Zone 7 Board Meeting

North Canyons HVAC System Replacement Project

100 North Canyons Pkwy, Livermore, CA

February 17, 2021

ZONE 7 WATER AGENCY

Background

- The North Canyons Administration Building is a necessary facility for providing the Zone 7 Water Agency with effective organization, administration and governance to provide a reliable, cost effective, and safe water supply as well as an effective system of flood protection.

- Under the Zone 7 Asset Management Program the HVAC System at the North Canyons Administration Building has been identified as near the end of its useful life.

Project Scope

- Removal and replacement of four AC Units, boiler and associated piping.
- Replacement of 28 Variable Air Volume controllers (VAVs).
- Replacement of control system.
- Miscellaneous Work (e.g. roof repairs and interior repairs related to HVAC systems, exhaust fan replacement, duct modifications, etc.)


N
AC-2 (Mini-Split not shown)
AC-4
AC-3
EF-1
AC-1
EF-2
ROOF HATCH
HOT WATER BOILER

Expected Benefits

- Improved system reliability
- Reduced the potential for untimely and costly repairs.
- More energy efficient HVAC system with updated control system.
- Improved air quality with higher level of particle filtration.

Energy Efficiency

- New Units are more energy efficient by itself.
- New, digital, wired/wireless thermostats that would be easier to adjust and control.
- More control for both heating and cooling provided by new Variable Air Volume (VAV) systems.
- New Building Automation System which can adjust for certain conditions throughout the day.

Minimum Efficiency Reporting Value (MERV) Rating Chart

System used to evaluate the efficiency of an air filter based on how effective it is at catching particles of varying sizes. Basically, the higher the MERV rating, the higher the air filtration capabilities.

Current HVAC System is rated at MERV 8 (typical for standard bldg)
New HVAC System will be around MERV 13 (superior bldg)

How does MERV 8 compare with MERV 13?

To be classified as a MERV 8 filter according to NAFA (National Air Filtration Association), a filter must filter out at least 70% of E3 (3.0-10.0 µm) particles and 20% of E2 (1.0-3.0 µm) particles. Very little removal of E1 (0.3 -1.0 µm) particles. Particle removal includes blue shaded items.

To be labeled as MERV 13, a filter must successfully remove at least 90% of E3 particles, 85% of E2 particles, and 50% of E1 (0.3 -1.0 µm) particles. Particle removal includes all shaded items.

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Human hair = 50 µm
Visible to eye ~ 40 µm

Project Cost Breakdown

Phase	Estimated Cost
Planning and Design	$385,000
Construction (including 10% contingency for change orders)	$1,243,000
Construction Management/Support	$351,000
Total Project	$1,979,000

Project Schedule

Phase	Estimated Duration
Notice To Proceed	March 2021
Submittals Review	June 2021
Equipment Procurement	October 2021
Construction	November 2021
Startup and Commissioning/Substantial Completion	December 2021
Final Completion	January 2022

Reso 1 -Award of Construction Contract

- Staff recommends the Board authorize the award of the construction contract to the lowest responsible and responsive bidder, Matrix HG. Inc. in the amount of $1,129,682;

- Staff further recommends the Board authorize the General Manager to negotiate and issue change orders as and when needed in an amount not to exceed $112,968 (10% as contingency).

Reso 2 -Amendment for Engineering Services During Construction

- Lee and Ro provided HVAC system design for the project.

- Staff recommends the Board authorize the General Manager to execute an amendment for an amount not-to-exceed $231,000 ($210,000 contract with $21,000 in contingency) with Lee and Ro for engineering services during construction.

Questions?