

**BOARD MEETING AGENDA  
SPECIAL MEETING OF THE BOARD OF DIRECTORS OF  
CITRUS HEIGHTS WATER DISTRICT (CHWD)  
May 27, 2025 beginning at 6:00 PM**

**DISTRICT ADMINISTRATIVE OFFICE  
6230 SYLVAN ROAD, CITRUS HEIGHTS, CA**

**PHONE CALL IN: (253) 205-0468  
PHONE MEETING ID: 854 9693 7243**

**COMPUTER AUDIO/LIVE MEETING PRESENTATIONS:** <https://chwd-org.zoom.us/j/85496937243>



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.

Members of the public may attend the meeting in person at the District headquarters or remotely through the phone number and link above.

Materials related to an agenda item for an open session of a regular meeting of the Citrus Heights Water District are posted on the Citrus Heights Water District website at [www.chwd.org](http://www.chwd.org).

**CALL TO ORDER:**

Upon request, agenda items may be moved to accommodate those in attendance wishing to address that item. Please inform the Chief Board Clerk or Deputy Board Clerk.

**VISITORS:**

**PUBLIC COMMENT:**

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

(A) Action Item

(D) Discussion Item

(I) Information Item

**CLOSED SESSION:**

CL.1 CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION  
Initiation of Litigation pursuant to Government Code, section  
54956.9(d)(4): (two cases)

CL-2. CONFERENCE WITH REAL PROPERTY NEGOTIATORS

Pursuant to Section 54956.8:

Property: Parcel Number 243-0180-002-0000

Agency Negotiators: Steve Anderson, Brian Hensley, Rebecca Scott, Josh

Nelson, Hilary Straus, Annie Liu, Brittney Moore, Missy Pieri, Carlos Urrutia, Kayleigh Shepard, Todd Jordan, Jace Nunes, Mary Elise Conzelmann, Greg Snarr  
Negotiating Parties: Ashwani Kumar, Teresita Kumar  
Under Negotiation: Price and Terms of Payment

CL-3. CONFERENCE WITH LEGAL COUNSEL—EXISTING LITIGATION  
(Paragraph (1) of subdivision (d) of Section 54956.9)  
CHWD v. San Juan Water District, Sacramento Superior Court,  
Case No. 24WM000064


**FUTURE CHWD BOARD OF DIRECTORS MEETING DATES:**

May 27, 2025	6:30 PM	Regular Meeting
June 24, 2025	6:30 PM	Regular Meeting
August 26, 2025	6:30 PM	Regular Meeting
September 23, 2025	6:30 PM	Regular Meeting
October 28, 2025	6:30 PM	Regular Meeting
November 18, 2025	6:00 PM	Special Meeting
December 15, 2025	6:00 PM	Special Meeting

**ADJOURNMENT:**

**CERTIFICATION:**

I do hereby declare and certify that this agenda for this Special Meeting of the Board of Directors 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 at least 24 hours prior to the special meeting in accordance with Government Code Section 54956.

  
\_\_\_\_\_  
Brittney Moore, Chief Board Clerk

Dated: May 22, 2025



**BOARD MEETING AGENDA  
REGULAR MEETING OF THE BOARD OF DIRECTORS OF  
CITRUS HEIGHTS WATER DISTRICT (CHWD)  
May 27, 2025 beginning at 6:30 PM**



**DISTRICT ADMINISTRATIVE OFFICE  
6230 SYLVAN ROAD, CITRUS HEIGHTS, CA**

**PHONE CALL IN: (253) 205-0468  
PHONE MEETING ID: 854 9693 7243**

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**CALL TO ORDER:**

Upon request, agenda items may be moved to accommodate those in attendance wishing to address that item. Please inform the Chief Board Clerk or Deputy Board Clerk.

**ROLL CALL OF DIRECTORS:**

**PLEDGE OF ALLEGIANCE:**

**VISITORS:**

**PUBLIC COMMENT:**

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

(A) Action Item

(D) Discussion Item

(I) Information Item

**CONSENT CALENDAR: (I/A)**

All items under the Consent Calendar are considered to be routine and will be approved by one motion. There will be no separate discussion of these items unless a member of the Board, Audience, or Staff request a specific item be removed for separate discussion/action before the motion to approve the Consent Calendar.

- CC-1a. Minutes of the Special Meeting –April 22, 2025 (A)
- CC-1b. Minutes of the Regular Meeting –April 22, 2025 (A)
- CC-1c. Minutes of the Special Meeting – April 28, 2025 (A)
- CC-1d. Minutes of the Special Meeting – May 7, 2025 (A)

Recommendation:

Approve the minutes of the April 22, 2025 Special and Regular Meetings, the minutes of the April 28, 2025 Special Meeting, and the minutes of the May 7, 2025 Special Meeting

- CC-2. Revenue Analysis Report for April 2025 (I)
- CC-3. Assessor/Collector's Roll Adjustment for April 2025 (I)
- CC-4. Treasurer's Report for April 2025 (I)
- CC-5. Treasurer's Report of Fund Balances for April 2025 (I)
- CC-6. Operating Budget Analysis for April 2025 (I)
- CC-7. Capital Projects Summary for April 2025 (I)
- CC-8. Warrants for April 2025 (I)
- CC-9. Purchase Card Distributions for April 2025 (I)
- CC-10. Employee Recognitions (I)
- CC-11. Long-Range Agenda (I)
- CC-12. Engineering Department Report (I)
- CC-13. Operations Department Report (I)
- CC-14. Water Supply (I)
- CC-15. Water Supply Reliability (I)
- CC-16. Water Efficiency and Safety Program Update (I)
- CC-17. Discussion and Possible Action to Adopt Resolution 07-2025 Approving and Confirming the Report of Delinquent Utilities Charges and Requesting Sacramento County to Collect Such Charges on the Tax Roll and Resolution 08-2025 Approving and Confirming the Report of Delinquent Utilities Charges and Requesting Placer County to Collect Such Charges on the Tax Roll (A)

Recommendation:

Adopt Resolutions 07-2025 (Sacramento County) and 08-2025 (Placer County) approving and confirming the Report of Delinquent Utilities Charges and requesting the respective county to place such charges on the respective tax roll.

- CC-18. Discussion and Possible Action to Approve the Water Forum Fiscal Year 2025-2026 Funding Agreement (A)

Recommendation:

Approve the FY26 funding agreement for the Water Forum and authorize the General Manager to execute the agreement.

- CC-19. Discussion and Possible Action to Approve a Professional Services Agreement with Dugan Management and Engineering, Inc. (A)

Recommendation:

Approve the professional services agreement with Dugan Management & Engineering, Inc., and authorize the General Manager to execute the agreement.

- CC-20. Discussion and Possible Action to Approve a Professional Services Agreement with Crawford and Associates, Inc. (A)

Recommendation:

Approve the professional services agreement with Crawford & Associates, Inc., and authorize the General Manager to execute the agreement.

- CC-21. Discussion and Possible Action to Approve a Professional Services Agreement with Wood Rodgers, Inc. (A)

Recommendation:

Approve the professional services agreement with Wood Rodgers, Inc., and authorize the General Manager to execute the agreement.

- CC-22. Discussion and Possible Action to Fill Vacancies on the Customer Advisory Committee (A)

Recommendation:

Appoint residential alternate members, Paul Dietrich and Julia Eunice, to the vacant residential member seats; and appoint Amanda Camacho as a CAC residential alternate member.

**PRESENTATIONS:**

- P-1. Water Awareness Poster Contest (I/D)

- P-2. Facilities Modernization and Expansion Project Update (I/D)

**PUBLIC HEARINGS:**

None.

**STUDY SESSION:**

None.

**BUSINESS:**

- B-1. Discussion and Possible Action to Adopt Engineering Standards and Approve District Policy Updates (A)

Recommendations:

1. Approve Resolution 09-2025 Adopting District Engineering Standards
2. Approve the updates to the District Policies (5000, 7000, 8000 and 9000 series).

- B-2. Appointment of District Officers (A)

Recommendation:

Consider appointments for Officer Positions for the District.

- B-3. Discussion and Possible Action to Designate the District's Voter Representative for the ACWA 2025 Election (A)

Recommendation:

Designate the District's voting representative for ACWA's 2025 Elections

and authorize the General Manager or designee to complete and submit the Authorized Voting Representative Form to ACWA.

**MANAGEMENT SERVICES REPORTS (I):**

None.

**CONSULTANTS' AND LEGAL COUNSEL'S REPORTS (I):**

None.

**DIRECTOR'S AND REPRESENTATIVE'S REPORTS (I):**

- D-1. Regional Water Authority (Wheaton/Straus).
- D-2. Sacramento Groundwater Authority (Sheehan/Riehle).
- D-3. San Juan Water District (All).
- D-4. Association of California Water Agencies (Riehle/Wheaton).
- D-5. ACWA Joint Powers Insurance Authority (Wheaton/Moore).
- D-6. City of Citrus Heights (Pieri).
- D-7. Chamber of Commerce Update (Conzelmann).
- D-8. RWA Legislative and Regulatory Affairs Update (Conzelmann).
- D-9. Customer Advisory Committee (Riehle/Conzelmann).
- D-10. Other Reports.

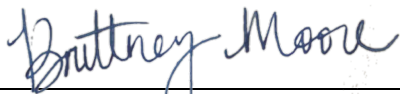
**FUTURE CHWD BOARD OF DIRECTORS MEETING DATES:**

June 24, 2025	6:30 PM	Regular Meeting
August 26, 2025	6:30 PM	Regular Meeting
September 23, 2025	6:30 PM	Regular Meeting
October 28, 2025	6:30 PM	Regular Meeting
November 18, 2025	6:00 PM	Special Meeting
December 15, 2025	6:00 PM	Special Meeting

**ADJOURNMENT:**

**CERTIFICATION:**

I do hereby declare and certify that this agenda for this Regular Meeting of the Board of Directors 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 at least 72 hours prior to the regular meeting in accordance with Government Code Section 54956.



Brittney Moore, Chief Board Clerk

Dated: May 22, 2025

CITRUS HEIGHTS WATER DISTRICT  
BOARD OF DIRECTORS SPECIAL MEETING MINUTES  
April 22, 2025

The Special Meeting of the Board of Directors was called to order at 6:02 p.m. by President Riehle and present were:

Raymond A. Riehle, President  
Caryl F. Sheehan, Vice President  
David C. Wheaton, Director

Also present were:

Steve Anderson, General Counsel  
Mary Elise Conzelmann, Public Affairs Analyst  
Todd Jordan, Principal Civil Engineer  
Annie Liu, Director of Administrative Services  
Josh Nelson, Assistant General Counsel  
Brittney Moore, Administrative Services Manager/Chief Board Clerk  
Rebecca Scott, Director of Operations  
Greg Snarr, BBK Associate  
Hilary Straus, General Manager

Al Johnson, Strategic Advisor  
Carlos Urrutia, Strategic Advisor

**PUBLIC COMMENT:**

None.

President Riehle adjourned the meeting to Closed Session at 6:02 p.m.

**CLOSED SESSION:**

**CL-1. CONFERENCE WITH REAL PROPERTY NEGOTIATORS**

Pursuant to Section 54956.8:

Property: Parcel Number 243-0180-002-0000

Agency Negotiators: Steve Anderson, Rebecca Scott, Josh Nelson, Hilary Straus, Annie Liu, Brittney Moore, Carlos Urrutia, Todd Jordan, Mary Elise Conzelmann, Greg Snarr

Negotiating Parties: Ashwani Kumar, Teresita Kumar

Under Negotiation: Price and Terms of Payment

No reportable action

CL-2. CONFERENCE WITH LEGAL COUNSEL—EXISTING LITIGATION  
(Paragraph (1) of subdivision (d) of Section 54956.9)  
CHWD v. San Juan Water District, Sacramento Superior Court,  
Case No. 24WM000064

No reportable action.

President Riehle adjourned the meeting back to open session at 6:55 p.m.

**ADJOURNMENT:**

There being no other business to come before the Board, the meeting was adjourned at 6:55 p.m.

APPROVED:

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BRITTNEY C. MOORE  
Chief Board Clerk  
Citrus Heights Water District

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RAYMOND A. RIEHLE, President  
Board of Directors  
Citrus Heights Water District

CITRUS HEIGHTS WATER DISTRICT  
BOARD OF DIRECTORS REGULAR MEETING MINUTES  
April 22, 2025

The Regular Meeting of the Board of Directors was called to order at 7:03 p.m. by President Riehle and roll was called. Present were:

Raymond A. Riehle, President  
Caryl F. Sheehan, Vice President  
David C. Wheaton, Director

Also present were:

Steve Anderson, General Counsel  
Mary Elise Conzelmann, Public Affairs Analyst  
Tamar Dawson, Assistant Engineer  
Annie Liu, Director of Administrative Services  
Brittney Moore, Administrative Services Manager/Chief Board Clerk  
Melissa Pieri, Director of Engineering/District Engineer  
Rebecca Scott, Director of Operations  
Mrunal Shah, BBK Associate  
Kayleigh Shepard, Management Analyst/Deputy Board Clerk  
Michael Shorter, Accounting Manager  
Hilary Straus, General Manager  
Andrew Tran, Information Technology Manager

Leslie Bloom, NHA Advisors, LLC.  
Mark Northcross, NHA Advisors, LLC.  
Carlos Urrutia, Strategic Advisor

**PLEDGE OF ALLEGIANCE:**

President Riehle led the Pledge of Allegiance.

**PUBLIC COMMENT:**

None.

**CONSENT CALENDAR:**

- CC-1a. Minutes of the Special Meeting – March 25, 2025 (A)
- CC-1b. Minutes of the Regular Meeting – March 25, 2025 (A)

**Recommendation:**

Approve the minutes of the March 25, 2025 Special and Regular Meetings

- CC-2. Revenue Analysis Report for March 2025 (I)
- CC-3. Assessor/Collector's Roll Adjustment for March 2025 (I)
- CC-4. Treasurer's Report for March 2025 (I)
- CC-5. Treasurer's Report of Fund Balances for March 2025 (I)

- CC-6. Operating Budget Analysis for March 2025 (I)
- CC-7. Capital Projects Summary for March 2025 (I)
- CC-8. Warrants for March 2025 (I)
- CC-9. Purchase Card Distributions for March 2025 (I)
- CC-10. Employee Recognitions (I)
- CC-11. Long-Range Agenda (I)
- CC-12. Engineering Department Report (I)
- CC-13. Operations Department Report (I)
- CC-14. Water Supply (I)
- CC-15. Water Supply Reliability (I)
- CC-16. Water Efficiency and Safety Program Update (I)
- CC-17. 2025 Strategic Plan Update (I/D)

Recommendation:

Receive and file an update of the 2025 Strategic Plan.

- CC-18. Discussion and Possible Action to Approve an Agreement with Doug Veerkamp General Engineering, Inc. for the Fair Oaks Boulevard – 12021 to Leafcrest Way Water Main Project (A)

Recommendation:

Accept the bid of Doug Veerkamp General Engineering, Inc. in the Amount of \$347,285.00 and establish a contingency fund in the amount of \$34,728.50 (10%), for a total amount of \$382,013.50. Authorize the General Manager to execute an agreement with Doug Veerkamp General Engineering, Inc.

- CC-19. Discussion and Possible Action to Amend the Contract for Design, Testing, and Construction Management Services for the Ella Way Well Project (A)

Recommendation:

Approve a Contract Amendment with Water Systems Consulting, Inc. for the Ella Way Well Project in the amount of \$43,670.00 and a Contingency Fund in the amount of \$25,000.00 for a Total Project Budget of \$781,378.00.

- CC-20. Resolution 06-2025 Commending Nick Spiers for Service to the Citrus Heights Water District (A)

Recommendation:

Adopt Resolution No. 06-2025 Commending Nick Spiers for service to the Citrus Heights Water District.

- CC-21. Discussion and Possible Action to Amend Human Resources Policy Number 4101.A1: Compensation/Salary Schedule (A)

Recommendation:

Approve the salary range update and reclassification of the Assistant Water Distribution Supervisor position from FLSA non-exempt to FLSA exempt; and amend Human Resources Policy Number 4101.A1 accordingly with an effective date of May 26, 2025.

- CC-22. Discussion and Possible Action to Amend Policy 5700A: Records Retention Schedule (A)

Recommendation:

Approve updates to District Policy 5700.A: Records Retention Schedule and authorize staff to update the Retention Schedule Index with the 2025 revisions.



Director of Operations Rebecca Scott requested that the Board approve Item CC-19 with non-substantive legal edits received after the agenda packet was posted and distributed.

President Riehle pulled Item CC-19 from the Consent Calendar for further clarification from staff.

**ACTION:**

Director Wheaton moved, and Vice President Sheehan seconded a motion to approve the consent calendar, with the exception of Item CC-19.

The motion carried 3-0 with all Directors voting yes.

Vice President Sheehan moved, and Director Wheaton seconded the motion to approve Item CC-19 with non-substantive legal edits received after the packet was posted.

The motion carried 3-0 with all Directors voting yes.

**PRESENTATIONS:**

None.

**PUBLIC HEARINGS:**

None.

**STUDY SESSION:**

None.

**BUSINESS:**

- B-1. Discussion and Possible Action to Approve a Task Order Agreement with NHA Advisors, LLC. for Municipal Advisory Services

**ACTION:**

Vice President Sheehan moved, and Director Wheaton seconded a motion to approve the professional services agreement with NHA Advisors, LLC for municipal advisory services, and authorized the General Manager to execute the agreement.

The motion carried 3-0 with all Directors voting yes.

**ADJOURNMENT:**

There being no other business to come before the Board, the meeting was adjourned at 8:25 p.m.

**APPROVED:**

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BRITTNEY C. MOORE  
Chief Board Clerk  
Citrus Heights Water District

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RAYMOND A. RIEHLE, President  
Board of Directors  
Citrus Heights Water District

CITRUS HEIGHTS WATER DISTRICT  
BOARD OF DIRECTORS SPECIAL MEETING MINUTES  
April 28, 2025

The Special Meeting of the Board of Directors was called to order at 5:13 p.m. by Vice President Sheehan and present were:

Caryl F. Sheehan, Vice President  
David C. Wheaton, Director

Raymond A. Riehle, President was absent.

Also present were:

Mary Elise Conzelmann, Public Affairs Analyst  
Annie Liu, Director of Administrative Services  
Brittney Moore, Administrative Services Manager/Chief Board Clerk  
Jace Nunes, Management Analyst  
Melissa Pieri, Director of Engineering/District Engineer  
Rebecca Scott, Director of Operations.  
Kayleigh Shepard, Management Analyst/Deputy Board Clerk  
Hilary Straus, General Manager

Mike Lowry, JComm, Inc.  
Kris Pickel, JComm, Inc.

**PUBLIC COMMENT:**

None.

**STUDY SESSION:**

S-1. Media Engagement Training (I/D)

**ADJOURNMENT:**

There being no other business to come before the Board, the meeting was adjourned at 7:19 p.m.

APPROVED:

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BRITTNEY C. MOORE  
Chief Board Clerk  
Citrus Heights Water District

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RAYMOND A. RIEHLE, President  
Board of Directors  
Citrus Heights Water District

CITRUS HEIGHTS WATER DISTRICT  
BOARD OF DIRECTORS SPECIAL MEETING MINUTES  
May 7, 2025

The Special Meeting of the Board of Directors was called to order at 6:01 p.m. by President Riehle and roll was called. Present were:

Raymond A. Riehle, President  
Caryl F. Sheehan, Vice President  
David C. Wheaton, Director

Staff:

Mary Elise Conzelmann, Public Affairs Analyst  
Tim Cutler, Water Distribution Supervisor  
Kelly Drake, Water Efficiency Supervisor  
Brian Hensley, Water Resources Supervisor  
Todd Jordan, Principal Civil Engineer  
Annie Liu, Director of Administrative Services  
Brittney Moore, Administrative Services Manager/Chief Board Clerk  
Jace Nunes, Management Analyst  
Melissa Pieri, Director of Engineering/District Engineer  
Kyler Rayden, BBK Associate  
Rebecca Scott, Director of Operations  
Megan Selling, Accountant  
Kayleigh Shepard, Management Analyst/Deputy Board Clerk  
Hilary Straus, General Manager  
Andrew Tran, Information Technology Manager

Jennifer Liebermann, Facilitator

Customer Advisory Committee Member:

Jodi Ash  
Suzanne Guthrie  
Andrew Johnson  
Eric Lindberg  
Richard Moses  
Mike Nishimura

**VISITORS:**

Amanda Camacho

**PUBLIC COMMENT:**

None.

**BUSINESS:**

B-1. Strategic Planning Session Defining Goals and Objectives for the District (I/D)

**DIRECTOR'S AND REPRESENTATIVE'S REPORTS (I):**

D-1. Other Reports

**ADJOURNMENT:**

There being no other business to come before the Board, the meeting was adjourned at 8:49 p.m.

APPROVED:

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BRITTNEY C. MOORE  
Chief Board Clerk  
Citrus Heights Water District

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RAYMOND A. RIEHLE, President  
Board of Directors  
Citrus Heights Water District

**CITRUS HEIGHTS WATER DISTRICT**  
**April 2025**  
**REVENUE ANALYSIS**

**Outstanding Receivables**

Aged Trial Balance					
Total	Current	31-90	91-150	>150	Unapplied Current
2,008,634	1,637,960	141,569	85,797	282,822	139,514

General Ledger Balance	Total
Outstanding A/R	2,107,725.35
Outstanding Liens	-
Outstanding Grants	740.31
A/R Other	-
Less Unapplied Payments	(140,714)
Total	\$ 1,967,752
Diff	\$ (40,882)

**CITRUS HEIGHTS WATER DISTRICT  
ASSESSOR/COLLECTOR'S ROLL ADJUSTMENTS FOR  
April 30, 2025**

<b>LID</b>	<b>CID</b>	<b>Charge Type</b>	<b>Trans.Date</b>	<b>Reason For Cancellation</b>	<b>Amount</b>
15495	29019	DEFAULT	3/25/2025	ONE TIME COURTESY	8.16000
13326	35975	DEFAULT	4/1/2025	ONE TIME COURTESY	7.54000
16453	43991	DEFAULT	4/1/2025	ONE TIME COURTESY	4.64000
09859	8744	DEFAULT	4/9/2025	ONE TIME COURTESY	7.35000
15712	43888	DEFAULT	3/25/2025	ONE TIME COURTESY	4.28000
15986	17535	DEFAULT	3/25/2025	ONE TIME COURTESY	6.78000
10027	27965	DEFAULT	4/1/2025	ONE TIME COURTESY	6.83000
10036	41957	DEFAULT	4/1/2025	ONE TIME COURTESY	7.12000

April 30, 2025

To: Citrus Heights Water District Board of Directors

Re: Citrus Heights Water District Investment Portfolio Report for April 2025

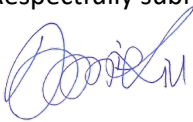
The attached Investment Report for April 2025 is submitted in accordance with the Citrus Heights Water District (District)'s Investment Policy. All investments are in compliance with the policy.

The Investment Report lists all short- term, mid-term and long-term investments held at the conclusion of business on the final day of the month. The combined cash and investments in the District's treasury total \$33,327,149 with \$9,686,684 under the management of the Local Agency Investment Fund, California Asset Management Program, Money Market Funds and BMO Bank.

Investments with original cost of \$23,640,465 are selected based on criteria contained in the District's Investment Policy, which emphasized safety, liquidity, yield, and diversification. The core investments are marked to market daily based on a current market price determined by U.S. Bancorp Investments. The aggregate investment portfolio and holdings are included in the Investment Report.

The Investment Report demonstrates that sufficient liquidity is available to meet anticipated expenditures during the next six months.

Respectfully submitted,



Annie Y. Liu

Director of Administrative Services/Treasurer

**TREASURER'S REPORT TO THE BOARD OF DIRECTORS**  
**For April 30, 2025**

**Summary of Funds**

<b>Fund Name</b>	<b>Par Amount</b>	<b>Book Value</b>	<b>Original Cost</b>	<b>Market Value</b>
BMO Checking Plus Money Market Funds	3,597,400	3,597,400	3,597,400	3,597,400
Local Agency Investment Fund (LAIF)	57,183	57,183	57,183	57,183
California Asset Management Program (CAMP)	6,032,101	6,032,101	6,032,101	6,032,101
CHWD Investment CORE	24,059,547	23,640,465	23,421,311	23,882,130
<b>Total</b>	<b>33,746,229.98</b>	<b>33,327,148.68</b>	<b>33,107,994.28</b>	<b>33,568,812.86</b>



# TREASURER'S REPORT TO THE BOARD OF DIRECTORS

For April, 2025

## Funds Reconciliation

<b>BMO Beginning Balance 4/1/25</b>	<b>\$2,957,587</b>
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### RECEIPTS/TRANSFERS:

Receipts	1,995,247	
		<u>1,995,247</u>

### DISBURSEMENTS/TRANSFERS:

Checks Issued / ACH Payments	805,413	
Returned Checks	7,285	
Bank fees	11,916	
Payroll	530,820	
		<u>1,355,434</u>
		639,813

<b>Balance Per Bank 04/30/2025</b>		<b><u>3,597,400</u></b>
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Outstanding Checks	1,091,560
Deposit in Transit	<u>119,785</u>

<b>Balance Per Books 04/30/2025</b>	<b><u>\$2,625,625</u></b>
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### RECONCILEMENT:

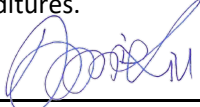
BMO Checking Plus Money Market Funds	\$3,597,400
CAMP Pool Account	\$6,032,101
Local Agency Investment Fund	\$57,183


<b>TOTAL LIQUIDY BALANCE</b>	<b><u>\$9,686,683</u></b>
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### CASH & INVESTMENT SUMMARY:

CHWD-Liquidity	9,686,683
CHWD-Investment Core	<u>23,640,465</u>
<b>Total</b>	<b><u>33,327,149</u></b>

I certify that this report accurately reflects all pooled investments and is in compliance with applicable State of California Government Codes and is in conformity with Investment of District Funds Policy 6300. As Treasurer of the Citrus Heights Water District, I hereby certify that sufficient investment liquidity and anticipated revenue are available to meet the next six months' estimated expenditures.

  
 \_\_\_\_\_  
**ANNIE Y. LIU**  
 Treasurer  
 4/30/2025

  
 \_\_\_\_\_  
**HILARY M. STRAUS**  
 Secretary

# Monthly Investment Report Citrus Heights Water District

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April 30, 2025

Total Aggregate Portfolio

## Citrus Heights Water District | Total Aggregate Portfolio

### Month End Commentary - April 2025

April's financial markets were defined by volatility, with tariffs fueling uncertainty and investor unease. The VIX Volatility Index sustained a level over 20 for the entire month reaching a 5-year high early in the month signaling a vast amount of market fear. Impressively, equities as measured by the S&P 500 Index clawed back nearly all of the 12% intra month drawdown, finishing lower by only -0.76%. Treasuries rallied, led by 2- and 3-year yields, both of which fell by 28 basis points to 3.60% while 10-year yields fell by only 4 basis points to 4.16% supporting a steepening of the yield curve.

Driving the market chaos was the President's "Liberation Day" announcement of reciprocal tariffs on trading partners across the globe causing investors to worry about heightened trade tensions and an escalating trade war that could cause undue harm to the economy. Immediately afterwards, the stock market sold off and the bond market rallied as investors sought safe havens to store capital but fortunately, financial markets received solace soon after the White House announced a 90-day pause on all tariffs excluding those imposed on China.

The first look at Q1 GDP growth showed the economy contract by -0.3% in what was the first decline since Q1 2022 and while the headline number appears concerning, looking under the hood tells a different story. The negative growth print was heavily influenced by an outsized drag from net exports as companies worked to front run tariffs to get ahead of duties placed on imports. Final sales to domestic purchasers, a useful metric for economic growth that removes the noise from trade and changes in inventory, went unchanged from the prior quarter advancing by a robust 3.0%. At this juncture, economists do not expect GDP growth for the current quarter to contract and instead anticipate a one-time boost in GDP as the Q1 blowout of the trade deficit unwinds. Instead, economists worry that growth may stall in the final quarters of 2025 where higher prices and supply shocks may negatively impact consumption and the labor market but for now, the economy is humming along. The April jobs report exceeded expectations as 177 thousand workers were added to payrolls and the unemployment rate went unchanged at 4.2%, supporting the Fed's patient approach to easing policy. On the stable prices side of the Fed's dual mandate, disinflation appeared to resume with core CPI falling for a third consecutive month to an annual 2.8% in March. However, inflation remains above the Fed's 2% target and the impact of tariffs has yet to be felt further supporting a patient approach.

Corporate credit and municipal bond spreads widened in April, nearing 3-year averages. As a result, we are maintaining a cautious approach to allocations, keeping them underweight to neutral relative to strategic targets. If spreads continue to widen beyond historical averages, we may adjust our allocations accordingly. Given the Fed's patient approach, rapidly changing trade policies, and uncertain fiscal outlook, we advise clients to manage their bond durations in line with their benchmarks, with a preference for a bullet structure to benefit from the steepening yield curve.

### Treasury Curve Total Returns Last 12 Months

Treasuries	Total Return
3 month bill	4.88%
1 year note	5.21%
2 year note	6.41%
3 year note	7.54%
5 year note	8.38%

### Treasury Benchmark Total Returns In Month

Benchmark	Period Return	YTM	Duration (Years)
ICE BAML 90 Day Bill	0.33%	4.22%	0.022
ICE BAML 0-1 Year Treasury	0.36%	4.16%	0.51
ICE BAML 0-3 Year Treasury	0.66%	3.82%	1.43
ICE BAML 0-5 Year Treasury	0.85%	3.77%	2.12

### Changes In The Treasury Market (Absolute Yield Levels)

Treasuries	04/30/2024	02/28/2025	03/31/2025	04/30/2025	1 Month Change	12 Month Change
3 month bill	5.39%	4.29%	4.29%	4.29%	-0.01%	-1.11%
6 month bill	5.39%	4.27%	4.22%	4.17%	-0.05%	-1.06%
1 year note	5.24%	4.08%	4.02%	3.85%	-0.17%	-1.19%
2 year note	5.04%	3.99%	3.88%	3.60%	-0.28%	-1.27%
3 year note	4.88%	3.97%	3.87%	3.60%	-0.28%	-1.12%
5 year note	4.72%	4.02%	3.95%	3.73%	-0.22%	-0.95%
10 year note	4.68%	4.21%	4.21%	4.16%	-0.04%	-0.52%

# Compliance Report

Citrus Heights Water District | Total Aggregate Portfolio

## Category

Policy Diversification Constraint	Policy Limit	Actual Value*	Status
US Treasury Obligations Maximum % of Holdings	100.000	24.908	Compliant
US Agency Callable Securities Maximum % of Total Portfolio	25.000	0.000	Compliant
US Agency Obligations Issuer Concentration	35.000	17.791	Compliant
US Agency Obligations Maximum % of Holdings	100.000	24.269	Compliant
Supranationals - Issuer is IADB, IBRD, or IFC	0.000	0.000	Compliant
Supranationals Issuer Concentration	5.000	2.879	Compliant
Supranationals Maximum % of Holdings	15.000	6.531	Compliant
Municipal Bonds - Other States Outside of CA	25.000	1.134	Compliant
Municipal Bonds - Other States Outside of CA Issuer Concentration	10.000	1.134	Compliant
Municipal Bonds - State of California	25.000	0.469	Compliant
Municipal Bonds - State of California Issuer Concentration	10.000	0.469	Compliant
Municipal Bonds CA Entities Issuer Concentration	10.000	0.701	Compliant
Municipal Bonds CA Entities Max. % of Holdings	30.000	2.776	Compliant
Mortgages, CMOs and Asset Backed Securities Issuer Concentration	5.000	0.597	Compliant
Mortgages, CMOs and Asset Backed Securities Maximum % of Holdings	20.000	3.117	Compliant
Corporate Notes Issuer Concentration	5.000	0.000	Compliant
Corporate Notes Maximum % of Holdings	25.000	8.239	Compliant
Corporate Notes must be Issued by US Corporation	0.000	0.000	Compliant
Commercial Paper Issued and Operating in the US	0.000	0.000	Compliant
Commercial Paper Issuer Concentration	5.000	0.000	Compliant
Negotiable CDs Issuer Concentration	5.000	0.000	Compliant
Negotiable CDs Maximum % of Holdings	10.000	0.000	Compliant
Non-Negotiable CDs Issuer Concentration	5.000	0.000	Compliant
Non-Negotiable CDs Maximum % of Holdings	10.000	0.000	Compliant
Banker's Acceptance Issuer Concentration	5.000	0.000	Compliant
Banker's Acceptance Maximum % of Holdings	20.000	0.000	Compliant
Money Market Issuer Concentration	20.000	4.751	Compliant
Money Market Maximum % of Holdings	20.000	4.920	Compliant
LGIP Maximum % of Holdings	100.000	0.170	Compliant
Bank Time Deposits/Savings Accounts Issuer Concentration	50.000	5.966	Compliant
Bank Time Deposits/Savings Accounts Maximum % of Holdings	100.000	10.886	Compliant

1) Actual values are based on market value.

2) The compliance report allows for resolutions to be documented if an actual value exceeds a limit. The specific resolution can be found on the client portal site.

# Compliance Report

Citrus Heights Water District | Total Aggregate Portfolio

Category				
JPA Pool Max % Holdings		50.000	17.969	Compliant

1) Actual values are based on market value.  
2) The compliance report allows for resolutions to be documented if an actual value exceeds a limit. The specific resolution can be found on the client portal site.

GPA Investment Report

# Compliance Report

Citrus Heights Water District | Total Aggregate Portfolio

## Category

Policy Maturity Structure Constraint	Policy Limit	Actual %	Status
Maturity Constraints Under 5 years Minimum % of Total Portfolio	100.000	100.000	Compliant
Policy Maturity Constraint	Policy Limit	Actual Term	Status
US Treasury Maximum Maturity At Time of Purchase (years)	5.000	5.000	Compliant
US Agency Maximum Maturity At Time of Purchase (years)	5.000	4.992	Compliant
Supranationals Maximum Maturity At Time of Purchase (years)	5.000	4.943	Compliant
Municipals Maximum Maturity At Time of Purchase (years)	5.000	4.995	Compliant
Mortgages, CMOs and Asset Backed Securities Maximum Maturity At Time of Purchase (years)	5.000	4.565	Compliant
Corporate Maximum Maturity At Time of Purchase (years)	5.000	4.833	Compliant
Commercial Paper Days to Final Maturity (days)	270.000	0.000	Compliant
Negotiable CDs Maximum Maturity At Time of Purchase (years)	1.000	0.000	Compliant
Non-Negotiable CDs Maximum Maturity At Time of Purchase (years)	1.000	0.000	Compliant
Banker's Acceptance Maximum Maturity At Time of Purchase (days)	180.000	0.000	Compliant
Weighted Average Maturity (years)	2.500	1.631	Compliant
Policy Credit Constraint			Status
Supranationals Ratings AA-/Aa3/AA- or better (Rated by 1 NRSRO)			Compliant
Municipal Bonds Ratings Minimum A-/A3/A- (Rated by 1 NRSRO)			Compliant
Mortgages, CMOs and Asset Backed Securities Minimum Credit Rating AA/Aa3/AA (Rated by 1 NRSRO)			Compliant
Corporate Notes Ratings Minimum A-/A-/A3 (Rated by 1 NRSRO)			Compliant
Commercial Paper Ratings Minimum A1/P1/F1 (Rated by 1 NRSRO)			Compliant
Commercial Paper Minimum Long Term Rating A-/A3/A- (Rated by 1 NRSRO)			Compliant
Money Market Ratings Minimum AAA/Aaa/AAA (Rated by 1 NRSRO)			Compliant

1) Actual values are based on market value.

2) The compliance report allows for resolutions to be documented if an actual value exceeds a limit. The specific resolution can be found on the client portal site.

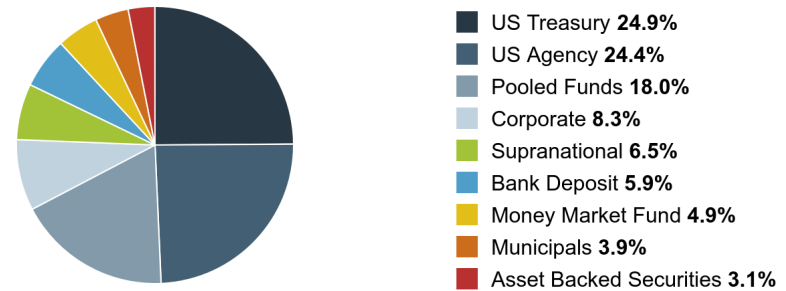
# Summary Overview

Citrus Heights Water District | Total Aggregate Portfolio

## Portfolio Characteristics

Metric	Value
Cash and Cash Equivalents	9,743,874.89
Investments (Market Value + Accrued)	24,020,220.08
Book Yield	4.18%
Market Yield	3.78%
Effective Duration	1.46
Years to Maturity	1.60
Avg Credit Rating	AAA

## Allocation by Asset Class



## Strategic Structure

Account	Par Amount	Original Cost	Book Value	Market Value	Net Unrealized Gain (Loss)	Yield at Cost	Effective Duration	Benchmark Duration	Benchmark
CHWD-Investment Core	24,059,546.71	23,421,311.01	23,640,465.41	23,882,129.59	241,664.18	4.44%	2.04	2.12	ICE BofA 0-5 Year US Treasury Index
CHWD-Liquidity	9,686,683.27	9,686,683.27	9,686,683.27	9,686,683.27	0.00	3.51%	0.01	0.09	ICE BofA US 1-Month Treasury Bill Index
<b>Total</b>	<b>33,746,229.98</b>	<b>33,107,994.28</b>	<b>33,327,148.68</b>	<b>33,568,812.86</b>	<b>241,664.18</b>	<b>4.18%</b>	<b>1.46</b>		



# CHWD Holdings Report

As of 04/30/2025

## CHWD\_Total Portfolio (354503)

Dated: 05/09/2025

Identifier	Description	Final Maturity	Par Amount	Book Value	Original Cost	Market Value	Net Unrealized Gain/Loss	Accrued Balance	Book Yield	GPA Effective Duration, Years to Final Maturity
CAL_CAMP	California Asset Management Program	04/30/2025	6,032,100.58	6,032,100.58	6,032,100.58	6,032,100.58	0.00	0.00	4.450	0.010 0.000
CAL_LGIP	CALIFORNIA LAIF	04/30/2025	57,182.68	57,182.68	57,182.68	57,182.68	0.00	0.00	4.281	0.010 0.000
CHWD_BMO_DE P	BMO Deposit	04/30/2025	2,002,549.49	2,002,549.49	2,002,549.49	2,002,549.49	0.00	0.00	0.000	0.010 0.000
60934N104	FEDERATED HRMS GV O INST	04/30/2025	1,594,850.52	1,594,850.52	1,594,850.52	1,594,850.52	0.00	0.00	4.330	0.000 0.000
31846V203	FIRST AMER:GVT OBLG Y	04/30/2025	56,846.14	56,846.14	56,846.14	56,846.14	0.00	0.00	3.970	0.000 0.000
CCYUSD	Receivable	04/30/2025	345.48	345.48	345.48	345.48	0.00	0.00	---	---
02582JJT8	AMXCA 2022-2 A	05/15/2025	200,000.00	199,866.65	193,437.50	199,900.00	33.35	301.33	5.277	0.041 0.041
912828XB1	UNITED STATES TREASURY	05/15/2025	400,000.00	399,557.94	380,328.13	399,644.00	86.06	3,921.27	5.171	0.041 0.041
254683CS2	DCENT 2022-2 A	05/15/2025	200,000.00	199,827.38	192,750.00	199,908.00	80.62	295.11	5.747	0.041 0.041
3133EPNB7	FEDERAL FARM CREDIT BANKS FUNDING CORP	06/20/2025	300,000.00	299,920.97	298,854.00	300,030.00	109.03	5,048.96	4.829	0.138 0.140
3133EPRS6	FEDERAL FARM CREDIT BANKS FUNDING CORP	07/28/2025	350,000.00	349,817.39	348,539.10	350,339.50	522.11	4,407.81	5.103	0.242 0.244
06428CAC8	BANK OF AMERICA NA	08/18/2025	250,000.00	249,993.99	249,960.00	250,615.00	621.01	2,864.24	5.658	0.213 0.301
89236TKZ7	TOYOTA MOTOR CREDIT CORP	09/11/2025	200,000.00	200,089.15	200,490.00	200,746.00	656.85	1,555.56	5.469	0.358 0.367
91282CFK2	UNITED STATES TREASURY	09/15/2025	300,000.00	298,784.57	292,769.53	299,226.00	441.43	1,341.03	4.649	0.369 0.378
17325FBA5	CITIBANK NA	09/29/2025	250,000.00	249,965.26	249,832.50	250,957.50	992.24	1,303.11	5.900	0.331 0.416
14041NGB1	COMET 2022-3 A	10/15/2025	200,000.00	199,832.65	199,156.25	200,354.00	521.35	440.00	5.200	0.443 0.460
3133EPMB8	FEDERAL FARM CREDIT BANKS FUNDING CORP	12/08/2025	300,000.00	299,158.53	296,577.00	300,276.00	1,117.47	4,915.63	4.621	0.584 0.608
3133EPW68	FEDERAL FARM CREDIT BANKS FUNDING CORP	01/22/2026	500,000.00	499,188.04	497,790.00	500,375.00	1,186.96	5,671.88	4.360	0.704 0.731
3133ERNJ6	FEDERAL FARM CREDIT BANKS FUNDING CORP	02/06/2026	500,000.00	501,361.77	502,520.00	501,935.00	573.23	5,312.50	4.129	0.741 0.772
91282CGL9	UNITED STATES TREASURY	02/15/2026	350,000.00	348,181.89	344,175.78	349,926.50	1,744.61	2,900.55	4.702	0.770 0.797
3133EPNV3	FEDERAL FARM CREDIT BANKS FUNDING CORP	03/30/2026	300,000.00	299,696.52	299,085.00	300,963.00	1,266.48	1,130.21	4.496	0.888 0.914
3133EPPR0	FEDERAL FARM CREDIT BANKS FUNDING CORP	04/10/2026	400,000.00	399,672.34	399,045.60	402,404.00	2,731.66	1,079.17	4.721	0.915 0.945
14913UAA8	CATERPILLAR FINANCIAL SERVICES CORP	05/15/2026	150,000.00	149,380.80	148,278.00	150,202.50	821.70	3,008.75	4.779	0.989 1.041
3133EPUD5	FEDERAL FARM CREDIT BANKS FUNDING CORP	05/28/2026	300,000.00	299,672.27	299,160.60	302,697.00	3,024.73	6,056.25	4.863	1.024 1.077
24422EWX3	JOHN DEERE CAPITAL CORP	06/08/2026	150,000.00	149,995.51	149,988.00	150,975.00	979.49	2,830.21	4.752	1.049 1.107
89239KAC5	TAOT 2022-A A3	06/15/2026	14,629.94	14,414.09	14,081.89	14,595.85	181.76	8.00	5.555	0.075 1.126
3133EPNG6	FEDERAL FARM CREDIT BANKS FUNDING CORP	06/23/2026	300,000.00	299,877.57	299,679.00	301,080.00	1,202.43	4,666.67	4.413	1.093 1.148
3133EPQC2	FEDERAL FARM CREDIT BANKS FUNDING CORP	07/17/2026	250,000.00	249,834.20	249,595.25	252,670.00	2,835.80	3,340.28	4.684	1.159 1.214
78016FZZ0	ROYAL BANK OF CANADA	07/20/2026	150,000.00	149,836.17	149,596.50	151,813.50	1,977.33	2,188.33	5.298	1.161 1.222
06051GLA5	BANK OF AMERICA CORP	07/22/2026	150,000.00	149,758.06	147,766.50	150,033.00	274.94	1,991.14	5.363	0.225 1.227





# CHWD Holdings Report

As of 04/30/2025

## CHWD\_Total Portfolio (354503)

Dated: 05/09/2025

Identifier	Description	Final Maturity	Par Amount	Book Value	Original Cost	Market Value	Net Unrealized Gain/Loss	Accrued Balance	Book Yield	GPA Effective Duration, Years to Final Maturity
797272RN3	SAN DIEGO CALIF CMNTY COLLEGE DIST	08/01/2026	145,000.00	139,532.24	131,719.45	140,496.30	964.06	523.81	4.718	1.217 1.255
94988J6D4	WELLS FARGO BANK NA	08/07/2026	250,000.00	249,959.79	249,905.00	253,575.00	3,615.21	3,179.17	5.464	1.129 1.271
3133EPSW6	FEDERAL FARM CREDIT BANKS FUNDING CORP	08/14/2026	350,000.00	349,885.53	349,733.30	352,425.50	2,539.97	3,368.75	4.527	1.232 1.290
3130AWTQ3	FEDERAL HOME LOAN BANKS	09/11/2026	350,000.00	349,155.10	348,110.00	353,881.50	4,726.40	2,248.26	4.814	1.306 1.367
91282CLS8	UNITED STATES TREASURY	10/31/2026	525,000.00	523,006.66	522,621.09	527,992.50	4,985.84	58.85	4.388	1.443 1.504
78016EZZ3	ROYAL BANK OF CANADA	11/02/2026	200,000.00	189,836.66	177,770.00	192,158.00	2,321.34	1,392.22	5.114	1.454 1.509
13067WRD6	CALIFORNIA ST DEPT WTR RES CENT VY PROJ REV	12/01/2026	165,000.00	155,192.44	145,063.05	157,505.70	2,313.26	632.50	5.028	1.542 1.589
17325FBC1	CITIBANK NA	12/04/2026	250,000.00	252,146.96	254,080.00	254,735.00	2,588.04	5,602.33	4.872	1.414 1.597
3130ATVE4	FEDERAL HOME LOAN BANKS	12/11/2026	500,000.00	504,854.98	506,825.00	505,990.00	1,135.02	8,750.00	3.864	1.521 1.616
91282CJT9	UNITED STATES TREASURY	01/15/2027	500,000.00	498,997.52	498,261.72	502,735.00	3,737.48	5,856.35	4.125	1.622 1.712
91282Z78	UNITED STATES TREASURY	01/31/2027	375,000.00	357,320.17	339,667.97	361,376.25	4,056.08	1,398.48	4.438	1.700 1.756
3130A3DU5	FEDERAL HOME LOAN BANKS	03/12/2027	500,000.00	492,706.09	490,142.50	493,575.00	868.91	2,041.67	3.827	1.789 1.865
91282CKE0	UNITED STATES TREASURY	03/15/2027	500,000.00	500,041.82	500,058.59	505,530.00	5,488.19	2,713.99	4.244	1.781 1.873
3133ENV9	FEDERAL FARM CREDIT BANKS FUNDING CORP	04/26/2027	350,000.00	339,566.81	330,400.00	344,795.50	5,228.69	139.76	4.522	1.911 1.988
91412HFP3	UNIVERSITY CALIF REVS	05/15/2027	200,000.00	188,507.06	178,080.00	189,762.00	1,254.94	1,259.76	4.469	1.967 2.041
3133ERFJ5	FEDERAL FARM CREDIT BANKS FUNDING CORP	05/20/2027	500,000.00	506,737.97	508,888.00	507,845.00	1,107.03	10,062.50	3.802	1.914 2.055
91282CEW7	UNITED STATES TREASURY	06/30/2027	300,000.00	294,456.66	289,699.22	297,891.00	3,434.34	3,258.98	4.187	2.053 2.167
7994082A6	SAN RAMON VALLEY CALIF UNI SCH DIST	08/01/2027	250,000.00	232,234.15	218,142.50	236,022.50	3,788.35	740.00	4.688	2.181 2.255
799038NS9	SAN MATEO CNTY CALIF CMNTY COLLEGE DIST	09/01/2027	220,000.00	204,791.54	192,810.20	208,192.60	3,401.06	537.90	4.768	2.255 2.339
65480BAD9	NAROT 2021-A A4	09/15/2027	102,486.01	97,673.55	93,926.83	101,523.66	3,850.11	25.96	5.002	0.321 2.378
91282CFM8	UNITED STATES TREASURY	09/30/2027	300,000.00	299,734.98	299,531.25	303,831.00	4,096.02	1,048.16	4.164	2.279 2.419
419792DB9	HAWAII ST	10/01/2027	200,000.00	194,928.70	191,052.00	197,578.00	2,649.30	558.33	4.514	1.680 2.422
89236TKL8	TOYOTA MOTOR CREDIT CORP	11/10/2027	150,000.00	152,020.43	153,498.00	154,576.50	2,556.07	3,883.13	4.850	2.292 2.531
12663JAC5	CNH 2022-B A3	11/15/2027	151,859.20	149,450.38	147,742.40	151,139.39	1,689.01	262.55	5.368	0.531 2.545
023135CP9	AMAZON.COM INC	12/01/2027	150,000.00	149,754.23	149,578.50	152,320.50	2,566.27	2,843.75	4.620	2.320 2.589
142921AD7	CARMX 2023-2 A3	01/18/2028	178,379.94	178,002.60	177,745.85	178,988.21	985.61	400.36	5.252	0.755 2.720
24422EWR6	JOHN DEERE CAPITAL CORP	01/20/2028	150,000.00	150,066.11	150,111.00	152,842.50	2,776.39	1,998.96	4.731	2.505 2.726
3133EPAV7	FEDERAL FARM CREDIT BANKS FUNDING CORP	02/14/2028	250,000.00	248,241.91	247,082.50	250,262.50	2,020.59	2,072.05	4.154	2.600 2.794
912833RY8	UNITED STATES TREASURY	02/15/2028	700,000.00	624,152.35	619,542.00	632,233.00	8,080.65	0.00	4.162	2.745 2.797
931142FB4	WALMART INC	04/15/2028	150,000.00	148,204.62	147,082.50	150,343.50	2,138.88	260.00	4.352	2.724 2.961



# CHWD Holdings Report

As of 04/30/2025

CHWD\_Total Portfolio (354503)

Dated: 05/09/2025

Identifier	Description	Final Maturity	Par Amount	Book Value	Original Cost	Market Value	Net Unrealized Gain/Loss	Accrued Balance	Book Yield	GPA Effective Duration, Years to Final Maturity
91282CMW8	UNITED STATES TREASURY	04/15/2028	525,000.00	524,735.60	524,733.40	527,420.25	2,684.65	860.66	3.768	2.775 2.961
46647PDA1	JPMORGAN CHASE & CO	04/26/2028	150,000.00	147,302.22	144,790.50	149,806.50	2,504.28	90.06	5.145	1.885 2.991
91282CCE9	UNITED STATES TREASURY	05/31/2028	300,000.00	276,505.91	262,359.38	279,585.00	3,079.09	1,565.93	4.082	2.964 3.085
91282CCE9	UNITED STATES TREASURY	05/31/2028	400,000.00	369,158.49	367,843.75	372,780.00	3,621.51	2,087.91	3.937	2.964 3.085
3130AWN63	FEDERAL HOME LOAN BANKS	06/30/2028	300,000.00	299,321.35	298,938.00	303,528.00	4,206.65	4,033.33	4.080	2.916 3.167
419792YT7	HAWAII ST	08/01/2028	200,000.00	180,009.05	169,290.00	183,100.00	3,090.95	572.50	4.623	3.128 3.255
459058KW2	INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPM	08/01/2028	500,000.00	506,979.32	509,670.00	514,540.00	7,560.68	5,781.25	4.150	2.974 3.255
3133EPUN3	FEDERAL FARM CREDIT BANKS FUNDING CORP	08/28/2028	350,000.00	351,625.00	352,439.50	358,305.50	6,680.50	2,756.25	4.328	3.051 3.329
91282CDF5	UNITED STATES TREASURY	10/31/2028	650,000.00	604,448.37	596,933.60	602,316.00	-2,132.37	24.29	3.542	3.365 3.504
45950VSM9	INTERNATIONAL FINANCE CORP	11/27/2028	250,000.00	253,558.36	254,912.50	257,042.50	3,484.14	4,812.50	4.056	3.227 3.578
3130AXQK7	FEDERAL HOME LOAN BANKS	12/08/2028	500,000.00	510,958.92	514,770.00	517,505.00	6,546.08	9,434.03	4.071	3.242 3.608
91282CDW8	UNITED STATES TREASURY	01/31/2029	425,000.00	392,808.56	382,101.56	396,992.50	4,183.94	1,849.10	3.997	3.564 3.756
4581X0EN4	INTER-AMERICAN DEVELOPMENT BANK	02/15/2029	450,000.00	448,330.00	447,825.15	456,565.50	8,235.50	3,918.75	4.233	3.458 3.797
45950VSZ0	INTERNATIONAL FINANCE CORP	03/27/2029	500,000.00	492,670.26	490,789.00	512,075.00	19,404.74	2,065.97	4.800	3.559 3.906
3133ERDH1	FEDERAL FARM CREDIT BANKS FUNDING CORP	04/30/2029	625,000.00	632,092.73	633,768.75	645,818.75	13,726.02	82.47	4.430	3.626 4.000
91282CES6	UNITED STATES TREASURY	05/31/2029	650,000.00	611,910.58	604,144.53	627,607.50	15,696.92	7,464.29	4.360	3.774 4.085
91282CFC0	UNITED STATES TREASURY	07/31/2029	500,000.00	471,747.91	468,398.44	479,455.00	7,707.09	3,263.12	4.101	3.949 4.252
91282CFJ5	UNITED STATES TREASURY	08/31/2029	400,000.00	392,635.50	391,546.88	391,108.00	-1,527.50	2,105.98	3.593	3.990 4.337
459058LN1	INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPM	10/16/2029	450,000.00	442,591.21	441,909.00	452,002.50	9,411.29	726.56	4.287	4.058 4.463
91282CFY2	UNITED STATES TREASURY	11/30/2029	500,000.00	495,040.70	494,628.91	503,595.00	8,554.30	8,090.66	4.116	4.104 4.586
---	---	12/03/2026	33,746,229.98	33,327,148.68	33,107,994.28	33,568,812.86	241,664.18	195,282.11	4.174	1.454 1.595

\* Weighted by: Market Value. \* Holdings Displayed by: Lot.

This report is for general informational purposes only and is not intended to provide specific advice or recommendations. Government Portfolio Advisors (GPA) is an investment advisor registered with the Securities and Exchange Commission and is required to maintain a written disclosure statement of our background and business experience.

**Questions About an Account:** GPA's monthly & quarterly reports are intended to detail the investment advisory activity managed by GPA. The custodial bank maintains the control of assets and settles all investment transactions. The custodial statement is the official record of security and cash holdings and transactions. GPA recognizes that clients may use these reports to facilitate record keeping and that the custodial bank statement and the GPA report should be reconciled, and differences documented.

**Trade Date versus Settlement Date:** Many custodial banks use settlement date basis and post coupons or maturities on the following business days when they occur on weekend. These items may result in the need to reconcile due to a timing difference. GPA reports are on a trade date basis in accordance with GIPS performance standards. GPA can provide all account settings to support the reason for any variance.

**Bank Deposits and Pooled Investment Funds Held in Liquidity Accounts Away from the Custodial Bank are Referred to as Line Item Securities:** GPA relies on the information provided by clients when reporting pool balances, bank balances and other assets that are not held at the client's custodial bank. GPA does not guarantee the accuracy of information received from third parties. Balances cannot be adjusted once submitted however corrective transactions can be entered as adjustments in the following months activity. Assets held outside the custodial bank that are reported to GPA are included in GPA's oversight compliance reporting and strategic plan.

**Account Control:** GPA does not have the authority to withdraw or deposit funds from or to any client's custodial account. Clients retain responsibility for the deposit and withdrawal of funds to the custodial account. Our clients retain responsibility for their internal accounting policies, implementing and enforcing internal controls and generating ledger entries or otherwise recording transactions.

**Custodial Bank Interface:** Our contract provides for the ability for GPA to interface into our client's custodial bank to reconcile transactions, maturities and coupon payments. The GPA client portal will be available to all clients to access this information directly at any time.

**Market Price:** Generally, GPA has set all securities market pricing to match custodial bank pricing. There may be certain securities that will require pricing override due to inaccurate custodial bank pricing that will otherwise distort portfolio performance returns. GPA may utilize Refinitiv pricing source for commercial paper, discount notes and supranational bonds when custodial bank pricing does not reflect current market levels. The pricing variances are obvious when market yields are distorted from the current market levels.

**Performance Calculation:** Historical returns are presented as time-weighted total return values and are presented gross and net of fees.

**Amortized Cost:** The original cost on the principal of the security is adjusted for the amount of the periodic reduction of any discount or premium from the purchase date until the date of the report. Discounts or premiums are amortized on a straight-line basis on all securities. This can be changed at the client's request.

**Callable Securities:** Securities subject to redemption in whole or in part prior to the stated final maturity at the discretion of the security's issuer are referred to as "callable". Certain call dates may not show up on the report if the call date has passed or if the security is continuously callable until maturity date. Bonds purchased at a premium will be amortized to the next call date while all other callable securities will be amortized to maturity. If the bond is amortized to the call date, amortization will be reflected to that date and once the call date passes, the bond will be fully amortized.

**Duration:** The duration is the effective duration. Duration on callable securities is based on the probability of the security being called given market rates and security characteristics.

**Benchmark Duration:** The benchmark duration is based on the duration of the stated benchmark that is assigned to each account.

**Rating:** Information provided for ratings is based upon a good faith inquiry of selected sources, but its accuracy and completeness cannot be guaranteed.

**Coupon Payments and Maturities on Weekends:** On occasion, coupon payments and maturities occur on a weekend or holiday. GPA's report settings are on the accrual basis so the coupon postings and maturities will be accounted for in the period earned. The bank may be set at a cash basis, which may result in a reconciliation variance.

**Cash and Cash Equivalents:** GPA has defined cash and cash equivalents to be cash, bank deposits, LGIP pools and repurchase agreements. This may vary from your custodial bank which typically defines cash and equivalents as all securities that mature under 90 days. Check with your custodial bank to understand their methodology.

**Account Settings:** GPA has the portfolio settings at the lot level, if a security is sold our setting will remove the lowest cost security first. First-in-first-out (FIFO) settings are available at the client's request.

**Historical Numbers:** Data was transferred from GPA's legacy system, however, variances may exist from the data received due to a change of settings on Clearwater. GPA is utilizing this information for historical return data with the understanding the accrual settings and pricing sources may differ slightly.

**Financial Situation:** In order to better serve you, GPA should be promptly notified of any material change in your investment objective or financial situation.

**No Guarantee:** The securities in the portfolio are not guaranteed or otherwise protected by GPA, the FDIC (except for non-negotiable certificates of deposit) or any government agency. Investment in securities involves risks, including the possible loss of the amount invested.



**TREASURER'S REPORT OF ACCOUNT BALANCES**  
**4/30/2025**

Fund Name	Beginning Balance 01/1/2025	Year to Date Transfers In / Collections	Year to Date Transfers Out	Current Month Transfers In / Collections	Current Month Transfers Out	Ending Balance 04/30/2025	2025 Target Balance per Policy
Operating Reserve	\$ 3,943,592					\$ 3,943,592	\$ 3,892,710
Operating Fund	\$ 14,377,842	\$ 5,329,385	\$ (6,792,332)	1,995,247	(1,355,434)	\$ 13,554,708	N/A
Rate Stabilization Fund	\$ 1,000,000					\$ 1,000,000	\$ 1,000,000
Capital Improvement Reserve	\$ 3,146,633					\$ 3,146,633	\$ 3,146,633
Restricted for Debt Service	\$ -					\$ -	N/A
Water Supply Reserve	\$ 3,023,173					\$ 3,023,173	N/A
Water Efficiency Reserve	\$ 200,000					\$ 200,000	N/A
Water Meter Replacement Reserve	\$ 2,125,000					\$ 2,125,000	N/A
Water Main Reserve - Project 2030	\$ 4,272,713	\$ 447,050		\$ 244,216		\$ 4,963,979	N/A
Fleet Equipment Reserve	\$ 471,395					\$ 471,395	\$ 471,395
Employment-Related Benefits Reserve	\$ 1,015,536					\$ 1,015,536	\$ 1,015,536
	<u>\$ 33,575,885</u>	<u>\$ 5,776,435</u>	<u>\$ (6,792,332)</u>	<u>\$ 2,239,463</u>	<u>\$ (1,355,434)</u>	<u>\$ 33,444,016</u>	<u>\$ 9,526,274</u>

  
 ANNIE Y. LIU, Treasurer

**TREASURER'S REPORT OF FUND BALANCES****April 30, 2025****Fund Transfers Summary:****Operating Fund:**

Fund Collected/Transferred	\$ 1,995,247
Fund Disbursed/Transferred	\$ <u>(1,355,434)</u>
<b>Net Fund Transferred:</b>	<b>\$ 639,813</b>

<b><u>Water Main Reserve - Project 2030</u></b>	<b>\$ <u>244,216</u></b>
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<b>NET CHANGES- ALL FUNDS</b>	<b>\$ <u><u>884,029</u></u></b>
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Citrus Heights Water District  
Budget Performance Report  
As of 04/30/2025

CC-06

	April Actual	Year-to-Date Actual	Year-to-Date Budget	YTD Variance Amount	Percent of Total Budget	Approved Budget
<b>Revenues</b>						
Metered Service Charges	\$1,646,351.66	\$5,143,399.79	\$4,495,558.76	647,841.03	37%	\$13,761,219.83
Metered Water Deliveries	399,950.15	1,473,201.75	\$1,367,809.26	105,392.49	19%	7,729,492.26
Water Main Replacement Revenue	244,216.15	691,266.23	488,012.67	203,253.56	47%	1,466,376.28
Penalties	10,709.02	35,927.26	47,674.71	(11,747.45)	19%	188,431.82
Interest	28,189.74	120,062.31	330,000.00	(209,937.69)	12%	1,000,000.00
Backflow Fees	10,892.88	31,192.14	28,597.69	2,594.45	36%	86,293.14
Water Service Install & S&R	24,589.40	35,888.45	22,343.00	13,545.45	82%	43,762.42
Grant Funds	825.00	825.00	-	825.00	-	-
Cost Reimbursements	175.00	175.00	6,571.41	(6,396.41)	2%	10,029.69
Income - Wheeling Water	-	-	-	-	0%	55,318.65
Income - Connection Fees	-	11,784.88	102,894.68	(91,109.80)	5%	240,165.80
<b>Total Revenue</b>	<b>2,372,387.58</b>	<b>7,543,308.64</b>	<b>6,889,362.73</b>	<b>653,945.91</b>	<b>31%</b>	<b>24,584,362.76</b>
*includes Assessments, New Account, Back						
Charges & other Miscellaneous Revenue Sources						
<b>Operating Expenses</b>						
<b>Cost of Water</b>						
Purchased Water	708,572.28	1,340,331.03	741,078.77	599,252.26	43%	3,141,035.05
Ground Water	59,773.59	229,106.87	362,995.89	(133,889.02)	19%	1,212,931.83
<b>Total Cost of Water</b>	<b>768,345.87</b>	<b>1,569,437.90</b>	<b>1,104,074.66</b>	<b>465,363.24</b>	<b>36%</b>	<b>4,353,966.88</b>
<b>Labor &amp; Benefits</b>						
Labor Regular	345,959.42	1,604,835.69	1,445,827.67	159,008.02	39%	4,085,127.08
Labor Non-Regular	1,005.39	2,170.37	30,400.00	(28,229.63)	2%	91,200.00
Labor Taxes	31,258.42	132,739.39	101,666.55	31,072.84	36%	371,863.07
Labor Workers Comp	27,850.80	27,850.80	39,800.36	(11,949.56)	23%	119,401.08
Labor External	2,500.00	6,400.00	234,198.64	(227,798.64)	1%	702,596.04
Benefits Med/Den/Vis	51,193.38	280,824.35	278,184.27	2,640.08	36%	784,895.96
Benefits LTD/Life/EAP	6,446.57	32,883.64	30,089.24	2,794.40	43%	75,987.03
Benefits CalPers	34,906.60	111,834.38	150,021.09	(38,186.71)	23%	490,728.04
Benefits Other	10,637.66	44,196.27	172,239.83	(128,043.56)	10%	440,448.95
Benefits OPEB	-	-	-	-	0%	92,871.96
Benefit Retiree Expenses	5,695.08	22,780.32	22,044.85	735.47	24%	94,641.01
Benefit GASB 68	-	267,574.50	275,000.00	(7,425.50)	56%	476,282.84
Benefit UAL OPEB	-	-	0.00	-	0%	16,055.04
Capitalized Labor & Benefit Contra	(47,422.90)	(74,660.20)	-	(74,660.20)	-	-
<b>Total Labor &amp; Benefits</b>	<b>470,030.42</b>	<b>2,459,429.51</b>	<b>2,779,472.50</b>	<b>(320,042.99)</b>	<b>31%</b>	<b>7,842,098.10</b>
<b>General &amp; Administrative</b>						
Fees & Charges	15,480.58	51,701.72	70,722.66	(19,020.94)	24%	216,257.92
Regulatory Compliance/Permits	729.00	95,562.81	159,174.99	(63,612.18)	40%	239,900.00
District Events & Recognition	7,772.79	14,876.59	13,249.43	1,627.16	26%	57,999.98
Maintenance/Licensing	22,199.68	203,626.89	202,737.80	889.09	76%	269,300.00
Equipment Maintenance	23,165.35	56,598.01	60,008.98	(3,410.97)	32%	178,899.96
Professional Development	3,046.11	55,265.49	65,882.10	(10,616.61)	35%	158,749.97
Department Admin	0.00	3,000.00	35,000.04	(32,000.04)	3%	105,000.12
Dues & Subscriptions	1,614.50	134,777.76	65,828.33	68,949.43	83%	161,569.99
Facility Improvements	-	-	10,000.00	(10,000.00)	0%	30,000.00
Fuel & Oil	5,133.19	19,334.56	24,782.15	(5,447.59)	24%	79,000.00
General Supplies	22,218.01	42,463.78	32,654.97	9,808.81	34%	124,045.02
Insurance - Auto/Prop/Liab	(259.12)	115,753.35	135,053.58	(19,300.23)	51%	225,000.05
Leasing/Equipment Rental	3,148.38	20,509.84	36,070.91	(15,561.07)	21%	96,699.99
Parts & Materials	52,235.14	262,391.52	217,194.02	45,197.50	146%	180,000.00
Postage/Shipping/Freight	5,896.77	28,479.28	32,126.05	(3,646.77)	25%	114,999.99
Rebates & Incentives	168.51	2,951.15	4,178.10	(1,226.95)	15%	19,100.01
Telecom/Network	8,229.95	22,661.03	17,427.01	5,234.02	30%	75,480.02
Tools & Equipment	6,269.49	55,465.41	13,488.81	41,976.60	78%	71,449.98
Utilities	6,115.91	15,465.22	18,995.61	(3,530.39)	26%	59,222.99
Capitalized G&A Contra	(30,500.27)	(88,203.06)	-	(88,203.06)	-	-
Capitalized Equipment Contra	(36,829.81)	(121,316.67)	-	(121,316.67)	-	-
<b>Total General &amp; Administrative</b>	<b>115,834.16</b>	<b>991,364.68</b>	<b>1,214,575.54</b>	<b>(223,210.86)</b>	<b>40%</b>	<b>2,462,675.99</b>

## CC-06

Citrus Heights Water District  
Budget Performance Report  
As of 04/30/2025

Citrus Heights Water District  
 Capital Projects Summary  
 Fiscal Period End as of 04/2025

Project Number	Project Name	Project Forecast Budget	AMOUNTS PAID			PROJECTION
			Month to Date	Year to Date	Project to Date	Remaining Budget for Total Project
C25-004	Annual Tech Hardware & Softwar	100,000.00	-	-	-	100,000.00
C25-005	Annual Facilities Improvements	112,000.00	-	-	-	112,000.00
C25-010	Annual Water Main Pip Replac	53,000.00	-	1,890.51	1,890.51	51,109.49
C25-011	Annual Valve Replacements	135,000.00	-	2,960.96	2,960.96	132,039.04
C25-012	Annual Water Service Connectio	1,510,000.00	80,221.63	200,003.13	200,003.13	1,309,996.87
C25-013	Annual Water Meter Replacement	130,000.00	6,241.98	10,574.87	10,574.87	119,425.13
C25-014	Annual Fire Hydrants Repl, Upg	175,000.00	17,716.13	25,278.81	25,278.81	149,721.19
C25-020	Annual Groundwater Wel Improve	200,000.00	-	-	-	200,000.00
C25-040	Annual Other City Partnerships	100,000.00	-	365.75	365.75	99,634.25
C25-041	Misc Infrastructure Projects	100,000.00	-	-	-	100,000.00
<b>Construction in Progress</b>		<b>\$2,615,000</b>	<b>\$104,180</b>	<b>\$241,074</b>	<b>\$241,074</b>	<b>\$2,373,926</b>
C24-003	Fleet/Field Operations Equip	330,000.00	-	-	46,946.00	283,054.00
C25-003	Fleet/Field Operations Equip	40,000.00	-	-	-	40,000.00
<b>Fleet and Equipment</b>		<b>\$370,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$46,946</b>	<b>\$323,054</b>
C16-134	Auburn Blvd-Rusch Park Placer	900,285.00	1,846.55	2,936.39	78,065.95	822,219.05
C24-101	Minnesota Drive	727,000.00	6,424.98	308,794.07	366,884.93	360,115.07
C24-102	Fair Oaks Blvd at Leafcrest Wy	615,000.00	1,389.58	22,323.66	65,376.91	549,623.09
C24-103	Menke Way	103,000.00	-	-	-	103,000.00
C25-101	Greenback Ln - Birdcage St to	900,000.00	3,040.32	27,154.32	27,154.32	872,845.68
C25-102	Greenback - Sunrise Blvd to Bi	100,000.00	1,989.36	10,068.86	10,068.86	89,931.14
C25-103	Donnawood Way	100,000.00	611.03	611.03	611.03	99,388.97
<b>Water Mains</b>		<b>\$2,345,285</b>	<b>\$15,302</b>	<b>\$371,888</b>	<b>\$548,162</b>	<b>\$2,897,123</b>
C25-104	Corporation Yard and Admin Fac	3,000,000.00	-	1,500.00	7,048.54	2,992,951.46
C25-105	ERP System	400,000.00	-	-	-	400,000.00
C25-106	SCADA Upgrade	120,000.00	-	-	-	120,000.00
C25-107	Madison Property Acquisition	-	-	1,804,747.50	1,804,747.50	-
<b>Miscellaneous Projects</b>		<b>\$3,400,000</b>	<b>\$0</b>	<b>\$1,806,248</b>	<b>\$1,811,796</b>	<b>\$3,512,951</b>
C20-107	Well #7 Ella	4,442,536.00	168,694.08	369,649.20	1,813,682.06	2,628,853.94
C23-103	Well #8 Highland	5,300,000.00	297.00	14,615.61	84,133.82	5,215,866.18
<b>Wells</b>		<b>\$9,742,536</b>	<b>\$168,991</b>	<b>\$384,265</b>	<b>\$1,897,816</b>	<b>\$7,844,720</b>
<b>Grand Totals</b>		<b>\$18,472,821</b>	<b>\$288,473</b>	<b>\$2,803,475</b>	<b>\$4,545,794</b>	<b>\$16,951,775</b>



## APRIL 2025 WARRANTS

<u>CHECK</u>	<u>PAYEE</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
79731	RHONDA J BENSON	Customer Refund	\$311.30
79732	SANDRA L CAIN	Customer Refund	\$42.98
79733	BRUCE D CHITESTER	Customer Refund	\$74.81
79734	BEVERLY HICKS	Customer Refund	\$21.24
79735	GREEN NOVA PROPERTIES INC	Customer Refund	\$882.74
79736	LESLIE PAUL SAMANIEGO ESTATE	Customer Refund	\$365.57
79737	THOMAS W BORKOWSKI	Customer Refund	\$40.75
79738	CHRISTOPHER OR EILEEN STONUM	Customer Refund	\$31.18
79739	DUSTIN DUTRA	Customer Refund	\$57.82
79740	AAA AUTO REPAIR CENTER	Repair-Trucks	\$2,899.16
79741	ACWA JPIA	Workers Comp Insurance	\$215.76
79742	CDW GOVERNMENT INC	Tools/ Equipment	\$2,972.50
79743	CITY OF CITRUS HEIGHTS	Equipment Rental-Office	\$3,348.00
79744	COVINO SMITH AND SIMON	Contract Services-Miscellaneous	\$1,666.67
79745	EVERBANK NA	Equipment Rental-Office	\$571.09
79746	FUTURE FORD	Repair-Trucks	\$201.18
79747	GRAINGER	Small Tools	\$8.83
79748	FERGUSON ENTERPRISES INC 1423	Material	\$42,669.00
79749	IB CONSULTING LLC	Consulting Services	\$2,205.00
79750	J COMM INC	Contract Services-Miscellaneous	\$2,500.00
79751	J4 SYSTEMS	Contract Services-Other	\$1,925.00
79752	ROBERT KERN	Toilet Rebate Program	\$146.32
79753	MESSENGER PUBLISHING GROUP	Publication Notices	\$225.00
79754	MITCHS CERTIFIED CLASSES	Professional Development	\$1,500.00
79755	PACE SUPPLY CORP	Material	\$4,448.19
79756	PRECISION ACTUARIAL INC	Contract Services-Financial	\$1,000.00
79757	REPUBLIC SERVICES 922	Utilities	\$422.43
79758	SMUD	Utilities	\$14,113.44
79759	SONITROL	Equipment Rental-Office	\$216.12
79760	STATE WATER RESOURCES CONTROL BOARD	Dues & Subscriptions	\$65.00
79761	T MOBILE	Telephone-Wireless	\$1,263.07
79762	VERIZON WIRELESS	Telephone-Wireless	\$693.23
79763	WARREN CONSULTING ENGINEERS INC	Contract Services-Engineering	\$4,750.00
79764	ZANE DEZIGN	Tools/ Equipment	\$793.64
79765	STATE WATER RESOURCES CONTROL BOARD	Professional Development	\$100.00
79766	STATE WATER RESOURCES CONTROL BOARD	Professional Development	\$105.00
79767	NOAH J MONTGOMERY	Customer Refund	\$175.18
79768	JAMES AND SHERRY BIRDSALL TRUST	Customer Refund	\$90.78
79769	SUSAN MARY JOSEPH	Customer Refund	\$7.95
79770	ROSE M DACHTLER REVOC TRST	Customer Refund	\$92.75
79771	THOMAS OR CAPRICE C INCHALIK	Customer Refund	\$106.59
79772	TERRY ARAUJO	Customer Refund	\$71.18
79773	JOHN OR MARY LARABY OR KATRINA HOPE	Customer Refund	\$13.98
79774	CHRISTOPHER OR KATELIN ANN SIMONIDIS	Customer Refund	\$191.26
79775	ROBERT OR JENNIFER RAGSDALE	Customer Refund	\$11.60
79776	SUSAN M HARRYMAN	Customer Refund	\$77.34

## APRIL 2025 WARRANTS

<u>CHECK</u>	<u>PAYEE</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
79777	TERI L TRAMMELL	Customer Refund	\$173.82
79778	DANA R FEDOR	Customer Refund	\$15.29
79779	PRINCESS D WALTON TRUST	Customer Refund	\$437.14
79780	Cap City Construction LLC	Customer Refund	\$403.88
79781	AAA AUTO REPAIR CENTER	Repair-Trucks	\$171.21
79782	AFMAN SUPPLY	Small Tools	\$70.16
79783	AIA SERVICES LLC	Water Conservation-Supplies	\$2,702.89
79784	ANSWERNET	Telephone-Answering Service	\$343.43
79785	AREA PORTABLE SERVICES	Equipment Rental-Field	\$128.88
79786	ASCE UESI PIPELINES 2025 CONF	Professional Development	\$40.00
79787	CALIFORNIA NEVADA SECTION AWWA	Dues & Subscriptions	\$250.00
79788	BEST BEST AND KRIEGER	Legal & Audit	\$29,929.50
79789	CALIFORNIA LANDSCAPE ASSOCIATES INC	Janitorial	\$245.00
79790	CDW GOVERNMENT INC	Tools/ Equipment	\$189.74
79791	CITY OF CITRUS HEIGHTS	Equipment Rental-Office	\$357.50
79792	CITY OF CITRUS HEIGHTS	Permit Fees	\$1,736.80
79793	COLANTUONO HIGHSMITH WHATLEY PC	Legal & Audit	\$10,065.50
79794	CONSOLIDATED	Telephone-Local/Long Distance	\$3,229.89
79795	ROBIN COPE	Retiree Benefits	\$539.00
79796	CORELOGIC INFORMATION SOLUTIONS INC	Dues & Subscriptions	\$238.81
79797	CRISPIMAGING	Contract Services-Engineering	\$54.38
79798	DITCH WITCH	Repair- Equipment	\$1,382.24
79799	ERNESTINE FREEMAN	Retiree Benefits	\$185.00
79800	G AND T TRUCK REPAIR	Repair-Equipment	\$1,711.44
79801	GO LIVE TECHNOLOGY INC	Contract Services-Other	\$4,950.00
79802	FERGUSON ENTERPRISES INC 1423	Material	\$2,238.35
79803	ALLISON OR SCOTT HAMILTON	Toilet Rebate Program	\$50.00
79804	HUNT AND SONS INC	Gas & Oil	\$488.66
79805	INTEGRITY ADMINISTRATORS INC	Health Insurance	\$219.52
79806	J COMM INC	Contract Services-Other	\$3,000.00
79807	J4 SYSTEMS	Contract Services-Other	\$3,320.12
79808	KEI WINDOW CLEANING 12	Janitorial	\$120.00
79809	LIEBERT CASSIDY WHITMORE	Legal & Audit	\$810.00
79810	LOWES	Supplies-Field	\$601.69
79811	MOONLIGHT BPO LLC	Contract Services-Bill Print/Mail	\$6,315.42

## APRIL 2025 WARRANTS

<u>CHECK</u>	<u>PAYEE</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
79812	NAPA AUTO PARTS	Repair-Equipment	\$147.82
79813	NOWSPEED INC	Contract Services-Other	\$250.00
79814	RUTH L OSTROFF	Contract Services-Other	\$1,355.00
79815	PACE SUPPLY CORP	Material	\$21,859.76
79816	USPS	Postage	\$420.00
79817	RENTAL GUYS	Equipment Rental-Field	\$88.67
79818	REGIONAL GOVERNMENT SERVICES	Consulting Services	\$61.56
79819	MARY LYNN SCHERRER	Retiree Benefits	\$185.00
79820	SMUD	Utilities	\$262.59
79821	SYLVAN RANCH COMMUNITY GARDEN	Dues & Subscriptions	\$195.00
79822	TEE JANITORIAL MAINTENANCE	Janitorial	\$2,989.00
79823	MELINDA M TUPPER	Retiree Benefits	\$539.00
79824	UNIVERSAL ENGINEERING SCIENCES	Contract Services-Engineering	\$4,001.25
79825	WALKERS OFFICE SUPPLIES	Office Supplies	\$131.85
79826	WEX BANK	Gas & Oil	\$3,107.98
79827	DAVID WHEATON	Professional Development	\$164.40
79828	WYJO SERVICES CORP	Repair-Trucks	\$2,254.39
79829	GOBLE TRUST	Customer Refund	\$47.10
79830	JININA JELARCIC	Customer Refund	\$13.04
79831	BROWN REVOCABLE TRUST	Customer Refund	\$93.61
79832	THERESA SETOUDEH	Customer Refund	\$12.79
79833	JEFFREY GALYEAN	Customer Refund	\$295.92
79834	EZEQUIEL ARRENQUIN OR DAPHNE HUTTON	Customer Refund	\$6.83
79835	VANESSA OR ARMANDO GARZA	Customer Refund	\$250.76
79836	MACHGAN LIVING TRUST	Customer Refund	\$10.22
79837	JOHN VALENZUELA OR JASON LANGLOIS	Customer Refund	\$20.44
79838	Void	Void	\$0.00
79839	AAA AUTO REPAIR CENTER	Repair-Trucks	\$6,796.10
79840	ACWA JPIA	Workers Comp Insurance	\$31,625.01
79841	AFLAC	Employee Paid Insurance	\$187.46
79842	AFMAN SUPPLY	Small Tools	\$500.89
79843	ALEXANDERS CONTRACT SERVICES	Contract Services-Meter Read	\$8,153.95
79844	APPLIED BEST PRACTICES	Contract Services-Financial	\$1,200.00
79845	AREA WEST ENGINEERS INC	Contract Services-Engineering	\$390.00
79846	Jodi Ash	Contract Services-Miscellaneous	\$50.00
79847	BEST BEST AND KRIEGER	Legal & Audit	\$15,484.65
79848	JULIE BEYERS	Contract Services-Miscellaneous	\$25.00
79849	BENDER ROSENTHAL INCORPORATED	Contract Services-Engineering	\$1,500.00

## APRIL 2025 WARRANTS

<u>CHECK</u>	<u>PAYEE</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
79850	BSK ASSOCIATES	Water Analysis	\$2,229.80
79851	BURKETTS	Office Expense	\$3,438.30
79852	CALIFORNIA LANDSCAPE ASSOCIATES INC	Janitorial	\$495.00
79853	CAPITAL RUBBER CO LTD	Material	\$221.02
79854	CITY OF CITRUS HEIGHTS	Permit Fees	\$1,785.68
79855	COMCAST	Equipment Rental-Office	\$102.88
79856	COUNTY OF SACRAMENTO	Permit Fees	\$1,094.75
79857	SACRAMENTO COUNTY UTILITIES	Utilities	\$211.84
79858	PAUL DIETRICH	Contract Services-Miscellaneous	\$25.00
79859	DLT SOLUTIONS LLC	Maintenance Agreement-Software	\$2,229.17
79860	EDGES ELECTRICAL GROUP	Wells Maintenance	\$166,292.85
79861	JULIA EUNICE	Contract Services-Miscellaneous	\$25.00
79862	GOVERNMENT PORTFOLIO ADVISORS	Contract Services-Financial	\$1,418.28
79863	SUZANNE GUTHRIE	Contract Services-Miscellaneous	\$50.00
79864	HUNT AND SONS INC	Gas & Oil	\$2,025.21
79865	IB CONSULTING LLC	Consulting Services	\$3,905.00
79866	ICONIX WATERWORKS	Material	\$11,003.54
79867	J4 SYSTEMS	Contract Services-Other	\$2,560.00
79868	ERIC LINDBERG	CS-Miscellaneous	\$50.00
79869	ANNIE LIU	Professional Development	\$225.00
79870	MACQUARIE EQUIPMENT CAPITAL INC	Equipment Rental-Office	\$376.97
79871	KRISSI MIRAMONTES	CS-Miscellaneous	\$50.00
79872	MICHAEL NISHIMURA	CS-Miscellaneous	\$50.00
79873	NOR CAL PUMP AND WELL DRILLING INC	Wells Maintenance	\$286,939.00
79874	PACE SUPPLY CORP	Material	\$346.77
79875	PACIFIC GAS AND ELECTRIC	Utilities	\$101.51
79876	RDO EQUIPMENT	Repair-Trucks	\$114.39
79877	SAC SEWER	CS-Miscellaneous	\$1,554.48
79878	LES SCHWAB TIRES	Repair-Trucks	\$1,148.82
79879	SECURITY CONTRACTOR SERVICES	Equipment Rental-Field	\$369.04
79880	MICHAEL SHORTER	Professional Development	\$225.00
79881	ALAN UTZIG	Contract Services-Miscellaneous	\$50.00
79882	WEST YOST ASSOCIATES	Contract Services-Engineering	\$1,238.00
79883	WM CORPORATE SERVICES INC	Utilities	\$403.90
79884	JK AND PJ WOCHNICK LVNG TRUST	Customer Refund	\$73.82
79885	TAKAKO HICKS	Customer Refund	\$10.84
79886	JOSEPH L DAMELE	Customer Refund	\$320.62
79887	OPENDOOR PROPERTY TRUST I	Customer Refund	\$160.76

## APRIL 2025 WARRANTS

<u>CHECK</u>	<u>PAYEE</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
79888	BEST BEST AND KRIEGER	Legal & Audit	\$12,931.00
79889	CITY OF CITRUS HEIGHTS	Equipment Rental-Office	\$273.00
79890	EDELSTEIN GILBERT ROBSON AND SMITH LLC	Contract Services-Financial	\$11,666.66
79891	FAIR OAKS ARBORIST	Contract Services-Other	\$2,150.00
79892	FAST ACTION PEST CONTROL	Contract Services-Miscellaneous	\$184.80
79893	FOCAL POINT ARBORICULTURE CONS	Contract Services-Wells	\$825.00
79894	INTEGRITY ADMINISTRATORS INC	Health Insurance	\$5,000.00
79895	J4 SYSTEMS	Contract Services-Other	\$1,550.00
79896	MCCAMPBELL ANALYTICAL, INC	Wells Maintenance	\$480.00
79897	MMANC	Dues & Subscriptions	\$95.00
79898	NINJIO LLC	Dues & Subscriptions	\$130.00
79899	QUICK QUACK CAR WASH	Maintenance Agreement-Equipment	\$380.00
79900	RED WING SHOE STORE	Tools/ Equipment	\$1,129.06
79901	REGIONAL GOVERNMENT SERVICES	Consulting Services	\$14,954.46
79902	SAGENT	Contract Services-Other	\$7,643.63
79903	TCHERKOYAN FAMILY TRUST	Customer Refund	\$107.52
79904	A TEICHERT AND SON INC	Road Base	\$6,341.57
79905	VERIZON WIRELESS	Telephone-Wireless	\$1,388.31
79906	WATERWISE CONSULTING INC	Contract Services-Other	\$395.00
79907	WOLF CONSULTING	Contract Services-Other	\$6,500.00
79908	CURTIS CADWALLADER	Toilet Rebate Program	\$75.00
79909	FP MAILING SOLUTIONS	Equipment Rental-Office	\$197.83
79910	J4 SYSTEMS	Contract Services-Other	\$3,075.00
79911	NINJIO LLC	Dues & Subscriptions	\$260.00
79912	PAGE DESIGN GROUP	Contract Services-Miscellaneous	\$1,350.00
79913	RDO EQUIPMENT	Repair-Trucks	\$1,174.68
79914	RENTAL GUYS	Equipment Rental-Field	\$162.32
79915	REGIONAL GOVERNMENT SERVICES	Consulting Services	\$5,047.92
79916	SMUD	Utilities	\$12,452.50
79917	SMUD	Utilities	\$875.62
79918	CHONG XIONG	Toilet Rebate Program	\$43.51
79919	CALIFORNIA NEVADA SECTION AWWA	Dues & Subscriptions	\$135.00
79920	AZTECA SYSTEMS INC	Maintenance Agreement-Software	\$23,144.61
79921	BURKETTS	Office Expense	\$1,992.30
79922	MOONLIGHT BPO LLC	Contract Services-Bill Print/Mail	\$7,088.74
79923	NAPA AUTO PARTS	Repair-Equipment	\$3.52
79924	RAY RIEHLE	Professional Development	\$200.00
79925	SAN JUAN WATER DISTRICT	Purchased Water	\$708,572.28
79926	MICHAEL SHORTER	Professional Development	\$264.60

## APRIL 2025 WARRANTS

<u>CHECK</u>	<u>PAYEE</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
79927	HILARY STRAUS	Professional Development	\$225.00
79928	T MOBILE	Telephone-Wireless	\$1,235.75
79929	DAVID WHEATON	Professional Development	\$225.00
79930	WIZIX TECHNOLOGY GROUP INC	Equipment Rental-Office	\$277.13
<b>Total</b>			<u>\$1,610,208.49</u>
ACH	LIEBERMANN #009	Consulting Services	\$5,500.00
ACH	LEIBERMANN #010	Consulting Services	\$6,995.40
ACH	1168-2025-3 IC	Bank Fee	\$7,856.69
ACH	ADP0768482-00	Contract Services-Financial	\$2,150.13
ACH	ADP687230593	Contract Services-Financial	\$114.68
ACH	ADP687796233	Contract Services-Financial	\$511.25
ACH	BMO MARCH 2025	Bank Fee	\$1,897.91
ACH	CALIFORNIA CHOICE MAY 2025	Health Insurance	\$56,017.97
ACH	CHASE MARCH 2025	Bank Fee	\$4,853.62
ACH	ICMA 4/10/25 PAYDAY	Deferred Compensation	\$14,089.27
ACH	ICMA 4/24/25 PAYDAY	Deferred Compensation	\$14,086.32
ACH	JP MORGAN MARCH 2025	See April Agenda Item CC-8	\$18,848.87
ACH	PERS 3/27/2025 PAYDAY	PERS	\$32,321.06
ACH	PERS 4/10/2025 PAY DAY	PERS	\$32,158.23
ACH	PRINCIPAL LIFE MAY 2025	Health Insurance	\$12,685.63
ACH	VALIC 4/10/25 PAYDAY	Deferred Compensation	\$2,883.14
ACH	VALIC 4/24/25 PAYDAY	Deferred Compensation	\$2,883.14
ACH	ADP 686834890	Contract Services-Financial	\$437.60
ACH	ADP 688274967	Contract Services-Financial	\$750.00
ACH	MID AMERICA 4/15-4/21/25	Employee Paid Insurance	\$140.00
ACH	MID AMERICA 4/22-4/28/25	Employee Paid Insurance	\$213.04
ACH	MID AMERICA 3/25-3/31/25	Employee Paid Insurance	\$211.69
<b>Total</b>			<u>\$217,605.64</u>
<b>Grand Total</b>			<u><u>\$1,827,814.13</u></u>

**JP Morgan Purchase Card Distributions  
Apr-25**

Name	Dues & Subscription	District Events & Recognition	General Supplies	Tools & Equipment	Fees & Charges	Equipment Maintenance	Professional Development	Postage/Shipping/Fr eight	Total Bill
Shockley	\$ 3,183.00	\$ 1,470.05	\$ 1,589.96	\$ 3,225.48			\$ 8,132.10		\$ 17,600.59
Scott		\$ 37.98							\$ 37.98
Nunes			\$ 126.48						\$ 126.48
Shepard	\$ 2.95	\$ 955.29	\$ 1.07						\$ 959.31
Moore	\$ 299.00	\$ 2,403.59	\$ 6.45						\$ 2,709.04
Tran	\$ 184.23			\$ 1,498.00		\$ 46.31			\$ 1,728.54
Conzelmann		\$ 152.89			\$ 22.00		\$ 1,686.76		\$ 1,861.65
Straus		\$ 40.40							\$ 40.40
Liu		\$ 95.00					\$ 20.00		\$ 115.00
Pieri								\$ 25.00	\$ 25.00
<b>Total Bill</b>	<b>\$ 3,669.18</b>	<b>\$ 5,155.20</b>	<b>\$ 1,723.96</b>	<b>\$ 4,723.48</b>	<b>\$ 22.00</b>	<b>\$ 46.31</b>	<b>\$ 9,838.86</b>	<b>\$ 25.00</b>	<b>\$ 25,203.99</b>

# CITRUS HEIGHTS WATER DISTRICT

## DISTRICT STAFF REPORT TO BOARD OF DIRECTORS MAY 27, 2025 REGULAR MEETING

SUBJECT : EMPLOYEE RECOGNITION  
 STATUS : Information Item  
 REPORT DATE : April 24, 2025  
 PREPARED BY : Brittney Moore, Administrative Services Manager/Chief Board Clerk  
 Kayleigh Shepard, Management Analyst/Deputy Board Clerk

The following District employees were recognized for perfect attendance, outstanding customer service, and quality of work during the month of April 2025.

### Administrative Services

<u>Name</u>	<u>Attendance</u>	<u>Customer Service</u>	<u>Work Quality</u>
Dana Mellado	Yes	<p>Assisted public affairs staff with logistics for the April Customer Advisory Committee (CAC) meeting.</p> <p>During a call lasting more than 30 minutes, Dana professionally and courteously assisted a customer with billing inquiries and took the opportunity to highlight the District's ongoing projects and work programs.</p>	
Brittney Moore	Yes		<p>Brittney demonstrated exceptional responsiveness and efficiency, handling several recruitment processes in a short period of time, significantly reducing potential disruption to operations.</p>



<b><u>Name</u></b>	<b><u>Attendance</u></b>	<b><u>Customer Service</u></b>	<b><u>Work Quality</u></b>
Viviana Munoz	Yes	Assisted public affairs staff with logistics for the April Customer Advisory Committee (CAC) meeting.  Viviana provided above-and-beyond service for an elderly customer by locating a nearby PG&E payment center so the customer could make his make his PG&E payment in person.	Amid unplanned staff outages, Viviana provided solo coverage for the customer service team.
Megan Selling	Yes		Megan organized the 2026 budget preparation process in ClearGov with minimal direction. She also produced manuals and short summaries to clarify procedures and ensure consistency across the team.
Kayleigh Shepard		Assisted public affairs staff with logistics for the April Customer Advisory Committee (CAC) meeting.	
Beth Shockley		CHWD Board Director Wheaton commended Beth for her assistance and responsiveness in arranging travel for an upcoming trip. He stated that Beth has always been a great help, and he appreciates it!	Worked with a vendor to finalize a service agreement and coordinated the installation of the new copiers in the Administration and Operations offices.  Beth played a key role in implementing a new change to CHWD's check run process, in which only one-off checks are now issued in-house while all others are printed and processed through CHWD's bank, BMO. Following the first production run, she identified a potential issue that could have led to duplicate payments. The District values her initiative and exceptional attention to detail.

<u>Name</u>	<u>Attendance</u>	<u>Customer Service</u>	<u>Work Quality</u>
Desiree Smith			Desiree kicked off the annual Tax Levy process with strong leadership and initiated cross-departmental collaboration to continue streamlining the process.
Andy Tran	Yes		The IT team has successfully developed a comprehensive IT roadmap and has initiated its implementation phase.
Torrance York	Yes		The IT team has successfully developed a comprehensive IT roadmap and has initiated its implementation phase.

### Engineering Department

<u>Name</u>	<u>Attendance</u>	<u>Customer Service</u>	<u>Work Quality</u>
Tamar Dawson	Yes	Prepared a staff report for the Fair Oaks Boulevard Water Main Replacement Project Award of Contract and attended the April Board meeting.  4/17/25 - Assisted on a water main shutdown for the Auburn Boulevard Complete Streets Project during a staff outage.	
Todd Jordan	Yes	4/22/25 – Attended the Board Meeting to present information to the Board regarding a potential property acquisition.	
Tim Katkanov	Yes	4/17/25 - Assisted on a water main shutdown for the Auburn Boulevard Complete Streets Project during a staff outage.	

<u>Name</u>	<u>Attendance</u>	<u>Customer Service</u>	<u>Work Quality</u>
Ali Shafaq	Yes	4/17/25 - Assisted on a water main shutdown for the Auburn Boulevard Complete Streets Project during a staff outage.	
Neil Tamagni	Yes		

### Operations Department

<u>Name</u>	<u>Attendance</u>	<u>Customer Service</u>	<u>Work Quality</u>
Chris Bell	Yes	Assisted with coordinating parking at the well site for the April Customer Advisory Committee (CAC) meeting.	4/24 – volunteered for extended work shift (5pm – 9pm) to complete emergency water service replacement on Twin Oaks Avenue.
Andrew Callister		Assisted public affairs staff with coordinating logistics at the well site for the April Customer Advisory Committee (CAC) meeting.	
Jose Calvillo	Yes		4/24 – volunteered for extended work shift (5pm – 9pm) to complete emergency water service replacement on Twin Oaks Avenue.
Aaron Cater	Yes		
Brady Chambers	Yes		
Kelly Drake	Yes		
Jarrett Flink			4/24 – volunteered for extended work shift (5pm – 9pm) to complete emergency water service replacement on Twin Oaks Avenue.
Brian Hensley		4/9 – Featured presenter and tour guide for the District's	

<u>Name</u>	<u>Attendance</u>	<u>Customer Service</u>	<u>Work Quality</u>
		groundwater and well facility CAC Meeting.	
Chris Nichols	Yes		
John Spinella	Yes		4/17 – Assisted the Engineering Department on a water main shutdown for the Auburn Boulevard Complete Streets Project.

**Public Affairs Department**

<u>Name</u>	<u>Attendance</u>	<u>Customer Service</u>	<u>Work Quality</u>
Mary Elise Conzelmann	Yes	Mary Elise was recognized for excellent internal customer service for her work in coordinating an off-site media and communications training for all staff and Board Directors.	

CITRUS HEIGHTS WATER DISTRICT  
DISTRICT STAFF REPORT TO BOARD OF DIRECTORS  
MAY 27, 2025 REGULAR BOARD MEETING

SUBJECT : LONG RANGE AGENDA  
STATUS : Consent/Information Item  
REPORT DATE : April 23, 2025  
PREPARED BY : Brittney Moore, Administrative Services Manager/Chief Board Clerk

**OBJECTIVE:**  
Listed below is the current Long Range Agenda.

Legend	
S	Study Session
CC	Consent Calendar
P	Presentation
B	Business
PH	Public Hearing
CL	Closed Session

CITRUS HEIGHTS WATER DISTRICT LONG RANGE AGENDA					
MEETING DATE	MEETING TYPE	ITEM DESCRIPTION	ASSIGNED	AGENDA TYPE	AGENDA ITEM
June 24, 2025					
June 24, 2025		Approval of 2026 Strategic Plan	Moore	CC	A
June 24, 2025		Backflow Resolution	Scott	CC	A
June 24, 2025	Every 3 Years	Public Health Goals	Hensley	PH	A
June 24, 2025		Finance Corporation Officer Appointment and Status of Financing Corporation	Liu	B	A
July 2025 Meeting Cancelled -Summer Recess					
August 26, 2025					
August 26, 2025	Annual	Budget Options/Prop 218 Direction	Liu/Straus	SS	I/D
September 23, 2025					
September 23, 2025	Annual	Proposed Misc Fees and Charges	Liu	SS	A
October 28, 2025					
November 18, 2025					
November 18, 2025		2026 Board Meeting Schedule	Moore	CC	I/D
December 15, 2025					
December 15, 2025	Annual	Committee Assignments	Moore	B	A
December 15, 2025	Annual	District Officers	Moore	B	A
December 15, 2025	Annual	Selection of President and Vice President	Moore	B	A

# CITRUS HEIGHTS WATER DISTRICT

## DISTRICT STAFF REPORT TO BOARD OF DIRECTORS MAY 27, 2025 REGULAR MEETING

SUBJECT : ENGINEERING DEPARTMENT REPORT  
 STATUS : Information Item  
 REPORT DATE : May 20, 2025  
 PREPARED BY : Missy Pieri, Director of Engineering/District Engineer

Significant assignments and activities for the Engineering Department are summarized below. I will be available at the meeting to answer questions and/or provide additional details.

Items of Interest	Department	Project Team	To Board? If so, Date	Strategic Planning Item	Item Description	Update from Last Report/Current Status
<b>PROJECT 2030 Water Main Replacement Project - Pipeline Condition Assessment</b>	Engineering	Director of Engineering, Principal Civil Engineer, Management Analyst	Yes, updates as necessary	Yes	Pipeline Condition Assessment	Segment 1 (42-inch): External Corrosion Direct Assessment will resume in the dry season.  Pilot Study to begin in June 2025.
<b>PROJECT 2030 Project Workflow</b>	Engineering	General Manager, Engineering, Operations, & Finance Team	Yes, updates as necessary	Yes	Project Management and Coordination of Nine Project 2030 Workflows	Quarter 2 update meeting occurred on 03/27/25.  Quarter 3 update meeting scope being developed by CHWD project management team.

Items of Interest	Department	Project Team	To Board? If so, Date	Strategic Planning Item	Item Description	Update from Last Report/Current Status
<b>DISTRICT ENGINEERING STANDARDS</b>	Engineering	Director of Engineering, Engineering and Operations Department	Yes, 05/27/25 (Anticipate Action by Board)	No	Develop Engineering Standards for Private Development Projects	Engineering Standards Complete.  Anticipate presentation to and approval by the Board in May 2025.
<b>DISTRICT POLICY UPDATE &amp; DEVELOPMENT (ENGINEERING RELATED)</b>	Engineering	Director of Engineering, Engineering and Operations Department	Yes, 05/27/25 (Anticipate Action by Board)	No	Develop and update District Policies that relate to Engineering/Development Projects	Policies updated.  Anticipate presentation to and approval by the Board in May 2025.
<b>DISTRICT WATER SYSTEM MASTER PLAN</b>	Engineering	Director of Engineering, Principal Civil Engineer, Associate Civil Engineer	Yes, 10/22/24 (Award of Contract)	Yes	Update to the District's Existing Water System Master Plan	Progress meetings occurring for various elements of the report.  SCADA Draft Technical Memo under review.  Draft Water System Master Plan anticipated in Q4 2025.
<b>DISTRICT-WIDE EASEMENT PROJECT Phase 4</b>	Engineering	Director of Engineering and Assistant Engineer	Yes, updates as necessary	Yes	Obtaining easements for District-owned facilities.	Group 3 Easements in progress.  Group 4 Easements in progress.

Items of Interest	Department	Project Team	To Board? If so, Date	Strategic Planning Item	Item Description	Update from Last Report/Current Status
<b>CAPITAL IMPROVEMENT PROJECT Facilities Modernization &amp; Expansion Project - Madison Ave</b>	Engineering	Director of Engineering, Principal Civil Engineer, Management Analyst, Technical Advisory Committee	Yes, 07/17/19 (Award of Contract)  1/13/25, 2/3/25 (Options)	Yes	Program for office space requirements through 2045.	Alternatives Program Report Complete.  Design Scope of Services and proposal being prepared by Consultant.
<b>CAPITAL IMPROVEMENT PROJECT Facilities Modernization &amp; Expansion Project - Sylvan Rd</b>	Engineering	Director of Engineering, Principal Civil Engineer, Management Analyst, Technical Advisory Committee	Yes, 07/17/19 (Award of Contract)  1/13/25, 2/3/25 (Options)	Yes	Program for office and corporation yard space requirements through 2045.	Alternatives Program Report Complete.  Design Scope of Services and proposal being prepared by Consultant.  Environmental documents, lot merger/parcel rezoning, and tree survey expected to begin in June 2025.
<b>CAPITAL IMPROVEMENT PROJECT - Minnesota Dr Water Main Project</b>	Engineering	Director of Engineering and Assistant Engineer	Yes, 11/18/24 (Award of Contract)	Yes	2024 design, 2025 construction	Notice to Proceed issued in Jan 2025.  Construction 99% complete.



Items of Interest	Department	Project Team	To Board? If so, Date	Strategic Planning Item	Item Description	Update from Last Report/Current Status
<b>CAPITAL IMPROVEMENT PROJECT - Fair Oaks Blvd to Leafcrest Water Main Project</b>	Engineering	Director of Engineering and Assistant Engineer	Yes, 4/22/25 (Award of Contract)	Yes	2024/25 design, 2025 construction	Award of Contract occurred at the 04/22/25 Board Meeting.  Construction to begin in June 2025.
<b>CAPITAL IMPROVEMENT PROJECT - Greenback Ln (Sunrise Blvd to Birdcage St) Water Main Project</b>	Engineering	Director of Engineering and Assistant Engineer	Yes, TBD	Yes	2025 design, 2026 construction	District preparing 30% plans.  Partial survey of project area occurred February 2025. Remaining survey to occur in April/May 2025.
<b>CAPITAL IMPROVEMENT PROJECT - Greenback Ln (Birdcage St to Burich Ave) Water Main Project</b>	Engineering	Director of Engineering and Assistant Engineer	Yes, TBD	Yes	2025 design, 2026 construction	District preparing 60% plans.  Potholing to occur in June 2025.
<b>CAPITAL IMPROVEMENT PROJECT - Donnawood Way Water Main Project</b>	Engineering	Director of Engineering and Assistant Engineer	Yes, TBD	Yes	2025, 2026 construction	Design to begin in May/June 2025.

Items of Interest	Department	Project Team	To Board? If so, Date	Strategic Planning Item	Item Description	Update from Last Report/Current Status
<b>PRIVATE DEVELOPMENT 8043 Holly Dr Parcel Split 1 - 3</b>	Engineering	Director of Engineering and Assistant Engineer	No	No	Parcel being split into 3 for 3 home subdivision.	Plan check fees paid 04/13/21.  Plans resigned 05/06/24.  Awaiting payment of fee balance.
<b>PRIVATE DEVELOPMENT 6031 Sunrise Vista Dr Apartments</b>	Engineering	Director of Engineering and Associate Civil Engineer	No	No	Proposed apartments.	All fees paid.  Awaiting water facilities construction.
<b>PRIVATE DEVELOPMENT 7975 Twin Oaks Ave Parcel Split 1 - 3</b>	Engineering	Director of Engineering and Associate Civil Engineer	No	No	Parcel Split - 1 to 3 lot split; 3 single family homes with frontage improvements.	All comments incorporated.  Awaiting payment of fees.
<b>PRIVATE DEVELOPMENT 7501 Greenglen Ave Parcel Split 1 - 2</b>	Engineering	Director of Engineering and Assistant Engineer	No	No	Parcel Split - 1 to 2 lot split per SB9; 2 single family homes.	All fees paid.  CHWD completed installation of water facilities on 12/02/24.

Items of Interest	Department	Project Team	To Board? If so, Date	Strategic Planning Item	Item Description	Update from Last Report/Current Status
<b>PRIVATE DEVELOPMENT 7401 Mariposa Ave Parcel Split 1 - 2</b>	Engineering	Director of Engineering and Associate Civil Engineer	No	No	Parcel Split - 1 parcel to 2 parcels.	Parcel split approved by the City.  Improvement plans received from the developer on 10/04/24.  District provided plan review comments on 10/09/24.
<b>PRIVATE DEVELOPMENT 7939 Hanson Dr Parcel Split 1 - 2</b>	Engineering	Director of Engineering and Associate Civil Engineer	No	No	Parcel Split - 1 parcel to 2 parcels.	Received plans on 02/28/24.  District provided plan review comments on 03/04/24.
<b>PRIVATE DEVELOPMENT 7509 Twin Oaks Ave Food Truck Plaza</b>	Engineering	Director of Engineering and Associate Civil Engineer	No	No	Existing vacant site (with existing water service) to be used for a Food Truck Plaza.	District provided a Will Serve letter on 11/28/23.  Improvement plans received from the developer on 12/04/24.
<b>PRIVATE DEVELOPMENT 5740 San Juan Ave Parcel Split 1 - 4</b>	Engineering	Director of Engineering and Associate Civil Engineer	No	No	Parcel Split 1 parcel to 4 parcels.	Parcel split approved by the City.  Improvement plans received from the developer on 08/19/24. Project on hold per developer.

Items of Interest	Department	Project Team	To Board? If so, Date	Strategic Planning Item	Item Description	Update from Last Report/Current Status
<b>PRIVATE DEVELOPMENT 8425 Harper Way New Single Family Dwelling Unit</b>	Engineering	Director of Engineering and Associate Civil Engineer	No	No	New Single Family Dwelling Unit with a 1" water service.	All fees paid.  Construction completed and easement obtained.
<b>CITY OF CITRUS HEIGHTS PROJECT Auburn Blvd - Complete Streets Phase 2</b>	Engineering	Director of Engineering, Associate Civil Engineer, and Senior Inspector	No	No	City of Citrus Heights Frontage Improvements and Utility relocation on Auburn Blvd from Rusch Park to north. 3 new irrigation services.	Final plans signed on 02/24/23.  Fees for irrigation services paid.  Construction on water related work began on 07/29/24. Water related construction 90% complete.

# CITRUS HEIGHTS WATER DISTRICT

## DISTRICT STAFF REPORT TO BOARD OF DIRECTORS MAY 27, 2025 REGULAR MEETING

SUBJECT : OPERATIONS DEPARTMENT REPORT  
 STATUS : Information Item  
 REPORT DATE : May 6, 2025  
 PREPARED BY : Jace Nunes, Management Analyst  
 Rebecca Scott, Director of Operations

The Citrus Heights Water District has 20 employees in its Operations Department. The following report summarizes their work in April.

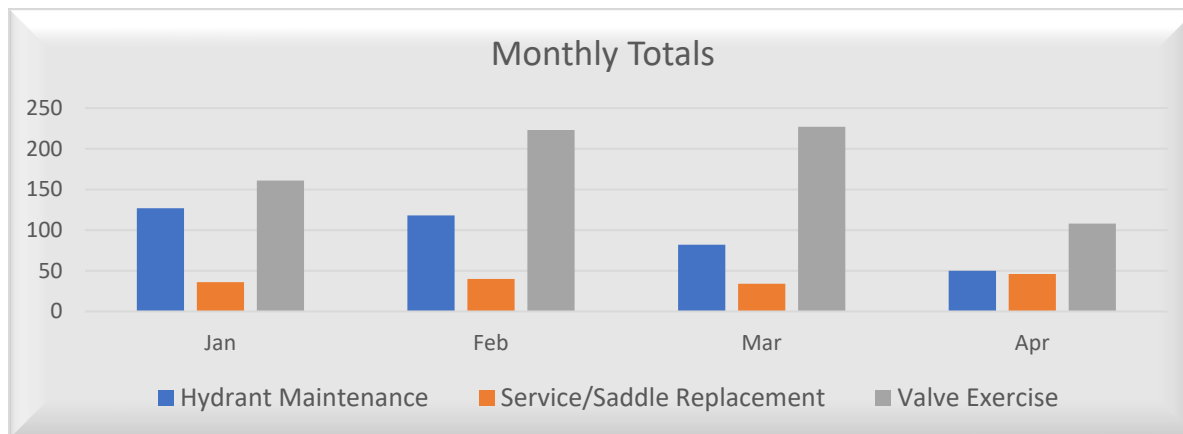
### **OPERATIONS MONTHLY ACTIVITIES**

#### A. Distribution Division

The Operations Department includes 10 Distribution Operators who perform the necessary maintenance to properly operate and maintain over 250 miles of pipelines and more than 21,000 service connections. The table below summarizes noteworthy common tasks staff members perform.

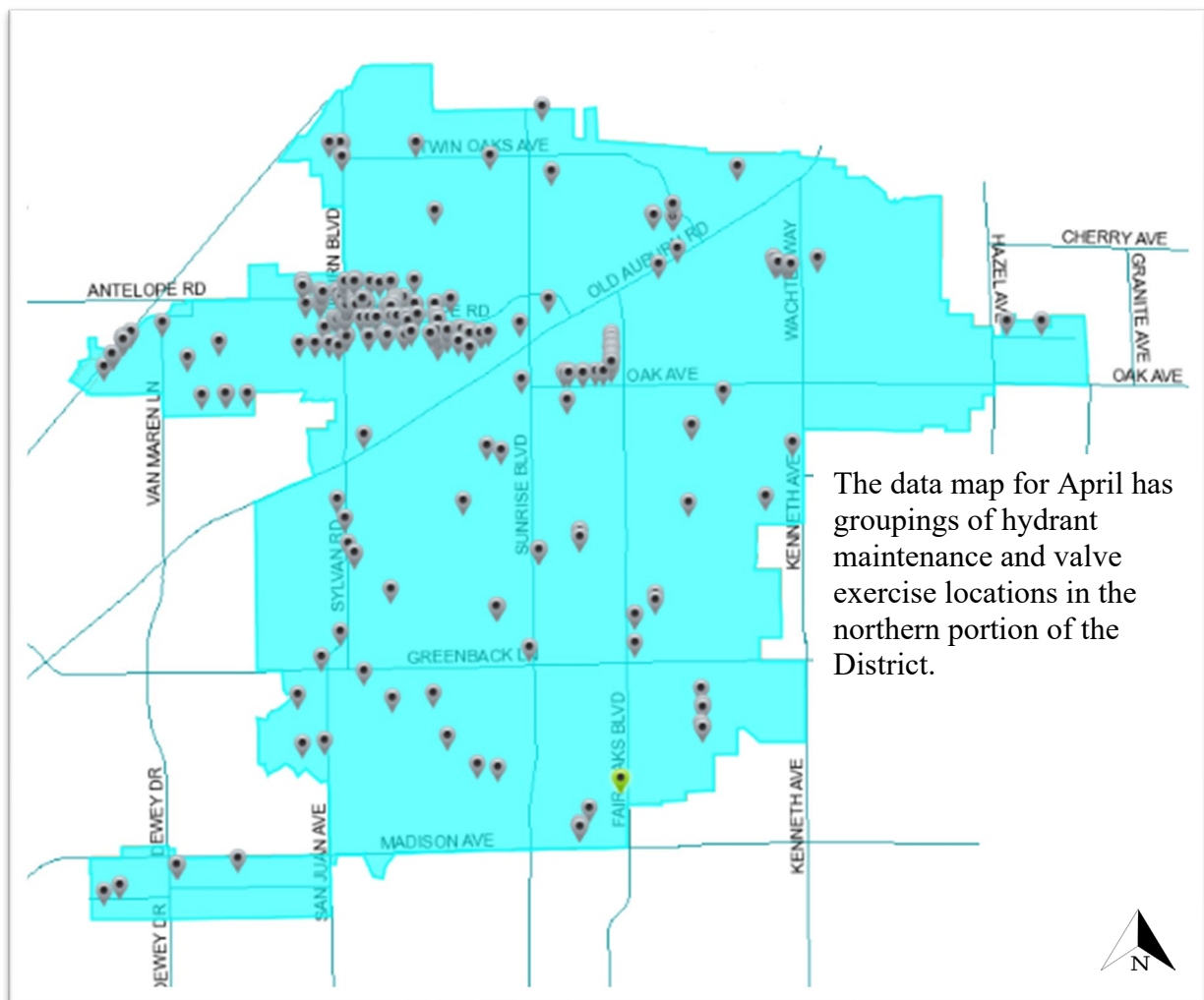
Distribution Maintenance	April 2025	Total CY 2025	Total # in System
Air Valve Inspection (ARV)	0	0	147
Hydrant Maintenance	50	377	2,170
Mainline Repair/Maintenance	0	2	
Meter Box Maintenance	0	12	21,007
Meter Register Replacement	6	42	21,007
Service/Saddle Replacement	46	146	21,007
Valve Exercise	108	719	4,631
<b>Total</b>	<b>210</b>	<b>1298</b>	

CIP Projects	April 2025	Total CY 2025
C25-010 Water Mainline	0	1
C25-011 Water Valves	0	2
C25-012 Water Services	46	131
C25-013 Water Meters	4	14
C25-014 Fire Hydrants	2	5
C25-103 Pothole Main	0	1
<b>Total</b>	<b>52</b>	<b>154</b>



The map below shows the locations where the Operations crews worked in April.

Locations Worked within the Citrus Heights Water District



## B. Standby Summary

The Operations Department assigns employees to weekly standby duty to provide 24-hour coverage in case of water emergencies within the District. The year-to-date standby activity is provided below.

Standby Summary			
Standby Reporting Month	Total Calls to After-Hours Answering Service	Site Visits	Resolutions Via Phone Call
January	20	13	7
February	29	18	11
March	28	18	10
April	22	10	12

## C. Operations Specialist

The District's Operations Specialist performs the USA markings to help protect the District's distribution system by identifying CHWD utilities for entities working in the District's service area. The Operations Specialist also responds to leak investigations; requests to locate meters; and water turn ons/off (additional information in the chart below).

Operations Specialist Summary		
Work Description	April 2025	Total CY 2025
USA Markings	541	1,974
Check for Leak	29	136
Fire Hydrant Investigation	1	2
Locate a Meter	0	0
Turn Water On/Off	11	24
<b>Total</b>	<b>582</b>	<b>2,136</b>

## D. Water Quality/Sampling Summary

The Water Resources Division oversees routine monthly bacteriological testing as required by the California Division of Drinking Water. In April, 72 samples were collected with no positive results.

Operations Vehicle Management & Maintenance

For daily operations, the Citrus Heights Water District has 41 vehicles. Each vehicle is assigned to a specific staff member who is responsible for performing and documenting a thorough weekly inspection. To aid in vehicle management, the District utilizes the Fleetio software. Fleetio is capable of tracking routine vehicle maintenance, fuel management, and asset management. Furthermore, Fleetio aids the District in determining vehicle replacement cycles based on age, repair costs, and a variety of other factors.



**CITRUS HEIGHTS WATER DISTRICT**  
**DISTRICT STAFF REPORT TO BOARD OF DIRECTORS**  
**MAY 27, 2025 REGULAR MEETING**

SUBJECT : 2025 WATER SUPPLY - PURCHASED & PRODUCED  
STATUS : Information Item  
REPORT DATE : May 6, 2025  
PREPARED BY : Brian M. Hensley, Water Resources Supervisor  
: Rebecca Scott, Director of Operations

**OBJECTIVE:**

Monthly water supply report, including a comparison to the corresponding month in the prior 5 years. The 2013 data is included for reference as it is the baseline consumption year for water conservation mandates.

Month	2013	2020	2021	2022	2023	2024	2025				Year-to-Date Comparison to 2013	
	Total Water Monthly						Surface Water Purchased	Ground Water Produced	Total Water Monthly	Total Water Annual	acre feet	
	acre feet						acre feet				%	
Jan	602.52	519.03	575.54	528.73	501.92	515.29	495.86	60.36	556.22	556.22	-46.30	-7.7%
Feb	606.36	589.8	485.17	605.17	487.3	467.3	408.07	72.34	480.41	1,036.63	-172.25	-14.2%
Mar	819.55	654.31	601.02	774.74	472.65	539.72	477.36	79.62	556.98	1,593.61	-434.82	-21.4%
Apr	1,029.73	767.24	1,001.96	763.83	698.84	634.32	682.01	58.74	740.75	2,334.36	-723.80	-23.7%
May	1,603.43	1,168.99	1,277.33	1,133.06	1,016.07	1,044.91						
Jun	1,816.73	1,475.82	1,541.32	1,288.62	1,265.25	1,399.15						
Jul	2,059.21	1,682.83	1,643.73	1,536.69	1,513.02	1,645.98						
Aug	1,924.28	1,660.59	1,538.76	1,461.15	1,494.76	1,501.15						
Sep	1,509.82	1,381.14	1,333.29	1,228.49	1,220.46	1,321.12						
Oct	1,297.42	1,185.00	972.09	1,065.99	966.12	1,159.16						
Nov	911.55	779.34	576.37	637.25	648.08	668.79						
Dec	700.94	620.34	536.97	541.93	558.87	573.3						
Total	14,881.54	12,484.43	12,083.55	11,565.65	10,843.34	11,470.19	2,063.30	271.06	2,334.36	2,334.36		
% of Total							88.39%	11.61%				

# CITRUS HEIGHTS WATER DISTRICT

## DISTRICT STAFF REPORT TO BOARD OF DIRECTORS MAY 27, 2025 REGULAR MEETING

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SUBJECT	: WATER SUPPLY RELIABILITY
STATUS	: Information Item
REPORT DATE	: May 6, 2025
PREPARED BY	: Brian Hensley, Water Resources Supervisor Rebecca Scott, Director of Operations

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### **OBJECTIVE:**

Receive and file status report on surface water supplies available to the Citrus Heights Water District (District).

### **BACKGROUND AND ANALYSIS:**

As of May 1, 2025, storage in Folsom Lake was at 905,311 acre-feet, ninety-three (93%) of the total capacity of 977,000 acre-feet. This represents an increase in storage of 69,509 acre-feet in the past month. Total storage in the lake is above the 5-year average for this month (130%).

The District's total water use during April 2025 (740.75 acre-feet) was twenty-eight percent (28%) below that of April 2013 (1,029.79 acre-feet).

The District's groundwater production wells: Bonita, Skycrest, Mitchell Farms, and Sylvan are operational and used on a rotational or as-needed basis. Other District groundwater production wells, Palm and Sunrise, are available for emergency use. Construction on the Ella Way Well Project to begin near the end of May, with drilling to commence on our Highland site in the coming month.

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# CITRUS HEIGHTS WATER DISTRICT

## DISTRICT STAFF REPORT TO BOARD OF DIRECTORS MAY 27, 2025 REGULAR MEETING

SUBJECT : WATER EFFICIENCY & SAFETY PROGRAM UPDATE  
 STATUS : Information Item  
 REPORT DATE : May 6, 2025  
 PREPARED BY : Jace Nunes, Management Analyst  
 Rebecca Scott, Director of Operations

Water Efficiency, Safety and Meter Program updates are summarized below.

### **ACTIVITIES AND PROGRESS REPORT**

- Water Efficiency activities during the month of April 2025 included the following:
  - Two High Efficiency Toilet (HET) rebates were processed.
  - One Pressure Reducing Valve rebate was issued.
  - One High Efficiency Clothes Washer rebate was processed.
  - One smart irrigation controller was installed.
- Six reports of water waste were received in April. Staff continues to reach out to customers concerning water waste violations.

The District typically holds several safety meetings per month. The April safety meetings were titled “Hand Safety,” “Bloodborne Pathogens,” “Distracted Driving Awareness,” and “Eye Injury Prevention.”

The District offers a variety of WaterSmart classes throughout the year. The remaining 2025 WaterSmart classes are below.

Date	Titles	Format
Sat., June 2	Watering Wisely: Irrigation Tools & Scheduling Strategies	In-person, Sylvan Oaks Library
Sat., Sept. 13	DIY Dirtbag: A Guide to at Home Composting	In-person, Sylvan Oaks Library
Thurs., Oct. 9	Purple Rain Barrels: A Guide to Rainwater Catchment and Storage	Online

CHWD has a demonstration garden at the Sylvan Ranch Community Garden featuring water efficient landscaping. CHWD works with a customer-based volunteer “Garden Corps,” who maintain the plots by removing weeds and checking the irrigation system and controller timers. The garden’s webpage, [www.chwd.org/garden](http://www.chwd.org/garden), allows viewers to see detailed information about each plant in the District’s plots, and create a customized plant list for their property.

The following table summarizes CHWD's Residential Gallons Per Capita Per Day (R-GPCD) values for 2025:

Month	R-GPCD 2025	R-GPCD 2024	% CHANGE
January	71	66	8%
February	68	66	3%
March	70	69	2%
April	101*	86	18%

\*Preliminary number as of the report date

The following table summarizes the service requests and work orders of Water Efficiency staff for April 2025:

Work Orders	April 2025	April 2024
CHANGE TOUCH-READ TO RADIO READ	4	2
CONVERT TO RADIO-READ METER	29	11
METER BOX MAINTENANCE	4	3
METER REPAIR	0	0
METER REPLACEMENT	0	2
METER TESTING	0	0
REGISTER REPLACEMENT	6	17
RADIO-READ REGISTER REPLACEMENT	12	8
INSTALL METER	0	7
<b>TOTAL</b>	<b>55</b>	<b>50</b>

Service Requests	April 2025	April 2024
CONSERVATION REQUEST	6	9
CHECK FOR LEAK	1	4
UNABLE TO OBTAIN METER READ	44	40
TRIM SHRUBS	3	22
METER BURIED	22	48
METER MAINT.	27	38
LOCKED GATE	3	5
RE-READ METER	12	14
READ METER	0	0
METER BOX MAINT.	3	4
MOVE-IN/MOVE-OUT	10	17
CAR OVER METER	13	18
<b>TOTAL</b>	<b>144</b>	<b>219</b>

# CITRUS HEIGHTS WATER DISTRICT

## DISTRICT STAFF REPORT TO BOARD OF DIRECTORS May 27, 2025 REGULAR MEETING

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SUBJECT	: DISCUSSION AND POSSIBLE ACTION TO ADOPT RESOLUTION 07-2025 APPROVING AND CONFIRMING THE REPORT OF DELINQUENT UTILITIES CHARGES AND REQUESTING SACRAMENTO COUNTY TO COLLECT SUCH CHARGES ON THE TAX ROLL AND RESOLUTION 08-2025 APPROVING AND CONFIRMING THE REPORT OF DELINQUENT UTILITIES CHARGES AND REQUESTING PLACER COUNTY TO COLLECT SUCH CHARGES ON THE TAX ROLL
STATUS	: Action Item
REPORT DATE	: May 22, 2025
PREPARED BY	: Annie Liu, Director of Administrative Services

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**OBJECTIVE:**

Consider adoption of Resolutions 07-2025 (Sacramento County) and 08-2025 (Placer County) approving and confirming the Report of Delinquent Utilities Charges and requesting the respective county to place such charges on the respective tax roll.

**BACKGROUND AND ANALYSIS: -**

The Citrus Heights Water District (CHWD or District) provides water to over 21,000 connections within the City of Citrus Heights, the City of Roseville, and unincorporated areas of the County of Sacramento (County). The District bills for the provision of water on a bi-monthly basis, and pursuant to District policy 7170, *General Billing Procedures for Bi-monthly Accounts*, customers are given a minimum of 20 days in which to pay without assessment of a penalty. Ten days after the bill’s due date, the District sends a past due notice, which gives the customer 15 days to bring the account current. In prior years, the District terminated service after an additional 34 days and another notice; however, this process of service shut-offs as a collection procedure was discontinued during a comprehensive review and update of the 7000-series Accounts Receivable policies at the Board’s October 21, 2021 meeting.

Historically, the District has been successful in collecting charges billed to its customers. For each billing cycle containing between 1,500 - 3,500 accounts, the District typically terminated service to 10 – 20 accounts per week. Following termination, most accounts would pay delinquent charges within one week to have service reestablished.

On occasion, some accounts would go through the entire collection process, service was terminated, and the customer still did not pay for several months. These accounts typically had higher dollar balances due to charges for disconnection of service, tampering with District property, and other cost-recovery charges. Collection of these delinquent balances could be delayed indefinitely until the property is sold or foreclosed upon.

The District remains committed to working with its customers to bring their accounts to current status in terms of payment for water service. However, as the County of Sacramento and the County of Placer only accept submission of direct levies once per year, the District must begin the process of submitting its listing of

delinquent accounts to safeguard its revenues. Of note, this requested action will not result in the District moving to unilaterally enforce collecting outstanding balances with customers.

Staff has reviewed all outstanding accounts and identified 793 accounts that have been delinquent for more than 90 days and have a balance greater than \$50 as of May 22 2025. Delinquent charges for these accounts amount to \$486,400.11. The County of Sacramento accepts submission of direct levies once per year and sets the deadline in the first week of August, for agencies to submit listings for the tax year. The County of Placer accepts submission of direct levies once per year and sets the deadline in the second week of July for agencies to submit listings for the tax year. The listing is made up of past due balances still outstanding, dating from April 1, 2024, to March 31, 2025. Balances will be added to the counties' 2025-26 annual secured roll once approved by the respective counties.

Although the deadline to submit accounts is in July and August for the County of Sacramento and the County of Placer, respectively, the District may remove an account from the Direct Levy roll up until the first week of July 2025. This will allow the District to make a final attempt to contact the customer and obtain either an amortization agreement or payment prior to the deadline for removal from the tax roll.

**RECOMMENDATION:**

Adopt Resolutions 07-2025 (Sacramento County) and 08-2025 (Placer County) approving and confirming the Report of Delinquent Utilities Charges and requesting the respective county to place such charges on the respective tax roll.

**ATTACHMENTS:**

- 1) Resolution 07-2025 of the Board of Directors of Citrus Heights Water District Approving and Confirming the Report of Delinquent Utilities Charges and Requesting Sacramento County to Collect Such Charges on the Tax Roll.
- 2) Resolution 08-2025 of the Board of Directors of Citrus Heights Water District Approving and Confirming the Report of Delinquent Utilities Charges and Requesting Placer County to Collect Such Charges on the Tax Roll.

**ACTION:**

Moved by Director \_\_\_\_\_, Seconded by Director \_\_\_\_\_, Carried \_\_\_\_\_

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## **ATTACHMENT 1**

**Resolution 07-2025 (Sacramento County)  
Approving and Confirming the Report of Delinquent  
Utilities Charges and Requesting Sacramento County to  
Collect Such Charges on the Tax Roll**

CITRUS HEIGHTS WATER DISTRICT  
RESOLUTION NO. 07-2025

RESOLUTION OF THE BOARD OF DIRECTORS  
OF CITRUS HEIGHTS WATER DISTRICT  
APPROVING AND CONFIRMING THE REPORT OF DELINQUENT UTILITIES  
CHARGES AND REQUESTING SACRAMENTO COUNTY TO COLLECT SUCH  
CHARGES ON THE TAX ROLL

WHEREAS, CITRUS HEIGHTS WATER DISTRICT (DISTRICT), provides certain water service to the residents residing within its service boundaries; and

WHEREAS, Water Code sections 22284, 25806, and 26500 et seq. authorizes the District to have the delinquent charges for the above services (the “Charges”) collected on the tax roll by Sacramento County on the relevant parcels; and

WHEREAS, District staff has prepared a Delinquent Utilities Charge Report (the “Report”) identifying the delinquent charges by Assessor’s Parcel Number, included as Exhibit A to the resolution; and

NOW THEREFORE BE IT RESOLVED that, The BOARD OF DIRECTORS hereby authorizes and directs the General Manager, or his designee to deliver a certified copy of the finalized Report to the Sacramento County Department of Finance - Auditor Division, and to submit a certified copy of this Resolution and Report to the County Recorder for recordation.

BE IT FURTHER RESOLVED that The Office of the Sacramento County Department of Finance - Auditor Division is requested for the placement of the Charges included on the Report (Exhibit A to the resolution) on the Annual Secured property tax roll with the Ad Valorem taxes.

PASSED AND ADOPTED by the Board of Directors of the CITRUS HEIGHTS WATER DISTRICT, this 27th day of May 2025, by the following vote, to wit:

AYES: Directors:  
NOES: Directors:  
ABSTAIN: Directors:  
ABSENT: Directors:

SEAL

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RAYMOND RIEHLE, President  
Board of Directors  
Citrus Heights Water District

ATTEST:

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BRITTNEY MOORE, Chief Board Clerk  
Citrus Heights Water District



## Exhibit A

### Citrus Heights Water District Delinquent Charges – Placer County

Location ID	APN	Service Address	Delinquent Total
00031	204-0020-016-0000	7561 TWIN OAKS AVE	133.11
00035	204-0020-041-0000	7541 TWIN OAKS AVE	2,071.69
00086	204-0081-005-0000	6613 NAVION DR	1,127.69
00093	204-0082-002-0000	7431 VOYAGER WY	305.13
00099	204-0083-006-0000	6618 NAVION DR	137.83
00113	204-0091-001-0000	6519 NAVION DR	134.21
00140	204-0060-009-0000	8423 MARIPOSA AVE	418.54
00166	204-0101-036-0000	7510 RIPPLEWOOD CT	101.74
00192	204-0094-006-0000	7400 VOYAGER WY	166.58
00222	204-0102-007-0000	7436 KANAI AVE	151.90
00270	257-0012-017-0000	7973 DANA BUTTE WY	679.68
00277	204-0104-001-0000	7501 SADRO ST	497.20
00280	204-0104-004-0000	7401 KANAI AVE	1,493.93
00325	257-0011-006-0000	7984 OAK AVE	1,188.21
00330	257-0011-010-0000	8000 OAK AVE	1,000.69
00401	204-0182-004-0000	6836 FLORABELLE AVE	562.92
00402	257-0021-010-0000	8004 DANA BUTTE WY	1,201.68
00423	257-0021-025-0000	7955 SAN COSME DR	1,482.95
00454	204-0184-003-0000	7633 CAMOMILE WY	861.77
00473	204-0185-006-0000	7019 VALERIANA AVE	137.72
00478	204-0185-009-0000	7001 VALERIANA AVE	721.07
00487	204-0186-002-0000	7006 VALERIANA AVE	1,464.27
00526	204-0201-006-0000	7709 OAKWOOD LN	145.51
00543	257-0030-025-0000	7981 COPPERWOOD DR	938.05
00573	257-0030-040-0000	7979 CRANMORE CT	954.98
00618	204-0210-007-0000	7639 POPLAR AVE	307.90
00620	257-0030-070-0000	7185 CRAIL CT	461.52
00647	204-0210-037-0008	7733 LAUPPE LN #8	898.33
00660	257-0071-059-0000	7209 CROSS DR	160.61
00722	257-0092-002-0000	7265 MANDARIN CIR	90.50
00736	257-0072-008-0000	7224 CROSS DR	243.70
00739	257-0072-009-0000	7218 CROSS DR	404.14
00745	257-0051-020-0000	7308 SINGLE WY	1,191.17
00751	257-0051-024-0000	7324 SINGLE WY	300.48
00759	257-0051-032-0000	7356 SINGLE WY	1,062.83
00792	257-0052-007-0000	7347 SINGLE WY	394.18
00804	257-0052-019-0000	8041 DANA BUTTE WY	585.08
00899	204-0235-082-0000	7564 WATSON WY	408.03

Location ID	APN	Service Address	Delinquent Total
00959	257-0054-013-0000	8040 SAN COSME DR	244.78
00979	204-0251-019-0000	7691 SYCAMORE DR	761.64
00996	257-0056-001-0000	8020 ALMA MESA WY	180.94
01002	204-0251-046-0000	7632 ANTELOPE RD	241.70
01028	257-0060-015-0000	8170 NETTLE CT	342.24
01042	257-0060-029-0000	7123 FORBS WY	558.71
01054	204-0252-027-0000	7612 SYCAMORE DR	533.37
01090	204-0262-007-0000	7592 PRATT AVE	1,534.25
01102	204-0361-006-0000	6745 NAVION DR	156.06
01113	204-0361-012-0000	6721 NAVION DR	984.00
01133	257-0060-058-0000	7055 CROSS DR	329.62
01137	204-0362-015-0000	6726 NAVION DR	90.76
01151	204-0363-008-0000	7648 VAN MAREN LN	1,008.02
01152	204-0363-009-0000	7654 VAN MAREN LN	913.98
01162	224-0960-011-0000	8027 AUBURN OAKS VILLAGE LN	89.79
01164	204-0364-003-0000	6812 FLORABELLE AVE	1,043.78
01168	204-0371-002-0000	6709 NAVION DR	324.85
01231	204-0374-007-0000	7531 VAN MAREN LN	291.06
01265	204-0383-001-0000	7507 VAN MAREN LN	151.37
01280	204-0383-008-0000	6735 SKYLANE DR	220.32
01296	204-0384-005-0000	6712 SKYLANE DR	466.93
01362	257-0103-011-0000	8234 STRENG AVE	1,299.87
01378	204-0391-009-0000	6822 EASTHAVEN WY	204.00
01382	204-0391-011-0000	6826 EASTHAVEN WY	1,059.97
01466	204-0393-021-0000	6815 EASTHAVEN WY	738.69
01485	204-0394-009-0000	7542 GARDEN GATE DR	126.72
01529	204-0403-011-0000	7000 AMSTERDAM AVE	659.70
01535	257-0110-030-0000	8313 BLAYDEN CT	167.76
01538	261-0030-031-0000	5901 DUTCHESS CT	393.19
01541	261-0030-034-0000	5910 DUTCHESS CT	279.16
01608	261-0040-023-0000	5706 HOFFMAN LN	1,475.10
01708	257-0132-003-0000	6986 ESCALLONIA DR	1,462.41
01735	204-0411-015-0000	7453 LEONARD AVE	145.13
01745	204-0411-026-0000	7560/62 COOK AVE	1,614.07
01797	204-0420-029-0000	7908/16 AUBURN BLVD	1,795.00
01925	204-0461-014-0000	8341 HOLLY DR	212.46
01935	204-0461-027-0000	8332 AUBURN BLVD	289.39
01967	204-0462-032-0000	8305 CHERRY LEAF CT	276.43
01984	204-0471-010-0000	8244 AUBURN BLVD	859.39
02097	204-0482-009-0000	7626/28 OAK GROVE AVE	249.54
02153	261-0090-018-0000	8317 BARDMOOR CT	157.08

Location ID	APN	Service Address	Delinquent Total
02174	261-0090-032-0000	6224 WEDGEFIELD WY	139.59
02186	257-0140-003-0000	8370 OAK AVE	51.90
02198	257-0140-013-0000	8420 MENKE WY	290.50
02207	257-0140-021-0000	8354 AMSELL CT	335.77
02208	257-0140-022-0000	8358 AMSELL CT	123.04
02251	257-0140-052-0000	8372 JORDELL CT	129.64
02262	257-0150-003-0000	8263 OLD RANCH RD	121.36
02277	204-0492-028-0000	8245 MARIPOSA AVE	1,263.15
02312	257-0150-022-0000	7208 BROOKRIDGE CT	1,018.13
02377	204-0500-056-0000	7668 RENO LN	146.03
02418	257-0160-020-0000	7001 JENNER CT	247.17
02461	257-0160-064-0000	7036 KINGSMILL WY	157.54
02462	257-0160-065-0000	7032 KINGSMILL WY	1,199.76
02489	257-0170-002-0000	8444 MENKE WY	1,203.67
02528	204-0510-034-0000	7649 COOK AVE	1,379.11
02569	204-0521-037-0000	7543 BAIRD WY	824.15
02572	204-0521-042-0000	7521 BAIRD WY	1,034.37
02623	261-0111-029-0000	8362 FOXFIRE DR	172.57
02643	261-0114-001-0000	6408 TRAJAN DR	283.21
02654	204-0530-029-0000	7535 1/2 CEDAR DR	267.55
02660	261-0114-008-0000	8409 HARBOURWOOD DR	1,404.73
02678	204-0541-003-0000	7656 WALNUT DR	164.44
02684	204-0541-009-0000	7657 BAIRD WY	138.25
02732	261-0114-025-0000	6401 INNSBROOK WY	136.24
02789	257-0190-013-0000	8579 BIRUTA AVE	775.69
02797	204-0552-001-0000	8048 HOLLY DR	791.08
02825	204-0552-030-0000	8000 HOLLY DR	3,066.70
02829	257-0190-030-0000	7309 ALMOND AVE	530.36
02868	204-0561-027-0000	7590 ANTELOPE RD	614.60
02911	257-0210-004-0000	7249 HICKORY AVE	385.21
02920	204-0562-006-0000	7544 SYCAMORE DR	1,525.32
02930	204-0562-014-0000	7584 SYCAMORE DR	99.78
02961	257-0210-024-0000	7222 ALMOND AVE	959.77
02962	204-0570-013-0000	7668 COOK AVE	1,714.14
03001	261-0120-004-0000	6417 BAY HILL WY	1,587.07
03002	257-0241-008-0000	7029 CHECKERBLOOM WY	962.51
03009	261-0120-007-0000	6429 BAY HILL WY	271.15
03037	257-0242-010-0000	7034 CHECKERBLOOM WY	384.69
03051	257-0242-017-0000	7006 CHECKERBLOOM WY	1,571.10
03155	261-0120-035-0000	6424 TRAJAN DR	790.43
03180	257-0245-008-0000	7012 ALLENWOOD CT	1,562.25

Location ID	APN	Service Address	Delinquent Total
03208	211-0070-061-0000	7137 BONITA WY	131.60
03247	257-0246-021-0000	7019 CROSS DR	1,108.02
03276	257-0251-006-0000	8057 CAMMERAY DR	228.36
03313	261-0130-025-0000	6508 GETAWAY CT	796.44
03317	211-0033-034-0000	7200 LEONARD AVE	143.58
03341	257-0252-012-0000	8045 POULSON ST	162.25
03357	257-0252-019-0000	8048 CAMMERAY DR	215.00
03373	257-0253-002-0000	8100 POULSON ST	360.40
03407	211-0081-019-0000	7608 PRINCE ST	313.17
03444	257-0261-002-0000	8005 COPPERWOOD DR	169.38
03453	257-0261-007-0000	8047 MCCLUNG DR	1,972.42
03456	257-0261-008-0000	8051 MCCLUNG DR	709.67
03458	257-0261-009-0000	8055 MCCLUNG DR	519.73
03474	211-0083-005-0000	7605 PRINCE ST	154.69
03504	257-0262-005-0000	8072 MCCLUNG DR	1,394.74
03505	211-0044-021-0000	7545 MAPLE AVE	537.60
03559	211-0044-031-0000	7548 WILLOW WY	283.50
03565	211-0044-032-0000	7556 WILLOW WY	634.08
03605	211-0044-047-0000	7541 WILLOW WY	1,386.09
03609	261-0360-002-0000	8201 SUNBONNET DR	185.49
03653	261-0360-026-0000	5934 SPRING GLEN DR	129.20
03686	211-0052-033-0000	7680 OLD AUBURN RD	1,596.95
03698	211-0052-037-0000	7151 MARIPOSA AVE	84.00
03782	211-0180-002-0000	6932 MARIPOSA AVE	168.02
03794	211-0180-007-0000	6966 MARIPOSA AVE	1,608.80
03821	211-0180-015-0000	6904 MITCHELL CT	286.76
03838	261-0392-010-0000	5950/52 MOSS CREEK CIR	150.97
03903	261-0393-023-0000	8147 WALNUT VILLA WY	139.89
04007	211-0200-010-0000	7881 LAWRENCE AVE	1,164.80
04009	211-0200-012-0000	6625 SUNRISE BLVD	138.88
04148	204-0640-005-0000	7429/31 ROBMAR CT	165.43
04153	211-0221-039-0000	7566 COMMUNITY DR	148.95
04167	211-0222-001-0000	6866 MARIPOSA AVE	164.90
04186	211-0222-032-0000	6858 MARIPOSA AVE	2,701.39
04225	211-0231-021-0000	7531 PARK DR	1,484.25
04253	211-0232-020-0000	7513 CIRCUIT DR	279.76
04279	204-0650-043-0000	7448 GARDEN GATE DR	576.04
04293	204-0650-047-0000	7424 HOLLYHOCK CT	157.77
04296	211-0052-066-0000	7672 OLD AUBURN RD	1,253.73
04343	211-0062-003-0000	7829 VISTARIDGE DR	248.96
04365	204-0660-004-0000	7019 ENRIGHT DR	649.46

Location ID	APN	Service Address	Delinquent Total
04413	204-0660-033-0000	7415 LOVATO CT	160.73
04415	204-0660-035-0000	7058 ENRIGHT DR	519.25
04459	211-0062-090-0000	7824 MICHIGAN DR	612.84
04493	204-0670-015-0000	8355 DEVILLE OAKS WY	493.98
04496	204-0670-017-0000	7481 BELLBROOK CT	464.83
04512	204-0670-028-0000	8327 DEVILLE OAKS WY	305.67
04520	204-0670-037-0000	7475 SANDALWOOD DR	98.76
04539	261-0410-005-0000	6136 CALIENTE CT	2,899.95
04570	204-0690-005-0000	7212 AMSTERDAM AVE	77.30
04578	204-0690-010-0000	7534 LATOUR LN	145.21
04591	204-0700-003-0000	7537 POMEROL LN	99.10
04599	204-0700-008-0000	7534 POMEROL LN	211.24
04666	261-0430-043-0000	6522 SKYVIEW DR	313.77
04672	204-0710-029-0000	7146 VALERIANA AVE	1,461.21
04684	204-0710-035-0000	7135 VALERIANA AVE	83.34
04704	204-0710-044-0000	7208 GARDENVINE AVE	145.51
04717	261-0440-017-0000	6622 SKYVIEW DR	68.04
04729	204-0710-063-0000	7329 AMSTERDAM AVE	137.72
04757	204-0710-072-0000	7300 AMSTERDAM AVE	482.05
04807	204-0720-010-0000	7451 PRATT AVE	1,170.09
04920	261-0450-064-0000	8326 FOREST CREEK LN	853.88
04939	261-0510-006-0000	8260 WOODLAKE HILLS DR	1,110.11
04980	261-0510-046-0000	6520 GILSTON CT	1,235.30
05010	261-0520-024-0000	8279 HAZELHURST CT	277.14
05046	261-0550-015-0000	8277 NORTHWIND WY	514.27
05075	261-0550-035-0000	8264 NORTHWIND WY	419.24
05150	261-0590-018-0000	8300 CRESTSHIRE CIR	224.68
05164	209-0324-007-0000	6261 TUPELO DR	241.79
05322	224-0082-004-0000	7728 ECTON RD	148.25
05358	224-0082-011-0000	7408 MARIPOSA AVE	732.91
05371	224-0061-031-0000	7760 ANTELOPE RD	1,587.22
05390	224-0040-029-0000	7784 GLEN TREE DR	162.18
05404	224-0040-034-0000	7804 GLEN TREE DR	1,363.39
05406	224-0040-035-0000	7808 GLEN TREE DR	641.93
05431	224-0051-005-0000	7956 ANTELOPE RD	144.46
05433	224-0051-006-0000	7960 ANTELOPE RD	583.83
05455	224-0062-011-0000	7776 SYCAMORE DR	751.14
05491	224-0052-033-0000	7635 GLEN TREE DR	987.99
05495	224-0062-017-0000	7804 SYCAMORE DR	439.47
05501	224-0071-002-0000	7604 MARIPOSA AVE	1,727.30
05507	224-0061-007-0000	7761 SYCAMORE DR	276.30

Location ID	APN	Service Address	Delinquent Total
05510	259-0100-077-0000	8018 RUTHWOOD WY	165.59
05520	224-0071-011-0000	7737 OLD AUBURN RD	167.59
05558	224-0100-008-0000	7949 OAK AVE	173.25
05564	224-0100-011-0000	7935 OAK AVE	81.80
05579	224-0110-001-0000	7551 CANADY LN	149.56
05586	224-0110-007-0000	8013 OAK AVE	1,376.89
05645	224-0120-006-0000	7516 ANDERSON LN	1,165.00
05649	224-0120-033-0000	7448 MINNESOTA DR	230.20
05678	224-0120-026-0000	7509 ANDERSON LN	1,268.38
05775	224-0132-002-0000	7404/06 SAINT PHILOMENA WY	1,644.49
05789	224-0133-018-0000	8091 OAK AVE	165.10
05795	224-0133-023-0000	7517 MINNESOTA DR	156.53
05891	224-0152-023-0000	8176 TALBOT WY	723.00
05933	224-0162-003-0000	8140 OLD AUBURN RD	284.81
05972	224-0171-005-0000	7810 FELDSPAR CT	687.27
05974	224-0171-007-0000	8429 OLIVINE AVE	192.97
06045	211-0333-010-0000	7041 DOLAN WY	316.33
06055	224-0180-025-0000	8446 OLIVINE AVE	1,187.88
06067	211-0242-010-0000	7565 CIRCUIT DR	1,537.49
06070	211-0334-004-0000	7060 DOLAN WY	1,470.15
06079	211-0334-007-0000	7021 CALVIN DR	717.00
06106	211-0335-013-0000	6831 BRILL CT	182.45
06185	224-0240-001-0000	7752 WACHTEL WY	835.25
06236	227-0110-047-0000	8913 EDEN OAKS AVE	148.66
06246	227-0120-003-0000	7550 HAZEL AVE	169.72
06254	211-0252-029-0000	6637 CHALLIS CT	189.19
06258	211-0252-031-0000	6638 CHALLIS CT	157.05
06271	211-0252-041-0000	7667 MARIPOSA GLEN WY	1,788.23
06332	211-0322-003-0000	7106 DOLAN WY	1,335.93
06352	227-0120-038-0000	8915 OAK AVE	2,085.87
06368	232-0300-006-0000	6536 MARKLEY WY	137.58
06376	232-0300-014-0000	6537 MADISON AVE	1,764.79
06389	232-0300-038-0000	6644/46 MARKLEY WY	276.34
06461	224-0251-012-0000	8713 ALGONQUIN WY	1,081.00
06462	224-0251-013-0000	8709 ALGONQUIN WY	1,081.90
06479	224-0252-005-0000	8725 SHOSHONE WY	186.56
06498	224-0253-006-0000	8728 CAYUGA CT	375.65
06531	232-0394-019-0000	7129 MARY ANN WY	159.39
06535	232-0394-023-0000	7141 MARY ANN WY	211.63
06636	224-0264-042-0000	7613 HICKORY AVE	895.17
06648	233-0011-001-0000	5800 SAN JUAN AVE	282.92

Location ID	APN	Service Address	Delinquent Total
06659	233-0011-006-0000	7429 WISCONSIN DR	147.07
06667	233-0011-010-0000	7509 WISCONSIN DR	1,173.88
06676	233-0011-013-0000	7521 WISCONSIN DR	347.01
06679	224-0272-007-0000	8647 OAK AVE	127.45
06723	224-0280-017-0000	7560 LARKSPUR LN	2,683.87
06731	233-0022-013-0000	7563 WESTGATE DR	152.19
06746	211-0422-009-0000	6746 PACHECO WY	259.77
06797	211-0335-046-0000	7300 VAN MAREN LN	1,017.91
06798	224-0290-009-0000	8543 OAK AVE	321.72
06800	224-0290-010-0000	8541 OAK AVE	580.55
06822	224-0290-013-0000	8535 OAK AVE	1,889.38
06846	211-0392-016-0000	7721 APTOS CIR	288.51
06859	224-0290-033-0000	8501 OAK AVE	596.76
06866	211-0393-002-0000	7736 APTOS CIR	307.07
06888	211-0393-010-0000	7700 APTOS CIR	481.32
06895	211-0394-001-0000	6551 RINCONADA DR	1,572.43
06928	211-0395-023-0000	6605 RINCONADA DR	157.05
07021	224-0312-004-0000	7833 WOODDALE WY	320.42
07032	211-0403-020-0000	7572 ALMONDWOOD AVE	298.90
07061	211-0403-038-0000	7573 COMMUNITY DR	85.56
07063	211-0403-039-0000	7563 COMMUNITY DR	879.65
07072	224-0312-026-0000	8185 LAURALYN WY	172.81
07085	211-0423-019-0000	6705 DEERFIELD DR	969.22
07175	211-0427-009-0000	6621 PACHECO WY	887.75
07187	211-0433-009-0000	7647 PRINCE ST	376.41
07191	211-0433-012-0000	7635 PRINCE ST	960.14
07194	211-0433-015-0000	7623 PRINCE ST	151.42
07200	211-0433-024-0000	7650 GLENACRE WY	274.35
07226	224-0320-019-0000	8239 SCARLET OAK CIR	344.47
07242	224-0320-029-0000	8212 SCARLET OAK CIR	1,009.50
07253	224-0320-034-0000	8258 SCARLET OAK CIR	530.89
07271	257-0133-012-0000	8300 BECKWITH WY	461.06
07313	211-0473-006-0000	7410/12 SAGEMONT WY	1,893.72
07324	211-0474-007-0000	7856 VISTA RIDGE DR	1,393.74
07329	211-0474-013-0000	7876/78 VISTA RIDGE DR	161.58
07336	211-0480-006-0000	7689 OLD AUBURN RD	242.95
07344	257-0266-008-0000	8049 HOOPES DR	870.89
07368	211-0480-031-0000	7670 PHOENIX LN	548.39
07384	211-0490-007-0000	7556 MAPLE AVE	148.25
07400	257-0270-021-0000	7089 CANELO HILLS DR	1,383.27
07424	257-0270-030-0000	7092 CANELO HILLS DR	2,586.23

Location ID	APN	Service Address	Delinquent Total
07433	211-0490-030-0000	7597 OLD AUBURN RD	253.14
07442	211-0490-036-0000	7599 OLD AUBURN RD	118.84
07457	257-0270-044-0000	7158 CANELO HILLS DR	104.64
07458	224-0330-002-0000	8256 TWIN OAKS AVE	148.34
07492	211-0550-005-0000	7017 LYNNETREE WY	153.24
07499	211-0550-011-0000	7041 LYNNETREE WY	150.19
07505	211-0550-017-0000	7069 LYNNETREE WY	311.50
07549	211-0550-058-0000	7108 BONITA WY	160.85
07576	211-0550-074-0000	7845 SUNGARDEN DR	174.55
07585	211-0550-080-0000	7863 SUNGARDEN DR	397.87
07615	211-0581-004-0000	6613 VERHOEVEN CT	1,220.23
07661	211-0581-018-0000	7701 MUIRWOOD WY	1,112.87
07669	224-0330-058-0000	8288 CANYON OAK DR	155.31
07676	211-0581-025-0000	7729 MUIRWOOD WY	192.31
07716	211-0582-007-0000	7839 BEAUPRE WY	817.68
07724	224-0340-022-0000	8229 COAST OAK WY	2,064.63
07735	211-0582-015-0000	7861 BEAUPRE WY	1,256.36
07736	224-0340-029-0000	8201 COAST OAK WY	146.20
07745	224-0340-034-0000	8208 MOSS OAK AVE	152.52
07790	211-0583-017-0000	7860 BEAUPRE WY	200.62
07835	224-0350-029-0000	8132 ENGLISH OAK WY	286.96
07856	257-0280-035-0000	7206 SUNCREEK WY	130.64
07945	257-0290-033-0000	8310 CROSSOAK WY	218.86
07950	224-0350-047-0000	8325 GARRY OAK DR	1,298.82
07978	224-0350-057-0000	8148 HOLM OAK WY	1,438.28
08004	224-0350-070-0000	8312 GARRY OAK DR	140.32
08039	224-0360-010-0000	8403 GARRY OAK DR	166.55
08040	211-0640-030-0000	7863 SAMPOLO CT	655.41
08042	211-0640-031-0000	7859 SAMPOLO CT	1,392.42
08084	224-0370-004-0000	7700 ZIEBELL CT	1,250.43
08128	224-0370-025-0000	7725 ZIEBELL CT	1,341.60
08150	224-0370-035-0000	8112 VILLA OAK DR	1,177.57
08156	224-0370-040-0000	7625 MCCONNEL DR	439.82
08173	211-0670-030-0000	7880 PILKERTON CT	300.69
08180	211-0670-037-0000	7883 MCLIN WY	660.39
08192	211-0670-048-0000	7832 CASA BELLA WY	141.06
08194	211-0670-050-0000	7840 CASA BELLA WY	156.28
08208	211-0670-061-0000	7844 CASA BELLA WY	1,097.01
08210	211-0670-062-0000	7848 CASA BELLA WY	196.69
08223	211-0690-002-0000	7837 MEADOW RIVER WY	696.60
08227	211-0690-006-0000	7225 GEOWOOD WY	171.51



Location ID	APN	Service Address	Delinquent Total
08238	211-0750-003-0000	6587 PACHECO WY	276.74
08240	211-0750-005-0000	6560 PACHECO WY	753.89
08254	224-0380-007-0000	7700 WOODDALE WY	1,390.42
08255	211-0760-001-0000	7151 KAREN RAE CT	1,133.12
08354	211-0760-037-0000	7622 ANNE MARIE CT	150.07
08390	257-0310-004-0000	8237 PRIME WY	1,825.34
08403	224-0380-050-0000	8160 VILLA OAK DR	1,144.42
08414	224-0380-055-0000	8180 VILLA OAK DR	1,252.57
08431	224-0380-064-0000	8177 LIN OAK WY	140.89
08439	211-0770-016-0000	7804 COPPER OAK CT	544.43
08480	224-0390-016-0000	7532 WOODDALE WY	720.07
08492	261-0395-006-0000	5815 SHELLDRAKE CT	123.51
08498	211-0770-040-0000	7769 LOCHER WY	684.14
08500	211-0770-042-0000	7761 LOCHER WY	1,370.65
08503	211-0770-045-0000	7768 LOCHER WY	475.11
08559	211-0780-006-0000	7135 MARETHA ST	181.68
08611	211-0790-024-0000	7632 OLD AUBURN RD	150.48
08613	211-0790-025-0000	7631 RENAISSANCE CT	161.11
08667	224-0400-025-0000	7907 GARRY OAK DR	163.50
08707	224-0400-045-0000	7932 SYLVAN OAK WY	135.63
08723	211-0810-027-0000	7577 SYLVAN CREEK CT	836.56
08743	257-0310-020-0000	8209 PRIME WY	1,206.84
08773	257-0310-048-0000	7042 DRYWOOD WY	165.59
08792	224-0411-004-0000	8208 LONGDEN CIR	911.94
08845	257-0320-008-0000	8429 JONQUIL WY	535.61
08903	224-0412-017-0000	8223 LONGDEN CIR	922.90
08948	257-0330-009-0000	8446 LOS SERRANOS WY	464.29
09006	257-0330-042-0000	8491 MENKE WY	588.97
09048	249-0072-005-0000	5700 REINHOLD ST	889.67
09050	257-0340-027-0000	7233 HILL DR	105.75
09057	257-0340-030-0000	8154 JULI CT	136.33
09069	233-0022-015-0000	7553 FARMGATE WY	578.45
09136	224-0920-013-0000	7501 BUCKHAVEN WY	818.18
09137	249-0074-009-0000	8201 TREECREST AVE	229.90
09151	233-0024-010-0000	7540 FARMGATE WY	165.11
09170	213-0420-001-0000	8880 OAK AVE	285.25
09267	249-0081-001-0000	5705 TECK ST	1,323.74
09318	233-0033-007-0000	7620 EASTGATE AVE	76.26
09338	233-0033-012-0000	7644 EASTGATE AVE	634.35
09344	236-0021-012-0000	5301 SONORA WY	1,175.53
09352	224-0420-003-0000	8232 GARRY OAK DR	199.86

Location ID	APN	Service Address	Delinquent Total
09366	224-0420-011-0000	8108 GARRY OAK DR	896.96
09371	224-0420-015-0000	8032 GARRY OAK DR	284.84
09389	249-0083-013-0000	8113 TREECREST AVE	1,930.67
09390	224-0420-029-0000	8190 CANYON OAK DR	453.59
09392	224-0420-030-0000	8196 CANYON OAK DR	161.30
09410	236-0022-011-0000	5304 SONORA WY	1,046.53
09426	224-0420-044-0000	8209 CANYON OAK DR	566.87
09472	236-0030-023-0000	6618 PALM AVE	987.61
09512	224-0890-010-0000	7419 FIREWEED CIR	1,006.23
09561	224-0890-036-0000	8360 MERRYUM CT	158.57
09580	233-0052-019-0000	5730 SOUTHVIEW CT	279.00
09594	233-0052-023-0000	5706 SOUTHVIEW CT	135.04
09596	233-0052-024-0000	5700 SOUTHVIEW CT	130.93
09625	224-0890-063-0000	7442 FIREWEED CIR	156.01
09658	224-0890-080-0000	7612 FIREWEED CIR	1,042.57
09669	236-0043-005-0000	6616 PENNEY WY	2,305.44
09671	224-0890-087-0000	8391 TRELLIUM CT	1,410.51
09745	249-0270-036-0000	8233 NIESSEN WY	180.57
09748	249-0270-041-0000	8216 NIESSEN WY	144.51
09760	249-0280-010-0000	8148 LEAFCREST WY	265.52
09787	249-0300-034-0000	5711 REINHOLD ST	341.20
09839	236-0045-001-0000	5146 PATTI JO DR	157.84
09876	224-0420-078-0000	8127 LOBATA ST	1,238.35
09889	224-0430-002-0000	8150 CANYON OAK DR	908.18
09908	224-0430-021-0000	8189 HOLLY OAK ST	148.17
09957	239-0011-010-0000	5747 ENSIGN ST	145.53
09963	239-0011-012-0000	5739 ENSIGN ST	202.36
09966	239-0011-013-0000	5735 ENSIGN ST	647.53
09974	224-0780-044-0000	8101 PHOEBE WY	129.13
09986	239-0011-018-0000	6741 MANILA AVE	156.36
09987	224-0780-055-0000	8428 WEDDELL CT	151.47
10026	236-0141-007-0000	5334 AGATE WY	555.23
10028	236-0141-009-0000	5324 AGATE WY	547.38
10094	236-0151-005-0000	6611 PEPPERWOOD WY	1,459.42
10103	236-0151-015-0000	6613 BUSH WY	732.99
10114	236-0152-004-0000	6616 PEPPERWOOD WY	160.66
10115	236-0152-005-0000	6608 PEPPERWOOD WY	647.03
10120	236-0152-013-0000	6614 BUSH WY	1,308.37
10143	236-0302-006-0000	6394 PALM AVE	449.30
10183	236-0321-051-0000	6259 SILVERTON WY	1,188.89
10184	236-0321-052-0000	6260 SILVERTON WY	162.08

Location ID	APN	Service Address	Delinquent Total
10192	233-0053-004-0000	7518 EASTGATE AVE	181.10
10198	233-0053-009-0000	7546 EASTGATE AVE	428.44
10202	233-0054-001-0000	5725 SOUTHGROVE DR	153.53
10228	233-0070-014-0000	7625 NORTHEAST CIR	53.05
10231	224-0430-037-0000	7960 CORAL OAK WY	413.48
10248	233-0070-024-0000	7626 NORTHEAST CIR	1,199.13
10262	233-0070-031-0000	7692 NORTHEAST CIR	136.86
10312	224-0630-055-0000	8452 PONTICELLI WY	1,282.08
10326	233-0070-057-0000	7746 EASTGATE AVE	1,071.64
10329	224-0430-060-0000	7949 CORAL OAK WY	90.50
10352	224-0430-071-0000	8019 GARRY OAK DR	400.00
10377	224-0440-004-0000	8309 OLIVINE AVE	164.11
10390	224-0440-014-0000	8374 ZANCANARO CT	1,981.02
10392	224-0440-016-0000	8382 ZANCANARO CT	182.70
10443	233-0081-020-0000	7444 KALAMAZOO DR	162.70
10464	224-0450-027-0000	8321 KEYESPORT WY	622.70
10477	224-0450-033-0000	8300 KEYESPORT WY	168.51
10479	224-0450-034-0000	8304 KEYESPORT WY	884.52
10485	233-0092-004-0000	7651 PLEIDES AVE	1,402.91
10493	233-0093-001-0000	7688 CAPRICORN DR	195.39
10507	224-0461-001-0000	8165 MESA OAK WY	150.07
10535	224-0461-014-0000	8109 MESA OAK WY	158.01
10544	233-0101-007-0000	7609 CAPRICORN DR	145.40
10561	233-0102-001-0000	5412 CELESTIAL WY	1,800.00
10602	233-0103-008-0000	7628 CAPRICORN DR	137.72
10618	233-0111-006-0000	7789 UPLANDS WY	148.13
10629	233-0114-001-0000	7794 UPLANDS WY	1,311.53
10661	224-0463-007-0000	8236 HOLLY OAK ST	180.41
10662	233-0123-008-0000	7759 MADISON AVE	1,071.13
10682	233-0123-015-0000	7701 MADISON AVE	379.90
10735	233-0151-005-0000	5425 KINGSWOOD DR	142.43
10778	224-0465-012-0000	8021 MESA OAK WY	669.50
10783	233-0161-002-0000	5607 LONGWOOD WY	152.61
10804	224-0470-009-0000	8357 CANYON OAK DR	908.92
10810	233-0162-009-0000	5665 KINGSWOOD DR	1,202.31
10813	224-0470-013-0000	8308 CANYON OAK DR	148.34
10816	224-0470-015-0000	8316 CANYON OAK DR	148.34
10829	224-0470-022-0000	8360 CANYON OAK DR	105.99
10850	233-0163-024-0000	5525 WILDWOOD WY	139.58
10863	233-0164-003-0000	5532 WILDWOOD WY	758.92
10869	233-0165-001-0000	5710 KINGSWOOD DR	159.53

Location ID	APN	Service Address	Delinquent Total
10872	233-0165-004-0000	5608 PRIMROSE DR	306.19
10884	224-0470-044-0000	8117 GLEN CANYON CT	177.57
10888	224-0470-046-0000	8109 GLEN CANYON CT	174.79
10908	224-0480-010-0000	8216 CRIPPLE OAK CT	159.63
10948	224-0490-014-0000	8363 NEWBRIDGE WY	966.95
11020	233-0261-001-0000	5716 SAN JUAN AVE	395.61
11045	233-0262-015-0000	7424 WELLS AVE	251.51
11212	233-0370-018-0000	5608 SEASCAPE CT	718.21
11265	233-0420-042-0000	5532 MIKE ARTHUR CT	1,268.90
11348	224-0490-019-0000	8456 EDGECLIFF CT	140.24
11357	224-0490-024-0000	8436 EDGECLIFF CT	150.98
11359	224-0490-025-0000	8432 EDGECLIFF CT	182.79
11431	233-0480-065-0000	5618 CYPRESS POINT DR	80.90
11449	233-0480-081-0000	7995 ALTA VISTA LN	1,265.03
11464	224-0910-019-0000	7800 COTTINGHAM CT	1,395.05
11475	224-0910-030-0000	7526 BUCKHAVEN WY	130.79
11547	224-0880-070-0000	7939 KYLE CT	1,396.43
11558	224-0880-060-0000	7936 JOSHUA CT	152.35
11585	224-0880-034-0000	7515 SAGINAW WY	316.44
11638	233-0520-002-0000	7858 HAMPTON LN	361.31
11660	233-0520-011-0000	7840 HAMPTON LN	199.42
11689	224-0870-039-0000	7800 AUBURN WIND CT	967.57
11692	224-0870-041-0000	7747 AUBURN WOODS DR	1,103.12
11801	239-0013-002-0000	6806 ANCHOR CIR	1,202.83
11806	233-0630-017-0000	7442 RANCH AVE	88.24
11819	233-0650-002-0000	8080 BRIAR RIDGE LN	86.98
11829	233-0650-007-0000	8092 BRIAR RIDGE LN	804.81
11845	239-0014-009-0000	6732 ADMIRAL AVE	274.94
11881	233-0650-036-0000	8107 BRIAR RIDGE LN	658.47
11937	239-0021-038-0000	5329 LEAVITT WY	164.63
12044	224-0500-045-0000	8340 NEWBRIDGE WY	154.19
12052	239-0030-065-0000	7220 ROCHELLE WY	172.26
12104	224-0510-029-0000	8139 ORELLE CREEK CT	1,752.48
12106	224-0510-031-0000	8131 ORELLE CREEK CT	64.41
12199	224-0530-021-0000	8256 BONNIE OAK WY	402.07
12259	233-0670-005-0000	5409 VENTANA PL	104.02
12282	233-0670-018-0000	5437 VENTANA PL	624.19
12292	239-0050-012-0000	7344 KILBORN DR	382.12
12324	239-0061-004-0000	5229 DOVE DR	131.83
12338	239-0061-037-0000	5213 DOVE DR	634.01
12346	233-0670-049-0000	5484 VENTANA PL	145.09

Location ID	APN	Service Address	Delinquent Total
12353	239-0061-015-0000	7049 PALMDELL WY	150.71
12447	233-0530-016-0000	7810 HAMPTON LN	701.31
12560	233-0580-032-0000	7429 KALAMAZOO DR	158.44
12639	224-0580-010-0000	8200 WACHTEL WY	1,721.77
12658	224-0600-004-0000	7634 SOQUEL WY	385.12
12662	233-0600-023-0000	5607 VICTORIA LN	725.93
12677	233-0600-032-0000	5612 VICTORIA LN	616.15
12760	224-0620-004-0000	8450 PITALO WY	1,677.07
12843	216-0205-007-0000	8005 GLEN PARK AVE	141.30
12848	224-0620-041-0000	8439 LA BOUNTY CT	246.50
12864	224-0620-058-0000	7904 AVALOS WY	125.77
12865	216-0206-006-0000	8020 GLEN PARK AVE	148.34
12885	224-0620-071-0000	7925 TALBOT WY	1,009.63
12896	224-0620-077-0000	7926 TALBOT WY	767.77
12927	216-0210-039-0000	7853 CLARK FORK LN	441.42
12932	216-0210-045-0000	7912 TANANA RIVER CT	1,181.07
12940	216-0221-001-0000	7855 GLEN ECHO ST	70.54
12967	216-0222-003-0000	8049 GLEN EVA WY	1,186.72
12977	216-0223-003-0000	7811/13 GLEN ECHO ST	144.06
12994	216-0224-007-0000	7834 GLEN ECHO ST	287.50
13010	216-0231-010-0000	7909 GLEN FIELD CT	1,383.24
13011	216-0231-011-0000	7905 GLEN FIELD CT	1,191.35
13039	216-0231-025-0000	7912 GLEN TREE DR	437.38
13045	216-0232-006-0000	8021 GLEN EVA WY	463.59
13051	216-0232-012-0000	8032 GLEN BRIAR DR	510.67
13052	216-0232-013-0000	8036 GLEN BRIAR DR	295.57
13078	216-0241-002-0000	7927 WONDER ST	1,452.64
13082	216-0011-004-0000	8503 ROBIE WY	118.22
13119	224-0700-002-0000	7601 WOODCHUCK WY	1,049.69
13122	216-0011-019-0000	8424 MARIPOSA AVE	75.42
13191	224-0700-043-0000	7640 WOODCHUCK WY	318.23
13199	224-0700-046-0000	7760 WOODCHUCK WY	145.38
13205	224-0700-049-0000	7753 WOODCHUCK WY	310.38
13208	224-0700-051-0000	7710 CHIPMUNK WY	156.28
13212	224-0700-053-0000	7624 CHIPMUNK WY	528.63
13231	216-0253-024-0000	7955 CHARLENE WY	362.60
13236	216-0260-003-0000	7940 PATTON AVE	1,323.17
13348	216-0282-009-0000	7778 PERDEZ CT	837.57
13356	216-0282-018-0000	7912 CLEARVIEW DR	435.70
13374	239-0070-001-0000	6700 MADISON AVE	349.94
13411	239-0070-034-0000	5320 DEWEY DR	350.34

Location ID	APN	Service Address	Delinquent Total
13415	239-0070-035-0000	5314 DEWEY DR	2,098.71
13427	224-0700-074-0000	8651 BLUE JAY WY	300.00
13431	216-0291-036-0000	7872 MARIPOSA AVE	202.11
13439	239-0070-045-0000	6727 PALM AVE	135.17
13469	224-0700-083-0000	8647 BLUE JAY WY	2,370.21
13502	216-0292-026-0000	7832 CLEARVIEW DR	1,462.01
13565	224-0720-103-0000	8185 SHANE LN	236.75
13597	224-0730-013-0000	8211 FOX MEADOW PL	129.18
13600	239-0082-021-0000	6931 PINTADO CT	241.67
13606	216-0310-008-0000	8076 GLEN ALTA WY	189.98
13609	216-0310-011-0000	8104 HEATHERBROOK CT	1,311.49
13622	216-0310-018-0000	8113 GLEN CREEK WY	267.26
13661	216-0310-042-0000	8093 DEBBIE ANN CT	637.68
13725	216-0310-067-0000	8072 GLEN ALTA WY	283.78
13729	216-0310-070-0000	8145 GLEN ALTA WY	160.72
13751	216-0310-078-0000	8093 FOREST GLEN WY	153.74
13770	216-0320-002-0000	8166 PATTON AVE	293.69
13816	216-0011-021-0000	7705 PINE DR	1,634.10
13832	216-0012-012-0000	8438 DONALD WY	1,004.58
13835	216-0012-016-0000	7755 TWIN OAKS AVE	976.08
14013	216-0023-009-0000	7889 TWIN OAKS AVE	1,010.89
14088	224-0810-014-0000	7625 CREEKRIDGE LN	179.41
14136	216-0040-016-0000	8029 TWIN OAKS AVE	2,267.02
14169	216-0050-019-0000	8228 MARIPOSA AVE	1,147.30
14176	216-0050-047-0000	8320 MARIPOSA AVE	173.76
14220	216-0060-010-0000	8241 PATTON AVE	1,276.53
14221	216-0060-011-0000	8237 PATTON AVE	155.49
14241	216-0060-022-0000	8350 LEE DR	1,105.54
14258	216-0070-003-0000	7836 TWIN OAKS AVE	1,015.10
14351	224-0840-031-0000	8209 TERRALAND CT	1,076.91
14362	224-0840-037-0000	8212 TERRALAND CT	1,054.73
14401	216-0110-027-0000	8042 FORGETMENOT CT	158.09
14435	224-0840-075-0000	8225 VILLA OAK DR	1,036.85
14452	216-0110-049-0000	8004 GARRYANNA DR	155.31
14467	216-0120-016-0000	8044 KEESEE WY	388.39
14502	216-0120-035-0000	8206 PEREGRINE WY	508.42
14517	224-0860-007-0000	7515 CHIPMUNK WY	2,301.49
14546	216-0120-055-0000	8215 PEREGRINE WY	885.51
14557	239-0082-031-0000	6943 PALMDELL WY	283.06
14572	216-0131-012-0000	7771 GLENN AVE	2,639.28
14581	216-0131-021-0000	7745 GLENN AVE	165.89

Location ID	APN	Service Address	Delinquent Total
14639	216-0201-005-0000	8025 GLEN TREE DR	1,502.77
14647	216-0141-017-0000	8029/31 PATTON AVE	1,548.92
14654	243-0041-004-0000	7515 CHULA VISTA DR	384.83
14674	216-0142-003-0000	8004 MARIPOSA AVE	570.99
14681	243-0042-006-0000	7512 CHULA VISTA DR	381.77
14756	243-0090-001-0000	5998/ 6000 SAN JUAN AVE	1,061.74
14793	216-0150-016-0000	8033 SUNRISE BLVD	164.31
14825	216-0161-004-0000	7862 DRACENA DR	1,227.14
14849	243-0490-001-0001	7901 ARCADE LAKE LN	93.69
14857	243-0490-001-0008	7925 ARCADE LAKE LN	212.00
14877	216-0163-018-0000	8231 EVA RETTA CT	1,551.31
14888	216-0171-010-0000	7907 STANFORD AVE	145.34
14910	216-0181-014-0000	8014 SUNRISE BLVD	869.34
14943	216-0193-001-0000	8005 GLEN ALTA WY	143.98
14980	216-0195-013-0000	8060 GLEN VALLEY CIR	1,379.27
14995	216-0196-001-0000	8059 GLEN VALLEY CIR	965.42
15008	243-0390-029-0000	7308 VILLA DEL SOL LN	204.60
15070	243-0120-002-0000	6009 MARIPOSA AVE	150.01
15089	243-0120-020-0000	6119 MARIPOSA AVE	364.87
15117	243-0120-035-0000	6052 DUBLIN WY	2,000.31
15136	243-0130-005-0000	6122 MARIPOSA AVE	349.52
15145	243-0420-017-0000	5927 SAN JUAN AVE	2,534.25
15147	243-0130-023-0000	6117 RITA LOU WY	150.78
15153	243-0130-026-0000	6101 RITA LOU WY	593.87
15188	243-0430-017-0000	6428 TERRA WY	169.01
15201	243-0430-023-0000	6425 TERRA WY	457.15
15208	243-0430-030-0000	6444 FELICITER WY	147.00
15316	243-0440-016-0000	7783 CHANCERY CT	97.70
15372	243-0180-043-0000	6364 SYLVAN RD	263.13
15424	243-0201-006-0000	7455 NORTHLEA WY	850.38
15431	243-0201-010-0000	7471 SKYCREST CT	200.18
15452	243-0202-007-0000	7454 NORTHLEA WY	649.78
15468	243-0470-008-0000	6388/90 BONHAM CIR	174.31
15470	243-0202-017-0000	7400 SKYLARK CT	1,004.80
15483	243-0210-014-0000	5822 MARIPOSA AVE	169.13
15503	243-0370-042-0000	7200 LA LUNA CT	125.27
15519	243-0210-043-0000	5816 OUR WY	331.25
15524	243-0210-045-0000	7646 MADELINE WY	302.56
15562	243-0210-060-0000	7624 FARMGATE WY	726.11
15608	243-0210-087-0000	7645 MADELINE WY	876.47
15631	243-0500-006-0000	6064 PEORIA DR	92.16

Location ID	APN	Service Address	Delinquent Total
15652	243-0510-002-0000	5831 SPERRY DR	234.50
15667	243-0222-015-0000	7652 NORTH RIDGE DR	139.49
15693	243-0510-021-0000	5934 EL SOL WY	321.22
15729	243-0530-003-0000	7612 AWAY WY	161.58
15775	243-0232-016-0000	5820 NORTHGROVE WY	92.42
15787	243-0232-023-0000	5822 NORTHGROVE WY	1,394.46
15791	243-0233-002-0000	7446 WESTGATE DR	281.88
15853	243-0348-003-0000	7769 NORTH RIDGE DR	289.94
15868	243-0243-010-0000	7457 FARMGATE WY	792.67
15891	243-0348-012-0000	7794 ENVOY WY	683.00
15971	243-0560-026-0000	6442 SAN STEFANO ST	160.72
15973	243-0560-029-0000	6430 SAN STEFANO ST	160.72
15979	243-0560-034-0000	6437 SAN STEFANO ST	719.29
15980	243-0560-035-0000	6441 SAN STEFANO ST	88.95
16000	243-0560-045-0000	7642 HEATHERINGTON WY	178.02
16011	243-0560-050-0000	7622 HEATHERINGTON WY	282.10
16027	243-0332-031-0000	6012 CHESHIRE WY	1,007.99
16067	243-0333-013-0000	6127 VICEROY WY	150.78
16101	243-0334-007-0000	7701 COTSWALD WY	788.91
16142	243-0344-001-0000	7730 NORTH RIDGE DR	1,313.63
16159	243-0344-010-0000	7755 ENVOY WY	355.65
16188	243-0262-023-0000	7652 DENIO WY	232.62
16197	243-0262-035-0000	7638 DENIO WY	746.16
16226	243-0347-005-0000	5936 YEOMAN WY	145.13
16267	243-0350-038-0000	8036 GREENBACK LN	427.98
16289	243-0361-006-0000	7251 CINNAMON CIR	166.99
16309	243-0311-015-0000	6036 ROWAN WY	717.28
16317	243-0361-016-0000	7231 CINNAMON CIR	279.48
16361	243-0370-054-0000	5940 EL SOL WY	108.90
16389	243-0328-001-0000	5918 BRITTANY WY	1,018.38
16426	243-0331-013-0000	6150 MERLINDALE DR	1,453.51
16441	243-0331-019-0000	6056 MERLINDALE DR	137.87
16445	243-0322-012-0000	5912 YEOMAN WY	145.13
16447	243-0322-013-0000	5908 YEOMAN WY	664.41
16452	243-0331-024-0000	6036 MERLINDALE DR	142.11
16471	243-0324-004-0000	7732 GUENIVERE WY	420.91
16477	243-0324-009-0000	7752 GUENIVERE WY	279.86
16489	243-0324-016-0000	7780 GUENIVERE WY	1,349.49
16497	243-0332-019-0000	7714 COTSWALD WY	227.56
16534	259-0010-007-0000	7124 WOODMORE OAKS DR	148.97
16627	259-0010-060-0000	7971 STONE CANYON CIR	140.65



Location ID	APN	Service Address	Delinquent Total
16730	259-0040-040-0000	6838 OLIVE TREE WY	331.09
16733	259-0040-042-0000	6846 OLIVE TREE WY	1,403.50
16735	259-0040-043-0000	6850 OLIVE TREE WY	157.86
16742	259-0020-062-0000	6904 RED MAPLE WY	283.84
16751	259-0020-067-0000	7125 WOODMORE OAKS DR	1,033.85
16760	259-0040-055-0000	6835 RED MAPLE WY	416.14
16783	259-0051-001-0000	6825 SUGAR MAPLE WY	318.57
16805	259-0051-017-0000	6733 SUGAR MAPLE WY	126.39
16813	259-0051-025-0000	6701 SUGAR MAPLE WY	1,547.04
16882	259-0030-051-0000	8071 BAYBERRY CT	833.09
16921	259-0310-014-0000	6731 THUNDERHEAD CIR	550.41
16950	259-0310-021-0000	6745 LAKEWOOD WY	533.27
17019	259-0053-008-0000	6605 SMOKE TREE CT	958.03
17032	259-0133-014-0000	8200 HIGHWOOD WY	1,150.80
17035	259-0133-015-0000	8204 HIGHWOOD WY	148.76
17133	259-0141-021-0000	8208 BRIDGEWOOD CT	322.91
17138	259-0060-057-0000	6604 SWEET GUM CT	1,560.75
17158	259-0142-009-0000	6629 MIRWOOD CT	240.91
17166	259-0142-013-0000	6613 MIRWOOD CT	466.08
17229	259-0070-020-0000	8054 WILLOW GLEN CT	511.48
17328	259-0330-011-0000	8179 SUNDANCE DR	2,663.77
17345	259-0170-016-0000	8381 ALATERNA CT	304.20
17365	259-0170-029-0000	6828 LONICERA DR	148.76
17372	259-0330-022-0000	8224 WAR HORSE CT	195.27
17383	259-0170-035-0000	6804 LONICERA DR	141.26
17393	259-0330-029-0000	8201 WAR HORSE CT	226.27
17420	259-0170-044-0000	6909 LONICERA DR	517.25
17442	259-0091-016-0000	6927 CROSS DR	1,133.45
17499	259-0350-015-0000	6860/62 TROVITA WY	128.98
17510	259-0092-002-0000	8104 DART WY	559.71
17573	259-0093-002-0000	7041 WOODMORE OAKS DR	496.71
17620	216-0224-009-0000	7842 GLEN ECHO ST	1,281.81
17635	259-0100-024-0000	8130 RAMWOOD WY	298.25
17648	259-0113-021-0000	8277 RHODORA CT	1,835.71
17681	259-0100-063-0000	8101 RUTHWOOD WY	164.11
17687	259-0100-068-0000	8068 RUTHWOOD WY	133.34
17690	259-0100-071-0000	8050 RUTHWOOD WY	143.97
17711	259-0112-007-0000	8128 DONNAWOOD WY	901.65
17767	259-0121-018-0000	8117 HIGHWOOD WY	639.11
17784	259-0190-028-0000	8461 CORTADERA DR	267.22
17793	259-0190-037-0000	8421 CORTADERA DR	488.09

Location ID	APN	Service Address	Delinquent Total
17794	259-0190-038-0000	8432 OLD RANCH RD	260.55
17795	259-0190-039-0000	8435 OLD RANCH RD	152.96
17868	259-0211-025-0000	8382 AURELIUS WY	484.01
17881	259-0212-002-0000	6750 AURELIUS WY	1,477.16
17920	259-0215-002-0000	8382 CENTRAL AVE	523.20
17925	259-0221-005-0000	8325 MONDON WY	489.89
17956	259-0223-009-0000	8300 MONDON WY	489.91
18033	259-0360-028-0000	6905 LYONIA WY	287.06
18070	259-0370-036-0000	8304 JUGLANS DR	1,104.29
18085	259-0370-051-0000	8434 ORTIZ CT	806.33
18103	243-0470-033-0000	6354/56 DENTON WY	491.83
18150	243-0331-014-0000	6140 MERLINDALE DR	448.86
18191	224-0970-021-0000	8485 ACORN CREEK CT	334.70
18207	224-0600-060-0000	7633 SOQUEL WY	693.36
18296	243-0490-014-0016	8040 ARCADE LAKE LN	493.42
18312	243-0490-014-0033	8017 ARCADE LAKE LN	215.32
18321	243-0530-044-0000	6529 NORDIC CT	299.05
18346	224-0960-041-0000	7937 AUBURN OAKS VILLAGE LN	107.91
18386	243-0570-025-0000	6497 ASPEN GARDENS WY	514.48
18409	243-0570-048-0000	7111 ASPEN VIEW CT	142.66
18451	243-0580-008-0000	6430 CEDAR RANCH DR	1,298.40
18461	243-0580-018-0000	6378 ASPEN RANCH CT	956.38
18492	243-0580-049-0000	7104 CEDAR GARDEN CT	100.00
18538	224-0760-038-0000	8804 NIPAWIN WY	183.83
18551	204-0171-038-0000	7706 MALIA CT	1,204.60
18583	233-0580-035-0000	5517 CEDAR CREEK WY	73.05
18592	211-0850-001-0000	7524 COMMUNITY DR	1,243.36
18610	211-0850-019-0000	7557 SYLVAN VALLEY WY	173.26
18614	211-0850-023-0000	7573 SYLVAN VALLEY WY	139.83
18639	211-0860-031-0000	6837 SYLVAN MEADOW CT	1,278.52
18651	211-0860-018-0000	7612 SYLVAN VALLEY WY	178.78
18687	211-0221-055-0000	7604 PARK DR	926.18
18718	243-0180-051-0000	6358 SYLVAN RD	257.77
18750	204-0020-006-0000	7560 LINDEN AVE	767.57
18751	204-0020-006-0000	7564 LINDEN AVE	666.87
19021	239-0061-003-0000	7116 PALM AVE	1,181.62
19051	243-0020-023-0000	7301 GREENBACK LN	5,326.32
19053	243-0020-023-0000	7301A GREENBACK LN	3,817.01
19054	243-0020-023-0000	7305/13 GREENBACK LN	4,284.99
19068	243-0081-032-0000	6302/04 SUNRISE BLVD	319.15
19526	257-0072-029-0000	7316 CROSS DR	133.98

Location ID	APN	Service Address	Delinquent Total
19546	243-0010-041-0000	7308 WOODSIDE DR	1,379.01
19578	233-0022-031-0000	5879 GRACE ELLEN CT	1,038.59
19625	243-0590-041-0000	7448 THALIA CT	139.62
19646	243-0590-062-0000	6572 THALIA WY	189.00
19667	211-0880-008-0000	6612 HESPERA WY	725.01
19678	211-0880-019-0000	6609 HESPERA WY	117.56
19747	216-0070-003-0000	7836 TWIN OAKS AVE (VAC - PASTURE)	521.03
19757	211-0251-042-0000	7639 PETER RAY CT	417.97
20011	233-0420-051-0000	8070 TREECREST AVE	999.65
20068	233-0261-046-0000	7449 WELLS AVE	264.81
20105	261-0700-003-0000	6379 BRANDO LOOP	147.26
20119	261-0700-018-0000	6337 BRANDO LOOP	152.87
20139	261-0700-115-0000	8132 ASTAIRE LN	1,153.05
20177	261-0710-015-0000	6315 BRANDO LOOP	150.07
20197	261-0700-025-0000	6423 BRANDO LOOP	173.74
20214	261-0700-042-0000	6472 BRANDO LOOP	137.43
20263	261-0710-007-0000	6521 BRANDO LOOP	148.66
20264	261-0710-008-0000	6523 BRANDO LOOP	1,216.15
20274	261-0700-064-0000	6402 BRANDO LOOP	441.93
20432	257-0360-010-0000	8162 STRENG AVE	202.06
20922	204-0252-038-0000	7606 SYCAMORE DR	968.13
20945	233-0710-002-0000	7549 TWIN BRIDGES LN	1,627.07
20954	243-0600-019-0000	6187 BARRIS CT	150.07
20956	243-0620-025-0000	7974 LIZZIE CIR	759.36
20995	243-0610-060-0000	6209 TRAINOR CT	183.00
20999	243-0610-063-0000	7964 COBB ST	135.76
21000	243-0610-064-0000	7966 COBB ST	486.22
21021	233-0710-018-0000	5520 TWIN BRIDGES LOOP	140.90
21030	243-0610-005-0000	6288 JANE ALY	300.48
21071	243-0610-046-0000	7987 COBB ST	141.65
21072	243-0610-047-0000	7983 COBB ST	1,252.64
21073	243-0610-072-0000	7984 COBB ST	1,638.16
21118	243-0610-037-0000	8025 HUGHES CT	111.13
21120	243-0610-039-0000	8017 HUGHES CT	454.78
21125	243-0630-052-0000	6194 PASEO DE MOONEY	1,256.65
21154	243-0620-042-0000	6178 ALBERT ALY	151.47
21160	243-0630-011-0000	7943 ARCADIA DR	277.50
21170	243-0630-023-0000	7946 PITCHER ST	729.80
21230	243-0630-002-0000	7961 ARCADIA DR	150.07
21380	211-0920-009-0000	6732 WYATT CIR	265.32
21381	211-0920-010-0000	6736 WYATT CIR	266.92

<b>Location ID</b>	<b>APN</b>	<b>Service Address</b>	<b>Delinquent Total</b>
21387	211-0920-007-0000	6724 WYATT CIR	265.32
21388	211-0920-008-0000	6728 WYATT CIR	265.32

## **ATTACHMENT 2**

**Resolution 08-2025 (Placer County)  
Approving and Confirming the Report of Delinquent  
Utilities Charges and Requesting Placer County to  
Collect Such Charges on the Tax Roll**

CITRUS HEIGHTS WATER DISTRICT  
RESOLUTION NO. 08-2025

RESOLUTION OF THE BOARD OF DIRECTORS  
OF CITRUS HEIGHTS WATER DISTRICT  
APPROVING AND CONFIRMING THE REPORT OF DELINQUENT UTILITIES  
CHARGES AND REQUESTING PLACER COUNTY TO COLLECT SUCH CHARGES ON  
THE TAX ROLL

WHEREAS, CITRUS HEIGHTS WATER DISTRICT (DISTRICT), provides certain water service to the residents residing within its service boundaries; and

WHEREAS, Water Code sections 22284, 25806, and 26500 et seq. authorizes the District to have the delinquent charges for the above services (the “Charges”) collected on the tax roll by Placer County on the relevant parcels; and

WHEREAS, District staff has prepared a Delinquent Utilities Charge Report (the “Report”) identifying the delinquent charges by Assessor’s Parcel Number, included as Exhibit A to the resolution; and

WHEREAS, the District has requested that the County of Placer (County) collect the above-named Charges on the County tax roll; and

NOW THEREFORE BE IT RESOLVED that, The BOARD OF DIRECTORS hereby authorizes and directs the General Manager, or his designee to deliver a certified copy of the finalized Report to the Placer County Auditor Controller’s Office – Property Tax Division and to submit a certified copy of this Resolution and Report to the County Recorder for recordation.

BE IT FURTHER RESOLVED that The District agrees to pay the County for the reasonable and ordinary charges to recoup its costs of placement and collection on the tax rolls at the agreed upon rate of 1% of the taxes, assessments, fees and/or charges, as provided by Government Code sections 29304 and 51800.

BE IT FURTHER RESOLVED that The Office of the Placer County Auditor Controller’s Office – Property Tax Division is requested for the placement of the Charges included on the Report (Exhibit A to the resolution) on the Annual Secured property tax roll with the Ad Valorem taxes.

PASSED AND ADOPTED by the Board of Directors of the CITRUS HEIGHTS WATER DISTRICT, this 27th day of May 2025, by the following vote, to wit:

AYES: Directors:  
NOES: Directors:  
ABSTAIN: Directors:  
ABSENT: Directors:

SEAL

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RAYMOND RIEHLE, President  
Board of Directors  
Citrus Heights Water District

ATTEST:

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BRITTNEY MOORE, Chief Board Clerk  
Citrus Heights Water District

## Exhibit A

### Citrus Heights Water District Delinquent Charges – Placer County

Location ID	APN	Service Address	Delinquent Total
05271	470-211-029-000	1439 NEW ENGLAND DR	\$ 436.98
05302	470-211-050-000	1120 MAIN SAIL CIR	\$ 579.52
05303	470-211-051-000	1118 MAIN SAIL CIR	\$ 88.80
05428	470-214-005-000	1109 MAIN SAIL CIR	\$ 945.56
05521	471-030-011-000	221 BRYAN AVE	\$ 363.46
05635	471-040-018-000	202 LANGLEY AVE	\$ 315.16
05685	471-040-048-000	524 ROSEVILLE RIDGE CT	\$ 322.59
05696	471-040-059-000	8946 MARIPOSA AVE	\$ 209.99
05716	471-060-033-000	108 EDDIE DR	\$ 133.65
05726	471-060-045-000	103 BRYAN AVE	\$ 627.89
05744	471-060-060-000	1100 ORLANDO AVE	\$ 360.41
05766	471-070-025-000	104 LAZY OAK LN	\$ 408.76
05792	471-070-039-000	665 WHYTE AVE	\$ 1,205.36
05831	471-090-005-000	518 WHYTE AVE	\$ 160.76
05923	471-110-007-000	8527 SUNRISE BLVD	\$ 213.32



# CITRUS HEIGHTS WATER DISTRICT

## DISTRICT STAFF REPORT TO BOARD OF DIRECTORS MAY 27, 2025 REGULAR MEETING

SUBJECT : DISCUSSION AND POSSIBLE ACTION TO APPROVE THE WATER FORUM  
FISCAL YEAR 2025-2026 FUNDING AGREEMENT

STATUS : Action Item

REPORT DATE : May 13, 2025

PREPARED BY : Rebecca Scott, Director of Operations

### **OBJECTIVE:**

Consider approval of the Fiscal Year 2025–2026 (FY26) funding agreement for the Water Forum.

### **BACKGROUND AND ANALYSIS:**

The Water Forum is a partnership of water agencies, local governments, community groups, and environmental organizations working together to meet two equal goals: providing a reliable water supply through 2030 and protecting the health of the Lower American River. Since the original agreement was signed in 2000, the Water Forum has helped the region plan for growth, manage droughts, protect fish and wildlife, and coordinate on major water issues. This collaboration allowed agencies to avoid legal disputes and respond more effectively to challenges.

The full updated Water Forum Agreement is still in progress, with completion anticipated by the end of 2025. The revised agreement will include continued commitments in areas such as:

- River Habitat Projects: Over \$38 million invested in habitat improvements and public education.
- Flow Management Standards (FMS): Science-based targets for river flow and cold-water storage to support fish like salmon and steelhead.
- Groundwater and Surface Water Use: Expanding the use of groundwater through the Regional Water Bank.
- Regional Collaboration: Working together to improve grant competitiveness, influence on policy, and overall water reliability.

In previous years, about half of the Water Forum’s budget came from Sacramento County Water Agency’s Zone 13. However, since Zone 13 was established 38 years ago without an inflation adjustment, its revenue has remained static while the Water Forum’s budget has grown annually to accommodate inflation.

Over several months, water agencies and other funders explored several new funding models to distribute the Water Forum costs equitably. In November 2024, stakeholders agreed on an approach involving proportional cost allocations relative to the benefits derived from Water Forum participation. The calculation divides costs among agencies based on the following:

- Number of service connections (40%)
- Five-year average of groundwater use (20%)
- Five-year average of American River diversions (40%)

Water Forum members agreed to apply a revised funding model starting in FY26 with the understanding

that the funding model may be refined again when the full agreement is finalized. CHWD's contribution for FY26 is \$81,691, and the annual Operating Budget has sufficient funding for the allocation.

**RECOMMENDATION:**

Approve the FY26 funding agreement for the Water Forum and authorize the General Manager to execute the agreement.

**ATTACHMENT:**

Funding Agreement for the Water Forum

**ACTION:**

Moved by Director \_\_\_\_\_, Seconded by Director \_\_\_\_\_, Carried \_\_\_\_\_

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**Interagency Agreement  
For Cost-Sharing the Fiscal Year (FY) 2025-2026  
Water Forum Successor Effort and Habitat Management Element  
Budget of the Water Forum**

**THIS AGREEMENT** is made and entered into on July 1, 2025, by and among El Dorado Irrigation District; Placer County Water Agency; City of Folsom (minus Ashland); City of Roseville; San Juan Water District; Citrus Heights Water District; Fair Oaks Water District; Carmichael Water District; Sacramento Suburban Water District; Golden State Water Company; California American Water; Sacramento County Water Agency; Sacramento Area Flood Control Agency and the City of Sacramento (on behalf of the Water Forum).

**Recitals**

- A. The parties to this Interagency Agreement (collectively “Parties” and individually “Party”) acknowledge that the Water Forum 2.0 Agreement is not yet signed and a final cost allocation formula has not been agreed upon.
- B. Entering into this Interagency Agreement for FY2025-2026 does not imply that the Parties have agreed to this cost allocation formula on a permanent basis or have approved the entirety of the Water Forum 2.0 Agreement.
- C. The Parties are optimistic that the Water Forum 2.0 Agreement will be signed in the summer of 2025, but will not assume any obligations pursuant to the Water Forum 2.0 Agreement until it is final.

Therefore, the Parties, in consideration of the mutual obligations set forth herein, agree as follows:

**Section I.**

**Water Forum Successor Effort Cost-Sharing:** The Parties identified below have each agreed to pay a pro-rata amount of the total costs for funding the Water Forum Successor Effort (WFSE) activities (based upon their number of active water connections and the 5-year average quantities of groundwater production and American River diversions, or a negotiated amount), as set forth below for the period of July 1, 2025, to June 30, 2026.

<b>WFSE (Fund 7103) Cost-Sharing Partners</b>	<b>FY 2025-2026 Cost Share Amounts</b>
El Dorado Irrigation District	<b>66,634</b>
Placer County Water Agency	<b>56,874</b>
City of Folsom (minus Ashland)	<b>62,054</b>
City of Roseville	<b>110,238</b>
San Juan Water District	<b>55,474</b>
Citrus Heights Water District	<b>42,377</b>
Fair Oaks Water District	<b>32,775</b>

<b>WFSE (Fund 7103)</b>	<b>FY 2025-2026</b>
<b>Cost-Sharing Partners</b>	<b>Cost Share Amounts</b>
Carmichael Water District	27,725
City of Sacramento	219,192
Sacramento Suburban Water District	97,382
Golden State Water Company	32,010
California American Water	93,116
Sacramento County Water Agency	83,311
East Bay Municipal Utility District	15,356
Sacramento Area Flood Control Agency	20,000
Sacramento Municipal Utility District	21,000
El Dorado Water Agency	15,000
<b>Total:</b>	<b>1,050,519</b>

**Habitat Management Element Cost-Sharing:** The Parties identified below have each agreed to pay a pro-rata amount of the total costs for funding the Habitat Management Element (HME) activities (based upon their number of active water connections and the 5-year average quantities of groundwater production and American River diversions, or a negotiated amount), as set forth below for the period of July 1, 2025, to June 30, 2026.

<b>HME (Fund 7104)</b>	<b>FY 2025-2026</b>
<b>Cost-Sharing Partners</b>	<b>Cost Share Amounts</b>
El Dorado Irrigation District	61,817
Placer County Water Agency	52,762
City of Folsom (minus Ashland)	57,568
City of Roseville	102,268
San Juan Water District	51,464
Citrus Heights Water District	39,314
Fair Oaks Water District	30,406
Carmichael Water District	25,720
City of Sacramento	203,345
Sacramento Suburban Water District	90,342
Golden State Water Company	29,696
California American Water	86,385
Sacramento County Water Agency	77,288
East Bay Municipal Utility District	14,246
<b>Total:</b>	<b>922,621</b>

**Sacramento County American River Parkway Contribution:** Given the County of Sacramento's long history of stewardship in the American River Parkway (Parkway) and strong partnership with the City of Sacramento on issues related to the Parkway, the County of Sacramento commits to provide

separate funding from the water agencies in the amount of \$150,000 in FY 2025-2026 to be used to build Water Forum's cash reserves and provide operational stability to the Water Forum.

## **Section II.**

**Reimbursement:** The Water Forum shall administer all consultant agreements and other expenses incurred during FY 2025-2026 for the WFSE and HME. The Parties agree to pay the Water Forum for their share of such costs, totaling the amount set forth for each party in Section I, above, within 30 days after receipt of invoices.

The Water Forum will invoice each Party one time at the beginning of each fiscal year for its annual cost allocation. It is understood and agreed that although this Interagency Agreement only pertains to reimbursement for costs incurred during the period from July 1, 2025, to June 30, 2026, the WFSE and HME will extend past June 30, 2026. Any reimbursement of costs incurred by Water Forum after June 30, 2026, would be governed by a new or amended interagency cost-sharing agreement.

## **Section III.**

### **Sacramento Municipal Utility District, El Dorado Water Agency, and East Bay Municipal Utility**

**District:** Sacramento Municipal Utility District (SMUD), El Dorado Water Agency (EDWA), and East Bay Municipal Utility District (EBMUD) have entered into separate agreements with the City of Sacramento (on behalf of the WATER FORUM and the WFSE) to pay their share of the costs identified in Section II, above, up to the amounts set forth for SMUD, EDWA, and EBMUD, respectively, in Section I, above.

## **Section IV.**

**Changes in Terms:** Any changes to the terms of this Interagency Agreement shall be approved by all Parties and shall be effective when reduced to writing and signed by all Parties.

## **Section V.**

**Contingent obligation:** This Interagency Agreement is entered into prior to annual budget adoption by some of the Parties and is subject to funding availability in each Party's approved budget for the applicable fiscal year. In the event that a Party's governing body does not approve sufficient funding to meet the obligations of this Interagency Agreement, the Parties will meet and confer on a revised cost allocation.

## **Section VI.**

**Indemnity:** Each Party shall, to the fullest extent allowed by law, indemnify, hold harmless and defend the other Party or Parties, its officers and employees from any actions, liability, or other expenses (including reasonable attorney fees) for any damages or injury to persons or property, occurring by reason of any negligent or wrongful act or omission by the indemnifying Party, its officers or employees under this Interagency Agreement.

## **Section VII.**

**Independent Contractors:** All contractors employed during any phase of the WFSE and HME are independent contractors. Contractor employees assigned to perform contract work related to the Water Forum are and will remain employees of the contractor and will not be considered employees of any of the Parties for any reason.

## **Section VII.**

**Single Agreement:** This Interagency Agreement may be signed in multiple counterparts, which together will constitute a single Interagency Agreement. This Interagency Agreement is executed as follows:

**El Dorado Irrigation District,**

By: \_\_\_\_\_

Date: \_\_\_\_\_

**Single Agreement:** This Interagency Agreement may be signed in multiple counterparts, which together will constitute a single Interagency Agreement. This Interagency Agreement is executed as follows:

**Placer County Water Agency,**

By: \_\_\_\_\_

Date: \_\_\_\_\_



**Single Agreement:** This Interagency Agreement may be signed in multiple counterparts, which together will constitute a single Interagency Agreement. This Interagency Agreement is executed as follows:

**City of Folsom**, a municipal corporation

By: \_\_\_\_\_

Date: \_\_\_\_\_

Bryan Whitemyer, City Manager

**APPROVED AS TO CONTENT:**

By: \_\_\_\_\_

Date: \_\_\_\_\_

Marcus Yasutake, Environmental & Water Resources Director

**APPROVED AS TO FUNDING:**

By: \_\_\_\_\_

Date: \_\_\_\_\_

Stacey Tamagni, Finance Director

**APPROVED AS TO FORM:**

By: \_\_\_\_\_

Date: \_\_\_\_\_

Steven Wang, City Attorney

**ATTEST:**

By: \_\_\_\_\_

Date: \_\_\_\_\_

Christa Freemantle, City Clerk

**Single Agreement:** This Interagency Agreement may be signed in multiple counterparts, which together will constitute a single Interagency Agreement. This agreement is executed as follows:

**City of Roseville**, a municipal corporation

By: \_\_\_\_\_

Date: \_\_\_\_\_

Print Name: City Manager

**APPROVED AS TO FORM:**

By: \_\_\_\_\_

Date: \_\_\_\_\_

Print Name: City Attorney

**APPROVED AS TO SUBSTANCE:**

By: \_\_\_\_\_

Date: \_\_\_\_\_

Print Name: Environmental Utilities Director

**ATTEST:**

By: \_\_\_\_\_

Date: \_\_\_\_\_

Print Name: City Clerk

**Single Agreement:** This Interagency Agreement may be signed in multiple counterparts, which together will constitute a single Interagency Agreement. This agreement is executed as follows:

**San Juan Water District**

By: \_\_\_\_\_

Date: \_\_\_\_\_

Print Name: General Manager

**Single Agreement:** This Interagency Agreement may be signed in multiple counterparts, which together will constitute a single Interagency Agreement. This agreement is executed as follows:

**Citrus Heights Water District**

By: \_\_\_\_\_

Date: \_\_\_\_\_

Print Name: General Manager

**Single Agreement:** This Interagency Agreement may be signed in multiple counterparts, which together will constitute a single Interagency Agreement. This agreement is executed as follows:

**Fair Oaks Water District**

By: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name: General Manager

**Single Agreement:** This Interagency Agreement may be signed in multiple counterparts, which together will constitute a single Interagency Agreement. This agreement is executed as follows:

**Carmichael Water District**

By: \_\_\_\_\_

Date: \_\_\_\_\_

**Single Agreement:** This Interagency Agreement may be signed in multiple counterparts, which together will constitute a single Interagency Agreement. This agreement is executed as follows:

**City of Sacramento**, a municipal corporation

**APPROVED AS TO FORM:**

By: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name: Deputy City Attorney

**RECOMMENDED:**

By: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name: WATER FORUM Executive Director

By: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name: Department of Utilities Director

**APPROVED:**

By: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name: Assistant City Manager

For: City Manager

**ATTEST:**

By: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name: Assistant City Clerk

**Single Agreement:** This Interagency Agreement may be signed in multiple counterparts, which together will constitute a single Interagency Agreement. This agreement is executed as follows:

**Sacramento Suburban Water District**

By: \_\_\_\_\_ Date: \_\_\_\_\_

**Single Agreement:** This Interagency Agreement may be signed in multiple counterparts, which together will constitute a single Interagency Agreement. This agreement is executed as follows:



**Golden State Water District**

By: \_\_\_\_\_

Date: \_\_\_\_\_

**Single Agreement:** This Interagency Agreement may be signed in multiple counterparts, which together will constitute a single Interagency Agreement. This agreement is executed as follows:

**California American Water**

By: \_\_\_\_\_

Date: \_\_\_\_\_

**Single Agreement:** This Interagency Agreement may be signed in multiple counterparts, which together will constitute a single Interagency Agreement. This Interagency Agreement is executed as follows:

**Sacramento County Water Agency,**

an agency created pursuant to the Sacramento County Water Agency Act

By: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name: Director, Department of Water Resources

**Single Agreement:** This Interagency Agreement may be signed in multiple counterparts, which together will constitute a single Interagency Agreement. This agreement is executed as follows:

**Sacramento Area Flood Control Agency**

By: \_\_\_\_\_ Date: \_\_\_\_\_

# CITRUS HEIGHTS WATER DISTRICT

## DISTRICT STAFF REPORT TO BOARD OF DIRECTORS MAY 27, 2025 REGULAR MEETING

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SUBJECT : DISCUSSION AND POSSIBLE ACTION TO APPROVE A PROFESSIONAL SERVICES AGREEMENT WITH DUGAN MANAGEMENT & ENGINEERING, INC.  
STATUS : Action Item  
REPORT DATE : May 06, 2025  
PREPARED BY : Tamar Dawson, Assistant Engineer  
: Missy Pieri, Director of Engineering/District Engineer

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### **OBJECTIVE:**

Consider approval of a professional services agreement with Dugan Management & Engineering, Inc. for engineering support services.

### **BACKGROUND AND ANALYSIS:**

As CHWD maintains a small staff, utilizing contract resources is essential to keeping ongoing operating expenses down, while assuring that the resources are available as required and on an as-needed basis to complete projects in a timely and effective manner. As the District's Capital Improvement Program continues to grow, it will be important for CHWD to have flexibility and available options to assist with engineering project needs. These projects include Project 2030-related needs such as water main replacements, pipeline condition assessment, and the Facilities Modernization and Expansion Project. CHWD currently has three engineering firms under professional services agreements, and staff recommend adding an additional resource, Dugan Management & Engineering, Inc. (DME). DME would not only provide necessary redundancy for the District's at-hand resources but would also provide CHWD access to additional services specific to construction management and inspection.

DME is a local engineering firm comprised of a team of engineers and staff that have decades of water industry and project management experience. The two primary engineers on the DME team were the construction manager and project manager on the District's Corporation Yard Phase 1 project. The Phase 1 project consisted of developing an open area being used by the District as an extended Corp Yard into a paved, secured yard with a dedicated vehicle wash station, two vacuum excavation dump basins, covered material storage, additional vehicle parking, and more usable space. DME staff has experience with engineering studies, pipeline condition assessment, infrastructure design, construction management and inspection, and permitting support, and have an in-depth understanding of the challenges involved in water infrastructure projects and requirements. DME currently has a growing client base that includes public works agencies such as City of West Sacramento, Carmichael Water District, and Olivehurst Public Utility District, and have done previous projects with agencies such as Sacramento Suburban Water District, City of Roseville, Placer County Water Agency, and several other water purveyors throughout the Sacramento area.

It is recommended that CHWD formalize a task order style professional services agreement with DME. The task order style agreement is structured to offer the options of a Time-and-Materials/Hourly Billable arrangement or Project Basis/Not-to-Exceed (NTE) amount with a defined scope of work, schedule, and a not-to-exceed budget. The term of the updated agreement is ongoing but includes a fifteen (15) day termination provision by either party without cause.

Funding for the various services covered in the agreement is budgeted for in the annual Operating and Capital Budgets. Work performed will be subject to the availability of budgeted funds.

**RECOMMENDATION:**

Approve the professional services agreement with Dugan Management & Engineering, Inc., and authorize the General Manager to execute the agreement.

**ATTACHMENT:**

Professional Services Agreement for Engineering Support Services

**ACTION:**

Moved by Director \_\_\_\_\_, Seconded by Director \_\_\_\_\_, Carried \_\_\_\_\_

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# **CITRUS HEIGHTS WATER DISTRICT PROFESSIONAL SERVICES AGREEMENT FOR ENGINEERING SUPPORT SERVICES**

## **1. PARTIES AND DATE.**

This Agreement is made and entered into this **27th day of May, 2025**, by and between the Citrus Heights Water District, a public agency organized and operating under the laws of the State of California with its principal place of business at 6230 Sylvan Road, Citrus Heights, CA 95610 (“District”) and **Dugan Management & Engineering, Inc.** (“Consultant”). District and Consultant are sometimes individually referred to as “Party” and collectively as “Parties” in this Agreement.

## **2. RECITALS.**

2.1 District. District is a public agency organized under the laws of the State of California, with power to contract for services necessary to achieve its purpose.

2.2 Consultant. Consultant desires to perform and assume responsibility for the provision of certain professional services required by the District on the terms and conditions set forth in this Agreement and in the task order(s) to be issued pursuant to this Agreement and executed by the District and Consultant (“Task Order”). Consultant represents that it is experienced in providing all of the support services listed in the scope of services provided for in Exhibit “A” to public clients, is licensed in the State of California, and is familiar with the plans of District.

2.3 Project. District desires to engage Consultant to render such services on an on-call basis. Services shall be ordered by Task Order(s) to be issued pursuant to this Agreement for future projects as set forth herein (each such project shall be designated a “Project” under this Agreement).

## **3. TERMS.**

### **3.1 Scope of Services and Term.**

3.1.1 General Scope of Services. Consultant agrees to furnish to the District labor, materials, tools, equipment, services, and incidental and customary work, on an on-call basis, to provide management, planning and other engineering services to the District for the Project (“Services”). The types of Services to be provided are generally described in Exhibit “A,” attached hereto and incorporated herein by reference. The Services shall be more particularly described in the individual Task Order issued by the District’s General Manager or designee. No Service shall be performed unless authorized by a fully executed Task Order in the form attached hereto as Exhibit “B”. All Services shall be subject to, and performed in accordance with, this Agreement, the relevant Task Order, the exhibits attached hereto and incorporated herein by

reference, and, as is consistent with the generally accepted professional standard of care, applicable local, state and federal laws, rules and regulations.

3.1.2 Term. The term of this Agreement shall continue in force for a period of one year from the date of execution. Upon expiration thereof, this agreement will continue in force until either party notifies the other party in writing of its intent to terminate this agreement as outlined in Section 3.5.1. Consultant shall meet any other established schedules and deadlines set forth in the applicable Task Order. All applicable indemnification provisions of this Agreement shall remain in effect following the termination of this Agreement.

### 3.2 Responsibilities of Consultant.

3.2.1 Control and Payment of Subordinates; Independent Contractor. The Services shall be performed by Consultant or under its supervision. Consultant will determine the means, methods and details of performing the Services subject to the requirements of this Agreement and such directions and amendments from District as herein provided. District retains Consultant on an independent contractor basis and not as an employee. No employee or agent of Consultant shall become an employee of District. Any additional personnel performing the Services under this Agreement on behalf of Consultant shall also not be employees of District and shall at all times be under Consultant's exclusive direction and control. Consultant shall pay all wages, salaries, and other amounts due such personnel in connection with their performance of Services under this Agreement and as required by law. Consultant shall be responsible for all reports and obligations respecting such additional personnel, including, but not limited to: social security taxes, income tax withholding, unemployment insurance, disability insurance, and workers' compensation insurance.

3.2.2 Schedule of Services. Consultant shall perform the Services expeditiously, within the term of this Agreement, and in accordance with the specific schedule that shall be set forth in the Task Order ("Schedule of Services"). Consultant shall be required to commence work within five (5) calendar days, or as soon thereafter as reasonably practicable, of receiving a fully executed Task Order. Consultant represents that it has the professional and technical personnel required to perform the Services in conformance with such conditions. In order to facilitate Consultant's conformance with the Schedule of Services, District shall respond to Consultant's submittals in a timely manner. Upon request of District, Consultant shall provide a more detailed schedule of anticipated performance to meet the Schedule of Services.

3.2.3 Conformance to Applicable Requirements. All work prepared by Consultant shall be subject to the approval of District.

#### 3.2.4 RESERVED.

3.2.5 District's Representative. The District hereby designates the General Manager, or his or her designee, to act as its representative for the performance of this Agreement ("District's Representative"). District's Representative shall have the power to act on behalf of the District for all purposes under this Contract. Consultant shall not accept direction or orders from any person other than the District's Representative or his or her designee.



3.2.6 Consultant's Representative. Consultant hereby designates **Tom Dugan, President**, or his or her designee, to act as its representative for the performance of this Agreement ("Consultant's Representative"). Consultant's Representative shall have full authority to represent and act on behalf of the Consultant for all purposes under this Agreement. The Consultant's Representative shall supervise and direct the Services, using his best skill and attention, and shall be responsible for all means, methods, techniques, sequences and procedures and for the satisfactory coordination of all portions of the Services under this Agreement.

3.2.7 Coordination of Services. Consultant agrees to work closely with District staff in the performance of Services and shall be available to District's staff, consultants and other staff at all reasonable times.

3.2.8 Standard of Care; Performance of Employees. Consultant shall perform all Services under this Agreement in a skillful and competent manner, consistent with the standards generally recognized as being employed by professionals in the same discipline in the State of California. Consultant represents and maintains that it is skilled in the professional calling necessary to perform the Services. Consultant warrants that all employees and subcontractors shall have sufficient skill and experience to perform the Services assigned to them. Finally, Consultant represents that it, its employees and subcontractors have all licenses, permits, qualifications and approvals of whatever nature that are legally required to perform the Services, including a City of Citrus Heights Business License, and that such licenses and approvals shall be maintained throughout the term of this Agreement. As provided for in the indemnification provisions of this Agreement, Consultant shall perform, at its own cost and expense and without reimbursement from the District, any services necessary to correct errors or omissions which are caused by the Consultant's failure to comply with the standard of care provided for herein. Any employee of the Consultant or its sub-consultants who is determined by the District to be uncooperative, incompetent, a threat to the adequate or timely completion of the Project, a threat to the safety of persons or property, or any employee who fails or refuses to perform the Services in a manner acceptable to the District, shall be promptly removed from the Project by the Consultant and shall not be re-employed to perform any of the Services or to work on the Project.

3.2.9 Laws and Regulations. Consultant shall keep itself informed of and in compliance with all applicable local, state and federal laws, rules and regulations in any manner affecting the performance of the Project or the Services, including applicable Cal/OSHA requirements, and shall give all notices required by law. If required, Consultant shall assist District, as requested, in obtaining and maintaining all permits required of Consultant by federal, state and local regulatory agencies. Consultant shall be liable for all of its violations of local, state and federal laws, rules and regulations in connection with the Project and the Services. If the Consultant performs any work knowing it to be contrary to such laws, rules and regulations and without giving written notice to the District, Consultant shall be solely responsible for all costs arising therefrom. It is understood, however, that various laws, rules, and regulations are subject to varying and sometimes contradictory interpretation. Where there are conflicting interpretations in laws, rules or regulations, the more stringent interpretation shall be applied. Consultant shall defend, indemnify and hold District, its officials, directors, officers, employees and agents free and harmless, pursuant to the indemnification provisions of this Agreement, from any claim or

liability arising out of Consultant's failure or alleged failure to comply with such applicable laws, rules or regulations.

### 3.2.10 Insurance.

3.2.10.1 Time for Compliance. Consultant shall not commence the Services under this Agreement until it has provided evidence satisfactory to the District that it has secured all insurance required under this section. In addition, Consultant shall not allow any subcontractor to commence work on any subcontract until it has provided evidence satisfactory to the District that the subcontractor has secured all insurance required under this section.

3.2.10.2 Minimum Requirements. Consultant shall, at its expense, procure and maintain for the duration of the Agreement insurance meeting the requirements set forth herein. In the event Consultant is self-insured, Consultant shall provide evidence of self-insured coverage that provides coverage that is equal to the insurance requirements set forth herein. Consultant shall require all of its subcontractors to procure and maintain the same insurance specified herein for the duration of the Agreement. Such insurance shall meet at least the following minimum levels of coverage:

(A) Minimum Scope of Insurance. Coverage shall be at least as broad as the latest version of the following: (1) *General Liability*: Insurance Services Office Commercial General Liability coverage (occurrence form CG 0001); (2) *Automobile Liability*: Insurance Services Office Business Auto Coverage form number CA 0001, code 1 (any auto); (3) *Workers' Compensation and Employer's Liability*: Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance; and (4) *Professional Liability (Errors and Omissions)*: professional liability or Errors and Omissions insurance appropriate to its profession.

(B) Minimum Limits of Insurance. Consultant shall maintain limits no less than: (1) *General Liability*: One Million Dollars (\$1,000,000) per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with general aggregate limit is used, either the general aggregate limit shall apply separately to this Agreement/location or the general aggregate limit shall be twice the required occurrence limit; (2) *Automobile Liability*: One Million Dollars (\$1,000,000) combined single limit (each accident) for bodily injury and property damage; (3) *Workers' Compensation and Employer's Liability*: Workers' Compensation limits as required by the Labor Code of the State of California. Employer's Liability limits of One Million Dollars (\$1,000,000) per accident for bodily injury or disease; and (4) *Professional Liability (Errors and Omissions)*: One Million Dollars (\$1,000,000) per claim and aggregate (errors and omissions).

Requirements of specific coverage or limits contained in this section are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance. Any available coverage shall be provided to the parties required to be named as additional insured pursuant to this Agreement. Defense costs shall be payable in addition to the limits.

3.2.10.3 Insurance Endorsements. The insurance policies shall contain the following provisions, or Consultant shall provide endorsements on forms supplied or approved by the District to add the following provisions to the insurance policies:

(A) Commercial General Liability. The commercial general liability policy shall be endorsed to provide the following: (1) the District, its directors, officials, officers, employees, agents and volunteers shall be covered as additional insureds using ISO endorsement forms CG 20 10 10 01 and 20 37 10 01, or endorsements providing the exact same coverage; (2) the insurance coverage shall be primary insurance as respects the District, its directors, officials, officers, employees, agents and volunteers, or if excess, shall stand in an unbroken chain of coverage excess of the Consultant's scheduled underlying coverage. Any insurance or self-insurance maintained by the District, its directors, officials, officers, employees, agents and volunteers shall be excess of the Consultant's insurance and shall not be called upon to contribute with it in any way; and (3) the insurance coverage shall contain or be endorsed to provide waiver of subrogation in favor of the District, its directors, officials, officers, employees, agents and volunteers or shall specifically allow Consultant to waive its right of recovery prior to a loss. Consultant hereby waives its own right of recovery against District, and shall require similar written express waivers and insurance clauses from each of its subconsultants.

(B) Automobile Liability. The automobile liability policy shall be endorsed to provide the following: (1) the District, its directors, officials, officers, employees, agents and volunteers shall be covered as additional insureds with respect to the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by the Consultant or for which the Consultant is responsible; (2) the insurance coverage shall be primary insurance as respects the District, its directors, officials, officers, employees, agents and volunteers, or if excess, shall stand in an unbroken chain of coverage excess of the Consultant's scheduled underlying coverage. Any insurance or self-insurance maintained by the District, its directors, officials, officers, employees, agents and volunteers shall be excess of the Consultant's insurance and shall not be called upon to contribute with it in any way; and (3) the insurance coverage shall contain or be endorsed to provide waiver of subrogation in favor of the District, its directors, officials, officers, employees, agents and volunteers or shall specifically allow Consultant to waive its right of recovery prior to a loss. Consultant hereby waives its own right of recovery against District, and shall require similar written express waivers and insurance clauses from each of its subconsultants.

(C) Workers' Compensation and Employers Liability Coverage. The insurer shall agree to waive all rights of subrogation against the District, its directors, officials, officers, employees, agents and volunteers for losses paid under the terms of the insurance policy which arise from work performed by the Consultant.

(D) Professional Liability (Errors and Omissions). This insurance shall include or be endorsed to include contractual liability for negligence only and applicable to this Agreement and shall be written on a policy form coverage specifically designed to protect against negligent acts, errors or omissions of the Consultant. "Covered Professional Services" as designated in the policy must include work performed under this Agreement. The

policy must “pay on behalf of” the insured and must include a provision establishing the insurer's duty to defend.

(E) All Coverages. Each insurance policy required by this Agreement shall be endorsed to state that: (1) coverage shall not be suspended, voided, reduced or canceled except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the District; and (2) any failure to comply with reporting or other provisions of the policies, including breaches of warranties, shall not affect coverage provided to the District, its directors, officials, officers, employees, agents and volunteers.

3.2.10.4 Separation of Insureds; No Special Limitations. All insurance required by this Section shall contain standard separation of insureds provisions. In addition, such insurance shall not contain any special limitations on the scope of protection afforded to the District, its directors, officials, officers, employees, agents and volunteers.

3.2.10.5 Deductibles and Self-Insurance Retentions. Any deductibles or self-insured retentions must be declared to and approved by the District. Consultant shall guarantee that, at the option of the District, either: (1) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the District, its directors, officials, officers, employees, agents and volunteers; or (2) the Consultant shall procure a bond guaranteeing payment of losses and related investigation costs, claims and administrative and defense expenses.

3.2.10.6 Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best's rating no less than A:VII, admitted to transact in the business of insurance in the State of California, or otherwise allowed to place insurance through surplus line brokers under applicable provisions of the California Insurance Code or any federal law, and satisfactory to the District.

3.2.10.7 Verification of Coverage. Consultant shall furnish District with original certificates of insurance and endorsements effecting coverage required by this Agreement on forms satisfactory to the District. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf, and shall be on forms provided by the District if requested. All certificates and endorsements must be received and approved by the District before work commences. The District reserves the right to require complete, certified copies of all required insurance policies, at any time.

3.2.10.8 Subconsultants. Consultant shall not allow any subcontractors or subconsultants to commence work on any subcontract until they have provided evidence satisfactory to the District that they have secured all insurance required under this section. Policies of commercial general liability insurance provided by such subcontractors or subconsultants shall be endorsed to name the District as an additional insured using ISO form CG 20 38 04 13 or an endorsement providing the exact same coverage. If requested by Consultant, District may approve different scopes or minimum limits of insurance for particular subcontractors or subconsultants.

3.2.10.9 Compliance With Coverage Requirements. If at any time during the life of the Agreement, any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced, District has the right but not the duty to

obtain the insurance it deems necessary and any premium paid by District will be promptly reimbursed by Consultant or District will withhold amounts sufficient to pay premium from Consultant payments. In the alternative, District may terminate this Agreement for cause.

3.2.11 Safety. Consultant shall execute and maintain its work so as to avoid injury or damage to any person or property. In carrying out its Services, the Consultant shall exercise usual and customary professional care in its efforts to be in compliance with all applicable local, state and federal laws, rules and regulations, and shall exercise all necessary precautions for the safety of its employees appropriate to the nature of the work and the conditions under which the work is to be performed. Safety precautions as applicable shall include, but shall not be limited to: (1) adequate life protection and life-saving equipment and procedures; (2) instructions in accident prevention for all employees and subcontractors, such as equipment and other safety devices, equipment and wearing apparel as are necessary or lawfully required to prevent accidents or injuries; and (3) adequate facilities for the proper inspection and maintenance of all safety measures. Nothing herein shall be construed as establishing any responsibility or obligation on the part of the Consultant for jobsite safety issues, programs, or precautions or anyone but its own employees and subconsultants for whom it is legally responsible.

### 3.3 Fees and Payments.

3.3.1 Compensation. Consultant shall receive compensation, including authorized reimbursements, for all Services rendered under this Agreement at the rates set forth in Exhibit "C," attached hereto and incorporated herein by reference. Said rates may be updated annually by the consultant upon the date of execution of this agreement and are subject to approval by District staff. The total compensation per Task Order shall be set forth in the relevant Task Order, and Consultant shall be compensated in one of two billable methods: a) Time and Materials/Hourly Billable; or b) Project Basis/Not-to-Exceed (NTE) amount. Extra Work may be authorized, as described below; and if authorized, said Extra Work will be compensated at the rates and manner set forth in this Agreement.

3.3.2 Payment of Compensation. Consultant shall submit to District a monthly itemized invoice which indicates work completed and hours of Services rendered by Consultant. The invoice shall reference the relevant Task Order and describe the amount of Services and supplies provided since the initial commencement date of Services under this Agreement, and since the start of the subsequent billing periods, through the date of the invoice. Consultant shall include a Project Task Tracking Sheet with each invoice submitted. District shall, within forty-five (45) days of receiving such invoice and Project Task Tracking Sheet, review the invoice and pay all approved charges thereon.

3.3.3 Reimbursement for Expenses. Consultant shall not be reimbursed for any expenses unless authorized under Exhibit "B" or otherwise in writing by District.

3.3.4 Extra Work. At any time during the term of this Agreement, District may request that Consultant perform Extra Work. As used herein, "Extra Work" means any work which is determined by District to be necessary for the proper completion of the Project, but which the Parties did not reasonably anticipate would be necessary at the execution of this Agreement. Consultant shall not perform, nor be compensated for, Extra Work without written authorization

from District's Representative. Where Extra Work is deemed merited by the District, an amendment to this Agreement shall be prepared by the District and executed by both Parties before performance of such Extra Work, or the District will not be required to pay for the changes in the scope of work. Such amendment shall include the change in fee and/or time schedule associated with the Extra Work. Amendments for Extra Work shall not render ineffective or invalidate unaffected portions of this Agreement

3.3.5 Prevailing Wages. Consultant is aware of the requirements of California Labor Code Sections 1720 et seq., and 1770 et seq., as well as California Code of Regulations, Title 8, Section 16000 et seq., ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects. If the Services are being performed as part of an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and if the total compensation is One Thousand Dollars (\$1,000) or more, Consultant agrees to fully comply with such Prevailing Wage Laws. Consultant shall obtain a copy of the prevailing rates of per diem wages in effect at the commencement of this Agreement. Consultant shall make copies of the prevailing rates of per diem wages for each craft, classification or type of worker needed to execute the Services available to interested parties upon request, and shall post copies at the Consultant's principal place of business and at the project site. Consultant shall defend, indemnify and hold the District, its officials, officers, employees, volunteers and agents free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.

If the Services are being performed as part of an applicable "public works" or "maintenance" project, then pursuant to Labor Code Sections 1725.5 and 1771.1, the Consultant and all subconsultants performing such Services must be registered with the Department of Industrial Relations. Consultant shall maintain registration for the duration of the Project and require the same of any subconsultants, as applicable. This Project may also be subject to compliance monitoring and enforcement by the Department of Industrial Relations. It shall be Consultant's sole responsibility to comply with all applicable registration and labor compliance requirements.

### 3.4 Accounting Records.

3.4.1 Maintenance and Inspection. Consultant shall maintain complete and accurate records with respect to all costs and expenses incurred under this Agreement. All such records shall be clearly identifiable. Consultant shall allow a representative of District during normal business hours to examine, audit, and make transcripts or copies of such records and any other documents created pursuant to this Agreement. Consultant shall allow inspection of all work, data, documents, proceedings, and activities related to the Agreement for a period of three (3) years from the date of final payment under this Agreement.

### 3.5 General Provisions.

#### 3.5.1 Termination of Agreement.

3.5.1.1 Grounds for Termination. Either party may terminate the whole or any part of this Agreement at any time and without cause by giving written notice to the other

party of such termination, and specifying the effective date thereof, at least fifteen (15) business days before the effective date of such termination. Upon termination, Consultant shall be compensated only for those Services which have been adequately rendered to District, and Consultant shall be entitled to no further compensation.

3.5.1.2 Effect of Termination. If this Agreement is terminated as provided herein, District may require Consultant to provide all finished or unfinished Documents and Data (defined below) and other information of any kind prepared by Consultant in connection with the performance of Services under this Agreement. Consultant shall be required to provide such documents and other information within fifteen (15) business days of the request.

3.5.1.3 Additional Services. In the event this Agreement is terminated in whole or in part as provided herein, District may procure, upon such terms and in such manner as it may determine appropriate, services similar to those terminated.

3.5.2 Delivery of Notices. All notices permitted or required under this Agreement shall be given to the respective Parties at the following address, or at such other address as the respective parties may provide in writing for this purpose:

<b><u>District</u></b> Citrus Heights Water District P.O. Box 286 Citrus Heights, CA 95611 Attn: Melissa Pieri, PE District Engineer	<b><u>Consultant</u></b> Tom Dugan, President Dugan Management & Engineering, Inc. 3250 19 <sup>th</sup> St. Sacramento, CA 95818
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Such notice shall be deemed made when personally delivered or when mailed, forty-eight (48) hours after deposit in the U.S. Mail, first class postage prepaid and addressed to the Party at its applicable address. Actual notice shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service.

3.5.3 Ownership of Materials and Confidentiality.

3.5.3.1 Documents & Data; Licensing of Intellectual Property. This Agreement creates a non-exclusive and perpetual license for District to copy, use, modify, reuse, or sublicense any and all copyrights, designs, and other intellectual property embodied in plans, specifications, studies, drawings, estimates, and other documents or works of authorship fixed in any tangible medium of expression, including but not limited to, physical drawings or data magnetically or otherwise recorded on computer diskettes, which are prepared or caused to be prepared by Consultant under this Agreement (“Documents & Data”). Consultant shall require all subcontractors to agree in writing that District is granted a non-exclusive and perpetual license for any Documents & Data the subcontractor prepares under this Agreement. Consultant represents that Consultant has the legal right to license any and all Documents & Data. Consultant makes no such representation in regard to Documents & Data which were prepared by design professionals other than Consultant or provided to Consultant by the District. District shall not be limited in any way in its use of the Documents & Data at any time, provided that any such use not within the purposes intended by this Agreement shall be at District’s sole risk.

3.5.3.2 Confidentiality. All ideas, memoranda, specifications, plans, procedures, drawings, descriptions, computer program data, input record data, written information, and other Documents & Data either created by or provided to Consultant in connection with the performance of this Agreement shall be held confidential by Consultant. Such materials shall not, without the prior written consent of District, be used by Consultant for any purposes other than the performance of the Services. Nor shall such materials be disclosed to any person or entity not connected with the performance of the Services or the Project. Nothing furnished to Consultant which is otherwise known to Consultant or is generally known, or has become known, to the related industry shall be deemed confidential. Consultant shall not use District's name or insignia, photographs of the Project, or any publicity pertaining to the Services or the Project in any magazine, trade paper, newspaper, television or radio production or other similar medium without the prior written consent of District. This section shall not restrict the Consultant from giving notices required by law or complying with an order to provide information or data when such order is issued by a court, administrative agency or other authority with proper jurisdiction, or if disclosure is reasonably necessary for the Consultant to defend itself from any suit or claim.

3.5.4 Cooperation; Further Acts. The Parties shall reasonably cooperate with one another, and shall take additional acts or sign additional documents as may be reasonably necessary, appropriate or convenient to attain the purposes of this Agreement. The Consultant shall not be required to execute any documents or take any acts that in any way might, in the sole judgment of the Consultant, increase the Consultant's contractual or legal obligations or risks, or the availability or costs of its professional or general liability insurance.

3.5.5 Attorney's Fees. If either Party commences an action against the other Party, either legal, administrative or otherwise, arising out of or in connection with this Agreement, the prevailing party in such litigation shall be entitled to have and recover from the losing party reasonable attorney's fees and all other costs of such action.

3.5.6 Indemnification.

3.5.6.1 Standard Indemnification. To the fullest extent permitted by law, Consultant shall defend, indemnify and hold the District, its officials, officers, employees, volunteers, and agents free and harmless from any and all claims, demands, causes of action, costs, expenses, liability, loss, damage or injury, in law or equity, to property or persons, including wrongful death, in any manner arising out of, pertaining to, or relating to any negligence, recklessness, or willful misconduct of Consultant, its officials, officers, employees, agents, consultants, and contractors arising out of or in connection with the performance of the Services, the Project or this Agreement, including without limitation the payment of all consequential damages, expert witness fees, and attorney's fees and other related costs and expenses. Consultant shall defend, at Consultant's own cost, expense and risk, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against District, its directors, officials, officers, employees, agents, or volunteers. Consultant shall pay and satisfy any judgment, award or decree that may be rendered against District or its directors, officials, officers, employees, agents, or volunteers, in any such suit, action or other legal proceeding. Consultant shall reimburse District and its directors, officials, officers, employees, agents, and/or volunteers, for any and all legal expenses and costs incurred by each of them in connection therewith or in



enforcing the indemnity herein provided, including correction of errors or omissions. Consultant's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by the District, its directors, officials, officers, employees, agents or volunteers.

3.5.7 Entire Agreement. This Agreement contains the entire Agreement of the Parties with respect to the subject matter hereof, and supersedes all prior negotiations, understandings or agreements. This Agreement may only be modified by a writing signed by both Parties.

3.5.8 Governing Law. This Agreement shall be governed by the laws of the State of California. Venue shall be in Sacramento County.

3.5.9 Time of Essence. Time is of the essence for each and every provision of this Agreement.

3.5.10 District's Right to Employ Other Consultants. District reserves right to employ other consultants in connection with this Project.

3.5.11 Assignment or Transfer. Consultant shall not assign, hypothecate, or transfer, either directly or by operation of law, this Agreement or any interest herein without the prior written consent of the District. Any attempt to do so shall be null and void, and any assignees, hypothecates or transferees shall acquire no right or interest by reason of such attempted assignment, hypothecation or transfer.

3.5.12 Subcontracting. Consultant shall not subcontract any portion of the work required by this Agreement, except as expressly stated herein, without prior written approval of District. Subcontracts, if any, shall contain a provision making them subject to all provisions stipulated in this Agreement.

3.5.13 Construction; References; Captions. Since the Parties or their agents have participated fully in the preparation of this Agreement, the language of this Agreement shall be construed simply, according to its fair meaning, and not strictly for or against any Party. Any term referencing time, days or period for performance shall be deemed calendar days and not work days. All references to Consultant include all personnel, employees, agents and subcontractors of Consultant, except as otherwise specified in this Agreement. All references to District include its officials, officers, employees, agents, and volunteers except as otherwise specified in this Agreement. The captions of the various articles and paragraphs are for convenience and ease of reference only, and do not define, limit, augment, or describe the scope, content, or intent of this Agreement.

3.5.14 Amendment; Modification. No supplement, modification, or amendment of this Agreement shall be binding unless executed in writing and signed by both Parties.

3.5.15 Waiver. No waiver of any default shall constitute a waiver of any other default or breach, whether of the same or other covenant or condition. No waiver, benefit,

privilege, or service voluntarily given or performed by a Party shall give the other Party any contractual rights by custom, estoppel, or otherwise.

3.5.16 No Third Party Beneficiaries. There are no intended third party beneficiaries of any right or obligation assumed by the Parties.

3.5.17 Invalidity; Severability. If any portion of this Agreement is declared invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions shall continue in full force and effect.

3.5.18 Prohibited Interests. Consultant maintains that it has not employed nor retained any company or person, other than a bona fide employee working solely for Consultant, to solicit or secure this Agreement. Further, Consultant maintains that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Consultant, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. For breach or violation of this provision, District shall have the right to rescind this Agreement without liability. For the term of this Agreement, no member, officer or employee of District, during the term of his or her service with District, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising therefrom.

3.5.19 Equal Opportunity Employment. Consultant represents that it is an equal opportunity employer and it shall not discriminate against any subcontractor, employee or applicant for employment because of race, religion, color, national origin, handicap, ancestry, sex or age. Such non-discrimination shall include, but not be limited to, all activities related to initial employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination.

3.5.20 Labor Certification. By its signature hereunder, Consultant certifies that it is aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and agrees to comply with such provisions before commencing the performance of the Services.

3.5.21 Authority to Enter Agreement. Consultant has all requisite power and authority to conduct its business and to execute, deliver, and perform the Agreement. Each Party maintains that the individuals who have signed this Agreement have the legal power, right, and authority to make this Agreement and bind each respective Party.

3.5.22 Counterparts. This Agreement may be signed in counterparts, each of which shall constitute an original.

**SIGNATURE PAGE  
TO  
CITRUS HEIGHTS WATER DISTRICT  
PROFESSIONAL SERVICES AGREEMENT  
FOR ENGINEERING SUPPORT SERVICES**

**CITRUS HEIGHTS WATER DISTRICT**

**DUGAN MANAGEMENT &  
ENGINEERING, INC.**

**By:** \_\_\_\_\_  
**Hilary M. Straus**  
**General Manager**

**By:** \_\_\_\_\_  
**Tom Dugan**  
**President**

**Date:** \_\_\_\_\_

**Date:** May 8, 2025

## **EXHIBIT “A” SCOPE OF SERVICES**

Based on the District’s needs and issuance of an approved Task Order (see Exhibit “B”), **Dugan Management & Engineering, Inc.** will accomplish one or more of the following tasks in the performance of providing requested General Engineering support services including:

1. Topographic, aerial photography, mapping, construction staking, legal description services, and plan and specification development including:
  - ALTA Surveys
  - Topographic Mapping
  - Aerial Photography
  - Subdivision Mapping (Parcel Maps / Final Maps)
  - Annexations
  - Lot Line Adjustments
  - Records of Survey
  - Legal Descriptions and Plats\*
  - Easements
  - Water Plan and Profiles
  - Technical Specifications
  - Engineer’s Cost Estimates
2. Project/Construction Management & Oversight
  - Project Management – This task includes proactive project management as needed to include close communication with the District and all assigned project team members.
  - Construction Management – This task includes proactive construction and jobsite management as needed including construction inspection.
  - Quality Assurance/Quality Control – This task includes effort budgeted for quality review by principal team members ultimately responsible for the final products.
  - Project review meetings – This task includes attendance to project meetings with the District as requested.
3. Peer reviews – Provide peer review services to review and comment on the District’s work and District’s contractor work products for accuracy, thoroughness, and cost estimation.

The rate for these services will be in accordance to the rates noted on prospective task orders as detailed in Exhibit B.

\*Title Reports, if requested, will be ordered from the title company as a reimbursable expense.

**EXHIBIT "B"**  
**SAMPLE TASK ORDER FORM**

**TASK ORDER**

Task Order No. \_\_\_\_\_ (YEAR - ##)

Contract: Agreement for Construction Management and Engineering Support Services  
with Citrus Heights Water District

Consultant: Dugan Management & Engineering, Inc.

**The Consultant is hereby authorized to perform the following work subject to the provisions of the Contract identified above:** [Description of scope of work]

**List any attachments:** (Please provide if any.)

**Compensation Form:** [INSERT HOURLY OR PROJECT BUDGET/NOT-TO-EXCEED (NTE)]

**Reimbursements:** [INSERT WHETHER MILEAGE AND OTHER REIMBURSEMENTS WILL BE PROVIDED]

**Dollar Amount of Task Order:** Not to exceed \$\_\_\_\_\_, \_\_\_\_\_00 (If NTE)

**Completion Date:** \_\_\_\_\_, 20\_\_

The undersigned consultant hereby agrees that it will provide all labor, equipment, furnish all materials, except as may be otherwise noted above, and perform all services for the work above specified in accordance with the Contract identified above and will accept as full payment therefore the amount shown above.

**Citrus Heights Water District**

**Dugan Management & Engineering**

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

**EXHIBIT “C”  
RATE SHEET**

**\*ADD CURRENT DUGAN MANAGEMENT & ENGINEERING, INC. RATES HERE.**

## 2025 PROFESSIONAL SERVICE RATES

Role/Position	Rate (\$/Hr.)
Principal 2	\$200
Principal 1	\$195
Project Manager 2	\$190
Project Manager 1	\$185
Project Engineer 2	\$165
Project Engineer 1	\$155
Associate Engineer 2	\$145
Associate Engineer 1	\$135
Assistant Engineer 2	\$125
Assistant Engineer 1	\$115

The Hourly Rates noted above are valid through December 31, 2025  
Rates increase per annum by 3%

# CITRUS HEIGHTS WATER DISTRICT

## DISTRICT STAFF REPORT TO BOARD OF DIRECTORS MAY 27, 2025 REGULAR MEETING

SUBJECT : DISCUSSION AND POSSIBLE ACTION TO APPROVE A PROFESSIONAL SERVICES AGREEMENT WITH CRAWFORD & ASSOCIATES, INC.  
 STATUS : Action Item  
 REPORT DATE : May 08, 2025  
 PREPARED BY : Todd Jordan, Principal Civil Engineer  
 : Missy Pieri, Director of Engineering/District Engineer

### **OBJECTIVE:**

Consider approval of a professional services agreement with Crawford & Associates, Inc. to provide geotechnical engineering, hazardous materials assessment, and construction materials testing and inspection services as an additional resource for the District.

### **BACKGROUND AND ANALYSIS:**

As the Citrus Heights Water District (CHWD) advances major infrastructure initiatives—including Project 2030 water main replacements, ongoing pipeline condition assessments, and the Facilities Modernization and Expansion Project—the demand for specialized technical support continues to grow. Geotechnical engineering and related services are critical during planning, design, and construction phases to ensure infrastructure is built on a sound foundation, regulatory requirements are met, and risks are managed effectively.

CHWD currently has one geotechnical engineering firm under a professional service agreement and staff recommends adding an additional resource. In anticipation of increased workload and the need for additional capacity, staff recommends adding Crawford & Associates, Inc. as an alternative for geotechnical, environmental, and construction support services.

Crawford & Associates is a qualified firm with extensive experience providing similar services to public agencies across the region. Their services will expand the District’s available consultant options and provide valuable redundancy for critical investigations and testing. Their capabilities include:

- Geotechnical field investigations, seismic analysis, and lab testing
- Phase I and II environmental site assessments and hazardous materials sampling
- Construction materials testing and special inspection (e.g., soil compaction, concrete, masonry, welding)
- Technical reporting, permitting support, and design recommendations

CHWD will utilize a task order-based professional services agreement, which allows for flexibility in assigning work as needed. Each task order will define the scope, schedule, and budget and will follow either a Time-and-Materials or Not-to-Exceed structure depending on the nature of the services. The term of the updated agreement is ongoing but includes a fifteen (15) day termination provision by either party without cause.

Funding for these services is included in the District’s approved Operating and Capital Budgets. Task orders will only be issued when funds are available and authorized.



**RECOMMENDATION:**

Approve the professional services agreement with Crawford & Associates, Inc., and authorize the General Manager to execute the agreement.

**ATTACHMENT:**

Professional Services Agreement for Engineering Support Services

**ACTION:**

Moved by Director \_\_\_\_\_, Seconded by Director \_\_\_\_\_, Carried \_\_\_\_\_

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# **CITRUS HEIGHTS WATER DISTRICT PROFESSIONAL SERVICES AGREEMENT FOR ENGINEERING SUPPORT SERVICES**

## **1. PARTIES AND DATE.**

This Agreement is made and entered into this **27th day of May 2025**, by and between the Citrus Heights Water District, a public agency organized and operating under the laws of the State of California with its principal place of business at 6230 Sylvan Road, Citrus Heights, CA 95610 (“District”) and **Crawford and Associates, Inc.**, (“Consultant”). District and Consultant are sometimes individually referred to as “Party” and collectively as “Parties” in this Agreement.

## **2. RECITALS.**

2.1 District. District is a public agency organized under the laws of the State of California, with power to contract for services necessary to achieve its purpose.

2.2 Consultant. Consultant desires to perform and assume responsibility for the provision of certain professional services required by the District on the terms and conditions set forth in this Agreement and in the task order(s) to be issued pursuant to this Agreement and executed by the District and Consultant (“Task Order”). Consultant represents that it is experienced in providing all of the support services listed in the scope of services provided for in Exhibit “A” to public clients, is licensed in the State of California, and is familiar with the plans of District.

2.3 Project. District desires to engage Consultant to render such services on an on-call basis. Services shall be ordered by Task Order(s) to be issues pursuant to this Agreement for future projects as set forth herein (each such project shall be designated a “Project” under this Agreement).

## **3. TERMS.**

### **3.1 Scope of Services and Term.**

3.1.1 General Scope of Services. Consultant promises and agrees to furnish to the District all labor, materials, tools, equipment, services, and incidental and customary work, on an on-call basis, as necessary to fully and adequately supply the professional human resources and related consulting services necessary for the Project (“Services”). The types of Services to be provided are generally described in Exhibit “A,” attached hereto and incorporated herein by reference. The Services shall be more particularly described in the individual Task Order issued by the District’s General Manager or designee. No Service shall be performed unless authorized by a fully executed Task Order in the form attached hereto as Exhibit “B”. All Services shall be subject to, and performed in accordance with, this Agreement, the relevant Task Order, the exhibits attached hereto and incorporated herein by reference, and all applicable local, state and federal laws, rules and regulations.

3.1.2 Term. The term of this Agreement shall be from **May 27, 2025** until terminated as provided herein. Consultant shall meet any other established schedules and deadlines set forth in the applicable Task Order. All applicable indemnification provisions of this Agreement shall remain in effect following the termination of this Agreement.

### 3.2 Responsibilities of Consultant.

3.2.1 Control and Payment of Subordinates; Independent Contractor. The Services shall be performed by Consultant or under its supervision. Consultant will determine the means, methods and details of performing the Services subject to the requirements of this Agreement and such directions and amendments from District as herein provided. District retains Consultant on an independent contractor basis and not as an employee. No employee or agent of Consultant shall become an employee of District. Any additional personnel performing the Services under this Agreement on behalf of Consultant shall also not be employees of District and shall at all times be under Consultant's exclusive direction and control. Consultant shall pay all wages, salaries, and other amounts due such personnel in connection with their performance of Services under this Agreement and as required by law. Consultant shall be responsible for all reports and obligations respecting such additional personnel, including, but not limited to: social security taxes, income tax withholding, unemployment insurance, disability insurance, and workers' compensation insurance.

3.2.2 Schedule of Services. Consultant shall perform the Services expeditiously, within the term of this Agreement, and in accordance with the specific schedule that shall be set forth in the Task Order ("Schedule of Services"). Consultant shall be required to commence work within five (5) days, or as soon thereafter as reasonably practicable, of receiving a fully executed Task Order. Consultant represents that it has the professional and technical personnel required to perform the Services in conformance with such conditions. In order to facilitate Consultant's conformance with the Schedule of Services, District shall respond to Consultant's submittals in a timely manner. Upon request of District, Consultant shall provide a more detailed schedule of anticipated performance to meet the Schedule of Services.

3.2.3 Conformance to Applicable Requirements. All work prepared by Consultant shall be subject to the approval of District.

#### 3.2.4 RESERVED.

3.2.5 District's Representative. The District hereby designates the General Manager, or his or her designee, to act as its representative for the performance of this Agreement ("District's Representative"). District's Representative shall have the power to act on behalf of the District for all purposes under this Contract. Consultant shall not accept direction or orders from any person other than the District's Representative or his or her designee.

3.2.6 Consultant's Representative. Consultant hereby designates **Ben Crawford**, or his or her designee, to act as its representative for the performance of this Agreement ("Consultant's Representative"). Consultant's Representative shall have full authority to represent and act on behalf of the Consultant for all purposes under this Agreement. The Consultant's Representative shall supervise and direct the Services, using his best skill and attention, and shall

be responsible for all means, methods, techniques, sequences and procedures and for the satisfactory coordination of all portions of the Services under this Agreement.

3.2.7 Coordination of Services. Consultant agrees to work closely with District staff in the performance of Services and shall be available to District's staff, consultants and other staff at all reasonable times.

3.2.8 Standard of Care; Performance of Employees. Consultant shall perform all Services under this Agreement in a skillful and competent manner, consistent with the standards generally recognized as being employed by professionals in the same discipline in the State of California. Consultant represents and maintains that it is skilled in the professional calling necessary to perform the Services. Consultant warrants that all employees and subcontractors shall have sufficient skill and experience to perform the Services assigned to them. Finally, Consultant represents that it, its employees and subcontractors have all licenses, permits, qualifications and approvals of whatever nature that are legally required to perform the Services, including a City of Citrus Heights Business License, and that such licenses and approvals shall be maintained throughout the term of this Agreement. As provided for in the indemnification provisions of this Agreement, Consultant shall perform, at its own cost and expense and without reimbursement from the District, any services necessary to correct errors or omissions which are caused by the Consultant's failure to comply with the standard of care provided for herein. Any employee of the Consultant or its sub-consultants who is determined by the District to be uncooperative, incompetent, a threat to the adequate or timely completion of the Project, a threat to the safety of persons or property, or any employee who fails or refuses to perform the Services in a manner acceptable to the District, shall be promptly removed from the Project by the Consultant and shall not be re-employed to perform any of the Services or to work on the Project.

3.2.9 Laws and Regulations. Consultant shall keep itself fully informed of and in compliance with all local, state and federal laws, rules and regulations in any manner affecting the performance of the Project or the Services, including all Cal/OSHA requirements, and shall give all notices required by law. If required, Consultant shall assist District, as requested, in obtaining and maintaining all permits required of Consultant by federal, state and local regulatory agencies. Consultant shall be liable for all violations of local, state and federal laws, rules and regulations in connection with the Project and the Services. If the Consultant performs any work knowing it to be contrary to such laws, rules and regulations and without giving written notice to the District, Consultant shall be solely responsible for all costs arising therefrom. Consultant shall defend, indemnify and hold District, its officials, directors, officers, employees and agents free and harmless, pursuant to the indemnification provisions of this Agreement, from any claim or liability arising out of any failure or alleged failure to comply with such laws, rules or regulations.

3.2.10 Insurance.

3.2.10.1 Time for Compliance. Consultant shall not commence the Services under this Agreement until it has provided evidence satisfactory to the District that it has secured all insurance required under this section. In addition, Consultant shall not allow any subcontractor to commence work on any subcontract until it has provided evidence satisfactory to the District that the subcontractor has secured all insurance required under this section.

3.2.10.2 Minimum Requirements. Consultant shall, at its expense, procure and maintain for the duration of the Agreement insurance meeting the requirements set forth herein. In the event Consultant is self-insured, Consultant shall provide evidence of self-insured coverage that provides coverage that is equal to the insurance requirements set forth herein. Consultant shall require all of its subcontractors to procure and maintain the same insurance specified herein for the duration of the Agreement. Such insurance shall meet at least the following minimum levels of coverage:

(A) Minimum Scope of Insurance. Coverage shall be at least as broad as the latest version of the following: (1) *General Liability*: Insurance Services Office Commercial General Liability coverage (occurrence form CG 0001); (2) *Automobile Liability*: Insurance Services Office Business Auto Coverage form number CA 0001, code 1 (any auto); (3) *Workers' Compensation and Employer's Liability*: Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance; and (4) *Professional Liability (Errors and Omissions)*: professional liability or Errors and Omissions insurance appropriate to its profession.

(B) Minimum Limits of Insurance. Consultant shall maintain limits no less than: (1) *General Liability*: One Million Dollars (\$1,000,000) per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with general aggregate limit is used, either the general aggregate limit shall apply separately to this Agreement/location or the general aggregate limit shall be twice the required occurrence limit; (2) *Automobile Liability*: One Million Dollars (\$1,000,000) combined single limit (each accident) for bodily injury and property damage; (3) *Workers' Compensation and Employer's Liability*: Workers' Compensation limits as required by the Labor Code of the State of California. Employer's Liability limits of One Million Dollars (\$1,000,000) per accident for bodily injury or disease; and (4) *Professional Liability (Errors and Omissions)*: One Million Dollars (\$1,000,000) per claim and aggregate (errors and omissions).

Requirements of specific coverage or limits contained in this section are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance. Any available coverage shall be provided to the parties required to be named as additional insured pursuant to this Agreement. Defense costs shall be payable in addition to the limits.

3.2.10.3 Insurance Endorsements. The insurance policies shall contain the following provisions, or Consultant shall provide endorsements on forms supplied or approved by the District to add the following provisions to the insurance policies:

(A) Commercial General Liability. The commercial general liability policy shall be endorsed to provide the following: (1) the District, its directors, officials, officers, employees, agents and volunteers shall be covered as additional insureds using ISO endorsement forms CG 20 10 10 01 and 20 37 10 01, or endorsements providing the exact same coverage; (2) the insurance coverage shall be primary insurance as respects the District, its directors, officials, officers, employees, agents and volunteers, or if excess, shall stand in an unbroken chain of coverage excess of the Consultant's scheduled underlying coverage. Any insurance or self-insurance maintained by the District, its directors, officials, officers, employees,

agents and volunteers shall be excess of the Consultant's insurance and shall not be called upon to contribute with it in any way; and (3) the insurance coverage shall contain or be endorsed to provide waiver of subrogation in favor of the District, its directors, officials, officers, employees, agents and volunteers or shall specifically allow Consultant to waive its right of recovery prior to a loss. Consultant hereby waives its own right of recovery against District, and shall require similar written express waivers and insurance clauses from each of its subconsultants.

(B) Automobile Liability. The automobile liability policy shall be endorsed to provide the following: (1) the District, its directors, officials, officers, employees, agents and volunteers shall be covered as additional insureds with respect to the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by the Consultant or for which the Consultant is responsible; (2) the insurance coverage shall be primary insurance as respects the District, its directors, officials, officers, employees, agents and volunteers, or if excess, shall stand in an unbroken chain of coverage excess of the Consultant's scheduled underlying coverage. Any insurance or self-insurance maintained by the District, its directors, officials, officers, employees, agents and volunteers shall be excess of the Consultant's insurance and shall not be called upon to contribute with it in any way; and (3) the insurance coverage shall contain or be endorsed to provide waiver of subrogation in favor of the District, its directors, officials, officers, employees, agents and volunteers or shall specifically allow Consultant to waive its right of recovery prior to a loss. Consultant hereby waives its own right of recovery against District, and shall require similar written express waivers and insurance clauses from each of its subconsultants.

(C) Workers' Compensation and Employers Liability Coverage. The insurer shall agree to waive all rights of subrogation against the District, its directors, officials, officers, employees, agents and volunteers for losses paid under the terms of the insurance policy which arise from work performed by the Consultant.

(D) Professional Liability (Errors and Omissions). This insurance shall be endorsed to include contractual liability applicable to this Agreement and shall be written on a policy form coverage specifically designed to protect against acts, errors or omissions of the Consultant. "Covered Professional Services" as designated in the policy must specifically include work performed under this Agreement. The policy must "pay on behalf of" the insured and must include a provision establishing the insurer's duty to defend.

(E) All Coverages. Each insurance policy required by this Agreement shall be endorsed to state that: (1) coverage shall not be suspended, voided, reduced or canceled except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the District; and (2) any failure to comply with reporting or other provisions of the policies, including breaches of warranties, shall not affect coverage provided to the District, its directors, officials, officers, employees, agents and volunteers.

3.2.10.4 Separation of Insureds; No Special Limitations. All insurance required by this Section shall contain standard separation of insureds provisions. In addition, such insurance shall not contain any special limitations on the scope of protection afforded to the District, its directors, officials, officers, employees, agents and volunteers.

3.2.10.5 Deductibles and Self-Insurance Retentions. Any deductibles or self-insured retentions must be declared to and approved by the District. Consultant shall guarantee that, at the option of the District, either: (1) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the District, its directors, officials, officers, employees, agents and volunteers; or (2) the Consultant shall procure a bond guaranteeing payment of losses and related investigation costs, claims and administrative and defense expenses.

3.2.10.6 Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best's rating no less than A:VII, admitted to transact in the business of insurance in the State of California, or otherwise allowed to place insurance through surplus line brokers under applicable provisions of the California Insurance Code or any federal law, and satisfactory to the District.

3.2.10.7 Verification of Coverage. Consultant shall furnish District with original certificates of insurance and endorsements effecting coverage required by this Agreement on forms satisfactory to the District. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf, and shall be on forms provided by the District if requested. All certificates and endorsements must be received and approved by the District before work commences. The District reserves the right to require complete, certified copies of all required insurance policies, at any time.

3.2.10.8 Subconsultants. Consultant shall not allow any subcontractors or subconsultants to commence work on any subcontract until they have provided evidence satisfactory to the District that they have secured all insurance required under this section. Policies of commercial general liability insurance provided by such subcontractors or subconsultants shall be endorsed to name the District as an additional insured using ISO form CG 20 38 04 13 or an endorsement providing the exact same coverage. If requested by Consultant, District may approve different scopes or minimum limits of insurance for particular subcontractors or subconsultants.

3.2.10.9 Compliance With Coverage Requirements. If at any time during the life of the Agreement, any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced, District has the right but not the duty to obtain the insurance it deems necessary and any premium paid by District will be promptly reimbursed by Consultant or District will withhold amounts sufficient to pay premium from Consultant payments. In the alternative, District may terminate this Agreement for cause.

3.2.11 Safety. Consultant shall execute and maintain its work so as to avoid injury or damage to any person or property. In carrying out its Services, the Consultant shall at all times be in compliance with all applicable local, state and federal laws, rules and regulations, and shall exercise all necessary precautions for the safety of employees appropriate to the nature of the work and the conditions under which the work is to be performed. Safety precautions as applicable shall include, but shall not be limited to: (1) adequate life protection and life-saving equipment and procedures; (2) instructions in accident prevention for all employees and subcontractors, such as equipment and other safety devices, equipment and wearing apparel as are necessary or lawfully required to prevent accidents or injuries; and (3) adequate facilities for the proper inspection and maintenance of all safety measures.

### 3.3 Fees and Payments.

3.3.1 Compensation. Consultant shall receive compensation, including authorized reimbursements, for all Services rendered under this Agreement at the rates set forth in Exhibit "A," attached hereto and incorporated herein by reference. The total compensation per Task Order shall be set forth in the relevant Task Order, and Consultant shall be compensated in one of two billable methods: a) Time and Materials/Hourly Billable; or b) Project Basis/Not-to-Exceed (NTE) amount. Extra Work may be authorized, as described below; and if authorized, said Extra Work will be compensated at the rates and manner set forth in this Agreement.

3.3.2 Payment of Compensation. Consultant shall submit to District a monthly itemized invoice which indicates work completed and hours of Services rendered by Consultant. The invoice shall reference the relevant Task Order and describe the amount of Services and supplies provided since the initial commencement date of Services under this Agreement, and since the start of the subsequent billing periods, through the date of the invoice. Consultant shall include a Project Task Tracking Sheet with each invoice submitted. District shall, within forty-five (45) days of receiving such invoice and Project Task Tracking Sheet, review the invoice and pay all approved charges thereon.

3.3.3 Reimbursement for Expenses. Consultant shall not be reimbursed for any expenses unless authorized under Exhibit "B" or otherwise in writing by District.

3.3.4 Extra Work. At any time during the term of this Agreement, District may request that Consultant perform Extra Work. As used herein, "Extra Work" means any work which is determined by District to be necessary for the proper completion of the Project, but which the Parties did not reasonably anticipate would be necessary at the execution of this Agreement. Consultant shall not perform, nor be compensated for, Extra Work without written authorization from District's Representative. Where Extra Work is deemed merited by the District, an amendment to this Agreement shall be prepared by the District and executed by both Parties before performance of such Extra Work, or the District will not be required to pay for the changes in the scope of work. Such amendment shall include the change in fee and/or time schedule associated with the Extra Work. Amendments for Extra Work shall not render ineffective or invalidate unaffected portions of this Agreement

3.3.5 Prevailing Wages. Consultant is aware of the requirements of California Labor Code Sections 1720 et seq., and 1770 et seq., as well as California Code of Regulations, Title 8, Section 16000 et seq., ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects. If the Services are being performed as part of an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and if the total compensation is One Thousand Dollars (\$1,000) or more, Consultant agrees to fully comply with such Prevailing Wage Laws. Consultant shall obtain a copy of the prevailing rates of per diem wages in effect at the commencement of this Agreement. Consultant shall make copies of the prevailing rates of per diem wages for each craft, classification or type of worker needed to execute the Services available to interested parties upon request, and shall post copies at the Consultant's principal place of business and at the project site. Consultant shall defend, indemnify and hold the District, its officials, officers, employees, volunteers and agents free and harmless from any claims,



liabilities, costs, penalties or interest arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.

If the Services are being performed as part of an applicable “public works” or “maintenance” project, then pursuant to Labor Code Sections 1725.5 and 1771.1, the Consultant and all subconsultants performing such Services must be registered with the Department of Industrial Relations. Consultant shall maintain registration for the duration of the Project and require the same of any subconsultants, as applicable. This Project may also be subject to compliance monitoring and enforcement by the Department of Industrial Relations. It shall be Consultant’s sole responsibility to comply with all applicable registration and labor compliance requirements.

### 3.4 Accounting Records.

3.4.1 Maintenance and Inspection. Consultant shall maintain complete and accurate records with respect to all costs and expenses incurred under this Agreement. All such records shall be clearly identifiable. Consultant shall allow a representative of District during normal business hours to examine, audit, and make transcripts or copies of such records and any other documents created pursuant to this Agreement. Consultant shall allow inspection of all work, data, documents, proceedings, and activities related to the Agreement for a period of three (3) years from the date of final payment under this Agreement.

### 3.5 General Provisions.

#### 3.5.1 Termination of Agreement.

3.5.1.1 Grounds for Termination. Either party may terminate the whole or any part of this Agreement at any time and without cause by giving written notice to the other party of such termination, and specifying the effective date thereof, at least fifteen (15) days before the effective date of such termination. Upon termination, Consultant shall be compensated only for those Services which have been adequately rendered to District, and Consultant shall be entitled to no further compensation.

3.5.1.2 Effect of Termination. If this Agreement is terminated as provided herein, District may require Consultant to provide all finished or unfinished Documents and Data (defined below) and other information of any kind prepared by Consultant in connection with the performance of Services under this Agreement. Consultant shall be required to provide such documents and other information within fifteen (15) days of the request.

3.5.1.3 Additional Services. In the event this Agreement is terminated in whole or in part as provided herein, District may procure, upon such terms and in such manner as it may determine appropriate, services similar to those terminated.

3.5.2 Delivery of Notices. All notices permitted or required under this Agreement shall be given to the respective Parties at the following address, or at such other address as the respective parties may provide in writing for this purpose:

**District**

Citrus Heights Water District  
P.O. Box 286  
Citrus Heights, CA 95611  
Attn: Melissa Pieri, District Engineer

**Consultant**

Ben Crawford, President  
Crawford & Associates, Inc.  
4701 Freeport Boulevard  
Sacramento, CA 95822

Such notice shall be deemed made when personally delivered or when mailed, forty-eight (48) hours after deposit in the U.S. Mail, first class postage prepaid and addressed to the Party at its applicable address. Actual notice shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service.

### 3.5.3 Ownership of Materials and Confidentiality.

3.5.3.1 Documents & Data; Licensing of Intellectual Property. This Agreement creates a non-exclusive and perpetual license for District to copy, use, modify, reuse, or sublicense any and all copyrights, designs, and other intellectual property embodied in plans, specifications, studies, drawings, estimates, and other documents or works of authorship fixed in any tangible medium of expression, including but not limited to, physical drawings or data magnetically or otherwise recorded on computer diskettes, which are prepared or caused to be prepared by Consultant under this Agreement (“Documents & Data”). Consultant shall require all subcontractors to agree in writing that District is granted a non-exclusive and perpetual license for any Documents & Data the subcontractor prepares under this Agreement. Consultant represents and warrants that Consultant has the legal right to license any and all Documents & Data. Consultant makes no such representation and warranty in regard to Documents & Data which were prepared by design professionals other than Consultant or provided to Consultant by the District. District shall not be limited in any way in its use of the Documents & Data at any time, provided that any such use not within the purposes intended by this Agreement shall be at District’s sole risk.

3.5.3.2 Confidentiality. All ideas, memoranda, specifications, plans, procedures, drawings, descriptions, computer program data, input record data, written information, and other Documents & Data either created by or provided to Consultant in connection with the performance of this Agreement shall be held confidential by Consultant. Such materials shall not, without the prior written consent of District, be used by Consultant for any purposes other than the performance of the Services. Nor shall such materials be disclosed to any person or entity not connected with the performance of the Services or the Project. Nothing furnished to Consultant which is otherwise known to Consultant or is generally known, or has become known, to the related industry shall be deemed confidential. Consultant shall not use District’s name or insignia, photographs of the Project, or any publicity pertaining to the Services or the Project in any magazine, trade paper, newspaper, television or radio production or other similar medium without the prior written consent of District.

3.5.4 Cooperation; Further Acts. The Parties shall fully cooperate with one another, and shall take any additional acts or sign any additional documents as may be necessary, appropriate or convenient to attain the purposes of this Agreement.

3.5.5 Attorney's Fees. If either Party commences an action against the other Party, either legal, administrative or otherwise, arising out of or in connection with this Agreement, the prevailing party in such litigation shall be entitled to have and recover from the losing party reasonable attorney's fees and all other costs of such action.

3.5.6 Indemnification.

3.5.6.1 Standard Indemnification. To the fullest extent permitted by law, Consultant shall defend, indemnify and hold the District, its officials, officers, employees, volunteers, and agents free and harmless from any and all claims, demands, causes of action, costs, expenses, liability, loss, damage or injury, in law or equity, to property or persons, including wrongful death, in any manner arising out of, pertaining to, or relating to any negligence, recklessness, or willful misconduct of Consultant, its officials, officers, employees, agents, consultants, and contractors arising out of or in connection with the performance of the Services, the Project or this Agreement, including without limitation the payment of all consequential damages, expert witness fees, and attorney's fees and other related costs and expenses. Consultant shall defend, at Consultant's own cost, expense and risk, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against District, its directors, officials, officers, employees, agents, or volunteers. Consultant shall pay and satisfy any judgment, award or decree that may be rendered against District or its directors, officials, officers, employees, agents, or volunteers, in any such suit, action or other legal proceeding. Consultant shall reimburse District and its directors, officials, officers, employees, agents, and/or volunteers, for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided, including correction of errors and omissions. Consultant's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by the District, its directors, officials officers, employees, agents or volunteers.

3.5.7 Entire Agreement. This Agreement contains the entire Agreement of the Parties with respect to the subject matter hereof, and supersedes all prior negotiations, understandings or agreements. This Agreement may only be modified by a writing signed by both Parties.

3.5.8 Governing Law. This Agreement shall be governed by the laws of the State of California. Venue shall be in Sacramento County.

3.5.9 Time of Essence. Time is of the essence for each and every provision of this Agreement.

3.5.10 District's Right to Employ Other Consultants. District reserves right to employ other consultants in connection with this Project.

3.5.11 Assignment or Transfer. Consultant shall not assign, hypothecate, or transfer, either directly or by operation of law, this Agreement or any interest herein without the prior written consent of the District. Any attempt to do so shall be null and void, and any assignees, hypothecates or transferees shall acquire no right or interest by reason of such attempted assignment, hypothecation or transfer.

3.5.12 Subcontracting. Consultant shall not subcontract any portion of the work required by this Agreement, except as expressly stated herein, without prior written approval of District. Subcontracts, if any, shall contain a provision making them subject to all provisions stipulated in this Agreement.

3.5.13 Construction; References; Captions. Since the Parties or their agents have participated fully in the preparation of this Agreement, the language of this Agreement shall be construed simply, according to its fair meaning, and not strictly for or against any Party. Any term referencing time, days or period for performance shall be deemed calendar days and not work days. All references to Consultant include all personnel, employees, agents, and subcontractors of Consultant, except as otherwise specified in this Agreement. All references to District include its officials, officers, employees, agents, and volunteers except as otherwise specified in this Agreement. The captions of the various articles and paragraphs are for convenience and ease of reference only, and do not define, limit, augment, or describe the scope, content, or intent of this Agreement.

3.5.14 Amendment; Modification. No supplement, modification, or amendment of this Agreement shall be binding unless executed in writing and signed by both Parties.

3.5.15 Waiver. No waiver of any default shall constitute a waiver of any other default or breach, whether of the same or other covenant or condition. No waiver, benefit, privilege, or service voluntarily given or performed by a Party shall give the other Party any contractual rights by custom, estoppel, or otherwise.

3.5.16 No Third Party Beneficiaries. There are no intended third party beneficiaries of any right or obligation assumed by the Parties.

3.5.17 Invalidity; Severability. If any portion of this Agreement is declared invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions shall continue in full force and effect.

3.5.18 Prohibited Interests. Consultant maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Consultant, to solicit or secure this Agreement. Further, Consultant warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Consultant, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. For breach or violation of this warranty, District shall have the right to rescind this Agreement without liability. For the term of this Agreement, no member, officer or employee of District, during the term of his or her service with District, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising therefrom.

3.5.19 Equal Opportunity Employment. Consultant represents that it is an equal opportunity employer and it shall not discriminate against any subcontractor, employee or applicant for employment because of race, religion, color, national origin, handicap, ancestry, sex or age. Such non-discrimination shall include, but not be limited to, all activities related to

initial employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination.

3.5.20 Labor Certification. By its signature hereunder, Consultant certifies that it is aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and agrees to comply with such provisions before commencing the performance of the Services.

3.5.21 Authority to Enter Agreement. Consultant has all requisite power and authority to conduct its business and to execute, deliver, and perform the Agreement. Each Party warrants that the individuals who have signed this Agreement have the legal power, right, and authority to make this Agreement and bind each respective Party.

3.5.22 Counterparts. This Agreement may be signed in counterparts, each of which shall constitute an original.


**[Signatures on Following Page]**

**SIGNATURE PAGE  
TO  
CITRUS HEIGHTS WATER DISTRICT  
PROFESSIONAL SERVICES AGREEMENT  
FOR SUPPORT SERVICES**

**CITRUS HEIGHTS WATER DISTRICT**

**CRAWFORD & ASSOCIATES, INC.**

**By:** \_\_\_\_\_  
**Hilary M. Straus**  
**General Manager**

**By:**  \_\_\_\_\_  
**Ben Crawford**  
**President**

**Date:** \_\_\_\_\_

**Date:** 5/8/2024

## **EXHIBIT "A"**

### **SCOPE OF SERVICES**

Based on the District's needs and issuance of an approved Task Order (see Exhibit "B") Crawford & Associates, Inc., will accomplish one or more of the following tasks in the performance of providing requested Geotechnical Engineering support services including:

1. Geotechnical Engineering services including:
  - Project management
  - Site visit
  - Aerial photo review
  - Review nearby reports
  - Review geologic and hazard maps
  - Environmental health and encroachment permit acquisition
  - Drill, log, observe, and sample soil, rock, and groundwater
  - Geotechnical laboratory testing for soil classification and strength parameters
  - CBC seismic design values
  - Liquefaction and seismic settlement analysis
  - Geotechnical Analysis
  - Geotechnical Reports
  - Boring logs
  - Develop vicinity, fault, geologic and site maps
  - Geotechnical services during bidding and construction
2. Hazardous Materials services including:
  - Project management
  - State, County and Federal record research
  - Site visit to observe potential for hazardous materials
  - Property owner interviews as available
  - Aerial photo review
  - Analysis
  - Prepare Phase I Reports
  - Perform hazardous materials sampling and testing including lead, asbestos, treated wood, metals, oil, gas, etc.
  - Sample and test groundwater as needed
  - Prepare Phase II Reports
3. Construction Materials Testing and Special Inspection including:
  - Project management
  - Compaction testing on subgrade, fill, AB, and HMA
  - Concrete special inspection sampling and testing
  - Special inspection and testing (welding, bolting, masonry, rebar, etc)
  - As needed laboratory conformance testing on materials
  - Daily field report
  - Conformance letter



## CRAWFORD & ASSOCIATES - 2025 FEE SCHEDULE

EXPIRES DECEMBER 31, 2025

PROJECT MANAGEMENT	HOURLY RATE
Principal	\$ 275.00
Senior Project Manager	\$ 255.00
Project Manager II	\$ 245.00
Project Manager I	\$ 210.00

ENGINEER / GEOLOGIST	HOURLY RATE
Senior Engineer II	\$ 225.00
Senior Engineer I	\$ 205.00
Senior Geologist	\$ 180.00
Project Engineer III / Geologist III	\$ 180.00
Project Engineer II / Geologist II	\$ 160.00
Project Engineer I / Geologist I	\$ 150.00
Staff Engineer / Geologist	\$ 140.00
Drafter	\$ 125.00

PROJECT SUPPORT	HOURLY RATE
Project Coordinator	\$ 135.00
Administrative Assistant	\$ 115.00

MATERIALS TESTING & CONSTRUCTION SERVICES	HOURLY RATE
Construction Services Director	\$ 255.00
Special Inspector	\$ 138.00
Senior Technician	\$ 120.00
Staff Technician	\$ 110.00

PREVAILING WAGE	HOURLY RATE
Group 1 - Special Inspector I (Masonry)	\$ 185.00
Group 2 - Special Inspector II ( Welding)	\$ 175.00
Group 2 and 3 - Laborer Technician	\$ 135.00
Group 3 - Soils/Asphalt Technician	\$ 165.00
Group 4 - Concrete Technician	\$ 165.00

WORKING HOURS AND PREMIUM TIME	RATE
A Regular Workday is defined as the first 8 hours between 6am and 6pm, Monday through Friday.	
Standard Overtime: Weekdays & Saturdays (first 8 hours)	150% Above Hourly Rate
Prevailing Wage Overtime: Weekdays & Saturdays (first 8 hours)	130% Above Hourly Rate
Overtime: Saturdays (over 8 hours); Sunday (first 8 hours)	200% Above Hourly Rate
Overtime: Sundays (over 8 hours) and Holidays	300% Above Hourly Rate
Night Shift is defined as a shift starting after 2pm and before 4am	115% Above Hourly Rate

REIMBURSABLES	RATE
Mileage	\$ 0.74 / Mile
Vehicle Charge	\$ 25.00 / Day
Outside Costs	15% Markup
Permit Fees (City/County)	15% Markup
Per Diem (Lodging & Meals)	\$ 350 / Day
Rush Lab Testing	50% Markup

SEISMIC ANALYSIS	RATE
EZ Frisk Software Use (per Location)	\$ 2,350.00

CONSTRUCTION / EQUIPMENT	RATE	DETAIL
Backfill	\$ 9.00	Bag
Concrete Equipment	\$ 65.00	Day
Core Box	\$ 18.00	Each
Core Machine Bit	\$ 3.00	Inch
Core Machine with Generator	\$ 2,700.00	Day
Hand Auger	\$ 210.00	Day
Hot Mix Asphalt Patching (1st Core)	\$ 1,050.00	First
Hot Mix Asphalt Patching (2 or More)	\$ 500.00	Each After
Nuclear Density Test	\$ 12.00	Each
Percolation/Infiltration Testing Equipment	\$ 210.00	Day
Seismic Survey Equipment (24 channel)	\$ 1,835.00	Day
Steel Liners (MCAL)	\$ 12.00	Each
Survey Equipment (Liquid Level)	\$ 155.00	Day
Survey Equipment (Tripod, Level, Rod)	\$ 155.00	Day
Traffic Control - Major (Non DBE, Non-PW)	\$ 1,750.00	Day
Traffic Control - Minor (Non-DBE, Non-PW)	\$ 735.00	Day
Traffic Control Equipment (Shoulder signs, cones)	\$ 210.00	Day
Traffic Control Sign Board	\$ 650.00	Day
Wildcat DCP Equipment	\$ 785.00	Day
Wildcat DCP Tip	\$ 21.00	Each

CLASSIFICATION TESTING - SOIL & AGGREGATE	RATE	DETAIL
#200 Wash	\$ 125.00	ASTM D1140
Atterberg Limits	\$ 270.00	ASTM D4318
Cleaness Value	\$ 250.00	CT 227
Durability Index	\$ 390.00	ASTM D3744 / CT 229
Hydrometer Analysis	\$ 285.00	ASTM D7928
Landscape Suitability	\$ 130.00	
Mass Grain Size (Scour)	\$ 2,300.00	ASTM D6913
Moisture & Density	\$ 85.00	ASTM D2216, D7263
Moisture Content	\$ 55.00	ASTM D2216, CT 226
Non-Plastic Index Result	\$ 130.00	ASTM D4318
Organic Content	\$ 135.00	ASTM D2974
Percent Crushed Particles	\$ 190.00	CT 205
Sand Equivalent	\$ 165.00	ASTM D2419, CT 217
Sieve Analysis	\$ 220.00	CT 202
Sieve Analysis to #200	\$ 165.00	ASTM D6913
Sieve Analysis with Hydrometer	\$ 255.00	ASTM D6913, D7928
Specific Gravity	\$ 130.00	CT 206, 207

STRENGTH TESTING	RATE	DETAIL
4" Compaction Curve	\$ 475.00	ASTM D698/D1557
4" Compaction Curve Checkpoint	\$ 130.00	ASTM D698/D1557
6" Compaction Curve	\$ 535.00	ASTM D698/D1557
6" Compaction Curve Checkpoint	\$ 130.00	ASTM D698/D1557
California Impact	\$ 365.00	CT 216
Compressive Strength of Cylinders (4x8)	\$ 40.00	CT 39, CT521
Compressive Strength of Cylinders (6x12)	\$ 50.00	CT 39, CT521
Direct Shear, 3pt Peak	\$ 450.00	ASTM D3080
Point Load, Rock	\$ 70.00	ASTM D5731
R-Value	\$ 450.00	ASTM D2844, CT 301
Triaxial Shear, Unconsolidated-Undrained	\$ 180.00	ASTM D2850
Triaxial Staged, Unconsolidated-Undrained	\$ 300.00	ASTM D2850
Unconfined Compression, Rock	\$ 240.00	ASTM D7012
Unconfined Compression, Soil	\$ 190.00	ASTM D2166

CONSOLIDATION & EXPANSION	RATE	DETAIL
1-D Consolidation	\$ 420.00	ASTM D2435
1-D Consolidation (Time Rate) / Per Point	\$ 105.00	ASTM D2435
Expansion Index	\$ 285.00	ASTM D4829

CORROSIVITY TESTING	RATE	DETAIL
pH, Resistivity, Sulfate, Chloride Content	\$ 250.00	CT 417,422,643
pH, Resistivity, Sulfate, Chloride, Redox Potential	\$ 365.00	CT 417,422,643, ASTM G200M

PAVEMENT TESTING	RATE	DETAIL
Aggregate Gradation	\$ 220.00	CT 202
Asphalt Binder Content	\$ 230.00	ASTM D6307
Asphalt Ignition Calibration	\$ 480.00	CT 382
Asphalt Sand Equivalent	\$ 165.00	CT 217
HMA Moisture Content	\$ 80.00	CT 226, 370
Hveem Stabilometer	\$ 285.00	ASTM D1560, D1561, CT 304, 366
L.A. Rattler	\$ 285.00	CT 131
Maximum Specific Gravity, Rice	\$ 235.00	ASTM D2401, CT 309
Mix Design	\$ 2,100.00	ASTM D1557, D1633
Percent Asphalt Ignition Oven	\$ 155.00	CT 382

**Annual Rate Increase** Crawford & Associates, Inc. anticipates an hourly rate increase 5% effective Jan 1st of each new year without prior notice. For projects that span multiple years, an updated rate schedule will be sent with the first invoice that reflects the annual increase.



**EXHIBIT "B"**  
**SAMPLE TASK ORDER FORM**

**TASK ORDER**

Task Order No. \_\_\_\_\_ (YEAR - ##)

Contract: Agreement for [Contract Name] with Citrus Heights Water District

Consultant: [Consultant Name]

**The Consultant is hereby authorized to perform the following work subject to the provisions of the Contract identified above:**

[Insert description of services to be provided]

**List any attachments:** (Please provide if any.)

**Compensation Form:** [INSERT HOURLY OR PROJECT BUDGET/NOT-TO-EXCEED (NTE)]

**Reimbursements:** [INSERT WHETHER MILEAGE AND OTHER REIMBURSEMENTS WILL BE PROVIDED]

**Dollar Amount of Task Order:** Not to exceed \$\_\_\_\_\_,\_\_\_\_\_.00 (If NTE)

**Completion Date:** \_\_\_\_\_, 20\_\_

The undersigned consultant hereby agrees that it will provide all equipment, furnish all materials, except as may be otherwise noted above, and perform all services for the work above specified in accordance with the Contract identified above and will accept as full payment therefore the amount shown above.

**Citrus Heights Water District**

**Consultant**

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

# CITRUS HEIGHTS WATER DISTRICT

## DISTRICT STAFF REPORT TO BOARD OF DIRECTORS MAY 27, 2025 REGULAR MEETING

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SUBJECT : DISCUSSION AND POSSIBLE ACTION TO APPROVE A PROFESSIONAL SERVICES AGREEMENT WITH WOOD RODGERS, INC.  
STATUS : Action Item  
REPORT DATE : May 08, 2025  
PREPARED BY : Todd Jordan, Principal Civil Engineer  
: Missy Pieri, Director of Engineering/District Engineer

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### **OBJECTIVE:**

Consider approval of a professional services agreement with Wood Rodgers, Inc. to provide engineering, construction management, mapping, and surveying services on a task order basis as an additional resource for District projects.

### **BACKGROUND AND ANALYSIS:**

As Citrus Heights Water District (CHWD) continues to advance key infrastructure initiatives—including Project 2030 water main replacements, pipeline condition assessments, and the Facilities Modernization and Expansion Project—the need for flexible and responsive technical support remains critical. With a lean internal staff, CHWD depends on qualified outside consultants to support engineering, surveying, and construction-related services required for planning, design, and project delivery.

Staff recommends entering into a professional services agreement with Wood Rodgers, Inc., a multidisciplinary firm with extensive experience in civil and water resources engineering, construction management, land surveying, and mapping. Wood Rodgers will serve as an additional resource for multiple disciplines, helping the District maintain project momentum and ensuring that technical needs are met efficiently.

Notably, engineers and surveyors who previously worked with KASL Consulting Engineers, Inc.—a firm that has provided ongoing support to CHWD—have recently transitioned to Wood Rodgers following KASL’s decision to reduce operations. These individuals have worked directly on CHWD projects and are familiar with District standards, infrastructure, and procedures. Executing an agreement with Wood Rodgers preserves this institutional knowledge and provides continuity of service with trusted personnel.

Wood Rodgers brings the following capabilities to support CHWD:

- Civil and water resources engineering
- Construction management and inspection
- Land surveying (boundary, topographic, right-of-way)
- Lot merging and rezoning
- Legal and plat mapping
- GIS services and record base map development

Work will be assigned on a task order basis, with each task order defining the scope, schedule, and fee structure. Task orders may be structured as either Time-and-Materials or Not-to-Exceed, depending on project needs. The agreement includes a standard fifteen (15) day termination provision by either party

without cause.

Funding for these services is included in the District's approved Operating and Capital Budgets. Task orders will only be issued when funds are available and authorized.

**RECOMMENDATION:**

Approve the professional services agreement with Wood Rodgers, Inc., and authorize the General Manager to execute the agreement.

**ATTACHMENT:**

Professional Services Agreement for Engineering Support Services

**ACTION:**

Moved by Director \_\_\_\_\_, Seconded by Director \_\_\_\_\_, Carried \_\_\_\_\_

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# **CITRUS HEIGHTS WATER DISTRICT PROFESSIONAL SERVICES AGREEMENT FOR ENGINEERING SUPPORT SERVICES**

## **1. PARTIES AND DATE.**

This Agreement is made and entered into this **28th day of May 2025**, by and between the Citrus Heights Water District, a public agency organized and operating under the laws of the State of California with its principal place of business at 6230 Sylvan Road, Citrus Heights, CA 95610 (“District”) and Wood Rodgers, Inc. District and Consultant are sometimes individually referred to as “Party” and collectively as “Parties” in this Agreement.

## **2. RECITALS.**

2.1 District. District is a public agency organized under the laws of the State of California, with power to contract for services necessary to achieve its purpose.

2.2 Consultant. Consultant desires to perform and assume responsibility for the provision of certain professional services required by the District on the terms and conditions set forth in this Agreement and in the task order(s) to be issued pursuant to this Agreement and executed by the District and Consultant (“Task Order”). Consultant represents that it is experienced in providing all of the support services listed in the scope of services provided for in Exhibit “A” to public clients, is licensed in the State of California, and is familiar with the plans of District.

2.3 Project. District desires to engage Consultant to render such services on an on-call basis. Services shall be ordered by Task Order(s) to be issued pursuant to this Agreement for future projects as set forth herein (each such project shall be designated a “Project” under this Agreement).

## **3. TERMS.**

### **3.1 Scope of Services and Term.**

3.1.1 General Scope of Services. Consultant promises and agrees to furnish to the District all labor, materials, tools, equipment, services, and incidental and customary work, on an on-call basis, as necessary to fully and adequately supply the professional human resources and related consulting services necessary for the Project (“Services”). The types of Services to be provided are generally described in Exhibit “A,” attached hereto and incorporated herein by reference. The Services shall be more particularly described in the individual Task Order issued by the District’s General Manager or designee. No Service shall be performed unless authorized by a fully executed Task Order in the form attached hereto as Exhibit “B”. All Services shall be subject to, and performed in accordance with, this Agreement, the relevant Task Order, the exhibits attached hereto and incorporated herein by reference, and all applicable local, state and federal laws, rules and regulations.

3.1.2 Term. The term of this Agreement shall be from **May 27, 2025** until terminated as provided herein. Consultant shall meet any other established schedules and deadlines set forth in the applicable Task Order. All applicable indemnification provisions of this Agreement shall remain in effect following the termination of this Agreement.

### 3.2 Responsibilities of Consultant.

3.2.1 Control and Payment of Subordinates; Independent Contractor. The Services shall be performed by Consultant or under its supervision. Consultant will determine the means, methods and details of performing the Services subject to the requirements of this Agreement and such directions and amendments from District as herein provided. District retains Consultant on an independent contractor basis and not as an employee. No employee or agent of Consultant shall become an employee of District. Any additional personnel performing the Services under this Agreement on behalf of Consultant shall also not be employees of District and shall at all times be under Consultant's exclusive direction and control. Consultant shall pay all wages, salaries, and other amounts due such personnel in connection with their performance of Services under this Agreement and as required by law. Consultant shall be responsible for all reports and obligations respecting such additional personnel, including, but not limited to: social security taxes, income tax withholding, unemployment insurance, disability insurance, and workers' compensation insurance.

3.2.2 Schedule of Services. Consultant shall perform the Services expeditiously, within the term of this Agreement, and in accordance with the specific schedule that shall be set forth in the Task Order ("Schedule of Services"). Consultant shall be required to commence work within five (5) days, or as soon thereafter as reasonably practicable, of receiving a fully executed Task Order, unless otherwise specified in the Task Order. Consultant represents that it has the professional and technical personnel required to perform the Services in conformance with such conditions. In order to facilitate Consultant's conformance with the Schedule of Services, District shall respond to Consultant's submittals in a timely manner. Upon request of District, Consultant shall provide a more detailed schedule of anticipated performance to meet the Schedule of Services.

3.2.3 Conformance to Applicable Requirements. All work prepared by Consultant shall be subject to the approval of District. The District shall not unreasonably withhold approval of work prepared by Consultant.

3.2.4 District's Representative. The District hereby designates the General Manager, or his or her designee, to act as its representative for the performance of this Agreement ("District's Representative"). District's Representative shall have the power to act on behalf of the District for all purposes under this Contract. Consultant shall not accept direction or orders from any person other than the District's Representative or his or her designee.

3.2.5 Consultant's Representative. Consultant hereby designates Craig Spiess, or his or her designee, to act as its representative for the performance of this Agreement ("Consultant's Representative"). Consultant's Representative shall have full authority to represent and act on behalf of the Consultant for all purposes under this Agreement. The Consultant's Representative shall supervise and direct the Services, using his best skill and attention, and shall

be responsible for all means, methods, techniques, sequences and procedures and for the satisfactory coordination of all portions of the Services under this Agreement.

3.2.6 Coordination of Services. Consultant agrees to work closely with District staff in the performance of Services and shall be available to District's staff, consultants and other staff at all reasonable times.

3.2.7 Standard of Care; Performance of Employees. Consultant shall perform all Services under this Agreement in a skillful and competent manner, consistent with the standards generally recognized as being employed by professionals in the same discipline in the State of California. Consultant represents and maintains that it is skilled in the professional calling necessary to perform the Services. Consultant represents that all employees and subcontractors shall have sufficient skill and experience to perform the Services assigned to them. Finally, Consultant represents that it, its employees and subcontractors have all licenses, permits, qualifications and approvals of whatever nature that are legally required to perform the Services, including a City of Citrus Heights Business License, and that such licenses and approvals shall be maintained throughout the term of this Agreement. As provided for in the indemnification provisions of this Agreement, Consultant shall perform, at its own cost and expense and without reimbursement from the District, any services necessary to correct errors or omissions which are caused by the Consultant's failure to comply with the standard of care provided for herein. Any employee of the Consultant or its sub-consultants who is determined by the District to be uncooperative, incompetent, a threat to the adequate or timely completion of the Project, a threat to the safety of persons or property, or any employee who fails or refuses to perform the Services in a manner acceptable to the District, shall be promptly removed from the Project by the Consultant and shall not be re-employed to perform any of the Services or to work on the Project.

3.2.8 Laws and Regulations. Consultant shall keep itself fully informed of and in compliance with all local, state and federal laws, rules and regulations in any manner affecting the performance of the Project or the Services, including all Cal/OSHA requirements, and shall give all notices required by law. If required, Consultant shall assist District, as requested, in obtaining and maintaining all permits required of Consultant by federal, state and local regulatory agencies. Consultant shall be liable for all violations of local, state and federal laws, rules and regulations in connection with the Project and the Services. If the Consultant performs any work knowing it to be contrary to such laws, rules and regulations and without giving written notice to the District, Consultant shall be solely responsible for all costs arising therefrom. Consultant shall defend, indemnify and hold District, its officials, directors, officers, employees and agents free and harmless, pursuant to the indemnification provisions of this Agreement, from any claim or liability arising out of any failure or alleged failure to comply with such laws, rules or regulations.

### 3.2.9 Insurance.

3.2.9.1 Time for Compliance. Consultant shall not commence the Services under this Agreement until it has provided evidence satisfactory to the District that it has secured all insurance required under this section. In addition, Consultant shall not allow any subcontractor to commence work on any subcontract until it has provided evidence satisfactory to the District that the subcontractor has secured all insurance required under this section.

3.2.9.2 Minimum Requirements. Consultant shall, at its expense, procure and maintain for the duration of the Agreement insurance meeting the requirements set forth herein. In the event Consultant is self-insured, Consultant shall provide evidence of self-insured coverage that provides coverage that is equal to the insurance requirements set forth herein. Consultant shall require all of its subcontractors to procure and maintain the same insurance specified herein for the duration of the Agreement. Such insurance shall meet at least the following minimum levels of coverage:

(A) Minimum Scope of Insurance. Coverage shall be at least as broad as the latest version of the following: (1) *General Liability*: Insurance Services Office Commercial General Liability coverage (occurrence form CG 0001); (2) *Automobile Liability*: Insurance Services Office Business Auto Coverage form number CA 0001, code 1 (any auto); (3) *Workers' Compensation and Employer's Liability*: Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance; and (4) *Professional Liability (Errors and Omissions)*: professional liability or Errors and Omissions insurance appropriate to its profession.

(B) Minimum Limits of Insurance. Consultant shall maintain limits no less than: (1) *General Liability*: One Million Dollars (\$1,000,000) per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with general aggregate limit is used, either the general aggregate limit shall apply separately to this Agreement/location or the general aggregate limit shall be twice the required occurrence limit; (2) *Automobile Liability*: One Million Dollars (\$1,000,000) combined single limit (each accident) for bodily injury and property damage; (3) *Workers' Compensation and Employer's Liability*: Workers' Compensation limits as required by the Labor Code of the State of California. Employer's Liability limits of One Million Dollars (\$1,000,000) per accident for bodily injury or disease; and (4) *Professional Liability (Errors and Omissions)*: One Million Dollars (\$1,000,000) per claim and aggregate (errors and omissions).

Requirements of specific coverage or limits contained in this section are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance. Any available coverage shall be provided to the parties required to be named as additional insured pursuant to this Agreement. Defense costs shall be payable in addition to the limits.

3.2.9.3 Insurance Endorsements. The insurance policies shall contain the following provisions, or Consultant shall provide endorsements on forms supplied or approved by the District to add the following provisions to the insurance policies:

(A) Commercial General Liability. The commercial general liability policy shall be endorsed to provide the following: (1) the District, its directors, officials, officers, employees, agents and volunteers shall be covered as additional insureds using ISO endorsement forms CG 20 10 10 01 and 20 37 10 01, or endorsements providing the exact same coverage; (2) the insurance coverage shall be primary insurance as respects the District, its directors, officials, officers, employees, agents and volunteers, or if excess, shall stand in an unbroken chain of coverage excess of the Consultant's scheduled underlying coverage. Any insurance or self-insurance maintained by the District, its directors, officials, officers, employees,

agents and volunteers shall be excess of the Consultant's insurance and shall not be called upon to contribute with it in any way; and (3) the insurance coverage shall contain or be endorsed to provide waiver of subrogation in favor of the District, its directors, officials, officers, employees, agents and volunteers or shall specifically allow Consultant to waive its right of recovery prior to a loss. Consultant hereby waives its own right of recovery against District, and shall require similar written express waivers and insurance clauses from each of its subconsultants.

(B) Automobile Liability. The automobile liability policy shall be endorsed to provide the following: (1) the District, its directors, officials, officers, employees, agents and volunteers shall be covered as additional insureds with respect to the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by the Consultant or for which the Consultant is responsible; (2) the insurance coverage shall be primary insurance as respects the District, its directors, officials, officers, employees, agents and volunteers, or if excess, shall stand in an unbroken chain of coverage excess of the Consultant's scheduled underlying coverage. Any insurance or self-insurance maintained by the District, its directors, officials, officers, employees, agents and volunteers shall be excess of the Consultant's insurance and shall not be called upon to contribute with it in any way; and (3) the insurance coverage shall contain or be endorsed to provide waiver of subrogation in favor of the District, its directors, officials, officers, employees, agents and volunteers or shall specifically allow Consultant to waive its right of recovery prior to a loss. Consultant hereby waives its own right of recovery against District, and shall require similar written express waivers and insurance clauses from each of its subconsultants.

(C) Workers' Compensation and Employers Liability Coverage. The insurer shall agree to waive all rights of subrogation against the District, its directors, officials, officers, employees, agents and volunteers for losses paid under the terms of the insurance policy which arise from work performed by the Consultant.

(D) Professional Liability (Errors and Omissions). This insurance shall be endorsed to include contractual liability applicable to this Agreement and shall be written on a policy form coverage specifically designed to protect against acts, errors or omissions of the Consultant. "Covered Professional Services" as designated in the policy must specifically include work performed under this Agreement. The policy must "pay on behalf of" the insured.

(E) All Coverages. Each insurance policy required by this Agreement shall be endorsed to state that: (1) coverage shall not be suspended, voided, reduced or canceled except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the District; and (2) any failure to comply with reporting or other provisions of the policies, including breaches of warranties, shall not affect coverage provided to the District, its directors, officials, officers, employees, agents and volunteers.

3.2.9.4 Separation of Insureds; No Special Limitations. All insurance required by this Section shall contain standard separation of insureds provisions. In addition, such insurance shall not contain any special limitations on the scope of protection afforded to the District, its directors, officials, officers, employees, agents and volunteers.



3.2.9.5 Deductibles and Self-Insurance Retentions. Any deductibles or self-insured retentions must be declared to and approved by the District.

3.2.9.6 Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best's rating no less than A:VII, admitted to transact in the business of insurance in the State of California, or otherwise allowed to place insurance through surplus line brokers under applicable provisions of the California Insurance Code or any federal law, and satisfactory to the District.

3.2.9.7 Verification of Coverage. Consultant shall furnish District with original certificates of insurance and endorsements effecting coverage required by this Agreement on forms satisfactory to the District. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf, and shall be on forms provided by the District if requested. All certificates and endorsements must be received and approved by the District before work commences. The District reserves the right to require complete, certified copies of all required insurance policies, at any time.

3.2.9.8 Subconsultants. Consultant shall not allow any subcontractors or subconsultants to commence work on any subcontract until they have provided evidence satisfactory to the District that they have secured all insurance required under this section. Policies of commercial general liability insurance provided by such subcontractors or subconsultants shall be endorsed to name the District as an additional insured using ISO form CG 20 38 04 13 or an endorsement providing the exact same coverage. If requested by Consultant, District may approve different scopes or minimum limits of insurance for particular subcontractors or subconsultants.

3.2.9.9 Compliance With Coverage Requirements. If at any time during the life of the Agreement, any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced, District has the right but not the duty to obtain the insurance it deems necessary and any premium paid by District will be promptly reimbursed by Consultant or District will withhold amounts sufficient to pay premium from Consultant payments. In the alternative, District may terminate this Agreement for cause.

3.2.10 Safety. Consultant shall execute and maintain its work so as to avoid injury or damage to any person or property. In carrying out its Services, the Consultant shall at all times be in compliance with all applicable local, state and federal laws, rules and regulations, and shall exercise all necessary precautions for the safety of employees appropriate to the nature of the work and the conditions under which the work is to be performed. Safety precautions as applicable shall include, but shall not be limited to: (1) adequate life protection and life-saving equipment and procedures; (2) instructions in accident prevention for all employees and subcontractors, such as equipment and other safety devices, equipment and wearing apparel as are necessary or lawfully required to prevent accidents or injuries; and (3) adequate facilities for the proper inspection and maintenance of all safety measures.

### 3.3 Fees and Payments.

3.3.1 Compensation. Consultant shall receive compensation, including authorized reimbursements, for all Services rendered under this Agreement at the rates set forth in

Exhibit “A,” attached hereto and incorporated herein by reference. The total compensation per Task Order shall be set forth in the relevant Task Order, and Consultant shall be compensated in one of two billable methods: a) Time and Materials/Hourly Billable; or b) Project Basis/Not-to-Exceed (NTE) amount. Extra Work may be authorized, as described below; and if authorized, said Extra Work will be compensated at the rates and manner set forth in this Agreement.

3.3.2 Payment of Compensation. Consultant shall submit to District a monthly itemized invoice which indicates work completed and for Time and Material tasks hours of Services rendered by Consultant. The invoice shall reference the relevant Task Order and describe the amount of Services and supplies provided since the initial commencement date of Services under this Agreement, and since the start of the subsequent billing periods, through the date of the invoice. Consultant shall include a Project Task Tracking Sheet with each invoice submitted. District shall, within thirty (30) days of receiving such invoice and Project Task Tracking Sheet, review the invoice and pay all approved charges thereon.

3.3.3 Reimbursement for Expenses. Consultant shall not be reimbursed for any expenses unless authorized under Exhibit “B” or otherwise in writing by District.

3.3.4 Extra Work. At any time during the term of this Agreement, District may request that Consultant perform Extra Work. As used herein, “Extra Work” means any work which is determined by District to be necessary for the proper completion of the Project, but which the Parties did not reasonably anticipate would be necessary at the execution of this Agreement. Consultant shall not perform, nor be compensated for, Extra Work without written authorization from District’s Representative. Where Extra Work is deemed merited by the District, an amendment to this Agreement shall be prepared by the District and executed by both Parties before performance of such Extra Work, or the District will not be required to pay for the changes in the scope of work. Such amendment shall include the change in fee and/or time schedule associated with the Extra Work. Amendments for Extra Work shall not render ineffective or invalidate unaffected portions of this Agreement

3.3.5 Prevailing Wages. Consultant is aware of the requirements of California Labor Code Sections 1720 et seq., and 1770 et seq., as well as California Code of Regulations, Title 8, Section 16000 et seq., (“Prevailing Wage Laws”), which require the payment of prevailing wage rates and the performance of other requirements on certain “public works” and “maintenance” projects. If the Services are being performed as part of an applicable “public works” or “maintenance” project, as defined by the Prevailing Wage Laws, and if the total compensation is One Thousand Dollars (\$1,000) or more, Consultant agrees to fully comply with such Prevailing Wage Laws. Consultant shall obtain a copy of the prevailing rates of per diem wages in effect at the commencement of this Agreement. Consultant shall make copies of the prevailing rates of per diem wages for each craft, classification or type of worker needed to execute the Services available to interested parties upon request, and shall post copies at the Consultant’s principal place of business and at the project site. Consultant shall defend, indemnify and hold the District, its officials, officers, employees, volunteers and agents free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.

If the Services are being performed as part of an applicable “public works” or “maintenance” project, then pursuant to Labor Code Sections 1725.5 and 1771.1, the Consultant and all subconsultants performing such Services must be registered with the Department of Industrial Relations. Consultant shall maintain registration for the duration of the Project and require the same of any subconsultants, as applicable. This Project may also be subject to compliance monitoring and enforcement by the Department of Industrial Relations. It shall be Consultant’s sole responsibility to comply with all applicable registration and labor compliance requirements.

### 3.4 Accounting Records.

3.4.1 Maintenance and Inspection. Consultant shall maintain complete and accurate records with respect to all costs and expenses incurred under this Agreement. All such records shall be clearly identifiable. Consultant shall allow a representative of District during normal business hours to examine, audit, and make transcripts or copies of such records and any other documents created pursuant to this Agreement. Consultant shall allow inspection of all work, data, documents, proceedings, and activities related to the Agreement for a period of three (3) years from the date of final payment under this Agreement.

### 3.5 General Provisions.

#### 3.5.1 Termination of Agreement.

3.5.1.1 Grounds for Termination. Either party may terminate the whole or any part of this Agreement at any time and without cause by giving written notice to the other party of such termination, and specifying the effective date thereof, at least fifteen (15) days before the effective date of such termination. Upon termination, Consultant shall be compensated only for those Services which have been adequately rendered to District, and Consultant shall be entitled to no further compensation.

3.5.1.2 Effect of Termination. If this Agreement is terminated as provided herein, District may require Consultant to provide all finished or unfinished Documents and Data (defined below) and other information of any kind prepared by Consultant in connection with the performance of Services under this Agreement. Consultant shall be required to provide such documents and other information within fifteen (15) days of the request.

3.5.1.3 Additional Services. In the event this Agreement is terminated in whole or in part as provided herein, District may procure, upon such terms and in such manner as it may determine appropriate, services similar to those terminated.

3.5.2 Delivery of Notices. All notices permitted or required under this Agreement shall be given to the respective Parties at the following address, or at such other address as the respective parties may provide in writing for this purpose:

**District**

Citrus Heights Water District  
P.O. Box 286  
Citrus Heights, CA 95611  
Attn: Hilary Straus, General Manager

**Consultant**

Wood Rodgers, Inc.  
3301 C Street, Bldg. 100-B  
Sacramento, CA 95816

Such notice shall be deemed made when personally delivered or when mailed, forty-eight (48) hours after deposit in the U.S. Mail, first class postage prepaid and addressed to the Party at its applicable address. Actual notice shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service.

3.5.3 Ownership of Materials and Confidentiality.

3.5.3.1 Documents & Data; Licensing of Intellectual Property. This Agreement creates a non-exclusive and perpetual license for District to copy, use, modify, reuse, or sublicense any and all copyrights, designs, and other intellectual property embodied in plans, specifications, studies, drawings, estimates, and other documents or works of authorship fixed in any tangible medium of expression, including but not limited to, physical drawings or data magnetically or otherwise recorded on computer diskettes, which are prepared or caused to be prepared by Consultant under this Agreement ("Documents & Data"). Consultant shall require all subcontractors to agree in writing that District is granted a non-exclusive and perpetual license for any Documents & Data the subcontractor prepares under this Agreement. Consultant represents and warrants that Consultant has the legal right to license any and all Documents & Data. Consultant makes no such representation and warranty in regard to Documents & Data which were prepared by design professionals other than Consultant or provided to Consultant by the District. District shall not be limited in any way in its use of the Documents & Data at any time, provided that any such use not within the purposes intended by this Agreement shall be at District's sole risk. District shall indemnify and defend Consultant from claims resulting from the District's misuse of any project materials in any manner not within their intended purpose.

3.5.3.2 Confidentiality. All ideas, memoranda, specifications, plans, procedures, drawings, descriptions, computer program data, input record data, written information, and other Documents & Data indicated as Confidential and either created by or provided to Consultant in connection with the performance of this Agreement shall be held confidential by Consultant. Such materials shall not, without the prior written consent of District, be used by Consultant for any purposes other than the performance of the Services. Nor shall such materials be disclosed to any person or entity not connected with the performance of the Services or the Project. Nothing furnished to Consultant which is otherwise known to Consultant or is generally known, or has become known, to the related industry shall be deemed confidential. Consultant shall not use District's name or insignia, photographs of the Project, or any publicity pertaining to the Services or the Project in any magazine, trade paper, newspaper, television or radio production or other similar medium without the prior written consent of District.

3.5.4 Cooperation; Further Acts. The Parties shall fully cooperate with one another, and shall take any additional acts or sign any additional documents as may be necessary, appropriate or convenient to attain the purposes of this Agreement.

3.5.5 Attorney's Fees. If either Party commences an action against the other Party, either legal, administrative or otherwise, arising out of or in connection with this Agreement, the prevailing party in such litigation shall be entitled to have and recover from the losing party reasonable attorney's fees and all other costs of such action.

3.5.6 Indemnification.

3.5.6.1 Standard Indemnification. To the fullest extent permitted by law, Consultant shall defend, indemnify and hold the District, its officials, officers, employees, volunteers, and agents free and harmless from any and all claims, demands, causes of action, costs, expenses, liability, loss, damage or injury, in law or equity, to property or persons, including wrongful death, in any manner arising out of, pertaining to, or relating to any negligence, recklessness, or willful misconduct of Consultant, its officials, officers, employees, agents, consultants, and contractors arising out of or in connection with the performance of the Services, the Project or this Agreement, including without limitation the payment of all consequential damages, expert witness fees, and attorney's fees and other related costs and expenses. Consultant shall defend, at Consultant's own cost, expense and risk, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against District, its directors, officials, officers, employees, agents, or volunteers in accordance with California State law. Consultant shall pay and satisfy any judgment, award or decree that may be rendered against District or its directors, officials, officers, employees, agents, or volunteers, in any such suit, action or other legal proceeding to the proportionate extent arising from Consultant's negligence or willful misconduct. Consultant shall reimburse District and its directors, officials, officers, employees, agents, and/or volunteers, for any and all reasonable legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided, including correction of errors and omissions. Consultant's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by the District, its directors, officials officers, employees, agents or volunteers.

3.5.7 Entire Agreement. This Agreement contains the entire Agreement of the Parties with respect to the subject matter hereof, and supersedes all prior negotiations, understandings or agreements. This Agreement may only be modified by a writing signed by both Parties.

3.5.8 Governing Law. This Agreement shall be governed by the laws of the State of California. Venue shall be in Sacramento County.

3.5.9 Time of Essence. Time is of the essence for each and every provision of this Agreement.

3.5.10 District's Right to Employ Other Consultants. District reserves right to employ other consultants in connection with this Project.

3.5.11 Assignment or Transfer. Consultant shall not assign, hypothecate, or transfer, either directly or by operation of law, this Agreement or any interest herein without the prior written consent of the District. Any attempt to do so shall be null and void, and any assignees,

hypothecates or transferees shall acquire no right or interest by reason of such attempted assignment, hypothecation or transfer.

3.5.12 Subcontracting. Consultant shall not subcontract any portion of the work required by this Agreement, except as expressly stated herein, without prior written approval of District. Subcontracts, if any, shall contain a provision making them subject to all provisions stipulated in this Agreement.

3.5.13 Construction; References; Captions. Any term referencing time, days or period for performance shall be deemed calendar days and not work days. All references to Consultant include all personnel, employees, agents, and subcontractors of Consultant, except as otherwise specified in this Agreement. All references to District include its officials, officers, employees, agents, and volunteers except as otherwise specified in this Agreement. The captions of the various articles and paragraphs are for convenience and ease of reference only, and do not define, limit, augment, or describe the scope, content, or intent of this Agreement.

3.5.14 Amendment; Modification. No supplement, modification, or amendment of this Agreement shall be binding unless executed in writing and signed by both Parties.

3.5.15 Waiver. No waiver of any default shall constitute a waiver of any other default or breach, whether of the same or other covenant or condition. No waiver, benefit, privilege, or service voluntarily given or performed by a Party shall give the other Party any contractual rights by custom, estoppel, or otherwise.

3.5.16 No Third Party Beneficiaries. There are no intended third party beneficiaries of any right or obligation assumed by the Parties.

3.5.17 Invalidity; Severability. If any portion of this Agreement is declared invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions shall continue in full force and effect.

3.5.18 Prohibited Interests. Consultant maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Consultant, to solicit or secure this Agreement. Further, Consultant warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Consultant, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. For breach or violation of this warranty, District shall have the right to rescind this Agreement without liability. For the term of this Agreement, no member, officer or employee of District, during the term of his or her service with District, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising therefrom.

3.5.19 Equal Opportunity Employment. Consultant represents that it is an equal opportunity employer and it shall not discriminate against any subcontractor, employee or applicant for employment because of race, religion, color, national origin, handicap, ancestry, sex or age. Such non-discrimination shall include, but not be limited to, all activities related to

initial employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination.

3.5.20 Labor Certification. By its signature hereunder, Consultant certifies that it is aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and agrees to comply with such provisions before commencing the performance of the Services.

3.5.21 Authority to Enter Agreement. Consultant has all requisite power and authority to conduct its business and to execute, deliver, and perform the Agreement. Each Party warrants that the individuals who have signed this Agreement have the legal power, right, and authority to make this Agreement and bind each respective Party.

3.5.22 Counterparts. This Agreement may be signed in counterparts, each of which shall constitute an original.

**[Signatures on Following Page]**

**SIGNATURE PAGE  
TO  
CITRUS HEIGHTS WATER DISTRICT  
PROFESSIONAL SERVICES AGREEMENT  
FOR SUPPORT SERVICES**

**CITRUS HEIGHTS WATER DISTRICT**

**WOOD RODGERS, INC.**

**By:** \_\_\_\_\_  
**Hilary M. Straus**  
**General Manager**

**By:** *Paul A. Klein, P.E.*  
**Paul Klein**  
**Principal Engineer**

**Date:** \_\_\_\_\_

**Date:** May 14, 2025



**EXHIBIT “A”**  
**SCOPE OF SERVICES**



April 24, 2025

Mr. Todd Jordan, P.E.  
Principal Civil Engineer  
Citrus Heights Water District  
6230 Sylvan Road  
Citrus Heights, CA 95610  
Phone: 916.899.9534  
Email: [tjordan@chwd.org](mailto:tjordan@chwd.org)

Subject: Citrus Heights Water District (CHWD) Scope of Services  
City of Citrus Heights, County of Sacramento, State of California  
Professional Engineering, Mapping & Surveying Services

Dear Mr. Jordan,

Wood Rodgers, Inc. is pleased to offer professional engineering, mapping, surveying and other services available on a task order basis. Below is a brief list of the services that Wood Rodgers offers.

**1. Engineering**

- a. Civil Engineering (roadway infrastructure and utilities)
- b. Construction Management
- c. Design Guidelines
- d. Design Review Permits
- e. Due Diligence
- f. Environmental Services
- g. Feasibility Studies
- h. Geotechnical Engineering
- i. GIS Applications
- j. Groundwater Water Supply
- k. Landscape Architecture
- l. Project Management
- m. Public Outreach
- n. Right-of-Way Engineering
- o. Structural Engineering
- p. Traffic Modeling Analysis
- q. Traffic Signal and Lighting Design
- r. Transportation Engineering and Traffic Planning
- s. Transportation Structures (Bridges)
- t. Water Resources Engineering
- u. Water Quality Design and Permitting

**2. Mapping**

- a. Abandonments / Quitclaims
- b. Annexations
- c. Boundary Resolution

- d. Boundary / Lot Line Adjustments
- e. Certificate of Correction / Compliance
- f. Chain of Title / Title Report Review
- g. Corner Records
- h. Condition of Approval Support
- i. Descriptions and Plats to Accompany
- j. Document Review and Processing
- k. Easements
- l. Entitlements
- m. Final Maps, Parcel Maps and Record of Surveys
- n. Public Agency Support
- o. Quality Assurance/Quality Control Services
- p. Quiet Title Action Support
- q. Record Base Maps
- r. Record Document Research
- s. Right-of-way determination

### 3. **Surveying**

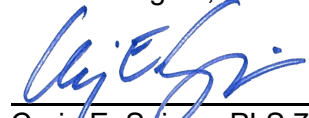
- a. ADA Surveys
- b. ALTA/NSPS Land Title Surveys
- c. Boundary Surveys
- d. Control Surveys
- e. Construction Surveying/Staking
- f. Monument Preservation Surveys
- g. Right-of-Way Surveys
- h. Topographic Surveys
  - i. Bathymetric Topographic Surveys
  - ii. Conventional Topographic Surveys
  - iii. GPS Topographic Surveys
  - iv. Ground Penetrating Radar Systems Surveys
  - v. Mobile LiDAR Data Acquisition, Data Extraction, and Imagery
  - vi. UAS LiDAR Data Acquisition, Aerial Mapping, and Aerial Photogrammetry
  - vii. Terrestrial LiDAR Data Acquisition, Data Extraction, and Imagery
  - viii. Utility Location Surveys
- i. Tree Surveys

We have also included as Exhibit "B", Wood Rodgers' hourly rate Fee Schedule for Time and Materials work and for any Client approved changes to the future task orders.

We are very excited about our involvement with Citrus Heights Water District and forging a relationship with you and your team. We are confident we will provide the quality and timeliness of professional engineering, mapping, and surveying services needed to make this a successful project. Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,

Wood Rodgers, Inc.




---

Craig E. Spiess PLS 7944  
Principal Surveyor



## SACRAMENTO & ROSEVILLE FEE SCHEDULE

CLASSIFICATION	STANDARD RATE
Principal Engineer/Geologist/Surveyor/Planner/GIS/LA* II	\$320
Principal Engineer/Geologist/Surveyor/Planner/GIS/LA* I	\$285
Senior Engineer/Geologist/Surveyor/Planner/GIS/LA* II	\$260
Senior Engineer/Geologist/Surveyor/Planner/GIS/LA* I	\$250
Project Engineer/Geologist/Surveyor/Planner/GIS/LA* II	\$235
Project Engineer/Geologist/Surveyor/Planner/GIS/LA* I	\$225
Engineer/Geologist/Surveyor/Planner/GIS/LA* II	\$215
Engineer/Geologist/Surveyor/Planner/GIS/LA* I	\$195
Assistant Engineer/Geologist/Surveyor/Planner/GIS/LA*	\$165
Designer	\$100
Senior CAD Technician/Graphics Designer II	\$200
Senior CAD Technician/Graphics Designer I	\$175
CAD Technician/Graphics Designer	\$155
Project Coordinator	\$170
Administrative Assistant	\$135
1 Person Survey Crew	\$255
2 Person Survey Crew	\$365
3 Person Survey Crew	\$465
Consultants, Outside Services, Materials & Direct Charges	Cost Plus 10%
Overtime Work, Expert Witness Testimony and Preparation	Rate Plus 50%

\*LA = Landscape Architect

Blueprints, reproductions, and outside graphic services will be charged at vendor invoice. Auto mileage will be charged at the IRS standard rate, currently 67 cents per mile.

Fee Schedule subject to change January 1, 2026.

**EXHIBIT "B"**  
**SAMPLE TASK ORDER FORM**

**TASK ORDER**

Task Order No. \_\_\_\_\_ (YEAR - ##)

Contract: Agreement for [Contract Name] with Citrus Heights Water District

Consultant: [Consultant Name]

**The Consultant is hereby authorized to perform the following work subject to the provisions of the Contract identified above:**

[Insert description of services to be provided]

**List any attachments:** (Please provide if any.)

**Compensation Form:** [INSERT HOURLY OR PROJECT BUDGET/NOT-TO-EXCEED (NTE)]

**Reimbursements:** [INSERT WHETHER MILEAGE AND OTHER REIMBURSEMENTS WILL BE PROVIDED]

**Dollar Amount of Task Order:** Not to exceed \$\_\_\_\_\_,\_\_\_\_\_.00 (If NTE)

**Completion Date:** \_\_\_\_\_, 20\_\_

The undersigned consultant hereby agrees that it will provide all equipment, furnish all materials, except as may be otherwise noted above, and perform all services for the work above specified in accordance with the Contract identified above and will accept as full payment therefore the amount shown above.

**Citrus Heights Water District**

**Consultant**

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

# CITRUS HEIGHTS WATER DISTRICT

## DISTRICT STAFF REPORT TO BOARD OF DIRECTORS May 27, 2025 REGULAR MEETING

---

SUBJECT : DISCUSSION AND POSSIBLE ACTION TO FILL VACANCIES ON THE  
CUSTOMER ADVISORY COMMITTEE

STATUS : Action Item

REPORT DATE : May 27, 2025

PREPARED BY : Mary Elise Conzelmann, Public Affairs Analyst

---

**OBJECTIVE:**

Consider appointing two replacements to the vacancies on the Customer Advisory Committee (CAC) and appointing one alternate member.

**BACKGROUND AND ANALYSIS:**

Resolution 20-2023 established a Customer Advisory Committee made up of 17-21 voting members and business and institutional representation, including:

1. Nine to thirteen (9-13) seats for residential customers who live throughout the Citrus Heights Water District (CHWD or District) service area.
2. Three seats representing commercial interests from the Citrus Heights Chamber of Commerce and the Sunrise Marketplace.
3. Five seats for the San Juan Unified School District, the Sunrise Parks and Recreation District, Sylvan Cemetery District, the Sacramento Metropolitan Fire District, and the City of Citrus Heights.

In the instance that a member resigns, the Resolution states that the CHWD Board will include one of the approved alternates to fill the vacancy.

On October 30, 2023, Nanette Wheeler-Carter was appointed as a CAC member. On April 9, 2025, Ms. Wheeler-Carter resigned from the CAC due to private matters.

On October, 30, 2023, Robin Rau was appointed as a CAC member. In 2024, Ms. Rau was unable to attend five of the seven CAC meetings.

On October, 30, 2023, Paul Dietrich was appointed as an alternate CAC member.

On May 13, 2024, Julia Eunice was appointed as an alternate CAC member.

On September 23, 2024, Carla Comiter was appointed as an alternate CAC member. On April 27, 2025, District staff were notified of Ms. Comiter's CAC registration due to private matters.

We deeply appreciate Ms. Wheeler-Carter's, Ms. Rau's, and Ms. Comiter's valuable dedication to the CAC.

**Filling Vacant CAC Seats**

With two vacancies from Ms. Wheeler-Carter's resignation and Ms. Rau's removal, staff requests to appoint residential alternate members, Paul Dietrich and Julia Eunice, to the open member seats. Mr. Dietrich and Ms. Eunice have served on the CAC since 2023 and 2024, respectively.

Staff would like to recognize Mr. Dietrich's and Mr. Eunice's exemplary meeting attendance, dedication,

and insightful contribution to the CAC. It is recommended that priority consideration be given to alternate members who served as regular members of the CAC previously to move from an alternate position to a regular position on the CAC.

Additionally, staff requests the appointment of Amanda Camacho to the residential alternate seats. Attached to this staff report are the application materials for Mr. Dietrich, Ms. Eunice, and Ms. Camacho. Staff will be ready to provide additional information for these positions at the May 27, 2025, Board Meeting should the Board wish to receive such input.

**RECOMMENDATION:**

Appoint residential alternate members, Paul Dietrich and Julia Eunice, to the vacant residential member seats; and appoint Amanda Camacho as a CAC residential alternate member.

**ATTACHMENTS:**

1. Paul Dietrich Customer Advisory Committee Application
2. Julia Eunice Customer Advisory Committee Application
3. Amanda Camacho Customer Advisory Committee Application

**ACTION:**

Moved by Director \_\_\_\_\_, Seconded by Director \_\_\_\_\_, Carried \_\_\_\_\_

---

## **ATTACHMENT 1**

**Paul Dietrich Customer Advisory Committee Application**



**Customer Advisory Committee Application : Entry # 7798**

**Name:**

Paul Dietrich

**Address (Residence):**



Citrus Heights, California 95610

United States

[Map It](#)

**Email:**



**Phone:**



**Occupation:**

Retired

**How long have you been a CHWD customer?**

6-10 Years

**Please tell us why you would like to join the Customer Advisory Committee? (100 word max)**

I would like to remain engaged with the issues at CHWD after working there for so many years. I was encouraged to apply after speaking with the GM. I believe I have the background to contribute meaningfully in advising on District matters.

**Notes**



**Admin Notification (ID: 64f8e0878b290)**

added September 13, 2023 at 4:05 pm

WordPress successfully passed the notification email to the sending server.

## **ATTACHMENT 2**

**Julia Eunice Customer Advisory Committee Application**

**Customer Advisory Committee Application : Entry # 7860**

**Name:**

Julia Eunice

**Address (Residence):**



Citrus Heights, California 95610

United States

[Map It](#)

**Email:**



**Phone:**



**Occupation:**

Preschool teacher turned to Stay at home Mother

**Other community involvement:**

Volunteering with schools, churches and sports

**How long have you been a CHWD customer?**

6-10 Years

**Please tell us why you would like to join the Customer Advisory Committee? (100 word max)**

The importance of water to our communities, especially within cities, has seemed to take a back seat to other matters of concern. I appreciate the quality of water that Citrus Heights has held to and see the need for everyone to have full access to good water sources. I would hope to be of help to continue in the development of successful implementation of water to all surroundings and inhabitants therein. I am glad to see the utilization of residents within our neighborhoods to create more insight to properly ensure water projects and initiatives. Thank you for ensuring connections within communities to residents to our most essential need of water

**Notes**



**Admin Notification (ID: 64f8e0878b290)**

added September 22, 2023 at 9:29 am

WordPress successfully passed the notification email to the sending server.

## **ATTACHMENT 3**

### **Amanda Camacho Customer Advisory Committee Application**

**Customer Advisory Committee Application : Entry # 10616****Name:**

Amanda Camacho

**Address (Residence):**[REDACTED]  
Citrus heights, California 95621

United States

[Map It](#)**Email:**

[REDACTED]

**Phone:**

[REDACTED]

**Occupation:**

REALTOR &amp; Business Owner

**Other community involvement:**

Chamber board - Vice Chair

Business networking board - BizLink

**How long have you been a CHWD customer?**

11-30 Years

**Please tell us why you would like to join the Customer Advisory Committee? (100 word max)**

As a business owner and resident, knowledge is powerful

**Notes****Admin Notification (ID: 64f8e0878b290)**

added 20 hours ago

WordPress successfully passed the notification email to the sending server.

# CITRUS HEIGHTS WATER DISTRICT

## DISTRICT STAFF REPORT TO BOARD OF DIRECTORS MAY 27, 2025 REGULAR MEETING

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SUBJECT : WATER AWARENESS POSTER CONTEST  
STATUS : Presentation Item  
REPORT DATE : May 6, 2025  
PREPARED BY : Jace Nunes, Management Analyst  
Rebecca Scott, Director of Operations

---

**OBJECTIVE:**

Present awards to the winners of this year's Water Efficiency Poster Contest conducted by Citrus Heights Water District (CHWD or District) and the San Juan Family of Agencies.

**BACKGROUND AND ANALYSIS:**

The District's water efficiency staff, in conjunction with Orange Vale Water Company, Fair Oaks Water District and San Juan Water District, recently sponsored the 29th annual Water Awareness Poster Contest. A total of 273 fourth through sixth graders within the CHWD service area submitted posters based on this year's theme, "The Traveling Water Droplet."

Each agency awards a first-place prize of \$100 and two runner-up prizes of \$50. In addition, each winning student's class receives an award of \$100. The winning entries will be featured in the 2025 Water Efficiency Calendar. Out of the four participating agencies, one poster is chosen as the Grand Prize Winner. The Grand Prize Winner is featured on the cover of the calendar and featured in the month of May, which represents Water Awareness Month. The Grand Prize Winner also receives an additional \$100. This year's Grand Prize Winner was from Fair Oaks Water District.

The winners within the Citrus Heights Water District service area are:

Winner:	Lyra Rutherford, 6 <sup>th</sup> Grade, Woodside Elementary School Teacher: Susanne Slayton
Runner-Up:	Lilana Hodges, 5 <sup>th</sup> Grade, Trajan Elementary School Teacher: Sallee Weston
Runner-Up:	Sophia Richards, 4 <sup>th</sup> Grade, Trajan Elementary School Teacher: Christy Blake

The winners and their families, teachers, and friends were invited to the May 27 CHWD Board Meeting to receive their awards and recognition for their efforts.

---

# CITRUS HEIGHTS WATER DISTRICT

## DISTRICT STAFF REPORT TO BOARD OF DIRECTORS MAY 27, 2025 REGULAR MEETING

---

SUBJECT : FACILITIES MODERNIZATION AND EXPANSION PROJECT UPDATE  
STATUS : Information Item  
REPORT DATE : May 20, 2025  
PREPARED BY : Todd Jordan, Principal Civil Engineer  
: Missy Pieri, Director of Engineering/District Engineer

---

**OBJECTIVE:**

Staff will provide an update for the Facilities Modernization and Expansion Project. No Board action is requested at this time.

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# CITRUS HEIGHTS WATER DISTRICT

## DISTRICT STAFF REPORT TO BOARD OF DIRECTORS MAY 27, 2025 REGULAR MEETING

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SUBJECT : DISCUSSION AND POSSIBLE ACTION TO ADOPT ENGINEERING STANDARDS AND APPROVE DISTRICT POLICY UPDATES

STATUS : Action Item

REPORT DATE : April 29, 2025

PREPARED BY : Missy Pieri, Director of Engineering/District Engineer  
Todd Jordan, Senior Civil Engineer

---

### **OBJECTIVE:**

Consider adoption of Engineering Standards and approval of updates to the District's Policies (5000, 7000, 8000 and 9000 series).

### **BACKGROUND AND ANALYSIS:**

This item addresses a Strategic Planning and a Board-directed significant policy objective. Development in the Citrus Heights Water District (CHWD or District) service area has occurred steadily since the District was formed in 1920. Although much of the District's service area is now built out, infill development and changes in development patterns will continue. The District's Engineering Department manages and regulates private development within its service area through a combination of District Construction Specifications (detail drawings and water system notes), District Policies, standard water system design criteria and current practices.

This approach has been adequate for the District; however, the District Policies need to be updated to align with current practices and regulations. In addition, staff recommends establishing comprehensive Engineering Standards (Standards) that consolidate improvement standards, submittal requirements, and procedures into a single, easily accessible document.

Engineering Standards will ensure developers receive consistent guidance when planning and constructing water system improvements. Updated Engineering policies and standards will protect the District and its existing ratepayers from potential adverse impacts associated with development projects that, if left with ambiguity, can result in substandard facilities or fail to include important water facilities. Further, CHWD's engineering policies and design standards create more certainty for developers and can facilitate economic development and community revitalization.

To develop an outline of the Standards for private development and to identify which District policies should be modified or created, the District selected West Yost Associates, Inc. (WYA) to prepare a Needs Assessment Study (Study). The Study included:

- Collection and review of existing District Construction Specifications and standard procedures
- Discussions with CHWD staff to understand the District's current standards, policies, and procedures that are effective, need changing, or are missing
- Review of other similar, local agencies' standards, policies, and procedures
- Outline of the proposed standards and a list of recommended policy updates

After the Study was completed, the CHWD Board of Directors approved an On-Call Professional Services



Agreement with WYA. Task orders under the PSA were then issued for the preparation of engineering standards and policy updates.

**Engineering Standards:** The first task was to prepare the Standards for private (applicant-initiated) development projects. The purpose of the Standards is to establish minimum requirements for the design, materials of construction, and construction methods for water system improvements located within public and private properties. These improvements include water mains, water service assemblies, fire hydrants, valves, and all other necessary appurtenances. Key drawings and reference documents related to the Standards are included in the Appendix.

Table 1 summarizes the sections of the Standards along with a brief description of each section.

**Table 1**  
**Summary of District Engineering Standards**

Section #	Title	Description
1	Purpose and Definitions	Explains the overall purpose of the Standards along with general definitions of key terms and abbreviations.
2	Application and Administration	Outlines the responsibilities of all parties and describes the planning, review, and construction related requirements and processes of applicant-initiated projects.
3	Design Standards and Criteria	Presents the District's minimum design standards and criteria for planning and designing the water distribution system.
4	Construction Standards	Specifies the required materials, installation methods, testing procedures, and general construction requirements of the water distribution system.
Appendix	Appendix A – Appendix E	Contains Standard Detail Drawings, Project Checklist, Project Acceptance Summary, District's Cross-Connection and Backflow Prevention Regulation and Disinfection/Sampling Procedures

**District Policies:** Once the Standards were developed, the District's Policies were reviewed to identify any necessary amendments or adjustments to ensure consistency between the Standards and Policies.

Table 2 summarizes the Policy sections that were added, amended, or deleted, and a description of the changes made.

**Table 2**  
**Policy Updates**

Policy Section	Title (Added/Moved/Amended/Deleted)	Description of Edits
5040	Water System Master Plan (Moved and Amended)	Policy moved to Policy 9000. See new Policy 9000 for amendments.
5050	Capital Improvement Plan (Moved and Amended)	Policy moved to Policy 9010. See new Policy 9010 for amendments.
5300	Maintenance of Water Meters and District-Owned Water Services, Owner Responsibility for Equipment and Appliances from Point of Connection to Water Meter (Amended)	Clarifies the District's responsibilities for maintenance of water meters, District-owned water services, and related items, and defines property owner responsibilities for non-District items.
5310	Relocation of Water Meters (Amended)	Clarifies the conditions under which a water meter can be relocated, who can perform the work, and who is responsible for the cost.
5930	Fire Hydrant Operation and Maintenance (Amended)	Clarifies the definition of private fire hydrants.
7500	Capacity Charges (Amended)	Updates the method of assessment to align with updated industry standards, revises payment requirements to comply with updated regulations.
7600	Development Fees (Added)	Establishes requirements for assessing and collecting Development Fees for new or modified service connections including plan check, inspection and meter set fees.
8200	Basis of Service (Added)	Defines the conditions under which the District provides water service to properties. It describes the requirements for water use and connection exemptions for new development.
8300	Application for Water Service (Added)	Describes how to apply for water service or change in service, and outlines circumstances under which the District can refuse service.
8400	<b>Old Title:</b> Metering of Services – General <b>New Title:</b> Service Requirements (Amended)	Updates service requirements for properties, including those with multiple buildings or service types. Describes service connection approvals, cross-connection prohibitions, and use restrictions.
8404	<b>Old Title:</b> Metering of Single Dwelling, Duplex Dwelling, and Condominium/Townhome Dwelling Water Services	Describes metering requirements for all occupancy types into one Policy.

Policy Section	Title (Added/Moved/Amended/Deleted)	Description of Edits
8404 cont.	<b>New Title:</b> Metering of Water Services (Amended)	
8405	Metering of Apartment Complex and Mobile Home Development Water Services (Deleted)	Content combined language into Policy 8404
8410	Metering of Commercial Water Services (Deleted)	Content combined language into Policy 8404
9000	Water System Master Plan (Moved and Amended)	Policy moved from previous Policy 5040. Describes the content, preparation, adoption, administration, and updating of the District's Water System Master Plan.
9010	Capital Improvement Plan (Moved and Amended)	Policy moved from previous Policy 5050. Describes the content, preparations, adoption, administration, and updating of the District's Capital Improvement Plan.
9100	Engineering Standards (Added)	Defines the purpose of the Engineering Standards, establishes requirements for conformance with the Standards, and clarifies District responsibilities for maintaining and updating the Standards.
9200	Infrastructure Improvement and Responsibility (Added)	Provides guidelines and responsibilities for the planning, design, construction, funding, operation and maintenance of expansions of the District's water system.
9300	Reimbursement (Added)	Clarifies reimbursement procedures when an applicant installs or upsizes infrastructure that benefits properties beyond their own development.

The Standards and Policies were reviewed by key internal and external stakeholders, including District staff from all departments, District legal counsel, and representatives from partner agencies (i.e. City and County staff, fire department personnel) to ensure the requirements complied with their specific areas of jurisdiction.

**Next Steps:** Following Board approval of the Engineering Standards and Policies, the following actions will be completed:

1. Develop Administrative Procedures for District staff to clarify any areas of the Standards and Policies that require additional guidance consistent with Board policy.
2. Update the District's website, including the Engineering page, to reflect any changes to forms, procedures, and other related documents.

**RECOMMENDATIONS:**

1. Approve Resolution 09-2025 Adopting District Engineering Standards
2. Approve the updates to the District Policies (5000, 7000, 8000 and 9000 series) listed in Table 2.

**ATTACHMENTS:**

1. Resolution 09-2025 Adopting District Engineering Standards
2. District Policies (5000, 7000, 8000 and 9000 series) as listed in Table 2

**ACTION:**

Moved by Director \_\_\_\_\_, Seconded by Director \_\_\_\_\_, Carried \_\_\_\_\_

---

## **ATTACHMENT 1**

### **Resolution 09-2025 Adopting District Engineering Standards**

CITRUS HEIGHTS WATER DISTRICT  
RESOLUTION NO. 09-2025

RESOLUTION OF THE BOARD OF DIRECTORS  
OF CITRUS HEIGHTS WATER DISTRICT  
ADOPTING ENGINEERING STANDARDS

WHEREAS, it is the policy of the Citrus Heights Water District (CHWD) to ensure the reliable, safe, and efficient delivery of water service through the implementation of consistent design and construction practices; and

WHEREAS, the District has developed Engineering Standards, which include design and construction requirements for water system facilities, to establish the minimum requirements for the planning, design, materials, and construction of facilities under District jurisdiction; and

WHEREAS, the formal adoption of the Engineering Design and Construction Standards is in accordance with District Policy No. 9100, Engineering Standards;

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE CITRUS HEIGHTS WATER DISTRICT DOES RESOLVE that the Engineering Standards, attached hereto as Exhibit A, are hereby adopted as the official standards of the District; and

BE IT FURTHER RESOLVED that the District Engineer or their designee is authorized to make administrative updates or clarifications to the Engineering Standards as necessary to reflect regulatory changes, field conditions, or operational needs, provided such changes do not materially alter the intent or technical requirements of the standards.

PASSED AND ADOPTED by the Board of Directors of the CITRUS HEIGHTS WATER DISTRICT this 27th day of May 2025, by the following vote:

AYES: Board Members-

NOES: Board Members-

ABSTAIN: Board Members-

ABSENT: Board Members-

---

RAYMOND A. RIEHLE, President  
Board of Directors  
Citrus Heights Water District

I HEREBY CERTIFY that the foregoing is a full, true and correct copy of Resolution 09-2025 adopted by the Board of Directors of Citrus Heights Water District at its regular meeting held May 27, 2025.

---

BRITTNEY C. MOORE, Chief Board Clerk  
Citrus Heights Water District

## Exhibit A

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# ENGINEERING STANDARDS



**C I T R U S  
H E I G H T S**

---

**W A T E R  
D I S T R I C T**

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## REVISIONS

Users of Citrus Heights Water District's Engineering Standards shall be responsible to confirm they are using the most recent versions. To confirm the most recent versions of the Engineering Standards and Approved Materials List, see [www.chwd.org](http://www.chwd.org), or contact the CHWD Engineering Department at (916) 725-6873.

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# Engineering Standards

## SECTION 1. PURPOSE AND DEFINITIONS

### 1.1 Scope and Purpose

The scope and purpose of these Engineering Standards (“Standards”) are to define party responsibilities and establish minimum requirements for the design, construction materials, installation, and testing of facilities within the Citrus Heights Water District’s (“District”) water system located on both public and private properties. The water system includes mains, service assemblies, hydrants, valves, and all other necessary appurtenances.

These Standards implement the District’s policies. If a conflict arises between these Standards and District Policies, District Policies shall prevail. These Standards apply to Applicants proposing to install and connect water facilities to the District’s water system, as well as to those proposing to replace, relocate, or repair District water facilities, and privately owned backflow prevention devices.

### 1.2 Organization

The Standards are organized as listed below:

- Section 1 – Purpose and Definitions: Identifies the purpose of these Standards and lists definitions for terms used throughout the Standards
- Section 2 – Application and Administration: Identifies responsibilities of all parties related to planning, review, approval, and construction requirements and administrative processes
- Section 3 – Design Standards and Criteria: Establishes minimum design standards and criteria for planning and design of public water facilities
- Section 4 – Construction Standards: Identifies requirements for construction, including installation and testing requirements and allowable materials
- Appendix A – Standard Detail Drawings
- Appendix B – Project Checklist
- Appendix C – Project Acceptance Summary/Value of Facilities Form
- Appendix D – District Cross-Connection and Backflow Prevention Regulation
- Appendix E – CHWD Disinfection/Sampling Procedure

## 1.3 Definitions

Whenever the following terms, or pronouns used in their place, occur in these documents or in any documents that these Design Criteria and Standards govern, the intent and meaning shall be interpreted as defined below:

Authority Having Jurisdiction	The federal, state, or local agency that has jurisdiction over a project or portion of the project.
Applicant	Any person(s), firm, partnership, corporation, agency, or combination thereof, financially responsible for the water system improvements.
Appurtenance	A general term used to describe components such as valves, fire hydrants, and meters.
Board	The Board of Directors of the Citrus Heights Water District.
Contract	The agreement covering the performance of the Work and the furnishing of labor, materials, tools, and equipment in the construction of the Work.
Contractor	The person or persons, firm, partnership, corporation, or combination thereof, that has entered into a contract with the District or the Applicant, and who is duly licensed under the laws of the State of California to do or perform such tasks as said contract may define.
County	Either the County of Sacramento or County of Placer, California, whichever applies.
Customer	Any property owner, tenant, or other water user who receives water from or pays a water bill to the District.
Day	A calendar day of 24 hours.
Development	The act or process of constructing on properties, including subdivision improvement.
Distribution Main	A water main less than 14 inches in diameter.
District	The Citrus Heights Water District.
District Engineer	The District Engineer of the Citrus Heights Water District, or his/her duly appointed representative.
District Facilities	Water facilities owned by the District, located upstream of and including the water meter.
Engineering Standards	The standard procedures, specifications, and drawings established by the District in this document.
Fire Authority	Organization or agency responsible for overseeing fire protection, prevention, and emergency response services within its specific jurisdictional area.
General Manager	The General Manager of the Citrus Heights Water District, or his/her duly appointed representative.
Hydrant Valve	A valve that is installed in a water line between a fire hydrant and the main, which can be closed to isolate the hydrant.
Improvement Plans	Drawings showing all Work necessary to provide water to a proposed project, including all water services, mains, and appurtenances.
Inspector	An employee or agent of the District, duly authorized by the District Engineer and engaged to observe and record field compliance with these Standards, design criteria, plans, and construction standards.
Isolation Valve	A valve that is used to stop flow or isolate a portion of the water system.
Main	A water pipeline dedicated for public use in the District's system, excluding services and laterals.



Water Service	A metered connection from the District's water system to a customer's facilities.
Service Assembly	Service assemblies are the complete set of components that connect a water main to a customer's plumbing system. They typically include the service saddle, corporation stop, service line, curb or angle stop, meter, meter box or vault, backflow device (if required), and related fittings. Configurations vary by service type and size and must meet the requirements of these Standards and Detail Drawings.
Service Line	The pipe and fittings between the District's main and the meter.
Standards	The specifications and drawings contained herein and approved addenda, plus any other standard specifications incorporated by reference. In general, the referenced standards or specifications shall be understood as being the latest edition.
Transmission Main	A water main 14 inches in diameter or larger.
Water	Potable water that is safe for drinking and complies with the latest edition the California Safe Drinking Water Act, the United States Environmental Protection Agency (EPA) National Primary Drinking Water Regulations, and/or other applicable standards.
Water Facilities	Infrastructure and systems used for sourcing, treating, storing, distributing, and otherwise managing water as part of the District's water system.
Water System	The potable water supply system of the District approved by or under the public health supervision of the Division of Drinking Water of the California State Water Resources Control Board.
Work	All obligations, duties, and responsibilities necessary to the successful completion of the project assigned to or undertaken by a Contractor including all labor, materials, equipment, and other incidentals, and the furnishing thereof.

## 1.4 Abbreviations

Whenever the following abbreviations occur in these documents or in any documents that these Design Criteria and Standards govern, the intent and meaning shall be interpreted as defined below:

AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
ADU	Accessory Dwelling Unit
ANSI	American National Standards Institute
ARV	Air and Vacuum Relief Valve
ASTM	American Society for Testing and Materials
AWWA	American Water Works Association
BOV	Blow-off valve
Cal/OSHA	California Division of Occupational Safety and Health
Caltrans	California Department of Transportation
CCCPH	Cross Connection Control Policy Handbook
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CHWD	Citrus Heights Water District

DDW	Division of Drinking Water
DIP	Ductile Iron Pipe
DIPRA	Ductile Iron Pipe Research Association
DOT	Department of Transportation
DR	Dimension Ratio
DWG	Drawing
e.g.	For example
EPA	Environmental Protection Agency
fps	feet per second
gpm	gallons per minute
HDD	Horizontal Directional Drilling
ISO	Insurance Services Office
MGD	Million Gallons per Day
NAD	North American Datum
NFPA	National Fire Protection Association
NPDES	National Pollutant Discharge Elimination System
NPT	National Pipe Thread
NSF	National Sanitation Foundation
OD	Outside diameter
OSHA	Occupational Safety and Health Administration
ppm	parts per million
psi	pounds per square inch
psig	pounds per square inch gauge
PUE	Public utility easement
PVC	Polyvinyl Chloride
ROW	Right-of-way
SDR	Standard Dimension Ratio
SJWD	San Juan Water District
SWPPP	Storm Water Pollution Prevention Plan
USA	Underground Services Alert
UWMP	Urban Water Management Plan
WEF	Water Environment Federation

## SECTION 2. APPLICATION AND ADMINISTRATION

This section applies to applicant-initiated projects and outlines the responsibilities of all parties involved. It also describes the planning, review, and construction-related requirements and processes.

### 2.1 Roles and Responsibilities

The responsibilities of the District, Applicant, Applicant's Engineer, and Applicant's Contractor with respect to administrative implementation of an applicant-initiated project are defined in the following subsections.

#### 2.1.1 District Responsibilities

The District shall be responsible for the review and approval of Improvement Plans and the inspection of all water facilities to be dedicated to the District. This may include facilities within public rights-of-way, private property, public utility easements and dedicated water easements.

#### 2.1.2 Applicant Responsibilities

The Applicant shall have ultimate responsibility for compliance with all requirements specified in these Standards and any other standards, codes, regulations, and requirements as they may apply. The Applicant is solely responsible for all administrative requirements including application, submittal of all required Improvement Plans and payment of fees. The Applicant shall reference and adhere to the Project Checklist and Application for Water Service provided on the District website ([www.chwd.org](http://www.chwd.org)). The Applicant is also responsible for ensuring that the Applicant's Engineer meets all design requirements and that the Applicant's Contractor meets all construction-related requirements. The Applicant shall obtain approval of improvement plans, construct the project per approved plans, and successfully pass inspections and testing prior to connection to existing District facilities.

Upon Applicant's request, the District may install a single water service for the residential parcel.

#### 2.1.3 Applicant's Engineer Responsibilities

These Standards establish requirements for the design and construction for the District's water system and are not a substitute for engineering knowledge, judgment, or experience. The Standards presented herein shall be reviewed by the Applicant's Engineer and shall be applied as necessary to the project. Proposed deviations from these Standards shall be submitted, in writing, to the District Engineer, for review and approval.

All development project plans, specifications, reports, or other documents shall be prepared by a civil engineer registered in the State of California or by a subordinate employee under the direction of a civil engineer registered in the State of California. All documents shall be signed by a civil engineer registered in the State of California and stamped with the registered seal to indicate responsibility for them. District plan approval does not in any way relieve the Applicant's Engineer of the responsibility to: adhere generally to accepted engineering standards and exercise the same level of care, skill, and diligence in the performance of the services as is ordinarily provided by a professional engineer under similar circumstances; and meet all District requirements. The Improvement Plans shall be revised or supplemented at any time it is determined that the District's requirements have not been met. Any design changes made after plan approval shall be submitted to the District for review and approval.

The Applicant's Engineer shall be responsible for compliance with all governing federal, state, and local laws, ordinances, codes, orders, and regulations.

In conformance with the California Environmental Quality Act (CEQA), all actions by the District in reviewing and approving Improvement Plans and inspecting construction for applicant-initiated projects shall be deemed ministerial. It shall be the Applicant's responsibility to conform to the requirements of CEQA and the requirements of the lead agency, which has approved a development project or entitlement, including all mitigation measures that may relate to public improvements under District approval and inspection. The District shall be held harmless from any suit or action arising out of noncompliance by the Applicant with CEQA, or performance or lack of performance by the Applicant of any mitigation measures adopted or required by any local government.

### ***2.1.4 Applicant's Contractor Responsibilities***

The Contractor shall hold a valid State of California Class "A" General Engineering Contractor license throughout construction. The Contractor shall provide the District with valid Contractor's license information including license number, name of license holder, classification, and expiration date. The Contractor shall be skilled and regularly engaged in constructing public water systems.

The Contractor shall be solely responsible for all construction means, methods, techniques, sequences, and procedures of construction not otherwise specified in these Standards or the Improvement Plans. At all times, the Contractor shall be responsible for compliance with all governing federal, state, and local laws, ordinances, codes, orders, and regulations that in any manner affect those engaged or employed on the job site, the materials used in the Work, and the safe conduct of the Work. The Contractor shall also be solely responsible for ensuring all finished work complies with these Standards and the approved Improvement Plans.

Inspection or approval by the District Engineer or Inspector of the work does not relieve the Contractor of the responsibility to: adhere to the standards generally prevailing for the construction; exercise the same degree of care, skill, and diligence in the performance of the work as is ordinarily provided by a licensed Contractor under similar circumstances; and adhere to the approved plans and these Standards. Any defective work discovered by the District before the expiration of the period prescribed for latent deficiencies in Section 337.15 of the Code of Civil Procedure shall be removed and replaced, at the applicant's expense, by work that fully conforms to the provisions of the approved plans and these Standards.

## **2.2 Plan Submittal**

The first step an Applicant shall take for project review is to submit an Application for Water Service to the District, as provided on the District's website. The District will perform a cursory review of the project to determine if a formal fee-based plan review is required. The District Engineer will review proposed Work in accordance with the District Standards to identify the best plan for delivery of water for a development project. The District Engineer will determine if a Will Serve Letter is required for the proposed work, which will list the anticipated water system improvements.

## **2.3 Planning and Review Services**

To identify the most effective plan for water delivery to a development project, the District Engineer will review proposed Work in accordance with District planning documents, including its Water Master Plan as amended from time to time. The District Engineer shall determine if the proposed Work will require a plan of services.

A plan of services may include any water planning documents needed to evaluate water service for a proposed project while maintaining service to existing customers. This may include, but is not limited to,

water supply assessments, water supply verifications, and water system capacity analyses. Any and all costs associated with preparation of a plan of services, if required, shall be the Applicant's responsibility.

The District's standard plan review includes review by District staff of any required engineering documentation such as Improvement Plans or calculations prepared by the Applicant or Applicant's Engineer. Standard plan review includes up to two (2) hours of consultation time with District staff. Consultation time includes any in person, phone, and virtual meetings. Additional time may be necessary depending on the project's size and scope (e.g., number of connections).

The District operates and maintains a water system model. Upon request, the District may conduct a fire flow evaluation for the Applicant's project. Applicant is responsible for costs associated with the evaluation.

The District will collect a Base Plan Check fee associated with its standard plan review process. In the event that District time for plan review services exceeds three (3) review iterations and two (2) hours of consultation time, the Applicant may be charged for further planning consultation services based on District staff time, equipment, and labor costs.

### 2.4 Plan Approval Process – Improvement Plans

District approval of Improvement Plans is required prior to construction of water facilities.

The plan approval process shall typically consist of, but not be limited to:

1. Submittal of Improvement Plans and Final Map or Parcel Map for District review.
2. Submittal of the Application for Water Service and payment of the plan check deposit.
3. Submittal of Engineer's Cost Estimate for water facilities.
4. Payment of District Total Plan Check Fee.
5. Submittal (if applicable) of all required easement offers, legal descriptions, and plat plans. The fee title owner shall sign the easement offer. See other sections of these Standards for requirements about water easement dedication.
6. For projects with potentially unstable soils (e.g., on steep slopes, near a creek), submittal of a report prepared by a licensed geotechnical engineer that documents existing conditions and provides recommendations for construction.
7. Submittal of any project-specific documents as required by the District Engineer.

Once all plan review requirements have been satisfied and plan check fees have been paid, final plans will be approved by the District Engineer and will remain valid for construction for one (1) year from date of signature on the design documents. Note: Plans must be approved by the Fire Authority prior to the District's approval.

#### 2.4.1 Improvement Plan Requirements

The Improvement Plans shall show all Work necessary to provide water to the Project, including Work necessary for the installation of mains, services, and appurtenances. The Improvement Plans shall be prepared under the direction of, and signed by, a currently registered professional civil engineer in the State of California.

Improvement Plans showing the proposed Work shall be submitted to the District for review and approval. Included with this submittal shall be all calculations requested by the District Engineer to verify the design of any portion of the water system. Calculations shall be based on methods generally accepted by the

engineering profession and shall be neatly and legibly done in such form as to enable them to be readily checked. Calculations shall be signed and stamped by a State of California registered civil engineer. In addition, literature and technical data concerning any of the materials and equipment to be used shall be furnished to the District Engineer upon request.

Improvement Plans shall comply with the following requirements. Exceptions for projects that do not require water main extensions may be granted subject to the discretion of the District Engineer.

1. A full-size PDF file along with two (2) sets of full-size Improvement Plans, with a minimum drawing size of 22 inches by 34 inches, shall be submitted. Refer to the District website for directions on electronic plan submittal.
2. All proposed water facilities, including pipe sizes, types, and classes, shall be shown on the plans. All proposed mains and valves, including fire hydrants, shall be shown in plan and profile views. The profile shall also include other existing and proposed utilities with crossing details. An enlarged detail(s) may be required for clarity.
3. All points of connection and tie-ins shall be shown in detail.
4. All existing water facilities shall be shown.
5. All private water facilities (existing or proposed) shall be shown on the plans and identified as private.
6. All existing water pipelines and facilities to be abandoned shall be shown. The plans shall indicate how active water facilities on or adjacent to the construction area are to be protected and shall show that the abandonment of lines does not adversely affect the water system.
7. All existing and proposed buildings and other structures, including light standards and accessory structures, which may affect maintenance, operations, or replacement of water facilities, shall be shown.
8. All existing and proposed easements shall be shown.
9. Plan and profile drawing scale shall be 1-inch equals 20 feet or 1-inch equals 40 feet with scale bar shown.
10. If necessary, an overall plan view of the entire proposed water system shall be provided and shown on one sheet with a drawing key for subsequent plan and profile sheets. A smaller drawing scale can be used for this purpose.
11. A location map showing the area to be served relative to established public roads shall be shown.
12. A note that states: "Work shall conform to the most current edition of the Engineering Standards and Detail Drawings of Citrus Heights Water District" shall be shown.
13. All existing and proposed dry and wet utilities in the vicinity of any proposed water facilities shall be shown. "Water Only" plans shall not be approved by the District Engineer.
14. All items on the District's Project Checklist shall be addressed. The Applicant shall reference the Project Checklist provided on the District website ([www.chwd.org](http://www.chwd.org)). A sample of the Project Checklist is provided in Appendix B.
15. Any other project-specific requirements as determined by the District Engineer shall be included.

Once a development project plan set has been signed by the District Engineer and all other agencies, two (2) full-size sets, and one (1) full-size PDF file shall be submitted to the District. All submitted map drawings shall use the Global Coordinate System of USA, California, NAD 83 California State Planes, Zone III, and U. S. foot unless approved by the District Engineer.

No changes shall be made to the signed plan set unless approved by the District Engineer. In the case of an approved change, all submitted sheets affected by the change shall be replaced.

During construction, one (1) complete set of signed plans shall be kept on site at all times.

### **2.4.2 Standard Notes and Details**

Improvement Plans shall include applicable District Water System Notes and Detail Drawings as provided in Appendix A.

### **2.4.3 Interpretation of Standards**

These Standards are intended to serve as one document. This means that the written standards and the drawings are complementary, and requirements stated in either the written standards or the drawings shall be equally binding. In the case of conflict between the written standards and drawings, the written standards shall govern. In case of conflict between the Improvement Plans and Detail Drawings, the Detail Drawings will govern unless the District Engineer has approved a specific variance.

In the event of discrepancies, errors, or omissions found in these Standards, or should it appear there is not sufficient detail to perform the Work, then the Applicant shall promptly submit in writing to the District Engineer a request for clarification or interpretation. The request shall identify the exact requirement(s) at issue and indicate the proposed interpretation. The District Engineer will act upon such a request within ten (10) working days.

### **2.4.4 Variances**

A request for a variance from any requirements contained in these Standards must be submitted in writing to the District Engineer by the Applicant. The request must clearly identify the specific requirement and the proposed variance with supporting factual information. The District Engineer will begin review of such requests within ten (10) working days. The District may assess fees for District cost and efforts associated with the variance request review.

Any appeal for a decision by the District Engineer must be submitted in writing to the General Manager within ten (10) working days of the District Engineer's action.

### **2.4.5 Payment of Fees**

All remaining Plan Check Fees shall be paid before final approval and signature by the District. The District reserves the right to charge additional fees if the plan review process exceeds typical review times described in Section 2.3.

Water facilities construction (including any preconstruction meeting and material submittal review) shall not commence until plans and supporting documents (e.g., easements) are approved by the District and all required fees are paid (including one-time San Juan Water District (SJWD) wholesale capital facility fees). These wholesale fees are applicable to new services, based on the new service size, and are subject to annual updates by SJWD.

Detailed information regarding fees is provided on the District website.

## **2.5 Plan Approval Process – Tenant Improvements**

District approval of Tenant Improvement Plans is required prior to construction.

The plan approval process shall typically consist of, but not be limited to:



1. Submittal of Tenant Improvement Plans for District review.
2. Submittal of the Plan Submittal Form.
3. Payment of District plan check fees.
4. Submittal of any project-specific documents as required by the District Engineer.

Once all plan review requirements have been satisfied and plan check fees have been paid, final plans will be approved by the District Engineer and will remain valid for construction for one (1) year from date of signature on the design documents.

## 2.6 Easements

All public water facilities must be installed within public right-of-way (ROW), public utility easement (PUE), or dedicated water easement.

When conditions require that District water facilities be located in private property, including water services located outside the property they serve, an easement for the area must be prepared and granted by the property owner to the District, at no cost to the District. The easement shall grant the District the permanent right to construct, operate, and maintain public water facilities on private property. Section 3 of these Standards provides detailed easement requirements. In circumstances where an easement is required across an adjacent property not owned by the Applicant, the Applicant shall be responsible for negotiating and acquiring easements for water facilities that may be required.

The easement documents must be received and approved by the District prior to improvement plan approval by the District.

### 2.6.1 Grant of Easement

Applicant shall complete the following and provide them to the District for review.

1. Grant of easement form, to be provided by the District
2. Easement legal description
3. Plat map

After the District review and tentative approval of the easement documents, original documents with notarized wet signature(s) shall be provided to the District for acceptance. The District will record the document with the appropriate County. Easements will not be recorded until construction is complete and it is determined that no modifications to the easement are required. Any revisions to the easement documents shall be prepared by the property owner and resubmitted to the District for approval.

## 2.7 Inspection and Testing

The Contractor shall coordinate all Work with the District Construction Inspector.

All materials furnished and all Work performed as indicated on the approved plans shall be subject to inspection by the District Engineer. The Contractor shall be held strictly accountable to the true intent of the Standards with respect to material quality, workmanship, and diligent execution of the Work. Such inspection may include mill, plant, shop, or field inspection as required. The District Engineer shall be permitted access to all parts of the Work, including plants where materials or equipment are manufactured or fabricated; and shall be furnished with such materials, information, and assistance by the Contractor and subcontractors and suppliers as is required to make a complete and detailed inspection. The District shall have unrestricted access to all premises on which any District facilities have



been constructed. The District shall also have unrestricted access at reasonable hours to all premises to which the District provides water, including private water facilities that are connected or may potentially be connected to District facilities, to inspect and to see that the rules and regulations of the District regarding installation of facilities and use of water are being observed.

### ***2.7.1 The Inspector***

District Inspectors are authorized to inspect, on behalf of the District Engineer, all Work done and all materials furnished. Such inspection may extend to all or any part of the Work. The Inspector is authorized to call attention of the Contractor to any failure of the Work or materials to conform to the Standards. The Inspector has the authority to reject materials or suspend the Work until any questions at issue can be referred to and decided by the District Engineer or a duly appointed representative. The Inspector shall in no case act as a supervisor or perform other duties for the Contractor, nor interfere with the management of the Work by the Contractor. Any advice the Inspector provides shall in no way be construed as binding to the District in any way or releasing the Contractor from fulfilling all the Contractor's responsibilities.

If the Contractor refuses to suspend operations on verbal order from the Inspector, the District Engineer shall then issue a written order stopping all Work. After delivery of the order to the Contractor or person in charge, the Inspector will immediately leave the job, and all Work done in the absence of the Inspector shall not be accepted.

### ***2.7.2 Work Done in the Absence of Inspection***

Work done in the absence of District inspection will require removal and replacement. The entire cost of removal and replacement shall be borne by the Contractor, regardless of whether the Work removed is found to be defective or not.

### ***2.7.3 Testing***

All required testing, as outlined in Section 4 of these Standards, and any other testing as determined by the District Engineer, shall be completed and passed prior to Project approval. The Contractor shall furnish all materials and labor necessary to complete all required testing. The Contractor shall be responsible for any retests and any corrective measures deemed necessary by the District Engineer.

### ***2.7.4 Cost of Inspection and Testing***

The cost of initial inspection and testing is developed on a per project basis, based on the District's development fees, and collected prior to any water related construction activities. If District expenses exceed the initial calculated inspection fees due to any reason (e.g., non-compliance or failed testing, or estimated less than the actual cost), the Applicant shall pay the difference.

Overtime/off hour construction work, whether required by the District or requested by the Contractor, shall be at the expense of the Applicant. These fees will be determined on a case-by-case basis based on District staff time, equipment, and labor costs. The District's normal business hours are four (4) 10-hour days, Monday through Thursday. Overtime charges shall apply beyond the District 40-hour work week and for any time on Friday, Saturday, Sunday, or District holidays. The Applicant or Contractor shall submit a written request for any overtime or off-hours work two (2) weeks in advance of the planned work and coordinate with the Inspector.

## 2.8 Use and Service

### 2.8.1 Beneficial Use

The District may, prior to acceptance of the Work, use any completed part or parts of the Work, providing these areas have been approved for use by the District. Only the District shall operate and maintain parts of the Work in use to ensure continued service to its customers. The exercise of this right shall in no way constitute an acceptance of such parts, or any part of the Work.

District use of part(s) of the Work does not relieve the Applicant or Contractor from completing the remaining Work associated with those part(s) of the Work in use. During the beneficial use period, the Applicant and/or Contractor shall perform maintenance and/or repairs on those part(s) of the Work in use associated with faulty or insufficient materials, workmanship, and/or installation, and any damages associated with the construction of the Project. During construction activities, the Applicant and the Contractor shall protect those part(s) of the Work in use and shall be responsible for responding to any Underground Services Alert (USA) requests for information.

Operation of facilities during the beneficial use period shall be performed by District personnel, or under the District inspector's supervision and with prior District approval. The Applicant and the Contractor shall be responsible for fines and District costs incurred to correct issues caused by unauthorized operation of facilities during beneficial use.

The warranty period for these part(s) of the Work in use shall commence upon District acceptance of all of the Work.

### 2.8.2 Service

The following conditions shall be met before water is supplied to a property and/or water meters are set:

1. All mains, services, and major appurtenances such as fire hydrants and valves for water systems have been installed to the satisfaction of the Inspector.
2. A meter box for each service has been installed by the Applicant's Contractor.
3. All connections to existing District systems and facilities have been completed.
4. All testing and certification as required in these Standards have been successfully completed.
5. No further construction Work, such as roadwork, will jeopardize the integrity or quality of water facilities already installed.
6. District has access to all operating facilities such as vaults and valves.

The District reserves the right to withhold a portion of project water meters or deny water service until all Work is completed.

## 2.9 Acceptance and Warranty

Acceptance of the Applicant's Development Project shall occur only after the following conditions are satisfied:

1. All applicable District fees and charges pertaining to the project shall be paid in full.
2. Facilities to be accepted must be adequately protected from on-going construction. Where facilities are installed in paved areas, the final lift of pavement must be in place.
3. All Work, including punch list, shall be completed in accordance with these Standards and the approved Improvement Plans.
4. All required testing has been conducted and successfully completed.

5. The project Record Drawings shall be submitted to the District in accordance with Section 2.10 of these Standards.
6. The Project Acceptance Summary/Value of Facilities Form shall be submitted to the District. A copy of this form is included as Appendix C.
7. Property dedication requirements for water facilities to be dedicated shall be complete.
8. A satisfactory final inspection has been completed.
9. Necessary easement(s) have been accepted by the District.

Once all conditions are satisfied, the District Engineer shall issue a Letter of Acceptance.

Immediately upon issuance of a Letter of Acceptance by the District, the warranty period on all Work shall be in effect. The standard warranty period shall be one (1) year unless the District Engineer requires a longer period.

Any faulty workmanship and/or defective materials, which are discovered within the warranty period, shall be corrected and/or replaced by the Contractor at no expense to the District. The Contractor shall also correct and/or replace any damage to surrounding areas caused by the faulty workmanship and/or defective materials. Such warranty period on the repaired work may be extended for one (1) year after the repair unless the District Engineer requires a longer period.

All repair work (except emergency work) required during the warranty period shall be performed within five (5) working days of issuance of written notification to the Contractor. Emergency work, as deemed necessary by the District, shall be addressed immediately. Emergency work performed by the District on Work of the Contractor; and work performed by the District due to non-performance of the Contractor shall be reimbursed by the District within thirty (30) days of invoice.

At the conclusion of the warranty period, an inspection of the Work will be performed by the District. A letter will be sent to the Applicant releasing the warranty or requesting repair of any deficiencies.

### 2.10 Record Drawings

The Applicant or the Applicant's Contractor shall maintain one (1) set of full-size prints as Record Drawings and accurately mark thereon the actual work, including any deviations from plan dimensions, elevations, or orientations. Upon completion of the job, the Record Drawings shall be prepared under the supervision of the Applicant's Engineer and submitted in a condition acceptable to the District as a condition of acceptance of the Project. Marked prints shall be updated on a regular basis by the Contractor and shall be available for District review.

At the completion of all Work, Applicant shall submit Record Drawings as follows:

- One (1) full-size copy in PDF form
- One (1) full-size hardcopy set
- One (1) electronic set in the latest AutoCAD format, NAD 83

Record Drawings submitted for approval shall include the following information:

1. Water Facilities Depth: Record drawings shall indicate the depth, clearance, and location of each water facility at a crossing with existing or proposed utilities and where the facilities depth differs by six (6) inches or more from the plans. If possible, the actual depth shall be marked on the profile.
2. Inverts: Any deviation from the invert elevations proposed on the plan shall be recorded.

3. Horizontal Main Alignment: Any change in horizontal main alignment greater than twenty-four (24) inches shall be recorded.
4. Unexpected obstruction and difficulties: All unexpected obstructions or difficulties found during construction shall be recorded, noting the type of obstruction, station and/or location, and dimensions at the point of crossing with water facilities.

All submitted map drawings shall use the Global Coordinate System of USA, California, NAD 83 California State Planes, Zone III, and U. S. feet, unless approved by the District Engineer.

### **2.11 (RESERVED)**

### **2.12 (RESERVED)**

## SECTION 3. DESIGN STANDARDS AND CRITERIA

This Section outlines general design information and criteria for water distribution systems that serve District customers. It establishes the District's minimum standards for planning and designing of public water systems. These Standards are not a substitute for the engineering knowledge, judgment, or experience of the design engineer. The standards presented herein shall be reviewed by the Applicant's Engineer and shall be applied as necessary to the Applicant's project.

Proposed variances from these Standards or special designs not addressed in these Standards shall be submitted in writing to the District Engineer. All variances and special designs shall be reviewed and approved by the District prior to District review of the affected portion of the project plans.

### 3.1 Pipe Sizing Design Criteria

Each water main segment shall be sized to provide sufficient flow and pressure to meet domestic, commercial, and fire flow demands at all times. Water mains designed to serve future development shall also include capacity for future demands. Capacity for future demands shall be as determined by the District Engineer in accordance with the Water System Master Plan and applicable planning documents.

Water mains shall be sized using the Hazen-Williams formula. The design criteria to be used to determine the sizes of the mains in the distribution system shall be the values which are given in the following sections.

#### 3.1.1 Water Supply

Water mains shall be designed to deliver water at a rate sufficient to meet the combined demand of all the service connections served by the system or facilities as described in Table 3-1.

Table 3-1. Design Flow Criteria	
Development Type	Design Combined Flow <sup>(a)</sup>
Residential Area	100 percent of maximum daily demand plus fire flow from two (2) nearest fire hydrants within the existing and proposed water system.
Commercial/Industrial Area	100 percent of maximum daily demand plus fire flow from three (3) nearest fire hydrants within the existing and proposed water system.
Transmission Main	100 percent of maximum day transmission main flows plus highest fire flow in the system, as determined by District Engineer by using the District's Water Model and District planning documents, including its Water Master Plan as amended from time to time.
(a) Fire flow shall be as required by the local Fire Authority.	

#### 3.1.2 Design Water Demand

Average daily demand shall be calculated based on the water use factors in Table 3-2.

**Table 3-2. Water Use Factors**

User Type	Average Daily Demand Water Use Factor, gallons per minute/service connection <sup>(a)</sup>
Single Family Residential	0.31
Multi-Family Residential	0.62
Commercial/Institutional	0.78
Industrial	3.81
Landscape	1.51
(a) Average Daily Demand water use factors are based on the CHWD 2020 UWMP and include the projected 4.8% of non-revenue water.	

Design water demand shall be based on the maximum daily demand. Maximum daily water demand shall be 2.09 times the average daily demand.

### 3.1.3 Required Fire Flows

Fire flow requirements shall be established by the Fire Authority. For preliminary designs, fire flows shall be in accordance with the criteria in Table 3-3.

**Table 3-3. Fire Flow Rates and Duration<sup>(a)</sup>**

Use Type	Flow, gpm	Duration, hour
Single Family Residential	1,500	2
Multi-Family Residential	2,500	2
Commercial/Institutional <sup>(b)</sup>	2,500	3
Industrial <sup>(b)</sup>	4,000	4
(a) Applicant shall contact the fire authority who has jurisdiction about the fire flow requirements. Required fire flow shall be provided on the improvement plans.		
(b) Fire flow requirements for commercial, institutional, and industrial uses assume the structures will have approved automatic sprinkler systems installed.		

Industrial, institutional, and medium to large commercial developments shall be evaluated on a case-by-case basis by the Fire Authority using procedures as outlined in the Insurance Services Office publication, "Fire Suppression Rating Schedule," latest edition.

In accordance with Section 2.3, the District may conduct a fire flow evaluation for a project upon request.

### 3.1.4 Pressure Requirements

#### 3.1.4.A System Minimum Pressure

Under normal operating conditions and during maximum day demand scenario, a minimum of forty (40) pounds per square inch (psi) system pressure shall be maintained at all times except under fire flow conditions. Under fire flow conditions with the required fire flow rate plus maximum daily demand, the system residual pressure at the hydrant outlet or the customer's meter outlet shall not fall below twenty (20) psi.

## 3.1.4.B Typical System Pressure

Static pressure in the District ranges from 75 to 115 psi.

## 3.1.5 Velocity Requirements

Pipeline stresses shall be minimized and kept within the design limits of the pipe. Water velocity in the main shall account for variable flow conditions, cyclic surging, and water hammer effects. Water velocity shall not exceed seven (7) feet per second (fps) under peak-hour demand.

Under fire flow conditions, velocities up to a maximum of ten (10) fps may be allowed by the District Engineer, provided that consideration is given to the design and operation of control valves, relief valves, and pumps when included in the water system. All requested variances from the maximum flow velocity of seven (7) fps shall require an independent hydraulic analysis conducted by the District or its consultant. Costs for such analysis will be borne entirely by the Applicant.

## 3.1.6 Allowable Water Main Pipe Materials

Water mains shall comply with AWWA standards and NSF/ANSI Standard 61. Mains 10 inches in diameter and smaller shall be polyvinyl chloride (PVC) pipe C900, DR 14, Pressure Class 305, or ductile iron pipe (DIP), Pressure Class 350.

Ductile iron pipe (DIP), Pressure Class 350 will be required in the following situations:

1. Mains 12-inches and larger.
2. Where separation from structures as stated in this Standard cannot be maintained.
3. Where burial depth of pipe exceeds 6 feet.
4. Where pipeline is located in an unpaved area outside the public ROW.
5. Mains within any arterial roadway.
6. At utility crossings requiring Detail Drawing UC\_001.
7. Where thirty-six (36) inches of cover cannot be maintained.
8. In other special circumstances, as determined by the District Engineer.

The Applicant's Engineer shall be responsible for designing the proposed water system in compliance with these requirements. Pipe size, type, and class shall be clearly indicated on the improvement plans.

## 3.1.7 Pipe Friction Factor

For design consistency, the District requires the use of pipe friction factors shown in Table 3-4 are used in calculations.

Table 3-4. Pipe Friction Factors	
Pipe Type	Hazen Williams C Factor
Ductile Iron Pipe (DIP), Cement-Lined	120
Polyvinyl Chloride (PVC) Pipe	130

### 3.2 Minimum Water Main Size

Water mains shall be a minimum of eight (8) inches in diameter. Upon review and approval, the District Engineer may allow the use of a 6-inch main in small cul-de-sacs or dead-ends without fire flow requirements or hydrants.

### 3.3 Placement of Water Mains

Mains shall be located within public rights-of-way, public utility easements, or dedicated water easements. Water facilities shall be placed in a separate trench from all other utilities. Water mains shall be located with the required horizontal and vertical separations from all utilities in conformance with Section 3.3.3.

#### 3.3.1 Street

Water mains shall be placed a minimum of three (3) feet from the lip of gutter, in the street, unless otherwise specified by the Plans or Detail Drawings. In any case, mains shall be located so that excavation and repair of the main or its appurtenances will not encroach on private property without a public utility easement or dedicated water easement.

Pipelines shall not be installed under pavers, decorative pavement, or concrete. Furthermore, pipelines shall not be installed within building courtyards or alleyways.

#### 3.3.2 Building and Other Above-ground Structure Set Back from Mains

Water mains shall be placed no closer than seven and one-half (7.5) feet clear from any building or structure foundation.

The installation of mains less than seven and one half (7.5) feet from the building or above-ground structure shall be subject to the approval of the District Engineer. In such cases, DIP shall be used.

Water facilities must maintain a minimum horizontal clearance of twenty-four (24) inches from concrete street light foundations.

#### 3.3.3 Separation of Water Mains from Other Pipelines

All horizontal and vertical separations between water mains and sanitary sewer and storm drainage lines shall meet the minimum installation requirements provided in this section pursuant to Title 22 of the California Code of Regulations. If a conflict arises between these criteria and Title 22 separation criteria, whichever is more stringent shall prevail. Wherever separation criteria cannot be maintained, all special construction criteria must be proposed to and approved by the Division of Drinking Water (DDW) as an alternative. Parallel and crossing requirements are as follows:

1. New water mains shall be installed with a minimum separation of ten (10) feet horizontally and one (1) foot vertically above any parallel pipeline that is conveying sanitary sewer.
2. New water mains shall be installed with a minimum separation of four (4) feet horizontally and one (1) foot vertically above any parallel pipeline conveying storm drainage.
3. All water facilities shall be installed with a minimum separation of four (4) feet horizontally and (1) one foot vertically from any utility other than listed above.
4. All new water mains and services crossing other utilities shall include a minimum separation of one (1) foot above the top of the utility. No connection joints shall be made in the water main within ten (10) feet horizontally from sanitary sewer mains or four (4) feet horizontally from storm drain.



### **3.3.4 Minimum Cover**

Minimum cover shall be measured from the top of pipe to finished grade.

#### **3.3.4.A Water Mains**

Minimum cover for water mains shall be thirty-six (36) inches below finished grade and in conformance with the detail drawings in the TREN series.

In cases where minimum cover cannot be maintained, such as at the crossing of a water main with a sanitary sewer main or any other utility line, then either an under-crossing or over-crossing shall be chosen based upon an evaluation by the Applicant's Engineer and approval by the District Engineer. Evaluation shall include the need for higher class pipe or protection of the pipe, ability to meet the DDW criteria for the separation of water mains and non-potable pipelines and the resulting need for either blow off or air and vacuum relief valves. All detailed drawings and calculations involved in this evaluation shall be submitted to the District Engineer for review and acceptance. DIP shall be used wherever cover becomes less than the minimum subject to prior approval. Under no circumstances shall a water main be installed with less than twenty-four (24) inches of cover from finished grade.

#### **3.3.4.B Water Services and Air Relief Service Lines**

A minimum of twenty-four (24) inches of cover is required from finish grade.

#### **3.3.4.C Fire Hydrant Lateral Lines**

A minimum of thirty-six (36) inches of cover is required from finish grade.

## **3.4 Connections to Existing Mains**

### **3.4.1 New Main Connections**

Existing mains and appurtenances that would otherwise remain in good working condition without disturbance due to new main connection shall be replaced and brought up to current District standards. The extent of facilities to be replaced shall be as determined by the District Engineer.

### **3.4.2 Water Line Taps**

Connection of water service lines to an empty water main shall be by dry tap.

The connection of water service lines two (2) inches or smaller in diameter to pressurized mains shall be made by wet tap or hot tap using a tapping sleeve with a tapping valve. Hot taps greater than two (2) inches in diameter will be reviewed on a case-by-case basis.

Hot taps of the same size as the main (size-on-size) are not permitted.

Hot taps are not allowed for water main extensions six (6) inches and greater in diameter. Connection of water mains shall be by dry tap, connecting to an empty water main. A gate valve shall be installed at the connection for water mains up to twelve (12) inches in diameter, and a butterfly valve for new water mains fourteen (14) inches and greater.

### 3.5 Easement Requirements and Locations

#### 3.5.1 General Requirements

Easements granted to the District shall allow for the installation, maintenance, operations, and repair of public water facilities, allow for the perpetual right of ingress and egress, and must comply with the following:

1. No other utilities, private or public, shall be constructed within the easement unless they are approved by the District.
2. No buildings, facilities, walls, fences, or other structures shall be situated within the easement.
3. Planting of trees is not allowed within the easement.
4. Easements shall be prepared and granted to the District as outlined in Section 2.6.

#### 3.5.2 Easement Location and Access

The full easement width shall be located on a single parcel or lot. Access to District facilities shall not be obstructed by walls, trees, or other permanent improvements. Where this requirement cannot be met without interfering with existing buildings, easements may straddle lot lines providing approval is received from the District Engineer.

#### 3.5.3 Easement Size

Facility location within the easement will be determined by the District and in general shall meet the following size requirements:

1. Easement for Transmission Mains shall be a minimum of twenty (20) feet wide. Where additional public water facilities (e.g., air and vacuum relief valve [ARV], blow off valve [BOV], or hydrant) are to be installed or are already existing on the transmission main, the easement shall encompass all facilities with a minimum of five (5) feet buffer on all sides.
2. Easement for Distribution Mains shall be a minimum of fifteen (15) feet wide (five [5] feet and ten [10] feet from the pipe center line). Additional easement width may be required where the depths of bury exceed ten (10) feet, or as deemed necessary by the District Engineer.
3. Easement for Hydrants, ARVs, and BOVs shall be a minimum of ten (10) feet wide, centered over the facility, and shall provide a minimum of five (5) feet buffer on all sides.
4. Easement for Water Services, when required based on Section 2.6, shall be a minimum of ten (10) feet wide, centered over the service line, and shall provide a minimum of five (5) feet buffer on all sides.
5. Easement for Water Wells or Other Facilities shall be determined by the District.
6. Easement for water mains shall have a minimum of twenty (20) feet vertical unobstructed access.

### 3.6 Layout of Mains

#### 3.6.1 Water Main Looping

All water mains shall be designed in a looped system. At looped connections, tee or cross fittings shall be used and valves installed at the main or branches. Cross fittings shall have up to four (4) valves; tee fittings

shall have up to three (3) valves as determined by the District. The District may require the Applicant to construct additional water mains outside of the project boundary to provide a looped system for the area.

Maximum unconnected water main reaches shall be determined on a case-by-case basis and verified by analysis by the District's water model to meet District service criteria.

### **3.6.2 Dead End Mains**

All mains shall have a minimum of two points of connection, except dead-end mains, which may be allowed for cul-de-sacs and dead-end streets. Dead-end mains shall be provided with a blow-off valve or other means of flushing acceptable to the District. The maximum length for dead-end mains shall be 500 feet, unless approved by the District Engineer. Dead-end mains intended for future extension shall include a blow-off valve and be sized by the District.

### **3.6.3 Main Extension**

Per District Policy 8300, water mains shall be constructed in the public rights-of-way adjacent to the entire frontage of the parcel and/or in an approved easement. The minimum pipe size required in the frontage and within the easement shall be in accordance with Section 3.1, or as required by the District.

At the discretion of the District Engineer, if the main extension along the entire frontage (and or side street for corner lots) is not necessary, the main shall be extended to the location identified by the District. The Applicant shall then install a service line at their own expense from the water meter to the property and shall be responsible for obtaining appropriate property rights required for installation of the water service line.

### **3.6.4 Dual Mains**

Dual mains (one main on each side of the street) shall be installed on streets constructed with either:

1. A raised center median separating opposing lanes of traffic, or
2. A public right-of-way width of 80 feet or greater.

The minimum size of the main shall be as required in Section 3.2. Larger sized mains may be required to serve multi-family residential, commercial, or industrial projects or areas, as determined by an analytical evaluation of the anticipated requirements.

The District Engineer may waive this requirement based on review of local water system reliability and determination of minimal interruption of water service to customers.

Dual mains shall be interconnected ("cross-tied") as required by the District Engineer.

### **3.6.5 Horizontal and Vertical Curves**

In curved streets, the main shall follow the street curvature, and the alignment shall be planned to minimize crossing the street centerline. In general, horizontal and vertical curves shall be formed by deflecting the joints or by use of fittings. The amount of deflection in a joint shall not exceed fifty (50) percent of the value recommended by the pipe manufacturer or in accordance with AWWA standards, whichever is more stringent. Individual lengths of PVC pipe shall not be bent.

## **3.7 Distribution System Appurtenances**

Materials for all distribution system appurtenances shall be as listed in Section 4 of these Standards.

## 3.7.1 Valves

### 3.7.1.A Gate Valves

Gate valves shall be resilient wedge gate valves (AWWA C509) and shall be installed on all distribution mains twelve (12) inches in diameter and smaller such that:

1. No more than four valves need to be closed to shut down and isolate any section of water main.
2. Cross fittings shall have up to four (4) valves at the cross and tee fittings shall have up to three (3) valves at the tee, as determined by the District.
3. A minimum of one valve, located on the fire hydrant lead, is required at any tee installed for a fire hydrant.
4. Valves are no more than 800 feet apart on distribution mains, unless otherwise approved by the District.
5. No distribution main shutdown shall result in shutting down a transmission main.
6. No more than two (2) fire hydrants shall be out of service from any single shutdown.
7. Valves are placed on both sides of all casings and crossings of bridges, drainage channels, irrigation canals, railroads, and arterial roads.
8. Valves shall not be located in gutters or in driveways, if possible.
9. If an inline valve is required, it shall be located on a property line.

### 3.7.1.B Butterfly Valves and Gear Actuated Gate Valves

Butterfly valves shall be resilient seat valves (AWWA C504) and shall be placed to isolate transmission mains fourteen (14) inches in diameter and larger such that valves are no more than 2,000 feet apart on the transmission main, unless otherwise required by the District.

Gear actuated gate valves (AWWA C515) may be required by the District in place of a butterfly valve at specific locations identified by the District.

A minimum of one blow-off valve or hydrant, and one air and vacuum relief valve, shall be installed between isolation valves on mains 14 inches or larger.

Valve symbols shall indicate on which side of the pipe to install valve operator (valve box). No more than one valve operator shall be located in a single quadrant of a tee or cross.

### 3.7.1.C Combination Air and Vacuum Relief Valves

The water distribution system shall be designed to minimize high points where air can accumulate. All high points in the distribution system shall be provided with combination ARVs (AWWA C512). ARVs shall be provided in accordance with Table 3-5.

Table 3-5. Combination Air and Vacuum Relief Valve Sizing	
Pipe Diameter	ARV Size
6 to 12 inches	1 inch
14 to 24 inches	2 inches

Any pipe larger than 24 inches in diameter shall have an ARV designed by an engineer to allow for proper release of air and prevent vacuums during operation and maintenance.

ARVs shall be installed in accordance with Detail Drawings in the AV series. When possible, ARVs shall be located behind sidewalks, outside traffic areas, or within public rights-of-way or easements. ARVs shall be accessible to District personnel at all times.

## 3.7.1.D Blow off Valves

Blow off valves (BOVs) shall be installed at all low points and dead ends. BOVs shall be designed to allow dewatering sections of main for maintenance and repair or for water quality flushing. The District may require the installation of a fire hydrant in lieu of a BOV at dead ends.

BOV sizing shall be as identified in Table 3-6.

Table 3-6. Blowoff Assembly Sizing	
Pipe Size / Blow off Valve Type	BOV Size / Detail Drawing No.
Up to 12-inch pipe / dead end	2-inch Blowoff / BO_511
Up to 12-inch pipe / low point	2-inch Blowoff / BO_512

Any pipe larger than twelve (12) inches in diameter shall have a BOV designed by an engineer to allow for proper flushing velocity and flow.

BOVs shall be installed in accordance with Detail Drawings in the BO series. When possible, BOVs shall be located outside of traffic areas. BOVs shall be accessible to District personnel at all times.

## 3.7.1.E Tapping Valves

All taps into existing mains shall include tapping valves.

## 3.7.2 Fire Hydrants

Hydrants (AWWA C502 and C503) shall be located to provide adequate water for fire protection needs.

Hydrants shall be located with a maximum separation, as measured along the street curb, as follows:

1. Single Family Residential Areas: Five hundred (500) feet
2. Commercial and Multi-Family Residential Areas: Three hundred (300) feet

The local Fire Authority has ultimate authority for the location of hydrant placement. If feasible, within residential areas, hydrants shall be located on property lines between lots.

Hydrants shall be located within public rights-of-way, public utility easements, or dedicated water easements. Hydrants shall be located no less than three (3) feet from above ground surface features to provide unobstructed access in conformance with Detail Drawings in the FH series. Bollards shall be installed around fire hydrants (e.g., parking lots) as required by the District.

Hydrant runs shall not cross curb returns. The hydrant lateral line shall be a minimum of six (6) inches DIP. The District may require a larger diameter service line if the length exceeds fifty (50) feet.

Blue reflective hydrant markers shall be installed in accordance with the requirements of the Fire Authority, immediately upon being placed into service.

### 3.7.3 Metered Water Services

All water services shall be metered per District Policy 8000 series. The number of service connections and water service sizes, and water meter sizes shall be in accordance with District Policy 8000 series. Common spaces (e.g., pools and community buildings) shall be served by dedicated meters with a minimum size of three-quarters (3/4) inch.

#### 3.7.3.A Single Family Residential

A separate water service shall be installed for each residential parcel. The water service and meter size shall be as summarized below. The water service line size shall be equivalent to the proposed meter size, except for three-quarters (¾) inch meters as described below.

Single Dwelling – Detached: Single parcel with one (1) detached dwelling unit; minimum one (1) inch service line and meter.

Single Dwellings – Detached: Single parcel with two (2) detached dwelling units, one of which is an accessory dwelling unit (ADU); minimum one (1) inch service and meter. An additional one (1) inch service line and minimum three-quarters (3/4) inch meter may be allowed for the ADU.

Halfplex Dwelling – Attached: Common wall halfplex designed for occupancy by two households, each side being its own parcel; minimum one (1) inch service line and minimum three-quarters (3/4) inch meter per parcel.

Duplex Dwelling – One side: Common wall duplex designed for occupancy by two households living independently of each other, on a single parcel; one (1) service line supplying each side, minimum one (1) inch service lines and minimum three-quarters (3/4) inch meters.

Condominium/Townhome: Multiple (3 or more) attached dwellings, where each unit has its own front access on the ground floor, each having its own service; minimum one (1) inch service line and minimum three-quarters (3/4) inch meter.

Residential Parcels: Requests for water service lines and meter sizes exceeding the minimum will be evaluated on a case-by-case basis.

When possible, residential services and meters shall be installed within three (3) feet of adjacent property lines. Services for adjacent lots shall be located on the shared property line with a minimum of three (3) feet of separation.

#### 3.7.3.B Multi-Family Residential

Multi-family residential communities, consisting of one or more residential buildings, each divided to accommodate three (3) or more households living independently of each other in separate dwelling units, and mobile home communities, consisting of any site on which two or more residential mobile home lots are located, may be served by either of the following methods, as determined by the District Engineer in accordance with District Policy 8000 series:

- For communities with no existing District-owned mains through the property, metered service(s) shall be installed adjacent to the public ROW. All water facilities after the meter(s) are private.

- For communities with existing District-owned mains through the property, metered services shall be installed at each multi-unit building or mobile home space. Services shall be connected to District-owned mains internal to the community, all located in dedicated water easements or PUEs.

Service and meter size shall be determined by the Applicant's engineer based on maximum continuous demand.

### 3.7.3.C Non-Residential

Service and meter size shall be determined by the Applicant's engineer based on the maximum continuous demand and shall be a minimum of one (1) inch in diameter.

Non-residential properties requiring internal mains and service lines may be designed for private ownership or District ownership within an easement, as determined by the District Engineer based on offsite impacts to the water system.

### 3.7.3.D Dedicated Irrigation Meters – Residential and Non-Residential

A parcel shall have a separate irrigation meter when the parcel includes more than the prescribed square footage of irrigable landscape area per the authority having jurisdiction, in accordance with Policy Series 8000. The irrigation meter shall be either part of a dedicated metered irrigation service from the District or a privately owned submeter.

### 3.7.3.E Meter Locations

Water meters shall generally be located outside of traffic areas and shall conform to the District's Detail Drawings in the WS Series. Water meters and services shall be located in areas accessible to District personnel or agents at all times. Water meters and services not located on the property being served will require an easement, as determined by the District Engineer.

## 3.7.4 Meter Banks

In areas where water services and meters are installed in a bank of (3) three or more, the Applicant's Improvement Plans shall include the alignment of each private service line from meter to structure. Design and construction of these "meter banks" shall be developed in coordination with the District Engineer. Each meter shall be installed with permanent identification tags clearly indicating the address of the unit served.

## 3.7.5 Fire Service Lines

Fire lines shall be provided as required by the local Fire Authority and as specified below.

1. Fire Service for Single Family Residential Dwellings: The metered domestic water service to single family residential dwellings may be used for fire protection purposes. The Applicant's engineer shall size the water service to provide adequate flow for both domestic use and fire protection.
2. Fire Service for Non-residential Facilities and Multi-family Dwellings: A dedicated fire service(s) is required for commercial/industrial and institutional facilities and multi-family dwellings when protection is required by the Fire Authority.
3. Fire service shall be sized by the Applicant's engineer.



4. Fire service design and construction shall conform to the District's Detail Drawings in the FP series.
5. A backflow prevention device shall be installed on the fire service in accordance with Section 3.7.6.

### **3.7.6 Backflow Prevention Devices**

Backflow prevention devices shall be installed in the branch or service line supplying water to residential, commercial, or institutional customers where a potential exists for back siphonage of water into the distribution main, in accordance with the California State Water Resources Control Board Cross Connection Control Policy Handbook (CCCPH) and District cross-connection and backflow prevention regulation (included as Appendix F). In general, backflow prevention devices shall be installed on services to the following:

1. Single family residential services with auxiliary water supply, such as groundwater wells or water storage tanks
2. Irrigation water services
3. Multi-family residential, commercial/industrial, institutional, and governmental water services
4. Fire service lines

Backflow devices shall be listed on the most current List of Approved Backflow Prevention Assemblies published by the Foundation for Cross-Connection Control and Hydraulic Research, a Division of the University of Southern California, and as approved by the District. Backflow devices must also be on the District's list of approved products in Section 4.3.10 of these Standards.

All backflow devices shall be installed outside of building structures, and a minimum of thirty (30) inches and a maximum of sixty (60) inches downstream of the water meter. Backflow prevention devices for fire lines shall be located as close to the water main connection as feasible, at or near the property boundary and out of traffic areas.

#### **3.7.6.A New Services**

Backflow prevention devices shall be installed on all new services connected to the District water system, except for single-family residential users without auxiliary water supply.

#### **3.7.6.B Existing Services**

The District shall review existing water services for tenant improvement projects for conformance with current State and/or District standards and regulations. If the District determines that protection from backflow is needed, the existing water facilities shall be upgraded to comply with the current standards, in accordance with District Policy 8400.

### **3.7.7 Thrust Blocks and Restrained Joints**

#### **3.7.7.A Mechanical Joints**

All mechanical joints shall be restrained.

#### **3.7.7.B Thrust Blocks**

Thrust blocks shall be provided for all horizontal bends of 11-1/4 degrees and greater, tees, crosses, reducers, dead ends, and as required by the District Engineer. Thrust blocks for fittings



up to twelve (12) inches shall comply with District standard drawing TB\_001. Thrust blocks for fittings larger than twelve (12) inches shall be sized by the applicant's engineer. Thrust blocks shall be designed for test pressures of 150 psi with a minimum safety factor of 1.25.

### **3.7.7.C Restrained Joints**

For all vertical bends of 11-1/4 degrees and greater, and in instances where thrust blocks are not feasible, restrained joints, tie rods, or other methods of anchoring the pipes and fittings shall be provided. Such alternate methods shall be designed by the applicant's engineer and subject to approval by the District Engineer.

Pipe joints shall be mechanically restrained for pipe installed on slopes exceeding thirty (30) percent.

### **3.7.8 Sampling Stations**

Sampling stations shall be installed at locations where required by the District Engineer in accordance with Detail Drawing WS\_079. Sampling stations shall be located behind curbs or sidewalks, outside traffic areas, and within public ROW, PUE, or dedicated water easement, where it is accessible to District personnel or its agents at all times.

## **3.8 Special Conditions**

### **3.8.1 Separation from Structures**

Proposed water facilities shall be located to protect all existing and proposed structures. The minimum clear separation from any structure shall be seven and one-half (7.5) feet horizontally and one (1) foot vertically. If this minimum cannot be maintained, the following modifications may be required:

- Upgraded pipe material
- Pipe encasement

In such cases, the Applicant's engineer shall be responsible for the design and submission of the modification to the District for review and approval.

### **3.8.2 Flexible Joints**

Flexible joints shall be installed when water mains transition from below ground to above ground, where water mains enter a bridge or encasement, or in any other situation where differential settlement may be a concern, as determined by the District Engineer. The Applicant's engineer shall be responsible for the design and submission to the District for review and approval.

### **3.8.3 Steep Grades**

Water mains proposed on grades steeper than thirty (30) percent and not under nor intended to be under pavement shall be provided with special erosion protection over the pipe trench. As a minimum requirement, ground cover shall be planted. Trench dams to control water and sediment flow, diversion structures, and other surface improvements shall be required for slopes steeper than 10 percent.

The Applicant's engineer shall be responsible for the design of special erosion protection of the pipe and submission to the District for review and approval.

### **3.8.4 Water Mains Mounted on a Structure**

Water mains mounted on a structure may be required in special situations and will require District approval. A structural engineer shall prepare the design plans and calculations for review and approval by the District. The design shall include the following:

1. Pipe shall be DIP with internal restrained joints and external restrained fittings.
2. Flexible joints, as required.
3. Pipe support system.
4. ARV with cover at high point.
5. Valves, as required.
6. Pipe protection measures to prevent vandalism or unauthorized access, as required.

### **3.8.5 Trenchless Construction**

Boring and jacking, or horizontal directional drilling (HDD), may be required in specific situations and shall require prior approval by the District. A geotechnical evaluation shall be completed to verify soil conditions and viability of design. The design shall include the following:

1. Bore and jack shall be designed in accordance with Detail Drawings in the BORE series.
2. The design shall be shown in plan and profile with clear horizontal and vertical distances from existing structures.
3. Pipe installed within casings shall be supported by polyethylene runners.
4. The casing pipe shall be sized to provide adequate space to allow for the installation of pipe centralizers/runners and no less than eight (8) inches greater in diameter than the water pipe to be installed.
5. Pipe shall be ductile iron with restrained joints.
6. End seals shall be provided.
7. An in-line blow off valve or fire hydrant shall be provided at the low point in accordance with Detail Drawing BO\_512 or FH\_621.
8. ARVs may be required on one or both sides of the trenchless installation.
9. Valves on either side of the trenchless installation may be required.

## **3.9 Corrosion Protection**

Cathodic protection systems, if required by the District, shall be designed by a licensed Corrosion Engineer and approved by the District. The cathodic protection system shall include test stations on all reaches of the pipeline.

## **3.10 Abandonment of Water Facilities**

When existing water facilities are to be abandoned, they shall be physically disconnected from the active water system and rendered inoperable. All water mains designated for abandonment shall be abandoned in place and capped and sealed to the satisfaction of the District. If the abandonment of facilities in place is not feasible, the facilities shall be completely removed. The extent of removal shall be determined at the discretion of the District Engineer. Water mains twelve (12) inches and smaller shall be cut and capped, or plugged and completely encased in concrete, at each end. Water mains larger than twelve (12) inches shall be completely filled with sand or cement slurry mixture and capped, or plugged and completely encased in

concrete, at each end. Where an existing main is to remain in service, the tee or cross shall be blind flanged and restrained with a thrust block.

The meter, meter box, setter, and wood supports, for water service lines connected to water mains to be abandoned shall be removed.

When a water service line is to be abandoned on a main that will remain in service, the water service line and service saddle shall be removed. A minimum twelve (12) wide full circle stainless steel repair band shall be installed around the water main.

Abandonment of any water facilities or structures not listed in this section shall be as directed by the District.

## SECTION 4. CONSTRUCTION STANDARDS

This Section outlines the materials, installation, testing, and general construction requirements for the water system intended to deliver water to District customers. It establishes the District's minimum standards for constructing all water facilities.

These standards do not replace all construction requirements. If a specific construction requirement is not addressed in these Standards or the approved Project Plans, the appropriate requirements from the authority having jurisdiction shall apply. The Applicant's Engineer and the Applicant's Contractor must review and apply these standards to the Applicant's projects, as necessary.

### 4.1 General Requirements

#### 4.1.1 *Approved Plans Required*

No work shall commence on any water facilities which are intended to be attached to the District's system unless the Contractor is in possession of complete, fully approved plans and specifications bearing the signature of the District Engineer or duly authorized representative and covering all phases of the proposed construction. At the District Engineer's discretion, smaller projects, such as a single water service, may be allowed to submit simplified plans.

#### 4.1.2 *Reference to Standards*

References to standards in these specifications shall always pertain to the most recent officially adopted revision, including but not limited to AWWA, ASTM, manufacturer standards, and other relevant guidelines.

#### 4.1.3 *Construction Safety*

The Contractor shall be responsible for initiating, maintaining, supervising, and enforcing all safety precautions and programs related to the Work, as required by Labor Code Section 6401.7. The Contractor must take all necessary measures to ensure the safety of all workers on site and other individuals who may be affected by the Work.

The Contractor shall adhere to all applicable laws, ordinances, rules, regulations, and orders of any authority having jurisdiction for the safety of persons or property to protect them from damage, injury, or loss. This includes compliance with Cal/OSHA standards and the Construction Safety Orders and rules of the Division of Industrial Safety, State of California, as contained in the California Administrative Code, Title 8, Chapter 4, and any subsequent amendments.

#### 4.1.4 *Asbestos Cement Pipe Handling*

The District requires a current certificate of completion for training that qualifies individuals to perform asbestos construction work with asbestos cement pipe. Training must meet all applicable local, state, and federal regulations, as well as the District's Asbestos Cement Pipe Safety Plan.

#### 4.1.5 *Traffic Control*

The Contractor shall comply with all local ordinances and regulations established by the authority having jurisdiction for traffic control. A traffic control plan shall be prepared and submitted with the application for an encroachment permit. The Contractor must obtain approval from the authority having jurisdiction prior to starting construction. A copy of the approved encroachment permit, including the traffic control plan, shall be provided to the District before construction begins.

### ***4.1.6 Utilities and Existing Facilities Coordination***

The Contractor is responsible for locating and protecting all existing utilities within the project limits. The Contractor must notify Underground Service Alert (USA) at least forty-eight (48) hours before any underground construction. Existing underground utilities must be exposed and their locations and elevations verified prior to constructing new improvements. Fire hydrants on or near the work site must always remain accessible to firefighting equipment.

Any damage to existing pipelines, services, utilities, fences, buildings, landscaping, or other improvements shall be repaired or replaced by the Contractor at their expense.

Where construction impacts existing water facilities, the Contractor shall replace the affected facilities in accordance with the District's Standards and District Engineer requirements.

If an unexpected water facility not shown on the Improvement Plans is encountered, the Contractor must immediately notify the District. The District Engineer will decide whether to modify the Improvement Plans, relocate the utility, or have the contractor work around it.

### ***4.1.7 Permits, Licenses, and Fees***

The Contractor shall obtain all required permits and licenses, and pay any applicable fees required for construction of the Work. All Contractors performing work must hold a valid license under California law and in accordance with Section 2.1.4 to undertake such work. The Contractor shall acquire all permits necessary for construction, including any required encroachment permits for work within city, county, or state rights-of-way or easements. The Contractor shall comply with all requirements imposed by the authority having jurisdiction as specified in the encroachment permit.

### ***4.1.8 Security***

The Contractor shall be responsible for the security and protection of the job site, including all work, materials, equipment, and existing facilities, until final acceptance of the work measures must be taken to prevent vandalism and unauthorized access.

### ***4.1.9 Pre-Construction Meeting***

An on-site pre-construction meeting shall be held at least two (2) days before construction. The meeting will include the District Inspector, Applicant's Engineer, representatives of any authorities having jurisdiction, and the Applicant's Contractor to review materials, schedule inspections, discuss the approved water system construction plans, and arrange any necessary tie-in connections. The Contractor must possess the approved improvement plans before the pre-construction meeting and throughout the construction process. Pre-construction meetings shall only be scheduled after all water related fees are paid.

The Contractor shall contact the District five (5) working days prior to the requested pre-construction meeting.

### ***4.1.10 Required Notice***

The Contractor shall notify the District at least three (3) days before commencing construction. The Contractor must also provide the District with at least two (2) days' notice when inspections are required, as outlined in Section 4.2.1.

### **4.1.11 Water System Shutdown**

Only District personnel are authorized to perform water system shutdowns. Under no circumstances shall anyone other than a District representative open or close any valve in the District's system.

The Contractor must notify the District Engineer in writing at least seven (7) calendar days before a required shutdown to allow the District to provide advance notice to affected customers and the local Fire Authority. The written notice shall specify the expected duration and extent of the shutdown. Shutdowns shall not begin until the District Inspector verifies that the Contractor is present on-site and prepared with the necessary personnel, materials, and equipment as specified on approved plans.

Generally, shutdowns shall be scheduled to minimize interference with water usage by any District customer. If the shutdown period exceeds normal working hours, the Contractor will be responsible for the District's costs associated with providing overtime inspections.

## **4.2 Control of Work and Materials**

### **4.2.1 Inspection Requirements**

All construction inspection and testing are subject to provisions outlined in Section 2.7, Inspection and Testing, of these Standards. District Inspectors, acting on behalf of the District Engineer, are authorized to inspect any portion of the Work and all materials provided. Inspections may extend to all, or any part of the construction process as needed.

Typically, District construction inspection is required at the following stages:

1. Upon material delivery, prior to installation
2. During the installation of any facilities, before initial backfill
3. After initial backfill has been placed
4. During hydrostatic and bacteriological testing

The Contractor must keep the District construction inspector informed of the general progress of water system construction. Work performed without District inspection may require removal and replacement at the Contractor's expense.

If the Inspector identifies any failure of the Work or materials to meet the Standards, approved plans, or safety requirements, they may verbally notify the Contractor. The Inspector has the authority to reject materials or halt Work until the issue is resolved by the District Engineer or a duly appointed representative.

If the Contractor refuses to suspend operations on verbal order from the Inspector, the District Engineer shall then issue a written order stopping all Work. After delivery of the order to the Contractor or person in charge, the Inspector will immediately leave the job, and all Work done in the absence of the Inspector shall not be accepted.

#### **4.2.1.A Final Inspection**

Within ten (10) days after receiving a request for a final inspection, the District will inspect the completed work. The District will provide written notification to the Contractor, Applicant's Engineer, and the Applicant regarding any defects or deficiencies that must be addressed. The Contractor shall promptly correct any identified issues. Once corrective actions are completed,

the District will conduct a follow-up inspection to ensure compliance with the plans. The District will not accept the work or project until all deficiencies have been resolved to its satisfaction.

### ***4.2.2 Lines and Grades***

All Work shall be performed in accordance with the lines, grades, and elevations shown on the District approved Improvement Plans.

Basic horizontal and vertical control points will be established or designated by Applicant's Engineer. These points serve as the datum for the work. As a part of the construction, the Applicant's Engineer or Contractor shall perform all necessary surveys, layouts, and measurement tasks.

The Applicant's Engineer or Contractor shall provide skilled personnel, appropriate instruments, tools, stakes, and materials required for survey and layout tasks. Additionally, they must furnish competent staff and necessary equipment to establish control points, set construction easement boundaries, and verify the accuracy of survey work. Survey cut sheets showing stations, grade elevations, and cut and fill amount shall be submitted to the District Inspector prior to starting any work.

### ***4.2.3 Materials Approval***

At least ten (10) days before the pre-construction meeting, the Contractor shall submit a list of all materials proposed for use in the water system construction to the District for approval. The list must include the manufacturer, location of manufacture, and model number for each item. Construction work involving water system components shall not commence until all material submittals are approved by the District.

### ***4.2.4 Quality of Material***

All materials incorporated into the work shall be new and of a quality equal to or better than specified in these Standards. If the specified grade of a material is not clear, the highest quality available shall be used.

The Contractor shall, upon request, provide the District Engineer with authenticated documents or other proof demonstrating compliance with the specifications. This may include factory or laboratory test reports that verify the strength and quality of materials used. For all reinforced concrete work, the Contractor shall submit the mix design and calculated concrete strength prepared by the concrete supplier before pouring, if requested.

### ***4.2.5 Substitutions***

Where specific brands or trade names are listed in the Standards, the Contractor may propose alternative materials if they demonstrate equivalent design, quality, and efficiency. Any proposed substitution must be submitted in writing to the District Engineer, accompanied by supporting data. The District Engineer will review the proposal and provide a response within ten (10) business days.

No deviations from the Standards will be allowed unless the District Engineer approves substitutions. Any schedule delays resulting from submittals or use of "or equal" materials will be the sole responsibility of the Contractor.

### ***4.2.6 Defective Material and Work***

Any materials that do not conform to the specified requirements will be considered defective. Such materials, whether installed or not, shall be rejected and removed from the project site at the Contractor's expense.

### ***4.2.7 Quality of Workmanship***

All construction work shall be performed by experienced personnel under competent supervision, using best practices to meet the District's standards. The District reserves the right to reject any work that does not meet the required quality.

## **4.3 Materials**

This section specifies the materials required for water mains, fittings, and other components in the distribution system. All materials must be certified for potable water systems, comply with AWWA standards, and meet NSF 61 potable water certification. Additionally, they must adhere to California Assembly Bill (AB) 1953, which mandates a lead content of less than 0.25 percent lead by average weight.

### ***4.3.1 Materials and Brand Names***

All materials supplied under these specifications shall be new and exhibit the functional quality and efficiency specified. Where a brand or trade name is specified, it indicates a product known to meet the operational requirements. The Contractor must provide adequate documentation if proposing alternative materials, as outlined in Section 4.2.5.

All material proposed to be used shall carry the AWWA stamp of approval with test results to verify the material satisfies AWWA Standards and shall be subject to approval by the District Engineer.

### ***4.3.2 Water Pipe and Fittings***

Pipe used in constructing the water distribution system shall be one of the types specified below unless a particular type is explicitly required or shown on the approved plans.

All Water main materials must comply with Section 3 of these Standards. Pipes shall be free of defects and discoloration.

#### ***4.3.2.A Ductile Iron Pipe***

DIP shall meet the requirements specified in AWWA C151. Pipes shall be lined and coated as specified herein.

The minimum pressure class for DIP shall be 350.

##### ***4.3.2.A.1 Joints for DIP***

Joints for DIP shall be selected to suit the installation conditions. Gaskets for push-on joints, mechanical joints, and flanged joints shall consist of standard styrene-butadiene rubber in accordance with AWWA C111 and AWWA C115. Joints shall be in accordance with the AWWA C111 for push-on and mechanical joints, and AWWA C115 for flanged joints. Minimum rating of all joints shall be 250 psi. Flange gaskets shall be one-eighth (1/8) inch, either ring type or full face, in accordance with AWWA C115.

Push-on restrained joint pipe and fittings for ductile iron shall be boltless and capable of deflection after assembly. Restrained joints shall be rated for 350 psi working pressure for sizes four (4) inch through twenty-four (24) inch and 250 psi working pressure for sizes thirty (30) inch and thirty-six (36) inch. Restrained joint pipe and fittings shall be of the same manufacturer.



Manufactured restraint systems for mechanical joints shall be wedge type or wedge collar and rod type. Wedge type restraint systems shall use twist off bolts to ensure proper gripping pressure. Systems that rely on set screws only will not be acceptable.

### *4.3.2.A.2 Fittings for DIP*

All fittings used with DIP shall be ductile iron and conform to AWWA C110 and AWWA C153 with flanged and/or mechanical joints as required.

Flange gaskets shall be one-eighth (1/8) inch thick, either ring type or full face, conforming to AWWA C115.

### *4.3.2.A.3 Lining and Coating for DIP and Fittings*

DIP shall have a cement lining in accordance with AWWA C104 and have an asphaltic coating in conformance with AWWA C151.

### *4.3.2.A.4 Approved Manufacturers and Products*

1. Piping
  - a. American Cast Iron Pipe Company
  - b. McWane Ductile
  - c. US Pipe
2. Mechanical Joint Restraints
  - a. EBAA Iron Series 1100 Megalug
  - b. Star Pipe Products Stargrip Series 3000
  - c. Tyler Union TUFGRIP Series 1000
3. Push-On Joint Restraints
  - a. FIELD LOK350®
  - b. TR FLEX® with TR FLEX Gripper Ring®
4. Fittings
  - a. Tyler Union
  - b. Star Pipe Products
  - c. SIGMA

### *4.3.2.B Polyvinyl Chloride Pressure Pipe*

All PVC water pipes shall conform to the requirements as specified in AWWA C900. PVC pipe shall be DR 14, Pressure Class 305 and manufactured within eighteen (18) months prior to installation.

The standard length of PVC pipe shall be twenty (20) feet with cast iron outside diameters.

### *4.3.2.B.1 Joints for PVC Pipe*

PVC pipe joints shall be made with elastomeric gasket bell ends, which shall be integral and thickened, conforming to AWWA C900 standards. Gaskets shall conform to the requirements of ASTM F477.

Manufactured restraint systems for mechanical joints shall be wedge type or wedge collar and rod type. Wedge type restraint systems shall use twist-off bolts to ensure proper

gripping pressure. Systems that rely solely on set screws are not acceptable. Mechanical restrained joints used on PVC pipe shall be specifically designed and rated for PVC use.

#### *4.3.2.B.2 Fittings for PVC Pipe*

All fittings for PVC pipe shall be in accordance with Section 4.3.2.A.2 of these Standards.

#### *4.3.2.B.3 Lining and Coating for PVC*

No lining or coating is required for PVC pipe.

#### *4.3.2.B.4 Approved Manufacturers and Products*

1. Piping
  - a. Diamond Plastics
  - b. JM Eagle
  - c. North American Pipe Corporation
  - d. Northern Pipe Products
  - e. Vinyltech
2. Mechanical Joint Restraints
  - a. EBAA Iron Series 2000PV Megalug
  - b. Star Pipe Products Stargrip Series 4000
  - c. Tyler Union TUFGRIP Series 2000
3. Fittings
  - a. Tyler Union
  - b. Star Pipe Products
  - c. SIGMA

### **4.3.3 Valves and Valve Boxes**

All main valves and fire hydrant valves shall be provided with traffic-rated valve boxes and cast iron lid, marked with the word "WATER."

All AWWA key-operated valves, twelve (12) inch and smaller, shall be resilient wedge gate valves unless otherwise specified.

Valves fourteen (14) inch and larger shall be butterfly valves unless otherwise specified.

All valves shall be flanged to fittings unless otherwise noted.

#### **4.3.3.A Gate Valves**

Gate valves shall be ductile iron with fusion-bonded epoxy coating and conform to AWWA C509. These valves shall be resilient wedge type valves with non-rising stems and have "O" ring stuffing boxes. Stuffing boxes shall be bolted and designed for easy repair. Valves shall open counterclockwise and have a two (2) inch square operating nut. Valves twelve (12) inches and smaller shall be hydrostatically tested and drop-tight at a pressure of not less than 500 psi and rated for 250 psi working pressure.

#### *4.3.3.A.1 Approved Manufacturers and Products*

1. Clow, Model 2639
2. Kennedy Valve, Model KS-RW
3. Mueller, 2360 Series

#### 4. American, Series 2500

##### 4.3.3.B Butterfly Valves

Butterfly valves, fourteen (14) inches and larger, shall be rubber-seated conforming to AWWA C504 Class 250B. Valves shall open counterclockwise and have a two (2) inch square operating nut. Each butterfly valve shall be provided with a manual gear actuator, with stops in the full open and full closed positions, designed for buried service.

###### *4.3.3.B.1 Approved Manufacturers and Products*

1. Mueller / Pratt HP250™
2. Clow, Style 4500 (14"–24") and Style 1450 (30"–54")

##### 4.3.3.C Air Release and Vacuum Relief Valves

Air release and vacuum relief valves shall be single-body, combination air release valves conforming to AWWA C512. The valves shall be sized according to the line size and pipe length they are designed to protect.

The valve body shall be rated for a working pressure of at least 200 psi, coated with fusion-bonded epoxy, and constructed with stainless steel floats corrosion-resistant components, such as brass, bronze, or stainless steel. Air release and vacuum relief valves shall be assembled and installed in accordance with Detail Drawings in the Air/Vacuum Valves (AV) series, as required.

###### *4.3.3.C.1 Approved Manufacturers and Products*

1. Crispin, UL Series

##### 4.3.3.D Tapping Sleeves and Tapping Valves

Tapping sleeves conforming to this specification and conforming to AWWA C223 shall be used for all wet tapped connections larger than two (2) inches onto an existing water main. The tapping sleeve for wet tapping of PVC, ductile iron, or ACP water mains shall be a stainless steel (Type 304) tapping sleeve assembly, complete with gaskets and bolts. Each tapping sleeve shall include a tapping valve of the same size as the branch allowing attachment of a drilling machine for tapping the main. The tapping sleeve and valve shall have a minimum rating of 250 psi working pressure. Tapping valves shall have a two (2) inch square nut operating nut.

Tapping sleeves shall be fully constructed of stainless steel. Tapping valves shall comply with gate valve requirements as outlined in Section 4.3.3.A.

###### *4.3.3.D.1 Approved Manufacturers and Products*

1. Tapping Sleeves
  - a. JCM, 432 All Stainless Steel Tapping Sleeves

##### 4.3.3.E Blowoffs

Blowoffs shall be installed in accordance with Detail Drawings in the Blow-off Valves (BO\_500) series, as required. The installation shall ensure adequate drainage and accessibility for maintenance.

### *4.3.3.E.1 Approved Manufacturers and Products*

1. Nibco, T-113-LF

### *4.3.3.F Corporation and Curb Stops*

All corporation stops and curb stops shall be ball valves made of lead-free brass.

### *4.3.3.F.1 Approved Manufacturers and Products*

1. Corporation Stops
  - a. Mueller 300 Series Ball Type
  - b. Ford FB Series with MNPT Inlet
2. Straight Curb Stops
  - a. Mueller 300 Series
  - b. Ford
  - c. Jones

### *4.3.3.G Valve Boxes, Risers, and Enclosures*

Valve boxes and risers shall be installed for all main line valves and fire hydrant valves and shall be traffic rated. Enclosures for air/vacuum valves shall be appropriately selected based on their location.

Valve risers shall consist of a single section of 8-inch SDR 35 PVC pipe.

### *4.3.3.G.1 Approved Manufacturers and Products*

1. Blow Off Valves
  - a. Carson 1220-12 with Carson 1220-4B lid (Landscape Area)
  - b. Christy FL30TBOX12 with Christy FL30T lid (Sidewalk/Driveway)
  - c. Christy B1324BOX with Christy B1324-61JH lid (Street)
2. Main line Valves and Fire Hydrant Valves
  - a. Oldcastle Precast No. G04 Box with Oldcastle Precast G04C Lid
  - b. B & T Mark VII CUL12RHVYF Box and GRE12LHVYWLS Lid (Arterial Streets)
3. Air/Vacuum Valve Enclosure, Above Ground
  - a. Placer Waterworks Model PW/SJARV2 Insulated (1-inch)
  - b. Placer Waterworks Model PW/SJARV-3 Insulated (2-inch)
4. Air/Vacuum Valve Enclosure, Below Ground
  - a. Quazite B30 (1-inch)
  - b. Quazite B36 (2-inch)
5. Air/Vacuum Valve Lid and Housing, Below Ground
  - a. Placer Waterworks Model PW/AE3018-M (1-inch)
  - b. JTS Manufacturing JS30-ARVT-N (1-inch)
  - c. Placer Waterworks Model PW/AE3618-MC (2-inch)
  - d. JTS Manufacturing JS36-ARV10T-N (2-inch)

### *4.3.4 Fire Hydrants*

Fire hydrants shall be installed in accordance with the requirements of the Fire Authority having jurisdiction and in conformance with the appropriate Detail Drawing from the Fire Hydrants & Protection Barricades (FH\_600) series. Prior to installation, Contractor shall confirm requirements with the Fire

Authority. The Fire Authority requirements, where more stringent, supersede the general requirements provided in this section or in the Detail Drawings.

All fire hydrants shall conform to the requirements of AWWA C502 or C503. Hydrant buries shall have mechanical or flanged joints.

### 4.3.4.A Approved Manufacturers and Products

1. City of Roseville
  - a. Clow, 2060 Series
  - b. James Jones, Model J3762-Z13
2. Sacramento Metropolitan Fire District
  - a. American Darling, Model B84B
  - b. Mueller, Model A-423
3. South Placer Fire Protection District
  - a. Clow 960

### 4.3.5 Service Lines and Fittings

Water service line shall be sized per Section 3.7.3 of these Standards and the Detail Drawings in the Water Services (WS) Series, unless otherwise specified in the approved project plans.

Embedment material for service lines shall be installed in conformance with requirements in Section 4.4.5 of these Standards and Detail Drawings in the Trenches (TREN) series.

#### 4.3.5.A Service Line Material and Installation

Service lines up to and including two (2) inches in diameter shall be polyethylene tubing in conformance with AWWA C901 and shall conform with Detail Drawings in the WS Series (3/4 inch to 2 inch). Service lines larger than two (2) inches in diameter shall be DIP in accordance with the Detail Drawings in the WS Series (3-inch and larger).

#10 insulated copper locator wire shall be placed on the polyethylene line and extend into the meter box.

##### 4.3.5.A.1 Approved Manufacturers and Products

1. CTS, EndoPure PE 4710 SODR 9
2. ADS, Polyflex Series

#### 4.3.5.B Service Taps and Connections

Service saddles shall be used for all pipe connections up to two (2) inches on water mains. Service valves and fittings shall conform to AWWA C800. Saddles shall be designed and rated for the specific pipe diameter and material being tapped. Saddles shall be shaped to accurately fit the contour of the main.

Saddles for ductile iron pipe and asbestos cement pipe shall be silicon bronze double straps and constructed from bronze or brass. Straps shall have a flattened design to provide large bearing surfaces for a secure installation. Saddles for PVC pipes shall be made of bronze with neoprene gaskets wedged in place at the tapping boss to provide a tight seal at the main. "Eared" saddles are not permitted.

All service valves shall be full-port ball valves with stainless steel inserts.

Connections for fire sprinkler systems shall be approved by the Fire Authority and the District Engineer.

Service connections shall be as shown in Detail Drawings in the WS series.

#### *4.3.5.B.1 Approved Manufacturers and Products*

1. Mueller
2. McDonald
3. Ford
4. Jones

### **4.3.6 Meters and Meter Boxes**

#### **4.3.6.A Meters and Meter Equipment**

All water services shall be equipped with meters, consistent with the required meter sizes in Section 3.7.3 of these Standards. The District will provide and install new meters for sizes up to two (2) inches. Meters larger than two (2) inches shall be supplied and installed by the Contractor, with the meter type and model obtained from the District.

#### *4.3.6.A.1 Approved Manufacturers and Products*

1. Combined Fire Service Meter
  - a. Neptune Protectus III
  - b. Neptune Mach 10
2. Detector Check RadioRead Monitor for Fire Lines
  - a. Neptune Mach 10 with ProCoder R900I Register
3. AMR Meter Interface Units for Fire Lines
  - a. Datamatic Innov8 Smart Reader Register

#### **4.3.6.B Meter Boxes**

Meter boxes shall be provided for all service meters up to six (6) inches and installed as indicated on Detail Drawings in the WS series. Unless otherwise specified by the District Engineer, meter boxes shall be selected according to the Meter Box Schedule provided in Table 4-1.

Table 4-1. Meter Box Schedule			
Meter Box Location	Meter Size, inches		
	$\frac{3}{4}$ – 1	1 $\frac{1}{2}$ – 2	3 – 6 (compound)
Street			
Model No.	Christy BXB1324-H/20 Lid 1324-61JH	Christy BXB1730-61JH	Christy B3048BOX with B3048-63JH Lid
Inside Width, inches	14	17-7/8	30-1/4
Inside Length, inches	24-5/8	30-5/8	48-1/4
Sidewalk or Driveway			
Model No.	Quazite B30 Box PD1324B5507 with Quazite B30 Lid PG1324W54150 or Christy FL30T Series with Christy FL30P Lid	Quazite B36 Box PD1730B510 with Quazite Lid PG1730W4250 or Christy FL36TBOX12 with FL36P Lid	N/A
Inside Width, inches	13-1/4	17-1/8	-
Inside Length, inches	24-1/4	30-1/4	-
Landscape			
Model No.	Carson 1220-12 with 1220-4B Lid	Carson 1730-15 with 1730-4B Lid	Christy B48 BOX with B48-62J Lid
Inside Width, inches	17-3/8	17	30-1/4
Inside Length, inches	23-7/8	30	48-1/4

Meter boxes and lids in traffic areas shall be H-20 load rated reinforced concrete boxes with steel or cast iron lids. Meter boxes in all other areas shall be concrete or polymer composite boxes with lids of matching material. Each meter box lid shall have a recessed hole for a meter reading probe.

#### 4.3.6.C Meter Vaults

Meters greater than six (6) inches in size shall be housed in meter vaults and shall be installed as indicated on Detail Drawings in the WS series.

##### 4.3.6.C.1 Approved Manufacturers and Products

1. Meter Vaults: Teichert Precast 510 Series

#### 4.3.6.D Meter Accessories

Meter accessories shall conform to the requirements specified in these Standards and Detail Drawings. Approved products for meter accessories are listed in Table 4-2.

**Table 4-2. Approved Manufacturers and Products for Meter Accessories**

Item Description	Approved Materials/Manufacturers
Strainer for Meters 3" and Larger	Neptune 53107-000
Meter (3" and Larger) to Customer Pipe Connection Flange Adaptor	Romac RFCA Star Pipe Products StarFlange RAFC
Bronze Flanges for Meters 2" and Smaller	Ford #7F Ford #6F

### **4.3.7 Flexible and Transition Couplings and Mechanical Joint Sleeves**

Flexible couplings shall be bolted, sleeve-type steel or ductile iron couplings conforming to AWWA C219. These couplings shall be designed and rated for use on the intended pipe materials and sizes. Insulating couplings shall be used for insulated connections. The minimum body length for transition couplings shall be twelve (12) inches. Any new style transition coupling must be approved by the District prior to installation.

#### **4.3.7.A Approved Manufacturers and Products**

1. Ford, Model FC2W-L12
2. ROMAC Industries, Inc., Model XR501

### **4.3.8 Flange Gaskets**

Gaskets shall be one-sixteenth (1/16) inch thick or greater, full-faced type, made of styrene butadiene rubber.

Where required to connect two different pipe metals, a pipe joint insulation kit shall be installed, including isolating Type 'E' full-face gasket, bolt sleeves and double washers. The insulation kit shall be NSF61 compliant.

#### **4.3.8.A Approved Manufacturers and Products**

1. Ford, Rubber Gasket Model GT141

### **4.3.9 Bolts and Hardware**

All bolts, including T-Bolts, nuts, All-Thread rod, etc., shall be hot-dip galvanized after fabrication. Substituting stainless steel fasteners for galvanized fasteners is not permitted. Bolts for flanged curb stops and flanged meters shall be fifteen sixteenths (15/16) inch. Anti-seize lubricant shall be applied on bolt threads. All bolts shall be torqued to manufacturer's specifications.

Approved products for additional hardware are provided in Table 4-3.



**Table 4-3. Approved Manufacturers and Products for Hardware**

Item Description	Approved Materials/Manufacturers
Valve Extension	Placer Waterworks Model PW/ACWD STD
Pipe Joint Isolation Kit	Advance Product Systems (APS) Voltacept™ G-10 Type 'E' Gasket Kit with Trojan Gasket GPT Linebacker® 61™ G-10 Type 'E' Flange Isolation Kit
Threaded Air Vent Cap with Stainless Steel Screen	T Christy's Air Vent Cap, Model VC1 or VCM1 (1") T Christy's Air Vent Cap, Model VC2 or VCM2 (2")

#### 4.3.10 Backflow Prevention Devices

Backflow prevention devices shall be of the type approved on the plans and consistent with Section 3.7.6 for the appropriate service and situation. All backflow devices shall comply with California Department of Health Services Title 22 requirements and the standards established in the most recent edition of the State Water Resources Control Board Cross-Connection Control Policy Handbook. In accordance with Appendix D, backflow devices shall be approved by the DDW and be on the most recent List of Approved Backflow Prevention Assemblies published by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research. Devices must be protected by an insulated enclosure as specified in Detail Drawings in the Reduced Pressure Backflow Prevention Assemblies (RP) series.

##### 4.3.10.A Approved Manufacturers and Products

1. Backflow Prevention Devices
  - a. Zurn/Wilkins
  - b. Febco
  - c. Watts
2. Backflow enclosure:
  - a. Placer Waterworks Models PW/E1A-W(S) or PW/E1A-W(M)
  - b. Weather freeze bag (Green)

#### 4.3.11 Locator Wire and Warning Tape

Locator wire shall be copper wire, Type TW, size AWG No. 10 with a minimum insulation thickness of 0.045mm.

Warning tape shall be acid and alkali resistant polyethylene or polyolefin film, with a width of three (3) inches and a thickness of four (4) mils. The tape shall be blue for potable water, continuously printed with the words "Warning Water Line Below" or equivalent.

#### 4.3.12 Pipe Embedment

Pipe embedment material shall be No. 2 washed sand, free from organic materials, recycled materials, including recycled aggregate base, and other deleterious substances. Pipe embedment material shall be compacted to form a firm, stable base. Embedment material shall be installed in conformance with requirements outlined in Section 4.4.5 of these Standards and Detail Drawings in the TREN series.

#### 4.3.13 Thrust Blocks

Thrust blocks shall be constructed using Class B Type II six-sack Portland cement. The dimensions of the thrust blocks shall be in accordance with Detail Drawing TB\_001A.

## 4.3.14 Restrained Joints

Pipes shall be restrained to the length specified in the approved Project plans.

## 4.3.15 Concrete

Concrete for thrust blocks, encasements, filling, blocking, piers, and other applications shall be transit-mixed from a supervised batch plant. Each load must include a certified delivery ticket showing the mix proportions, mixing time, true departure time and water added. Certified tickets shall be presented to the Inspector at the time of delivery. Ready-mixed concrete shall be batched and handled in accordance with ASTM C94, while job-mixed concrete is limited to minor non-structural uses requiring one sack or less of cement. In such cases, materials and workmanship shall meet the same standards as transit-mixed concrete.

Approved concrete material shall be Portland Cement concrete as specified in Section 90 of the California Department of Transportation (Caltrans) Standard Specifications and shall be chosen according to Table 4-4.

Table 4-4. Concrete Material					
Class	Application	Min. Weight of Portland Cement, lbs/cy	Maximum Aggregate Size, Inches	Slump Inches Min Max	
A	Walls, drop structures, slabs, and reinforced structural encasement	564 (6 sack)	1-1/2	3	6
B	Thrust blocks, drop pipe encasement, pipe bedding, nonstructural use	470 (5 sack)	1-1/2	2	6
C	Pump mix for abandoning lines	376 (4 sack)	3/8	--	--

The 28-day compressive design strength of concrete shall be chosen according to its intended use as outlined above.

## 4.3.16 Mortar

Mortar used for construction shall be a commercial-grade non-shrink grout.

## 4.3.17 Reinforcing Steel

Reinforcing bars shall be Grade 40 minimum, deformed, and conform to ASTM A615.

Wire mesh reinforcement shall conform to the requirements of ASTM A185, with wire gauge and mesh dimensions as shown on the Improvement Plans.

## 4.4 Installation and Construction

The location of water facilities shall be established and staked by a licensed civil engineer or land surveyor. Finished grade locations shall be staked for fire hydrants, main valves, tees, crosses, angle points, water services, and related appurtenances. The Contractor shall remove and reconstruct any work that is improperly located.

All pipe, fittings, and appurtenances shall be loaded for delivery and unloaded in such a manner as to avoid damage to the pipe or appurtenance. All fittings, hardware, and installation methods shall be appropriate for the type of material being installed.

Delivery of pipe and appurtenances to the site of the Work shall not take place until immediately prior to the installation thereof.

All pipe and appurtenances shall be handled with care to avoid damage. Whether moved by hand, skidways, or hoists, the pipe shall not be dropped or bumped against other pipe, accessories, or other projects.

### **4.4.1 Control of Site Conditions**

Contractor shall be responsible for controlling all site conditions including noise, dust, drainage, erosion, and pollution, in accordance with all local ordinances and regulations involving the control of site conditions. The requirements that follow are intended to supplement those governing local ordinances and regulations. Where a conflict arises, the local ordinances and regulations shall prevail.

#### **4.4.1.A Control of Water**

The Contractor shall provide and maintain temporary drainage of groundwater from all excavations related to construction of water facilities. The Contractor shall remove all water that may accumulate in the excavation during the progress of the Work so that all Work can be done under dry conditions. Trenches and other excavations shall be kept free from water while the pipe or structures are installed, while concrete is setting, and until backfill has progressed to a sufficient height to anchor the Work against possible flotation or leakage. The laying of pipe or the placing of concrete will not be allowed under circumstances where there is standing water in the excavation. Failure by the Contractor to dewater the excavation area may result in an order to halt progress of the Work until compliance has been achieved.

### **4.4.2 Water Used in Construction**

If water use is needed at the construction site, the Applicant or Contractor shall complete a Hydrant Meter Permit and obtain a construction water meter from the District. An appropriate billing address for water use during construction must also be provided. No construction water shall be taken from an unmetered source unless specifically approved by the District Engineer.

Construction water for residential development projects shall be available in accordance with the fees and conditions in the District Policies. Water meter idlers may be installed in place of water meters for lots in single-family developments in accordance with Detail Drawings in the WS series after payment of fees and at District inspection. The water meter idler may be used to reserve space for the water meter while installing the domestic water line to the home. No water use is permitted through the idler.

Water services may be shut down if any District personnel observe unauthorized water use.

The Applicant and Contractor are jointly and severally responsible for paying for water consumption during construction, including, but not limited to, water used for grading, pipeline flushing, and testing. The project will not be accepted until the account is paid in full.

### **4.4.3 Coordination of Work with Street Development**

Street development activities, such as grading and laying of base rock and asphalt, must be coordinated with water facilities installation to ensure the integrity of installed pipes and connecting joints. If, in the Inspector's opinion, street development work compromises the water installation after a passing test, the

Contractor may be required to conduct additional pressure tests. Any damage identified must be repaired at the Contractor's expense, including reimbursing the District for the cost of extra tests.

#### **4.4.4 Existing Pavement Removal**

Existing pavement removal shall be removed according to the standards set by the authority having jurisdiction. The pavement must be cut on straight, neat lines prior to excavation, parallel and equidistant from the trench centerline. The width of the removed pavement shall conform to the specifications of the authority having jurisdiction or the Detail Drawings from the TREN series, whichever is more stringent. Pavement between these lines shall be broken and removed just ahead of trenching operations. Any pavement damaged outside these lines shall be restored at the Contractor's expense.

#### **4.4.5 Trench Excavation and Backfilling**

Prior to excavation, the Contractor shall verify requirements with the authority having jurisdiction. Excavation and trenching in public streets and highways shall comply with the standards of the authority having jurisdiction. In the pipe zone, from the trench bottom up to twelve (12) inches above the pipe, District requirements shall take precedence. In all other cases, the following standards apply.

Trench excavation involves all digging necessary for grading and constructing the water line as shown on the Improvement Plans and in accordance with the Detail Drawings in the TREN series. The Contractor shall excavate to the specified depths indicated on the Improvement Plans, regardless of the materials encountered, unless otherwise specified or required. Excavation shall be by open cut unless short trench sections can be safely tunneled and properly compacted.

Excavation should only occur after the necessary pipes and materials are delivered to the site.

Holes for bells or couplings shall be excavated after the trench bottom has been graded and embedment material placed. These holes should be only as large as necessary to properly make the joint. Any over-excavation areas shall be backfilled with the same bedding material.

The trench bottom shall be evenly graded to ensure uniform bearing and support for each pipe section, free of clods, rocks, and excess spoil material. Grades must be transferred from the ground surface to the trench bottom by experienced workers using less than three (3) consecutive grade points to ensure accurate alignment.

##### **4.4.5.A Trench Width**

The width of unsheathed trenches shall be sufficient to provide adequate working space and sidewall clearances for proper pipe installation, jointing, and embedment. Trenches shall be constructed following the applicable Detail Drawings in the TREN series.

The area above the pipe zone must meet the requirements of the authority having jurisdiction. In cases of conflict between the TREN series details and the requirements of the authority having jurisdiction, the latter shall prevail.

##### **4.4.5.B Pipe Cover**

Unless specifically authorized by the District Engineer, the minimum cover for water mains shall be thirty-six (36) inches below finished grade. If the cover is less than this minimum, DIP shall be used, subject to prior District Engineer approval. In such cases, the DIP must have a minimum cover of twenty-four (24) inches below finished grade and a slurry cap.

### 4.4.5.C Shoring

The Contractor shall provide, install, and maintain sheeting or shoring, and bracing as needed to support excavation sides and prevent any soil movement that could damage structures or utilities. All excavations must adhere to the rules, orders, and regulations set forth by the California Division of Occupational Safety and Health (Cal/OSHA). All shoring practices shall comply with Cal/OSHA standards.

The Contractor is responsible for any injury or damage resulting from inadequate sheeting, shoring, or their removal.

### 4.4.5.D Placement of Pipe Embedment

Embedment material shall be placed in conformance with these Standards and Detail Drawings in the TREN series. Prior to embedment placement, the trench shall be cleared of debris, leveled, and inspected for the specified cut. Bottom embedment material shall be compacted and leveled before pipe placement.

Once the pipe is properly laid and inspected, embedment material shall be hand-shoveled uniformly on both sides of the pipe to anchor it securely. Care must be taken not to drop embedment material directly onto the pipe. During backfilling, all shoring materials shall be removed carefully to minimize movement or collapse.

Soil compaction shall be conducted in conformance with Section 4.4.10.B of these Standards.

### 4.4.5.E Maximum Length of Open Trench

Unless otherwise specified by the District Engineer, the maximum open trench length shall be one block, 400 feet, or the distance necessary for one day's pipe installation, whichever is shorter. No trenches shall be left open overnight unless covered with steel plates capable of bearing expected wheel loads.

### 4.4.5.F Unsuitable Material on Bottom of Trench

If the excavation bottom does not provide a firm and uniform bearing for the pipe due to rock, hardpan, shale, or other non-excavatable material, the Contractor shall excavate at least six inches below the pipe's bottom grade. The trench shall then be refilled with the specified pipe embedment material, consolidated, and reshaped to the required section and grade as specified in Section 4.3.12.

### 4.4.5.G Over Excavation or Inaccurate Trimming

If over excavation or inaccurate trimming occurs due to the Contractor's operations or other reasons, resulting in inadequate trench shaping, the Contractor shall refill the trench with the specified backfill material at their own expense. The trench bottom shall then be consolidated and reshaped to meet the required specifications.

## 4.4.6 Pipe and Fitting Installation

Pipe shall be laid and installed in accordance with this section. Alignment and elevation of piping runs shown on the Improvement Plans shall be followed as closely as possible, with minor adjustments made to avoid obstructions. Any major relocations due to unforeseen obstructions require approval from the District Engineer.

### 4.4.6.A General Pipe Installation

The Contractor shall properly assemble all pipe and ensure an installation that is true to line and grade, free from leaks, cracks, and obstructions.

Each pipe length shall be laid on compacted, approved bedding material as specified in Section 4.3.12 ensuring full bearing along its length. Adjustments to line and grade shall be made by scraping or filling and tamping the bedding material under the pipe body. Wedging or blocking with wood or soil to support the pipe is prohibited.

Pipe sections and fittings must be cleaned before installation. Pipes shall be installed with the manufacturer's markings on top and visible. All pipe, fittings, valves, and appurtenances shall be lowered carefully into the trench using suitable tools or equipment to prevent damage. Damaged linings or coatings shall be repaired before installation or backfilling.

Pipes shall be laid true to line, with no visible misalignment at any joint unless a curved alignment is specified on the Improvement Plans. The maximum joint deflection shall not exceed 50% of the value recommended by the pipe manufacturer or as per AWWA standards, whichever is more stringent.

Joints shall only be made with the couplings and rubber rings provided with the pipe. The use of techniques like "stabbing," "swinging in," or "popping on" spigot ends of pipe into bell ends is not permitted.

Pipe shall not be laid when trench or weather conditions are deemed unsuitable by the District Engineer. The interior of the pipe shall be cleared of any dirt or debris during construction. At the end of each workday, or during breaks, the pipe ends shall be securely covered to prevent contamination.

### 4.4.6.B. Minimum Pipe Length Segment

Water main layouts shall be designed using full pipe segments. At valve or water service tie-ins, pipe segments shall be at least three feet in length.

### 4.4.6.C PVC Pipe

PVC pipe installation shall conform to AWWA C605 and AWWA Manual No. 23, PVC Pipe - Design and Installation. Proper tools and equipment must be used to place the pipe in the trench without causing damage. Fittings, valves, and other components must not be supported or carried by the PVC pipe itself. When soil conditions or excavations do not provide adequate support, concrete pads or drain rock shall be used for fittings, valves, and appurtenances.

Field-cut PVC pipe must have burrs removed, ends beveled, and marked for proper insertion depth. Horizontal and vertical curves shall be formed by joint deflection not exceeding 50% of the manufacturer's recommendation or AWWA standards, whichever is more stricter. PVC pipe shall not be bent. Pipe must be laid with bell ends facing the direction of installation unless reverse laying is specifically approved by the District Engineer.

### 4.4.6.D Ductile Iron Pipe

Ductile Iron Pipes (DIP) shall be installed in accordance with AWWA C600, Installation of Ductile Iron Water Mains and their Appurtenances.

Pipes shall be laid in alignment and grade as indicated in the Improvement Plans. For curve alignments, pipe joints may be deflected to accommodate the curve using either shorter pipe sections or fittings, as required. Joints shall be deflected after the joint is properly assembled. For mechanical joints, the joints shall be deflected before tightening of bolts.

Pipe cutting shall be done in a neat manner, without damage to the pipe, coating, or the lining. Cuts should be smooth, straight, and perpendicular to the pipe axis. After cutting, the pipe end should be dressed with a file or power grinder to eliminate all roughness or sharp edges. The cut ends of push-on joint pipe shall be suitably beveled.

Mechanical joints should be assembled with care, in accordance with the manufacturer's recommendations. Bolts must be uniformly tightened to the torque values specified in Appendix A of AWWA C111. Over-tightening of bolts as a compensation for improper installation practice is not allowed.

Push-on joints, where approved, must be assembled in accordance with the pipe manufacturer's instructions. To ensure proper jointing, all surfaces should be lubricated with a heavy vegetable soap solution immediately before joint completion. The lubricant used should be water-compatible, stored in closed containers, and kept clean. Each spigot end must be appropriately beveled to facilitate assembly.

If the joint fails to seal effectively, it should be repaired or replaced, as necessary.

Corrosion protection may be required depending on specific soil conditions.

#### 4.4.6.E Thrust Blocks

Thrust blocks shall be constructed of Class B concrete as specified in Section 4.3.15 and constructed in accordance with Detail Drawings in the Concrete Thrust Blocks (TB) series. They shall be poured against undisturbed earth. If the District Engineer determines that the soil is unsuitable to support the imposed load, the Contractor must provide additional anchorages as designed by the Applicant's Engineer and approved by the District Engineer. Ground surfaces where concrete will be placed should be moistened prior to pouring to prevent excessive moisture absorption. If forms are needed, they must be smooth, mortar-tight, and strong enough to maintain shape during concrete placement. Placing methods should ensure that the concrete reaches its final position without segregation. All concrete should be placed and compacted to create smooth surfaces along form lines and eliminate air pockets. Thrust blocks should be positioned so that pipe and fitting joints remain accessible for repair. The concrete used for thrust blocks must contact fittings, not the pipe.

Thrust blocks must cure for at least twenty-four (24) hours before backfilling or pressurizing the main.

#### 4.4.6.F Mechanical Restraints

Manufactured restraint devices, where approved for use by the District Engineer, shall be designed to secure the pipeline at fittings and transfer thrust forces to the adjacent soil through friction and soil bearing. To obtain approval for manufactured restraint devices, the following information must be submitted to the District Engineer:

1. Details of the restraint system.



2. Site-specific or assumed worst case soil characteristics relevant to thrust resistance, referencing “Thrust Restraint Design Equations and Tables for Ductile Iron and PVC Pipe” (PD-6 (5-95) published by EBAA Iron).
3. Pipe and encasement specifications that influence soil friction.
4. Trench, pipe bedding, and cover depth specifications.
5. Test pressure (per Section 4.6.1 of these Standards).
6. Safety Factor (1.50 minimum).
7. Calculated length of restrained pipe for each condition, using the Ductile Iron Pipe Research Association (DIPRA) method where applicable.

Manufactured restraint devices must be installed per manufacturer’s recommendations.

### 4.4.6.G Trenchless Construction

Placement of pipe using boring and jacking methods requires District approval for each occurrence. The following general guidelines apply, along with Section 3.8.5 of these Standards and Detail Drawings in the BORE series:

1. The size and thickness of the casing shall be per the District standard detail, unless otherwise specified in the plans.
2. Except for using air or water, the methods and equipment used in boring and jacking shall be chosen by the Contractor, provided that the District reviews and approves them prior to any work.
3. Pipe placement within casings must be supported with HDPE, polyethylene, or acetal skids to the lines and grades shown on the Improvement Plans.
4. The boring machine must create a circular bore that maintains the required lines and grades indicated in the Improvement Plans. The bored tunnel should not exceed 0.1 ft greater than the casing’s maximum outside diameter.
5. Steel casing field joints must be welded with a continuous circumferential weld.
6. End seals must be installed at both ends of the cased section.

### 4.4.6.H Service Line Installation

Service lines shall be installed in accordance with Detail Drawings in the WS series.

Service lines must be installed by open-cut method unless horizontal directional drilling (HDD) is pre-approved by the District Engineer.

Service lines shall be placed on undisturbed earth at the bottom of the trench, maintaining a minimum cover of twenty-four (24) inches between the service line and gutter flow line. Embedment material shall meet the requirements outlined in Section 4.3.12 of these standards and Detail Drawings in the TREN series.

Polyethylene lines shall be snaked within the trench as recommended by the material manufacturer, from the corporation stop to the angle curb stop. Polyethylene lines must be continuous from the corporation stop to the angle curb stop, without mechanical couplings. All plastic service piping shall include an insulated ten (10) gauge copper wire installed along the service line and extended into the meter box.



Polyethylene tubing shall be cut with a clean square cut, ensuring it is not crimped. The minimum bend radius for polyethylene tube must be thirty (30) times the nominal tube diameter. No bends shall be constructed within ten (10) times the nominal tube diameter from a fitting.

Compression fittings with insert stiffeners, when required by Detail Drawings in the WS series, shall not be installed with the insert stiffeners protruding beyond the opening of the waterworks brass coupling nut. Protruding stiffeners must be trimmed to ensure a flush fit.

Service connections that are improperly installed must be removed and replaced at the water main tap, ensuring compliance with District standards. Any adjustments to customer water services shall be coordinated with the District to minimize water supply interruptions.

### 4.4.6.I Water Meter Installation

Water meters shall be installed in accordance with Detail Drawings in the WS series. Meters up to two (2) inches in size will be provided and installed by the District.

For meters larger than two (2) inches, the Applicant or the Contractor is responsible for providing and installing the meter. The meter type and model must be obtained from the District to ensure compatibility.

For fire service lines, a backflow prevention device supplied by the manufacturer shall be installed with the meter. After the approved inspection of the backflow prevention device, the District will replace the manufacturer-supplied meter with the appropriate meter. The Applicant is responsible for all costs associated with acquiring and replacing meter.

Meter boxes, spuds or tail piece, and backflow prevention devices shall be supplied and installed by the Contractor at a location approved by the District prior to meter installation and service connection.

For customer connections to meters three (3) inches and larger, the Contractor shall provide a flange adaptor to ensure proper fitting.

### 4.4.6.J Meter Boxes

Meter boxes shall be securely supported and centered over the meter assembly. The box must be placed on a stable foundation, such as pea gravel or drain rock, to ensure proper drainage and to keep the meter dry. The meter box cover shall be installed flush with the finished curb, sidewalk, or grade, or as indicated on the Improvement Plans. Installation of meter boxes shall be in accordance with the applicable Detail Drawings in the WS Series. The installation must ensure that the box remains level and free from movement after final placement.

### 4.4.6.K Common Trench and Manifold

For commercial establishments, domestic, irrigation, and fire services shall be provided by separate service lines. Domestic and irrigation service lines under single ownership may be allowed in a common trench if approved by the District Engineer. The minimum separation between service lines within the trench shall be twelve (12) inches, and between taps at the main shall be eighteen (18) inches, unless otherwise approved by the District Engineer.

For commercial projects with existing service lines requesting increased water demand, additional metered service lines may be manifolded to the existing service, providing the existing service line can accommodate the increased demand. A maximum of three (3) separate meters may be

manifolded on a single existing service line. All manifolded installations must receive prior approval from the District Engineer.

Meter clusters require brass tags to indicate the address or unit number served by each meter.

### 4.4.6.L Threaded Joints

All threaded joints shall be assembled using an appropriate thread sealant to ensure a leak-free connection.

### 4.4.7 Appurtenances

All water facility appurtenances must be installed in accordance with this section. Each fixture or appurtenance shall be thoroughly cleaned before installation to remove any debris or contaminants.

#### 4.4.7.A Valves, Valve Boxes, and Valve Box Risers

Valves shall be set plumb, supported against settlement, and securely fitted to adjacent main sections. A valve box and riser pipe shall be installed over each valve, ensuring that neither the box nor the riser pipe bears directly on the valve or main, to avoid transferring surface traffic loads to the water pipe. Riser pipe shall ideally be one continuous piece. If not feasible, they may be joined using a coupling or bell end piece of the same material.

Valves buried more than five (5) feet from finished grade shall include extension stems and stabilizers, if necessary, to position the valve operating nut within twenty-four (24) inches of the finished grade. The extension stem and stabilizers shall be housed in a valve box riser, which must extend into the valve box and be flush with the finished grade. The valve box shall include a cover, designed for traffic type when placed on street or roadways.

Valve boxes shall be securely supported, concrete encased, and aligned plumb over the valve wrench nut, with the box cover flush with the pavement or grade as indicated on the Improvement Plans. The valve riser interior must be kept clean and debris-free, with the wrench nut readily accessible for operation.

The triangular lid of the valve box shall be oriented to point toward the water main isolation valve. The valve operating nut should remain fully accessible and centered in the riser. Main valves, service valves, and blow-off valve boxes shall be positioned to avoid conflicts with curbs, gutters, sidewalks, and driveways unless specifically approved by the District. They should be visible and accessible after yard grading or landscaping by the Applicant's Contractor.

Installation of air release and vacuum relief valves shall be in accordance with applicable Detail Drawings in the AV and BO series. Installation of valve boxes shall be in accordance with applicable Detail Drawings in the Valve Boxes (VB) series.

#### 4.4.7.B Tapping Sleeves and Tapping Valves

Tapping sleeves and tapping valves shall be installed in accordance with the manufacturer's instructions. The section of the main where the tapping sleeve will be installed shall be thoroughly cleaned. The outside diameter of the main shall be measured to ensure the correct size tapping sleeve and tapping valve is installed on the main. These components shall be independently supported and must not be supported or carried by the main itself. The entire assembly shall be equipped with thrust blocking per Section 4.3.13, and bedding and backfilling per Section 4.4.10. Tapping sleeves shall be subject to testing and disinfection, as specified in Section 4.6.

### 4.4.7.C Hydrants

All fire hydrants shall be installed in accordance with Detail Drawings in the FH series and at the location indicated on the Improvement Plans. A minimum clearance of three (3) feet shall be maintained around the fire hydrant. In parking lots or low-speed areas, barricades may be required for hydrant protection as determined by the District Engineer.

Improperly installed hydrants must be removed and correctly reinstalled at no cost to the District. The installation process for hydrants shall conform to the following sections.

#### *4.4.7.C.1 Position of Outlets*

All hydrants shall be positioned upright (plumb) with the lowest outlet situated between eighteen (18) inches and twenty (20) inches above ground level, as specified in the FH Series Detail Drawings. The outlet must face the street or the point of access for the Fire Authority's engine, as determined by the Fire Authority.

#### *4.4.7.C.2 Painting*

Hydrants shall be painted from the top to ground level with a primer coat that meets AWWA C503 standards, following the manufacturer's recommendations. Surfaces shall be cleaned using soap, water, and an abrasive pad prior to painting. A minimum of two coats of rust-preventative gloss white enamel paint shall be applied for the final finish.

#### *4.4.7.C.3 Approved Manufacturers and Products*

1. Hydrant Paint and Rust Preventative Enamel: Rustoleum Gloss White Enamel

### 4.4.7.D Backflow Prevention Devices

Backflow prevention devices shall be installed above ground and protected against damage and vandalism. Devices measuring two (2) inches and smaller shall be enclosed in an insulated bag or an insulated metal enclosure, in accordance with Detail Drawings in the RP series. In areas subject to traffic, the devices shall be shielded using traffic posts or enclosed for added protection.

Backflow prevention devices shall be installed before requesting the installation of water meters. All installations shall be in accordance with Detail Drawings in the RP series as applicable.

### 4.4.7.E Sampling Stations

Where specified by the District, water quality sampling stations shall be installed in accordance with Detail Drawing WS\_079.

### **4.4.8 Locator Wire and Markers**

A No. 10 insulated copper locator wire shall be affixed to water mains, fire hydrants, main and hydrant valves, water services, and appurtenances. The wire shall be affixed to the top of pipe with ten (10) mil vinyl tape every five (5) feet. The Contractor shall perform a continuity test on all locator wire splices to ensure connectivity.

For pipes twelve (12) inches and smaller, a minimum of two (2) strands of blue locator tape shall be placed twelve (12) inches above main and service piping, near the trench edges. For pipes fourteen (14) inches

and larger, three (3) strands of blue locator tape shall be placed twelve (12) inches above the pipe in accordance with Detail Drawings in the TREN series.

In unpaved areas, water mains shall be marked every one hundred and fifty (150) feet with a blue composite utility marker having a decal labeled "Caution Water Pipeline." Appurtenances (such as valves, test stations, and angle points) shall also be marked for visibility and maintenance.

### **4.4.9 Water Facilities Corrosion Protection**

All tees, elbows, valves, and special fittings shall be wrapped in eight (8) mil minimum polyethylene wrap encasement before any concrete pouring or backfilling.

### **4.4.10 Backfill and Compaction**

#### **4.4.10.A Backfill**

All water mains within the pipe zone shall be backfilled with No. 2 washed sand, compacted to a relative compaction of not less than ninety (90) percent. The compacted sand should extend at least six (6) inches below and twelve (12) inches above the pipe. Backfill material must be free from debris, concrete fragments, pavement, stones, or soil chunks exceeding three (3) inches in any dimension. For existing roadways and traffic areas, trench backfill above the sand layer shall consist of three-quarters (3/4) inch Class 2 aggregate base, compacted mechanically in six (6) inch lifts to a compaction level of ninety-five (95) percent.

Open-cut service line trenches shall be backfilled per the Detail Drawings in the WS series.

#### **4.4.10.B Compaction**

Compaction methods within the trench shall be as specified by the most current editions of the Standard Specifications for Public Works Construction ("Greenbook") and the County of Sacramento Public Works Standard Construction Specifications. The Contractor shall perform compaction tests using a Nuclear Density Meter operated by a licensed geotechnical engineer, in accordance with ASTM standards for in-place soil density.

In the pipe zone, the Contractor shall select a compaction device capable of achieving a minimum of ninety (90) percent relative compaction as defined by AASHTO Test No. T180 (Standard Proctor). Compaction equipment may be manual, mechanical, or pneumatic, provided it does not cause displacement, instability, or damage to the pipe. If pipe damage occurs, the Contractor shall promptly perform necessary repairs.

Except for directly above the pipe, compaction lifts shall be limited to six (6) inches within the pipe zone. For embedment material placed directly above the pipe, the compaction lift shall be of sufficient depth to achieve required compaction and protect the pipe. All compaction layers shall be compacted as required before the next layer is deposited.

**The Inspector shall verify uniform compaction of the embedment material to ensure the absence of voids. If the required compaction is not met, the trench shall be recompacted and retested at the Contractor's expense.**

#### **4.4.10.C Bracing and Shoring**

When bracing and shoring are used in an excavation (such as trench or bore pit), the backfill shall be placed to a height sufficient to prevent surrounding soil from cracking or caving into the

excavation. This backfill must be installed before removing the bracing or shoring to maintain stability. The Contractor may be required to submit bracing or shoring plans and obtain permits before construction.

#### 4.4.10.D Public Streets and Highways

For trench backfill and compaction performed in public streets and highways, the Contractor shall adhere to all regulations specified by the authority having jurisdiction. The pipe embedment zone, up to one (1) foot above the pipe, must comply with the District's standards as provided in these standards.

#### 4.4.10.E Unimproved Rights-of-way

Trench backfill above the pipe embedment zone within unimproved rights-of-way shall consist of selected material excavated from the site, as approved by the District Engineer. This material shall be free of organic debris and other unsuitable materials such as rocks, boulders, or soil masses larger than four (4) inches in diameter.

The trench backfill must be compacted to a relative density of ninety (90) percent using AASHTO Test No. T180 (Standard Proctor). If the required compaction cannot be achieved, imported backfill material meeting the specifications must be used.

### 4.4.11 *Resurfacing and Restoration*

#### 4.4.11.A General

When an unimproved surface is disrupted, the trench must be restored to its original condition unless otherwise indicated on the Improvement Plans.

Damaged private streets, driveways, or other improved surfaces affected by the work must be removed and restored to the original condition, including the reconstruction of the subgrade when disturbed.

Temporary paving, barricades, or special provisions mandated by the authority having jurisdiction must be supplied by the Contractor.

#### 4.4.11.B Other Governing Agency Requirements

If the work is within existing public roadways or city streets, the resurfacing process shall be in accordance with the requirements of the authority having jurisdiction.

If the trench is located in areas without existing paving, the Contractor shall ensure the trench is suitably compacted for future grading and surfacing.

#### 4.4.11.C District Requirements

If no specific requirements are outlined by a city or governing agency, the District's standards shall apply. All resurfacing materials and methods shall adhere to the latest edition of the Caltrans Standard Specifications. Resurfacing roadways or gravel areas shall be done in accordance with Detail Drawings in the TREN series.

For asphalt concrete surfaces, temporary paving shall be provided before final resurfacing. The existing asphalt shall be neatly cut to a depth of two (2) inches, with an additional six (6) inch

width on either side of the trench for proper keying. The cut edges must be straight, vertical, and free from irregularities.

The base course for the final surface shall be Class 2 aggregate, compacted to match the existing pavement thickness, with a minimum depth of sixteen (16) inches.

Asphalt concrete shall be Type B, as specified in Section 39 of the Caltrans Standard Specifications, with a minimum thickness of three (3) inches.4.4.11.D  
Temporary Paving

Temporary paving must meet the requirements of the governing authority. In areas outside city or county jurisdiction, temporary surfacing shall consist of a minimum of one and one-half (1-1/2) inches of premixed asphaltic paving material. Temporary paving must be installed at the end of each workday to maintain safety and usability.

Before reopening the street to traffic, all debris, rocks, and loose materials must be removed, and the surface swept clean. Temporary paving shall be continuously maintained to prevent the formation of potholes or surface deformation, keeping the surface level with the existing pavement.

#### 4.4.11.E Permanent Paving

Permanent paving shall not commence until the compaction requirements specified by the governing authority or District are fulfilled. Permanent paving shall follow the applicable guidelines, including cutting the existing pavement to a uniform depth of two (2) inches and extending the cuts six (6) inches on either side of the trench for a secure joint.

The final wearing surface shall be asphalt concrete with a minimum depth of three (3) inches, following the requirements for Type B Asphalt Concrete as outlined in Section 39 of the Caltrans Standard Specifications.

#### 4.4.12 Location Marking

All valves, blow-offs, air valves, services, and similar components shall be permanently marked on the closest curb face or sidewalk. A "V" shall be inscribed or stamped on the top of the curb or sidewalk if a valve is located behind it. For water meters positioned behind a curb or sidewalk, a "W" shall be marked in the curb or walkway. The lettering size shall be at least two (2) inches high to ensure visibility.

#### 4.4.13 Concrete

##### 4.4.13.A Placement

Concrete shall be placed into clean, properly prepared forms before the initial set begins, using the minimum amount of mixing water required for adequate workability. The concrete shall be thoroughly compacted by rodding or vibrating to achieve a dense and uniform mass, free from voids and rock pockets. All concrete must be vibrated unless specifically directed otherwise by the Inspector.

##### 4.4.13.B Reinforcement

Reinforcement bars shall be accurately positioned and securely fastened according to the improvement plans. When splicing bars, the overlap shall be a minimum of twenty (20) diameters or butt-welded, unless specified differently in the plans.

### 4.4.13.C Finish

Exposed concrete surfaces shall have a uniform comparable to that achieved with new plywood forms. Slabs, pads, and walkways shall be finished with a neat broom texture unless an alternative finish is specified in the plans. All corners and edges shall be beveled, and surface imperfections repaired to blend with the surrounding concrete.

### 4.4.13.D Accelerated Curing

When circumstances warrant, calcium chloride admixture (not exceeding two (2) percent volume) may be used to accelerate curing, subject to the District Engineer's approval. The use of calcium chloride may be restricted at the District's discretion.

## 4.5 Water Facility Abandonment

### 4.5.1 Abandonment of Water Mains

Water mains designated for abandonment shall be emptied and deactivated as follows:

1. Drain the water mains completely.
2. Close all valves in place.
3. Remove all above-ground appurtenances (e.g., valve boxes and risers, fire hydrants) to a minimum depth of three (3) feet below grade, backfill, compact, and restore the surface as required by the authority having jurisdiction.
4. For water mains twelve (12) inches and smaller, cut and cap or plug the ends, enclosing them entirely in concrete.
5. For water mains larger than twelve (12) inches, fill with sand or cement slurry mixture and cap the ends with concrete.
6. If a tee or cross remains in service, it shall be blind flanged and restrained with a thrust block.

### 4.5.2 Abandonment of Water Service Lines

#### 4.5.2.A Water Main to be Abandoned

Abandonment of water service lines connected to water mains to be abandoned shall be in accordance with the requirements provided below.

1. Remove the meter, meter box, setter, wood supports, curb stop, and all brass piping and fittings.
2. Plug the water service and crimp the end a minimum of two (2) feet below grade. Close the valve at the main.
3. Backfill and compact the excavated area and restore the surface to match existing conditions and as required by the authority having jurisdiction.

#### 4.5.2.B Water Main to Remain in Service

Existing water service lines to be abandoned on mains that will remain in service shall comply with the above. In addition, the service saddle shall be removed, and a minimum twelve (12) inch wide full circle stainless steel repair band shall be installed on the main. The water service at the main shall be also plugged or crimped.



## 4.6 Testing and Disinfection

All water mains and appurtenances to be dedicated to the District shall be subject to hydrostatic pressure testing, disinfection, and bacteriological testing. All labor, equipment, and material, including water necessary for the testing and disinfection of these facilities, shall be provided by the Contractor at no cost to the District. Testing shall include corrections, repairs, and retesting until all facilities pass the required test.

Prior to testing, the Contractor shall provide access to all main valves, curb stops, hydrants, and blow offs. All testing shall be conducted in the presence of an Inspector, who shall be responsible for determining when the facilities are protected from damage and ready to be tested.

Prior to District provision of water for testing, the Contractor shall submit a disinfection and flushing plan conforming to the latest revision of AWWA C651 and these Standards. The plan shall address the items listed in the procedure in Appendix E.

All facilities to be connected to the water system shall pass the required testing prior to connection to the existing system.

### 4.6.1 Hydrostatic Tests

New water mains and associated facilities shall be temporarily connected to the District's water system using a construction jumper that includes a meter and a District-approved reduced pressure backflow prevention assembly. The assembly size shall conform to Table 4-5 specifications. The backflow prevention assembly must be tested and certified in accordance with Section 4.6.5 prior to usage.

Table 4-5. Backflow Assembly Size for Testing	
Pipeline Diameter	Assembly Size
Less than or equal to 12 inches	2 inches
14 inches and greater	6 inches

The system shall be slowly filled and purged of air, with all valves opened. Independent pressurization from the existing system must be performed according to the latest AWWA C600 (DIP) or C605 (PVC) standards.

The system shall be pressurized to a minimum of 150 psi for two (2) hours. Any pressure loss greater than 5 psi during testing will result in a failure. Additionally, any loss exceeding the allowable threshold calculated per AWWA C600 or C605 shall constitute a failure. Upon successful testing, the temporary connection shall be replaced by a permanent connection.

### 4.6.2 Tapping Sleeve Leakage and Pressure Test

After assembling the tapping sleeve and valve, but before drilling, the tapping sleeve shall be tested for leakage. Testing shall be conducted using pressurized air at 100 psi for thirty (30) minutes. Any pressure loss during this period will result in a failure. Care must be taken to avoid damaging the main during testing, with any resulting damages repaired by the Contractor.



### ***4.6.3 Disinfection and Flushing of Water Lines***

Disinfection of water lines shall not commence until the hydrostatic pressure test has been satisfactorily completed. Disinfection shall be performed by a licensed Chlorination Specialist holding active C36 (Plumbing) and C55 (Water Conditioning) licenses, as issued by the California Contractors State License Board.

Disinfection and sampling shall be conducted according to the District's Disinfection/Sampling Procedure outlined in Appendix E. Water samples from disinfected pipelines shall be collected by District personnel, in coordination with the Contractor, and tested at the Contractor's expense. Should bacteriological samples fail to meet minimum standards, additional chlorination will be required at the Contractor's expense until satisfactory results are obtained.

Sample points shall be designated by the District. If there are insufficient sample points, the Contractor must provide temporary outlets for sampling at their own cost.

Newly installed and disinfected pipelines must pass two consecutive rounds of bacteriological testing before being connected to the District's active water distribution system.

#### ***4.6.3.A Method of Disinfection***

Water mains and service lines shall be chlorinated following the Continuous Feed Method as specified in the latest AWWA C651. Chlorine concentration shall be maintained between 50 and 100 ppm for a minimum of twenty-four (24) hours. At the end of this period, the chlorine residual throughout the pipeline shall not be less than 25 ppm.

#### ***4.6.3.B Cleaning and Disinfection of Tie-ins***

All materials used for tie-ins shall be thoroughly cleaned to remove dust, dirt, and other contaminants, including residues from cutting operations. The piping materials used for tie-ins shall be disinfected by swabbing or spraying with a one (1) percent chlorine solution.

Before assembling tapping sleeves, the main's exterior surface and the interior of the sleeve shall be disinfected by swabbing or spraying with chlorine to minimize contamination risks.

#### ***4.6.3.C Flushing***

Upon completion of disinfection, the pipeline shall be thoroughly flushed with fresh water from the existing system to replace the chlorinated water. Flushing shall continue until chlorine residual levels at all outlets match those of the active system. Proper disposal of flush water shall comply with AWWA C655 and relevant local and state regulations. Dechlorination procedures must be followed to prevent environmental harm, and the Contractor shall provide verification of uniform dechlorination at ten-minute intervals during disposal.

### ***4.6.4 Locator Wire Continuity Test***

Before final paving, the Contractor shall perform continuity testing on all locator wires installed on water lines. Testing shall be carried out using a direct connection adjustable frequency utility locating system. All testing must be conducted in the presence of a District Inspector to ensure accuracy and compliance.

### ***4.6.5 Backflow Testing***

All newly installed backflow prevention devices must undergo testing by the District prior to activating the protected water line. Testing shall be performed according to District standards, and any deficiencies identified during testing must be addressed before the device is placed into service.

### ***4.6.6 Cathodic Protection***

Cathodic protection test stations shall be evaluated by an independent testing service. The Contractor must submit the test results to the District for review and approval prior to final acceptance of the pipeline. These tests are essential to verify the effectiveness of corrosion protection measures.

A horizontal bar with a blue gradient, transitioning from a lighter blue on the left to a darker blue on the right.

## Appendix A

### Standard Detail Drawings

## Appendix A

### Standard Detail Drawings

Table A-1. Citrus Heights Water District – List of Standard Detail Drawings	
Number	Name
Air/Vacuum Valves	
AV_411	1" AIR VACUUM VALVE – ABOVE GROUND
AV_412	1" AIR VACUUM VALVE – BELOW GROUND
AV_421	2" AIR VACUUM VALVE – ABOVE GROUND
AV_422	2" AIR VACUUM VALVE – BELOW GROUND
Blow-Off Valves	
BO_511	2" BLOW-OFF VALVE
BO_512	2" BLOW-OFF VALVE – IN LINE
Boring	
BORE_008	8" WATER MAIN DRY BORE
Fire Hydrants & Protective Barricades	
FH_611	FIRE HYDRANT – 6" CONNECTION (SHORT SIDE) – SAC METRO FIRE
FH_612	FIRE HYDRANT – 6" CONNECTION (STREET SIDE) – SAC METRO FIRE
FH_613R	FIRE HYDRANT – 6" CONNECTION (STREET SIDE) – ROSEVILLE FIRE
FH_613SP	FIRE HYDRANT – 6" CONNECTION (STREET SIDE) – SOUTH PLACER FIRE
FH_615	FIRE HYDRANT – 8" CONNECTION (STREET SIDE) – SAC METRO FIRE
FH_617	FIRE HYDRANT – 6" CONNECTION (PLANTER AREA) – SAC METRO FIRE
FH_620	FIRE HYDRANT – 6" CONNECTION (BLOW-OFF) – SAC METRO FIRE
FH_683	FIRE HYDRANT ACCESS PAD
FH_684	FIRE HYDRANT ACCESS PAD WITH BARRICADES
FH_685	PROTECTION BARRICADES
Fire Sprinkler Connections	
FP_650_1	FIRE SPRINKLER CONNECTION ABUTTED TO RPDA
FP_650_2	FIRE SPRINKLER CONNECTION ABUTTED TO RPDA
FP_651_1	FIRE SPRINKLER CONNECTION APART FROM RPDA
FP_651_2	FIRE SPRINKLER CONNECTION APART FROM RPDA
Hydrostatic Pressure Testing	
HP_001	HYDROSTATIC PRESSURE TESTING
Reduced Pressure Backflow Prevention Assemblies	
RP_311	BACKFLOW PREVENTION ASSEMBLY WITH FREEZE BAG
RP_312	BACKFLOW PREVENTION ASSEMBLY WITH ENCLOSURE
RP_320	3" AND LARGER BACKFLOW PREVENTION ASSEMBLY
Storm Water Protection	
SWPPP_100	STORM DRAIN INLET PROTECTION – FILTER BAG INSTALLATION
SWPPP_101	STORM DRAIN INLET PROTECTION – CURB INLET INSTALLATION
SWPPP_102	STORM DRAIN INLET PROTECTION – SEDIMENT TRAP
SWPPP_103	STORM DRAIN INLET PROTECTION – AREA INLET INSTALLATION
SWPPP_110	TEMPORARY FIBER ROLL

## Appendix A

### Standard Detail Drawings

Table A-1. Citrus Heights Water District – List of Standard Detail Drawings	
Number	Name
SWPPP_111	TEMPORARY COVER – STOCKPILE INSTALLATION
SWPPP_115	TEMPORARY SILT FENCE
SWPPP_120	TEMPORARY CONSTRUCTION ENTRANCE
SWPPP_125	CONCRETE WASHOUT FACILITY SIGN
Concrete Thrust Blocks	
TB_001	CONCRETE THRUST BLOCKS DETAILS
Trenches	
TREN_711	4" THROUGH 12" TRENCH DETAIL – NATIVE
TREN_712	4" THROUGH 12" TRENCH DETAIL – SHOULDER
TREN_713CH	4" THROUGH 12" TRENCH DETAIL – PAVEMENT – CITY OF CITRUS HEIGHTS
TREN_713PC	4" THROUGH 12" TRENCH DETAIL – PAVEMENT – PLACER COUNTY
TREN_713SC	4" THROUGH 12" TRENCH DETAIL – PAVEMENT – SACRAMENTO COUNTY
TREN_715	14" THROUGH 24" TRENCH DETAIL – NATIVE
TREN_716	14" THROUGH 24" TRENCH DETAIL – SHOULDER
TREN_717CH	14" THROUGH 24" TRENCH DETAIL – PAVEMENT – CITY OF CITRUS HEIGHTS
TREN_717PC	14" THROUGH 24" TRENCH DETAIL – PAVEMENT – PLACER COUNTY
TREN_717SC	14" THROUGH 24" TRENCH DETAIL – PAVEMENT – SACRAMENTO COUNTY
TREN_721	SERVICE LINE TRENCH DETAIL – NATIVE
TREN_722	SERVICE LINE TRENCH DETAIL – SHOULDER
TREN_723CH	SERVICE LINE TRENCH DETAIL – PAVEMENT – CITY OF CITRUS HEIGHTS
TREN_723PC	SERVICE LINE TRENCH DETAIL – PAVEMENT – PLACER COUNTY
TREN_723SC	SERVICE LINE TRENCH DETAIL – PAVEMENT – SACRAMENTO COUNTY
TREN_782	SEWER-STORM CROSSING DETAIL
TREN_783	SEWER-STORM PARALLEL DETAIL
Utility Crossings	
UC_001	UTILITY CROSSING
Valve Boxes	
VB_810	WATER MAIN VALVE BOX – LANDSCAPE
VB_811	WATER MAIN VALVE BOX – STREET-DRIVEWAY
VB_812_1	WATER MAIN VALVE BOX – EXTENSION OPTIONS
VB_812_2	WATER MAIN VALVE BOX – EXTENSION OPTIONS
VB_815	BLOW-OFF VALVE BOX – STREET-DRIVEWAY
Water Services	
WS_063CU	3/4" COPPER WATER SERVICE – 5/8" WATER METER – NEW CONSTRUCTION
WS_063PE	3/4" POLYETHYLENE WATER SERVICE – 5/8" WATER METER – NEW CONSTRUCTION
WS_075CU	3/4" COPPER WATER SERVICE – 3/4" WATER METER – NEW CONSTRUCTION
WS_075PE	3/4" POLYETHYLENE WATER SERVICE – 3/4" WATER METER – NEW CONSTRUCTION
WS_076CU	1" COPPER WATER SERVICE – 3/4" WATER METER – NEW CONSTRUCTION

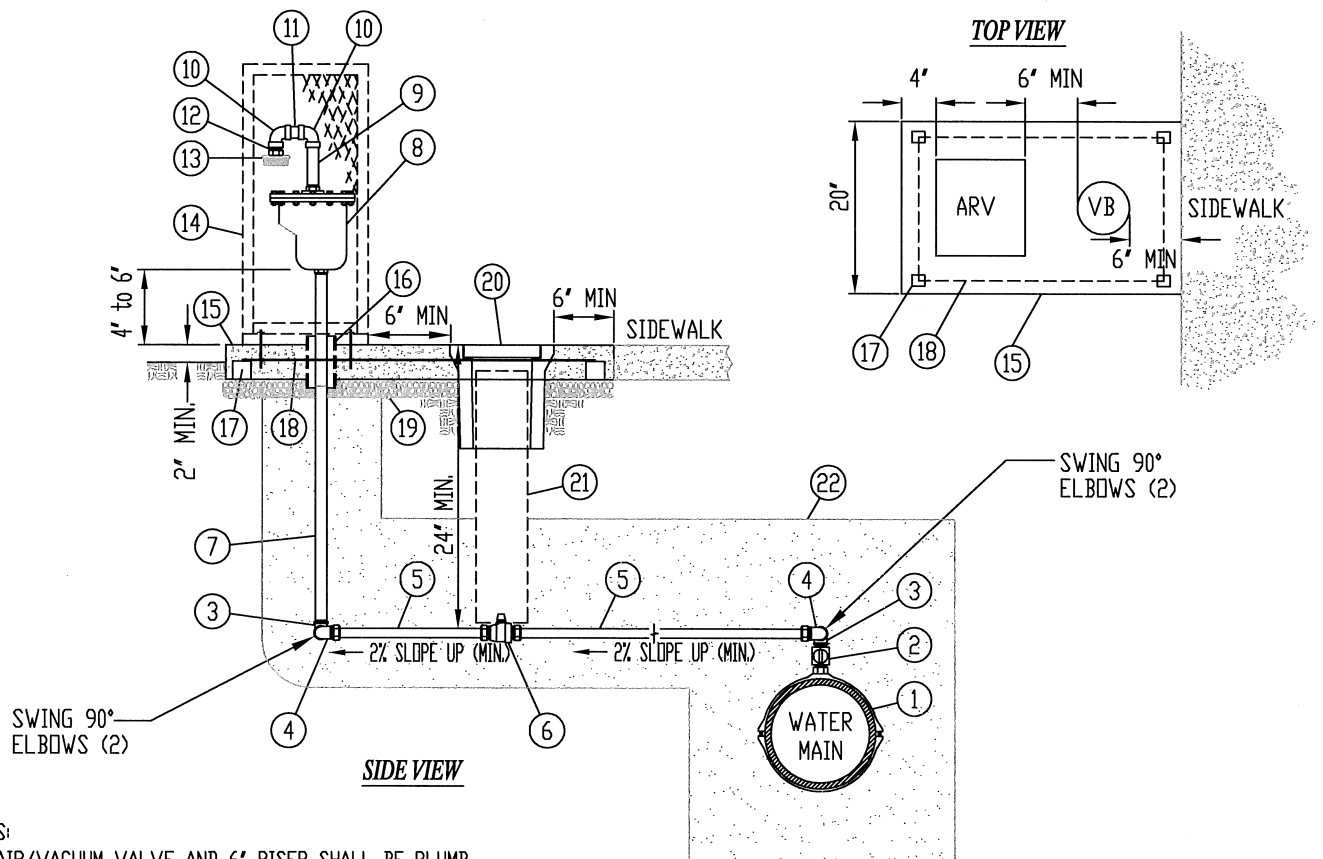
## Appendix A

### Standard Detail Drawings



**Table A-1. Citrus Heights Water District – List of Standard Detail Drawings**

Number	Name
WS_076PE	1" POLYETHYLENE WATER SERVICE – 3/4" WATER METER – NEW CONSTRUCTION
WS_078CU	3/4" COPPER WATER SERVICE
WS_078PE	3/4" POLYETHYLENE WATER SERVICE
WS_079	WATER SAMPLING STATION
WS_100CU	1" COPPER WATER SERVICE – 1" WATER METER – NEW CONSTRUCTION
WS_100PE	1" POLYETHYLENE WATER SERVICE – 1" WATER METER – NEW CONSTRUCTION
WS_102CU	1" COPPER WATER SERVICE – 1" WATER METER – INCL LINE TO DWELLING
WS_102PE	1" POLYETHYLENE WATER SERVICE – 1" WATER METER – INCL LINE TO DWELLING
WS_103	1" WATER SERVICE – 1" WATER METER RETROFIT
WS_108CU	1" COPPER WATER SERVICE
WS_108PE	1" POLYETHYLENE WATER SERVICE
WS_109CU	1" COPPER WATER SERVICE SADDLE REPLACEMENT
WS_109PE	1" POLYETHYLENE WATER SERVICE SADDLE REPLACEMENT
WS_125CU	1-1/4" COPPER WATER SERVICE – 1" WATER METER – NEW CONSTRUCTION
WS_125PE	1-1/4" POLYETHYLENE WATER SERVICE – 1" WATER METER – NEW CONSTRUCTION
WS_128CU	1-1/4" COPPER WATER SERVICE
WS_128PE	1-1/4" POLYETHYLENE WATER SERVICE
WS_150CU	1-1/2" COPPER WATER SERVICE – 1-1/2" WATER METER – NEW CONSTRUCTION
WS_150PE	1-1/2" POLYETHYLENE WATER SERVICE – 1-1/2" WATER METER – NEW CONSTRUCTION
WS_158CU	1-1/2" COPPER WATER SERVICE
WS_158PE	1-1/2" POLYETHYLENE WATER SERVICE
WS_200CU	2" COPPER WATER SERVICE – 2" WATER METER – NEW CONSTRUCTION
WS_200PE	2" POLYETHYLENE WATER SERVICE – 2" WATER METER – NEW CONSTRUCTION
WS_202CU	2" COPPER WATER SERVICE – 2" COMPOUND WATER METER – NEW CONSTRUCTION
WS_202PE	2" POLYETHYLENE WATER SERVICE – 2" COMPOUND WATER METER – NEW CONSTRUCTION
WS_208CU	2" COPPER WATER SERVICE
WS_208PE	2" POLYETHYLENE WATER SERVICE
WS_290	2" CONSTRUCTION WATER SERVICE
WS_300	3" WATER SERVICE – 3" COMPOUND WATER METER – NEW CONSTRUCTION
WS_400	4" WATER SERVICE – 4" COMPOUND WATER METER – NEW CONSTRUCTION
WS_600	6" WATER SERVICE – 6" COMPOUND WATER METER – NEW CONSTRUCTION
WS_610	6" WATER SERVICE – 6" COMBINATION WATER METER – NEW CONSTRUCTION
WS_810	8" WATER SERVICE – 8" COMBINATION WATER METER – NEW CONSTRUCTION
WS_1010	10" WATER SERVICE – 10" COMBINATION WATER METER – NEW CONSTRUCTION



#### NOTES:

- AIR/VACUUM VALVE AND 6" RISER SHALL BE PLUMB.
- MATERIAL BELOW AGGREGATE BASE SHALL BE COMPACTED TO 90% MINIMUM.
- CONTACT CITRUS HEIGHTS WATER DISTRICT FOR INSPECTION OF PAD FORMS PRIOR TO POURING CONCRETE. (916) 725-6873
- REINFORCED CONCRETE PAD SHALL BE FINISHED WITH AN EDGING TOOL AROUND THE ENTIRE PERIMETER AND BROOMED AT RIGHT ANGLES TO THE DIRECTION OF TRAVEL.
- COLOR OF INSULATED ENCLOSURE SHALL BE DETERMINED BY DISTRICT INSPECTOR.

1	1" BRONZE SADDLE - IPT	14	INSULATED ENCLOSURE - 12"x12", PLACER WATERWORKS OR EQUAL - PW/SJARV-2 INSULATED - SECURED TO PAD WITH 1/2" x 4" SLEEVE ANCHORS - RED HEAD OR EQUAL
2	1" CORPORATION STOP - FULL-PORT BALL, MIP x MIP		
3	1" BRASS ELBOW		
4	1" BRASS STREET ELBOW - CTS COMP x MIP	15	REINFORCED CONCRETE PAD - 4" THICK, TYPE II SIX-SACK PORTLAND CEMENT
5	1" COPPER TUBING - TYPE K HARD		
6	1" VALVE - FULL-PORT BALL, CTS COMP x CTS COMP	16	3" PVC SLEEVE - SAND FILLED
7	1" BRASS NIPPLE - LENGTH AS NEEDED	17	CONCRETE DOBIE w/WIRE
8	1" AIR/VACUUM VALVE - CRISPIN UL-10 OR EQUAL	18	3/8" (#3) REBAR - 2" INSIDE PERIMETER.
9	1" x 6" SCH 80 PVC NIPPLE - MIP x SLIP	19	3/4" CLASS 2 AGGREGATE BASE - 2" MINIMUM, MECHANICALLY COMPACTED TO 90%
10	1" SCH 80 PVC 90° ELBOW - SLIP x SLIP		
11	1" x 3" SCH 80 PVC NIPPLE - SLIP x SLIP	20	CONCRETE VALVE BOX/LID - MARKED "WATER", CHRISTY F-8
12	1" x 2" SCH 80 PVC NIPPLE - SLIP x MIP	21	6" RISER - SDR35 ONLY, CONTINUOUS SECTION
13	SCREEN - CHRISTY VC1	22	#2 WASHED SAND - COMPACTED TO 90%



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 1" AIR/VACUUM VALVE - ABOVE GROUND

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chamberlain*

CITRUS HEIGHTS WATER DISTRICT

DATE: **5/8/13**

DRAWN: 8 MAY 2013

REVISED:

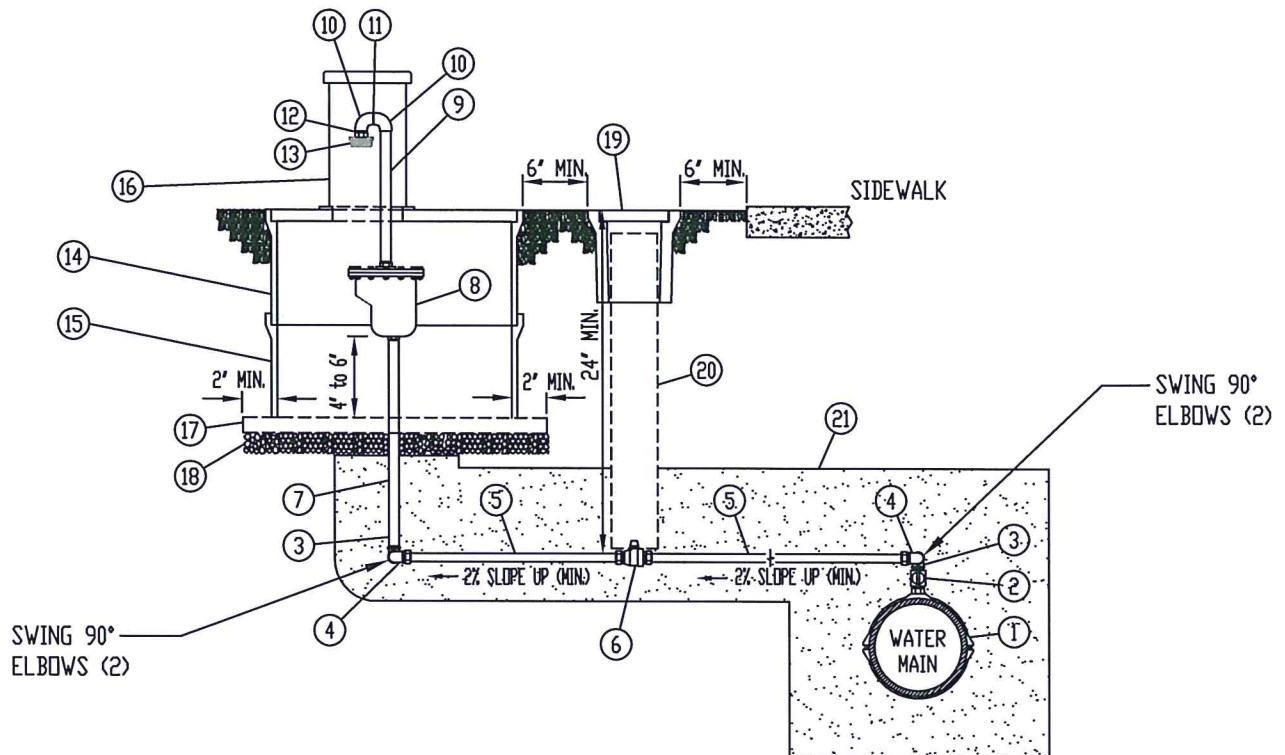
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DESIGN: P.A.D.

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**AV\_411**



**NOTES:**

- AIR/VACUUM VALVE AND 6" RISER SHALL BE PLUMB.
- MATERIAL BELOW AGGREGATE BASE SHALL BE COMPACTED TO 90% MINIMUM.

1	1" BRONZE SADDLE - IPT	13	SCREEN - CHRISTY VC1
2	1" CORPORATION STOP - FULL-PORT BALL, MIP x MIP	14	CONCRETE BOX - CHRISTY 1324-H/20
3	1" BRASS ELBOW	15	CONCRETE BOX EXTENSION - CHRISTY B1324x12
4	1" BRASS STREET ELBOW - CTS COMP x MIP	16	LID AND HOUSING - PLACER WATERWORKS PW/AE118-M OR EQUAL
5	1" COPPER TUBING - TYPE K HARD	17	2' x 6" PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)
6	1" VALVE - FULL-PORT BALL, CTS COMP x CTS COMP	18	3/4" CLEAN CRUSHED ROCK
7	1" BRASS NIPPLE - LENGTH AS NEEDED	19	CONCRETE VALVE BOX/LID - MARKED "WATER", CHRISTY F-8
8	1" AIR/VACUUM VALVE - CRISPIN UL-10 OR EQUAL	20	6" RISER - SDR35 ONLY, CONTINUOUS SECTION
9	1" SCH 80 PVC PIPE - MIP x SLIP	21	#2 WASHED SAND - COMPACTED TO 90%
10	1" SCH 80 PVC ELBOW - SLIP x SLIP		
11	1' x 2' SCH 80 NIPPLE - SLIP x SLIP		
12	1' x 2' SCH 80 NIPPLE - SLIP x MIP		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

# 1" AIR/VACUUM VALVE - BELOW GROUND

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY: Robert A. Churchill DATE: 23 AUG 2016  
CITRUS HEIGHTS WATER DISTRICT

DRAWN: 8 MAY 2013

REVISED:

SCALE: N.T.S.

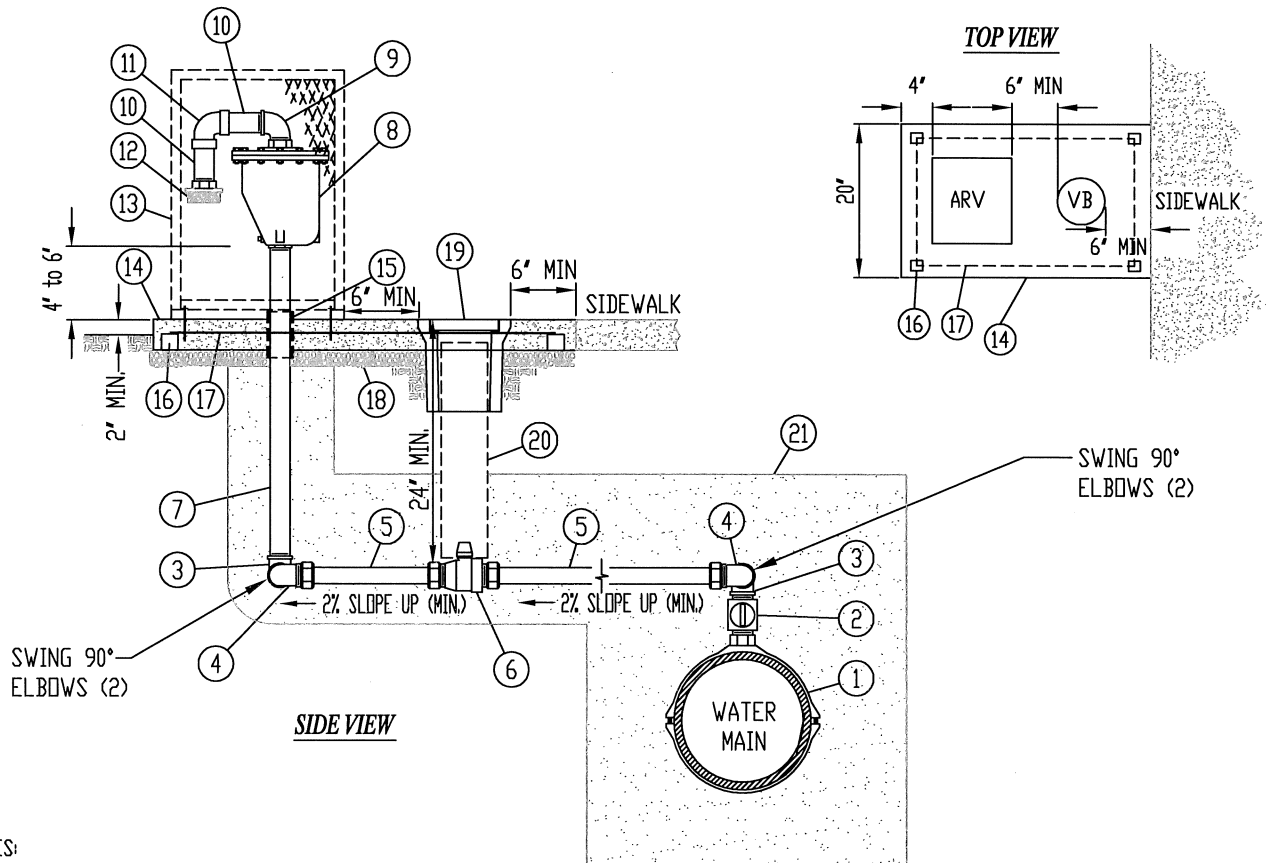
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**AV\_412**





**NOTES:**

- AIR/VACUUM VALVE AND 6" RISER SHALL BE PLUMB.
- MATERIAL BELOW AGGREGATE BASE SHALL BE COMPACTED TO 90% MINIMUM.
- CONTACT CITRUS HEIGHTS WATER DISTRICT FOR INSPECTION OF PAD FORMS PRIOR TO POURING CONCRETE. (916) 725-6873.
- REINFORCED CONCRETE PAD SHALL BE FINISHED WITH AN EDGING TOOL AROUND THE ENTIRE PERIMETER AND BROOMED AT RIGHT ANGLES TO THE DIRECTION OF TRAVEL.
- COLOR OF INSULATED ENCLOSURE SHALL BE DETERMINED BY DISTRICT INSPECTOR.

1	2" BRONZE SADDLE - IPT	13	INSULATED ENCLOSURE - 20"x20", PLACER WATERWORKS OR EQUAL - PW/SJARV-3 INSULATED - SECURED TO PAD WITH 1/2" x 4" SLEEVE ANCHORS - RED HEAD OR EQUAL
2	2" CORPORATION STOP - FULL-PORT BALL, MIP x MIP	14	REINFORCED CONCRETE PAD - 4" THICK, TYPE II SIX-SACK PORTLAND CEMENT
3	2" BRASS ELBOW	15	4" PVC SLEEVE - SAND FILLED
4	2" BRASS STREET ELBOW - CTS COMP x MIP	16	CONCRETE DOBIE w/WIRE
5	2" COPPER TUBING - TYPE K HARD	17	3/8" (#3) REBAR - 2" INSIDE PERIMETER.
6	2" VALVE - FULL-PORT BALL, CTS COMP x CTS COMP	18	3/4" CLASS II AGGREGATE BASE - 2" MINIMUM, MECHANICALLY COMPACTED TO 90%
7	2" BRASS NIPPLE - LENGTH AS NEEDED	19	CONCRETE VALVE BDX/LID - MARKED "WATER", CHRISTY F-8
8	2" AIR/VACUUM VALVE - CRISPIN UL-20 OR EQUAL	20	6" RISER - SDR35 ONLY, CONTINUOUS SECTION
9	2" GALV STREET ELBOW	21	#2 WASHED SAND - COMPACTED TO 90%
10	2" x 6" SCH 80 PVC NIPPLE - MIP x SLIP		
11	2" SCH 80 PVC ELBOW - SLIP x SLIP		
12	SCREEN - CHRISTY VC2		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 2" AIR/VACUUM VALVE - ABOVE GROUND

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chumley*

CITRUS HEIGHTS WATER DISTRICT

DATE: 5/8/13

DRAWN: 8 MAY 2013

REVISED:

SCALE: N.T.S.

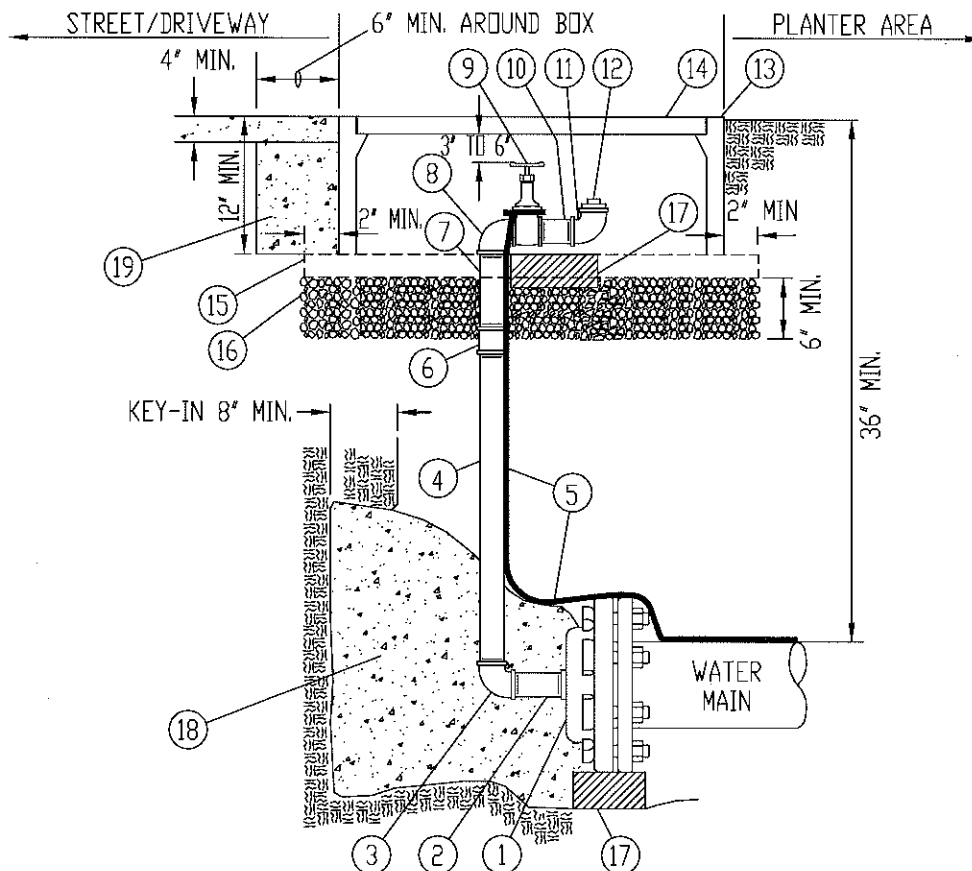
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*AV 422*



#### NOTES:

- BOLT TORQUE ON ALL FITTINGS SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS.
- MATERIAL BELOW CRUSHED ROCK SHALL BE COMPACTED TO 95% MINIMUM.
- LID SHALL BE MARKED "WATER"
- VALVE OPERATING HANDLE SHALL BE CENTERED IN BOX AND FULLY ACCESSIBLE.
- CONCRETE ENCASEMENT SHALL BE ALLOWED TO CURE 24 HOURS MINIMUM PRIOR TO FINISH PAVING.

1	MJ CAP W/ 2" FIP OUTLET	11	2" BRASS 90° ELBOW
2	2" x 6" BRASS NIPPLE	12	2" BRASS PLUG, FINGER TIGHT
3	2" BRASS 90° ELBOW		NON-TRAFFIC AREA SIDEWALK/DW STREET
4	2" x 24" BRASS NIPPLE	13	BOX CARSON 1220-12 CHRISTY FL30TB0X12 CHRISTY B1324BOX
5	#10 INSULATED COPPER LOCATOR WIRE	14	LID CARSON 1220-4B CHRISTY FL30T CHRISTY B1324-61JH
6	2" BRASS COUPLING - ONE ONLY	15	2" x 6" PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)
7	2" BRASS NIPPLE - ONE ONLY, LENGTH AS NECESSARY TO ADJUST TO PROPER GRADE	16	3/4" CLEAN CRUSHED ROCK
8	2" BRASS STREET ELBOW	17	CONCRETE BRICK - 2 1/4" x 3 3/4" x 7 1/2"
9	2" BRASS GATE VALVE-NIBCO T-113LF OR EQUAL w/ 4" BRASS HANDWHEEL	18	CONCRETE THRUST BLOCK - SEE DETAIL TB_001
10	2" x 3" BRASS NIPPLE	19	CONCRETE ENCASEMENT AROUND VALVE BOX- TYPE II SIX-SACK PORTLAND CEMENT



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 2" BLOW-OFF VALVE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

CITRUS HEIGHTS WATER DISTRICT

DATE: 7/31/15

DRAWN: 29 JULY 2015

REVISED:

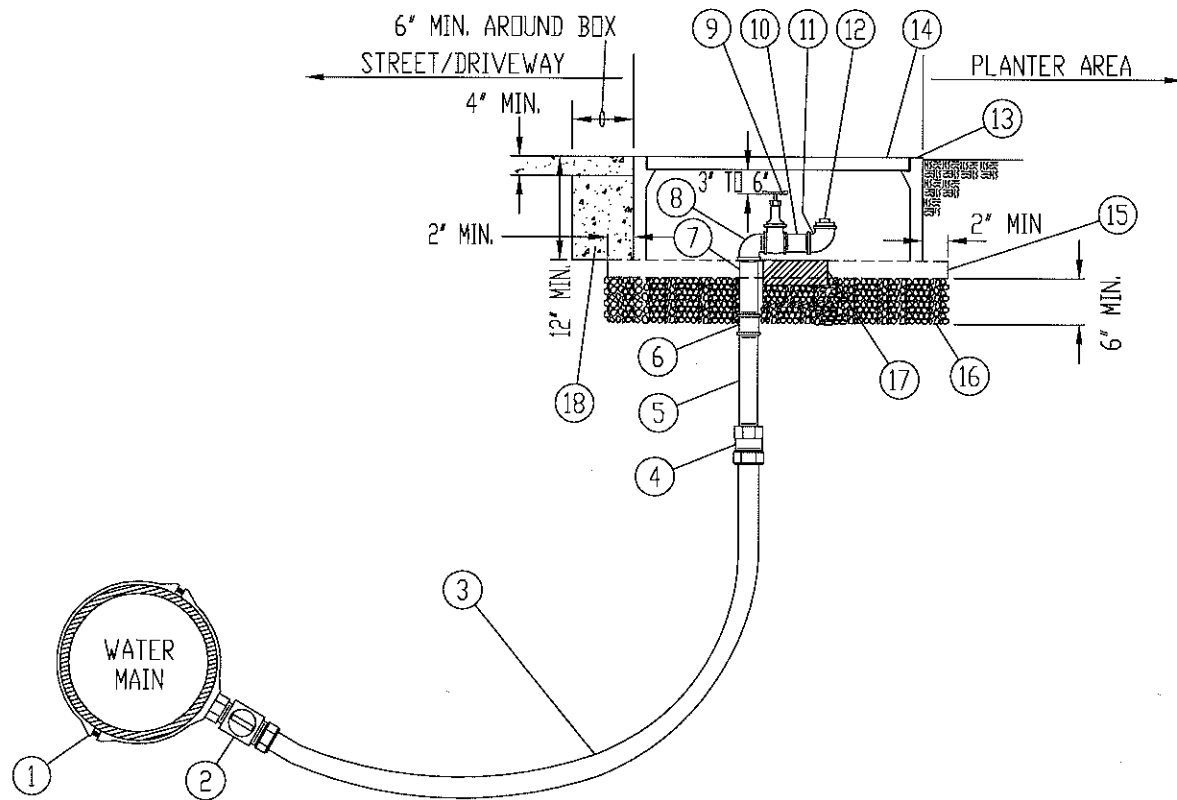
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DESIGN: P.A.D.

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**BO\_511**



#### NOTES:

- BOLT TORQUE ON ALL FITTINGS SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS.
- MATERIAL BELOW CRUSHED ROCK SHALL BE COMPACTED TO 95% MINIMUM.
- LID SHALL BE MARKED "WATER"
- VALVE OPERATING HANDLE SHALL BE CENTERED IN BOX AND FULLY ACCESSIBLE.
- CONCRETE ENCASEMENT SHALL BE ALLOWED TO CURE 24 HOURS MINIMUM PRIOR TO FINISH PAVING.

1	2" BRONZE SADDLE - IPT	11	2" BRASS 90° ELBOW
2	2" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP	12	2" BRASS PLUG, FINGER TIGHT
3	2" COPPER TUBING - TYPE K SOFT		NON-TRAFFIC AREA SIDEWALK/DW STREET
4	2" BRASS ADAPTER - CTS COMP X FIP	13	BOX CARSON 1220-12 CHRISTY FL30TB0X12
5	2" X 24" BRASS NIPPLE	14	LID CARSON 1220-4B CHRISTY FL30T CHRISTY B1324-61JH
6	2" BRASS COUPLING - ONE ONLY	15	2" x 6" PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)
7	2" BRASS NIPPLE - ONE ONLY, LENGTH AS NECESSARY TO ADJUST TO PROPER GRADE	16	3/4" CLEAN CRUSHED ROCK
8	2" BRASS STREET ELBOW	17	CONCRETE BRICK - 2 1/4" x 3 3/4" x 7 1/2"
9	2" BRASS GATE VALVE-NIBCO T-113LF OR EQUAL w/ 4" BRASS HANDWHEEL	18	CONCRETE ENCASEMENT AROUND VALVE BOX- TYPE II SIX-SACK PORTLAND CEMENT
10	2" X 3" BRASS NIPPLE		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 2" BLOW-OFF VALVE - IN-LINE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churillo*

CITRUS HEIGHTS WATER DISTRICT

DATE:

7/31/15

DRAWN: 29 JULY 2015

REVISED:

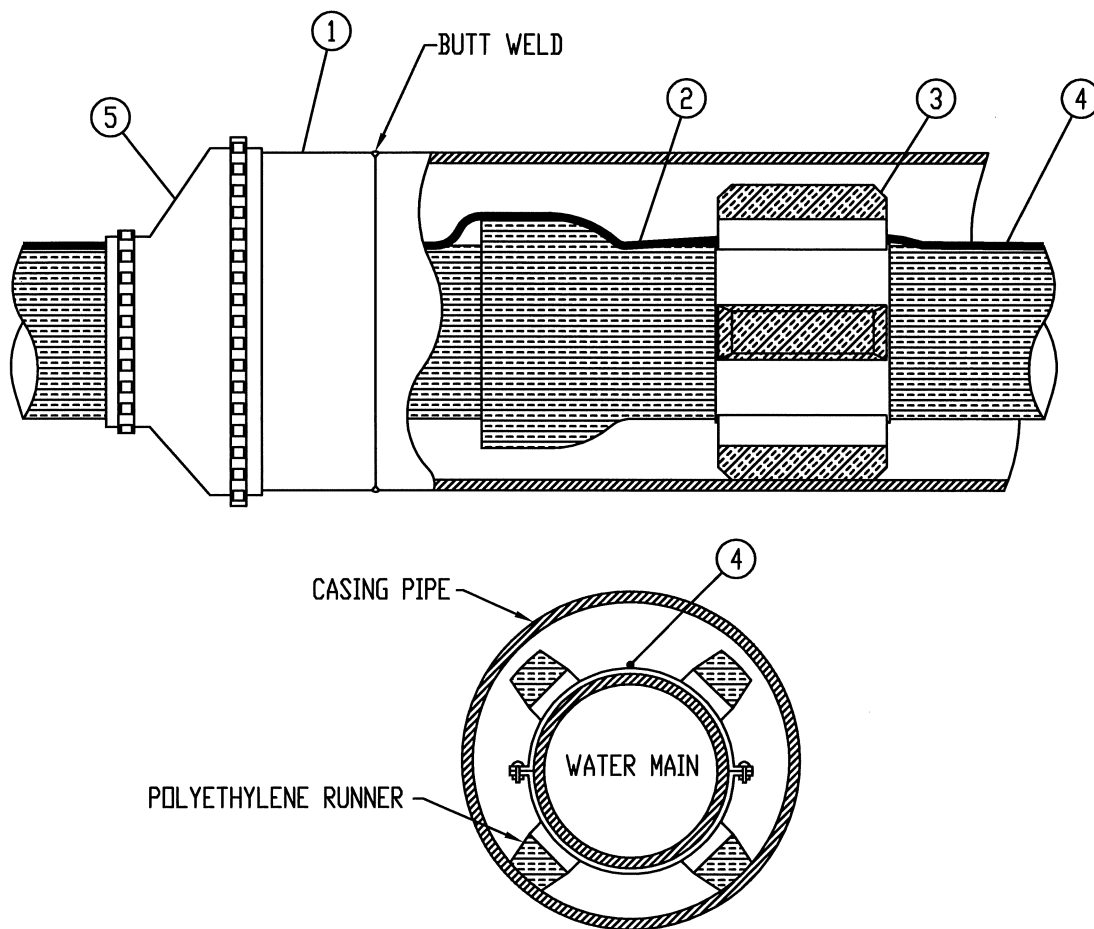
SCALE: N.T.S.

DESIGN: P.A.D.

CAD FILE: BO\_512.DWG

PAGE:

**BO\_512**



NOTES:

- TYPICAL SPACING: EACH 18'-20' SECTION OF WATER MAIN REQUIRES A MINIMUM OF THREE (3) CASING INSULATORS. INSULATORS SHALL BE LOCATED 1.5' FROM EACH END OF THE WATER MAIN SECTION WITH THE REMAINING INSULATOR POSITIONED AT THE CENTER OF THE WATER MAIN SECTION.
- PUSH-ON JOINT SPIGOT ENDS REQUIRE U.S. PIPE FIELD-LOK 350 GASKET OR EQUAL.

1	CASING PIPE - 16" DIAMETER, SCH 40, 0.500 NOMINAL WALL THICKNESS w/CIRCUMFERENTIAL EXTERIOR BUTT WELD	4	#10 INSULATED COPPER LOCATOR WIRE
2	WATER MAIN - 8" DUCTILE IRON PIPE (DIP), PC350, CEMENT MORTAR LINED	5	END SEAL - CALPICO MODEL W WRAP AROUND END SEAL, SHALL BE 1/8" THICK. MATERIAL SHALL BE EITHER FLEXIBLE COAL-TAR REINFORCED WITH FIBERGLASS, SPLIT WRAP-AROUND STYLE, OR SYNTHETIC NEOPRENE RUBBER w/ 1/2" TYPE 304 STAINLESS STEEL STRAPS w/WORM GEAR MECHANISM FOR TIGHTENING
3	CASING INSULATOR - STAINLESS STEEL, CALPICO MODEL M-8-SS w/8" WIDE BAND AND 2" WIDE HDPE RUNNERS - CENTERED/RESTRAINED TYPE		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

# 8" WATER MAIN DRY BORE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

CITRUS HEIGHTS WATER DISTRICT

DATE: *5/8/13*

DRAWN: 8 MAY 2013

REVISED:

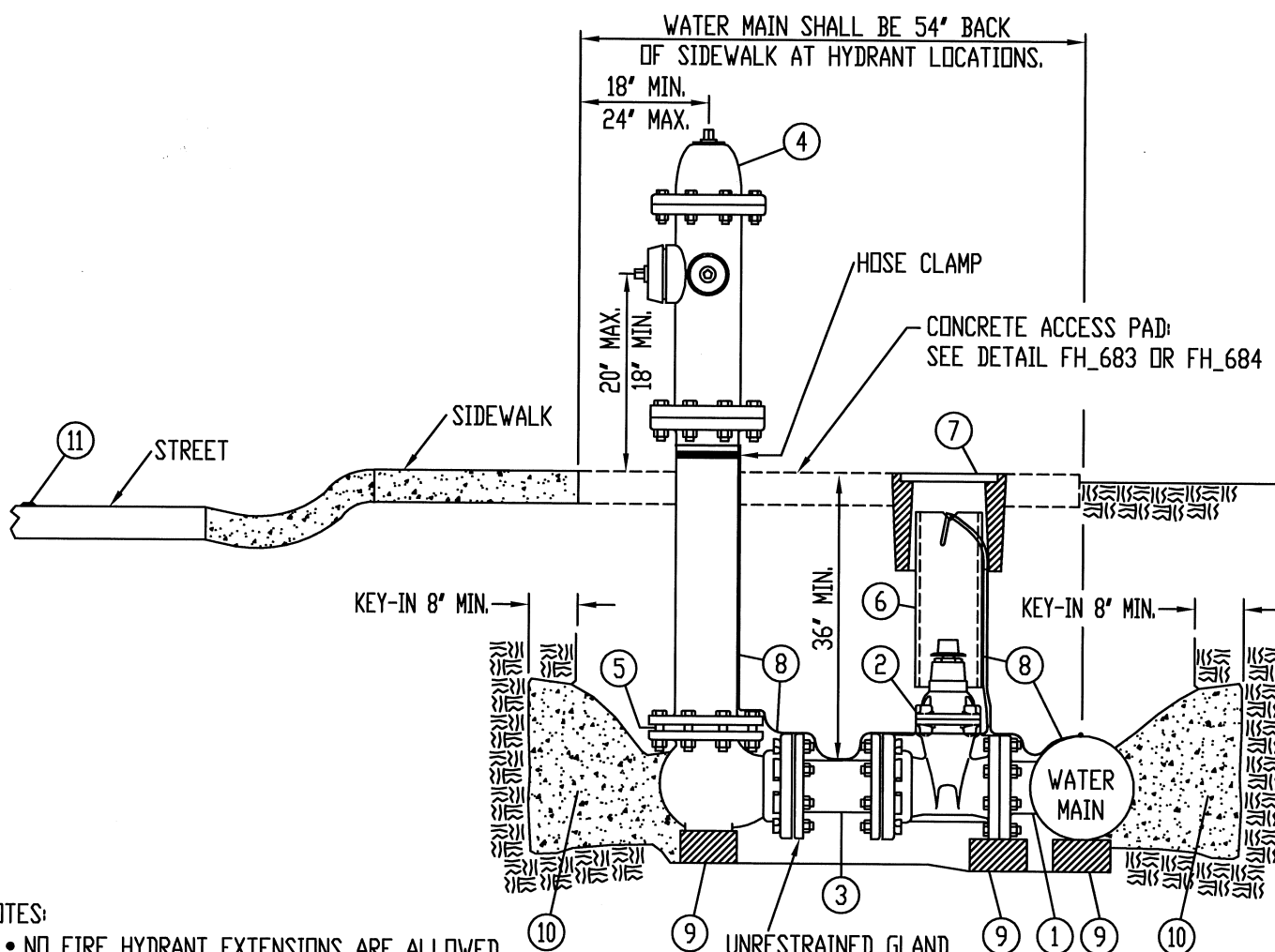
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DESIGN: P.A.D.

CAD FILE: BORE\_008.DWG

PAGE:

**BORE\_008**



**NOTES:**

- NO FIRE HYDRANT EXTENSIONS ARE ALLOWED.
- BOLT TORQUE ON ALL FITTINGS SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS.
- AREA AROUND FIRE HYDRANT SHALL BE COMPACTED TO 90% MINIMUM.
- PAINT HYDRANT BURY USING A MANUFACTURER'S RECOMMENDED PRIMER, FINISH WITH RUSTOLEUM GLOSS WHITE, TWO COATS MINIMUM. PRIOR TO PAINTING, CLEAN ALL SURFACES WITH SOAP AND WATER USING AN ABRASIVE PAD.

1	TEE - DUCTILE IRON - FLANGED OUTLET	6	8' RISER - SDR35 ONLY, CONTINUOUS SECTION
2	6" GATE VALVE - RESILIENT WEDGE - FLANGED TO TEE x MECHANICAL JOINT	7	VALVE BOX/LID - MARKED "WATER", OLDCASTLE PRECAST NO. G04 BOX, G04C LID
3	6" DUCTILE IRON PIPE PUP - PC350, 12' LENGTH	8	#10 INSULATED COPPER LOCATOR WIRE
4	STEAMER FIRE HYDRANT - MUELLER A-423 OR AMERICAN DARLING B84B - MINIMUM 48' BURY, MECHANICAL JOINT INLET. SHALL BE FACTORY WHITE.	9	CONCRETE BRICK - 2 1/4" x 3 3/4" x 7 1/2"
5	BRASS PLUGS SHALL BE INSTALLED IN DRAIN HOLES IN SHOE.	10	CONCRETE THRUST BLOCK - SEE DETAIL TB_001
		11	BLUE REFLECTIVE MARKER - INSTALLED PER SACRAMENTO METROPOLITAN FIRE DISTRICT SPECIFICATIONS



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## ***FIRE HYDRANT - 6" CONNECTION (SHORT SIDE)***

***CITRUS HEIGHTS WATER DISTRICT***

APPROVED BY:

*Robert A. Chelero*

CITRUS HEIGHTS WATER DISTRICT

DATE: *5/8/13*

DETAIL FOR CONSTRUCTION IN:

***SACRAMENTO METRO FIRE DISTRICT***

DRAWN: 8 MAY 2013

REVISED:

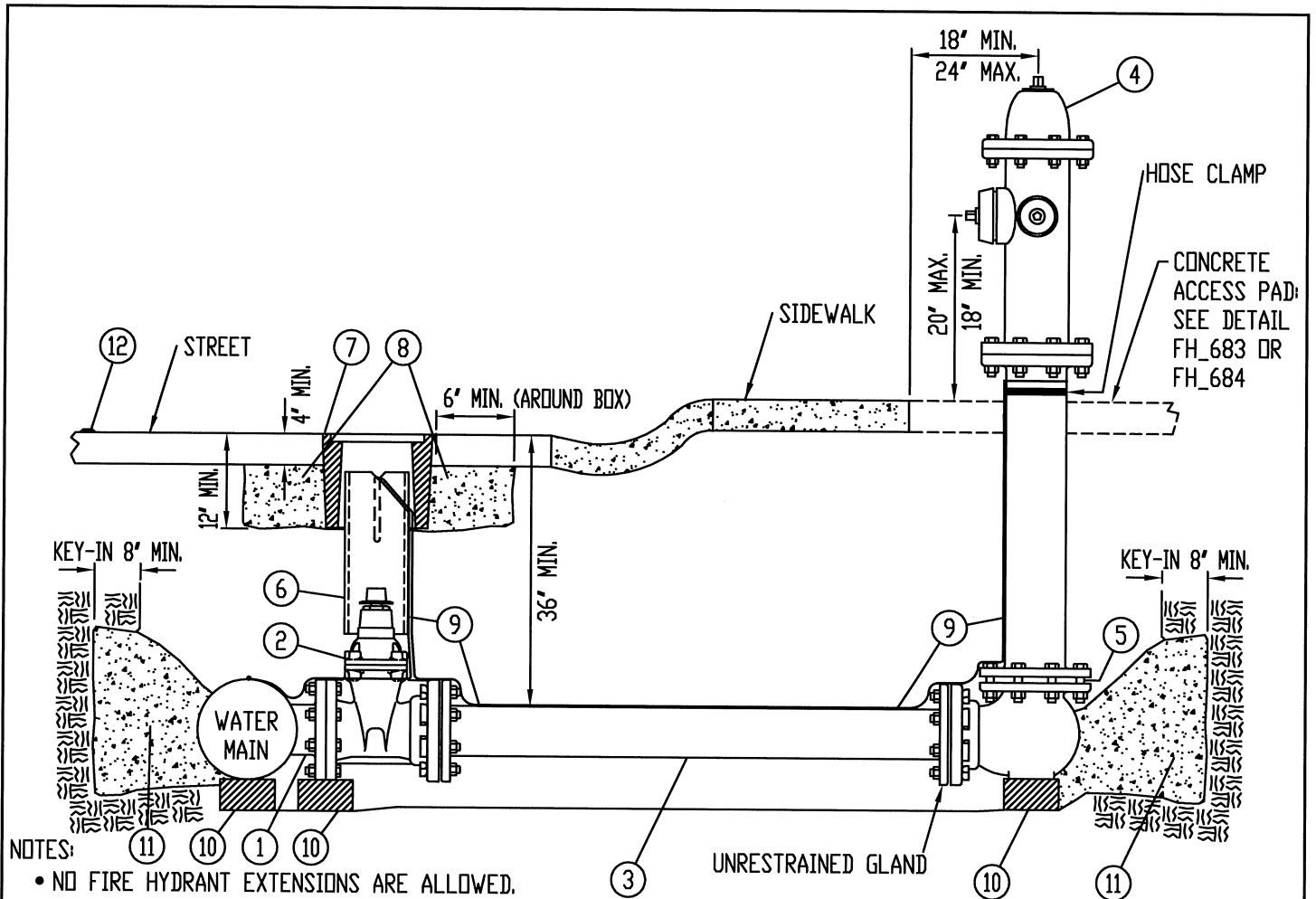
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DESIGN: P.A.D.

CAD FILE: FH\_611.DWG

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***FH\_611***



NOTES:

- NO FIRE HYDRANT EXTENSIONS ARE ALLOWED.
- BOLT TORQUE ON ALL FITTINGS SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS.
- AREA AROUND FIRE HYDRANT SHALL BE COMPACTED TO 90% MINIMUM.
- PAINT HYDRANT BURY USING A MANUFACTURER'S RECOMMENDED PRIMER, FINISH WITH RUSTOLEUM GLOSS WHITE, TWO COATS MINIMUM. PRIOR TO PAINTING, CLEAN ALL SURFACES WITH SOAP AND WATER USING AN ABRASIVE PAD.

1	TEE - DUCTILE IRON - FLANGED OUTLET	7	VALVE BOX/LID - MARKED "WATER", OLDCASTLE PRECAST NO. G04 BOX, G04C LID
2	6" GATE VALVE - RESILIENT WEDGE - FLANGED TO TEE x MECHANICAL JOINT	8	CONCRETE ENCASEMENT AROUND VALVE BOX - TYPE II SIX-SACK PORTLAND CEMENT - SEE DETAIL VB_811
3	6" DUCTILE IRON PIPE - PC350	9	#10 INSULATED COPPER LOCATOR WIRE
4	STEAMER FIRE HYDRANT - MUELLER A-423 OR AMERICAN DARLING B84B - MINIMUM 48" BURY, MECHANICAL JOINT INLET. SHALL BE FACTORY WHITE.	10	CONCRETE BRICK - 2 1/4" x 3 3/4" x 7 1/2"
5	BRASS PLUGS SHALL BE INSTALLED IN DRAIN HOLES IN SHOE.	11	CONCRETE THRUST BLOCK - SEE DETAIL TB_001
6	8" RISER - SDR35 ONLY, CONTINUOUS SECTION	12	BLUE REFLECTIVE MARKER - INSTALLED PER SACRAMENTO METROPOLITAN FIRE DISTRICT SPECIFICATIONS



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## FIRE HYDRANT - 6" CONNECTION (STREET SIDE)

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

CITRUS HEIGHTS WATER DISTRICT

DATE: 5/8/13

DETAIL FOR CONSTRUCTION IN:

**SACRAMENTO METRO FIRE DISTRICT**

DRAWN: 8 MAY 2013

REVISED:

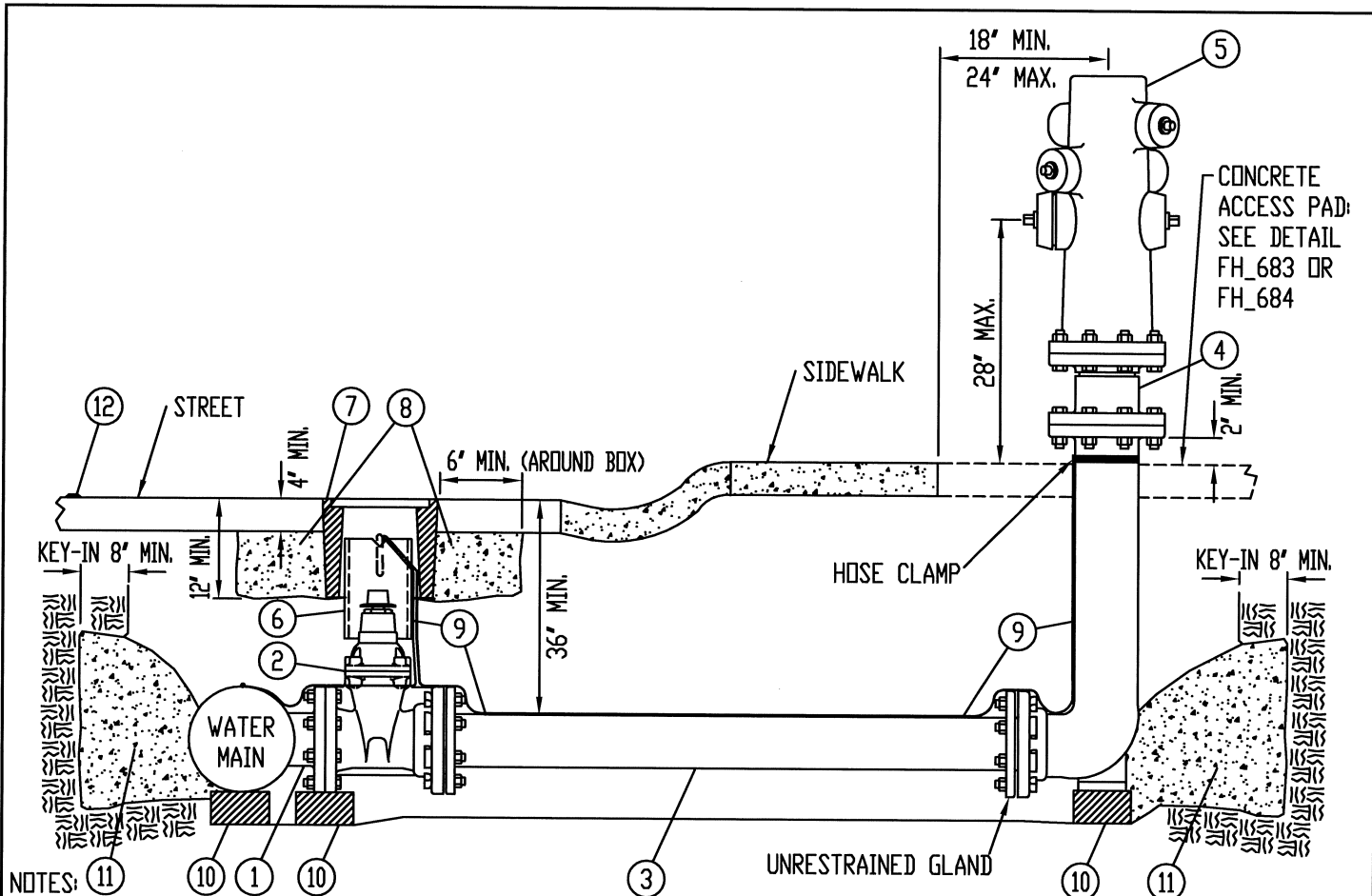
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DESIGN: P.A.D.

CAD FILE: FH\_612.DWG

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**FH\_612**



NOTES:

- BOLT TORQUE ON ALL FITTINGS SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS.
- AREA AROUND FIRE HYDRANT SHALL BE COMPACTED TO 90% MINIMUM.
- PAINT HYDRANT BURY USING A MANUFACTURER'S RECOMMENDED PRIMER, FINISH WITH RUSTOLEUM GLOSS WHITE, TWO COATS MINIMUM. PRIOR TO PAINTING, CLEAN ALL SURFACES WITH SOAP AND WATER USING AN ABRASIVE PAD.
- HYDRANT BOLTS SHALL BE BREAK AWAY TYPE INSTALLED NUT SIDE UP AND FILLED WITH 25 YEAR CLEAR SILICONE CAULK.

1	TEE - DUCTILE IRON - FLANGED OUTLET	7	VALVE BOX/LID - MARKED "WATER", OLDCASTLE PRECAST NO. G04 BOX, G04C LID
2	6" GATE VALVE - RESILIENT WEDGE - FLANGED TO TEE x MECHANICAL JOINT	8	CONCRETE ENCASEMENT AROUND VALVE BOX - TYPE II SIX-SACK PORTLAND CEMENT - SEE DETAIL VB_811
3	6" DUCTILE IRON PIPE - PC350	9	#10 INSULATED COPPER LOCATOR WIRE
4	BREAK AWAY SPOOL WITH BREAK AWAY BOLTS ON HYDRANT FLANGE ONLY	10	CONCRETE BRICK - 2 1/4" x 3 3/4" x 7 1/2"
5	WET BARREL FIRE HYDRANT - CLOW 2060 OR JAMES JONES J3762-Z31 - MINIMUM 48" BURY, MECHANICAL JOINT INLET, SHALL BE FACTORY WHITE.	11	CONCRETE THRUST BLOCK - SEE DETAIL TB_001
6	8" RISER - SDR35 ONLY, CONTINUOUS SECTION	12	BLUE REFLECTIVE MARKER - INSTALLED PER CITY OF ROSEVILLE SPECIFICATIONS



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## FIRE HYDRANT - 6" CONNECTION (STREET SIDE)

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chumley*

CITRUS HEIGHTS WATER DISTRICT

DATE: 5/8/13

DETAIL FOR CONSTRUCTION IN:  
**CITY OF ROSEVILLE**

DRAWN: 8 MAY 2013

REVISED:

SCALE: N.T.S.

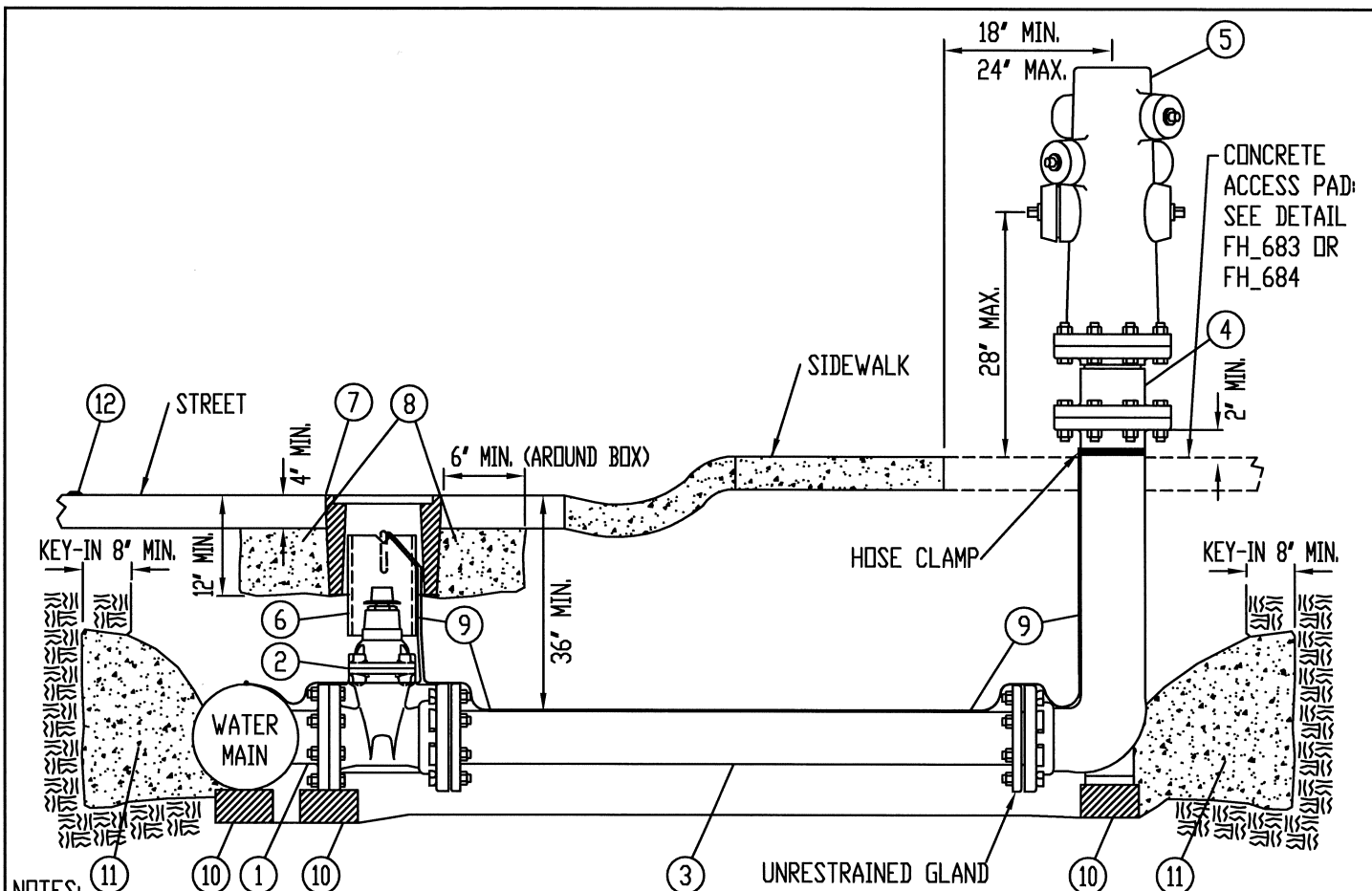
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1	TEE - DUCTILE IRON - FLANGED OUTLET	7	VALVE BOX/LID - MARKED "WATER", OLDCASTLE PRECAST NO. G04 BOX, G04C LID
2	6" GATE VALVE - RESILIENT WEDGE - FLANGED TO TEE x MECHANICAL JOINT	8	CONCRETE ENCASMENT AROUND VALVE BOX - TYPE II SIX-SACK PORTLAND CEMENT - SEE DETAIL VB_811
3	6" DUCTILE IRON PIPE - PC350	9	#10 INSULATED COPPER LOCATOR WIRE
4	BREAK AWAY SPOOL WITH BREAK AWAY BOLTS ON HYDRANT FLANGE ONLY	10	CONCRETE BRICK - 2 1/4" x 3 3/4" x 7 1/2"
5	WET BARREL FIRE HYDRANT - CLOW 960, MINIMUM 48" BURY, MECHANICAL JOINT INLET. SHALL BE FACTORY WHITE.	11	CONCRETE THRUST BLOCK - SEE DETAIL TB_001
6	8" RISER - SDR35 ONLY, CONTINUOUS SECTION	12	BLUE REFLECTIVE MARKER - INSTALLED PER SOUTH PLACER FIRE PROTECTION DISTRICT SPECIFICATIONS



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## FIRE HYDRANT - 6" CONNECTION (STREET SIDE)

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

DATE: 5/8/13

CITRUS HEIGHTS WATER DISTRICT

DETAIL FOR CONSTRUCTION IN:

**SOUTH PLACER FIRE PROTECTION DISTRICT**

DRAWN: 8 MAY 2013

REVISED:

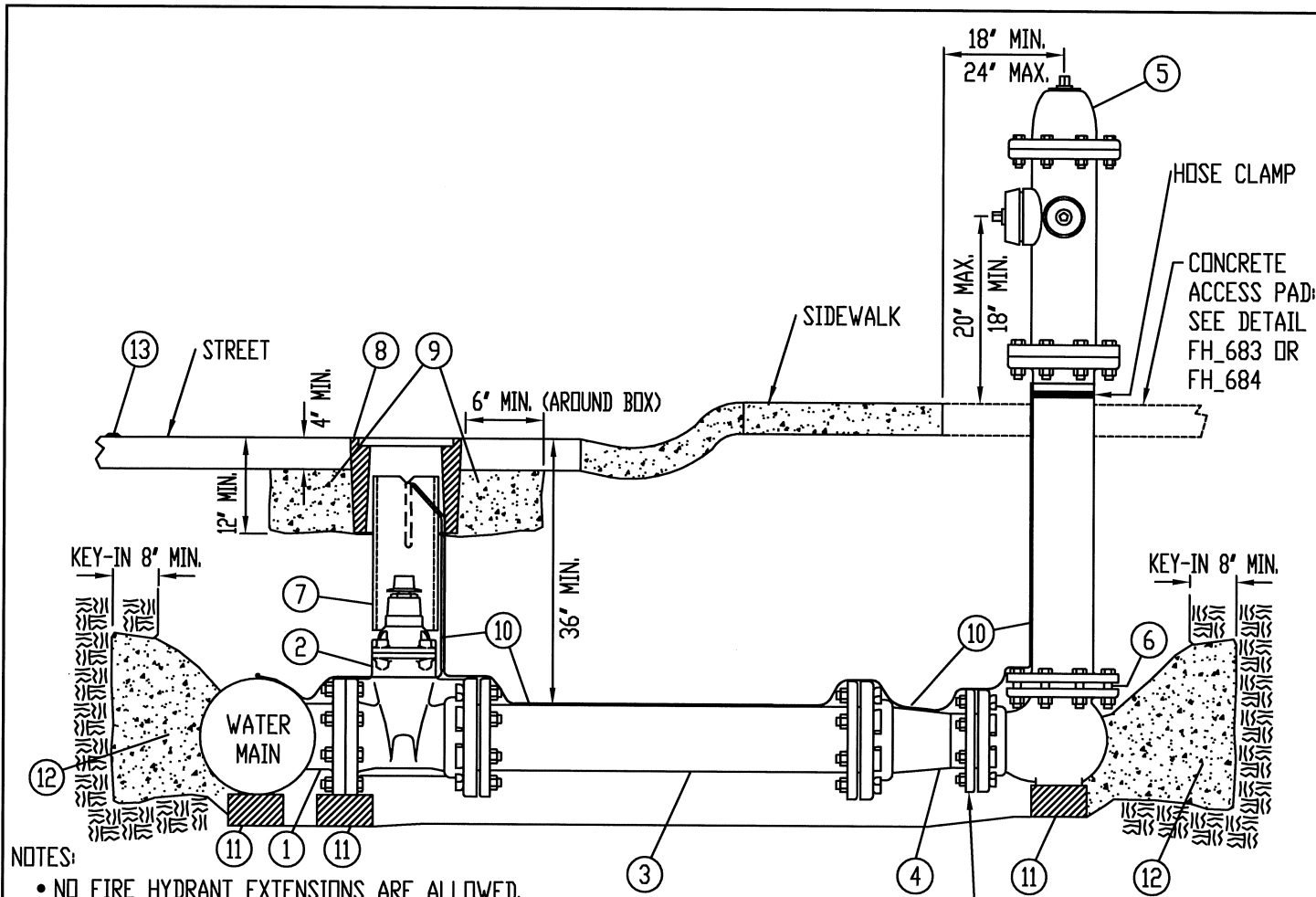
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NOTES:

- NO FIRE HYDRANT EXTENSIONS ARE ALLOWED.
- BOLT TORQUE ON ALL FITTINGS SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS. UNRESTRAINED GLAND
- AREA AROUND FIRE HYDRANT SHALL BE COMPACTED TO 90% MINIMUM.
- PAINT HYDRANT BURY USING A MANUFACTURER'S RECOMMENDED PRIMER, FINISH WITH RUSTOLEUM GLOSS WHITE, TWO COATS MINIMUM. PRIOR TO PAINTING, CLEAN ALL SURFACES WITH SOAP AND WATER USING AN ABRASIVE PAD.

1	TEE - DUCTILE IRON - FLANGED OUTLET	7	8" RISER - SDR35 ONLY - CONTINUOUS SECTION
2	8" GATE VALVE - RESILIENT WEDGE - FLANGED TO TEE x MECHANICAL JOINT	8	VALVE BOX/LID - MARKED "WATER", OLDCASTLE PRECAST NO. G04 BOX, G04C LID
3	8" DUCTILE IRON PIPE - PC350	9	CONCRETE ENCASEMENT AROUND VALVE BOX - TYPE II SIX-SACK PORTLAND CEMENT - SEE DETAIL VB_811
4	8" x 6" MJ X PE (LARGE END MJ) REDUCER	10	#10 INSULATED COPPER LOCATOR WIRE
5	STEAMER FIRE HYDRANT - MUELLER A-423 OR AMERICAN DARLING B84B - MINIMUM 48" BURY, MECHANICAL JOINT INLET. SHALL BE FACTORY WHITE.	11	CONCRETE BRICK - 2 1/4" x 3 3/4" x 7 1/2"
6	BRASS PLUGS SHALL BE INSTALLED IN DRAIN HOLES IN SHOE.	12	CONCRETE THRUST BLOCK - SEE DETAIL TB_001
		13	BLUE REFLECTIVE MARKER - INSTALLED PER SACRAMENTO METROPOLITAN FIRE SPECIFICATIONS



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## FIRE HYDRANT - 8" CONNECTION (STREET SIDE)

### CITRUS HEIGHTS WATER DISTRICT

APPROVED BY:

*Robert A. Churchill*

CITRUS HEIGHTS WATER DISTRICT

DATE:

*5/8/13*

DETAIL FOR CONSTRUCTION IN:

**SACRAMENTO METRO FIRE DISTRICT**

DRAWN: 8 MAY 2013

REVISED:

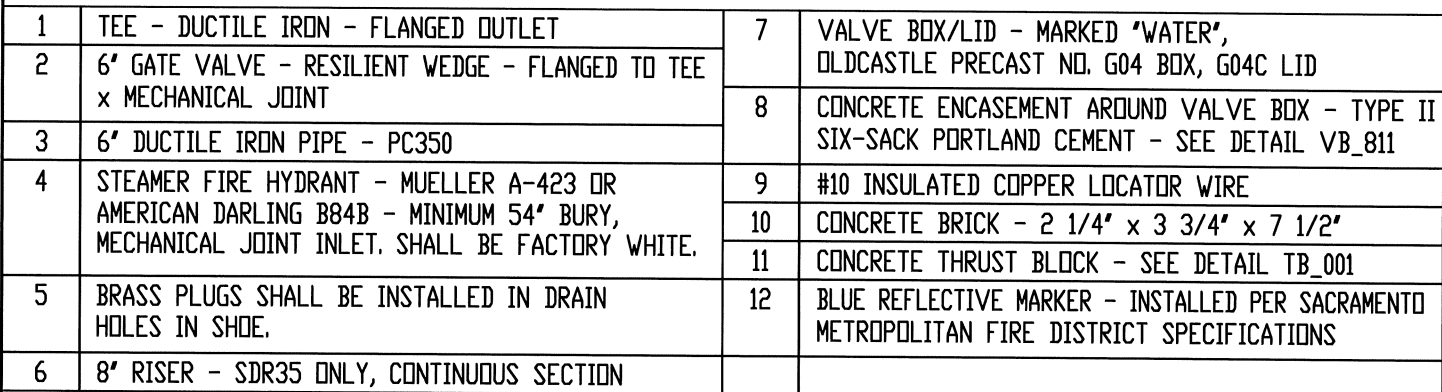
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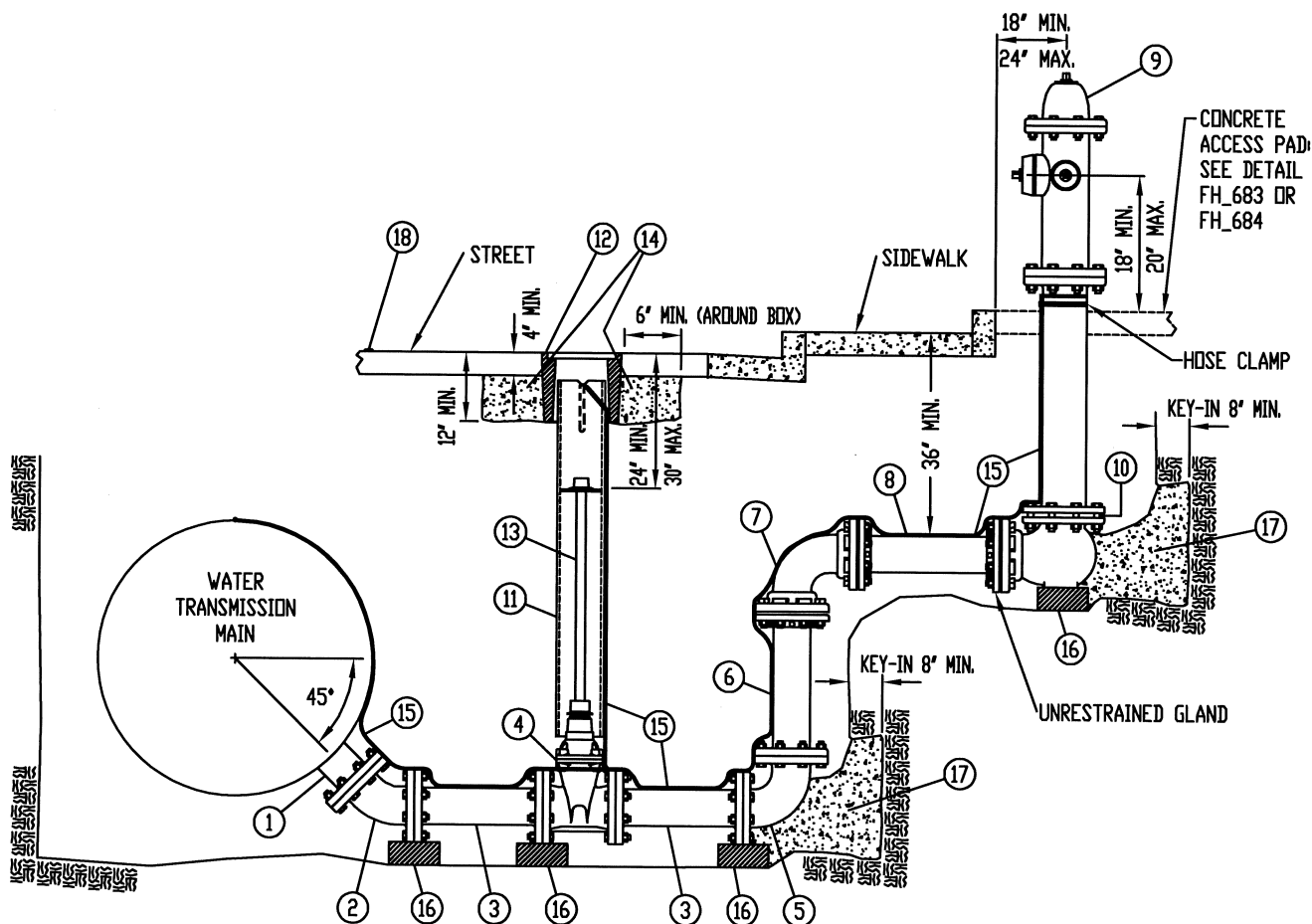
CAD FILE: FH\_615.DWG

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**FH\_615**



*FH 617*



# NOTES:

- NO FIRE HYDRANT EXTENSIONS ARE ALLOWED.
- BOLT TORQUE ON ALL FITTINGS SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS.
- AREA AROUND FIRE HYDRANT SHALL BE COMPACTED TO 90% MINIMUM.
- PAINT HYDRANT BURY USING A MANUFACTURER'S RECOMMENDED PRIMER, FINISH WITH RUSTOLEUM GLOSS WHITE, TWO COATS MINIMUM. PRIOR TO PAINTING, CLEAN ALL SURFACES WITH SOAP AND WATER USING AN ABRASIVE PAD.

1	6" FLANGED OUTLET	11	8" RISER - SDR35 ONLY, CONTINUOUS SECTION
2	6" 45° ELBOW - FL x FL	12	VALVE BOX/LID - MARKED "WATER", OLDCASTLE PRECAST NO. G04 BOX, G04C LID.
3	6" x 24" DUCTILE IRON PIPE SPOOL - FL x FL, CL53	13	VALVE OPERATOR EXTENSION - LENGTH AS REQUIRED
4	6" GATE VALVE - RESILIENT WEDGE - FLANGED BETWEEN SPOOLS	14	CONCRETE ENCASEMENT AROUND VALVE BOX - TYPE II SIX-SACK PORTLAND CEMENT - SEE DETAIL VB_810 OR VB_811
5	6" 90° ELBOW - FL x FL, ELBOW CONFIGURATIONS MAY VARY	15	#10 INSULATED COPPER LOCATOR WIRE
6	6" DUCTILE IRON PIPE - FL x PLAIN END, CL53	16	CONCRETE BRICK - 2 1/4" x 3 3/4" x 7 1/2"
7	6" 90° ELBOW - MJ x MJ w/ MEGA-LUG GLANDS ON BOTH ENDS, ELBOW CONFIGURATIONS MAY VARY	17	CONCRETE THRUST BLOCK - SEE DETAIL TB_001
8	6" DUCTILE IRON PIPE - PC350	18	BLUE REFLECTIVE MARKER - INSTALLED PER SACRAMENTO METROPOLITAN FIRE DISTRICT SPECIFICATIONS
9	STEAMER FIRE HYDRANT - MUELLER A-423 OR AMERICAN DARLING B84B, MINIMUM 48" BURY, MECHANICAL JOINT INLET. SHALL BE FACTORY WHITE.		
10	BRASS PLUGS SHALL BE INSTALLED IN DRAIN HOLES IN SHOE.		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## FIRE HYDRANT - 6" CONNECTION (BLOW-OFF)

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

DATE:

*5/8/13*

CITRUS HEIGHTS WATER DISTRICT

DETAIL FOR CONSTRUCTION IN:

**SACRAMENTO METRO FIRE DISTRICT**

DRAWN: 8 MAY 2013

REVISED:

SCALE: N.T.S.

DESIGN: P.A.D.

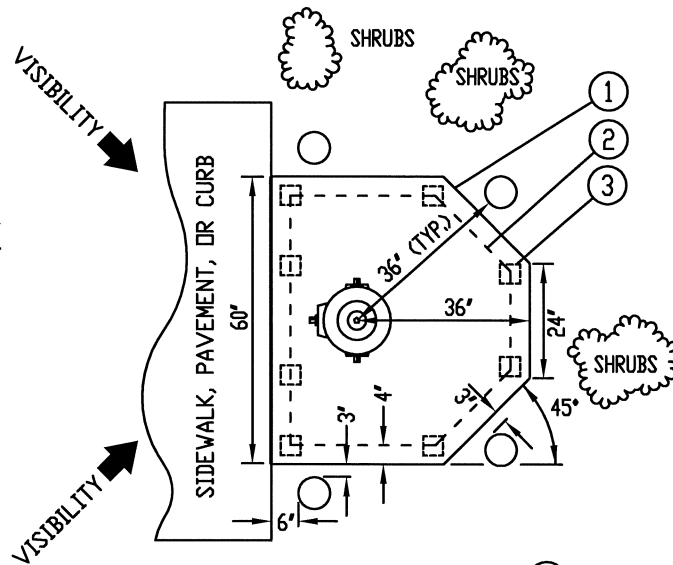
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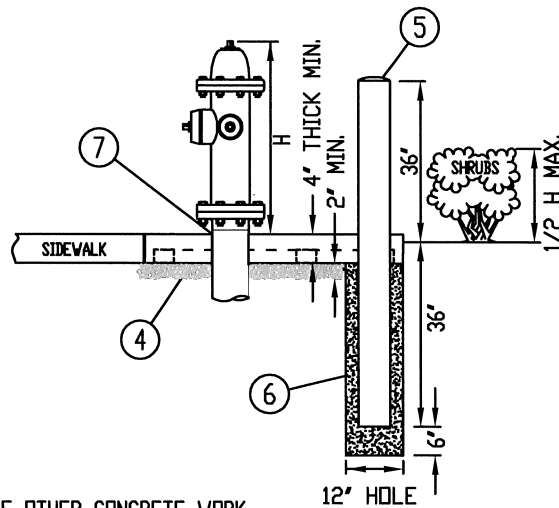
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*FH 683*

TOP VIEW



SIDE VIEW



NOTES:

- CONCRETE PAD TO BE POURED INDEPENDENT OF OTHER CONCRETE WORK.
- CONTACT UNDERGROUND SERVICE ALERT 48 HOURS PRIOR TO INSTALLING BARRICADES. 1 (800) 642-2444 OR 811
- CONTACT CITRUS HEIGHTS WATER DISTRICT FOR REBAR INSPECTION PRIOR TO POURING CONCRETE AND PRIOR TO INSTALLING BARRICADES. (916) 725-6873
- MATERIALS BELOW AGGREGATE BASE SHALL BE COMPACTED TO 90% MINIMUM.
- REINFORCED CONCRETE PAD SHALL BE FINISHED WITH AN EDGING TOOL AROUND THE ENTIRE PERIMETER AND BROOMED AT RIGHT ANGLES TO THE DIRECTION OF TRAVEL.
- PAINT FIRE HYDRANT AND BARRICADES USING A RUSTOLEUM RECOMMENDED PRIMER, FINISH WITH RUSTOLEUM GLOSS WHITE, TWO COATS MINIMUM. PRIOR TO PAINTING, CLEAN ALL SURFACES WITH SOAP AND WATER USING AN ABRASIVE PAD.

1	REINFORCED CONCRETE PAD - TYPE II SIX-SACK PORTLAND CEMENT	5	72' x 6' SCH 40 STEEL PIPE FILLED WITH CONCRETE, TYPE II SIX-SACK PORTLAND CEMENT
2	3/8' (#3) REBAR - 2' INSIDE PERIMETER	6	12' DIAMETER HOLE FILLED w/ CONCRETE, TYPE II SIX-SACK PORTLAND CEMENT
3	CONCRETE DOBIE w/ WIRE	7	ASPHALT SATURATED ORGANIC FELT (ROOFING PAPER) - ASTM 30, 2 LAYERS AROUND FIRE HYDRANT
4	3/4' CLASS II AGGREGATE BASE - 2' MINIMUM, MECHANICALLY COMPACTED TO 90%		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

# *FIRE HYDRANT ACCESS PAD w/ BARRICADES*

*CITRUS HEIGHTS WATER DISTRICT*

APPROVED BY:

*Robert A. Churchill*

CITRUS HEIGHTS WATER DISTRICT

DATE:

*5/8/13*

DRAWN: 8 MAY 2013

REVISED:

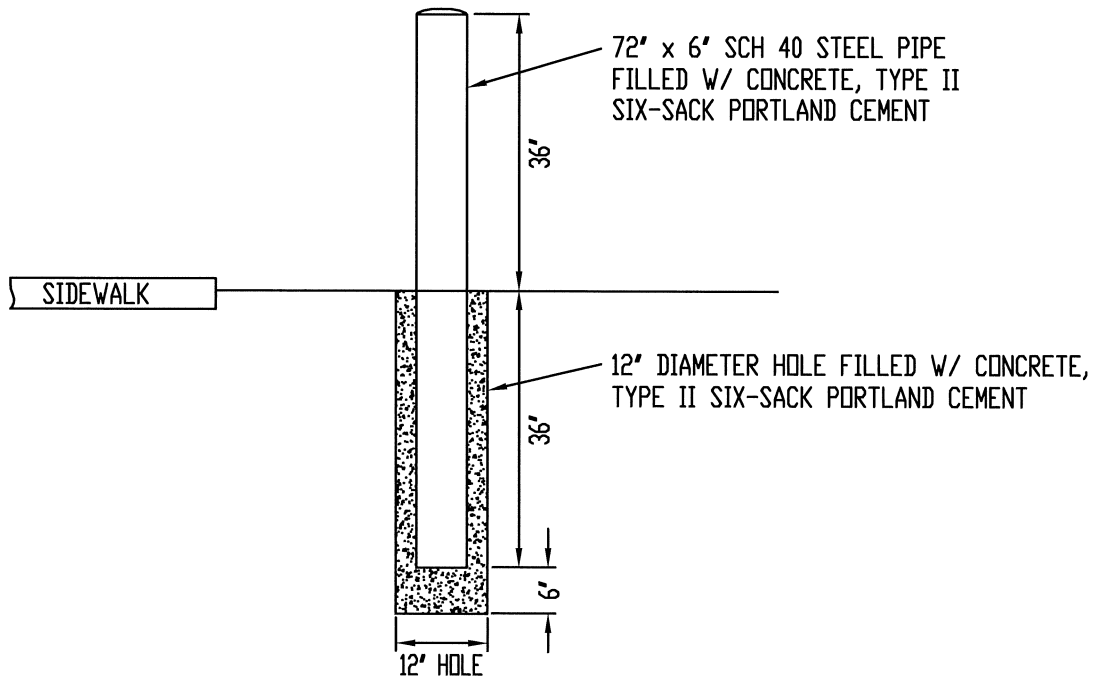
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DESIGN: P.A.D.

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*FH\_684*



**NOTES:**

- CONTACT UNDERGROUND SERVICE ALERT 48 HOURS PRIOR TO INSTALLING BARRICADES. 1 (800) 642-2444 OR 811
- CONTACT CITRUS HEIGHTS WATER DISTRICT FOR INSPECTION PRIOR TO INSTALLING BARRICADES. (916) 725-6873
- PAINT BARRICADES USING A RUSTOLEUM RECOMMENDED PRIMER, FINISH WITH RUSTOLEUM GLOSS WHITE, TWO COATS MINIMUM. PRIOR TO PAINTING, CLEAN ALL SURFACES WITH SOAP AND WATER USING AN ABRASIVE PAD.



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

# PROTECTION BARRICADES

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chumblee*

DATE:

*5/8/13*

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 8 MAY 2013

REVISED:

SCALE: N.T.S.

DESIGN: P.A.D.

CAD FILE: FH\_685.DWG

PAGE:

**FH\_685**

# VALVE AND FDC ABUTTED TO RPDA

## NOTES:

- VALVE BOX AND LID SHALL BE PER CHWD DETAIL VB\_811.
- BOLT TORQUE ON ALL FITTINGS SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS.
- CONTACT CITRUS HEIGHTS WATER DISTRICT FOR REBAR INSPECTION PRIOR TO POURING CONCRETE. (916) 725-6873
- MATERIAL BELOW AGGREGATE BASE SHALL BE COMPACTED TO 90% MINIMUM.
- REINFORCED CONCRETE PAD SHALL BE FINISHED WITH AN EDGING TOOL AROUND THE ENTIRE PERIMETER AND BROOMED AT RIGHT ANGLES TO THE DIRECTION OF TRAVEL.
- INSTALL TAMPER SWITCHES ON BOTH OS&Y VALVES WITH CONDUIT THROUGH CONCRETE PAD PER SACRAMENTO METRO FIRE DISTRICT STANDARDS.
- PAINT FIRE SPRINKLER CONNECTION USING A MANUFACTURER'S RECOMMENDED PRIMER, FINISH WITH RUSTOLEUM GLOSS WHITE, TWO COATS MINIMUM. PRIOR TO PAINTING, CLEAN ALL SURFACES WITH SOAP AND WATER USING AN ABRASIVE PAD.
- RPDA SHALL BE TESTED BY A CHWD CERTIFIED BACKFLOW PREVENTION ASSEMBLY TESTER PRIOR TO DISTRICT ACCEPTANCE OF FACILITIES.
- RPDA SHALL BE APPROVED BY THE FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH AT THE UNIVERSITY OF SOUTHERN CALIFORNIA.

1	FLANGE x MECHANICAL JOINT RESILIENT WEDGE GATE VALVE, VALVE RISER, AND VALVE BOX WITH LID	18	4' x 2 @ 2 1/2' FIRE DEPARTMENT CONNECTION (FDC) W/ METALLIC BREAKABLE CAPS. PAINT WHITE.
2	TAMPER SWITCH AND CONDUIT - OWNED AND MAINTAINED BY CUSTOMER	19	4' x 18" GALVANIZED NIPPLE
3	6' LONG FLANGED SPOOL	20	4' GALVANIZED CAP
4	90° ELBOW - DUCTILE IRON, FLANGE x MECHANICAL JOINT	21	REINFORCED CONCRETE PAD - 4' THICK x 36' WIDE, TYPE II SIX-SACK PORTLAND CEMENT
5	DUCTILE IRON PIPE - FLANGE x PLAIN END, CL53		
6	90° ELBOW - DUCTILE IRON, FLANGE x FLANGE	22	3/4" CLASS 2 AGGREGATE BASE - 2" MINIMUM, MECHANICALLY COMPACTED TO 90%
7	REDUCED PRESSURE DETECTOR ASSEMBLY (RPDA) WITH BRASS PLUGS INSTALLED IN ALL TEST COCKS - SHALL INCLUDE 3/4" BYPASS LESS METER (5/8" x 3/4" NEPTUNE WATER METER BY DISTRICT). WILKINS 375ADA w/OS&Y VALVES OR EQUAL.	23	CONCRETE DOBIE w/ WIRE
		24	3/8" (#3) REBAR - 2" INSIDE PERIMETER
		25	ASPHALT SATURATED ORGANIC FELT - (ROOFING PAPER) ASTM 30, 2 LAYERS AROUND PIPE
8	TEE - DUCTILE IRON, ALL FLANGED	26	SUPPORT STAND - PLACER WATER WORKS OR EQUAL, STANDARD SADDLE HEIGHT DETERMINED IN FIELD
9	90° ELBOW - DUCTILE IRON, MECHANICAL JOINT x MECHANICAL JOINT		
10	COMPANION FLANGE - DUCTILE IRON, FLANGE x 4' FIP	27	WEATHER FREEZE BAG w/ LOCK - POLAR BAG w/ CALLIOPE FABRIC (8-YEAR WARRANTY). CONTACT ROSEVILLE AUTO UPHOLSTERY.
11	4' GALVANIZED NIPPLE (ADJUST LENGTH TO ACHIEVE 36' HEIGHT)		
12	4' QUICK CHECK VALVE - FM-UL APPROVED	28	CONCRETE BRICK - 2 1/4" x 3 3/4" x 7 1/2"
13	4' GALVANIZED 90° ELBOW	29	CONCRETE THRUST BLOCK - SEE DETAIL TB_001
14	4' x 4' GALVANIZED NIPPLE	30	#10 INSULATED COPPER LOCATOR WIRE w/ HOSE CLAMP 6' ABOVE CONCRETE PAD
15	4' GALVANIZED TEE	31	3/8" NON-CASE HARDENED CHAIN AND BREAKABLE SHACKLE LOCK
16	4' x CLOSE GALVANIZED NIPPLE		
17	4' GALVANIZED 45° ELBOW		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 4", 6", 8" FIRE SPRINKLER CONNECTION

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Melina Rieri*

DATE: 07/22/2020

CITRUS HEIGHTS WATER DISTRICT

DETAIL FOR CONSTRUCTION IN:  
**SACRAMENTO METRO FIRE DISTRICT**

DRAWN: 15 JUL 2020

REVISED:

SCALE: N.T.S.

DESIGN: T.A.D.

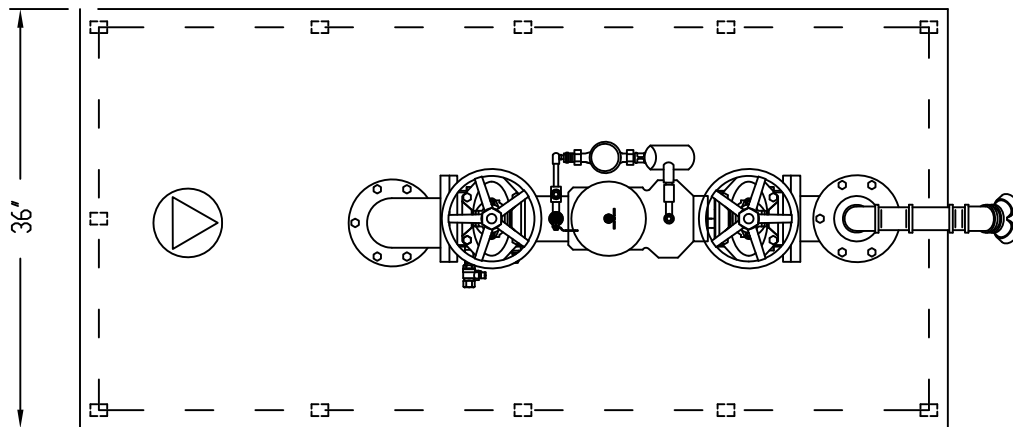
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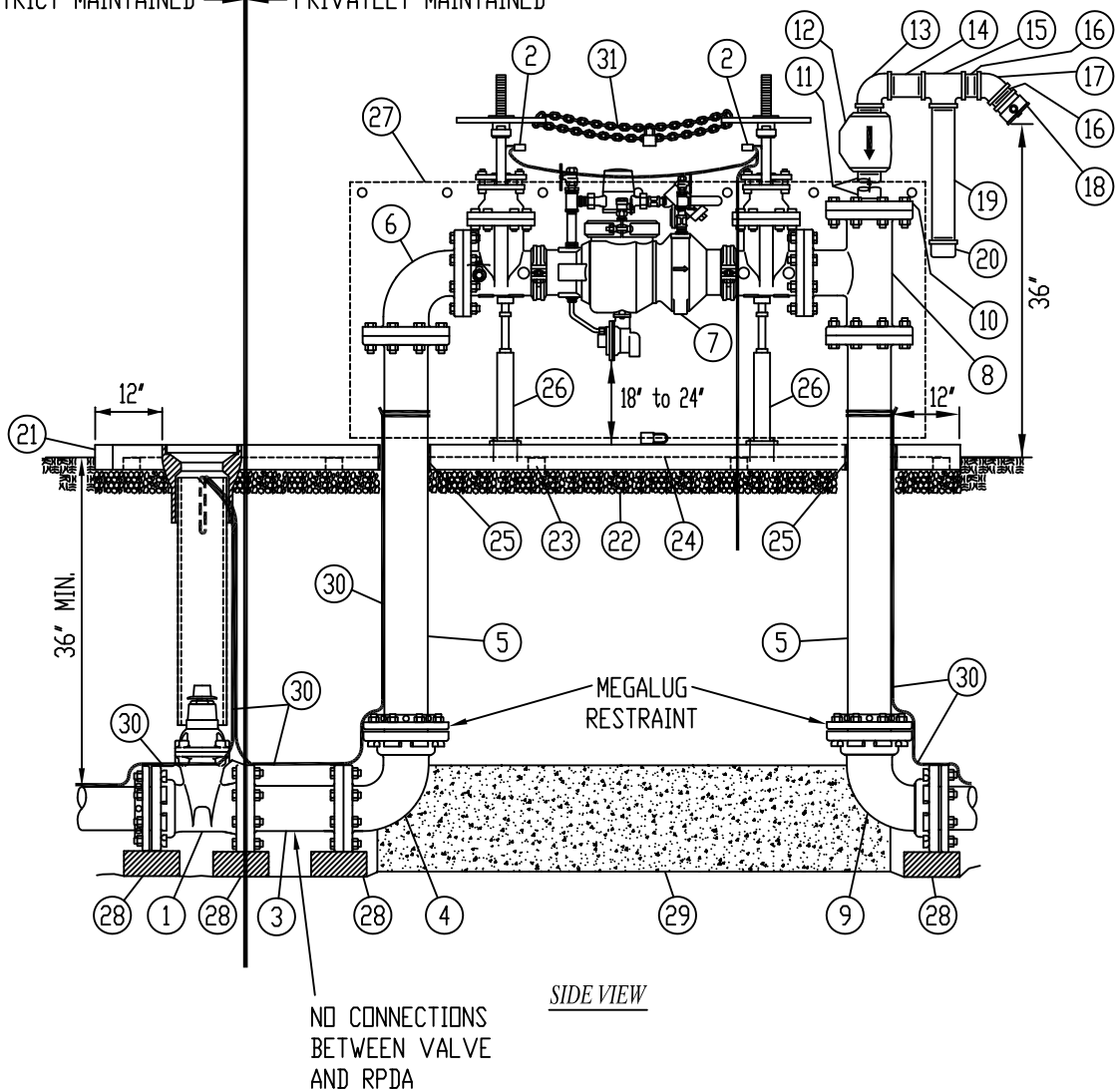
**FP\_650\_1**



TOP VIEW



DISTRICT MAINTAINED ← PRIVATELY MAINTAINED



SIDE VIEW

PAGE:

*FP\_650\_2*

# VALVE AND/OR FDC APART FROM RPDA

## NOTES:

- VALVE BOX AND LID SHALL BE PER CHWD DETAIL VB\_810.
- BOLT TORQUE ON ALL FITTINGS SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS.
- CONTACT CITRUS HEIGHTS WATER DISTRICT FOR REBAR INSPECTION PRIOR TO POURING CONCRETE. (916) 725-6873
- MATERIAL BELOW AGGREGATE BASE SHALL BE COMPACTED TO 90% MINIMUM.
- REINFORCED CONCRETE PAD SHALL BE FINISHED WITH AN EDGING TOOL AROUND THE ENTIRE PERIMETER AND BROOMED AT RIGHT ANGLES TO THE DIRECTION OF TRAVEL.
- INSTALL TAMPER SWITCHES ON BOTH OS&Y VALVES WITH CONDUIT THROUGH CONCRETE PAD PER SACRAMENTO METRO FIRE DISTRICT STANDARD.
- PAINT FIRE SPRINKLER CONNECTION USING A MANUFACTURER'S RECOMMENDED PRIMER, FINISH WITH RUSTOLEUM GLOSS WHITE, TWO COATS MINIMUM. PRIOR TO PAINTING, CLEAN ALL SURFACES WITH SOAP AND WATER USING AN ABRASIVE PAD.
- RPDA SHALL BE TESTED BY A CHWD CERTIFIED BACKFLOW PREVENTION ASSEMBLY TESTER PRIOR TO DISTRICT ACCEPTANCE OF FACILITIES.
- RPDA SHALL BE APPROVED BY THE FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH AT THE UNIVERSITY OF SOUTHERN CALIFORNIA.

1	FLANGE x MECHANICAL JOINT RESILIENT WEDGE GATE VALVE, VALVE RISER, AND VALVE BOX WITH LID	17	4" x 18" GALVANIZED NIPPLE
		18	4" GALVANIZED CAP
2	TAMPER SWITCH AND CONDUIT - OWNED AND MAINTAINED BY CUSTOMER	19	REINFORCED CONCRETE PAD - 4" THICK x 36" WIDE, TYPE II SIX-SACK PORTLAND CEMENT
3	90° ELBOW - DUCTILE IRON, MECHANICAL JOINT x MECHANICAL JOINT		
4	DUCTILE IRON PIPE - FLANGE x PLAIN END, CL53	20	3/4" CLASS II AGGREGATE BASE - 2" MINIMUM, MECHANICALLY COMPACTED TO 90%
5	90° ELBOW - DUCTILE IRON, FLANGE x FLANGE		
6	REDUCED PRESSURE DETECTOR ASSEMBLY (RPDA) WITH BRASS PLUGS INSTALLED IN ALL TEST COCKS - SHALL INCLUDE 3/4" BYPASS LESS METER (5/8" x 3/4" NEPTUNE WATER METER BY DISTRICT). WILKINS 375ADA w/OS&Y VALVES OR EQUAL.	21	CONCRETE DOBIE w/ WIRE
		22	3/8" (#3) REBAR - 2" INSIDE PERIMETER
		23	ASPHALT SATURATED ORGANIC FELT - (ROOFING PAPER) ASTM 30, 2 LAYERS AROUND PIPE
7	TEE OR 90° ELBOW - DUCTILE IRON, MECHANICAL JOINT x MECHANICAL JOINT	24	SUPPORT STAND - PLACER WATER WORKS OR EQUAL, STANDARD SADDLE HEIGHT DETERMINED IN FIELD
8	COMPANION FLANGE - FLANGE x 4" FIP		
9	4" GALVANIZED NIPPLE (ADJUST LENGTH TO ACHIEVE 36" HEIGHT)	25	WEATHER FREEZE BAG w/ LOCK - POLAR BAG w/ CALLIOPE FABRIC (8-YEAR WARRANTY). CONTACT ROSEVILLE AUTO UPHOLSTERY.
10	4" QUICK CHECK VALVE - FM-UL APPROVED	26	CONCRETE BRICK - 2 1/4" x 3 3/4" x 7 1/2"
11	4" x 4" GALVANIZED NIPPLE	27	CONCRETE THRUST BLOCK - SEE DETAIL TB_001
12	4" GALVANIZED 90° ELBOW	28	CONCRETE THRUST BLOCK - SEE DETAIL TB_001
13	4" GALVANIZED TEE	29	#10 INSULATED COPPER LOCATOR WIRE w/ HOSE CLAMP 6' ABOVE CONCRETE PAD
14	4" x CLOSE GALVANIZED NIPPLE	30	3/8" NON-CASE HARDENED CHAIN AND BREAKABLE SHACKLE LOCK
15	4" GALVANIZED 45° ELBOW		
16	4" x 2 @ 2 1/2" FIRE DEPARTMENT CONNECTION (FDC) w/ METALLIC BREAKABLE CAPS. PAINT WHITE.		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 4", 6", 8" FIRE SPRINKLER CONNECTION

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Melina Kieri*

DATE: 07/22/2020

CITRUS HEIGHTS WATER DISTRICT

DETAIL FOR CONSTRUCTION IN:  
**SACRAMENTO METRO FIRE DISTRICT**

DRAWN: 21 JUL 2020

REVISED:

SCALE: N.T.S.

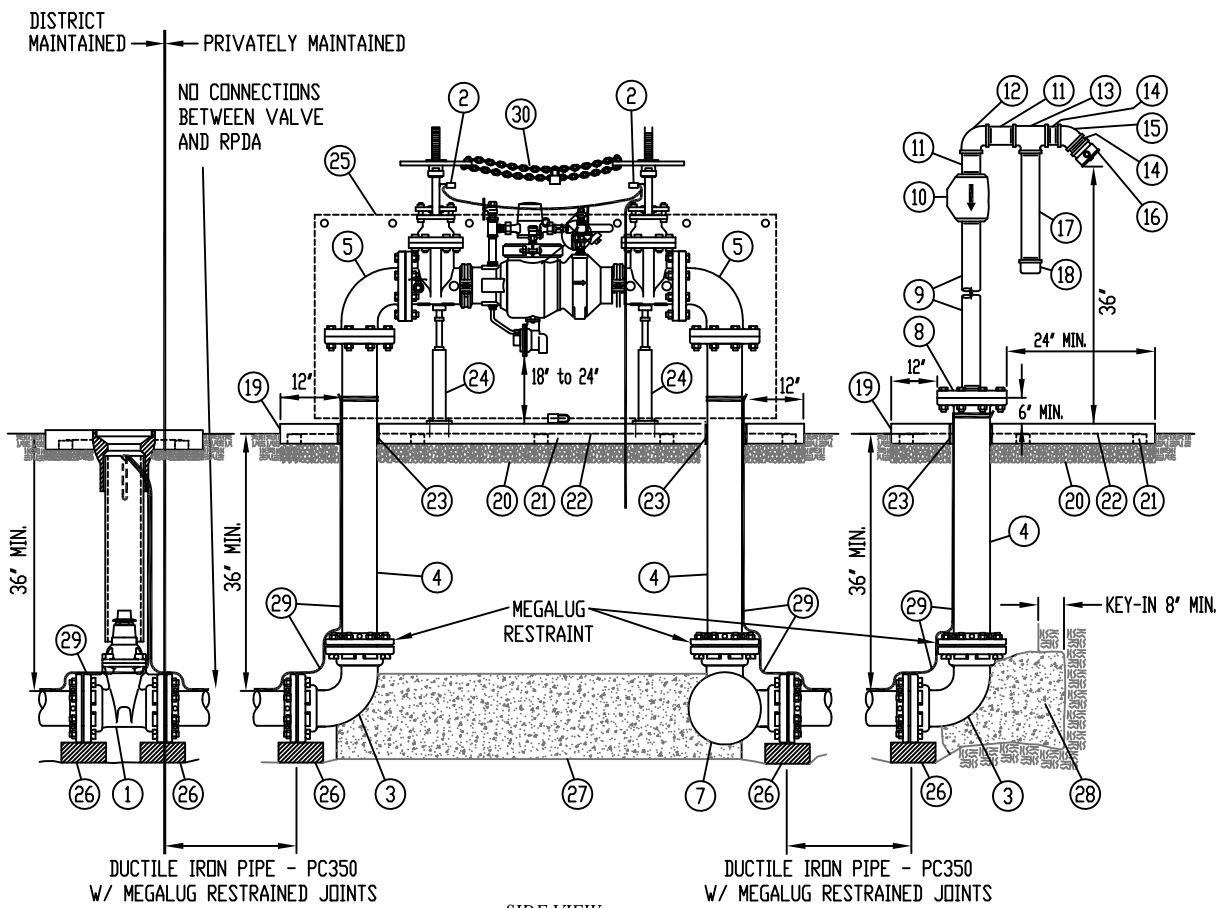
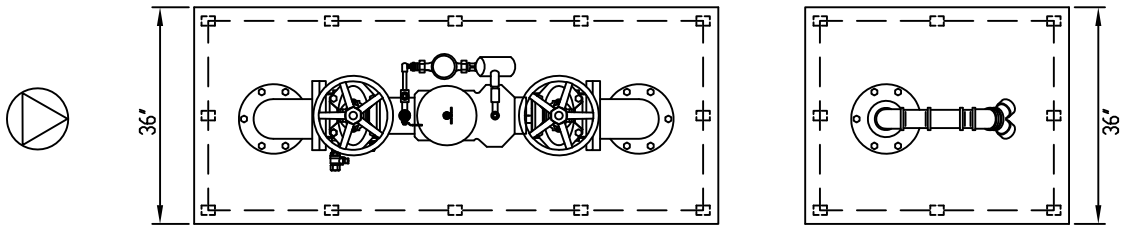
DESIGN: T.A.D.

CAD FILE: FP\_651\_1.DWG

PAGE:

**FP\_651\_1**

TOP VIEW



SIDE VIEW

MAKEUP WATER ALLOWANCES (GALLONS PER HOUR PER 1000')			
PVC		DIP	
SIZE OF PIPE	LEAKAGE ALLOWANCE	SIZE OF PIPE	LEAKAGE ALLOWANCE
4"	0.33	4"	0.33
6"	0.50	6"	0.50
8"	0.66	8"	0.66
10"	0.83	10"	0.83
12"	0.99	12"	0.99
		14"	1.16
		16"	1.32
		18"	1.49
		24"	1.99

NOTES:

1. THE CONTRACTOR SHALL PRESSURIZE ALL NEW FACILITIES INDEPENDENT OF THE EXISTING SYSTEM. CITRUS HEIGHTS WATER DISTRICT ASSUMES NO LIABILITY FOR THE SAFETY OF CONTRACTOR PERSONNEL.
2. THE CONTRACTOR IS RESPONSIBLE FOR A SUCCESSFUL PRE-TEST OF THE FACILITIES.
3. THE DISTRICT INSPECTOR SHALL WITNESS THE HYDROSTATIC PRESSURE TEST UPON REQUEST OF THE CONTRACTOR.
4. PRESSURE SHALL BE REDUCED TO 60 PSI MAXIMUM AND RAISED TO TEST PRESSURE IN THE PRESENCE OF THE DISTRICT INSPECTOR.
5. HYDROSTATIC TEST PRESSURE SHALL BE 150 PSI. A DROP IN PRESSURE OF GREATER THAN 5 PSI AND/OR EXCEEDING THE MAKEUP WATER ALLOWANCE SHALL VOID THE TEST.
6. THE HYDROSTATIC PRESSURE TEST SHALL BE 2-HOURS IN DURATION.

MAKEUP WATER ALLOWANCE TABLE REFERENCES:

PVC: ANSI/AWWA C605-17, PG 30, TABLE 4A.

DIP: ANSI/AWWA C600-17, PG 27, TABLE 5A.



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## HYDROSTATIC PRESSURE TESTING

*CITRUS HEIGHTS WATER DISTRICT*

APPROVED BY: *Melina Rieri* DATE: 08/12/2020  
CITRUS HEIGHTS WATER DISTRICT

DRAWN: 12 AUG 2020

REVISED:

SCALE: N.T.S.

DESIGN: T.A.D.

CAD FILE: HP\_001.DWG

PAGE:

*HP\_001*

# CONCRETE PAD SIZE:

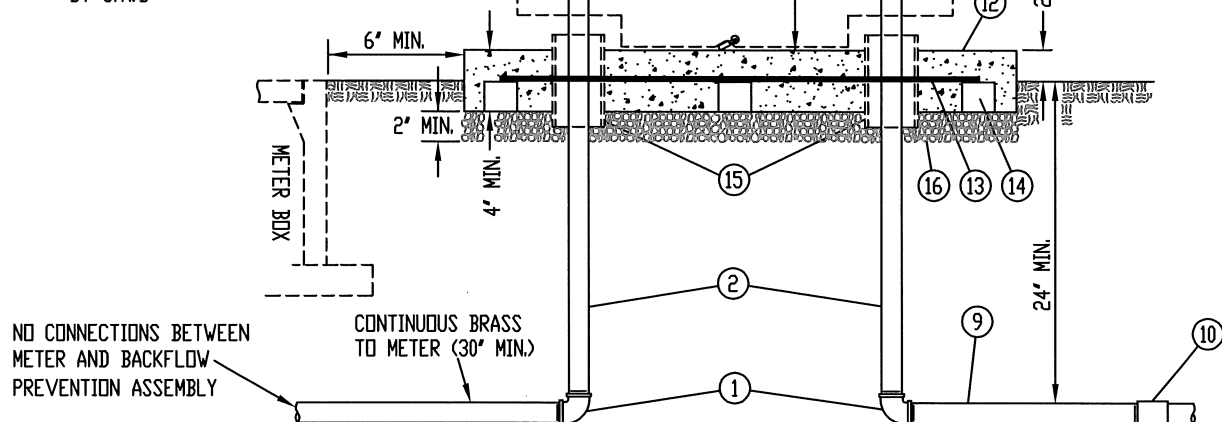
- 3/4" to 1" BACKFLOW:  
(29"x43")
- 1 1/2" to 2" BACKFLOW:  
(29"x55")

# REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY (RPA):

- FEBCO, WILKINS- U.S.C. APPROVED.
- PIPING TO BE CENTERED ON  
CONCRETE PAD

# PADLOCK:

- BY CHWD



# NOTES:

- REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY SHALL BE PLUMB.
- CONTACT CITRUS HEIGHTS WATER DISTRICT FOR REBAR INSPECTION PRIOR TO POURING CONCRETE. (916) 725-6873
- MATERIAL BELOW AGGREGATE BASE SHALL BE COMPACTED TO 90% MINIMUM.
- REINFORCED CONCRETE PAD SHALL BE FINISHED WITH AN EDGING TOOL AROUND THE ENTIRE PERIMETER AND BROOMED AT RIGHT ANGLES TO THE DIRECTION OF TRAFFIC.
- RPA SHALL BE TESTED BY A CHWD CERTIFIED BACKFLOW PREVENTION ASSEMBLY TESTER PRIOR TO DISTRICT ACCEPTANCE OF FACILITIES.
- COLOR OF WEATHER FREEZE BAG TO BE DETERMINED BY DISTRICT INSPECTOR.

1	BRASS ELBOW	11	WEATHER FREEZE BAG - POLAR BAG w/ CALLIOPE FABRIC (8-YEAR WARRANTY). CONTACT ROSEVILLE AUTO UPHOLSTERY.
2	BRASS NIPPLE - CONTINUOUS	12	REINFORCED CONCRETE PAD - TYPE II SIX-SACK PORTLAND CEMENT - SEE ABOVE NOTE FOR PAD SIZE
3	BRASS UNION	13	3/8" (#3) REBAR - 2' INSIDE PERIMETER
4	3' OR 4' BRASS NIPPLE	14	CONCRETE DOBIE w/WIRE
5	BRASS STREET ELBOW	15	3' PVC SLEEVES - SAND FILLED
6	WYE STRAINER - BRONZE W/ PLUG	16	3/4" CLASS 2 AGGREGATE BASE - 2" MINIMUM, MECHANICALLY COMPACTED TO 90%
7	CLOSE BRASS NIPPLE	17	PRESSURE REGULATOR - AS DETERMINED BY THE APPROPRIATE GOVERNING AUTHORITY
8	REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY w/ BALL VALVES and TEST COCKS w/ BRASS PLUGS (4) - SEE ABOVE NOTE FOR FURTHER INFORMATION		
9	24' BRASS NIPPLE		
10	PVC COUPLING - SCH 80, THREADED		



CITRUS  
HEIGHTS  
WATER  
DISTRICT

# 3/4" TO 2" REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY w/ WEATHER FREEZE BAG

# CITRUS HEIGHTS WATER DISTRICT

APPROVED BY:

*Robert A. Chumley*

CITRUS HEIGHTS WATER DISTRICT

DATE:

*5/8/13*

DRAWN: 8 MAY 2013

REVISED:

SCALE: N.T.S.

DESIGN: P.A.D.

CAD FILE: RP\_311.DWG

PAGE:

*RP\_311*

**INSULATED BACKFLOW ENCLOSURE:****PLACER WATERWORKS**

- 3/4" to 1" BACKFLOW:  
MODEL PW/E1A-W(S)
- 1 1/2" to 2" BACKFLOW:  
MODEL PW/E1A-W(M)

**CONCRETE PAD SIZE:**

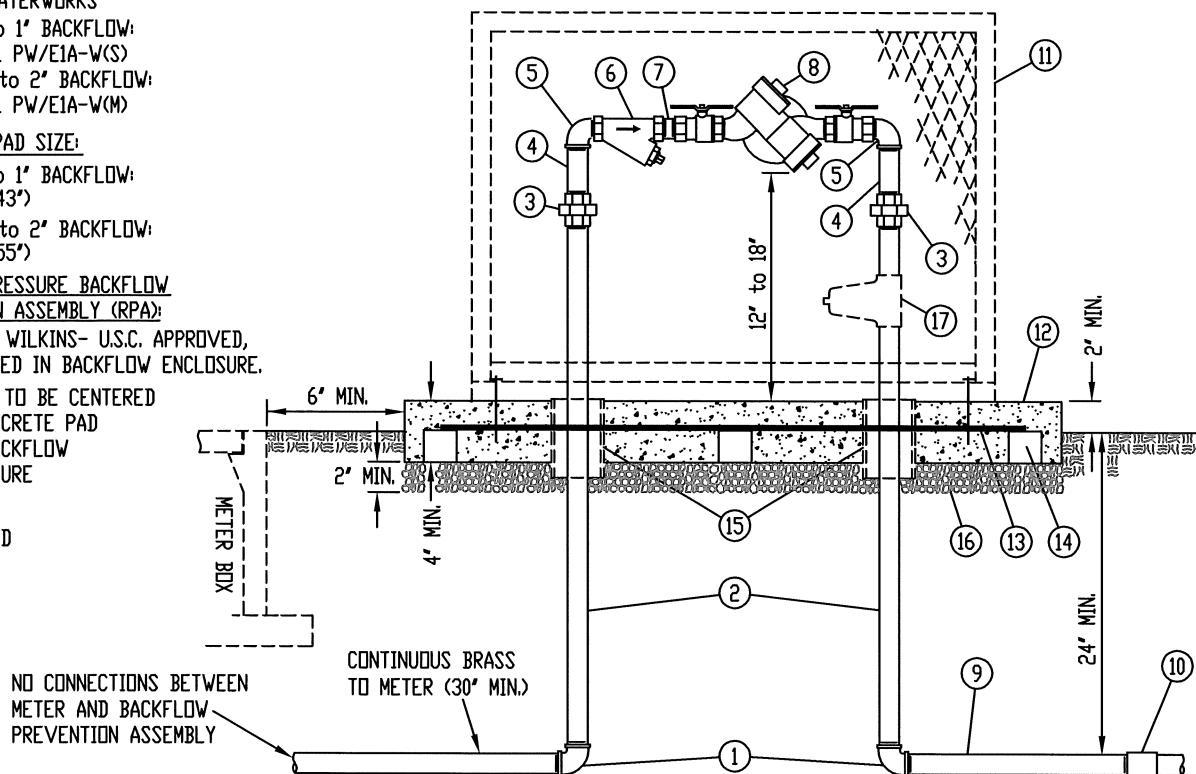
- 3/4" to 1" BACKFLOW:  
(29"x43")
- 1 1/2" to 2" BACKFLOW:  
(29"x55")

**REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY (RPA):**

- FEBCO, WILKINS- U.S.C. APPROVED,  
CENTERED IN BACKFLOW ENCLOSURE.
- PIPING TO BE CENTERED  
ON CONCRETE PAD  
AND BACKFLOW  
ENCLOSURE

**PADLOCK:**

- BY CHWD

**NOTES:**

- REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY SHALL BE PLUMB.
- CONTACT CITRUS HEIGHTS WATER DISTRICT FOR REBAR INSPECTION PRIOR TO POURING CONCRETE. (916) 725-6873
- MATERIAL BELOW AGGREGATE BASE SHALL BE COMPACTED TO 90% MINIMUM.
- REINFORCED CONCRETE PAD SHALL BE FINISHED WITH AN EDGING TOOL AROUND THE ENTIRE PERIMETER AND BROOMED AT RIGHT ANGLES TO THE DIRECTION OF TRAFFIC.
- RPA SHALL BE TESTED BY A CHWD CERTIFIED BACKFLOW PREVENTION ASSEMBLY TESTER PRIOR TO DISTRICT ACCEPTANCE OF FACILITIES.
- COLOR OF ENCLOSURE TO BE DETERMINED BY DISTRICT INSPECTOR.

1	BRASS ELBOW	11	INSULATED BACKFLOW ENCLOSURE - SECURED TO PAD w/ 1/2" x 4" SLEEVE ANCHORS (RED HEAD OR EQUAL) - SEE ABOVE NOTE
2	BRASS NIPPLE - CONTINUOUS	12	REINFORCED CONCRETE PAD - TYPE II SIX-SACK PORTLAND CEMENT - SEE ABOVE NOTE FOR SIZE
3	BRASS UNION	13	CONCRETE DOBBIE w/WIRE
4	3" OR 4" BRASS NIPPLE	14	3/8" (#3) REBAR - 2" INSIDE PERIMETER
5	BRASS STREET ELBOW	15	3" PVC SLEEVES - SAND FILLED
6	WYE STRAINER - BRONZE W/ PLUG	16	3/4" CLASS 2 AGGREGATE BASE - 2" MINIMUM, MECHANICALLY COMPACTED TO 90%
7	CLOSE BRASS NIPPLE	17	PRESSURE REGULATOR - AS DETERMINED BY THE APPROPRIATE GOVERNING AUTHORITY
8	REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY w/ BALL VALVES and TEST COCKS w/ BRASS PLUGS (4) - SEE ABOVE NOTE FOR FURTHER INFORMATION		
9	24" BRASS NIPPLE		
10	PVC COUPLING - SCH 80, THREADED		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 3/4" TO 2" REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY w/ BACKFLOW ENCLOSURE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chumbe*

CITRUS HEIGHTS WATER DISTRICT

DATE:

*5/10/13*

DRAWN: 8 MAY 2013

REVISED:

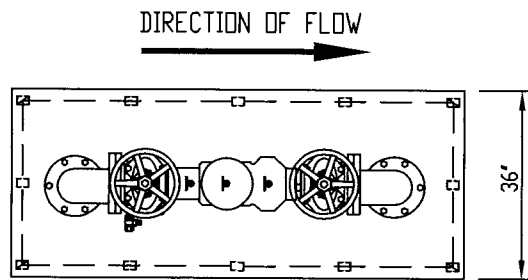
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DESIGN: P.A.D.

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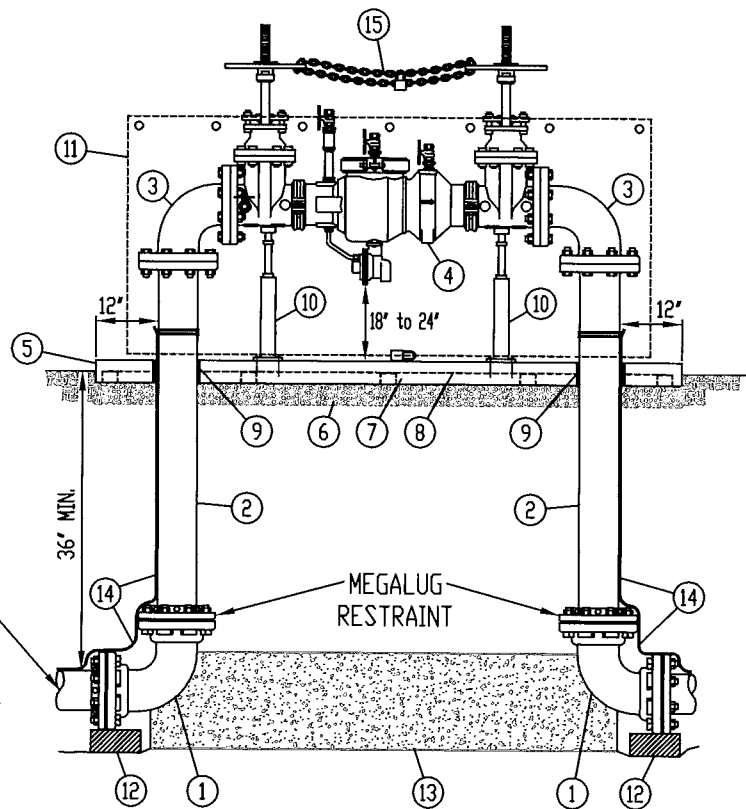
**RP\_312**



TOP VIEW

NO CONNECTIONS BETWEEN  
METER AND BACKFLOW  
PREVENTION ASSEMBLY

DIRECTION OF FLOW



SIDE VIEW

NOTES:

- REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY SHALL BE PLUMB.
- BOLT TORQUE ON ALL FITTINGS SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS.
- CONTACT CITRUS HEIGHTS WATER DISTRICT FOR REBAR INSPECTION PRIOR TO POURING CONCRETE. (916) 725-6873
- MATERIAL BELOW AGGREGATE BASE SHALL BE COMPACTED TO 90% MINIMUM.
- REINFORCED CONCRETE PAD SHALL BE FINISHED WITH AN EDGING TOOL AROUND THE ENTIRE PERIMETER AND BROOMED AT RIGHT ANGLES TO THE DIRECTION OF TRAVEL.
- PAINT REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY USING A MANUFACTURER'S RECOMMENDED PRIMER, FINISH WITH RUSTOLEUM GLOSS WHITE, TWO COATS MINIMUM. PRIOR TO PAINTING, CLEAN ALL SURFACES WITH SOAP AND WATER USING AN ABRASIVE PAD.
- RPA SHALL BE TESTED BY A CHWD CERTIFIED BACKFLOW PREVENTION ASSEMBLY TESTER PRIOR TO DISTRICT ACCEPTANCE OF FACILITIES.
- RPDA SHALL BE APPROVED BY THE FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH AT THE UNIVERSITY OF SOUTHERN CALIFORNIA.

1	90° ELBOW - DUCTILE IRON, MECHANICAL JOINT x MECHANICAL JOINT	8	3/8" (#3) REBAR - 2" INSIDE PERIMETER
2	DUCTILE IRON PIPE - FLANGE x PLAIN END, CL53	9	ASPHALT SATURATED ORGANIC FELT - (ROOFING PAPER) ASTM 30, 2 LAYERS AROUND PIPE
3	90° ELBOW - DUCTILE IRON, FLANGE x FLANGE	10	SUPPORT STAND - PLACER WATER WORKS OR EQUAL, STANDARD SADDLE HEIGHT DETERMINED IN FIELD
4	REDUCED PRESSURE ASSEMBLY (RPA) WITH BRASS PLUGS INSTALLED IN ALL TEST COCKS. - WILKINS 375A w/DS&Y OR EQUAL.	11	WEATHER FREEZE BAG - POLAR BAG w/ CALLIPE FABRIC (8-YEAR WARRANTY), CONTACT ROSEVILLE AUTO UPHOLSTERY. PADLOCK BY CHWD.
5	REINFORCED CONCRETE PAD - 4" THICK x 36" WIDE, TYPE II SIX-SACK PORTLAND CEMENT	12	CONCRETE BRICK - 2 1/4" x 3 3/4" x 7 1/2"
6	3/4" CLASS 2 AGGREGATE BASE - 2" MINIMUM, MECHANICALLY COMPACTED TO 90%	13	CONCRETE THRUST BLOCK - SEE DETAIL TB_001
7	CONCRETE DOBIE w/ WIRE	14	#10 INSULATED COPPER LOCATOR WIRE w/ HOSE CLAMP 6" ABOVE CONCRETE PAD
		15	3/8" NON-CASE HARDENED CHAIN AND BREAKABLE SHACKLE LOCK



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 3" AND LARGER REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

CITRUS HEIGHTS WATER DISTRICT

DATE: 12/4/14

DRAWN: 3 DEC 2014

REVISED:

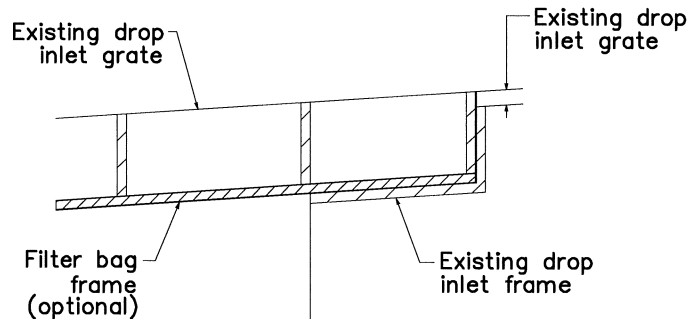
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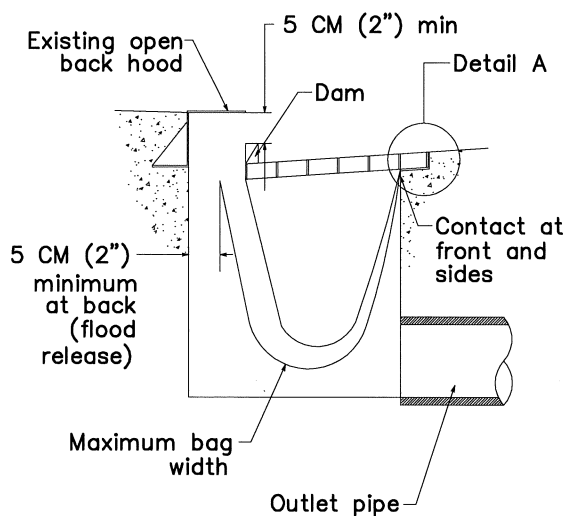
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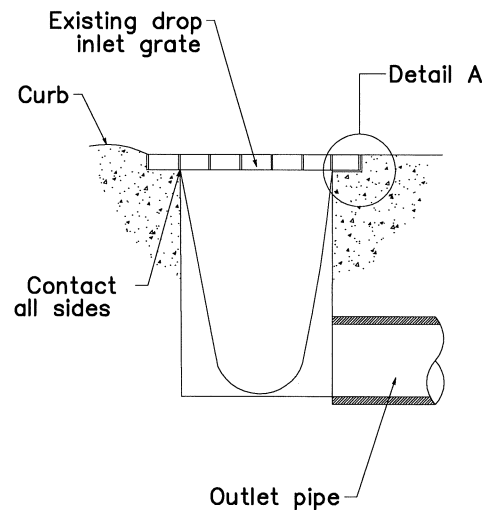
**RP\_320**



DETAIL A



PLACEMENT AT CURB INLETS



PLACEMENT AT AREA INLETS



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## STORM DRAIN INLET PROTECTION FILTER BAG INSTALLATION

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chmielewski*

CITRUS HEIGHTS WATER DISTRICT

DATE:

*5/8/13*

DRAWN: 8 MAY 2013

REVISED: NONE

SCALE: N.T.S.

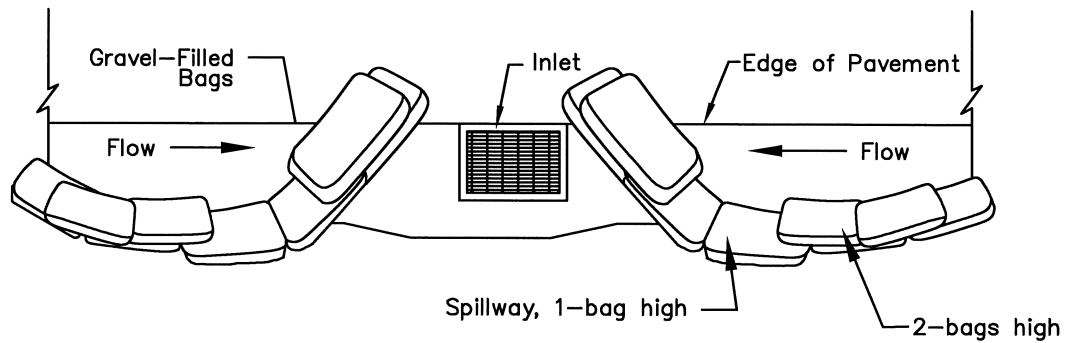
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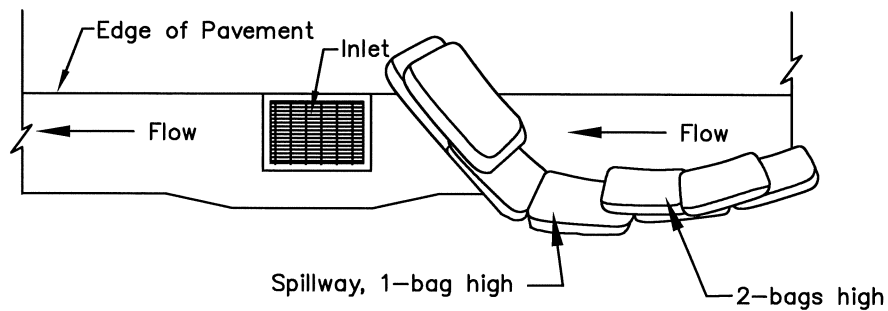
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**SWPPP\_100**





TYPICAL PROTECTION FOR INLET ON SUMP



TYPICAL PROTECTION FOR INLET ON GRADE

NOTES:

1. Intended for short-term use.
2. Use to inhibit non-storm water flow.
3. Allow for proper maintenance and cleanup.
4. Bags must be removed after adjacent operation is completed
5. Not applicable without filter fabric in areas with high silts and clays.



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

**STORM DRAIN INLET PROTECTION  
CURB INLET INSTALLATION**

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY: *Robert A. Chumblee*

DATE: *5/8/13*

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 8 MAY 2013

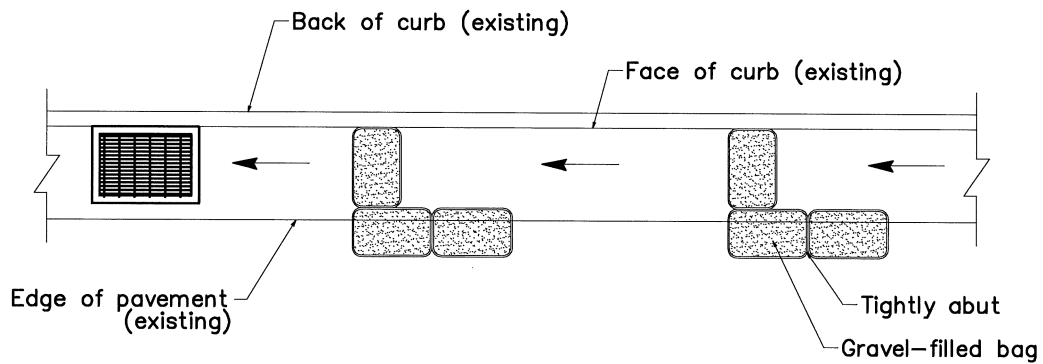
REVISED: NONE

SCALE: N.T.S.

DESIGN: P.A.D.

CAD FILE: SWPPP\_101.DWG

PAGE: **SWPPP\_101**



EXISTING CURB DRAIN SEDIMENT TRAP



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

**STORM DRAIN INLET PROTECTION  
SEDIMENT TRAP**

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chumblee*

CITRUS HEIGHTS WATER DISTRICT

DATE:

*5/8/13*

DRAWN: 8 MAY 2013

REVISED: NONE

SCALE: N.T.S.

DESIGN: P.A.D.

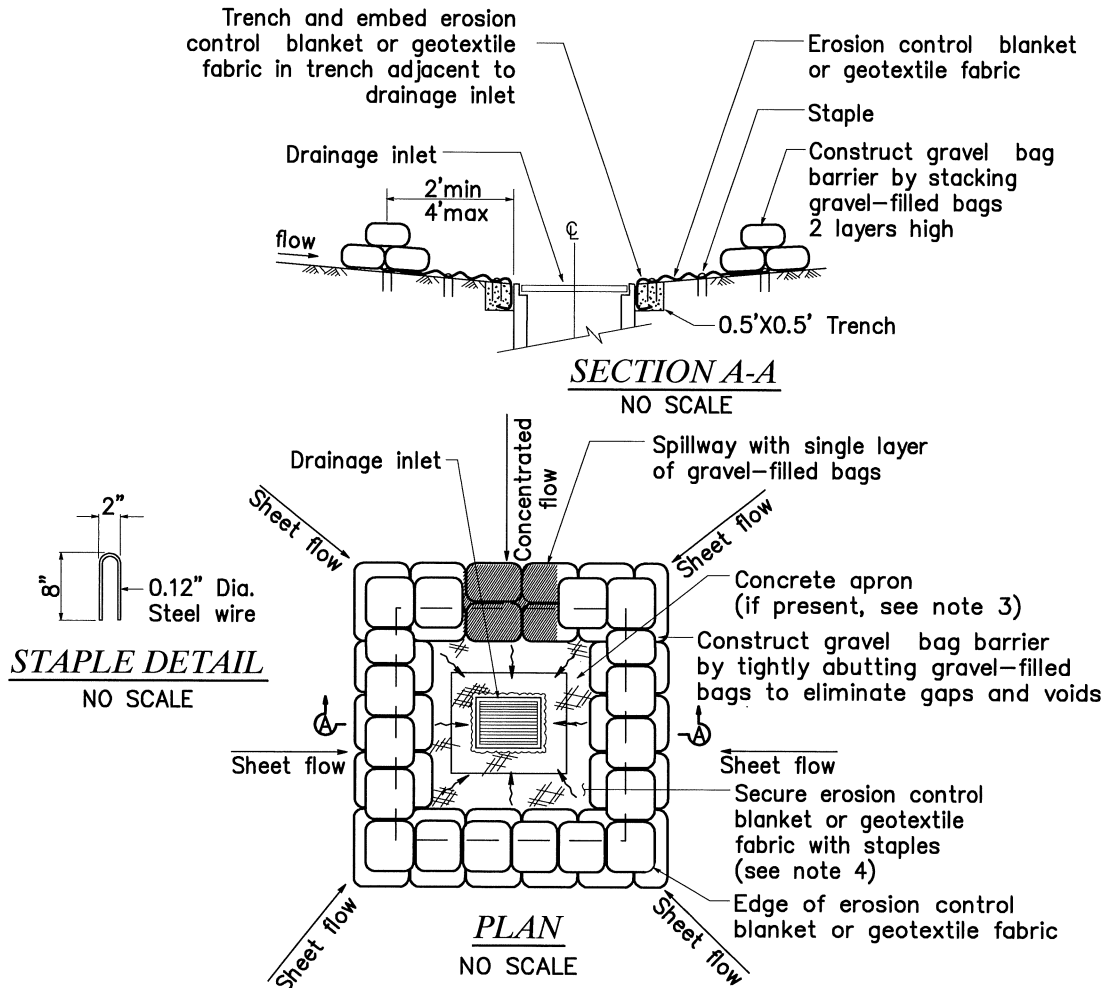
CAD FILE: SWPPP\_102.DWG

PAGE:

**SWPPP\_102**

# NOTES:

1. Dimensions may vary to fit field conditions.
2. Install a minimum of 3 gravel bag barriers upstream of each drainage inlet to be protected.
3. Position erosion control blanket or geotextile fabric at edge of concrete apron and secure in trench.
4. Erosion control blanket/geotextile fabric is not required if the area adjacent to the drainage inlet is vegetated or paved.



## STORM DRAIN INLET PROTECTION AREA INLET INSTALLATION

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

CITRUS HEIGHTS WATER DISTRICT

DATE:

*5/8/13*

DRAWN: 8 MAY 2013

REVISED: NONE

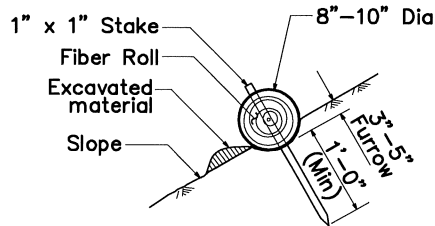
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DESIGN: P.A.D.

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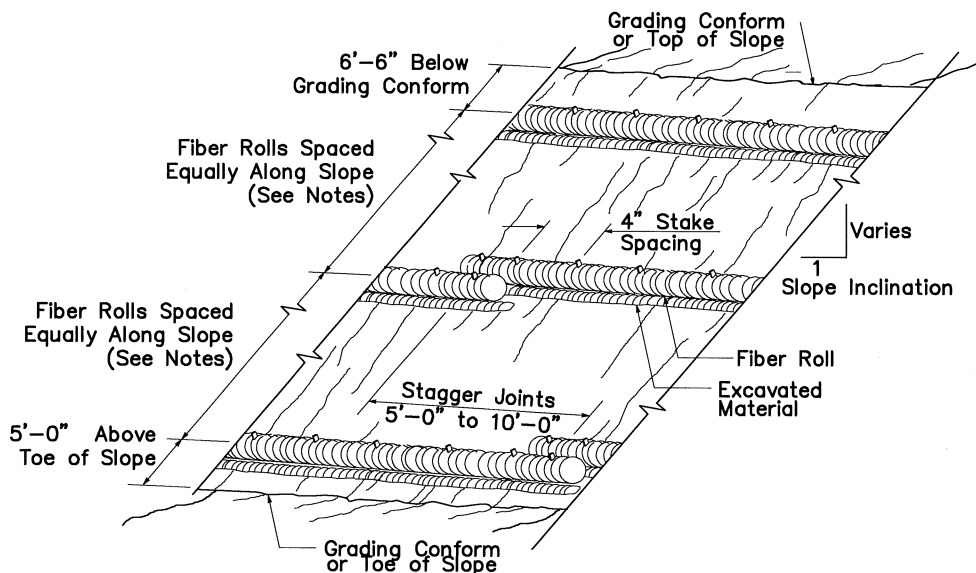
**SWPPP\_103**



SECTION  
TEMPORARY FIBER ROLL

**NOTES:**

1. Prepare the slope before the wattling procedure is started.
2. Dig small trenches across the slope on contour, to place rolls. The trench should be deep enough to accommodate half the thickness of the roll, when the soil is loose and uncompacted, the trench should be deep enough to bury the roll 2/3 of its thickness because the ground will settle.
3. Install rolls perpendicular to water movement.
4. Start at the bottom of the slope and work up.
5. Construct trench at contour intervals of 12 feet apart.
6. Use straight bar to drive holes through the wattle and into the soil.
7. Make sure no gaps exist between the soil and the straw wattle.
8. Drive the stake through the prepared hole into the soil. Leave only 1 or 2 inches of stake exposed above roll install stake every 4 feet apart through the wattle. Additional stakes may be driven on the downslope side of the trenches on highly erosive or very steep slopes.
9. Runoff must not be allowed to run under or around roll.



PERSPECTIVE  
TEMPORARY FIBER ROLL



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

# TEMPORARY FIBER ROLL

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chumley*

DATE:

*5/8/13*

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 8 MAY 2013

REVISED: NONE

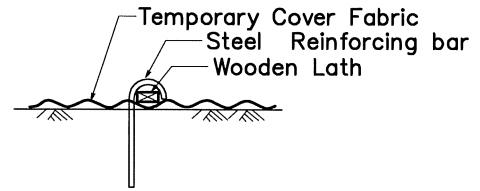
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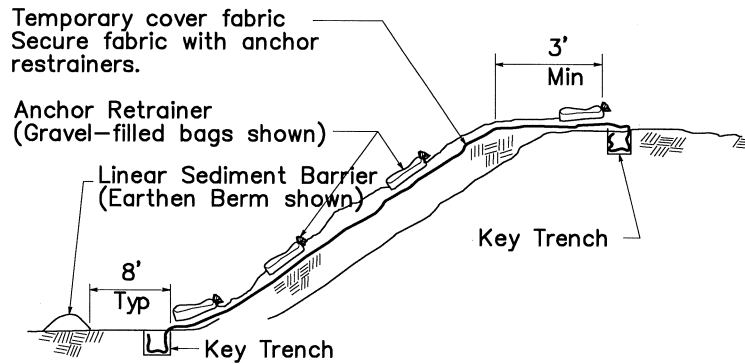
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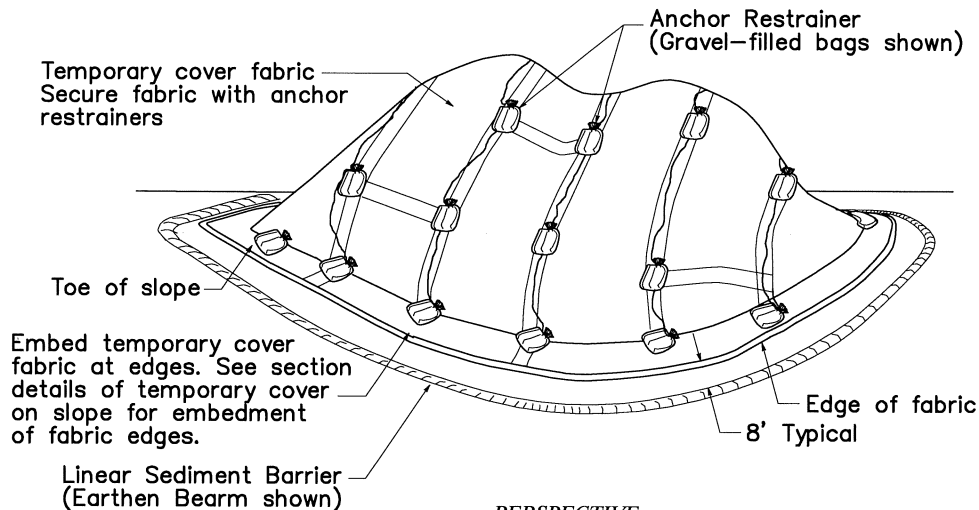
**SWPPP\_110**



SECTION  
**ANCHOR RESTRAINER**  
(Steel bar and wooden lath)



SECTION  
**TEMPORARY COVER ON SLOPE**



PERSPECTIVE  
**TEMPORARY COVER ON STOCKPILE**



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## TEMPORARY COVER STOCKPILE INSTALLATION

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chumley*

DATE:

*5/8/13*

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 8 MAY 2013

REVISED: NONE

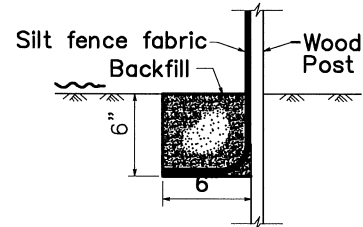
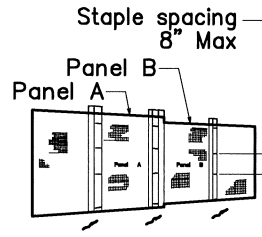
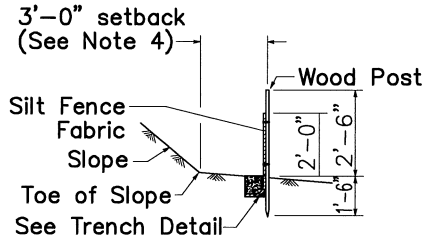
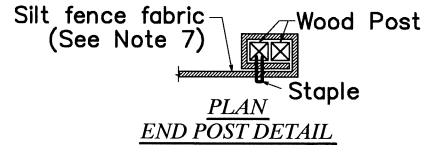
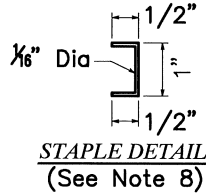
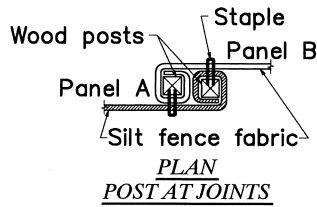
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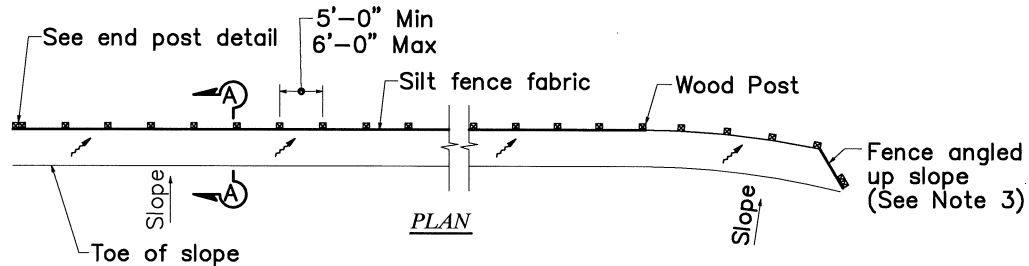
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SECTION A-A  
TEMPORARY SILT FENCE

PERSPECTIVE  
SILT FENCE PANELS AT JOINTS

SECTION  
TRENCH DETAIL



#### NOTES:

1. Install Temporary Silt Fence by first digging trench, driving posts, placing and securing fabric. Then backfill and tamp.
2. Reach length not to exceed 500 feet.
3. The down stream end of the Temporary Silt Fence shall have the last 8' angled up slope.
4. Setback dimensions may vary to fit field conditions.
5. Posts to overlap and fence fabric to fold around each post one full turn. Secure fabric with 4 staples for each post.
6. Posts shall be driven tightly together to prevent potential flow-through of sediment at the joint. The tops of the posts shall be secured to each other with wire.
7. For each end post, fence fabric shall be folded around two posts one full turn and secured with 4 staples.
8. Minimum of 4 staples shall be installed per post. Dimensions shown are typical.
9. Maintenance openings shall be constructed in a manner to ensure that sediment is retained by the temporary silt fence.
10. Joint sections shall not be placed at sump locations.

#### LEGEND

- Tamped backfill
- Slope direction
- ~ Direction of flow



## TEMPORARY SILT FENCE

### CITRUS HEIGHTS WATER DISTRICT

APPROVED BY:

Robert A. Churchill

DATE: 5/8/13

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 8 MAY 2013

REVISED: NONE

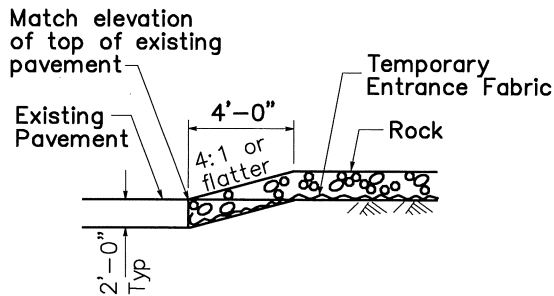
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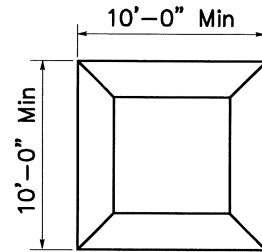
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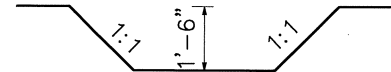
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SECTION  
CONFORM DETAIL

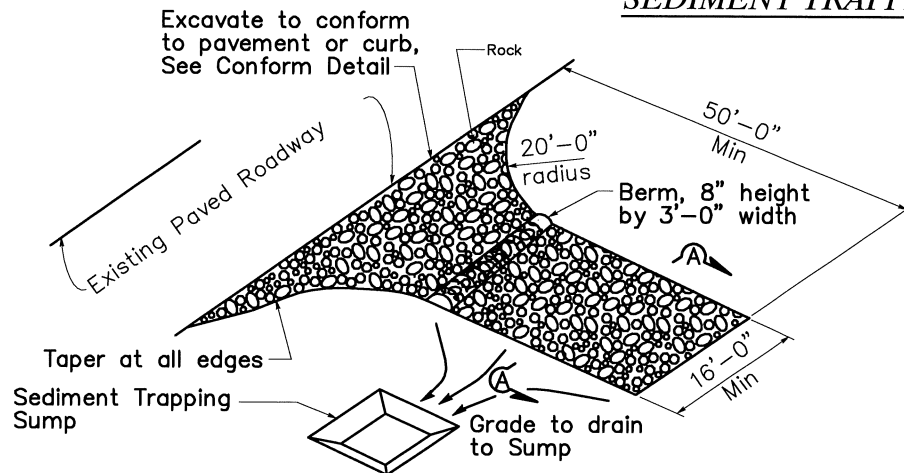


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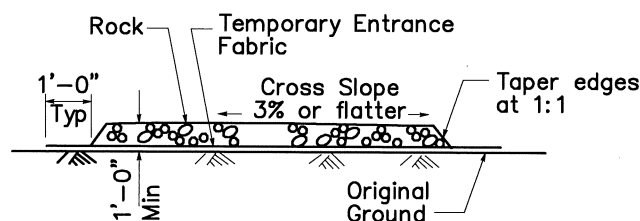
ELEVATION

SEDIMENT TRAPPING SUMP



PERSPECTIVE

TEMPORARY CONSTRUCTION ENTRANCE



SECTION A-A



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

# TEMPORARY CONSTRUCTION ENTRANCE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Rumbie*

CITRUS HEIGHTS WATER DISTRICT

DATE:

*5/8/13*

DRAWN: 8 MAY 2013

REVISED: NONE

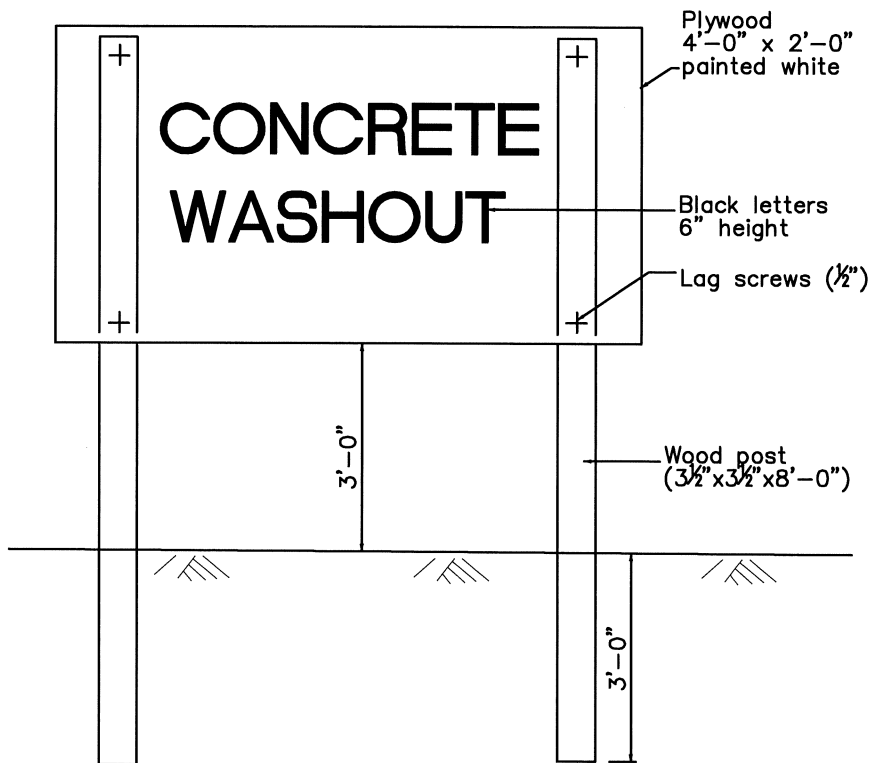
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PAGE:

**SWPPP\_120**



CONCRETE WASHOUT  
SIGN DETAIL

NOTES:

1. The concrete washout sign shall be installed within 32'-10" of the portable concrete washout container.



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

# CONCRETE WASHOUT FACILITY-SIGN

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chubb*

CITRUS HEIGHTS WATER DISTRICT

DATE:

*5/8/13*

DRAWN: 8 MAY 2013

REVISED: NONE

SCALE: N.T.S.

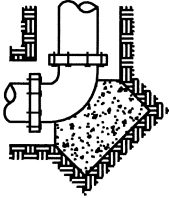
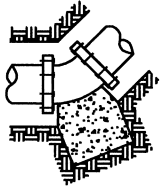
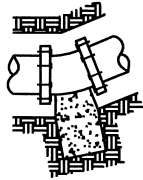
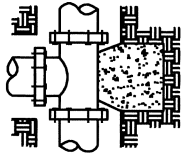
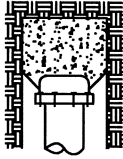
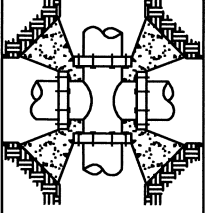
DESIGN: P.A.D.

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**SWPPP\_125**



MINIMUM REQUIRED BEARING AREA - TOTAL SQUARE FEET							
TYPE OF FITTING		90° BEND	45° BEND	11 1/4° OR 22 1/2° BEND	TEE OR DEAD END	END OF LINE	CROSS
TYPICAL INSTALLATION							
SIZE OF PIPE	4"	4	2	1	2	3	4
	6"	4	2	1	3	3	4
	8"	7	4	2	5	5	7
	10"	12	6	3	8	8	12
	12"	16	10	5	12	11	16

NOTES:

1. CONCRETE THRUST BLOCKS SHALL BE CONSTRUCTED OF TYPE II SIX-SACK PORTLAND CEMENT.
2. AREAS GIVEN ARE FOR CL235 DR 18 AWWA C900-07 PVC, CL305 DR 14 AWWA C900-07 PVC, AND PC350 DIP AT TEST PRESSURE OF 150 P.S.I. IN SOIL WITH MINIMUM 2,000 P.S.F. BEARING CAPACITY. INSTALLATIONS USING DIFFERENT PIPE, TEST PRESSURES, AND/OR SOIL TYPES REQUIRE ADJUSTMENT OF BEARING AREAS ACCORDINGLY.
3. CONCRETE THRUST BLOCKS TO BE POURED AGAINST UNDISTURBED SOIL.
4. PIPE, JOINTS, AND BOLTS SHALL BE KEPT CLEAR OF CEMENTITIOUS MATERIALS.
5. TRANSPORTING OR USE OF CONCRETE FOR THRUST BLOCKS IN NON-MIXING TRUCKS OR TRAILERS (BUGGIES) IS NOT PERMITTED.
6. THRUST BLOCKS ARE REQUIRED AT EVERY BEND, TEE, END, AND CROSS ON PIPELINES AND AS DEEMED NECESSARY BY THE DISTRICT INSPECTOR.
7. KEY-IN FROM THE VERTICAL WALL OF TRENCH SHALL BE A MINIMUM OF 8" INTO UNDISTURBED SOIL AND SHALL BE INSPECTED BY CHWD PRIOR TO POURING CONCRETE.
8. CONCRETE THRUST BLOCKS SHALL BE ALLOWED TO CURE FOR A MINIMUM OF 24-HOURS PRIOR TO ANY PRESSURE LOADING OR TRENCH BACKFILLING.



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## CONCRETE THRUST BLOCK DETAILS

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chumley*

CITRUS HEIGHTS WATER DISTRICT

DATE:

*5/8/13*

DRAWN: 8 MAY 2013

REVISED:

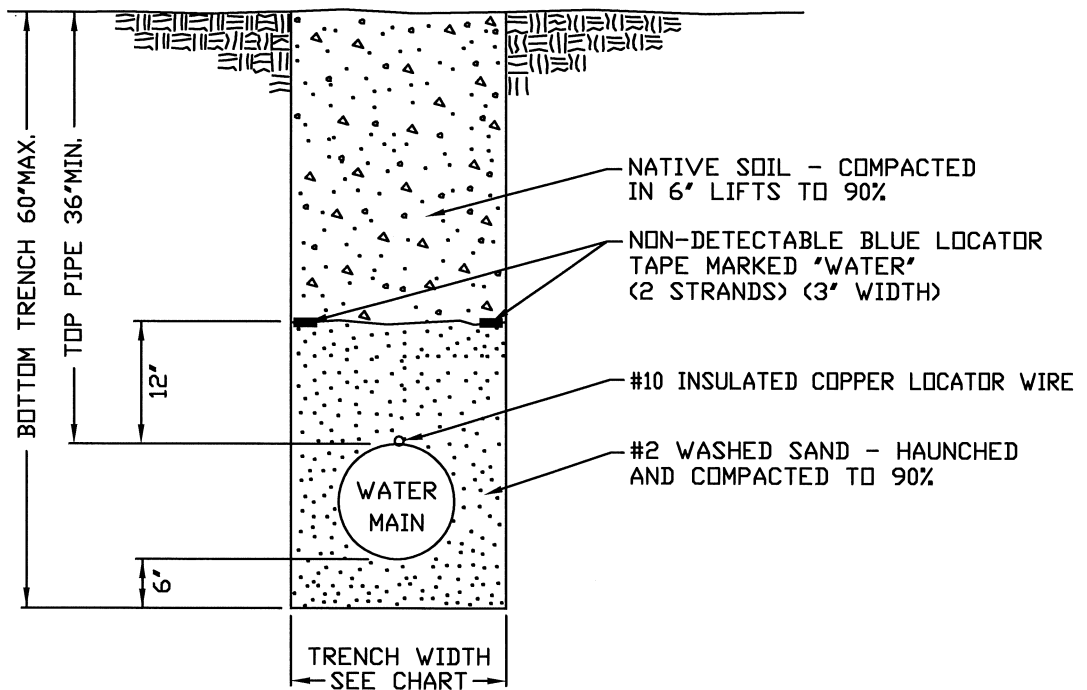
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DESIGN: P.A.D.

CAD FILE: TB\_001.DWG

PAGE:

**TB\_001**



MAIN DIAMETER	MINIMUM TRENCH WIDTH
4"	18"
6"	24"
8"	24"
10"	30"
12"	30"



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 4" THROUGH 12" TRENCH DETAIL - NATIVE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chumley*

DATE:

*5/8/13*

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 8 MAY 2013

REVISED:

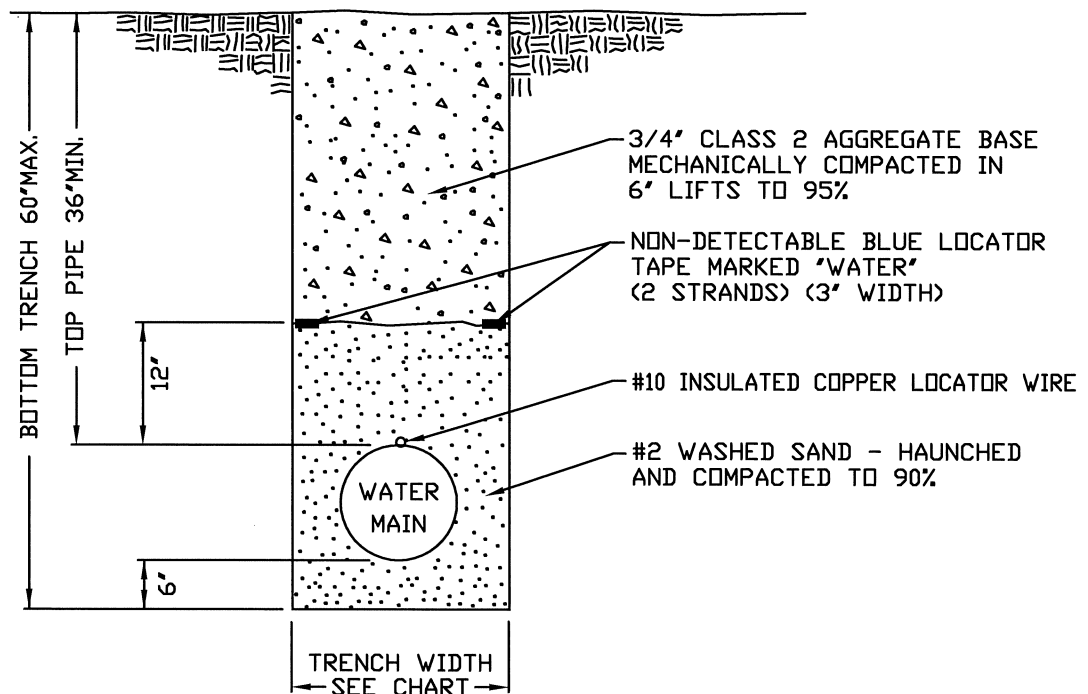
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**TREN\_711**



MAIN DIAMETER	MINIMUM TRENCH WIDTH
4"	18"
6"	24"
8"	24"
10"	30"
12"	30"



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 4" THROUGH 12" TRENCH DETAIL - SHOULDER

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY: *Robert A. Chumley*

CITRUS HEIGHTS WATER DISTRICT

DATE: 5/8/13

DRAWN: 8 MAY 2013

REVISED:

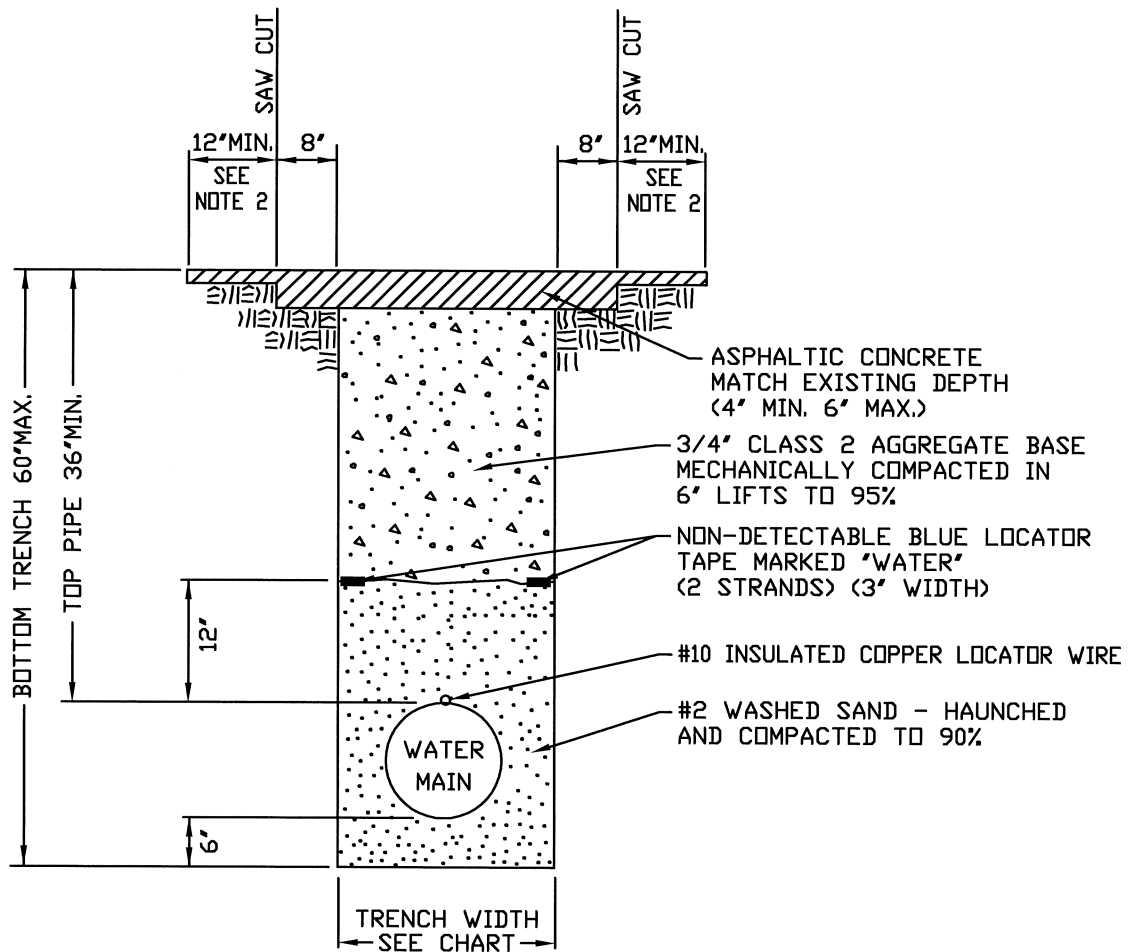
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NOTES:

1. NO PAVEMENT CUTS OR TRENCHES ARE ALLOWED IN PAVEMENT LESS THAN THREE YEARS OLD, UNLESS APPROVED BY THE CITY OF CITRUS HEIGHTS.
2. 1 1/2" DEEP GRINDING AND PAVING, GRIND TO LIP OF GUTTER, LANE LINE, OR CENTER OF TRAFFIC LANE, BUT 12" MINIMUM WIDTH.
3. SEAL COAT TREATMENT SHALL BE APPLIED AT LOCATIONS SPECIFIED, AS SHOWN ON THE PLANS OR AS DIRECTED BY THE CITY OF CITRUS HEIGHTS.

MAIN DIAMETER	MINIMUM TRENCH WIDTH
4"	18"
6"	24"
8"	24"
10"	30"
12"	30"



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 4" THROUGH 12" TRENCH DETAIL - PAVEMENT

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY: *Robert A. Chumblee*

CITRUS HEIGHTS WATER DISTRICT

DATE: *5/8/13*

**FOR CONSTRUCTION IN THE CITY OF CITRUS HEIGHTS**

DRAWN: 8 MAY 2013

REVISED:

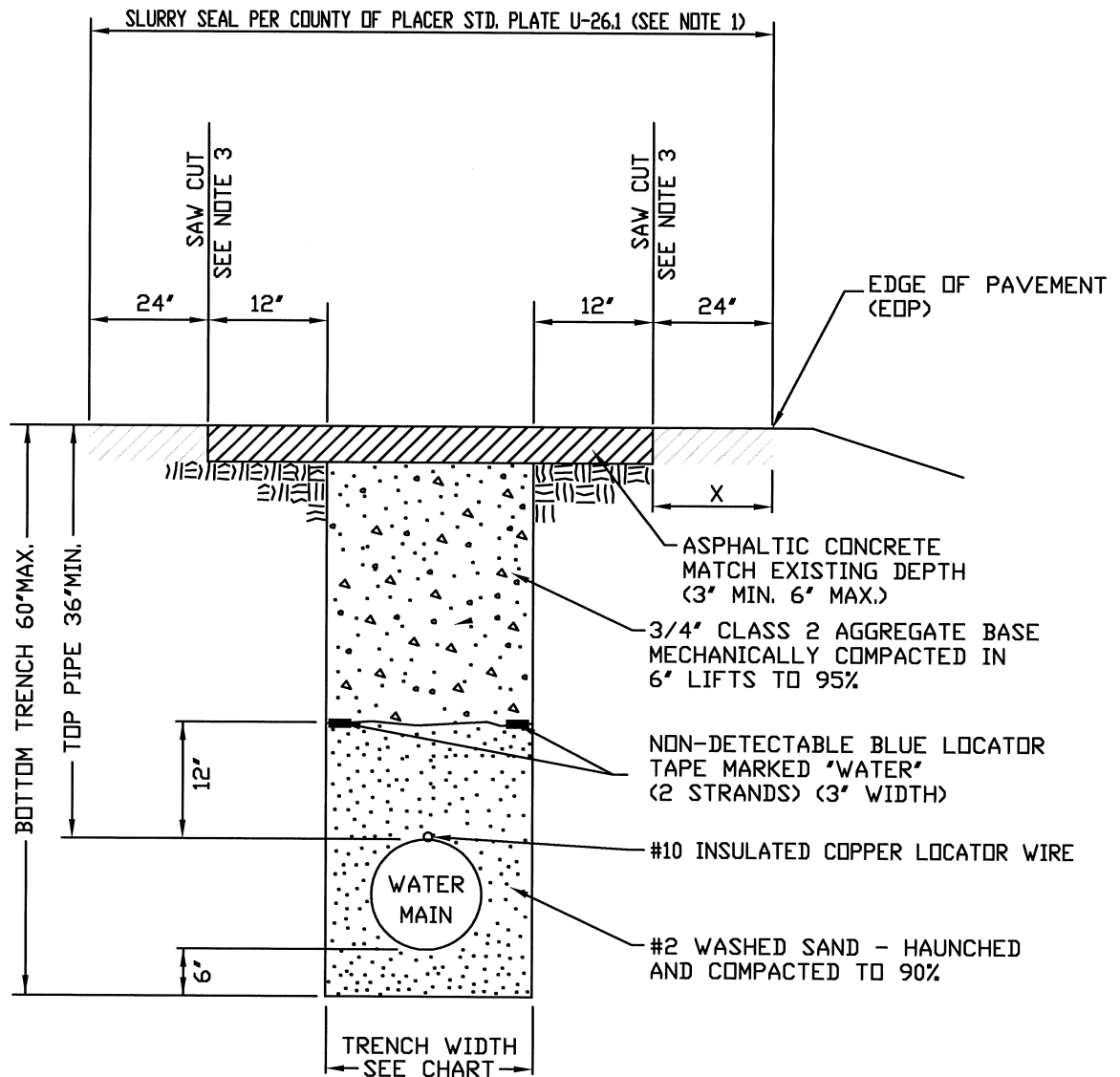
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**TREN\_713CH**



NOTES:

1. SLURRY SEAL COAT TREATMENT SHALL BE APPLIED AT LOCATIONS WITHIN COUNTY OF PLACER RIGHT-OF-WAY ONLY.
2. IF  $X < 3$  FT. FOR ALL TRENCHES REPAVE TO EDGE OF PAVEMENT. IF  $X < 5$  FT. SEAL TO EDGE OF PAVEMENT.
3. PAVEMENT SAWCUT SHALL BE LOCATED OUTSIDE OF VEHICLE WHEEL PATH.

MAIN DIAMETER	MINIMUM TRENCH WIDTH
4"	18"
6"	24"
8"	24"
10"	30"
12"	30"



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 4" THROUGH 12" TRENCH DETAIL - PAVEMENT

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chumbley*

CITRUS HEIGHTS WATER DISTRICT

DATE:

5/8/13

DRAWN: 8 MAY 2013

REVISED:

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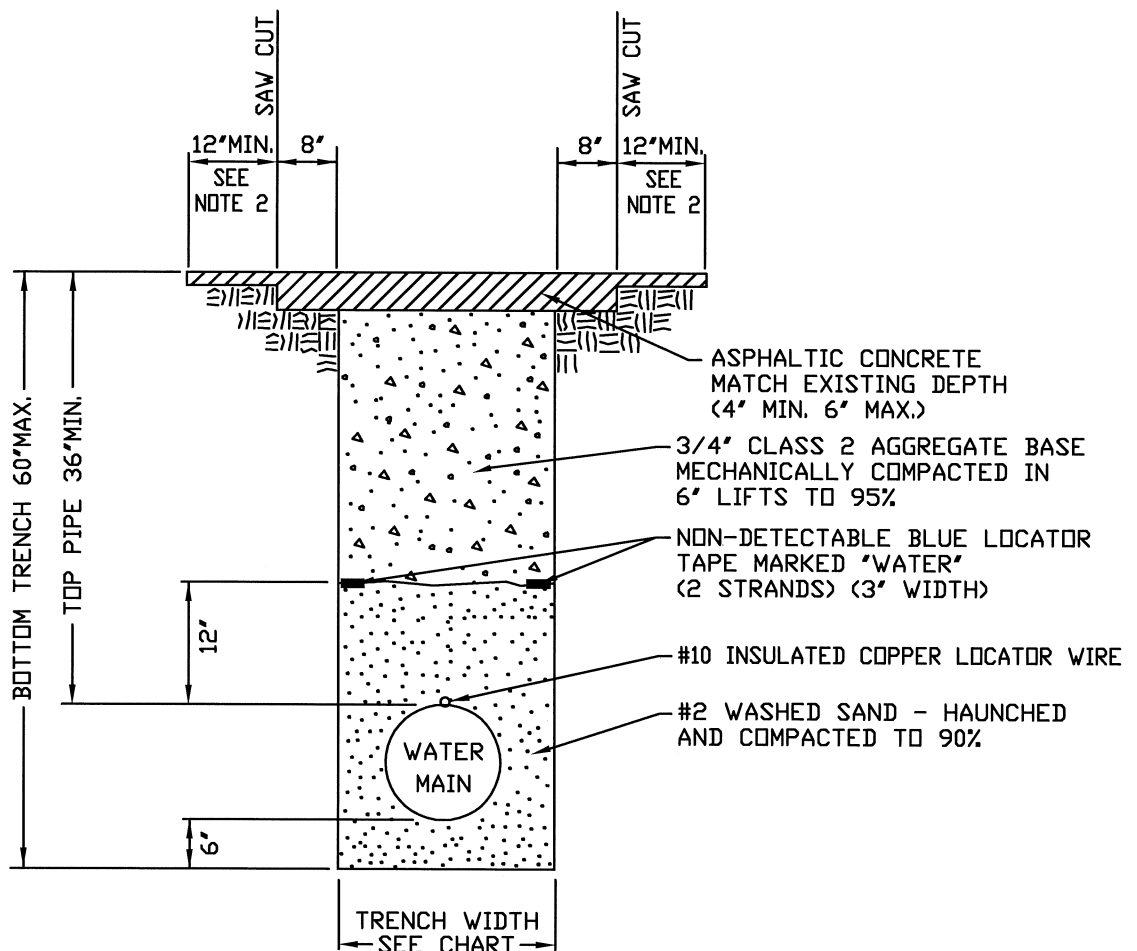
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TREN\_713PC

FOR CONSTRUCTION IN THE COUNTY OF PLACER



**NOTES:**

1. NO PAVEMENT CUTS OR TRENCHES ARE ALLOWED IN PAVEMENT LESS THAN THREE YEARS OLD, UNLESS APPROVED BY THE COUNTY OF SACRAMENTO.
2. 1 1/2" DEEP GRINDING AND PAVING. GRIND TO LIP OF GUTTER, LANE LINE, OR CENTER OF TRAFFIC LANE, BUT 12" MINIMUM WIDTH.
3. SLURRY SEAL COAT TREATMENT SHALL BE APPLIED AT LOCATIONS SPECIFIED, AS SHOWN ON THE PLANS OR AS DIRECTED BY THE COUNTY OF SACRAMENTO.
4. STREET STRUCTURAL SECTION PER COUNTY OF SACRAMENTO STANDARDS.

MAIN DIAMETER	MINIMUM TRENCH WIDTH
4"	18"
6"	24"
8"	24"
10"	30"
12"	30"



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 4" THROUGH 12" TRENCH DETAIL - PAVEMENT

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chumley*

CITRUS HEIGHTS WATER DISTRICT

DATE:

5/8/13

DRAWN: 8 MAY 2013

REVISED:

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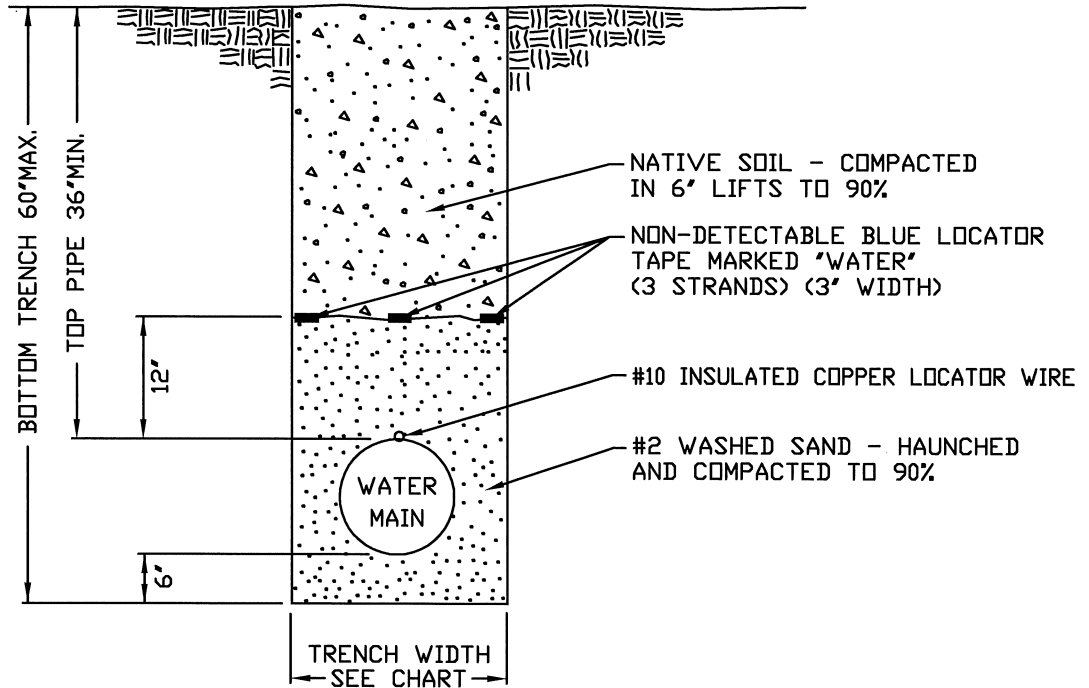
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CAD FILE: TREN\_713SC.DWG

PAGE:

TREN\_713SC

FOR CONSTRUCTION IN THE COUNTY OF SACRAMENTO



MAIN DIAMETER	MINIMUM TRENCH WIDTH
14"	30'
16"	30'
18"	36'
24"	36'



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 14" THROUGH 24" TRENCH DETAIL - NATIVE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chumley*

DATE:

5/8/13

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 8 MAY 2013

REVISED:

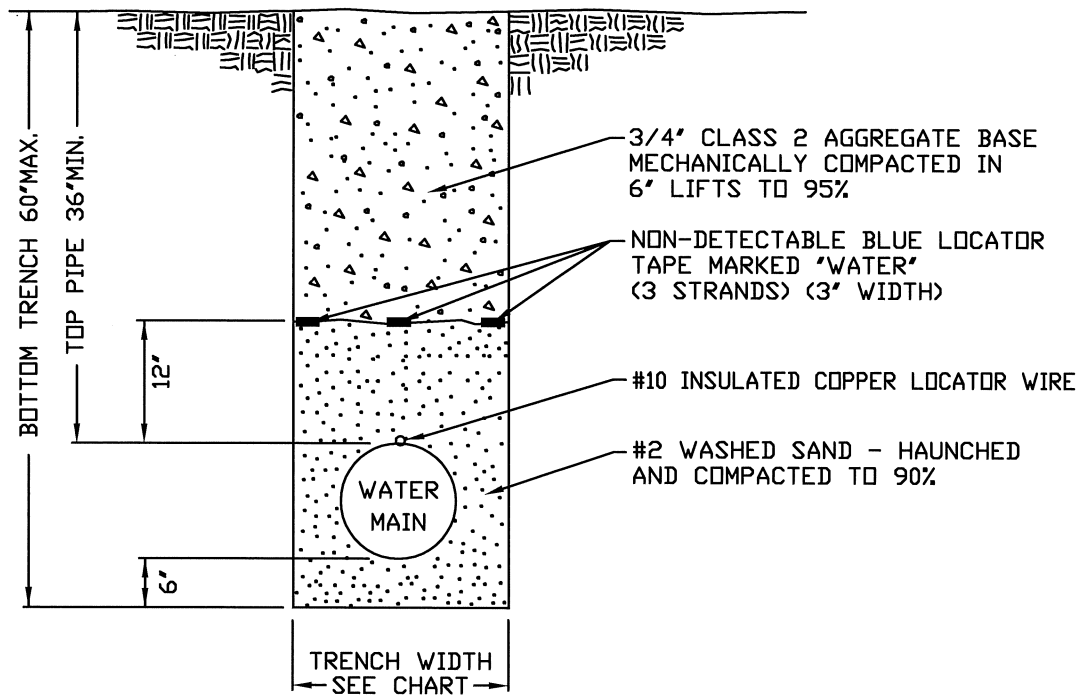
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MAIN DIAMETER	MINIMUM TRENCH WIDTH
14"	30"
16"	30"
18"	36"
24"	36"



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 14" THROUGH 24" TRENCH DETAIL - SHOULDER

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Campbell*

DATE:

*5/8/13*

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 8 MAY 2013

REVISED:

SCALE: N.T.S.

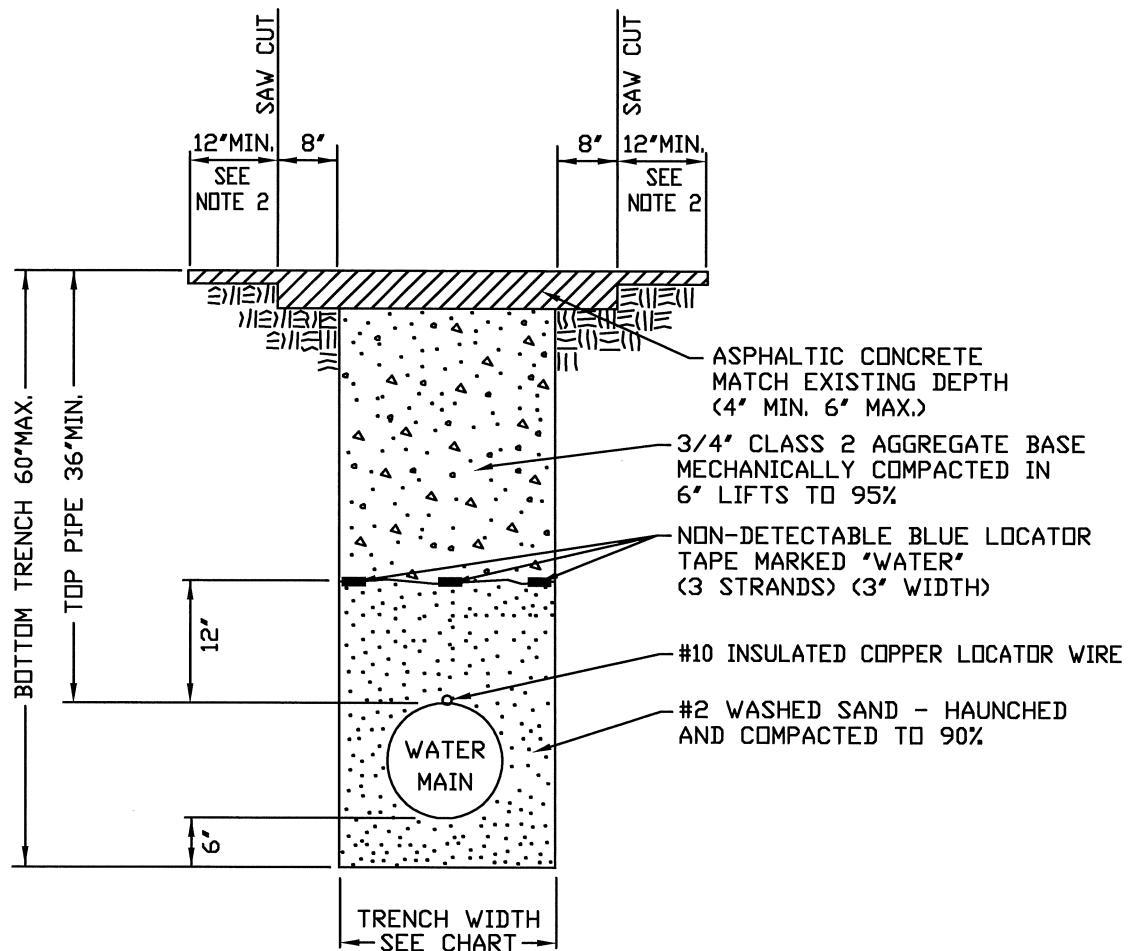
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CAD FILE: TREN\_716.DWG

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**TREN\_716**





NOTES:

1. NO PAVEMENT CUTS OR TRENCHES ARE ALLOWED IN PAVEMENT LESS THAN THREE YEARS OLD, UNLESS APPROVED BY THE CITY OF CITRUS HEIGHTS.
2. REQUIRED ONLY FOR PAVEMENT BETWEEN THREE AND FIVE YEARS OLD: 1 1/2" DEEP GRINDING AND PAVING. GRIND TO LIP OF GUTTER, LANE LINE, OR CENTER OF TRAFFIC LANE, BUT 12" MINIMUM WIDTH.
3. SLURRY SEAL COAT TREATMENT SHALL BE APPLIED AT LOCATIONS SPECIFIED, AS SHOWN ON THE PLANS OR AS DIRECTED BY THE CITY OF CITRUS HEIGHTS.

MAIN DIAMETER	MINIMUM TRENCH WIDTH
14"	30"
16"	30"
18"	36"
24"	36"



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 14" THROUGH 24" TRENCH DETAIL - PAVEMENT

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chumbley*

CITRUS HEIGHTS WATER DISTRICT

DATE:

*5/8/13*

DRAWN: 8 MAY 2013

REVISED:

SCALE: N.T.S.

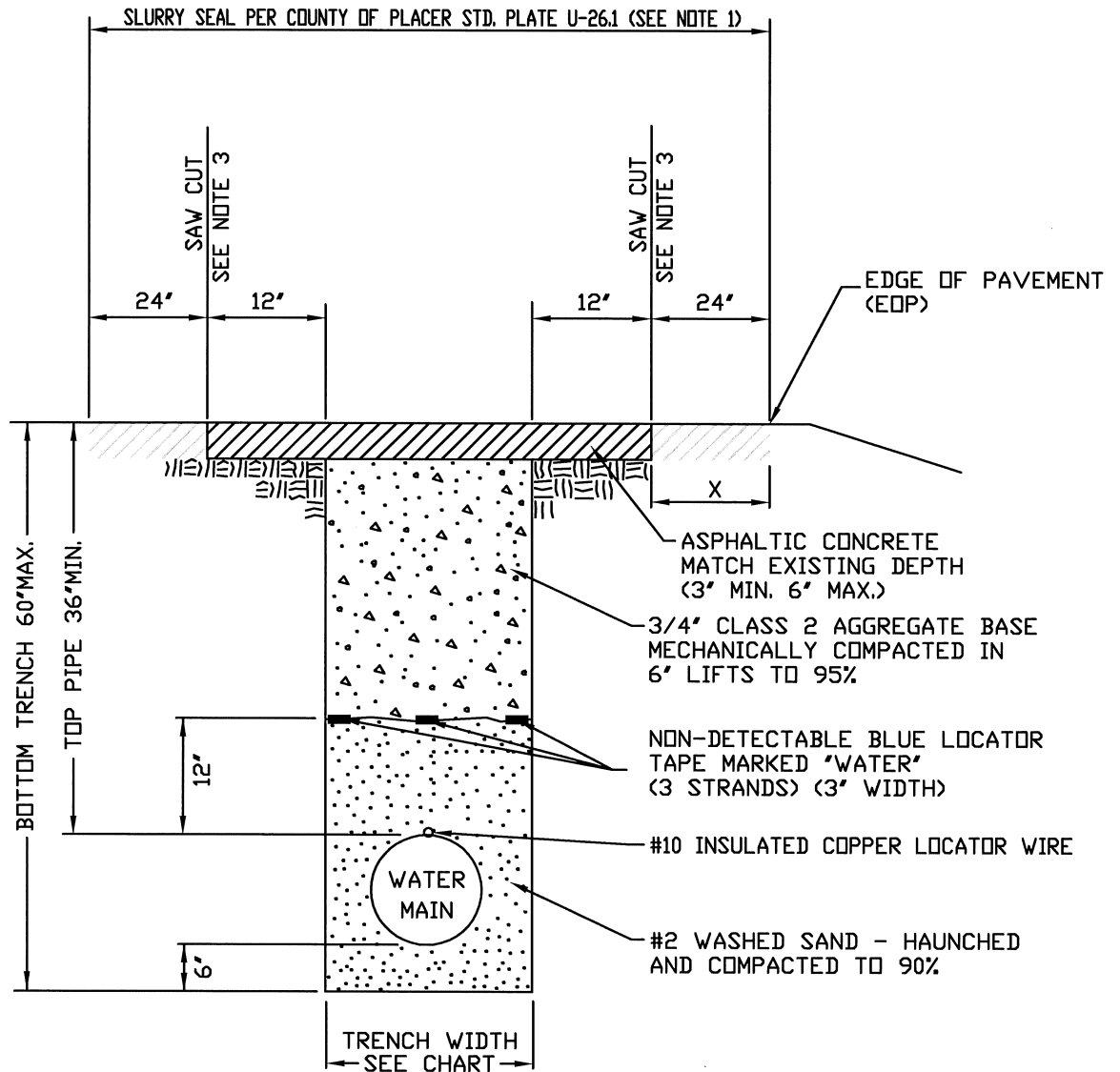
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CAD FILE: TREN\_717CH.DWG

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FOR CONSTRUCTION IN THE CITY OF CITRUS HEIGHTS

**TREN\_717CH**



NOTES:

1. SLURRY SEAL COAT TREATMENT SHALL BE APPLIED AT LOCATIONS WITHIN COUNTY OF PLACER RIGHT-OF-WAY ONLY.
2. IF  $X < 3$  FT. FOR ALL TRENCHES REPAVE TO EDGE OF PAVEMENT. IF  $X < 5$  FT. SEAL TO EDGE OF PAVEMENT.
3. PAVEMENT SAWCUT SHALL BE LOCATED OUTSIDE OF VEHICLE WHEEL PATH.

MAIN DIAMETER	MINIMUM TRENCH WIDTH
14"	30"
16"	30"
18"	36"
24"	36"



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 14" THROUGH 24" TRENCH DETAIL - PAVEMENT

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chulio*

DATE:

*5/8/13*

CITRUS HEIGHTS WATER DISTRICT

FOR CONSTRUCTION IN THE COUNTY OF PLACER

DRAWN: 8 MAY 2013

REVISED:

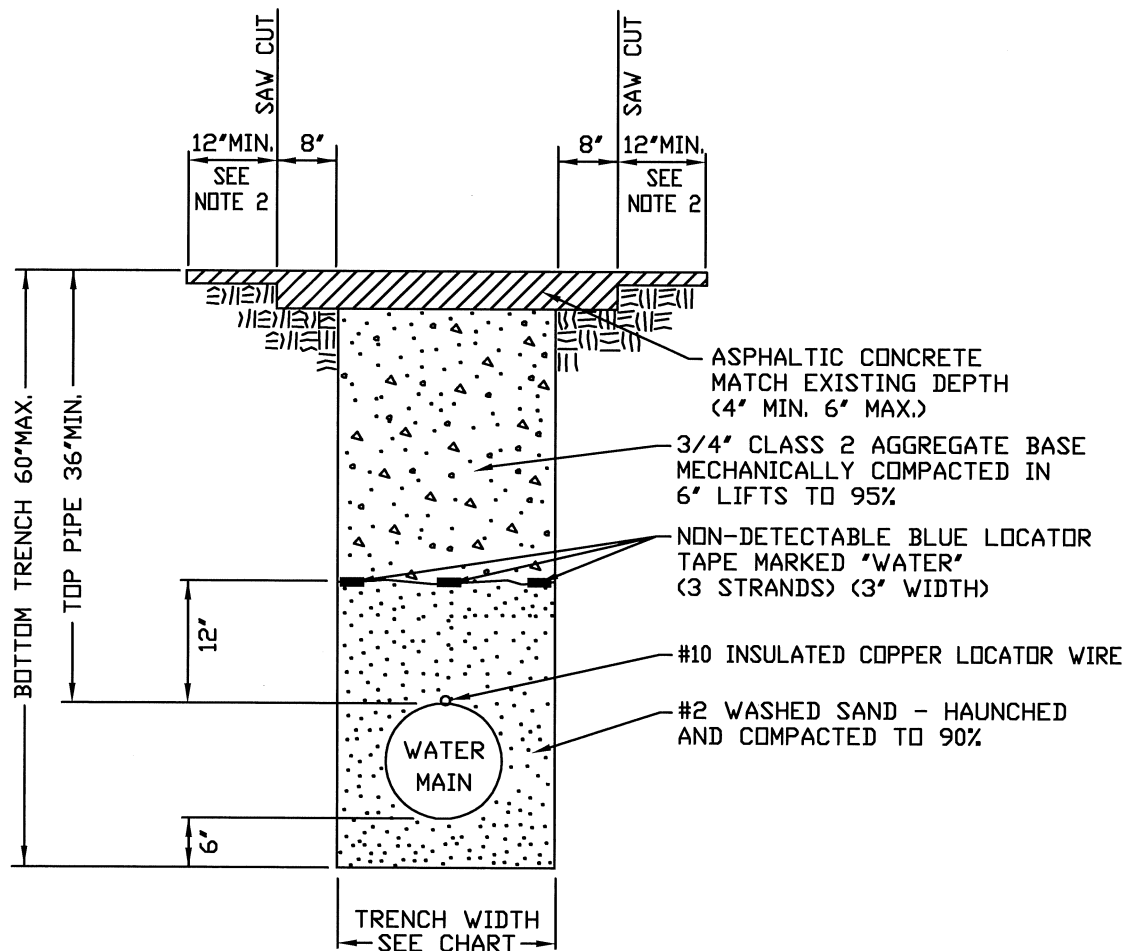
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DESIGN: P.A.D.

CAD FILE: TREN\_717PC.DWG

PAGE:

**TREN\_717PC**



**NOTES:**

1. NO PAVEMENT CUTS OR TRENCHES ARE ALLOWED IN PAVEMENT LESS THAN THREE YEARS OLD, UNLESS APPROVED BY THE COUNTY OF SACRAMENTO.
2. REQUIRED ONLY FOR PAVEMENT BETWEEN THREE AND FIVE YEARS OLD: 1 1/2" DEEP GRINDING AND PAVING. GRIND TO LIP OF GUTTER, LANE LINE, OR CENTER OF TRAFFIC LANE, BUT 12" MINIMUM WIDTH.
3. SLURRY SEAL COAT TREATMENT SHALL BE APPLIED AT LOCATIONS SPECIFIED, AS SHOWN ON THE PLANS OR AS DIRECTED BY THE COUNTY OF SACRAMENTO.
4. STREET STRUCTURAL SECTION PER COUNTY OF SACRAMENTO STANDARDS.

MAIN DIAMETER	MINIMUM TRENCH WIDTH
14'	30'
16'	30'
18'	36'
24'	36'



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 14" THROUGH 24" TRENCH DETAIL - PAVEMENT

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chubb*

DATE:

*5/8/13*

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 8 MAY 2013

REVISED:

SCALE: N.T.S.

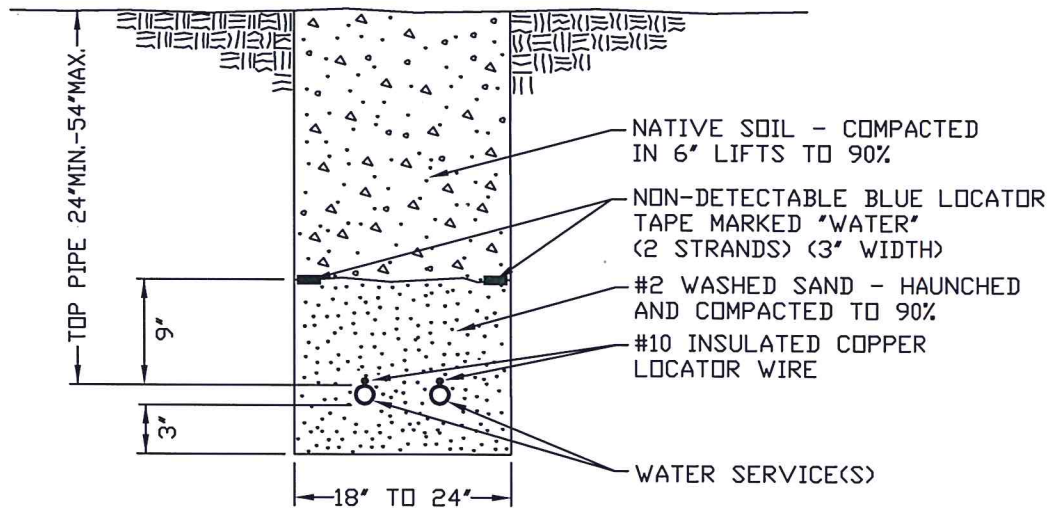
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CAD FILE: TREN\_717SC.DWG

PAGE:

**TREN\_717SC**

**FOR CONSTRUCTION IN THE COUNTY OF SACRAMENTO**



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## SERVICE LINE TRENCH DETAIL - NATIVE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Melissa Pieri*

DATE:

*4/19/17*

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 19 APRIL 2017

REVISED:

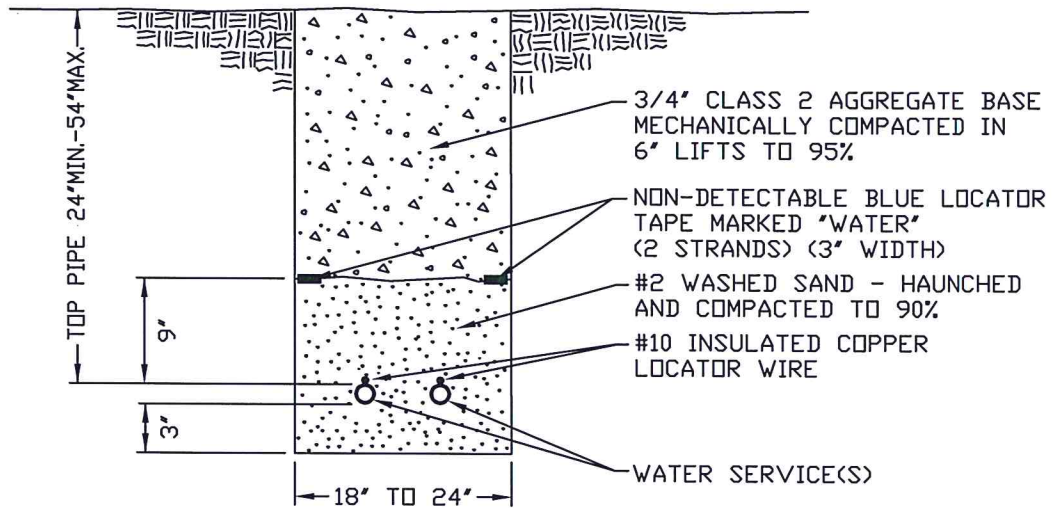
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DESIGN: P.A.D.

CAD FILE: TREN\_721.DWG

PAGE:

**TREN\_721**



## SERVICE LINE TRENCH DETAIL - SHOULDER

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Melina Pieri*

CITRUS HEIGHTS WATER DISTRICT

DATE: 4/19/17

DRAWN: 19 APRIL 2017

REVISED:

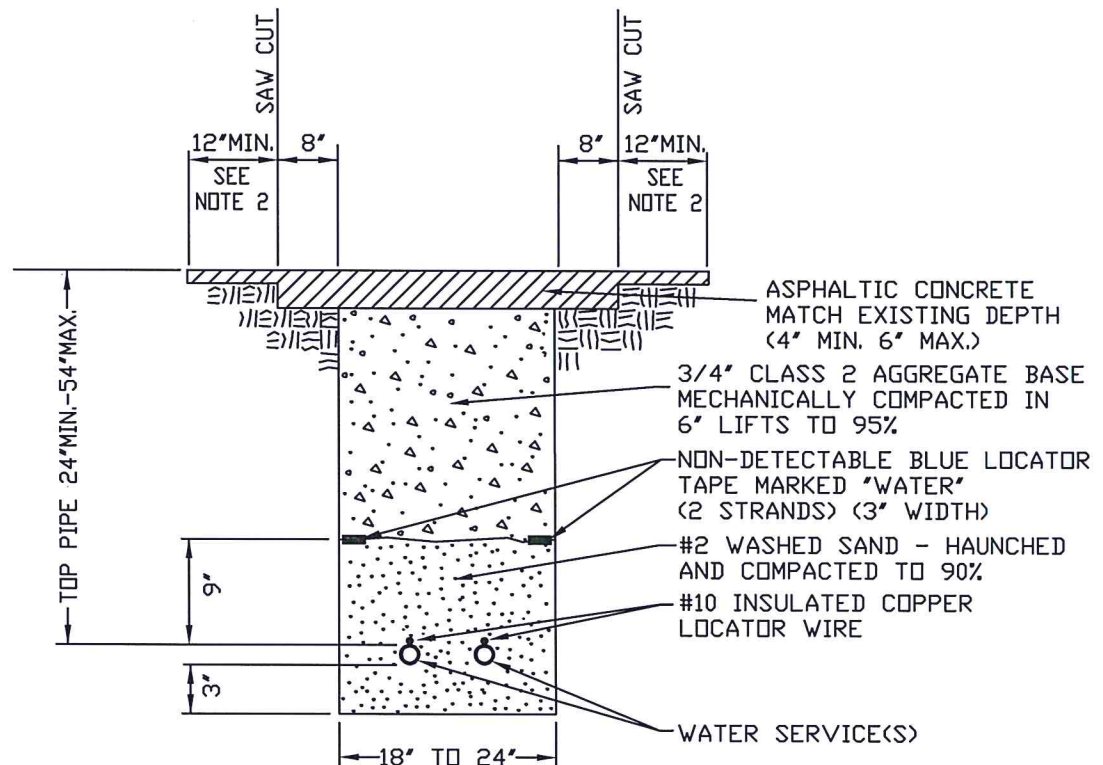
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DESIGN: P.A.D.

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**TREN\_722**



NOTES:

1. NO PAVEMENT CUTS OR TRENCHES ARE ALLOWED IN PAVEMENT LESS THAN THREE YEARS OLD, UNLESS APPROVED BY THE CITY OF CITRUS HEIGHTS.
2. 1 1/2" DEEP GRINDING AND PAVING. GRIND TO LIP OF GUTTER, LANE LINE, OR CENTER OF TRAFFIC LANE, BUT 12" MINIMUM WIDTH.
3. SLURRY SEAL COAT TREATMENT SHALL BE APPLIED AT LOCATIONS SPECIFIED, AS SHOWN ON THE PLANS OR AS DIRECTED BY THE CITY OF CITRUS HEIGHTS.



## SERVICE LINE TRENCH DETAIL - PAVEMENT

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Melina Pieri*

DATE: 4/19/17

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 19 APRIL 2017

REVISED:

SCALE: N.T.S.

DESIGN: P.A.D.

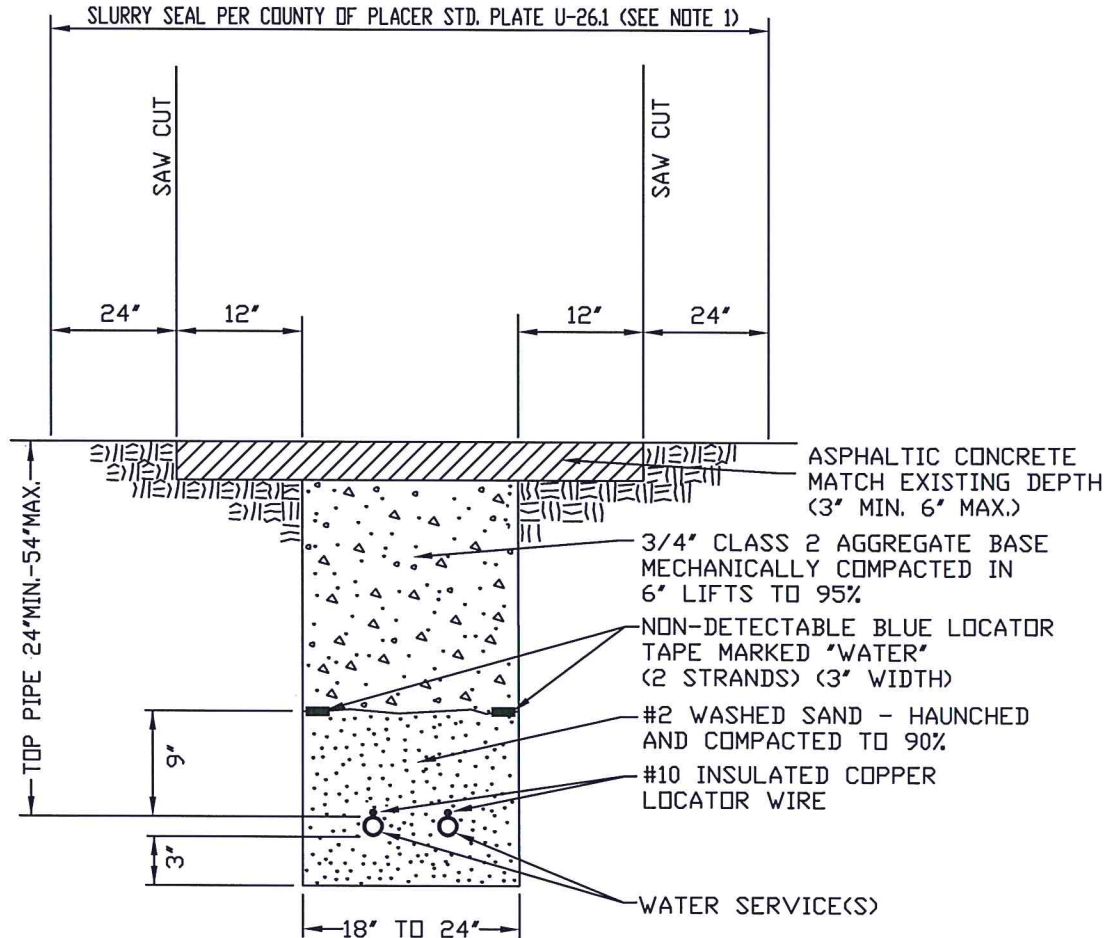
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FOR CONSTRUCTION IN THE CITY OF CITRUS HEIGHTS

**TREN\_723CH**





NOTES:

1. SLURRY SEAL COAT TREATMENT SHALL BE APPLIED AT LOCATIONS WITHIN COUNTY OF PLACER RIGHT-OF-WAY ONLY.



## SERVICE LINE TRENCH DETAIL - PAVEMENT

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Melina Pieri*

DATE: 4/19/17

CITRUS HEIGHTS WATER DISTRICT

FOR CONSTRUCTION IN THE COUNTY OF PLACER

DRAWN: 19 APRIL 2017

REVISED:

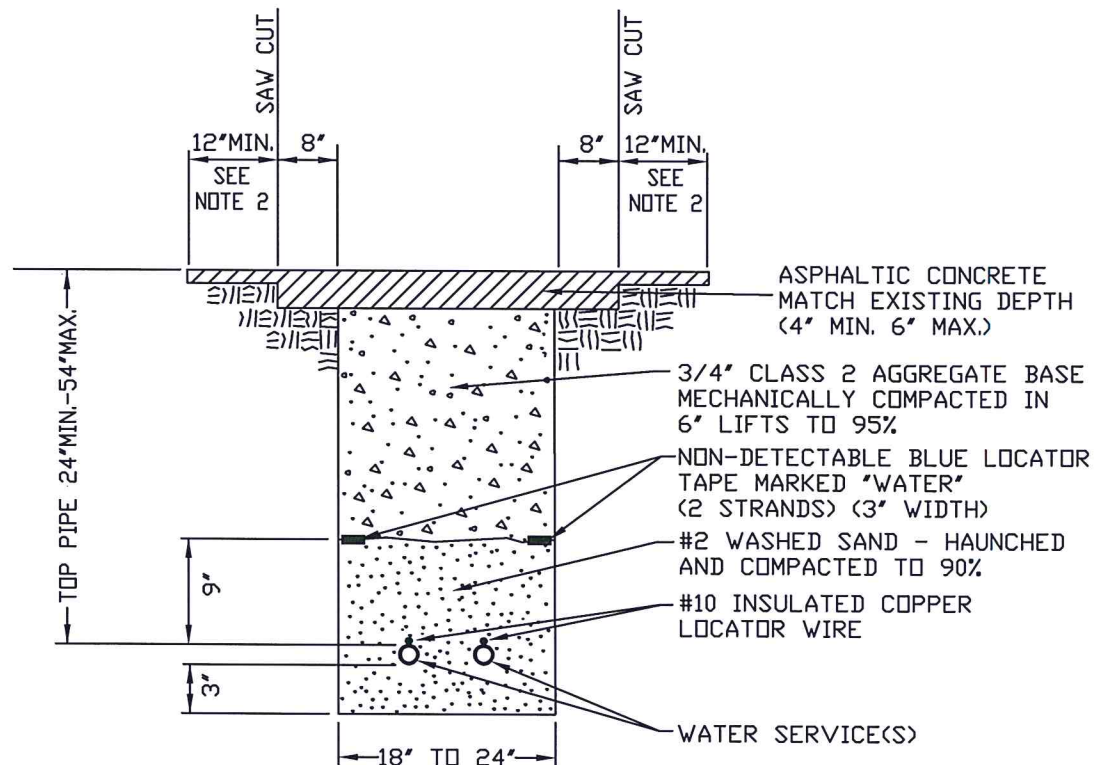
SCALE: N.T.S.

DESIGN: P.A.D.

CAD FILE: TREN\_723PC.DWG

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**TREN\_723PC**



NOTES:

1. NO PAVEMENT CUTS OR TRENCHES ARE ALLOWED IN PAVEMENT LESS THAN THREE YEARS OLD, UNLESS APPROVED BY THE COUNTY OF SACRAMENTO.
2. 1 1/2" DEEP GRINDING AND PAVING. GRIND TO LIP OF GUTTER, LANE LINE, OR CENTER OF TRAFFIC LANE, BUT 12" MINIMUM WIDTH.
3. SLURRY SEAL COAT TREATMENT SHALL BE APPLIED AT LOCATIONS SPECIFIED, AS SHOWN ON THE PLANS OR AS DIRECTED BY THE COUNTY OF SACRAMENTO.
4. STREET STRUCTURAL SECTION PER COUNTY OF SACRAMENTO STANDARDS.



## SERVICE LINE TRENCH DETAIL - PAVEMENT

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Melina Pieri*

DATE: 4/19/17

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 19 APRIL 2017

REVISED:

SCALE: N.T.S.

DESIGN: P.A.D.

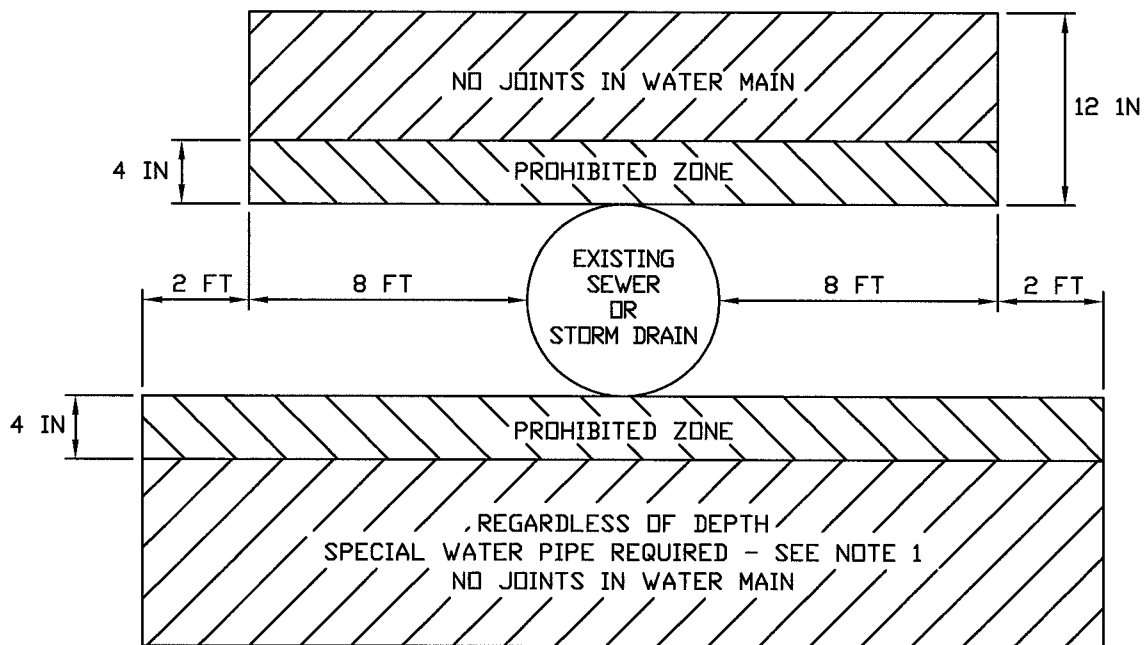
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FOR CONSTRUCTION IN THE COUNTY OF SACRAMENTO

**TREN\_723SC**





NOTE:

1. AN 18 FOOT LENGTH OF PC350 DUCTILE IRON PIPE (DIP) OR A 20 FOOT LENGTH OF CL305 OR 14 AWWA C900-07 POLYVINYLCHLORIDE (PVC) WATER MAIN TO BE CENTERED BELOW SEWER OR STORM DRAIN CROSSINGS.



## SEWER/STORM CROSSING DETAIL

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chumbley*

CITRUS HEIGHTS WATER DISTRICT

DATE: *5/8/13*

DRAWN: 8 MAY 2013

REVISED:

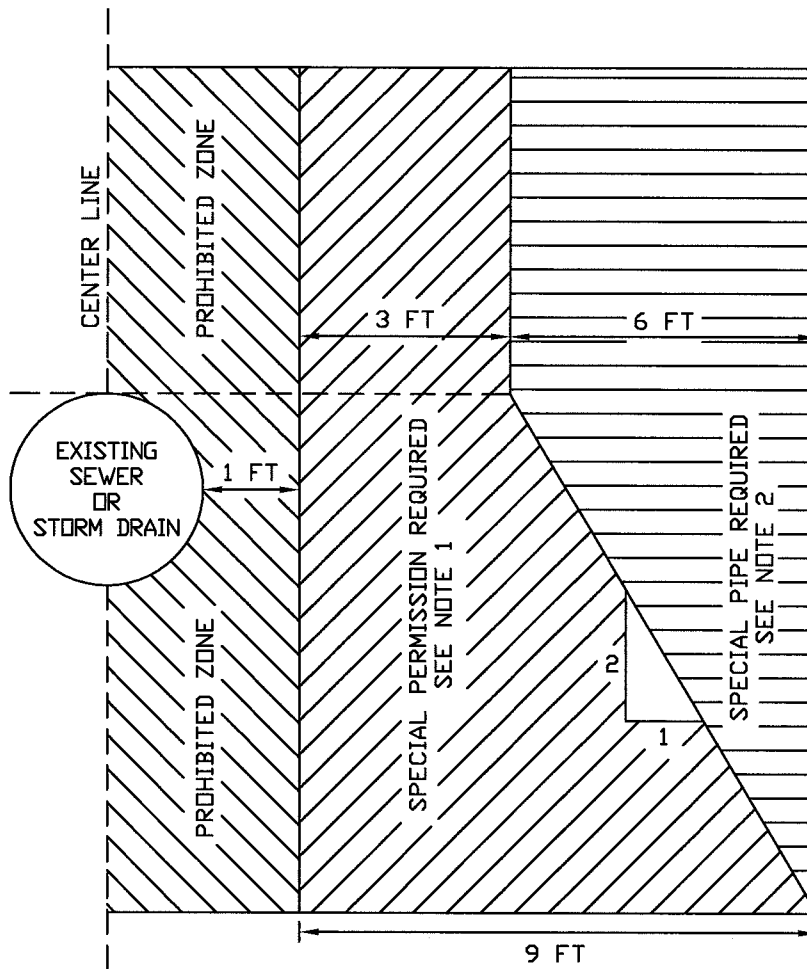
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DESIGN: P.A.D.

CAD FILE: TREN\_782.DWG

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**TREN\_782**



NOTES:

1. NO WATER MAINS PARALLEL TO SEWERS OR STORM DRAINS SHALL BE CONSTRUCTED IN THIS ZONE WITHOUT PRIOR WRITTEN APPROVAL FROM THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH.
2. WATER MAINS IN THIS ZONE SHALL BE CONSTRUCTED OF PC350 DUCTILE IRON PIPE (DIP) OR CL305 OR 14 AWWA C900-07 POLYVINYLCHLORIDE (PVC).



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## SEWER/STORM PARALLEL DETAIL

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chubb*

DATE: 5/8/13

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 8 MAY 2013

REVISED:

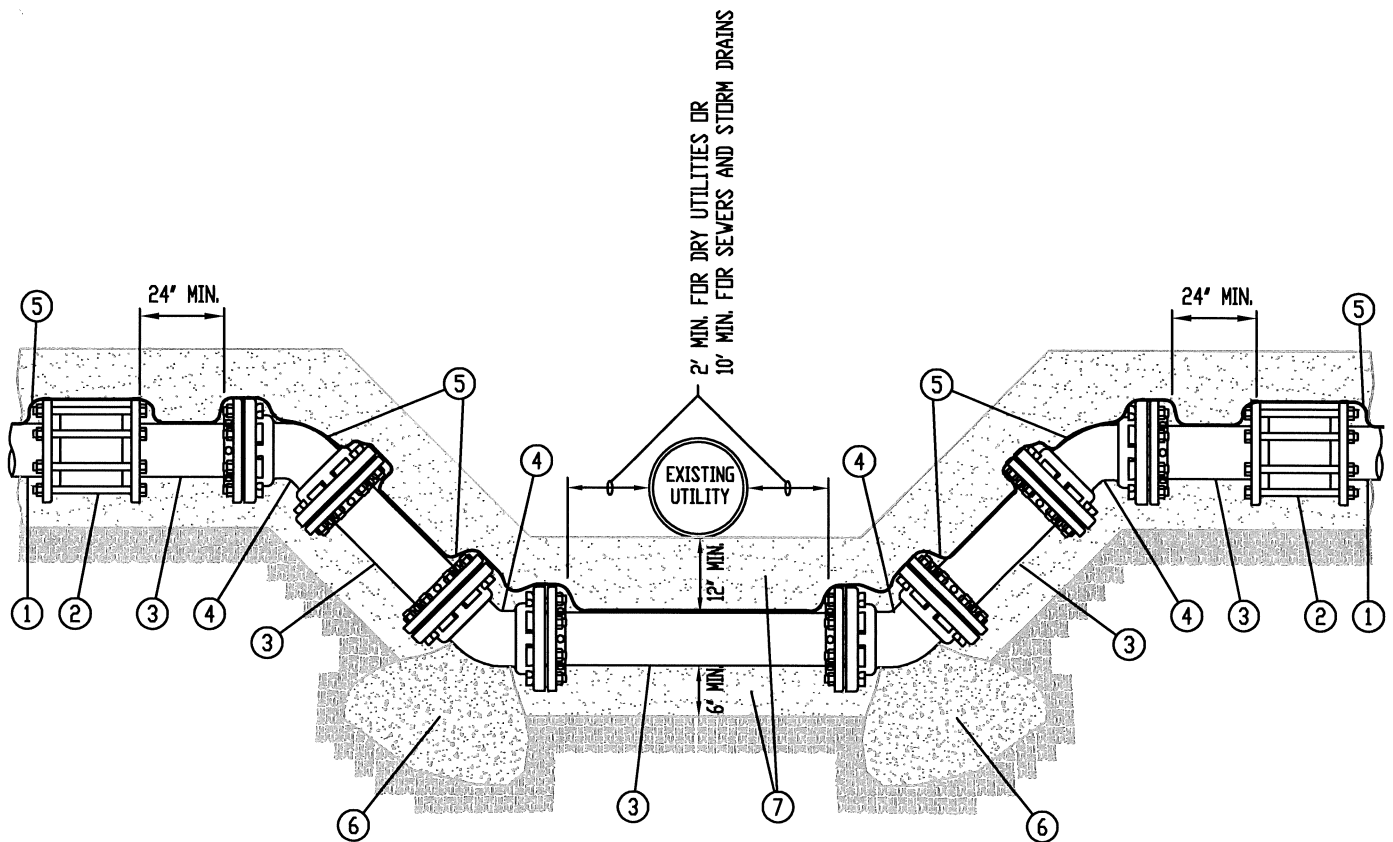
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DESIGN: P.A.D.

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**TREN\_783**



NOTE:

- BOLT TORQUE ON ALL FITTINGS SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS.

1	EXISTING WATER MAIN	5	#10 INSULATED COPPER LOCATOR WIRE
2	FLEXIBLE COUPLING w/ 12" BARREL	6	CONCRETE THRUST BLOCK - SEE DETAIL TB_001
3	DUCTILE IRON PIPE - PC350, CONTINUOUS SECTION	7	#2 WASHED SAND - COMPACTED TO 90%
4	45° ELBOW - MECHANICAL JOINT W/ MEGA-LUG RESTRAINT GLANDS		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## UTILITY CROSSING

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

CITRUS HEIGHTS WATER DISTRICT

DATE:

*5/8/13*

DRAWN: 8 MAY 2013

REVISED:

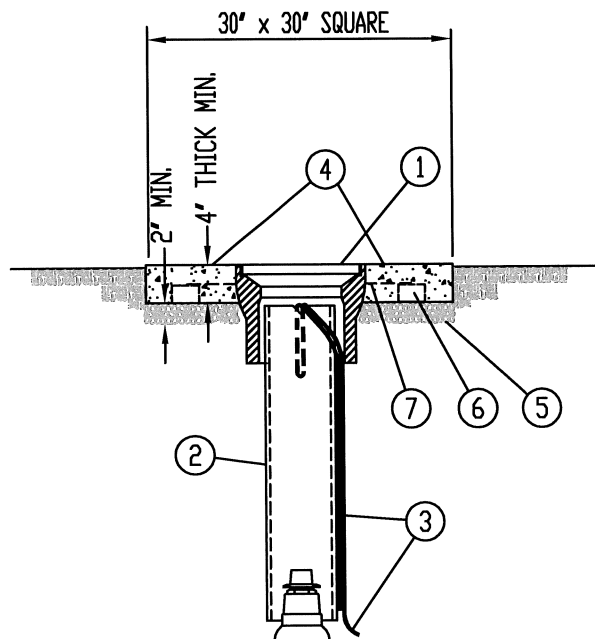
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DESIGN: P.A.D.

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**UC\_001**



**NOTES:**

- RISER SHALL BE PLUMB.
- VALVE OPERATING NUT SHALL BE CENTERED IN THE RISER AND FULLY ACCESSIBLE.
- MATERIAL BELOW AGGREGATE BASE SHALL BE COMPACTED TO 90% MINIMUM.
- CONTACT CITRUS HEIGHTS WATER DISTRICT FOR REBAR INSPECTION PRIOR TO POURING CONCRETE. (916) 725-6873
- REINFORCED CONCRETE PAD SHALL BE FINISHED WITH AN EDGING TOOL AROUND THE ENTIRE PERIMETER AND BROOMED AT RIGHT ANGLES TO THE DIRECTION OF TRAVEL.
- TRIANGULAR LID SHALL POINT IN THE DIRECTION OF THE MAIN WHICH IS ISOLATED BY THE VALVE.

1	VALVE BOX/LID - MARKED "WATER", OLDCASTLE PRECAST NO. G04 BOX, G04C LID	5	3/4" CLASS 2 AGGREGATE BASE - 2" MINIMUM, MECHANICALLY COMPACTED TO 90%
2	8" RISER - SDR35 ONLY, CONTINUOUS SECTION	6	CONCRETE DOBIE w/ WIRE
3	#10 INSULATED COPPER LOCATOR WIRE	7	3/8" (#3) REBAR - 2" INSIDE PERIMETER
4	REINFORCED CONCRETE PAD - 4" THICK x 30' SQUARE, TYPE II SIX-SACK PORTLAND CEMENT		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## WATER MAIN VALVE BOX - LANDSCAPE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

DATE:

*5/8/13*

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 8 MAY 2013

REVISED:

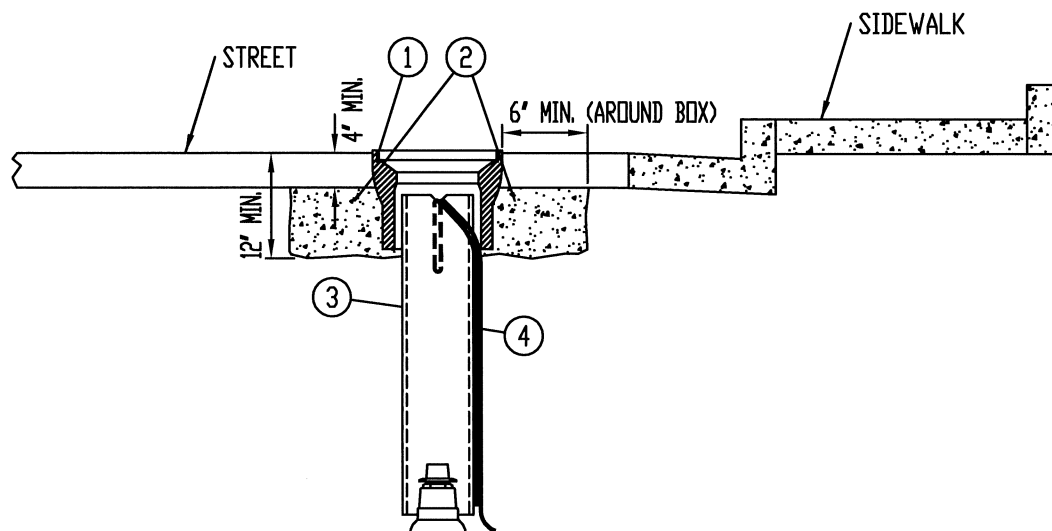
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DESIGN: P.A.D.

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**VB\_810**



NOTES:

- RISER SHALL BE PLUMB.
- VALVE OPERATING NUT SHALL BE CENTERED IN THE RISER AND FULLY ACCESSIBLE.
- MATERIAL BELOW CONCRETE ENCASMENT SHALL BE COMPACTED TO 95% MINIMUM.
- CONCRETE ENCASMENT SHALL BE ALLOWED TO CURE 24 HOURS MINIMUM PRIOR TO FINISH PAVING.
- TRIANGULAR LID SHALL POINT IN THE DIRECTION OF THE MAIN WHICH IS ISOLATED BY THE VALVE.

1	VALVE BOX/LID - MARKED 'WATER', OLDCASTLE PRECAST NO. G04 BOX, G04C LID
2	CONCRETE ENCASMENT AROUND VALVE BOX - TYPE II SIX-SACK PORTLAND CEMENT
3	8" RISER - SDR35 ONLY, CONTINUOUS SECTION
4	#10 INSULATED COPPER LOCATOR WIRE



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

# **WATER MAIN VALVE BOX - STREET/DRIVEWAY** **CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chubb*

CITRUS HEIGHTS WATER DISTRICT

DATE:

*5/8/13*

DRAWN: 8 MAY 2013

REVISED:

SCALE: N.T.S.

DESIGN: P.A.D.

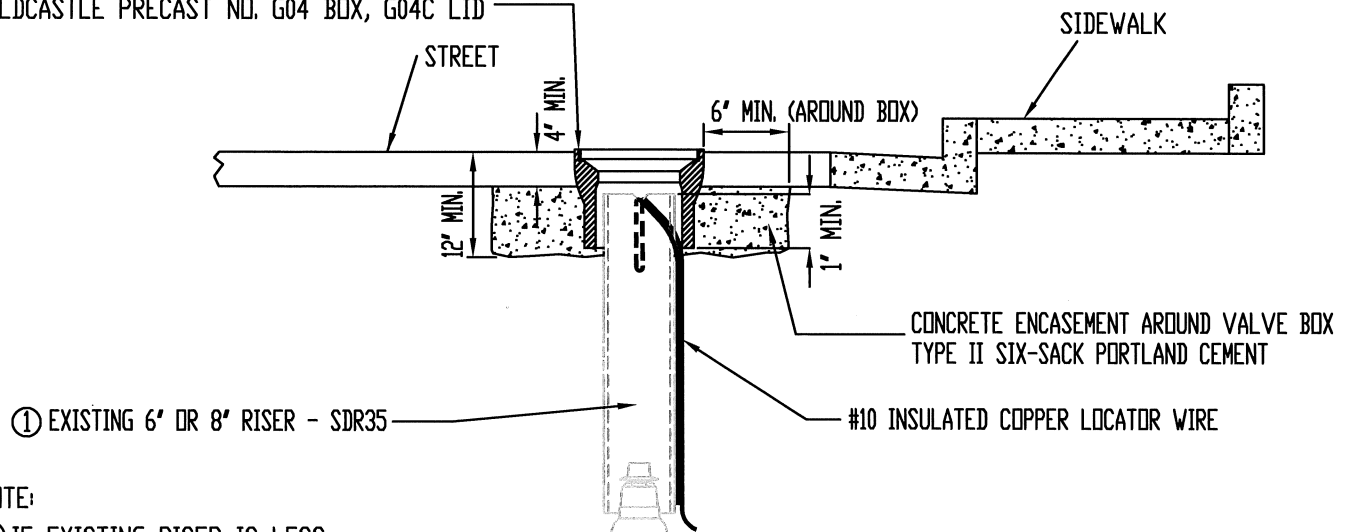
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**VB\_811**

## OPTION 1 - BOX ADJUSTMENT

VALVE BOX/LID - MARKED "WATER",  
OLDCASTLE PRECAST NO. G04 BOX, G04C LID

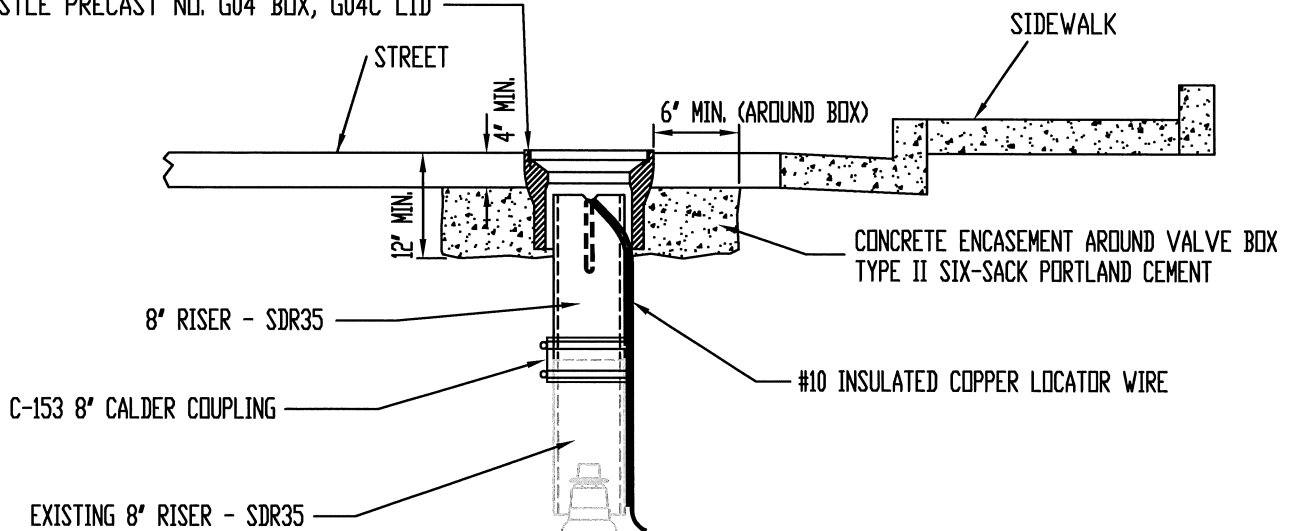


NOTE:

- ① IF EXISTING RISER IS LESS THAN 6' IN DIAMETER, A NEW 8' RISER SHALL BE INSTALLED

## OPTION 2 - 8" X 8" RISER LENGTHEN

VALVE BOX/LID - MARKED "WATER",  
OLDCASTLE PRECAST NO. G04 BOX, G04C LID



## WATER MAIN VALVE BOX - EXTENSION OPTIONS

### CITRUS HEIGHTS WATER DISTRICT

APPROVED BY:

*Robert A. Ambrose*

CITRUS HEIGHTS WATER DISTRICT

DATE:

*5/8/13*

DRAWN: 8 MAY 2013

REVISED:

SCALE: N.T.S.

DESIGN: P.A.D.

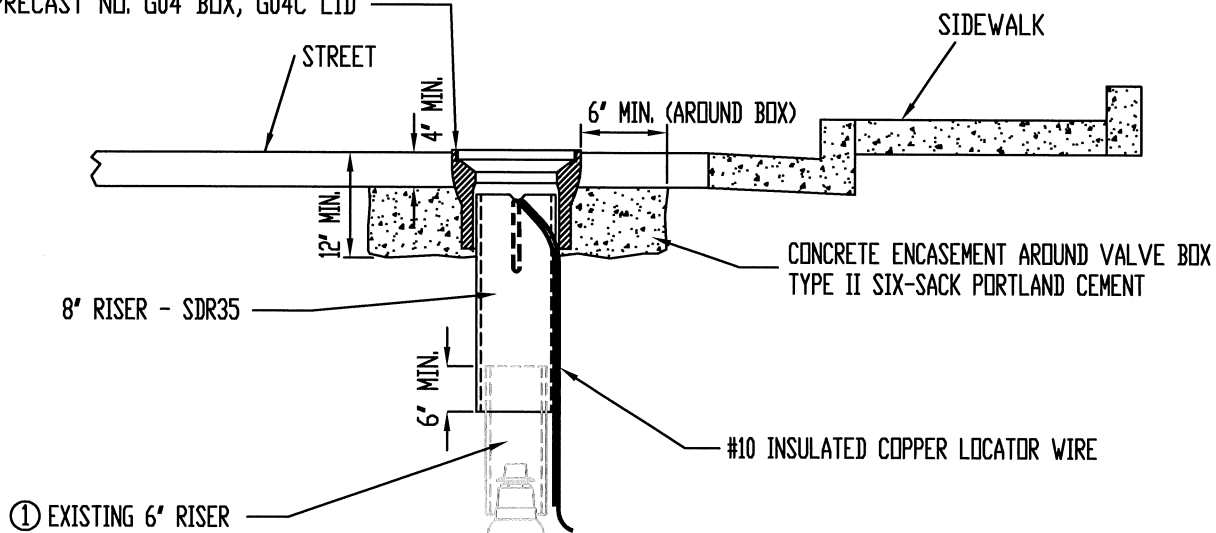
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*VB\_812\_1*

## OPTION 3 - 6" X 8" RISER LENGTHEN

VALVE BOX/LID - MARKED "WATER",  
OLDCASTLE PRECAST NO. G04 BOX, G04C LID



NOTE:

- ① IF EXISTING RISER IS LESS  
THAN 6" IN DIAMETER, A NEW 8"  
RISER SHALL BE INSTALLED



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## *WATER MAIN VALVE BOX - EXTENSION OPTIONS*

### *CITRUS HEIGHTS WATER DISTRICT*

APPROVED BY:

*Robert A. Chumley*

CITRUS HEIGHTS WATER DISTRICT

DATE: 5/8/13

DRAWN: 8 MAY 2013

REVISED:

SCALE: N.T.S.

DESIGN: P.A.D.

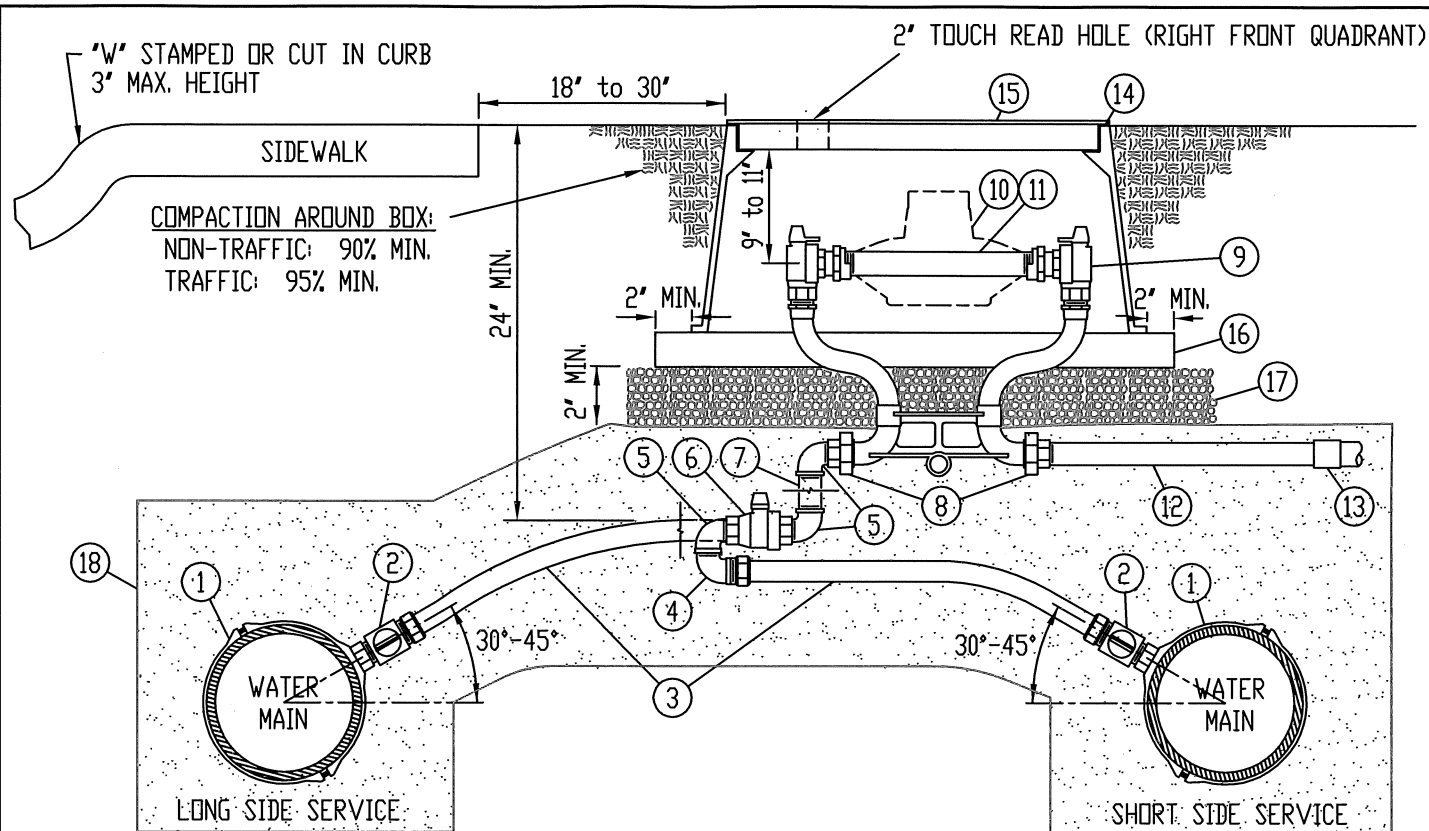
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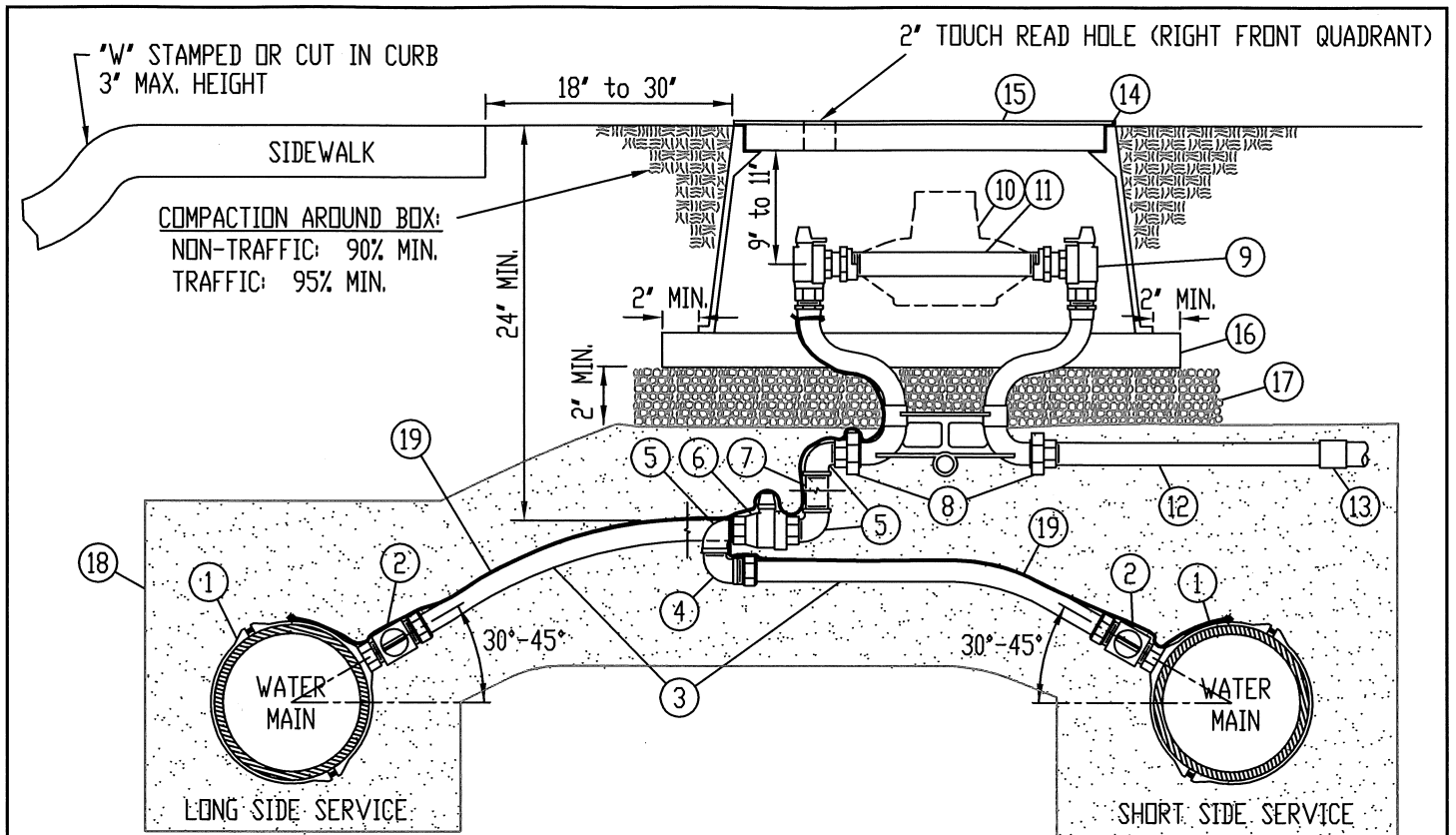
**VB\_812\_2**

VB 815





1	3/4" BRONZE SADDLE - IPT	10	5/8" X 3/4" WATER METER (BY DISTRICT)		
2	3/4" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP	11	PVC METER IDLER - 1' x 7 1/2", SCH 80 (BY CONTRACTOR)		
3	3/4" COPPER TUBING - TYPE K SOFT	12	3/4" x 18" PVC NIPPLE - SCH 80 (BRASS IF BACKFLOW)		
4	3/4" BRASS STREET ELBOW - CTS COMP x MIP	13	3/4" PVC COUPLING - SCH 80		
5	3/4" BRASS STREET ELBOW			NON-TRAFFIC AREAS	TRAFFIC AREAS
6	3/4" VALVE - FULL-PORT BALL, FIP x FIP or CTS COMP x FIP	14	METER BOX	CARSON 1220-12	CHRISTY FL30TB0X12
7	3/4" BRASS or COPPER (AS NECESSARY TO ADJUST TO PROPER GRADE)	15	LID	CARSON 1220-4B	CHRISTY FL30T
		16	2' x 6' PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)		
8	3/4" DUAL PURPOSE CONNECTION	17	3/4" CLEAN CRUSHED ROCK		
9	3/4" COPPER/BRASS METER YOKE - 12" HEIGHT w/2 FULL-PORT ANGLE BALL VALVES INCLUDING PADLOCK WINGS ON INLET AND OUTLET	18	#2 WASHED SAND COMPACTED TO 90%		



**CARSON 1220-4B 'T' TYPE LID:**

SHALL INCLUDE STRAIGHT TYPE HEXAGON  
LOCK-DOWN BOLT (1) AND TOUCH READ HOLE.  
SHALL BE MARKED 'WATER'

**CHRISTY FL30T RECESSED LID:**

SHALL INCLUDE STRAIGHT TYPE PENTAHEAD  
LOCK-DOWN BOLTS (2) AND TOUCH READ HOLE.  
SHALL BE MARKED 'WATER'

**METER YOKE:**

FORD, JONES, MUELLER, McDONALD

1	3/4" BRONZE SADDLE - IPT	9	3/4" COPPER/BRASS METER YOKE - 12" HEIGHT w/2 FULL-PORT ANGLE BALL VALVES INCLUDING PADLOCK WINGS ON INLET AND OUTLET		
2	3/4" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP w/ STAINLESS STEEL INSERT (3/4" CTS INSERT-51)				
3	3/4" POLYETHYLENE TUBING - CTS ENDOPORE PE-4710 SODR 9 (250 PSI) OR EQUAL	10	5/8" X 3/4" WATER METER (BY DISTRICT)		
		11	PVC METER IDLER - 1' x 7 1/2", SCH 80 (BY CONTRACTOR)		
4	3/4" BRASS STREET ELBOW - CTS COMP x MIP w/ STAINLESS STEEL INSERT (3/4" CTS INSERT-51)	12	3/4" x 18" PVC NIPPLE - SCH 80 (BRASS IF BACKFLOW)		
		13	3/4" PVC COUPLING - SCH 80		
5	3/4" BRASS STREET ELBOW			NON-TRAFFIC AREAS	TRAFFIC AREAS
6	3/4" VALVE - FULL-PORT BALL, FIP x FIP or CTS COMP x FIP w/ STAINLESS STEEL INSERT (3/4" CTS INSERT-51)	14	METER BOX	CARSON 1220-12	CHRISTY FL30TB0X12
		15	LID	CARSON 1220-4B	CHRISTY FL30T
7	3/4" BRASS NIPPLE (AS NECESSARY TO ADJUST TO PROPER GRADE)	16	2" x 6" PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)		
		17	3/4" CLEAN CRUSHED ROCK		
8	3/4" DUAL PURPOSE CONNECTION	18	#2 WASHED SAND COMPACTED TO 90%		
		19	#10 INSULATED COPPER LOCATOR WIRE		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

**3/4" POLYETHYLENE WATER SERVICE - 5/8" WATER METER  
NEW CONSTRUCTION**

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

CITRUS HEIGHTS WATER DISTRICT

DATE:

9/25/14

DRAWN: 25 SEP 2014

REVISED:

SCALE: N.T.S.

DESIGN: P.A.D.

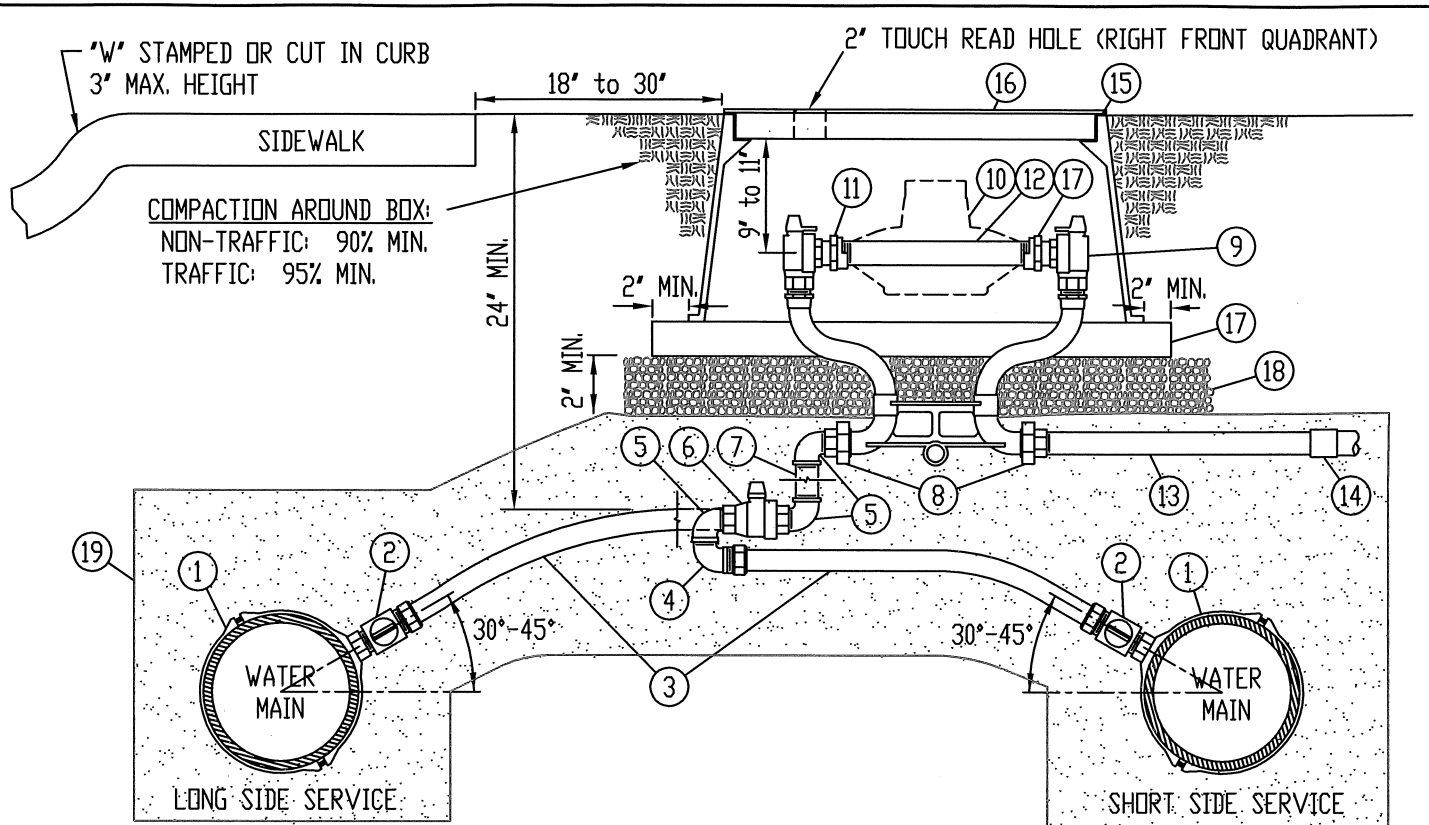
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**WS\_063PE**

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**CARSON 1220-4B "T" TYPE LID:**

SHALL INCLUDE STRAIGHT TYPE HEXAGON  
LOCK-DOWN BOLT (1) AND TOUCH READ HOLE.  
SHALL BE MARKED "WATER"

**CHRISTY FL30T RECESSED LID:**

SHALL INCLUDE STRAIGHT TYPE PENTAHEAD  
LOCK-DOWN BOLTS (2) AND TOUCH READ HOLE.  
SHALL BE MARKED "WATER"

**METER YOKE:**

FORD, JONES, MUELLER, McDONALD

1	1' BRONZE SADDLE - IPT	10	3/4' WATER METER (BY DISTRICT)		
2	1' CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP	11	1' x 3/4' METER ADAPTORS (BY DISTRICT)		
3	1' COPPER TUBING - TYPE K SOFT	12	PVC METER IDLER - 1 1/4' x 10 3/4', SCH 80 (BY CONTRACTOR)		
4	1' BRASS STREET ELBOW - CTS COMP x MIP	13	1' x 18' PVC NIPPLE - SCH 80 (BRASS IF BACKFLOW)		
5	1' BRASS STREET ELBOW	14	1' PVC COUPLING - SCH 80		
6	1' VALVE - FULL-PORT BALL, FIP x FIP or CTS COMP x FIP			NON-TRAFFIC AREAS	TRAFFIC AREAS
7	1' BRASS or COPPER (AS NECESSARY TO ADJUST TO PROPER GRADE)	15	METER BOX	CARSON 1220-12	CHRISTY FL30TBX12
		16	LID	CARSON 1220-4B	CHRISTY FL30T
8	1' DUAL PURPOSE CONNECTION	17	2' x 6' PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)		
9	1' COPPER/BRASS METER YOKE - 12" HEIGHT w/2 FULL-PORT ANGLE BALL VALVES INCLUDING PADLOCK WINGS ON INLET AND OUTLET	18	3/4' CLEAN CRUSHED ROCK		
		19	#2 WASHED SAND COMPACTED TO 90%		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

**1" COPPER WATER SERVICE - 3/4" WATER METER  
NEW CONSTRUCTION**

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

CITRUS HEIGHTS WATER DISTRICT

DATE: 9/25/14

DRAWN: 25 SEP 2014

REVISED:

SCALE: N.T.S.

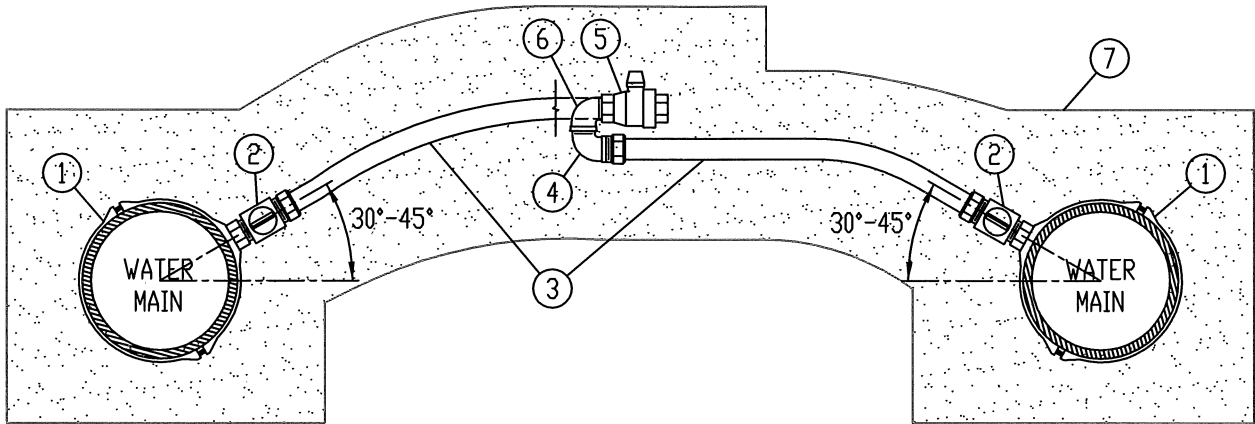
DESIGN: P.A.D.

CAD FILE: WS\_076CU.DWG

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**WS\_076CU**





1	3/4" BRONZE SADDLE - IPT	5	3/4" VALVE - FULL-PORT BALL, FIP x FIP or CTS x FIP
2	3/4" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP	6	3/4" BRASS STREET ELBOW
3	3/4" COPPER TUBING - TYPE K SOFT	7	#2 WASHED SAND COMPACTED TO 90%
4	3/4" BRASS STREET ELBOW - CTS COMP x MIP		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 3/4" COPPER WATER SERVICE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

DATE: 9/25/14

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 25 SEP 2014

REVISED:

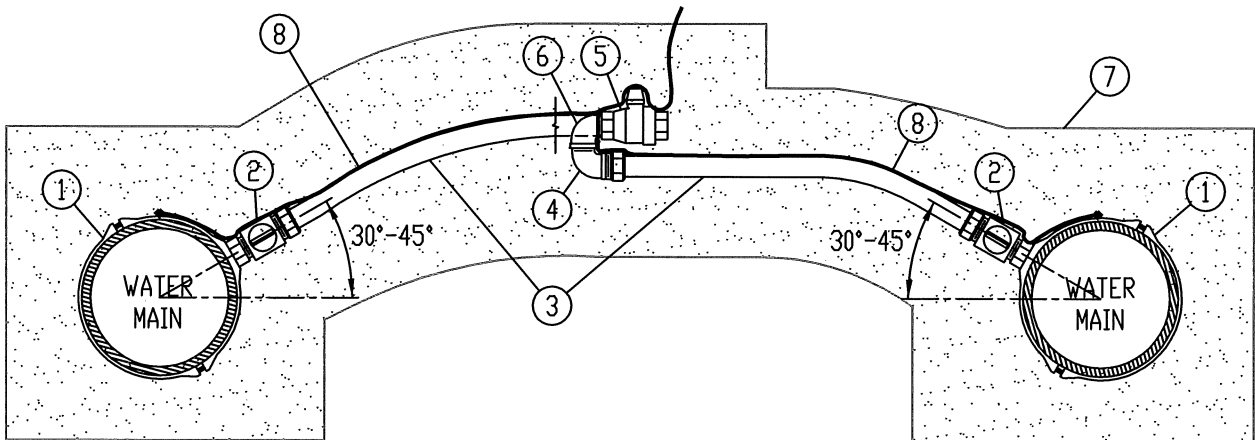
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DESIGN: P.A.D.

CAD FILE: WS\_078CU.DWG

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**WS\_078CU**



1	3/4" BRONZE SADDLE - IPT	5	3/4" VALVE - FULL-PORT BALL, FIP x FIP or CTS x FIP w/ STAINLESS STEEL INSERT (3/4" CTS INSERT-51)
2	3/4" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP w/ STAINLESS STEEL INSERT (3/4" CTS INSERT-51)	6	3/4" BRASS STREET ELBOW
3	3/4" POLYETHYLENE TUBING - CTS ENDOPORE PE-4710 SDDR 9 (250 PSI) OR EQUAL	7	#2 WASHED SAND COMPACTED TO 90%
4	3/4" BRASS STREET ELBOW - CTS COMP x MIP w/ STAINLESS STEEL INSERT (3/4" CTS INSERT-51)	8	#10 INSULATED COPPER LOCATOR WIRE (INSTALL INTO EXISTING METER BOX)



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 3/4" POLYETHYLENE WATER SERVICE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

CITRUS HEIGHTS WATER DISTRICT

DATE: *9/25/14*

DRAWN: 25 SEP 2014

REVISED:

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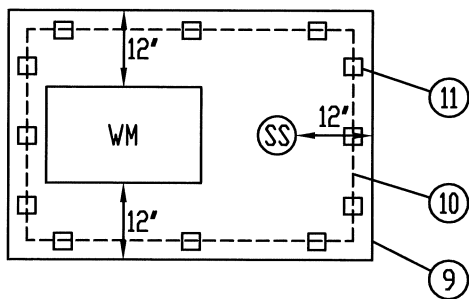
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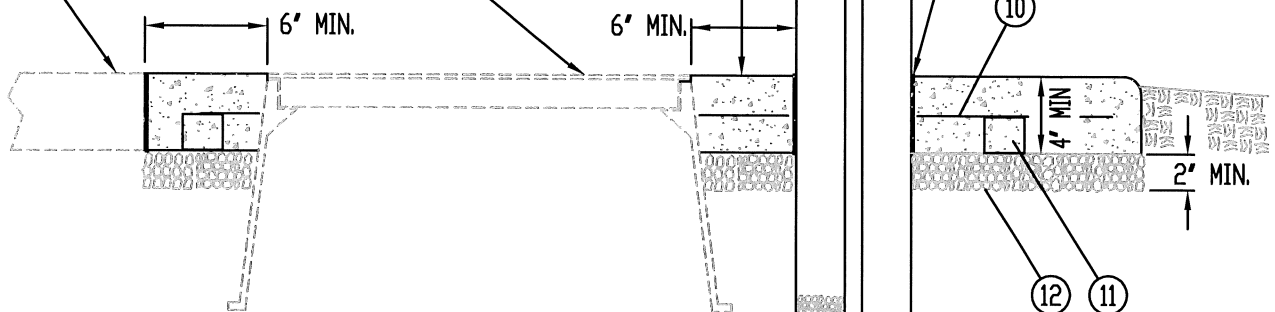




TOP VIEW

EXIST SIDEWALK

WATER METER/BOX FL30T  
(SEE DETAIL WS\_063)



SIDE VIEW

NOTE:

1. MATERIAL BELOW AGGREGATE BASE SHALL BE COMPACTED TO 90% MINIMUM.
2. REINFORCED CONCRETE PAD SHALL BE FINISHED WITH AN EDGING TOOL AROUND THE ENTIRE PERIMETER AND BROOMED AT RIGHT ANGLES TO THE DIRECTION OF TRAVEL.

1	3/4" COPPER TUBING - TYPE K HARD	8	PEA GRAVEL - ENTIRE LENGTH OF ENCLOSURE
2	3/4" BRASS ELBOW - CTS COMP	9	REINFORCED CONCRETE PAD - TYPE II SIX-SACK PORTLAND CEMENT
3	3/4" SWEAT x MIP ADAPTOR	10	3/8" (#3) REBAR - 2" INSIDE PERIMETER
4	3/4" x 1/2" BRASS BELL REDUCER	11	CONCRETE DOBIE w/ WIRE
5	1/2" x 3" BRASS NIPPLE	12	3/4" CLASS 2 AGGREGATE BASE - 2" MINIMUM MECHANICALLY COMPACTED TO 90%
6	1/2" x 3/8" WATER QUALITY SAMPLE VALVE (INCLUDED w/#7)		
7	PROTECTIVE ENCLOSURE - KORALEEN STATION GUARD XLT #0001-3		



CITRUS  
HEIGHTS  
WATER  
DISTRICT

# WATER SAMPLING STATION

CITRUS HEIGHTS WATER DISTRICT

APPROVED BY:

*Robert A. Chumley*

CITRUS HEIGHTS WATER DISTRICT

DATE:

5/8/13

DRAWN: 8 MAY 2013

REVISED:

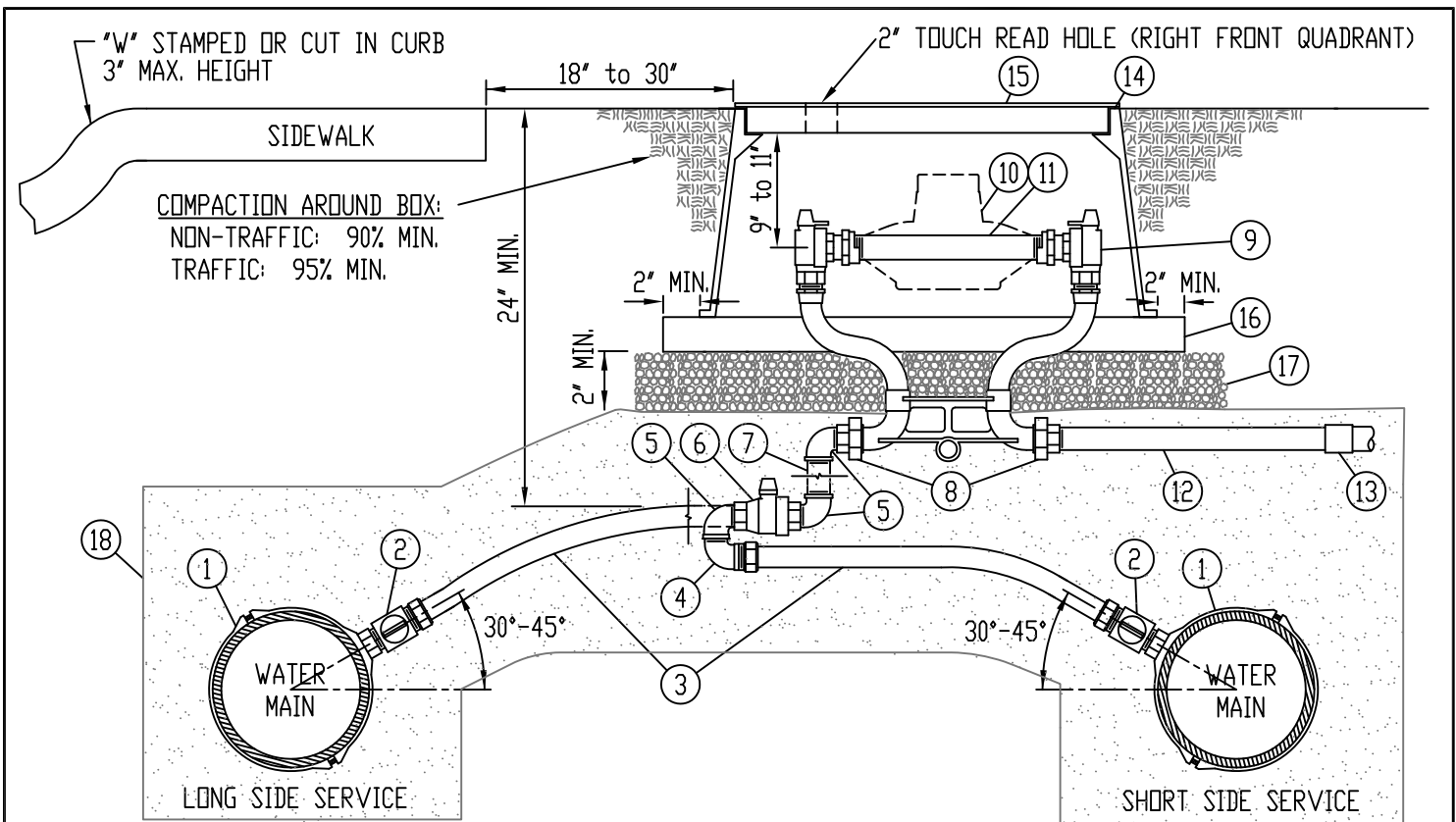
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DESIGN: P.A.D.

CAD FILE: WS\_079.DWG

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WS\_079



**CARSON 1220-4B "T" TYPE LID:**

SHALL INCLUDE STRAIGHT TYPE HEXAGON  
LOCK-DOWN BOLT (1) AND TOUCH READ HOLE.  
SHALL BE MARKED "WATER"

**CHRISTY FL30P RECESSED LID:**

SHALL INCLUDE STRAIGHT TYPE PENTAHEAD  
LOCK-DOWN BOLTS (2) AND NEPTUNE OFFSET  
AMR HOLE, SHALL BE MARKED "WATER"

**METER YOKE:**

FORD, JONES, MUELLER, McDONALD

1	1" BRONZE SADDLE - IPT	10	1" WATER METER (BY DISTRICT)		
2	1" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP	11	PVC METER IDLER - 1 1/4" x 10 3/4", SCH 80 (BY CONTRACTOR)		
3	1" COPPER TUBING - TYPE K SOFT	12	1" x 18" PVC NIPPLE - SCH 80 (BRASS IF BACKFLOW)		
4	1" BRASS STREET ELBOW - CTS COMP x MIP	13	1" PVC COUPLING - SCH 80		
5	1" BRASS STREET ELBOW			NON-TRAFFIC AREAS	TRAFFIC AREAS
6	1" VALVE - FULL-PORT BALL, FIP x FIP or CTS COMP x FIP	14	METER BOX	CARSON 1220-12	CHRISTY FL30TBOX12
7	1" BRASS or COPPER (AS NECESSARY TO ADJUST TO PROPER GRADE)	15	LID	CARSON 1220-4B	CHRISTY FL30P
		16	2" x 6" PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)		
8	1" DUAL PURPOSE CONNECTION	17	3/4" CLEAN CRUSHED ROCK		
9	1" COPPER/BRASS METER YOKE - 12" HEIGHT w/2 FULL-PORT ANGLE BALL VALVES INCLUDING PADLOCK WINGS ON INLET AND OUTLET	18	#2 WASHED SAND COMPACTED TO 90%		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

**1" COPPER WATER SERVICE - 1" WATER METER  
NEW CONSTRUCTION**

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Melina Riech*

DATE: APRIL 15, 2021

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 25 SEP 2014

REVISED: 15 APR 2021

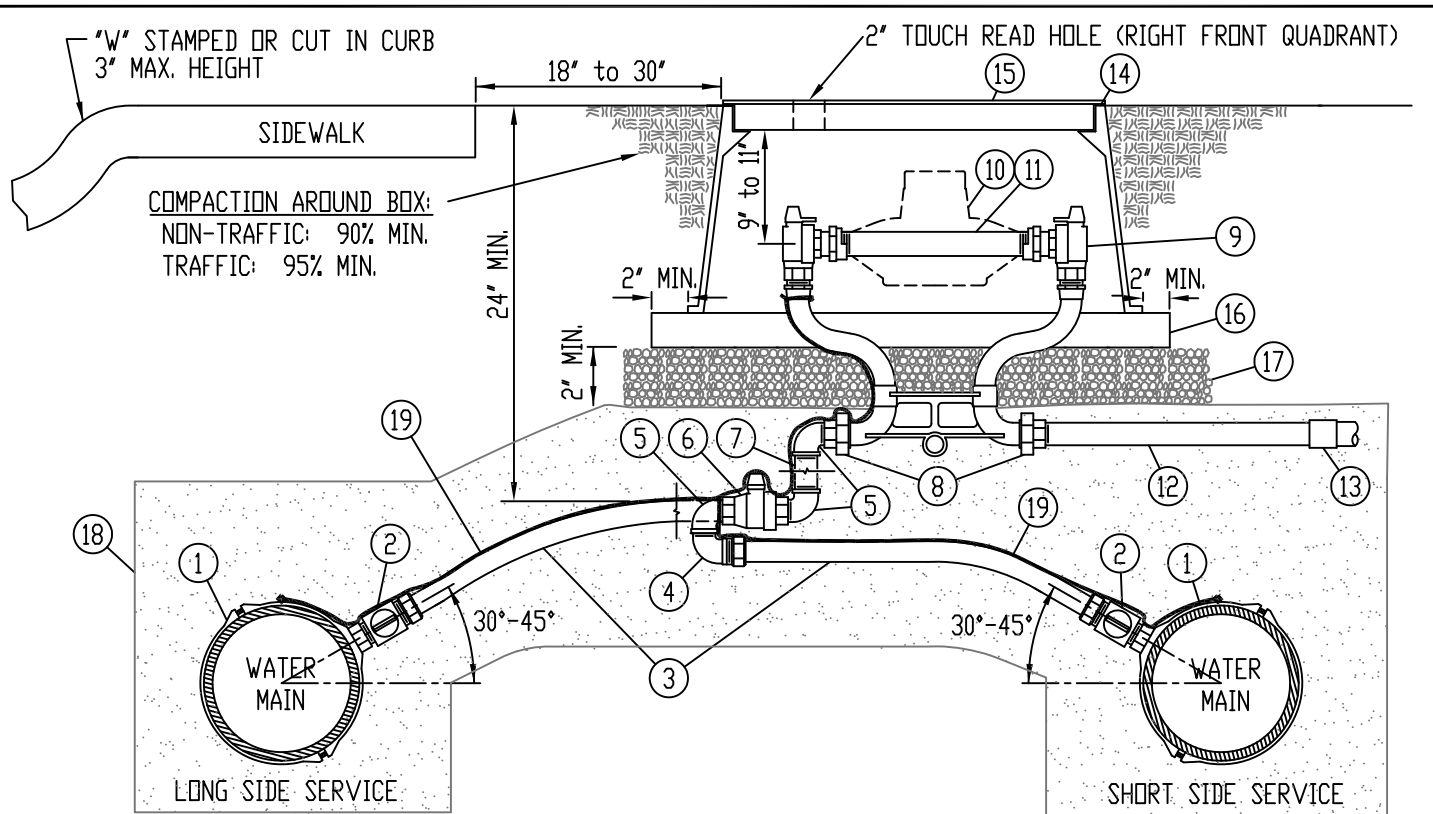
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DESIGN: P.A.D.

CAD FILE: WS\_100CU.DWG

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**WS\_100CU**



**CARSON 1220-4B "T" TYPE LID:**

SHALL INCLUDE STRAIGHT TYPE HEXAGON  
LOCK-DOWN BOLT (1) AND TOUCH READ HOLE.  
SHALL BE MARKED "WATER"

**CHRISTY FL30P RECESSED LID:**

SHALL INCLUDE STRAIGHT TYPE PENTAHEAD  
LOCK-DOWN BOLTS (2) AND NEPTUNE OFFSET  
AMR HOLE. SHALL BE MARKED "WATER"

**METER YOKE:**

FORD, JONES, MUELLER, McDONALD

1	1" BRONZE SADDLE - IPT	9	1" COPPER/BRASS METER YOKE - 12" HEIGHT w/2 FULL PORT ANGLE BALL VALVES INCLUDING PADLOCK WINGS ON INLET AND OUTLET		
2	1" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP w/ STAINLESS STEEL INSERT (1" CTS INSERT-52)		10	1" WATER METER (BY DISTRICT)	
3	1" POLYETHYLENE TUBING - CTS ENDOPORE PE-4710 SODR 9 (250 PSI) OR EQUAL	11	PVC METER IDLER - 1 1/4" x 10 3/4", SCH 80 (BY CONTRACTOR)		
		12	1" x 18" PVC NIPPLE - SCH 80 (BRASS IF BACKFLOW)		
4	1" BRASS STREET ELBOW - CTS COMP x MIP w/ STAINLESS STEEL INSERT (1" CTS INSERT-52)	13	1" PVC COUPLING - SCH 80		
				NON-TRAFFIC AREAS	TRAFFIC AREAS
5	1" BRASS STREET ELBOW	14	METER BOX	CARSON 1220-12	CHRISTY FL30TBX12
6	1" VALVE - FULL-PORT BALL, FIP x FIP or CTS COMP x FIP w/ STAINLESS STEEL INSERT (1" CTS INSERT-52)	15	LID	CARSON 1220-4B	CHRISTY FL30P
		16	2" x 6" PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)		
7	1" BRASS NIPPLE (AS NECESSARY TO ADJUST TO PROPER GRADE)	17	3/4" CLEAN CRUSHED ROCK		
		18	#2 WASHED SAND COMPACTED TO 90%		
8	1" DUAL PURPOSE CONNECTION	19	#10 INSULATED COPPER LOCATOR WIRE		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

**1" POLYETHYLENE WATER SERVICE - 1" WATER METER  
NEW CONSTRUCTION**

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Melina Riera*

DATE:

APRIL 15, 2021

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 25 SEP 2014

REVISED: 15 APR 2021

SCALE: N.T.S.

DESIGN: P.A.D.

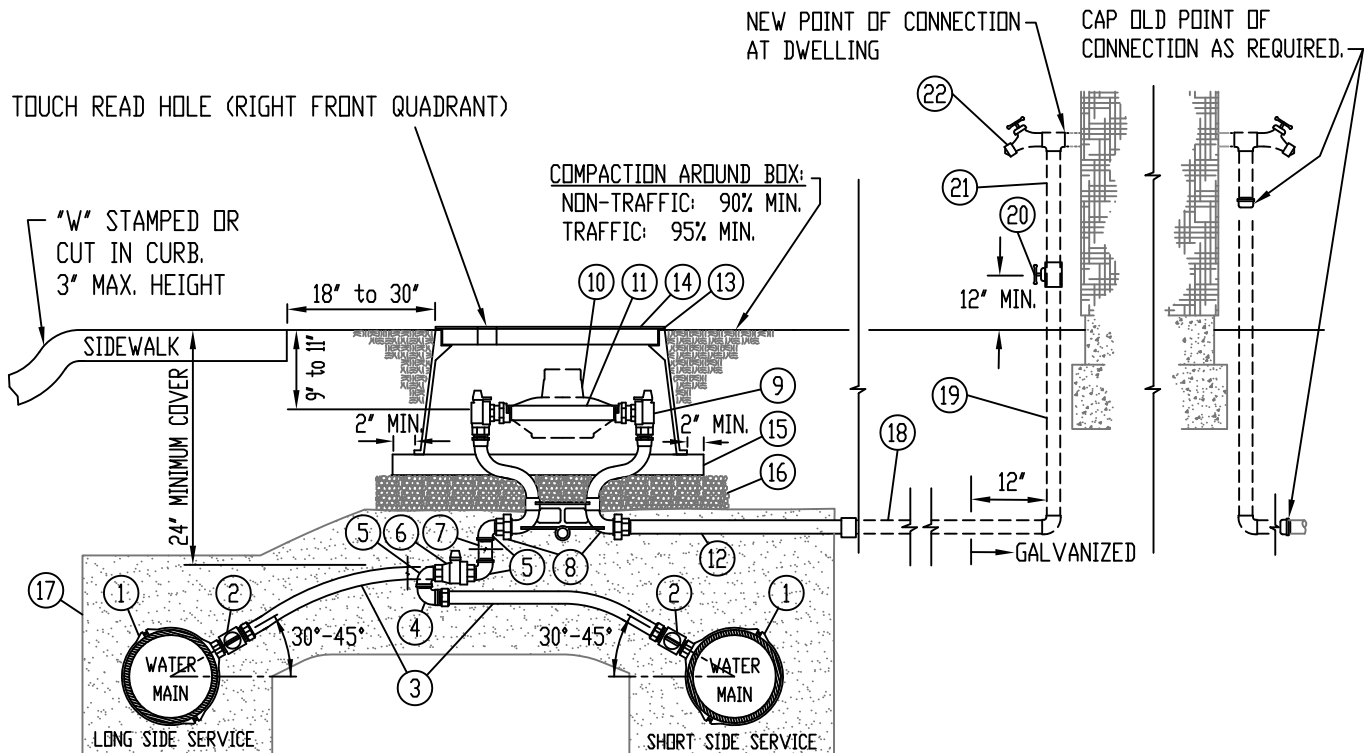
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**WS\_100PE**

TOUCH READ HOLE (RIGHT FRONT QUADRANT)

"W" STAMPED OR  
CUT IN CURB.  
3" MAX. HEIGHT



**CARSON 1220-4B "T" TYPE LID:**

SHALL INCLUDE STRAIGHT TYPE HEXAGON  
LOCK-DOWN BOLT (1) AND TOUCH READ HOLE.  
SHALL BE MARKED "WATER"

**CHRISTY FL30P RECESSED LID:**

SHALL INCLUDE STRAIGHT TYPE PENTAHEAD  
LOCK-DOWN BOLTS (2) AND NEPTUNE OFFSET  
AMR HOLE, SHALL BE MARKED "WATER"

**METER YOKE:**

FORD, JONES, MUELLER, McDONALD

1	1" BRONZE SADDLE - IPT	11	PVC METER IDLER - 1 1/4" x 10 3/4", SCH 80 (BY CONTRACTOR)
2	1" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP	12	1" x 18" PVC NIPPLE - SCH 80 (BRASS IF BACKFLOW)
3	1" COPPER TUBING - TYPE K SOFT		NON-TRAFFIC AREAS
4	1" BRASS STREET ELBOW - CTS COMP x MIP	13	METER BOX
5	1" BRASS STREET ELBOW	14	LID
6	1" VALVE - FULL-PORT BALL, FIP x FIP or CTS COMP x FIP	15	2" x 6" PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)
7	1" BRASS or COPPER (AS NECESSARY TO ADJUST TO PROPER GRADE)	16	3/4" CLEAN CRUSHED ROCK
8	1" DUAL PURPOSE CONNECTION	17	#2 WASHED SAND COMPACTED TO 90%
9	1" COPPER/BRASS METER YOKE - 12" HEIGHT w/2 FULL-PORT ANGLE BALL VALVES INCLUDING PADLOCK WINGS ON INLET AND OUTLET	18	1 1/4" PVC SCH 40 w/ SCH 80 FITTINGS
10	1" WATER METER (BY DISTRICT)	19	1 1/4" GALVANIZED PIPE
		20	1 1/4" GATE VALVE
		21	GALVANIZED PIPE AND FITTINGS - SIZE TO MATCH EXISTING
		22	HOSE BIB - SIZE TO MATCH EXISTING



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

**1" COPPER WATER SERVICE - 1" WATER METER  
INCLUDING SERVICE LINE TO DWELLING**

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY: *Melina Lierio*

CITRUS HEIGHTS WATER DISTRICT

DATE: APRIL 15, 2021

DRAWN: 25 SEP 2014

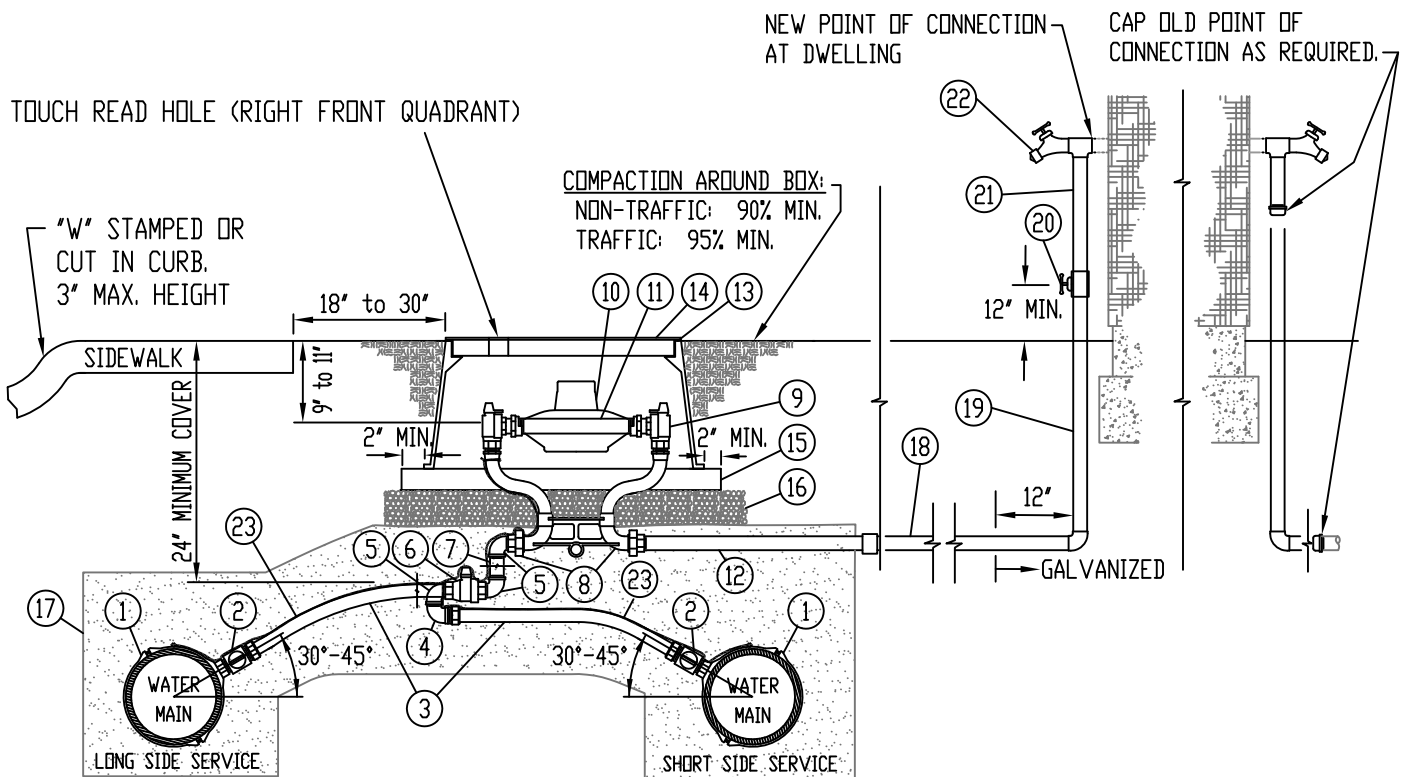
REVISED: 15 APR 2021

SCALE: N.T.S.

DESIGN: P.A.D.

CAD FILE: WS\_102CU.DWG

PAGE: **WS\_102CU**



**CARSON 1220-4B "T" TYPE LID:**

SHALL INCLUDE STRAIGHT TYPE HEXAGON LOCK-DOWN BOLT (1) AND TOUCH READ HOLE. SHALL BE MARKED "WATER"

**CHRISTY FL30P RECESSED LID:**

SHALL INCLUDE STRAIGHT TYPE PENTAHEAD LOCK-DOWN BOLTS (2) AND NEPTUNE OFFSET AMR HOLE, SHALL BE MARKED "WATER"

**METER YOKE:**

FORD, JONES, MUELLER, McDONALD

1	1" BRONZE SADDLE - IPT	10	1" WATER METER (BY DISTRICT)
2	1" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP w/ STAINLESS STEEL INSERT (1" CTS INSERT-52)	11	PVC METER IDLER - 1 1/4" x 10 3/4", SCH 80 (BY CONTRACTOR)
3	1" POLYETHYLENE TUBING - CTS ENDPORE PE-4710 SDDR 9 (250 PSI) OR EQUAL	12	1" x 18" PVC NIPPLE - SCH 80 (BRASS IF BACKFLOW)
4	1" BRASS STREET ELBOW - CTS COMP x MIP w/ STAINLESS STEEL INSERT (1" CTS INSERT-52)	NON-TRAFFIC AREAS      TRAFFIC AREAS	
5	1" BRASS STREET ELBOW	13	METER BOX      CARSON 1220-12      CHRISTY FL30TB0X12
6	1" VALVE - FULL-PORT BALL, FIP x FIP or CTS COMP x FIP w/ STAINLESS STEEL INSERT (1" CTS INSERT-52)	14	LID      CARSON 1220-4B      CHRISTY FL30P
7	1" BRASS NIPPLE (AS NECESSARY TO ADJUST TO PROPER GRADE)	15	2" x 6" PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)
8	1" DUAL PURPOSE CONNECTION	16	3/4" CLEAN CRUSHED ROCK
9	1" COPPER/BRASS METER YOKE - 12" HEIGHT w/2 FULL PORT ANGLE BALL VALVES INCLUDING PADLOCK WINGS ON INLET AND OUTLET	17	#2 WASHED SAND COMPACTED TO 90%
		18	1 1/4" PVC SCH 40 w/ SCH 80 FITTINGS
		19	1 1/4" GALVANIZED PIPE
		20	1 1/4" GATE VALVE
		21	GALVANIZED PIPE AND FITTINGS - SIZE TO MATCH EXISTING
		22	HOSE BIB - SIZE TO MATCH EXISTING
		23	#10 INSULATED COPPER LOCATING WIRE



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

**1" POLYETHYLENE WATER SERVICE - 1" WATER METER  
INCLUDING SERVICE LINE TO DWELLING**

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Melina Pieri*

DATE: APRIL 15, 2021

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 25 SEP 2014

REVISED: 15 APR 2021

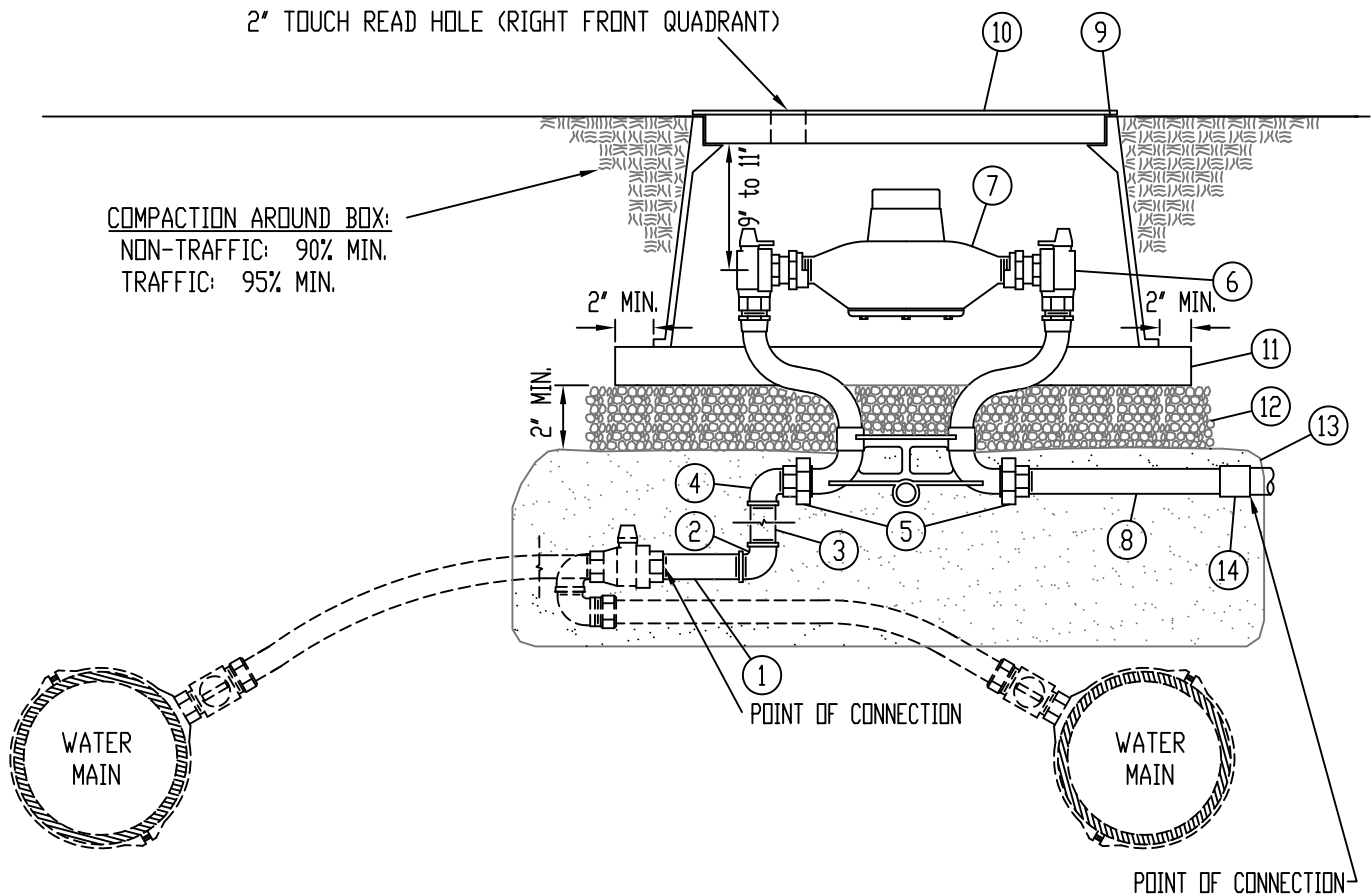
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DESIGN: P.A.D.

CAD FILE: WS\_102PE.DWG

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**WS\_102PE**



**CARSON 1220-4B "T" TYPE LID:**

SHALL INCLUDE STRAIGHT TYPE HEXAGON  
LOCK-DOWN BOLT (1) AND TOUCH READ HOLE.  
SHALL BE MARKED "WATER"

**CHRISTY FL30P RECESSED LID:**

SHALL INCLUDE STRAIGHT TYPE PENTAHEAD  
LOCK-DOWN BOLTS (2) AND NEPTUNE OFFSET  
AMR HOLE, SHALL BE MARKED "WATER"

**METER YOKE:**

FORD, JONES, MUELLER, McDONALD

1	1' x 3" BRASS OR COPPER NIPPLE	7	1" WATER METER (BY DISTRICT)
2	1" BRASS ELBOW	8	1' x 18" PVC NIPPLE - SCH 80
3	1" BRASS OR COPPER (AS NECESSARY TO ADJUST TO PROPER GRADE)	9	METER BOX
4	1" BRASS STREET ELBOW	10	LID
5	1" DUAL PURPOSE CONNECTION	11	2" x 6" PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)
6	1" COPPER/BRASS METER YOKE - 12" HEIGHT w/2 FULL-PORT ANGLE BALL VALVES INCLUDING PADLOCK WINGS ON INLET AND OUTLET	12	3/4" CLEAN CRUSHED ROCK
		13	#2 WASHED SAND COMPACTED TO 90%
		14	1" PVC COUPLING - SCH 80



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

# 1" WATER SERVICE - 1" WATER METER RETROFIT

## CITRUS HEIGHTS WATER DISTRICT

APPROVED BY:

*Melina Pien*

DATE: APRIL 15, 2021

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 8 MAY 2013

REVISED: 15 APR 2021

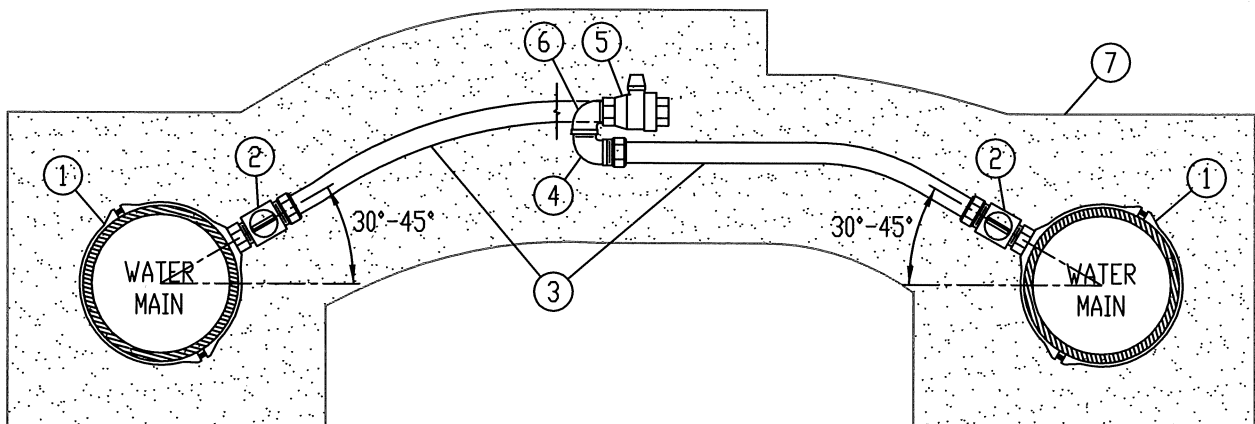
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DESIGN: P.A.D.

CAD FILE: WS\_103.DWG

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WS\_103



1	1" BRONZE SADDLE - IPT	5	1" VALVE - FULL-PORT BALL, FIP x FIP or CTS COMP x FIP
2	1" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP	6	1" BRASS STREET ELBOW
3	1" COPPER TUBING - TYPE K SOFT	7	#2 WASHED SAND COMPACTED TO 90%
4	1" BRASS STREET ELBOW - CTS COMP x MIP		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 1" COPPER WATER SERVICE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

DATE: 9/25/14

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 25 SEP 2014

REVISED:

SCALE: N.T.S.

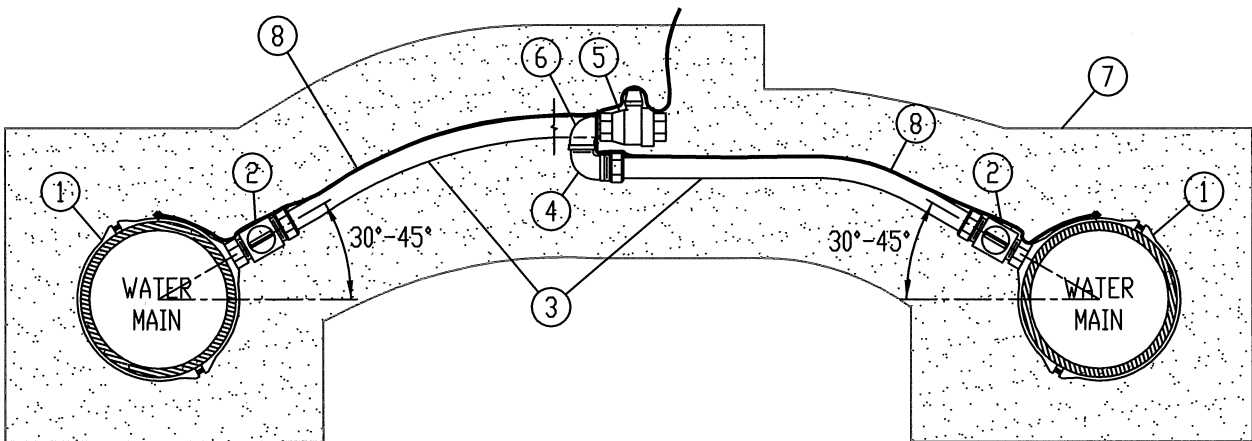
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CAD FILE: WS\_108CU.DWG

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**WS\_108CU**





1	1" BRONZE SADDLE - IPT	5	1" VALVE - FULL-PORT BALL, FIP x FIP or CTS x FIP w/ STAINLESS STEEL INSERT (1" CTS INSERT-52)
2	1" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP w/ STAINLESS STEEL INSERT (1" CTS INSERT-52)	6	1" BRASS STREET ELBOW
3	1" POLYETHYLENE TUBING - CTS ENDOPORE PE-4710 SDDR 9 (250 PSI) OR EQUAL	7	#2 WASHED SAND COMPACTED TO 90%
4	1" BRASS STREET ELBOW - CTS COMP x MIP w/ STAINLESS STEEL INSERT (1" CTS INSERT-52)	8	#10 INSULATED COPPER LOCATOR WIRE (INSTALL INTO EXISTING METER BOX)



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 1" POLYETHYLENE WATER SERVICE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

CITRUS HEIGHTS WATER DISTRICT

DATE: 9/25/14

DRAWN: 25 SEP 2014

REVISED:

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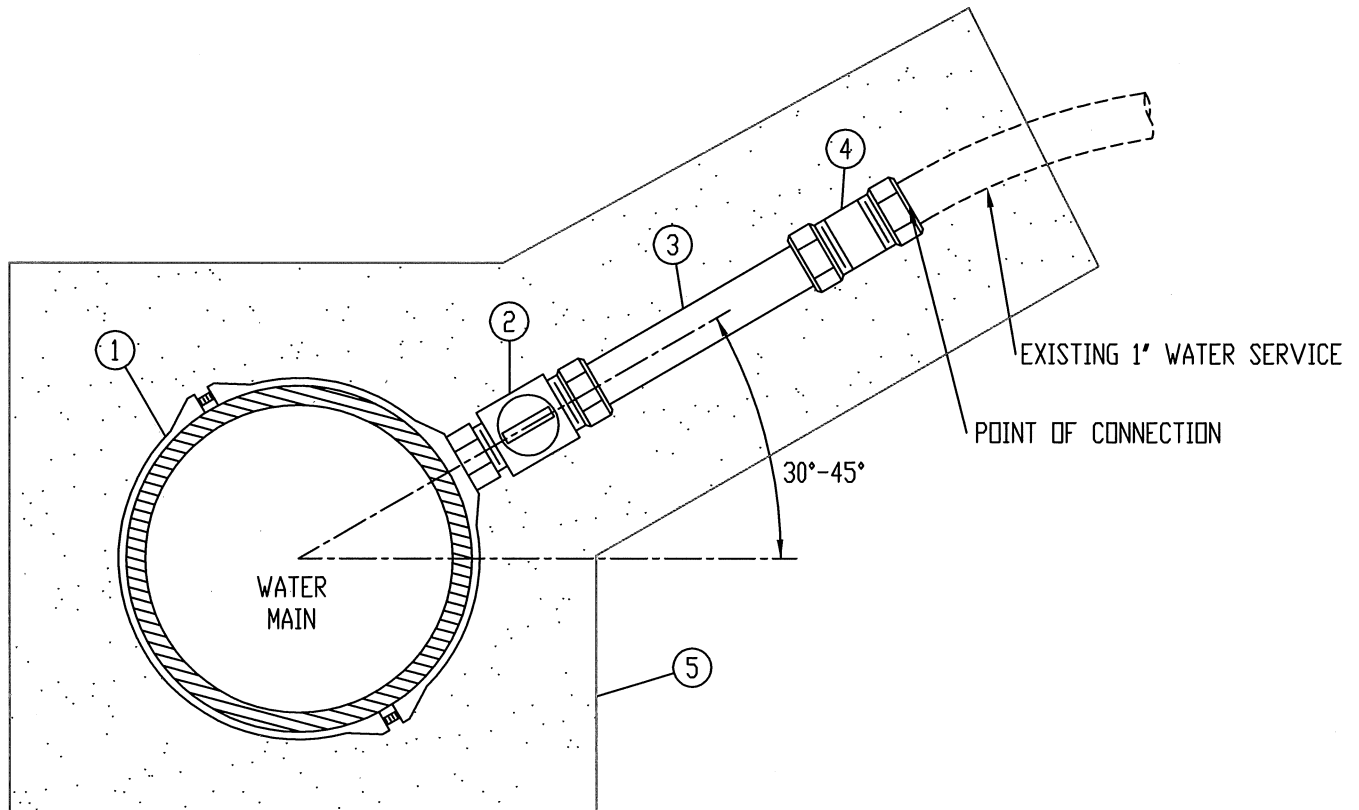
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CAD FILE: WS\_108PE.DWG

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**WS\_108PE**





1	1" BRONZE SADDLE - IPT	4	1" BRASS COUPLING AS REQUIRED TO CONNECT TO EXISTING 1" WATER SERVICE
2	1" CORPORATION STOP - FULL-PORT BALL, MIP xCTS COMP		
3	1" COPPER TUBING - TYPE K SOFT	5	#2 WASHED SAND COMPACTED TO 90%



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 1" COPPER WATER SERVICE SADDLE REPLACEMENT

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chubb*

CITRUS HEIGHTS WATER DISTRICT

DATE: 9/25/14

DRAWN: 25 SEP 2014

REVISED:

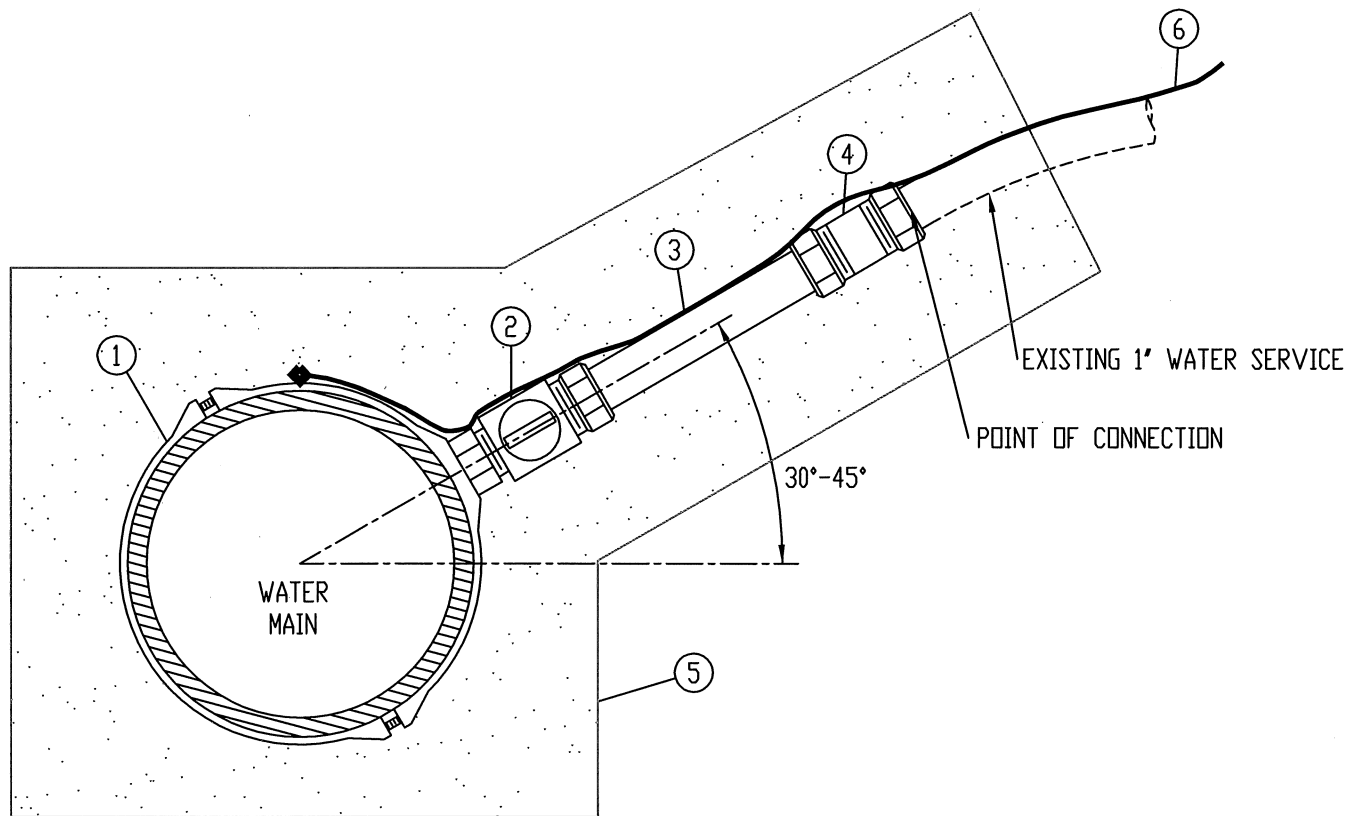
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DESIGN: P.A.D.

CAD FILE: WS\_109CU.DWG

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**WS\_109CU**



1	1" BRONZE SADDLE - IPT	4	1" BRASS COUPLING AS REQUIRED TO CONNECT TO EXISTING 1" WATER SERVICE w/ STAINLESS STEEL INSERT (1" CTS INSERT-52)
2	1" CORPORATION STOP - FULL-PORT BALL, MIP xCTS COMP w/ STAINLESS STEEL INSERT (1" CTS INSERT-52)	5	#2 WASHED SAND COMPACTED TO 90%
3	1" POLYETHELENE TUBING - CTS ENDPORRE PE-4710 SDDR 9 (250 PSI) OR EQUAL	6	#10 INSULATED COPPER LOCATOR WIRE



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 1" POLYETHYLENE WATER SERVICE SADDLE REPLACEMENT

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chubb*

CITRUS HEIGHTS WATER DISTRICT

DATE: 9/25/14

DRAWN: 25 SEP 2014

REVISED:

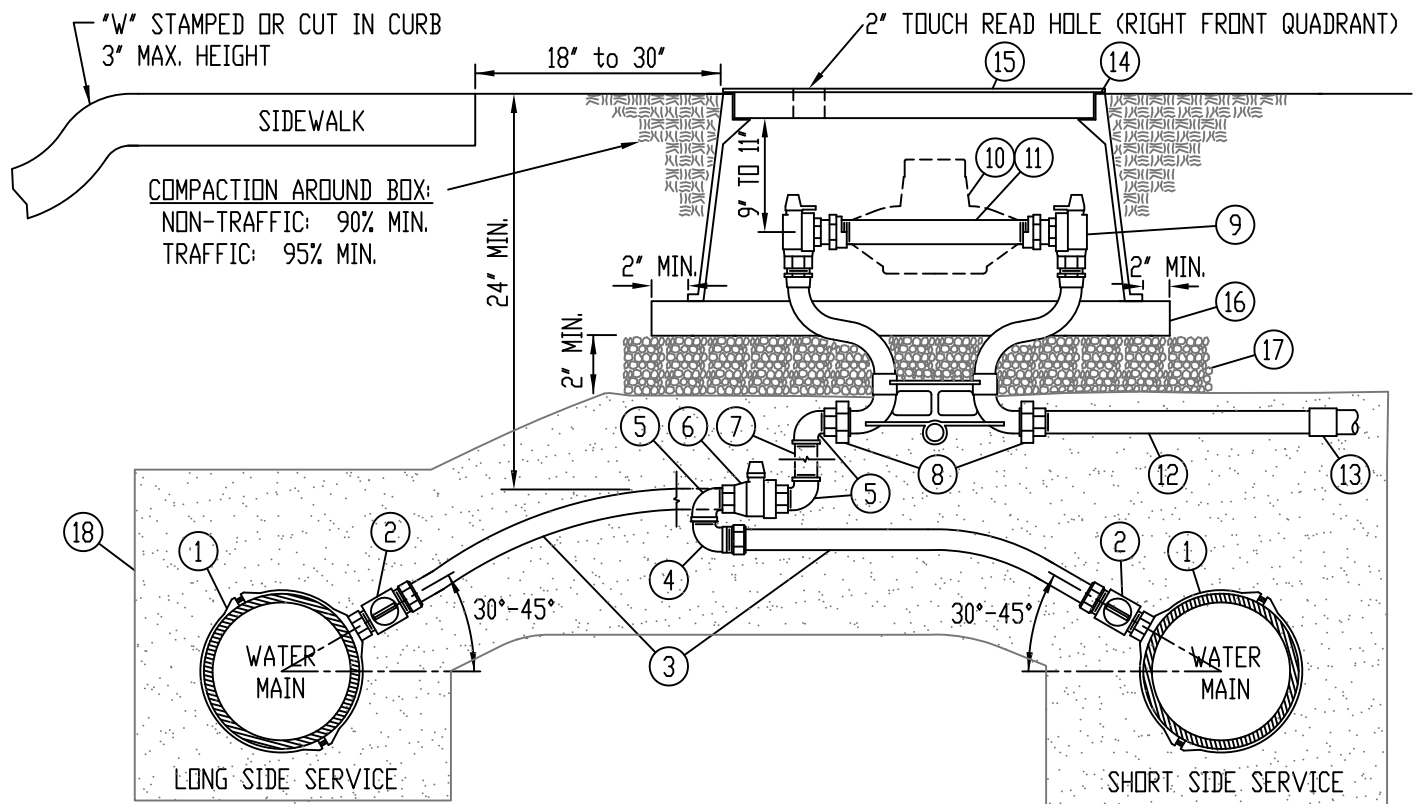
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DESIGN: P.A.D.

CAD FILE: WS\_109PE.DWG

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**WS\_109PE**



**CARSON 1220-4B "T" TYPE LID:**

SHALL INCLUDE STRAIGHT TYPE HEXAGON  
LOCK-DOWN BOLT (1) AND TOUCH READ HOLE.  
SHALL BE MARKED "WATER"

**CHRISTY FL30P RECESSED LID:**

SHALL INCLUDE STRAIGHT TYPE PENTAHEAD  
LOCK-DOWN BOLTS (2) AND NEPTUNE OFFSET  
AMR HOLE, SHALL BE MARKED "WATER"

**METER YOKE:**

FORD, JONES, MUELLER, McDONALD

1	1" BRONZE SADDLE - IPT	10	1" WATER METER (BY DISTRICT)		
2	1" CORPORATION STOP - FULL-PORT BALL, MIP x IPS COMP	11	PVC METER IDLER - 1 1/4" x 10 3/4", SCH 80 (BY CONTRACTOR)		
3	1 1/4" COPPER TUBING - TYPE K SOFT	12	1" x 18" PVC NIPPLE - SCH 80 (BRASS IF BACKFLOW)		
4	1" BRASS STREET ELBOW - IPS COMP x MIP	13	1" PVC COUPLING - SCH80		
5	1" BRASS STREET ELBOW			NON-TRAFFIC AREAS	TRAFFIC AREAS
6	1" VALVE - FULL-PORT BALL, FIP x FIP or IPS COMP x FIP	14	METER BOX	CARSON 1220-12	CHRISTY FL30TB0X12
7	1" BRASS or COPPER (AS NECESSARY TO ADJUST TO PROPER GRADE)	15	LID	CARSON 1220-4B	CHRISTY FL30P
		16	2" x 6" PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)		
8	1" DUAL PURPOSE CONNECTION	17	3/4" CLEAN CRUSHED ROCK		
9	1" COPPER/BRASS METER YOKE - 12" HEIGHT w/2 FULL-PORT ANGLE BALL VALVES INCLUDING PADLOCK WINGS ON INLET AND OUTLET	18	#2 WASHED SAND COMPACTED TO 90%		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

**1 1/4" COPPER WATER SERVICE - 1" WATER METER  
NEW CONSTRUCTION**

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY: *Melina Pileri*

CITRUS HEIGHTS WATER DISTRICT

DATE: APRIL 15, 2021

DRAWN: 25 SEP 2014

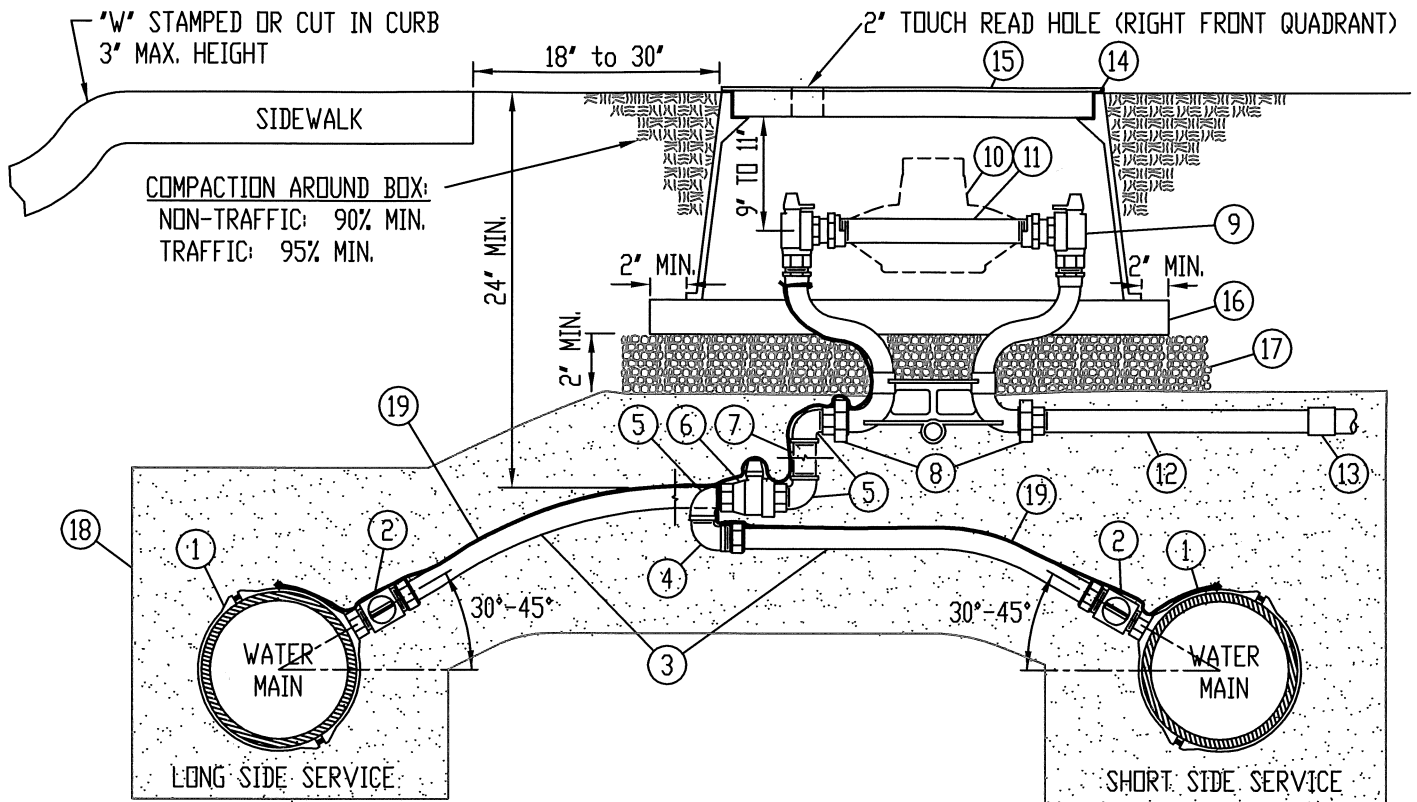
REVISED: 15 APR 2021

SCALE: N.T.S.

DESIGN: P.A.D.

CAD FILE: WS\_125CU.DWG

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**CARSON 1220-4B 'T' TYPE LID:**

SHALL INCLUDE STRAIGHT TYPE HEXAGON LOCK-DOWN BOLT (1) AND TOUCH READ HOLE. SHALL BE MARKED 'WATER'

**CHRISTY FL30T RECESSED LID:**

SHALL INCLUDE STRAIGHT TYPE PENTAHEAD LOCK-DOWN BOLTS (2) AND TOUCH READ HOLE. SHALL BE MARKED 'WATER'

**METER YOKE:**

FORD, JONES, MUELLER, McDONALD

1	1' BRONZE SADDLE - IPT	9	1' COPPER/BRASS METER YOKE - 12" HEIGHT w/2 FULL PORT ANGLE BALL VALVES INCLUDING PADLOCK WINGS ON INLET AND OUTLET
2	1' CORPORATION STOP - FULL-PORT BALL, MIP x IPS COMP w/ STAINLESS STEEL INSERT (1' CTS INSERT-52)	10	1' WATER METER (BY DISTRICT)
3	1 1/4" POLYETHYLENE TUBING - CTS ENDOPORE PE-4710 SODR 9 (250 PSI) OR EQUAL	11	PVC METER IDLER - 1 1/4" x 10 3/4", SCH 80 (BY CONTRACTOR)
4	1' BRASS STREET ELBOW - IPS COMP x MIP w/ STAINLESS STEEL INSERT (1' CTS INSERT-52)	12	1' x 18" PVC NIPPLE - SCH 80 (BRASS IF BACKFLOW)
5	1' BRASS STREET ELBOW	13	1' PVC COUPLING - SCH80
6	1' VALVE - FULL-PORT BALL, FIP x FIP or IPS COMP x FIP w/ STAINLESS STEEL INSERT (1' CTS INSERT-52)	NON-TRAFFIC AREAS	
7	1' BRASS NIPPLE (AS NECESSARY TO ADJUST TO PROPER GRADE)	TRAFFIC AREAS	
8	1' DUAL PURPOSE CONNECTION	14	METER BOX
		15	LID
		16	2' x 6' PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)
		17	3/4" CLEAN CRUSHED ROCK
		18	#2 WASHED SAND COMPACTED TO 90%
		19	#10 INSULATED COPPER LOCATOR WIRE



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

**1 1/4" POLYETHYLENE WATER SERVICE - 1" WATER METER  
NEW CONSTRUCTION**

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chubb*

CITRUS HEIGHTS WATER DISTRICT

DATE: 9/25/14

DRAWN: 25 SEP 2014

REVISED:

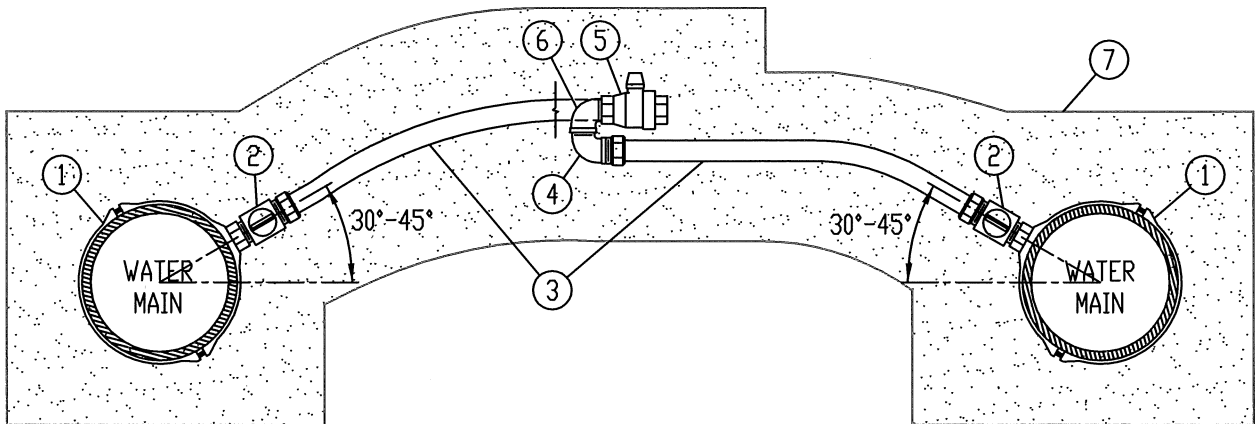
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DESIGN: P.A.D.

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**WS\_125PE**



1	1" BRONZE SADDLE - IPT	5	1" VALVE - FULL-PORT BALL, FIP x FIP or IPS COMP x FIP
2	1" CORPORATION STOP - FULL-PORT BALL, MIP x IPS COMP	6	1" BRASS STREET ELBOW
3	1 1/4" COPPER TUBING - TYPE K SOFT	7	#2 WASHED SAND COMPACTED TO 90%
4	1" BRASS STREET ELBOW - IPS COMP x MIP		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 1 1/4" COPPER WATER SERVICE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chubb*

DATE:

*9/25/14*

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 25 SEP 2014

REVISED:

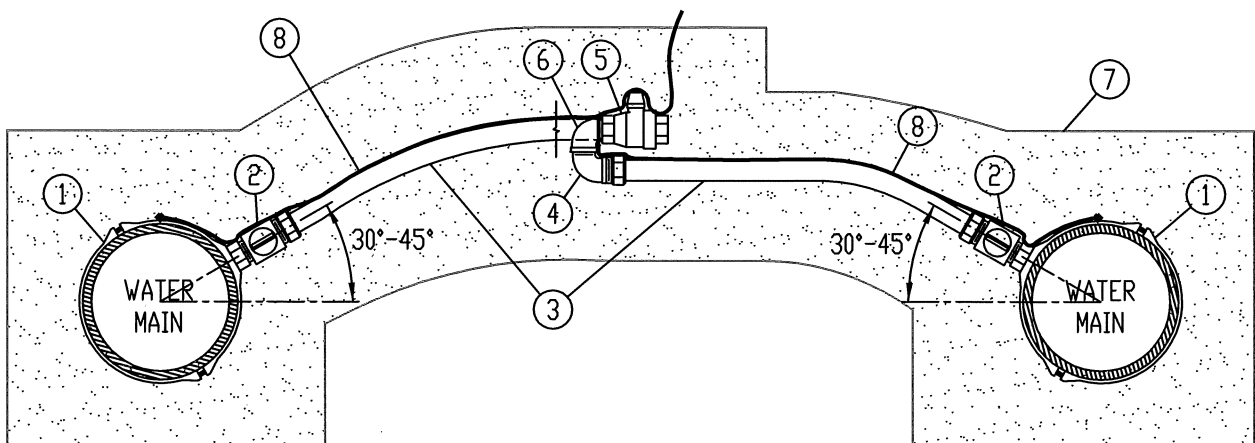
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DESIGN: P.A.D.

CAD FILE: WS\_128CU.DWG

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**WS\_128CU**



1	1" BRONZE SADDLE - IPT	5	1" VALVE - FULL-PORT BALL, FIP x FIP or IPS COMP x FIP w/ STAINLESS STEEL INSERT (1" CTS INSERT-52)
2	1" CORPORATION STOP - FULL-PORT BALL, MIP x IPS COMP w/ STAINLESS STEEL INSERT (1" CTS INSERT-52)	6	1" BRASS STREET ELBOW
3	1 1/4" POLYETHYLENE TUBING - CTS ENDOPORE PE-4710 SDDR 9 (250 PSI) OR EQUAL	7	#2 WASHED SAND COMPACTED TO 90%
4	1" BRASS STREET ELBOW - IPS COMP x MIP w/ STAINLESS STEEL INSERT (1" CTS INSERT-52)	8	#10 INSULATED COPPER LOCATOR WIRE (INSTALL INTO EXISTING METER BOX)



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 1 1/4" POLYETHYLENE WATER SERVICE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

DATE:

*9/25/14*

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 25 SEP 2014

REVISED:

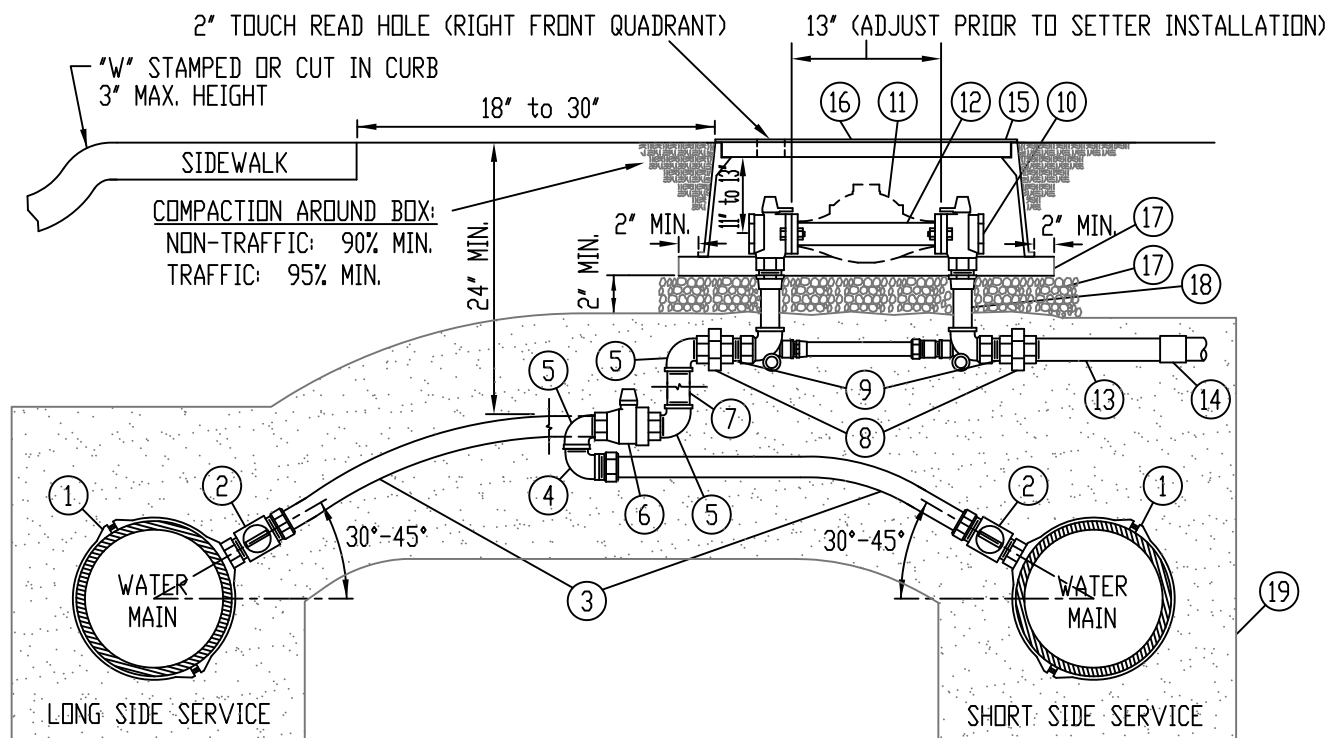
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**WS\_128PE**



**CARSON 1220-4B "T" TYPE LID:**

SHALL INCLUDE STRAIGHT TYPE HEXAGON  
LOCK-DOWN BOLT (1) AND TOUCH READ HOLE.  
SHALL BE MARKED "WATER"

**CHRISTY FL36P RECESSED LID:**

SHALL INCLUDE STRAIGHT TYPE PENTAHEAD  
LOCK-DOWN BOLTS (2) AND NEPTUNE OFFSET  
AMR HOLE, SHALL BE MARKED "WATER"

**METER YOKE:**

FORD, JONES, MUELLER, McDONALD

1	1 1/2" BRONZE SADDLE - IPT	11	1 1/2" WATER METER (BY DISTRICT)
2	1 1/2" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP	12	1 1/2" METER FLANGES AND IDLER (BY CONTRACTOR)
3	1 1/2" COPPER TUBING - TYPE K SOFT	13	1 1/2" x 18" PVC NIPPLE - SCH 80 (BRASS IF BACKFLOW)
4	1 1/2" BRASS STREET ELBOW - CTS COMP x MIP	14	1 1/2" PVC COUPLING - SCH 80
5	1 1/2" BRASS STREET ELBOW		
6	1 1/2" VALVE - FULL-PORT BALL, FIP x FIP or CTS COMP x FIP	15	METER BOX
7	1 1/2" BRASS or COPPER (AS NECESSARY TO ADJUST TO PROPER GRADE)	16	LID
8	1 1/2" BRASS UNION	17	2' x 6' PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)
9	1 1/2" x CLOSE BRASS NIPPLE	18	3/4" CLEAN CRUSHED ROCK
10	1 1/2" COPPER/BRASS METER YOKE - 12" w/2 FULL-PORT ANGLE BALL VALVES INCLUDING PADLOCK WINGS ON INLET AND OUTLET	19	#2 WASHED SAND COMPACTED TO 90%

**1 1/2" COPPER WATER SERVICE - 1 1/2" WATER METER  
NEW CONSTRUCTION**

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Melina Rieri*

DATE: APRIL 15, 2021

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 25 SEP 2014

REVISED: 15 APR 2021

SCALE: N.T.S.

DESIGN: P.A.D.

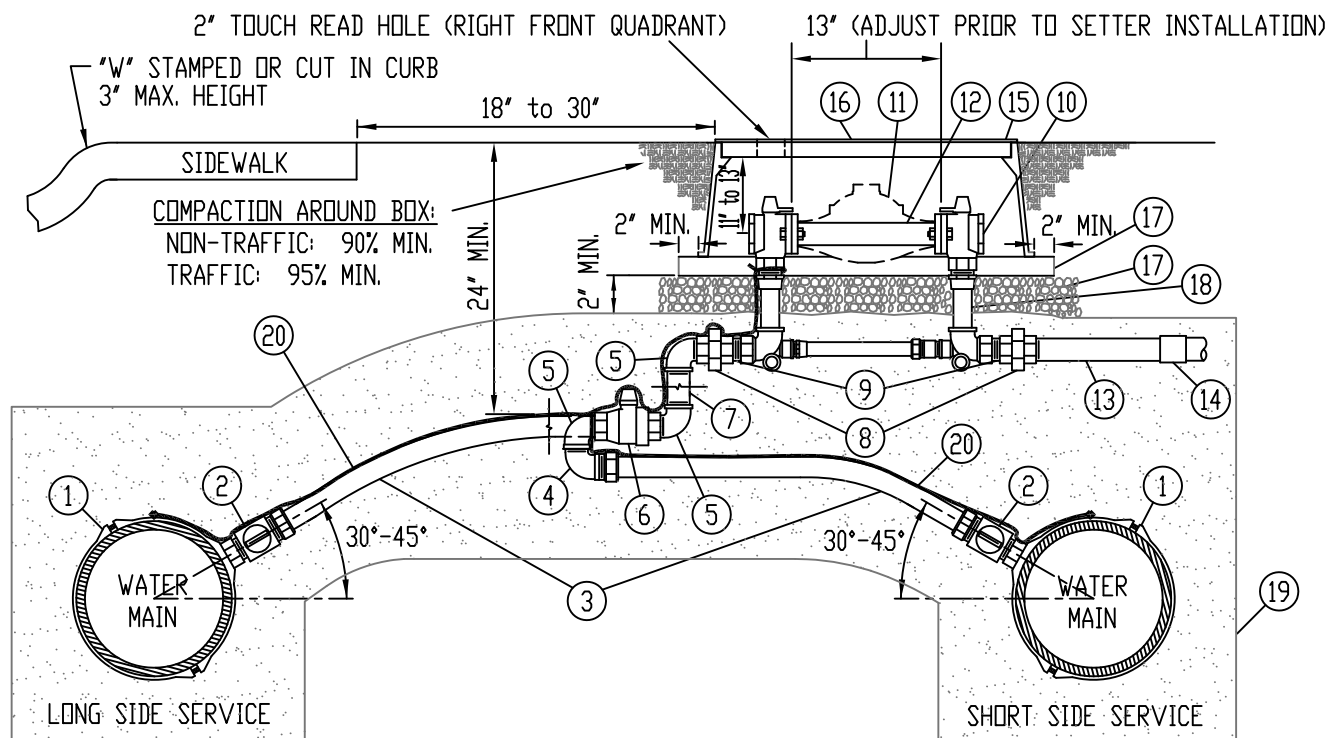
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**WS\_150CU**



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**



**CARSON 1220-4B 'T' TYPE LID:**

SHALL INCLUDE STRAIGHT TYPE HEXAGON  
LOCK-DOWN BOLT (1) AND TOUCH READ HOLE.  
SHALL BE MARKED "WATER"

**CHRISTY FL36P RECESSED LID:**

SHALL INCLUDE STRAIGHT TYPE PENTAHEAD  
LOCK-DOWN BOLTS (2) AND NEPTUNE OFFSET  
AMR HOLE, SHALL BE MARKED "WATER"

**METER YOKE:**

FORD, JONES, MUELLER, McDONALD

1	1 1/2" BRONZE SADDLE - IPT	10	1 1/2" COPPER/BRASS METER YOKE - 12" w/2 FULL-PORT ANGLE BALL VALVES INCLUDING PADLOCK WINGS ON INLET AND OUTLET		
2	1 1/2" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP w/ STAINLESS STEEL INSERT (1 1/2" CTS INSERT-54-Q)				
3	1 1/2" POLYETHYLENE TUBING - CTS ENDOPORE PE-4710 SODR 9 (250 PSI) OR EQUAL	11	1 1/2" WATER METER (BY DISTRICT)		
		12	1 1/2" METER FLANGES AND IDLER (BY CONTRACTOR)		
4	1 1/2" BRASS STREET ELBOW - CTS COMP x MIP w/ STAINLESS STEEL INSERT (1 1/2" CTS INSERT-54-Q)	13	1 1/2" x 18' PVC NIPPLE - SCH 80 (BRASS IF BACKFLOW)		
		14	1 1/2" PVC COUPLING - SCH 80		
5	1 1/2" BRASS STREET ELBOW			NON-TRAFFIC AREAS	TRAFFIC AREAS
6	1 1/2" VALVE - FULL-PORT BALL, FIP x FIP or CTS COMP x FIP w/ STAINLESS STEEL INSERT (1 1/2" CTS INSERT-54-Q)	15	METER BOX	CARSON 1730-15	CHRISTY FL36TBX12
		16	LID	CARSON 1730-4B	CHRISTY FL36P
7	1 1/2" BRASS NIPPLE (AS NECESSARY TO ADJUST TO PROPER GRADE)	17	2" x 6" PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)		
		18	3/4" CLEAN CRUSHED ROCK		
8	1 1/2" BRASS UNION	19	#2 WASHED SAND COMPACTED TO 90%		
9	1 1/2" x CLOSE BRASS NIPPLE	20	#10 INSULATED COPPER LOCATOR WIRE		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

**1 1/2" POLYETHYLENE WATER SERVICE - 1 1/2" WATER METER  
NEW CONSTRUCTION**

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Melina Riera*

DATE: APRIL 15, 2021

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 25 SEP 2014

REVISED: 15 APR 2021

SCALE: N.T.S.

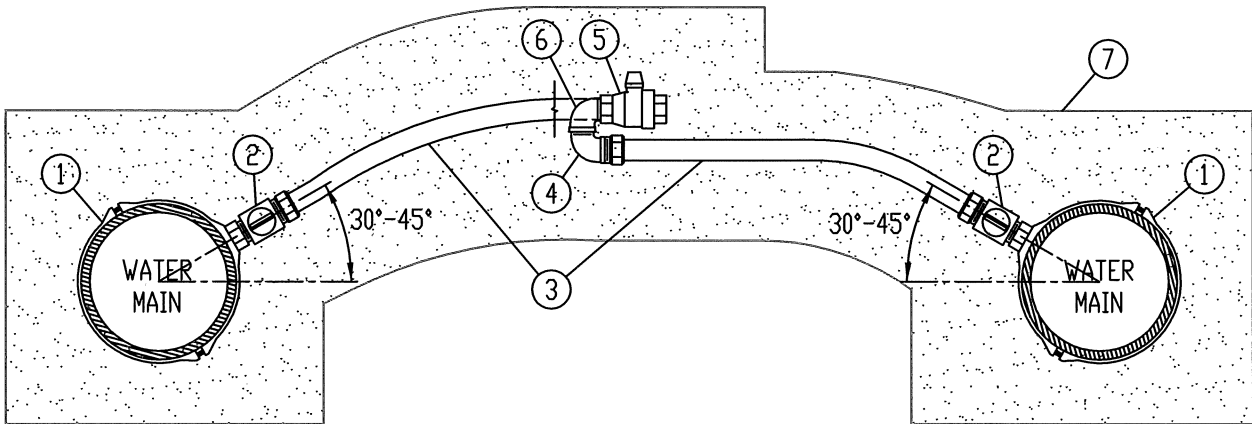
DESIGN: P.A.D.

CAD FILE: WS\_150PE.DWG

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**WS\_150PE**





1	1 1/2" BRONZE SADDLE - IPT	5	1 1/2" VALVE - FULL-PORT BALL, FIP x FIP or CTS COMP x FIP
2	1 1/2" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP	6	1 1/2" BRASS STREET ELBOW
3	1 1/2" COPPER TUBING - TYPE K SOFT	7	#2 WASHED SAND COMPACTED TO 90%
4	1 1/2" BRASS STREET ELBOW - CTS COMP x MIP		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 1 1/2" COPPER WATER SERVICE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

CITRUS HEIGHTS WATER DISTRICT

DATE: 9/25/14

DRAWN: 25 SEP 2014

REVISED:

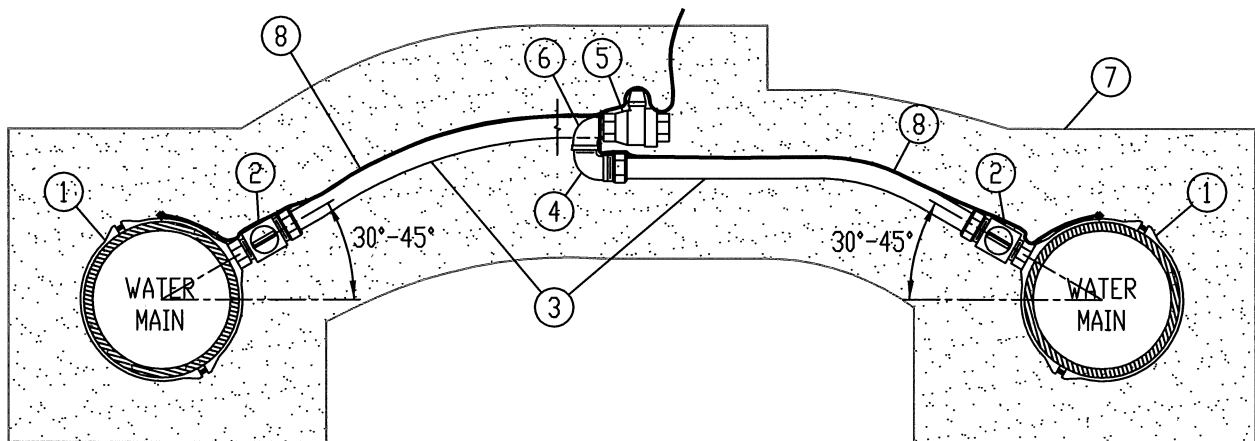
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DESIGN: P.A.D.

CAD FILE: WS\_158CU.DWG

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**WS\_158CU**



1	1 1/2" BRONZE SADDLE - IPT	5	1 1/2" VALVE - FULL-PORT BALL, FIP x FIP or CTS COMP x FIP w/ STAINLESS STEEL INSERT (1 1/2" CTS INSERT-54-Q)
2	1 1/2" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP w/ STAINLESS STEEL INSERT (1 1/2" CTS INSERT-54-Q)	6	1 1/2" BRASS STREET ELBOW
3	1 1/2" POLYETHYLENE TUBING - CTS ENDOPORE PE-4710 SDDR 9 (250 PSI) OR EQUAL	7	#2 WASHED SAND COMPACTED TO 90%
4	1 1/2" BRASS STREET ELBOW - CTS COMP x MIP w/ STAINLESS STEEL INSERT (1 1/2" CTS INSERT-54-Q)	8	#10 INSULATED COPPER LOCATOR WIRE (INSTALL INTO EXISTING METER BOX)



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 1 1/2" POLYETHYLENE WATER SERVICE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

CITRUS HEIGHTS WATER DISTRICT

DATE: *9/25/14*

DRAWN: 25 SEP 2014

REVISED:

SCALE: N.T.S.

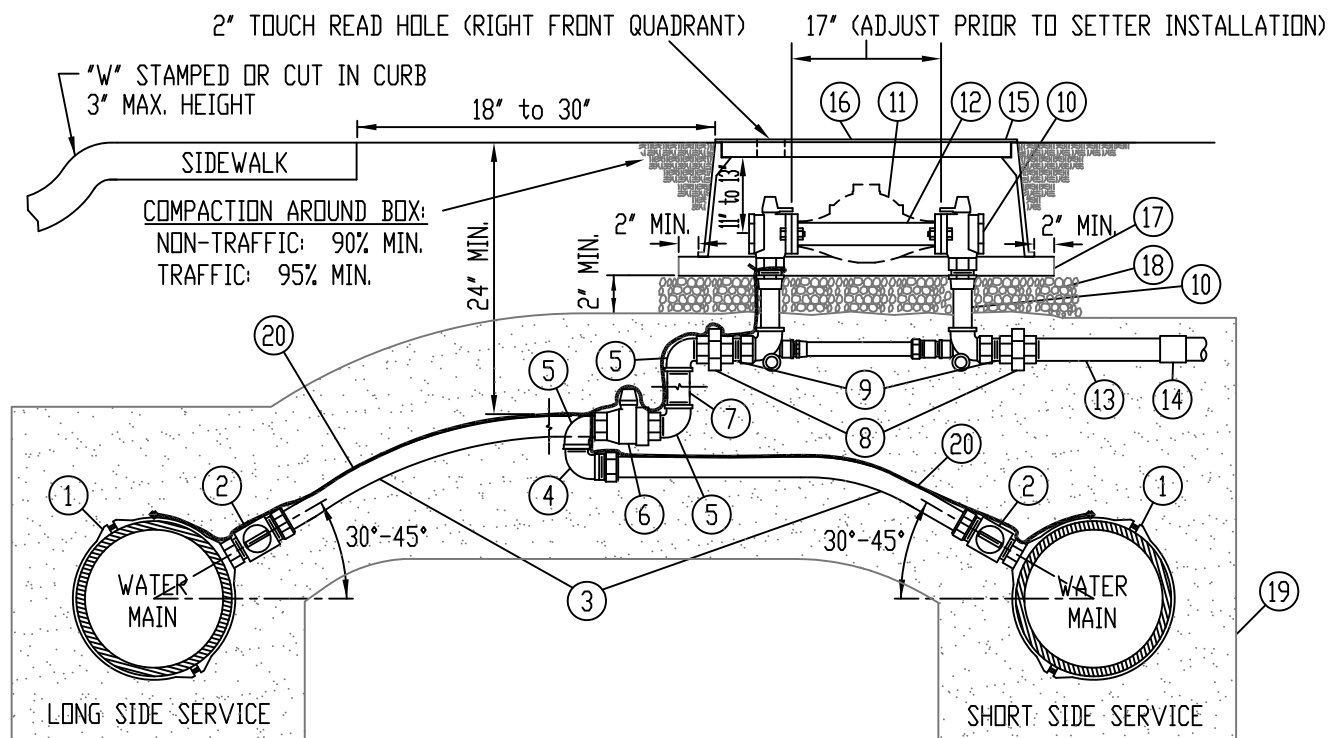
DESIGN: P.A.D.

CAD FILE: WS\_158PE.DWG

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**WS\_158PE**

*WS 200CU*



**CARSON 1220-4B "T" TYPE LID:**

SHALL INCLUDE STRAIGHT TYPE HEXAGON  
LOCK-DOWN BOLT (1) AND TOUCH READ HOLE.  
SHALL BE MARKED "WATER"

**CHRISTY FL36P RECESSED LID:**

SHALL INCLUDE STRAIGHT TYPE PENTAHEAD  
LOCK-DOWN BOLTS (2) AND NEPTUNE OFFSET  
AMR HOLE, SHALL BE MARKED "WATER"

**METER YOKE:**

FORD, JONES, MUELLER, McDONALD

1	2" BRONZE SADDLE - IPT	10	2" COPPER/BRASS METER YOKE - 12" w/2 FULL-PORT ANGLE BALL VALVES INCLUDING PADLOCK WINGS ON INLET AND OUTLET		
2	2" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP w/ STAINLESS STEEL INSERT (2" CTS INSERT-55-Q)				
3	2" POLYETHYLENE TUBING - CTS ENDOPORE PE-4710 SDDR 9 (250 PSI) OR EQUAL	11	2" WATER METER (BY DISTRICT)		
		12	2" METER FLANGES AND IDLER (BY CONTRACTOR)		
4	2" BRASS STREET ELBOW - CTS COMP x MIP w/ STAINLESS STEEL INSERT (2" CTS INSERT-55-Q)	13	2" x 18" PVC NIPPLE - SCH 80 (BRASS IF BACKFLOW)		
		14	2" PVC COUPLING - SCH 80		
5	2" BRASS STREET ELBOW			NON-TRAFFIC AREAS	TRAFFIC AREAS
6	2" VALVE - FULL-PORT BALL, FIP x FIP or CTS COMP x FIP w/ STAINLESS STEEL INSERT (2" CTS INSERT-55-Q)	15	METER BOX	CARSON 1730-15	CHRISTY FL36TB0X12
		16	LID	CARSON 1730-4B	CHRISTY FL36P
7	2" BRASS NIPPLE (AS NECESSARY TO ADJUST TO PROPER GRADE)	17	2" x 6" PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)		
		18	3/4" CLEAN CRUSHED ROCK		
8	2" BRASS UNION	19	#2 WASHED SAND COMPACTED TO 90%		
9	2" x CLOSE BRASS NIPPLE	20	#10 INSULATED COPPER LOCATOR WIRE		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

**2" POLYETHYLENE WATER SERVICE - 2" WATER METER  
NEW CONSTRUCTION**

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY: *Melina Riera*

CITRUS HEIGHTS WATER DISTRICT

DATE: APRIL 15, 2021

DRAWN: 25 SEP 2014

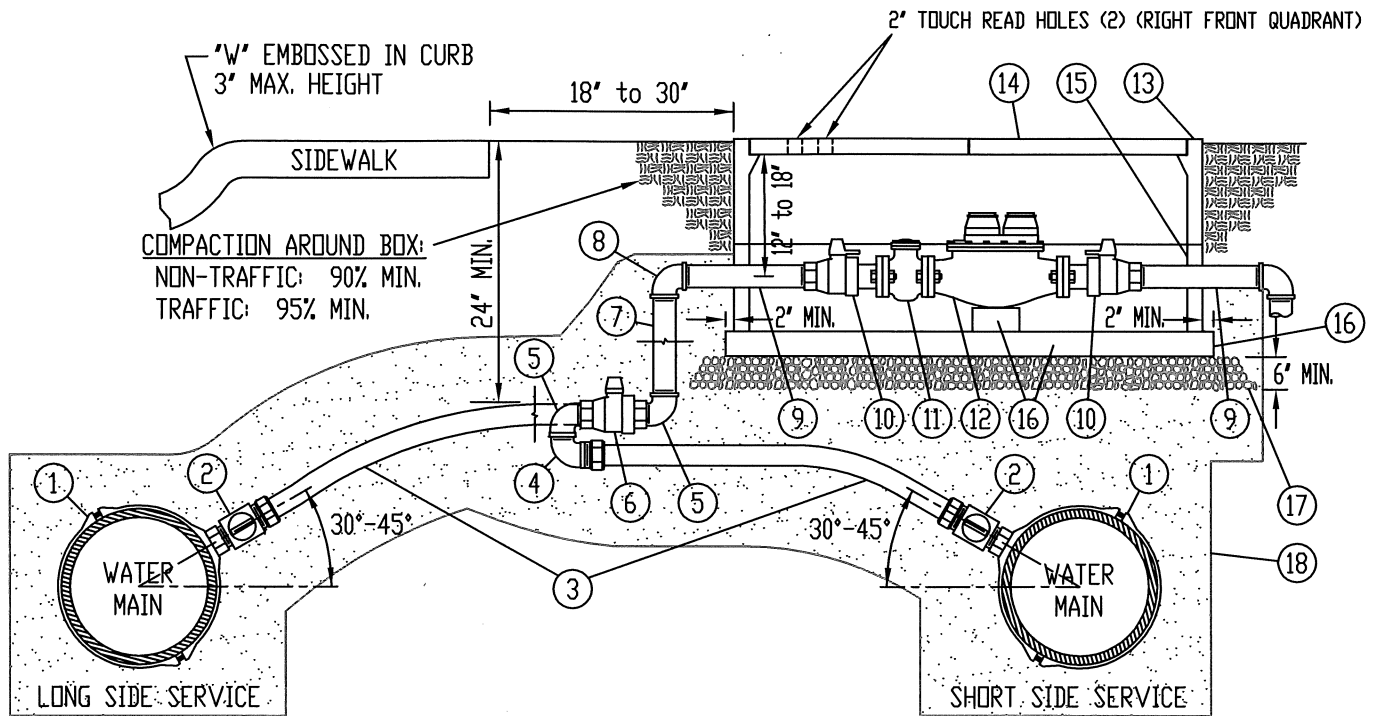
REVISED: 15 APR 2021

SCALE: N.T.S.

DESIGN: P.A.D.

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# NOTES:

- VOIDS AROUND THE WATER MAIN AT THE ENTRY AND EXIT POINTS FROM THE METER BOX SHALL BE COMPLETELY GROUTED WITH MORTAR MIX.
- LID SHALL BE MARKED "WATER"

1	2" BRONZE SADDLE - IPT	11	2" STRAINER - NEPTUNE 53107-000 (BY CONTRACTOR)
2	2" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP	12	2" COMPOUND WATER METER, NEPTUNE TRU/FLO, 100 cu. ft., (BY CONTRACTOR)
3	2" COPPER TUBING - TYPE K SOFT		
4	2" BRASS STREET ELBOW - CTS COMP x MIP		
5	2" BRASS STREET ELBOW	13	METER BOX
6	2" VALVE - FULL-PORT BALL, FIP x FIP or CTS COMP x FIP	14	COVER
7	2" BRASS (AS NECESSARY TO ADJUST TO PROPER GRADE)	15	BOX EXTENSION
8	2" BRASS ELBOW	16	2' x 6' PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)
9	2' x 12' BRASS NIPPLE	17	3/4" CLEAN CRUSHED ROCK
10	2" BALL VALVE - FIP x METER FLANGE INCLUDING PADLOCK WINGS	18	#2 WASHED SAND COMPACTED TO 90%



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 2" COPPER WATER SERVICE - 2" COMPOUND WATER METER NEW CONSTRUCTION

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

CITRUS HEIGHTS WATER DISTRICT

DATE:

*9/25/14*

DRAWN: 25 SEP 2014

REVISED:

SCALE: N.T.S.

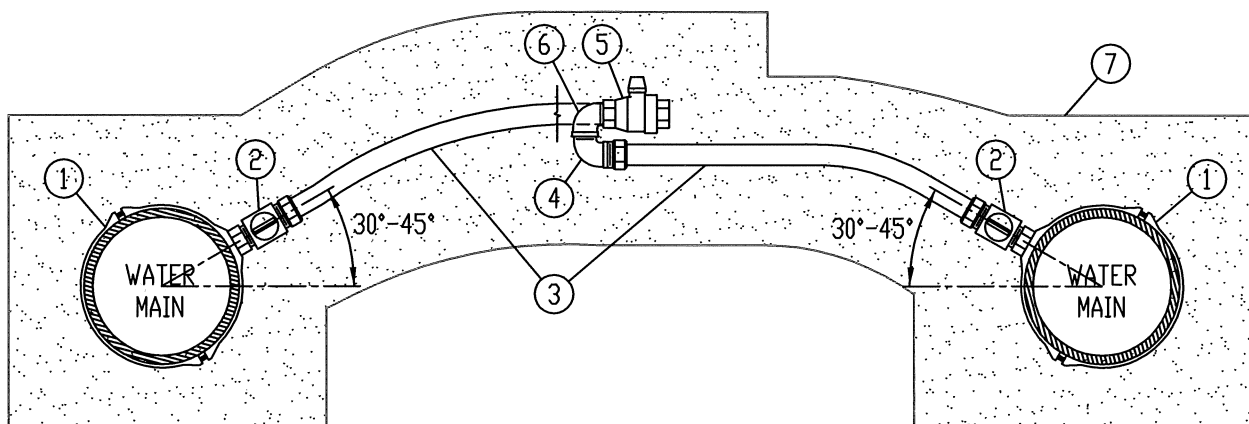
DESIGN: P.A.D.

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**WS\_202CU**

*WS 202PE*



1	2" BRONZE SADDLE - IPT	5	2" VALVE - FULL-PORT BALL, FIP x FIP or CTS COMP x FIP
2	2" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP	6	2" BRASS STREET ELBOW
3	2" COPPER TUBING - TYPE K SOFT	7	#2 WASHED SAND COMPACTED TO 90%
4	2" BRASS STREET ELBOW - CTS COMP x MIP		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 2" COPPER WATER SERVICE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chukha*

DATE:

9/25/14

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 25 SEP 2014

REVISED:

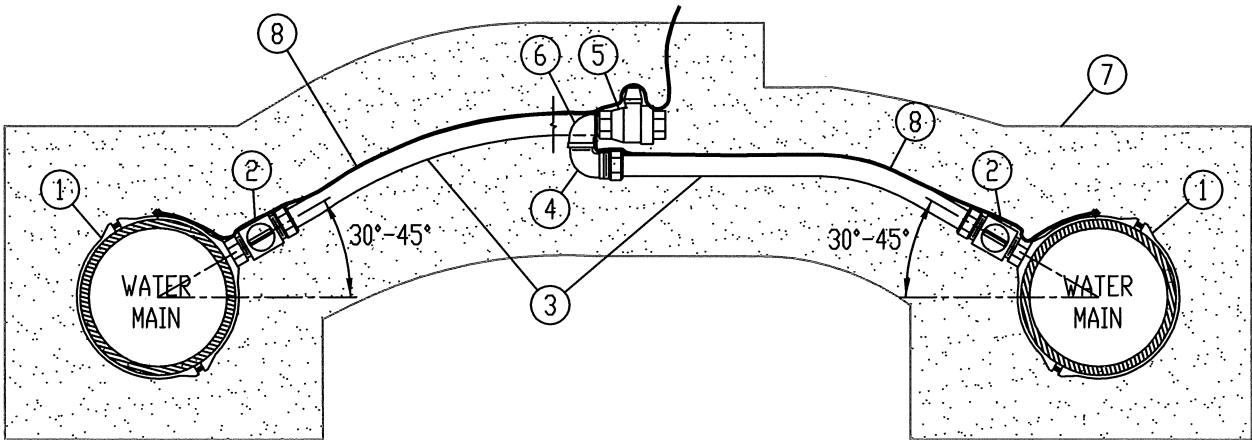
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DESIGN: P.A.D.

CAD FILE: WS\_208CU.DWG

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**WS\_208CU**



1	2" BRONZE SADDLE - IPT	5	2" VALVE - FULL-PORT BALL, FIP x FIP or CTS COMP x FIP w/ STAINLESS STEEL INSERT (2" CTS INSERT-55-Q)
2	2" CORPORATION STOP - FULL-PORT BALL, MIP x CTS COMP w/ STAINLESS STEEL INSERT (2" CTS INSERT-55-Q)	6	2" BRASS STREET ELBOW
3	2" POLYETHYLENE TUBING - CTS ENDOPORE PE-4710 SDR 9 (250 PSI) OR EQUAL	7	#2 WASHED SAND COMPACTED TO 90%
4	2" BRASS STREET ELBOW - CTS COMP x MIP w/ STAINLESS STEEL INSERT (2" CTS INSERT-55-Q)	8	#10 INSULATED COPPER LOCATOR WIRE (INSTALL INTO EXISTING METER BOX)



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 2" POLYETHYLENE WATER SERVICE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

DATE:

*9/25/14*

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 25 SEP 2014

REVISED:

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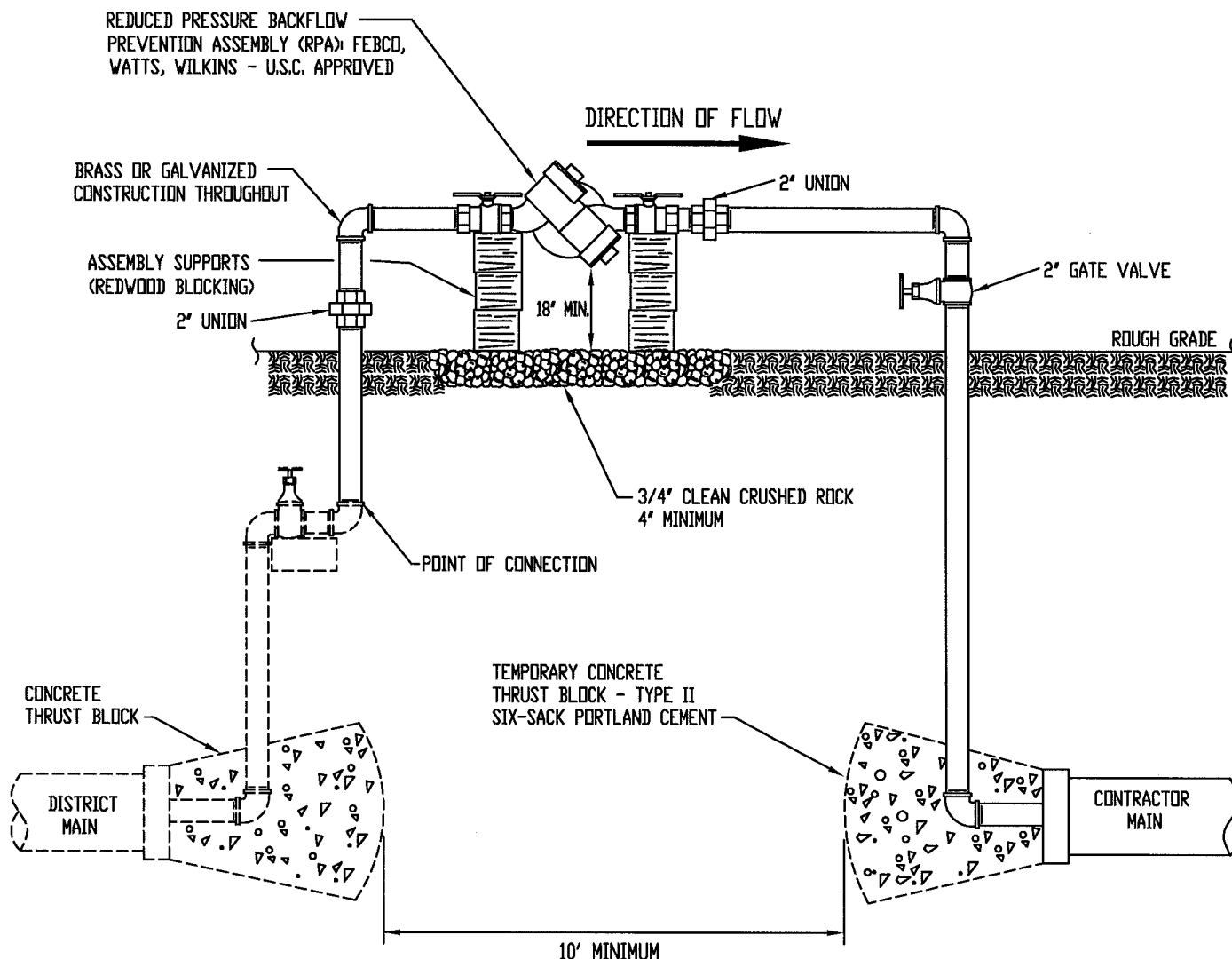
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**WS\_208PE**





**NOTES:**

1. WATER SHALL ONLY BE DRAWN INTO THE CONTRACTOR'S MAIN THROUGH A DISTRICT-APPROVED RPA TYPE BACKFLOW PREVENTION ASSEMBLY. PRIOR TO CONNECTION TO THE DISTRICT WATER MAIN, THE ASSEMBLY MUST BE TESTED BY A SACRAMENTO COUNTY CERTIFIED BACKFLOW PREVENTION ASSEMBLY TESTER AND WRITTEN TEST RESULTS PROVIDED TO THE DISTRICT.
2. FINAL COMPONENTS NECESSARY FOR THE TIE-IN SHALL BE PRE-CHLORINATED AND FLUSHED IN THE PRESENCE OF A DISTRICT INSPECTOR.
3. ABOVE-GROUND CONSTRUCTION WATER SERVICE SHALL BE SAFE-GUARDED WITH BARRICADES.
4. THE CONTRACTOR MAY CONNECT TO A DISTRICT FIRE HYDRANT INSTEAD OF A DISTRICT WATER MAIN AT THE SOLE DISCRETION OF THE INSPECTOR.



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 2" CONSTRUCTION WATER SERVICE

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Churchill*

DATE:

*5/8/13*

CITRUS HEIGHTS WATER DISTRICT

DRAWN: 8 MAY 2013

REVISED:

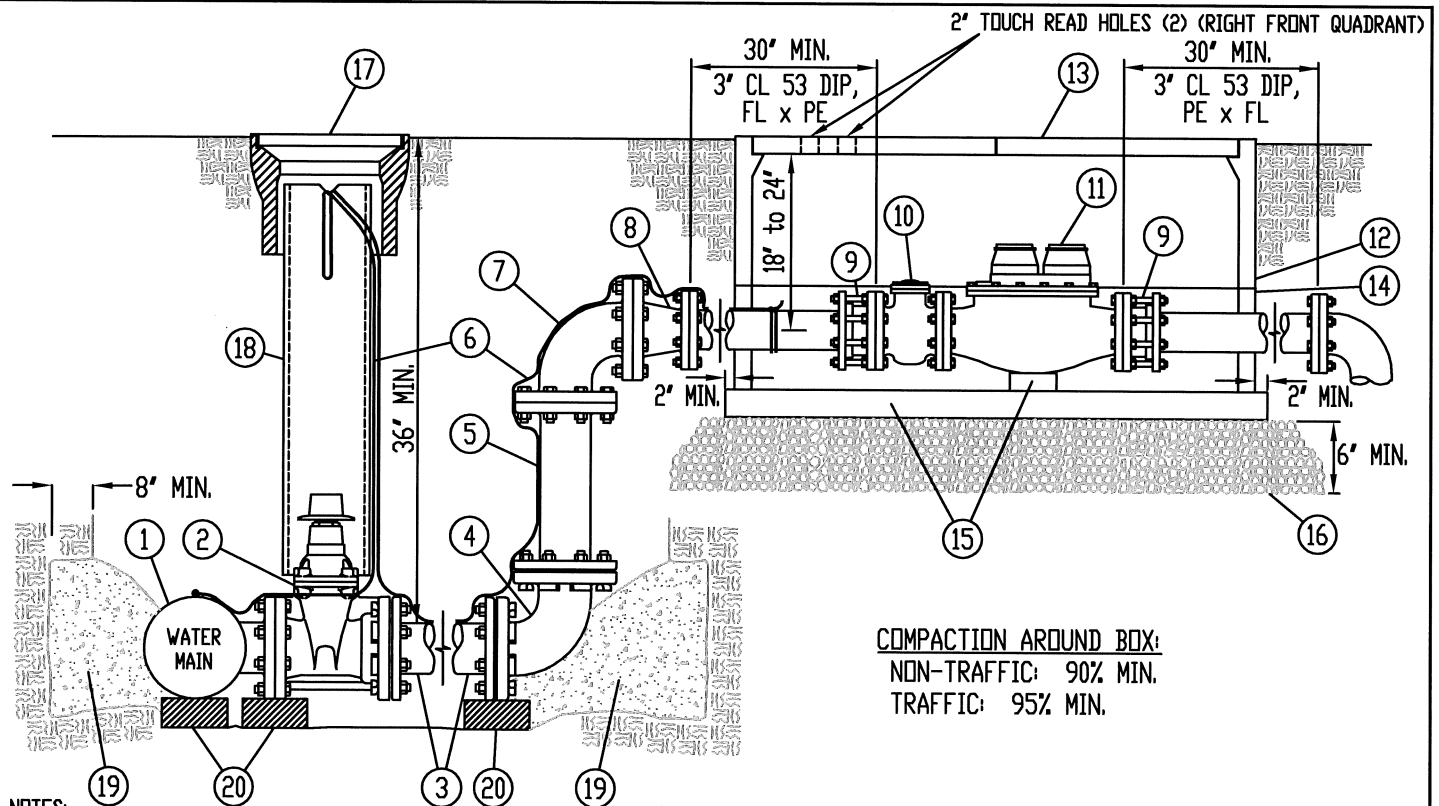
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DESIGN: P.A.D.

CAD FILE: WS\_221.DWG

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**WS\_290**



NOTES:

- ALL MECHANICAL JOINT FITTINGS SHALL BE INSTALLED WITH MEGA-LUG RESTRAINT GLANDS.
- BOLT TORQUE ON ALL FITTINGS SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS.
- VOIDS AROUND THE WATER MAIN AT THE ENTRY AND EXIT POINTS FROM THE METER BOX SHALL BE COMPLETELY GROUTED WITH MORTAR MIX.
- LIDS SHALL BE MARKED 'WATER'.
- METER SHALL BE TOUCH READ OR RADIO READ PER CHWD.
- NO CONNECTIONS BETWEEN GATE VALVE AND WATER METER.

1	TEE W/ 4" FLANGED OUTLET			NON-TRAFFIC AREAS	TRAFFIC AREAS
2	4" GATE VALVE - RESILIENT WEDGE - FLANGED TO TEE x MECHANICAL JOINT	12	METER BOX	CHRISTY B48BOX	CHRISTY B3048BOX
		13	COVER	CHRISTY B48-62J	CHRISTY B3048-63JH
3	4" DUCTILE IRON PIPE - PC350	14	BOX EXTENSION	CHRISTY B48X10	CHRISTY B3048X12
4	4" 90° ELBOW - MJ x MJ	15	2' x 6' PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)		
5	4" DUCTILE IRON SPOOL - FL x PLAIN END, CL53	16	3/4" CLEAN CRUSHED ROCK		
6	#10 INSULATED COPPER LOCATOR WIRE	17	VALVE BOX/LID - MARKED 'WATER', OLDCASTLE PRECAST NO. G04 BOX, G04C LID. SEE VB DETAIL VB_810 OR VB_811.		
7	4" 90° ELBOW - FL x FL				
8	4" x 3" REDUCER - FL x FL				
9	3" FLANGED COUPLING ADAPTOR - ROMAC OR EQUAL	18	8" RISER - SDR35 ONLY, CONTINUOUS SECTION		
10	3" STRAINER - NEPTUNE 53107-000 (BY CONTRACTOR)	19	CONCRETE THRUST BLOCK - SEE DETAIL TB_001		
11	3" COMPOUND WATER METER - NEPTUNE TRU/FLD, 100 cu. ft., (BY CONTRACTOR)	20	CONCRETE BRICK - 2 1/4" x 3 3/4" x 7 1/2"		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

**3" WATER SERVICE - 3" COMPOUND WATER METER  
NEW CONSTRUCTION**

**CITRUS HEIGHTS WATER DISTRICT**

APPROVED BY:

*Robert A. Chubino*

CITRUS HEIGHTS WATER DISTRICT

DATE:

*5/8/13*

DRAWN: 8 MAY 2013

REVISED:

SCALE: N.T.S.

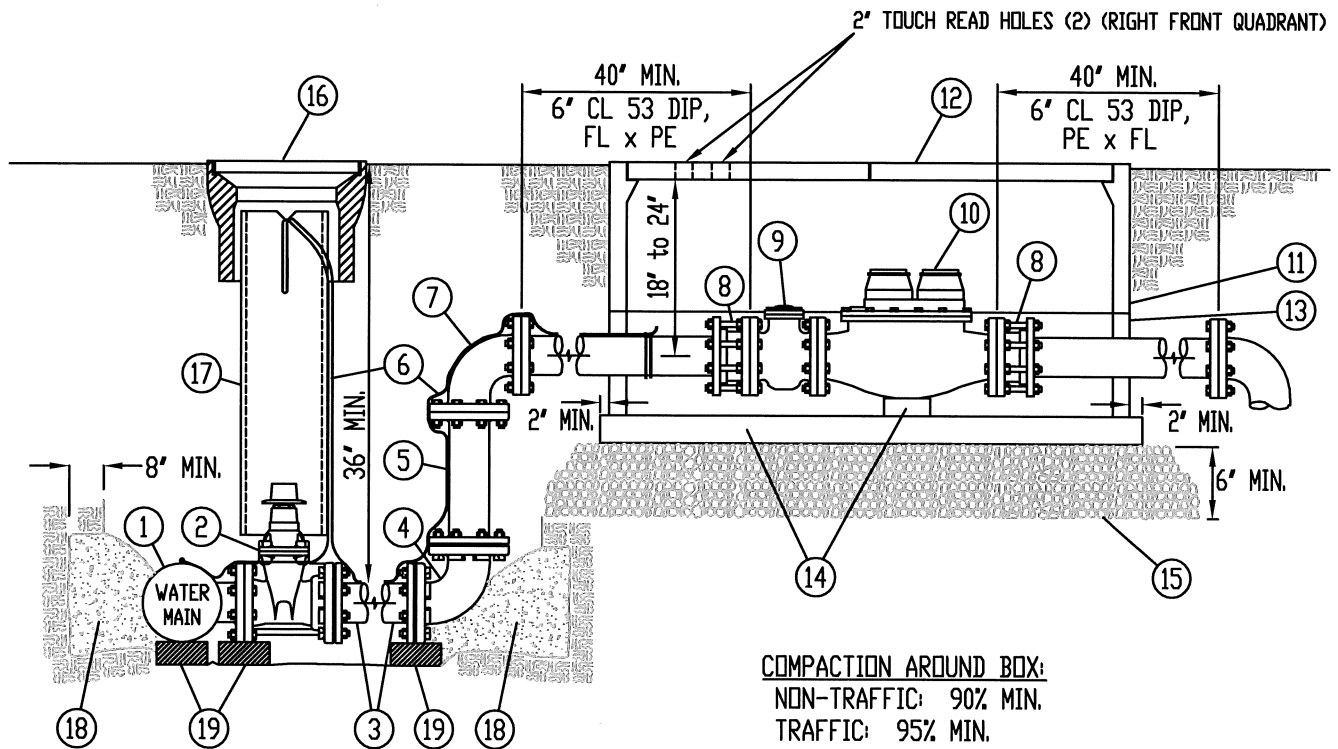
DESIGN: P.A.D.

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**WS\_300**

WS 400



#### NOTES:

- ALL MECHANICAL JOINT FITTINGS SHALL BE INSTALLED WITH MEGA-LUG RESTRAINT GLANDS.
- BOLT TORQUE ON ALL FITTINGS SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS.
- VOIDS AROUND THE WATER MAIN AT THE ENTRY AND EXIT POINTS FROM THE METER BOX SHALL BE COMPLETELY GROUTED WITH MORTAR MIX.
- LIDS SHALL BE MARKED "WATER".
- METER SHALL BE TOUCH READ OR RADIO READ PER CHWD.
- NO CONNECTIONS BETWEEN GATE VALVE AND WATER METER.

1	TEE W/ 6" FLANGED OUTLET			NON-TRAFFIC AREAS	TRAFFIC AREAS
2	6" GATE VALVE - RESILIENT WEDGE - FLANGED TO TEE x MECHANICAL JOINT	11	METER BOX	CHRISTY B48BOX	CHRISTY B3048BOX
3	6" DUCTILE IRON PIPE - PC350	12	COVER	CHRISTY B48-62J	CHRISTY B3048-63JH
4	6" 90° ELBOW - MJ x MJ	13	BOX EXTENSION	CHRISTY B48X10	CHRISTY B3048X12
5	6" DUCTILE IRON SPOOL - FL x PLAIN END, CL53	14	2" x 6" PRESSURE TREATED DOUGLAS FIR SUPPORTS (2)		
6	#10 INSULATED COPPER LOCATOR WIRE	15	3/4" CLEAN CRUSHED ROCK		
7	6" 90° ELBOW - FL x FL	16	VALVE BOX/LID - MARKED "WATER", OLDCASTLE PRECAST NO. G04 BOX, G04C LID. SEE VB DETAIL VB_810 OR VB_811.		
8	6" FLANGED COUPLING ADAPTOR - ROMAC OR EQUAL	17	8" RISER - SDR35 ONLY, CONTINUOUS SECTION		
9	6" STRAINER - NEPTUNE 53107-000 (BY CONTRACTOR)	18	CONCRETE THRUST BLOCK - SEE DETAIL TB_001		
10	6" COMPOUND WATER METER - NEPTUNE TRU/FLO, 100 cu. ft., (BY CONTRACTOR)	19	CONCRETE BRICK - 2 1/4" x 3 3/4" x 7 1/2"		



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 6" WATER SERVICE - 6" COMPOUND WATER METER NEW CONSTRUCTION

APPROVED BY:

*Robert A. Chmielewski*

CITRUS HEIGHTS WATER DISTRICT

DATE:

5/8/13

DRAWN: 8 MAY 2013

REVISED:

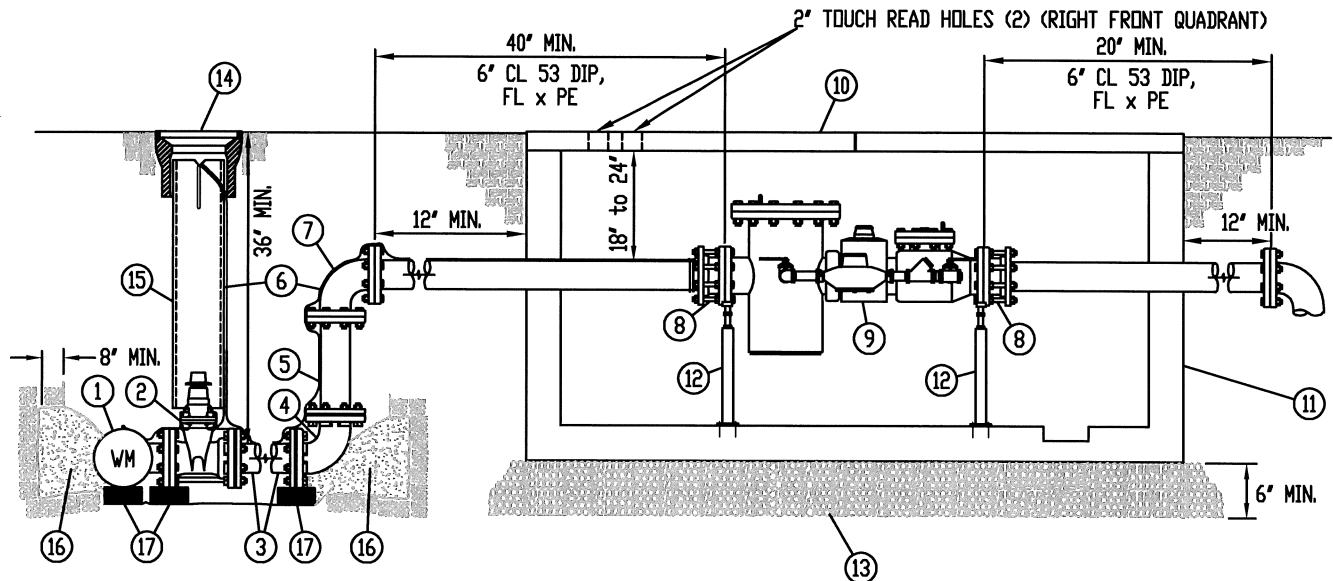
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DESIGN: P.A.D.

CAD FILE: WS\_600.DWG

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WS\_600



#### NOTES:

1. ALL MECHANICAL JOINT FITTINGS SHALL BE INSTALLED WITH MEGA-LUG RESTRAINT GLANDS.
2. BOLT TORQUE ON ALL FITTINGS SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS.
3. WATER MAIN ENTRY AND EXIT POINTS FROM THE METER VAULT SHALL BE CORE DRILLED ON SITE.
4. VOIDS AROUND THE WATER MAIN AT THE ENTRY AND EXIT POINTS FROM THE METER VAULT SHALL BE COMPLETELY GROUTED WITH MORTAR MIX.
5. METER SHALL BE TOUCH READ OR RADIO READ PER CHWD.
6. NO CONNECTIONS BETWEEN GATE VALVE AND WATER METER.

COMPACTION AROUND BOX:  
NON-TRAFFIC: 90% MIN.  
TRAFFIC: 95% MIN.

#### LID SPECIFICATIONS

54" X 102" TWO DOOR ALUMINUM, HINGED, TORSION ASSIST, VAULT ACCESS DOORS, BOLT DOWN SECURITY, STAINLESS STEEL SELF LOCKING SAFETY ARMS, NON-SKID AND GALVANIZED STEEL FRAME WITH (4) INTERIOR LEVELING BOLTS AND (4) CORNER LOCKING BOLTS. NON-SKID SURFACE TO BE ACHIEVED BY GARNET BLAST TO A 2-3 MILS ANCHOR PROFILE BEFORE APPLYING 25 WET MILS OF SONO GUARD BASE COAT, ALLOW TO CURE OVERNIGHT BEFORE APPLYING 20 WET MILS OF SONO GUARD TOP COAT AND WHILE STILL WET BROADCAST 16/30 SILICA AGGREGATE APPLIED AT 0.25 - 0.50 # PER SQ. FT. LIDS SHALL BE MARKED "WATER".

1	TEE W/ 6" FLANGED OUTLET	11	VAULT - RATED FOR H-20 CONTINUOUS TRAFFIC, 4'-0" x 8'-6" x 4'-0" REINFORCED CONCRETE VAULT. SHALL INCLUDE SUMP HOLE. TEICHERT PRECAST 510 SERIES OR EQUAL.
2	6" GATE VALVE - RESILIENT WEDGE - FLANGED TO TEE x MECHANICAL JOINT	12	SUPPORT STAND - PLACER WATER WORKS OR EQUAL, BOLT TO FLANGE SADDLE, HEIGHT DETERMINED IN FIELD
3	6" DUCTILE IRON PIPE - PC350	13	3/4" CLASS 2 AGGREGATE BASE - 2" MINIMUM, MECHANICALLY COMPACTED TO 90%
4	6" 90° ELBOW - MJ x MJ	14	VALVE BOX/LID - MARKED "WATER", OLDCASTLE PRECAST NO. G04 BOX, G04C LID. SEE VB DETAIL VB_810 OR VB_811.
5	6" DUCTILE IRON SPOOL - FL x PLAIN END, CL53	15	8" RISER - SDR35 ONLY, CONTINUOUS SECTION
6	#10 INSULATED COPPER LOCATOR WIRE	16	CONCRETE THRUST BLOCK - SEE DETAIL TB_001
7	6" 90° ELBOW - FL x FL	17	CONCRETE BRICK - 2 1/4" x 3 3/4" x 7 1/2"
8	6" FLANGED COUPLING ADAPTOR - ROMAC OR EQUAL		
9	6" FIRE SERVICE WATER METER - NEPTUNE PROTECTUS III, 100 cu. ft., (BY CONTRACTOR)		
10	NON-TRAFFIC AREAS		DRIVEWAY/SIDEWALK AREAS
	LID		H10 INCIDENTAL TRAFFIC
			H20 OCCASIONAL TRAFFIC



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 6" WATER SERVICE - 6" COMBINATION WATER METER NEW CONSTRUCTION

APPROVED BY:

*Robert A. Chumbeo*

CITRUS HEIGHTS WATER DISTRICT

DATE: 5/8/13

DRAWN: 8 MAY 2013

REVISED:

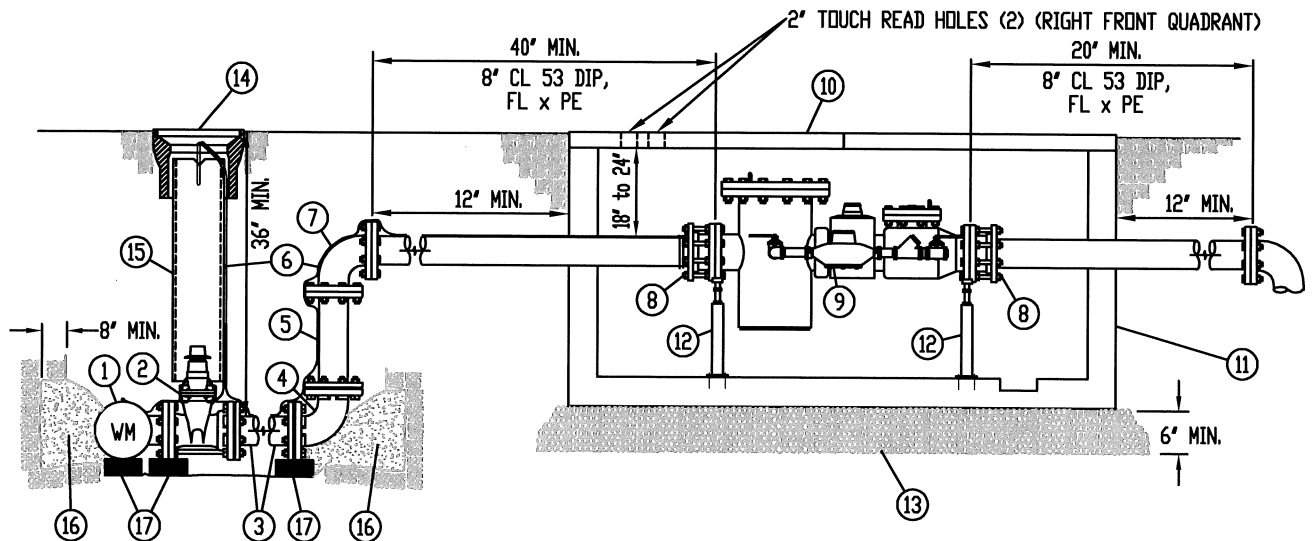
SCALE: N.T.S.

DESIGN: P.A.D.

CAD FILE: WS\_610.DWG

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**WS\_610**



COMPACTION AROUND BOX:  
NON-TRAFFIC: 90% MIN.  
TRAFFIC: 95% MIN.

#### NOTES:

1. ALL MECHANICAL JOINT FITTINGS SHALL BE INSTALLED WITH MEGA-LUG RESTRAINT GLANDS.
2. BOLT TORQUE ON ALL FITTINGS SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS.
3. WATER MAIN ENTRY AND EXIT POINTS FROM THE METER VAULT SHALL BE CORE DRILLED ON SITE.
4. VOIDS AROUND THE WATER MAIN AT THE ENTRY AND EXIT POINTS FROM THE METER VAULT SHALL BE COMPLETELY GROUTED WITH MORTAR MIX.
5. METER SHALL BE TOUCH READ OR RADIO READ PER CHWD.
6. NO CONNECTIONS BETWEEN GATE VALVE AND WATER METER.

#### LID SPECIFICATIONS

54" X 102" TWO DOOR ALUMINUM, HINGED, TORSION ASSIST, VAULT ACCESS DOORS, BOLT DOWN SECURITY, STAINLESS STEEL SELF LOCKING SAFETY ARMS, NON-SKID AND GALVANIZED STEEL FRAME WITH (4) INTERIOR LEVELING BOLTS AND (4) CORNER LOCKING BOLTS. NON-SKID SURFACE TO BE ACHIEVED BY GARNET BLAST TO A 2-3 MILS ANCHOR PROFILE BEFORE APPLYING 25 WET MILS OF SONOGUARD BASE COAT, ALLOW TO CURE OVERNIGHT BEFORE APPLYING 20 WET MILS OF SONOGUARD TOP COAT AND WHILE STILL WET BROADCAST 16/30 SILICA AGGREGATE APPLIED AT 0.25 - 0.50 # PER SQ. FT. LIDS SHALL BE MARKED "WATER".

1	TEE W/ 8" FLANGED OUTLET	11	VAULT - RATED FOR H-20 CONTINUOUS TRAFFIC, 4'-0" x 8'-6" x 4'-0" REINFORCED CONCRETE VAULT. SHALL INCLUDE SUMP HOLE. TEICHERT PRECAST 510 SERIES OR EQUAL.
2	8" GATE VALVE - RESILIENT WEDGE - FLANGED TO TEE x MECHANICAL JOINT	12	SUPPORT STAND - PLACER WATER WORKS OR EQUAL, BOLT TO FLANGE SADDLE, HEIGHT DETERMINED IN FIELD
3	8" DUCTILE IRON PIPE - PC350	13	3/4" CLASS 2 AGGREGATE BASE - 2" MINIMUM, MECHANICALLY COMPACTED TO 90%
4	8" 90° ELBOW - MJ x MJ	14	VALVE BOX/LID - MARKED "WATER", OLDCASTLE PRECAST NO. G04 BOX, G04C LID. SEE VB DETAIL VB_810 OR VB_811.
5	8" DUCTILE IRON SPDDL - FL x PLAIN END, CL53	15	8" RISER - SDR35 ONLY, CONTINUOUS SECTION
6	#10 INSULATED COPPER LOCATOR WIRE	16	CONCRETE THRUST BLOCK - SEE DETAIL TB_001
7	8" 90° ELBOW - FL x FL	17	CONCRETE BRICK - 2 1/4" x 3 3/4" x 7 1/2"
8	8" FLANGED COUPLING ADAPTOR - ROMAC OR EQUAL		
9	8" FIRE SERVICE WATER METER - NEPTUNE PROTECTUS III, 100 cu. ft., (BY CONTRACTOR)		
10	NON-TRAFFIC AREAS	DRIVEWAY/SIDEWALK AREAS	
LID	H10 INCIDENTAL TRAFFIC	H20 OCCASIONAL TRAFFIC	



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 8" WATER SERVICE - 8" COMBINATION WATER METER NEW CONSTRUCTION

### CITRUS HEIGHTS WATER DISTRICT

APPROVED BY:

*Robert A. Chumley*

CITRUS HEIGHTS WATER DISTRICT

DATE:

5/8/13

DRAWN: 8 MAY 2013

REVISED:

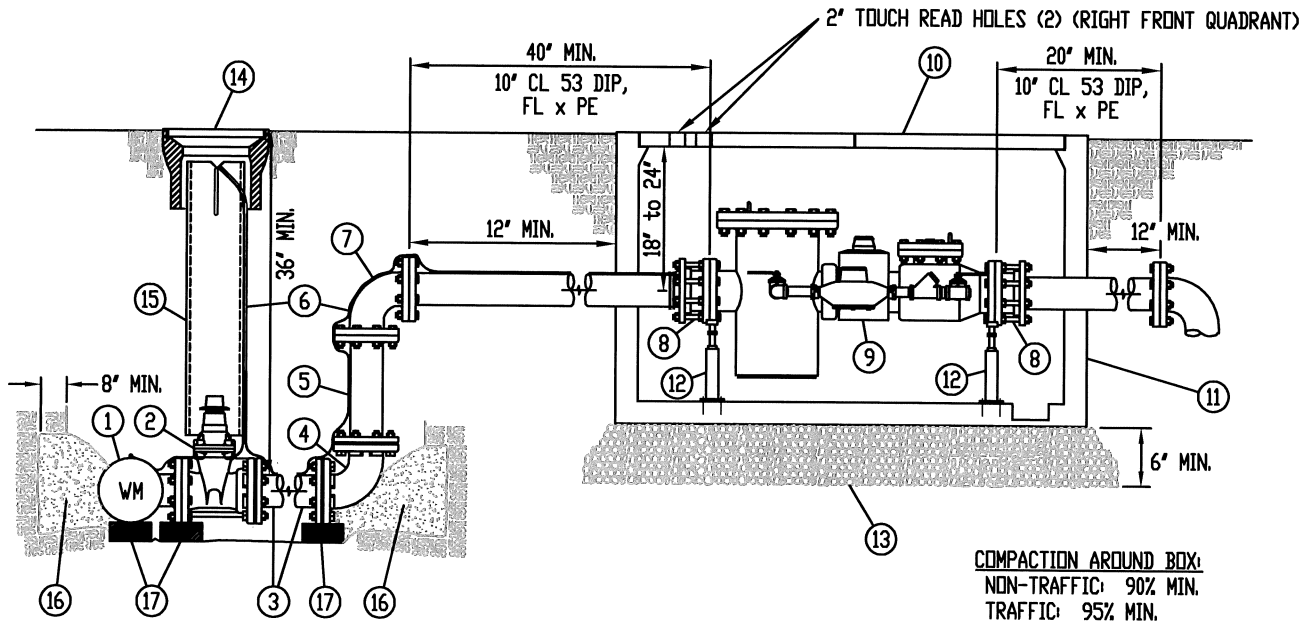
SCALE: N.T.S.

DESIGN: P.A.D.

CAD FILE: WS\_810.DWG

PAGE:

WS\_810



#### NOTES:

1. ALL MECHANICAL JOINT FITTINGS SHALL BE INSTALLED WITH MEGA-LUG RESTRAINT GLANDS.
2. BOLT TORQUE ON ALL FITTINGS SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS.
3. WATER MAIN ENTRY AND EXIT POINTS FROM THE METER VAULT SHALL BE CORE DRILLED ON SITE.
4. VOIDS AROUND THE WATER MAIN AT THE ENTRY AND EXIT POINTS FROM THE METER VAULT SHALL BE COMPLETELY GROUTED WITH MORTAR MIX.
5. METER SHALL BE TOUCH READ OR RADIO PER CHWD.
6. NO CONNECTIONS BETWEEN GATE VALVE AND WATER METER.

#### LID SPECIFICATIONS

54" X 102" TWO DOOR ALUMINUM, HINGED, TORSION ASSIST, VAULT ACCESS DOORS, BOLT DOWN SECURITY, STAINLESS STEEL SELF LOCKING SAFETY ARMS, NON-SKID AND GALVANIZED STEEL FRAME WITH (4) INTERIOR LEVELING BOLTS AND (4) CORNER LOCKING BOLTS. NON-SKID SURFACE TO BE ACHIEVED BY GARNET BLAST TO A 2-3 MILS ANCHOR PROFILE BEFORE APPLYING 25 WET MILS OF SONO GUARD BASE COAT, ALLOW TO CURE OVERNIGHT BEFORE APPLYING 20 WET MILS OF SONO GUARD TOP COAT AND WHILE STILL WET BROADCAST 16/30 SILICA AGGREGATE APPLIED AT 0.25 - 0.50 # PER SQ. FT. LIDS SHALL BE MARKED "WATER".

1	TEE W/ 10" FLANGED OUTLET	11	VAULT - RATED FOR H-20 CONTINUOUS TRAFFIC, 4'-6" x 8'-6" x 4'-0" REINFORCED CONCRETE VAULT. SHALL INCLUDE SUMP HOLE. TEICHERT PRECAST 510 SERIES OR EQUAL.
2	10" GATE VALVE - RESILIENT WEDGE - FLANGED TO TEE x MECHANICAL JOINT	12	SUPPORT STAND - PLACER WATER WORKS OR EQUAL, WITH A BOLT-TO-FLANGE SADDLE, HEIGHT DETERMINED IN FIELD
3	10" DUCTILE IRON PIPE - PC350	13	3/4" CLASS 2 AGGREGATE BASE - 2" MINIMUM, MECHANICALLY COMPACTED TO 90%
4	10" 90° ELBOW - MJ x MJ	14	VALVE BOX/LID - MARKED "WATER", OLDCASTLE PRECAST NO. G04 BOX, G04C LID. SEE VB DETAIL VB_810 OR VB_811.
5	10" DUCTILE IRON SPOOL - FL x PLAIN END, CL53	15	8" RISER - SDR35 ONLY, CONTINUOUS SECTION
6	#10 INSULATED COPPER LOCATOR WIRE	16	CONCRETE THRUST BLOCK - SEE DETAIL TB_001
7	10" 90° ELBOW - FL x FL	17	CONCRETE BRICK - 2 1/4" x 3 3/4" x 7 1/2"
8	10" FLANGED COUPLING ADAPTOR - ROMAC OR EQUAL		
9	10" FIRE SERVICE WATER METER - NEPTUNE PROTECTUS III, 100 cu. ft., (BY CONTRACTOR)		
10	NON-TRAFFIC AREAS	DRIVEWAY/SIDEWALK AREAS	
	LID H10 INCIDENTAL TRAFFIC	H20 OCCASIONAL TRAFFIC	



**CITRUS  
HEIGHTS  
WATER  
DISTRICT**

## 10" WATER SERVICE - 10" COMBINATION WATER METER NEW CONSTRUCTION

APPROVED BY:

*Robert A. Chumley*

CITRUS HEIGHTS WATER DISTRICT

DATE:

5/8/13

DRAWN: 8 MAY 2013

REVISED:

SCALE: N.T.S.

DESIGN: P.A.D.

CAD FILE: WS\_1010.DWG

PAGE:

WS\_1010



## Appendix B

### Project Checklist





6230 Sylvan Rd  
Citrus Heights, CA 95610  
Phone: (916) 725-6873  
www.chwd.org

## **PROJECT CHECKLIST**

To initiate a project, please review this checklist to ensure that plans are submitted in accordance with the latest Citrus Heights Water District (CHWD) Construction Specifications.

### **CHWD Submittal Requirements**

- ☐ Completed Plan Submittal Form
- ☐ One full size set of plans in hard copy
- ☐ Plans in PDF format

### **Plans-Cover/General Sheets**

- ☐ Contact information for project developer
- ☐ Index of Sheets
- ☐ Vicinity Map
- ☐ APN Numbers
- ☐ Fire Department Approval Signature Block
- ☐ CHWD Approval Signature Block
- ☐ Legend of Symbols
- ☐ USA Contact Number - Call 48 hours prior to dig
- ☐ CHWD General Notes
- ☐ CHWD Standard Details

### **Water/Utility Plan Sheet**

- ☐ North arrow
- ☐ Scale of plan (1"=20' or 1"=40' with Scale Bar)
- ☐ Street names and widths
- ☐ Engineer's stamp, signature and license number (for final approval)
- ☐ Entire project, subdivision or parcel
- ☐ Adjacent subdivisions with lot lines and lot numbers
- ☐ Right-of-Way with lines properly dimensioned
- ☐ Topography with all pertinent topographic features
- ☐ Bench marks and datum with location, description and elevation
- ☐ Existing utilities
- ☐ Utility horizontal/vertical clearance information
- ☐ Existing easements with recordation information
- ☐ Proposed easements
- ☐ Construction notes referencing CHWD Standard Details
- ☐ Domestic, irrigation, and fire service connections
- ☐ Appropriate offset of services from property lines
- ☐ Adequate separation from other utilities
- ☐ Adequate connection details
- ☐ Appropriate pipe cover
- ☐ All fire services shall have reduced pressure detector assembly (RPDA) per CHWD standards
- ☐ All commercial and irrigation water services shall have a reduced pressure backflow per CHWD standards

### **Easements/Quitclaims (If necessary)**

- ☐ Grant of Easement (From CHWD Template)
- ☐ Legal Description and Plat Exhibits

## Appendix C

### Project Acceptance Summary/ Value of Facilities Form

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# CITRUS HEIGHTS WATER DISTRICT

## PROJECT ACCEPTANCE SUMMARY

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PROJECT: **Project Name with Address (Project Number)**

DATE OF ACCEPTANCE: \_\_\_\_\_ *(To be completed by District)*

CHWD SIGNATURE: \_\_\_\_\_

CONTRACTOR: **Name, Company Name**

FACILITIES BEING ACCEPTED:

<u>Quantity</u>	<u>Facility Description</u>
<b>l.f.</b>	<b>Pipe with largest diameter first. DIP and PVC shown on separate lines.</b>
<b>count</b>	<b>Valves with largest diameter first.</b>
<b>count</b>	<b>PIVs with largest diameter first.</b>
<b>count</b>	<b>Fire Hydrants</b>
<b>count</b>	<b>Metered Services</b>
<b>count</b>	<b>Air/Vacuum Relief Valves</b>

VALUE OF FACILITIES BEING ACCEPTED: \$ \_\_\_\_\_

Contractor's Authorized Signature: \_\_\_\_\_

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## Appendix D

### District Cross-Connection and Backflow Prevention Regulation

**CITRUS HEIGHTS WATER DISTRICT  
RESOLUTION 10-2017**

**A RESOLUTION ADOPTING RULES AND REGULATIONS RELATING TO PROTECTION OF  
DRINKING WATER  
FROM CROSS-CONNECTION AND BACKFLOW**

**WHEREAS**, the Citrus Heights Water District ("District") is responsible for providing its customers with water including, most importantly, water for human consumption, sanitation and fire protection; and

**WHEREAS**, Title 17, Section 7584 of the California Code of Regulations requires the District to protect the public water supply from contamination by implementation of a cross-connection control and backflow prevention program; and

**WHEREAS**, the District previously adopted Ordinance No. 3-88, implementing a cross-connection control and backflow prevention program; and

**WHEREAS**, the District wishes to revise and update its cross-connection control and backflow prevention program as set forth in this Resolution.

**NOW, THEREFORE**, be it resolved by the Board of Directors of the Citrus Heights Water District as follows:

1. The above recitals are true and correct and are incorporated in this Resolution by reference.
2. The Rules and Regulations set forth in Exhibit A, attached and incorporated by this reference are hereby adopted.
3. If any provision of this resolution is found to be illegal, unconstitutional or unenforceable for any reason whatsoever, that provision shall be severed from the remaining provisions of this resolution, which shall remain in full force and effect.
4. The President of the Board of Directors shall sign this Resolution and the Secretary shall attest thereto, and this Resolution shall be effective immediately upon its adoption.

PASSED and ADOPTED this 16 day of August, 2017 by the following vote:

AYES: Directors: Sheehan, Riehle, Dains

NOES:

ABSTAIN:

ABSENT:



APPROVED:

Caryl Sheehan  
Caryl F. Sheehan, President

ATTEST:

Hilary M. Straus

Hilary M. Straus, Secretary / General Manager

## EXHIBIT A

### RULES AND REGULATIONS RELATING TO PROTECTION OF DRINKING WATER FROM CROSS-CONNECTION AND BACKFLOW

#### SECTION I – PURPOSE

- (1) To adopt rules and regulations as authorized by Water Code, § 22257 to protect the public water system of Citrus Heights Water District (“District”) against actual or potential cross-connections or backflow by isolating within premises, contamination or pollution that may occur because of undiscovered or unauthorized cross-connections on said premises.
- (2) To eliminate existing connections between the public water system of District and other sources that are not approved as safe and potable for human consumption.
- (3) To encourage the exclusive use of the public water system of District as source of water supply.
- (4) To comply with the California Administration Code Title 17, Sections 7583 through 7605, inclusive.
- (5) To update and supersede the District’s existing backflow protection Ordinance No. 3-88.

#### SECTION II – DEFINITIONS

The meanings of terms used in this Resolution—whether or not such terms are capitalized in the text of the Resolution--are as follows:

**Air-Gap Separation – (AG)** shall mean a physical separation between the supply line and a receiving vessel. “An approved air gap shall be double the diameter of the supply and no less than 1 inch”.

**Approved** – as herein used in reference to a public water system, shall mean a water supply that has been approved by the health agency having jurisdiction; or, as herein used in reference to backflow prevention assemblies, shall mean approval by the District.

**Approved Testing Laboratory** – shall mean a person or entity that is competent and possesses the necessary facilities, as determined by the District, to investigate and evaluate backflow prevention assemblies and is independent of backflow prevention assembly manufacturers.



**Atmospheric Vacuum Breaker (non-pressure) – (AVB)** shall mean a backflow prevention device that contains a shutoff valve, air inlet valve, a check seat, and 1 or more air inlet ports in which:

1. The flow of water causes the air inlet valve to close the air inlet ports; and
2. When the flow of water stops:
  - (a) The air inlet falls and forms a check valve against back-siphonage; and
  - (b) The air inlet ports open to allow air to enter and satisfy the vacuum.

**Auxiliary Water Supply** – shall mean any water supply on or available to a customer's premises other than water supplied by the District.

**Backflow** – shall mean the undesirable reversal of flow of water or any mixture of water and other liquid, gas, or substance due to backpressure or back-siphonage from any source or sources on the customer's premises into the public water system of the District.

**Certified Backflow Prevention Assembly Tester-** shall mean a person who has been certified by the District as having the necessary training and competence to test backflow assemblies.

**Contamination** – shall mean an impairment of the quality of the water which creates an actual hazard to the public health through poisoning or through the spread of disease by sewage, industrial fluids, or waste.

**Cross-Connection** – shall mean an unprotected connection or structural arrangement, whether actual or potential, between a public water system and any other source or system, through which it is possible to introduce into any part of the public water system any used water, industrial fluid, gas, or substance other than potable water intended to supply the system.

**Customer** – shall mean any person or entity to whom water is furnished or sold from the District.

**Department** – shall mean the Department of Health for the County of Sacramento or the Department of Health for the County of Placer, depending upon the location of the customer or facility in question, and the authorized representatives of the Department.

**District** – shall mean the Citrus Heights Water District and the authorized representatives of the District.



**Double Check Valve Backflow Prevention Assembly – (DC)** shall mean a backflow prevention assembly incorporating two independently acting check valves, a shut-off valve at each end of the assembly, and necessary appurtenances for testing as required by the District.

**Premises** – shall mean any real property or real property interest together with such buildings and appurtenances located thereon.

**Pressure Vacuum Breaker Assembly – (PVB)** shall mean

1. A backflow prevention assembly incorporating an independently operating, internally loaded approved check valve and an independently operating, loaded air inlet valve located on the discharge side of the approved check valve; and
2. Is equipped with properly located, resilient seated test cocks and tightly closing, resilient seated shutoff valves which are attached to each end of the assembly.

**Pollution** – shall mean an impairment of the quality of the water to a degree which does not create a hazard to the public health but which does adversely and unreasonably affect the aesthetic qualities of such waters for domestic use.

**Protection** – shall, subject to District approval, mean an approved backflow prevention assembly.

**Public Water System** – shall mean the potable water supply system of the District approved by or under the public health supervision of the Division of Drinking Water of the California State Water Resources Control Board.

**Recycled Water** – shall mean wastewater which as a result of treatment is suitable for uses other than potable water (as in CCR Title 22).

**Reduced Pressure Principle Backflow Prevention Assembly – (RP)** shall mean a backflow prevention assembly incorporating two independently acting check valves, a hydraulically operating, mechanically independent differential pressure relief valve, a shut-off valve at each end of the assembly and necessary appurtenances for testing as required by the District.

**Service Connection** – shall mean the point at which the public water system piping of the District ends and the water system piping of the customer begins.

**Specialist** – shall mean a person certified by AWWA as a cross-connection specialist.

### **SECTION III – PROTECTION OF THE PUBLIC WATER SYSTEM AT WATER SERVICE CONNECTION**

**It is unlawful for any person, firm, or corporation at any time to make or maintain or cause to be made or maintained, temporarily or permanently, for any period of time a cross-connection between plumbing pipes or water fixtures being served by the District, any other water supply source or to maintain any sanitary fixture or other appurtenances or fixtures which, by reason of their construction, may cause or allow backflow of water or other substances into the water supply system of the District and/or the service connections or fixtures of any customer of the District.**

#### **A. Where Protection Is Required:**

1. Protection shall be required at or as close as possible to each service connection from the public water system that supplies water to premises having an auxiliary water supply.
2. Protection shall be required at or as close as possible to each service connection from the public water system that supplies water to premises on which any substance is or may be handled in such a manner as to permit entry into the public water system, including water originating from the public water system which is or may be subjected to deterioration in sanitary quality.
3. Protection shall be required at or as close as possible to each service connection to any premises that has cross-connections unless such cross-connections are abated to the satisfaction of the District.

#### **B. Type of protection:**

The type of protection required shall be commensurate with the degree of hazard. In determining the degree of hazard and the type of protection required, the following criteria shall be used:

1. At or as close as possible to each service connection to any premises where there exists an auxiliary water system with no known cross-connections, the public water system shall be protected by an approved (RP) reduced pressure principle backflow assembly.



2. At or as close as possible to each service connection to any premises on which there is an auxiliary water system with actual or potential cross-connections, the public water system shall be protected by an approved (RP) reduced pressure principle backflow assembly.
3. At or as close as possible to each service connection to any premises on which an objectionable but non-hazardous substance is, or may be, handled in such manner as to permit entry into the public water system, the public water system shall be protected by a (RP) reduced pressure principle backflow assembly.
4. At or as close as possible to each service connection to any sewage treatment plant, sewage pump station, or any premises on which any hazardous substance is or may be handled in such a manner as to permit entry into a public water system. This does not include a single-family residence that has a sewage lift pump. The public water system shall be protected by an approved (AG) air gap separation. All piping between the service cock and any receiving vessel shall be visible. If these conditions cannot reasonably be met, the public water system shall be protected by an approved (RP) reduced pressure principle backflow prevention assembly, provided that this alternative is in compliance with the provisions of this Resolution and approved by the Division of Drinking Water of the California State Water Resources Control Board.

#### **SECTION IV – REQUIRED SERVICE CONNECTION PROTECTION**

The type of protection that shall be provided to prevent backflow into the public water system shall be commensurate with the degree of hazard that exists on the customer's premises. The customer may choose a higher level of protection. The type of backflow devices that may be required (listed in an increasing level of protection) include:

1. Double Check Valve Backflow Prevention Assembly - **(DC)**
2. Reduced Pressure Principle Backflow Prevention Assembly – **(RP)**
3. Air Gap Separation – **(AG)**

Plants, facilities, or situations which are not listed in this section shall be evaluated on a case by case basis and the appropriate type of protection shall be as determined by the District and the Department.

The required minimum level of service connection protection at specific plants and facilities shall include the following:

1. Automotive Plants – **RP**
2. Autopsy Facilities – **RP** or **AG**
3. Auxiliary Water Supply – **RP**
4. Beverage Bottling Plants – **RP**
5. Boilers – **RP**
6. Breweries – **RP**
7. Buildings:
  - a. Hotels, apartment houses, public and private buildings, or other structures, where sewage pumps and/or sewage ejectors have been installed. This does not include a single family residence that has a sewage lift pump. – **RP**
  - b. Any commercial structure in which the specific business activity cannot be ascertained. – **RP**
  - c. All new commercial construction – **RP**
  - d. Multi-storied buildings that use booster pumps or elevated storage tanks to distribute potable water within the premises. – **RP**
  - e. Any buildings that exceed eighty feet (80') in height as measured from the service connection to the highest water outlet. – **RP**

8. Canneries, Packing Houses, and Reduction Plants – **RP or AG**
9. Chemical Plants – Any premises served from the District where there is a facility requiring the use of water in the industrial process of manufacturing, storing, compounding or processing chemicals. This will also include facilities where chemicals are used as additives to the water supply or in the processing of products. – **RP - AG**
10. Chemically Contaminated Water Systems – Any premises, served from the District where chemicals are used as to the water supply, or where the water supply is used for transmission or distribution of chemicals, or where in the compounding or processing of products. – **RP**
11. Cold Storage Plants – **RP**
12. Convalescent Homes – **RP**
13. Dairy Processing Plants – **RP**
14. Dental Clinics – **RP**
15. Dry Cleaning Facilities – **RP**
16. Dye Works – **RP**
17. Film Processing Facilities or Film Manufacturing Plants – **RP**

18. Fire Protection Systems that are supplied from a Public Water System:

- a. Premises where the fire protection system is directly supplied from the District and there is an auxiliary water supply on or to the premises (not interconnected) – **RP**
- b. Premises where the fire protection system is supplied from the District and where either elevated storage tanks or fire pumps which take suction from private reservoirs or tanks are used – **RP**
- c. Premises where the fire protection system is directly supplied from the District and interconnected with another public water system – **RP**
- d. Premises where the fire protection system is supplied from the District and interconnected with an auxiliary water supply – **RP**
- e. Premises where the fire protection system is supplied from the District and contains any hazardous substance, including but not limited to anti-freeze and wetting or foaming agents – **RP**
- f. Premises where the fire protection is supplied from the District and where recycled water is used in a separate piping system within the same building – **RP**

19. Hospitals - **RP**

20. Ice Manufacturing Plants – **RP**



21. Irrigation Systems:

- a. Premises or locations where facilities are installed for pumping, injecting, or spreading fertilizers, pesticides, or other hazardous substances – **RP**
- b. Irrigation systems subject to contamination from submerged inlets, auxiliary water supplies, ponds, reservoirs, swimming pools, and other sources of stagnant, polluted, or contaminated water – **RP**
- c. Premises or locations having a separate service connection for irrigation purposes – **RP**
- d. Residences using recycled water for landscape irrigation as part of a dual plumbed use area – **RP**

22. Laboratories including, but not limited to, teaching institutions, biological and analytical facilities - **RP**

23. Laundries (commercial) – **RP**

24. Medical Buildings and Clinics – **RP**

25. Metal Manufacturing, Cleaning, Processing, or Fabricating Plants – **RP**

26. Morgues – **RP**

27. Mortuaries – **RP**

28. Multiple Services includes two or more interconnected services provided to a single customer complex - **RP** at or as close as possible to each service connection

29. Nursing Homes and Clinics - **RP**

30. Oil/Gas Production, Storage, or Transmission Facilities - **RP**

31. Ornamental Fountains and Ponds with recirculating pumps – **RP**

32. Paper and Paper Products Manufacturing Plants – **RP**
33. Plastic Manufacturing, Extruding, and Injection Molding – **RP** (see Chemical Plants)
34. Plating Plants – **RP**
35. Portable Chemical Spray or Cleaning Equipment which can be connected to the potable water system – **AG**
36. Private Wells – **RP**
37. Radioactive Materials or Substances (Plants or Facilities that Process, Handle, or Store) – **RP**
38. Recirculating Pumps – **RP**
39. Recirculating Hot Water Systems – **RP**
40. Recycled Water Distribution Systems:
  - a. Premises where the public water system of the District is used to supplement the recycled water system – **AG**
  - b. Premises where recycled water is used and there is no interconnection with the District public water system – **RP**
41. Restricted, Classified or Other Closed Facilities – **RP**
42. Rubber Manufacturing Plants (natural or synthetic) – **RP**
43. Sand and Gravel Plants - **RP**
44. Sanitariums – **RP**
45. Schools, Colleges, and Universities (when actual or potential health hazards exists on the premises) – **RP**
46. Sewage and storm Drain Facilities – **RP**



47. Sewer Flushing through Manhole or Clean-out – **AG**

48. Solar Heating Systems:

- a. Solar collector system which contains any hazardous substance and where there is a direct make-up connection to the public water system – **RP**
- b. Service connection protection is not required for a “once through” solar heating system including, but not limited to, domestic hot water systems. - **RP**

49. Steam Generating Facilities/Steam Boiler Plants - **RP**

50. Vehicle Washing Facilities - **RP**

51. Veterinary Clinics - **RP**

52. Water Tanks Trucks - **RP**

## **SECTION V – INSTALLATION OF BACKFLOW PREVENTION ASSEMBLY**

- A. **NEW COMMERCIAL SERVICE CONNECTIONS** – It shall be the customer’s responsibility, and expense, to provide for the installation of the backflow prevention assembly in accordance with District requirements and at a location approved by the District by one of the following methods. **Installation of a backflow prevention assembly where required by the District shall be a condition of water service.**
1. **INSTALLATION BY THE CUSTOMER** – A backflow prevention assembly may be installed by the customer. Installation is subject to inspection by the District to determine that all requirements have been met before being put into service.
  2. **INSTALLATION BY THE DISTRICT** – A backflow prevention assembly may be installed by the District at the customer’s expense. The customer shall deposit, in advance, the estimated cost of the assembly and the installation. The final billing from the District to the customer shall be the actual cost of the work.

- B. **EXISTING COMMERCIAL SERVICE CONNECTIONS WITHOUT BACKFLOW PREVENTION ASSEMBLIES** – Whenever the District determines that an approved backflow prevention assembly is required (at the customer's water service connection) under this Resolution, for the safety of the water system, the District or its designated agent shall give notice in writing to the customer. The customer shall install an approved backflow prevention assembly(s), in accordance with current District installation specifications and guidelines, at the customer's own expense; and, failure, refusal or inability on the part of the customer to install and maintain the assembly(s), shall constitute grounds for discontinuing water service to the premises until all requirements have been satisfactorily met. The approved assembly(s) must be installed and tested within sixty (60) calendar days for all assemblies measuring less than or equal to 2.5" in size, and within ninety (90) calendar days for all assemblies measuring 3" or larger in size.
- C. **EXISTING BACKFLOW PREVENTION ASSEMBLIES** –
1. Backflow prevention assemblies in service at the time of adoption of Ordinance No. 3-88 or this Resolution, which do not comply with the provisions of this Resolution, may continue to remain in use until such time as the assembly is determined to be defective and necessitating repair, or until such time as the premises facilities are changed thereby dictating a higher degree of required protection.
  2. Any such assembly that is determined to be defective shall be repaired or replaced by an assembly, within the time period described in paragraph "B" above, that is approved by the District and complies with the provisions of this Resolution.

## **SECTION VI – INSTALLATION REQUIREMENTS FOR BACKFLOW PREVENTION ASSEMBLIES**

A. **Air-Gap Separation (AG):**

1. An air-gap separation shall be located on the customer's side of, and as close as possible to, the service connection as approved by the District.
2. All piping from the service connection to the receiving tank shall be above grade and visible unless otherwise approved by the District.
3. There shall be no outlet, tee, tap, take-off, or connection of any sort, to or from the supply pipe line, between the service connection and the air-gap separation.



**B. Reduced Pressure Principle Backflow Prevention Assembly (RP)**

1. RP to be installed above ground, in a horizontal and level position, on the customer's side of, and as close as possible to, the service connection as approved by the District.
2. RP to be installed a minimum of twelve inches (12") above, and a maximum of thirty six inches (36") above, finished grade as measured from the bottom of the assembly, and shall be readily accessible for maintenance and testing.
3. There shall be no outlet, tee, take-off, or connection of any sort, to or from the supply pipe line, between the service connection and the backflow prevention assembly.
4. RP shall be installed such that no part of the assembly will be submerged during normal operating and weather conditions.
5. Installation of assembly, approved by the District, to be elevated five feet (5') above grade shall be provided with a permanent platform capable of supporting a tester or maintenance person.

**C. Double Check Valve Backflow Prevention Assembly (DC)**

1. DC to be installed above ground, in a horizontal and level position, on the customer's side of, and as close as possible to, the service connection as approved by the District.
2. DC to be installed a minimum of twelve inches (12") above, and a maximum of thirty six inches (36") above, finished grade as measured from the bottom of the assembly, and shall be readily accessible for maintenance and testing.
3. There shall be no outlet, tee, tap, take-off, or connection of any sort, to or from the supply pipe line, between the service connection and the backflow prevention assembly.
4. Installation of assembly, approved by the District, to be elevated five feet (5') above grade shall be provided with a permanent platform capable of supporting a tester or maintenance person.

## **SECTION VII APPROVAL OF BACKFLOW PREVENTION ASSEMBLIES**

The District LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES is limited to those assemblies manufactured by Wilkins, Febco, or Watts which appear on the current "List of Approved Backflow Prevention Assemblies" as published by the Approved Testing Laboratory, the University of Southern California, Foundation for Cross-Connection and Hydraulic Research.

Investigation and evaluation of backflow prevention assemblies shall include design and material specifications, laboratory testing and field evaluation, as delineated in the current edition of the "Manual of Cross-Connection Control", published by the University of Southern California, Foundation for Cross-Connection Control and Hydraulic Research.

## **SECTION VIII – CUSTOMER RESPONSIBILITY**

It shall be the responsibility of the customer to furnish, install in a manner approved by the District, keep in good working order and safe condition, any and all backflow prevention assemblies as required by this Resolution. The District shall not be responsible for any loss or damage directly or indirectly resulting from or caused by any improper or negligent installation, operation, use, repair or maintenance of, or interfering with, any backflow prevention assembly, required by this Resolution, by any customer, or any other person.

If a backflow prevention assembly is removed for repair, the customer shall provide that an approved backflow prevention assembly be temporarily installed in its place and tested by a District authorized tester before water service is resumed.

## **SECTION IX – TESTING AND REPORTS**

- A. Any customer at whose premises any backflow prevention assemblies are installed, shall have each such assembly tested at the time of installation and annually thereafter or more often as required by the District. All such tests shall be conducted at the expense of the customer by a District authorized tester. Backflow prevention assemblies shall be repaired or replaced at the expense of the customer whenever they are found to be defective.
- B. Reports of tests of backflow prevention assemblies shall be filed with the District and be kept for a minimum of three (3) years.

## **SECTION X – AUTHORITY TO INSPECT**

The customer's premises shall be available for inspection at all reasonable times to authorized representatives of the District to determine if protection of the public water system is required, and shall be a condition for continued water service.

## **SECTION XI – ENFORCEMENT**

The District, and its authorized representatives, shall have the authority to enforce this Resolution.

Any customer who violates any of the provisions of this Resolution, or later bypasses or renders inoperative any backflow prevention assembly installed under the provisions of this Resolution may be subject to discontinuance of water service as set forth in this section. Water service shall not again be rendered until such violations have been corrected as determined by the District. Prior to discontinuance of water service, District shall provide notice of the violation, which shall include a general description of the violation and the procedures for appealing the notice. Anyone seeking to dispute the violation may request a hearing before the General Manager by filing a request within ten (10) days of the notice. If requested, the General Manager shall conduct a hearing to determine the existence of the violation and his or her decision shall be final.



Notwithstanding the foregoing, in the event that the violation presents an immediate threat to health and safety, the District may terminate water service without providing advance notice or the opportunity for a hearing. In such event, the affected person shall receive notice as soon as possible and may request and receive a hearing in the manner otherwise set forth in this section.

## **SECTION XII—SEVERABILITY**

If any section, subsection, subdivision, paragraph, sentence, clause or phrase of this Ordinance, or any part thereof, is for any reason held to be invalid, such decision shall not affect the validity of the remaining portions of this Ordinance or any part thereof.

## EXHIBIT A

### RULES AND REGULATIONS RELATING TO PROTECTION OF DRINKING WATER FROM CROSS-CONNECTION AND BACKFLOW

#### **SECTION I – PURPOSE**

- (1) To adopt rules and regulations as authorized by Water Code, § 22257 to protect the public water system of Citrus Heights Water District (“District”) against actual or potential cross-connections or backflow by isolating within premises, contamination or pollution that may occur because of undiscovered or unauthorized cross-connections on said premises.
- (2) To eliminate existing connections between the public water system of District and other sources that are not approved as safe and potable for human consumption.
- (3) To encourage the exclusive use of the public water system of District as source of water supply.
- (4) To comply with the California Administration Code Title 17, Sections 7583 through 7605, inclusive.
- (5) To update and supersede the District’s existing backflow protection Ordinance No. 3-88.

#### **SECTION II – DEFINITIONS**

The meanings of terms used in this Resolution—whether or not such terms are capitalized in the text of the Resolution--are as follows:

**Air-Gap Separation – (AG)** shall mean a physical separation between the supply line and a receiving vessel. “An approved air gap shall be double the diameter of the supply and no less than 1 inch”.

**Approved** – as herein used in reference to a public water system, shall mean a water supply that has been approved by the health agency having jurisdiction; or, as herein used in reference to backflow prevention assemblies, shall mean approval by the District.

**Approved Testing Laboratory** – shall mean a person or entity that is competent and possesses the necessary facilities, as determined by the District, to investigate and evaluate backflow prevention assemblies and is independent of backflow prevention assembly manufacturers.

**Atmospheric Vacuum Breaker (non-pressure) – (AVB)** shall mean a backflow prevention device that contains a shutoff valve, air inlet valve, a check seat, and 1 or more air inlet ports in which:

1. The flow of water causes the air inlet valve to close the air inlet ports; and
2. When the flow of water stops:
  - (a) The air inlet falls and forms a check valve against back-siphonage; and
  - (b) The air inlet ports open to allow air to enter and satisfy the vacuum.

**Auxiliary Water Supply** – shall mean any water supply on or available to a customer's premises other than water supplied by the District.

**Backflow** – shall mean the undesirable reversal of flow of water or any mixture of water and other liquid, gas, or substance due to backpressure or back-siphonage from any source or sources on the customer's premises into the public water system of the District.

**Certified Backflow Prevention Assembly Tester-** shall mean a person who has been certified by the District as having the necessary training and competence to test backflow assemblies.

**Contamination** – shall mean an impairment of the quality of the water which creates an actual hazard to the public health through poisoning or through the spread of disease by sewage, industrial fluids, or waste.

**Cross-Connection** – shall mean an unprotected connection or structural arrangement, whether actual or potential, between a public water system and any other source or system, through which it is possible to introduce into any part of the public water system any used water, industrial fluid, gas, or substance other than potable water intended to supply the system.

**Customer** – shall mean any person or entity to whom water is furnished or sold from the District.

**Department** – shall mean the Department of Health for the County of Sacramento or the Department of Health for the County of Placer, depending upon the location of the customer or facility in question, and the authorized representatives of the Department.

**District** – shall mean the Citrus Heights Water District and the authorized representatives of the District.



**Double Check Valve Backflow Prevention Assembly – (DC)** shall mean a backflow prevention assembly incorporating two independently acting check valves, a shut-off valve at each end of the assembly, and necessary appurtenances for testing as required by the District.

**Premises** – shall mean any real property or real property interest together with such buildings and appurtenances located thereon.

**Pressure Vacuum Breaker Assembly – (PVB)** shall mean

1. A backflow prevention assembly incorporating an independently operating, internally loaded approved check valve and an independently operating, loaded air inlet valve located on the discharge side of the approved check valve; and
2. Is equipped with properly located, resilient seated test cocks and tightly closing, resilient seated shutoff valves which are attached to each end of the assembly.

**Pollution** – shall mean an impairment of the quality of the water to a degree which does not create a hazard to the public health but which does adversely and unreasonably affect the aesthetic qualities of such waters for domestic use.

**Protection** – shall, subject to District approval, mean an approved backflow prevention assembly.

**Public Water System** – shall mean the potable water supply system of the District approved by or under the public health supervision of the Division of Drinking Water of the California State Water Resources Control Board.

**Recycled Water** – shall mean wastewater which as a result of treatment is suitable for uses other than potable water (as in CCR Title 22).

**Reduced Pressure Principle Backflow Prevention Assembly – (RP)** shall mean a backflow prevention assembly incorporating two independently acting check valves, a hydraulically operating, mechanically independent differential pressure relief valve, a shut-off valve at each end of the assembly and necessary appurtenances for testing as required by the District.

**Service Connection** – shall mean the point at which the public water system piping of the District ends and the water system piping of the customer begins.

**Specialist** – shall mean a person certified by AWWA as a cross-connection specialist.

### **SECTION III – PROTECTION OF THE PUBLIC WATER SYSTEM AT WATER SERVICE CONNECTION**

**It is unlawful for any person, firm, or corporation at any time to make or maintain or cause to be made or maintained, temporarily or permanently, for any period of time a cross-connection between plumbing pipes or water fixtures being served by the District, any other water supply source or to maintain any sanitary fixture or other appurtenances or fixtures which, by reason of their construction, may cause or allow backflow of water or other substances into the water supply system of the District and/or the service connections or fixtures of any customer of the District.**

#### **A. Where Protection Is Required:**

1. Protection shall be required at or as close as possible to each service connection from the public water system that supplies water to premises having an auxiliary water supply.
2. Protection shall be required at or as close as possible to each service connection from the public water system that supplies water to premises on which any substance is or may be handled in such a manner as to permit entry into the public water system, including water originating from the public water system which is or may be subjected to deterioration in sanitary quality.
3. Protection shall be required at or as close as possible to each service connection to any premises that has cross-connections unless such cross-connections are abated to the satisfaction of the District.

#### **B. Type of protection:**

The type of protection required shall be commensurate with the degree of hazard. In determining the degree of hazard and the type of protection required, the following criteria shall be used:

1. At or as close as possible to each service connection to any premises where there exists an auxiliary water system with no known cross-connections, the public water system shall be protected by an approved (RP) reduced pressure principle backflow assembly.

2. At or as close as possible to each service connection to any premises on which there is an auxiliary water system with actual or potential cross-connections, the public water system shall be protected by an approved (RP) reduced pressure principle backflow assembly.
3. At or as close as possible to each service connection to any premises on which an objectionable but non-hazardous substance is, or may be, handled in such manner as to permit entry into the public water system, the public water system shall be protected by a (RP) reduced pressure principle backflow assembly.
4. At or as close as possible to each service connection to any sewage treatment plant, sewage pump station, or any premises on which any hazardous substance is or may be handled in such a manner as to permit entry into a public water system. This does not include a single-family residence that has a sewage lift pump. The public water system shall be protected by an approved (AG) air gap separation. All piping between the service cock and any receiving vessel shall be visible. If these conditions cannot reasonably be met, the public water system shall be protected by an approved (RP) reduced pressure principle backflow prevention assembly, provided that this alternative is in compliance with the provisions of this Resolution and approved by the Division of Drinking Water of the California State Water Resources Control Board.

#### **SECTION IV – REQUIRED SERVICE CONNECTION PROTECTION**

The type of protection that shall be provided to prevent backflow into the public water system shall be commensurate with the degree of hazard that exists on the customer's premises. The customer may choose a higher level of protection. The type of backflow devices that may be required (listed in an increasing level of protection) include:

1. Double Check Valve Backflow Prevention Assembly - **(DC)**
2. Reduced Pressure Principle Backflow Prevention Assembly – **(RP)**
3. Air Gap Separation – **(AG)**

Plants, facilities, or situations which are not listed in this section shall be evaluated on a case by case basis and the appropriate type of protection shall be as determined by the District and the Department.

The required minimum level of service connection protection at specific plants and facilities shall include the following:

1. Automotive Plants – **RP**
2. Autopsy Facilities – **RP** or **AG**
3. Auxiliary Water Supply – **RP**
4. Beverage Bottling Plants – **RP**
5. Boilers – **RP**
6. Breweries – **RP**
7. Buildings:
  - a. Hotels, apartment houses, public and private buildings, or other structures, where sewage pumps and/or sewage ejectors have been installed. This does not include a single family residence that has a sewage lift pump. – **RP**
  - b. Any commercial structure in which the specific business activity cannot be ascertained. – **RP**
  - c. All new commercial construction – **RP**
  - d. Multi-storied buildings that use booster pumps or elevated storage tanks to distribute potable water within the premises. – **RP**
  - e. Any buildings that exceed eighty feet (80') in height as measured from the service connection to the highest water outlet. – **RP**

8. Canneries, Packing Houses, and Reduction Plants – **RP** or **AG**
9. Chemical Plants – Any premises served from the District where there is a facility requiring the use of water in the industrial process of manufacturing, storing, compounding or processing chemicals. This will also include facilities where chemicals are used as additives to the water supply or in the processing of products. – **RP - AG**
10. Chemically Contaminated Water Systems – Any premises, served from the District where chemicals are used as to the water supply, or where the water supply is used for transmission or distribution of chemicals, or where in the compounding or processing of products. – **RP**
11. Cold Storage Plants – **RP**
12. Convalescent Homes – **RP**
13. Dairy Processing Plants – **RP**
14. Dental Clinics – **RP**
15. Dry Cleaning Facilities – **RP**
16. Dye Works – **RP**
17. Film Processing Facilities or Film Manufacturing Plants – **RP**

18. Fire Protection Systems that are supplied from a Public Water System:

- a. Premises where the fire protection system is directly supplied from the District and there is an auxiliary water supply on or to the premises (not interconnected) – **RP**
- b. Premises where the fire protection system is supplied from the District and where either elevated storage tanks or fire pumps which take suction from private reservoirs or tanks are used – **RP**
- c. Premises where the fire protection system is directly supplied from the District and interconnected with another public water system – **RP**
- d. Premises where the fire protection system is supplied from the District and interconnected with an auxiliary water supply – **RP**
- e. Premises where the fire protection system is supplied from the District and contains any hazardous substance, including but not limited to anti-freeze and wetting or foaming agents – **RP**
- f. Premises where the fire protection is supplied from the District and where recycled water is used in a separate piping system within the same building – **RP**

19. Hospitals - **RP**

20. Ice Manufacturing Plants – **RP**

21. Irrigation Systems:

- a. Premises or locations where facilities are installed for pumping, injecting, or spreading fertilizers, pesticides, or other hazardous substances – **RP**
- b. Irrigation systems subject to contamination from submerged inlets, auxiliary water supplies, ponds, reservoirs, swimming pools, and other sources of stagnant, polluted, or contaminated water – **RP**
- c. Premises or locations having a separate service connection for irrigation purposes – **RP**
- d. Residences using recycled water for landscape irrigation as part of a dual plumbed use area – **RP**

22. Laboratories including, but not limited to, teaching institutions, biological and analytical facilities - **RP**

23. Laundries (commercial) – **RP**

24. Medical Buildings and Clinics – **RP**

25. Metal Manufacturing, Cleaning, Processing, or Fabricating Plants – **RP**

26. Morgues – **RP**

27. Mortuaries – **RP**

28. Multiple Services includes two or more interconnected services provided to a single customer complex - **RP** at or as close as possible to each service connection

29. Nursing Homes and Clinics - **RP**

30. Oil/Gas Production, Storage, or Transmission Facilities - **RP**

31. Ornamental Fountains and Ponds with recirculating pumps – **RP**

32. Paper and Paper Products Manufacturing Plants – **RP**
33. Plastic Manufacturing, Extruding, and Injection Molding – **RP** (see Chemical Plants)
34. Plating Plants – **RP**
35. Portable Chemical Spray or Cleaning Equipment which can be connected to the potable water system – **AG**
36. Private Wells – **RP**
37. Radioactive Materials or Substances (Plants or Facilities that Process, Handle, or Store) – **RP**
38. Recirculating Pumps – **RP**
39. Recirculating Hot Water Systems – **RP**
40. Recycled Water Distribution Systems:
  - a. Premises where the public water system of the District is used to supplement the recycled water system – **AG**
  - b. Premises where recycled water is used and there is no interconnection with the District public water system – **RP**
41. Restricted, Classified or Other Closed Facilities – **RP**
42. Rubber Manufacturing Plants (natural or synthetic) – **RP**
43. Sand and Gravel Plants - **RP**
44. Sanitariums – **RP**
45. Schools, Colleges, and Universities (when actual or potential health hazards exists on the premises) – **RP**
46. Sewage and storm Drain Facilities – **RP**



47. Sewer Flushing through Manhole or Clean-out – **AG**

48. Solar Heating Systems:

- a. Solar collector system which contains any hazardous substance and where there is a direct make-up connection to the public water system – **RP**
- b. Service connection protection is not required for a “once through” solar heating system including, but not limited to, domestic hot water systems. - **RP**

49. Steam Generating Facilities/Steam Boiler Plants - **RP**

50. Vehicle Washing Facilities - **RP**

51. Veterinary Clinics - **RP**

52. Water Tanks Trucks - **RP**

## **SECTION V – INSTALLATION OF BACKFLOW PREVENTION ASSEMBLY**

- A. NEW COMMERCIAL SERVICE CONNECTIONS – It shall be the customer’s responsibility, and expense, to provide for the installation of the backflow prevention assembly in accordance with District requirements and at a location approved by the District by one of the following methods. **Installation of a backflow prevention assembly where required by the District shall be a condition of water service.**
1. INSTALLATION BY THE CUSTOMER – A backflow prevention assembly may be installed by the customer. Installation is subject to inspection by the District to determine that all requirements have been met before being put into service.
  2. INSTALLATION BY THE DISTRICT – A backflow prevention assembly may be installed by the District at the customer’s expense. The customer shall deposit, in advance, the estimated cost of the assembly and the installation. The final billing from the District to the customer shall be the actual cost of the work.

- B. **EXISTING COMMERCIAL SERVICE CONNECTIONS WITHOUT BACKFLOW PREVENTION ASSEMBLIES** – Whenever the District determines that an approved backflow prevention assembly is required (at the customer’s water service connection) under this Resolution, for the safety of the water system, the District or its designated agent shall give notice in writing to the customer. The customer shall install an approved backflow prevention assembly(s), in accordance with current District installation specifications and guidelines, at the customer’s own expense; and, failure, refusal or inability on the part of the customer to install and maintain the assembly(s), shall constitute grounds for discontinuing water service to the premises until all requirements have been satisfactorily met. The approved assembly(s) must be installed and tested within sixty (60) calendar days for all assemblies measuring less than or equal to 2.5” in size, and within ninety (90) calendar days for all assemblies measuring 3” or larger in size.
- C. **EXISTING BACKFLOW PREVENTION ASSEMBLIES** –
1. Backflow prevention assemblies in service at the time of adoption of Ordinance No. 3-88 or this Resolution, which do not comply with the provisions of this Resolution, may continue to remain in use until such time as the assembly is determined to be defective and necessitating repair, or until such time as the premises facilities are changed thereby dictating a higher degree of required protection.
  2. Any such assembly that is determined to be defective shall be repaired or replaced by an assembly, within the time period described in paragraph “B” above, that is approved by the District and complies with the provisions of this Resolution.

## **SECTION VI – INSTALLATION REQUIREMENTS FOR BACKFLOW PREVENTION ASSEMBLIES**

A. **Air-Gap Separation (AG):**

1. An air-gap separation shall be located on the customer’s side of, and as close as possible to, the service connection as approved by the District.
2. All piping from the service connection to the receiving tank shall be above grade and visible unless otherwise approved by the District.
3. There shall be no outlet, tee, tap, take-off, or connection of any sort, to or from the supply pipe line, between the service connection and the air-gap separation.

B. Reduced Pressure Principle Backflow Prevention Assembly (**RP**)

1. RP to be installed above ground, in a horizontal and level position, on the customer's side of, and as close as possible to, the service connection as approved by the District.
2. RP to be installed a minimum of twelve inches (12") above, and a maximum of thirty six inches (36") above, finished grade as measured from the bottom of the assembly, and shall be readily accessible for maintenance and testing.
3. There shall be no outlet, tee, take-off, or connection of any sort, to or from the supply pipe line, between the service connection and the backflow prevention assembly.
4. RP shall be installed such that no part of the assembly will be submerged during normal operating and weather conditions.
5. Installation of assembly, approved by the District, to be elevated five feet (5') above grade shall be provided with a permanent platform capable of supporting a tester or maintenance person.

C. Double Check Valve Backflow Prevention Assembly (**DC**)

1. DC to be installed above ground, in a horizontal and level position, on the customer's side of, and as close as possible to, the service connection as approved by the District.
2. DC to be installed a minimum of twelve inches (12") above, and a maximum of thirty six inches (36") above, finished grade as measured from the bottom of the assembly, and shall be readily accessible for maintenance and testing.
3. There shall be no outlet, tee, tap, take-off, or connection of any sort, to or from the supply pipe line, between the service connection and the backflow prevention assembly.
4. Installation of assembly, approved by the District, to be elevated five feet (5') above grade shall be provided with a permanent platform capable of supporting a tester or maintenance person.

## **SECTION VII APPROVAL OF BACKFLOW PREVENTION ASSEMBLIES**

The District LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES is limited to those assemblies manufactured by Wilkins, Febco, or Watts which appear on the current “List of Approved Backflow Prevention Assemblies” as published by the Approved Testing Laboratory, the University of Southern California, Foundation for Cross-Connection and Hydraulic Research.

Investigation and evaluation of backflow prevention assemblies shall include design and material specifications, laboratory testing and field evaluation, as delineated in the current edition of the “Manual of Cross-Connection Control”, published by the University of Southern California, Foundation for Cross-Connection Control and Hydraulic Research.

## **SECTION VIII – CUSTOMER RESPONSIBILITY**

It shall be the responsibility of the customer to furnish, install in a manner approved by the District, keep in good working order and safe condition, any and all backflow prevention assemblies as required by this Resolution. The District shall not be responsible for any loss or damage directly or indirectly resulting from or caused by any improper or negligent installation, operation, use, repair or maintenance of, or interfering with, any backflow prevention assembly, required by this Resolution, by any customer, or any other person.

If a backflow prevention assembly is removed for repair, the customer shall provide that an approved backflow prevention assembly be temporarily installed in its place and tested by a District authorized tester before water service is resumed.

## **SECTION IX – TESTING AND REPORTS**

- A. Any customer at whose premises any backflow prevention assemblies are installed, shall have each such assembly tested at the time of installation and annually thereafter or more often as required by the District. All such tests shall be conducted at the expense of the customer by a District authorized tester. Backflow prevention assemblies shall be repaired or replaced at the expense of the customer whenever they are found to be defective.
- B. Reports of tests of backflow prevention assemblies shall be filed with the District and be kept for a minimum of three (3) years.

## **SECTION X – AUTHORITY TO INSPECT**

The customer's premises shall be available for inspection at all reasonable times to authorized representatives of the District to determine if protection of the public water system is required, and shall be a condition for continued water service.

## **SECTION XI – ENFORCEMENT**

The District, and its authorized representatives, shall have the authority to enforce this Resolution.

Any customer who violates any of the provisions of this Resolution, or later bypasses or renders inoperative any backflow prevention assembly installed under the provisions of this Resolution may be subject to discontinuance of water service as set forth in this section. Water service shall not again be rendered until such violations have been corrected as determined by the District. Prior to discontinue water service, District shall provide notice of the violation, which shall include a general description of the violation and the procedures for appealing the notice. Anyone seeking to dispute the violation may request a hearing before the General Manager by filing a request within ten (10) days of the notice. If requested, the General Manager shall conduct a hearing to determine the existence of the violation and his or her decision shall be final.

Notwithstanding the foregoing, in the event that the violation presents an immediate threat to health and safety, the District may terminate water service without providing advance notice or the opportunity for a hearing. In such event, the affected person shall receive notice as soon as possible and may request and receive a hearing in the manner otherwise set forth in this section.

## **SECTION XII—SEVERABILITY**

If any section, subsection, subdivision, paragraph, sentence, clause or phrase of this Ordinance, or any part thereof, is for any reason held to be invalid, such decision shall not affect the validity of the remaining portions of this Ordinance or any part thereof.

## Appendix E

### CHWD Disinfection/Sampling Procedure

# CITRUS HEIGHTS WATER DISTRICT

## Disinfection/Sampling Procedure

Adopted: October 28, 2014

Revised: April 30, 2018

### General:

The Contractor shall use a licensed Chlorination Specialist for the process of introducing a chlorine solution into the new water system. Said specialist shall maintain an Active C36 (Plumbing) and C55 (Water Conditioning) license with the California State Licensing Board.

Chlorine shall be introduced into the system at a minimum of 50 PPM and a maximum of 100 PPM. The Inspector shall be provided with proof of uniform chlorination throughout the system within the stated range using an approved test procedure. All requirements of the current American Water Works Association standard C651-XX (Disinfecting Water Mains) shall be followed.

Chlorinated water shall be properly disposed of using dechlorination procedures outlined in the current American Water Works Association standard C651-XX (Disinfecting Water Mains) and shall comply with all regulations including the District's Storm Water Discharge Permit. The Inspector shall be provided with proof of uniform dechlorination at a minimum of 10 minute intervals during disposal using an approved test procedure. Dechlorination shall be maintained at 0.0 PPM at all times during any disposal of any water into a drainage system.

### Before project construction begins:

1. CHWD Water Quality personnel shall sample for both Coliform (Presence/Absence) and Heterotrophic Plate Count (HPC) on mains adjacent to the project. (SimPlate may be substituted for HPC)

### During project:

2. CHWD Project Management personnel will provide a 24-hour notice to the Regional Water Quality Control Board for all flushing events.
3. The newly constructed mains shall be filled by the contractor and purged to remove any trapped air using the District-approved and tested backflow prevention device specification. All best management practices shall be followed to insure no sediment or chlorine reaches any drain inlet or creek.
4. The newly constructed mains shall pass the District pressure check requirements.
5. The mains shall be chlorinated between 50-100 ppm for a minimum of 24 hours by the contractor using an approved chlorination specialist.
6. The chlorine concentration shall be checked after 24 hours and a minimum residual of 25 ppm must be present throughout the new mains.
7. The mains shall be flushed by the contractor until the chlorine concentration matches the normal system residual. All best management practices shall be followed to insure no sediment or chlorine reaches any drain inlet or creek.



8. CHWD Project Management personnel shall submit a sampling plan to the Operations Manager for approval.
9. CHWD Water Quality personnel, when practical, will collect Coliform and HPC samples according to the approved sampling plan. The sampling schedule will be submitted to the Operations Manager and the Water Quality Supervisor with at least a 24-hour notice.
10. Samples shall be taken for both Coliform and Heterotrophic Plate Count (HPC) at 24 and 48 hour intervals after completion of flushing.
11. CHWD Project Management personnel shall submit negative sample documentation to Operations Manager for acceptance prior to the any connections to the CHWD distribution system. Sample result documentation generally takes 3-5 business days after samples are delivered to lab.
12. CHWD Water Quality personnel will sample mains downstream of project for Coliform and HPC after the new main is connected to the CHWD distribution system.

# CITRUS HEIGHTS WATER DISTRICT

## Timetable for Disinfection/Sampling Procedure

Adopted: October 28, 2014

The Contractor shall allow 8-10 business days for the Disinfection/Sampling Procedure prior to any connection to the District's distribution system. Larger systems will require additional time for chlorination and flushing. Bacteriological samples shall only be collected between 8:00am and 2:00pm Monday through Thursday. Any positive results on any sample taken shall require a repeat of the Disinfection/Sampling Procedure until all samples test negative. HPC samples require a plate count of less than 500 on any sample taken.

1. DAY 1 - Chlorinate new mains to 100 PPM and complete to allow flushing time on following day.

---24-hour chlorine detention period---

2. DAY 2 - Flush new mains to normal residual and complete before 2:00pm. (Similar to system residual)

---24-hour sampling detention period---

3. DAY 3 - Obtain first Coliform and HPC samples before 2:00pm.

---24-hour sampling detention Period---

4. DAY 4 - Obtain second Coliform and HPC samples before 2:00pm.

---3 to 5 business days for laboratory testing and review---

5. DAY 7-9 - Sample documentation provided to Operations Manager and customer notification of shut-down

---24-hour notification period---

6. DAY 8-10 - Connection to CHWD distribution system only after clearance from Operations Manager is received.

## **ATTACHMENT 2**

District Policies (5000, 7000, 8000, and 9000 series) as  
Listed in Table 2 of B-1 Staff Report

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CITRUS HEIGHTS WATER DISTRICT  
POLICIES AND PROCEDURES MANUAL

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POLICY TYPE : OPERATIONS  
POLICY TITLE : MAINTENANCE OF WATER METERS AND DISTRICT-OWNED  
WATER SERVICES, OWNER RESPONSIBILITY FOR EQUIPMENT  
AND APPLIANCES FROM POINT OF CONNECTION TO WATER  
METER  
POLICY NUMBER : 5300  
DATE ADOPTED : MAY 8, 2007  
DATES AMENDED : JUNE 17, 2020; NOVEMBER 15, 2023; MAY 27, 2025

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5300.00 MAINTENANCE OF WATER METERS AND DISTRICT-OWNED  
WATER SERVICES, OWNER RESPONSIBILITY FOR EQUIPMENT  
AND APPLIANCES FROM POINT OF CONNECTION TO WATER  
METER

5300.10 Responsibility for Maintenance of Water Meters

Water meters are the property of the District and a part of the District's water distribution system. All maintenance and repair work on water meters and related equipment and facilities shall be performed by the District or its authorized representatives.

5300.15 Responsibility for Maintenance of Water Services

Water services are the water system components from the water main to the water meter, including meter and meter box. Unless otherwise specified on the District's Facilities Map, water services served by public mains are owned by the District. Water services served by private mains are owned by the property owner, except for the meter, which is owned and maintained by the District.

All components downstream from the water meter are owned by the property owner. Property owner is solely responsible for installation, operation, maintenance, and replacement of all components downstream of District facilities, including backflow prevention assemblies.

5300.20 Repairs to Water Meters and District-Owned Water Services

The District shall repair or replace water meters and District-owned water services at its sole discretion. When a water meter is determined to be non-operational or is removed for repair, property owners may be billed for water consumption using an estimate based on previous consumption history at the discretion of the Assessor/Collector or his or her designee.

5300.30      Access to Water Meters and District-Owned Water Services

Property owners are responsible for maintaining unrestricted and unobstructed access at all times to District water meters and other District equipment and facilities located on their property. Access shall be maintained in a manner that allows the District at all times to read, inspect, maintain, repair or replace the water meter and water system components. Access that is restricted by vegetation, landscaping materials or features, fencing, parking of vehicles or other obstructions shall be remedied by the property owner at the property owner's sole expense. Any restriction or obstruction not remedied by the property owner within 30 calendar days of written notification from the District may be remedied by the District. The District shall hold the property owner or the owner's legally-authorized representative responsible for any costs incurred by the District in remedying the restriction or obstruction.

Water meters and District-owned water services are generally located within a right-of-way, public utility easement, or dedicated easement to the District. For facilities that are not located within the above and are located on the property owner's private land, each property owner irrevocably licenses the District and its authorized employees and representatives to enter upon the property owner's land at all reasonable times for the purpose of reading, inspecting, testing, checking, repairing, maintaining, or replacing the District's facilities as a condition of receiving water service from the District.

5300.35      Access to Backflow Prevention Assemblies

Property owners are responsible for maintaining unrestricted and unobstructed access at all reasonable times to backflow prevention assemblies. Access shall be maintained in a manner that allows the District to inspect and/or test backflow prevention assemblies to ensure protection of the water system.

5300.40      Damage to Water Meters and District-Owned Water Services

Damage to water meters, District-owned water services, and other District-owned equipment and facilities such as water meter boxes, valves, water meter setters, or curb stops, shall be repaired or replaced by the District and may be billed to the property owner at the sole discretion of the Assessor/Collector or his or her designee. Property owners shall be notified of damage in writing by the District. Tampering with water meters or other District facilities is a punishable offense under Section 498 of the Penal Code of the State of California.

5300.50      Responsibility for Backflow Prevention Assemblies

Property owners are responsible for keeping all backflow prevention assemblies required by the District in good working order and safe condition. The District is not responsible for any loss or damage directly or indirectly resulting from or caused by any improper or negligent installation, operation, use, repair, or maintenance of, or interfering with, any backflow prevention assembly by any property owner, customer, or any other person.

5300.60      Responsibility for Equipment Downstream of District Facilities

Property owners are responsible for damages to any and all plumbing, equipment, appliances, and/or facilities downstream of District facilities. Damages shall be repaired or replaced by the property owner at the property owner's sole expense.

For private water services, the property owner is responsible for all the water service components except for the water meter and meter box.

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CITRUS HEIGHTS WATER DISTRICT  
POLICIES AND PROCEDURES

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POLICY TYPE : OPERATIONS  
POLICY TITLE : RELOCATION OF WATER METERS  
POLICY NUMBER : 5310  
DATE ADOPTED : MAY 8, 2007  
DATE AMENDED : MAY 27, 2025  
AMENDMENTS :

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5310.00                    RELOCATION OF WATER METERS

5310.10                Property Owner Request for Water Meter Relocation

Relocation of a water meter from an existing location to another location shall be permitted at the sole discretion of the District. All property-owner-requested relocations shall require a written authorization and agreement signed by the property owner or the owner's authorized representative which shall include the following items prepared by the District:

- A. A written estimate of the costs for performing the relocation work;
- B. The District's estimated schedule for performing the work; and
- C. A site map showing the proposed relocation.

5310.20                Payment Requirement

The District shall require payment in full of the estimated cost of the relocation work at the time that the property owner's written authorization is submitted.

5310.30                Performance of Water Meter Relocation Work

Work to relocate water meters and related equipment shall be performed only by the District or its authorized representatives, unless specific authorization is given to a property owner requesting water meter relocation.

The property owner or its private contractor may relocate water meters only under written authorization by the District. The property owner shall submit required plans and pay associated District Engineering Fees. The property owner shall further require the contractor to assign all warranties to the District, and take other actions or requirements as deemed necessary by the District.

Work may commence only upon approval of plans by the District Engineer or authorized representative. Private contractors shall have a Class A Contractor's License, and the work shall be conducted under the supervision of authorized District personnel.

5310.40                District-Initiated Water Meter Relocation

Relocation of water meters may be performed by the District at the District's expense when it is determined that the relocation is in the best interest of the District.



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CITRUS HEIGHTS WATER DISTRICT  
POLICIES AND PROCEDURES MANUAL

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POLICY TYPE : OPERATIONS  
POLICY TITLE : FIRE HYDRANT OPERATION AND MAINTENANCE  
POLICY NUMBER : 5930  
DATE ADOPTED : MARCH 18, 1997  
DATE AMENDED : NOVEMBER 16, 2022; MAY 27, 2025

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5930.00 FIRE HYDRANT OPERATION AND MAINTENANCE

The purpose of this Policy is to ensure regular and consistent execution of the preventive maintenance, inspection, and testing of hydrants throughout the distribution system. The hydrant maintenance program shall be conducted in accordance with the American Water Works Association (AWWA) Manual M17 Fire Hydrants: Installation, Field Testing, and Maintenance.

5930.01 Public Fire Hydrants

Public fire hydrants shall generally be defined as those fire hydrants located immediately adjacent to a public street or right-of-way or within a public utility easement or easement granted to Citrus Heights Water District. Said public fire hydrants shall typically be in unsecured locations and immediately accessible for public fire protection purposes by the fire protection agency.

5930.02 Private Fire Hydrants

Private fire hydrants shall generally be defined as those fire hydrants not defined in Section 5930.01 above, being served by a private water system, or where identified on the District's water facility map. Maintenance of private fire hydrants is the responsibility of the property owner.

5930.03 Contents of the Program

The Fire Hydrant Operation and Maintenance Program shall identify and outline the steps for operating and maintaining the public fire hydrants, including, but not limited to, the following:

- a. Frequency of periodic inspection and maintenance checks
- b. Maintenance items to be performed
- c. Procedures for inspecting and testing fire hydrants
- d. Procedures for placing inoperable or damaged fire hydrants out of service and facilitation of restoration of service
- e. Methodology (routing and sequence) for performing bi-annual maintenance
- f. Minimum access clearances to be maintained around fire hydrants
- g. Steps needed to protect hydrants from damage
- h. Records to be maintained, including installation, inspection, and repair reports
- i. Specifications on each type of hydrant in the District's system, including

assembly diagrams and parts lists.

- j. Coordination with Water Distribution System Flushing Program
- k. Coordination with the fire protection agency having jurisdiction

5930.04      Preparation, Review and Amendment of the Program

The Fire Hydrant Operation and Maintenance Program shall be prepared under the direction of the General Manager or designee. The Program shall be reviewed every two years or more often as necessary to ensure the accuracy of the information and effectiveness of the procedures outlined therein. Revision or amendment of the Program shall typically be performed before beginning a new inspection, testing and maintenance cycle.

5930.05      Implementation of the Program

The General Manager or designee is responsible for implementing and maintaining the Program.

7500.00

CAPACITY FEES

Assessment and collection of Capacity Fees are approved as an equitable method for assessing new connections, reconnections or enlarged connections an appropriate share of capacity in existing District facilities and assets. This method of assessing capacity fees is typically referred to as the “System Buy-In Methodology”.

7500.01

Method of Determination

The District shall identify and quantify the replacement cost less depreciation value of the District’s assets including transmission and distribution pipelines and infrastructure, groundwater production or injection wells, buildings and improvements, machinery and equipment, real property, easements and rights-of-way, and capacity entitlements in the San Juan Water District Cooperative Transmission Pipeline.

The District will evaluate the total number of metered water service connections to the water system and, utilizing the capacity indices provided below; determine the total number of current equivalent one-inch connections.

The value of an equivalent one-inch connection to the water system is determined as the “replacement cost less depreciation value of the District’s assets” divided by the “number of current equivalent one-inch connections”.

The values for differing sizes of metered water service connections are determined as the “value of an equivalent one-inch connection” multiplied by the “capacity index” based on meter size as provided in Section 7500.02.

7500.02

Method of Assessment

Assessments, unless otherwise specified, shall be based upon water meter size with capacity indices determined by the American Water Works Association (AWWA) maximum meter flow rates per AWWA Manual M22 Sizing Water Service Lines and Meters (Fourth Edition), Table 6-1 as follows:

<u>Meter Size</u>	<u>Capacity Index</u>
0.625”	0.40
0.75”	0.60
1.00”	1.000
1.50”	2.00
2.00”	3.20
3.00”	7.00
4.00”	12.60
6.00”	26.00
8.00”	56.00
10.00”	84.00
12.00”	105.17

The capacity indices of meter sizes 0.625” through 2.00” are based upon displacement type meters. The capacity indices of meter sizes 3.00” and 4.00” are based upon compound type meters. The capacity indices of meter sizes 6.00” through 12.00” are based upon turbine type meters.

Capacity Charges shall not be assessed for connections associated with fire protection facilities.

#### 7500.03      Adoption of and Amendments to Capacity Charge Schedule

A Capacity Charge Schedule and revisions or amendments thereto shall be adopted by Resolution of the Board of Directors after conducting a duly noticed public hearing to receive comments on the Schedule.

The Capacity Charge Schedule shall typically be reviewed in conjunction with evaluation, establishment and adoption of other District water rates, charges and fees.

#### 7500.04      Payment of Capacity Fees

Capacity Charges for commercial projects shall be paid in full prior to water facilities construction.

Capacity Charges for a “designated qualifying residential development project” as that term is defined in Government Code Section 66007 (projects with less than 10 units) shall be paid in full upon final inspection or issuance of certificate of occupancy, whichever comes first. The collection of Capacity Fees for a “designated residential development project” shall comply with all requirements set forth in Section 66007. Capacity Fees for a “designated residential development project” will be calculated using the fee rate in effect at the time the District receives the application for service.

Capacity Fees for any other residential project not classified under Section 66007 as a “designated residential development project” shall be paid in full prior to water facilities construction.

#### 7500.05      Refund of Capacity Charges

Capacity Charges collected by the District for which no water distribution system or water service(s) construction has taken place for a period of twelve (12) months from the date of payment shall be refunded without interest to the payee upon their written request. Refund of Capacity Charges which were paid by a credit card or other means for which the District is subject to processing fees shall have the refund amount reduced by the amount of said fees. The current Capacity Charge Schedule will then apply for future assessments.

#### 7500.06      Credit for Existing Service(s)

Re-development of properties for which service has previously been provided will be given credit for the capacity index of the existing service or services to the property even if proposed for abandonment as part of the development. Credits shall not exceed capacity index of the new service or services to be provided.

7600.00

## DEVELOPMENT FEES

Assessment and collection of Development Fees may be established by the Board for new or modified service connections. Such fees may be set in any lawful method, including, but not limited to, a time and materials basis with a deposit account, standard fee based on the estimated reasonable cost, or a standard fee with a time and materials surcharge for unusual effort. Such fees are necessary and appropriate to reimburse the District for costs of services performed, or to be performed by the District. Costs for other District efforts associated with development projects, not provided by these development fees, shall be charged based on District staff, equipment, and material costs, including administrative costs. Charges shall be paid prior to plan approval or project acceptance, as determined by the District Engineer or designee.

Any and all fees and deposits paid to the District shall be in United States funds, cash, check, or electronic transfers.

### 7600.01 Method of Determination

Development Fees shall be in the amounts established by separate ordinance or resolution of the Board for services including but not limited to the following:

1. Plan Check
2. Inspection
3. Meter Sets

### 7600.02 Adoption of and Amendments to Fee Schedule

A Fee Schedule and revisions or amendments thereto shall be adopted by Resolution of the Board of Directors after conducting a duly noticed public hearing to receive comments on the Schedule.

The Fee Schedule shall typically be reviewed in conjunction with evaluation, establishment and adoption of other District charges and fees.

### 7600.03 Payment of Development Fees

**Plan Check:** Development Fees associated with project plan check shall be paid by the project applicant (Applicant) in full prior to plan approval. Project plan check fees assume review of three (3) iterations of improvement plans for which the fees are charged; review of additional iterations is beyond typical services and will require additional charges. Payment for additional plan check services beyond typical services shall be made prior to approval of plans.

**Inspection:** Development Fees associated with project inspection (submittal reviews, meetings, inspection, and testing of water system improvements) shall be paid in full prior to commencement of any water facilities construction related activities.

**Meter Set:** Development Charges associated with meter sets (meter and meter installation

by District) shall be paid in full prior to commencement of any water facilities construction related activities.

Other fees and charges established by the Board shall be due and payable as specified in the ordinance or resolution establishing such fees or charges.

Fees associated with work that is outside the scope of the approved plans or that will be performed outside the District's normal business hours shall be paid in a timely manner and prior to project acceptance.

7600.04        Failure to Timely Pay Fees and Charges

Failure to pay fees or charges incurred during construction and prior to project acceptance may result in halt in construction inspection, provision of services that the District provides, or project acceptance by the District/notice of completion, until such fees or charges are paid in full.

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CITRUS HEIGHTS WATER DISTRICT  
POLICIES AND PROCEDURES MANUAL

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POLICY TYPE : WATER SERVICE  
POLICY TITLE : BASIS OF SERVICE  
POLICY NUMBER : 8200  
DATE ADOPTED : MAY 27, 2025  
DATE AMENDED :

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8200.00 BASIS OF SERVICE

The District may provide water service to a customer, or an applicant or developer requesting service from the District for its property, providing the following conditions are met.

8200.01 Service Area Requirement

No connection shall be made and no service shall be provided to a customer and/or property outside of the District's service area without the approval of the District Board of Directors and the Local Agency Formation Commission (LAFCo).

8200.02 Requirement of Supply Capacity

The District must possess adequate water supply to serve the requested water demands.

8200.03 Adequate Infrastructure – Existing Adjacent Mains

No connection for service provided by the District shall be made if sufficient capacity is not available in the District's water system, as determined by the District's Board of Directors. District water mains of adequate capacity must exist in public right(s)-of-way adjacent to the applicant's parcel.

8200.04 Adequate Infrastructure – No Existing Adjacent Mains

If an existing main of adequate capacity does not exist, the applicant shall provide a main at their own expense, which shall be constructed in the public right(s)-of-way adjacent to the entire frontage of the parcel and/or in an approved easement. All main extensions shall be designed and constructed in accordance with all applicable District Standards, Policies, and Master Plan.

If extending the main along the entire frontage of the parcel is deemed not economical by the District Engineer, the District may allow a water meter to be set at the nearest water main. The applicant shall then install a service line at their own expense from the water meter to the property and shall be responsible for obtaining

appropriate property rights required for installation and maintenance of the water service line.

8200.05      Application for Water Service

A new connection for water service will be considered only after an application for water service has been filed with the District in compliance with Policy 8300.

8200.10      WATER USE

Water from the District shall be used for all domestic and irrigation purposes within the District's water service area, provided that the following conditions are met:

A. Water Use Prioritization

1. There is not an alternative higher or better use for the water.
2. The proposed water use is economically justified, financially viable, and technically feasible.

B. Compliance and Sustainability

1. Water use complies with state law and regulatory requirements.
2. Water use preserves public health, safety, and welfare.
3. Water use aligns with environmental protection standards.

8200.11      New Development – Water Service Required

Unless otherwise provided under this policy, all new development within the District's water service area may only use water from the District for domestic and irrigation uses. New development shall install water facilities in conformance with the District's Standards, as amended from time to time. Subject to requirements or decisions issued by applicable land use authorities within the District's service area, such water facilities shall be connected to and use District water services.

8200.12      New Development – Water Service Exemption

New development within the District's water service area shall be exempt from the requirements of this section if the District Engineer makes any of the following determinations:

- A. Water service is not economical because of its distance from available or planned water sources. The determination that water service is not economical shall be determined by the District Engineer using studies as deemed appropriate. Nothing shall require that the District Engineer hold a hearing or take any evidence.
- B. Demands within the development are very slight relative to overall water demands.
- C. Inadequate water supply is available to serve the demand.
- D. The requirements set forth in this section conflict with requirements or decisions issued by local land use authorities.



Applicants who drill their own wells are not subject to this section, with the exception that a backflow prevention device shall be installed if the applicant's property is also connected to the District's water system as required under Policy 8400.31.

POLICY TYPE : WATER SERVICE  
POLICY TITLE : APPLICATION FOR WATER SERVICE  
POLICY NUMBER : 8300  
DATE ADOPTED : MAY 27, 2025  
DATE AMENDED :

The District will not provide water service to any parcel unless an application for water service has been filed with the District. Receipt of the application shall not obligate the District to provide water service until the application has been approved by the District Engineer.

An applicant requesting water service shall file a completed application with the District, as provided in the District Standards.

An applicant shall complete an application with the District as provided in the District Standards, for the following services.

- A. Request modifications to water facilities due to different anticipated or current water demands placed on District services previously approved.
- B. Requesting service where all service lines are already in place and improvements are required to connect to the service line.

The District shall have the right to refuse to furnish water or to discontinue water service to any premises for the following reasons:

- A. To protect the District and/or the water system from fraud and abuse;
- B. The requested water service demand may be detrimental or harmful to the water system, other existing customers, or harmful to the environment or public health;
- C. The water service does not meet the requirements of Policy 8200, Basis of Service.
- D. Non-payment of District fees and charges.

8300.20 REQUIREMENT OF PAYMENT OF FEES

Service to a customer and/or to property will be granted only if the fees due at time of connection and any bills and penalties to or against the property by the District are paid.

8300.30

NON-APPLICABILITY TO DISTRICT

The provisions of this policy do not apply to the District when it is obtaining District services for its own use or for use on real property owned by the District.

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CITRUS HEIGHTS WATER DISTRICT  
POLICIES AND PROCEDURES MANUAL

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POLICY TYPE : WATER SERVICE  
POLICY TITLE : SERVICE REQUIREMENTS  
POLICY NUMBER : 8400  
DATE ADOPTED : JANUARY 21, 1997  
DATE AMENDED : FEBRUARY 6, 2001; MAY 27, 2025

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8400.00 REQUIREMENT OF SEPARATE SERVICE CONNECTIONS

8400.01 Separate Service Connection for Each Building

Each building shall have a separate water meter, except for an accessory dwelling unit contained within the existing space of a single-family residence. The District Engineer may allow a single meter and service to serve multiple buildings on the same property, provided that the buildings have substantially similar use, or are common spaces such as pools, community buildings, or laundry facilities.

Multi-family residential communities, consisting of one or more residential buildings, to accommodate three (3) or more households living independently of each other in separate dwelling units, and mobile home communities, consisting of any site on which two or more residential mobile home lots are located, may be served by a common meter or by separate meters, as determined by the District Engineer.

8400.02 Separate Service Connection for Service Types

With the exception of single-family residences, fire services and other service types shall have a separate meter and water service connection to the District water system, unless otherwise approved by the District Engineer.

8400.03 Separate Service Connection for Each Property

Each parcel of land shall be served by a separate water service, except for irrigation water meters serving multiple parcels under common ownership, unless otherwise approved by the District Engineer.

8400.10 REQUIREMENT OF APPROVAL OF SERVICE CONNECTION

Service connections to the mains (private or public) shall be made only with approval of the District Engineer, at points and in a manner approved by the District Engineer.

Connection of a water service, or any portion thereof, to the District's systems shall be made

by the applicant and at the applicant's expense. Construction of any water service must be completed in accordance with the applicant's approved plans and in compliance with the District's Standards, to the satisfaction of the District Engineer. Once approved by the District, the applicant may begin use of the water service.

#### 8400.20                    SIZE AND LOCATION OF SERVICE CONNECTIONS

The District shall regulate the size and location of each water meter and service.

Water service size shall be in accordance with Section 8400.21, and no less than the size of the water meter. Water meter size shall be in accordance with Policy 8404.

Water service line and meter locations shall be in accordance with the District Standards, as amended from time to time.

#### 8400.21                    Water Service Size

For single-family residential parcels, the water service line size shall be equivalent to the water meter size, except for three-quarters (3/4) inch meters which shall require a water service line one (1) inch in diameter. Residential parcels requesting water service line greater than the minimum will be evaluated on a case-by-case basis.

For multi-family residential and non-residential parcels, service line sizes shall be as determined by the Applicant's engineer and approved by the District Engineer.

#### 8400.30                    PROHIBITION OF CROSS-CONNECTIONS

No person, firm, or corporation may make or maintain or cause to be made or maintained, temporarily or permanently, for any period of time, a cross-connection between plumbing pipes or water fixtures being served by the District and any other water supply source. No sanitary sewer fixture or other appurtenances or fixtures may be maintained which, by reason of their construction, may cause or allow backflow of water or other substances into the District water supply system and/or the service connections or fixtures of any customer of the District.

To obtain water service, a customer or applicant shall install a backflow prevention assembly where required by the District.

#### 8400.31                    Where Protection Is Required

- A. Protection shall be required at or as close as possible to each service connection from the public water system that supplies water to premises having an auxiliary water supply.
- B. Protection shall be required at or as close as possible to each service connection from the public water system that supplies water to premises on which any substance is or may be handled in such a manner as to permit

entry into the public water system, including water originating from the public water system which is or may be subjected to deterioration in sanitary quality.

- C. Protection shall be required at or as close as possible to each service connection to any premises that has cross-connections unless such cross-connections are abated to the satisfaction of the District.

8400.32      Installation of Backflow Prevention Assemblies

Where protection is required in Section 8400.31, the customer shall install a backflow prevention device as required in the District Standards and under Resolution 10-2017. The approved backflow prevention device shall be installed in conformance with the installation requirements contained in the District's most current Standards.

8400.33      Maintenance and Inspection of Backflow Prevention Assemblies

The costs of the approved backflow prevention device, its replacement, maintenance and inspection are the responsibility of the customer. Testing of the device must be performed by the District or an approved backflow prevention device tester, who is on the District's current list of approved testers. The customer shall submit an annual backflow prevention device test report to the District.

8400.34      Upgrade of Backflow Prevention Assemblies to Current Standards

A previously installed device which does not conform to current standards may remain in operation until such time as it requires replacement, any incidents of backflow have occurred, any changes are to be made to the premises it serves, any change in use of the premises occurs, or any updates to local or State regulations require replacement. Should any one of the aforementioned events occur, the previously installed device shall be replaced with a current approved device.

8400.40      RESTRICTIONS ON USE OF SERVICE

The use of a service connection is limited to the specific use for which the application for service is filed. If any development occurs that is different from the original project, then the District may have additional requirements or require additional fees.

All of the land covered by the approved application for service must remain owned by a single property owner. If any part of the land is transferred into separate ownership, additional capacity fees and service charges may apply.

The District may periodically inspect the premises. If a violation of this policy is found, a charge for service shall be made to cover the period during which unauthorized service was obtained, as determined by the District Engineer and approved by the Board. Nothing in this policy shall be construed to limit the availability of any other remedies provided herein or otherwise, including termination of service.

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CITRUS HEIGHTS WATER DISTRICT  
POLICIES AND PROCEDURES MANUAL

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POLICY TYPE : WATER SERVICE  
POLICY TITLE : METERING OF WATER SERVICES  
POLICY NUMBER : 8404  
DATE ADOPTED : JANUARY 21, 1997  
DATE AMENDED : APRIL 1, 2003; MAY 27, 2025  
AUTHORITY : SB 229

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8404.00 METERING OF WATER SERVICES

District requires meters for all water services. Meters shall be installed per the District Standards at the point of connection to the District's water main, unless otherwise authorized by the District Engineer.

Water meters shall read on a frequency of not less than bi-monthly.

8404.10 METERING REQUIREMENTS

New services, including conversions of existing services to alternate use types, shall be metered at the expense of the property owner, developer, or governmental agency. All services equipped with meters will be billed immediately upon meter installation, unless the property owner requests the meter to be locked or turned off.

Parcels shall have a separate irrigation meter when the parcel includes more than the prescribed square footage of irrigable landscape area per the authority having jurisdiction. The irrigation meter shall be either part of a dedicated metered irrigation service from the District or a privately owned submeter.

8404.20 BILLING

Billing shall be on a bimonthly basis pursuant to Accounts Receivable Policy 7170.

8404.30 WATER METER SIZES

Meters shall be sized by the project engineer to sufficiently serve the water demands of the property or project.

All other water meter sizes shall be as identified in the following sections.

8404.31      Single Family Residential

- A. Single Dwelling – Detached: Single parcel with one (1) detached dwelling unit; minimum one (1) inch meter.
- B. Single Dwellings – Detached: Single parcel with two (2) detached dwelling units, one of which is an accessory dwelling unit; minimum one (1) inch meter. An additional service line and minimum three-quarters (3/4) inch meter may be allowed for the accessory dwelling unit.
- C. Halfplex Dwelling – Attached: Common wall halfplex designed for occupancy by two households, each side being its own parcel; minimum three-quarters (3/4) inch meter per parcel.
- D. Duplex Dwelling – One side: Common wall duplex designed for occupancy by two households living independently of each other, on a single parcel; one (1) service line supplying each side, minimum three-quarters (3/4) inch meters.
- E. Condominium/Townhome: Multiple (3 or more) attached dwellings, where each unit has its own front access at the ground floor, each having its own service; minimum three-quarters (3/4) inch meter.

Residential parcels requesting water meter size greater than the minimum will be evaluated on a case-by-case basis.

8404.32      Multi-Family Residential

For multi-family residential communities, consisting of one or more residential buildings, each divided to accommodate three (3) or more households living independently of each other in separate dwelling units, and mobile home communities, consisting of any site on which two or more residential mobile home lots are located, meter sizes shall be as determined by the Applicant's engineer based on maximum continuous demand and approved by the District Engineer.

8404.33      Non-Residential

For non-residential parcels, including but not limited to parcels designated for any commercial, institutional, or industrial uses, meter sizes shall be as determined by the Applicant's engineer and approved by the District Engineer, but no less than 1-inch.



CITRUS HEIGHTS WATER DISTRICT  
POLICIES AND PROCEDURES MANUAL

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POLICY TYPE : INFRASTRUCTURE  
POLICY TITLE : WATER SYSTEM MASTER PLAN  
POLICY NUMBER : 9000  
DATE ADOPTED : MAY 27, 2025  
DATE AMENDED :

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9000.00                    MASTER PLAN

The Water System Master Plan (WSMP) is the primary long-term planning document for the Capital Improvement Plan. The WSMP shall have up to a 25-year planning horizon and identify projects and their planning-level funding requirements. The WSMP shall be updated periodically. The purpose of the WSMP is to provide a sound basis for establishing goals and making decisions concerning current and future District operations.

9000.01            Contents of the WSMP

Elements covered with the WSMP may include, but are not limited to, areas such as water supply, water demand, finances, capital improvements, environmental impacts, and organizational issues pertinent to the mission of the District. Any elements that will serve to support future planning and decision making may be incorporated as part of the WSMP.

9000.02            Preparation of the WSMP

The WSMP and revisions or amendments thereto shall be prepared under the direction of the District Engineer and presented to the Board of Directors for review and consideration for adoption.

9000.03            Adoption of the WSMP

The Master Plan and revisions or amendments thereto shall be adopted by Resolution of the Board of Directors.

9000.04            Review and Amendment of the WSMP

The District shall review the WSMP every five years following its initial adoption, or more often as necessary, to determine if an amendment of the WSMP is required.

9000.05            Administration of the WSMP

The General Manager shall administer and implement the WSMP at their discretion. The administration and implementation of the WSMP is subject to direction from the Board of Directors. The Board of Directors retains the authority to consider and separately authorize all matters contained in the WSMP.

CITRUS HEIGHTS WATER DISTRICT  
POLICIES AND PROCEDURES MANUAL

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POLICY TYPE : INFRASTRUCTURE  
POLICY TITLE : CAPITAL IMPROVEMENT PLAN  
POLICY NUMBER : 9010  
DATE ADOPTED : MAY 27, 2025  
DATE AMENDED :

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9010.00                    CAPITAL IMPROVEMENT PLAN

A Capital Improvement Plan (CIP) shall be prepared, implemented, and maintained to be used as a planning tool to assist the District in construction and replacement of capital facilities required to provide water service to current and future customers.

9010.01            Contents of the CIP

The CIP shall incorporate projects identified in the most recently adopted WSMP. The CIP shall identify and quantify potential capital improvement projects. The CIP shall also include estimated construction costs and project schedule.

9010.02            Preparation of CIP

The CIP shall be prepared under the direction of the General Manager and presented to the Board of Directors for review and consideration.

9010.03            Adoption of the CIP

The CIP shall be adopted by Resolution of the Board of Directors. Revisions and amendments thereto shall be at the discretion of the General Manager.

9010.04            Review and Amendment of the CIP

The CIP shall be reviewed annually. Adoption of a revised or amended CIP shall be conducted each year prior to establishing the budget for the following year.

9010.05            Administration of the CIP

The General Manager shall select and schedule the replacement of District facilities at their discretion, subject to sufficient funding availability. The Board of Directors retains the authority to consider and separately approve all capital improvement projects contained in the CIP.

Estimated construction or replacement dates contained in the CIP are planning estimates only and shall not be considered as a commitment to construct or replace said facilities.

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CITRUS HEIGHTS WATER DISTRICT  
POLICIES AND PROCEDURES MANUAL

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POLICY TYPE : INFRASTRUCTURE  
POLICY TITLE : ENGINEERING STANDARDS  
POLICY NUMBER : 9100  
DATE ADOPTED : MAY 27, 2025  
DATE AMENDED :

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9100.00 PURPOSE

The purpose of this policy is to establish Engineering Standards for the design and construction of improvements to the District's water system. Engineering Standards are necessary to require minimum acceptable quality of design and construction of water infrastructure improvements. All improvements, modifications, and repairs to the District's water system will be planned, designed, and constructed in conformance with these Engineering Standards, any applicable District Regulations, and with any applicable special conditions that have been approved by the District.

9100.10 AUTHORITY

In conformance with the California Water Code, Division 12, County Water Districts, the General Manager has the full responsibility and authority to set standards for the planning, design, construction, modification or repair of the District's water system. The Board of Directors recognizes this authority and through this document, acknowledges this as the policy of the District.

9100.20 RESPONSIBILITY

The primary responsibility for enforcement of the policies in Series 9000 is vested in the District Engineer. The District Engineer or General Manager may authorize a field inspector or other employee of the District to act as an agent of the District on behalf of the District Engineer, with the power to inspect and issue notices of violations of this policy.

9100.30 GUIDELINES

9100.31 Design

All design work for water facilities, including the preparation of design plans, specifications, reports, and other associated documentation, shall be conducted in strict compliance with the District Engineering Standards, or variance thereof, as

approved by the District Engineer. All design plans, specifications, reports, and other associated documents shall be prepared by a professional civil engineer registered in the State of California.

9100.32      Construction and Inspection

All water facility construction work in the District shall be done in strict compliance with the Applicant's improvement plans and the Engineering Standards, as each is approved by the District Engineer.

9100.33      Right of Inspection and Access

The General Manager and the officers and agents of the District shall have unrestricted access at reasonable hours to all premises to which the District provides services to inspect the water facilities, meter, or other measuring apparatus and to see that the Engineering Standards regarding the installation of water facilities, and taking, use, or waste of water are being observed.

9100.14      Adoption of the Engineering Standards

The Board of Directors shall adopt the District Engineering Standards by resolution.

9100.15      Review and Amendment of the Engineering Standards

District Engineer shall have authority to update technical engineering details, drawings, and standards. Substantive changes to administrative requirements shall be presented to the Board of Directors for adoption.

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CITRUS HEIGHTS WATER DISTRICT  
POLICIES AND PROCEDURES MANUAL

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POLICY TYPE : INFRASTRUCTURE  
POLICY TITLE : DEVELOPMENT INFRASTRUCTURE EXPANSION  
POLICY NUMBER : 9200  
DATE ADOPTED : MAY 27, 2025  
DATE AMENDED :

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9200.00 PURPOSE

The purpose of this policy is to establish clear guidelines and responsibilities for the planning, design, construction, funding, operation and maintenance of the District water system expansion. This policy provides framework for decision-making related to infrastructure expansion by development, including the roles of the District and Applicants (the owner of property being developed, the property developer, or their agent or representative) in funding and constructing facilities, the criteria for property dedication, and the process for asset acceptance.

9200.10 MAJOR INFRASTRUCTURE

For the purposes of this policy, major infrastructure includes, but is not limited to, all wells, , pump stations, storage tanks, chemical addition, and other similar facilities which provide for water distribution and/or production, as well as the primary interconnecting pipeline loop between facilities and all pipelines with a diameter equal to or greater than 14 inches. The District retains the right to define specific major infrastructure on a “case by case” basis.

9200.11 Major Infrastructure Planning, Design, and Construction

The District shall be directly responsible for the planning, design, and construction of major infrastructure directly through the District's organization. This policy applies to major infrastructure regardless of its location or portion of the District’s service area benefitted thereby.

At its option, the District may assign by written agreement the design and construction responsibilities for such major infrastructure to an Applicant to minimize construction conflict or to serve development areas in a timely manner. The agreement assigning the design and construction responsibilities to an Applicant shall specify terms of reimbursement for design and construction of major infrastructure and include terms requiring the Applicant to strictly comply with any District Standard, as approved by the District Engineer. Such agreement shall conform to the requirements of Policy

9200.12      District Maintenance Responsibility

The District shall maintain major infrastructure that is sized to meet future demands in suitable operating condition to provide service to future customers using the excess capacity built into major infrastructure.

A buy-in component shall be incorporated into Capacity Fees related to the portion of the capacity of the major infrastructure that is reserved for future growth within all or a portion of the District's service area.

9200.13      District Funding Responsibility

The District shall fund planning, design, construction, and renewal and replacement costs of major infrastructure from capacity fees or other special financing arrangements paid by those within the District's service area, or portion thereof, that receive the benefit of the major infrastructure.

9200.20      MINOR INFRASTRUCTURE

For the purposes of this policy, minor infrastructure includes all water system infrastructure that is not defined as major infrastructure in Section 9200.00.

9200.21      Minor Infrastructure Planning, Design, and Construction

The Applicant shall be directly responsible for the planning, design, and construction of all minor infrastructure, and associated costs thereof, to extend water service and distribute water within its project area. All minor infrastructure shall be in full compliance with the requirements of District's most recent Water System Master Plan, Policies, Standards, and such other pertinent requirements specified by the District.

The Applicant shall donate minor infrastructure to the District in accordance with District Standards after completion of installation of minor infrastructure.

9200.22      Applicant Funding Responsibility

The Applicant shall plan, design, and construct all minor infrastructure at the Applicant's sole expense.

For minor infrastructure upsized to provide water service to extended areas in addition to the Applicant's project area, the design and construction responsibilities may be revised, at the sole discretion and approval of the District Engineer. The terms of such revision shall be included in a written agreement between the District and the Applicant and conform with Policy 9300.



9200.23            Operation and Maintenance of Facilities

Minor facilities constructed by the Applicant shall be maintained by the Applicant, and at the Applicant's sole expense, until the facilities have been accepted by the District.

9200.30            PROPERTY DEDICATION

The District requires dedication of sufficient and necessary real property interests to the District for all infrastructure.

For all items of major infrastructure, excluding pipelines, such real property interest shall be fee title. For pipelines, such real property interests may be an easement interest that provides the District with the perpetual right to operate, maintain, repair and replace the facilities, or an alternative property right determined by the District to be sufficient for its purposes, such as use of a public right-of-way.

9200.40            ACCEPTANCE OF DONATED ASSETS

Upon the completion of the facilities constructed by the Applicant in accordance with the plans and specifications and to the satisfaction of the District Engineer, and upon dedication of easement(s) or fee interest in land associated with the work, the District shall accept the work of improvement.

The Applicant shall warranty all donated facilities for one year. The warranty period shall begin on the date of final acceptance by the District.

9200.50            DISTRICT DISCRETION

The District shall determine, from time to time, at the sole discretion of the District, the size and location of all major and minor infrastructure, and the portion of the District's service area benefited thereby.

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CITRUS HEIGHTS WATER DISTRICT  
POLICIES AND PROCEDURES MANUAL

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POLICY TYPE : INFRASTRUCTURE  
POLICY TITLE : REIMBURSEMENT  
POLICY NUMBER : 9300  
DATE ADOPTED : MAY 27, 2025  
DATE AMENDED :

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9300.00 REIMBURSEMENT POLICY

Whenever the Applicant is required in accordance with Policy 9200, Development Infrastructure Expansion, to install or upsize infrastructure to benefit properties beyond its own properties planned to be developed, the Applicant may apply for reimbursement for all or portion of such installation, under this policy.

9300.10 APPLICATION

An Applicant who is required by the District to provide infrastructure improvements for dedication to public use, may apply for a reimbursement agreement prior to design approval. Infrastructure improvements eligible for reimbursement consideration include facilities which:

- A. Include increased size and capacity, numbers, length, or configuration, beyond minimum required by the District Standards to support the Applicant's proposed service demands; and
- B. Specially benefit parcels of property for which the Applicant does not have interest or property ownership.

Under the reimbursement agreement, the infrastructure improvements shall be designed and constructed, and the costs shall be reimbursed to the Applicant as provided in the reimbursement agreement.

9300.20 REIMBURSEMENT AGREEMENTS

9300.21 Minimum Provisions

Any reimbursement agreement shall include, but not be limited to:

- A. Description of facilities subject to reimbursement
- B. Provisions associated with the amount of reimbursable costs
- C. Provisions relating to the design of the improvements
- D. Provisions relating to construction of the improvements

- E. Payment of all District fees and costs
- F. Indemnification of the District
- G. The term of the agreement
- H. Collection and payment of the reimbursement charge
- I. Requirements for paid invoices for all work to be reimbursed
- J. Requirements for bonding and adequate insurance coverage
- K. Such other provisions as the Board of Directors deems appropriate
- L. Requirements for bidding

Each agreement is subject to approval as to form by counsel for the District. The District shall reimburse the Applicant based on the actual construction cost of the facilities, as documented by paid invoices.

9300.23      Agreement Required Prior to Commencing Work

A reimbursement agreement shall be executed prior to the work described in the agreement. The District will not recognize any reimbursement request unless a reimbursement agreement between the District and the Applicant has been executed.

9300.30      CONSTRUCTION OF INFRASTRUCTURE UNDER  
REIMBURSEMENT AGREEMENTS

9300.31      Bid Requirement

The Applicant shall solicit no fewer than three competitive bids for the construction of the infrastructure improvements and shall award the contract to the lowest responsive bid from a responsible bidder. However, if the Applicant is licensed by the state to conduct the business of contracting which includes construction of improvements of the kind and nature described in the reimbursement agreement, the Applicant may construct the improvements.

9300.32      Standards

Infrastructure improvements shall be constructed in strict compliance with the plans and specifications approved, or other requirements established, by the General Manager. Construction of the improvements shall not commence until the District has approved the plans and specifications and established such requirements.

9300.40      OWNERSHIP OF IMPROVEMENTS

Upon completion of construction of the infrastructure improvements and acceptance thereof by the District, title to the improvements shall vest in the District.

9300.50      ACCEPTANCE AND REIMBURSEMENT

Reimbursement according to the terms of the reimbursement agreement shall not be provided until construction of infrastructure improvements is complete and the District has issued final

written acceptance of all improvements as installed per the approved plans. Reimbursement will not be provided if any of the conditions of this Policy or of the reimbursement agreement are not satisfied.

# CITRUS HEIGHTS WATER DISTRICT

## DISTRICT STAFF REPORT TO BOARD OF DIRECTORS MAY 27, 2025 REGULAR MEETING

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SUBJECT : APPOINTMENT OF DISTRICT OFFICERS  
STATUS : Action Item  
REPORT DATE : May 15, 2025  
PREPARED BY : Brittney Moore, Administrative Services Manager/Chief Board Clerk

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**OBJECTIVE:**

Consider appointments and reconfirmations of District Officers

**BACKGROUND AND ANALYSIS:**

Pursuant to District Board of Directors and Officers Policy No. 2200 (attached) the Board of Directors shall appoint or reconfirm appointments of District Officers each December or as otherwise necessary. Current appointments are as follows:

<u>Current Appointments</u>	<u>Officer</u>	<u>Deputy Officer</u>
Assessor/Collector	Michael Shorter	Dana R. Mellado
Treasurer	Annie Liu	Michael Shorter
Secretary	Hilary M. Straus	Brittney C. Moore

Staff recommends that the Director of Administrative Services, Annie Liu be appointed to the Assessor/Collector position, and the title of Accounting Manager will replace Michael Shorter as Deputy Treasurer until the newly vacant position is filled; at which time the new incumbent of that position will assume the Deputy Treasurer role. All other officers should be reappointed to their respective positions.

**RECOMMENDATION:**

Appoint and/or reconfirm the following District Officers:

	<u>Officer</u>	<u>Deputy Officer</u>
Assessor/Collector	Annie Liu	Dana R. Mellado
Treasurer	Annie Liu	Accounting Manager
Secretary	Hilary M. Straus	Brittney C. Moore

**ATTACHMENT:**

Policy No. 2200 – Officers of the District

**ACTION:**

Moved by Director \_\_\_\_\_, Seconded by Director \_\_\_\_\_, Carried \_\_\_\_\_

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2200.00

OFFICERS OF THE DISTRICT

The offices of Assessor, Collector, Treasurer, and the position of Secretary are recognized as Officers of the District.

The office of Assessor and the office of Collector shall be consolidated into one office and titled Assessor / Collector.

2200.10

Appointment of Officers

The following District offices shall be filled by appointment by the Board of Directors to serve at the pleasure of the Board:

Assessor / Collector

Treasurer

Secretary

2200.20

Duties of Officers

The offices established by this policy shall perform all duties as prescribed by applicable law or District policy.

2200.50

Officers' and Deputy Officers' Compensation

Notwithstanding compensation received as employees of the District, Officers and Employees appointed pursuant to this policy shall not receive any additional compensation for their duties as District Officers and/or Deputy Officers.

# CITRUS HEIGHTS WATER DISTRICT

## DISTRICT STAFF REPORT TO BOARD OF DIRECTORS MAY 27, 2025 REGULAR MEETING

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SUBJECT : DISCUSSION AND POSSIBLE ACTION TO DESIGNATE THE DISTRICT'S  
VOTING REPRESENTATIVE FOR THE ASSOCIATION OF CALIFORNIA WATER  
AGENCIES (ACWA) 2025 ELECTION PROCESS

STATUS : Action Item

REPORT DATE : May 15, 2025

PREPARED BY : Brittney Moore, Administrative Services Manager/Chief Board Clerk

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### **OBJECTIVE:**

Consider action to designate a District voting representative for the Association of California Water Agencies (ACWA) election process for the 2026- '27 term for President, Vice President, and region board members.

### **BACKGROUND AND ANALYSIS:**

CHWD is a voting member of the Association of California Water Agencies (ACWA). Prior to 2024, ACWA historically conducted the annual nomination and election of its officers at a General Session Membership Meeting during its Fall Conference (Conference); and in advance of the Fall Conference each year, the District's Board of Directors would have an opportunity to designate a voting delegate. Last year, ACWA's election process was changed so that members of ACWA now elect the President and Vice President by voting electronically before the annual meeting at Fall Conference.

Under this election process, each member agency must designate one voting representative by June 20, 2025. Only designated voters will receive the electronic ballot; and if CHWD does not designate a voting representative by the June 20 deadline, the General Manager will be the authorized voter by default.

The authorized voter will receive an electronic ballot on July 21, 2025, from Simply Voting, ACWA's third-party digital voting service, that will include a link to the ballot for President, Vice President, and the region board. All ballots must be submitted electronically between July 21-Sept. 19, 2025. The announcement of election results will be provided on September 26, 2025. There will be an introduction of the elected ACWA President, Vice President, and region boards on December 3, 2025, at the fall conference.

Board President Raymond Riehle is the current ACWA Representative for the District, and Board Director, David Wheaton is the alternate. Therefore, Staff recommends that the Board designate either the District Board President, Board Director Wheaton, or the General Manager as the District's Delegate; and authorize the General Manager, or his designee, to complete the Authorized Voting Representative Form and submit it to ACWA by the requested deadline.

### **RECOMMENDATIONS:**

1. Designate the District's voting representative for ACWA's 2025 Elections
2. Authorize the General Manager or designee to complete and submit the Authorized Voting Representative Form to ACWA.

### **ATTACHMENT:**

ACWA Authorized Voting Representative Form

**ACTION:**

Moved by Director \_\_\_\_\_, Seconded by Director \_\_\_\_\_, Carried \_\_\_\_\_

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ACWA has launched the election process for the 2026-'27 term for President, Vice President, and region board members. This year, the election for both officers and region boards is combined.

**Key Details:**

- **Electronic Voting:** Voting for both sets of candidates will be done electronically by each member agency's designated voter on a single ballot.
- **Designate Your Voter:** Each agency must **designate one voting representative by June 20**. To designate your agency's voter, please submit the Authorized Voting Representative Form by the June deadline.
- **Default Voter:** If no representative is designated by the deadline, your agency's General Manager will be the authorized voter by default.
- **Ballot Distribution:** Authorized voters will receive an electronic ballot on July 21.

For more information about ACWA's elections, visit: [www.acwa.com/elections](http://www.acwa.com/elections).

**The person designated below will cast our agency's vote for the election of ACWA's President and Vice President and Region Board for the 2026-'27 term in the upcoming election.**

Member Agency's Name		Agency's Phone No.
Authorized Voting Representative's Name	Authorized Voting Representative's Email	Authorized Voting Representative's Phone No.

Print Name of Member Agency's Authorized Signatory

X

Authorized Signatory Signature

Date

**SUBMIT YOUR FORM**

**To:** Donna Pangborn, Senior Clerk of the Board  
**Email:** [donnap@acwa.com](mailto:donnap@acwa.com)  
**Mail:** 980 9th Street, Suite 1000, Sacramento, CA 95814

**SUBMISSION  
DEADLINE**

**JUNE 20, 2025**