final alternatives, several important public awareness gaps were identified.

Some examples of these gaps are:

1. There is limited awareness of the District among registered voters. Public awareness is somewhat higher among non-voter ratepayers.

2. Favorable results are indicated for District job performance and management of fiscal resources.
3. Awareness of the “Project 2030 - Water Main Replacement Project” is limited.

Limited awareness of the District, its job performance and Project 2030 indicate that there may be a need for greater public outreach to explain the District’s plan for water main replacement, specifically the key features and benefits of the plan, to the community. The District has begun planning its public outreach and overall communications strategy for Project 2030 with its communications consultant. Some of the Project 2030 outreach include overall customer education opportunities and project updates.

Included in these efforts are brand and identity review; development of communication channels and a social media strategy. These efforts also address goals and objectives, obstacles, key messages, media coordination, focused tone and timing, targeted use of spokespersons and tracking of key performance indicators (KPIs).

## **4.6 Coordinate Capital Planning with Other Jurisdictions**

The District serves customers within the City of Citrus Heights and other local jurisdictions. These jurisdictions are responsible for maintaining the roads under which the District’s pipe operate. As the District schedules pipe replacement projects within these jurisdictions, coordination with the local paving projects will reduce duplication of effort on the part of both the local jurisdictions and the District; reduce potential fines (if any), and generate an incremental savings in overall paving costs that could be shared by the District and the local jurisdiction.

The District should therefore coordinate the phasing of projects with local jurisdictions where possible.

## **4.7 Monitor Key Trends in Water Utility Management**

Between now and Project 2030 implementation (year 2030) the water industry will continue to evolve and change in response to new regulations, workforce demographics, technology, climate change, stakeholder demands and a host of other issues. The District will need to monitor the key trends directly impacting their service area and in particular with how these trends might impact the completion of Project 2030. The American Water Works Association (AWWA) publishes an annual survey of key issues (see Table 2), of which renewal and replacement of aging water infrastructure is a high priority. This is a good list to start with to monitor specific impacts of other key issues on the District. Note that the results reflect responses across the country; California water utilities and specifically the District likely have different priorities than what is shown here. For example climate change impacts typically rank higher in California

utilities due to concerns with drought and fire damage to watersheds. Funding to address some of the other key issues could impact the District's ability to maintain its funding for Project 2030.

**Table 2 – Issues facing the water industry in 2018 ranked by all respondents (n=281)**

Ranking	Category	Weighted Average	% Ranked Critically Important
1	Renewal and replacement of aging water and wastewater infrastructure	4.59	64
2	Financing for capital improvements	4.44	55
3	Public understanding of the value of water systems and services	4.37	50
4	Long-term water supply availability	4.30	50
5	Public understanding of the value of water	4.26	44
6	Watershed / source water protection	4.17	41
7	Aging workforce / anticipated retirements	4.16	43
8	Public acceptance of future water and wastewater rate increases	4.12	35
9	Emergency preparedness	4.10	34
10	Governing board acceptance of future water and wastewater rate increases	4.09	35
11	Cost recovery (pricing water to accurately reflect its true cost)	4.09	32
12	Talent attraction and retention	4.08	33
13	Asset management	3.98	27
14	Cybersecurity issues	3.92	27
15	Data management	3.92	25
16	Improving customer, constituent, and community relationships	3.91	26
17	Compliance with current regulations	3.91	25
18	Groundwater management and overuse	3.88	26
19	Compliance with future regulations	3.86	21
20	Certification and training	3.84	22
21	Water rights	3.77	27
22	Drought or periodic water shortages	3.74	23
23	Water loss control	3.73	17
24	Water conservation / efficiency	3.72	25
25	Energy use/efficiency and cost	3.70	16
26	Physical security issues	3.58	15
27	Water quality issues from premise plumbing systems	3.56	12
28	Expanding water reuse / reclamation	3.46	18
29	Climate risk and resiliency	3.43	15
30	Financing for water research	3.40	12

Source: AWWA – 2018 State of the Water Industry

## Section 5 – Project Implementation (2030-2080)

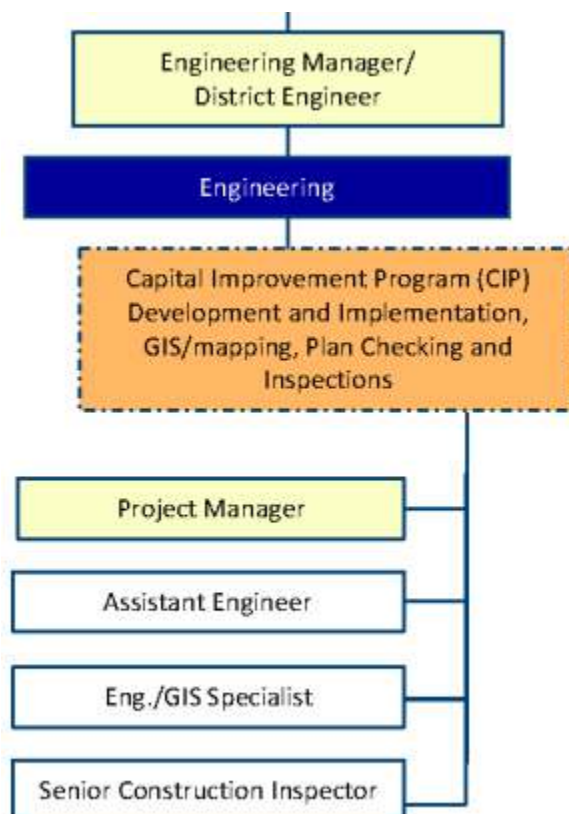
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Implementation of the Project will result in an incremental increase in annual pipeline replacement activity. This section will discuss the current level of activity and the resources required to support the Project; the incremental change in activity between current and projected levels, and the continuation of Project Preparation efforts recommended in Section 4.

### 5.1 Current Level of Main Replacement

The District currently spends approximately \$2 million annually on water main replacement. This equates to an annual rate of replacement of less than 0.5%. Currently, this rate of replacement is sufficient since water mains are still in good condition as evidenced by minimum annual leaks and breaks per the District.

Main replacement projects are currently delivered through the Engineering Department. Led by the Engineering Manager/District Engineer, the team currently includes five (5) full time employee. See below Figure 1 for the current organization chart of the Engineering Department.



**Figure 1 – Engineering Department**

It should be noted that other District departments, in particular the General Manager's Office and Administrative Services, also play a role in main replacement project planning and delivery.

Staff interviews should be conducted to further understand the current level of main replacement and create a baseline. These interviews could help identify:

1. Existing processes for capital delivery – flow diagrams can be created for this
2. Existing bottlenecks
3. Areas for improvement
4. Current improvements being considered around additional staff, space, training, tools, systems, technology
5. Financial impacts

## **5.2 Projected Level of Activity**

The results of the Study indicate an annual average spending of \$7.8 million for main replacement over the course of the 50-year implementation period, 2030-2080. Peaks in annual spending are projected to account for several large projects as defined in the phasing plan. Delivering almost 4-times the capital projects on an annual basis will likely require an increase in the District's resources. This increase can be accomplished through growth in District employees and/or using consultants during peak capital project delivery years. The nature, timing, size and complexity of the projects will have a material impact on the District's ability to implement the projects. Once the projects are agreed upon, a capacity assessment should be undertaken to determine what resources will be needed to deliver the projects. To the extent consultants are used, there may be a need to adjust the financial projections.

## **5.3 Resource Capacity Recommendations**

All of the currently established staff positions will be impacted as the District moves from delivering approximately \$2 million in capital projects annually to approximately \$8 million annually. The District will need to identify team members who will be most impacted and may need to update job descriptions to account for the shift in focus of these team members. Additional staff and resources, such as more complex project controls and reporting systems, may be needed to manage the higher level of water main replacement planning, design and construction. The costs of these additional resources are included in the project cost estimates.

The ability to execute and deliver planned projects is significant because it can have a large impact on the financial operations. Newly established rates for projected levels of main replacement may cause excess reserves if the projects are not delivered as planned. Under these circumstances, ratepayers and Board members can lose confidence in the need for future rate increases thereby jeopardizing the District's ability to maintain the water system at the expected level of service.

## **5.4 Financial Planning and Monitoring**

The comprehensive financial plan will be well established during the 10-year period leading up to project implementation in 2030.

Once Project 2030 begins, financial model assumptions including capital cost estimates, funding scenarios and operating costs, will need to be updated as actual project costs are collected. Additional costs related to expanding the capacity of the District to accomplish a higher level of annual capital projects as previously mentioned will need to be accounted for in the financial plan. Other metrics should also be tracked annually to compare trends and assist with planning. These include construction and other soft costs, feet of pipe replaced, percentage of system replaced, and effort (in hours) for procurement, design, project management and construction inspection.

Future rate adjustments will reflect projected revenues under existing rates, operating and capital costs, funding options including bonds, state loans, grants and levels of reserves. To the degree rate adjustments diverge from planned adjustments, the reasons for the changes should be communicated to the Board and other stakeholders.

## **5.5 Public Engagement**

Public Engagement efforts centered on communication of Project 2030 plans and benefits should continue as discussed in Section 4.5. As the level of pipe replacement activity ramps up after 2030, the District should be ready to increase public engagement efforts. Plans, drawings, figures and photos posted to the District's website will be great ways to generate public awareness and interest. Establishing benchmarks, or targets, for the Project and regularly reporting on progress through the use of dashboards would build confidence in the Project and demonstrate transparency and accountability.

Benchmarks for Project progress could be included on the District's website such as:

1. Miles of pipe replaced
2. Mile of pipe planned to be replaced
3. Schedule of pipe replacement showing a map of current and scheduled projects
4. Total costs spent as a percent of planned

It will be important for the District to plan for emergency public engagement. This will assist in addressing misinformation regarding the project or District. There needs to be a clear and consistent response to misinformation. This usually takes the form of immediately directing readers to legitimate sources of information, starting with the District's website. Another

valuable source in emergency public engagement are the members of the Customer Advisory Committee (CAC). CAC members are generally more informed than the average customer and can provide quick corrections to misinformation. The CAC should continue to meet regularly and be informed of project specifics.

## **Section 6 – Next Step**

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To complete the Project 2030 Study, all technical memos (1 through 7) will be compiled into a final report. This final report is anticipated in the fourth quarter of 2019. The public engagement strategy will be completed in the first quarter of 2020 to address the technical, financial and market research recommendations. Detailed funding and expenditure planning, including prefunding, will also be completed in the first quarter of 2020.

Once the final report, public engagement strategy and prefunding plan are complete the full package, along with recommendations from the CAC, will be presented for CHWD Board consideration and possible action to implement at a regularly scheduled Board meeting.