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Item No. 8f_supp
Meeting Date: June 27, 2023
Variable Frequency Drives (VFD)
Replacement Phase-2
C800978 | N06567
Tyler Salisbury
AV-PMG
Item No. XX
June 27, 2023

Project Scope
Replacement of the oldest and obsolete VFDs that are beyond their useful lives.

VFD (Variable Frequency Drive) is an energy conservation device that modulates the HVAC fans, pumps, cooling towers, etc. and allows for better occupancy comfort.

2

- Project Justification
- The VFDs are obsolete and are no longer supported by the manufacturer.
 - Failure of a VFD will cause HVAC or plumbing system to become non-operational, resulting in loss of ventilation air flow, temperature control, or water flow.
 - Manual HVAC control (VFD failure) will result in poor passenger comfort and increased energy consumption, as well as security issues if building pressurization affects door operation.
 - The VFDs with the highest risk of failure have been prioritized for this project.
 - VFDs save energy by modulating motor speeds to meet real-time demand.

3

Schedule
2022 2023 2024 2025 2026
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3
PLANNING Cx Design
SD EXECUTED

DESIGN
CONSTRUCTION

Cx Construction Substantial Completion

4

Budget
Description Original Budget New Budget Total Change
(Status 2)

Major Construction Direct Costs	\$1,175,000	\$3,441,268	\$2,266,268
Other Direct Costs & Construction Contingency	\$1,798,000	\$3,479,000	\$1,681,000
PMG & Other Soft Costs	\$1,327,000	\$2,616,000	\$1,289,000
Project Contingency -	\$954,000	\$954,000	
Total Estimated Cost	\$4,300,000	\$10,490,268	\$6,190,268

Total: \$10,490,268 – Rnd \$10.5M

5

Requested Authorization
Authorization Project Phase Amount

Previous Authorizations Notebook \$115,000

Current request for Authorization Design \$2,500,000

Total authorizations, including this Notebook + Design \$2,615,000
request

Remaining amount to be authorized Construction + Closeout \$7,875,268

Total: \$10,490,268 – Rnd \$10.5M

6

Risks

Risk Impact Probability Mitigation Plan

VFDs to be replaced have been Risk will be accepted and monitored to avoid any approximated to 70, final count and delay to the schedule. Increased overall project selection might change based on the contingency to 10% along with increasing design requirement and design criteria. The project development allowances to mitigate this risk. The will aim to finish within budget even if the project team (PM, F&I) along with the design count varies. team is responsible to finalize the selection and count of VFDs.

16 weeks lead time to delivery for required Owner Furnished Equipment approach was matrix industrial drives (VFDs) in 2023 which initially planned during Acquisitions Planning was 54 weeks in 2022. meeting in October 2022. Since the lead times for VFDs are trending to reduce, Owner Furnished Equipment was rescinded during Acquisitions Planning meeting in May 2023.

7

Cone of Certainty
We are here

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Requesting

- Commission authorization for \$2,500,000 to prepare design and construction bid documents.
- Approval to increase the project budget to a total estimated \$10,500,000.

9

QUESTIONS?

10
