

# Passenger Loading Bridge (PLB) Replacement – Additional Funding

Commission

9/10/19

# PLB Project Locations

- Nine (9) PLB's were approved for replacement under CIP #800793
- Three (3) have been completed (Green)
- Three (3) are designed (Yellow)
- Three (3) will start design early in 2020 (Red)

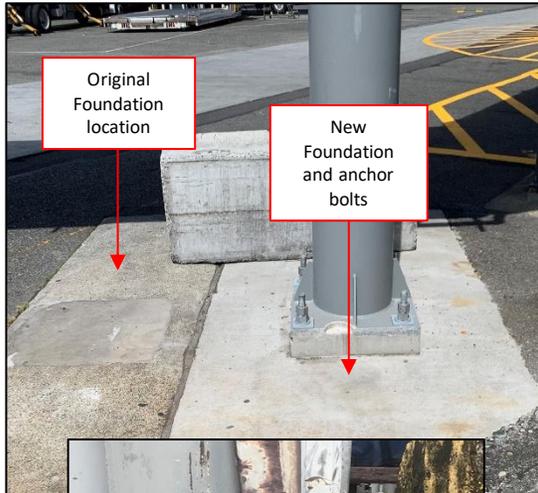


# Cost Drivers

- Discovery of subterranean lines
- Lack of as-builts for existing Passenger Loading Bridge foundations
- Foundation expansions to meet new seismic code requirements
- Hydronic isolations for Pre-Conditioned air system
- 400 Hz aircraft power system replacement and upgrades
- Electronic Ground Support Equipment charging station and other building interference

# Project Cost Drivers – Gate S11

- Construction challenges
  - One of the foundation bolts had been destroyed and another was damaged
  - A new foundation was required
  - A water line runs right through the rotunda foundation
  - New seismic code requirements
- Long fixed walkway
  - Increased mechanical cost
- Budget
  - Original Estimate: \$1,100,000
  - Actual Cost: \$1,429,000



# Project Cost Drivers – Gate S6



- The PLB failed prior to the scheduled replacement
  - Resources were reassigned to expedite the bridge replacement
  - Other bridges that were in design were delayed
- Construction challenges
  - Unidentified foundation conditions
  - Existing foundation modification did not meet seismic code, requiring demolition and new expanded foundation
  - Aircraft Power was consolidated into one larger supply box
- Budget
  - Original Estimate: \$1,100,000
  - Actual Cost: \$1,211,000

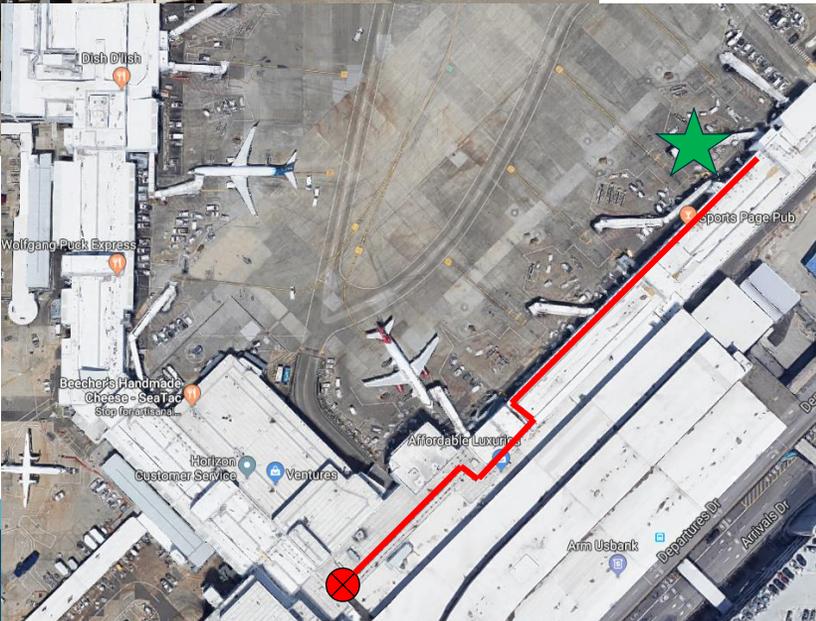
# Project Cost Drivers – Gate C15



- Construction challenges
  - Water line located within the planned foundation expansion
  - Location of an unknown industrial wastewater system line
  - Drilled shaft foundation
  - Addition of an extended corridor section
  - New 400 Hz aircraft power unit needed as existing PLB did not have one
- Budget
  - Original Estimate: \$1,100,000
  - New Estimate: \$1,341,000

# Project Cost Drivers – Gate D4

- Construction challenges
  - Hydronics System
    - No Isolation valves at the individual gates; isolation valves will need to be installed before PLB can be replaced
    - Long length of piping along the fixed walkway
  - Original Estimate: \$1,100,000
  - New Estimate: \$1,365,500



# Project Cost Drivers – Gate B10

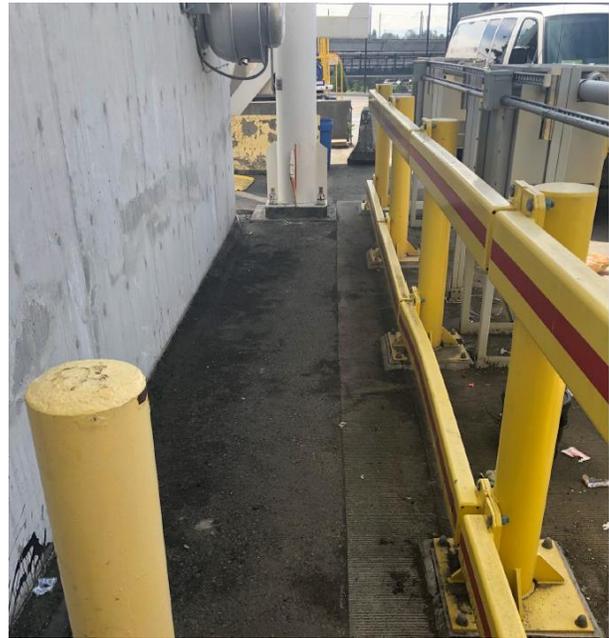


- Construction challenges
  - Integrated Wastewater System lines surround the existing foundation
    - Three Manholes
  - Abandoned Fuel line
    - Mitigation and removal
  - Drilled shaft foundation and extended corridor to minimize impacts to Pre-Conditioned air
  - Water collection and treatment plan
- Budget
  - Original Estimate: \$1,100,000
  - New Estimate: \$1,491,000

# Project Cost Drivers – Gate D11



- Construction challenges
  - Fixed walk way foundations
    - Two drilled shaft foundations are needed (Fixed walkway)
    - One spread footing (Rotunda)
  - Electrical system identification
    - Multiple electrical systems are run on the fixed walkway that are not part of PLB
    - Will require cutover and new design for hazardous waste building
  - Pre-Conditioned Air valves do not isolate fixed walkway
- Budget
  - Original Estimate: \$1,100,000
  - New Estimate: \$1,377,500



# Project Cost Drivers – Gate C11



- Construction challenges
  - Water line located within the planned foundation expansion
  - Drilled shaft foundation
  - Addition of an extended corridor section
- Budget
  - Original Estimate: \$1,100,000
  - New Estimate: \$1,229,500

# Project Cost Drivers – Gate C18

- Construction challenges
  - Double fixed walkway
    - Long Hydronics runs (Pre-conditioned air system)
    - Electronic Ground Support Equipment system charging station Interference
  - Foundation interferences
- Budget
  - Original Estimate: \$1,100,000
  - New Estimate: \$1,569,500



# Project Cost Drivers – Gate C9



- Construction challenges
  - Concourse C 400 Hz airplane power generation system
    - Major works
    - Separate set of drawings/documents
  - Foundation interferences
- Budget
  - Original Estimate: \$1,100,000
  - New Estimate: \$1,816,500 (\$716,500)

# Additional Funding Request

- Request: increase the project authorization by \$3,000,000
  - Total project estimate: \$13,000,000
- Complete the replacement of the nine (9) scheduled bridges
- 2015 Project Estimate per PLB: \$1,100,000
- 2019 Average per PLB: \$1,425,611