

**City of Palmer Wastewater Treatment Plant Improvements - FY2023 Request: \$0**  
**Phase II Reference No: 64132**

**AP/AL:** Appropriation **Project Type:** Construction  
**Category:** To be determined **Recipient:** City of Palmer  
**Location:** Palmer (Palmer) **House District:** Matsu Areawide (HD 7-12)  
**Impact House District:** Matsu Areawide (HD 7-12) **Contact:** Micaela Fowler  
**Estimated Project Dates:** 07/01/2021 - 06/30/2026 **Contact Phone:** (907)465-2506

**Brief Summary and Statement of Need:**

The City of Palmer completed Phase I of its required Wastewater Treatment Plant improvements in 2018 expending \$12,638,457. Under a federal consent decree Phase II was ordered. It is anticipated that the entire Phase II project will reach \$12 million. These two projects are an outsized burden to carry for a utility of 2,318 service connections. Our customers include Mat-Su Regional Medical Center, and Mat-Su College and others who reside outside the city limits of Palmer. The request is for \$6.9 million. The City of Palmer has committed \$3.1 million to the project.

<b>Funding:</b>	<u>FY2022</u>	<u>FY2023</u>	<u>FY2024</u>	<u>FY2025</u>	<u>FY2026</u>	<u>FY2027</u>	<u>Total</u>
1004 Gen Fund 1269 CSLFRF	\$6,900,000						\$6,900,000
Total:	\$6,900,000	\$0	\$0	\$0	\$0	\$0	\$6,900,000

<input type="checkbox"/> State Match Required	<input type="checkbox"/> One-Time Project	<input type="checkbox"/> Phased - new	<input type="checkbox"/> Phased - underway	<input type="checkbox"/> Ongoing
0% = Minimum State Match % Required		<input type="checkbox"/> Amendment	<input type="checkbox"/> Mental Health Bill	

**Operating & Maintenance Costs:**

	<u>Amount</u>	<u>Staff</u>
Project Development:	0	0
Ongoing Operating:	0	0
One-Time Startup:	0	0
<b>Totals:</b>	<b>0</b>	<b>0</b>

**Prior Funding History / Additional Information:**

SFSC1 removed project 4/11/2021:  
<http://www.legfin.state.ak.us/BudgetReports/LY2022/Capital/SenateFinanceCS1/CapitalProjectDetailByAgency.pdf>  
 SCS2 add with UGF

**Project Description/Justification:**

In 2016, the City of Palmer updated the Facility Plan for their Wastewater Treatment Plant (WWTP). Effluent from the City’s WWTP is discharged to an unnamed side channel of the salmon-bearing Matanuska River and must meet conventional secondary treatment limits as well as seasonal monthly average and maximum daily ammonia limits of 1.7 and 3.6 mg/L in summer and 8.7 and 18.5 mg/L in winter.

Prior to 2018, secondary treatment was based solely on covered aerated lagoons. The aerated lagoon process was not able to reliably meet effluent ammonia limits. Nitrification is particularly challenging in Palmer’s cold winter climate with influent wastewater temperatures near 8°C and

further temperature decreases to near 1°C across the lagoons. Two major drivers governed Palmer’s WWTP facility planning in recent years. Foremost was a 2018 consent decree compliance deadline for meeting ammonia limits, as well as future deadlines for meeting effluent TSS limits. Recent growth projections also indicated capacity-driven expansion needs. The facility plan recommended a phased approach due to uncertainty in growth projections and to reduce the risk of stranded assets, and detailed upgrades to convert the facility from aerobic lagoons to a moving bed bioreactor (MBBR) process for cold-climate nitrification and compliance with ammonia limits.

The City completed Phase I of the WWTP upgrades in 2018. Phase I focused on the conversion from aerobic lagoons to a moving bed bioreactor (MBBR) process for year-round cold-climate nitrification and compliance with ammonia limits. The upgrades included new MBBR basins, new Control Building, new Chemical Feed Systems, new Dewatering Pumping Station, Ultraviolet Disinfection Building modifications, new Non-potable Water System, new effluent metering manhole, yard piping, site work, electrical, instrumentation, equipment, and mechanical related work. The total project cost for Phase I was \$12,638,457.

The City is currently constructing Phase II of the project to address consent decree deadlines for ammonia and TSS effluent limits. Phase II includes the construction of two new circular secondary clarifiers, a new waste activated sludge pumping station, a new scum pump station, modifications to existing lagoons, piping upgrades, and associated electrical, SCADA, mechanical and civil work. The construction cost for Phase II is \$7.9 million and the project must be substantially complete by July 2022 to remain in compliance with consent decree requirements. Estimated engineering costs, bonding, etc. are anticipated at another \$2.1 million.