



**COMMISSION
AGENDA MEMORANDUM**

Item No.

8k

ACTION ITEM

Date of Meeting

August 11, 2026

DATE: July 30, 2026

TO: Stephen P. Metruck, Executive Director

FROM: Eileen Francisco, Director, Aviation Project Management
Sarah Cox, Director, Aviation Environment & Sustainability

**SUBJECT: Industrial Wastewater Treatment Plant (IWTP) Enhancements – CIP# C801234
100% Design Funding and Early Works Package Release**

Amount of this request: \$ 41,200,000

Total estimated project cost: \$ 280,782,000

ACTION REQUESTED

Request Commission authorization for the Executive Director to (1) authorize full design and preparation of construction documents for the Industrial Wastewater Treatment Plant Enhancements projects; (2) procure long-lead items; (3) authorize Port Construction Services to execute small works contracts and use Port crews for support of construction; (4) execute early work packages with Hoffman Construction; (5) increase project authorization by \$41,200,000 for a total project authorization of \$61,335,000. The total estimated Industrial Wastewater Treatment Plan Enhancements project cost is \$280,782,000.

EXECUTIVE SUMMARY

This project will install a pre-treatment system and upgrade the existing systems at the IWTP to ensure compliance with future King County Department of Natural Resources Industrial Waste Discharge permit limits.

The airport's IWTP manages and treats stormwater associated with industrial activities from aircraft fueling and maintenance operations as well as wastewater from other airport related operations such as aircraft deicing. Stormwater runoff with low Biochemical Oxygen Demand (BOD) discharges to the Puget Sound under conditions of National Pollutant Discharge Elimination Systems (NPDES) permit. Stormwater runoff with high BOD discharges to King County South Treatment Plant for secondary treatment under King County Department of Natural Resources Permit No. 7810-06. The primary source of high BOD is aircraft deicer runoff. Effective in 2026, the King County BOD permit limits will be restricted to a level that will require an on-site pre-treatment system at the Seattle–Tacoma International Airport (SEA). Negotiations with King

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County regarding the implementation schedule require the Port to demonstrate progress towards the implementation measures necessary to meet the new permit limits.

The amount of this request is \$41,200,000 to complete the full Architecture and Engineering (A&E) design of the IWTP Program (CIP C801234), long-lead equipment purchases, and completing early works packages. The total estimated project cost is currently \$ 280,782,000. Staff will return to the Commission following the completion of the 90% design and negotiation for the Maximum Allowable Construction Cost (MACC), at that time staff will provide an updated project cost estimate and request authorization to move forward with the full construction package.

JUSTIFICATION

Since 2007, the IWTP has discharged industrial wastewater runoff containing aircraft deicers to the King County Wastewater Treatment System. Through each permit cycle, King County has restricted discharges because under sustained heavy aircraft deicer loads, the performance of the County's treatment plant has been disrupted by the Port's discharges.

Over the past five years, the Port has evaluated technologies and methods to reduce impacts to the King County treatment plant. This evaluation included a comprehensive assessment of deicing source control, storage, and treatment technologies. This assessment resulted in measures to reduce the amount of aircraft deicer applied and implemented operational efficiencies. For example, most of the aircraft deicer applicators switched to an application technology reducing the amount of deicer applied. This source reduction reduces the amount of future storage needed.

Under the terms of the July 2021 and July 2026 Industrial Waste Discharge (IWD) permits, the Port is required to implement infrastructure and operational modifications by 2031 to comply with future discharge limits. The previous BOD mass loading limit of 60,000 lb./day will be reduced to 15,000 lb./day maximum daily and 12,000 lb./day on a monthly average basis during the 2031 permit issuance, with interim limits imposed in the 2026 permit cycle. The IWTP modifications needed to comply with these reduced limits include significant additions to the system for storage and pretreatment of IWS stormwater containing spent aircraft deicing fluid. The 2026 IWD permit also includes a compliance schedule over the next five years to reflect progress toward implementation of measures to meet further reduced 2031 effluent limitations. The Port will continue to collaborate with King County Industrial Waste Program to meet permit limits during construction of the project.

While the Port has developed a preliminary design of the pretreatment and storage systems, some elements of the design scope present risks to overall cost and schedule (phasing, controls architecture, storage requirements, seasonal modeling, etc.).

Diversity in Contracting

There will be a 15% WMBE aspirational goal associated with this contract from the designers. The construction determination will be made at the 60% set.

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DETAILS

Funds will be used to develop and complete:

- Complete Design (treatment configuration, storage options, infrastructure needs)
- Final construction estimate
- Determine all jurisdictional and utility districts design input
 - PSE Power requirements
 - Highline Water District
 - Midway Sewer District
 - City of SeaTac requirements

The completed design will provide clarity of a pre-treatment system, water storage, and all associated mechanical support systems that will work with the existing systems.

Scope of Work

Design completion of the following systems will be included in the scope of the IWTP Program

- (1) Existing IWTP upgrades (lagoon mixing, modifications to Dissolved Air Flotation systems (DAF's), etc.)
- (2) Pre-treatment flow diversion and influent system
- (3) Storage systems to facilitate pre-treatment
- (4) BOD treatment system (aerated gravel beds, oil-water separator, drainage, etc.)
- (5) Effluent discharge systems
- (6) Support systems (new building, power supply, controls, security systems, HVAC)
- (7) Early Works Package to include the procurement/construction:
 - a. Long Lead Equipment purchase.
 - b. Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR) work
 - c. PSE demolition and new work
- (8) Convert Parking garage drainage from Industrial Waste System (IWS) to Storm Drainage

Schedule

Activity

60% Design Complete	2026 Quarter 4
90% Design Complete	2027 Quarter 2
100% Design Complete	2027 Quarter 2
Maximum Allowable Construction Cost (MACC) Determined	2027 Quarter 2
Commission Authorization – Construction	2027 Quarter 3
Notice to Proceed	2028 Quarter 1
Substantial Completion	2031 Quarter 2

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Cost Breakdown	This Request	Total Project
Design	\$13,225,000	\$54,906,000
Construction	\$27,975,000	\$225,886,000
Total	\$41,200,000	\$ 280,792,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED**Alternative 1 – Status Quo.** Project will need to expense \$15,000,000Cost Implications: \$15,000,000Pros:

- (1) No further expenditure of capital.

Cons:

- (1) BOD levels would exceed permit allowances and likely result in significant fines indefinitely
- (2) Failure to meet King County permit levels for the new permit cycle will leave limited options for managing de-icing runoff at STIA. High BOD wastewater at the IWTP will not be able to discharge to the King County South Treatment Plant
- (3) The IWTP current storage is not sufficient and could result in overflow of untreated water into adjacent receiving waters
- (4) High risk of violating King County and/or Department of Ecology NPDES permit requirements
- (5) Increased risk of King County restricting or ceasing discharges during high-risk operational periods.
- (6) Staff have evaluated other treatment options locally and regionally outside of discharging to King County and did not identify feasible options
- (7) Without the project, winter flight operations would need to be restricted (i.e., flight cancellations) to maintain compliance

Alternative 2 – Construct new IWTP Facility with full scopeCost Implications: \$ 310,631,000Pros:

- (1) Maintain SEA Operations
- (2) Comply with King County and Department of Ecology (NPDES) permit requirements
- (3) Implementation of a pre-treatment facility on-site at STIA will allow continued discharge to the King County South Treatment Plant.
- (4) No need for future DAF project

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- (5) Improved operational flexibility

Cons:

- (1) Highest Cost

This is not the recommended alternative

Alternative 3 – Construct new IWTP Facility with deferred scope.

Cost Implications: \$280,792,000

Pros:

- (1) Maintain SEA Operations
- (2) Comply with King County and Department of Ecology (NPDES) permit requirements
- (3) Implementation of a pre-treatment facility on-site at STIA will allow continued discharge to the King County South Treatment Plant.

Cons:

- (1) Dissolved Air Flotation (DAF) tanks need to be replaced in five years
- (2) Reduced operational flexibility at lagoon 3

This is the recommended alternative.

FINANCIAL IMPLICATIONS***Cost Estimate/Authorization Summary***

Capital

Expense

Total

COST ESTIMATE			
Original estimate	\$ 127,000,000	\$0	\$ 127,000,000
Transfer from IWTP Controls	\$ 10,600,000		\$ 10,600,000
Transfer from Aeronautical Reserve	\$49,400,000		\$49,400,000
Previous Budget Estimate Range	\$200,000,000 to \$300,000,000	0	\$200,000,000 to \$300,000,000
Current Budget Change • From \$200,000,000	\$93,782,000	0	\$93,782,000
Revised estimate	\$ 280,782,000	0	\$ 280,782,000
AUTHORIZATION			
Previous authorizations	\$ 20,135,000	0	\$ 20,135,000
Current request for authorization	\$ 41,200,000	0	\$ 41,200,000
Total authorizations, including this request	\$ 61,335,000	0	\$ 61,335,000
Remaining amount to be authorized	\$ 219,447,000	\$0	\$ 219,447,000

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Annual Budget Status and Source of Funds

This project, CIP C801234, was included in the 2026-2030 capital budget and plan of finance with a budget of \$187,000,000. The budget increase of \$93,782,000 was transferred from the Aeronautical Allowance to CIP C800753 resulting in no net change to the Airport capital budget. The funding sources would include the Airport Development Fund and revenue bonds. Most of the project costs would be recovered through airlines rates.

Financial Analysis and Summary

Project cost for analysis	\$280,782,000
Business Unit (BU)	Airfield Apron Area
Effect on business performance (NOI after depreciation)	NOI after depreciation will increase due to inclusion of capital (and operating) costs in airline rate base.
IRR/NPV (if relevant)	N/A
CPE Impact	\$0.70 in 2030

Future Revenues and Expenses (Total cost of ownership)

Aviation Operations and Maintenance have reviewed the preliminary design of the system, and meetings have been held with leadership from each group to discuss expected additional costs of ownership. The preliminary design documentation includes a summary of expected additional operators needed to support the system, as well as additional maintenance and spare part requirements.

ATTACHMENTS TO THIS REQUEST

- (1) Presentation slides

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

July 23, 2024 – The Commission authorized the Executive Director to (1) advertise and execute a General Contractor, Construction Manager (GC/CM) construction contract and authorize pre-construction services for CIP# C801234. The amount requested under this authorization was \$6,500,000.

September 26, 2023 (item 8b) – The Commission authorized the Executive Director to (1) advertise and execute a project specific contract for Architecture and Engineering (A&E) services, (2) develop a project notebook document and progress the overall design to 30%, (3) utilize port crews for enabling work related to the Industrial Wastewater Treatment Plant (IWTP) project at Seattle-Tacoma International Airport. The amount being requested under this authorization was \$11,500,000.

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December 14, 2021 – The Commission authorized execution of a contract for Architecture and Engineering (A&E) services to complete planning and preliminary design for the Industrial Wastewater Treatment Plant (IWTP) Program (CIP C801234). The amount of this request was \$2,000,000.