

**PORT OF SEATTLE**  
**MEMORANDUM**

**COMMISSION AGENDA**  
**ACTION ITEM**

**Item No.** 6c\_attach\_b  
**Date of Meeting** December 8, 2015

**Attachment B:**

**Subject:** North Satellite Renovation & North Satellite Transit Station Lobbies (NSAT) Project (CIP #C800556) at Seattle Tacoma International Airport

**SYNOPSIS**

The NorthSTAR program, which is a collaboration of the Port and Alaska Air Group (AAG), intends to create and promote a user-friendly “curb-to-seat” passenger experience through the integration of facility improvements, technology, and airline services. The Port and AAG share common goals for the North Satellite (NSAT) including: improved passenger experience, increased customer level of service, passenger comfort, and compliance with applicable codes to ensure life safety. A key factor in renovating and expanding the North Satellite is meeting the Port’s and AAG’s vision, project objectives, and programming requirements.

Port staff is requesting an increase in project authorization of \$98,100,000 for additional preconstruction services (up to \$1,200,000) and to commence preliminary construction work. To allow for this preliminary construction work, port staff is requesting authority to amend the General Contractor/Construction Management contract with Hensel Phelps. This amendment would include a revision to an existing limit on the value of any preliminary construction work (currently, no more than 10% of the estimated MACC). Finally, in order to secure flexibility as to when specific preconstruction services and preliminary work are authorized, Port staff does not intend to include all of the preconstruction service and preliminary construction work in a single amendment, but instead is requesting the authority to execute change orders to the amended contract to authorize individual elements of the scope identified in this memo, all within the revised budget limit. As the final design and permitting of the base building expansion and renovation is being completed, undertaking the preliminary work package allows preparatory construction to begin and continuing preconstruction services benefits the constructability and maintains the overall project schedule. A portion of the additional preconstruction services covers efforts to reconcile the estimated cost of the project support the value engineering efforts, develop an optimal construction phasing plan, and will also cover the delays experienced in completing the 60% design phase. This would bring the total authorization for the project to \$161,218,800.

Staff also requests authorization to execute a project specific contract for construction auditing services as per the requirements of the Regulatory Code of Washington (RCW) for the General Contractor/Construction Manager contract with Hensel Phelps.

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On March 17, 2015, the Commission previously authorized the use of Port Crews for preliminary construction and during the NSAT building expansion. Port crews may also perform portions of the work now being requested.

Based on the completion of 60% design and reconciliation of the estimated cost, the preliminary NSAT project cost estimate has increased by \$79.5 million from \$421.7 million established in March 2015 to \$501.2 million, a growth of 19%. The growth in the estimated cost and initial value engineering cost reductions are detailed below. Though value engineering efforts continue, there are insufficient reductions to achieve the original project budget. However, the project team is not recommending the budget be increased until bid results for the preliminary work are received in February 2016 to validate whether actual market conditions, subcontractor pricing, and labor or subcontractor shortages have escalated as currently estimated. These data will be essential to finalizing the estimated cost of the project. Staff currently forecasts the estimated cost of the project to range between \$470,000,000 and \$490,000,000 as of the date of this memo and will update the Commission in March 2016 after actual preliminary work bid results and market conditions have been analyzed and the design has progressed further toward completion.

This project is being coordinated with the Sustainable Airport Master Plan (SAMP) and will not be adversely affected by future development recommendations of SAMP.

### **BACKGROUND**

In August 2014, the Commission approved a budget of \$405,532,944 which increased the project scope to expand the building by five additional aircraft gates to a total of twenty gates, and the use of a General Contractor/Construction Manager contractor for the North Satellite construction. In March 2015, the Commission approved the current budget of \$421,682,944 with the addition of \$14,400,000 for expansion of the baggage handling system within the expanded portion of the building and transfer of the previously authorized Satellite Transit System tunnel leak repair project. Commission also authorized use of \$4,900,000 of the NSAT budget in March 2015 for preparatory work for construction offices, relocating loading bridges, a dynamic display system for the north loop of the satellite train system, and reimbursement to Puget Sound Energy for a natural gas connection to the satellite.

At the completion of the 30% design phase in October 2014, thirteen (13) additional scope items were added to the project for further refinement and evaluation during 60% design and the revised 60% project budget is now estimated at \$501.2 million. The possibility existed that added costs might be covered within the design allowance or other project contingencies of the estimate during 60% development. The potential impact of these scope additions on the budget has been continually identified as a risk in the Q4 2014 and 2015 NorthSTAR Quarterly Updates to the Commission. With the completion of the 60% design, the current project cost estimate would increase the budget by \$79.5 million or 19%. This revised estimate has been reconciled by the Port with the designer's and the General Contractor/Construction Manager's independent estimates. The result has been a more accurate, but higher estimated cost to accomplish the project.

The most significant contributing factor to the increased current budget estimate, representing about half of the \$79.5 million increase, is the thirteen added scope items now estimated at \$35.4 million, up \$5.4

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million from the \$30 million estimated at the completion of 30% design. Market conditions in combination with the more developed 60% design represent the other major factors contributing \$33.8 million in increases that include: updated subcontractor pricing, labor inefficiencies due to now known project logistics, construction worker travel time and new security requirements, impact of the market conditions that continued to strengthen since the 30% estimate, increased knowledge of construction methods and means and constructability impacts/costs, further progression of the design from 30% to 60% resulting in more accurate cost estimating, increased materials quantities identified in the more detailed design, and establishing more detailed level of finishes. A final factor is the increased asbestos remediation resulting from more extensive fireproofing overspray removal required based on several design decisions.

An extensive value engineering effort is being conducted with over 50 items identified for review. The priority focus is on scope items that maintain the base program objectives followed by items that require more analysis due to modifications to Port standards and/or program objectives. Evaluation factors include construction cost savings, maintenance/life cycle cost impacts, passenger experience, operational impacts, additional design fee impacts, and schedule impacts. To date, approximately \$18.5 million in cost savings have been identified and are being incorporated into the project with minimal impact to the schedule. The Port is continuing validation of the estimated cost ranging from \$470-490 million with the General Contractor/Construction Manager contractor. Uncertainty in the final projected budget will remain, though value engineering efforts continue to seek additional cost reductions, until the General Contractor/Construction Manager Contractor bids the project and the Port and Contractor negotiate the maximum allowable construction cost (MACC).

In accordance with the Letter of Understanding between the Port and Alaska Airlines Group (AAG) dated April 5, 2012, the Port will seek AAG's concurrence for various project elements, in particular, for construction phasing and the project budget. The Port continues to collaborate with AAG to optimize the construction phasing and the revised project budget and is working to obtain AAG's concurrence on both aspects prior to this action.

## **PROJECT JUSTIFICATION AND DETAILS**

In order to maintain the overall project schedule and realize the benefit of the General Contractor/Construction Manager contracting methodology, staff is recommending the preliminary work design and construction package move forward separate from and ahead of the base building design/construction package. The preliminary work package includes preparatory work in advance of the more extensive Phase 1 building expansion and the subsequent Phase 2 renovation of the existing building. The preliminary work package allows construction to begin while the final design and permitting of the base building and extension is completed thus maximizing resources to maintain the project schedule. The cost estimate for the preliminary work is \$98.1 million. This construction authorization is in addition to the \$3.5 million previously authorized on March 24, 2015 for relocation of loading bridges, for a total of \$101.6 million construction authorization.

Staff will solicit and contract for project specific independent construction auditing services. The use of existing Indefinite Delivery Indefinite Quantity (IDIQ) contracts were considered but are not viable

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options due to the duration of this project and the General Contractor/Construction Manager contract with Hensel Phelps.

Staff requests the preconstruction services being provided by Hensel Phelps continue until the Phase 1 construction of the building is underway, currently forecast to begin July 2016. Significantly more hours have been spent on preconstruction services than originally anticipated due to delays incurred concluding the 60% design and additional effort required for reconciling the cost of the project, conducting value engineering efforts, and optimizing the construction phasing plan. An additional cost of \$1,200,000 is estimated for these preconstruction services. The cost for the audits and additional preconstruction services are both included in the \$98.1 million authorization request and the overall budget.

### ***Project Objectives***

- Extend the length of NSAT by approximately two hundred forty feet to improve customer service and accommodate additional aircraft and passengers.
- Seismically strengthen NSAT and expand the existing infrastructure.
- Balance and integrate NSAT functional areas and requirements (concessions, holdrooms, amenities, airline operations and airline services) through a renovation and expansion of the NSAT's terminal area to achieve acceptable levels of service.
- Align near term and forecasted airport-wide gate use and capacity by providing a total of 20 contact gates at NSAT.
- Optimize gate door contact points, loading bridges and aircraft parking positions, including fuel hydrants and other support utilities.
- Meet or exceed current sustainability goals of the Century Agenda with potential LEED certification.
- Create a "frictionless" and stress-free passenger experience within NSAT.
- Create an exciting and attractive facility integrating hold-rooms, diverse amenities and numerous concessions.
- Maintain and promote a Northwest sense of place through the design of architecture and connected technologies.

### ***Scope of Work***

This request includes the following elements associated with the requested authorizations:

- Preliminary work to relocate existing passenger loading bridges and aircraft positions, reconfigure fuel pits, relocate gate infrastructure, re-route site utilities, construct access stairs for ground boarded aircraft, mass excavation, shoring, concrete panels and drill shaft foundations, purchase and install a section of fixed loading bridge, selective demolition, construct a waterproof enclosure the north end of the building, and purchase the structural steel, vertical circulation components, major electrical and mechanical equipment, fuel hydrants, curtainwall system and other long-lead items for the entire project.

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- Conduct independent construction auditing to comply with the requirements of RCW 39.10.385 (11) to confirm the proper accrual of costs as outlined in the General Contractor/Construction Manager contract with Hensel Phelps.
- Additional preconstruction services for Hensel Phelps to continue to undertake cost estimating and validation, participate in value engineering, construction phasing, and subcontractor bidding for construction.

Ongoing key elements associated with the overall NSAT renovation and expansion is:

- Renovation of concourse level finishes, structure, and amenities
- Expansion of the NSAT STS, baggage and concourse levels by up to nine structural bays
- Addition of 5 new NSAT aircraft gates with passenger loading bridges to be provided by AAG (for a total of 20)
- Seismic reinforcement
- Addition of an Alaska Airlines premium traveler lounge (Alaska Board Room)
- NSAT Train System lobby enhancements construction (including the NSAT, Concourse C and Main Terminal stations)
- Expansion, renewal and replacement of mechanical, electrical, plumbing, vertical transportation, and communication systems
- Aircraft taxi lane changes around the NSAT
- Significant sustainability features and components
- Design development of the north end ramp level to integrate baggage operations with other ramp and building requirements.

### ***Schedule***

Preliminary Work Package Design Completion	2 <sup>nd</sup> Quarter 2016
Preliminary Work Package Construction Start	2 <sup>nd</sup> Quarter 2016
Preliminary Work Package Construction Complete	4 <sup>th</sup> Quarter 2017
Base Building 90% Design Complete	3 <sup>rd</sup> Quarter 2016
Base Building 100% Design Complete	4 <sup>th</sup> Quarter 2016
Base Building Construction Start	4 <sup>th</sup> Quarter 2017
Base Building Construction Complete	4 <sup>th</sup> Quarter 2020

## **FINANCIAL IMPLICATIONS**

### ***Budget/Authorization Summary***

	Capital	Expense	Total Project
Original Budget	\$194,300,000	\$5,000,000	\$199,300,000
Previous budget increase	\$221,582,944	\$800,000	\$222,382,944
Proposed budget increase	\$0	\$0	\$0

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Revised budget	\$415,882,944	\$5,800,000	\$421,682,944
Previous Authorizations	\$62,118,800	\$1,000,000	\$63,118,800
Current request for authorization	\$95,600,000	\$2,500,000	\$98,100,000
Total Authorizations, including this request	\$157,718,800	\$3,500,000	\$161,218,800
Remaining budget to be authorized	\$258,164,144	\$2,300,000	\$260,464,144
Total Estimated Project Cost	\$415,882,944	\$5,800,000	\$421,682,944

**Note:** The estimated cost of the project is currently forecasted at \$470-490 million. The final estimated project cost will be determined after the Port and Contractor negotiate the final Maximum Allowable Construction Cost (MACC) based on actual bid results.

### ***Project Cost Breakdown***

	This Request	Total Project Budget
Construction Phase	\$90,415,000	\$334,344,600
Design Phase	\$0	\$58,386,744
State & Local Taxes (estimated)	\$7,685,000	\$28,951,600
Total	\$98,100,000	\$421,682,944

### ***Budget Status and Source of Funds***

This project is included in the 2016 – 2020 capital budget and plan of finance with a budget of \$415.8 million. The possible budget increase, if approved, would be transferred from the Aeronautical Allowance CIP (C800404) resulting in no net change to the Aviation Division capital program. The project will be funded with a combination of Airport Development Fund, revenue bonds and Passenger Facility Charge revenues (PFCs).

The terms under which AAG will participate in the Port's NorthSTAR Program costs have been established via an April 5, 2012, Letter of Understanding between the Port and AAG. The airlines will be briefed in the second or third quarter of 2016 with regard to the increase in budget. The formal majority-in-interest (MII) project approval process outlined in the Signatory Lease and Operating Agreement (SLOA) may be utilized, with the Port submitting a ballot to the airlines seeking approval of the increased project budget. Under SLOA, the Port as an option may elect to use Management Reserve funds in lieu of the MII approval process. The requested authorization for the Preliminary Work Package is within the current MII approved amount.

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### ***Financial Analysis and Summary***

<b>CIP Category</b>	Renewal and Replacement
<b>Project Type</b>	Terminal Infrastructure
<b>Risk adjusted discount rate</b>	N/A
<b>Key risk factors</b>	N/A
<b>Project cost for analysis</b>	\$422M
<b>Business Unit (BU)</b>	Terminal
<b>Effect on business performance</b>	NOI after depreciation will increase
<b>IRR/NPV</b>	N/A
<b>CPE Impact</b>	\$1.32 by 2021. The actual CPE impact for this project could be lower depending on the amount of PFCs applied to construction costs and on revenue bond debt service.

### ***Lifecycle Cost and Savings***

An adequate estimate of staff hours and materials expense to operate the expanded and renovated NSAT building is still in development as the project elements are being refined and specifically defined regarding product, materials, and equipment. However, staff will provide an accurate estimate as design progresses. It is already understood that the additional expansion area will incur additional maintenance expense. A key objective of the project is installing sustainable materials and to maximize the maintainability of the new equipment. The complete renovation/replacement of the mechanical, electrical, baggage and other major systems provides an opportunity to achieve life cycle cost efficiencies and savings.

## **STRATEGIES AND OBJECTIVES**

This project supports the Port's Century Agenda objective of meeting the region's air transportation needs at Sea-Tac Airport for the next 25 years. This project also supports the Aviation Division's strategy of anticipating and meeting the needs of our tenants, passengers, and the region's economy.

The NSAT expansion is also in alignment with Airport master plan development objectives that identify the NSAT as the most logical location for near-term expansion of Airport capacity.

## **TRIPLE BOTTOM LINE**

### ***Economic Development***

This project will increase the long-term ability of the Airport to serve the airlines and AAG's future growth. With the airport facing record growth, this project cost effectively adds new gates to benefit the airport-wide gate shortfall. It also meets AAG's growth needs by expanding the satellite and renovating the existing building with entirely new systems.

### ***Environmental Responsibility***

The North Satellite renovation project allows the Port unique opportunities to incorporate sustainable features into the design and construction of the facility. The project scope has been developed to meet

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the project objectives, the Port Century Agenda goals, and the Airport's Environmental Strategy. Port staff has engaged AAG in developing the environmental aspects and process. Each scope item has been evaluated individually based upon the total cost of ownership for the expected life of the facility. The specific scope features include:

- Energy conservation for building infrastructure.
- Water conservation for the facility including rainwater harvesting for use in the building.
- Construction and operations waste minimization.
- Incorporation of new technology.
- Exceed current building codes.

This project intends to pursue Leadership in Energy and Environmental Design (LEED) for this project and will continue to evaluate other environmental initiatives as the design progresses.

### ***Community Benefits***

Project managers are coordinating with the Office of Social Responsibility to maximize small business participation opportunities including, but not limited to, Small Contractors and Suppliers (SCS) participation in accordance with Small Business Resolution No. 3618.

## **ALTERNATIVES AND IMPLICATIONS CONSIDERED**

**Alternate 1** - Current Schedule: Proceed with current expansion/design project scope and phasing with or without AAG concurrence. **This is the recommended alternative.**

### **PROS:**

- Maintains Port's programmatic objectives including addition of necessary gates, improved NSAT customer services and operations, increased non-airline revenues, etc.
- Achieves Port functional and design objectives.
- Savings will be achieved by value engineering.

### **CONS:**

- Project current cost estimate exceeds approved \$421 million budget and is forecasted to range between \$470,000,000 and \$490,000,000.
- Project current cost estimate is greater than 10% above the budget approved in the MII, requiring airline MII vote or use of SLOA management reserve.
- Working on AAG concurrence but proceeding without AAG could risk damage to airline/airport relationships.

**Alternative 2** - Defer project budget and Preliminary Work Package authorization until January 2016.

### **PROS:**

- Provides additional time to further reconcile the budget cost estimate before seeking authorization, and provides time for AAG concurrence if not already obtained.



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### **CONS:**

- Delays construction start 4-8 weeks at an estimated cost of \$2 - \$4 million.

**Alternative 3 - Redesign NSAT project to existing budget.**

### **PROS:**

- Maintain existing budget.

### **CONS:**

- Requires significant elimination or reduction of core project scope items.
- Will not achieve all project objectives/quality/passenger experience goals, operational and business goals, or LEED Certification.
- Redesign delay estimated at 12 months and \$15 - \$20 million.
- Total scope reduction may still not result in budget savings needed to maintain budget.

## **ATTACHMENTS TO THIS REQUEST**

- None

## **PREVIOUS COMMISSION ACTIONS OR BRIEFINGS**

- November 24, 2015 – NorthSTAR Program status update and NSAT budget briefing
- July 14, 2015 – NorthSTAR Program status update
- April 28, 2015 – NorthSTAR Program status update
- March 28, 2015 – The Commission authorized three NSAT related items:
  - Expand the baggage handling system increasing the project scope for \$14,400,000 and authorizing \$1,954,000 to complete the design.
  - Entering into a developer agreement with Puget Sound Energy and authorizing \$200,000 in reimbursement for the design and construction of underground gas infrastructure.
  - Authorized \$5,300,000 to
    - Prepare four locations to accommodate temporary passenger loading bridges, to construct temporary construction offices.
    - To complete construction of a Satellite Transit System (STS) North loop Dynamic Display system.
    - \$600,000 in expense funds for regulated materials management for AAG's tenant improvement project.
    - Approval to use Port crew labor and small works contractors to complete early project work.
- January 27, 2015 – NorthSTAR Program Status Update
- January 6, 2015 – The Commission authorized (1) \$5,000,000 preconstruction services; (2) execution of a General Contractor/Construction Manager contract for preconstruction services; and (3) transfer of scope, \$1,750,000 budget and authorization for STS station roof replacement to the North Satellite Renovation and Expansion project.
- October 28, 2014 – NorthSTAR Program Status Update

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- August 5, 2014 – Commission authorized an estimated \$191,323,143 to expand the NSAT by 8 additional gates, an additional \$15,717,800 for design completion, and use of the General Contractor/Construction Manager alternative public works contracting procedure for NSAT expansion construction procurement.
- July 22, 2014 - NSAT Expansion Briefing.
- April 16, 2014 – Seattle-Tacoma International Airport Capital Program – Briefing.
- January 14, 2014 – NorthSTAR Program status update and initial NSAT Expansion briefing.
- September 24, 2013 – NorthSTAR Program status update.
- September 24, 2013 – The Commission authorized staff to: (1) advertise, award, and execute a major public works contract for the construction of the NSAT Refurbish Baggage System Project; and (2) authorize the use of Port crews.
- June 25, 2013 –NorthSTAR Program status update.
- May 28, 2013, Commission authorized the execution of separate service agreements for Construction Management Services and Commissioning Services, of approximate values of \$10 million and \$1.5 million.
- April 9, 2013 – The Commission authorized the Chief Executive Officer to enter into a project labor agreement covering the NorthSTAR program’s five major construction projects.
- March 26, 2013 –NorthSTAR Program status update.
- December 11, 2012 – The Commission was briefed on the Vertical Conveyance Modernization Project Aero Phases 1 and 2 and the possibility of adding the specified elevators and escalators to the NorthSTAR program.
- July 24, 2012 - Commission authorized \$32,000,000 for the design of the NorthSTAR NSAT Renovation and NSTS Lobbies project.
- June 26, 2012 - The Port Commission was briefed on the NorthSTAR program by Wayne Grotheer, Director Aviation Project Management Group.
- April 10, 2012 - The Commission authorized the execution of consultant contracts for design and construction support services; program management services; and the completion of site surveys for regulated materials management, in the amount of \$1,200,000.