



The West Boylston Water District

Meeting Date and Time: Monday December 11, 2023; 5:00pm

Members Present: Stanley Szczurko, Jr., James LaMountain, Michael Mard

Also Present: Michael Coveney, Heather Isaacs, Lori Renzoni, Robert Lopez, Kristin Berger

Absent: Robert Bryngelson, Jr.

Mr. Szczurko called the meeting to order at 5:00pm.

ITEM 1: TREASURER'S REPORT *(see attachments)*

Treasurer Heather Isaacs reviewed the Water District's Water Billing income, Balance Sheet, and Profit & Loss reports through 11/30/23. No further questions/comments.

Mr. Szczurko made a motion to provide holiday bonuses for all District staff. Mr. LaMountain seconded the motion; all voted in favor. Motion grants \$2,000 to the Superintendent and (2) additional paid days off with a \$25 gift card to hourly staff.

Discussion regarding semi-annual stipend payments to commissioners. All Board members agreed that payment be made to Gary Flynn.

ITEM 2: SUPERINTENDENT'S REPORT *(see attachments)*

- 1.) Board approved release of last payment.
- 2.) No further questions/comments.
- 3.) No further questions/comments.
- 4.) No further questions/comments.
- 5.) No further questions/comments.
- 6.) No further questions/comments.

ITEM 3: NEW BUSINESS

Kristen Berger of Resilient Engineering presented the full Capital Efficiency Plan to the Board (20 year). Ms. Berger broke down the major components within the plan (attached) and outlined the most pressing needs of the Water District's infrastructure and made recommendations on achieving each goal based on current conditions and anticipated growth/changes. Full report is available at the District office.

ITEM 4: OLD BUSINESS

Discussion regarding open Board position. Mr. Coveney noted that he made invitations for qualified residents to attend a Board meeting with no interest. Mr. Mard indicated he will approach resident Paul Beshai, Jr. to see if he has any interest.

ITEM 5: APPROVAL OF MEETING MINUTES

Mr. Mard made a motion to accept the November 23, 2023 meeting minutes as presented; Mr. LaMountain seconded the motion; all voted in favor, motion carried.

ITEM 6: OTHER BUSINESS- No other business presented.

Mr. LaMountain made a motion to adjourn; Mr. Mard seconded the motion; all voted in favor. Mr. Szczurko adjourned the meeting at 6:40 PM. Next meeting scheduled for January 8, 2024 at 5:00pm.

Meeting Minutes of the West Boylston Water District

December 11, 2023

Members Present: Stanley Szczurko, Jr., Robert Bryngelson James LaMountain, Michael Mard

Date of Approval: _____ January 8, 2024

Stanley Szczurko, Jr.

Robert Bryngelson

Michael Mard



MEETING POSTING
IN ACCORDANCE WITH THE PROVISIONS OF MGL 30A §§ 18-25

Board of Water Commissioners

December 7, 2023

Board/Committee Name

Date of Notice

183 Worcester St, West Boylston

WBWD OFFICE

Meeting Place

Conference Rm. No.

December 11, 2023

Monday 5:00 p.m.

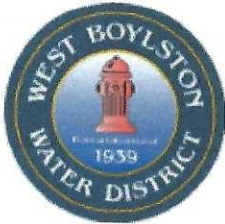
Robert Bryngelson

Date/Time of Meeting

Clerk of Board or Bd. Member Signature

Meeting canceled/Postponed to: _____

Date of cancelation/Postponement _____



Agenda

- 5:00 PM CONVENE MEETING
- 5:05 PM TREASURER'S REPORT – Heather Isaacs
- 5:20 PM SUPERINTENDENT'S REPORT – Mike Coveney
- 5:30 P.M. OLD BUSINESS – Capital Efficiency Plan – Kristen Berger – Resilient CE
- 5:50 P.M. NEW BUSINESS – Open board position
- 6:00 P.M. READING/APPROVAL OF MINUTES
- 6:05 P.M. ANY OTHER BUSINESS NOT REASONABLY ANTICIPATED
- 6:15 P.M. CLOSE MEETING

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W.B. Water District
Monthly Water Charges
FY24

	FY24 Actual	FY24 Budget	FY24 variance	months	AR Balance	FY23 Actual	FY23 Budget	FY23 variance	AR Balance
Jul-23	200,980.72	198,000.00	2,980.72	April, May, June	\$109,000.00	184,531.29	180,000.00	4,531.29	122,000.00
Aug-23	171,457.18	180,000.00	-8,542.82	May, June, July	\$99,000.00	166,820.86	148,000.00	18,820.86	108,000.00
Sep-23	162,924.35	192,000.00	-29,075.65	June, July, Aug	\$110,000.00	178,386.80	160,000.00	18,386.80	110,000.00
Oct-23	202,868.10	268,000.00	-65,131.90	July, Aug, Sept	\$113,000.00	249,672.61	200,000.00	49,672.61	129,000.00
Nov-23	171,398.56	134,000.00	37,398.56	Aug, Sept, Oct	\$102,000.00	154,894.66	130,000.00	24,894.66	120,000.00
Dec-23		132,000.00		Sept, Oct, Nov		133,090.80	125,000.00	8,090.80	107,000.00
Jan-24		155,000.00		Oct, Nov, Dec		157,400.93	150,000.00	7,400.93	99,000.00
Feb-24		123,000.00		Nov, Dec, Jan		114,894.59	120,000.00	-5,105.41	101,000.00
Mar-24		118,000.00		Dec, Jan, Feb		118,443.66	120,000.00	-1,556.34	87,000.00
Apr-24		155,000.00		Jan, Feb, Mar		147,445.63	140,000.00	7,445.63	87,000.00
May-24		116,000.00		Feb, Mar, April		116,191.66	125,000.00	-8,808.34	77,000.00
Jun-24		129,000.00		Mar, April, May		121,048.10	140,000.00	-18,951.90	76,000.00
Totals		1,900,000.00	-62,371.09			1,842,821.59	1,738,000.00	104,821.59	

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12/11/23

Accrual Basis

West Boylston Water District Profit & Loss Budget vs. Actual July through November 2023

	Jul - Nov 23	Budget	\$ Over Bud...	% of Budget
Ordinary Income/Expense				
Income				
4175 · Interest Charges	3,785.55	2,450.00	1,335.55	154.5%
4250 · Water Charges & Services				
4251 · Worcester Corporate Water Charg	-3,475.56	0.00	-3,475.56	100.0%
4250 · Water Charges & Services - Other	911,268.24	972,000.00	-60,731.76	93.8%
Total 4250 · Water Charges & Services	907,792.68	972,000.00	-64,207.32	93.4%
4260 · User Fee	0.00	16,000.00	-16,000.00	0.0%
4261 · Back Flow	120.00	0.00	120.00	100.0%
4262 · Fire Line				
4262 · Fire Line - Other	12,931.80	11,881.00	1,050.80	108.8%
Total 4262 · Fire Line	12,931.80	11,881.00	1,050.80	108.8%
4275 · Meters				
4275 · Meters - Other	200.00	1,500.00	-1,300.00	13.3%
Total 4275 · Meters	200.00	1,500.00	-1,300.00	13.3%
4320 · Rental Income	59,709.55	59,062.50	647.05	101.1%
4325 · DEP Grant Income	0.00	0.00	0.00	0.0%
4820 · Investment Income				
4821 · Net investment income	22,954.13	0.00	22,954.13	100.0%
4820 · Investment Income - Other	10,675.33	10,416.69	258.64	102.5%
Total 4820 · Investment Income	33,629.46	10,416.69	23,212.77	322.8%
4840 · Miscellaneous Revenue	3,745.00	3,900.00	-155.00	96.0%
Total Income	1,021,914.04	1,077,210.19	-55,296.15	94.9%
Cost of Goods Sold				
50000 · Cost of Goods Sold	-113.20			
Total COGS	-113.20			
Gross Profit	1,022,027.24	1,077,210.19	-55,182.95	94.9%
Expense				
5000 · Operation & Maintenance				
5130A · Salaries & Employee Benefits				
5130 · Admin & Salaries				
5143 · Overtime Wages	9,766.68	7,190.00	2,576.68	135.8%
5130 · Admin & Salaries - Other	148,784.36	159,280.83	-10,496.47	93.4%
Total 5130 · Admin & Salaries	158,551.04	166,470.83	-7,919.79	95.2%
5131 · Superintendent's Salary	45,839.20	47,239.54	-1,400.34	97.0%
5132 · Commissioners Salaries	0.00	0.00	0.00	0.0%
5133 · Moderator Salary	0.00	0.00	0.00	0.0%
5134 · Payroll Processing Expense	670.66	750.00	-79.34	89.4%
5135 · Worcester Retirement System	95,845.00	95,845.00	0.00	100.0%
5136A · Health Insurance				
5136 · Employee's	31,310.60	33,810.81	-2,500.21	92.6%
5137 · Retiree's	5,984.00	5,535.00	449.00	108.1%
Total 5136A · Health Insurance	37,294.60	39,345.81	-2,051.21	94.8%
5138 · Life Insurance	286.20	297.06	-10.86	96.3%
5139 · Uniforms	2,892.87	3,400.00	-507.13	85.1%
5140 · Workers' Comp Insurance	8,699.00	8,482.00	217.00	102.6%
5141 · Employee Training	1,522.68	2,500.00	-977.32	60.9%
5142 · Payroll Taxes	3,005.70	3,125.00	-119.30	96.2%
5130A · Salaries & Employee Benefits - ...	327.26			
Total 5130A · Salaries & Employee Benefits	354,934.21	367,455.24	-12,521.03	96.6%
5200 · Bank Service Charge				

West Boylston Water District

Profit & Loss Budget vs. Actual

July through November 2023

	Jul - Nov 23	Budget	\$ Over Bud...	% of Budget
5200 · Bank Service Charge - Other	0.00	0.00	0.00	0.0%
Total 5200 · Bank Service Charge	0.00	0.00	0.00	0.0%
5210 · Heating	1,323.03	2,800.00	-1,476.97	47.3%
5215 · Telephone				
5215 · Telephone - Other	4,466.31	4,625.81	-159.50	96.6%
Total 5215 · Telephone	4,466.31	4,625.81	-159.50	96.6%
5220 · Electricity				
5221 · Beaman Street	45.05	62.50	-17.45	72.1%
5222 · Lawrence Street	70.07	125.00	-54.93	56.1%
5223 · Lee Street	8,603.95	8,300.00	303.95	103.7%
5224 · Prospect Street	34.92	62.50	-27.58	55.9%
5225 · Temple Street	7,215.94	14,600.00	-7,384.06	49.4%
5226 · Thomas Street	6,437.25	8,300.00	-1,862.75	77.6%
5227 · West Boylston Street	4,834.56	7,500.00	-2,665.44	64.5%
5228 · Western Avenue	1,322.39	1,875.00	-552.61	70.5%
5229 · Worcester Street	795.11	1,025.00	-229.89	77.6%
5229A · Laurel Street	527.93	1,250.00	-722.07	42.2%
Total 5220 · Electricity	29,887.17	43,100.00	-13,212.83	69.3%
5230 · Legal & Accounting				
5231 · Audit Expenses	0.00	0.00	0.00	0.0%
5232 · Accounting Expense	1,006.00	2,125.00	-1,119.00	47.3%
5233 · Legal Expense	0.00	10,400.00	-10,400.00	0.0%
5234 · Consulting Expense				
5234 · Consulting Expense - Other	22,529.60	42,000.00	-19,470.40	53.6%
Total 5234 · Consulting Expense	22,529.60	42,000.00	-19,470.40	53.6%
Total 5230 · Legal & Accounting	23,535.60	54,525.00	-30,989.40	43.2%
5240 · Auto & Truck Expense				
5241 · Gasoline & Oil	5,150.75	7,500.00	-2,349.25	68.7%
5242 · Repairs & Maintenance	2,948.29	4,050.00	-1,101.71	72.8%
5240 · Auto & Truck Expense - Other	0.00	0.00	0.00	0.0%
Total 5240 · Auto & Truck Expense	8,099.04	11,550.00	-3,450.96	70.1%
5300 · Property and Liability Insuranc	27,859.01	25,665.00	2,194.01	108.5%
5420 · Office Expense				
5421 · Office Supplies	1,825.39	1,500.00	325.39	121.7%
5422 · Postage	2,726.61	2,600.00	126.61	104.9%
Total 5420 · Office Expense	4,552.00	4,100.00	452.00	111.0%
5423 · Computer/Tech	10,606.21	6,250.00	4,356.21	169.7%
5430 · Pump Station Supplies	549.28	2,500.00	-1,950.72	22.0%
5435 · Water Quality Control Expense	6,614.84	6,250.00	364.84	105.8%
5440 · Water Treatment Chemicals	38,065.93	35,200.00	2,865.93	108.1%
5500 · Tools				
5500 · Tools - Other	759.69	1,600.00	-840.31	47.5%
Total 5500 · Tools	759.69	1,600.00	-840.31	47.5%
5600 · Repairs & Maintenance				
5601 · Equipment Repairs	8,098.23	10,425.00	-2,326.77	77.7%
5602 · Facility Repairs	6,817.36	10,400.00	-3,582.64	65.6%
Total 5600 · Repairs & Maintenance	14,915.59	20,825.00	-5,909.41	71.6%
5625 · Property Maintenance	993.98	10,500.00	-9,506.02	9.5%
5790 · State & District Expense	9,977.56	7,350.00	2,627.56	135.7%
5791 · GIS Projects	0.00	0.00	0.00	0.0%
5795 · DEP Primacy Fees	0.00	0.00	0.00	0.0%
5840 · Serv & Distr. Improve.	0.00	0.00	0.00	0.0%
5840E- Emergency Repair Costs	0.00	0.00	0.00	0.0%

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12/11/23

Accrual Basis

West Boylston Water District

Profit & Loss Budget vs. Actual

July through November 2023

	Jul - Nov 23	Budget	\$ Over Bud...	% of Budget
5840 · Serv & Distr. Improve. - Other	52,719.50	62,500.00	-9,780.50	84.4%
Total 5840 · Serv & Distr. Improve.	52,719.50	62,500.00	-9,780.50	84.4%
5950 · District Improvements				
5951 · District Improvements (Capital)	0.00	0.00	0.00	0.0%
5950 · District Improvements - Other	0.00	20,833.33	-20,833.33	0.0%
Total 5950 · District Improvements	0.00	20,833.33	-20,833.33	0.0%
Total 5000 · Operation & Maintenance	589,858.95	687,629.38	-97,770.43	85.8%
5195 · Bad Debt Expense	0.00	0.00	0.00	0.0%
Total Expense	589,858.95	687,629.38	-97,770.43	85.8%
Net Ordinary Income	432,168.29	389,580.81	42,587.48	110.9%
Other Income/Expense				
Other Income				
8400 · Insurance Reimbursement	0.00			
Total Other Income	0.00			
Other Expense				
8000 · Interest Expense				
8050 · DSRF Earnings	0.00	0.00	0.00	0.0%
8060 · Contract Assistance	0.00	0.00	0.00	0.0%
8000 · Interest Expense - Other	105,853.22	98,773.50	7,079.72	107.2%
Total 8000 · Interest Expense	105,853.22	98,773.50	7,079.72	107.2%
Total Other Expense	105,853.22	98,773.50	7,079.72	107.2%
Net Other Income	-105,853.22	-98,773.50	-7,079.72	107.2%
Net Income	326,315.07	290,807.31	35,507.76	112.2%

West Boylston Water District
Balance Sheet
As of November 30, 2023

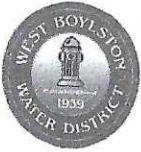
	Nov 30, 23
ASSETS	
Current Assets	
Checking/Savings	
1000 · Cash-Checking & Savings	1,964,573.91
1020 · Petty Cash	125.00
1025 · Cash on Hand	125.00
Total Checking/Savings	1,964,823.91
Accounts Receivable	
1201 · User Charges	291,530.05
Total Accounts Receivable	291,530.05
Other Current Assets	
1159 · Investments	1,675,601.34
1499 · Undeposited Funds	3,684.66
Total Other Current Assets	1,679,286.00
Total Current Assets	3,935,639.96
Fixed Assets	
1998 · Capital Assets - Depreciable	5,127,077.97
1999 · Capital Assets - Nondepreciable	8,803,938.53
Total Fixed Assets	13,931,016.50
Other Assets	
2860 · Deferred Outflows of Resources	96,920.00
Total Other Assets	96,920.00
TOTAL ASSETS	17,963,576.46
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Accounts Payable	
2000 · Accounts Payable	38,462.79
Total Accounts Payable	38,462.79
Other Current Liabilities	
2100 · Payroll Withholdings	75.01
2430 · Accrued Vacation Pay	18,738.45

West Boylston Water District

Balance Sheet

As of November 30, 2023

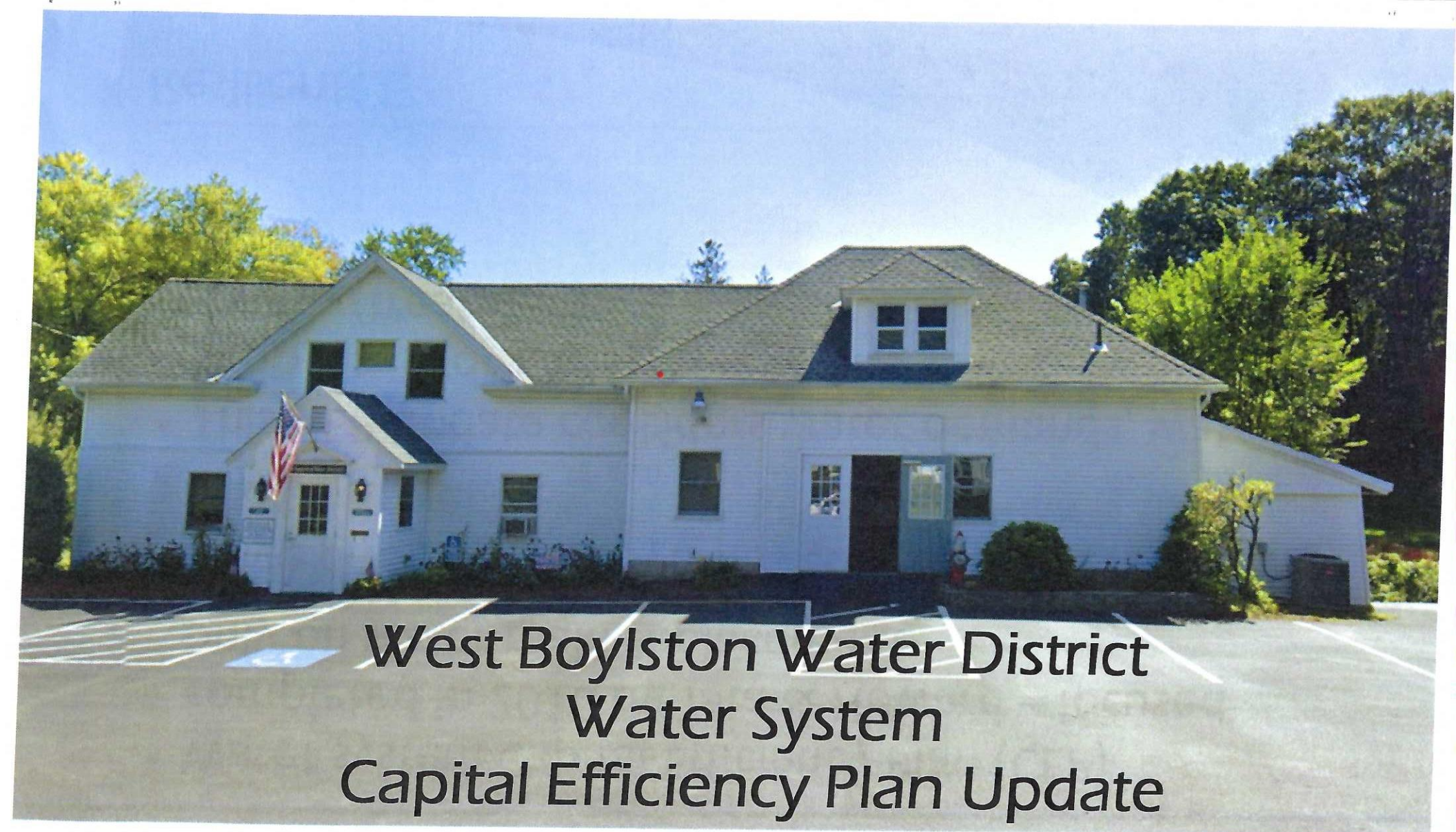
	Nov 30, 23
Total Other Current Liabilities	18,813.46
Total Current Liabilities	57,276.25
Long Term Liabilities	
1750 · Deferred Inflows of Resources	69,040.00
2600 · N/P - DEP (SRF Funding)	10,345,018.58
2800 · Other Post Employment Benefits	1,080,197.00
2850 · Net Pension Liability	829,002.00
Total Long Term Liabilities	12,323,257.58
Total Liabilities	12,380,533.83
Equity	
3300 · Reserved for office renovations	2,195.07
3301 · Reserved for Well Exploration	535,328.84
3775 · Investment in PP&E-District	3,271,253.45
3900 · Retained Earnings	1,447,950.20
Net Income	326,315.07
Total Equity	5,583,042.63
TOTAL LIABILITIES & EQUITY	17,963,576.46



West Boylston Water District

To: Board of Water Commissioners
From: Michael Coveney
Date: 12/11/2023
Re: Superintendents Report

- 1.) Oakdale Treatment Facility: After speaking with CEI at our meeting last month Waterline has agreed, in writing, to resolve the issues that are still outstanding at their expense. They are requesting that we release the final payment to them before the end of 2023 to avoid any additional accounting and insurance expenses. I have a letter stating this agreement from the vice president of Waterline to CEI. I recommend that the board release the final payment to Waterline as I am confident that they will resolve the issues.
- 2.) Pleasant Valley Well #2: Manganese update, the detection levels are below the health advisory of 0.30 mg/L but above the secondary MCL of 0.05 mg/L. The November monthly sample result is 0.15 mg/L. This level is trending up from 0.12 mg/L in August. We have decreased the run time for Pleasant Valley some more to see if this will start to trend down again.
- 3.) Water Main Breaks: We responded to a water main break at 323 Worcester St on Saturday 12/9/23 around 8pm. When Rob arrived on site the water was flowing at a rapid pace. Rob called me to assist with the shutdown as there were multiples valves to close to isolate this break. Rob and I worked with BBC excavation to make the necessary repairs to the main, but after re-filling the main another break surfaced a few feet away. We worked until around noon on Sunday to get both breaks repaired and restore the road to passible condition. It was a long 16-hour effort for us, but we worked together to get the water and road restored to this area of Worcester St.
- 4.) Capital Efficiency Plan: Kristen Berger from Resilient Civil Engineering will be at the meeting to present the plan to the board and answer any questions.
- 5.) Superintendent Vacation: I will be away on vacation from December 24-30 in Colorado to visit with my wife's family. I hope it stays quiet here so we can all enjoy spending some time together with our families. Merry Christmas and Happy New Year to all!



West Boylston Water District Water System Capital Efficiency Plan Update

Presentation to Water Commission
December 2023

ResilientCE

Purpose of CEP Update

- Water system Capital Efficiency Plan (CEP) completed in 2016 by Tata & Howard – focused only on water main replacement
- Since prior CEP, WBWD has completed several capital projects
- This CEP update considers water demands, water supplies, hydraulics, storage and water quality/treatment

ResilientCE

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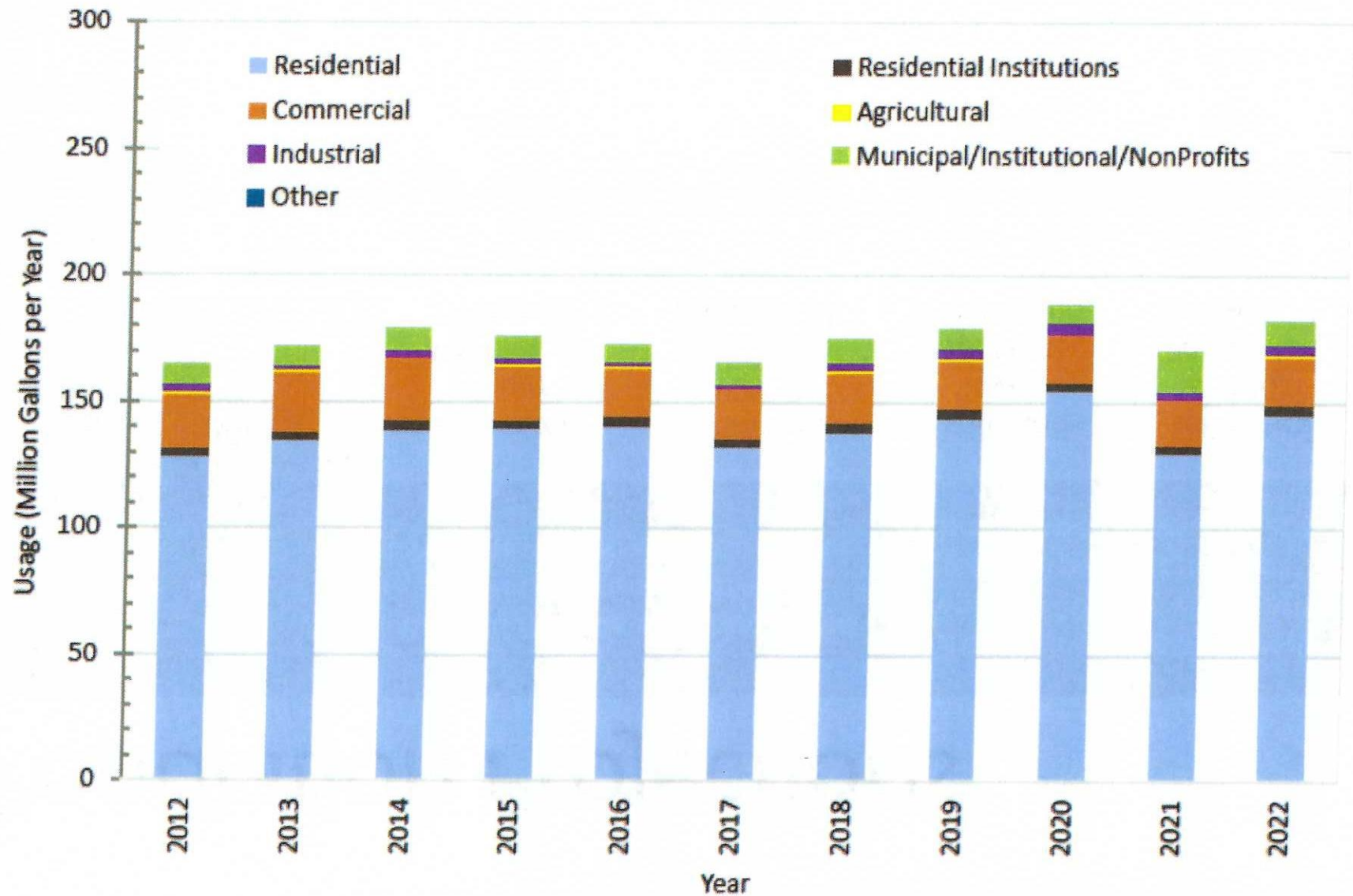
Water Demands and Projections

- Population projections considering three potential 40B developments
 - 40 unit 40B development at 70 W. Boylston St (recommended by Town Housing Committee and likely to be developed within the next two years)
 - 60 unit 40B development on W Boylston St across from Shrine Ave (recommended by Town Housing Committee and likely to be developed within the next two years)
 - 400 unit 40B development in Goodale St area (not recommended by Town Housing Committee)
- Reviewed water demands from 2011 – 2022
- Demand projections through 2043
 - Growth includes the two Town Housing Committee recommended developments
 - Growth includes all Three proposed 40B developments (recommended and not recommended developments)

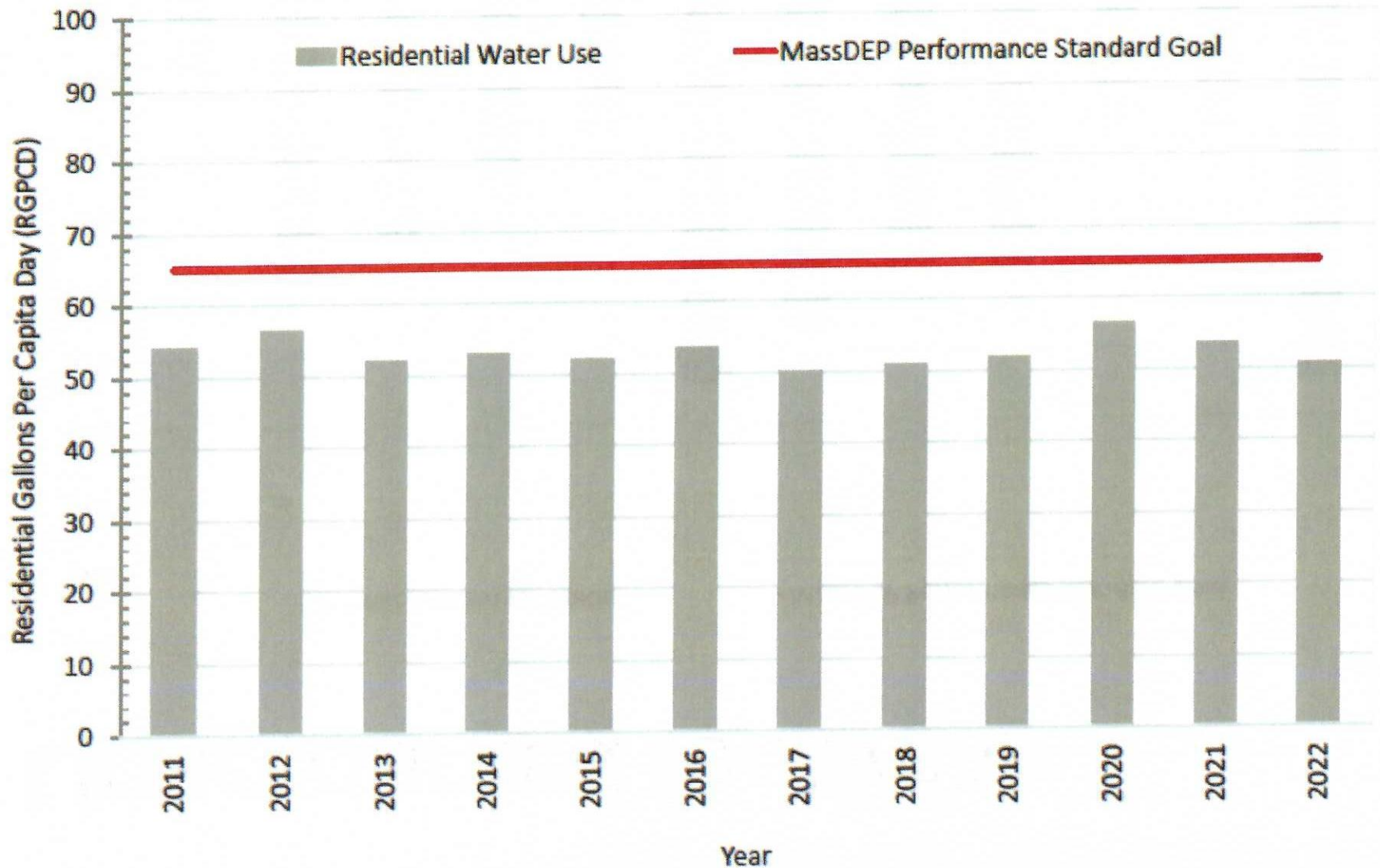
Population Projections

Year	Town Population Data ¹	Growth includes the two Town Housing Committee recommended developments		Growth includes all Three proposed 40B developments (recommended and not recommended developments)	
		Estimated Town Population Projection ²	Estimated WBWD Population Projection ³	Estimated Town Population Projection ⁴	Estimated WBWD Population Projection ⁵
2010	7,669	--	--	--	--
2020	7,877	--	--	--	--
2028	--	8,108	8,027	9,032	8,942
2033	--	8,217	8,135	9,154	9,062
2038	--	8,328	8,245	9,278	9,185
2043	--	8,441	8,356	9,403	9,309

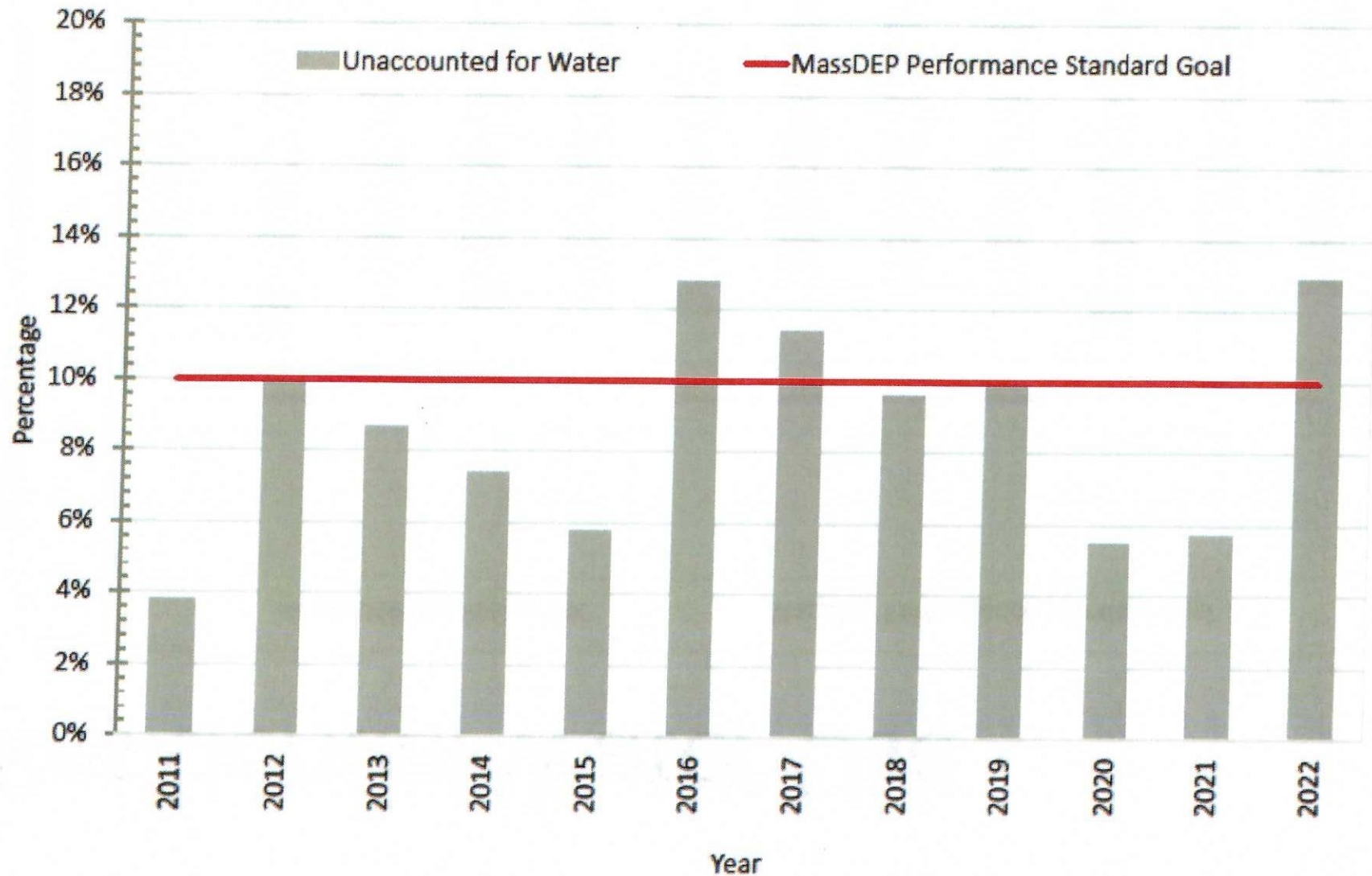
Water Demands by Customer Classification



Residential Water Use



Unaccounted for Water



Projected Water Demands

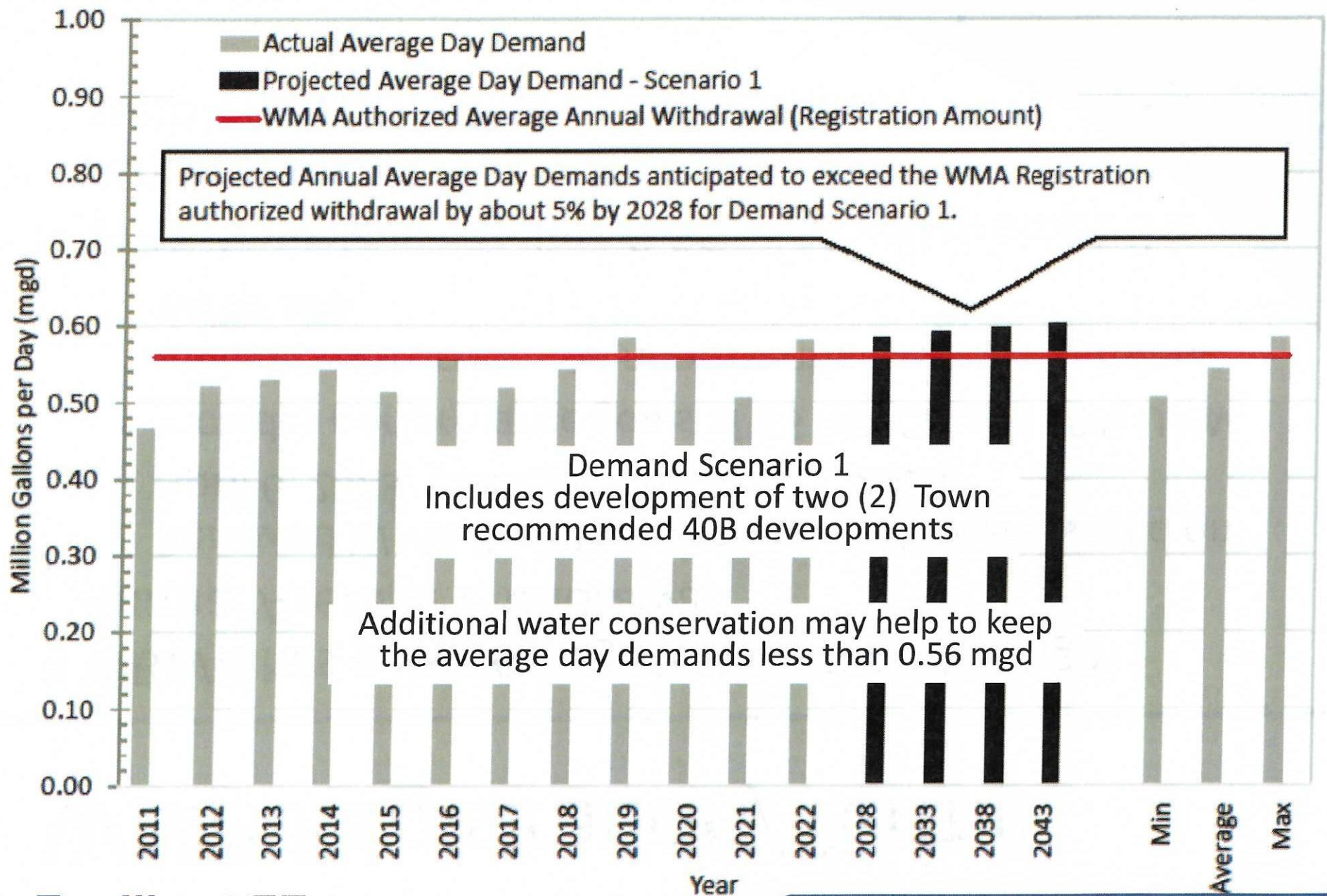
Year	Demand Scenario 1 Includes development of two Town recommended 40B developments			Demand Scenario 2 Includes development of all three proposed 40B developments		
	Average Day Demand (mgd)	Maximum Day Demand (mgd)	Peak Hour Demand (gallons per hour)	Average Day Demand (mgd)	Maximum Day Demand (mgd)	Peak Hour Demand (gallons per hour)
2028	0.585	1.11	166,700	0.633	1.20	180,500
2033	0.591	1.12	168,400	0.640	1.22	182,300
2038	0.597	1.13	170,000	0.646	1.23	184,200
2043	0.602	1.14	171,700	0.653	1.24	186,000

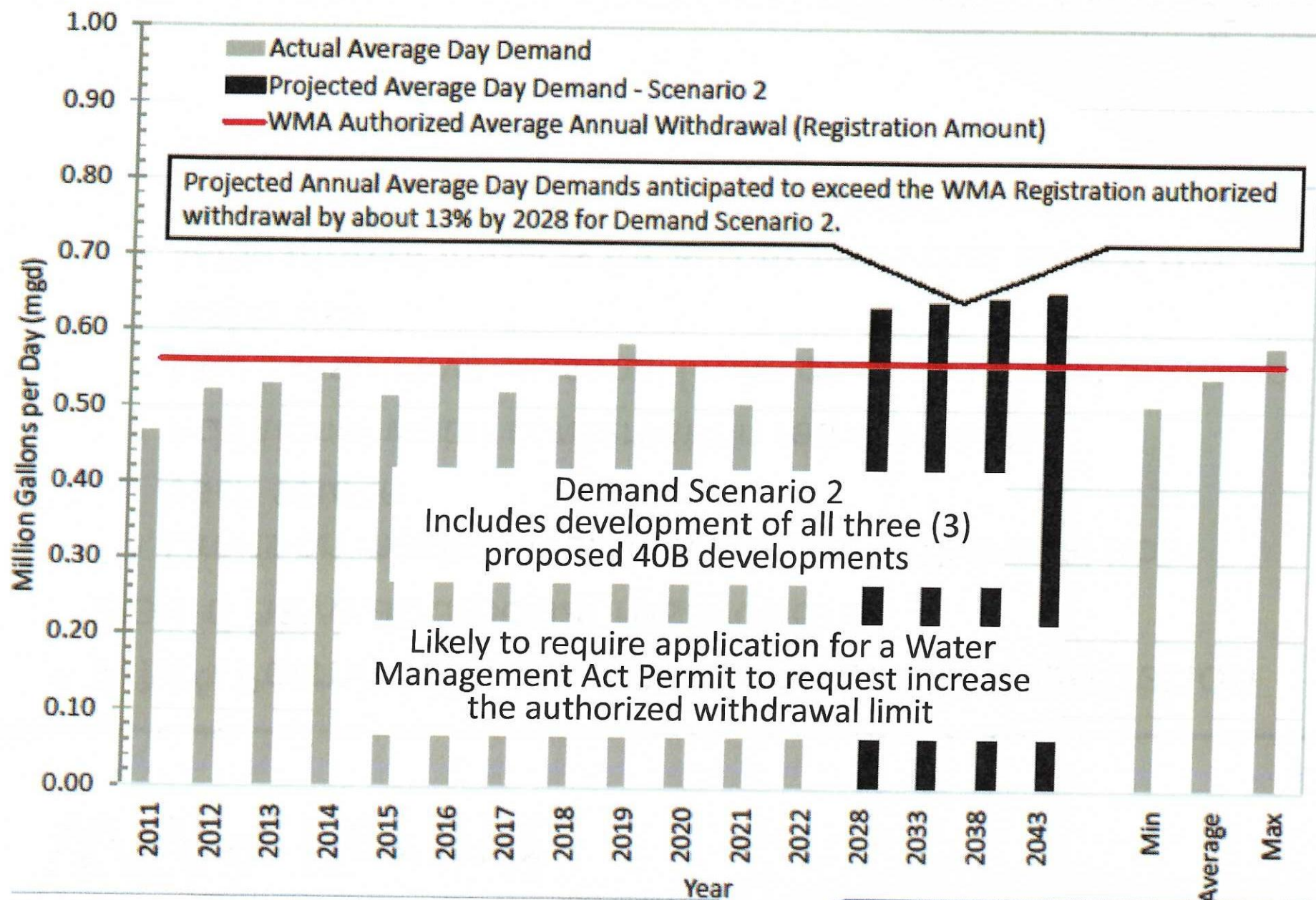
Water Supply Evaluation

- Oakdale Well, Lee Street Well, Pleasant Valley Well 1 and Pleasant Valley Well 2
- Supply – Demand Analysis
 - Ability to comply with the WBWD's WMA Registration
 - Ability to supply maximum day demand with largest source off-line (MassDEP guideline)

WMA Registration/Permit

- WBWD has a WMA Registration for 0.56 mgd Annual Average Withdrawal
 - Renewed WMA Registration statements were issued on April 6, 2023, and expire on April 7, 2033.
 - Includes performance goals of 65 RGPCD and 10% UAW
 - Includes restrictions on nonessential seasonal outdoor water use
- Withdrawals exceeding 0.56 mgd will prompt the requirement to apply for a WMA Permit to supplement the WMA Registration.

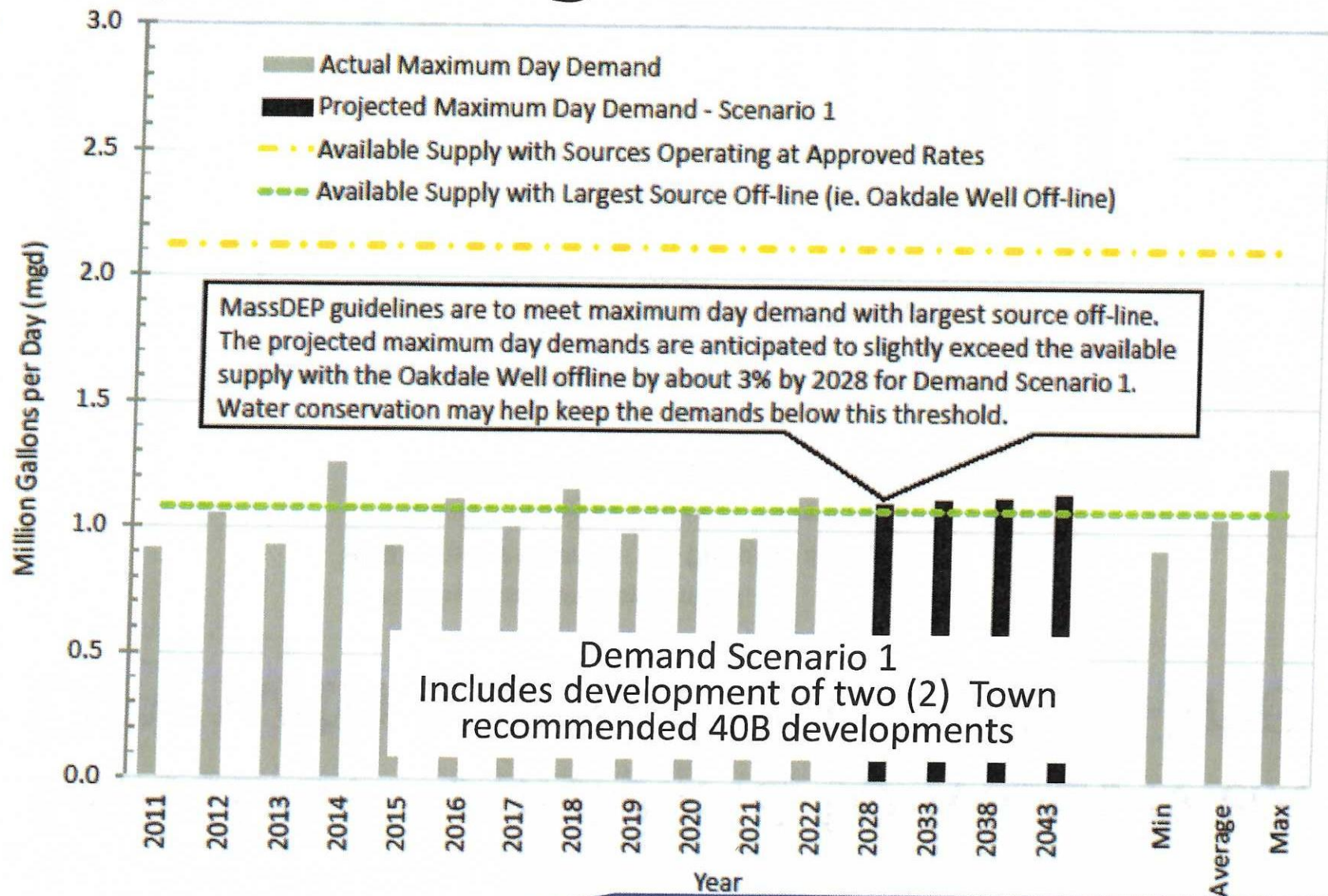




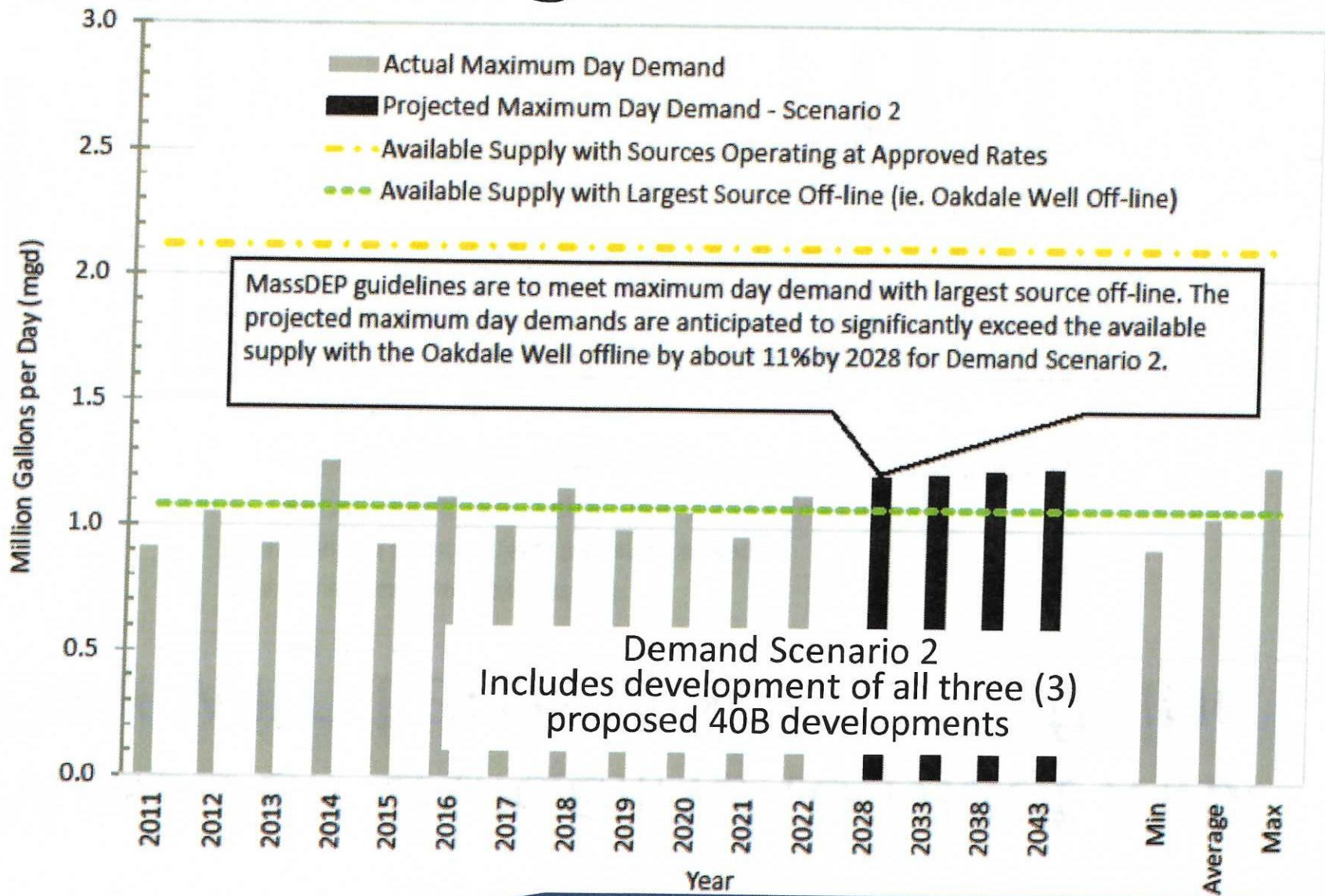
WMA Permit

- WMA Permit to supplement the WMA Registration would have additional restrictions:
 - Limits on maximum annual average withdrawal from each source
 - Additional water conservation requirements
 - More restrictive seasonal limits on nonessential outdoor water use
 - Mitigation of impacts for withdrawals that exceed the Baseline withdrawal. For WBWD, Baseline withdrawal would be 0.56 mgd.

MassDEP Guideline to Meet Max Day with Largest Source Off-line



MassDEP Guideline to Meet Max Day with Largest Source Off-line



MassDEP Guideline to Meet Max Day with Largest Source Off-line

- For Demand Scenario 1, may be possible to keep future maximum day demand less than the threshold with additional water conservation measures.
 - Demand Scenario 1 estimated 2043 maximum day demand is slightly greater than the supply with the largest source off-line (exceeds by about 3%).
- For Demand Scenario 2, a new source of water supply would be required.
 - Demand Scenario 2 estimated 2043 maximum day demand is significantly greater than the supply with the largest source off-line (exceeds by about 12%).

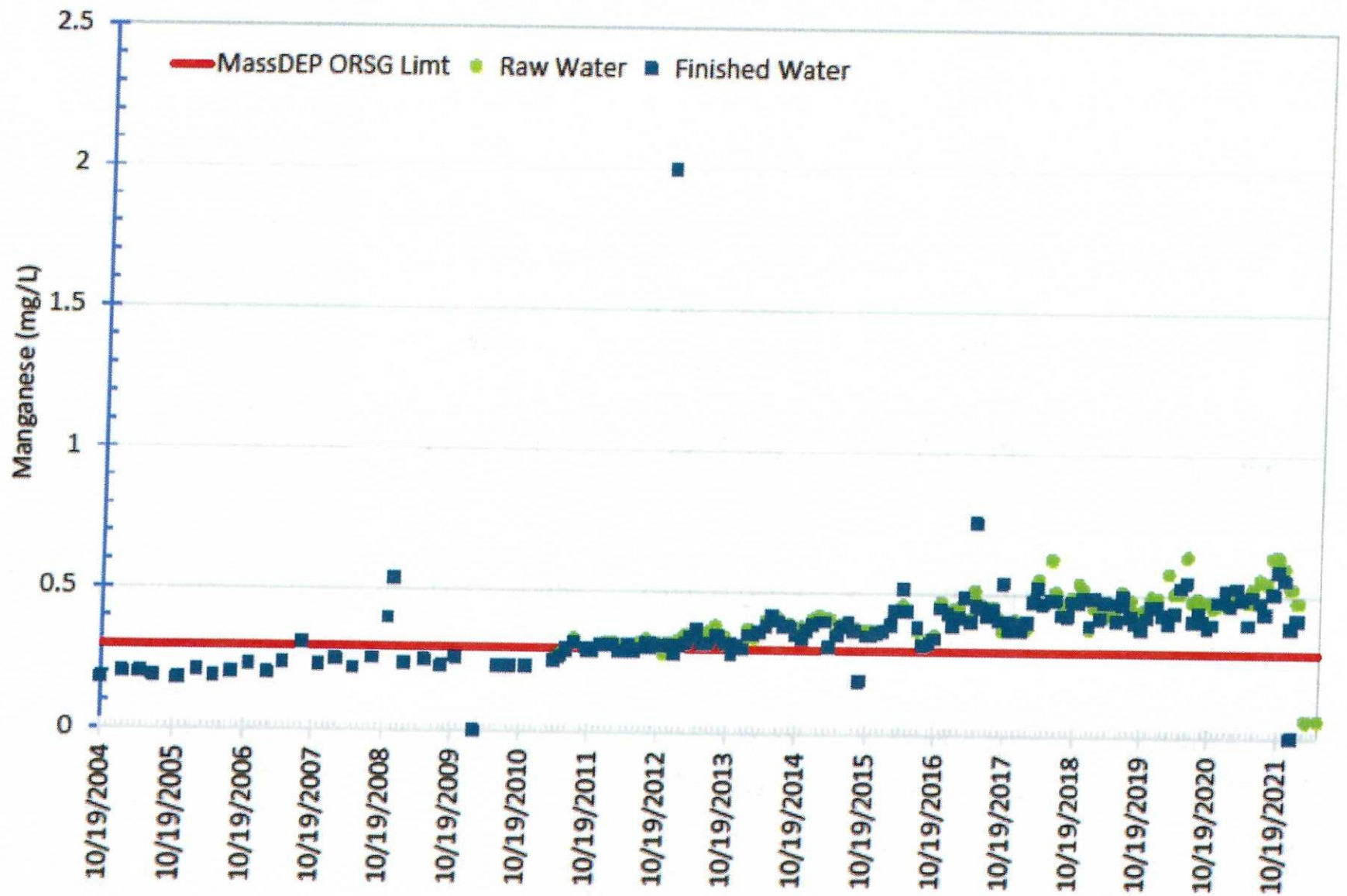
Source Water Quality

- Reviewed water quality and identified parameters above detection limit or emerging contaminant (PFAS)
- Sodium > 20 ppm, requires annual customer notification in CCR
- PFAS > detect but < MCL, requires annual customer notification in CCR (note that regulations continue to evolve)
- Iron and Manganese continue to monitor

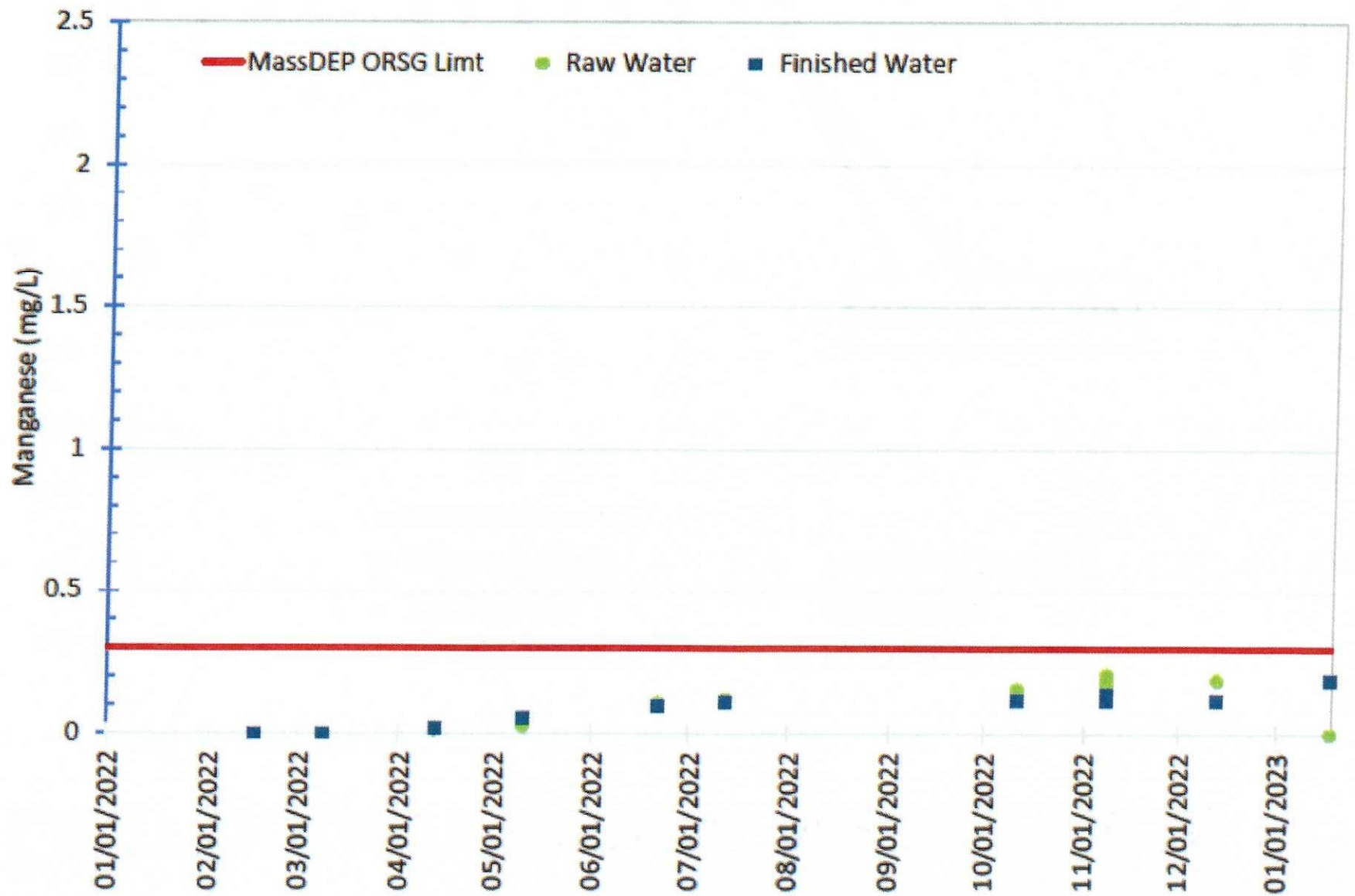
	Oakdale Well	Lee Street Well	Pleasant Valley Well 1	Pleasant Valley Well 2
Iron mg/L or ppm SMCL 0.3 ppm	ND – 1.4 (Avg = 0.04)	ND – 0.011 (Avg = ND)	ND – 0.1 (Avg = ND)	ND – 0.063 (Avg = ND)
Manganese mg/L or ppm SMCL 0.05 ppm ORSG 0.3 ppm	ND – 2.2 (Avg = 0.5)* *Includes data prior to filtration	ND – 0.01 (Avg 0.002)	ND – 2.0 (Avg 0.4)	ND – 0.2 (Avg 0.1)
Sodium mg/L or ppm ORSG 20 ppm	14 – 48 (Avg 24)	15 – 48 (Avg 24)	10 – 22 (Avg 14)	No data
MassDEP PFAS6 ng/L or ppt MMCL 20 ppt	ND	2.48 – 5.1 (Avg = 3.81)	ND	ND
PFOA EPA proposed MCL 4 ppt	ND	ND – 2.8	ND	ND
PFOS EPA proposed MCL 4 ppt	ND	ND – 2.3	ND	ND
PFNA	ND	ND	ND	ND
PFHxS	ND	ND	ND	ND
PFDA	ND	ND	ND	ND
PFHpA	ND	ND	ND	ND
PFBS	ND	ND	ND	ND
GenX	ND	ND	ND	ND

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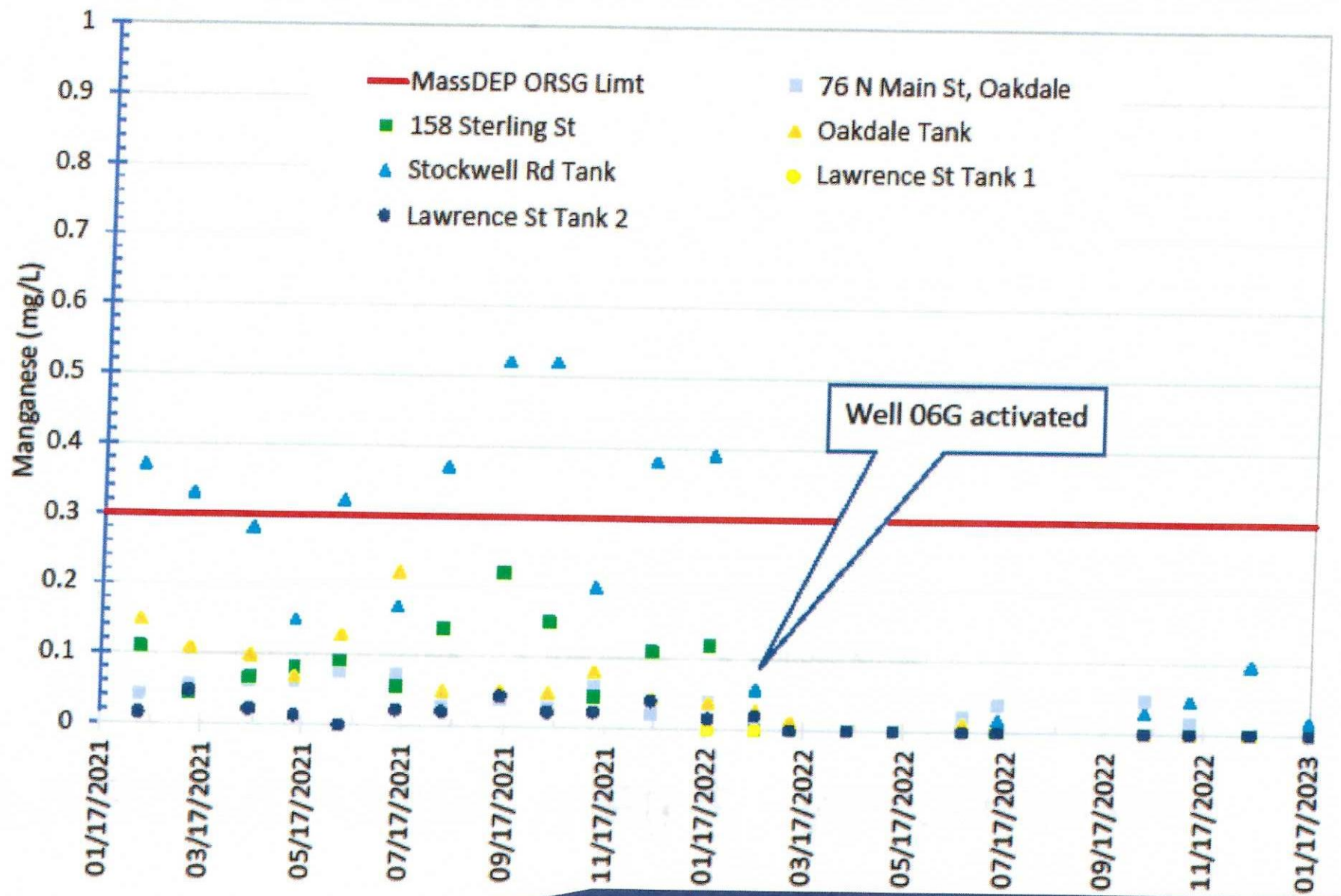
Pleasant Valley Well 1 - Manganese



Pleasant Valley Well 2 - Manganese



Distribution System Manganese



Supply Evaluation

- Existing supply is able to meet the existing average day demand and the maximum day demand
- Future Demand Scenario 1
 - Estimated maximum day demand is slightly greater than supply with largest source off-line (exceeds by about 3% by 2028).
 - WBWD should explore methods to enhance water conservation and demand management to remain below the threshold.
 - WMA Permit may be required, additional conservation would help.
- Future Demand Scenario 2
 - Estimated maximum day demand is significantly greater than supply with largest source off-line (exceeds by about 11% by 2028).
 - Water conservation is unlikely to decrease the projected demand below MassDEP threshold of meeting the maximum day demand with the largest source off-line.
 - Before agreeing to supply water to any proposed large development, the WBWD should re-evaluate its demands and supply.
 - Additional source may be required.
 - WMA Permit likely required.

Supply Evaluation (continued)

- PV Well 2 Manganese levels were initially non-detect and increased after intensive pumping since the Oakdale Well was not available during construction of the Oakdale Well Filtration Facility.
- As of January 2023, manganese in PV Well 2 had increased to about 0.2 mg/L
 - MassDEP limit is 0.3 mg/L with preference to stay below 0.05 mg/L
- Upon activation in early 2022, PV Well 2 served as the primary source of supply.
- Now that the Oakdale Well filtration facility is on-line, PV Well 2 will be pumped less in an effort to mitigate the manganese from this supply. Reducing the pumping of a well is often successful in reducing the level of manganese.
- A corrective action plan was submitted to MassDEP essentially stating the above. MassDEP may require the WBWD implement treatment to remove the manganese from the PV Well 2 should levels approach the Health Advisory of 0.3 mg/L.

Hydraulic Evaluation

- Updated model to incorporate system changes (water main improvements) made since the 2016 update
- Verified water demands in model were representative of current system demands
- Verified calibration of model using fire flow test data
- Used model to simulate impacts of various potential system improvements on:
 - Available fire flows,
 - System pressures,
 - Critical flow paths.
- Potential improvements include:

Water Main Project No.	Item No. from 2016 Study	Location	From	To	Length, ft	Existing Diameter (inches)	Proposed Diameter (inches)	Cost Estimate	Reason
1	6	Lee St	Lee St Booster Pump Station	Goodale St	2,700	8	8	\$810,000	Breaks, old main
	18	Lee St	Lee St Well	Prospect St	1,250	8	8	\$375,000	Old main
1E	--	Lee St cross country loop	Marsh Hawk Way	Prospect St	1,450	None	8	\$435,000	Redundant main
2	--	Franklin St	Prospect St	W Boylston St	1,650	6	8	\$495,000	Breaks, old main
	--	Bowen St	Franklin St	Henry St	1,650	6	8	\$495,000	Breaks, old main
3	--	Beaman St	End of main	Worcester St	3,900	None	12	\$1,365,000	Complete connection on Beaman and eliminate cross country main
4	2	Prospect St	Lawrence St	Woodland St	3,800	8	12	\$1,330,000	ISO needed fire flow
5	3	Worcester St and West Boylston Street (Rte 12)	Stockwell Road Tank	Goodale St	5,000	8	12	\$1,750,000	Flow path into Low Service Area
6	4	Goodale St	Crescent St	Worcester St	1,200	6	12	\$420,000	Fire Flow, Eliminate dead end
7	5	Prospect St	Lost Oak Rd	Lawrence St	5,400	8	12	\$1,890,000	ISO needed fire flow
		Lawrence St	Prospect St	Lawrence St Tank	2,150	8	12	\$752,500	
8	7	Maple St	87 Maple St	Pierce St	2,000	8	8	\$600,000	Breaks
9	8	Prospect St (HSA)	Newton St	Lost Oak Rd	2,700	8	12	\$945,000	Fire Flows, Breaks due to high pressure

Water Main Project No.	Item No. from 2016 Study	Location	From	To	Length, ft	Existing Diameter (inches)	Proposed Diameter (inches)	Cost Estimate	Reason
10	11	Lancaster St	Rte 12	Heritage Ln	3,100	8	12	\$1,085,000	Fire Flow, Punky main, Breaks in wet years
11	16	Temple St	Maple St	Oak Ave	3,750	8	12	\$1,312,500	Breaks, old main
12	15	Prospect St	Central St	Newton St	800	8	8	\$240,000	Breaks, old main
13	13	Sterling St	Rte 110	Sterling Place	2,850	8	12	\$997,500	Hydraulic deficit, Fire Flows
14	17	Cumberland Dr	Danielian Dr	Hawthorne Dr	900	8	8	\$270,000	Breaks, old main
15	19	Worcester St	Bancroft	Pierce St	3,000	8	8	\$900,000	Old main
16	21	Malden St	Crescent St	Goodale St	2,150	10	12	\$752,500	Small and old mains, fire flows
		Goodale St	Malden St	Newton St	600	6	12	\$210,000	
17	22	Princeton Ave	Longview St	Princeton Av	400	2	8	\$120,000	Small and old mains, fire flows
		Yale Ave	Yale Ave	Maple St	400	2	8	\$120,000	
		Lebanon Ave	W Boylston	Worcester St	600	2	8	\$180,000	
		Bowles Ave	W Boylston	Worcester St	600	2	8	\$180,000	
		Carew Ave	Woodland St	Bowles Ave	350	2	8	\$105,000	
18	23	Lancaster St	Lancaster Meadows	Heritage Lane	3,800	8	12	\$1,330,000	Hydraulic

Storage Evaluation

	Low Service Area	High Service Area
Total Storage	1.45 MG	1.63 MG
Total Available Storage	0.96 MG	1.07 MG
Total Needed Storage		
Current	0.810 MG	0.883 MG
Future – Demand Scenario 1	0.815 MG	0.892 MG
Future – Demand Scenario 2	0.822 MG	0.905 MG
Available Storage Meets Needed Storage?	Yes	Yes

Distribution & Storage Summary

- Hydraulic evaluation completed for this project resulted in a list of recommended water main improvements to address (1) aging mains prone to breaks, (2) undersized mains, (3) needed fire flow, (4) dead ends and (5) needed redundancies.
- Lead and copper sample testing indicates that corrosion control treatment methods are optimized.
- Water storage tanks are routinely inspected in accordance with MassDEP and AWWA recommendations. The most recent inspections indicate the tanks only need minor maintenance.
- Based on the storage analysis, the water system has enough water storage to meet current and future demands through the 20-year planning period.

Water Treatment – Lee Street

- January 20, 2023 sanitary survey MassDEP cited:
 - Deficiency for the size of the sodium hypochlorite day tank and identified corrective action to install day tank level alarms to notify operators to stop filling the day tanks past the 30-60 hour chemical supply at an average daily flow.
 - Recommendations or notifications that any substantial modifications to the Lee Street Treatment Facility potassium hydroxide and/or blended phosphate chemical feed systems in the future would require WBWD to evaluate phosphate chemical containment measures and to install a potassium hydroxide day tank.
 - Recommended that finished water low pH alarms be set at 7.0 s.u. at each facility.

Water Treatment – Pleasant Valley

- January 20, 2023 sanitary survey MassDEP cited:
 - Deficiency for the size of the sodium hypochlorite day tank and identified corrective action to install day tank level alarms to notify operators to stop filling the day tanks past the 30-60 hour chemical supply at an average daily flow.
 - Recommendations or notifications that any substantial modifications to the Pleasant Valley Treatment Facility potassium hydroxide and/or blended phosphate chemical feed systems in the future would require WBWD to evaluate phosphate chemical containment measures and to install a potassium hydroxide day tank
 - Recommended that finished water low pH alarms be set at 7.0 s.u. at each facility.

Booster Pump Stations

- January 20, 2023 sanitary survey MassDEP recommended WBWD purchase a second portable generator and install a portable generator connection (pigtail) at the Western Ave Booster Station.

System Operations

- SCADA communication with remote sites via dedicated T1 line through Verizon installed around 2003 - T1 line has frequent/yearly failures
- SCADA system and communications equipment must be upgraded
- Remote communications may be through digital radio or cellular
- Conduct SCADA Master Plan to evaluate SCADA equipment and communications options

20 Year Capital Improvement Plan

Project	Water Main Project No.	Implement. Year	Order of Magnitude Cost Estimate	Notes
Water Conservation Plan development	NA	2024	\$5,000	Needed to maintain demands less than 0.56 mgd.
WMA Permit application	NA	If required	\$10,000	Required if demands increase above 0.56 mgd.
Pleasant Valley Well 2 - Manganese monitoring	NA	Ongoing	See Note 1	Continue to monitor water quality. Complete corrective action plan if manganese is greater than 0.3 ppm.
Evaluate steps needed to meter potential interconnection with Sterling	NA	2024	See Note 1	Recommended by MassDEP in January 20, 2023 Sanitary Survey
LCRR - Lead service line inventory by April 2024	NA	2024	See Note 1	Included on the list to highlight the need to provide this list per MassDEP and EPA Guidance.
Western Ave Booster Station - Connection for portable emergency generator	NA	2024	See Note 2	Recommended by MassDEP in January 20, 2023 Sanitary Survey
Purchase of second portable emergency generator	NA	2024	See Note 2	Recommended by MassDEP in January 20, 2023 Sanitary Survey
SCADA Communications	NA	2024	\$10,000	Conduct SCADA Master Plan.
SCADA Communications	NA	2025	See Note 3	Upgrade SCADA communications from T1 line to radio or cellular.

20 Year Capital Improvement Plan

Project	Water Main Project No.	Implement. Year	Order of Magnitude Cost Estimate	Notes
Evaluate phosphate containment measures at Lee Street and Pleasant Valley Treatment Facilities	NA	If required	If required	Recommended by MassDEP in January 20, 2023 Sanitary Survey
Install potassium hydroxide day tanks at Lee Street and Pleasant Valley Treatment Facilities	NA	If required	If required	Recommended by MassDEP in January 20, 2023 Sanitary Survey
Lee Street from booster station to Goodale Street 2,700 feet of 8-inch main	1	2025	\$810,000	Breaks, old main
Lee Street from booster station to Prospect Street 1,250 feet of 8-inch main	1	2025	\$375,000	Old main
Lee Street High Service Area By-Pass Loop - Marsh Hawk Way to Prospect St 1,450 feet of 8-inch main	1E	2030	\$435,000	Redundant main
Franklin St from Prospect to W. Boylston St and Bowen St from Franklin to Henry St 3,200 feet of 8-inch main	2	2032	\$990,000	Breaks, old main
Beaman St from end of DI main to Worcester St 3,900 feet of 12-inch main	3	2037	\$1,365,000	Complete connection on Beaman and eliminate cross country main
Prospect St from Lawrence to Woodland St 3,800 feet of 12-inch main	4	2042	\$1,330,000	ISO needed fire flow

20 Year Capital Improvement Plan

- Notes:
 - Note 1. Cost not shown for activities to be completed by WBWD staff.
 - Note 2. Quote to be obtained by WBWD.
 - Note 3. Cost to be estimated as part of SCADA Master Plan
- Report also includes Beyond 20 Year CIP list
- CIP is a “living document” to be periodically updated
- Order-of-magnitude costs were estimated based on recent projects of similar nature and 2023 dollars.
- Costs need to be re-evaluated during planning and design phases