



**COMMISSION
AGENDA MEMORANDUM**

Item No. 8a

ACTION ITEM

Date of Meeting January 28, 2020

DATE: January 21, 2020

TO: Stephen P. Metruck, Executive Director

FROM: Laurel Dunphy, Director, Airport Operations
Wayne Grotheer, Director, Aviation Project Management
Clare Gallagher, Director, Capital Project Delivery/External Relations

SUBJECT: Flight Corridor Safety Program 2019 contracts, agreements, and real property interests

Amount of this request: \$5,895,000

Total estimated project cost: \$8,500,000

ACTION REQUESTED

Request commission authorization for the Executive Director to (1) use existing job order contracts for removal of current and future flight path obstructions from non-port properties and associated replanting of replacement trees; (2) advertise and execute construction contracts for replanting of replacement trees; (3) pay fees to the Washington State Department of Transportation (WSDOT) and local jurisdictions for them to perform replanting for certain obstructions removed from their properties; (4) execute agreements with public agency and private property owners as needed for purposes of obstruction management; and (5) acquire those property rights reasonably necessary for obstruction management and preventing future creation or establishment of airport hazards. The total cost estimate for this request is \$5,895,000 for a total estimated project cost of \$8,500,000.

EXECUTIVE SUMMARY

This request for authorization supports the port's Flight Corridor Safety Program 2019. The program is intended to remove current and future obstructions consisting of different species of trees around Seattle-Tacoma International Airport, replant trees of compatible species in appropriate locations and acquire property rights to perform obstruction management and prevent establishment of future obstructions. Obstructions include any objects penetrating Federal Aviation Administration (FAA)-designated approach and departure surfaces. Removal of obstructions will ensure the airport's compliance with FAA regulations, state laws regarding prevention of airport hazards, and the airport's operating certificate requiring airport operators to protect safe and efficient flight operations into and out of the airport.

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Aerial obstruction analysis (Light Detection and Ranging, or LiDAR) conducted in 2018 identified 174 trees as obstructions. The 174 trees are located on properties owned by the Port of Seattle, other public agencies (WSDOT, Highline School District, and City of SeaTac), and private properties (Hillgrove Cemetery and residentially and commercially zoned properties in the cities of Burien, Des Moines, and SeaTac). The 174 trees are a significant reduction from the approximately 1,600 trees that were originally planned to be removed. The intent is to remove trees having the highest potential impact to flight operations prior to March 1, 2020, and complete removal of the remaining trees by December 2020. The port may also remove future obstructions on properties where obstructions currently exist should the property owner desire this to occur. This will complete the first cycle of a program to manage obstructions every five years. Various approaches have been considered for tree replanting, which may include partnering with other public agencies. Replanting will occur starting in 2021 on properties where trees have been removed and, to the maximum extent practicable, on sites near the airport, without creating future obstructions to the flight paths. To date, the Port has replanted over four-times the number of trees removed and replaced the existing invasive herbaceous cover with a dense woody native shrub understory.

In implementing the Flight Corridor Safety Program 2019, the port will need to memorialize or assert its rights to access non-port properties for purposes of tree removal and replanting, and should seek, in coordination with property owners, permanent easements or other lawful airport protection privileges for continued, long-term protection of the flight surfaces. For example, acquiring an easement from property owners will protect against future encroachments by establishing appropriate height limitations for any trees or other objects located on the property, and the easement would provide a clear mechanism for the port to promptly and efficiently address any future obstructions, such as granting the right to access the property to address an obstruction, upon reasonable notice to the property owner.

JUSTIFICATION

There are several federal and state regulations and requirements that provide justification for obstruction removal. These regulations and requirements include the following:

1. Federal Requirements for Airport Operators to Control Obstructions
 - a. Federal Aviation Regulation (FAR) Part 77, “Safe, Efficient Use, and Preservation of the Navigable Airspace”
 - b. FAR Part 139, “Certification of Airports”
 - c. Advisory Circular (AC) AC 150/5300.13A change 1, including “Maintenance of obstacle clearance surfaces”
 - d. Grant Assurance 20, “Hazard Removal and Mitigation”
 - e. Grant Assurance 21, “Compatible Land Use”

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2. State Requirements for Airport Operators to Control Obstructions
 - a. RCW 14.12.020, “Airport hazards contrary to public interest”
 - b. RCW 14.08.030, “Acquisition of property and easements—Eminent domain—Encroachments prohibited”

Diversity in Contracting

For both the job order and construction contracts for replanting, port staff will coordinate with the Diversity in Contracting Department to identify appropriate women- and minority-owned business enterprise (WMBE) aspirational goals.

DETAILS

The port conducted an aerial obstruction analysis in 2014 for the removal of trees on port property in 2017, for which replanting occurred in 2019. The LiDAR compared tree heights to surfaces commonly used by the FAA to determine obstructions to navigation. These surfaces are conservative in their application and resulted in a substantial number of trees identified as obstructions. The port completed a new LiDAR study in 2018 to update the number of obstructions, including those on other public agency and private properties. In response to community feedback and commission guidance and in consultation with the FAA, the port used criteria to identify obstructions that had the most direct impacts to safe and efficient aircraft operations.

With the new criteria, data updated in 2019 shows 174 trees currently obstructing primary flight surfaces or expected to obstruct primary flight surfaces within five years. This is a substantial reduction from the nearly 1,600 trees originally estimated for this phase. These 174 trees will be removed from public and private property. Of the 174 trees, 104 are on WSDOT property or WSDOT right-of-way, 26 are on Highline School District property, 20 on City of SeaTac-owned property, and 6 are on port property. Another 18 trees are on private property, including 6 in Hillgrove Cemetery in SeaTac, and 12 on properties elsewhere in SeaTac, Burien and Des Moines. For trees on WSDOT property, some of these trees would be removed by WSDOT for the planned expansion of State Route 509.

The flight corridor safety program is an on-going program. Staff expects to conduct obstruction surveys approximately every five years to ensure safety of flight and to meet the federal and state regulations and requirements.

Environmental Review

On December 2, 2019, the port initiated a 14-day public comment period for the project under the State Environmental Policy Act (SEPA). During the comment period, the port requested comments on a detailed SEPA checklist that provided project details and environmental information. The SEPA checklist included the project’s extensive Regulatory Approach Memorandum and Implementation Plan. Eighteen comments were received during the public comment period. Comments ranged from requests to not remove trees to questions regarding

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compensation and request for additional analysis on impacts to local communities. On December 17, 2019, the port issued a Final SEPA Determination of Non-Significance based on the environmental review and comments received.

The port developed a replanting plan to minimize future obstructions, identify planting standards set forth by the local jurisdictions where obstructions are located, and consider various approaches to replanting, which may include partnering with other public agencies. Replanting will occur on-site where existing vegetation is removed or at nearby off-site properties. Best management practices will be implemented to minimize environmental impacts and avoid the primary bird nesting period (March 1 – July 15).

Although removing tree obstructions will cause a temporary reduction of sequestered carbon, this reduction will be offset by replanting. To demonstrate, mitigation for the 783 trees removed on Port property between 2016 and 2018 included replanting 3,684 trees and 10,311 native woody shrubs. The Port replanted over 4 times the number of trees removed and replaced the existing invasive herbaceous cover with a dense woody native shrub understory. Therefore, a lifecycle net reduction in carbon emissions is expected from this project. Replanting for trees removed on other public and private property are subject to concurrence from the property owners but are intended to be commensurate with the previous action.

Community Engagement

To support effective communication and transparency with communities affected by the Flight Corridor Safety Program 2019, the port developed and implemented a comprehensive outreach and communication plan. The plan includes targeted communication and collaboration with the cities of SeaTac, Burien, and Des Moines; Highline Public Schools; WSDOT; and individual outreach to affected property owners. The outreach efforts also included coordination meetings with public agencies, a presentation in the airport's community newsletter (Airmail), the development of a project-specific online open house and email communications to relevant port listservs. All communication efforts were designed to inform residents within the airport communities about the program, the upcoming work within the three cities and the ability to offer official public comment.

Property Access and Easements

The port may use a variety of methods to ensure the right to access non-port properties for tree removal and replanting and to acquire permanent easements or similar airport protection privileges for continued, long-term protection of the flight corridor. In all cases, port staff will negotiate directly with each landowner to acquire the property interests needed. If immediate tree removal is required, the port may obtain temporary access rights while permanent rights are negotiated. The value of each easement or property interest will be site specific, as determined by an appraiser in accordance with applicable standards for determining fair market value. The port will recommend that landowners seek the advice of independent legal counsel.

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Contracting

The port has developed a comprehensive plan to address the removal of obstructions by utilizing individual work orders under an existing Job Order Contract. To ensure timely removal of objects obstructing approach and departure surfaces, the first work order will begin as soon as possible and be completed prior to March 1, 2020. The other work orders are planned to start after July 15, 2020, to avoid the primary bird nesting period.

Additional contracts will be executed for replanting. For obstructions on the WSDOT and local jurisdictions’ properties, the port will pay into those agencies’ existing vegetation programs instead of undertaking the replanting. The costs for paying into the agencies’ vegetation programs are comparable and the agencies are better equipped to manage and maintain trees on their property, under their own programs. The decision will be documented in the agreements for obstruction management with the applicable agencies. For other public agency and private properties, job order and construction contracts for replanting are planned to be advertised and executed in 2021.

Scope of Work

The 2019 program scope of work includes removing trees identified as obstructions on, public agency, and private properties, and replanting trees in appropriate locations. This scope also includes executing agreements with public agency and private property owners as needed to perform obstruction management and obtaining easements or similar property interests as the permanent approach for obstruction management. In addition to the cost of removing and replanting trees, program cost under this authorization will also include the cost of acquiring easements or similar property interests as the permanent approach for obstruction management, payment to WSDOT and other public agencies for replanting of trees on their property, safety and site improvements, and environmental measures and monitoring during construction.

Schedule

Activity

Commission design authorization	2017 Quarter 1
Design start	2017 Quarter 1
Commission construction authorization	2020 Quarter 1
Construction start	2020 Quarter 1
Construction completion	2021 Quarter 3

Cost Breakdown by Phase

	This Request	Total Project
Design Phase	\$0	\$2,605,000
Construction Phase	5,895,000	5,895,000
Total	\$5,895,000	\$8,500,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – Status quo, do not remove obstructions in 2020.

Cost Implications: \$0

Pros:

- (1) No expenditure required in 2020 to remove obstructions or replant

Cons:

- (1) FAA could deem the airport to be non-compliant with federal regulations, in violation of the airport’s grant assurances, or in violation of the airport’s operating certificate. The FAA’s options could include:
 - (a) Limiting or eliminating any approach and/or departure procedures considered unsafe;
 - (b) Requiring airfield changes that would shorten the available runway length for departing and arriving aircraft, adversely affecting runway capacity;
 - (c) Limiting or eliminating FAA grant funding until the obstructions are removed, or even demanding repayment as to existing grants (the airport’s eligibility for future grants could also be affected); or
 - (d) Pursuing injunctive relief claims.
- (2) Airlines may be required to take weight penalties and/or not service certain markets, as aircraft would have to be lighter to take off over the obstructions.
- (3) This option does not meet the airport’s strategy goals and objectives, such as ensuring safe and secure operations. Doing nothing increases risk to the safety and property of airport users and nearby land occupants, and associated liabilities.
- (4) Deferring the obstruction removal will result in construction cost escalation in some future year for implementation.

This is not the recommended alternative.

Alternative 2 – One major works contract for all tree removal and replanting in 2021.

Cost Implications: \$8,300,000

Pros:

- (1) One contract package for all the project scope items.

Cons:

- (1) The obstruction removal will not start until 2021.
- (2) FAA could deem the airport to be non-compliant with federal regulations, in violation of the airport’s grant assurances, or in violation of the airport’s operating certificate until the obstruction removal occurs, implicating the potential enforcement options identified in (1)(a)-(d) of Alternative 1, above.
- (3) Airlines may be required to take weight penalties and/or not service certain markets until obstructions are removed, as aircraft would have to be lighter to take off over the obstructions.

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- (4) This option does not meet the airport’s strategy goals and objectives, such as ensuring safe and secure operations. Doing nothing until 2021 increases risk to the safety and property of airport users and nearby land occupants, and associated liabilities.
- (5) One major works contract does not provide as much flexibility for the port to engage a WMBE firm.

This is not the recommended alternative.

Alternative 3 – Use Job Order Contracts for obstruction removal in 2020 and Job Order, Small Works, and Construction Contracts for replanting in 2021.

Cost Implications: \$8,500,000

Pros:

- (1) Removes the most critical obstructions prior to March 1, 2020, and remaining obstructions by the end of 2020
- (2) Using a variety of contract types will allow port more opportunities to engage WMBE
- (3) Removal in 2020 minimizes the risks of the cons identified in Alternatives 1 and 2 above, thereby promoting:
 - (a) Compliance with federal requirements as to obstructions to navigable airspace;
 - (b) Compliance with the airport’s grant assurances and operating certificate;
 - (c) Avoidance of the potential adverse consequences identified in Alternative 1 at (1)(a)-(d), above (e.g., affecting Airport operations by limiting or eliminating approach/departure procedures or reducing runway capacity, jeopardizing current and future grant funding, potential FAA legal action);
- (4) Avoids impacts to Airlines, such as weight penalties and/or not servicing certain markets, as aircraft would have to be lighter to take off over the obstructions;
- (5) Meets the airport’s strategic goals and objectives, such as ensuring safe and secure operations; and
- (6) Promotes the public safety, health, and general welfare by eliminating airport hazards and preventing the future creation or establishment of new airport hazards

Cons:

- (1) Expenditure in 2020 and 2021.
- (2) Most expensive alternative.

This is the recommended alternative.

FINANCIAL IMPLICATIONS

Cost Estimate/Authorization Summary

	Capital	Expense	Total
COST ESTIMATE (WP: U00506)			
Original estimate	\$0	\$7,227,000	\$7,227,000
Current change	0	1,273,000	1,273,000
Revised estimate	0	8,500,000	8,500,000

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AUTHORIZATION			
Previous authorizations	0	2,605,000	2,605,000
Current request for authorization	0	5,895,000	5,895,000
Total authorizations, including this request	0	8,500,000	8,500,000
Remaining amount to be authorized ¹	\$0	\$0	\$0

Annual Budget Status and Source of Funds

The Flight Corridor Safety Program costs are expense costs. The 2020 operating budget includes \$543,000 for this program. The project costs will be accounted for as public expense and included in the airline rate base (Airfield Movement Area) as an amortized cost, recognizing there is a multi-year benefit. The funding source is the Airport Development Fund.

Financial Analysis and Summary

Project cost for analysis	\$8,500,000
Business Unit (BU)	Airfield Movement Area
Effect on business performance (NOI after depreciation)	NOI after depreciation will decrease in the year of expenditure but increase in subsequent years.
IRR/NPV (if relevant)	N/A
CPE Impact	\$0.01 in 2020, \$.01 in 2021 and less than \$.01 in 2022

ATTACHMENTS TO THIS REQUEST

- (1) Presentation slides

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

November 14, 2017 – The Commission authorized the Executive Director to (1) increase the project budget for the Flight Corridor Safety Program – Phase 1 by \$2,600,000 for a new total of \$5,806,000; (2) execute change order(s) in excess of \$300,000 as necessary to complete the tree removal work and (3) advertise and execute a major works construction contract to remove obstructions and complete replanting for Flight Corridor Safety Program Phase 1 at Seattle-Tacoma International Airport.

July 25, 2017 – Commission briefing on Flight Corridor Safety Program Sites P-4 and P-5. The briefing provided a summary of the public engagement workshop that was held on June 5, 2017 to identify a preferred removal and replanting approach with the community’s input.

¹ As noted above, the port will repeat the obstruction identification and removal process approximately every five years.

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February 21, 2017 – Commission authorized the Chief Executive Officer to prepare environmental, design and contract bid documents for the Flight Corridor Safety Program now-combined Phase 2 and Phase 3 at Seattle-Tacoma International Airport for \$2,373,000. The total estimated project cost is \$7,227,000.

November 22, 2016 – Commission authorized (1) to award and execute a major works construction contract to the lowest responsible bidder, notwithstanding the low bid exceeding the engineer's estimate by more than 10 percent; (2) change the contract duration as necessary and include additional scope that may be identified, including deferral of work on selected sites; (3) increase the project budget by an amount not to exceed \$475,000 for a total new project cost of \$3,206,000.

November 1, 2016 – Commission public meeting and briefing on the Flight Corridor Safety Obstruction Management program. The briefing provided an overview of state and federal laws/requirements, and staff's recommendation of options to modify the current program. The public meeting also included an extensive public comment period.

October 25, 2016 – Commission considered authorization to award the irregular bid exceeding 10 percent of the engineer's estimate to the lowest responsible bidder but took no action.

October 11, 2016 – Commission considered authorization to award the irregular bid exceeding 10 percent of the engineer's estimate to the lowest responsible bidder but took no action.

August 23, 2016 – A special announcement to Commission by Aviation Operations Director, Michael Ehl, in regard to the Port issuing the final environmental Mitigated Determination of Non-Significance (MDNS) for tree removal and replanting as part of the Flight Corridor Safety Program in Phase One.

August 9, 2016 – Commission authorized the advertisement and execution of a major works construction contract in the amount of \$1,831,000 for a total project cost of \$2,731,000.

February 9, 2016 – Commission authorized to design, advertise and execute a major works construction contract in the amount of \$750,000 for a total estimate project cost of \$900,000.

November 24, 2015 – Commission briefed on the Flight Corridor Safety Obstruction Management program. The briefing provided an overview of state and federal laws/requirements, and staff's recommendation of a phased delivery approach to complete the program.