

## AGENDA REPORT

**Resolution:** Update on the Emergency Repair of Taxiway B near the Intersection of Taxilane S, and Taxiway C near the Intersection of Taxiway B; Ratification and Approval of the Declaration of Emergency from the Executive Director; Request to Approve a Budget of \$2,220,000 for Emergency Repair of Taxiway B and a Budget of \$666,000 for Design of the Repair of Taxiway C; Authorization for the Executive Director to Enter Into a Supplemental Agreement Amount Not to Exceed \$757,000 with Orion Engineers and Associates for Design of the Emergency Repairs of Taxiway B and Taxiway C, Oakland International Airport and Authorization to Utilize One of the On-Call Paving and Grading Contractors to Perform the Repairs. **(Engineering/Aviation)** Choose an item.

**MEETING DATE:** 9/12/2019

**AMOUNT:** \$2,886,000 (One-Time) Capital Expenditure  
\$757,000 Contract Authority

**PARTIES INVOLVED:** Existing On-Call Paving and Grading Contractors  
Oliver DeSilva Gates, Inc. dba Gallagher & Burk, Inc.,  
O.C. Jones & Sons, Inc., A. Teichert & Son, Inc. dba  
Teichert Construction, Beliveau Engineering Contractors

Design Consultant  
Orion Engineers and Associates, Oakland, CA  
Shammi Ratti, Managing Partner

**SUBMITTED BY:** Robert Andrews, Interim Director of Engineering  
Bryant L. Francis C.M., Director of Aviation

**APPROVED BY:** Danny Wan, Interim Executive Director

**ACTION TYPE:** Resolution

### **EXECUTIVE SUMMARY**

Staff is requesting the following approvals to address emergency taxiway pavement repairs at the Oakland International Airport:

- 1) Ratification and approval of the declaration of emergency by the Executive Director for pavement repair costs at an estimated sum of \$285,000 for Taxiway B and \$430,000 for Taxiway C.
- 2) Approve a project budget in the amount of \$2,220,000 for the repair of Taxiway B near Taxilane S (which includes \$285,000 spent under declaration of emergency).

3) Approve a design budget in the amount of \$666,000 for the repair of Taxiway C near Taxiway B (which includes \$430,000 spent under declaration of emergency).

4) Authorization for the Executive Director to enter into a Supplemental Agreement in an amount not to exceed \$757,000 with Orion Engineers and Associates for design of the Emergency Repairs of Taxiway B and Taxiway C.

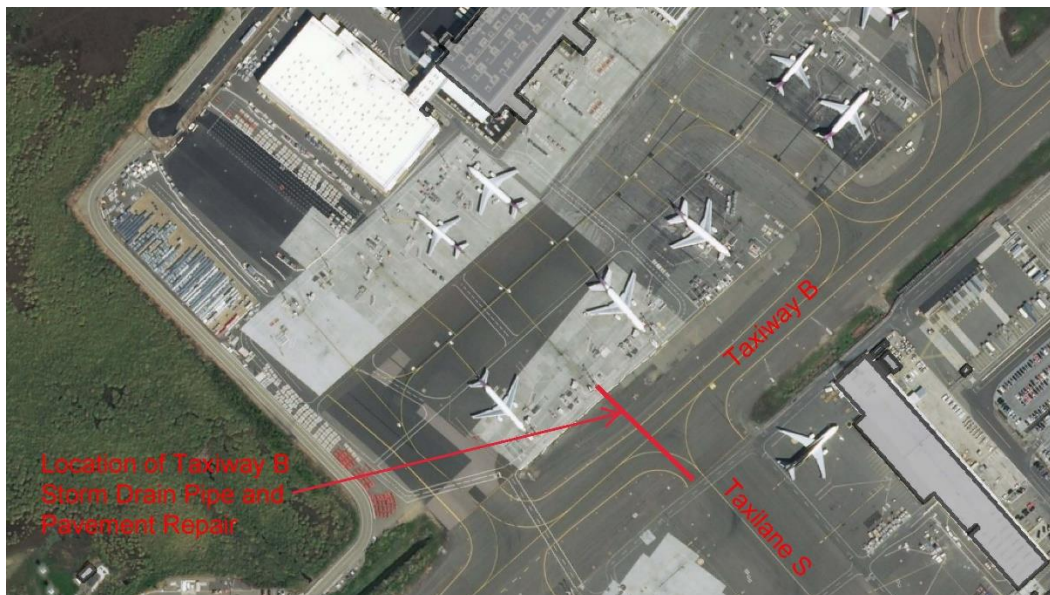
5) Authorization for the Executive Director to utilize on of the on-call paving and grading contractors to perform the Taxiway B repairs.

## **BACKGROUND**

### **Taxiway B Repair**

During a scheduled maintenance and repair operation on Taxiway B, Airport Facilities staff discovered a large void under the pavement at the intersection of Taxiway B and Taxilane S (Figure 1) at the Oakland International Airport (OAK). A storm drain pipe runs under the area of failure. Taxiway B is an essential taxiway for OAK, connecting the South and North fields and serving as the main taxiway to access the FedEx facility. The pavement failure presents an imminent hazard to aircraft utilizing Taxiway B and the taxiway in this area was immediately closed upon discovery of the void and failed pavement (August 6, 2019). The Executive Director declared an emergency to allow staff to take immediate action to address the problem.

Figure 1. Location of Taxiway B Storm Drain Pipe and Pavement Repair



### **Taxiway C Repair**

In mid-July, an area of pavement at Taxiway C (Figure 2) was found to be unraveling and likely to generate significant Foreign Object Debris (FOD) that would affect operations on the North Field Runway 10L/28R, and rutting that could potentially affect aircraft operations on the taxiway. This area was being monitored after the pavement unraveling and rutting was discovered and was scheduled for a major repair in Spring 2020. However, the pavement deterioration accelerated which resulted in closure of the taxiway and limitations on Runway 10L/28R operations as aircraft have been using the runway as a bypass to taxi around the failing pavement section. This results in reducing the airfield capacity and complicating taxiing operations and FAA ground control at this busy intersection that serves at the primary access to North Field business jet, charter jet and general aviation operations. This necessitated an immediate response. The Executive Director declared this to also be an emergency situation and directed staff to immediately address the problem.

Figure 2. Location of Taxiway C Pavement Repair



## **ANALYSIS**

Following discovery of the pavement failures at Taxiway B and Taxiway C and the subsequent emergency declaration from the Executive Director, Port Engineering mobilized Orion Engineers and Oliver DeSilva Gates, Inc. doing business as Gallagher & Burk, Inc. (Gallagher & Burk) to coordinate with Airport Operations and Airport Facilities to assess the two pavement failures, develop repair options and perform necessary repairs on an emergency basis. Orion Engineers and Associates (Orion) are under contract with the Port to provide pavement analysis and design at OAK through 2023. Gallagher & Burk is one of the current On-Call Paving and Grading contractors working at the Port. Both have extensive experience working on the Airfield Operations Area (AOA) at OAK.

### **Taxiway B Repair**

The void under the pavement at Taxiway B was found directly over a 24" storm drain pipe that crosses the taxiway at Taxilane S. That and other storm drain lines crossing Taxiway B were

therefore video inspected to determine if the pipe is damaged and might be causing the soil under the pavement to erode and wash out through the storm drain pipe. The pipe under the void was found to have a cracked section and several open joints that showed evidence of soil migrating into the pipe. The pipe otherwise appears to be in serviceable condition. The other storm drain pipes crossing the taxiway showed no evidence of cracks or joint separation.

Because the Taxiway B storm drain pipe showed signs of soil intrusion at more than one location along the pipe, a field investigation was performed to determine whether additional voids exist over this pipe. The subsurface investigation included Ground Penetrating Radar, Falling Weight Deflectometer testing of the pavement and probing through the pavement along the pipeline. The probing indicated that the originally identified void appears to be larger than observed, but additional voids were not detected. These subsurface investigations show that it is more likely than not that there are no additional voids under the pavement along the pipe, but are not 100 percent conclusive.

Following the investigation and coordination with Aviation Operations and Facilities, Port Engineering and Orion developed two repair options as follows:

- Option 1 – Replace the entire length of the storm drain pipe that crosses Taxiway B at this location, backfill the trench, and install a new pavement section.
- Option 2 – Excavate a portion of the pipeline to expose and repair voids and the cracked pipe section, backfill the trench and void, repair the pavement and install a Cast In-Place Pipeline (CIPP) liner inside the pipe.

The options were reviewed and evaluated with Port Engineering, and Airport Operations and Facilities to identify the preferred repair plan. The selection considered cost, schedule, operational impacts, risks (including possible weather delays and impacts of the high groundwater table), and long-term serviceability of the storm drain pipe. Given the construction and schedule risks associated with full replacement, and the need to complete this work and have a fully operational Taxiway B prior to the upcoming holiday season that will result in increases in cargo as well as passenger operations, and the high-degree of confidence that no further voids exist along the pipe, it was determined that Option 2 was the preferred option. Option 2 is estimated to provide a greater than 30-year useful life, minimizes schedule impact to operations and is less risky than replacing the entire pipe.

The total project cost for Option 2 is estimated to be \$1.22 million, however, given that (i) construction bids have not been received at time of posting this agenda report, (ii) unforeseen conditions including the possibility that Option 1 (entire replacement of storm drain) may be necessary, and (iii) the operational criticality of repairing Taxiway B without delay, Port staff is requesting a budget contingency of \$1.0 million for a total project budget of \$2.22 million. The \$1.0 million reflects the estimated additional cost for Option 1 – replacing the entire storm drain. Port staff will report back to the Board at the completion of the project, the amount of contingency used.

Port staff anticipate that the design of the Taxiway B repair will be completed by the first week in September. Port staff will solicit bids from the Port's existing on-call paving and grading contractors for the Taxiway B repair work. These on-call paving and grading contractors are:

- Oliver DeSilva Gates, Inc. dba Gallagher & Burk, Inc.
- O.C. Jones & Sons, Inc.
- Teichert & Son, Inc. dba Teichert Construction
- Beliveau Engineering Contractors

Once an on-call contractor is selected, Port staff will issue a Work Authorization for the repair. Construction of the repair is anticipated to start on or around September 13, 2019 and be completed by late September 2019. Port staff will update the Board on the progress of the Taxiway B repair at subsequent Board meetings.

Staff is requesting approval of a budget, authorization to enter into a supplemental agreement with Orion Engineers and Associates, and authorization to utilize the selected on-call paving and grading contractor for the Taxiway B Repair.

#### Taxiway C Repair

During the North Field Runway Safety Area (RSA) project, Taxiway A was reconstructed and relocated to meet Federal Aviation Administration (FAA) Part 139 airport certification requirements. As part of the project the Taxiway C pavement markings were realigned so that the taxiway could connect to Runway 10L/28R at a 90-degree angle allowing pilots to see both ends of the Runway. This portion of Taxiway C was realigned north and onto the former Building L130 apron. However, no pavement repair or upgrade was included in the scope of the RSA construction work.

Airport Operations staff noted that one of the storm drain inlets in the wheel path of aircraft that use the North Field was starting to settle. The pavement surrounding the inlet showed signs of distress and so Airport Facilities staff performed localized repair of the asphalt pavement near the inlet. The relocation of the inlet and overall pavement repair in this vicinity was planned to be constructed in 2020. However, deterioration and rutting of the asphalt concrete pavement began to accelerate, and during an August 6, 2019 Taxiway C site inspection Port staff determined that the deterioration of the pavement was severe and needed to be addressed immediately.

Port engineering staff and its airport pavement design consultant therefore developed a two-phase approach to address the settling storm drain inlet and deteriorated pavement. The initial phase was to mill and replace the deteriorated pavement with a 4-inch asphalt pavement overlay with the anticipation that this initial repair would allow this section of Taxiway C to remain open to aircraft operations for up to a year while a permanent repair solution was being developed. The initial emergency repair was constructed on August 10, 2019, by on-call contractor Gallagher & Burk, at a cost of \$90,000.

During milling operations, a shattered Portland cement concrete slab was discovered below the asphalt pavement. In addition, deflection of the subgrade in this area under the weight of



construction equipment was observed indicating that the subgrade does not have sufficient strength to support long-term repeated aircraft loading.

The planned overlay was completed and has allowed for continued operations at Taxiway C, but it is unclear how long the repair will hold, given the evidence of deflection and poor subgrade. Larger aircraft continue to be rerouted around the intersection of Taxiway C, when practicable, using Runway 10L/28R as a taxiway. The permanent solution for Taxiway C must be implemented as soon as possible to avoid complete closure of this taxiway. Currently, the Port's airport pavement design consultant is investigating the extent of the Taxiway C pavement repair needed to support airport operations for the permanent second phase of repairs. Port Staff anticipate that the field work and conceptual design of the permanent second phase of repairs will be completed by mid-September, and final design will be completed in early October 2019.

Staff is requesting approval of a budget and authorization to enter into a supplemental agreement with Orion Engineers and Associates for the Taxiway C Repair. After the design of the Taxiway C Repair has been completed Port staff will return to the Board requesting approval of a construction budget and contract authority to have one of the Port's existing on-call paving and grading contractors construct the repair. Given the urgent need for this repair, Port staff intends to return to the Board in the next 4-6 weeks for the construction authorization.

Estimated amount to be spent through September 12, under the Emergency Declaration for the Taxiway B and Taxiway C repair projects is \$285,000 and \$430,000, respectively and summarized in Tables 1 and 2 in the Budget section below. This includes:

Taxiway B—Field investigations, testing, consultant and Port labor to assess and evaluate repair options, and design of preferred option

Taxiway C—Field investigations, contractor, consultant and Port labor to implement initial emergency repair, and additional field investigations and design for permanent repair.

## **BUDGET & STAFFING**

### **Taxiway B Repairs**

The total project cost for Taxiway B is estimated to be \$1.22 million, however, given that (i) construction bids have not been received at time of posting this agenda report, (ii) unforeseen conditions including the possibility that Option 1 (entire replacement of storm drain) may be necessary, and (iii) the operational criticality of repairing Taxiway B without delay, Port staff is requesting a budget contingency of \$1.0 million for a total project budget of \$2.22 million. The \$1.0 million reflects the estimated additional cost for Option 1 – replacing the entire storm drain. Port staff will report back to the Board at the completion of the project, including the amount of contingency used. Approximately \$285,000 of the project budget has already been spent under an emergency declaration for field investigations, testing, and evaluation of repair options. Table 1 summarizes the project budget for Taxiway B.

The estimated costs for Options 1 and 2 are based on limited information about the existing subsurface conditions at this site. If during construction of either option conditions encountered are different from what is anticipated and the repair cannot be completed within the Board approved budget staff will inform the Board of the conditions encountered and additional funds needed to complete the repair work.

**Table 1. Repair of Taxiway B Project Budget**

	Spent Under Emergency Declaration	Additional Project Costs	Total Project Cost for Option 2	Contingency <sup>3</sup>	Total Project Budget
<b>Port Labor</b>	\$55,000	\$65,000	\$120,000	\$166,000	\$286,000
<b>Consultants<sup>1</sup></b>	230,000	113,000	343,000	55,000	398,000
Construction Costs	---	606,000	606,000	412,000	1,018,000
<b>Construction Change Order Contingency</b>	---	121,000	121,000	337,000	458,000
<b>Other<sup>2</sup></b>	---	30,000	30,000	30,000	60,000
<b>Total</b>	<b>\$285,000</b>	<b>\$935,000</b>	<b>\$1,220,000</b>	<b>\$1,000,000</b>	<b>\$2,220,000</b>

<sup>1</sup> Consultant construction budget request includes design and construction support, construction management support, and materials inspection and testing.

<sup>2</sup> Other includes MAPLA, security escorts, and OCIP costs.

<sup>3</sup> As discussed in this section, Port staff is requesting a higher contingency budget then typically requested

### Taxiway C Repairs

Under the emergency declaration, the Port has spent \$430,000 for field investigations, initial emergency repair, and design for permanent repair. Port staff estimates another \$236,000 is needed to complete the design work for a total budget request of \$666,000. Table 2 summarizes the project budget request for Taxiway C. After the design of the Taxiway C Repair has been completed Port staff will return to the Board requesting approval of a construction budget and contract authority to have one of the Port's existing on-call paving and grading contractors construct the repair. Given the urgent need for this repair, Port staff intends to return to the Board in the next 4-6 weeks for the construction authorization.

**Table 2. Repair of Taxiway C Project Budget**

	Spent Under Emergency Declaration	Additional Design Costs	Total Project Budget Request
<b>Port Labor</b>	\$25,000	\$75,000	\$100,000
<b>Design Consultants</b>	315,000	161,000	476,000
<b>Construction</b>	90,000	---	90,000
<b>Total</b>	<b>\$430,000</b>	<b>\$236,000</b>	<b>\$666,000</b>

There is no anticipated staffing impact.

## **MARITIME AVIATION PROJECT LABOR AGREEMENT (MAPLA)**

### **Construction Contract**

The provisions of the Port of Oakland Maritime and Aviation Project Labor Agreement (MAPLA) apply to this work.

### **Engineering Design, Construction Support, and Construction Management Services**

This contract is for engineering design and construction management professional services. The provisions of the Port of Oakland MAPLA apply to this professional services contract only to the extent it involves work within the craft jurisdiction of the unions signatory to the MAPLA, such as any field surveying, on-site soils and materials testing and inspection, and geotechnical and exploratory drilling work.

## **STRATEGIC PLAN**

The action described herein would help the Port achieve the following goals and objectives in the Port's Strategic Business Plan (2018-2022).

<https://www.portofoakland.com/wp-content/uploads/Port-of-Oakland-Strategic-Plan.pdf>

- *Goal: Modernize and Maintain Infrastructure*
- *Goal: Strengthen Safety and Security*

## **LIVING WAGE**

### **Construction Contract**

Living wage requirements, in accordance with the Port's Rules and Regulations for the Implementation and Enforcement of the Port of Oakland Living Wage Requirements (the "Living Wage Regulations"), do not apply because the contract is a construction contract covered by state prevailing wage rules and the prevailing rate of wage is higher than the wage required by the Living Wage Regulations.

### **Engineering Design, Construction Support, and Construction Management Services**

Living wage requirements, in accordance with the Port's Rules and Regulations for the Implementation and Enforcement of the Port of Oakland Living Wage Requirements (the "Living Wage Regulations"), do not apply to this agreement as the service provider does not employ 21 or more employees working on Port-related work. However, the service provider will be required to certify that should living wage obligations become applicable, the service provider shall comply with the Living Wage Regulations.



## **SUSTAINABILITY**

Port staff completed the Sustainability Opportunities Assessment Form for this project pursuant to the 2000 Sustainability Policy and updated procedures. The Taxiway B repair project will generate up to approximately 170 cubic yards of asphalt millings that will be transported and stockpiled at the Port Materials Management Site (MMS) located on the airport. The millings will subsequently be reused/recycled for future airport construction projects. This eliminates the need to off-haul and dispose of the asphalt millings. Keeping these materials onsite at the MMS will reduce trucking costs and associated air and traffic impacts.

## **ENVIRONMENTAL**

This action was reviewed in accordance with the requirements of the California Environmental Quality Act (CEQA). The Port has determined that this project is categorically exempt from the California Environmental Quality Act (CEQA) Guidelines pursuant to Section 15302, Replacement or Reconstruction. Section 15302 exempts from CEQA the replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced, including replacement of existing utility facilities involving negligible or no expansion of capacity.

## **GENERAL PLAN**

Pursuant to Section 727 of the City of Oakland Charter, this project has been determined to conform to the policies for the transportation designation of the Oakland General Plan.

## **OWNER-CONTROLLED INSURANCE PROGRAM (OCIP)**

### **Construction Contract**

As the construction project is a capital improvement project, the applicable Owner Controlled Insurance Program (OCIP) coverages and provisions apply to the construction phase.

### **Engineering Design, Construction Support, and Construction Management Services**

Professional service agreements are not subject to the Port's Owner Controlled Insurance Program (OCIP) as professional services are not construction activities.

## **OPTIONS**

The following options are for the Board's consideration:

1. Approve the actions as outlined in this agenda report. Doing so will enable staff to fund Taxiway B and Taxiway C repair projects through the Port's Capital Improvement Program. This is the recommended action.

2. Do not approve the actions as outlined in this agenda report. This is not recommended because this will have a prolonged negative impact on the Airport Operations, FedEx and the local community.

## **RECOMMENDATION**

Staff recommends that the Board approve the following actions:

1. Ratification and approval of the declaration of emergency by the Executive Director for pavement repair costs at an estimated sum of \$285,000 for Taxiway B and \$430,000 for Taxiway C.
2. Approve a project budget in the amount of \$2,220,000 for the repair of Taxiway B near Taxiway S.
3. Approve a design budget in the amount of \$666,000 for the repair of Taxiway C near Taxiway B.
4. Authorization for the Executive Director to enter into a Supplemental Agreement in an amount not to exceed \$757,000 with Orion Engineers and Associates for design of the Emergency Repairs of Taxiway B and Taxiway C.
5. Authorization for the Executive Director to utilize one of the on-call paving and grading contractors to perform the Taxiway B repairs