

# Cost Updates

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3M PFC Settlement Work Group/Subgroup Meetings

February 16-17, 2021

1. Summary of cost refinements since September 2020
2. Options 1-3 cost changes
3. Break
4. Overview of impacts to Conceptual Plan
5. Items for Work Group discussion and feedback



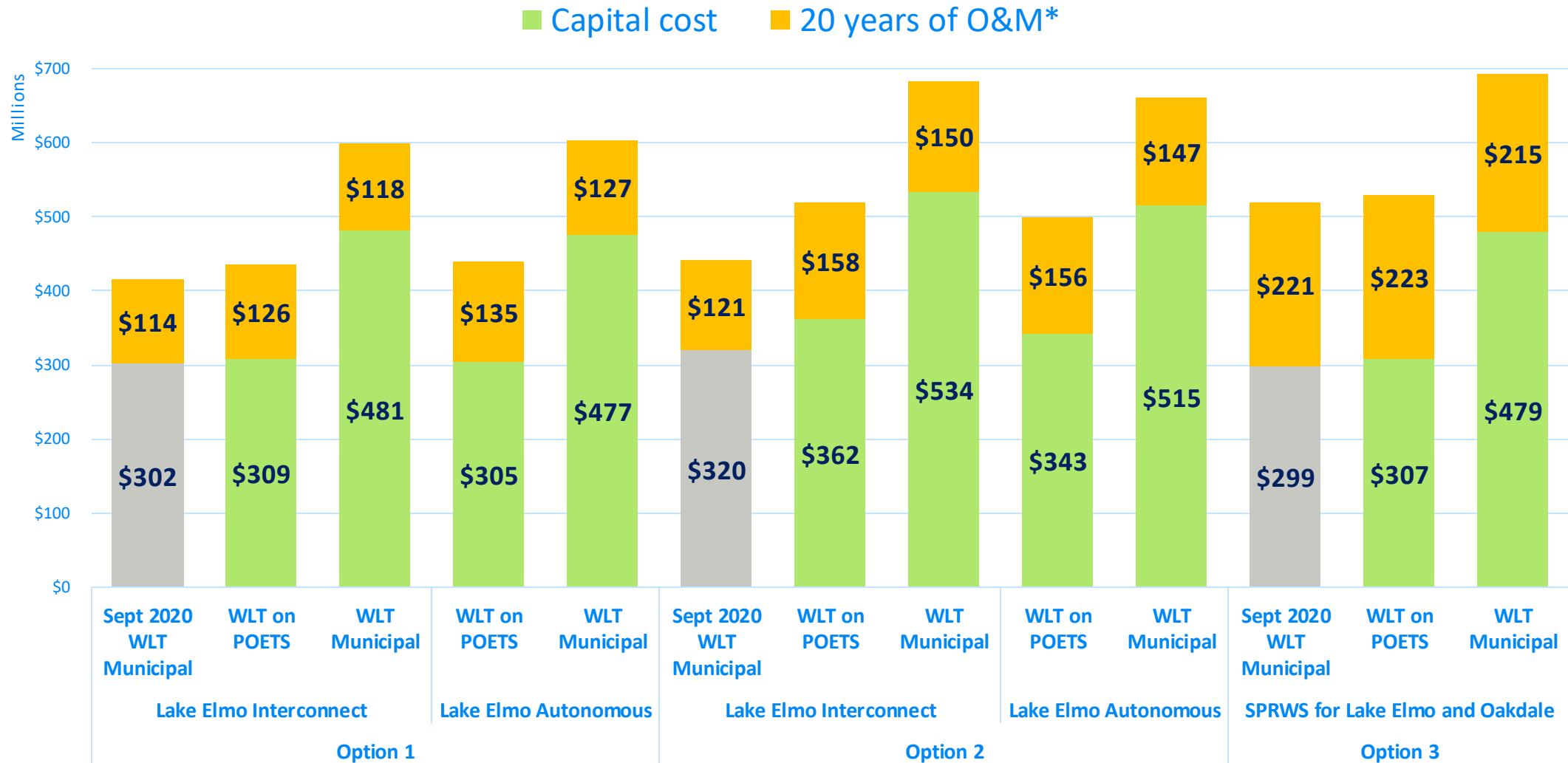
# Options 1-3 Cost Changes

	Capital cost (\$Ms)			Annual O&M cost (\$Ms)			Total 20 year costs (\$Ms)*		
	Sept 2020	Jan 2021	Difference	Sept 2020	Jan 2021	Difference	Sept 2020	Jan 2021	Difference
<b>Option 1</b>	302	<b>481</b>	<b>179 (59%)</b>	4.24	<b>4.36</b>	<b>0.13 (3%)</b>	417	<b>599</b>	<b>182 (44%)</b>
<b>Option 2</b>	320	<b>534</b>	<b>214 (67%)</b>	4.54	<b>5.54</b>	<b>0.99 (22%)</b>	441	<b>684</b>	<b>243 (55%)</b>
<b>Option 3</b>	299	<b>479</b>	<b>180 (60%)</b>	8.19	<b>7.98</b>	<b>-0.20 (-2%)</b>	520	<b>694</b>	<b>174 (33%)</b>

Note: these costs include **West Lakeland municipal system costs** for all three options as well as **Lake Elmo and Woodbury interconnect** for options 1 and 2, as those were the costs included in the options previously in order to compare.

\*20-year costs are accounting for inflation only in this table for cost comparison purposes

# Options 1-3 Cost Comparison



\*20-year costs are accounting for inflation only in this table for cost comparison purposes 5

# Options 1-3 Cost Comparison

Options 1-3 total costs in terms of different O&M calculations – 40, 35, and 21 years for Options 1, 2, and 3 respectively

Option	Lake Elmo Alternative	West Lakeland Alternative	Capital cost (\$Ms)	POET Capital cost (\$Ms)	PWS Capital cost (\$Ms)	Annual O&M cost (\$Ms)	POET annual O&M Cost (\$s)	PWS annual O&M Cost (\$Ms)	Inflation + Interest								Total 20 year costs (\$Ms)	Total 20 year costs (\$Ms)
									PWS				POETS		Total 20 year costs (\$Ms)	Total 20 year costs (\$Ms)		
									40 years		35 years		21 years					
O&M (\$Ms)	Cap + O&M	O&M (\$Ms)	Cap + O&M	O&M (\$Ms)	Cap + O&M	O&M (\$Ms)	Cap + O&M											
1	Interconnect	POETS	\$309	\$0.7	\$308.2	\$4.7	\$1,005,000	\$3.7	\$133.4	\$441.6	\$118.1	\$426.3	\$73.3	\$381.5	\$79.2	\$79.9	\$399	\$435
		Municipal	\$481	\$0.4	\$480.5	\$4.4	\$370,000	\$4.0	\$145.2	\$625.7	\$128.6	\$609.1	\$79.8	\$560.3	\$29.2	\$29.6	\$565	\$599
		Sept 2020 Municipal	\$302	\$0.2	\$301.8	\$4.2	\$236,000	\$4.0	\$145.4	\$447.2	\$128.8	\$430.5	\$80.0	\$381.7	\$18.6	\$18.9	\$382.9	\$417
	Autonomous	POETS	\$305	\$0.7	\$304.1	\$5.0	\$1,005,000	\$4.0	\$145.9	\$450.0	\$129.2	\$433.3	\$80.2	\$384.3	\$79.2	\$79.9	\$401	\$440
		Municipal	\$477	\$0.4	\$476.4	\$4.7	\$370,000	\$4.3	\$157.7	\$634.1	\$139.7	\$616.1	\$86.7	\$563.1	\$29.2	\$29.6	\$567	\$604
	2	Interconnect	POETS	\$362	\$1.1	\$360.8	\$5.9	\$1,165,000	\$4.7	\$171.4	\$532.2	\$151.8	\$512.6	\$94.3	\$455.0	\$91.9	\$93.0	\$475
Municipal			\$534	\$0.8	\$533.5	\$5.5	\$495,000	\$5.0	\$183.2	\$716.7	\$162.3	\$695.8	\$100.8	\$634.3	\$39.0	\$39.8	\$640	\$684
Sept 2020 Municipal			\$320	\$0.4	\$319.6	\$4.5	\$297,000	\$4.2	\$154.3	\$473.9	\$136.6	\$456.2	\$84.8	\$404.4	\$23.4	\$23.8	\$406.7	\$441
Autonomous		POETS	\$343	\$1.1	\$341.6	\$5.8	\$1,165,000	\$4.6	\$168.7	\$510.3	\$149.4	\$491.0	\$92.8	\$434.4	\$91.9	\$92.9	\$454	\$499
		Municipal	\$515	\$0.7	\$514.3	\$5.5	\$495,000	\$5.0	\$180.5	\$694.8	\$159.9	\$674.2	\$99.3	\$613.6	\$39.0	\$39.8	\$620	\$662
3		Interconnect	POETS	\$307	\$0.7	\$306.6	\$8.3	\$1,005,000	\$7.3	\$264.9	\$571.5	\$234.6	\$541.2	\$145.7	\$452.3	\$79.2	\$79.9	\$466
	Municipal		\$479	\$0.4	\$478.9	\$8.0	\$370,000	\$7.6	\$276.7	\$755.6	\$245.0	\$724.0	\$152.1	\$631.1	\$29.2	\$29.6	\$632	\$694
	Sept 2020 Municipal		\$299	\$0.2	\$298.8	\$8.2	\$236,000	\$7.9	\$288.8	\$587.6	\$255.8	\$554.6	\$158.8	\$457.6	\$18.6	\$18.9	\$455.2	\$520

# Overarching changes to costs

1. Stormwater compliance costs  
~\$70-90M
2. Community-specific – Woodbury dual force main and new lines, West Lakeland irrigation and fireflow costs, Lake Elmo-Woodbury interconnect updates.  
\$16.1-\$28.4M
3. Updated connection (service laterals) cost to better reflect community-specific conditions  
\$19M
4. Power factor adjustment for 6,000 gpm capacity or higher WTPs (Cottage Grove and Woodbury)  
\$8.3-\$17.1M
5. Updated sampling data for number of POETS and municipal well HI thresholds  
\$0.6-\$15.6M
6. Demo of temporary facilities and municipal well sites  
\$4.4M
7. Included costs of POETS installed after the settlement in February 2018  
\$0.5-\$2.4M
8. Well and Tank costs – prorating to include expedited projects  
\$0.9M
9. SPRWS/Option 3 – Reduced O&M amount (SPRWS bulk water rate) by expenses that would no longer be required by Lake Elmo and Oakdale (reduction of ~\$10M over 20 years)  
-\$0.6M annually  
(-\$11.3M over 20 years)

# Sampling data updates

## Wells and POETS – as of October 2020 (same as presented in November)\*

Sample data export year	TOTAL WELLS		WELLS IN MWI		Total Sampled		Total Wells w/ POETS		Wells to continue w/ POETS		Wells with HI >0.5 to receive POETS		Wells with HI >0.3 to receive POETS	
	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019
Afton	1195	1195	808	708	242	124	39	11	39	11	13	7	21	8
Cottage Grove	868	820	868	820	723	672	84	75	68	59	58	41	81	61
Denmark Twp.	761	761	515	487	133	111	0	0	0	0	4	0	7	1
Grey Cloud Island Twp.	123	121	123	121	111	109	53	52	53	52	23	23	25	27
Lake Elmo	1386	1309	1386	1309	645	503	110	95	15	10	26	13	50	26
Lakeland	342	296	342	296	112	58	5	3	1	1	0	3	0	3
Lake St. Croix Beach	122	119	122	119	6	2	0	0	0	0	0	0	0	0
Lakeland Shores	44	41	44	41	16	12	0	0	0	0	0	0	0	0
St. Mary's Point*	102	98	102	98	5	3	0	0	0	0	0	0	0	0
Maplewood	615	602	615	602	59	38	5	4	5	4	5	1	6	2
Newport	134	113	134	113	57	25	1	0	0	0	8	0	34	3
Oakdale	109	124	109	124	23	39	0	0	0	0	0	5	0	5
Prairie Island Indian Community	1	1	1	1	1	1	0	0	0	0	0	0	0	0
St. Paul Park	66	49	66	49	25	16	6	3	5	0	0	0	0	0
West Lakeland Twp (ALL POETS)	1393	1340	1393	1189	995	689	552	377	552	0	103	0	144	0
West Lakeland Twp (MUNICIPAL SYSTEM)	1393	1340	1393	1189	995	689	12		12		8		14	
Woodbury	657	632	657	632	258	215	2	1	2	1	25	5	57	23
<b>Total (WLT ALL POETS)</b>	<b>7918</b>	<b>7621</b>	<b>7285</b>	<b>6709</b>	<b>3411</b>	<b>2617</b>	<b>857</b>	<b>621</b>	<b>740</b>	<b>138</b>	<b>265</b>	<b>98</b>	<b>425</b>	<b>159</b>
<b>Total (WLT MUNICIPAL SYSTEM)</b>	<b>7918</b>	<b>7621</b>	<b>7285</b>	<b>6709</b>	<b>3411</b>	<b>2617</b>	<b>317</b>	<b>244</b>	<b>200</b>	<b>138</b>	<b>170</b>	<b>98</b>	<b>295</b>	<b>159</b>

\*provided as FYI. Note one correction to Lake Elmo 2020 “Wells to continue w/ POETS” due to typo.



**EPA GAC Cost Model Tool** was used as an independent assessment of scaling factor for high capacity systems

## **Conclusion**

- Indicates power factor of 0.85 is appropriate for large pressure filter systems

## **Cost updates include:**

- **Original estimates remain suitable for systems less than 6,000 gpm**
  - i.e., it produces cost estimates that are more conservative
- **Cost estimates for plants with capacity greater than 6,000 gpm (Woodbury and Cottage Grove) are revised**
  - Used separate reference project and a power factor of 0.85.

**Overall increase of \$8.3M for Option 1 and \$17.1M for Option 2**

# Other communities' city connection charges

Community	Website	Lateral Installation	Water Availability Charge (WAC)	Connection Fee	Meter Cost	Total
Lake Elmo	<a href="#">Link</a>	\$8,100	\$3,000	\$1,000	\$1,500	\$13,600
Oakdale	<a href="#">Link</a>	\$4,000	\$550		"Varies"	\$4,550+
Woodbury	<a href="#">Link</a>	\$4,000	\$1,210		Not Specified	\$5,210+
Cottage Grove	<a href="#">Link</a>	\$8,000	\$1,212		\$298	\$9,510
St. Paul Park	<a href="#">Link</a>	\$7,500	\$885	\$175	\$525	\$9,085+
Newport	<a href="#">Link</a>	\$7,500	\$1,050	\$500	Not Specified	\$9,050

# Service lateral connections

- Include cost to remove existing POETS
  - Estimated at **\$400** per POETS
- Update service lateral cost to better reflect community-specific conditions
  - Woodbury and Oakdale - **\$4,000** ea (past experience)
  - Lake Elmo - **\$13,200** ea, includes \$5,100 meter and City connection charge, \$8,100 for installation (past experience)
  - West Lakeland - **\$8,100** based on Lake Elmo
  - Cottage Grove - **\$8,000** from past experience
  - Newport and SPP at **\$7,500** due to shallow bedrock
  - Lakeland will continue to use **\$2,500**
- **Overall increase due to service lateral cost increases: \$19M**

# City Connection Fees

- Charges include:
  - Water Availability Charge (WAC)
  - Water Connection Charge
  - Water Meter Charge
  - Permits
- Similar charges across the communities, but not consistent amounts/applications
- Inconsistencies with what is requested in expedited projects/funding requests and what is shown on community websites fee schedules

## **Questions (to be discussed at the end):**

- From communities – what is reasoning for including or excluding certain fees? What are fees for? Do they overlap with costs covered for installation?
- From the broader WGs/SG-1 – are city fees appropriate to cover using settlement funds?

# Stormwater compliance

Valley Branch Watershed District rules require stormwater management for all projects that create or fully reconstruct 6,000 square feet of impervious surfaces. Other permits (e.g., Construction Stormwater and MS4) have similar requirements for projects creating 1 acre or more of new impervious surfaces.

One of the RFFs submitted includes about 30% in additional costs for this, but is an unknown until detailed design

Additional research on costs from a recent project in Cottage Grove estimated \$82/linear foot is the average for 12"-36" diameter storm drain pipes

**Stormwater compliance accounts for ~\$70M-\$90M in capital costs across the different options (high end estimate)**

## Questions (to be discussed at the end):

- Moving forward, do work groups agree/disagree the Settlement would cover these costs? Examples:
  - A community already had a road project planned (expedited projects)?
  - A community implements the project [5, 10, 15+] years in the future?
- Would this cost be something the communities would have to pay eventually regardless?
- Should the Settlement fund the project through design, and then eligible costs will be determined based on the design?
- Would there be an opportunity for cost-share?

# Stormwater compliance costs

**Stormwater compliance accounts for ~\$70M-\$90M in capital costs across the different options**

Community	With Interconnect		Without Interconnect	
	Option 1 (M)	Option 2 (M)	Option 1 (M)	Option 2 (M)
Woodbury	\$ 15.02	\$ 21.03	\$ 15.02	\$ 21.03
Lake Elmo	\$ 7.04	\$ 7.04	\$ 12.70	\$ 12.70
West Lakeland	\$ 19.37	\$ 19.37	\$ 19.37	\$ 19.37
Cottage Grove	\$ 4.70	\$ 7.20	\$ 4.70	\$ 7.20
Oakdale	\$ 0.76	\$ 0.76	\$ 0.76	\$ 0.76
St. Paul Park	\$ 2.37	\$ 2.37	\$ 2.37	\$ 2.37
Newport	\$ 0.22	\$ 0.22	\$ 0.22	\$ 0.22
<b>Total</b>	<b>\$52.66</b>	<b>\$57.07</b>	<b>\$58.31</b>	<b>\$62.73</b>
<b>With 15% professional services and 25% contingency</b>	<b>\$69.28</b>	<b>\$81.20</b>	<b>\$77.19</b>	<b>\$89.11</b>

Costs included are on the high end – actual costs may be lower

# Updated costs – Options 1 and 2

by community

# Cost Summary – Option 1

Community	Capital cost (\$Ms)		Difference (\$Ms)	Annual O&M cost (\$Ms)		Difference (\$Ms)	Total 20 year costs, future value (\$Ms)		Difference (\$Ms)
	Sep-20	Jan-21		Sep-20	Jan-21		Sep-20	Jan-21	
PIIC	4.140	8.219	4.079	0.191	0.162	-0.029	9.280	12.573	3.293
Lakeland	2.880	4.392	1.512	0.004	0.001	-0.003	2.990	4.419	1.429
St. Paul Park	16.550	19.891	3.341	0.367	0.370	0.003	26.420	29.834	3.414
Newport	1.650	1.537	-0.113	0.000	0.008	0.008	1.650	1.752	0.102
West Lakeland - Municipal	115.480	174.369	58.889	0.260	0.345	0.085	122.530	183.640	61.110
Cottage Grove	46.890	61.783	14.893	1.339	1.457	0.118	82.570	100.934	18.364
Oakdale	18.140	24.117	5.977	0.697	0.788	0.091	36.870	45.290	8.420
Lake Elmo - Woodbury interconnect	35.390	55.222	19.832	0.410	0.041	-0.369	46.420	56.324	9.904
Woodbury	61.310	131.016	69.706	0.873	1.051	0.178	84.770	159.257	74.487
Afton	0.026	0.216	0.190	0.018	0.052	0.034	0.516	1.614	1.098
Denmark	0.000	0.015	0.015	0.000	0.004	0.004	0.000	0.123	0.123
Grey Cloud Island	0.082	0.120	0.038	0.075	0.076	0.001	2.100	2.163	0.063
Maplewood	0.005	0.019	0.014	0.005	0.010	0.005	0.140	0.288	0.148
<b>Totals</b>	<b>303</b>	<b>481</b>	<b>178.373</b>	<b>4.239</b>	<b>4.365</b>	<b>0.12596</b>	<b>417</b>	<b>599</b>	<b>182</b>



# Cost Summary – Option 2

Community	Capital cost (\$Ms)		Difference (\$Ms)	Annual O&M cost (\$Ms)		Difference (\$Ms)	Total 20 year costs, future value (\$Ms)		Difference (\$Ms)
	Sep-20	Jan-21		Sep-20	Jan-21		Sep-20	Jan-21	
PIIC	4.140	8.219	4.079	0.191	0.162	-0.029	9.280	12.573	3.293
Lakeland	2.880	4.392	1.512	0.004	0.001	-0.003	2.990	4.419	1.429
St. Paul Park	16.550	19.891	3.341	0.367	0.370	0.003	26.420	29.834	3.504
Newport	1.650	1.628	-0.022	0.003	0.034	0.031	1.740	2.542	0.802
West Lakeland - Municipal	115.480	174.878	59.398	0.260	0.351	0.091	122.530	184.310	61.780
Cottage Grove	47.020	75.414	28.394	1.359	1.601	0.242	83.540	118.434	34.894
Oakdale	18.850	24.117	5.267	0.697	0.788	0.091	37.580	45.290	7.710
Lake Elmo - Woodbury interconnect	35.450	70.594	35.144	0.420	0.485	0.065	46.750	83.627	36.877
Woodbury	67.970	154.726	86.756	1.126	1.589	0.463	107.260	197.424	90.164
Afton	0.028	0.244	0.216	0.019	0.060	0.041	0.548	1.857	1.309
Denmark	0.005	0.026	0.021	0.001	0.007	0.006	0.030	0.215	0.185
Grey Cloud Island	0.096	0.127	0.031	0.079	0.078	-0.001	2.230	2.223	-0.007
Maplewood	0.008	0.022	0.014	0.006	0.011	0.005	0.170	0.318	0.148
<b>Totals</b>	<b>310</b>	<b>535</b>	<b>224.15</b>	<b>4.532</b>	<b>5.537</b>	<b>1.00496</b>	<b>441</b>	<b>684</b>	<b>243</b>

# Community-specific changes to costs

- **PIIC:**
  - Added costs to account for well modifications, a ground storage tank, water distribution lines based on preliminary site plan, and service laterals
  - WTP costs were also updated to be consistent with other communities (decreased capacity from 600 to 300 gpm based on need instead of well capacity)
- **St. Paul Park and Newport**
  - added stormwater piping, increased cost of service laterals and well sealing, and included POET removal costs
- **Cottage Grove**
  - Added costs for stormwater piping, municipal well site demolition, and an additional distribution line to facilitate flow to storage tank.
  - Increased costs for service laterals and well sealing, and incorporated connections from expedited projects into prorating for new storage tank.
  - Option 2 includes raw water line to route Well 11 to Intermediate Zone WTP.
  - WTP costs were updated.

# Community-specific changes to costs

- **Oakdale**
  - Three new wells are included (previously 2) to replace Wells 1, 2, and 7 and assumed to have the same pumping capacity, raw water line costs were adjusted
  - WTP costs were updated
  - Increased costs for service laterals and well sealing, as well as municipal well and existing public works demolition
- **Woodbury**
  - Costs separate from/regardless of Lake Elmo alternatives
  - WTP costs updated
  - Replacement Well costs included
  - Included costs for distribution line upsizing and dual force raw water transmission line
  - Included costs for stormwater piping and increased costs for service laterals and well sealing.

- West Lakeland - municipal
  - West Lakeland – POETS
  - Lake Elmo – Autonomous
  - Lake Elmo - Interconnect
- } **Next slides**

# West Lakeland – Municipal System

Community		Capital cost (\$Ms)		Difference (\$Ms)	Annual O&M cost (\$Ms)		Difference (\$Ms)	Total 20 year costs, future value (\$Ms)		Difference (\$Ms)
		Sept 2020	Jan 2021		Sept 2020	Jan 2021		Sept 2020	Jan 2021	
West Lakeland	Options 1&3	115.48	<b>174.369</b>	<b>58.889</b>	0.26	<b>0.345</b>	<b>0.085</b>	122.53	<b>183.640</b>	<b>61.110</b>
	Option 2	115.48	<b>174.878</b>	<b>59.398</b>	0.26	<b>0.351</b>	<b>0.091</b>	122.53	<b>184.310</b>	<b>61.780</b>

- Updated costs include:

- Increased service lateral costs
- Updated well counts
- Increase line diameters, tank sizes and number of booster pumps for fire flow
- Include irrigation demands
- Include costs for stormwater piping

# Lake Elmo – Woodbury Interconnect

Community		Capital cost (\$Ms)		Difference (\$Ms)	Annual O&M cost (\$Ms)		Difference (\$Ms)	Total 20 year costs, future value (\$Ms)		Difference (\$Ms)
		Sept 2020	Jan 2021		Sept 2020	Jan 2021		Sept 2020	Jan 2021	
Lake Elmo - Woodbury interconnect	Option 1	35.39	<b>55.222</b>	<b>19.832</b>	0.41	<b>0.041</b>	<b>-0.369</b>	46.42	<b>56.324</b>	<b>9.904</b>
	Option 2	35.45	<b>70.594</b>	<b>35.144</b>	0.42	<b>0.485</b>	<b>0.065</b>	46.75	<b>83.627</b>	<b>36.877</b>

- WTP costs updated and capacity expanded – three (3) new wells in Woodbury to serve Lake Elmo.
- Interconnect includes booster pump station and transmission lines to Lake Elmo Tank 4
- Other non-interconnect related costs for Woodbury and Lake Elmo Remain
- Included costs for stormwater piping and increased costs for service laterals and well sealing.

# Lake Elmo – Autonomous

Community	Option	Capital cost (\$Ms)	Annual O&M cost (\$Ms)	Total 20 year costs, future value (\$Ms)
		Jan-21	Jan-21	Jan-21
Lake Elmo - Autonomous	Option 1	51.112	0.387	61.511
	Option 2	51.371	0.411	62.415

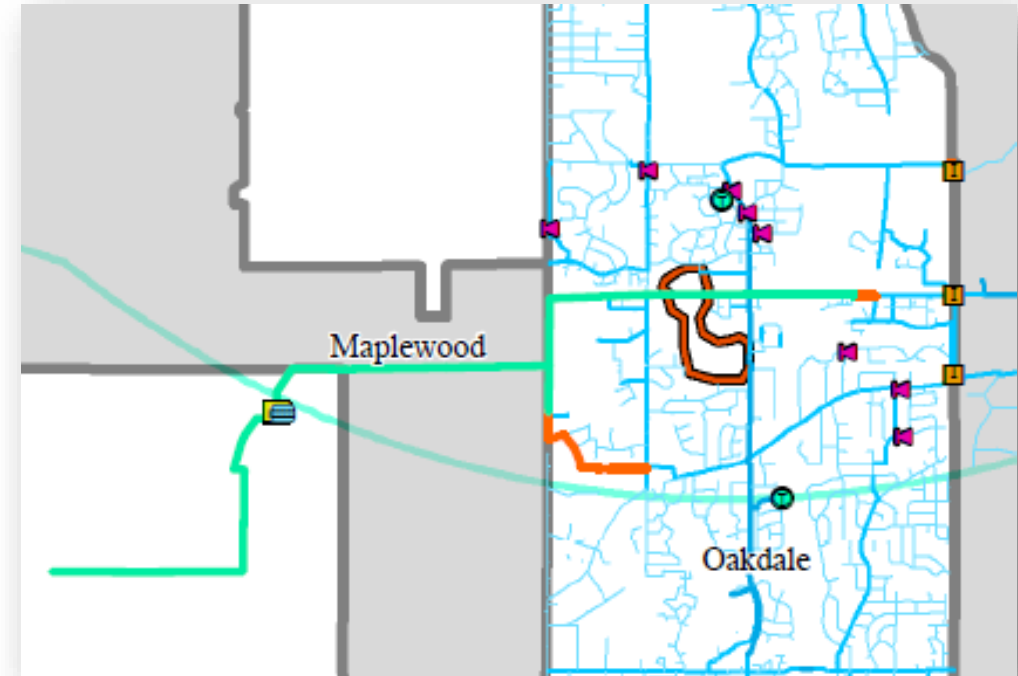
- Under this alternative, Well 4 was relocated and two new wells were placed in the south western region of Lake Elmo. Flow from these two wells were routed to a WTP at Tank 4 and assumed to need treatment under both Options.
- Costs to relocate Well 4 are related to WBL not PFAS and are therefore not funded by the Settlement
- Included costs for stormwater piping, additional distribution piping, increased costs for service laterals and well sealing.

# Updated costs – Option 3

# SPRWS Interconnect – Capital

## Same components included as Sept 2020

- **3** Interconnects between Lake Elmo and Oakdale
- **1** Booster Pump Station at Hillcrest Reservoir
- **0.84** miles of upsized and new lines in Oakdale
- **5.32** miles of new water lines for SPRWS and Oakdale





# Cost Summary – Option 3

All costs are the same as **Option 1** except Lake Elmo, Oakdale, and the SPRWS line item

Community	Capital cost (\$Ms)		Difference (\$Ms)	Annual O&M cost (\$Ms)		Difference (\$Ms)	Total 20 year costs, future value (\$Ms)		Difference (\$Ms)
	Sep-20	Jan-21		Sep-20	Jan-21		Sep-20	Jan-21	
Woodbury	\$61.31	\$131.02	\$69.71	\$0.87	\$1.05	\$0.18	\$84.77	\$159.26	\$74.49
SPRWS-Oakdale-Lake Elmo Interconnect*	\$50.46	\$77.77	\$27.31	\$5.03	\$4.45	-\$0.58	\$185.62	\$197.29	\$11.67
W. Lakeland - Municipal supply	\$115.48	\$174.37	\$58.89	\$0.26	\$0.35	\$0.09	\$122.53	\$183.64	\$61.11
Cottage Grove	\$46.75	\$61.78	\$15.03	\$1.36	\$1.46	\$0.10	\$83.22	\$100.93	\$17.71
Newport (Interconnect w/ WDB)	\$1.65	\$1.54	-\$0.11	\$0.00	\$0.01	\$0.01	\$1.65	\$1.75	\$0.10
St. Paul Park	\$16.46	\$19.89	\$3.43	\$0.37	\$0.37	\$0.00	\$26.33	\$29.83	\$3.50
Lakeland, Lakeland Shores, Lake St. Croix Beach	\$2.88	\$4.39	\$1.51	\$0.00	\$0.00	\$0.00	\$2.99	\$4.42	\$1.43
Prairie Island Indian Community	\$4.14	\$8.22	\$4.08	\$0.19	\$0.16	-\$0.03	\$9.28	\$12.57	\$3.29
Maplewood	\$0.005	\$0.019	\$0.014	\$0.005	\$0.010	\$0.005	\$0.150	\$0.288	\$0.138
Grey Cloud Island	\$0.08	\$0.12	\$0.04	\$0.08	\$0.08	\$0.00	\$2.10	\$2.16	\$0.06
Denmark	\$0.00	\$0.02	\$0.02	\$0.00	\$0.00	\$0.00	\$0.00	\$0.12	\$0.12
Afton	\$0.02	\$0.22	\$0.20	\$0.02	\$0.05	\$0.03	\$0.51	\$1.61	\$1.10
<b>Total</b>	<b>\$299.24</b>	<b>\$479.81</b>	<b>\$180.58</b>	<b>\$8.19</b>	<b>\$7.984</b>	<b>-\$0.201</b>	<b>\$519.15</b>	<b>\$632.13</b>	<b>\$112.98</b>

\*Includes all SPRWS, Lake Elmo, and Oakdale costs

# SPRWS cost comparison

Community served	Capital cost (\$Ms)	Annual O&M cost (\$Ms)	Total 20 year costs present value (\$Ms)
	GAC	GAC	GAC
SPRWS-Oakdale-Lake Elmo Interconnect w/o softening reduction	\$47.69	\$4.41	\$166.11
Lake Elmo	\$28.11	\$0.04	\$29.21
Oakdale	\$1.97	\$0.00	\$1.97
<b>Total SPRWS - Lake Elmo - Oakdale costs</b>	<b>\$77.77</b>	<b>\$4.45</b>	<b>\$197.29</b>
Previous totals (Sept 2020)*	\$50.46	\$5.03	\$185.62
<b>Change</b>	<b>\$27.31</b>	<b>-\$0.58</b>	<b>\$11.67</b>

# SPRWS Interconnect – Cost changes

- Capital costs:
  - Pipeline costs increased due to roadway restoration assumptions – 50% to 100% road replacements – as well as stormwater compliance
- O&M costs:
  - Reduced O&M amount (SPRWS bulk water rate) by expenses that would no longer be required by the communities – total just under \$600k removed from \$5M set aside for cost of water annually
  - Note: This option includes softened water for the communities of Oakdale and Lake Elmo. Softened water can save an average homeowner \$420/year, which translates to an annual total savings to residents of these two communities of up to \$4.4M, or \$87.92M over 21 years.

# Lake Elmo- and Oakdale-specific – Cost changes

Cost Change	Capital	O&M	Lake Elmo	Oakdale
Municipal well sealing and structure demo			✓	✓
Temporary WTP demo	✓			✓
Pipeline assumptions	✓		✓	
Service lateral costs	✓		✓	✓
Per well sealing cost	✓		✓	✓
POET counts	✓	✓	✓	✓

# Lake Elmo alternatives

Alternative	Capital cost (\$Ms)			Annual O&M cost (\$Ms)			Total present value cost for Capital and O&M (\$Ms)*			
	Option	1	2	3	1	2	3	1 (40 yr)	2 (35 yr)	3 (21 yr)
WDB-LE Interconnect		<b>55.22</b>	<b>70.59</b>	NA	<b>0.04</b>	<b>0.49</b>	NA	<b>60.02</b>	<b>91.79</b>	<b>NA</b>
Autonomous (Well #4 moved and WTP in south)		<b>51.11</b>	<b>51.37</b>	NA	<b>0.39</b>	<b>0.41</b>	NA	<b>68.71</b>	<b>69.97</b>	<b>NA</b>
SPRWS (interconnect via Oakdale plus community-specific costs)		NA	NA	<b>50.90</b>	NA	NA	<b>2.37*</b>	<b>NA</b>	<b>NA</b>	<b>101.20*</b>
Multi-benefit wells	<b>Not prepared</b>									

\*The totals are presented in terms of years of O&M previously established for each option in the CDWSP

Note: Option 3 includes an added benefit of softened water for the communities of Oakdale and Lake Elmo. Softened water can save an average homeowner \$420/year, which translates to a total savings to residents of Lake Elmo of up to \$0.83M annually, or \$16.5M over 21 years.





Break





## Overview of impacts to Conceptual Plan

# Three recommended options

## Option 1



Treatment threshold of **HI>0.5** and **GAC**

O & M: 40 years for public water system & 100 years for private wells

Groundwater source of drinking water

Community-suggested projects with future sustainable water supply options

## Option 2



Treatment threshold of **HI>0.3** and **GAC**

O & M: 35 years for public water systems & 100 years for private wells

Groundwater source of drinking water

Community-suggested projects with future sustainable water supply options

## Option 3



Treatment threshold of **HI>0.5** and **GAC**

O & M: 21 years for public water systems & 100 years for private wells

Community-suggested projects, except Oakdale and Lake Elmo supplied by St. Paul Regional Water Services (SPRWS)

Groundwater source of drinking water for all other communities



# Priority 1 funding categories



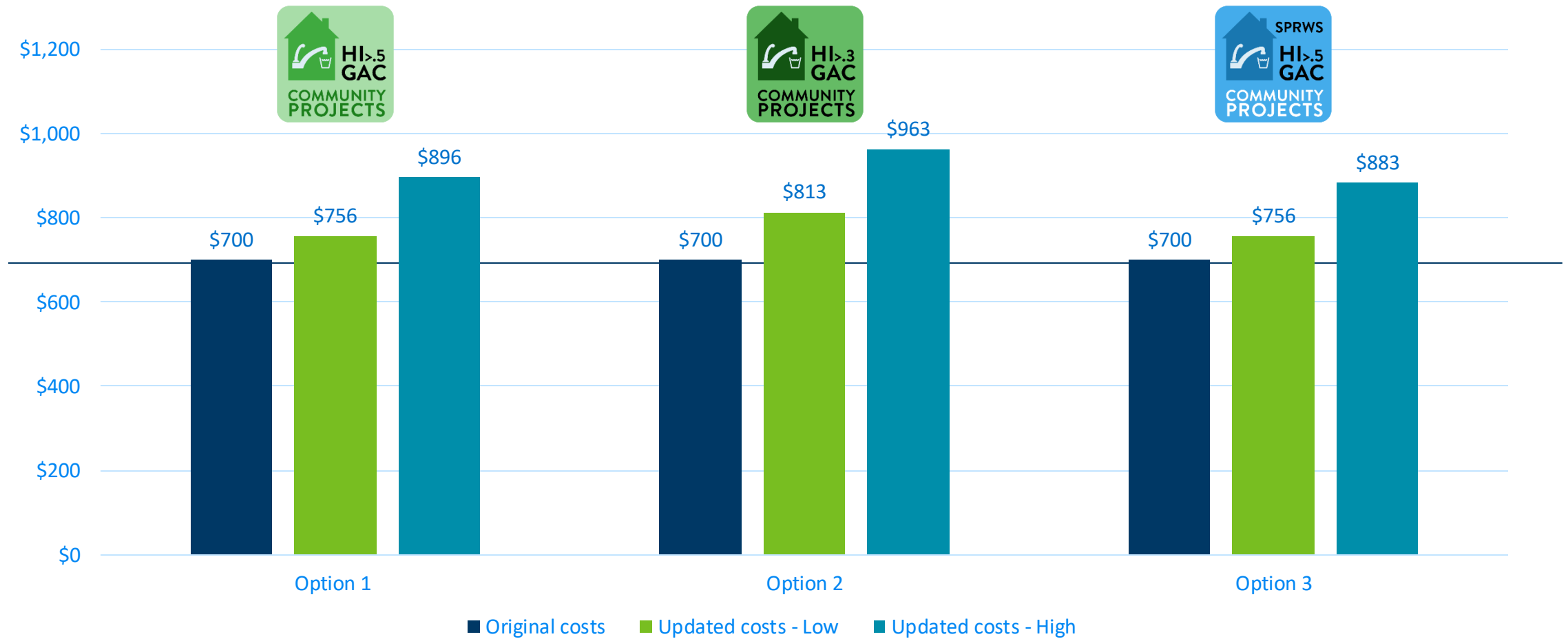
	Cost in millions	Option 1	Option 2	Option 3
Initial capital		\$302.5	\$319.1	\$299.1
O&M - Public water systems		\$147 (40 years)	\$131 (35 years)	\$161 (21 years)
O&M – Private wells (100 years)		\$19	\$23.9	\$19
Capital: Additional neighborhood connections		\$41	\$41	\$41
Future contingency		\$38	\$33	\$28
Drinking water protection (quality)		\$70	\$70	\$70
Sustainability and conservation (quantity)		\$60	\$60	\$60
State administration		\$22	\$22	\$22
	<b>Total</b>	<b>\$700</b>	<b>\$700</b>	<b>\$700</b>

Updates incorporated and considered in terms of Priority 1 funding categories

Estimates meet Class 4 cost estimate (+50%/-30%) level of accuracy (previously Class 5 at +100/-50%). Class 3 would require site visits and detailed design-level estimates.

Increase creates shortfalls of **\$56– \$263 million** under previous funding allocations and O&M timeframes

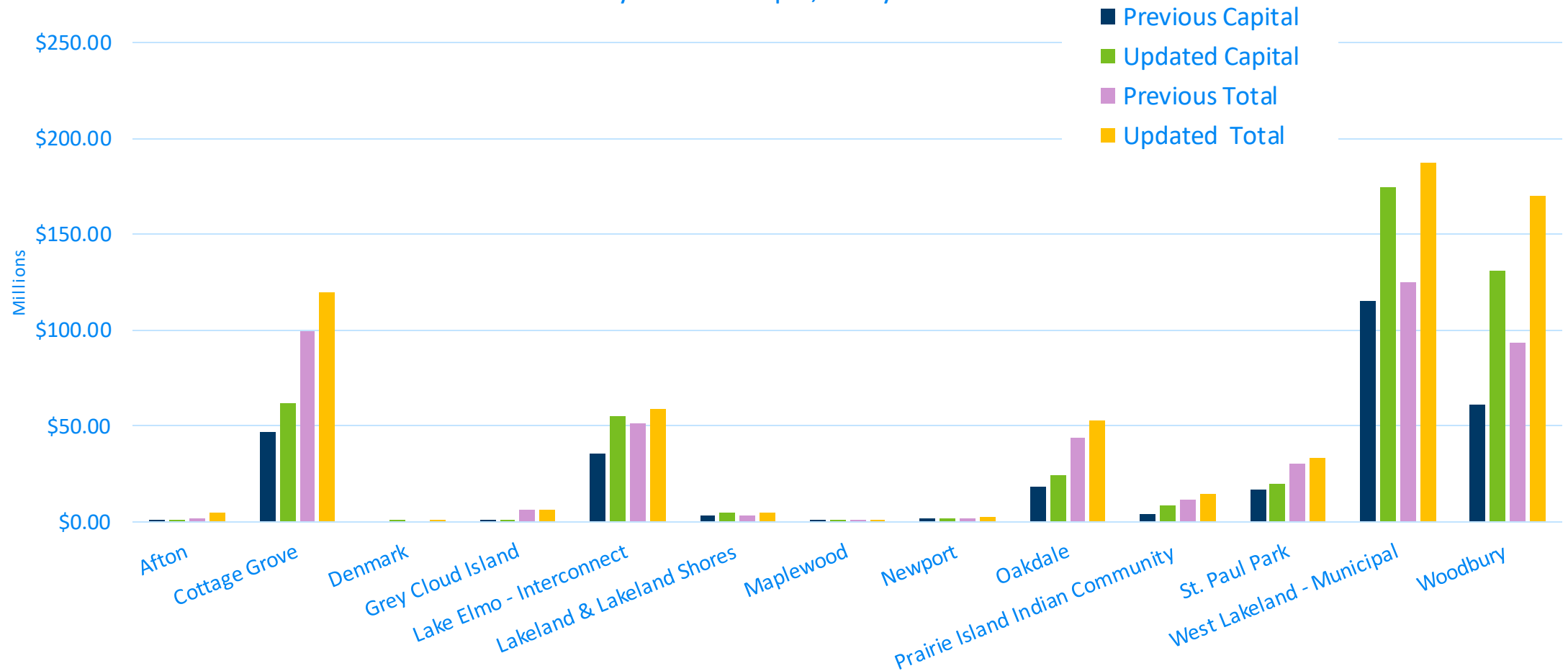
# Overall range of updated costs



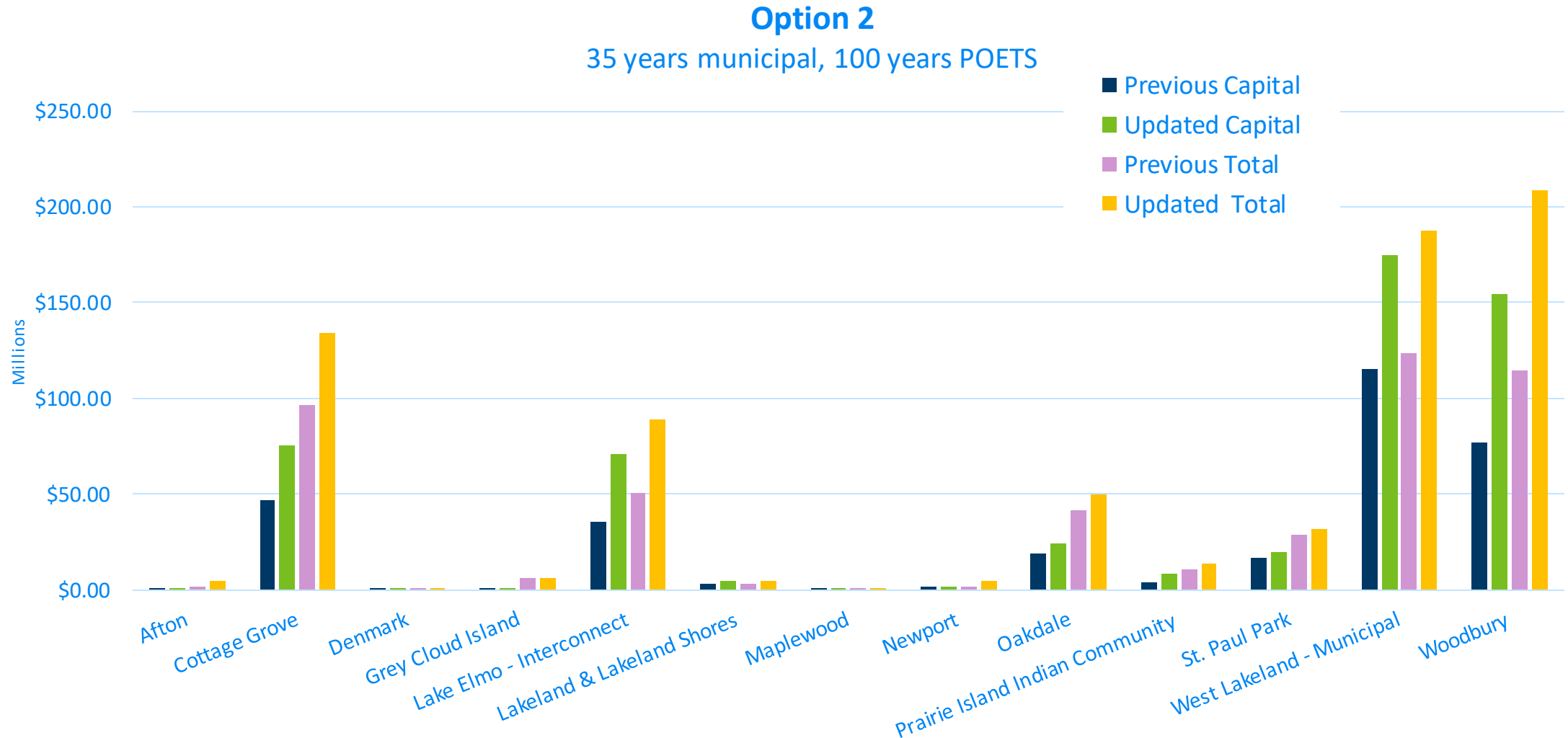
# Updated capital and O&M costs by community

## Option 1

40 years municipal, 100 years POETS



# Updated capital and O&M costs by community



# Updated costs



Cost in millions	Option 1	Option 2	Option 3
Initial capital	\$302.5 (\$309-\$477)	\$319.1 (\$343-\$534)	\$299.1 (\$307-\$479)
O&M - Public water systems	\$147 (40 years) (\$135-\$158)	\$131 (35 years) (\$150-\$162)	\$161 (21 years) (\$147-\$153)
O&M – Private wells (100 years)	\$19 (\$81-\$30)	\$23.9 (\$94-\$41)	\$19 (\$81-\$30)
Capital: Additional neighborhood connections	\$41	\$41	\$41
Future contingency	\$38	\$33	\$28
Drinking water protection (quality)	\$70	\$70	\$70
Sustainability and conservation (quantity)	\$60	\$60	\$60
State administration	\$22	\$22	\$22
<b>Total</b>	<b>\$700 (\$756-\$896)</b>	<b>\$700 (\$813-\$963)</b>	<b>\$700 (\$756-\$883)</b>

(Range of potential cost increases)

# Work Group discussion

# City Connection Fees

1. **From communities** – what is reasonable for including or excluding certain fees? What are fees for? Do they overlap with costs covered for installation?
2. **From the broader WGs/SG-1** – are city fees appropriate to cover using settlement funds?



# Stormwater Compliance

1. Moving forward, do work groups agree/disagree the Settlement would cover these costs?  
Examples:
  - a) A community already had a road project planned (expedited projects)?
  - b) A community implements the project [5, 10, 15+] years in the future?
2. Would this cost be something the communities would have to pay eventually regardless?
3. Should the Settlement fund the project through design, and then eligible costs will be determined based on the design?
4. Would there be an opportunity for cost-share?

# Central water softening

- Points from the WG/SG-1 members from Cottage Grove:
  - Pretreatment synergies
  - Wasted water from in-home softeners
- MDH Considerations

**Cottage Grove softening  
estimated capital:**

**\$12.6M**

(1 WTP at 7100 gpm (10.2 MGD))

# Central water softening

1. Are the work groups willing to consider this a potential Settlement eligible expense?
2. If so, how does this rank in the overall priority of funding?

# Cost Estimates

Ensure funding is available to complete proposed drinking water treatment capital and O&M expenses.

1. Are updated cost estimates enough to comfort the communities that funding will be available to complete the projects and a level of certainty for future O&M?
2. If not, how to provide level of comfort and certainty for communities?
  - Additional 25% capital contingency to revised costs to meet Class 4 cost estimate (+50%/-30%)
  - Reduce other funding areas or wait to fund them until capital projects complete (e.g. additional neighborhood connections, conservation/sustainability)

# Questions?