

Project Delivery Method:

- Design-Build (D-B)
- Integrated Project Delivery (IPD)
- Construction Management @ Risk (CM) with Guaranteed Maximum Price (GMP)
- Performance Contract (PC)

Owner Team:

- Conference Center Management (CCM) Administration
- Capital Project Manager
- Facility Manager
- Human Health and Environment (HH&E) Manager

Project Delivery Team:

- Owner Representative Consultant
- Outsourced O&M Manager
- PC's Project Manager
- Third-Party IAQ Consultant

HVAC Project Team:

- BAS Technician (in-house staff)
- Filter Representative
- Third-Party TAB Technician
- Third-Party Commissioning Consultant (CxC)

Application:

- Chapter 3, Commercial and Public Buildings
- Chapter 5, Places of Assembly
- Chapter 9, Healthcare Facilities
- Chapter 19, Clean Spaces

Project Type:

- Renovation
- Infrastructure Upgrade
- Tenant Fit-Out
- Facility Audit and Capital Project Master Planning

References:

- 2018 ASHRAE Handbook – Refrigeration
- 2019 ASHRAE Handbook – HVAC Applications
- 2020 ASHRAE Handbook – HVAC Systems and Equipment
- 2021 ASHRAE Handbook – Fundamentals

Other References:

- Refer to the Codes and Standards Located in the Back of Each ASHRAE Handbook
- Technical Committee 9.5, Commercial and Public Buildings
- ASHRAE Standard 62.1-2022, Ventilation and Acceptable Indoor Air Quality[X] ASHRAE Standard 52.2-2012, Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size (MERV Ratings)
- ASHRAE Design Guide for Dedicated Outdoor Air Systems

DESIGN INTENT DOCUMENT (DID)

- The CCM Administration and Owner's Team Members Signed a Contract with a Performance Contractor to Improve the Building Environment By Replacing Existing Air Filters with ASHRAE-Suggested MERV-13 Filters for All Central Air Systems
- The PC Firm Shall Complete an IAQ Audit of the Existing Central Air Systems, Examining Multiple Space Temperatures, Humidity, and Particle Count Samples
- The PC Contract is a One-Year Agreement to Furnish, Install, Monitor, Measure, and Report on MERV-13 Filters that Are Renewable Annually for Five Years
- Air Filters Include Pre-Filters, Final Filters, and Charcoal Filters Based on the Manufacturer Rep's Recommendation for MERV Ratings Per the HVAC System Application
- Central Air Systems will Be Rebalanced and Recommissioned to Monitor, Measure, and Report on the Space's Indoor Environmental Conditions (Temperature, Humidity, and Particle Count)
- New Conditions: Central Air System(s) Supply Air and Return Air CFM
- The PC Firm Shall Contract the Air Filter Project to Include the BAS Computer with the Central Air System's Electronic Magnehelic Devices and Space IAQ Sensors Every 20,000 Square Feet
- The PC Firm, Working Closely with the Owner's Team and the Subcontractor HVAC Team, Will Update the O&M Policy and Procedure (P&P) Manual
- The PC Team Will Follow the Aforementioned References as Well as Existing Condition Data Collection
- Existing Conditions Include the Central Air System(s) Supply Air and Return Air CFM and General Exhaust

DESIGN CRITERIA DOCUMENT

- The HVAC Design Criteria Shall Be in Sync with the Project Delivery Method Requirements
- The Design Criteria Shall Be Based on a Building Operation and Proactive Filter Maintenance Management Program
- Contract a Five-Year Filter Replacement contract with the Filter Manufacturer Rep.
- Furnish and Install a Comprehensive IAQ Monitoring System with Remote Humidity Measuring, Data Analysis, and Reporting Process
- The Design Criteria Shall Be Based on ASHRAE 90.1 and State Energy Code Compliance for Outdoor Air Temperature Compliance
- ASHRAE Indoor-Air Quality Guide: Best Practice for Design, Construction, and Commissioning
- Enhance Existing Utilities (Gas, Oil, and Electricity)
- The PC Team will Refer to ASHRAE Documents Noted in the References, Including ASHRAE Indoor-Air Quality Guide: Best Practice for Design, Construction, and Commissioning
- Retrofit the Existing Central Air-Handling Systems with the Addition of and Air Economizer and Enhanced MERV Filter Rating to Exceed Minimum Filter Guidelines
- The PC Team will Produce Schematic Phase and Final Phase P&P Documents
- The PC Team Shall Furnish, Install, Monitor, Measure, and Issue Monthly Reports Regarding the Performance of the Entire IAQ System
- The Outsourced O&M Manager Shall Provide Proactive IAQ Maintenance Training to Continuously Improve and Continuously Achieve the Project's Goals
- The PC Firm's Team Shall Produce Complete Record Documents, Warranties, Training, and a Five-Year Reporting Contract
- Third-Party CxC and TAB Technician Shall Retro-Commission the Central Air-Handling Systems to Ensure P&P Compliance

