



Board of Directors:

SEAN DEBLEY, President
JARED BOUCHARD, Vice President
KRISTINA BREWER, Director
MARCIA MARCUS, Director
BOB NAST, Director

PETER MARTINEZ
General Manager

353 Santa Monica Drive · Channel Islands Beach, CA · 93035-4473 · (805) 985-6021 · FAX (805) 985-7156
A PUBLIC ENTITY SERVING CHANNEL ISLANDS BEACHES AND HARBOR · CIBCS.D.COM

BOARD OF DIRECTORS REGULAR BOARD MEETING NOTICE & AGENDA

NOTICE IS HEREBY GIVEN that the Board of Directors of the Channel Islands Beach Community Services District will hold a Regular Board Meeting beginning at 6:00 P.M. on Tuesday, July 13, 2021. In accordance with the Governor's Executive Order N-29-20 and the Ventura County Stay Well at Home Order resulting from the novel Coronavirus the Meeting will be held virtually using the Microsoft Teams platform.

Join on your computer or mobile app

[Click here to join the meeting](#)

Or call in (audio only)

[+1 213-282-9788,493748197#](#) United States, Los Angeles

Phone Conference ID: 493 748 197#

The agenda is as follows:

A. CALL TO ORDER, ROLL CALL, PLEDGE OF ALLEGIANCE:

B. PUBLIC COMMENTS:

1. Opportunity for members of the public to address the Board on matters under the purview of the District and which are not on the agenda. (Time limit 3 minutes per speaker)

C. CONSENT CALENDAR:

1. Approve the Agenda Order
2. Financial Reports:
 - a. Cash Disbursal & Receipt Report – June 2021

3. Minutes:
 - a. June 8, 2021, Regular Board Meeting

4. Authorize customer request for relief from water charges due to leaks on the property consistent with Resolution 16-06:

| | Account Number | Water Relief | Sewer Relief | Total Relief |
|-----------|-----------------------|---------------------|---------------------|---------------------|
| a. | 00630-01 | \$13.53 | \$42.97 | \$56.50 |
| b. | 45026-01 | \$161.70 | \$405.11 | \$566.81 |
| | | | | \$623.31 |

D. SPECIAL PRESENTATIONS:

1. Presentation from Harrison Industries on Senate Bill 1383

E. OPERATIONS REPORT:

F. ACTION CALENDAR:

1. Request to Participate in Groundwater Monitoring Study at Kiddie and Hobie Beaches by the County of Ventura

Recommendation:

- 1) Provide direction to staff whether to participate in the groundwater monitoring study near Kiddie and Hobie Beaches.

2. Bad Debt Write off

Recommendation:

- 1) Approve Bad Debt Write Off from FY 2019/2020 to be written off in FY 2020/2021

3. 2021 CSDA Board of Directors, Election (Seat A) Coastal Network 2021-2023

Recommendation:

- 1) Consider candidates for the California Special Districts Association (CSDA) Board of Directors and select a candidate to represent Coastal Network, Seat A
- 2) Direct the Office Manager to respond to the online ballot with the Board of Directors choice of candidate

G. CLOSED SESSION:

1. SIGNIFICANT EXPOSURE TO LITIGATION - Verbal Update from Peter Candy in accordance with Government Code Section 64956.9(d)(2)
2. CONFERENCE WITH REAL PROPERTY NEGOTIATORS – Regarding Cross Base Pipeline – Proposed Usage Costs Paid by Third Parties in accordance with Government Code Section 54956.8

H. INFORMATION CALENDAR:

1. 2021 Water and Sewer Master Plan
2. Report from Board Members of any meeting or conference where compensation was received.

I. BOARD MEMBER COMMENTS:

J. GENERAL COUNSEL & GENERAL MANAGER COMMENTS:

AGENDA POSTING CERTIFICATION

This agenda was posted Thursday, July 8, 2021, by 5:00 PM. The agenda is posted at the District Office and two public notice bulletin boards, which are accessible 24 hours per day. The locations include:

- Hollywood Beach School, 4000 Sunset
- Corner Store, 2425 Roosevelt Blvd.
- District Office, 353 Santa Monica Drive

Agendas are also posted on the District’s website at www.cibcsd.com.

Peter Martinez
Peter Martinez
General Manager

REQUESTS FOR DISABILITY-RELATED MODIFICATION OR ACCOMMODATION, INCLUDING AUXILIARY AIDS OR SERVICES, IN ORDER TO ATTEND OR PARTICIPATE IN A MEETING, SHOULD BE MADE TO THE SECRETARY OF THE BOARD IN ADVANCE OF THE MEETING TO ENSURE THE AVAILABILITY OF REQUESTED SERVICE OR ACCOMODATION. NOTICES, AGENDAS AND PUBLIC DOCUMENTS RELATED TO THE BOARD MEETINGS CAN BE MADE AVAILABLE IN ALTERNATIVE FORMAT UPON REQUEST.

Channel Islands Beach 2013

7/8/2021 12:29 PM

Register: 1002 · Checking Pacific Western

From 06/01/2021 through 06/30/2021

Sorted by: Date, Type, Number/Ref

| Date | Number | Payee | Account | Memo | Payment | C | Deposit | Balance |
|------------|----------|-------------------------|--------------------------|--------------------|-----------|---|-----------|------------|
| 06/01/2021 | 6861 | net2phone | 2000 - Accounts Payable | | 333.66 | | | 923,566.60 |
| 06/02/2021 | 6869 | Hollister & Brace | 2000 - Accounts Payable | | 1,750.00 | | | 921,816.60 |
| 06/02/2021 | 6870 | IVR Technology Gro... | 2000 - Accounts Payable | | 100.94 | | | 921,715.66 |
| 06/02/2021 | 6871 | Miguel Zavalza | 2000 - Accounts Payable | | 225.00 | | | 921,490.66 |
| 06/02/2021 | 6872 | Pitney Bowes Inc. | 2000 - Accounts Payable | | 527.02 | | | 920,963.64 |
| 06/02/2021 | | QuickBooks Payroll ... | -split- | Created by Pay... | 24,967.99 | | | 895,995.65 |
| 06/02/2021 | To Print | Carol J Dillon | -split- | Direct Deposit | | X | | 895,995.65 |
| 06/02/2021 | To Print | Casey D Johnson | -split- | Direct Deposit | | X | | 895,995.65 |
| 06/02/2021 | To Print | E.D. Brock | -split- | Direct Deposit | | X | | 895,995.65 |
| 06/02/2021 | To Print | Erika F Davis | -split- | Direct Deposit | | X | | 895,995.65 |
| 06/02/2021 | To Print | Keila E Wilson | -split- | Direct Deposit | | X | | 895,995.65 |
| 06/02/2021 | To Print | Mark A Espinosa | -split- | Direct Deposit | | X | | 895,995.65 |
| 06/02/2021 | To Print | Peter A. Martinez | -split- | Direct Deposit | | X | | 895,995.65 |
| 06/02/2021 | To Print | Jesus Navarro | -split- | Direct Deposit | | X | | 895,995.65 |
| 06/04/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Deposit | | | 120.00 | 896,115.65 |
| 06/04/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Deposit | | | 24,706.07 | 920,821.72 |
| 06/04/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Deposit | | | 497.31 | 921,319.03 |
| 06/04/2021 | 6873 | FGL Environmental I... | 2000 - Accounts Payable | | 267.00 | | | 921,052.03 |
| 06/04/2021 | 6877 | Amazon Capital Serv... | 2000 - Accounts Payable | | 209.82 | | | 920,842.21 |
| 06/04/2021 | 6878 | Elevated Entitlements | 2000 - Accounts Payable | | 112.50 | | | 920,729.71 |
| 06/04/2021 | 6879 | Famcon Pipe and Su... | 2000 - Accounts Payable | Coast Guard St... | 11,333.05 | | | 909,396.66 |
| 06/04/2021 | 6880 | FGL Environmental I... | 2000 - Accounts Payable | | 146.00 | | | 909,250.66 |
| 06/04/2021 | 6881 | Pacific Couriers | 2000 - Accounts Payable | 10-20, 12-20, 5... | 968.78 | | | 908,281.88 |
| 06/04/2021 | 6882 | Prime Masonry Mate... | 2000 - Accounts Payable | | 110.51 | | | 908,171.37 |
| 06/04/2021 | 6883 | Underground Service... | 2000 - Accounts Payable | | 24.85 | | | 908,146.52 |
| 06/04/2021 | 6885 | Jarrold Lawrence | 2000 - Accounts Payable | | 320.00 | | | 907,826.52 |
| 06/04/2021 | 6886 | Aflac | 2000 - Accounts Payable | | 235.70 | | | 907,590.82 |
| 06/08/2021 | 6874 | Famcon Pipe and Su... | 2000 - Accounts Payable | | 4,575.29 | | | 903,015.53 |
| 06/08/2021 | 6887 | County of Ventura - ... | 2000 - Accounts Payable | VOID: | | X | | 903,015.53 |
| 06/08/2021 | 6888 | FGL Environmental I... | 2000 - Accounts Payable | VOID: | | X | | 903,015.53 |
| 06/08/2021 | 6889 | Michael K. Nunley ... | 2000 - Accounts Payable | VOID: | | X | | 903,015.53 |
| 06/08/2021 | 6890 | ShredRite Inc. | 2000 - Accounts Payable | VOID: | | X | | 903,015.53 |
| 06/09/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Deposit | | | 9,236.38 | 912,251.91 |
| 06/09/2021 | 6875 | Prestige Bodyworks | 4 - Maintenance Expen... | Job# 7224373 (... | 7,086.60 | | | 905,165.31 |
| 06/09/2021 | 6888 | County of Ventura - ... | 2000 - Accounts Payable | | 987.60 | | | 904,177.71 |
| 06/09/2021 | 6889 | FGL Environmental I... | 2000 - Accounts Payable | | 245.00 | | | 903,932.71 |
| 06/09/2021 | 6890 | Michael K. Nunley ... | 2000 - Accounts Payable | | 1,316.34 | | | 902,616.37 |
| 06/09/2021 | 6891 | ShredRite Inc. | 2000 - Accounts Payable | | 60.00 | | | 902,556.37 |
| 06/10/2021 | EDEP | QB:DEPOSIT | 1200 - Accounts Recei... | Vanco | | | 7,332.08 | 909,888.45 |
| 06/10/2021 | 6892 | Michael K. Nunley ... | 2000 - Accounts Payable | | 9,323.31 | | | 900,565.14 |

Channel Islands Beach 2013

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From 06/01/2021 through 06/30/2021

Sorted by: Date, Type, Number/Ref

| Date | Number | Payee | Account | Memo | Payment | C | Deposit | Balance |
|------------|----------|--------------------------|--------------------------|--------------------|-----------|---|-----------|------------|
| 06/10/2021 | 6894 | ACWA/JPIA | 2000 - Accounts Payable | Excess Crime I... | 900.00 | | | 899,665.14 |
| 06/10/2021 | 6895 | REDLINE Towing, L... | 2000 - Accounts Payable | F150 | 250.00 | | | 899,415.14 |
| 06/11/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Deposit | | | 11,385.02 | 910,800.16 |
| 06/11/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Deposit | | | 11,103.82 | 921,903.98 |
| 06/11/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Deposit | | | 3,853.11 | 925,757.09 |
| 06/11/2021 | DEP | QB:DEPOSIT | 2050 - Customer Depo... | Deposit | | | 150.00 | 925,907.09 |
| 06/11/2021 | 6876 | Raftelis Financial Co... | 2000 - Accounts Payable | | 4,423.75 | | | 921,483.34 |
| 06/11/2021 | 6895 | Nationwide Retirement | 2000 - Accounts Payable | pr pd 5-16-21 t... | 2,593.62 | | | 918,889.72 |
| 06/11/2021 | 6896 | Performance Pipeline... | 2000 - Accounts Payable | Sewer Line Cle... | 27,836.90 | | | 891,052.82 |
| 06/11/2021 | 6897 | CIBCS-D-Petty Cash | 2000 - Accounts Payable | | 168.36 | | | 890,884.46 |
| 06/11/2021 | 6898 | PHWA | 2000 - Accounts Payable | | 67,424.09 | | | 823,460.37 |
| 06/11/2021 | 6899 | SSBP | 2000 - Accounts Payable | | 1,869.00 | | | 821,591.37 |
| 06/11/2021 | 6900 | Ventura County Star | 2000 - Accounts Payable | 6-1-01 to 6-30-... | 538.00 | | | 821,053.37 |
| 06/11/2021 | 6901 | XIO, Inc. | 2000 - Accounts Payable | | 865.00 | | | 820,188.37 |
| 06/14/2021 | 6904 | FGL Environmental I... | 2000 - Accounts Payable | | 146.00 | | | 820,042.37 |
| 06/14/2021 | 6905 | Franchise Tax Board | 2000 - Accounts Payable | order number 3... | 350.00 | | | 819,692.37 |
| 06/15/2021 | 6902 | A to Z Law, LLP | 2000 - Accounts Payable | | 1,471.25 | | | 818,221.12 |
| 06/15/2021 | 6903 | Proven Print Services | 2000 - Accounts Payable | Postage for Pro... | 906.60 | | | 817,314.52 |
| 06/16/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Deposit | | | 34,858.39 | 852,172.91 |
| 06/16/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Deposit | | | 10,905.58 | 863,078.49 |
| 06/16/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Deposit | | | 3,383.00 | 866,461.49 |
| 06/16/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Deposit | | | 1,279.03 | 867,740.52 |
| 06/16/2021 | EDEP | QB:DEPOSIT | 1200 - Accounts Recei... | PAC West Draft | | | 87,805.73 | 955,546.25 |
| 06/16/2021 | ACH | CalPers | -split- | Health Insurance | 11,204.93 | | | 944,341.32 |
| 06/16/2021 | ACH | CalPers | -split- | pay pr. 5-29-21... | 3,804.18 | | | 940,537.14 |
| 06/16/2021 | 6906 | EJ Harrison & Sons, ... | 2000 - Accounts Payable | | 45,637.88 | | | 894,899.26 |
| 06/16/2021 | | QuickBooks Payroll ... | -split- | Created by Pay... | 24,569.46 | | | 870,329.80 |
| 06/16/2021 | To Print | Carol J Dillon | -split- | Direct Deposit | | X | | 870,329.80 |
| 06/16/2021 | To Print | Casey D Johnson | -split- | Direct Deposit | | X | | 870,329.80 |
| 06/16/2021 | To Print | E.D. Brock | -split- | Direct Deposit | | X | | 870,329.80 |
| 06/16/2021 | To Print | Erika F Davis | -split- | Direct Deposit | | X | | 870,329.80 |
| 06/16/2021 | To Print | Keila E Wilson | -split- | Direct Deposit | | X | | 870,329.80 |
| 06/16/2021 | To Print | Mark A Espinosa | -split- | Direct Deposit | | X | | 870,329.80 |
| 06/16/2021 | To Print | Peter A. Martinez | -split- | Direct Deposit | | X | | 870,329.80 |
| 06/16/2021 | To Print | Jesus Navarro | -split- | Direct Deposit | | X | | 870,329.80 |
| 06/17/2021 | EDEP | QB:DEPOSIT | 1200 - Accounts Recei... | CUSI | | | 18,847.85 | 889,177.65 |
| 06/18/2021 | 6907 | Sam Hill & Sons, Inc. | 2000 - Accounts Payable | Ocean and La ... | 14,367.65 | | | 874,810.00 |
| 06/18/2021 | 6909 | Prime Masonry Mate... | 2000 - Accounts Payable | Highland Drive | 158.89 | | | 874,651.11 |
| 06/18/2021 | 6910 | Port Hueneme Marin... | 2000 - Accounts Payable | | 57.95 | | | 874,593.16 |
| 06/21/2021 | RETCK | QB:Returned Item | 1200 - Accounts Recei... | O'Connor | 92.92 | | | 874,500.24 |

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From 06/01/2021 through 06/30/2021

Sorted by: Date, Type, Number/Ref

| Date | Number | Payee | Account | Memo | Payment | C | Deposit | Balance |
|------------|--------|--------------------------|---------------------------|--------------------|------------|---|-----------|------------|
| 06/22/2021 | 6911 | CUSI | 2000 - Accounts Payable | | 202.28 | | | 874,297.96 |
| 06/22/2021 | 6912 | Jared L. Bouchard | 2000 - Accounts Payable | CSDA Confere... | 1,375.80 | | | 872,922.16 |
| 06/22/2021 | 6913 | Proven Print Services | 2000 - Accounts Payable | Prop 218 notice | 2,439.99 | | | 870,482.17 |
| 06/22/2021 | 6924 | Prime Masonry Mate... | 2000 - Accounts Payable | Coast Guard Job | 105.93 | | | 870,376.24 |
| 06/23/2021 | DEP | QB:DEPOSIT | 4 - Maintenance Expen... | ACWA CK for... | | | 6,086.60 | 876,462.84 |
| 06/23/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Dep 6/18 | | | 29,593.24 | 906,056.08 |
| 06/23/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Dep 6/18 | | | 300.00 | 906,356.08 |
| 06/23/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Dep 6/21 | | | 15,789.79 | 922,145.87 |
| 06/23/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Dep 6/22 | | | 27,442.47 | 949,588.34 |
| 06/23/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Dep 6/11 | | | 555.76 | 950,144.10 |
| 06/23/2021 | ACH | So. California Edison... | 2 - Sewer System Expe... | 6-15-21 | 637.19 | | | 949,506.91 |
| 06/23/2021 | ACH | So. California Edison... | 2 - Sewer System Expe... | 6-15-21 | 855.36 | | | 948,651.55 |
| 06/23/2021 | ACH | SCE- Office | -split- | 6-21-21 | 272.68 | | | 948,378.87 |
| 06/23/2021 | ACH | So. California Edison... | 2 - Sewer System Expe... | 6-16-21 | 298.43 | | | 948,080.44 |
| 06/23/2021 | ACH | Spectrum | 6 - Administrative Exp... | 6-16-21 4284 | 55.44 | | | 948,025.00 |
| 06/23/2021 | ACH | Spectrum | 6 - Administrative Exp... | 6-18-21 1821 | 224.98 | | | 947,800.02 |
| 06/23/2021 | 6925 | B & R Supply, Inc. | 2000 - Accounts Payable | | 143.45 | | | 947,656.57 |
| 06/23/2021 | 6926 | Famcon Pipe and Su... | 2000 - Accounts Payable | Coast Guard Job | 3,984.87 | | | 943,671.70 |
| 06/23/2021 | 6927 | net2phone | 2000 - Accounts Payable | | 333.66 | | | 943,338.04 |
| 06/23/2021 | 6928 | State Ready Mix Inc. | 2000 - Accounts Payable | | 632.97 | | | 942,705.07 |
| 06/23/2021 | 6929 | County of Ventura | 2000 - Accounts Payable | Transfer from ... | 350,000.00 | | | 592,705.07 |
| 06/23/2021 | 6930 | Famcon Pipe and Su... | 2000 - Accounts Payable | | 1,054.81 | | | 591,650.26 |
| 06/24/2021 | 6932 | FGL Environmental I... | 2000 - Accounts Payable | | 391.00 | | | 591,259.26 |
| 06/25/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Deposit | | | 8,998.23 | 600,257.49 |
| 06/25/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Deposit | | | 2,593.73 | 602,851.22 |
| 06/25/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Deposit | | | 1,255.90 | 604,107.12 |
| 06/25/2021 | 6931 | Famcon Pipe and Su... | 2000 - Accounts Payable | | 400.32 | | | 603,706.80 |
| 06/28/2021 | 6947 | WHITE CAP | 2000 - Accounts Payable | Cement slab fo... | 378.61 | | | 603,328.19 |
| 06/28/2021 | 6948 | Elite General Engine... | 2000 - Accounts Payable | Hollywood/Oc... | 18,736.00 | | | 584,592.19 |
| 06/29/2021 | 6944 | Nationwide Retirement | 2000 - Accounts Payable | pr pd 6/12/21 t... | 2,393.49 | | | 582,198.70 |
| 06/29/2021 | 6945 | Staples | 2000 - Accounts Payable | | 115.37 | | | 582,083.33 |
| 06/29/2021 | 6949 | FGL Environmental I... | 2000 - Accounts Payable | | 391.00 | | | 581,692.33 |
| 06/29/2021 | 6950 | Miguel Zavalza | 2000 - Accounts Payable | | 225.00 | | | 581,467.33 |
| 06/30/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Deposit | | | 1,619.24 | 583,086.57 |
| 06/30/2021 | DEP | QB:DEPOSIT | 1200 - Accounts Recei... | Deposit | | | 831.18 | 583,917.75 |
| 06/30/2021 | | QuickBooks Payroll ... | -split- | Created by Pay... | 25,543.72 | | | 558,374.03 |
| 06/30/2021 | 6934 | Kristina N Brewer | -split- | | 222.57 | | | 558,151.46 |
| 06/30/2021 | 6935 | Marcia L Marcus | -split- | | 352.78 | | | 557,798.68 |
| 06/30/2021 | 6936 | Robert T Nast | -split- | | 398.96 | | | 557,399.72 |
| 06/30/2021 | 6937 | Sean Debley | -split- | | 352.78 | | | 557,046.94 |

Channel Islands Beach 2013

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Register: 1002 · Checking Pacific Western

From 06/01/2021 through 06/30/2021

Sorted by: Date, Type, Number/Ref

| Date | Number | Payee | Account | Memo | Payment | C | Deposit | Balance |
|-------------|---------------|-------------------|----------------|----------------|----------------|----------|----------------|----------------|
| 06/30/2021 | 6933DD | Jared Bouchard | -split- | Direct Deposit | | X | | 557,046.94 |
| 06/30/2021 | To Print | Carol J Dillon | -split- | Direct Deposit | | X | | 557,046.94 |
| 06/30/2021 | To Print | Casey D Johnson | -split- | Direct Deposit | | X | | 557,046.94 |
| 06/30/2021 | To Print | E.D. Brock | -split- | Direct Deposit | | X | | 557,046.94 |
| 06/30/2021 | To Print | Erika F Davis | -split- | Direct Deposit | | X | | 557,046.94 |
| 06/30/2021 | To Print | Keila E Wilson | -split- | Direct Deposit | | X | | 557,046.94 |
| 06/30/2021 | To Print | Mark A Espinosa | -split- | Direct Deposit | | X | | 557,046.94 |
| 06/30/2021 | To Print | Peter A. Martinez | -split- | Direct Deposit | | X | | 557,046.94 |
| 06/30/2021 | To Print | Jesus Navarro | -split- | Direct Deposit | | X | | 557,046.94 |

3. FINAL PROPOSED BUDGET

General Manager Martinez used a PowerPoint presentation to display the Final Proposed Budget. President Debley moved to adopt Final Proposed FY 2021-2022 Operating and Capital Budget. Vice President Bouchard seconded the motion. The motion passed.

ROLL CALL VOTE:

Debley: YES, Bouchard: YES, Brewer: YES, Marcus, YES, Nast: YES 5 - Yes 0 -No

4. APPROVAL OF PROPOSED WATER, SEWER, AND TRASH RATES, AUTHORIZATION TO PROCEED WITH PROPOSITION 218 PROCESS, AND RECOMMENDATION TO SET A PUBLIC HEARING TO CONSIDER ADOPTION OF NEW WATER, SEWER, AND TRASH RATES

Using a PowerPoint presentation, Raftelis Senior Manager, Steve Gagnon, PE presented the modifications to the Rate Study and General Manager Martinez presented the Prop 218 Timeline. Vice President Bouchard made a motion to approve the following staff recommendations:

- 1) Receive Water and Sewer Rate Study Presentation by Raftelis Financial Consultants
- 2) Approve the proposed water, sewer, and trash rates and authorize staff to initiate a Proposition 218 process by mailing a notice of proposed Water, Sewer, and Trash Rates and instructions on protesting the proposal;
- 3) Set a public hearing date for August 3, 2021, to hear and tally protest ballots and to consider adopting new Water, Sewer, and Trash Rates.

Director Marcus seconded the motion. The motion passed.

ROLL CALL VOTE:

Debley: YES, Bouchard: YES, Brewer: YES, Marcus, YES, Nast: YES 5 - Yes 0 -No

E. INFORMATION CALENDAR:

1. Extension of March 31, 2020, Emergency Declaration and Orders of the Channel Islands Beach Community Services District Board of Directors Related to the 2020 COVID-19 Outbreak.

Board received and filed report.

3. Report from Board Members for any meeting or conference where compensation for attendance was received.

None.

F. BOARD MEMBER COMMENTS:

Director Brewer said it was not very busy at the beach during Memorial Day weekend.

Director Marcus stated concerns about water waste.

Director Debley commented that the stage 2 drought regulation signage was removed.

G. GENERAL COUNSEL & GENERAL MANAGER COMMENTS:

General Counsel had no comment.

General Manager Martinez said that EJ Harrison would be at the next Board meeting to discuss the diversion of food waste.

General Manager Martinez said that the County of Ventura Watershed Protection District will have a representative at the next Board meeting.

General Manager Martinez announced that the District is planning on having the Community Clean Up event this September.

General Manger Martinez said that stage 2 drought regulation signage will be replaced.

General Manager Martinez stated that water conservation information will be shared with residents.

The Board Meeting adjourned at 7:59 P.M.

Sean Debley, President



Board of Directors:

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JARED BOUCHARD, Vice President
KRISTINA BREWER, Director
MARCIA MARCUS, Director
BOB NAST, Director

PETER MARTINEZ
General Manager

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A PUBLIC ENTITY SERVING CHANNEL ISLANDS BEACHES AND HARBOR · CIBCSO.COM

Regular Board Meeting, July 13, 2021

To: Board of Directors
From: Peter Martinez, *General Manager*
Subject: Presentation from Harrison Industries on Senate Bill 1383
Item No. D-1

RECOMMENDATION:

Receive presentation from Harrison Industries on Senate Bill 1383.

BACKGROUND:

Senate Bill 1383 (SB 1383) is the most significant waste reduction mandate to be adopted in California in the last 30 years. SB 1383 requires statewide organic waste (food waste, green waste, food-soiled paper products, etc) disposal reduction of 75% by the year 2025. The mandated percentage reduction equates to 20 million tons of organic waste generated within the State. SB 1383 also sets a goal of recovering 20% of edible food for human consumption by 2025. This bill authorizes the State Department of Resources Recycling and Recovery (Cal Recycle) to adopt regulations to achieve these targets which will take effect on January 1, 2022.

SB 1383 was enacted on September 19, 2016 and addresses short-lived climate pollutants, namely methane emissions created by dairy and livestock as well as organic waste. Organic waste is food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed with food waste. Landfilling organic waste leads to the anaerobic breakdown of that material, which creates methane. Landfills are responsible for 21% of the state's methane emissions while organic waste comprises two-thirds of California's waste stream.



Board of Directors:

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JARED BOUCHARD, Vice President
KRISTINA BREWER, Director
MARCIA MARCUS, Director
BOB NAST, Director

PETER MARTINEZ
General Manager

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Regular Board Meeting, July 13, 2021

To: Board of Directors
From: Peter Martinez, *General Manager*
Subject: Request to Participate in Groundwater Monitoring Study at Kiddie and Hobie Beaches by the County of Ventura
Item No. F-1

RECOMMENDATION: Provide direction to staff whether to participate in the groundwater monitoring study near Kiddie and Hobie Beaches.

FINANCIAL IMPACT: Currently funds are not allocated in the FY 2021-22 Operating and Capital Budgets. If the District decides to participate the estimated contribution will be \$93,075.

INFORMATION/DISCUSSION:

Ms. Ewelina Mutkowska, VCPWA Senior Stormwater Manager, will provide a brief background on implementation of and compliance challenges with the Total Maximum Daily Load (TMDL) for Bacteria at Kiddie and Hobie Beaches. Dr. John Griffin, Principal Scientist and the Head of Southern California Coastal Water Research Project's Microbiology Department will provide an overview of bacteria and human marker investigations at Kiddie Beach, Hobie Beach, and storm drain system in Silver Strand. In addition, Dr. Griffin will provide an overview of the upcoming groundwater quality special study at Kiddie and Hobie beaches.

Pursuant to the Federal Clean Water Act, the Los Angeles Regional Water Quality Control Board (LARWQCB), on November 1, 2007, established TMDL for Bacteria Indicators in Kiddie and Hobie Beaches (Resolution No. 2007-017). The County of Ventura (County), Ventura County Public Works Agency-Watershed Protection (District), and City of Oxnard (City) are identified among the TMDL Responsible Agencies. The LARWQCB requires the responsible agencies to achieve Waste Load Allocations for dry weather by December 18, 2014, and wet weather by December 18, 2018.

The County, the District, and the City have been collaborating together to implement TMDL requirements. In 2018, the Agencies retained Southern California Coastal Water Research Project (SCCWRP) to conduct water quality testing and special studies to track microbial sources to Kiddie and Hobie beaches. Results of bacteria indicators, human markers and chemical sewage indicators suggested both local and remote sources are potential contributors to the contamination at Kiddie and Hobie beaches. Concentrations in the storm drain system are not high enough to explain levels observed across the beaches. Based on these findings, the County, the District, and the City have been amending their MOA to equally cost share the groundwater special study estimated at \$372,300 to be initiated this fall. If Channel Islands Beach Community Services District decides to participate in this study, the estimated contribution will be \$93,075 per party.



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Special Board Meeting, July 13, 2021

To: Board of Directors
From: CJ Dillon, Office Manager
Subject: Bad Debt Write Off
Item No. F-2

RECOMMENDATION:

1. Approve Bad Debt Write Off from FY 2019/2020 to be written off in FY 2020/2021

FINANCIAL IMPACT: \$1,962.14 in uncollected accounts.

BACKGROUND: In October 2000, the Board of Directors adopted a District Policy for annual write-off of bad debt. This is performed at the end of every fiscal year in preparation for the District's annual audit.

DISCUSSION ANALYSIS:

This year the District will be writing off \$1,962.14 in bad debt. The amount that is written off consists of accounts where no payment has been received for the preceding 12-month period. The District will be writing off \$1,962.14 from FY 2019-2020 and will be recorded in the FY 2020-2021 audit. None of the \$1,962.14 in bad debt is from Harbor accounts. While these accounts will be written off by the District, they will continue to be pursued by our collection agency.



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Regular Board Meeting, July 13, 2021

To: Board of Directors
From: CJ Dillon
Subject: 2021 CSDA Board of Directors, Election, (Seat A) Coastal Network – 2021-2023
Item No. F-3

RECOMMENDATION:

1. Consider candidates for the California Special Districts Association (CSDA) Board of Directors and select a candidate to represent Coastal Network, Seat A
2. Direct the Office Manager to respond to the online ballot with the Board of Directors choice of candidate

FINANCIAL IMPACT: NONE

DISCUSSION ANALYSIS:

Our District Board of Directors is being asked to choose a candidate for the CSDA Board of Directors, (Seat A) Coastal Network – Term 2021-2023. The District is located within the Seat A jurisdiction and the CIBCSD Board needs to select one candidate. The candidates are Hugh Rafferty, Santa Maria Public Airport District and Elaine Magner, Pleasant Valley Recreation and Park District.

Attachments

1. Candidate information
2. Electronic Ballot



2021 CSDA BOARD CANDIDATE INFORMATION SHEET

The following information **MUST** accompany your nomination form and Resolution/minute order:

Name: Hugh Rafferty

District/Company: Santa Maria Public Airport District

Title: Director

Elected/Appointed/Staff: Elected

Length of Service with District: 10 years

1. Do you have current involvement with CSDA (such as committees, events, workshops, conferences, Governance Academy, etc.):

CSDA Secondary Legislative Committee

2. Have you ever been associated with any other state-wide associations (CSAC, ACWA, League, etc.):

California Credit Union League - PAC and Advocacy Committee

3. List local government involvement (such as LAFCo, Association of Governments, etc.):

Santa Barbara County Chapter CSDA

4. List civic organization involvement:

Santa Barbara County Taspayers Association

Chamber of Commerce - Leadership Santa Maria

****Candidate Statement** – Although it is not required, each candidate is requested to submit a candidate statement of no more than 300 words in length. **Any statements received in the CSDA office after March 29, 2021 will not be included with the ballot.**

CSDA Board of Directors 2021 – 2023 Election Candidate Statement

I am the Past-president of the Santa Maria Public Airport District, and currently serve as Board Secretary. I have served on the District board for 10 years.

I'm the Past-president of the Santa Barbara County Chapter of CSDA, and continue to serve on the Board of Directors. I've served on the board for approximately 7 years. In addition, I currently serve on the CSDA Secondary Legislative Committee, and have served on the HR Support Committee.

I'm a past member of the Santa Maria Valley Chamber of Commerce Board of Directors, and currently serve on its Leadership Santa Maria Valley Board.

I'm an Honorably Discharged Marine Corps Veteran, and was designated a Lifetime Honorary Commander Emeritus by the 30th Space Wing at Vandenberg Air Force Base.

I hold a BA degree in General Studies, an MA in Human Development and Management, and a Ph. D in Management.

In addition to the above, I serve/have served in the following capacities:

- . Board Member and Past President – Santa Barbara County Taxpayers Association
- . Current President – Committee to Improve North (Santa Barbara) County
- . Chairman – Volunteer Leadership Committee, California Credit Union League
- . Board Member – California Credit Union League Advocacy Committee and Political Action Committee

I'm the recipient of several California Assembly, California State Senate and Congressional Certificates of Recognition, as well as Chamber of Commerce Citizen of the Year, and California Credit Union League Volunteer of the Year Awards.

My work with these various organizations has brought me into contact with numerous City, County, State and Federal elected officials, as well as managers and directors and employees of a number of special districts, and I hope to bring these experiences to the CSDA Board of Directors

I hope you will consider me for election to the CSDA Coastal Network board position.

Hugh Rafferty



**California Special
Districts Association**

Districts Stronger Together

2021 CSDA BOARD CANDIDATE INFORMATION SHEET

The following information **MUST** accompany your nomination form and Resolution/minute order:

Name: Elaine Magner

District/Company: Pleasant Valley Recreation and Park District

Title: Board Director

Elected/Appointed/Staff: Elected

Length of Service with District: Since February 2008

1. Do you have current involvement with CSDA (such as committees, events, workshops, conferences, Governance Academy, etc.):

I currently serve on the CSDA Board of Directors as the Vice President. As the CSDA Vice President I serve on all CSDA committees. In the past I have been on the Fiscal, Audit, Elections and Bylaws, Membership and Professional Development and provide input to many of the CSDA Expert Feedback Teams including Human Resources and Personnel, Governance and Revenue Teams. Also I am one of the three CSDA board directors on the Special Districts Leadership Foundation (SDLF) and the CSDA representative on the SDLF Scholarship Committee.

I attend CSDA Legislative Days and Exhibitors Showcase annually.

2. Have you ever been associated with any other state-wide associations (CSAC, ACWA, League, etc.):

No

3. List local government involvement (such as LAFCo, Association of Governments, etc.):

Serve as the Pleasant Valley Recreation and Park District representative to the Ventura County Special Districts Association. Am one of the PVRPD Board members on the City of Camarillo/PVRPD Liaison Committee focusing on senior needs including facilities.

4. List civic organization involvement:

Member of the Camarillo Health Care District Early Morning Executive Panel – pre-COVID.



Fellow Coastal Network Members,

Having represented the Coastal Network as a CSDA Board member since 2016, I'm requesting your support for re-election.

I'm currently CSDA Board Vice President, having also served as Secretary and Treasurer. I've chaired the Fiscal and Membership committees, now serving as the ex-officio on all CSDA committees. I'm a representative to the Special Districts Leadership Foundation and their Scholarship Committee. I've completed the SDLF Leadership Academy, and regularly attend the annual Legislative Days, Annual Conference and Exhibitor Showcases.

As a Director for the Pleasant Valley Recreation and Park District Board since 2008, I've served as Board Chair, on the Personnel and Liaison Committees, and as PVRPD's representative to the Ventura County Special Districts Association and CSDA. I have been honored by VCSDA as Director of the Year.

My career in Public Service for 31 years was in law enforcement Human Resources. Following my retirement, I worked as a contract investigator for the Department of Justice.

My experience on the PVRPD Board and my work as a public servant has provided me with a solid foundation of experience, enabling me to represent your District's interests on the CSDA Board.

As a board member, I represent all special districts in the Coastal Network, supporting CSDA's on-going efforts to offer educational classes and informative conferences and their pro-active legislative advocacy and policy proposals that impact all Special Districts.

If re-elected, I will continue to work with board members and staff to further advocacy efforts at the state and national level, increase membership, and further enhance services provided to member agencies.

I would appreciate your district's support in my re-election as the Coastal Network representative on the CSDA Board of Directors. I respectfully ask for your vote.

Sincerely,

Elaine L. Magner, Director
Pleasant Valley Recreation and Park District



- Home
- How It Works
- Logout **Pete Martinez**

CSDA Board of Directors Election Ballot - Term 2022-2024; Seat A - Coastal Network

Please vote for your choice

Choose **one** of the following candidates:

- Elaine Magner*
- Hugh Rafferty

*Incumbent

Elaine Magner* [\[view details\]](#)

Hugh Rafferty [\[view details\]](#)

Continue

Cancel



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Regular Board Meeting, July 13, 2021

To: Board of Directors
From: Peter Martinez, *General Manager*
Subject: Presentation by Peter Candy
Item No. G-1

INFORMATION:

Peter Candy will provide a verbal update on Oxnard-Pleasant Valley Groundwater Basin Adjudication complaint that has been filed.



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Regular Board Meeting, July 13, 2021

To: Board of Directors
From: Peter Martinez, *General Manager*
Subject: Cross Base Pipeline - Proposed Usage Costs Paid by Third Parties
Item No. G-2

RECOMMENDATION:

1. Receive presentation from MKN & Associates
2. Direct staff on how to proceed with negotiations with the City of Port Hueneme and Naval Base Ventura County on a future project that involves connecting to the Cross Base Pipeline.

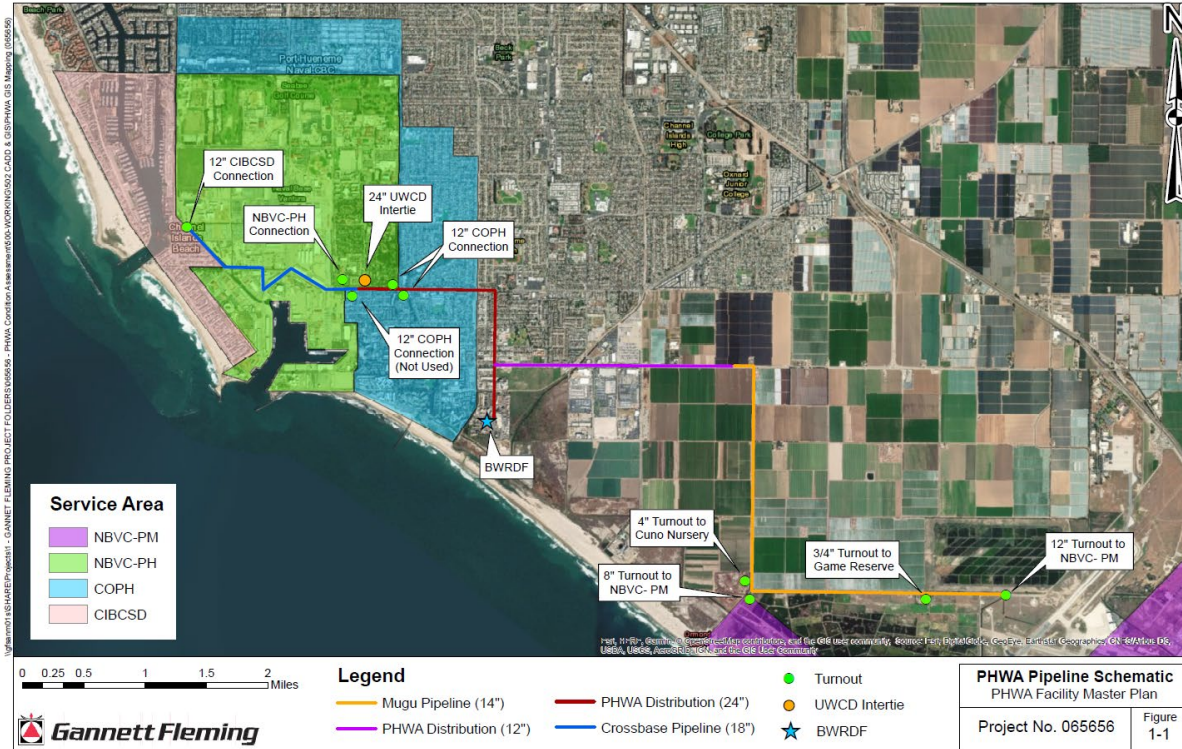
BACKGROUND:

In 1994, Kennedy Jenks delivered the Water Quality Improvement Program Concept Report outlining the establishment of a treated water pipeline supplying water to CIBCSD from Port Hueneme Water Agency (PHWA) as one of the recommendations to securing long-term reliability and water quality of water supplies. This pipeline would later come to be known as the Cross Base Pipeline (Pipeline). In 1996, the Water Sales Contract was established between PHWA and CIBCSD to allow for the 1997 construction of the Pipeline.

The Pipeline was constructed with an 18-inch diameter polyvinyl chloride (PVC) material and was designed for a 100-year useful life. Total construction cost was \$999,561. The Pipeline extends from a connection to the PHWA system to the east of the NBVC to the west of the NBVC, as seen in **Figure 1**. The Pipeline is approximately 6,955 feet long and has connections for NBVC.

CoPH has issues meeting pressure demands in the distribution zone north of the NBVC-PH distribution zone (refer to **Figure 1**). CoPH currently supplies this zone via distribution infrastructure to the east of NBVC-PH. CoPH can eliminate this pressure issue by utilizing CIBCSD's Pipeline and remaining infrastructure to supply water at a higher pressure from the west. Additionally, NBVC has expressed the desire to utilize water from the Pipeline to supplement fire flow scenarios.

FIGURE 1



DISCUSSION/ANALYSIS:

Two options of determining payment from CoPH and NBVC to CIBCSD to provide portions of the maximum Pipeline capacity. The methods behind these options are:

1. Up-Front Capacity Purchase
2. Annual Capacity Purchase

Each option will be presented in detail at the Regular Board Meeting.



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Regular Board Meeting, July 13, 2021

To: Board of Directors
From: Peter Martinez, *General Manager*
Subject: 2021 Water and Sewer Master Plan
Item No. H-1

RECOMMENDATION:

Staff recommends the Board receive and file the 2021 Water and Sewer Master Plan.

BACKGROUND:

In Fiscal Year 20/21 the Channel Islands Beach Community Services District (District) board authorized \$75,000 for completion of a Water and Sewer Master Plan Update. This effort provides updates to previous planning efforts for the District's water and sewer infrastructure, which were completed in 2010 and 2012, respectively. The updated Water and Sewer Master Plan included the following tasks:

- Review of Water Supply and Demand
- Water System Evaluation
- Wastewater System Evaluation
- 5-Year CIP Development

The District selected MKN consultants to complete the Master Plan update due to their experience with the District hydraulic models, understanding of local water supply and qualifications on Master Plan development (40+ master plans completed). The District initiated the update in July 2020 and completed the report in June 2021. The key findings from the report included the following:

- Reduction in buildout water demand from 770 AFY (2010 report) to 625 AFY; this reduction is due to a reduction in per capita residential use and reductions in planned Harbor projects based on recent Infrastructure Reviews completed by the District (Hyatt Hotel).
- Contract supply from PHWA is adequate but entitlements may not be adequate beyond 2035. This is consistent with the 2020 UWMP and 2019 BWRDF Facility Master Plan.

- Water supply performance for max day and peak hour scenarios are adequate, with fire flow deficiencies observed for 33 nodes (6 @ 50% capacity, 18 @ 51 to 80% capacity and 9 @ 81% capacity)
- Wastewater infrastructure is mostly adequate with several areas noted as deficient, including small areas in Silverstand Beach, near the Ventura County Stormwater Diversion, and Hollywood Beach. The majority of these are believed to be related to limited survey data for sewer inverts with the exception of Silverstand Beach which will be mitigated by the relocation of Oxnard flows at LS #1.
- A total of \$7.88M identified in the recommended 5-year CIP. This amount includes existing CIP projects as well as additional projects to mitigate the observed deficiencies.

The recommended CIP was modified by District staff and utilized as the basis for the current rate setting process. At this time, staff is recommending the Board to receive and file the 2021 Water and Sewer Master Plan.



Water and Sewer Master Plan Update

JULY 13, 2021

RYAN GALLAGHER, PE, MKN

Background and Objectives

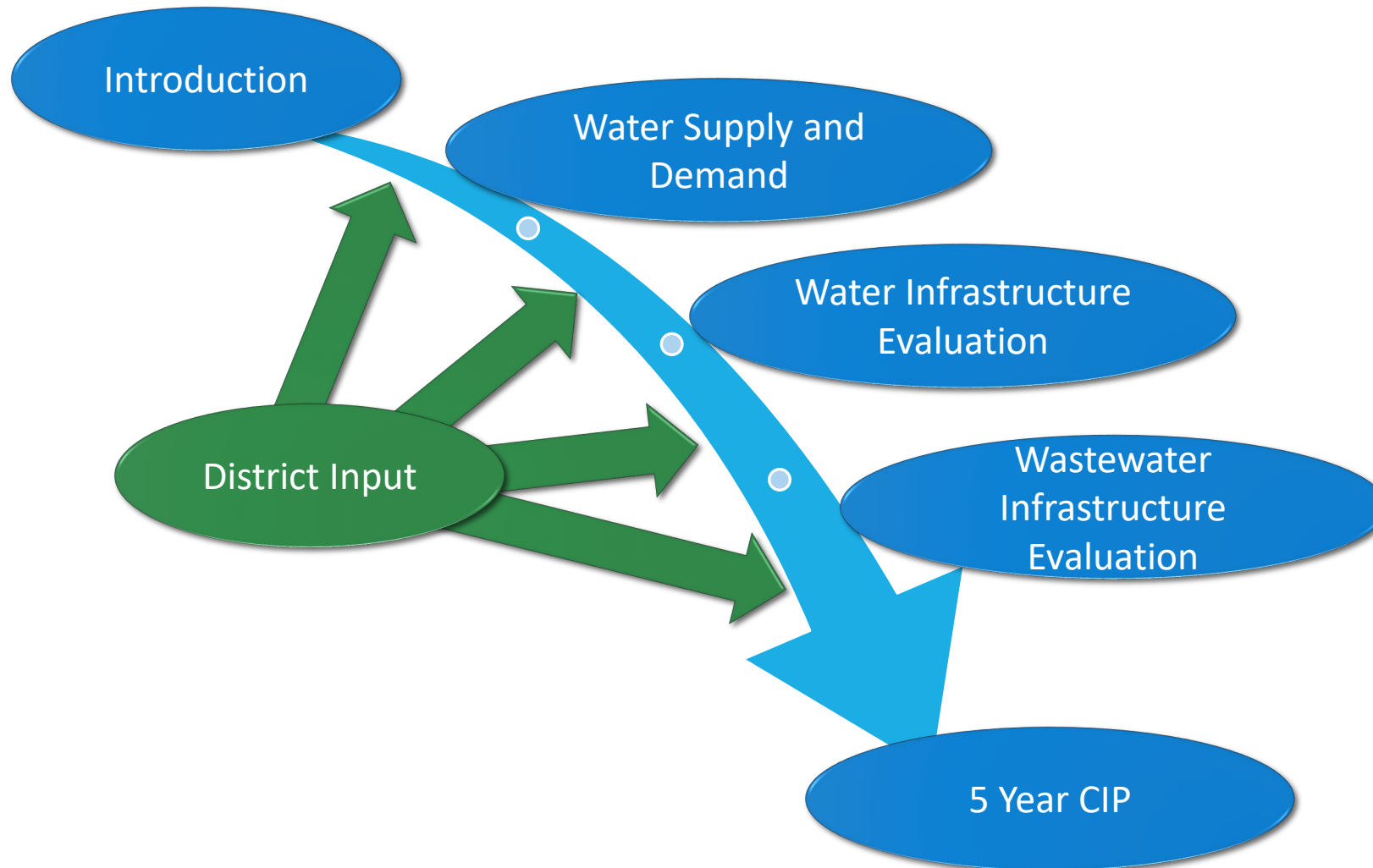


District Master Plan Drivers:

1. Estimate future water supply & demand
2. Identify deficiencies; previous efforts
 - *2010 Infrastructure Review (Water)*
 - *2012 Infrastructure Review (Wastewater)*
3. Proactive infrastructure management
4. Support 5-year rate setting

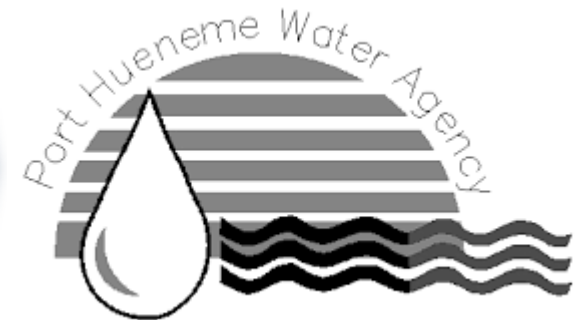
Report Approach

*Collaborative and
Stepwise Approach*

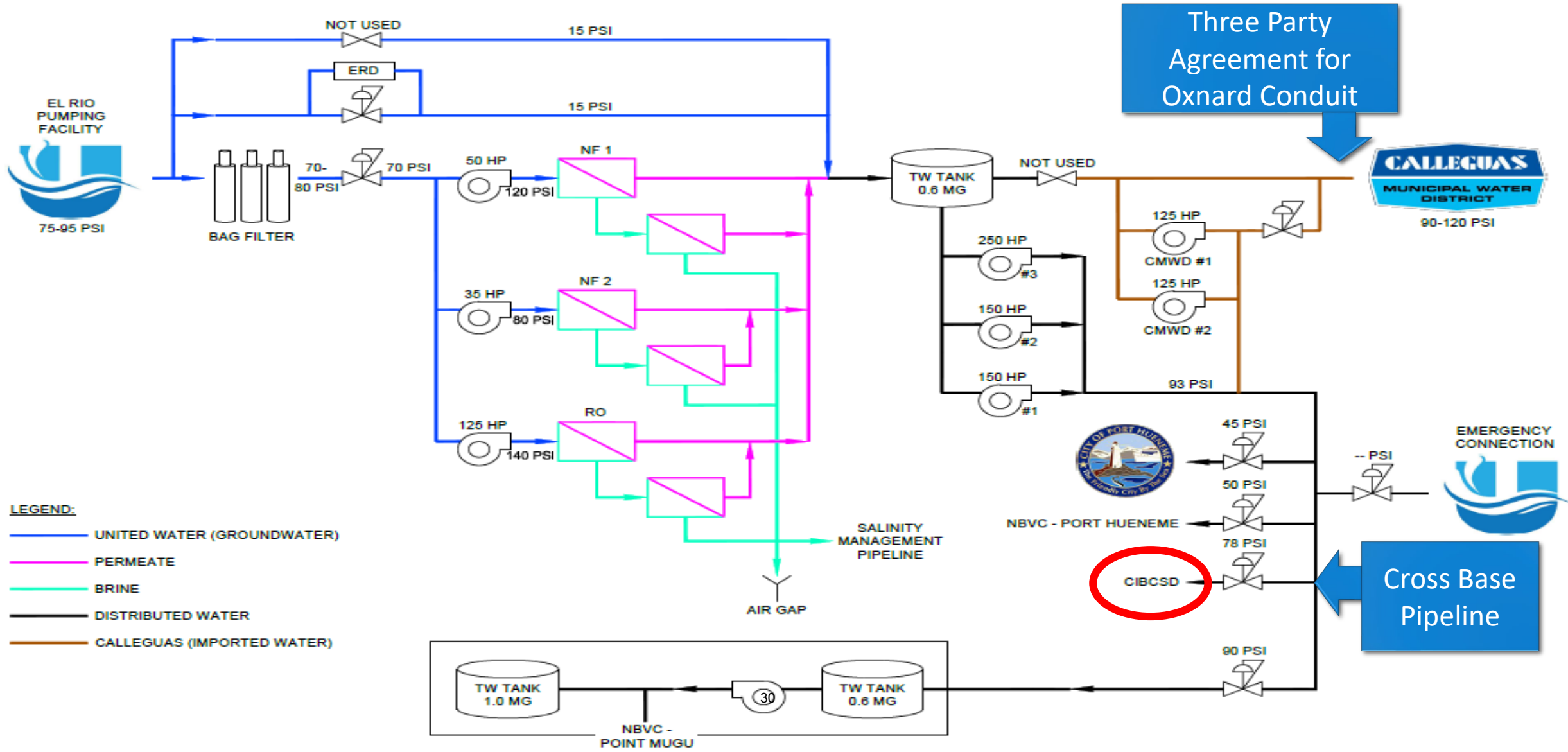


Water Supply - PHWA

- PHWA formed in 1994
- PHWA 40-year Water Sales Contract (1996 to 2036) – 800 AF, CIBCSD transfer allocation
- 40-year Land Lease from Oxnard (1996 to 2036)
- CMWD Supply Agreement (1996 to 2036) – 1,850 AFY
- PHWA BWRDF constructed in 1996
- Three Party Agreement (2003) – 3,262 AFY allocation, 700 AF GW annual transfer
- UWCD holds PHWA GW allocation of ~3,952AF, reduced every year by 2.6% until 2040



PHWA System Overview



Water Supply - PHWA

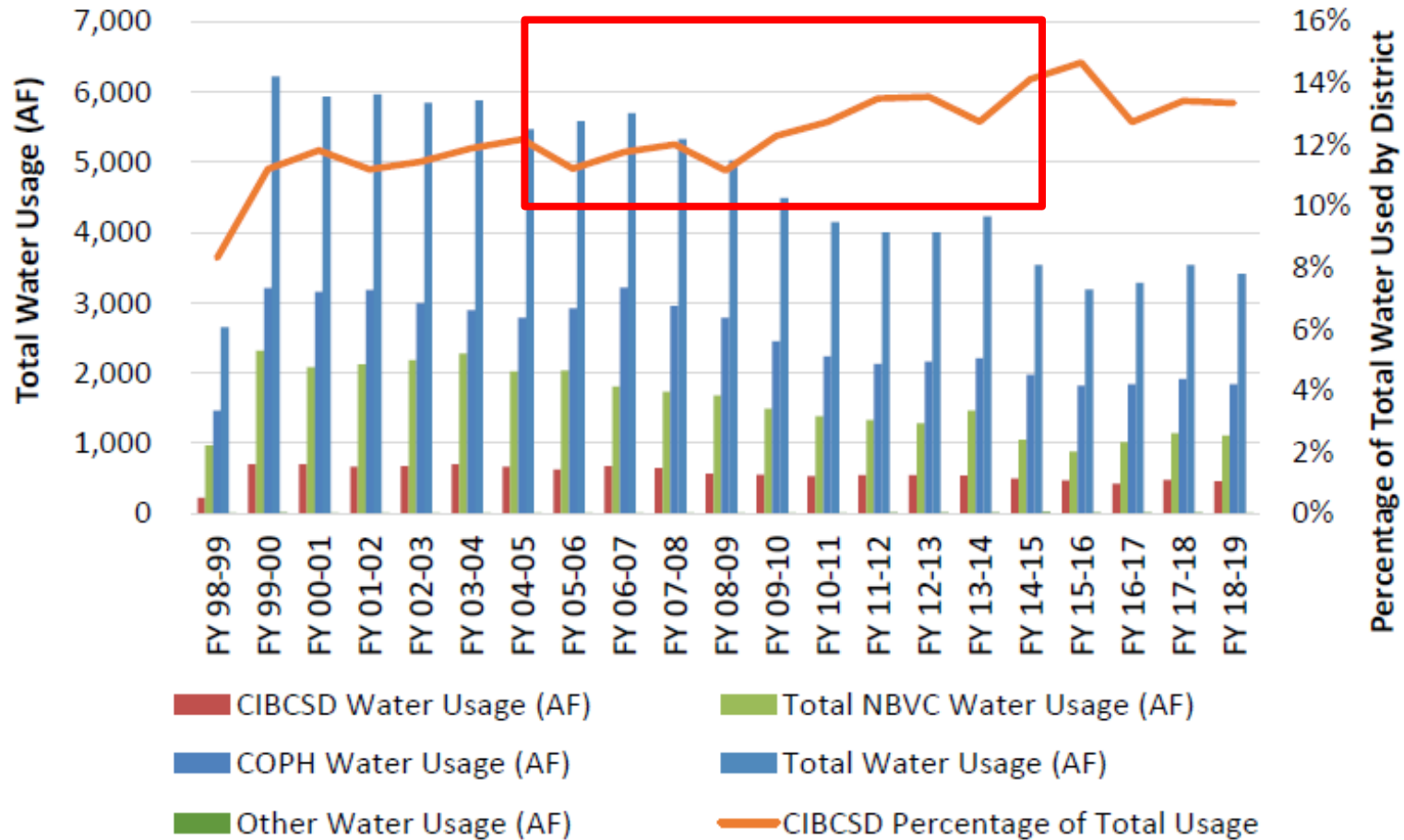
| Period | Extraction Reduction Percentage ^(a) | Gross Groundwater (AF) Allocation ^(b) | CMWD Imported Water Entitlement (AF) ^(c) | Total Entitlements (AF) | Total Entitlement (AF) less Brine Losses ^(d) |
|--------|--|--|---|-------------------------|---|
| 2020 | 100% | 489 | 250 | 739 | 666 |
| 2025 | 87% | 425 | 250 | 675 | 612 |
| 2030 | 74% | 362 | 250 | 612 | 558 |
| 2035 | 61% | 298 | 250 | 548 | 504 |
| 2040 | 48% | 235 | 250 | 485 | 450 |

Notes:

- (a) UWCD assumes for planning purposes that FCGMA will impose a uniform 2.6% reduction in available allocations each year until the sustainability goal set forth in the GSP is reached in 2040.
- (b) Initial allocation based on 12% of PHWA sub-allocation. This is a conservative value, as the Final Cost Allocation notes up to 23.4% of capacity.
- (c) CIBCSD has a State Water Entitlement of 250 AFY per Section 7.4 of the PHWA Water Quality Improvement Program (Kennedy/Jenks, 1994).
- (d) Brine loss is assumed to be 15 percent as the membrane systems operate at an 80 percent recovery and are then blended with unfiltered UWCD supply. The reduction only applies to groundwater allocation.

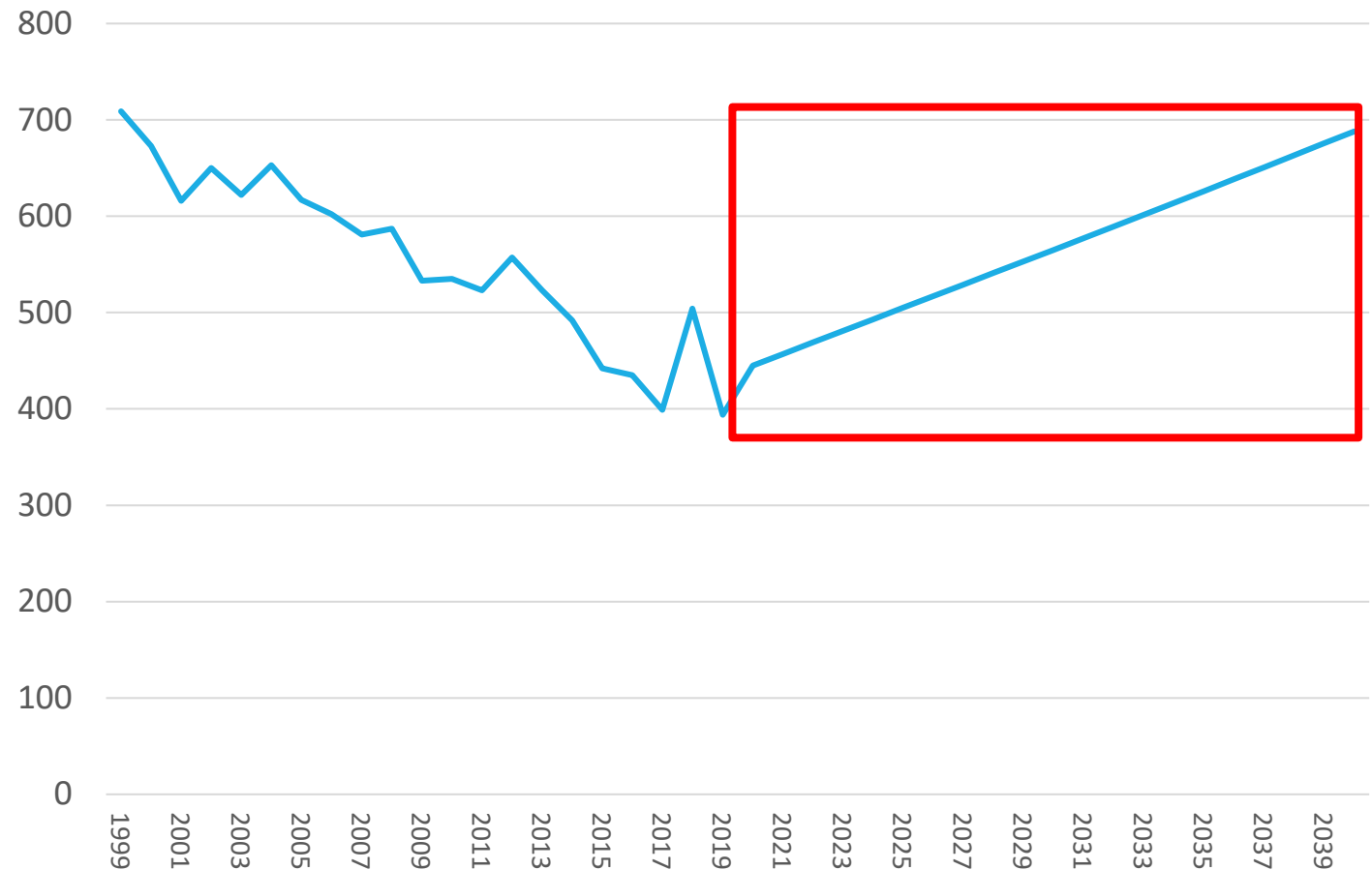
Water Supply - PHWA

Figure 2-2 District and PHWA Historical Demand FY 98/99 to FY 18/19



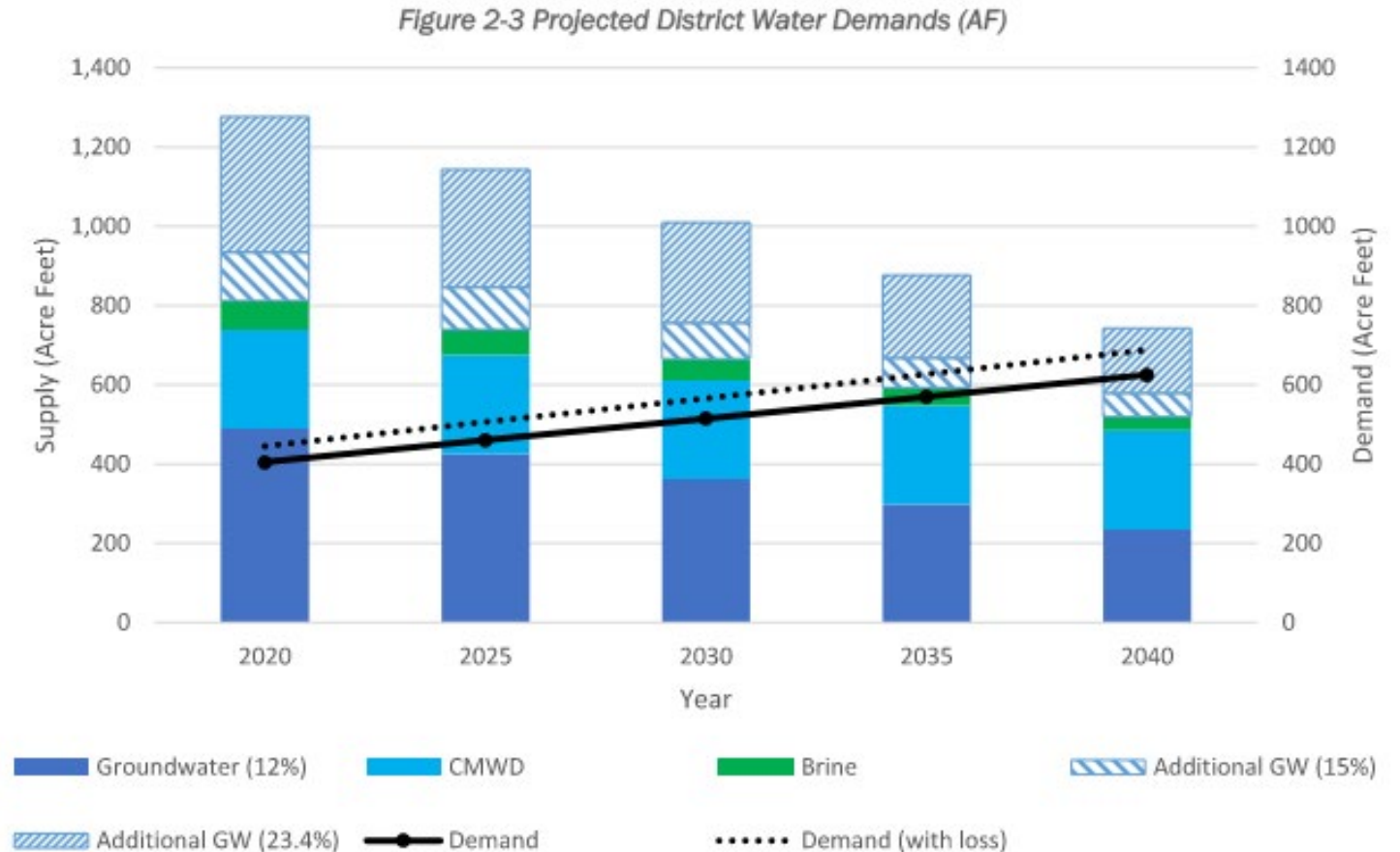
Water Demand – Past and Future

- Demand has historically been on the decline
- Spike in 2018 assumed to be associated with AMI install
- Ultimate based on full Harbor buildout
- Timing is unknown
- New regulation may minimize impact (AB 1668 and SB 606)



Water Supply vs Demand

- Total entitlements are adequate
- Imported water may take increasing share of water supply - increase overall cost of water
- Eliminating Oxnard transfer will help with supply
- Converting to blending station or receiving new water supply at PHWA may be needed past 2030



Water System Evaluation

- 17.5 miles, 4-12 inch, 466 valves
- Mostly 8-inch and AC material
- Estimated 30-50 years
- 17 breaks noted in past 20 yrs
- Average day demand 269 gpm (2019) versus 363 gpm (2010)
- Peak hour remains consistent
- No issue during max or peak hour
- 33 failing fire flow nodes
- ***Oxnard connections key to meeting fire flow demand***

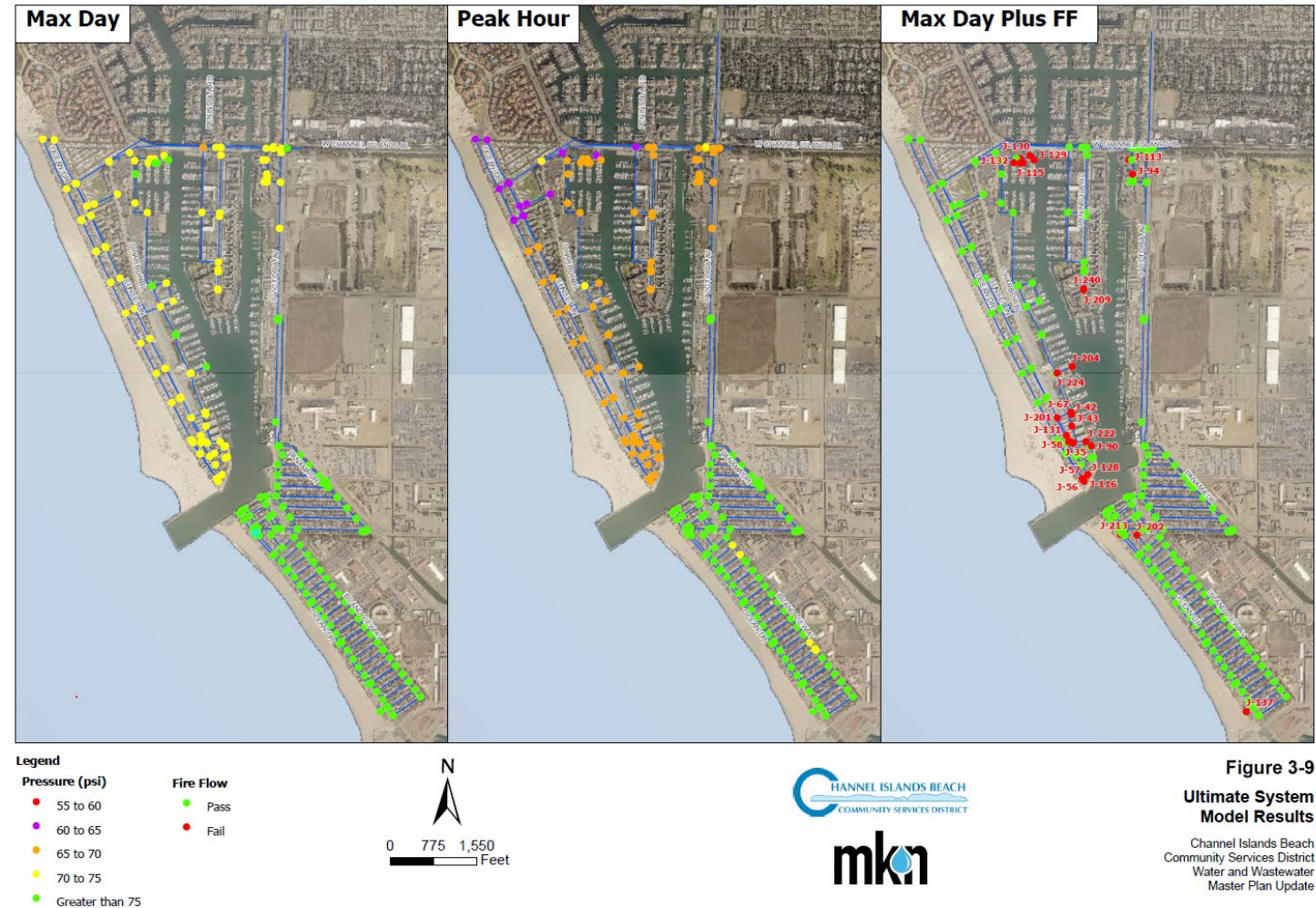


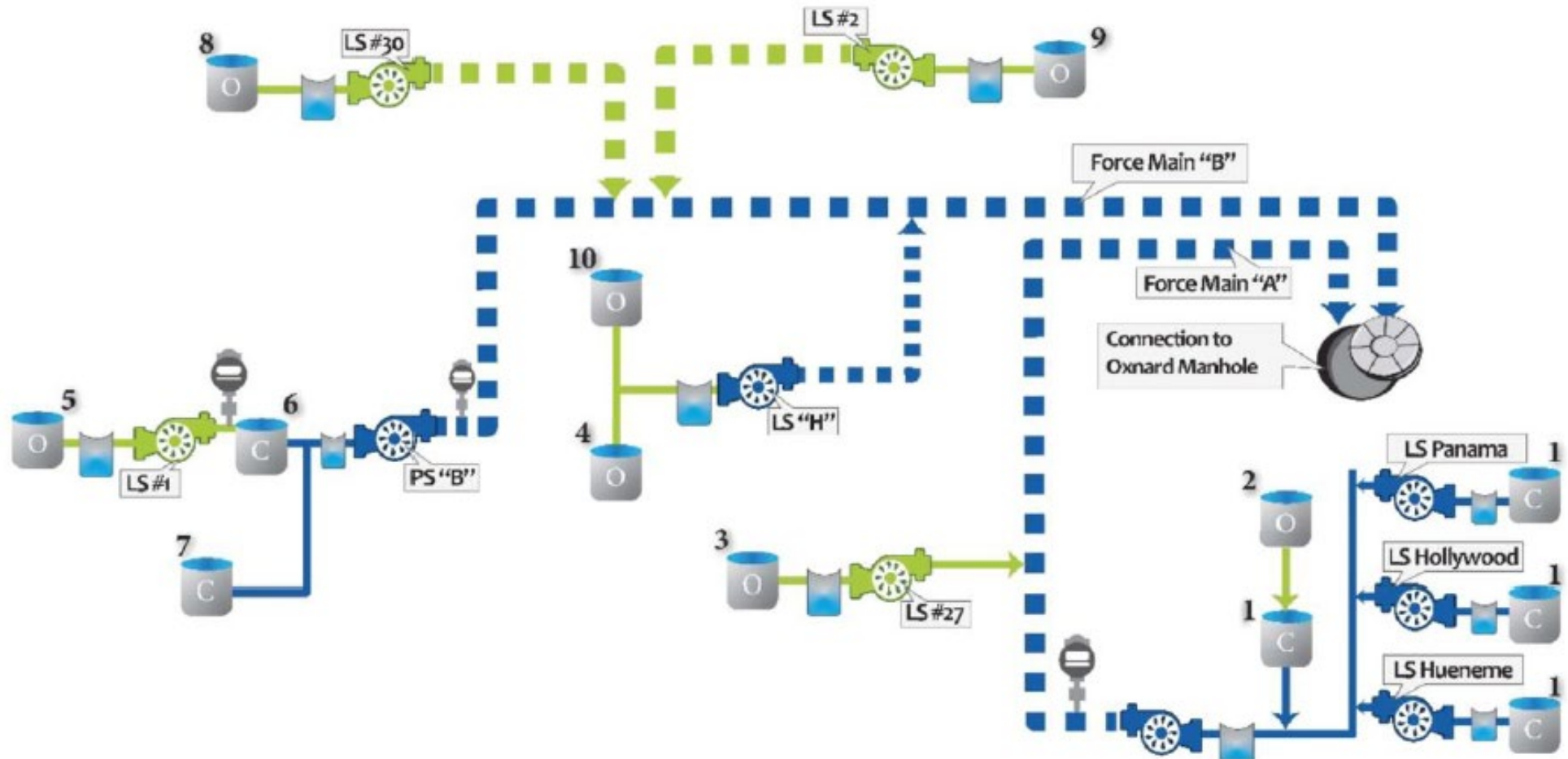
Figure 3-9
Ultimate System Model Results
 Channel Islands Beach
 Community Services District
 Water and Wastewater
 Master Plan Update

Risk Mitigation – Eliminate Easement Pipelines



Wastewater System Evaluation

- 7 lift stations
- 133 Manholes
- 11 Miles of 8-inch sewer pipes (AC, Steel & VCP)
- Ventura County Stormwater Diversions: San Nicholas Sewer Diversion



- Group 1 – Silverstrand Beach: d/D ratio exceeded; bypassing LS#1 to FM B could minimize
- Group 2 – VC Stormwater Diversion: d/D ratio exceeded; bypassing stormwater flow to FM A could minimize
- Group 3 – Hollywood Beach: deficiencies identified but could be due to lack of field data on inverts
- Group 4 – Sunset Lane: deficiencies appear to be related to invert elevations



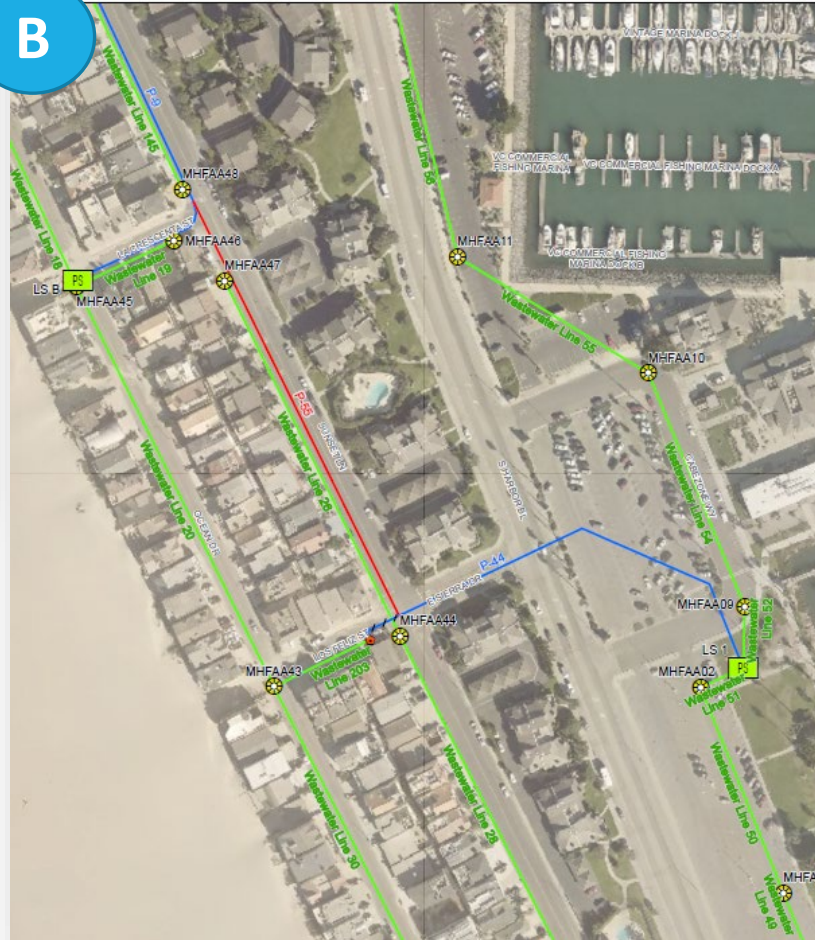
Pump Station B

A

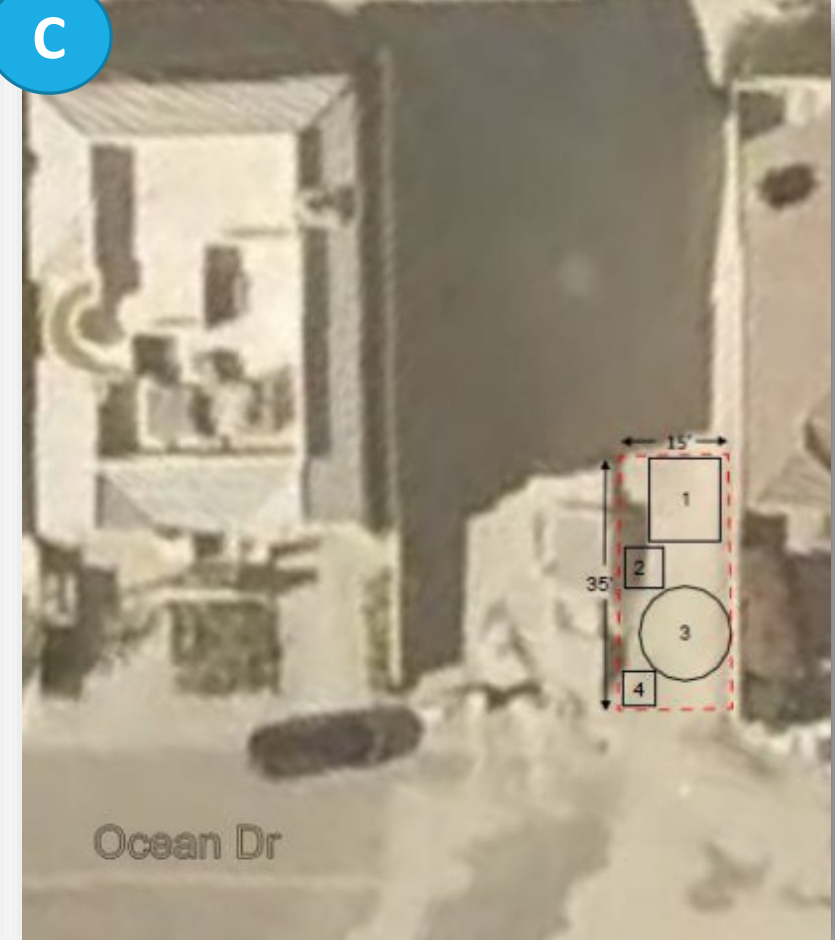


1. LS Consistency
2. Safety
3. Beach Access
4. Wet Well Capacity
5. Reduce Maintenance
6. Energy Costs
7. Reduced Capital

B



C



Recommended CIP

| Line | Project No. | Capital Project | Water | Sewer | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | 5-Year Total |
|------|-------------|-------------------------------------|-------|--------------|----------------|----------------|----------------|----------------|--------------|----------------|
| 1 | CI 101 | Easement Risk Mitigation Projects | 100% | | \$75 | \$325 | \$90 | \$380 | \$0 | \$870 |
| 2 | CI 102 | Wharf Head Removal | 100% | | \$25 | \$10 | \$10 | \$10 | \$10 | \$65 |
| 3 | CI 103 | PHWA Improvements | 100% | | \$65 | \$117 | \$118 | \$56 | \$32 | \$387 |
| 4 | CI 104 | Water Distribution Improvements | 100% | | \$50 | \$50 | \$50 | \$50 | \$50 | \$250 |
| 5 | CI 105 | Valve Replacement | 100% | | \$180 | \$160 | \$160 | \$50 | \$50 | \$600 |
| 6 | CI 106 | Water Supply Upgrades | 100% | | \$25 | \$0 | \$0 | \$25 | \$100 | \$150 |
| 7 | CI 107 | Long Term Water Supply Planning | 100% | | \$0 | \$0 | \$75 | \$0 | \$0 | \$75 |
| 8 | CI 108 | Fire Flow Improvements | 100% | | \$0 | \$0 | \$15 | \$70 | \$0 | \$85 |
| 9 | CI 109 | Water Emergency Response Plan | 100% | | \$15 | \$0 | \$0 | \$0 | \$0 | \$15 |
| 10 | CI 201 | I&I Reduction- Main & Manhole Impr. | | 100% | \$0 | \$30 | \$270 | \$0 | \$0 | \$300 |
| 11 | CI 202 | Sewer Lift Station and PS Rehab | | 100% | \$120 | \$0 | \$0 | \$30 | \$110 | \$260 |
| 12 | CI 203 | Sewer Improvement Projects | | 100% | \$65 | \$85 | \$75 | \$100 | \$60 | \$385 |
| 13 | CI 204 | Pump Station B Replacement | | 100% | \$50 | \$150 | \$700 | \$0 | \$0 | \$900 |
| 15 | CI 205 | Oxnard Wastewater Plant Impr. | | 100% | \$200 | \$200 | \$300 | \$600 | \$300 | \$1,600 |
| 16 | CI 206 | CCTV Video Inspection Program | | 100% | \$0 | \$0 | \$0 | \$85 | \$0 | \$85 |
| 17 | CI 401 | Yard and Building Improvements | 50% | 50% | \$1,450 | \$150 | \$0 | \$0 | \$0 | \$1,600 |
| 18 | CI 402 | Asset Management Program | 50% | 50% | \$15 | \$8 | \$8 | \$8 | \$8 | \$45 |
| 19 | CI 403 | Vehicle Replacement Program | 50% | 50% | \$0 | \$80 | \$0 | \$80 | \$0 | \$160 |
| 20 | MI 401 | Water & Sewer Rate Study | 50% | 50% | \$0 | \$0 | \$0 | \$0 | \$50 | \$50 |
| | | | | Water | \$1,167 | \$780 | \$522 | \$684 | \$271 | \$3,424 |
| | | | | Sewer | \$1,168 | \$584 | \$1,349 | \$859 | \$499 | \$4,459 |
| | | | | Total | \$2,335 | \$1,364 | \$1,871 | \$1,543 | \$770 | \$7,883 |

Note: All costs shown in thousands.

Questions/ Comments?

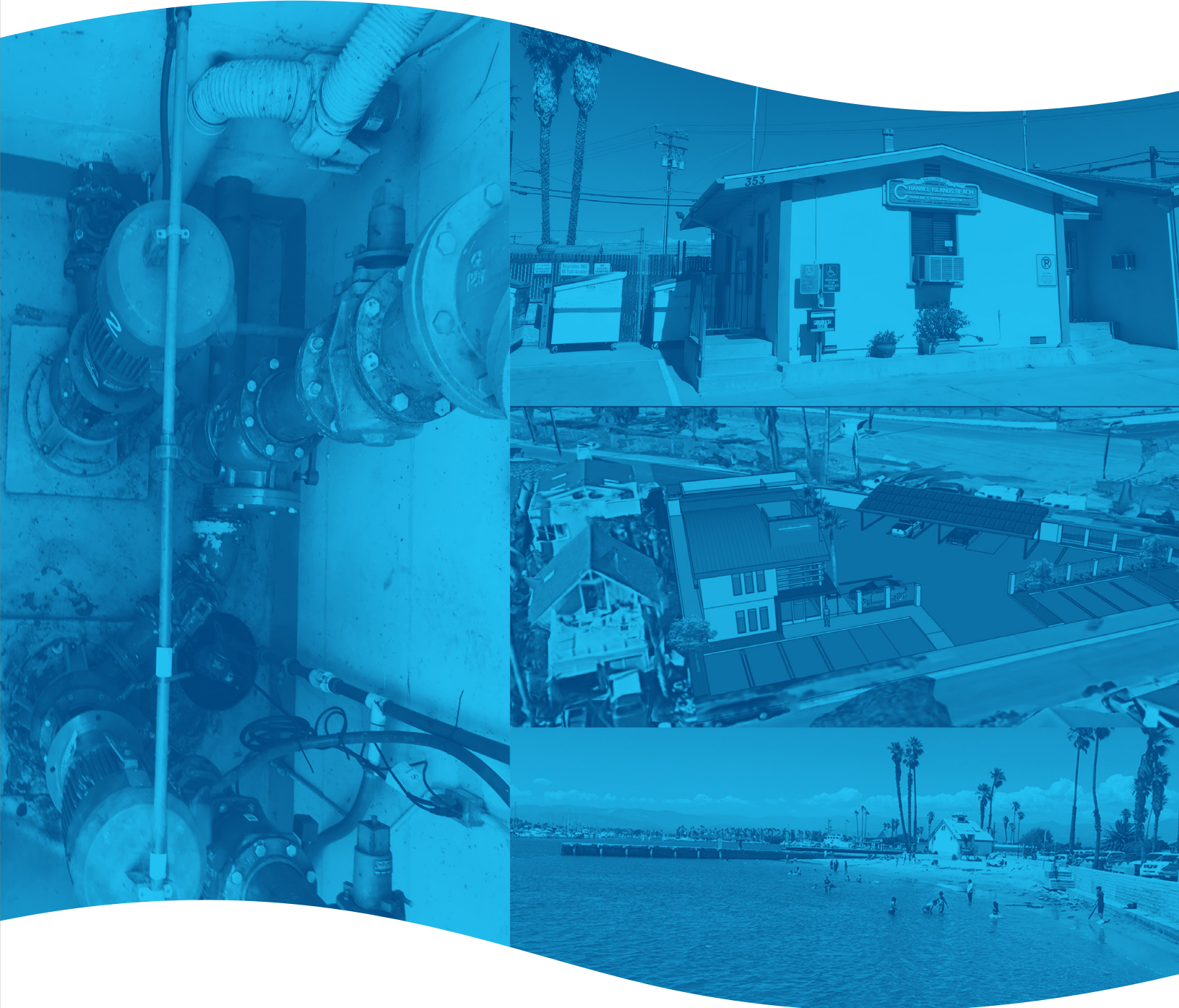
Point of Contact:

Ryan Gallagher

rgallagher@mknassociates.us



Channel Islands Beach Community Services District



2021 WATER AND SEWER MASTER PLAN





**CHANNEL ISLANDS BEACH
COMMUNITY SERVICES
DISTRICT**

**WATER AND SEWER MASTER
PLAN UPDATE**

JUNE 2021

PREPARED FOR:

**CHANNEL ISLANDS BEACH COMMUNITY SERVICES DISTRICT
353 SANTA MONICA DRIVE
CHANNEL ISLANDS BEACH, CA 93035**

PREPARED BY:

**MKN
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List of Abbreviations

| | |
|----------|---|
| AC | Asbestos cement |
| ADD | Average Day Demand |
| ADWF | Average Dry Weather Flow |
| AF | Acre-feet |
| AFY | Acre-feet per year |
| AWWA | American Water Works Association |
| BSF | Base Sanitary Flow |
| BWRDF | Brackish Water Reclamation Demonstration Facility |
| CMWD | Calleguas Municipal Water District |
| CIP | Capital Improvement Program |
| COPH | City of Port Hueneme |
| County | County of Ventura |
| District | Channel Islands Beach Community Services District |
| DI | Ductile iron |
| EAR | Electronic Annual Report |
| FGGMA | Fox Canyon Groundwater Management Agency |
| GIS | Geographic Information Systems |
| GMA | Groundwater Management Agency |
| GPD | Gallons per day |
| GSP | Groundwater Sustainability Plan |
| GW | Groundwater Infiltration |
| Harbor | Channel Islands Harbor |
| I/I | Inflow/Infiltration |
| MDD | Maximum Day Demand |
| MGD | Million Gallons per Day |
| MWD | Metropolitan Water District of Southern California |
| NF | Nanofiltration |
| O&M | Operations and Maintenance |
| PDWF | Peak Dry Weather Flow |
| PHD | Peak Hour Demand |
| PHWA | Port Hueneme Water Agency |
| PVC | Polyvinyl chloride |
| PWWF | Peak Wet Weather Flow |
| RDI/I | Rainfall dependent inflow/infiltration |
| RO | Reverse Osmosis |
| RTS | Return to Sewer |
| SGMA | Sustainability Groundwater Management Act |
| STL | Steel |
| UWMP | Urban Water Management Plan |
| USNBVC | United States Naval Base Ventura County |
| USNAWS | United States Naval Air Weapons Station- Point Mugu |
| UWCD | United Water Conservation District |
| USEPA | United States Environmental Protection Agency |
| VCP | Vitrified Clay Pipe |

1.0 INTRODUCTION

1.1 Background

Established in 1982, the Channel Islands Beach Community Services District (District) provides water, sanitation, and refuse collection services to residents within a portion of the City of Oxnard, including Hollywood Beach, Hollywood-by-the-Sea and Silver Strand. This area consists of approximately 535 acres and an estimated population of approximately 5,000 served via 1,900 potable service connections. The District also provides water services to Channel Islands Harbor (Harbor) located in unincorporated Ventura County. The County of Ventura (County) owns and manages the Harbor area. **Figure 3-1**, provided in **Appendix A**, provides an illustration of the service area limits.

1.2 Objectives

The District is seeking to develop a Water and Sewer Master Plan which achieves the following objectives:

1. Estimate future water supply and demand for incorporation in the upcoming Port Hueneme Water Agency (PHWA) Urban Water Management Plan (UWMP) 2020 Update. Identify and quantify potential water supply shortfalls.
2. Update the water and sewer hydraulic models to support future development reviews and assess performance of infrastructure.
3. Identify deficiencies related to performance and age of infrastructure.
4. Develop a 5-year Capital Improvement Project (CIP) plan which can be utilized for the subsequent rate study evaluation.

1.3 Prior and Concurrent Reports

The key documents used in this evaluation include:

1. **2010 Water Infrastructure Review (Kennedy/Jenks)**. This plan evaluated current and future water supply and demand for the District service area. The effort included development of a water distribution hydraulic model and evaluation of performance deficiencies. This model serves as the basis for the Master Plan Update.
2. **2012 Wastewater Infrastructure Review (Kennedy/Jenks)**. This plan evaluated wastewater flows in the District service area and adjacent Oxnard service areas which utilize District infrastructure. The effort included development of a sewer collection system hydraulic model and evaluation of performance deficiencies. This model serves as the basis for the Master Plan Update.

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3. **2018 Lift and Pump Station Condition Assessment (KEH).** The rehabilitation projects identified in this evaluation were reviewed and are integrated into the District's Plan CIP.
4. **2018 Water Supply Strategic Planning (KEH).** This workshop process identified short-term and long-term planning options for new water supply to PHWA.
5. **2019 BWRDF Master Plan (Gannett Fleming).** This Master Plan includes water supply estimates for PHWA which are used in the water supply assessment for the District. The rehabilitation projects identified for PHWA in the Master Plan are integrated into the District's CIP.

2.0 WATER SUPPLY AND DEMAND

2.1 Water Supply

The focus of this section is to provide an overview of the District's water supply, contractual entitlements, and agency interconnections. An overview of historical and current water demand for each user class is summarized and a projection of future water demand is calculated.

2.1.1 Port Hueneme Water Agency

The District, City of Port Hueneme (COPH), and United States Naval Base Ventura County (USNBVC)¹ formed a joint powers authority, Port Hueneme Water Agency (PHWA), in July 1994 to better manage the sub regional urban water supplies for their customers. It operates as a cost-effective conjunctive use water supply entity, which provides a means to reduce historical sea water intrusion along the coast, enhances fire protection, and improves water quality. The PHWA Board of Directors is composed of three council members from COPH and two directors from the District.

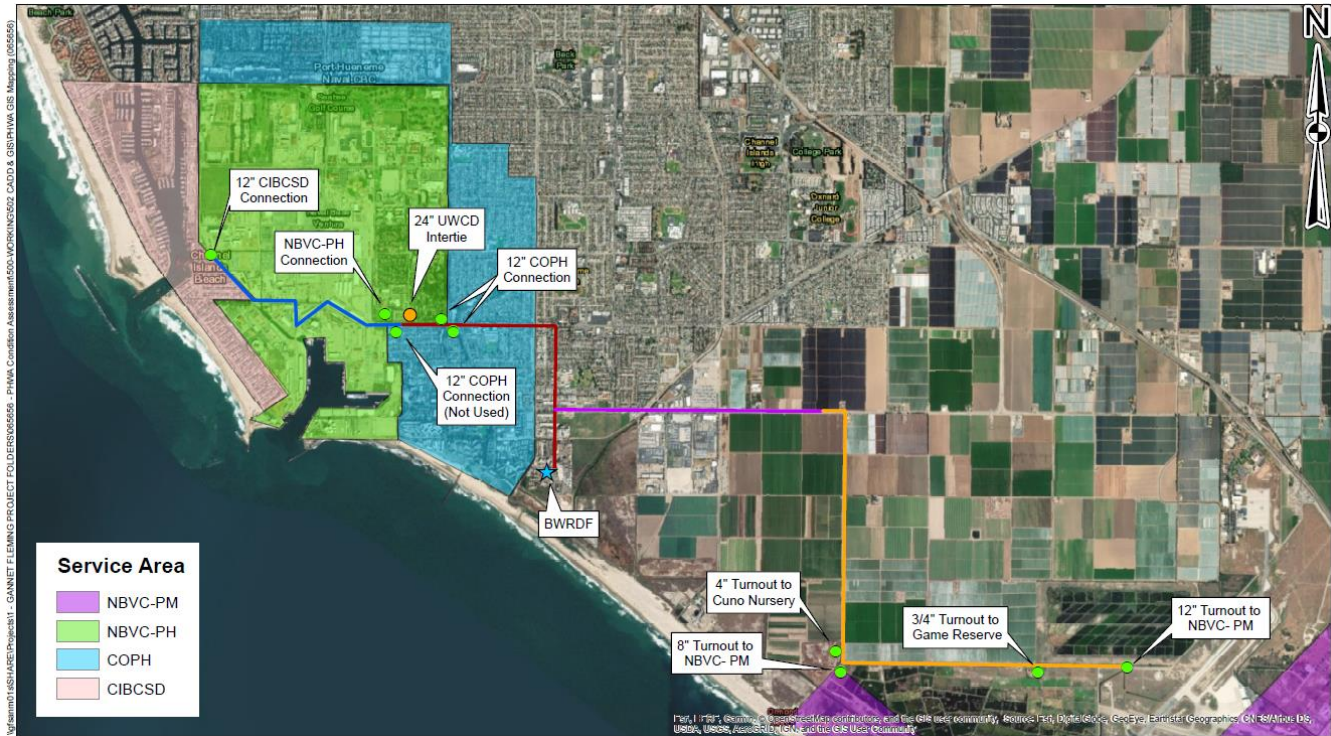
The District currently purchases all water from PHWA in accordance with the 1996 Water Sales Contract (detailed in Section 2.1.4). PHWA supplies its member agencies from a blend of water from United Water Conservation District (UWCD) and Calleguas Municipal Water District (CMWD). The former is filtered at PHWA's Brackish Water Reclamation Demonstration Facility (BWRDF) prior to delivery, and the latter is used primarily for serving peak demands or as backup supply during facility outages. The BWRDF, completed in 1999, was constructed to combat issues with the local groundwater basin, seawater intrusion, and poor groundwater quality.

The BWRDF is located along Perkins Road, immediately north of the City of Oxnard Wastewater Treatment Plant site. The BWRDF is located on land owned by the City of Oxnard as part of a 40-year Land Lease Agreement dated February 13, 1996. The BWRDF includes 3.0 MGD of brackish groundwater desalination capacity, consisting of two different brackish water desalination technologies: reverse osmosis (RO) and nanofiltration (NF) in parallel. The BWRDF blends the filtered UWCD supply with a parallel stream of unfiltered UWCD supply to provide the desired level of water quality.

¹ USNBVC at the time of the PHWA formation were separate bases known as United States Naval Construction Battalion Center – Port Hueneme (USNCBC) and the United States Naval Air Weapons Station-Point Mugu (USNAWS).

Figure 2-1 illustrates the PHWA infrastructure, BWRDF and the District point of connection. The District receives all water from PHWA via the 12-inch Cross Base Pipeline.

Figure 2-1 PHWA Infrastructure and District Connection



Source: Figure 1-1 of PHWA Facility Master Plan (Gannett Fleming, 2019)

In September 2019, PHWA completed a Master Plan to assess necessary maintenance projects for the BWRDF required to sustain operational capability. The Master Plan consisted of a Condition Assessment and a 5-year Capital Improvement Program (CIP), based on operational impact and a water supply assessment.

2.1.2 Calleguas Municipal Water District

PHWA annexed to the state water supply via the Metropolitan Water District of Southern California (MWD) and CMWD in February 1996 through a 40-year agreement that expires in 2036 (referred to as the “Imported Water Service Agreement”). PHWA transferred a state water entitlement of 1,850 AFY to MWD as part of the annexation arrangements. This long-term water transfer arrangement helped the PHWA to economically access the state water system and ensure adequate quantity and quality of water to the District. To accommodate delivery of state water to PHWA through City of Oxnard owned transmission pipelines (Oxnard Conduit and Industrial Lateral), the “Three-Party Water Supply Agreement was signed in March 2003, by the City of Oxnard, CMWD and PHWA.

As part of the agreement, a portion of the City of Oxnard’s CMWD Tier 1 reservation is reserved for PHWA. The PHWA allocation is 3,262.5 AFY out of a total Tier 1 allocation of 17,379.4 AF. PHWA also has a contractual capacity reservation of 2.5 cfs (instantaneous demand).

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2.1.3 United Water Conservation District

UWCD diverts Santa Clara River water at the Vern Freeman Diversion Dam southeast of Saticoy. A portion of the water UWCD diverts is delivered to agricultural irrigators on the Oxnard Plain, and the balance is delivered to the Saticoy and El Rio Spreading Grounds. Water percolated in these spreading basins recharges the Forebay to the Oxnard Plain. UWCD currently utilizes twelve (12) wells at its El Rio Wellfield to extract the percolated water and deliver it to contractors on the Oxnard-Hueneme (O-H) Pipeline system, referred to as the O-H Pipeline, including PHWA. Of the twelve (12) wells, three (3) extract water from the Lower Aquifer System (LAS), and the remaining nine(9) extract water from the Upper Aquifer System (UAS). The El Rio Wellfield has sufficient active pumping capacity to supply the peak O-H Pipeline capacity of 53.0 cubic feet per second (cfs), with a contractual limitation of 22.25 cfs set for PHWA. Water extracted by these wells is delivered to the El Rio Pumping Station, disinfected, and pumped through a 12-mile transmission main, referred to as the O-H Pipeline, to each of the O-H contractors. UWCD built the O-H system in 1954 to move municipal groundwater extraction away from the coastal areas subject to seawater intrusion.

In July 1996, PHWA negotiated a new 40-year agreement with UWCD (“Water Supply Agreement”) on behalf of the District to improve the quality of the water supplied by UWCD to PHWA’s BWRDF. Even though UWCD groundwater is considered potable, it has elevated TDS (approximately 1,000 ppm) and hardness (500 ppm). The PHWA established a water quality improvement goal of 370 ppm TDS and 150 ppm hardness which will help ensure compliance with future federal and state water quality standards.

The groundwater pumped by UWCD at its El Rio Wellfield and delivered to O-H Pipeline contractors is regulated by the Fox Canyon Groundwater Management Agency (FCGMA) which, pursuant to its enabling legislation, manages both confined and unconfined aquifers within all or portions of four groundwater basins underlying the southern portion of Ventura County. The FCGMA completed a Groundwater Sustainability Plan (GSP) in December 2019, in compliance of the 2014 Sustainable Groundwater Management Act (SGMA; California Water Code, Section 10720 et seq.). Pursuant to this effort and to achieve sustainable management of the groundwater basins, the FCGMA adopted an Ordinance to Establish an Allocation System for the Oxnard and Pleasant Valley Groundwater Basins on October 23, 2019 (OPV Allocation Ordinance).

The OPV Allocation Ordinance imposes initial extraction allocations on all groundwater extractors operating well facilities located within the OPV Basin boundaries. The new pumping allocations went into effect on October 1, 2020 and are based on a demand period of 2005 through 2014 (known as “Base Period”). The pumping allocations will be subject to ramp-down reductions in the future, over the 20-year GSP implementation horizon, as FCGMA seeks to bring the OPV Basins under sustainable management.

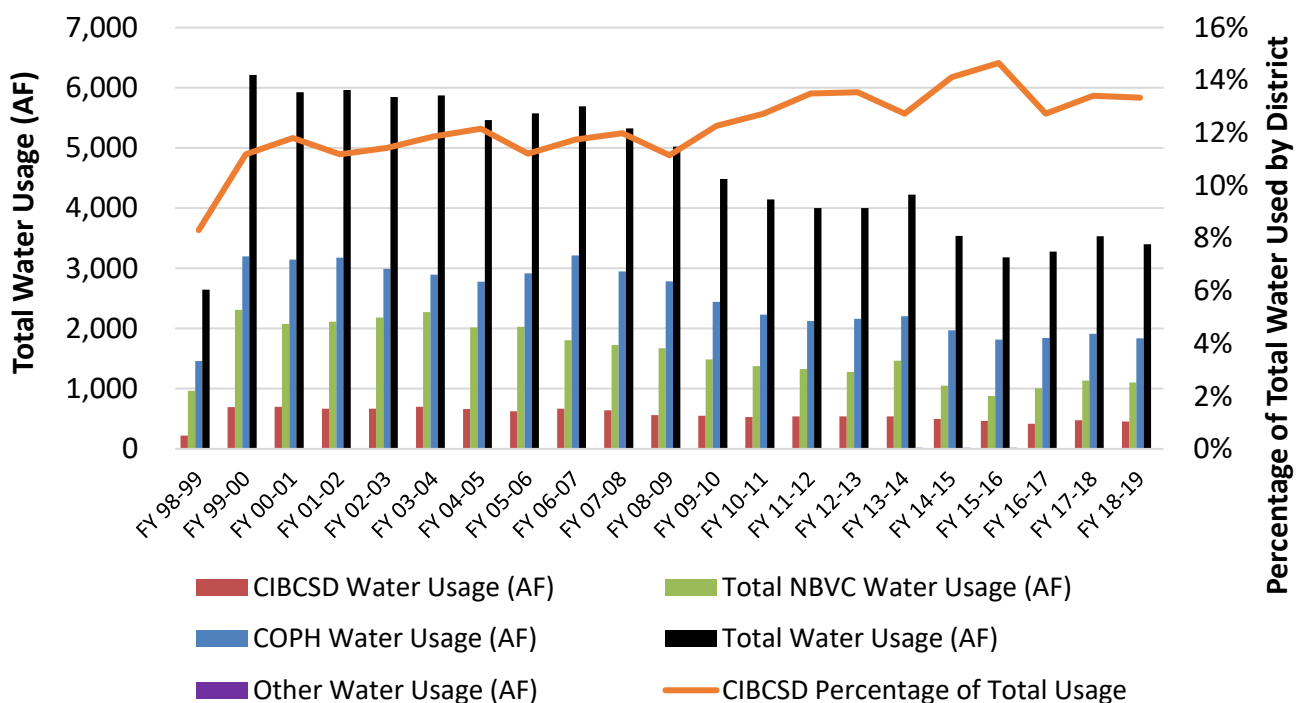
Pursuant to the OPV Allocation Ordinance, UWCD holds an initial extraction of 14,336.56 AFY for use exclusively on its O-H Pipeline system. This means UWCD can pump free of surcharge up to 14,336.56 AFY for

delivery to its O-H Pipeline contractors until such time as FCGMA adopts a program for implementing future ramp-down reductions. UWCD holds this allocation in trust for PHWA and the other O-H Pipeline contractors, each contractor being entitled to a portion of the available supply, referred to as “sub-allocation”. PHWA’s sub-allocation has been determined to be 3,952 AFY, after adjusting for three percent line loss/flush. This number is expected to increase to 4,076.3 AFY, pending approval of the variance request that PHWA and UWCD jointly submitted to FCGMA in June 2020. However, similar to UWCD’s initial allocation of 14,336.56 AFY, PHWA’s expected sub-allocation of 4,076.3 AFY will be subject to future ramp-down reductions over the 20-year GSP implementation horizon, as FCGMA seeks to bring extractions from the OPV Basins into balance with sustainable yield. While the phasing program and associated schedule of ramp-down reductions are currently unknown (i.e., have yet to be adopted by FCGMA), UWCD assumes for planning purposes that FCGMA will impose a uniform 2.6% reduction in available allocations each year until the sustainability goal set forth in the GSP is reached in 2040.

2.1.4 District Entitlements

Per Amendment No. 2 (June 2000) to the Agreement for Formation of the Joint Powers Agency (Port Hueneme Water Agency), the District’s PHWA capacity rights are apportioned between the PHWA members in accordance with the Final Cost Allocation (Willdan, 2000). The Final Cost Allocation assigns a total cost allocation to the District of 23.4 percent. This calculation reflects the consolidation of multiple sub cost allocations, which includes a cost allocation for the BWRDF. The sub cost allocation noted for the BWRDF is identified as 15 percent. The historical water use, as a percentage of total PHWA member use is illustrated in **Figure 2-2**.

Figure 2-2 District and PHWA Historical Demand FY 98/99 to FY 18/19



The District’s estimated use during the Base Period (2005 through 2014) is approximately 12 percent which equates to approximately 489 AF of the PHWA expected sub-allocation. As such, the range of assumed apportionment of future District water supply from PHWA is 12 to 23.4%. For planning purposes, the more conservative value of 12 percent is assumed to be the minimum available supply. **Table 2-1** summarizes total entitlement inclusive of both groundwater and imported water.

Table 2-1 District Entitlement Summary

| Period | Extraction Reduction Percentage ^(a) | Gross Groundwater (AF) Allocation ^(b) | CMWD Imported Water Entitlement (AF) ^(c) | Total Entitlements (AF) | Total Entitlement (AF) less Brine Losses ^(d) |
|--------|--|--|---|-------------------------|---|
| 2020 | 100% | 489 | 250 | 739 | 666 |
| 2025 | 87% | 425 | 250 | 675 | 612 |
| 2030 | 74% | 362 | 250 | 612 | 558 |
| 2035 | 61% | 298 | 250 | 548 | 504 |
| 2040 | 48% | 235 | 250 | 485 | 450 |

Notes:

- (a) UWCD assumes for planning purposes that FCGMA will impose a uniform 2.6% reduction in available allocations each year until the sustainability goal set forth in the GSP is reached in 2040.
- (b) Initial allocation based on 12% of PHWA sub-allocation. This is a conservative value, as the Final Cost Allocation notes up to 23.4% of capacity.
- (c) CIBCSO has a State Water Entitlement of 250 AFY per Section 7.4 of the PHWA Water Quality Improvement Program (Kennedy/Jenks, 1994).
- (d) Brine loss is assumed to be 15 percent as the membrane systems operate at an 80 percent recovery and are then blended with unfiltered UWCD supply. The reduction only applies to groundwater allocation.

2.1.5 Channel Islands Harbor – Water Service Agreement

In 1963, the predecessor to the District, the Oxnard Beach County water District, entered into an agreement to provide water services to the Channel Islands Harbor (Harbor) customers. After this original agreement the District served the Harbor customers water demand utilizing the District’s lower aquifer system wells. Upon formation of the PHWA and development of the BWRDF, a new water service agreement was executed in April 1996 and serves as the current basis for water delivery to the Harbor. The Water Service Agreement between the County of Ventura (County) and the District requires the District to provide the Harbor with up to 465 AFY of the District’s capacity in the PHWA Sub regional Water Supply Project to meet the demands within the Channel Islands Harbor.

The current agreement has a 25-year term which is due in October 2021 and includes automatic renewal and extension for 10 years unless termination is mutually agreed upon. Termination requires a written mutual agreement of the parties. The County can terminate the agreement at any time (1) during the Initial Term upon one-year advance written notice to District or (2) during any Subsequent Term upon one (1) year advance written notice to the District, in each event. If the agreement expires or is terminated, the District must reconvey to the County all of the water system facilities within the Harbor existing at the time of expiration or termination.

2.1.6 Emergency Interconnects

The water distribution systems for the District, the City of Port Hueneme, and USNBVC were interconnected with the City of Oxnard’s system in December 1996. This arrangement was made between CMWD and the City of Oxnard to provide interim state water to the PHWA prior to the completion of the new PHWA facilities. The District maintains a separate emergency water interconnection with the City of Port Hueneme, in place prior to this agreement. These regional water distribution system interconnections may prove advantageous in the event of an emergency supply shortage or outage in the area and could serve to supplement fire flow needs.

The District has three emergency interconnects, which are summarized as follows:

1. City of Oxnard
 - a. 8-inch PVC pipe near the Southwest corner of the Channel Islands Boulevard and Victoria Avenue intersection set at 60 psi.
 - b. 12-inch DIP pipe located at the intersection of Channel Islands Boulevard and Harbor Boulevard set at 60 psi.
2. Port Hueneme: 12-inch AC line at the Southeast corner of the Channel Islands Boulevard and Victoria Avenue intersection set at 62 psi.

These emergency connections are regulated by pressure sustaining valves that open based on the current backpressure maintained in the system. The District’s distribution system design criteria is set at 75 psi and the emergency valves will open when the backpressure is reduced to below 62 psi for the Port Hueneme connection and below 60 psi for the two Oxnard connections. Reference **Figure 4-1**, provided in Appendix A, for the District’s service area and distribution system.

2.1.7 Contract Summary

Table 2-2 summarizes the District’s key entitlements, water supply, and delivery contracts.

Table 2-2 District Contract Reference Summary

| Contract Reference | Contract Start Date | Contract End Date | Entities Involved | Section Reference |
|--------------------------------|---------------------|-------------------|---------------------|-------------------|
| Imported Water Sales Agreement | February 1996 | Feb 2036 | PHWA and CMWD | Section 2.1.2 |
| Water Supply Agreement | July 1996 | Jul 2036 | PHWA and UWCD | Section 2.1.3 |
| Water Sales Contract | May 1996 | May 2036 | PHWA and District | Section 2.1.4 |
| Water Sales Agreement (Harbor) | April 1996 | Oct 2021 | County and District | Section 2.1.5 |

2.2 Water Demand

2.2.1 Historical

As of 2021, the District has approximately 1,866 accounts in its service area, all of which are metered. **Table 2-3** summarizes the current number of metered accounts for the District by water sector. The principal water sectors include (1) single-family residential, (2) multi-family residential and (3) commercial/institutional.

Table 2-3 Existing Number of Accounts

| Type of Account | Total Number of Accounts |
|---|--------------------------|
| Single-family Residential | 1,633 |
| Multi-family Residential | 122 |
| Commercial/Industrial | 80 |
| Landscape Irrigation | 31 |
| Agricultural | - |
| Other | - |
| Total | 1,866 |
| <i>Source: 2019 EAR provided by District.</i> | |

Table 2-4 provides a summary of annual water demands for the period 2013 to 2019.

Table 2-4 Historical Water Demand by Customer Type

| Customer Type | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|------------|------------|------------|------------|------------|--------------------------|------------|
| Single-family Residential | 260 | 248 | 225 | 216 | 220 | 245 | 191 |
| Multi-family Residential | 35 | 34 | 33 | 37 | 51 | 142 | 95 |
| Commercial/Industrial ^(b) | 197 | 180 | 159 | 156 | 97 | 87 | 82 |
| Landscape Irrigation | 31 | 31 | 24 | 26 | 32 | 30 | 25 |
| Agricultural | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total^(c) | 523 | 492 | 442 | 435 | 399 | 504^(d) | 394 |
| Notes: (a) Source: 2013-2019 EAR provided by District. (b) Commercial/Institutional land use type also assumes industrial/governance land use type. (c) Assumes that value does not include unaccounted for water. Unaccounted-for water loss within the distribution system is estimated to be 0 percent (0 AF in 2018) of the total District demand. (d) AMI system installed in 2018. | | | | | | | |

The data shows that District water demand decreased from a high of 523 AF in 2013 to its recent low of 394 AF in 2019. In general, **Table 2-4** indicates a trend of decreasing water demand over the evaluated time period, which is consistent with the trend evaluated in the previous Master Plan. For the previous evaluation (1995-2008) a decrease in water demand from a high of 828 AF in 1997 to a low of 587 AF in 2008 is demonstrated. The only outlier in this most current dataset is 2018 which shows a momentary increase. This may be due to the installation of new water meters. Since older meters are less accurate, the new meters may have captured

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water previously identified as “Unaccounted-For Water”. The return to a lower value in 2019 could be due to changing customer habits in response to the higher water bills of 2018.

Explanations for the overall decrease are multifold and include periods of prolonged drought, coupled with regulatory cutbacks on imported water supplies, new regulations affecting water conservation, and pace of development/redevelopment.

2.2.2 Unaccounted-For Water

In addition to the traditional demand sources, there is another component that impacts the District’s water resources known as “Unaccounted-For Water.” This component is typically defined as the difference between water production and water sales. These water losses can come from authorized, but unmetered sources such as firefighting and main flushing, or unauthorized sources such as leakage, illegal connections, and inaccurate flow meters.

Estimates from USEPA Region 9 indicate an average of 5 percent unaccounted-for water, while California Department of Water Resources, Office of Water Conservation uses 9.5 percent for long-range planning of municipal water production. For planning purposes, a goal of 10 percent unaccounted-for water percentage is recommended.

2.2.3 Future

Estimating future water demand is a function of several factors. Water usage is influenced by geographic location, topography, land use, demographics, and water system characteristics (i.e., system pressures, water quality, and metering of connections). Therefore, water demand characteristics within the District will differ from water demands of other areas in southern California according to each of the factors listed previously.

For this analysis, future demand is based on maximization of each land use type. The ultimate land use map provided as **Figure 4-6 (Appendix A)** is based on the map established in the previous Master Plan. The summary of land use types and corresponding area-based demand factors is provided in **Table 2-5**.

Table 2-5 Existing District Land Use Demands

| Land Use Type | Avg Daily Demand (gpd/acre) | Land Area (acre) | Annual Demand (AFY) | Demand Justification |
|---|-----------------------------|------------------|---------------------|---|
| Multi-Family Residential | 2,855 | 45 | 144 | Apartments on Peninsula Road based on 25 acres. |
| Visitor Serving Boating | 77 | 89 | 8 | Vintage Marina (03600-01) based on 9 acres. |
| Visitor Service Non-Boating Dependent | 198 | 6 | 1 | Kiddie's Beach Restroom (02770-01) based on 0.3 acres |
| Boating Dependent Industrial | 160 | 10 | 2 | Bellport Marine Yard (02010-02) based on 5.5-acre land |
| Visitor Serving Harbor Oriented - General | 2,204 | 17 | 42 | Whales Tail (13940-01) based on CIBCSD Infrastructure Review (Kennedy/Jenks 2010) |
| Visitor Serving Harbor Oriented - Hyatt Hotel/Yacht Marina | 2,496 | 12 | 34 | Average daily demand of 20.8 gpm from Hyatt Hotel and Anchorage Yacht Marina Hydraulic Modeling (2019) |
| Parking/Landscaping | 490 | 23 | 13 | County Irrigation Sprinklers (04740-01) based on CIBCSD Infrastructure Review (Kennedy/Jenks 2010) |
| Launch Ramp | 550 | 8 | 5 | Launch Ramp Victoria (04690-01) based on CIBCSD Infrastructure Review (Kennedy/Jenks 2010) |
| Mixed Use – Low | 3,000 | 5 | 17 | This Land Use type does not exist in the District service area; maintain value from 2010 Infrastructure Review. |
| Mixed Use- High (Fisherman's Wharf) | 12,126 | 7 | 95 | An average daily demand of 80 gpm was used from Fisherman's Wharf Development Hydraulic Modeling (2019) |
| School | 1,080 | 5 | 6 | Hollywood Beach School (20971-01C) based on 5-acre land |
| Residential | 1,980 | 101 | 224 | An average demand of 119 gpd (2019) was used in conjunction with an average calculated area of 0.06 acres. |
| Commercial | 2,714 | 3 | 9 | An average demand of 162 gpd (2019) was used in conjunction with an assumed area of 0.06 acres. |
| Park | 3,125 | 7 | 25 | A standard 3.5 AFY/acre was assumed for the park area. |
| | Total | 338 | 625 | |

Based on **Table 2-5** the future buildout for the District service area is calculated to be 625 AFY, not including Unaccounted-For-Water. This represents a decrease from the 770 AFY buildout demand calculated in the 2010 Master Plan. This reduction is mainly driven by unit demand for residential which decreased from 152 gpd to 119 gpd, which corresponds to 115 AFY. Other significant changes include a *reduction* in Visitor Serving Harbor Oriented (78 AFY) and an *increase* in Mixed Use – High (56 AFY) which represents the Fisherman’s Wharf Development.

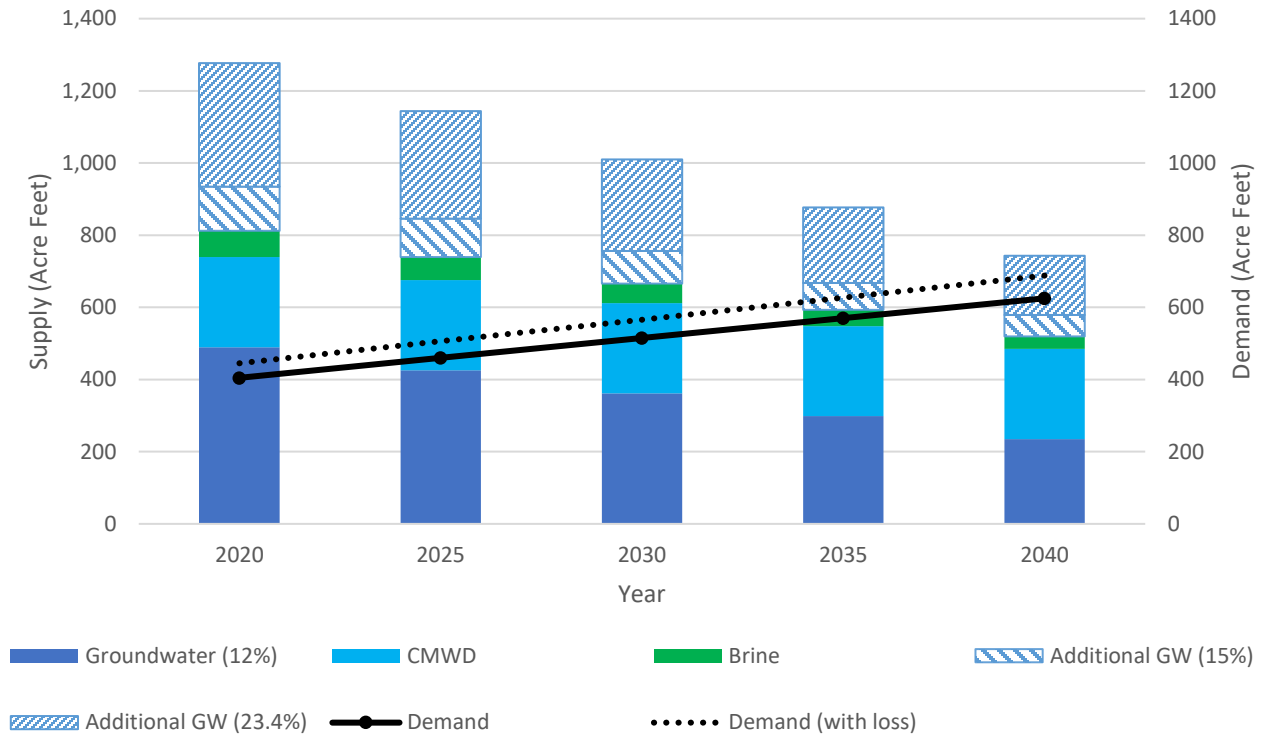
This future buildout was assumed to occur at the end of our planning horizon (2040) and will build incrementally over the 20-year period. This information is provided as **Table 2-6**.

Table 2-6 Projected District Water Demands (AF)

| Customer Type | Current (2019) ^(a) | 2020 | 2025 | 2030 | 2035 | 2040 |
|---|-------------------------------|------------|------------|------------|------------|------------|
| Single-family Residential | 191 | 193 | 200 | 208 | 216 | 224 |
| Multi-family Residential | 95 | 97 | 109 | 121 | 132 | 144 |
| Commercial/Industrial ^(b) | 82 | 89 | 121 | 153 | 186 | 219 |
| Landscape Irrigation ^(c) | 25 | 26 | 29 | 32 | 34 | 38 |
| Agricultural | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal Demand | 394 | 405 | 459 | 514 | 569 | 625 |
| Unaccounted-for-water ^(d) | 39 | 40 | 46 | 51 | 57 | 63 |
| Total Demand | 433 | 445 | 505 | 565 | 626 | 688 |
| Notes: | | | | | | |
| (a) Source: 2019 EAR provided by CIBCSD (Totals rounded to the nearest 1 AF) | | | | | | |
| (b) Commercial/Industrial includes the following Land Use Types noted in Table 3-6: Visitor Serving Boating, Visitor Serving Non-Boating Dependent, Boating Dependent Industrial, Visitor Serving harbor Oriented, Launch Ramp, Mixed Use-Low, Mixed Use-High, School and Commercial. | | | | | | |
| (c) Landscape/Irrigation includes the following Land Use Types noted in Table 3-6: Parking/Landscaping and Park. | | | | | | |
| (d) Unaccounted-for water is assumed to be 10 percent of delivered demand. | | | | | | |

Comparing the available supply detailed in **Table 2-2** and the estimated demands provided in **Table 2-6**, an analysis of potential water supply shortfall can be identified. **Figure 2-3** presents the three data sets.

Figure 2-3 Projected District Water Demands (AF)



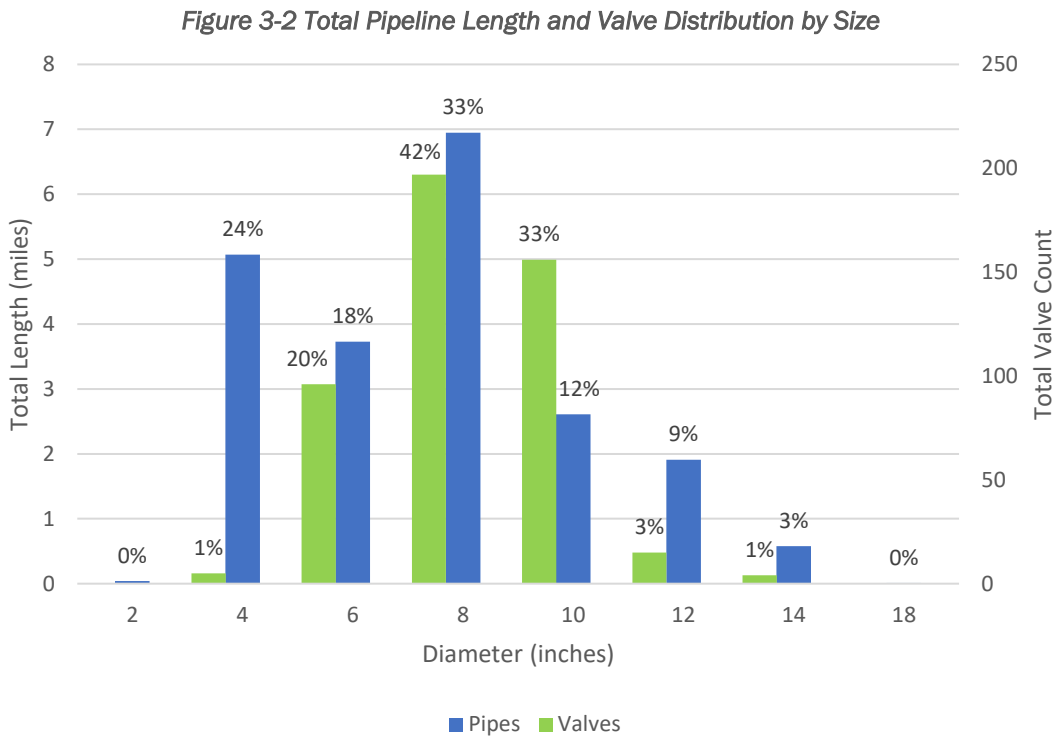
The following observations are provided based on projected District demands and water supply:

- Groundwater Supply.** The base groundwater supply assumes a conservative estimate of 12 percent based on historical usage, while the contractual capacity from PHWA is understood to be as high as 15 to 23.4 percent (Section 2.1.4). The additional groundwater from these higher allotments is separated to illustrate the impact of this additional supply.
- Brine Loss.** The brine loss at the BWRDF is estimated and included to demonstrate the impact this water could have should PHWA convert to blending in lieu of current operation. For normal operation, this water is not available to meet demand.
- Supply Adequate through 2030.** Total entitlements are adequate to meet the calculated future buildout through 2030. Beyond 2030, increased demands would require utilization of the noted contractual PHWA capacity.
- Changing Supply Mix.** As demands increase and groundwater supply diminishes, the percentage of imported water use to groundwater would essentially be reversed. This may have impacts to cost and reliability. However, since most of the flow would be higher quality imported water, it may be possible to operate the BWRDF strictly as a blending facility without operating the membrane systems. This would reduce operating and capital costs which may offset the higher cost of water.

3.0 WATER SYSTEM EVALUATION

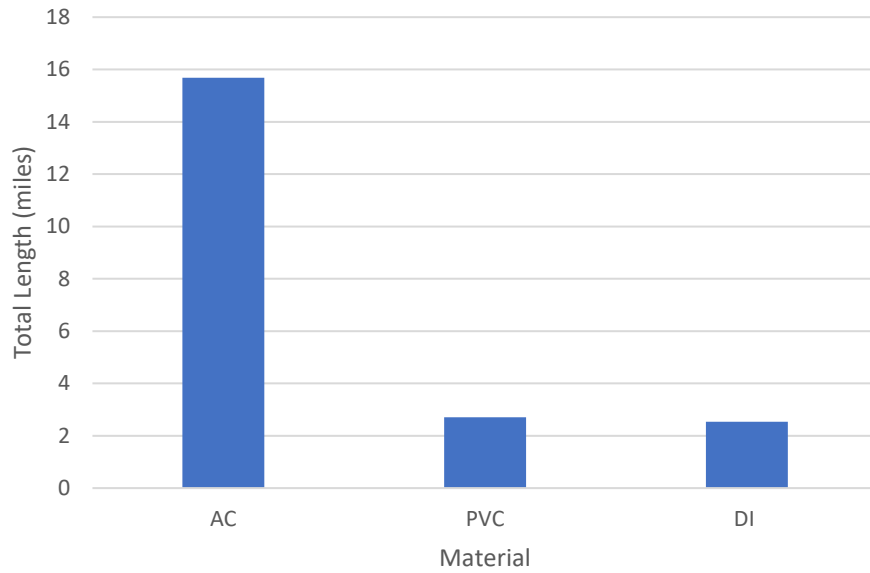
3.1 Existing Water System

The existing water system contains approximately 17.5 miles of active pipelines ranging in size from four (4) inches to twelve (12) inches, as seen in **Figure 3-1** in **Appendix A**. There are 167 fire hydrants in the District’s system and 466 valves. The distribution of pipes and valve sizes is shown in **Figure 3-2**.



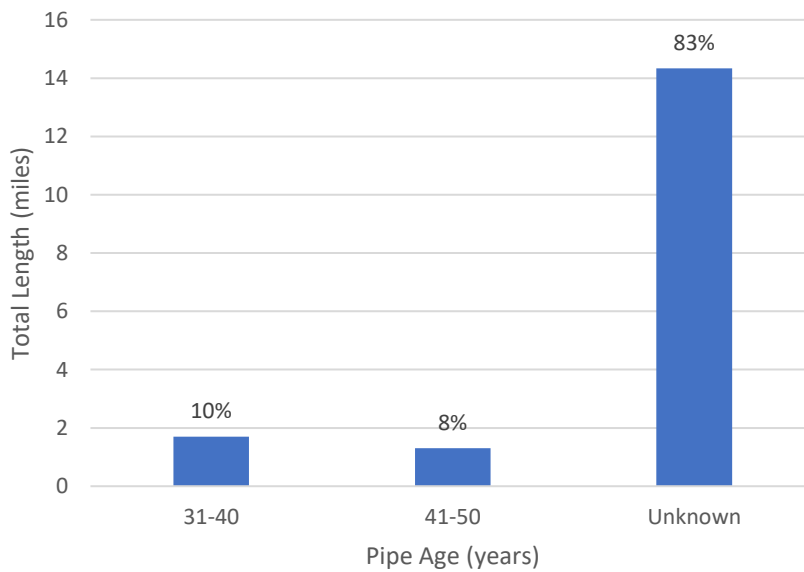
The majority of pipelines are eight (8) inches in diameter. The distribution system consists of three materials: asbestos cement (AC), polyvinyl chloride (PVC), and ductile iron pipe (DI) as shown in **Figure 3-3**.

Figure 3-3 Total Pipeline Length Distribution by Material



The distribution based on pipe age is shown in **Figure 3-4**.

Figure 3-4 Total Pipeline Length Distribution by Age



It is unknown when the majority of the pipelines were installed based on GIS information. However, approximately 20% of the pipelines are known to be 30-50 years in age. Based on review of publicly available information, the residential areas within the District’s service area were built as early as 1953, with the majority of homes being built in the 1970s-1980s. Based on this assessment, the unknown pipelines are assumed to be in the 30-50 year age range.

The District has maintained a record of pipe breaks in the distribution system for the past 20 years, which are summarized in **Table 3-1**

Table 3-1 CIBCS D Water Pipe Break History

| Figure Reference | Water Main ID | Main Street | Year | Main Size (inches) | Length (feet) |
|------------------|---------------|-----------------|---------|--------------------|---------------|
| 1 | WM0155 | Van Nuys Ave | 2000 | 4 | 540 |
| 2 | WM0142 | Ocean Dr | 2006 | 6 | 340 |
| 3 | WM0043 | Hollywood Blvd | 2006 | 4 | 740 |
| 4 | WM0295 | Ocean Dr | 2008 | 8 | 750 |
| 5 | WM0185 | Ventura Ave | 2008 | 4 | 480 |
| 6 | WM0142 | Ocean Dr | 2010 | 4 | 340 |
| 7 | Entire Street | Oxnard Ave | 2012 | 4 | 480 |
| 8 | Entire Street | Hueneme Ave | 2012 | 4 | 430 |
| 9 | Entire Street | Island View Ave | 2013 | 8 | 3690 |
| 10 | WM0186 | Ocean Dr | 2013 | 4 | 710 |
| 11 | WM0059 | Highland Dr | 2014 | 8 | 1140 |
| 12 | WM0212 | Sunset Ln | 2014 | 6 | 560 |
| 13 | WM0025 | Sunset Ln | 2014 | 6 | 540 |
| 14 | WM0025 | Sunset Ln | 2015 | 6 | 630 |
| 15 | WM0182 | Ocean Dr | 2018 | 4 | 910 |
| 16 | WM0296 | Sunset Ln | 2018 | 6 | 1080 |
| 17 | WM0299 | Ocean Dr | Unknown | 8 | 740 |

Figure 3-5 in **Appendix A** shows the locations of these pipe breaks. The southeast portion of the District's system has experienced the majority of the pipe breaks in the system. The "Pipe Break Areas of Concern", identified on **Figure 3-5**, were noted by the District and reflect pipes with multiple breaks.

3.2 Peaking Factors

For purposes of updating the hydraulic model, it is necessary to establish three general demand values: Average Day Demand (ADD), Maximum Day Demand (MDD) and Peak Hour Demand (PHD). These demands capture the range of potable water demand, which varies across the day and year. The first value, ADD, was calculated using monthly water production data from 2015 to 2019. The study period for calculating demands and peaking factors is 2017 to 2019. The results of this data summary are provided as **Table 3-2**.

Table 3-2 2015-2019 Average Daily Demand (ADD)

| Month | 2015 | 2016 | 2017 | 2018 | 2019 | Average 2017-2019 |
|---------------------------------|------------|------------|------------|------------|------------|-------------------|
| January | 38 | 29 | 23 | 36 | 34 | 31 |
| February | 34 | 36 | 23 | 35 | 29 | 29 |
| March | 40 | 35 | 29 | 37 | 34 | 33 |
| April | 39 | 39 | 26 | 34 | 36 | 32 |
| May | 43 | 41 | 41 | 40 | 36 | 39 |
| June | 40 | 40 | 42 | 46 | 40 | 42 |
| July | 47 | 51 | 46 | 45 | 42 | 45 |
| August | 41 | 48 | 43 | 45 | 38 | 42 |
| September | 40 | 39 | 44 | 41 | 41 | 42 |
| October | 41 | 32 | 43 | 38 | 36 | 39 |
| November | 36 | 29 | 42 | 42 | 37 | 40 |
| December | 42 | 32 | 40 | 35 | 30 | 35 |
| Annual Total (AF) | 481 | 451 | 442 | 474 | 433 | 449 |
| Average Day Demand (gpm) | 298 | 279 | 274 | 294 | 268 | 279 |

Notes:
 (a) Source: PHWA Pipeline Water Usage by Month (CIBCS D only)
 (b) Bold months indicate maximum month for the year.

In 2010, the average day demand was 363 gpm, which is significantly higher than the 2017-2019 average of 279 gpm. With the exception of 2018, peak monthly demands (shown in bold) occur in July for this five-year period. **Figure 3-6** shows monthly water production values in comparison to the three-year average (2017-2019).

Figure 3-6 2015-2019 Monthly Water Production

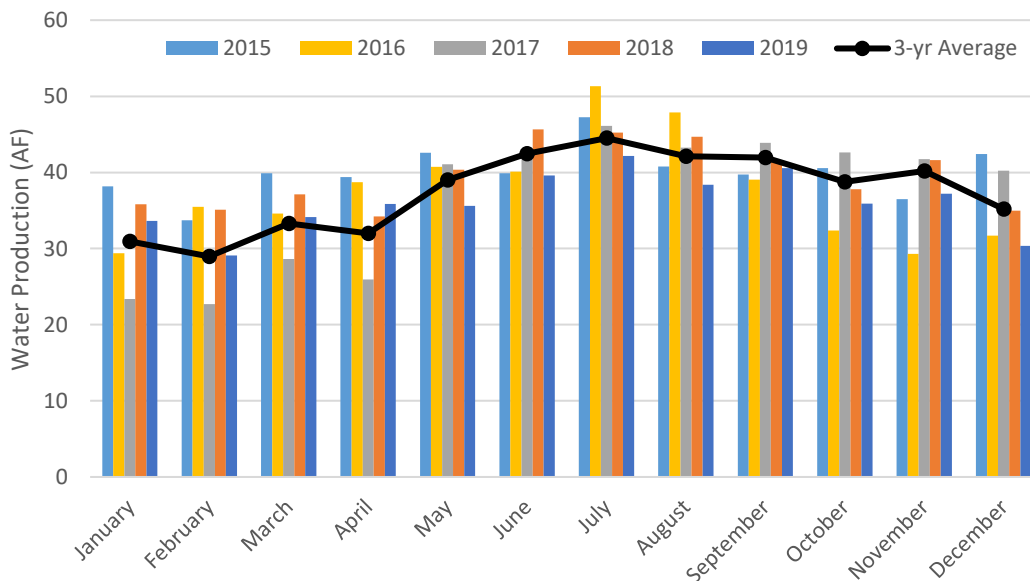


Figure 3-6 illustrates that the demand generally increases in the summer months and the variance from the average increases in the winter months.

The second factor to calculate is MDD, which is defined as the ratio between maximum day demand and the average daily demand. The maximum day demand was calculated by dividing the maximum month demand by the number of days in that month. This was necessary, as the District did not have access to more granular daily demand from the PHWA main service connection.

Table 3-3 summarizes the MDD factors for 2017-2019. In 2017 and 2019, the maximum month demand was in July and in 2018, the maximum month demand was in June.

Table 3-3 Maximum Daily Demand (MDD) Factors

| Year | Average Day Demand (gpm) | Maximum Day Demand (gpm) | MDD Factor |
|----------------|--------------------------|--------------------------|------------|
| 2017 | 274 | 337 | 1.2 |
| 2018 | 294 | 344 | 1.2 |
| 2019 | 268 | 308 | 1.1 |
| Average | 279 | 330 | 1.2 |

The MDD factor calculated in the 2010 Infrastructure Review was 1.3, which is slightly greater than the 2017-2019 average. This minor reduction may be due to the use of a calculated daily demand instead of an actual value.

The PHD factor is defined as the ratio of peak hour flow to average daily demand. While the PHWA main service is unable to provide daily demand volumes, it does provide graphical data of instantaneous District demand. The PHWA main service flow data was provided by the District from the peak day in 2018 and 2019 (both were July 4th); 2017 data was unavailable. The peak demand was estimated from the data and used to calculate the PHD factor which is summarized in **Table 3-4**.

Table 3-4 Peak Hour Demand (PHD) Factors

| Year | Average Day Demand (gpm) | Peak Daily Flow (gpm) | Peak Hour Demand Factor |
|----------------|--------------------------|-----------------------|-------------------------|
| 2018 | 294 | 700 | 2.4 |
| 2019 | 268 | 630 | 2.4 |
| Average | 281 | 665 | 2.4 |

The PHD factor determined in the 2010 Infrastructure Review was 1.8 which is considerably lower than the current PHD factor of 2.4. The peak daily flow in 2010 was 653 gpm, which is in the same range as the 2018-2019 values. This means that while average day demand has decreased over the past 10 years, peak demand has remained consistent. As such, the PHD factor variation is due to the decrease in average daily demand and not the increase in actual peak hour demand.

3.3 Design Criteria

The design criteria will consist of performance requirements for distribution system pressure, velocity, head loss, and fire flow. The water service pressure requirements are as follows:

- Minimum allowable pressure at peak hour demand: 50 psi
- Minimum residual pressure at maximum day with fire flow: 20 psi
- Maximum allowable service pressure (without service lateral pressure regulator): 80 psi

To avoid excessive velocity and head loss within the distribution system, the following pipeline design criteria is also recommended:

- Maximum allowable velocity at maximum day with fire flow: 10 ft/s
- Maximum allowable head loss: 10 ft/1,000 ft
- Hazen-Williams C factor: 130

The District’s potable water service area is covered by two fire departments. The areas within the City of Oxnard (City) are provided fire protection services by the City of Oxnard Fire Department. This area includes the areas surrounding the Channel Islands Harbor. The Oxnard Fire Department’s fire flow criteria is summarized in **Table 3-5**.

Table 3-5 City of Oxnard Fire Flow Requirements at 20 psi

| Land Use Type | Flow (gpm) |
|---|------------|
| Single Family 1 | 1,500 |
| Single Family 2 | 2,500 |
| General Commercial | 2,500 |
| Heavy Commercial | 3,500 |
| Multi-Family | 3,000 |
| Commercial | 4,500 |
| Industrial | 4,500 |
| Manufacturing | 4,500 |
| Note: (a) Source: Oxnard Fire Department | |

The Oxnard Fire Department also requires all new hydrants to be six (6) inch wet barrel with National Standard Thread, NST outlets.

The Ventura County Fire Department serves the balance of the District service area, which includes the mostly residential areas surrounding Silver Strand Beach and Hollywood Beach. **Table 3-6** summarizes the Ventura County Fire Protection District’s fire flow requirements per Fire Prevention Standard 14.5.2.

Table 3-6 Ventura County Fire Flow Requirements at 20 psi

| Land Use Type | Flow (gpm) |
|--|------------|
| Single Family Dwellings ^(a) | 1,000 |
| Multi-Family ^(b) | 3,000 |
| Commercial ^(b) | 3,000 |
| Industrial ^(b) | 3,000 |
| Notes: (a) Per Fire Prevention Standard 14.5.2 Section 2 (b) Per Fire Prevention Standard 14.5.2 Table B105.1. (Assuming Type 1A and 1B construction, 70,901-83,700 sq. ft.) | |

Similar to the Oxnard Fire Department Standards, the Ventura County Fire Department also requires all hydrants to be six (6) inch wet barrel hydrants. The number and size of outlets vary based on fire flow.

3.4 Hydraulic Model Update

The District’s hydraulic model, prepared in Bentley’s WaterCAD as part of the 2010 Infrastructure Review, was utilized as the base for the hydraulic modeling effort. This model was updated to include new pipeline information or remove unused/abandoned pipelines. Pipeline material, diameter, and Hazen Williams C-factors, along with junction elevations in the model were updated based on GIS database and the Water Atlas. Fire flow demands were not changed in the model, as minimum flow standards have not changed since the 2010 Infrastructure Review.

The magnitude and location of existing demands were updated based on 2019 billing data. Each water demand has an associated address, which was assigned to a model junction using the nearest pipe method. This method assigns the demand to the nearest pipe, and then distributes this data to the closest node along that pipe length. The demands were scaled to match the average day demand in Section 2.2. Ultimate demands were assigned in a similar fashion, using parcel data to assign demands to the closest node. To calculate the demand at each location for the ultimate scenario, a land-use type was assigned to each parcel and the total area was multiplied by the associated land use factor in **Table 2-6**. The land-use at each parcel is shown in **Figure 3-7** in **Appendix A**.

3.5 Current System Performance

The updated hydraulic model was analyzed for current average day demand, max day demand, and peak hour demand conditions. A summary of the results is shown in **Table 3-7**.

Table 3-7 Current System Hydraulic Modeling Results

| Scenario | Description | System Demand (GPM) | Pressures (PSI) | Pipeline Velocities (FPS) |
|----------|--------------|---------------------|-----------------|---------------------------|
| 1 | Existing ADD | 268 | 72-82 | 0-1.71 |
| 2 | Existing MDD | 349 | 72-82 | 0-2.22 |
| 3 | Existing PHD | 644 | 71-81 | 0-4.11 |

The hydraulic modeling pressure output for Scenarios 2 and 3 are illustrated in **Figure 3-8** in **Appendix A**. As demonstrated by **Table 3-7** the current system can deliver adequate velocity and pressure, as defined by the design criteria in Section 3.3. While the maximum pressure is shown to slightly exceed the maximum allowable pressure without a regulation device, this is assumed to not be of concern as this reflects the current situation and no issues have been reported nor is this a significant variance.

The results demonstrate that head loss across the system is minimal and the reduction in service pressure is marginal between average day and peak hour demand scenarios. The final analysis conducted was for maximum day plus fire flow demands. This scenario yielded deficient nodes at locations shown in **Table 4-8**. During fire flow conditions, the 12-inch emergency Oxnard connection at Channel Islands Blvd and Harbor Blvd opens, *reducing fire flow deficiencies drastically*. The deficient fire flow nodes shown in **Table 3-8** correspond to the fire flow scenario in **Figure 3-8** in **Appendix A**.

Table 3-8 Existing Deficiencies

| Deficiency | Street | Required (gpm) | % of Required | Comment |
|------------|---|----------------|---------------|----------------------|
| J-132 | Channel Islands Blvd and S Harbor Blvd | 2,500 | 10% | Dead End Pipeline |
| J-114 | Channel Islands Blvd and S Harbor Blvd | 2,500 | 11% | Dead End Pipeline |
| J-115 | Channel Islands Blvd and S Harbor Blvd | 2,500 | 11% | Dead End Pipeline |
| J-137 | Santa Monica Ave | 1,000 | 16% | Distance from Supply |
| J-129 | Channel Islands Blvd and S Harbor Blvd | 2,500 | 20% | Dead End Pipeline |
| J-116 | South Harbor Blvd and Ocean Dr Intersection | 2,500 | 48% | Dead End Pipeline |
| J-213 | Malibu Ave and Ocean Dr Intersection | 1,000 | 54% | Distance from Supply |
| J-113 | S Victoria Rd and W Channel Islands Blvd | 2,500 | 56% | Dead End Pipeline |
| J-204 | Channel Islands Maritime Museum | 2,500 | 61% | Dead End Pipeline |
| J-202 | Malibu Ave and Piru Ave Intersection | 1,000 | 67% | Dead End Pipeline |
| J-43 | Albacore Way | 3,000 | 70% | Dead End Pipeline |
| J-90 | S Harbor Blvd and San Clemente Ave | 3,000 | 71% | Distance from Supply |
| J-222 | S Harbor Blvd Between Playa Ct & San Clemente Ave | 3,000 | 72% | Dead End Pipeline |
| J-130 | Channel Islands Blvd and S Harbor Blvd | 2,500 | 72% | Dead End Pipeline |
| J-56 | South Harbor Blvd and Ocean Dr Intersection | 2,500 | 77% | Distance from Supply |
| J-223 | Between Albacore Way and S Harbor Blvd | 3,000 | 77% | Distance from Supply |
| J-35 | S Harbor Blvd Near Playa Ct | 3,000 | 78% | Distance from Supply |
| J-94 | S Victoria Rd and W Channel Islands Blvd | 2,500 | 78% | Dead End Pipeline |
| J-42 | Albacore Way | 3,000 | 80% | Within 20% of Goal |
| J-34 | S Harbor Blvd Near Playa Ct | 3,000 | 80% | Within 20% of Goal |
| J-58 | S Harbor Blvd Near Playa Ct | 3,000 | 82% | Within 20% of Goal |
| J-37 | S Harbor Blvd Near Playa Ct | 3,000 | 82% | Within 20% of Goal |
| J-36 | S Harbor Blvd Near Playa Ct | 3,000 | 82% | Within 20% of Goal |
| J-131 | S Harbor Blvd Near Playa Ct | 3,000 | 82% | Within 20% of Goal |
| J-67 | Albacore Way | 3,000 | 83% | Within 20% of Goal |
| J-209 | Near the roundabout on S Peninsula Rd | 3,000 | 84% | Within 20% of Goal |
| J-240 | Near the roundabout on S Peninsula Rd | 3,000 | 84% | Within 20% of Goal |
| J-201 | Albacore Way | 3,000 | 85% | Within 20% of Goal |
| J-69 | Albacore Way | 3,000 | 85% | Within 20% of Goal |
| J-57 | South Harbor Blvd and Ocean Dr Intersection | 2,500 | 86% | Within 20% of Goal |
| J-128 | South Harbor Blvd and Ocean Dr Intersection | 2,500 | 87% | Within 20% of Goal |
| J-224 | Channel Islands Maritime Museum | 2,500 | 97% | Within 20% of Goal |

3.6 Future System Performance

The updated hydraulic model was analyzed for ultimate average day demand, max day demand, and peak hour demand conditions. These scenarios utilize the same peaking factors established for the current condition but modifies the average day demand to reflect the buildout scenario of 625 AF at 2040 as established in **Table 2-7**, with a five (5) percent addition for unaccounted for water for a total of 656 AF. This annual demand value equates to an average day demand of approximately 408 gpm. A summary of the results is shown in **Table 3-9**.

Table 3-9 Future ADD, MDD, PHD Results

| Scenario | Description | System Demand (gpm) | Pressures (psi) | Pipeline Velocities (fps) |
|----------|--------------|---------------------|-----------------|---------------------------|
| 4 | Ultimate ADD | 408 | 71-82 | 0-2.60 |
| 5 | Ultimate MDD | 531 | 70-82 | 0-3.39 |
| 6 | Ultimate PHD | 979 | 58-81 | 0-6.25 |

The hydraulic modeling pressure output for Scenarios 4 and 5 are illustrated in **Figure 3-9** in **Appendix A**. **Table 3-9** demonstrates that, similar to current conditions, the distribution system can deliver adequate service pressure in all three demand scenarios. The most significant pressure reductions occur in the peak hour condition which results in reductions of over 10 psi in the western portion of the system (Hollywood Beach). The reduction in performance in this area is due to both the distance from the PHWA main service, and also the addition of new demands in the areas around the Channel Islands Harbor. Since many of these areas are currently underutilized, the future system performance impact is more apparent when compared to existing.

The final analysis conducted for the ultimate demand condition was for maximum day plus fire flow demands. This scenario yielded deficient nodes at locations shown in **Table 3-10**. The deficient fire flow nodes shown in **Table 3-10** correspond to the fire flow scenario in **Figure 3-9** in **Appendix A**.

The ultimate scenario yielded only one additional failing fire flow node (J-117), for a total of 33 failing nodes. For the balance of failing nodes, there was a marginal decrease in performance (average 2% percent reduction). The fire flow failures are summarized as follows:

- Priority 1 – Less than 50% capacity: 6 total
- Priority 2 – 51 to 80 % capacity: 18 Total
- Priority 3 – 81% or more capacity: 9 total

Table 3-10 Ultimate Deficiencies

| Deficiency | Street | Required (gpm) | Existing % of Required | Ultimate % of Required | Comment |
|------------|---|----------------|------------------------|------------------------|----------------------|
| J-132 | Channel Islands Blvd and S Harbor Blvd | 2,500 | 10% | 10% | Dead End Pipeline |
| J-114 | Channel Islands Blvd and S Harbor Blvd | 2,500 | 11% | 10% | Dead End Pipeline |
| J-115 | Channel Islands Blvd and S Harbor Blvd | 2,500 | 11% | 11% | Dead End Pipeline |
| J-137 | Santa Monica Ave | 1,000 | 16% | 16% | Distance from Supply |
| J-129 | Channel Islands Blvd and S Harbor Blvd | 2,500 | 20% | 19% | Dead End Pipeline |
| J-116 | S Harbor Blvd & Ocean Dr Intersection | 2,500 | 48% | 47% | Dead End Pipeline |
| J-213 | Harbor Blvd Near West Channel park | 1,000 | 54% | 54% | Distance from Supply |
| J-113 | S Victoria Rd & W Channel Islands Blvd | 2,500 | 56% | 56% | Dead End Pipeline |
| J-204 | Channel Islands Maritime Museum | 2,500 | 61% | 61% | Dead End Pipeline |
| J-202 | Malibu Ave and Piru Ave Intersection | 1,000 | 67% | 67% | Dead End Pipeline |
| J-43 | Albacore Way | 3,000 | 70% | 68% | Dead End Pipeline |
| J-90 | S Harbor Blvd and San Clemente Ave | 3,000 | 71% | 68% | Distance from Supply |
| J-222 | S Harbor Blvd Between Playa Ct & San Clemente Ave | 3,000 | 72% | 69% | Dead End Pipeline |
| J-130 | Channel Islands Blvd and S Harbor Blvd | 2,500 | 72% | 71% | Dead End Pipeline |
| J-56 | S Harbor Blvd and Ocean Dr Intersection | 2,500 | 77% | 74% | Distance from Supply |
| J-223 | Between Albacore Way and S Harbor Blvd | 3,000 | 77% | 74% | Distance from Supply |
| J-35 | S Harbor Blvd Near Playa Ct | 3,000 | 78% | 75% | Distance from Supply |
| J-42 | Albacore Way | 3,000 | 80% | 77% | Dead End Pipeline |
| J-94 | S Victoria Rd and W Channel Islands Blvd | 2,500 | 78% | 78% | Dead End Pipeline |
| J-34 | S Harbor Blvd Near Playa Ct | 3,000 | 80% | 78% | Distance from Supply |
| J-58 | S Harbor Blvd Near Playa Ct | 3,000 | 82% | 80% | Within 20% of Goal |
| J-37 | S Harbor Blvd Near Playa Ct | 3,000 | 82% | 80% | Within 20% of Goal |
| J-36 | S Harbor Blvd Near Playa Ct | 3,000 | 82% | 80% | Within 20% of Goal |
| J-131 | S Harbor Blvd Near Playa Ct | 3,000 | 82% | 80% | Within 20% of Goal |
| J-67 | Albacore Way | 3,000 | 83% | 81% | Within 20% of Goal |
| J-57 | S Harbor Blvd and Ocean Dr Intersection | 2,500 | 86% | 82% | Within 20% of Goal |
| J-240 | Near the roundabout on S Peninsula Rd | 3,000 | 84% | 83% | Within 20% of Goal |
| J-209 | Near the roundabout on S Peninsula Rd | 3,000 | 84% | 83% | Within 20% of Goal |
| J-201 | Albacore Way | 3,000 | 85% | 83% | Within 20% of Goal |
| J-69 | Albacore Way | 3,000 | 85% | 83% | Within 20% of Goal |
| J-128 | South Harbor Blvd and Ocean Dr Intersection | 2,500 | 87% | 84% | Within 20% of Goal |
| J-224 | Channel Islands Maritime Museum | 2,500 | 97% | 95% | Within 20% of Goal |
| J-117 | Channel Islands Blvd and S Harbor Blvd | 2,500 | 100% | 99.6% | Within 20% of Goal |

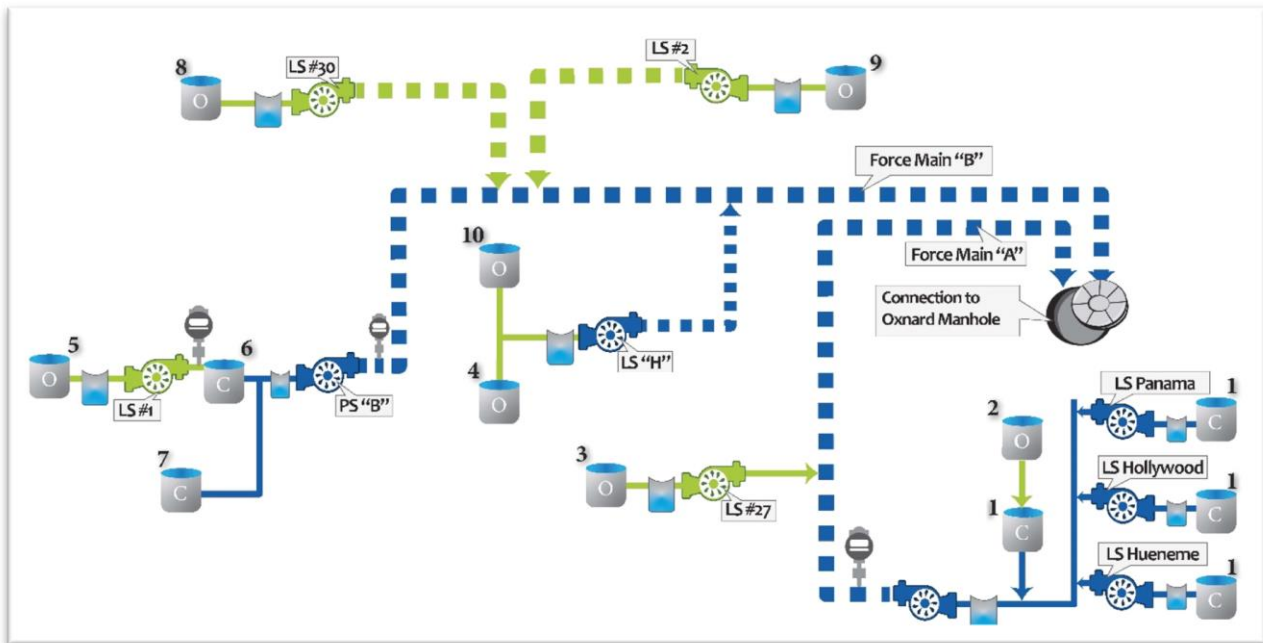
4.0 WASTEWATER SYSTEM EVALUATION

4.1 Existing Wastewater System

The District and CPH entered into an “Agreement for Disposal of Water and Sewage” in 1966 which provided the District with wastewater services from the CPH. In 1968, the City of Oxnard entered into the “Agreement for Disposal of Water and Sewage” which allowed Oxnard to connect and use District sewer infrastructure in the Channel Islands Harbor area. Multiple agreements between the parties have been put in place since the original in 1966 and is currently controlled by the wastewater agreement (A-7864) which is set to terminate in December of 2022.

Figure 4-1 summarizes the District’s wastewater system. As previously mentioned, Oxnard uses the District’s sewer infrastructure in the harbor area to transport wastewater from Oxnard’s customers located in the District service area to the Oxnard collection system. Oxnard’s infrastructure is represented in green and the District’s infrastructure is represented in blue.

Figure 4-1 District Wastewater System Schematic



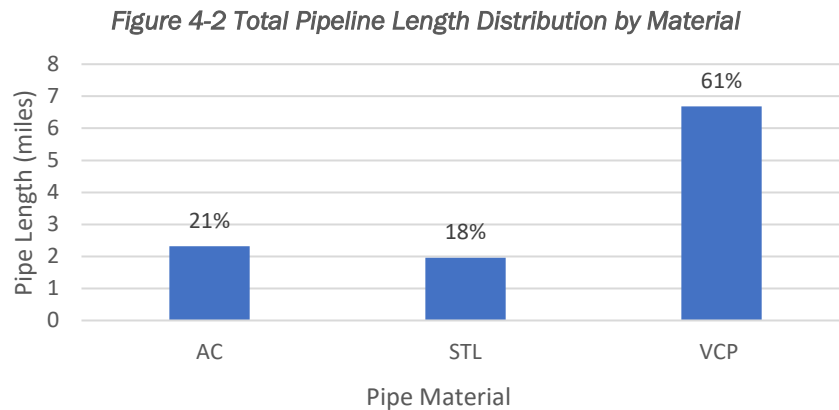
Source: Collection System Schematic, Wastewater Agreement Evaluation (Gannett Fleming, 2019)

The District owns, operates and maintains seven pumping stations that lift wastewater from low points in the collection system to manholes at a higher elevation. A summary of the general characteristics of each pumping station is shown in **Table 4-1**.

Table 4-1 Lift Station Summary

| Asset | Owner | Station Type | No. of Pumps | Capacity (gpm) | Installation Year |
|--|--------|--------------|--------------|----------------|-------------------|
| PS A | CIBCSD | Dry Vault | 2 | 470 | 1972 |
| PS B | CIBCSD | Dry Vault | 2 | 470 | 1972 |
| PS H | CIBCSD | Submersible | 2 | 240 | 1967 |
| LS Los Robles | CIBCSD | Submersible | 2 | 250 | 1997 |
| LS Hueneme | CIBCSD | Submersible | 2 | Unknown | 1993 |
| LS Hollywood | CIBCSD | Submersible | 2 | Unknown | 1995 |
| LS Panama | CIBCSD | Submersible | 2 | Unknown | 1997 |
| LS #1 | Oxnard | Submersible | 2 | 315 | 1971 |
| LS #2 | Oxnard | Submersible | 2 | 200 | 1971 |
| LS #27 | Oxnard | Submersible | 2 | 230 | 2006 |
| LS #30 | Oxnard | Submersible | 2 | 450 | 1984 |
| Notes: 1. Source: CIBCSD/Oxnard Wastewater Agreement (Gannett Fleming 2019) | | | | | |

The existing wastewater system contains 133 manholes and approximately 11 miles of 8-inch pipelines. Based on District GIS information, the majority of the pipelines were installed in 1966, meaning they are approximately 54 years old. The distribution of pipelines consists of asbestos cement pipe (AC), Steel (STL), and Vitrified Clay Pipe (VCP), as seen in **Figure 4-2**.



The most common pipeline material is VCP with more than two thirds of all pipelines. The steel pipeline reflects two main forcemains, approximately 6,875 feet for Force Main A and 3,480 feet for Force Main B.

4.1.1 Flow Components

For hydraulic modeling, the existing Bentley SewerCAD model was utilized; this model was originally developed as part of the Harbor Area Wastewater Infrastructure Review (City of Oxnard, 2012). The flow components of the model consist of Base sanitary flow (BSF), inflow/infiltration (I/I), City of Oxnard contributions and Ventura County stormwater diversions. Each of these flow components is described in the following subsections.

Base Sanitary Flow (BSF)

BSF, also known as Average Dry Weather Flow (ADWF), is domestic wastewater flow from residential, commercial, and industrial sources. BSF varies on a diurnal curve throughout the day in response to personal habits and business operation. For this modeling effort, BSF is determined by each parcel’s actual or projected water usage adjusted by the applicable return to sewer (RTS) factor. RTS values were calculated as part of the original model development and were utilized as part of this modeling update. The RTS values used for this report are shown in **Table 4-2**.

Table 4-2 RTS Values

| Land Use Type | RTS Value |
|---|-----------|
| Park | 0.5 |
| Parking/Landscape | 0.6 |
| Residential | 0.8 |
| Multi-Family Residential | 0.9 |
| VSHO | 0.9 |
| VSNB | 0.7 |
| Irrigation | 0.1 |
| Commercial | 0.9 |
| School | 0.9 |
| Notes: 1. Source: Harbor Area Wastewater Infrastructure Review Kennedy/Jenks, 2012) | |

Inflow/Infiltration (I/I)

Inflow/infiltration (I/I) is separated into groundwater infiltration (GWI) and rainfall dependent inflow/infiltration (RDI/I) components. GWI is defined as groundwater entering the collection system through pipe joints and manhole walls due to an aging system or improper construction. The magnitude of GWI depends on the depth of the groundwater table above the pipelines, the percentage of the system submerged, and the physical condition of the system. While GWI is affected by rainfall, it responds gradually and is not directly related to

an individual rainfall event. GWI usually has seasonal variations and typically declines during the summer and early fall as groundwater levels decrease.

RDI/I is stormwater that enters the collection system as a result of a specific rainfall event. RDI/I enters the collection system through direct connection to a storm drain, area drain, roof leader, manhole lid, or other improper connection. RDI/I also includes infiltration that occurs as stormwater moves down through the soil and enters the wastewater collection pipe through defective joints, pipe cracks and other defects.

GWI and RDI/I are developed from wet weather flow monitoring results similar to the process of RTS ratio calibration based on dry weather flow monitoring results. Because no wet weather flow monitoring has been conducted, a standard I/I duty factor will be used to estimate I/I. In the 2012 Harbor Area Wastewater Infrastructure Review, a standard I/I duty factor of 600 gpad was developed and is utilized as part of this modeling update.

City of Oxnard Contributions

As noted in **Figure 4-1**, the City of Oxnard has four lift stations which contribute flows to the District collection system. The City of Oxnard maintains a separate wastewater hydraulic model, and flow data for these systems was requested. The requested data is summarized in **Table 4-3** and reflected in the District hydraulic model.

Table 4-3 Lift Station Properties

| Asset ^(a) | Average Dry Weather (MGD) | Peak Dry Weather (MGD) | Ground Elevation (ft ASL) | Invert Elevation (ft ASL) |
|---|---------------------------|------------------------|---------------------------|---------------------------|
| LS #1 | 0.0228 | 0.0367 | 9.84 | -9.94 |
| LS #2 | 0.0193 | 0.0311 | 13.62 | 0.05 |
| LS #27 ^(b) | 0.0162 | 0.0520 | 13.93 | 0.0945 |
| LS #30 | 0.0391 | 0.0630 | 16.50 | 2.61 |
| Notes: (a) LS #1, #2, and #30 data provided by Asitha Withanage (City of Oxnard) on October 9, 2020. (b) Not included in Oxnard model, data was transferred from original hydraulic model (2012). | | | | |

Ventura County Stormwater Diversions

In addition to flows from the District contribution areas, flows from the San Nicholas Sewer Diversion must also be considered. The San Nicholas Sewer Diversion is a pump station owned and operated by Ventura County and is designed to divert stormwater into the District’s collection system. Monthly data from 2018 to 2020 is provided in **Table 4-4**.

Table 4-4 Ventura County Stormwater Monthly Flows

| Month | 2018 | 2019 | 2020 |
|------------------------|------------------|------------------|------------------|
| January | 174,103 | 325,127 | 337,014 |
| February | 160,557 | 902,496 | 241,942 |
| March | 308,985 | 228,017 | 107,566 |
| April | 145,633 | 216,852 | 129,658 |
| May | 136,264 | 110,237 | 203,111 |
| June | 127,441 | 183,110 | 147,278 |
| July | 147,136 | 123,076 | 150,184 |
| August | 164,405 | 111,261 | |
| September | 141,798 | 121,505 | |
| October | 190,986 | 101,764 | |
| November | 181,645 | 166,987 | |
| December | 298,448 | 195,824 | |
| Total (gallons) | 2,177,401 | 2,786,256 | 1,316,753 |

The Ventura County stormwater connection is located upstream of PS A at MH020 on the corner of San Nicholas Avenue and Roosevelt Boulevard. The estimated flow rate of the stormwater system is 70 gpm when the pump is operating.

4.2 Design Criteria

The design criteria will consist of criteria for the gravity mains, force mains, and lift stations. The gravity main criteria will be the following:

- Pipes 10-inches in diameter and smaller: ½ full at peak wet flow
- Pipes over 10-inches in diameter: 2/3 full at peak wet flow
- Minimum velocity: 2 fps
- Maximum velocity: 10 fps
- Manning's n: 0.135
- Minimum Slope Requirements:

Table 4-5 Minimum Slope Requirements

| Pipe Diameter (inches) | Slope (ft/ft) |
|------------------------|---------------|
| 8 | 0.0040 |
| 10 | 0.0028 |
| 12 | 0.0020 |
| 15 | 0.0016 |
| 16 | 0.0016 |
| 18 | 0.0012 |
| 21 | 0.0012 |

The force main criteria will be the following:

- Minimum Force Main Diameter: 4 inches
- Minimum Velocity: 3 fps
- Maximum Velocity: 5 fps
- Maximum allowable headloss: 10 feet/ 1,000 feet of pipeline
- Maximum desirable headloss: 5 feet/ 1,000 feet of pipeline
- Hazen-Williams C factor: 130

The pump station should be sized for peak wet weather flow rate plus an additional 20 percent capacity. Pump stations should be capable of meeting the following criteria with the largest capacity pump servings as standby:

- 60 percent pump efficiency should be assumed, except where other information is available.
- 90 percent motor efficiency should be assumed, except where other information is available.

4.3 Hydraulic Model Update

The provided Oxnard Harbor SewerCAD model included sewer lines that are not owned by the District. It excluded sewer lines in the Silver Strand area, which has gravity lines and three lift stations (LS Hueneme, LS Hollywood, and LS Panama) that connect into PS A. MKN updated the model to include the Silver Strand area and removed sewer mains that are not owned by the District. The Silver Strand Area was simplified to only include the gravity mains along Ocean Drive, Simi Avenue, and Island View Avenue. In addition, the manholes were simplified to only include manholes at the beginning and end of the pipeline. Wastewater flows were distributed evenly to each manhole in the associated areas. Oxnard owned sewer mains were removed on Harbor Boulevard discharging into LS 1 and Peninsula Road discharging into LS H. However, pump stations owned by the City of Oxnard were included in the model because they discharge into the District's sewer

system. Flows in that area were added based on City of Oxnard data (**Table 4-3**) and distributed directly into the associated lift stations.

Manhole elevations, conduit diameter, conduit material, and wet well configurations were updated based on as-builts provided by the District. The District also provided pump curves for LS Hollywood and LS Panama. Existing information was not provided for LS Hueneme, so it was assumed to run at a design point to meet PWWF conditions. **Figure 4-3** in **Appendix A** shows the pipelines included in the model, along with the areas serviced by the City of Oxnard versus District.

MKN calculated average dry weather flow (ADWF), peak dry weather flow (PDWF), and peak wet weather flow (PWWF) for existing and ultimate conditions. Wastewater flows were then applied in the model using the nearest pipe method. MKN evaluated the model for hydraulic deficiencies during PWWF conditions. The following subsections describe how each loading scenario was calculated.

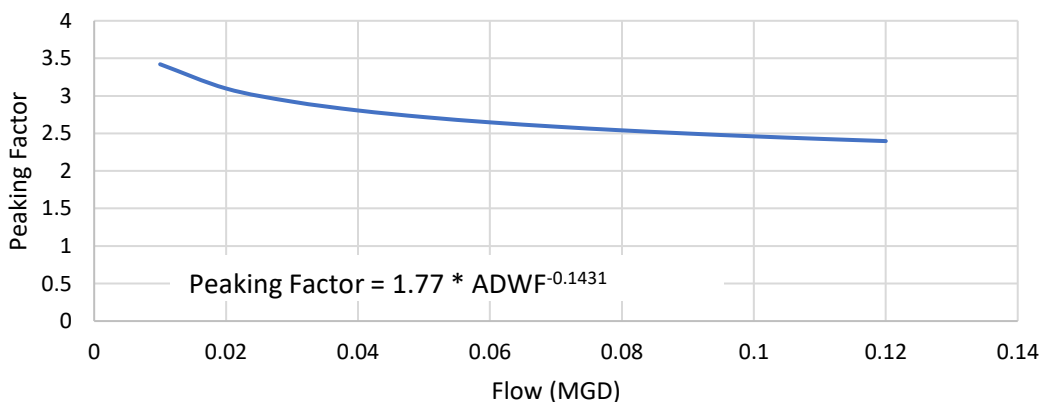
Average Dry Weather Flow (ADWF)

ADWF was calculated by multiplying RTS ratios to average day water demands calculated in Section 3.5 for current conditions and Section 3.6 for ultimate conditions. For existing conditions, each billing address was assigned a parcel that was associated to a land use. The RTS values from **Table 4-2** were then applied to the water demands. During ultimate conditions, water demands were already associated with a land use as mentioned in Section 2.2.3, so RTS values were applied directly to each parcel. For Oxnard flows, ADWF was provided by the City of Oxnard (**Table 3-3**) and applied directly to the model instead of calculating them based on RTS values and water demands.

Peak Dry Weather Flow (PDWF)

PDWF was calculated by multiplying the ADWF by an associated peaking factor. The peaking factor was calculated from an equation provided in the 2012 Wastewater Infrastructure Review, shown in **Figure 4-4**.

Figure 4-4 Peaking Factor Equation



This equation was developed from a flow monitoring study completed in 2010. For Oxnard flows, PDWF was provided by the City of Oxnard (**Table 4-3**) and applied directly to the model instead of calculating them based on the noted peaking factor.

Peak Wet Weather Flow (PWWF)

PWWF was calculated by adding I/I to the calculated PDWF. I/I was calculated at each parcel by multiplying the parcel area by a 600 gallons per acre per day (gpad) standard unit as defined in Section 4.1.1. The calculated I/I value at each parcel was then assigned a manhole using the nearest pipe method. In addition, for the PWWF condition, a stormwater flow of 70 gpm was added to model manhole GAA29 (MH020 in GIS) to account for the stormwater pump at the San Nicholas Sewer Diversion.

A summary of ADWF, PDWF, I/I and PWWF is shown in **Table 4-6**. ADWF is shown to be higher than ADD in the water model because Oxnard lift stations bring in sewer flows from outside the District water service area.

Table 4-6 ADWF, PDWF, I&I, and PWWF Summary

| Scenario | ADWF | PDWF | I&I | PWWF |
|----------------|------|------|-----|-------|
| Existing (gpm) | 282 | 878 | 192 | 1,071 |
| Ultimate (gpm) | 407 | 1218 | 233 | 1451 |

4.4 Current System Performance

The current system was evaluated in the PWWF condition within the updated hydraulic model. The model assumes that all lift stations are pumping at the same time, as the model is in steady state. This means the model is running at a worst-case scenario.

Table 4-7 and **Figure 4-5** in **Appendix A** show the gravity mains in existing conditions that are over capacity in the model.

Table 4-7 Existing PWWF Over Capacity Gravity Sewer Pipelines

| Group | Start MH | Stop MH | Diameter (in) | Flow (gpm) | Flow/Capacity (%) | d/D (%) |
|-------|----------|---------|---------------|------------|-------------------|---------|
| 1 | FAA38 | FAA37 | 8 | 1.7 | 0.7 | 100 |
| | FAA42 | FAA41 | 8 | 23.07 | 9.5 | 100 |
| | FAA39 | FAA40 | 8 | 3.82 | 1.5 | 100 |
| | FAA47 | FAA44 | 8 | 3.8 | 1.7 | 100 |
| | FAA40 | FAA42 | 8 | 6.39 | 2.6 | 100 |
| | FAA44 | FAA42 | 8 | 9.22 | 3.8 | 100 |
| | FAA35 | FAA37 | 8 | 280.64 | 115.6 | 100 |
| | FAA37 | FAA41 | 8 | 296.86 | 122.5 | 100 |

| Group | Start MH | Stop MH | Diameter (in) | Flow (gpm) | Flow/Capacity (%) | d/D (%) |
|-------|----------|------------|---------------|------------|-------------------|---------|
| | FAA41 | FAA43 | 8 | 329.71 | 136.7 | 100 |
| | Cleanout | FAA43 | 8 | 386.04 | 130.7 | 100 |
| | FAA43 | FAA45 | 8 | 725.73 | 207.4 | 94.7 |
| | FAA45 | B | 10 | 818.95 | 33.3 | 59.9 |
| | FAA50 | FAA45 | 8 | 82.24 | 33.9 | 57.3 |
| 2 | GAA28 | 37-68 | 8 | 218.91 | 90.3 | 99.3 |
| | 37-72 | 37-74 | 8 | 270.57 | 108.4 | 97 |
| | 37-74 | LS A | 8 | 284.6 | 118.5 | 76.1 |
| | GAA27 | GAA28 | 8 | 130.75 | 53.6 | 68.4 |
| | GAA20 | GAA27 | 8 | 119.58 | 239.24 | 51.6 |
| | 37-68 | 37-71 | 8 | 241.51 | 101 | 100 |
| | 37-71 | 37-72 | 8 | 262.77 | 134.9 | 99.1 |
| 3 | 37-35 | LS Hueneme | 8 | 356.09 | 65 | 100 |
| | MH-16 | 38-13 | 8 | 211.5 | 81.7 | 100 |
| | 38-13 | 37-35 | 8 | 293.74 | 120 | 100 |
| | 37-41 | 37-37 | 10 | 425.16 | 90.1 | 77 |
| | MH-22 | 37-41 | 10 | 425.16 | 97.4 | 73.8 |
| | 37-44 | MH-22 | 10 | 425.16 | 80.1 | 70.5 |
| | 37-37 | MH-13 | 10 | 358.14 | 61 | 65.3 |
| 4 | FAA59 | FAA49 | 8 | 9.74 | 3.6 | 56.5 |
| | FAA48 | FAA49 | 8 | 3.87 | 328.3 | 53.8 |

The PWWF hydraulic performance results for the force mains were dependent on the operation of every lift station except LS Los Robles, LS Panama, LS Hollywood, and LS Hueneme, as they discharge directly into the gravity system. These results assume the worst case PWWF scenario, as each lift station is discharging at the same time. **Table 4-8** shows the hydraulic results for the District force mains. The pipe segments that exceed or do not meet the design criteria are highlighted in the table. Because the pumps run at a constant rate, these results do not change between existing and future conditions.

Table 4-8 Force Main Hydraulic Results

| Lift Station | Length | Diameter | Flow (gal/min) | Wetwell Inflow (gal/min) | Velocity (ft/s) | Headloss Gradient (ft/ft) |
|-------------------------------|--------|----------|----------------|--------------------------|-----------------|---------------------------|
| PS B Segment 1 ^(a) | 3,305 | 12 | 1,200 | 819 | 3.4 | 0.004 |
| PS B Segment 2 ^(a) | 1,879 | 12 | 2,103 | - | 6.0 | 0.01 |
| PS B Segment 3 ^(a) | 916 | 12 | 2,306 | - | 6.5 | 0.012 |
| PS H | 126 | 6 | 203 | 222 | 2.3 | 0.004 |
| LS #27 | 247 | 4 | 188 | 144 | 4.8 | 0.024 |
| PS A Segment 1 ^(b) | 6,566 | 8 | 690 | 580 | 4.4 | 0.009 |
| PS A Segment 2 ^(b) | 425 | 8 | 878 | - | 5.6 | 0.014 |

Notes:

(a) Segment 1 = from PS B to connection from LS #2 and LS #30, Segment 2 = from LS #2/LS #30 connection to LS H connection, Segment 3 = from LS H connection to Oxnard terminus

(b) Segment 1 = from PS A to connection from LS #27, Segment 2 = from LS #27 connection to Oxnard terminus

(c) Highlighted pipe segments do not meet design criteria

Summary of deficiencies:

- Comparison to 2012 Model.** In most cases, the current system performance matches the results from the 2012 Wastewater Infrastructure Review. The 2012 results indicate that most of the gravity mains provide sufficient capacity and meet d/D ratios criteria, except for five gravity sewer mains between LS Los Robles and PS B, and connected pipelines affected by the backwater effect (see Group 1 below). These pipelines do not have high flows but are connected to pipelines running over capacity. As a result, these pipelines do not meet the design d/D ratio criteria.
- Forcemains.** Overall, three of the eight force mains do not meet the head loss design criteria, while five of the eight force mains do not meet the velocity criteria. This is consistent with the 2012 Wastewater Infrastructure Review results.
- Group 1 – Silverstrand Beach (Figure 4-5):** These deficiencies include the sewer mains along Ocean Drive and Sunset Lane from LS Los Robles to PS B. In addition to pipelines directly affected by the pump station and lift station flows, multiple connected pipelines experience high d/D ratios with low flows due to a backwater effect. The deficiencies can be resolved by decreasing the flow rates coming from LS #1 and LS Los Robles, as they are pumping too much flow for the pipelines to handle. By turning off LS #1 (bypass to PS B forcemain), the number of pipelines affected by backwater decreases by two. To remove all deficiencies (d/D ratios below 50%), LS #1 needs to be turned off and LS Los Robles reduced to a maximum flow of 70 gpm. However, the design criteria requires that pump stations be sized for peak wet weather flow rate plus an additional 20 percent capacity, which is

approximately 110 gpm. At this flow rate with LS #1 turned off, this removes all problems related to backwater and decreases the maximum d/D ratio to 59%.

4. **Group 2 – Ventura County Stormwater Diversion (Figure 4-5).** The 2012 model did not include flows from the San Nicholas Sewer Diversion, which adds 70 gpm to Manhole GAA29. As a result, seven gravity mains (1,036 total feet) along Roosevelt Boulevard and S Victoria Avenue that flow into LS A are over capacity and have significantly higher d/D ratios and flow rates. Turning off the diversion (bypassing to PS A forcemain) removes two of the seven deficiencies and decreases the maximum d/D ratio from 100% to 71%.
5. **Group 3 – Hollywood Beach (Figure 4-5).** The sewer mains along Simi Avenue and Ocean Drive are over capacity due to high discharges from LS Hollywood and LS Hueneme. The pipelines do not have capacity to handle individual flow from these pump stations, which is 200 gpm. To meet the design criteria, flow from LS Hollywood can be decreased to 110 gpm. Although the number of deficient pipelines does not decrease, the maximum d/D ratio decreases from 100% to 66%.
6. **Group 4 – Other Deficiencies.** The only other two deficiencies in the system are on Sunset Lane, connected to the pipeline on La Brea Street. According to the model, the upstream pipelines discharge to a lower elevation than the start invert of the downstream pipeline. For both these pipelines, only half the pipe runs above capacity, while the rest of the pipeline runs around 20% full. The invert elevations in these pipelines should be field verified.

4.5 Future System Performance

The ultimate system was evaluated in the PWWF condition within the updated hydraulic model. **Table 4-9** and **Figure 4-6** in **Appendix A** shows the gravity mains in ultimate conditions that are over capacity in the model.

Table 4-9 Ultimate PWWF Over Capacity Gravity Sewer Pipelines

| Group | Start MH | Stop MH | Diameter (in) | Flow (gpm) | Flow/Capacity (%) | d/D (%) |
|-------|----------|---------|---------------|------------|-------------------|---------|
| 1 | FAA38 | FAA37 | 8 | 1.85 | 0.8 | 100 |
| | FAA42 | FAA41 | 8 | 54.76 | 22.6 | 100 |
| | FAA39 | FAA40 | 8 | 2.92 | 1.2 | 100 |
| | FAA47 | FAA44 | 8 | 13.38 | 5.9 | 100 |
| | FAA40 | FAA42 | 8 | 11.86 | 4.9 | 100 |
| | FAA44 | FAA42 | 8 | 32.6 | 13.4 | 100 |
| | FAA35 | FAA37 | 8 | 279.95 | 115.3 | 100 |
| | FAA37 | FAA41 | 8 | 291.94 | 120.5 | 100 |
| | FAA41 | FAA43 | 8 | 357.13 | 148.1 | 100 |
| | Cleanout | FAA43 | 8 | 385.64 | 130.6 | 100 |
| | FAA43 | FAA45 | 8 | 753.12 | 215.2 | 97.7 |
| | FAA50 | FAA45 | 8 | 166.43 | 68.7 | 70.6 |
| | FAA45 | B | 10 | 930.9 | 37.9 | 64.2 |

| Group | Start MH | Stop MH | Diameter (in) | Flow (gpm) | Flow/Capacity (%) | d/D (%) |
|-------|----------|------------|---------------|------------|-------------------|---------|
| 2 | GAA28 | 37-68 | 8 | 289.48 | 119.4 | 100 |
| | 37-72 | 37-74 | 8 | 338.82 | 135.8 | 100 |
| | GAA27 | GAA28 | 8 | 205.8 | 84.4 | 100 |
| | GAA20 | GAA27 | 8 | 190.8 | 79.8 | 100 |
| | GAA18 | GAA20 | 8 | 181.33 | 75.5 | 100 |
| | GAA14 | GAA18 | 8 | 166.88 | 69.4 | 100 |
| | 37-68 | 37-71 | 8 | 312.08 | 130.6 | 100 |
| | 37-71 | 37-72 | 8 | 329.48 | 169.1 | 100 |
| | GAA12 | GAA14 | 8 | 155.56 | 64.3 | 89.9 |
| | 37-74 | LS A | 8 | 356.46 | 148.5 | 81.6 |
| 3 | 37-35 | LS Hueneme | 8 | 356.09 | 65 | 100 |
| | MH-16 | 38-13 | 8 | 211.5 | 81.7 | 100 |
| | 38-13 | 37-35 | 8 | 293.74 | 120 | 100 |
| | 37-41 | 37-37 | 10 | 425.16 | 90.1 | 77 |
| | MH-22 | 37-41 | 10 | 425.16 | 97.4 | 73.8 |
| | 37-44 | MH-22 | 10 | 425.16 | 80.1 | 70.5 |
| | 37-37 | MH-13 | 10 | 358.14 | 61 | 65.3 |
| 4 | FAA59 | FAA49 | 8 | 55.66 | 20.4 | 65.3 |
| | FAA48 | FAA49 | 8 | 13.62 | 4.1 | 56.9 |

Summary of deficiencies:

- 1. Ultimate versus Current.** The future system performance generally coincides with the current system performance. The biggest difference in sewer flows are typically from the harbor areas, which are not near ultimate buildout capacity. These pipelines mostly flow into Oxnard owned lift stations, which pump at a constant rate.
- 2. Group 2** - the only major difference in flows are in sewer mains along Roosevelt Boulevard and S Victoria Avenue. These pipelines are served flows from the Harbor. As a result, the number of sewer mains that are over capacity in this area increases from seven to ten (1,604 ft).

5.0 RECOMMENDED CIP

5.1 Introduction

This section discusses the recommended Capital Improvement Plan (CIP) for the District’s water and wastewater infrastructure based on the previous sections’ findings. Additionally, this section outlines the planning-level capital cost estimates of the potential system improvements.

Identified improvements are prioritized based on discussions with District staff and summarized in a five-year CIP, which includes carry over projects from the previous CIP.

5.2 Planning Level Unit Costs

Unit cost estimates are outlined to support the development of the District’s CIP. Project cost estimates utilize these unit costs and are consistent with the Association of Cost Engineering International’s Class 5 cost estimating classification. Class 5 estimates are based on available information using unit costs and have an accuracy range of -20 to -50 percent on the low side and +30 to +100 percent on the high side. The unit costs presented in **Table 5-1** are for budgetary and planning purposes.

Table 5-1 Construction Cost Estimating Assumptions

| Cost Item Description | Unit Construction Cost | |
|--------------------------|------------------------|--------|
| Waterline | | |
| 4-inch | \$215 | per LF |
| 6-inch | \$240 | per LF |
| 8-inch | \$280 | per LF |
| 10-inch | \$320 | per LF |
| 12-inch | \$420 | per LF |
| Sewerline | | |
| 8-inch | \$250 | per LF |
| Valves | | |
| 6-inch Gate Valve | \$7,500 | ea. |
| 8-inch Gate Valve | \$10,000 | ea. |
| Markups | | |
| Planning and Design | 10% | |
| Construction Management | 10% | |
| Administrative and Legal | 5% | |
| Construction Contingency | 25% | |

The base unit costs for pipeline material and installation include repaving and system appurtenances. The capital cost estimates are developed based on the unit costs and contingency markups summarized in **Table 5-1**.

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5.3 Existing CIP

The District's current CIP from 2021-2025 is shown in **Table 5-2**. The total current five-year budget for all listed projects is \$6.1M. The current format of the District's CIP includes the following sections:

1. Group 100 – Water Projects
2. Group 200 – Wastewater Projects
3. Group 300 – Trash Projects (not included in this Master Plan)
4. Group 400 - Facility Projects
5. Group 500 – Major Equipment and Studies
6. MI – Maintenance Related Projects and Studies

This same project group was utilized as part of the Master Plan CIP update.

Table 5-2 Fiscal Year 20/21 to FY 24/25 Capital Improvement Program

| Project No. | Capital Project | Water | Sewer | Expended | FY 20/21 | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | 5-Year Total | |
|-------------|---------------------------------------|-------|-------|--------------|--------------|----------------|----------------|--------------|----------------|--------------|----------------|
| CI 101 | Water Line Easement Improv. | 100% | | \$0 | \$20 | \$300 | \$20 | \$150 | \$0 | \$490 | |
| CI 102 | AMI Installation on Well | 100% | | \$5 | \$0 | \$0 | \$0 | \$0 | \$0 | \$5 | |
| CI 103 | PHWA Improvements | 100% | | \$0 | \$65 | \$117 | \$118 | \$56 | \$33 | \$388 | |
| CI 105 | Water Distribution Improv. | 100% | | \$0 | \$50 | \$50 | \$50 | \$50 | \$50 | \$250 | |
| CI 201 | I&I Reduction- Main & Manhole Improv. | | 100% | \$59 | \$481 | \$0 | \$30 | \$266 | \$0 | \$836 | |
| CI 202 | Sewer LS and PS Rehab. | | 100% | \$35 | \$190 | \$100 | \$320 | \$100 | \$0 | \$745 | |
| CI 205 | Hydrogen Sulfide Reduction | | 100% | \$0 | \$0 | \$100 | \$0 | \$0 | \$0 | \$100 | |
| CI 206 | Oxnard Wastewater Plant Improv. | | 100% | \$0 | \$200 | \$200 | \$300 | \$600 | \$0 | \$1,300 | |
| CI 208 | Wastewater Flow Meter Installation | | 100% | \$9 | \$10 | \$0 | \$0 | \$0 | \$0 | \$19 | |
| CI 402 | Yard and Building Improvements | 50% | 50% | \$40 | \$100 | \$1,450 | \$0 | \$0 | \$0 | \$1,590 | |
| CI 403 | Asset Management Software Program | 50% | 50% | \$0 | \$31 | \$0 | \$0 | \$0 | \$0 | \$31 | |
| CI 501 | Air Compressor | 50% | 50% | \$10 | \$0 | \$0 | \$0 | \$0 | \$0 | \$10 | |
| CI 502 | Changeable Message Sign | 50% | 50% | \$15 | \$0 | \$0 | \$0 | \$0 | \$0 | \$15 | |
| CI 503 | Vehicle Replacement- 2001 Crane Truck | 50% | 50% | \$0 | \$150 | \$0 | \$0 | \$0 | \$0 | \$150 | |
| CI 102 | Water Emergency Response Plan | 100% | | \$0 | \$12 | \$0 | \$0 | \$0 | \$0 | \$12 | |
| MI 105 | Water & Sewer Master Plan | 50% | 50% | \$0 | \$75 | \$0 | \$0 | \$0 | \$0 | \$75 | |
| MI 204 | CCTV Video Inspection Program | | 100% | \$0 | \$0 | \$0 | \$0 | \$85 | \$0 | \$85 | |
| MI 209 | Sewer System Management Plan | | 100% | \$5 | \$0 | \$0 | \$0 | \$0 | \$0 | \$5 | |
| MI 404 | Water & Sewer Rate Study | 50% | 50% | \$5 | \$35 | \$0 | \$0 | \$0 | \$0 | \$40 | |
| | | | | Water | \$40 | \$342 | \$1,192 | \$188 | \$256 | \$83 | \$2,101 |
| | | | | Sewer | \$143 | \$1,077 | \$1,125 | \$650 | \$1,051 | \$0 | \$4,046 |
| | | | | Total | \$183 | \$1,419 | \$2,317 | \$838 | \$1,307 | \$83 | \$6,147 |

Notes: All costs shown in thousands.

5.4 Water System CIP

The following subsection is focused on Group 100, or water related projects. The following section summarizes the improvement projects that have been identified based on these categories:

- System Deficiency
- Rehabilitation/Replacement
- Reliability
- Operations
- PHWA Improvements

Improvement projects were established based on the stated project classification, results of the hydraulic modeling effort, and discussions with District staff. Water infrastructure projects are illustrated in **Figure 5-1** in **Appendix A**.

5.4.1 System Deficiency (CI 108)

Section 4.3 defines the District’s design criteria which is established to minimize wear on infrastructure and maintain adequate system performance. Based on the hydraulic modeling results (**Figure 3-8 and 3-9, Appendix A**), there are no velocity or pressure deficiencies in maximum day or peak hour demand scenarios for both existing and ultimate demand conditions. The only deficiencies occur in the fire flow condition. **Table 5-3** summarizes the recommended projects to address these deficiencies.

Table 5-3 Water System Deficiency Projects

| Project Area | Nodes Impacted | Recommended Improvements | Planning Level Cost |
|----------------------------|--|--|---------------------|
| W-1 – Silverstrand (South) | J-137 (Total 1) | Replace 2 inch with 6 inch (160 ft) | \$58,000 |
| W-2 – Silverstrand (North) | J-213, J-202 (Total 2) | <ul style="list-style-type: none"> • Add 200 feet of 6-inch pipeline on Malibu Ave • Add 35 feet of 6-inch pipeline on Ocean Drive | \$85,000 |
| W-3 – Fisherman’s Wharf | J-113, J-94 (Total 2) | Replace 4-inch with 6-inch at connecting junctions (120 feet) | \$43,000 |
| W-4 – Peninsula Road | J-240, J-209 (Total 2) | Replace 8-inch with 10-inch (310 feet) at end of Peninsula Rd | \$149,000 |
| W-5 – CI Harbor (North) | J-129, J-130, J-132, J-114, J-115 (Total 5) | <ul style="list-style-type: none"> • Replace 8-inch with 12-inch (300 feet) • Replace 6-inch with 8-inch (260 feet) • Replace 2 & 3-inch with 8-inch (500 feet) | \$508,000 |
| W-6 – CI Harbor (South) | J-204, J-224 (Total 2) | Replace 6-inch with 8-inch (300 feet) | \$126,000 |
| W-7 – Hollywood Beach | J-56, J-57, J-35, J-128, J-116, J-58, J-131, J-201, J-90, J-222, J-43, J-42, J-67 (Total 13) | <ul style="list-style-type: none"> • Replace 10-inch with 14-inch (570 feet) • Replace 8-inch with 14-inch (840 feet) • Replace 8-inch with 12-inch (900 feet) | \$1,541,000 |
| Total | | | \$2,510,000 |

Based on review of these projects with District staff, the following prioritization is recommended:

- Project W-2 is recommended to be completed in conjunction with the easement relocation project which is in the same area (noted as W-9, in CI 101).
- Projects W-3 and W-4 are recommended to be included as part of future development in the respective areas and will be completed at the time of development.
- Projects W-5, W-6 and W-7 are recommended for the next 5-year budget cycle. Projects W-6 and W-7 may be eliminated by a new PHWA connection planned near the existing COPH emergency connection.
- Upon review with District, it was determined hydrant at 200 Ocean Drive would provide adequate fire flow. Therefore, Project W-1 is not necessary.

5.4.2 Rehabilitation/ Replacement

Pipeline Replacement (CI 104)

There have been 17 documented pipeline breaks in the past 20 years within the District distribution area. Based on review of these failures, there is no concentration of breaks in any specific area. The distribution system is 75, 13 and 12 percent AC, PVC and DI, respectively. The age based useful life assumption for these materials is 75 years (AC), 80 (DI) and 85 (PVC). As noted in **Figure 3-4**, the age of the distribution system is only 30-50 years old. Based on the performance of the current system and age based useful life assumption, there is not currently a significant need to develop a distribution wide pipeline replacement program.

CI 105 is included to address any pipe failures and provides a budget of \$50,000 per year.

Valve Replacement (CI 105)

The District's system currently has 473 valves in its system. These valves are estimated to be 30-50 years old. Based on the California Water Board, the estimated useful life of distribution system gate valves is 35-40 years.

The District has not historically exercised these valves nor maintained a Valve Exercising Program. The purpose of a Valve Exercising Program is to exercise main line valves throughout the distribution system to assure reliable operation and maintain water quality. The program accurately records detailed valve information, ensures valve reliability in the event of an emergency, allows staff the ability to immediately isolate water lines for main flushing and for main breaks, extends valve life and results in less staff time in dealing with emergency repairs. These benefits contribute to less water loss or waste and the least possible water service disruption time to District customers.

Per AWWA G200-15 Distribution Systems Operation and Management standard, a Valve Exercising Program should follow AWWA Manual M-44. Per this manual, agencies are required to set a goal for the number of distribution valves exercised annually and a goal to test 100% of valves within a certain time frame. To meet 100% of the valves in 3 years, would require 158 valves per year. The level of effort is estimated at two operators at a rate of 1-4 valves per two hours, depending on the difficulty of the valve. Based on the District's recent experience with valve exercising, an estimated 10% may require replacement. This equates to 16 valves replaced per year and would cost approximately \$160,000 per year to replace.

It is recommended that District staff complete an exercising plan prior to the start of testing, and then package the resulting valve replacements into an annual construction project. The plan should prioritize critical valves, and those in intersections where additional isolation valves may be desired.

Water Flushing Program

The District currently uses a contract service provider to conduct water main flushing. The District's O&M budget allocates \$40,000 every two years for this service. It is recommended that this process be evaluated, and the frequency be confirmed. The process could be modified to focus in dead end areas, and the frequency be modified to be driven by water quality factors instead of time between flushing. A study could be conducted in parallel with the next scheduled flushing, such that data collected from that effort can be used to optimize the current process.

Waterline Easement Improvements (CI 101)

In October 2020, the District completed the CIBCSD Water Pipeline Assessment which evaluated existing conditions of a potable pipeline located within private easements at one block northeast of Ocean Drive, from Harbor Boulevard to Santa Ana Avenue. Following review of three alternatives, the District selected Alternative 2 for implementation. This project (**W-8**) consists of abandoning the existing easement pipeline and installing necessary PVC pipelines and service laterals to reconnect the distribution system and customers. The total cost of this project is estimated to be approximately \$400,000, which includes \$75,000 in planning, design and bid phase services.

The second waterline easement improvement project recommended is located near Roosevelt Boulevard. This project (**W-9**) consists of replacing approximately 1,300 feet of AC pipe with PVC pipe on Roosevelt Boulevard, from San Nicholas Avenue to Highland Drive. The total cost of this project is estimated to be approximately \$470,000, which includes \$90,000 in planning, design and bid phase services.

Wharf Head Abandonment (CI 102)

The District's current system contains 16 wharf heads with three (3) inch risers and a 2-1/2 inch connection. These wharf heads are either currently abandoned or scheduled to be abandoned. The wharf heads are deteriorating and do not include isolation valves which pose a risk should one fail. It is recommended that

June 2021

these be removed and capped, or isolation valves added. The initial step will be to investigate condition, prepare a schedule for prioritized implementation, identify wharf heads that can be removed in conjunction with adjacent planned projects and develop a standard detail for removal and capping. A total cost of \$185,000 is assumed for this project, which includes \$25,000 for initial assessment, planning and design. Only four of the 16 wharf heads are planned for abandonment in the 5-year CIP.

5.4.3 Reliability

Long-Term Water Supply Analysis (CI 107)

As noted in Section 3.2.2, the District should evaluate long term water supply options. Based on future projections, the District will need to seek additional sources approaching 2040. However, initial planning should begin earlier than the planned deficiency. The recommended timing is in FY 23/24 as this provides for several critical items to be resolved:

1. Harbor Water Sales Agreement renewal (October 2021)
2. Oxnard Wastewater Service Agreement renewal (December 2022)
3. PHWA 5-Year Master Plan Improvements (mid-point of completion)
4. Oxnard ASR and Hueneme Road Extension will be operational
5. Direct Potable Reuse criteria set for adoption by State Water Board by December 31, 2023 (AB 574)

5.4.4 Operations

Water Supply Upgrades (CI 106)

The COPH emergency interconnection is operated manually, while the Oxnard emergency connections utilize a pressure sustaining valve to provide pressure on demand in the event of a fire event. There is currently no monitoring as to the operation or condition of these valves. A recent investigation found that one of the valves was not operating, and the valve was replaced. As demonstrated in Section 4.6, these connections are critical to meeting fire flow demand and should be regularly maintained.

Due to the importance of this valves, the District should consider implementing a maintenance schedule for these valves and add remote pressure and position monitoring for the valves. The cost of this project (**W-10**) is estimated at \$125,000.

The PHWA main point of supply includes flow metering information but data from this meter is not tracked and saved by PHWA. This data, if available to the District, could assist in calculating water loss, tracking system demands, verifying PHWA billings and calibrating the District's hydraulic model. It is recommended the District implement remote monitoring and data viewing for current and historical flow and pressure at the PHWA main connection. Work conducted during **W-3** would provide the opportunity to install master meter. This project (**W-11**) is estimated at \$25,000.

5.4.5 PHWA Improvements (CI 103)

The PHWA Facility Master Plan (Gannett Fleming 2019) outlined improvement projects in a 5-year CIP. The District is responsible for its capacity share of the improvements which will prolong the life of the treatment equipment and optimize operation. The total cost for the 5-year CIP is \$2,431,000. Through 2025, the District's portion is \$387,150 for these improvements.

5.5 Wastewater System CIP

The following subsection is focused on Group 200, or wastewater related projects. The following section summarizes the improvement projects that have been identified based on these categories:

- System Deficiency
- Rehabilitation/Replacement
- Operations

The following projects were established based on the stated project classification, results of the hydraulic modeling effort, and discussions with District staff.

5.5.1 System Deficiency (CI 203)

The hydraulic model for existing flows summarized in Section 5.4 was used to assess whether the existing collection system could convey wastewater within the District's design standard for depth-to-diameter ratios. Based on the model results, **Table 5-4** is provided to summarize recommendations for addressing observed system deficiencies.

Table 5-4 Wastewater System Deficiency Projects

| Project Area | Service Area Reference | Recommended Improvements | Planning Level Cost |
|---|---|---|-------------------------|
| WW-1 – Silverstrand Beach | Sewer Main along Ocean Drive and Sunset (LS Los Robles to PS B) | Flow Study and Reduce LS Los Robles Flow Rate | \$60,000 ^(a) |
| WW-2 – Ventura County Stormwater Diversion | Gravity Main along Roosevelt Boulevard and S Victoria Avenue | Bypass Stormwater Diversion to PS A force main | \$25,000 ^(b) |
| WW-3 – Hollywood Beach | Sewer Mains along Simi Avenue and Ocean Drive (LS Hollywood and LS Hueneme) | Flow Study and Reduce LS Hollywood Flow Rate | \$50,000 ^(c) |
| WW- 4 – Sunset Lane | Pipeline connecting to La Brea Street | Field verify manhole inverts and update GIS and hydraulic model | \$10,000 |
| Total | | | \$135,000 |
| Notes: (a) This project assumes that the PS B Improvements Project is completed (CI 204). Cost includes flow monitoring, design, and installation of new pumps. Combine project with recommendations from 2018 Condition Assessment, which includes improvements to French Drain and PVC discharge. (b) Costs include planning study for pipe modification; construction cost is assumed to be by Ventura County. (c) This project assumes that the PS B Improvements Project is completed (CI 204). Cost includes flow monitoring, design, and installation of new pumps. | | | |

The projects identified in Table 5-4 are included as CI 203. This CIP also includes a \$50,000 annual budget to address any pipe failures or emergency projects.

5.5.2 Rehabilitation/ Replacement

PS B Improvements (CI 204)

In October 2020, the District completed the Pump Station B Evaluation which evaluated alternatives related to rehabilitation of PS B which at 50 years is near its useful life. The recommended alternative, illustrated in **Figure 5-2 (Appendix A)**, includes reconfiguring Oxnard's LS #1 flows to the PS B force main. By diverting this flow, a new PS B can be reduced in size, and capacity improvements in the District collection system can be avoided. The total cost of this project is estimated at \$900,000.

The initial step of this project should include flow monitoring to confirm actual flow rates, confirmation of easement access and set back requirements, and coordination with the City of Oxnard regarding diverting LS #1 flows and associated modifications. This project should be completed in conjunction with **WW-1** as modifications to this upstream LS will impact flow rates to PS B.

I&I Reduction Improvements (CI 201)

Inflow and infiltration (I/I) reduction projects were identified in the Wastewater Collection System CIP Implementation Plan (MKN 2020). Phase 1 projects in Silverstrand Beach were completed in 2020, but Phase 2 in Hollywood Beach should also be completed due to their level of priority. Phase 2 consists of three Priority

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1 sewer pipelines and eight Priority 2 pipelines, for a total of 11 segments and an estimated project cost of \$300,000 which includes \$30,000 for design.

Lift Station Improvements (CI 202)

The Lift and Pump Station Condition Assessment (KEH 2018) recommended multiple improvements for the District's seven lift stations for a total of \$670,000. Since completion of the study the District has completed or is scheduled to complete all recommended projects with exception of the structural/mechanical recommendations (\$110,000). The CIP was updated to reflect completed projects and the remaining effort reallocated.

5.5.3 Operations

CCTV Inspection (CI 206)

The last CCTV inspection was performed in June 2019 and the District examined 43,000 LF of existing 8-inch sewer and 1,200 LF of 10-inch gravity sewer. Multiple structural defects were noted, such as broken and fractured pipe, as well as roots, offset joints, and attached encrustation. This inspection is recommended to be completed every 5 years and is scheduled for 2024.

5.6 Recommended CIP

The recommended projects for water and wastewater were integrated with the current CIP and is provided as **Table 5-5**. The priority and phasing of projects is based on discussions with District staff.

Table 5-5 Recommended 5-Year CIP

| Line | Project No. | Capital Project | Water | Sewer | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | 5-Year Total |
|------|-------------|-------------------------------------|-------|--------------|----------------|----------------|----------------|----------------|--------------|----------------|
| 1 | CI 101 | Easement Risk Mitigation Projects | 100% | | \$75 | \$325 | \$90 | \$380 | \$0 | \$870 |
| 2 | CI 102 | Wharf Head Removal | 100% | | \$25 | \$10 | \$10 | \$10 | \$10 | \$65 |
| 3 | CI 103 | PHWA Improvements | 100% | | \$65 | \$117 | \$118 | \$56 | \$32 | \$387 |
| 4 | CI 104 | Water Distribution Improvements | 100% | | \$50 | \$50 | \$50 | \$50 | \$50 | \$250 |
| 5 | CI 105 | Valve Replacement | 100% | | \$180 | \$160 | \$160 | \$50 | \$50 | \$600 |
| 6 | CI 106 | Water Supply Upgrades | 100% | | \$25 | \$0 | \$0 | \$25 | \$100 | \$150 |
| 7 | CI 107 | Long Term Water Supply Planning | 100% | | \$0 | \$0 | \$75 | \$0 | \$0 | \$75 |
| 8 | CI 108 | Fire Flow Improvements | 100% | | \$0 | \$0 | \$15 | \$70 | \$0 | \$85 |
| 9 | CI 109 | Water Emergency Response Plan | 100% | | \$15 | \$0 | \$0 | \$0 | \$0 | \$15 |
| 10 | CI 201 | I&I Reduction- Main & Manhole Impr. | | 100% | \$0 | \$30 | \$270 | \$0 | \$0 | \$300 |
| 11 | CI 202 | Sewer Lift Station and PS Rehab | | 100% | \$120 | \$0 | \$0 | \$30 | \$110 | \$260 |
| 12 | CI 203 | Sewer Improvement Projects | | 100% | \$65 | \$85 | \$75 | \$100 | \$60 | \$385 |
| 13 | CI 204 | Pump Station B Replacement | | 100% | \$50 | \$150 | \$700 | \$0 | \$0 | \$900 |
| 15 | CI 205 | Oxnard Wastewater Plant Impr. | | 100% | \$200 | \$200 | \$300 | \$600 | \$300 | \$1,600 |
| 16 | CI 206 | CCTV Video Inspection Program | | 100% | \$0 | \$0 | \$0 | \$85 | \$0 | \$85 |
| 17 | CI 401 | Yard and Building Improvements | 50% | 50% | \$1,450 | \$150 | \$0 | \$0 | \$0 | \$1,600 |
| 18 | CI 402 | Asset Management Program | 50% | 50% | \$15 | \$8 | \$8 | \$8 | \$8 | \$45 |
| 19 | CI 403 | Vehicle Replacement Program | 50% | 50% | \$0 | \$80 | \$0 | \$80 | \$0 | \$160 |
| 20 | MI 401 | Water & Sewer Rate Study | 50% | 50% | \$0 | \$0 | \$0 | \$0 | \$50 | \$50 |
| | | | | Water | \$1,167 | \$780 | \$522 | \$684 | \$271 | \$3,424 |
| | | | | Sewer | \$1,168 | \$584 | \$1,349 | \$859 | \$499 | \$4,459 |
| | | | | Total | \$2,335 | \$1,364 | \$1,871 | \$1,543 | \$770 | \$7,883 |

Note: All costs shown in thousands.

6.0 APPENDICES

6.1 Appendix A- Figures

Figure 3-1 Water System Overview

Figure 3-5 Pipe Break History

Figure 3-7 Land Use

Figure 3-8 Existing Model Results

Figure 3-9 Ultimate Model Results

Figure 4-3 Sewer System Overview

Figure 4-5 Existing Model Results

Figure 4-6 Ultimate Model Results

Figure 5-1 Water Capital Improvement Projects

Figure 5-2 PS B Project

6.2 Appendix B- CIP Details

APPENDIX A

FIGURES

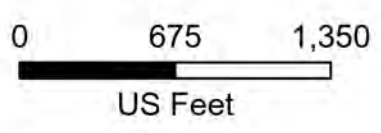


Figure 3-1
Water System Overview

Channel Islands Beach
Community Services District
Water and Wastewater
Master Plan Update



Figure 3-5
Pipe Break History



Channel Islands Beach
Community Services District
Water and Sewer
Master Plan Update

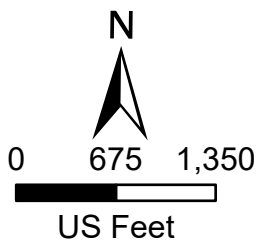
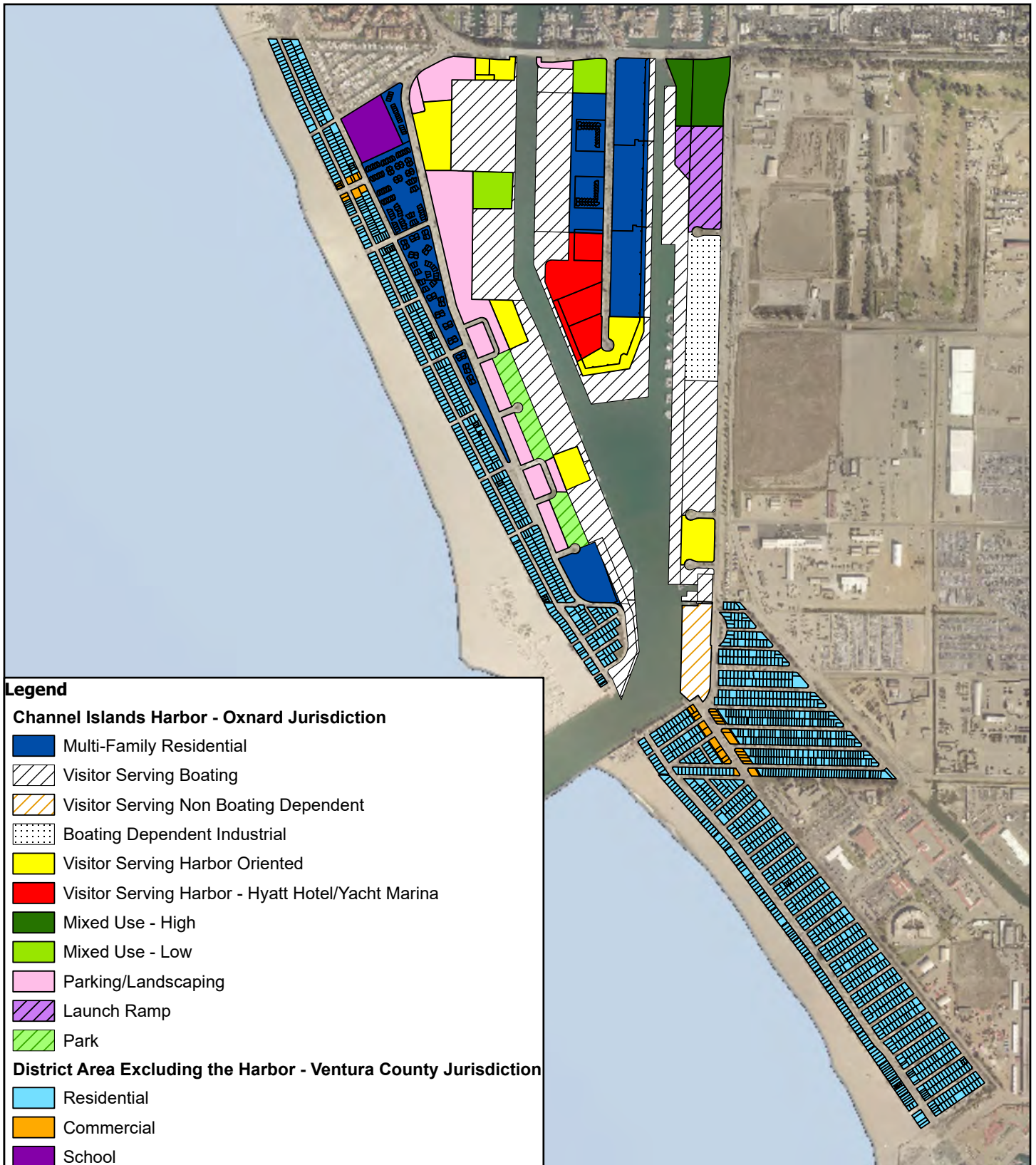
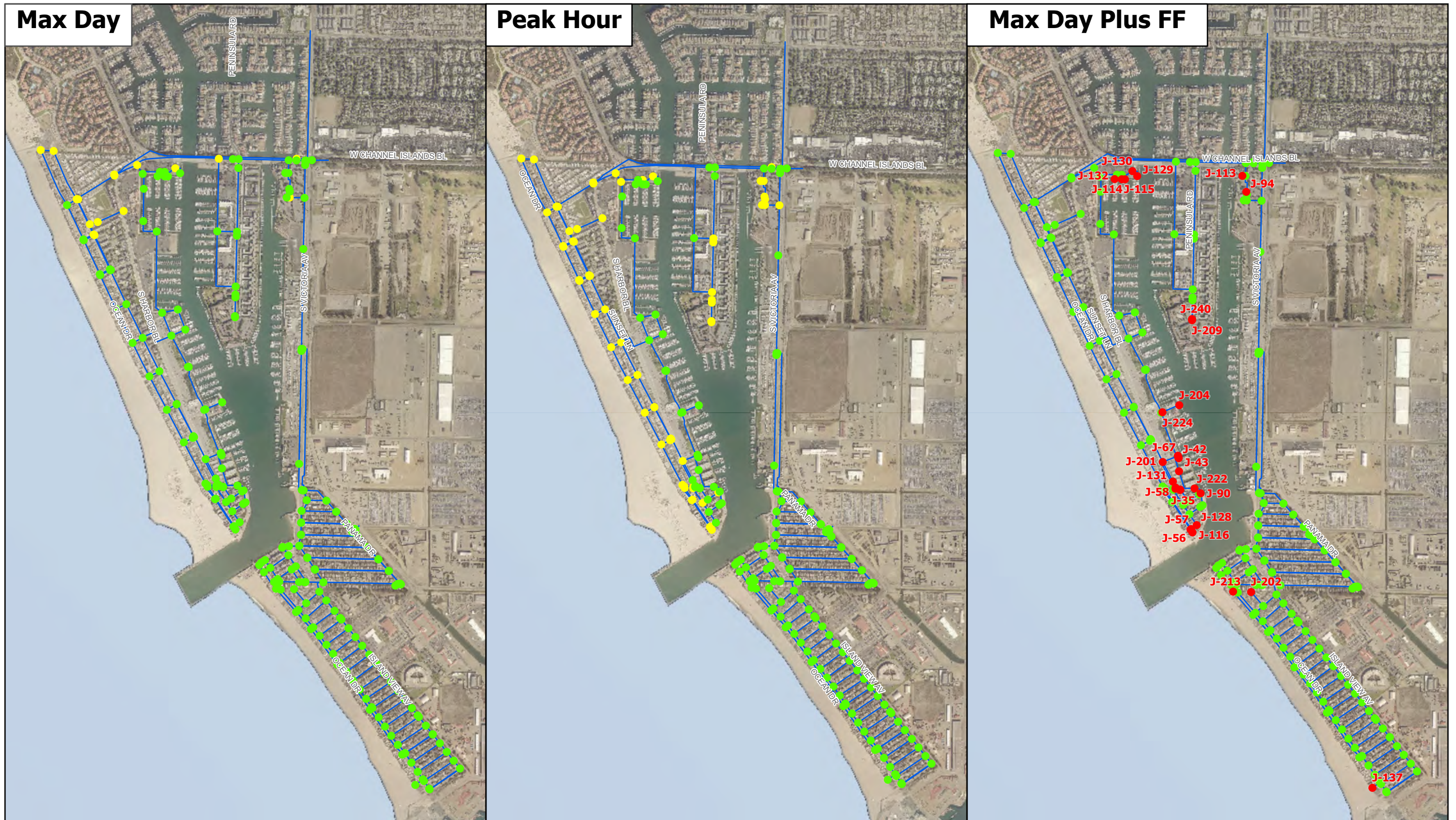


Figure 3-7

Land Use Map

Channel Islands Beach
Community Services District
Water and Wastewater
Master Plan Update



- Legend**
- Pressure (psi)**
- 55 to 60
 - 60 to 65
 - 65 to 70
 - 70 to 75
 - Greater than 75
- Fire Flow**
- Pass
 - Fail

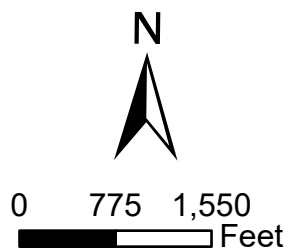
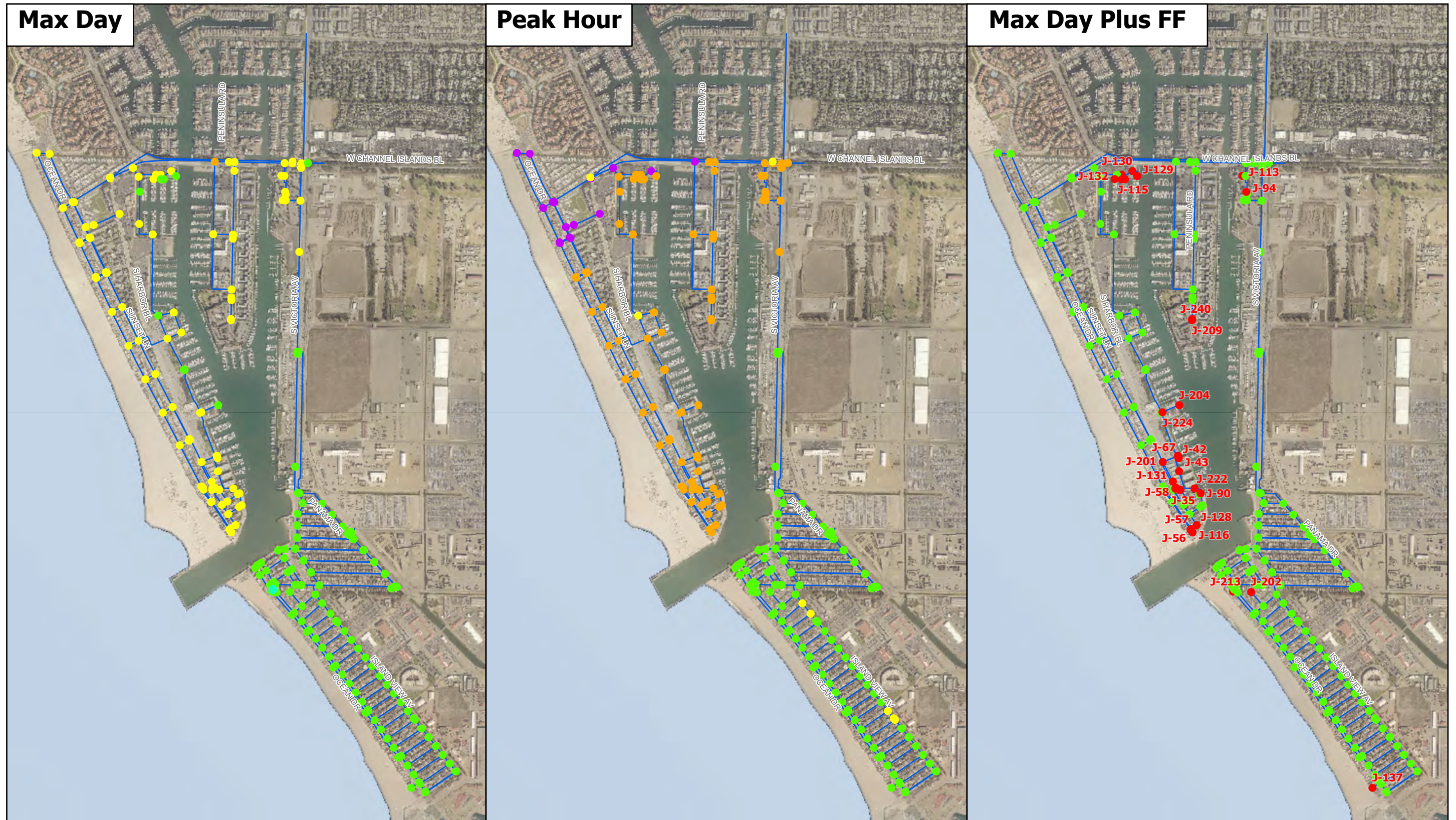


Figure 3-8
Existing System
Model Results

Channel Islands Beach
 Community Services District
 Water and Wastewater
 Master Plan Update



- Legend**
- | | |
|-----------------------|------------------|
| Pressure (psi) | Fire Flow |
| ● 55 to 60 | ● Pass |
| ● 60 to 65 | ● Fail |
| ● 65 to 70 | |
| ● 70 to 75 | |
| ● Greater than 75 | |

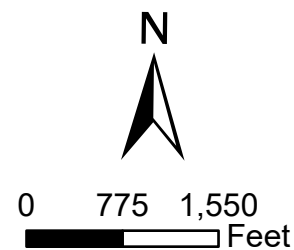


Figure 3-9
Ultimate System
Model Results

Channel Islands Beach
Community Services District
Water and Wastewater
Master Plan Update

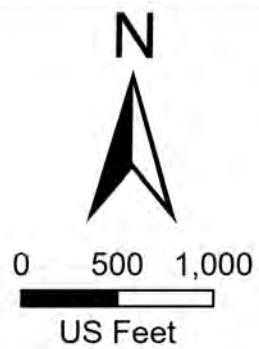


Figure 4-3

Sewer System Overview

Channel Islands Beach
Community Services District
Water and Wastewater
Master Plan Update



Legend

- CIBCSD Lift Station
- City of Oxnard Lift Station
- Force Main
- ⊛ Manhole

Conduit

- Meets Design Criteria
- Group 1 Deficiency
- Group 2 Deficiency
- Group 3 Deficiency
- Group 4 Deficiency

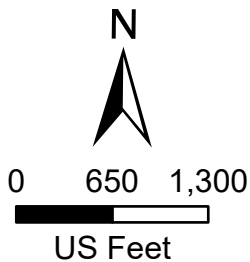


Figure 4-5
Existing System Results



Legend

- CIBCSD Lift Station
- City of Oxnard Lift Station
- Force Main
- Manhole

Conduit

- Meets Design Criteria
- Group 1 Deficiency
- Group 2 Deficiency
- Group 3 Deficiency
- Group 4 Deficiency

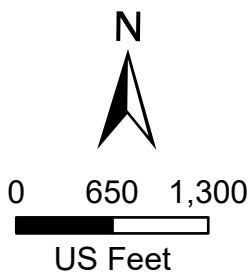
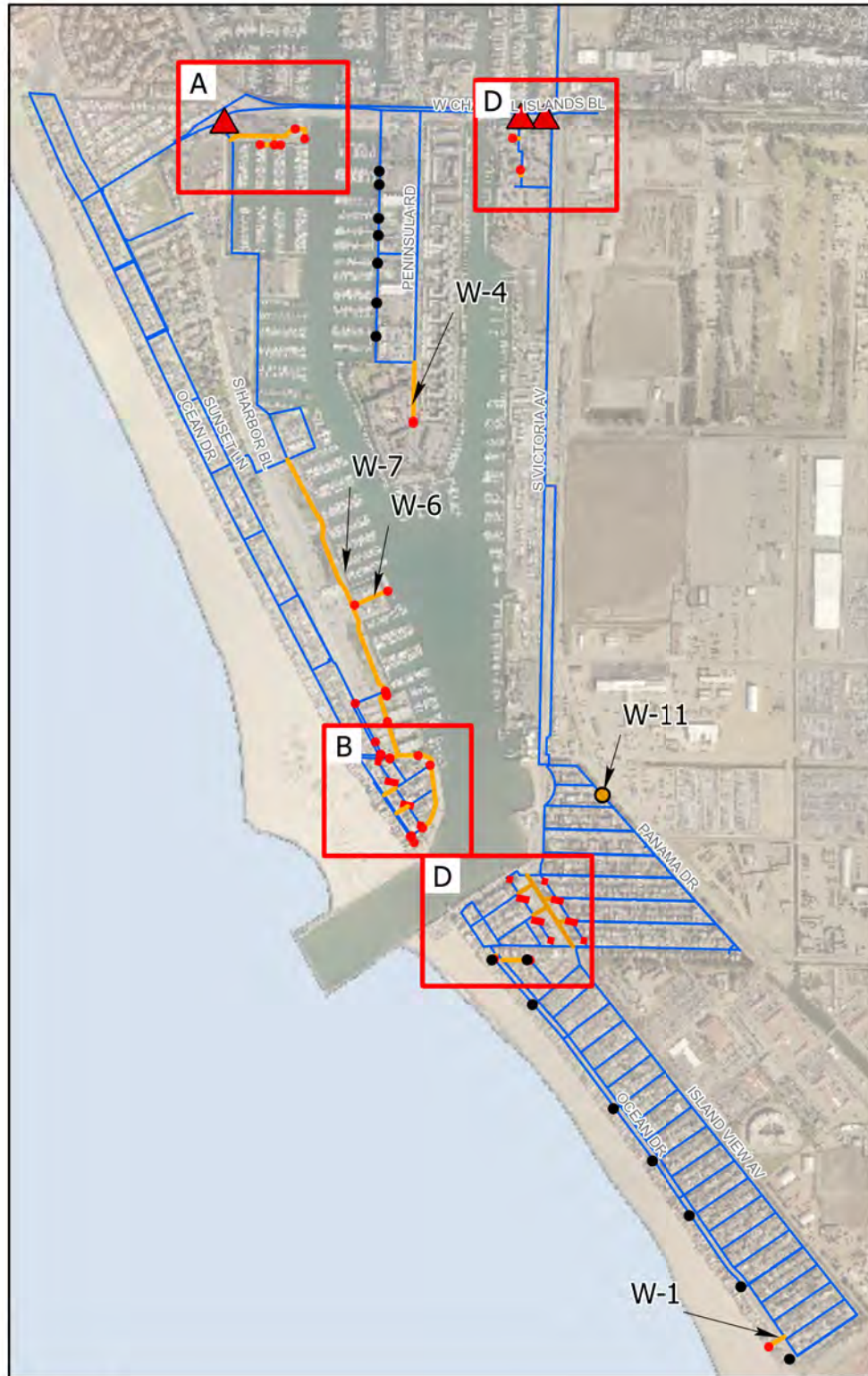
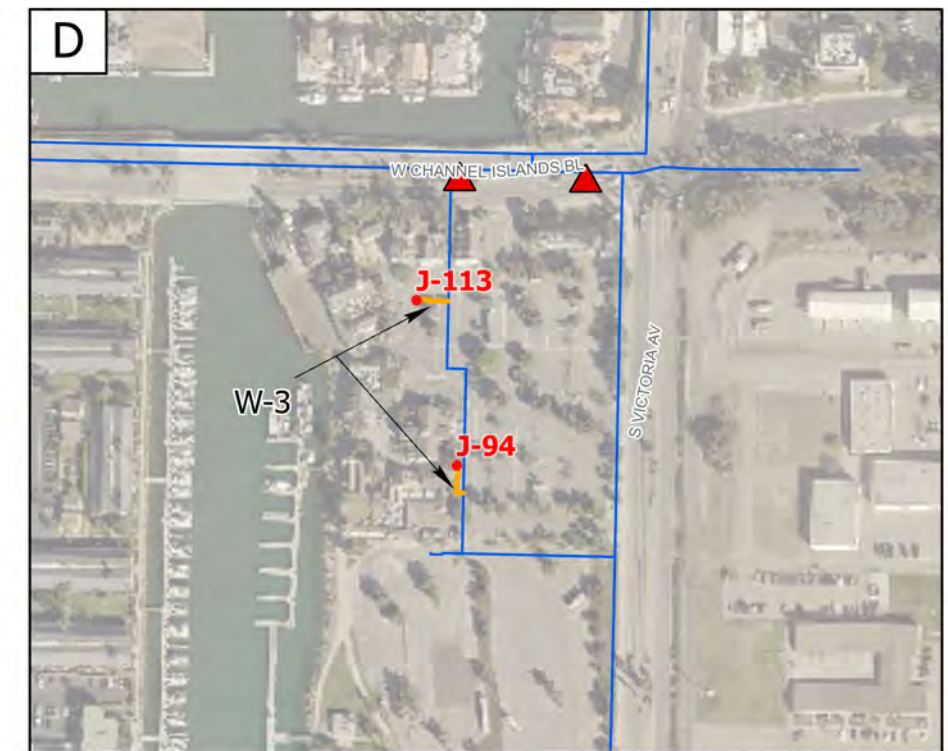
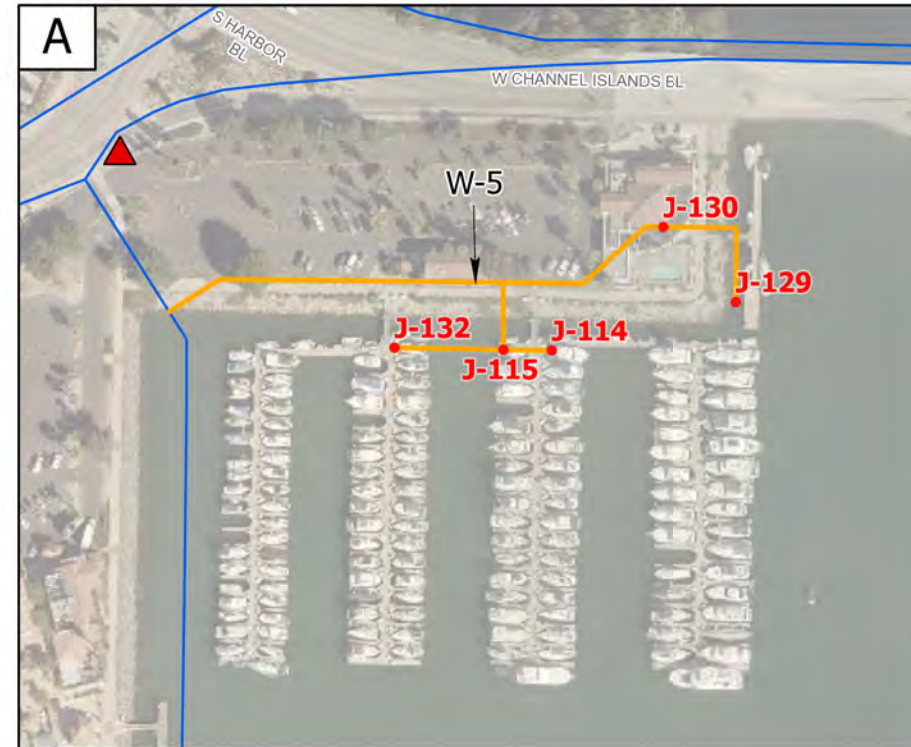


Figure 4-6
Ultimate System Results

Projects Overview



Project Details



- Legend**
- Emergency Interconnections
 - PHWA Supply
 - Pipeline Improvement
 - Wharf Heads
 - Fire Flow**
 - Fail



Figure 5-1
Water Capital Improvement Projects

Channel Islands Beach
Community Services District
Water and Wastewater
Master Plan Update



Legend

- PS Pump Station
- Cleanout
- Manhole
- Gravity Pipeline
- Proposed Force Main
- Existing Force Main
- Abandon Existing Line

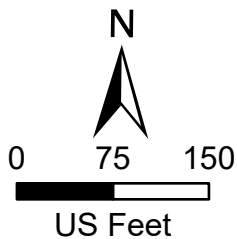


Figure 5-2

PS B Project

Channel Islands Beach
Community Services District
Water and Wastewater
Master Plan Update

APPENDIX B

CIP SHEETS

Project No: CI 101

Title: Easement Risk Mitigation Projects

Description: Abandon two existing pipelines located within easements that cannot be easily accessed. Construct new piping to reconnect system following abandonment.

Justification: Water main breaks in areas where the District’s distribution system runs through private property may be costly to address repairs and damage caused if not detected early. These projects reduce District risk.

Operations Impact: Improve ability to operate and maintain distribution system

Begin: 2021

End: 2025

Funding Allocation:

Water 100%

Sewer 0%

Solid Waste 0%

Project Costs: \$870,000



| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|-----------------|------------------|-----------------|------------------|------------|------------------|
| Planning/Design | \$75,000 | \$0 | \$90,000 | \$0 | \$0 | \$165,000 |
| Construction | \$0 | \$325,000 | \$0 | \$380,000 | \$0 | \$705,000 |
| Total | \$75,000 | \$325,000 | \$90,000 | \$380,000 | \$0 | \$870,000 |

Project No: CI 102
Title: Wharf Head Removal

Description: Abandon and remove all wharf heads in system. FY 21/22 includes assessment, prioritization and development of standard replacement detail.

Justification: Wharf heads do not include isolation valves which pose a risk should they fail. Current condition of wharf heads is unknown. Providing an assessment, prioritization and abandonment detail focuses efforts in highest risk areas and creates consistent standard District replacement protocol.

Operations Impact: Reduce time and costs associated with addressing failed wharf heads.

Begin: 2021
End: 2026

Funding Allocation:

Water 100%
 Sewer 0%
 Solid Waste 0%

Project Costs: \$65,000



| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Planning/Design | \$25,000 | \$0 | \$0 | \$0 | \$0 | \$25,000 |
| Construction | \$0 | \$10,000 | \$10,000 | \$10,000 | \$10,000 | \$40,000 |
| Total | \$25,000 | \$10,000 | \$10,000 | \$10,000 | \$10,000 | \$65,000 |

Project No: CI 103
Title: PHWA Improvements

Description: District’s share of capital improvement needs at the PHWA Brackish Water Reclamation Demonstration Facility.

Justification: Reinvestment in the PHWA facility will be required to prolong the life of the treatment equipment. The District will be responsible for its capacity share of the improvements.

Operations Impact: N/A

Begin: 2021
End: 2026

Funding Allocation:

Water 100%
Sewer 0%
Solid Waste 0%

Project Costs: \$387,150



| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|-----------------|------------------|------------------|-----------------|-----------------|------------------|
| Planning/Design | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Construction | \$64,740 | \$116,700 | \$117,810 | \$55,650 | \$32,250 | \$387,150 |
| Total | \$64,740 | \$116,700 | \$117,810 | \$55,650 | \$32,250 | \$387,150 |

Project No: CI 104

Title: Water Distribution Improvements

Description: Replacement of water distribution assets and other ancillary water distribution assets as needed due to failure or other emergency projects.

Justification: Preparing for the need to replace water distribution assets as they fail due to age.

Operations Impact: Increase system reliability by maximizing the operability of water system assets.

Begin: 2021

End: 2026

Funding Allocation:

Water 100%
 Sewer 0%
 Solid Waste 0%

Project Costs: \$250,000



| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|
| Planning/Design | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Construction | \$50,000 | \$50,000 | \$50,000 | \$50,000 | \$50,000 | \$250,000 |
| Total | \$50,000 | \$50,000 | \$50,000 | \$50,000 | \$50,000 | \$250,000 |

Project No: CI 105

Title: Valve Replacement

Description: Replacement of valves and implementing a valve exercising program. Initial effort includes \$20,000 for development of exercising program required to plan and prioritize efforts.

Justification: Estimated useful life of distribution gate valves are 35-40 years old and valves in the system are 30-50 years old. Valve exercising programs assure reliable operation and maintain water quality by recording detail valve information.

Operations Impact: Increase system reliability by maximizing the operability of water system assets.

Begin: 2021

End: 2026

Funding Allocation:

Water 100%
 Sewer 0%
 Solid Waste 0%

Project Costs: \$600,000



| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|------------------|------------------|------------------|-----------------|-----------------|------------------|
| Planning/Design | \$20,000 | \$0 | \$0 | \$0 | \$0 | \$20,000 |
| Construction | \$160,000 | \$160,000 | \$160,000 | \$50,000 | \$50,000 | \$580,000 |
| Total | \$180,000 | \$160,000 | \$160,000 | \$50,000 | \$50,000 | \$600,000 |

Project No: CI 106
Title: Water Supply Upgrades

Description: Improving interconnections with COPH and PHWA to provide monitoring and metering information.

Justification: Implementing monitoring helps assess water loss, tracking demands and calibrating hydraulic model.

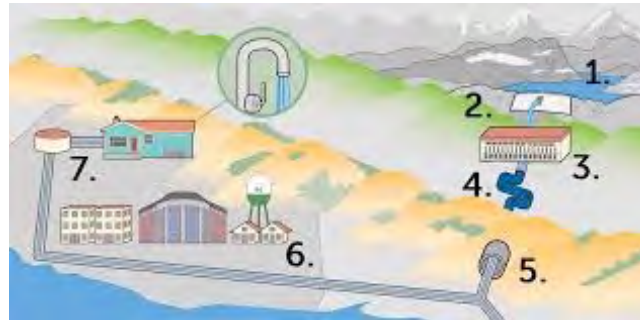
Operations Impact: N/A

Begin: 2021
End: 2026

Funding Allocation:

Water 100%
 Sewer 0%
 Solid Waste 0%

Project Costs: \$150,000



| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|-----------------|------------|------------|-----------------|------------------|------------------|
| Planning/Design | \$5,000 | \$0 | \$0 | \$25,000 | \$0 | \$30,000 |
| Construction | \$20,000 | \$0 | \$0 | \$0 | \$100,000 | \$120,000 |
| Total | \$25,000 | \$0 | \$0 | \$25,000 | \$100,000 | \$150,000 |

Project No: CI 107
Title: Long Term Water Supply Planning

Description: Analyzing future water supplies to address future population growth.

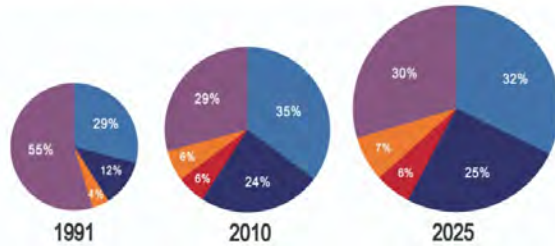
Justification: Based on future projections, additional water sources will need to be sought approaching 2040. The timing of this effort is related to adjacent agency reuse projects and status of current District agreements (see Section 5.4.3 of Water and Sewer Master Plan)

Operations Impact: Provides reliable water supply for District customers.

Begin: 2023
End: 2024

Funding Allocation:

Water 100%
Sewer 0%
Solid Waste 0%



Project Costs: \$75,000

| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|------------|------------|-----------------|------------|------------|-----------------|
| Planning/Design | \$0 | \$0 | \$75,000 | \$0 | \$0 | \$75,000 |
| Construction | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Total | \$0 | \$0 | \$75,000 | \$0 | \$0 | \$75,000 |

Project No: CI 108

Title: Fire Flow Improvement

Description: Improve infrastructure to meet required fire flow. This includes Project W-2 from Table 5-3 of the Water and Sewer Master Plan. This project should be coordinated with CI 101.

Justification: Assure adequate fire flow can be provided during an emergency.

Operations Impact: N/A

Begin: 2023

End: 2025

Funding Allocation:

Water 100%

Sewer 0%

Solid Waste 0%

Project Costs: \$85,000



| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|------------|------------|-----------------|-----------------|------------|-----------------|
| Planning/Design | \$0 | \$0 | \$15,000 | \$0 | \$0 | \$15,000 |
| Construction | \$0 | \$0 | \$0 | \$70,000 | \$0 | \$70,000 |
| Total | \$0 | \$0 | \$15,000 | \$70,000 | \$0 | \$85,000 |

Project No: CI 109

Title: Water Emergency Response Plan

Description: A water emergency response plan summarizes disasters/emergencies that may occur in the water system’s service area, such as: earthquake, major fire emergencies, water outages due to loss of power, water contamination, and acts of sabotage.

Justification: Regulatory recommendation. Plan is to ensure reliable water service and minimize public health risks from unsafe drinking water during emergency events.

Operations Impact: N/A

Begin: 2021

End: 2022

Funding Allocation:

Water 100%

Sewer 0%

Solid Waste 0%

Project Costs: \$15,000



| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|-----------------|------------|------------|------------|------------|-----------------|
| Planning/Design | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Construction | \$15,000 | \$0 | \$0 | \$0 | \$0 | \$15,000 |
| Total | \$15,000 | \$0 | \$0 | \$0 | \$0 | \$15,000 |

Project No: CI 201

Title: I&I Reduction- Gravity Main Improvements & Manhole Repair

Repair and/or relining of VCP in areas where Grade IV and V defects are present.

Description: Rehabilitation of manholes. Problem areas were identified by CCTV per NASSCO standards.

Justification: Repairing cracks and joints prevents unwanted infiltration, exfiltration, and reduced pumping/treatment costs.

Operations Impact: Potential for less pumping and treatment costs as a result of reduced infiltration flows.

Begin: 2022

End: 2024

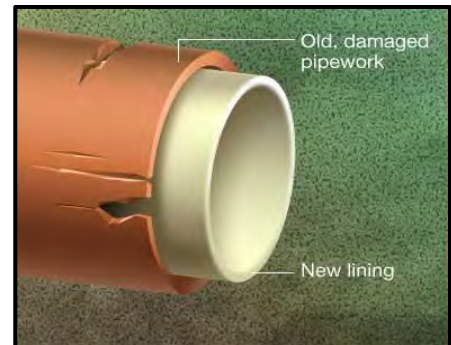
Funding Allocation:

Water 100%

Sewer 0%

Solid Waste 0%

Project Costs: \$300,000



| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|------------|-----------------|------------------|------------|------------|------------------|
| Planning/Design | \$0 | \$30,000 | \$0 | \$0 | \$0 | \$30,000 |
| Construction | \$0 | \$0 | \$270,000 | \$0 | \$0 | \$270,000 |
| Total | \$0 | \$30,000 | \$270,000 | \$0 | \$0 | \$300,000 |

Project No: CI 202

Title: Sewer Lift Station and Pump Station Rehabilitation

Description: Upgrades/rehab of the District’s seven sewer lift stations to address mechanical, electrical, safety, structural, and instrumentation needs. Projects identified in the 2018 Lift Station Condition Assessment. FY 21/22 includes electrical improvements and FY 24/25 and 25/26 reflect structural and mechanical improvements.

Justification: Project ensures the longevity and continued operation of the District’s sewer lift stations, maintains compliance with regulatory standards, and improves worker safety.

Operations Impact: Improvements will address operational reliability and longevity of sewer lift stations.

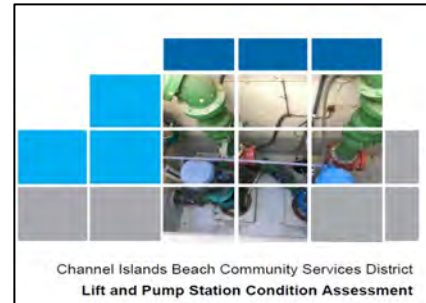
Begin: 2021

End: 2025

Funding Allocation:

Water 0%
Sewer 100%
Solid Waste 0%

Project Costs: \$260,000



| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|------------------|------------|------------|-----------------|------------------|------------------|
| Planning/Design | \$120,000 | 0 | \$0 | \$0 | \$0 | \$120,000 |
| Construction | \$0 | \$0 | \$0 | \$30,000 | \$110,000 | \$140,000 |
| Total | \$120,000 | \$0 | \$0 | \$30,000 | \$110,000 | \$260,000 |

Project No: CI 203

Title: Sewer Improvement Projects

Upgrades including implementation of flow monitoring, design and installation of new pumps and sewerlines. A budget of \$50k is also allocated for addressing sewer failures and emergency projects. The scheduled projects are summarized as follows:

1. **WW-1 Silverstrand Beach** (\$60k total) – Planning in FY 21/22 (\$15k), Construction FY 22/23 (\$35k). Efforts should be coordinated with CI 204 PS B Replacement.

2. **WW-2 Ventura County Stormwater Diversion** (\$25k total) – Planning in FY 23/24.

Description: Efforts should be coordinated with Ventura County rate setting process. Need to confirm pre-treatment of stormwater and impacts on District system.

3. **WW-3 Hollywood Beach** (\$50k total) – Planning and Construction in FY 24/25

4. **WW-4 Sunset Lane** (\$10k total) – Planning in FY 25/26

Project descriptions and cost estimates from Table 5-4 of Water and Sewer Master Plan.

Justification: Improvements address deficiencies identified from the hydraulic model.

Operations Impact: Improvements will address operational reliability and longevity of sewers.

Begin: 2021

End: 2026

Funding Allocation:

Water 0%

Sewer 100%

Solid Waste 0%

Project Costs: \$385,000



| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|-----------------|-----------------|-----------------|------------------|-----------------|------------------|
| Planning/Design | \$15,000 | \$0 | \$25,000 | \$0 | \$10,000 | \$50,000 |
| Construction | \$50,000 | \$85,000 | \$50,000 | \$100,000 | \$50,000 | \$335,000 |
| Total | \$65,000 | \$85,000 | \$75,000 | \$100,000 | \$60,000 | \$385,000 |

Project No: CI 204
Title: Pump Station B Replacement

Description: Rehabilitate Pump Station B by reconfiguring Oxnard's Lift Station #1 flows to Pump Station B's force main to reduce the size of the pump station.

Justification: Pump Station B is 50 years old and is approaching the end of its useful life. Reconfiguration will provide operational and energy savings.

Operations Impact: Improvements will improve operability of PS B and reduce maintenance activities related to sewer cleaning and gravity system "hot spots".

Begin: 2021
End: 2024

Funding Allocation:

Water 0%
Sewer 100%
Solid Waste 0%

Project Costs: \$900,000



| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|-----------------|------------------|------------------|------------|------------|------------------|
| Planning/Design | \$50,000 | \$150,000 | \$0 | \$0 | \$0 | \$200,000 |
| Construction | \$0 | \$0 | \$700,000 | \$0 | \$0 | \$700,000 |
| Total | \$50,000 | \$150,000 | \$700,000 | \$0 | \$0 | \$900,000 |

Project No: CI 205
Title: Oxnard Wastewater Plant Improvement

Description: District’s share of the necessary upgrades to the City of Oxnard’s Wastewater Treatment Plant.

Justification: The District owns approximately 2% of the wastewater plant’s capacity for treatment of its wastewater flows. Current agreement requires participation in capital improvements at Oxnard Wastewater Treatment Plant.

Operations Impact: N/A

Begin: 2021
End: 2026

Funding Allocation:

Water 0%
Sewer 100%
Solid Waste 0%

Project Costs: \$1,600,000



| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|------------------|------------------|------------------|------------------|------------------|--------------------|
| Planning/Design | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Construction | \$200,000 | \$200,000 | \$300,000 | \$600,000 | \$300,000 | \$1,600,000 |
| Total | \$200,000 | \$200,000 | \$300,000 | \$600,000 | \$300,000 | \$1,600,000 |

Project No: CI 206
Title: CCTV Inspection Program

Description: Cleaning and videoing of the District gravity sewer collection system.

Justification: Results from the CCTV video will inform District of vulnerable areas in the sewer collection system that require repair or additional maintenance.

Operations Impact: N/A

Begin: 2024
End: 2024

Funding Allocation:

Water 0%
Sewer 100%
Solid Waste 0%

Project Costs: \$85,000



| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|------------|------------|------------|-----------------|------------|-----------------|
| Planning/Design | \$0 | \$0 | \$0 | \$10,000 | \$0 | \$10,000 |
| Construction | \$0 | \$0 | \$0 | \$75,000 | \$0 | \$75,000 |
| Total | \$0 | \$0 | \$0 | \$85,000 | \$0 | \$85,000 |

Project No: CI 401
Title: Yard & Building Improvements

Description: Construction of a new District Headquarters and yard. Project includes architectural design and construction.

Justification: Project will address code and ADA Compliance issues at District’s main facility.

Operations Impact: N/A

Begin: 2021
End: 2024

Funding Allocation:

Water 50%
 Sewer 50%
 Solid Waste 0%

Project Costs: \$1,600,000



| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|--------------------|------------------|------------|------------|------------|--------------------|
| Planning/Design | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Construction | \$1,450,000 | \$150,000 | \$0 | \$0 | \$0 | \$1,600,000 |
| Total | \$1,450,000 | \$150,000 | \$0 | \$0 | \$0 | \$1,600,000 |

Project No: CI 402

Title: Asset Management Software

Description: In 2020, the District implemented a new management software which allows for better management of District assets by minimizing the total cost of owning, operating, and maintaining assets while improving levels of service. This project addresses development of new work flows and updates to GIS database.

Justification: Improvements will continue to streamline workflows, schedule preventative maintenance, track historical maintenance and associated costs, and allow for more efficient asset management. GIS updates will provide for ongoing accuracy of District asset database.

Operations Impact: N/A

Begin: 2021

End: 2026

Funding Allocation:

Water 50%

Sewer 50%

Solid Waste 0%

Project Costs: \$45,000



| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|-----------------|----------------|----------------|----------------|----------------|-----------------|
| Planning/Design | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Construction | \$15,000 | \$7,500 | \$7,500 | \$7,500 | \$7,500 | \$45,000 |
| Total | \$15,000 | \$7,500 | \$7,500 | \$7,500 | \$7,500 | \$45,000 |

Project No: CI 403

Title: Vehicle Replacement Program

Description: Replacement of multiple vehicles that have reached the end of their useful life.

Justification: District routinely uses its vehicles and many are approaching their end of useful life.

Operations Impact: N/A

Begin: 2022

End: 2025

Funding Allocation:

Water 50%

Sewer 50%

Solid Waste 0%



Project Costs: \$160,000

| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|------------|-----------------|------------|-----------------|------------|------------------|
| Planning/Design | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Construction | \$0 | \$80,000 | \$0 | \$80,000 | \$0 | \$160,000 |
| Total | \$0 | \$80,000 | \$0 | \$80,000 | \$0 | \$160,000 |

Project No: MI 401

Title: Water & Sewer Rate Study

Description: Update to the District’s 2021 Combination Water & Sewer Rate Study. Future Board direction will determine if scope will contain Financial Plan and/or Cost of Service Study.

Justification: The District’s 5-year rate plan will end in July 2026. A cost of service study is required every 10 years, but is often completed every 5 years. Staff will make a recommendation on whether a cost of service study is necessary as part of the next rate study.

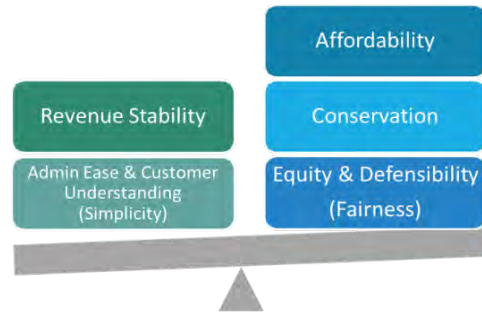
Operations Impact: N/A

Begin: 2025
End: 2026

Funding Allocation:

Water 0%
Sewer 100%
Solid Waste 0%

Project Costs: \$50,000



| Project Schedule | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | Total |
|------------------|----------|----------|----------|----------|----------|-----------------|
| Planning/Design | \$0 | \$0 | \$0 | \$0 | \$50,000 | \$50,000 |
| Construction | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Total | \$0 | \$0 | \$0 | \$0 | \$50,000 | \$50,000 |