



# **Lincoln-SMD1 Wastewater Authority (LiSWA) Initial Wastewater Rate Setting Report**

**MARCH 20, 2023**

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**Lincoln SMD-1 Wastewater Authority**

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**PE # C51332**

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# LiSWA Initial Rate Setting Report

## Introduction

The Lincoln SMD-1 Wastewater Authority (LiSWA) was established on November 30, 2022, by the execution of a Joint Powers Agreement (JPA) between the City of Lincoln (City) and the County of Placer (County). The purpose of this Report is to provide the basis for the setting of wastewater services rates to be charged to the member entities. The charge will be based upon each equivalent dwelling unit (EDU) being served by LiSWA's member agencies. The basis for the calculation of EDUs will be established by separate policy. This Report does not contemplate a connection charge which may be evaluated in the future.

## LiSWA Initial Budget

The initial budget was adopted by the LiSWA Board on February 3, 2023, and the budgetary limits, fund allocations and working financial presumptions were incorporated into this Report as part of the basis for setting rates. The operations and maintenance of LiSWA is budgeted to be \$8,350,000 and is currently projected to escalate annually at 3.00 % per year. Details of the budget can be found in Attachment A, the Financial Analysis Model output.

## LiSWA Wastewater Treatment Plant Upgrade/Expansion

Planning has been ongoing for necessary upgrades and expansion of the LiSWA wastewater treatment plant for some time. The exact determination of what should be built in the first phase is being evaluated at this time. Changes in discharge requirements and the characteristic of the influent makes it prudent to evaluate the appropriate changes needed at the plant. This Report contemplates various alternatives for Plant construction, with the most likely scenario being somewhere between minimal and maximum expansion ideas that have been discussed by the member agencies and described below but are subject to further discussion and a pending engineering evaluation.

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Three alternatives are evaluated, the first being the original plans (medium projection), the second being the original plus the addition of filters and dissolved air floatation treatment (DAFT) in Phase I (high projection), and an option that includes the least amount of construction based on operations input (low projection). The ultimate construction plans are expected to have construction costs fall within the range of high and low. The estimates are provided in Attachment B.

## Financial Analysis Model

A Financial Analysis Model (Attachment A) was developed during the formation of LiSWA with the assistance of LiSWA's Municipal Financial Advisor, Fieldman Rolapp and Associates (Fieldman) when they were under contract with the City. This model was updated using the current LiSWA budget and evaluating a high, medium, and low construction projected costs for the Plant expansion. The model can be updated rather quickly once the final construction/capital cost estimate is determined.

To assist with this Report, Fieldman provided recommended working assumptions that include a Rate Inflation Factor of 3% and a bond interest rate of 5.5% for a 30 year term. The initial number of EDU's used for the analysis is taken from the JPA and is 30,532. The EDU's are assumed to grow at 1% annually.

## Results and Projections

The output of the model provides a range of wastewater services rates in the initial year between \$29.88 and \$35.76 per EDU per month. This is consistent with the rate of \$34.65 per EDU per month provided in the anticipated budget during formation (Attachment C).

The projected five-year rates under the three scenarios for the Plant are shown below.

### **Project Costs, Phases I and II**

	<b>High Scenario</b>	<b>Medium Scenario</b>	<b>Low Scenario</b>
<b>Phase I</b>	\$47,510,000	\$36,680,000	\$18,560,000
<b>Phase II</b>	<u>\$11,150,000</u>	<u>\$21,980,000</u>	<u>\$40,110,000</u>
<b>Total</b>	\$58,660,000	\$58,660,000	\$58,670,000

### **Rate Per EDU Per Month With Debt**

	<b>High Scenario</b>	<b>Medium Scenario</b>	<b>Low Scenario</b>
FYE			
2023	\$35.76	\$33.56	\$29.88
2024	\$36.83	\$34.56	\$30.77
2025	\$37.93	\$35.60	\$31.70
2026	\$39.07	\$36.67	\$32.65
2027	\$40.25	\$37.77	\$33.63

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## Recommendation

The LiSWA Board of Directors (Board) will make a final decision on the Plant's project alternatives in order to move forward with Phase I after input from a peer review which is currently underway. Regardless of what is built in Phase I, additional upgrades and improvements will be needed in the future. The recommendation is to set wastewater services rates that include funding for capital replacement, repair and replacement, future debt service and operations.

The calculated rates in the model reflect an inflation rate of 3%. It is recommended the Board adopt an inflation index appropriate to the industry. As an example, the Federal Reserve Bank of St. Louis provides a Consumer Price Index for All Urban Consumers of Water, Sewer, and Trash Collection Services in US City Averages. For the past 5 calendar years, the average inflation rate according to this index is 3.71%.

The operations portion of the new rate is proposed to be \$22.79 per EDU per month in year one, growing at 3% per year to \$25.65.

The recommendation is to adopt the Medium Scenario rate for five years and dedicate the difference between the rate for operations and the adopted rate being dedicated to capital projects, repair and replacement, debt expenses and debt service.

	<b>Recommended Rate per EDU per Month</b>			
<b>FYE</b>	<b>Effective Date</b>	<b>Operations Rate</b>	<b>Capital/Debt Rate</b>	<b>Total Rate</b>
<b>2023</b>	<b>12/01/2022</b>	<b>\$ 22.79</b>	<b>\$ 10.77</b>	<b>\$ 33.56</b>
<b>2024</b>	<b>07/01/2023</b>	<b>\$ 23.47</b>	<b>\$ 11.09</b>	<b>\$ 34.56</b>
<b>2025</b>	<b>07/01/2024</b>	<b>\$ 24.18</b>	<b>\$ 11.42</b>	<b>\$ 35.60</b>
<b>2026</b>	<b>07/01/2025</b>	<b>\$ 24.90</b>	<b>\$ 11.77</b>	<b>\$ 36.67</b>
<b>2027</b>	<b>07/01/2026</b>	<b>\$ 25.65</b>	<b>\$ 12.12</b>	<b>\$ 37.77</b>



**Financial Analysis Model Output  
Attachment A**

<b>LiSWA Financial Analysis</b>		<b>Adopted</b>	<b>Budget</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>
<b>EXPENDITURES</b>		<b>Budget</b>	<b>Budget</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>
		<b>FYE 2023</b>	<b>FYE 2024</b>	<b>FYE 2025</b>	<b>FYE 2026</b>	<b>FYE 2027</b>
JPA Board members (\$200/member/mtg/mo)		-	-	-	-	-
OTHER STAFF (includes Admin Allocation)						
RENTS AND LEASES - PROPERTY		-	-	-	-	-
RENTS AND LEASES - LAND		57,400	57,400	57,400	57,400	57,400
COMPUTERS AND SOFTWARE						
Cyber security/VPN		10,000	10,300	10,609	10,927	11,255
Subscriptions (microsoft, adobe, etc.)		5,000	5,150	5,305	5,464	5,628
Internet (air fiber connection)		8,000	8,240	8,487	8,742	9,004
OFFICE EQUIPMENT (printers, phone system, etc.)		-				2,000
UTILITIES		1,691,000	1,741,730	1,793,982	1,847,801	1,903,235
MATERIALS/SUPPLIES			-	-	-	-
FUEL & OIL		8,800	9,064	9,336	9,616	9,904
CLOTHING		-	-	-	-	-
MAINTENANCE-JANITORIAL		-	-	-	-	-
COMMUNICATION			-	-	-	-
ADVERTISING/OUTREACH		7,500	7,725	7,957	8,195	8,441
Website		500	515	530	546	563
LEGAL FEES		-	20,000	20,000	20,000	20,000
CONSULTANT SERVICES						
GM Services - West Yost		375,000	375,000	386,250	397,838	409,773
Accounting/Audit- Placer County		5,000	5,150	5,305	5,464	5,628
Operations Contract		5,470,955	5,635,084	5,804,136	5,978,260	6,157,608
Engineering		100,000	103,000	106,090	109,273	112,551
City Of Lincoln IT Services		70,000	72,100	74,263	76,491	78,786
Other general contract services		100,000	103,000	106,090	109,273	112,551
TRAVEL/MEETINGS		-	5,000	5,150	5,305	5,464
EQUIPMENT REPAIR/MAINT		5,000	5,150	5,305	5,464	5,628
FLEET MAINTENANCE		20,000	20,600	21,218	21,855	22,510
PRINTING/COPIES/POSTAGE/SUPPLIES		1,000	1,030	1,061	1,093	1,126
MEMBERSHIP DUES		1,000	1,030	1,061	1,093	1,126
INSURANCE		325,000	334,750	344,793	355,136	365,790
REGULATORY FEES		85,000	87,550	90,177	92,882	95,668
Rounding		3,845				
<b>TOTAL O &amp; M EXPENDITURES-----</b>		8,350,000	8,608,568	8,864,503	9,128,116	9,401,637
<b>HIGH SCENARIO</b>						
APPROPRIATION FOR CONTINGENCIES						
CHEMICAL TREATMENT for order control						
CAPITAL PROJECTS (annual ave. excluding expansion)		548,965	548,965	548,965	548,965	548,965
ORDER CONTROL FACILITY (not currently used)						
DEBT (Phase 1 & 2, Scenario 1)		3,551,912	3,554,375	3,550,050	3,553,800	3,550,075
<b>TOTAL EXPENDITURES-----</b>		12,450,876	12,711,907	12,963,517	13,230,880	13,500,677
<b>DEBT SERVICE COVERAGE AMOUNT (est for year 1 only)</b>		\$ 650,000.00	\$ -	\$ -	\$ -	\$ -
<b>TOTAL EDUs-----</b>		30,532	30,837	31,146	31,457	31,772
<b>RATE PER EDU PER MONTH WITH DEBT-----</b>		\$ 35.76	\$ 36.83	\$ 37.93	\$ 39.07	\$ 40.25
<b>INFLATION FACTOR-----</b>			3.00%	3.00%	3.00%	3.00%
<b>ESTIMATED REVENUES-----</b>		13,100,876	13,628,842	14,178,084	14,749,461	15,343,864
<b>RATE PER EDU PER MONTH W/O DEBT OR CAPITAL</b>		\$ 22.79	\$ 23.47	\$ 24.18	\$ 24.90	\$ 25.65
<b>ESTIMATED REVENUES W/O DEBT OR CAPITAL----</b>		\$ 8,350,000				

**Financial Analysis Model Output  
Attachment A**

<b>MEDIUM SCENARIO</b>					
APPROPRIATION FOR CONTINGENCIES					
CHEMICAL TREATMENT for order control					
CAPITAL PROJECTS (annual ave. excluding expansion)	548,965	548,965	548,965	548,965	548,965
ORDER CONTROL FACILITY (not currently used)					
DEBT (Phase 1 & 2, Scenario 1)	2,745,803	2,744,775	2,744,525	2,747,625	2,743,800
<b>TOTAL EXPENDITURES-----</b>	<b>11,644,767</b>	<b>11,902,307</b>	<b>12,157,992</b>	<b>12,424,705</b>	<b>12,694,402</b>
<b>DEBT SERVICE COVERAGE AMOUNT (est for year 1 only)</b>	<b>\$ 650,000.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL EDUs-----</b>	<b>30,532</b>	<b>30,837</b>	<b>31,146</b>	<b>31,457</b>	<b>31,772</b>
<b>RATE PER EDU PER MONTH WITH DEBT-----</b>	<b>\$ 33.56</b>	\$ 34.56	\$ 35.60	\$ 36.67	\$ 37.77
<b>INFLATION FACTOR-----</b>		3.00%	3.00%	3.00%	3.00%
<b>ESTIMATED REVENUES-----</b>	<b>12,294,767</b>	<b>12,790,246</b>	<b>13,305,693</b>	<b>13,841,913</b>	<b>14,399,742</b>
<b>RATE PER EDU PER MONTH W/O DEBT OR CAPITAL</b>	<b>\$ 22.79</b>	\$ 23.47	\$ 24.18	\$ 24.90	\$ 25.65
<b>ESTIMATED REVENUES W/O DEBT OR CAPITAL----</b>	<b>\$ 8,350,000</b>				

<b>LOW SCENARIO</b>					
APPROPRIATION FOR CONTINGENCIES					
CHEMICAL TREATMENT for order control					
CAPITAL PROJECTS (annual ave. excluding expansion)	548,965	548,965	548,965	548,965	548,965
ORDER CONTROL FACILITY (not currently used)					
DEBT (Phase 1 & 2, Scenario 1)	1,397,638	1,397,050	1,396,650	1,395,425	1,398,375
<b>TOTAL EXPENDITURES-----</b>	<b>10,296,602</b>	<b>10,554,582</b>	<b>10,810,117</b>	<b>11,072,505</b>	<b>11,348,977</b>
<b>DEBT SERVICE COVERAGE AMOUNT (est for year 1 only)</b>	<b>\$ 650,000.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL EDUs-----</b>	<b>30,532</b>	<b>30,837</b>	<b>31,146</b>	<b>31,457</b>	<b>31,772</b>
<b>RATE PER EDU PER MONTH WITH DEBT-----</b>	<b>\$ 29.88</b>	\$ 30.77	\$ 31.70	\$ 32.65	\$ 33.63
<b>INFLATION FACTOR-----</b>		3.00%	3.00%	3.00%	3.00%
<b>ESTIMATED REVENUES-----</b>	<b>10,946,602</b>	<b>11,387,750</b>	<b>11,846,677</b>	<b>12,324,098</b>	<b>12,820,759</b>
<b>RATE PER EDU PER MONTH W/O DEBT OR CAPITAL</b>	<b>\$ 22.79</b>	\$ 23.47	\$ 24.18	\$ 24.90	\$ 25.65
<b>ESTIMATED REVENUES W/O DEBT OR CAPITAL----</b>	<b>\$ 8,350,000</b>				

City of Lincoln  
 WWTRF Expansion Phase 1 and 2 Opinions of Probable Cost

**Attachment B - Construction Cost Estimate**

Item	Costs per February 2023 Medium Scenario		Costs per February 2023 High Scenario		Costs per February 2023 Low Scenario	
	Phase 1	Phase 2	Phase 1	Phase 2	Phase 1	Phase 2
	7.1	8.0	7.1	8.0	7.1	8.0
Mgal/d						
Influent Pump Station		\$402,321		\$402,321		\$402,321
Headworks - Grit Removal	\$2,314,616		\$2,314,616		\$2,314,616	
Oxidation Ditch Splitter Box	\$64,886		\$64,886			\$64,886
Oxidation Ditches	\$17,356,735		\$17,356,735			\$17,356,735
Secondary Clarifiers		\$10,081,697		\$10,081,697		\$10,081,697
RAS Pump Station		\$529,004		\$529,004		\$529,004
Maturation Pond Outlet Facilities	\$1,663,674		\$1,663,674		\$1,663,674	
Dissolved Air Floatation Clarifiers		\$4,315,557	\$4,315,557		\$4,315,557	
DAF Splitter Box		\$417,635	\$417,635		\$417,635	
DAF Float Pump Station		\$1,517,405	\$1,517,405		\$1,517,405	
DAF Recirculation Pump Station & Compressor		\$97,448	\$97,448		\$97,448	
Filter Feed Pump Station	\$270,331		\$270,331		\$270,331	
Tertiary Filters		\$4,482,610	\$4,482,610		\$4,482,610	
UV Disinfection	\$1,780,774		\$1,780,774		\$1,780,774	
Chemical Facilities		\$139,212		\$139,212		\$139,212
Solids Holding Tank	\$347,790		\$347,790		\$347,790	
Effluent Storage and Ancillary	\$11,526,804		\$11,526,804			\$11,526,804
Reclamation Filter & Chlorination Facility	\$1,350,992		\$1,350,992		\$1,350,992	
General Site Work						
Yard Piping and Appurtences						
Electrical & Instrumentation (incl. SCADA)						
<b>Total Construction (rounded)</b>	<b>\$36,680,000</b>	<b>\$21,980,000</b>	<b>\$47,510,000</b>	<b>\$11,150,000</b>	<b>\$18,560,000</b>	<b>\$40,100,000</b>
<b>Total (rounded)</b>	<b>\$58,700,000</b>		<b>\$58,700,000</b>		<b>\$58,700,000</b>	

(a) ENR 20-Cities Construction Cost Index (CCI) of 13,176.



# Attachment C - Formation Budget

## Budget For JPA Expenses

<b>EXPENDITURES</b>		<b>Budget</b>	<b>Budget</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>
		<b>FYE 2023</b>	<b>FYE 2024</b>	<b>FYE 2025</b>	<b>FYE 2026</b>	<b>FYE 2027</b>	<b>FYE 2028</b>
	JPA Board members (\$200/member/mtg/mo)	19,200	19,200	19,200	19,200	19,200	19,200
	OTHER STAFF (includes Admin Allocation)						
52450	RENTS AND LEASES - PROPERTY	1,200	1,236	1,273	1,311	1,351	1,391
	RENTS AND LEASES - LAND	57,400	57,400	57,400	57,400	57,400	57,400
	COMPUTERS AND SOFTWARE						
	Cyber security/VPN	10,000	10,300	10,609	10,927	11,255	11,593
52240	Subscriptions (microsoft, adobe, etc.)	5,000	5,150	5,305	5,464	5,628	5,796
52800	Internet (air fiber connection)	7,800	8,034	8,275	8,523	8,779	9,042
52440	OFFICE EQUIPMENT (printers, phone system, etc.)	10,000				2,000	2,000
52800	UTILITIES	1,640,965	1,690,193	1,740,899	1,793,126	1,846,920	1,902,328
52160	MATERIALS/SUPPLIES	5,000	5,150	5,305	5,464	5,628	5,796
52170	FUEL & OIL	8,800	9,064	9,336	9,616	9,904	10,202
	CLOTHING	-	-	-	-	-	-
52190	MAINTENANCE-JANITORIAL	-	-	-	-	-	-
52040	COMMUNICATION	7,188	7,404	7,626	7,855	8,091	8,333
52570	ADVERTISING/OUTREACH	7,500	7,725	7,957	8,195	8,441	8,695
52370	LEGAL FEES	25,000	20,000	20,000	20,000	20,000	20,000
52360	CONSULTANT SERVICES						
52360	GM Services (TBD)	375,000	375,000	386,250	397,838	409,773	422,066
52360	Accounting Services (Eide Bailly)	2,500	2,500	2,500	2,500	2,500	2,500
52360	Audit Services	20,000	20,000	20,000	20,000	20,000	20,000
52380	Operations Contract	4,700,000	4,841,000	4,986,230	5,135,817	5,289,891	5,448,588
52380	Engineering	100,000	103,000	106,090	109,273	112,551	115,927
52308	R&R	500,000	515,000	530,450	546,364	562,754	579,637
52400	IT Business Services	96,000	96,000	96,000	96,000	96,000	96,000
52360	Other general contract services	60,000	50,000	50,000	50,000	50,000	50,000
52790	TRAVEL/MEETINGS	-	5,000	5,000	5,000	5,000	5,000
52160	EQUIPMENT REPAIR/MAINT	2,446	2,520	2,595	2,673	2,754	2,836
52160	FLEET MAINTENANCE	19,545	20,131	20,735	21,357	21,998	22,658
52320	PRINTING/COPIES/POSTAGE/SUPPLIES	1,000	1,030	1,061	1,093	1,126	1,159
52240	MEMBERSHIP DUES	-	-	-	-	-	-
	INSURANCE	70,000	72,100	74,263	76,491	78,786	81,149
53190	REGULATORY FEES	85,000	87,550	90,177	92,882	95,668	98,538
<b>TOTAL O &amp; M EXPENDITURES-----</b>		<b>7,836,544</b>	<b>8,031,688</b>	<b>8,264,535</b>	<b>8,504,368</b>	<b>8,753,396</b>	<b>9,007,835</b>
APPROPRIATION FOR CONTINGENCIES							
CHEMICAL TREATMENT for order control							
CAPITAL PROJECTS (annual ave. excludng expansion)		532,000	532,000	532,000	532,000	532,000	500,000
ORDER CONTROL FACILITY (not currently used)							
DEBT (Phase 1 & 2, Scenario 1)		3,191,906	3,191,450	3,191,250	3,194,125	5,004,875	5,008,550
<b>TOTAL EXPENDITURES-----</b>		<b>11,560,450</b>	<b>11,755,138</b>	<b>11,987,785</b>	<b>12,230,493</b>	<b>14,290,271</b>	<b>14,516,385</b>
<b>DEBT SERVICE COVERAGE AMOUNT (est for year 1 only \$</b>		<b>650,000.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL EDUs-----</b>		<b>29,362</b>	<b>29,656</b>	<b>29,952</b>	<b>30,252</b>	<b>30,554</b>	<b>30,860</b>
<b>RATE PER EDU PER MONTH-----</b>		<b>\$ 34.65</b>	<b>\$ 35.69</b>	<b>\$ 36.77</b>	<b>\$ 37.87</b>	<b>\$ 39.00</b>	<b>\$ 40.17</b>
<b>INFLATION FACTOR-----</b>			<b>3.00%</b>	<b>3.00%</b>	<b>3.00%</b>	<b>3.00%</b>	<b>3.00%</b>
<b>ESTIMATED REVENUES-----</b>		<b>12,210,450</b>	<b>12,702,531</b>	<b>13,214,443</b>	<b>13,746,985</b>	<b>14,300,989</b>	<b>14,877,319</b>