Contract Number: 36C26122N0568

Fresno VA Medical Center (VISN 21)

VA Project: **570-20-308**

Davenergy Project: **90209**

Replace and Expand Chilled Water Infrastructure, Building 1

Fresno VA Medical Center Building 1

Basis of Design

Bulletin 01

Date Prepared: 07/01/2026

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BASIS OF DESIGN

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1. BASIS OF DESIGN NARRATIVE

This design narrative provides a description for this renovation project located at the Fresno VA Medical Center. This project involves the replacement of the chilled water piping in the OPC and building 1, the chilled water pumps currently serving these areas, and any undersized fan coils in these areas. The existing pipes are too small to accommodate the required chilled water flow that is required in the summer months, and their associated risers are scattered throughout various locations in the building. These risers will be demolished and consolidated to two sets of risers, one serving the north wing of building 1 and one serving the OPC and south wing of building 1. The new piping system will be used for chilled water as well as hot water; new control valves will be provided on the hot and chilled water lines to allow for switch over during summer / winter months.

2. ARCHITECTURAL DESIGN NARRATIVE

Applicable Codes and Standards:

VA Architectural Design Manual, Standards for Construction and Specifications
PG 18-13 Barrier Free Design Guides
PG-18-10 HVAC Design Manual (November 2017, Rev September 2025)
Physical Security and Resiliency (October 2020, Rev Jun 2025)
NFPA 101 Life Safety Code
NFPA 99 Standards for Healthcare Facilities
NFPA 80 Standard for Fire Doors and Fire Windows
2024 International Building Code
ASHARE 90.1-2022

Architectural Materials:

Where the chilled water infrastructure is routed from the fifth-floor roof to the sixth floor on the outside of the building materials and the assembly methodology will be selected such that the exterior envelope is long lasting and provides many years of trouble-free service to the VA Fresno medical center. The exterior envelope will control moisture, air, vapor, and thermal transfer. Materials and finishes will blend in with recent renovation projects at the Fresno VA medical center. The exterior envelope could include a composite metal panel rain screen. As is good practice and complying with code references including ASHRAE 90.1 the appropriate level of exterior insulation will be provided. A continuous air, vapor, and moisture barrier on sheathing on cold formed metal framing will complete the building envelope. The new chase will also be blast resistant and compliant with the VA TIL PSRDM requirements.

Where the chilled water infrastructure is routed above existing ceiling finishes, the existing ceiling finish will need to be removed in its entirety. Once the new chilled water infrastructure in installed a new ceiling finish can be installed in the existing's place and matching the existing

layout. Existing ceiling mounted MEP fixtures will need to be supported during demolition and then reinstalled in the new ceiling finish.

Where existing interior walls need to be demoed to allow for demolition and reconstruction of the chilled water infrastructure, the new work plans will designate new wall construction that matches in-kind. To meet a two-hour rating, and where access is only possible from the room side a shaft wall construction will be most appropriate.

Non-rated interior walls will be constructed of metal studs spaced a maximum of 16” on center with 5/8” gypsum board and sound batt insulation. Full height and partial height partitions could be selected depending on adjacent room functions and sound transfer considerations.

Rated interior walls will be constructed with the appropriate UL assembly and where required within the hospital.

Design Concept Statement:

Finishes will be selected with an emphasis placed on design solutions that will help with efficiency and create a cohesive look with the most recent improvements on the VA medical center campus. Durable materials will be used to support the ease of maintenance as well as enhance end user experience by providing environments that look their best for longer.

Ceilings: Either 5/8” gypsum board on metal framing or suspended acoustical ceiling tiles and grid will be provided.

Interior doors will be factory finished solid core wood doors, premium grade. Wood doors will be heavy duty. Interior frames shall be fully welded hollow metal frames, with a level 2 heavy duty rating.

Interior Design:

- Corridor Consideration
  - Flooring: Non-slip, heat-welded sheet vinyl
  - Base: 4” integral coved base (sheet vinyl)
  - Wall Finish: Painted gypsum board walls with 4’H rigid sheet wall protection
  - Ceiling: Acoustical ceiling panels and suspended grid, and suspended gypsum board.

- Existing Rooms Consideration
  - Flooring: Non-slip, heat-welded sheet vinyl
  - Base: 4” integral coved base (sheet vinyl)
  - Wall Finish: Painted gypsum board walls with 4’H rigid sheet wall protection

- Ceiling: Acoustical ceiling panels and suspended grid, and suspended gypsum board.

Finish Palette (To Be Determined w/ VA Interior Design Input after the 65% submission)

Construction Considerations:

Renovation and construction work within an active hospital requires special considerations be made and properly accounted for by the Contractors. An Infection Control Risk Assessment (ICRA) will need to be completed, with considerations from the Sheet Metal and Air Conditioning National Association (SMACNA) indoor air quality guidelines for occupied buildings.

ICRA Type D and Type E are currently anticipated to be the type of construction activities encountered. In addition, the patients likely to be encountered fall within the low, medium, and high-risk group.

- During construction, the following activities are anticipated to be included:
  - Provide active means to prevent airborne dust from dispersing into atmosphere.
  - Water mist work surfaces to control dust while cutting.
  - Seal unused doors with duct tape.
  - Block off and seal air vents.
  - Place dust mat at entrance and exit of work area.
  - Remove or isolate the HVAC system in areas where work is being performed.
  - Contain construction waste before transport in tightly covered containers.
- Upon completion of construction the following activities are anticipated to be included:
  - Wipe work surfaces with disinfectant.
  - Contain any remaining construction waste before transport in tightly covered containers.
  - Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area.
  - Remove isolation of HVAC system in areas where work is being performed.

3. CIVIL DESIGN NARRATIVE

Applicable Codes and Standards:

PG-18-10 VA Site Design Manual
PG-18-12 Design Guides
Architectural Barriers Act Accessibility Standard (ABA)

Design Concept Statement:

The proposed exterior routing of the CHW will be a direct route from the proposed point of connection to the proposed point of entry back into the building. The supply and return lines will be directly buried per the requirements of the PG-18-10 Site Design Manual. The lines will be spaced adequately to facilitate proper soil compaction and at an elevation deep enough to meet the requirements of the frost depth in Fresno California which is 4”. Additionally, a precast concrete vault and manually operated gate valves will be installed prior to re-entering the building to facilitate line isolation should it be needed.

To enter the basement, a steel casing sleeve will be Jack-and-bored beneath the existing patio area to avoid any structural disturbances.

All concrete required to be removed due to the CHW installation will be replaced in-kind. Additionally, all landscaping and irrigation will be replaced within the limits of disturbance.

Due to the tight nature of the site as well as limited access, the excavation will likely be performed by a mini excavator which can come in widths as narrow as 3’. Although the excavation will take longer with the smaller equipment, it will allow the contractor to access the site without damaging the adjacent flatwork.

4. STRUCTURAL DESIGN NARRATIVE

Design Parameters & Reference Data

- 2024 International Building Code – ICC – First Printing: August 2023
- 2024 International Existing Building Code – ICC - First Printing: August 2023
- PG 18-10 Structural Design Manual – VA TIL – October 1, 2022, Rev. July 1, 2023
- H-18-8 Seismic Design Requirements – VA TIL – July 1, 2023, Rev. November 1, 2024
- Standards of Seismic Safety for Existing Federally Owned and Leased Buildings, ICSSC Recommended Practice 10 (RP 10-22) – NIST – January 31, 2023
- ASCE 7-22 Minimum Design Loads and Associated Criteria for Buildings and Other Structures – ASCE – 2022

Building Description

Building 1 is a reinforced concrete structure originally built circa 1947. The original structure consists of reinforced concrete slabs spanning to concrete encased steel beams which are in turn supported by concrete encased steel columns. The building foundation consists of shallow

isolated spread footings. The original lateral force-resisting system for the building consists of perimeter reinforced concrete shear walls.

We believe the building has undergone a seismic retrofit where possible shear walls and braced frames were added to improve the seismic performance of the building.

The structural scope includes a new shaft in Area A to house the central chilled water risers from the basement to the roof, an enclosure along the west elevation of Area B for the chilled water risers, and two new penetrations through the existing foundation wall to accommodate exterior routing of the chilled water.

Structural Alterations – Gravity

According to the International Existing Building Code (IEBC) Section 503.4, any existing gravity load-carrying structural element for which an alteration causes an increase in design dead, live, or snow load of more than 5% shall be replaced or strengthened to meet the International Building Code (IBC) requirements for new structures. Based on the anticipated alterations, this 5% threshold will not be exceeded; therefore, gravity strengthening is not required. However, supplemental framing will be required at the new shaft opening.

Structural Alterations – Seismic

According to the IEBC Section 503.4, any existing lateral load-carrying structural element whose demand-capacity ratio with the alteration considered is not more than 10% greater than its demand-capacity ratio with the alteration ignored shall be permitted to remain unaltered. Based on the anticipated alterations, this 10% threshold will not be exceeded; therefore, seismic strengthening is not required.

Physical Security – Structural

Building 1, given its proposed use and construction type, is considered a Critical Facility per the Physical Security and Resiliency Design Manual (PSRDM). According to Table 2-1, since the anticipated renovation scope on each floor is less than 50% of the floor area, the project is to comply with PSRDM alteration/renovation of existing facilities requirements only for the area being altered or renovated. We do not expect there to be structural physical security requirements for this project.

Seismic Bracing of Nonstructural Components

The proposed scope of work for this project consists of replacement of existing nonstructural components like interior non-load bearing partitions, ceilings, mechanical and electrical equipment, furniture, and other building contents. Such replacement items shall be designed to be seismically braced in accordance with IBC and VA's H-18-8.

5. MECHANICAL DESIGN NARRATIVE

Design Parameters & Reference Data:

- 2024 International Building Code – ICC – First Printing: August 2023
- 2024 International Existing Building Code – ICC - First Printing: August 2023
- Structural Design Manual for Hospital Projects – VA TIL – October 1, 2022
- HVAC Design Manual – VA TIL - November 1, 2017, Rev. September 1, 2025
- Plumbing Design Manual – VA TIL – February 1, 2024
- Electrical Design Manual – VA TIL – March 1, 2025
- Architectural Design Manual – VA TIL – August 1, 2014
- H-18-8 Seismic Design Requirements – VA TIL – July 1, 2023, Rev. November 1, 2024
- Standards of Seismic Safety for Existing Federally Owned and Leased Buildings, ICSSC Recommended Practice 8 (RP 8) – NIST – December 14, 2011
- ASCE 7-16 Minimum Design Loads and Associated Criteria for Buildings and Other Structures – ASCE – 2017
- 2008 A/E Submission Requirements PG-18-15, Volume C

Statement of Work:

This project will replace undersized chilled water infrastructure in the main facility and associated mechanical systems. The old pipes are considered too small and unable to handle the chilled water volume needed to meet the 110 plus degree temperatures during the summer months. This project constitutes the third and final phase of this critical mechanical upgrade to the main building, the new chillers and infrastructure to the main building are complete. In addition to the replacement of the hydronic pipes, the condensate lines will also be replaced.

This project is primarily centered about a new parallel 12” chilled water header to be run in a trench outside Building 1 and upgrading the existing chilled water risers located in Building 1 and serving the OPC. The new 12” chilled water header will be run in parallel to the existing 8-inch header in the tunnel at Building 1. Both headers shall meet in the sub basement of Building 1 and distribute to the new risers and other existing buildings. The existing risers will be demolished, and a single new chase will be constructed, with two sets of risers serving the “K-Coil” equipment (air handlers) and “Zone” equipment (duct coils and fan coil units), respectively. This project will also include demolishing existing pumps and installing four (4) new distribution pumps (N+1 for

redundancy) along with automated seasonal changeover valves to switch distribution between heating hot water and chilled water. All fan coils associated with the risers from the secondary loop inside Building 1 and OPC must be evaluated for replacement. Condensate piping shall also be evaluated for replacement. Design must account for construction phasing to minimize hospital downtime and prolong disruptions. Design must account for seasonal aspects of the Fresno County area.

New Work:

The existing system is composed of two (2) zone riser serving the duct coils and fan coil units on the floors, and one (1) "K-coil" riser serving Building 32 and AHUs 8, 9, and 10. The system has the two zone supply risers going to Level 7 and then splitting into multiple risers to drop down the building in walls to serve the units.

The plan is to consolidate the risers into one main shaft located in the center of the building just to the north of the courtyard. This shaft would house four risers, two supplies and two returns, one set of supplies and returns for K-Coil riser serving the air handlers and one set for zone riser serving the duct coils and fan coil units. There will be shut off valves located at the tap for each of these risers on each floor, located in the corridor for maintenance access. This will provide a way for maintenance to cut off water to that section of the building for repairs or maintenance without having to shut off the water for the entire building.

The four new risers will be served by four (4) new pumps, two (2) per riser, along with additional controls to operate the pumps and automate the seasonal changeover between hot water and chilled water. The existing system is manually switched over in the subbasement of Building 1. The existing Building 1 subbasement hot water and chilled water pumps will be demolished.

From these main risers branches will run down the corridors and to each of the fan coil units that required piping throughout the entire building, avoiding existing items located in the ceiling spaces. This routing will allow for the minimum impact to essential rooms of the hospital during construction and will be phased to reduce impact as well.

In addition to updating the entire chilled water infrastructure of the building, the fan coils and dual temperature duct coils will also be replaced, as most of them are old and not performing efficiently, thus causing the chilled water pumps to overwork, and the environments affected to not meet temperature requirements. Existing duct mounted reheat only coils and VAV terminal units are to remain, and replacement of these units are not in the scope of this project. All existing reheat only coils and VAV terminal unit valves, strainers, etc. are to remain.

While the current chilled water system does not currently serve any of the zones serviced by any of the DX or VRF systems, the VA has requested sizing for those loads as well to allow for future expansion of the chilled water system to include these zones. While designing this updated chilled water system this will be taken into account to provide room for this future expansion.

The condensate piping shall be replaced in place, with existing routing being matched to avoid any potential overflow of the sanitary system by piping the condensate to local drains or sink tail pieces.

Additionally, it was brought up in conversation with the VA of the future intent to convert the building from a seasonal change over system to a dedicated chilled water/ dedicated heating hot water system. With this in mind, the K-coil risers have been designed to become a dedicated chilled water loop and sized with the future capacity to account for connecting every air handler in Building 1 to the loop. The zone risers have been sized to be converted to a dedicated heating hot water loop, providing reheat to all of the coils on the floors.

For this reason, the two systems (K-coil and Zone) are decoupled prior to the seasonal change over valves, and are provided with separate pumps, enabling a more streamlined conversion to dedicated chilled water/heating hot water in the future.

Temporary pumps and piping will be provided during the initial phase of the project to maintain the building heating/cooling operational while the piping and pumps in the sub-basement are replaced with the larger pipes and pumps.

Air handler coils connected to the K-coil system were evaluated. Of the three (3) air handlers in building 1, two (2) (AHU-9 and AHU-10) are currently being replaced/installed as part of project 570-19-307 and therefore require no replacement as part of this project. The third (AHU-8) was installed as part of project number 570-17-700, which was issued in 2020, and is new enough to not merit replacement.

The OPC chilled water riser was also evaluated and determined to be large enough and recent enough to not warrant replacement.

6. ELECTRICAL DESIGN NARRATIVE

The electrical scope of work consists of providing power to four new distribution pumps located in the sub-basement mechanical equipment room B203 and includes complete demolition of the existing pumps and all associated electrical systems. Demolition shall include disconnecting and removing all existing conduit, conductors, starters, disconnecting means, and related electrical equipment back to the source motor control center (MCC-SB), with no systems abandoned in place. New conduit, conductors, disconnecting means, and Variable Frequency Drives (VFDs) shall be provided for each pump, with all equipment powered from MCC-SB. Temp power will be needed for supply to two temp pumps to maintain system operation while new pumps are being installed.

The electrical scope for the fan coil unit (FCU) replacements shall consist of disconnecting the existing units and reconnecting a new like-for-like FCU at the same location utilizing the

existing branch circuit, provided the circuit capacity, voltage, and overcurrent protection are verified to be suitable.

Pumps:

Demo: All existing pump-associated conduit, conductors, and electrical equipment shall be disconnected and completely removed back to the source motor control center (MCC-SB).

New: Provide new conduit, conductors, disconnecting means, and Variable Frequency Drives (VFDs) for all four distribution pumps. Power shall be sourced from motor control center MCC-SB.

The K-Coil Pumps are driven by a 25 hp motor with a full load current of approximately 74.8 amps at 208V. The minimum circuit ampacity is calculated at 93.5 amps based on 125% of the motor full load current, and the maximum overcurrent protection is 175 amps using a 250% inverse time breaker allowance.

The Zone Coil Pumps are equipped with a 30 hp motor with a full load current of approximately 88 amps at 208V. The minimum circuit ampacity is 110 amps, and the maximum overcurrent protection is 250 amps, both determined in accordance with NEC requirements.

Variable Frequency Drives (VFDs):

New: Variable Frequency Drives (VFDs) will be provided for each new distribution pump to allow for variable speed control and efficient system operation. The use of VFDs will reduce energy consumption, provide soft starting and stopping of motors, and minimize mechanical stress on equipment, thereby extending equipment life and improving overall system reliability.

Basis of design for the variable frequency drives (VFDs) shall be the ABB ACH580 Series VFD with internal disconnect, specifically designed for variable torque HVAC applications. The K-Coil Pumps shall be served by model ACH580-01-075A-2 or equivalent, and the Zone Coil Pumps shall be served by model ACH580-01-088A-2 or equivalent.

7. FIRE PROTECTION DESIGN NARRATIVE

F-1.0 FIRE PROTECTION BASIS OF DESIGN (PG-18-15)

- F-1.1 Narrative

  Sprinkler system modifications are not anticipated, except as required to accommodate the work specified in other disciplines/utilities. Interim life safety measures (ILSM) are addressed in specification section Specification Section 013526.

This may require replacement or reconfiguration in areas to accommodate the new systems. The primary fire/life safety goal of this project is to provide an environment for occupants that is reasonably safe from the effects of fire and products of combustion during construction and thereafter. The secondary goal is to provide a reasonable level of building usability and property protection. To achieve these goals, the objectives are to protect occupants who are not intimate with initial fire development for the time needed to take appropriate action, to improve the survivability of occupants who are intimate with initial fire development, and to increase the likelihood that, in the event of a fire, critical operational functions are not interrupted.

Applicable features of fire life safety, means of egress, fire resistive construction, site fire protection, fire protection system design, and other pertinent requirements of the VA Fire Protection Design Manual (VA FPDM), International Building Code (IBC), Health Care Facilities Code (NFPA 99), Life Safety Code (NFPA 101), and other referenced Codes and Standards are summarized herein.

The fire sprinkler and fire alarm will be designed and installed under the direct supervision of a Qualified Fire Protection Engineer (QFPE) in accordance with the VA Fire Protection Design Manual (VA FPDM) and referenced NFPA codes and standards. All design documents and construction submittals will be reviewed for conformance with the applicable criteria and stamped by the QFPE prior to submitting to the Government.

- F-1.2 General Code Analysis

The intent of this analysis is to identify the general building code requirements, including classification of occupancy, construction type, allowable heights and areas versus actual heights and areas, exterior exposure protection, and interior fire rated occupancy separations.

Additionally, this analysis will identify the following life safety requirements as they relate to the scope of work: occupant load factors and total calculated load, required versus provided number of exits, capacity of means of egress, arrangement of means of egress including remoteness of exits, travel distance, common path of travel, dead-end corridors lengths, discharge from exits, fire rated separation of exits and exit access, fire rated separation of hazardous areas and flame spread/smoke development ratings of interior finishes.

The following analysis summarizes the life safety condition of the existing building and improvements related to the scope of work.

Occupancy Classification – Existing (not altered)

- Mixed Use and Occupancy – Nonseparated Occupancy (IBC Sect. 508.3)
  - Business Group B (IBC Sect. 304.1)

- Institutional Group I-2 (IBC Sect. 308.3)

- Existing Health Care (NFPA 101, Chapter 19) with Incidental Business, Industrial, and Storage use

Fire Pump and Riser Room Size – Existing (not altered)

- IBC Section 902, NFPA 20

Automatic Sprinkler Systems – Existing (modifications required)

- IBC Section 903, NFPA 13

Portable Fire Extinguishers – Existing (not altered)

- IBC Section 906, NFPA 10

Fire Detection and Alarm Systems – Existing (modifications required)

- IBC Section 907, NFPA 72

Fire Department Connection – Existing (not altered)

- IBC Section 912, NFPA 13

Fire Pump – Existing (not altered)

- IBC Section 913, NFPA 20

Construction Type – Existing (not altered)

- IBC Section 602.2
- NFPA 220 Table 4.1.1

Allowable Height – Existing (not altered)

- IBC Table 504.3

Allowable Stories – Existing (not altered)

- IBC Table 504.4

Allowable Area – Existing (not altered)

- IBC Table 506.2

Actual Number of Stories – Existing (not altered)

Actual Building Height – Existing (not altered)

Actual Building Area – Existing (not altered)

Fire-Resistance Rating Requirements for Building Elements (IBC Table 601)

- Primary Structural Frame — 2 hour
- Bearing Walls — 2 hour
- Nonbearing Walls — 0 hour
- Floor Construction — 2 hour (and associated secondary members)
- Roof Construction — 1 hour (and associated secondary members)
- Fire Separation Distance — < 30 feet – 1 hour (2024 IBC Table 602)
  ≥ 30 feet – 0 hour (2024 IBC Table 602)

Risk Category

- Category 1 (NFPA 99)

Classification of Hazard of Contents – Existing (not altered)

- Ordinary Hazard (2021 NFPA 101; 6.2.2.3)

Total Occupant Load – Existing (not altered)

Means of Egress (NFPA 101, Chapter 7)

- Components — NFPA 101; 7.2
- Capacity — NFPA 101; 7.3
- Number — NFPA 101; 7.4
- Arrangement — NFPA 101; 7.5
- Travel Distance — NFPA 101; 7.6
- Discharge from Exits — NFPA 101; 7.7
- Illumination — NFPA 101; 7.8
- Emergency Illumination — NFPA 101; 7.9
- Marking — NFPA 101; 7.10
- Mechanical Equipment Rooms — NFPA 101; 7.13
- Normally Unoccupied Support Areas — NFPA 101; 7.14

Features of Fire Protection (NFPA 101, Chapter 8)

- Construction and Compartmentation — NFPA 101; 8.2
- Fire Barriers — NFPA 101; 8.3
- Smoke Partitions — NFPA 101; 8.4
- Smoke Barriers — NFPA 101; 8.5
- Vertical Openings — NFPA 101; 8.6
- Special Hazard Protection — NFPA 101; 8.7

Building Service and Fire Protection Equipment (NFPA 101, Chapter 9)

- Utilities — NFPA 101; 9.1
- HVAC — NFPA 101; 9.2
- Elevators — NFPA 101; 9.3
- Fire Detection and Alarm — NFPA 101; 9.6, NFPA 72

- Automatic Sprinkler NFPA 101; 9.7, NFPA 13
- Portable Fire Extinguishers NFPA 101; 9.9, NFPA 10

Interior Finish, Contents, and Furnishings (NFPA 101, Chapter 10)

- Interior Finish NFPA 101; 10.2
- Contents and Furnishings NFPA 101; 10.3

- F-1.3 Fire Protection Codes and Standards

Where specific editions of criteria are referenced, these editions will be utilized unless approved otherwise. Where specific editions of applicable criteria are not referenced, the most recently published editions available at the time of the Government's solicitation for proposal apply.

Some key criteria applicable to the fire protection design are referenced in Section 1.1.3.

The advisory provisions of referenced Codes and Standards will be mandatory; substitute words such as "shall," "must," or "required" for words such as "should," "may," or "recommended" wherever they appear. The results of these wording substitutions incorporate these code and standard statements as requirements.

- F-1.4 Fire Protection Codes During Construction

Appropriate measures for preventing and minimizing fire damage during construction and demolition operations shall be provided in accordance with NFPA 241 and Specification Section 013526, Safety Requirements. Existing levels of protection shall be maintained throughout construction. Provide fire watch as necessary if impairments extend beyond 4-hours. NOTE: All utility outages require notice of five (5) business days.

- F-1.5 Site Considerations

The scope of work will not affect the following: Fire Separation Distance, Fire Department (Emergency) Vehicle Access, Fire Service Water Supply and Distribution System, or Fire Hydrants.

- F-1.6 Existing Systems

Modifications to the existing fire alarm and fire sprinkler systems are anticipated based on reconfigured walls and ceilings. Refer to the following sections for additional information.

- F-1.7 Building Features – *Existing (not altered)*

- F-1.8 Occupancy Classification

  The occupancy classification will not be altered based on the scope of work. This analysis is based on the following classification.

  - Mixed Use and Occupancy – Nonseparated Occupancy (IBC 508.3)
    - Business Group B (IBC Section 304.1)
    - Institutional Group I-2 (IBC Section 308.3)
  - Existing Health Care (NFPA 101, Chapter 19) with incidental business, industrial, and storage use

- F-1.9 Special Occupancies/Protection

  Every story of a health care facility is required to be divided into not less than two smoke compartments, except stories less than 10,000 sq-ft. Existing smoke compartment boundaries will not be modified and are shown on the design documents.

  As required, each smoke compartment is separated from the adjacent smoke compartments by wall and floors constructed with at least 1/2-hour fire/smoke barriers per NFPA 101; 8.5 and 19.3.7.3. However, one-hour fire/smoke barriers were likely constructed as required for New Health Care Occupancies; NFPA 101 20.3.7.3 and penetrations should be protected as such.

  Per IBC and NFPA 101, each smoke compartment is provided with an independent means of egress without having to return through the smoke compartment from which means of egress originated, and travel distance from any point to reach a door in a fire/smoke barrier will not exceed 200 ft.

  Incidental uses are ancillary functions associated with a given occupancy that generally pose a greater level of risk to that occupancy. Examples of these spaces include electrical, mechanical, telecommunications, and general-purpose storage rooms. Note that NFPA 101 addresses these rooms hazardous areas and requires automatic sprinkler protection and smoke or fire-rated separation from adjacent areas of the building.

  Construction joints and penetrations through fire-rated floor/ceiling and wall assemblies shall be protected in accordance with NFPA 101. Door assemblies in required one-hour fire-rated separation walls shall be 45-minutes (20-minutes at half-hour walls) and provided with fire-rated door hardware. Door assemblies in required smoke partition walls shall be provided with self-closing door hardware and no door louvers.

Storage rooms are considered hazardous areas and shall comply with appropriate requirements of NFPA 101. General purpose storage rooms (e.g., supply storage, janitorial, etc.) are provided with automatic sprinkler protection and enclosed within smoke partition walls per NFPA 101; 8.4.

Pharmacies located in health care occupancies are considered storage areas and shall therefore be separated from adjacent spaces by one-hour fire resistive construction per NFPA 101; 8.3. Fire or service counter shutters shall be provided to protect openings where medication is dispensed, or other transactions occur per the VA FPDM.

Rooms containing medical records storage or moveable-aisle/mobile shelving are provided with automatic sprinkler protection and enclosed with a barrier having a one-hour fire resistance rating per the VA FPDM.

Rooms with compact mobile storage units greater than 50 sq-ft are considered hazardous areas in accordance with NFPA 101 and shall be provided with automatic sprinkler protection and enclosed with a barrier having a one-hour fire resistance rating per the VA FPDM. Smoke detection shall also be provided in these rooms as required by NFPA 99.

Areas where medical gas is stored or administered, and the operation, management, and maintenance of medical gases shall be in accordance with 2021 NFPA 99. Medical gases and medical vacuum will be provided to support the functions of the building. It is anticipated that the following will be provided: oxygen, nitrous oxide, nitrogen, medical air, medical vacuum, and gas evacuation.

Location, construction, and arrangement of compressed medical gas storage areas shall comply with NFPA 99. Rooms containing compressed medical gas storage are provided with automatic sprinkler protection and enclosed with a barrier having a one-hour fire resistance rating per NFPA 101; 8.3.

Penetrations through fire-rated floor/ceiling, floor, and wall assemblies shall be protected in accordance with NFPA 101. Floors, floor openings, floor penetrations, and floor firestop systems shall be sealed or curbed to prevent liquid leakage to lower floors. Door assemblies in required one-hour fire-rated separations shall be 45-minutes.

- F-1.10 Information Technology and Telecommunications

  Not applicable based on the scope of work.

- F-1.11 Laboratories

  Not applicable based on the scope of work.

- F-1.12 Atrium Smoke Control System

  Not applicable based on the scope of work.

- F-1.13 VA Hospital Building System (VAHBS)

  Not applicable based on the scope of work.

- F-1.14 Type of Construction, Building Height, and Area

  The construction type, building height, and area will not be altered based on the scope of work. Additional field investigation and research is required to complete this section.

- F-1.14 Fire Resistive Construction

  Maintain existing construction and compartmentation, fire barriers, smoke partitions, smoke barriers, vertical openings, and horizontal exits in accordance with NFPA 101. Repair existing walls where construction activities disturb the required continuity. Construction shall meet or exceed existing conditions.

  An approved firestop system will be required at all new and existing membrane and through penetrations at smoke and fire-resistive construction. Firestopping shall conform to facility standards.

- F-1.15 Structural and Exterior Fire Resistance

  Structural and exterior fire resistance will be field verified as the project progresses. Where structural fireproofing is disturbed, damaged, or destroyed as a result of construction efforts, the contractor shall be responsible for restoring the fireproofing to the required fire resistance rating in an approved manner. The restoration shall be completed in accordance with the UL listing or FM approval for the fireproofing materials provided, and the applicable requirements of the building, fire, and life safety codes adopted for the facility.

- F-1.16 Combustible Materials

  Per IBC 603.1, combustible materials are permitted in buildings of Type I or II construction in the following applications and in accordance with IBC 603.1.1 through 603.1.3:

  (1) Fire-retardant-treated wood shall be permitted in:

  a. Nonbearing partitions where the required fire-resistance rating is 2 hours or less.

b. Nonbearing exterior walls where fire-resistance-rated construction is not required.
c. Roof construction, including girders, trusses, framing, and decking.

(2) Thermal and acoustical insulation, other than foam plastics, having a flame spread index of not more than 25. Exceptions:

a. Insulation placed between two layers of noncombustible materials without an intervening airspace shall be allowed to have a flame spread index of not more than 100.
b. Insulation installed between a finished floor and solid decking without intervening airspace shall be allowed to have a flame spread index of not more than 200.

(3) Foam plastics in accordance with IBC Chapter 26.

(4) Roof coverings that have an A, B or C classification.

(5) Interior floor finish and floor covering materials installed in accordance with IBC 804.

(6) Millwork such as doors, door frames, window sashes, and frames.

(7) Interior wall and ceiling finishes installed in accordance with IBC 803.

(8) Trim installed in accordance with IBC 806.

(9) Where not installed greater than 15 feet above grade, show windows, nailing or furring strips and wooden bulkheads below show windows, including their frames, aprons and show cases.

(10) Finish flooring installed in accordance with IBC 805.

(11) Partitions dividing portions of stores, offices or similar places occupied by one tenant only and that do not establish a corridor serving an occupant load of 30 or more shall be permitted to be constructed of fire-retardant-treated wood, 1-hour fire-resistance-rated construction or of wood panels or similar light construction up to 6 feet in height.

(12) Stages and platforms constructed in accordance with IBC 410.2 and 410.3, respectively.

(13) Combustible exterior wall coverings, balconies and similar projections and bay or oriel windows in accordance with IBC Chapter 14 and 705.2.3.1.

(14) Blocking such as for handrails, millwork, cabinets and window and door frames.

(15) Light-transmitting plastics as permitted by IBC Chapter 26.

(16) Mastics and caulking materials applied to provide flexible seals between components of exterior wall construction.

(17) Exterior plastic veneer installed in accordance with IBC 2605.2.

(18) Nailing or furring strips as permitted by IBC 803.15.

(19) Heavy timber as permitted by Note c to IBC Table 601 and 602.4.3 and 705.2.3.1.

(20) Aggregates, component materials, and admixtures as permitted by IBC 703.2.2.

(21) Sprayed fire-resistant materials and intumescent and mastic fire-resistant coatings, determined on the basis of fire resistance tests in accordance with IBC 703.2 and installed in accordance with IBC 1705.14 and 1705.15, respectively.

(22) Materials used to protect penetrations in fire-resistance-rated assemblies in accordance with IBC 714.

(23) Materials used to protect joints in fire-resistance-rated assemblies in accordance with IBC 715.

(24) Materials allowed in the concealed spaces of buildings of Types I and II construction in accordance with IBC 718.5.

(25) Materials exposed within plenums complying with IMC 602.

(26) Wall construction of freezers and coolers of less than 1,000 sq-ft, in size, lined on both sides with noncombustible materials and the building is protected throughout with an automatic sprinkler system.

(27) Nonmetallic ducts where installed in accordance with the limitations of the IMC.

(28) Combustible piping materials where installed in accordance with the limitations of the IMC/IPC.

(29) Electrical wiring methods with combustible insulation, tubing, raceways, and related components where installed in accordance with the limitations of this IBC.

- F-1.17 Interior Finishes

Interior finishes shall be provided in accordance with NFPA 101.

Interior wall and ceiling finish materials shall be Class A or Class B in exits and exit access corridors, and Class A, Class B, or Class C in all other areas. Wherever the use of Class C interior finish is required, Class A or Class B shall be permitted, and where Class B interior finish is required, Class A shall be permitted. (NFPA 101; 19.3.3.2)

- Class A Interior Finish: Flame Spread Index 0–25
  Smoke Developed Index 0–450
- Class B Interior Finish: Flame Spread Index 26-75
  Smoke Developed Index 0–450
- Class C Interior Finish: Flame Spread Index 76-200
  Smoke Developed Index 0–450

Interior floor finish in exits and exit access corridors shall be Class I or Class II. (NFPA 101; 19.3.3.3)

- Class I Interior Finish: Critical Radiant Flux of not less than 0.45 W/cm2
- Class II Interior Finish: Critical Radiant Flux of not less than 0.22 W/cm2

Carpet and carpet-like interior floor finishes shall comply with ASTM D2859, Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials. Floor coverings, other than carpet shall have a minimum critical radiant flux of 0.1 W/cm2.

- F-1.18 Interior Separations, Openings, and Penetrations

Incidental Uses (IBC Table 509) and Hazardous Areas (NFPA 101) are ancillary functions associated with a given occupancy that generally pose a greater level of risk to that occupancy and shall be separated from adjacent areas of the building as noted below. Examples of these spaces include furnace rooms, boiler rooms, engine rooms, laboratories, laundry rooms, waste and linen collection rooms, electrical rooms, mechanical rooms, storage rooms, and telecommunication rooms.

The following hazards are provided with automatic sprinkler protection and either enclosed in fire resistive construction in accordance with NFPA 101; 8.3 or smoke partitions in accordance with NFPA 101; 8.4. Additional safeguards required by other Codes and Standards or the VA FPDM (e.g., smoke detection) are noted for reference.

Incidental Uses and Hazardous Areas

Engine Room (Generator Room)	2 hour (NFPA 99)
Elevator Machine Room	2 hour and Smoke Detection
Fire Pump Room	1 hour (NFPA 20)
Electrical Distribution and Switch Gear	1 hour
Electrical and Telecommunication Closets	Smoke Partition
Battery Storage Rooms	1 hour
Information Technology Equipment and Data Centers	1 hour and Smoke Detection (NFPA 75)
Storage Rooms (other than general office supplies)	Smoke Partition
Storage Rooms (greater than 100 sq-ft)	1 hour
Compact Mobile Storage (greater than 50 sq-ft)	1 hour and Smoke Detection (NFPA 99)
High Density Storage and Medical Carousel Storage	1 hour (VA FPDM)
Medical Gas Storage	2 hour (NFPA 99)
Pharmacy	1 hour (VA FPDM)
Laboratories	1 hour
Laundry Rooms (greater than 100 sq-ft)	Smoke Partition
Waste and Linen Collection Rooms	1 hour
Mechanical Rooms	Smoke Partition
Mechanical Rooms (open to shafts or adjacent floors)	1 hour

Vertical Openings

Shafts (three stories or less)	1 hour
Shafts (four stories or more)	2 hour
Stair Enclosure (three stories or less)	1 hour
Stair Enclosure (four stories or more)	2 hour
Elevator Hoistway	2 hour
Floor Construction	1 hour Fire/Smoke Barrier
Communicating Spaces	1 hour Fire/Smoke Barrier

- F-1.19 Means of Egress

  The capacity, number, arrangement, and components of means of egress shall be provided based on the occupancies involved. Common path of travel, travel distances, dead-end limitations, and number and remoteness of exits shall be maintained in accordance with NFPA 101.

  A complete egress analysis will be included in Design Development.

- F-1.20 Fire and Smoke Dampers

  Fire protection features for air handling, heating, ventilation, and exhaust systems, such as duct smoke detectors, fire dampers and smoke dampers, shall comply with the minimum requirements of NFPA 90A and the VA FPDG.

- F-1.21 Water Supply for Fire Protection

  Modifications to the existing water distribution system are not anticipated based on the scope of work. Maintain the existing fire pump system throughout construction per 2022 NFPA 241.

- F-1.22 Fire Pumps

  Maintain the existing fire pump system throughout construction per NFPA 241.

- F-1.23 Fire Extinguishing Systems

  Building 1 is protected throughout by a combined automatic wet-pipe sprinkler system and wet standpipe system, which is zoned by floor and by smoke compartment. Standpipe hose connections are available in each stair enclosure and in the adjacent corridors. Control valve assemblies provide means to isolate and drain the existing system by floor and smoke compartment without affecting other portions of the building. The systems are supplied by an existing fire pump system.

The fire pump and sprinkler/standpipe systems are supplied by the existing water distribution system. Fire Department Connections (FDC) for the standpipe and sprinkler systems are located on the building exterior as required and fire hydrants are positioned along the building perimeter. The existing systems are in good working condition and have capacity to execute the awarded scope of work based on the proposed technical approach.

Modify the existing automatic wet-pipe sprinkler system to provide complete coverage throughout the areas of work. All materials and methods shall conform to the requirements of NFPA 13, except where specifically modified by the VA FPDG. The system shall be designed using the Area/Density Method, hydraulically calculated for Light Hazard as noted on the drawings and shall include outside hose allowance per NFPA 13.

Sprinkler spacing shall not exceed that permitted by NFPA 13 for the hazards involved. The use of extended coverage sprinklers is not permitted. Provide sprinklers with listed sprinkler guard in beneath stair landings as required by NFPA 13.

Provide Schedule 40 black steel pipe for all piping 2-inch and smaller. Schedule 10 pipe is permitted for larger pipe sizes. Galvanized steel pipe is prohibited.

System piping shall be seismically braced in accordance with 2022 NFPA 13. Use a seismic coefficient Cp = 0.39 (Sds =0.519 for D-site class). In addition to sway bracing, provide branch line restraint, flexible couplings, seismic separation assemblies, and clearance to structural members as required.

The fire sprinkler contractor shall perform required acceptance testing in accordance with Division 21 Specifications, including hydrostatic test, main drain test, and alarm tests in accordance with NFPA 13.

During construction, the existing pendent sprinklers throughout the area of work shall be replaced with upright sprinklers located within 1”-12” of deck. The type of construction will be field verified prior to construction.

After construction has been completed, the upright sprinklers shall be removed, and new pendent sprinklers and the associated drops shall be installed in the center of tile ±2 inches.

- F-1.24 Fire Alarm Systems

The existing fire alarm and emergency voice evacuation system (Simplex Model 4100U) is expandable and includes conduit, pull boxes, terminal cabinets, outlet and mounting boxes, system wiring, control equipment, alarm and supervisory initiating devices (pull stations, smoke detectors, heat detectors, duct smoke detectors),

addressable interface equipment (monitoring modules, control modules, relays), alarm notification appliances (speakers, strobes, speaker/strobes), supervision of integrated systems (automatic sprinkler systems, fire pump, door holders, access control, elevator), remote control units and booster power supply panels, and other accessories and miscellaneous items required for a complete operating system.

The main Fire Alarm Control Unit (FACU) and Network Display Unit (NDU), is located in Building 1 on the first floor in an electrical closet adjacent to the information desk. The system includes an existing Universal Digital Alarm Communicator Transmitter (UDACT) to communicate with an off-site central station monitoring facility for signal reporting (i.e., alarm, trouble, and supervisory conditions). Modifications to the FACU and remote booster power supply panels located throughout the building are anticipated based on the scope of work.

Automatic smoke detection (partial/select coverage) was observed in waiting areas, above fire alarm control equipment, at fire-rated door assemblies provided with magnetic hold-open devices, and elevator lobbies as required. Duct smoke detectors (supply and return fans) were observed within the mechanical and equipment rooms.

The existing fire alarm system is in good working condition and has capacity to execute the awarded scope of work based on the proposed technical approach.

The existing fire alarm system will be modified to provide complete coverage throughout the areas of work in accordance with NFPA 72 and VA FPDM. Maintain existing levels of protection throughout construction in accordance with NFPA 241. Provide fire watch as necessary if impairments extend beyond 4-hours.

Work will include furnishing of labor and materials to modify and test the existing system. Modifications will consist of selected demolition and all necessary hardware, equipment, and software programming to perform fire detection and alarm operations. Where provided, new equipment will be compatible with the existing Notifier system.

Existing equipment, including conduit and wiring within the areas of work will be utilized to the extent possible. New notification appliances and initiating devices will be provided as necessary for complete coverage based on reconfigured walls and ceilings.

Performance, location, and mounting of notification appliances will be in accordance with 2022 NFPA 72. Audible notification appliances (speakers) will be provided throughout the facility such that a minimum sound pressure level of 15 dba above ambient conditions will be provided as required. Visible notification appliances (strobes) will be installed only in public and common areas. Strobes

located within the same room or adjacent space within the field of view will be synchronized.

Duct smoke detectors will be provided per NFPA 90A. In-duct detectors must automatically stop their respective fan(s) on detecting the presence of smoke where supply air systems exceeding 2,000 cfm and return air systems exceeding 15,000 cfm and serving more than one story are provided. Supply air duct smoke detectors must be located downstream of air filters and upstream of any branch ducts. Return air duct smoke detectors must be located before the connection to the common return and before any connection to any recirculation or fresh air inlets.

Duct smoke detectors, where provided, must be supervised, and powered by the fire alarm system. Each detector will be provided with a remote indicating lamp and key-operated test switch. Locate the test switches on a nearby wall no more than 6 feet above finished floor where detectors are not accessible for maintenance and testing.

Fire alarm circuits shall match existing (Class B downstream of FATC). All fire alarm system wiring shall be solid copper and installed in conduit. Stranded wiring is prohibited, unless where previously approved or recommended by the system manufacturer. T-tapping is prohibited.

Conduit shall be rigid metal or electrical metallic tubing, with a minimum inside diameter of 3/4 inch that utilizes compression type fittings and couplings with a maximum fill to 40 percent conduit capacity. Conduit or tubing must be concealed unless noted otherwise. All fire alarm wiring must be installed in dedicated conduit. No other building wiring is permitted.

The fire alarm contractor shall perform required acceptance testing in accordance with Division 21 Specifications, including functional testing of any new fire alarm initiating devices and notification appliances in the affected smoke compartments, conductor testing (open, ground, short) on affected circuits, current draw and voltage drop measurements on affected circuits, and manometer testing at the new duct smoke detectors in accordance with 2022 NFPA 72.

- F-1.25 Smoke, Carbon Monoxide, and Heat Detection

  As described above, existing automatic detection was observed above fire alarm control units per 2022 NFPA 72, at elevator lobbies and equipment rooms per 2021 NFPA 101, at door assemblies equipped with electromagnetic door hold open devices per 2021 NFPA 101, and within airducts at fire/smoke dampers, supply fans and return fans as required by 2021 NFPA 90A. The existing system

does not include carbon monoxide (CO) detection. The location of fuel-burning equipment within the areas of work will be field verified.

- F-1.26 Off Premises Connection

  Maintain the existing Universal Digital Alarm Communicator Transmitter (UDACT) which communicates with an off-site central station monitoring facility for signal reporting (i.e., alarm, trouble, and supervisory conditions).

- F-1.27 Interfaces

  Supervision of integrated systems includes release of electromagnetic door hold open devices, fire shutters and fire/smoke dampers per 2021 NFPA 101 and 2022 NFPA 80, elevator firefighter service, recall and shunt trip per 2021 NFPA 101, automatic sprinkler alarm and valve monitoring (waterflow and tamper switches) per 2022 NFPA 13, and the communication link between the protected building and the VA campus alerting and notification system. Maintain existing interfaces as required.

- F-1.28 Clean Agent Fire Systems

  Not applicable based on scope of work.

- F-1.29 Catalog Cut Sheets

  To be provided by the fire protection contractors per Division 21 and 28 Specifications.

- F-2.0 CALCULATIONS

  - F-2.1 Preliminary Hydraulic Analysis

    A hydraulic analysis is not anticipated based on the scope of work.

  - F-2.2 Water Supply Sizing

    Modifications to the existing water distribution system are not anticipated based on the scope of work.

  - F-2.3 Egress Calculations

    A complete egress analysis is not anticipated based on the scope of work.

- F-3.0 DRAWINGS – Refer to Design development.

8. PHASING

Phasing for this project will be completed by floor and building / wing. Existing risers will be demolished and capped at each floor as the phasing progresses.

- Phase 1: Trench piping to the sub-basement
- Phase 2: Building 1 Sub-basement piping, and sub-basement pumps will be demolished and replaced. Main risers will be installed from the sub-basement to the 7th floor. Temporary pumps and connections from the chilled water/hot water mains (depending on the season) to the existing risers will be provided, during the sub-basement piping work, to be replaced with temporary piping from the new piping to the existing risers for the duration of the project.
- Phase 3: Building 1 7th floor piping stubbed in, valved, and capped for future connections.
- Phase 4: Building 1 6th floor east wing lateral piping and coils that are to be replaced will be demolished. New piping will be installed from coils to the new pipe risers.
- Phase 5: Building 1 5th floor east wing lateral piping and coils that are to be replaced will be demolished. New piping will be installed from coils to the new pipe risers. 5th floor west wing piping stubbed in, valved, and capped for future connections.
- Phase 6: Building 1 4th floor east and west piping stubbed in, valved, and capped for future connections.
- Phase 7: Building 1 3rd floor east wing lateral piping, and coils that are to be replaced will be demolished. New piping will be installed from coils to the new pipe risers. 3rd floor west wing piping stubbed in, valved, and capped for future connections.
- Phase 8: Building 1 2nd floor east wing lateral piping, and coils that are to be replaced will be demolished. New piping will be installed from coils to the new pipe risers. 2nd floor west wing piping stubbed in, valved, and capped for future connections.
- Phase 9: Building 1 1st floor east wing lateral piping and coils that are to be replaced will be demolished. New piping will be installed from coils to the new pipe risers.
- Phase 10: Building 1 1st floor west wing lateral piping and coils that are to be replaced will be demolished. New piping will be installed from coils to the new pipe risers.
- Phase 11: Building 1 basement east wing lateral piping and coils that are to be replaced will be demolished. New piping will be installed from coils to the new pipe risers.

- Phase 12: Building 1 basement wing lateral piping, and coils that are to be replaced will be demolished. New piping will be installed from coils to the new pipe risers.

- Phase 13: Sub-basement temporary connections to the existing risers to be removed and full operation of the new risers to commence.

- Phase 14: Existing chilled water risers to be demolished, sub-phased riser by riser, providing interruption to only space directly adjacent to the riser. New condensate piping to replace the existing condensate.

Appendix A – Acronyms

ACH	Air Changes per Hour
AHU	Air Handling Unit
AF	After Filter
EF	Exhaust Fan
FPM	Feet Per Minute
HEPA	High Efficiency Particulate Air
MERV	Minimum Efficiency Reporting Values
OA	Outside Air
PPE	Personal Protective Equipment
PF	Pre Filter
RH	Relative Humidity
SOP	Standard Operating Procedure
UPS	Uninterrupted Power Source

Appendix B – Load Report

System Cooling Checksums

WR7

Coil Peak	
Peak Time (Mo/D/H:M):	7/21/15:00
Outside Air (DB/WB/HR):	103.5 / 71.0 / 63.0

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	3,976	2,773	0	6,749	7.3	16.0
Door	0	-87	0	-87	-0.1	-0.9
Wall	0	1,094	0	1,094	1.2	1.3
Below-Grade Wall	0	0	0	0	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-2,382	0	-2,382	-2.6	-0.7
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-4,864	0	-4,864	-5.3	-1.3
Slab	0	0	0	0	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	3,210	0	-78	3,132	3.4	3.7
Envelope Subtotal	7,186	-3,465	-78	3,643	3.9	-
People	7,235	12,531	11,684	31,450	34.0	8.7
Lights	1,829	4,984	0	6,812	7.4	3.6
RA Sensible (Lights)	4,244	0	0	4,244	4.6	0.0
Miscellaneous Loads	7,794	6,664	0	14,458	15.6	4.0
Internal Subtotal	21,102	24,178	11,684	56,965	61.5	-
Ventilation	27,655	0	-815	26,840	29.0	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-70	0	-70	-0.1	0.0
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	5,404	0	-	5,404	5.8	-
Time Delay Correction	0	-731	-	-731	-0.8	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	245	0	296	541	0.6	-
Grand Total	61,593	19,912	11,087	92,592	100.0	

Fan Peak	
Peak Time (Mo/D/H:M):	7/21/19:00
Outside Air (DB/WB/HR):	91.9 / 67.5 / 62.9

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	0	0	0.0	0
	0	0	0	0.0	0
	3,267	3,155	6,422	14.5	423
	0	-101	-101	-0.2	98
	0	1,158	1,158	2.6	851
	0	0	0	0.0	0
	0	0	0	0.0	851
	0	-2,703	-2,703	-6.1	3,262
	0	0	0	0.0	0
	0	-5,328	-5,328	-12.1	3,699
	0	0	0	0.0	0
	0	0	0	0.0	3,699
	3,114	0	3,114	7.0	851
	6,381	-3,819	2,562	5.8	-
	7,235	13,413	20,648	46.7	3,626
	1,829	5,268	7,097	16.1	3,626
	-	-	-	-	-
	7,794	6,927	14,721	33.3	3,626
	16,858	25,608	42,466	96.1	-
	-	-	-	-	-
			0	0.0	0
	0	-45	-45	-0.1	3,699
			0	0.0	3,626
			0	0.0	3,626
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-771	-771	-1.7	-
	0	-	0	0.0	-
	-9	-	-9	0.0	-
	23,230	20,972	44,202	100.0	

Temperatures °F	
Supply	55.0
Return	76.7
Mixed Air	92.0
Fan Heat TD	2.1

Airflows cfm	
Main Fan	2,397
Ventilation	809
Infiltration	144
Min Stop / Reheat	2,397

Engineering Checks	
% OA	33.76
cfm/ft²	.66
Btu/h-ft²	25.55
cfm/ton	310.70
ft²/ton	469.92
People	73
ft²/person	49.44

Areas ft²	
Roof	0
Other Roof	0
Ceiling	3,699
Window	423
Door	98
Wall	851
Below-Grade Wall	0
Other Wall	851
Partition	3,262
Exterior Floor	0
Internal Floor	3,699
Slab	0
Other Floor	3,699

WR9

	Coil Peak Peak Time (Mo/D/H:M): 7/21/17:00 Outside Air (DB/WB/HR): 99.4 / 69.8 / 63.0					
	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	11,107	19,619	0	30,727	34.0	28.7
Door	0	-366	0	-366	-0.4	-0.9
Wall	0	1,492	0	1,492	1.7	1.2
Below-Grade Wall	0	0	0	0	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-4,456	0	-4,456	-4.9	-0.7
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-5,822	0	-5,822	-6.4	-1.9
Slab	0	0	0	0	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	1,514	0	61	1,575	1.7	1.2
Envelope Subtotal	12,621	10,468	61	23,151	25.6	-
People	2,404	5,249	4,628	12,280	13.6	4.1
Lights	1,610	6,061	0	7,671	8.5	5.3
RA Sensible (Lights)	6,011	0	0	6,011	6.7	0.0
Miscellaneous Loads	6,381	6,441	0	12,822	14.2	4.3
Internal Subtotal	16,406	17,751	4,628	38,785	43.0	-
Ventilation	20,893	0	1,487	22,381	24.8	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	20	0	20	0.0	0.0
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	6,236	0	-	6,236	6.9	-
Time Delay Correction	0	-764	-	-764	-0.8	-
Sizing Factor Correction	553	-	-	553	0.6	-
Airflow Correction	-39	0	-35	-75	-0.1	-
Grand Total	56,670	27,474	6,141	90,285	100.0	

	Fan Peak Peak Time (Mo/D/H:M): 7/21/17:00 Outside Air (DB/WB/HR): 99.4 / 69.8 / 63.0				
	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
Roof	0	0	0	0.0	0
Other Roof	0	0	0	0.0	0
Glass	11,107	19,619	30,727	60.2	1,073
Door	0	-366	-366	-0.7	422
Wall	0	1,492	1,492	2.9	1,288
Below-Grade Wall	0	0	0	0.0	0
Other Wall	0	0	0	0.0	1,288
Partition	0	-4,456	-4,456	-8.7	6,660
Exterior Floor	0	0	0	0.0	0
Interior Floor	0	-5,822	-5,822	-11.4	3,116
Slab	0	0	0	0.0	0
Other Floor	0	0	0	0.0	3,116
Infiltration	1,514	0	1,514	3.0	1,288
Envelope Subtotal	12,621	10,468	23,090	45.3	-
People	2,404	5,249	7,652	15.0	2,969
Lights	1,610	6,061	7,671	15.0	2,969
RA Sensible (Lights)	-	-	-	-	-
Miscellaneous Loads	6,381	6,441	12,822	25.1	2,969
Internal Subtotal	10,395	17,751	28,145	55.2	-
Ventilation	-	-	-	-	-
DOAS Direct to Zone			0	0.0	0
Ceiling	0	20	20	0.0	3,116
Refrigeration			0	0.0	2,969
Service Water			0	0.0	2,969
HVAC Equipment Losses			0	0.0	0
Adj Air Transfer Heat	0	0	0	0.0	0
Supply Fan Heat	-	-	-	-	-
Time Delay Correction	0	-764	-764	-1.5	-
Sizing Factor Correction	553	-	553	1.1	-
Airflow Correction	-39	-	-39	-0.1	-
Grand Total	23,529	27,474	51,004	100.0	

Temperatures °F	
Supply	55.0
Return	74.8
Mixed Air	81.0
Fan Heat TD	2.1

Airflows cfm	
Main Fan	2,766
Ventilation	704
Infiltration	51
Min Stop / Reheat	2,766

Engineering Checks	
% OA	25.45
cfm/ft²	.93
Btu/h-ft²	30.44
cfm/ton	367.67
ft²/ton	394.53
People	23
ft²/person	130.14

Areas ft²	
Roof	0
Other Roof	0
Ceiling	3,116
Window	1,073
Door	422
Wall	1,288
Below-Grade Wall	0
Other Wall	1,288
Partition	6,660
Exterior Floor	0
Internal Floor	3,116
Slab	0
Other Floor	3,116

OPC

Coil Peak	
Peak Time (Mo/D/H:M):	7/21/15:00
Outside Air (DB/WB/HR):	103.5 / 71.0 / 63.0

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	981	0	981	0.1	2.7
Other Roof	0	0	0	0	0.0	0.0
Glass	75,006	79,001	0	154,007	11.3	12.8
Door	0	-2,195	0	-2,195	-0.2	-0.3
Wall	0	20,642	0	20,642	1.5	1.6
Below-Grade Wall	0	728	0	728	0.1	0.1
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-37,206	0	-37,206	-2.7	-0.3
Exterior Floor	0	-44	0	-44	0.0	-0.1
Interior Floor	0	-38,863	0	-38,863	-2.8	-0.8
Slab	0	1,327	0	1,327	0.1	0.1
Other Floor	0	0	0	0	0.0	0.0
Infiltration	45,588	0	906	46,495	3.4	3.7
Envelope Subtotal	120,594	24,372	906	145,872	10.7	-
People	56,676	99,615	107,020	263,312	19.3	4.4
Lights	25,953	82,117	0	108,070	7.9	3.9
RA Sensible (Lights)	91,531	0	0	91,531	6.7	0.0
Miscellaneous Loads	133,119	109,882	337	243,338	17.8	4.1
Internal Subtotal	307,278	291,615	107,357	706,251	51.8	-
Ventilation	330,897	0	7,156	338,052	24.8	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	996	0	996	0.1	0.0
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	89,456	0	-	89,456	6.6	-
Time Delay Correction	0	-9,329	-	-9,329	-0.7	-
Sizing Factor Correction	82,966	-	-	82,966	6.1	-
Airflow Correction	4,732	0	4,822	9,553	0.7	-
Grand Total	935,923	307,654	120,241	1,363,819	100.0	

Fan Peak	
Peak Time (Mo/D/H:M):	9/21/15:00
Outside Air (DB/WB/HR):	98.3 / 67.2 / 51.1

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	774	774	0.1	368
	0	0	0	0.0	368
	80,641	127,829	208,470	28.5	12,023
	0	-2,201	-2,201	-0.3	7,867
	0	19,627	19,627	2.7	12,689
	0	721	721	0.1	5,426
	0	0	0	0.0	12,689
	0	-37,748	-37,748	-5.2	147,695
	0	-356	-356	0.0	596
	0	-57,221	-57,221	-7.8	45,873
	0	1,298	1,298	0.2	16,557
	0	0	0	0.0	45,873
	38,403	0	38,403	5.2	12,689
	119,043	52,723	171,767	23.5	-
	56,676	99,616	156,291	21.4	60,053
	25,953	82,117	108,070	14.8	60,053
	-	-	-	-	-
	133,119	109,883	243,002	33.2	60,053
	215,748	291,615	507,363	69.3	-
	-	-	-	-	-
			0	0.0	0
	0	-5,794	-5,794	-0.8	62,658
			0	0.0	60,053
			0	0.0	60,053
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-9,255	-9,255	-1.3	-
	86,520	-	86,520	11.8	-
	-18,907	-	-18,907	-2.6	-
	402,404	329,291	731,694	100.0	

Temperatures °F	
Supply	55.0
Return	75.3
Mixed Air	82.2
Fan Heat TD	2.1

Airflows cfm	
Main Fan	39,679
Ventilation	9,682
Infiltration	1,345
Min Stop / Reheat	28,106

Engineering Checks	
% OA	24.40
cfm/ft²	.66
Btu/h-ft²	22.73
cfm/ton	349.18
ft²/ton	528.38
People	545
ft²/person	110.26

Areas ft²	
Roof	368
Other Roof	368
Ceiling	62,658
Window	12,023
Door	7,867
Wall	12,689
Below-Grade Wall	5,426
Other Wall	12,689
Partition	147,695
Exterior Floor	596
Internal Floor	45,873
Slab	16,557
Other Floor	45,873

WR8

Coil Peak						
Peak Time (Mo/D/H:M):	7/21/16:00					
Outside Air (DB/WB/HR):	101.7 / 70.5 / 63.0					

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	1,699	2,869	0	4,568	10.8	17.6
Door	0	5	0	5	0.0	0.0
Wall	0	147	0	147	0.3	1.2
Below-Grade Wall	0	38	0	38	0.1	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-156	0	-156	-0.4	0.0
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-759	0	-759	-1.8	-0.4
Slab	0	21	0	21	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	2,260	0	126	2,385	5.7	19.2
Envelope Subtotal	3,958	2,165	126	6,249	14.8	-
People	1,797	2,738	3,111	7,646	18.1	2.7
Lights	1,558	2,414	0	3,972	9.4	2.3
RA Sensible (Lights)	1,934	0	0	1,934	4.6	0.0
Miscellaneous Loads	6,069	3,735	0	9,805	23.3	3.5
Internal Subtotal	11,358	8,887	3,111	23,356	55.4	-
Ventilation	9,531	0	393	9,924	23.5	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	155	0	155	0.4	0.1
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	2,949	0	-	2,949	7.0	-
Time Delay Correction	0	-450	-	-450	-1.1	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	-16	0	-14	-30	-0.1	-
Grand Total	27,781	10,758	3,616	42,154	100.0	

Fan Peak						
Peak Time (Mo/D/H:M):	7/21/16:00					
Outside Air (DB/WB/HR):	101.7 / 70.5 / 63.0					

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	0	0	0.0	0
	0	0	0	0.0	0
	1,699	2,869	4,568	18.9	260
	0	5	5	0.0	114
	0	147	147	0.6	124
	0	38	38	0.2	866
	0	0	0	0.0	124
	0	-156	-156	-0.6	4,375
	0	0	0	0.0	0
	0	-759	-759	-3.1	1,705
	0	21	21	0.1	1,217
	0	0	0	0.0	1,705
	2,260	0	2,260	9.4	124
	3,958	2,165	6,124	25.4	-
	1,797	2,738	4,535	18.8	2,824
	1,558	2,414	3,972	16.5	2,824
	-	-	-	-	-
	6,069	3,735	9,805	40.6	2,824
	9,424	8,887	18,311	75.9	-
	-	-	-	-	-
			0	0.0	0
	0	155	155	0.6	2,921
			0	0.0	2,824
			0	0.0	2,824
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-450	-450	-1.9	-
	0	-	0	0.0	-
	-16	-	-16	-0.1	-
	13,366	10,758	24,124	100.0	

Temperatures °F	
Supply	55.0
Return	73.8
Mixed Air	80.1
Fan Heat TD	2.1

Airflows cfm	
Main Fan	1,937
Ventilation	529
Infiltration	70
Min Stop / Reheat	1,308

Engineering Checks	
% OA	22.60
cfm/ft²	.46
Btu/h-ft²	14.94
cfm/ton	372.46
ft²/ton	803.76
People	18
ft²/person	158.54

Areas ft²	
Roof	0
Other Roof	0
Ceiling	2,921
Window	260
Door	114
Wall	124
Below-Grade Wall	866
Other Wall	124
Partition	4,375
Exterior Floor	0
Internal Floor	1,705
Slab	1,217
Other Floor	1,705

WR6

Coil Peak						
Peak Time (Mo/D/H:M):	7/21/14:00					
Outside Air (DB/WB/HR):	103.5 / 71.0 / 63.0					

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	9,336	7,525	0	16,861	30.8	15.7
Door	0	-109	0	-109	-0.2	-1.1
Wall	0	292	0	292	0.5	0.3
Below-Grade Wall	0	0	0	0	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-1,564	0	-1,564	-2.9	-0.6
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-2,491	0	-2,491	-4.6	-1.4
Slab	0	0	0	0	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	536	0	31	567	1.0	0.7
Envelope Subtotal	9,873	3,652	31	13,556	24.8	-
People	1,344	2,188	2,396	5,928	10.8	3.4
Lights	2,477	4,020	0	6,497	11.9	5.3
RA Sensible (Lights)	1,889	0	0	1,889	3.5	0.0
Miscellaneous Loads	3,800	2,878	0	6,678	12.2	3.8
Internal Subtotal	9,509	9,087	2,396	20,992	38.4	-
Ventilation	17,580	0	1,171	18,752	34.3	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-1,096	0	-1,096	-2.0	-0.6
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	3,451	0	-	3,451	6.3	-
Time Delay Correction	0	-894	-	-894	-1.6	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	-15	0	-15	-30	-0.1	-
Grand Total	40,398	10,749	3,583	54,730	100.0	

Fan Peak						
Peak Time (Mo/D/H:M):	7/21/15:00					
Outside Air (DB/WB/HR):	103.5 / 71.0 / 63.0					

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	0	0	0.0	0
	0	0	0	0.0	0
	9,292	7,615	16,907	59.9	1,075
	0	-111	-111	-0.4	97
	0	297	297	1.1	868
	0	0	0	0.0	0
	0	0	0	0.0	868
	0	-1,595	-1,595	-5.7	2,522
	0	0	0	0.0	0
	0	-2,624	-2,624	-9.3	1,832
	0	0	0	0.0	0
	0	0	0	0.0	1,832
	536	0	536	1.9	868
	9,828	3,582	13,410	47.5	-
	1,344	2,240	3,584	12.7	1,768
	2,477	4,115	6,591	23.4	1,768
	-	-	-	-	-
	3,800	2,943	6,743	23.9	1,768
	7,620	9,298	16,918	59.9	-
	-	-	-	-	-
			0	0.0	0
	0	-1,169	-1,169	-4.1	1,831
			0	0.0	1,768
			0	0.0	1,768
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-909	-909	-3.2	-
	0	-	0	0.0	-
	-22	-	-22	-0.1	-
	17,425	10,802	28,227	100.0	

Temperatures °F	
Supply	55.0
Return	73.7
Mixed Air	83.7
Fan Heat TD	2.1

Airflows cfm	
Main Fan	1,531
Ventilation	514
Infiltration	16
Min Stop / Reheat	1,531

Engineering Checks	
% OA	33.60
cfm/ft²	.87
Btu/h-ft²	30.99
cfm/ton	335.68
ft²/ton	387.54
People	13
ft²/person	134.52

Areas ft²	
Roof	0
Other Roof	0
Ceiling	1,831
Window	1,075
Door	97
Wall	868
Below-Grade Wall	0
Other Wall	868
Partition	2,522
Exterior Floor	0
Internal Floor	1,832
Slab	0
Other Floor	1,832

WR8A

Coil Peak	
Peak Time (Mo/D/H:M):	7/21/15:00
Outside Air (DB/WB/HR):	103.5 / 71.0 / 63.0

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	1,441	591	0	2,032	3.0	2.7
Door	0	-112	0	-112	-0.2	-0.2
Wall	0	947	0	947	1.4	1.8
Below-Grade Wall	0	-6	0	-6	0.0	-0.1
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-1,003	0	-1,003	-1.5	-0.1
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-1,913	0	-1,913	-2.8	-0.6
Slab	0	-64	0	-64	-0.1	-0.2
Other Floor	0	0	0	0	0.0	0.0
Infiltration	3,136	0	41	3,177	4.7	6.0
Envelope Subtotal	4,577	-1,559	41	3,059	4.5	-
People	4,204	7,038	6,981	18,222	26.9	5.0
Lights	3,041	5,392	0	8,433	12.4	3.3
RA Sensible (Lights)	2,541	0	0	2,541	3.7	0.0
Miscellaneous Loads	7,795	6,182	0	13,977	20.6	3.9
Internal Subtotal	17,580	18,612	6,981	43,173	63.7	-
Ventilation	18,078	0	130	18,208	26.8	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-199	0	-199	-0.3	-0.1
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	4,366	0	-	4,366	6.4	-
Time Delay Correction	0	-738	-	-738	-1.1	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	-23	0	-23	-46	-0.1	-
Grand Total	44,579	16,116	7,128	67,823	100.0	

Fan Peak	
Peak Time (Mo/D/H:M):	7/21/15:00
Outside Air (DB/WB/HR):	103.5 / 71.0 / 63.0

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	0	0	0.0	0
	0	0	0	0.0	0
	1,441	591	2,032	5.7	762
	0	-112	-112	-0.3	601
	0	947	947	2.7	533
	0	-6	-6	0.0	56
	0	0	0	0.0	533
	0	-1,003	-1,003	-2.8	7,734
	0	0	0	0.0	0
	0	-1,913	-1,913	-5.4	3,423
	0	-64	-64	-0.2	356
	0	0	0	0.0	3,423
	3,136	0	3,136	8.8	533
	4,577	-1,559	3,019	8.5	-
	4,204	7,038	11,242	31.5	3,626
	3,041	5,392	8,433	23.6	3,626
	-	-	-	-	-
	7,795	6,182	13,977	39.1	3,626
	15,040	18,612	33,652	94.2	-
	-	-	-	-	-
			0	0.0	0
	0	-199	-199	-0.6	3,778
			0	0.0	3,626
			0	0.0	3,626
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-738	-738	-2.1	-
	0	-	0	0.0	-
	-23	-	-23	-0.1	-
	19,594	16,116	35,710	100.0	

Temperatures °F	
Supply	55.0
Return	73.7
Mixed Air	81.8
Fan Heat TD	2.1

Airflows cfm	
Main Fan	1,937
Ventilation	529
Infiltration	92
Min Stop / Reheat	1,937

Engineering Checks	
% OA	27.31
cfm/ft²	.53
Btu/h-ft²	18.72
cfm/ton	342.68
ft²/ton	641.59
People	42
ft²/person	85.69

Areas ft²	
Roof	0
Other Roof	0
Ceiling	3,778
Window	762
Door	601
Wall	533
Below-Grade Wall	56
Other Wall	533
Partition	7,734
Exterior Floor	0
Internal Floor	3,423
Slab	356
Other Floor	3,423

WR29

Coil Peak
Peak Time (Mo/D/H:M): 7/21/10:00
Outside Air (DB/WB/HR): 92.2 / 67.6 / 63.0

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	13,728	29,238	0	42,966	43.8	42.0
Door	0	-234	0	-234	-0.2	-0.5
Wall	0	3,240	0	3,240	3.3	1.7
Below-Grade Wall	0	0	0	0	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-3,196	0	-3,196	-3.3	-0.5
Exterior Floor	0	-96	0	-96	-0.1	-1.2
Interior Floor	0	-8,423	0	-8,423	-8.6	-2.3
Slab	0	0	0	0	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	1,875	0	148	2,022	2.1	1.0
Envelope Subtotal	15,602	20,529	148	36,278	37.0	-
People	4,014	5,964	7,104	17,082	17.4	4.8
Lights	2,151	4,462	0	6,613	6.7	3.5
RA Sensible (Lights)	4,706	0	0	4,706	4.8	0.0
Miscellaneous Loads	7,672	5,523	0	13,195	13.4	3.7
Internal Subtotal	18,543	15,949	7,104	41,596	42.4	-
Ventilation	13,616	0	1,032	14,648	14.9	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-1,520	0	-1,520	-1.5	-0.4
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	7,785	0	-	7,785	7.9	-
Time Delay Correction	0	-852	-	-852	-0.9	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	137	0	90	226	0.2	-
Grand Total	55,683	34,105	8,374	98,162	100.0	

Fan Peak
Peak Time (Mo/D/H:M): 7/21/09:00
Outside Air (DB/WB/HR): 87.2 / 66.0 / 62.9

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
Roof	0	0	0	0.0	0
Other Roof	0	0	0	0.0	0
Glass	12,188	30,654	42,842	67.3	1,025
Door	0	-249	-249	-0.4	520
Wall	0	3,076	3,076	4.8	1,930
Below-Grade Wall	0	0	0	0.0	0
Other Wall	0	0	0	0.0	1,930
Partition	0	-3,542	-3,542	-5.6	6,513
Exterior Floor	0	-72	-72	-0.1	82
Interior Floor	0	-6,643	-6,643	-10.4	3,643
Slab	0	0	0	0.0	0
Other Floor	0	0	0	0.0	3,643
Infiltration	1,418	0	1,418	2.2	1,930
Envelope Subtotal	13,606	23,224	36,830	57.8	-
People	4,014	5,766	9,780	15.4	3,569
Lights	2,151	4,314	6,465	10.2	3,569
RA Sensible (Lights)	-	-	-	-	-
Miscellaneous Loads	7,672	5,341	13,013	20.4	3,569
Internal Subtotal	13,837	15,421	29,258	45.9	-
Ventilation	-	-	-	-	-
DOAS Direct to Zone			0	0.0	0
Ceiling	0	-1,540	-1,540	-2.4	3,726
Refrigeration			0	0.0	3,569
Service Water			0	0.0	3,569
HVAC Equipment Losses			0	0.0	0
Adj Air Transfer Heat	0	0	0	0.0	0
Supply Fan Heat	-	-	-	-	-
Time Delay Correction	0	-839	-839	-1.3	-
Sizing Factor Correction	0	-	0	0.0	-
Airflow Correction	-30	-	-30	0.0	-
Grand Total	27,413	36,267	63,680	100.0	

Temperatures
°F

Supply	55.0
Return	73.5
Mixed Air	76.9
Fan Heat TD	2.1

Airflows
cfm

Main Fan	3,453
Ventilation	620
Infiltration	86
Min Stop / Reheat	3,453

Engineering Checks

% OA	17.95
cfm/ft²	.97
Btu/h-ft²	27.52
cfm/ton	422.22
ft²/ton	436.29
People	39
ft²/person	90.54

Areas
ft²

Roof	0
Other Roof	0
Ceiling	3,726
Window	1,025
Door	520
Wall	1,930
Below-Grade Wall	0
Other Wall	1,930
Partition	6,513
Exterior Floor	82
Internal Floor	3,643
Slab	0
Other Floor	3,643

WR19

Coil Peak						
Peak Time (Mo/D/H:M):	7/21/15:00					
Outside Air (DB/WB/HR):	103.5 /	71.0	/	63.0		

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	3,738	0	3,738	7.2	2.9
Other Roof	0	0	0	0	0.0	0.0
Glass	4,093	2,919	0	7,013	13.5	26.5
Door	0	-35	0	-35	-0.1	-0.3
Wall	0	1,046	0	1,046	2.0	1.2
Below-Grade Wall	0	0	0	0	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-553	0	-553	-1.1	-0.1
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-1,160	0	-1,160	-2.2	-0.9
Slab	0	0	0	0	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	1,169	0	-3	1,167	2.3	1.3
Envelope Subtotal	5,263	5,955	-03	11,215	21.7	-
People	2,607	3,763	4,966	11,336	21.9	9.1
Lights	0	1,643	0	1,643	3.2	5.7
RA Sensible (Lights)	3,362	0	0	3,362	6.5	0.0
Miscellaneous Loads	2,669	1,908	0	4,578	8.8	3.7
Internal Subtotal	8,638	7,314	4,966	20,918	40.4	-
Ventilation	16,977	0	-8	16,969	32.8	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	0	0	0	0.0	0.0
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	2,886	0	-	2,886	5.6	-
Time Delay Correction	0	-193	-	-193	-0.4	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	-14	0	-18	-31	-0.1	-
Grand Total	33,750	13,076	4,937	51,764	100.0	

Fan Peak						
Peak Time (Mo/D/H:M):	7/21/15:00					
Outside Air (DB/WB/HR):	103.5 /	71.0	/	63.0		

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	3,738	3,738	15.8	1,302
	0	0	0	0.0	1,302
	4,093	2,919	7,013	29.7	265
	0	-35	-35	-0.1	114
	0	1,046	1,046	4.4	884
	0	0	0	0.0	0
	0	0	0	0.0	884
	0	-553	-553	-2.3	4,020
	0	0	0	0.0	0
	0	-1,160	-1,160	-4.9	1,302
	0	0	0	0.0	0
	0	0	0	0.0	1,302
	1,169	0	1,169	5.0	884
	5,263	5,955	11,218	47.5	-
	2,607	3,763	6,370	27.0	1,242
	0	1,643	1,643	7.0	1,242
	-	-	-	-	-
	2,669	1,908	4,578	19.4	1,242
	5,277	7,314	12,590	53.3	-
	-	-	-	-	-
			0	0.0	0
	0	0	0	0.0	0
			0	0.0	1,242
			0	0.0	1,242
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-193	-193	-0.8	-
	0	-	0	0.0	-
	-14	-	-14	-0.1	-
	10,526	13,076	23,602	100.0	

Temperatures °F	
Supply	55.0
Return	75.9
Mixed Air	86.6
Fan Heat TD	2.1

Airflows cfm	
Main Fan	1,280
Ventilation	497
Infiltration	34
Min Stop / Reheat	1,280

Engineering Checks	
% OA	38.81
cfm/ft²	1.03
Btu/h-ft²	41.71
cfm/ton	296.76
ft²/ton	287.88
People	25
ft²/person	49.99

Areas ft²	
Roof	1,302
Other Roof	1,302
Ceiling	0
Window	265
Door	114
Wall	884
Below-Grade Wall	0
Other Wall	884
Partition	4,020
Exterior Floor	0
Internal Floor	1,302
Slab	0
Other Floor	1,302

WR18

Coil Peak	
Peak Time (Mo/D/H:M):	8/21/14:00
Outside Air (DB/WB/HR):	102.3 / 69.8 / 58.4

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	6,846	0	6,846	1.9	2.7
Other Roof	0	0	0	0	0.0	0.0
Glass	39,132	50,208	0	89,340	24.2	41.2
Door	0	-377	0	-377	-0.1	-0.3
Wall	0	6,071	0	6,071	1.6	1.8
Below-Grade Wall	0	-16	0	-16	0.0	-0.1
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-6,479	0	-6,479	-1.8	-0.3
Exterior Floor	0	-70	0	-70	0.0	-0.1
Interior Floor	0	-15,647	0	-15,647	-4.2	-1.6
Slab	0	0	0	0	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	7,415	0	-439	6,975	1.9	2.0
Envelope Subtotal	46,547	40,537	-439	86,645	23.4	-
People	11,193	17,675	21,479	50,346	13.6	5.0
Lights	3,517	14,142	0	17,659	4.8	4.6
RA Sensible (Lights)	20,955	0	0	20,955	5.7	0.0
Miscellaneous Loads	21,821	17,766	289	39,876	10.8	3.9
Internal Subtotal	57,486	49,583	21,768	128,836	34.9	-
Ventilation	78,133	0	-4,144	73,989	20.0	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-2,963	0	-2,963	-0.8	-0.4
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	24,842	0	-	24,842	6.7	-
Time Delay Correction	0	-1,534	-	-1,534	-0.4	-
Sizing Factor Correction	5,428	-	-	5,428	1.5	-
Airflow Correction	29,065	0	25,254	54,319	14.7	-
Grand Total	241,499	85,622	42,438	369,560	100.0	

Fan Peak	
Peak Time (Mo/D/H:M):	10/21/13:00
Outside Air (DB/WB/HR):	87.8 / 63.6 / 49.9

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
Roof	0	4,507	4,507	2.2	2,521
Other Roof	0	0	0	0.0	2,521
Glass	38,889	97,813	136,702	67.3	2,171
Door	0	-560	-560	-0.3	1,398
Wall	0	6,430	6,430	3.2	3,419
Below-Grade Wall	0	-18	-18	0.0	161
Other Wall	0	0	0	0.0	3,419
Partition	0	-8,859	-8,859	-4.4	24,917
Exterior Floor	0	-1,018	-1,018	-0.5	925
Interior Floor	0	-25,508	-25,508	-12.6	9,648
Slab	0	0	0	0.0	0
Other Floor	0	0	0	0.0	9,648
Infiltration	3,959	0	3,959	1.9	3,419
Envelope Subtotal	42,848	72,788	115,636	56.9	-
People	11,193	17,339	28,531	14.0	10,104
Lights	3,517	13,849	17,367	8.5	10,104
RA Sensible (Lights)	-	-	-	-	-
Miscellaneous Loads	21,821	17,408	39,228	19.3	10,104
Internal Subtotal	36,530	48,596	85,126	41.9	-
Ventilation	-	-	-	-	-
DOAS Direct to Zone			0	0.0	0
Ceiling	0	-4,089	-4,089	-2.0	8,053
Refrigeration			0	0.0	10,104
Service Water			0	0.0	10,104
HVAC Equipment Losses			0	0.0	0
Adj Air Transfer Heat	0	0	0	0.0	0
Supply Fan Heat	-	-	-	-	-
Time Delay Correction	0	-1,508	-1,508	-0.7	-
Sizing Factor Correction	6,280	-	6,280	3.1	-
Airflow Correction	1,747	-	1,747	0.9	-
Grand Total	87,405	115,787	203,192	100.0	

Temperatures °F	
Supply	55.0
Return	75.0
Mixed Air	80.9
Fan Heat TD	2.1

Airflows cfm	
Main Fan	11,019
Ventilation	2,376
Infiltration	230
Min Stop / Reheat	11,019

Engineering Checks	
% OA	21.56
cfm/ft²	1.09
Btu/h-ft²	36.60
cfm/ton	357.85
ft²/ton	328.08
People	107
ft²/person	94.80

Areas ft²	
Roof	2,521
Other Roof	2,521
Ceiling	8,053
Window	2,171
Door	1,398
Wall	3,419
Below-Grade Wall	161
Other Wall	3,419
Partition	24,917
Exterior Floor	925
Internal Floor	9,648
Slab	0
Other Floor	9,648

WR17

Coil Peak						
Peak Time (Mo/D/H:M):	7/21/15:00					
Outside Air (DB/WB/HR):	103.5 /	71.0	/	63.0		

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	1,679	0	1,679	0.8	3.0
Other Roof	0	0	0	0	0.0	0.0
Glass	19,362	8,229	0	27,591	13.4	8.9
Door	0	-165	0	-165	-0.1	-0.3
Wall	0	1,219	0	1,219	0.6	0.8
Below-Grade Wall	0	975	0	975	0.5	1.3
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-2,382	0	-2,382	-1.2	-0.2
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-2,220	0	-2,220	-1.1	-0.5
Slab	0	3,636	0	3,636	1.8	1.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	6,741	0	0	6,741	3.3	4.4
Envelope Subtotal	26,102	10,972	00	37,075	18.0	-
People	6,004	8,046	11,098	25,147	12.2	3.1
Lights	4,481	7,483	0	11,964	5.8	2.9
RA Sensible (Lights)	8,806	0	0	8,806	4.3	0.0
Miscellaneous Loads	21,926	29,000	13,445	64,371	31.2	8.0
Internal Subtotal	41,217	44,528	24,543	110,288	53.4	-
Ventilation	45,396	0	-133	45,263	21.9	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	5,076	0	5,076	2.5	0.7
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	13,937	0	-	13,937	6.7	-
Time Delay Correction	0	-5,040	-	-5,040	-2.4	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	-51	0	-48	-99	0.0	-
Grand Total	126,601	55,536	24,362	206,500	100.0	

Fan Peak						
Peak Time (Mo/D/H:M):	7/21/15:00					
Outside Air (DB/WB/HR):	103.5 /	71.0	/	63.0		

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	1,679	1,679	1.5	569
	0	0	0	0.0	569
	19,362	8,229	27,591	24.2	3,090
	0	-165	-165	-0.1	650
	0	1,219	1,219	1.1	1,547
	0	975	975	0.9	763
	0	0	0	0.0	1,547
	0	-2,382	-2,382	-2.1	13,220
	0	0	0	0.0	0
	0	-2,220	-2,220	-1.9	4,760
	0	3,636	3,636	3.2	3,531
	0	0	0	0.0	4,760
	6,741	0	6,741	5.9	1,547
	26,102	10,972	37,074	32.5	-
	6,004	8,046	14,049	12.3	8,012
	4,481	7,483	11,964	10.5	8,012
	-	-	-	-	-
	21,926	29,000	50,926	44.7	8,012
	32,411	44,528	76,939	67.5	-
	-	-	-	-	-
			0	0.0	0
	0	5,076	5,076	4.5	7,722
			0	0.0	8,012
			0	0.0	8,012
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-5,040	-5,040	-4.4	-
	0	-	0	0.0	-
	-51	-	-51	0.0	-
	58,462	55,536	113,998	100.0	

Temperatures °F	
Supply	55.0
Return	73.7
Mixed Air	80.1
Fan Heat TD	2.1

Airflows cfm	
Main Fan	6,182
Ventilation	1,328
Infiltration	197
Min Stop / Reheat	6,182

Engineering Checks	
% OA	21.49
cfm/ft²	.77
Btu/h-ft²	25.79
cfm/ton	359.30
ft²/ton	465.59
People	58
ft²/person	138.07

Areas ft²	
Roof	569
Other Roof	569
Ceiling	7,722
Window	3,090
Door	650
Wall	1,547
Below-Grade Wall	763
Other Wall	1,547
Partition	13,220
Exterior Floor	0
Internal Floor	4,760
Slab	3,531
Other Floor	4,760

WR10

Coil Peak
Peak Time (Mo/D/H:M): 7/21/10:00
Outside Air (DB/WB/HR): 92.2 / 67.6 / 63.0

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	14,940	27,481	0	42,420	28.4	20.9
Door	0	-208	0	-208	-0.1	-0.2
Wall	0	1,436	0	1,436	1.0	1.2
Below-Grade Wall	0	0	0	0	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-3,453	0	-3,453	-2.3	-0.2
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-9,314	0	-9,314	-6.2	-1.3
Slab	0	0	0	0	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	3,546	0	32	3,578	2.4	3.0
Envelope Subtotal	18,486	15,942	32	34,460	23.0	-
People	8,008	12,047	14,738	34,793	23.3	5.1
Lights	3,973	8,412	0	12,385	8.3	3.5
RA Sensible (Lights)	9,006	0	0	9,006	6.0	0.0
Miscellaneous Loads	14,543	10,576	0	25,120	16.8	3.7
Internal Subtotal	35,529	31,036	14,738	81,303	54.4	-
Ventilation	20,737	0	645	21,382	14.3	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-1,513	0	-1,513	-1.0	-0.2
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	11,162	0	-	11,162	7.5	-
Time Delay Correction	0	-1,713	-	-1,713	-1.1	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	2,538	0	1,886	4,424	3.0	-
Grand Total	88,452	43,752	17,301	149,505	100.0	

Fan Peak
Peak Time (Mo/D/H:M): 7/21/09:00
Outside Air (DB/WB/HR): 87.2 / 66.0 / 62.9

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	0	0	0.0	0
	0	0	0	0.0	0
	15,210	30,862	46,072	50.5	2,033
	0	-266	-266	-0.3	975
	0	1,462	1,462	1.6	1,205
	0	0	0	0.0	0
	0	0	0	0.0	1,205
	0	-4,375	-4,375	-4.8	15,991
	0	0	0	0.0	0
	0	-7,305	-7,305	-8.0	7,122
	0	0	0	0.0	0
	0	0	0	0.0	7,122
	2,685	0	2,685	2.9	1,205
	17,895	20,378	38,273	41.9	-
	8,008	11,587	19,595	21.5	6,806
	3,973	8,117	12,090	13.2	6,806
	-	-	-	-	-
	14,543	10,193	24,737	27.1	6,806
	26,524	29,897	56,421	61.8	-
	-	-	-	-	-
			0	0.0	0
	0	-1,669	-1,669	-1.8	7,123
			0	0.0	6,806
			0	0.0	6,806
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-1,669	-1,669	-1.8	-
	0	-	0	0.0	-
	-56	-	-56	-0.1	-
	44,362	46,937	91,299	100.0	

Temperatures
°F

Supply	55.0
Return	74.1
Mixed Air	77.6
Fan Heat TD	2.1

Airflows
cfm

Main Fan	4,951
Ventilation	944
Infiltration	163
Min Stop / Reheat	4,951

Engineering Checks

% OA	19.06
cfm/ft²	.73
Btu/h-ft²	21.98
cfm/ton	397.46
ft²/ton	546.29
People	78
ft²/person	87.65

Areas
ft²

Roof	0
Other Roof	0
Ceiling	7,123
Window	2,033
Door	975
Wall	1,205
Below-Grade Wall	0
Other Wall	1,205
Partition	15,991
Exterior Floor	0
Internal Floor	7,122
Slab	0
Other Floor	7,122

WR15

Coil Peak						
Peak Time (Mo/D/H:M):	7/21/15:00					
Outside Air (DB/WB/HR):	103.5 /	71.0	/	63.0		

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	714	50	0	764	1.7	1.2
Door	0	-49	0	-49	-0.1	-0.8
Wall	0	736	0	736	1.7	2.0
Below-Grade Wall	0	0	0	0	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-2,341	0	-2,341	-5.3	-0.7
Exterior Floor	0	-10	0	-10	0.0	-0.2
Interior Floor	0	-1,579	0	-1,579	-3.6	-0.9
Slab	0	0	0	0	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	1,437	0	-57	1,380	3.1	3.7
Envelope Subtotal	2,152	-3,192	-57	-1,097	-2.5	-
People	3,898	8,570	6,489	18,957	43.0	10.6
Lights	1,308	3,150	0	4,458	10.1	3.7
RA Sensible (Lights)	1,576	0	0	1,576	3.6	0.0
Miscellaneous Loads	3,729	3,741	0	7,470	16.9	4.2
Internal Subtotal	10,511	15,462	6,489	32,462	73.6	-
Ventilation	10,636	0	-410	10,226	23.2	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	683	0	683	1.5	0.4
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	2,816	0	-	2,816	6.4	-
Time Delay Correction	0	-1,032	-	-1,032	-2.3	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	29	0	30	58	0.1	-
Grand Total	26,144	11,921	6,052	44,116	100.0	

Fan Peak						
Peak Time (Mo/D/H:M):	8/21/15:00					
Outside Air (DB/WB/HR):	102.3 /	69.8	/	58.4		

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
Roof	0	0	0	0.0	0
Other Roof	0	0	0	0.0	0
Glass	723	51	774	3.4	635
Door	0	-49	-49	-0.2	65
Wall	0	895	895	3.9	376
Below-Grade Wall	0	0	0	0.0	0
Other Wall	0	0	0	0.0	376
Partition	0	-2,343	-2,343	-10.2	3,338
Exterior Floor	0	-15	-15	-0.1	53
Interior Floor	0	-1,549	-1,549	-6.7	1,799
Slab	0	0	0	0.0	0
Other Floor	0	0	0	0.0	1,799
Infiltration	1,385	0	1,385	6.0	376
Envelope Subtotal	2,108	-3,010	-902	-3.9	-
People	3,898	8,570	12,468	54.1	1,783
Lights	1,308	3,150	4,458	19.4	1,783
RA Sensible (Lights)	-	-	-	-	-
Miscellaneous Loads	3,729	3,741	7,470	32.4	1,783
Internal Subtotal	8,934	15,462	24,397	105.9	-
Ventilation	-	-	-	-	-
DOAS Direct to Zone			0	0.0	0
Ceiling	0	585	585	2.5	1,852
Refrigeration			0	0.0	1,783
Service Water			0	0.0	1,783
HVAC Equipment Losses			0	0.0	0
Adj Air Transfer Heat	0	0	0	0.0	0
Supply Fan Heat	-	-	-	-	-
Time Delay Correction	0	-1,031	-1,031	-4.5	-
Sizing Factor Correction	0	-	0	0.0	-
Airflow Correction	-13	-	-13	-0.1	-
Grand Total	11,030	12,006	23,036	100.0	

Temperatures °F	
Supply	55.0
Return	73.5
Mixed Air	81.0
Fan Heat TD	2.1

Airflows cfm	
Main Fan	1,249
Ventilation	311
Infiltration	42
Min Stop / Reheat	743

Engineering Checks	
% OA	24.91
cfm/ft²	.70
Btu/h-ft²	24.76
cfm/ton	339.84
ft²/ton	485.05
People	39
ft²/person	45.54

Areas ft²	
Roof	0
Other Roof	0
Ceiling	1,852
Window	635
Door	65
Wall	376
Below-Grade Wall	0
Other Wall	376
Partition	3,338
Exterior Floor	53
Internal Floor	1,799
Slab	0
Other Floor	1,799

WR13

Coil Peak						
Peak Time (Mo/D/H:M):	7/21/14:00					
Outside Air (DB/WB/HR):	103.5 /	71.0	/	63.0		

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	12,274	9,552	0	21,826	34.2	27.3
Door	0	-297	0	-297	-0.5	-0.8
Wall	0	305	0	305	0.5	0.3
Below-Grade Wall	0	0	0	0	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-2,811	0	-2,811	-4.4	-0.4
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-2,325	0	-2,325	-3.6	-1.0
Slab	0	0	0	0	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	1,512	0	55	1,567	2.5	1.6
Envelope Subtotal	13,786	4,425	55	18,266	28.7	-
People	2,741	4,694	5,079	12,514	19.6	5.6
Lights	265	1,645	0	1,910	3.0	2.4
RA Sensible (Lights)	2,659	0	0	2,659	4.2	0.0
Miscellaneous Loads	4,818	4,080	0	8,898	14.0	4.0
Internal Subtotal	10,484	10,418	5,079	25,981	40.8	-
Ventilation	16,334	0	542	16,876	26.5	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-1,151	0	-1,151	-1.8	-0.5
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	4,259	0	-	4,259	6.7	-
Time Delay Correction	0	-446	-	-446	-0.7	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	-23	0	-22	-45	-0.1	-
Grand Total	44,839	13,246	5,654	63,738	100.0	

Fan Peak						
Peak Time (Mo/D/H:M):	7/21/14:00					
Outside Air (DB/WB/HR):	103.5 /	71.0	/	63.0		

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	0	0	0.0	0
	0	0	0	0.0	0
	12,274	9,552	21,826	62.7	799
	0	-297	-297	-0.9	374
	0	305	305	0.9	999
	0	0	0	0.0	0
	0	0	0	0.0	999
	0	-2,811	-2,811	-8.1	6,320
	0	0	0	0.0	0
	0	-2,325	-2,325	-6.7	2,376
	0	0	0	0.0	0
	0	0	0	0.0	2,376
	1,512	0	1,512	4.3	999
	13,786	4,425	18,210	52.3	-
	2,741	4,694	7,435	21.3	2,241
	265	1,645	1,910	5.5	2,241
	-	-	-	-	-
	4,818	4,080	8,898	25.5	2,241
	7,824	10,418	18,243	52.4	-
	-	-	-	-	-
			0	0.0	0
	0	-1,151	-1,151	-3.3	2,376
			0	0.0	2,241
			0	0.0	2,241
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-446	-446	-1.3	-
	0	-	0	0.0	-
	-23	-	-23	-0.1	-
	21,587	13,246	34,832	100.0	

Temperatures °F	
Supply	55.0
Return	73.7
Mixed Air	81.3
Fan Heat TD	2.1

Airflows cfm	
Main Fan	1,889
Ventilation	478
Infiltration	44
Min Stop / Reheat	1,223

Engineering Checks	
% OA	25.30
cfm/ft²	.84
Btu/h-ft²	28.46
cfm/ton	355.68
ft²/ton	421.97
People	26
ft²/person	84.87

Areas ft²	
Roof	0
Other Roof	0
Ceiling	2,376
Window	799
Door	374
Wall	999
Below-Grade Wall	0
Other Wall	999
Partition	6,320
Exterior Floor	0
Internal Floor	2,376
Slab	0
Other Floor	2,376

WR28

Coil Peak	
Peak Time (Mo/D/H:M):	7/21/14:00
Outside Air (DB/WB/HR):	103.5 / 71.0 / 63.0

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	4,668	0	4,668	5.1	2.9
Other Roof	0	0	0	0	0.0	0.0
Glass	6,027	6,540	0	12,567	13.6	28.4
Door	0	-2	0	-2	0.0	0.0
Wall	0	2,800	0	2,800	3.0	1.8
Below-Grade Wall	0	0	0	0	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-315	0	-315	-0.3	0.0
Exterior Floor	0	-1	0	-1	0.0	-0.9
Interior Floor	0	-3,329	0	-3,329	-3.6	-1.2
Slab	0	-10	0	-10	0.0	-0.8
Other Floor	0	0	0	0	0.0	0.0
Infiltration	2,330	0	47	2,377	2.6	1.6
Envelope Subtotal	8,357	10,351	47	18,755	20.3	-
People	3,808	5,632	7,312	16,752	18.1	6.5
Lights	894	3,684	0	4,578	5.0	4.8
RA Sensible (Lights)	5,481	0	0	5,481	5.9	0.0
Miscellaneous Loads	5,552	4,183	0	9,734	10.5	3.8
Internal Subtotal	15,735	13,499	7,312	36,545	39.6	-
Ventilation	23,642	0	464	24,106	26.1	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	236	0	236	0.3	0.2
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	5,617	0	-	5,617	6.1	-
Time Delay Correction	0	-338	-	-338	-0.4	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	3,581	0	3,836	7,417	8.0	-
Grand Total	56,932	23,748	11,658	92,338	100.0	

Fan Peak	
Peak Time (Mo/D/H:M):	9/21/13:00
Outside Air (DB/WB/HR):	96.9 / 66.8 / 51.1

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	3,718	3,718	8.1	1,606
	0	0	0	0.0	1,606
	6,630	11,744	18,374	40.0	442
	0	-36	-36	-0.1	422
	0	3,176	3,176	6.9	1,532
	0	0	0	0.0	0
	0	0	0	0.0	1,532
	0	-543	-543	-1.2	6,838
	0	-2	-2	0.0	1
	0	-4,032	-4,032	-8.8	2,690
	0	-13	-13	0.0	14
	0	0	0	0.0	2,690
	1,858	0	1,858	4.0	1,532
	8,488	14,011	22,499	49.0	-
	3,808	5,543	9,351	20.4	2,583
	894	3,620	4,514	9.8	2,583
	-	-	-	-	-
	5,552	4,112	9,663	21.0	2,583
	10,254	13,275	23,529	51.2	-
	-	-	-	-	-
			0	0.0	0
	0	273	273	0.6	1,099
			0	0.0	2,583
			0	0.0	2,583
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-331	-331	-0.7	-
	0	-	0	0.0	-
	-30	-	-30	-0.1	-
	18,712	27,228	45,940	100.0	

Temperatures °F	
Supply	55.0
Return	75.1
Mixed Air	83.0
Fan Heat TD	2.1

Airflows cfm	
Main Fan	2,491
Ventilation	692
Infiltration	69
Min Stop / Reheat	2,491

Engineering Checks	
% OA	27.77
cfm/ft²	.96
Btu/h-ft²	35.78
cfm/ton	323.81
ft²/ton	335.62
People	36
ft²/person	71.38

Areas ft²	
Roof	1,606
Other Roof	1,606
Ceiling	1,099
Window	442
Door	422
Wall	1,532
Below-Grade Wall	0
Other Wall	1,532
Partition	6,838
Exterior Floor	1
Internal Floor	2,690
Slab	14
Other Floor	2,690

WR25

Coil Peak						
Peak Time (Mo/D/H:M):	7/21/14:00					
Outside Air (DB/WB/HR):	103.5 / 71.0 / 63.0					

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	3,957	2,858	0	6,815	39.9	26.0
Door	0	-52	0	-52	-0.3	-0.5
Wall	0	420	0	420	2.5	0.8
Below-Grade Wall	0	0	0	0	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-807	0	-807	-4.7	-0.6
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-854	0	-854	-5.0	-1.0
Slab	0	0	0	0	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	662	0	48	710	4.2	1.4
Envelope Subtotal	4,619	1,565	48	6,233	36.5	-
People	412	639	785	1,836	10.7	2.3
Lights	709	1,227	0	1,936	11.3	3.5
RA Sensible (Lights)	728	0	0	728	4.3	0.0
Miscellaneous Loads	1,687	1,283	0	2,971	17.4	3.8
Internal Subtotal	3,536	3,149	785	7,470	43.7	-
Ventilation	2,280	0	170	2,450	14.3	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-337	0	-337	-2.0	-0.4
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	1,425	0	-	1,425	8.3	-
Time Delay Correction	0	-136	-	-136	-0.8	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	-10	0	-6	-16	-0.1	-
Grand Total	11,851	4,242	997	17,090	100.0	

Fan Peak						
Peak Time (Mo/D/H:M):	7/21/14:00					
Outside Air (DB/WB/HR):	103.5 / 71.0 / 63.0					

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	0	0	0.0	0
	0	0	0	0.0	0
	3,957	2,858	6,815	58.5	262
	0	-52	-52	-0.4	97
	0	420	420	3.6	513
	0	0	0	0.0	0
	0	0	0	0.0	513
	0	-807	-807	-6.9	1,358
	0	0	0	0.0	0
	0	-854	-854	-7.3	820
	0	0	0	0.0	0
	0	0	0	0.0	820
	662	0	662	5.7	513
	4,619	1,565	6,185	53.0	-
	412	639	1,051	9.0	785
	709	1,227	1,936	16.6	785
	-	-	-	-	-
	1,687	1,283	2,971	25.5	785
	2,808	3,149	5,957	51.1	-
	-	-	-	-	-
			0	0.0	0
	0	-337	-337	-2.9	820
			0	0.0	785
			0	0.0	785
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-136	-136	-1.2	-
	0	-	0	0.0	-
	-10	-	-10	-0.1	-
	7,417	4,242	11,660	100.0	

Temperatures °F	
Supply	55.0
Return	73.2
Mixed Air	76.4
Fan Heat TD	2.1

Airflows cfm	
Main Fan	632
Ventilation	67
Infiltration	19
Min Stop / Reheat	89

Engineering Checks	
% OA	10.55
cfm/ft²	.81
Btu/h-ft²	21.79
cfm/ton	444.03
ft²/ton	551.14
People	4
ft²/person	200.24

Areas ft²	
Roof	0
Other Roof	0
Ceiling	820
Window	262
Door	97
Wall	513
Below-Grade Wall	0
Other Wall	513
Partition	1,358
Exterior Floor	0
Internal Floor	820
Slab	0
Other Floor	820

WR24

Coil Peak
Peak Time (Mo/D/H:M): 11/21/13:00
Outside Air (DB/WB/HR): 72.7 / 57.3 / 46.2

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	19,129	74,252	0	93,382	82.7	77.6
Door	0	-655	0	-655	-0.6	-1.0
Wall	0	620	0	620	0.5	0.5
Below-Grade Wall	0	134	0	134	0.1	0.8
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-6,622	0	-6,622	-5.9	-0.9
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-21,450	0	-21,450	-19.0	-7.2
Slab	0	93	0	93	0.1	0.2
Other Floor	0	0	0	0	0.0	0.0
Infiltration	48	0	-752	-704	-0.6	-0.5
Envelope Subtotal	19,177	46,372	-752	64,798	57.4	-
People	3,487	5,938	6,600	16,026	14.2	5.0
Lights	1,885	4,632	0	6,518	5.8	3.8
RA Sensible (Lights)	5,096	0	0	5,096	4.5	0.0
Miscellaneous Loads	7,461	9,612	1,745	18,819	16.7	5.9
Internal Subtotal	17,930	20,183	8,345	46,458	41.1	-
Ventilation	331	0	-4,206	-3,874	-3.4	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-4,900	0	-4,900	-4.3	-1.5
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	11,347	0	-	11,347	10.0	-
Time Delay Correction	0	-785	-	-785	-0.7	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	-67	0	-22	-89	-0.1	-
Grand Total	48,719	60,871	3,366	112,956	100.0	

Fan Peak
Peak Time (Mo/D/H:M): 11/21/13:00
Outside Air (DB/WB/HR): 72.7 / 57.3 / 46.2

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
Roof	0	0	0	0.0	0
Other Roof	0	0	0	0.0	0
Glass	19,129	74,252	93,382	100.6	1,205
Door	0	-655	-655	-0.7	634
Wall	0	620	620	0.7	1,312
Below-Grade Wall	0	134	134	0.1	167
Other Wall	0	0	0	0.0	1,312
Partition	0	-6,622	-6,622	-7.1	7,662
Exterior Floor	0	0	0	0.0	0
Interior Floor	0	-21,450	-21,450	-23.1	2,983
Slab	0	93	93	0.1	373
Other Floor	0	0	0	0.0	2,983
Infiltration	48	0	48	0.1	1,312
Envelope Subtotal	19,177	46,372	65,549	70.6	-
People	3,487	5,938	9,426	10.2	3,187
Lights	1,885	4,632	6,518	7.0	3,187
RA Sensible (Lights)	-	-	-	-	-
Miscellaneous Loads	7,461	9,612	17,074	18.4	3,187
Internal Subtotal	12,834	20,183	33,017	35.6	-
Ventilation	-	-	-	-	-
DOAS Direct to Zone			0	0.0	0
Ceiling	0	-4,900	-4,900	-5.3	3,356
Refrigeration			0	0.0	3,187
Service Water			0	0.0	3,187
HVAC Equipment Losses			0	0.0	0
Adj Air Transfer Heat	0	0	0	0.0	0
Supply Fan Heat	-	-	-	-	-
Time Delay Correction	0	-785	-785	-0.8	-
Sizing Factor Correction	0	-	0	0.0	-
Airflow Correction	-67	-	-67	-0.1	-
Grand Total	31,945	60,871	92,815	100.0	

Temperatures
°F

Supply	55.0
Return	73.0
Mixed Air	73.0
Fan Heat TD	2.1

Airflows
cfm

Main Fan	5,033
Ventilation	447
Infiltration	64
Min Stop / Reheat	864

Engineering Checks

% OA	8.87
cfm/ft²	1.58
Btu/h-ft²	35.47
cfm/ton	534.79
ft²/ton	338.58
People	33
ft²/person	95.51

Areas
ft²

Roof	0
Other Roof	0
Ceiling	3,356
Window	1,205
Door	634
Wall	1,312
Below-Grade Wall	167
Other Wall	1,312
Partition	7,662
Exterior Floor	0
Internal Floor	2,983
Slab	373
Other Floor	2,983

WR21

Coil Peak						
Peak Time (Mo/D/H:M):	7/21/14:00					
Outside Air (DB/WB/HR):	103.5 /	71.0	/	63.0		

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	4,115	3,520	0	7,635	31.5	20.1
Door	0	-90	0	-90	-0.4	-1.1
Wall	0	126	0	126	0.5	0.4
Below-Grade Wall	0	0	0	0	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-1,679	0	-1,679	-6.9	-0.6
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-805	0	-805	-3.3	-0.8
Slab	0	0	0	0	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	820	0	34	854	3.5	2.5
Envelope Subtotal	4,935	1,072	34	6,041	24.9	-
People	1,065	1,912	1,778	4,755	19.6	5.0
Lights	761	1,500	0	2,260	9.3	3.5
RA Sensible (Lights)	853	0	0	853	3.5	0.0
Miscellaneous Loads	2,058	1,720	0	3,778	15.6	3.9
Internal Subtotal	4,736	5,132	1,778	11,646	48.0	-
Ventilation	5,546	0	241	5,786	23.9	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-679	0	-679	-2.8	-0.7
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	1,723	0	-	1,723	7.1	-
Time Delay Correction	0	-243	-	-243	-1.0	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	-10	0	-8	-18	-0.1	-
Grand Total	16,930	5,283	2,045	24,257	100.0	

Fan Peak						
Peak Time (Mo/D/H:M):	7/21/15:00					
Outside Air (DB/WB/HR):	103.5 /	71.0	/	63.0		

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	0	0	0.0	0
	0	0	0	0.0	0
	4,065	3,558	7,623	54.1	379
	0	-92	-92	-0.7	81
	0	128	128	0.9	348
	0	0	0	0.0	0
	0	0	0	0.0	348
	0	-1,724	-1,724	-12.2	2,602
	0	0	0	0.0	0
	0	-856	-856	-6.1	1,008
	0	0	0	0.0	0
	0	0	0	0.0	1,008
	820	0	820	5.8	348
	4,885	1,014	5,899	41.9	-
	1,065	1,960	3,025	21.5	957
	761	1,536	2,297	16.3	957
	-	-	-	-	-
	2,058	1,759	3,817	27.1	957
	3,884	5,255	9,139	64.9	-
	-	-	-	-	-
			0	0.0	0
	0	-688	-688	-4.9	1,008
			0	0.0	957
			0	0.0	957
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-247	-247	-1.8	-
	0	-	0	0.0	-
	-11	-	-11	-0.1	-
	8,758	5,334	14,091	100.0	

Temperatures °F	
Supply	55.0
Return	73.3
Mixed Air	79.7
Fan Heat TD	2.1

Airflows cfm	
Main Fan	764
Ventilation	162
Infiltration	24
Min Stop / Reheat	322

Engineering Checks	
% OA	21.23
cfm/ft²	.80
Btu/h-ft²	25.36
cfm/ton	378.08
ft²/ton	473.49
People	11
ft²/person	89.62

Areas ft²	
Roof	0
Other Roof	0
Ceiling	1,008
Window	379
Door	81
Wall	348
Below-Grade Wall	0
Other Wall	348
Partition	2,602
Exterior Floor	0
Internal Floor	1,008
Slab	0
Other Floor	1,008

WR23

Coil Peak						
Peak Time (Mo/D/H:M):	7/21/15:00					
Outside Air (DB/WB/HR):	103.5 /	71.0	/	63.0		

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	12,010	9,261	0	21,271	15.6	13.9
Door	0	-69	0	-69	-0.1	-0.1
Wall	0	429	0	429	0.3	0.4
Below-Grade Wall	0	207	0	207	0.2	0.2
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-1,453	0	-1,453	-1.1	-0.1
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-3,128	0	-3,128	-2.3	-0.8
Slab	0	327	0	327	0.2	0.1
Other Floor	0	0	0	0	0.0	0.0
Infiltration	5,096	0	155	5,251	3.9	5.2
Envelope Subtotal	17,106	5,574	155	22,835	16.8	-
People	5,127	7,681	10,015	22,823	16.8	3.3
Lights	4,337	7,989	0	12,325	9.1	3.3
RA Sensible (Lights)	7,817	0	0	7,817	5.7	0.0
Miscellaneous Loads	15,238	12,855	1,155	29,248	21.5	4.2
Internal Subtotal	32,518	28,525	11,170	72,214	53.1	-
Ventilation	32,795	0	1,009	33,804	24.9	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-713	0	-713	-0.5	-0.1
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	9,051	0	-	9,051	6.7	-
Time Delay Correction	0	-1,105	-	-1,105	-0.8	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	-55	0	-52	-107	-0.1	-
Grand Total	91,416	32,281	12,282	135,980	100.0	

Fan Peak						
Peak Time (Mo/D/H:M):	7/21/15:00					
Outside Air (DB/WB/HR):	103.5 /	71.0	/	63.0		

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	0	0	0.0	0
	0	0	0	0.0	0
	12,010	9,261	21,271	28.7	1,529
	0	-69	-69	-0.1	1,235
	0	429	429	0.6	1,011
	0	207	207	0.3	1,259
	0	0	0	0.0	1,011
	0	-1,453	-1,453	-2.0	15,200
	0	0	0	0.0	0
	0	-3,128	-3,128	-4.2	4,130
	0	327	327	0.4	3,123
	0	0	0	0.0	4,130
	5,096	0	5,096	6.9	1,011
	17,106	5,574	22,680	30.6	-
	5,127	7,681	12,808	17.3	6,930
	4,337	7,989	12,325	16.6	6,930
	-	-	-	-	-
	15,238	12,855	28,093	37.9	6,930
	24,701	28,525	53,226	71.9	-
	-	-	-	-	-
			0	0.0	0
	0	-713	-713	-1.0	7,252
			0	0.0	6,930
			0	0.0	6,930
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-1,105	-1,105	-1.5	-
	0	-	0	0.0	-
	-55	-	-55	-0.1	-
	41,753	32,281	74,034	100.0	

Temperatures °F	
Supply	55.0
Return	74.3
Mixed Air	81.3
Fan Heat TD	2.1

Airflows cfm	
Main Fan	4,015
Ventilation	960
Infiltration	149
Min Stop / Reheat	4,015

Engineering Checks	
% OA	23.90
cfm/ft²	.58
Btu/h-ft²	19.63
cfm/ton	354.35
ft²/ton	611.57
People	49
ft²/person	142.75

Areas ft²	
Roof	0
Other Roof	0
Ceiling	7,252
Window	1,529
Door	1,235
Wall	1,011
Below-Grade Wall	1,259
Other Wall	1,011
Partition	15,200
Exterior Floor	0
Internal Floor	4,130
Slab	3,123
Other Floor	4,130

WR27

Coil Peak						
Peak Time (Mo/D/H:M):	7/21/10:00					
Outside Air (DB/WB/HR):	92.2 / 67.6 / 63.0					
	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	6,720	14,811	0	21,531	31.8	27.0
Door	0	-63	0	-63	-0.1	-0.1
Wall	0	592	0	592	0.9	1.0
Below-Grade Wall	0	0	0	0	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-226	0	-226	-0.3	0.0
Exterior Floor	0	-428	0	-428	-0.6	-3.4
Interior Floor	0	-3,754	0	-3,754	-5.5	-1.1
Slab	0	0	0	0	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	1,312	0	156	1,468	2.2	2.5
Envelope Subtotal	8,032	10,932	156	19,121	28.3	-
People	1,889	2,862	3,625	8,375	12.4	2.5
Lights	2,778	5,134	0	7,912	11.7	4.0
RA Sensible (Lights)	4,099	0	0	4,099	6.1	0.0
Miscellaneous Loads	7,085	5,066	0	12,152	18.0	3.7
Internal Subtotal	15,851	13,062	3,625	32,537	48.1	-
Ventilation	10,956	0	1,069	12,024	17.8	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-801	0	-801	-1.2	-0.2
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	5,200	0	-	5,200	7.7	-
Time Delay Correction	0	-445	-	-445	-0.7	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	4	0	3	7	0.0	-
Grand Total	40,043	22,748	4,853	67,644	100.0	

Fan Peak					
Peak Time (Mo/D/H:M):	7/21/09:00				
Outside Air (DB/WB/HR):	87.2 / 66.0 / 62.9				
	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
Roof	0	0	0	0.0	0
Other Roof	0	0	0	0.0	0
Glass	6,667	15,327	21,994	51.7	798
Door	0	-117	-117	-0.3	618
Wall	0	554	554	1.3	592
Below-Grade Wall	0	0	0	0.0	0
Other Wall	0	0	0	0.0	592
Partition	0	-747	-747	-1.8	8,341
Exterior Floor	0	-523	-523	-1.2	126
Interior Floor	0	-2,734	-2,734	-6.4	3,336
Slab	0	0	0	0.0	0
Other Floor	0	0	0	0.0	3,336
Infiltration	993	0	993	2.3	592
Envelope Subtotal	7,660	11,760	19,420	45.7	-
People	1,889	2,754	4,643	10.9	3,296
Lights	2,778	4,942	7,720	18.1	3,296
RA Sensible (Lights)	-	-	-	-	-
Miscellaneous Loads	7,085	4,871	11,956	28.1	3,296
Internal Subtotal	11,752	12,567	24,319	57.2	-
Ventilation	-	-	-	-	-
DOAS Direct to Zone			0	0.0	0
Ceiling	0	-739	-739	-1.7	3,462
Refrigeration			0	0.0	3,296
Service Water			0	0.0	3,296
HVAC Equipment Losses			0	0.0	0
Adj Air Transfer Heat	0	0	0	0.0	0
Supply Fan Heat	-	-	-	-	-
Time Delay Correction	0	-435	-435	-1.0	-
Sizing Factor Correction	0	-	0	0.0	-
Airflow Correction	-29	-	-29	-0.1	-
Grand Total	19,382	23,154	42,536	100.0	

Temperatures °F	
Supply	55.0
Return	74.1
Mixed Air	78.0
Fan Heat TD	2.1

Airflows cfm	
Main Fan	2,307
Ventilation	499
Infiltration	60
Min Stop / Reheat	2,307

Engineering Checks	
% OA	21.62
cfm/ft²	.70
Btu/h-ft²	20.54
cfm/ton	409.27
ft²/ton	584.70
People	18
ft²/person	182.00

Areas ft²	
Roof	0
Other Roof	0
Ceiling	3,462
Window	798
Door	618
Wall	592
Below-Grade Wall	0
Other Wall	592
Partition	8,341
Exterior Floor	126
Internal Floor	3,336
Slab	0
Other Floor	3,336

WR32

Coil Peak	
Peak Time (Mo/D/H:M):	7/21/14:00
Outside Air (DB/WB/HR):	103.5 / 71.0 / 63.0

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	4	0	4	0.0	0.0
Glass	10,605	7,531	0	18,136	8.7	11.1
Door	0	49	0	49	0.0	0.0
Wall	0	576	0	576	0.3	0.9
Below-Grade Wall	0	842	0	842	0.4	0.2
Other Wall	0	0	0	0	0.0	0.0
Partition	0	432	0	432	0.2	0.0
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-3,509	0	-3,509	-1.7	-0.8
Slab	0	1,698	0	1,698	0.8	0.2
Other Floor	0	0	0	0	0.0	0.0
Infiltration	11,190	0	739	11,929	5.7	19.2
Envelope Subtotal	21,796	7,624	739	30,158	14.4	-
People	5,813	8,337	11,366	25,516	12.2	1.9
Lights	6,775	11,499	0	18,275	8.8	2.5
RA Sensible (Lights)	14,123	0	0	14,123	6.8	0.0
Miscellaneous Loads	39,332	22,781	0	62,113	29.8	4.5
Internal Subtotal	66,044	42,617	11,366	120,027	57.5	-
Ventilation	32,555	0	1,960	34,515	16.5	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	573	0	573	0.3	0.0
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	15,826	0	-	15,826	7.6	-
Time Delay Correction	0	-1,224	-	-1,224	-0.6	-
Sizing Factor Correction	2,390	-	-	2,390	1.1	-
Airflow Correction	3,753	0	2,711	6,464	3.1	-
Grand Total	142,364	49,590	16,776	208,730	100.0	

Fan Peak	
Peak Time (Mo/D/H:M):	9/21/14:00
Outside Air (DB/WB/HR):	98.3 / 67.2 / 51.1

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	0	0	0.0	0
	0	4	4	0.0	0
	11,425	15,284	26,708	20.6	1,631
	0	5	5	0.0	1,528
	0	421	421	0.3	622
	0	842	842	0.7	3,796
	0	0	0	0.0	622
	0	-5	-5	0.0	21,125
	0	0	0	0.0	0
	0	-5,559	-5,559	-4.3	4,207
	0	1,697	1,697	1.3	10,008
	0	0	0	0.0	4,207
	9,427	0	9,427	7.3	622
	20,852	12,688	33,540	25.9	-
	5,813	8,337	14,150	10.9	13,758
	6,775	11,499	18,275	14.1	13,758
	-	-	-	-	-
	39,332	22,781	62,113	48.0	13,758
	51,921	42,617	94,538	73.0	-
	-	-	-	-	-
			0	0.0	0
	0	90	90	0.1	14,215
			0	0.0	13,758
			0	0.0	13,758
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-1,206	-1,206	-0.9	-
	2,599	-	2,599	2.0	-
	-112	-	-112	-0.1	-
	75,260	54,190	129,450	100.0	

Temperatures °F	
Supply	55.0
Return	74.3
Mixed Air	78.3
Fan Heat TD	2.1

Airflows cfm	
Main Fan	7,020
Ventilation	953
Infiltration	330
Min Stop / Reheat	7,020

Engineering Checks	
% OA	13.57
cfm/ft²	.51
Btu/h-ft²	15.18
cfm/ton	403.64
ft²/ton	790.90
People	55
ft²/person	249.23

Areas ft²	
Roof	0
Other Roof	0
Ceiling	14,215
Window	1,631
Door	1,528
Wall	622
Below-Grade Wall	3,796
Other Wall	622
Partition	21,125
Exterior Floor	0
Internal Floor	4,207
Slab	10,008
Other Floor	4,207

WR26

Coil Peak
Peak Time (Mo/D/H:M): 10/21/13:00
Outside Air (DB/WB/HR): 87.8 / 63.6 / 49.9

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	31,923	84,220	0	116,143	73.8	71.8
Door	0	-573	0	-573	-0.4	-1.0
Wall	0	1,776	0	1,776	1.1	0.9
Below-Grade Wall	0	0	0	0	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-6,248	0	-6,248	-4.0	-0.8
Exterior Floor	0	-1,232	0	-1,232	-0.8	-4.7
Interior Floor	0	-21,397	0	-21,397	-13.6	-5.5
Slab	0	0	0	0	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	1,344	0	-514	831	0.5	0.4
Envelope Subtotal	33,267	56,545	-514	89,299	56.7	-
People	4,137	6,888	8,032	19,057	12.1	4.8
Lights	958	4,884	0	5,842	3.7	4.2
RA Sensible (Lights)	9,072	0	0	9,072	5.8	0.0
Miscellaneous Loads	8,479	6,971	0	15,450	9.8	3.9
Internal Subtotal	22,646	18,743	8,032	49,421	31.4	-
Ventilation	14,810	0	-5,628	9,181	5.8	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-5,289	0	-5,289	-3.4	-1.3
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	14,350	0	-	14,350	9.1	-
Time Delay Correction	0	-1,035	-	-1,035	-0.7	-
Sizing Factor Correction	1,657	-	-	1,657	1.1	-
Airflow Correction	-87	0	-40	-127	-0.1	-
Grand Total	86,644	68,964	1,850	157,458	100.0	

Fan Peak
Peak Time (Mo/D/H:M): 10/21/13:00
Outside Air (DB/WB/HR): 87.8 / 63.6 / 49.9

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
Roof	0	0	0	0.0	0
Other Roof	0	0	0	0.0	0
Glass	31,923	84,220	116,143	98.9	1,619
Door	0	-573	-573	-0.5	569
Wall	0	1,776	1,776	1.5	1,918
Below-Grade Wall	0	0	0	0.0	0
Other Wall	0	0	0	0.0	1,918
Partition	0	-6,248	-6,248	-5.3	7,896
Exterior Floor	0	-1,232	-1,232	-1.0	262
Interior Floor	0	-21,397	-21,397	-18.2	3,865
Slab	0	0	0	0.0	0
Other Floor	0	0	0	0.0	3,865
Infiltration	1,344	0	1,344	1.1	1,918
Envelope Subtotal	33,267	56,545	89,813	76.5	-
People	4,137	6,888	11,025	9.4	3,945
Lights	958	4,884	5,842	5.0	3,945
RA Sensible (Lights)	-	-	-	-	-
Miscellaneous Loads	8,479	6,971	15,450	13.2	3,945
Internal Subtotal	13,574	18,743	32,317	27.5	-
Ventilation	-	-	-	-	-
DOAS Direct to Zone			0	0.0	0
Ceiling	0	-5,289	-5,289	-4.5	4,127
Refrigeration			0	0.0	3,945
Service Water			0	0.0	3,945
HVAC Equipment Losses			0	0.0	0
Adj Air Transfer Heat	0	0	0	0.0	0
Supply Fan Heat	-	-	-	-	-
Time Delay Correction	0	-1,035	-1,035	-0.9	-
Sizing Factor Correction	1,657	-	1,657	1.4	-
Airflow Correction	-87	-	-87	-0.1	-
Grand Total	48,412	68,964	117,376	100.0	

Temperatures
°F

Supply	55.0
Return	73.5
Mixed Air	75.5
Fan Heat TD	2.1

Airflows
cfm

Main Fan	6,365
Ventilation	862
Infiltration	78
Min Stop / Reheat	6,365

Engineering Checks

% OA	13.54
cfm/ft²	1.61
Btu/h-ft²	39.95
cfm/ton	485.17
ft²/ton	300.61
People	39
ft²/person	100.78

Areas
ft²

Roof	0
Other Roof	0
Ceiling	4,127
Window	1,619
Door	569
Wall	1,918
Below-Grade Wall	0
Other Wall	1,918
Partition	7,896
Exterior Floor	262
Internal Floor	3,865
Slab	0
Other Floor	3,865

WR11

Coil Peak	
Peak Time (Mo/D/H:M):	7/21/16:00
Outside Air (DB/WB/HR):	101.7 / 70.5 / 63.0

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	6,555	0	6,555	2.9	2.8
Other Roof	0	0	0	0	0.0	0.0
Glass	20,338	30,339	0	50,678	22.5	38.1
Door	0	-362	0	-362	-0.2	-0.3
Wall	0	4,226	0	4,226	1.9	1.7
Below-Grade Wall	0	47	0	47	0.0	0.1
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-6,581	0	-6,581	-2.9	-0.4
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-5,345	0	-5,345	-2.4	-0.8
Slab	0	53	0	53	0.0	0.1
Other Floor	0	0	0	0	0.0	0.0
Infiltration	5,186	0	121	5,307	2.4	2.1
Envelope Subtotal	25,524	28,932	121	54,577	24.2	-
People	10,045	16,167	18,254	44,465	19.7	6.4
Lights	2,839	9,347	0	12,186	5.4	4.3
RA Sensible (Lights)	12,990	0	0	12,990	5.8	0.0
Miscellaneous Loads	14,919	11,503	0	26,423	11.7	3.8
Internal Subtotal	40,793	37,017	18,254	96,063	42.6	-
Ventilation	52,770	0	1,479	54,248	24.0	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-971	0	-971	-0.4	-0.2
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	14,934	0	-	14,934	6.6	-
Time Delay Correction	0	-1,147	-	-1,147	-0.5	-
Sizing Factor Correction	1,911	-	-	1,911	0.8	-
Airflow Correction	3,078	0	2,936	6,015	2.7	-
Grand Total	139,010	63,832	22,790	225,631	100.0	

Fan Peak	
Peak Time (Mo/D/H:M):	7/21/17:00
Outside Air (DB/WB/HR):	99.4 / 69.8 / 63.0

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	5,942	5,942	4.9	2,357
	0	0	0	0.0	2,357
	20,344	35,797	56,142	46.0	1,331
	0	-331	-331	-0.3	1,186
	0	4,278	4,278	3.5	2,555
	0	43	43	0.0	356
	0	0	0	0.0	2,555
	0	-6,152	-6,152	-5.0	18,031
	0	0	0	0.0	0
	0	-7,508	-7,508	-6.1	6,509
	0	43	43	0.0	763
	0	0	0	0.0	6,509
	4,790	0	4,790	3.9	2,555
	25,135	32,113	57,248	46.9	-
	10,045	16,369	26,413	21.6	6,941
	2,839	9,435	12,274	10.0	6,941
	-	-	-	-	-
	14,919	11,571	26,490	21.7	6,941
	27,803	37,375	65,178	53.4	-
	-	-	-	-	-
			0	0.0	0
	0	-1,104	-1,104	-0.9	4,917
			0	0.0	6,941
			0	0.0	6,941
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-1,144	-1,144	-0.9	-
	2,045	-	2,045	1.7	-
	-74	-	-74	-0.1	-
	54,908	67,240	122,148	100.0	

Temperatures °F	
Supply	55.0
Return	74.5
Mixed Air	81.2
Fan Heat TD	2.1

Airflows cfm	
Main Fan	6,624
Ventilation	1,637
Infiltration	161
Min Stop / Reheat	6,624

Engineering Checks	
% OA	24.71
cfm/ft²	.95
Btu/h-ft²	32.53
cfm/ton	352.34
ft²/ton	369.11
People	98
ft²/person	71.05

Areas ft²	
Roof	2,357
Other Roof	2,357
Ceiling	4,917
Window	1,331
Door	1,186
Wall	2,555
Below-Grade Wall	356
Other Wall	2,555
Partition	18,031
Exterior Floor	0
Internal Floor	6,509
Slab	763
Other Floor	6,509

WR12

Coil Peak
Peak Time (Mo/D/H:M): 7/21/11:00
Outside Air (DB/WB/HR): 96.7 / 69.0 / 63.0

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	1,227	0	1,227	2.8	1.9
Other Roof	0	0	0	0	0.0	0.0
Glass	5,291	8,930	0	14,221	32.6	50.4
Door	0	-100	0	-100	-0.2	-0.4
Wall	0	1,216	0	1,216	2.8	1.2
Below-Grade Wall	0	0	0	0	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-1,048	0	-1,048	-2.4	-0.4
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-3,837	0	-3,837	-8.8	-3.8
Slab	0	0	0	0	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	636	0	32	668	1.5	0.6
Envelope Subtotal	5,928	6,387	32	12,347	28.3	-
People	1,414	2,220	2,691	6,324	14.5	6.6
Lights	54	1,377	0	1,430	3.3	5.6
RA Sensible (Lights)	2,615	0	0	2,615	6.0	0.0
Miscellaneous Loads	2,066	1,640	0	3,706	8.5	3.9
Internal Subtotal	6,147	5,236	2,691	14,075	32.3	-
Ventilation	10,076	0	532	10,608	24.3	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-187	0	-187	-0.4	-0.5
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	2,914	0	-	2,914	6.7	-
Time Delay Correction	0	-163	-	-163	-0.4	-
Sizing Factor Correction	2,104	-	-	2,104	4.8	-
Airflow Correction	993	0	944	1,937	4.4	-
Grand Total	28,161	11,274	4,199	43,634	100.0	

Fan Peak
Peak Time (Mo/D/H:M): 7/21/10:00
Outside Air (DB/WB/HR): 92.2 / 67.6 / 63.0

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
Roof	0	925	925	3.9	631
Other Roof	0	0	0	0.0	631
Glass	5,269	10,416	15,685	65.8	282
Door	0	-123	-123	-0.5	227
Wall	0	1,149	1,149	4.8	1,038
Below-Grade Wall	0	0	0	0.0	0
Other Wall	0	0	0	0.0	1,038
Partition	0	-1,309	-1,309	-5.5	2,873
Exterior Floor	0	0	0	0.0	0
Interior Floor	0	-3,322	-3,322	-13.9	1,015
Slab	0	0	0	0.0	0
Other Floor	0	0	0	0.0	1,015
Infiltration	525	0	525	2.2	1,038
Envelope Subtotal	5,794	7,737	13,531	56.8	-
People	1,414	2,157	3,571	15.0	961
Lights	54	1,344	1,398	5.9	961
RA Sensible (Lights)	-	-	-	-	-
Miscellaneous Loads	2,066	1,601	3,667	15.4	961
Internal Subtotal	3,533	5,103	8,636	36.2	-
Ventilation	-	-	-	-	-
DOAS Direct to Zone			0	0.0	0
Ceiling	0	-268	-268	-1.1	384
Refrigeration			0	0.0	961
Service Water			0	0.0	961
HVAC Equipment Losses			0	0.0	0
Adj Air Transfer Heat	0	0	0	0.0	0
Supply Fan Heat	-	-	-	-	-
Time Delay Correction	0	-163	-163	-0.7	-
Sizing Factor Correction	2,110	-	2,110	8.9	-
Airflow Correction	-16	-	-16	-0.1	-
Grand Total	11,421	12,410	23,831	100.0	

Temperatures
°F

Supply	55.0
Return	75.2
Mixed Air	81.5
Fan Heat TD	2.1

Airflows
cfm

Main Fan	1,292
Ventilation	376
Infiltration	24
Min Stop / Reheat	883

Engineering Checks

% OA	29.10
cfm/ft²	1.34
Btu/h-ft²	45.44
cfm/ton	355.46
ft²/ton	264.26
People	13
ft²/person	71.34

Areas
ft²

Roof	631
Other Roof	631
Ceiling	384
Window	282
Door	227
Wall	1,038
Below-Grade Wall	0
Other Wall	1,038
Partition	2,873
Exterior Floor	0
Internal Floor	1,015
Slab	0
Other Floor	1,015

WR7A

Coil Peak	
Peak Time (Mo/D/H:M):	7/21/15:00
Outside Air (DB/WB/HR):	103.5 / 71.0 / 63.0

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	62	18	0	80	0.3	1.0
Door	0	28	0	28	0.1	0.1
Wall	0	0	0	0	0.0	0.0
Below-Grade Wall	0	11	0	11	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	343	0	343	1.5	0.1
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-121	0	-121	-0.5	-0.2
Slab	0	11	0	11	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	1,090	0	57	1,148	4.9	0.0
Envelope Subtotal	1,153	290	57	1,500	6.4	-
People	509	745	976	2,230	9.5	1.7
Lights	526	1,351	0	1,877	8.0	3.5
RA Sensible (Lights)	1,125	0	0	1,125	4.8	0.0
Miscellaneous Loads	2,778	1,899	0	4,677	19.9	3.6
Internal Subtotal	4,938	3,995	976	9,909	42.2	-
Ventilation	10,073	0	552	10,625	45.2	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	336	0	336	1.4	0.2
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	1,166	0	-	1,166	5.0	-
Time Delay Correction	0	-56	-	-56	-0.2	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	9	0	14	24	0.1	-
Grand Total	17,339	4,565	1,599	23,504	100.0	

Fan Peak	
Peak Time (Mo/D/H:M):	7/21/19:00
Outside Air (DB/WB/HR):	91.9 / 67.5 / 62.9

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
Roof	0	0	0	0.0	0
Other Roof	0	0	0	0.0	0
Glass	63	19	82	0.9	83
Door	0	20	20	0.2	227
Wall	0	0	0	0.0	0
Below-Grade Wall	0	6	6	0.1	221
Other Wall	0	0	0	0.0	0
Partition	0	217	217	2.3	3,233
Exterior Floor	0	0	0	0.0	0
Interior Floor	0	-154	-154	-1.6	693
Slab	0	-8	-8	-0.1	663
Other Floor	0	0	0	0.0	693
Infiltration	1,058	0	1,058	11.1	0
Envelope Subtotal	1,121	99	1,220	12.8	-
People	509	804	1,313	13.8	1,292
Lights	526	1,454	1,981	20.8	1,292
RA Sensible (Lights)	-	-	-	-	-
Miscellaneous Loads	2,778	1,996	4,773	50.0	1,292
Internal Subtotal	3,813	4,254	8,067	84.6	-
Ventilation	-	-	-	-	-
DOAS Direct to Zone			0	0.0	0
Ceiling	0	320	320	3.4	1,356
Refrigeration			0	0.0	1,292
Service Water			0	0.0	1,292
HVAC Equipment Losses			0	0.0	0
Adj Air Transfer Heat	0	0	0	0.0	0
Supply Fan Heat	-	-	-	-	-
Time Delay Correction	0	-59	-59	-0.6	-
Sizing Factor Correction	0	-	0	0.0	-
Airflow Correction	-8	-	-8	-0.1	-
Grand Total	4,926	4,614	9,540	100.0	

Temperatures °F	
Supply	55.0
Return	76.7
Mixed Air	92.0
Fan Heat TD	2.1

Airflows cfm	
Main Fan	517
Ventilation	295
Infiltration	49
Min Stop / Reheat	517

Engineering Checks	
% OA	56.97
cfm/ft²	.40
Btu/h-ft²	18.20
cfm/ton	264.18
ft²/ton	659.71
People	5
ft²/person	265.88

Areas ft²	
Roof	0
Other Roof	0
Ceiling	1,356
Window	83
Door	227
Wall	0
Below-Grade Wall	221
Other Wall	0
Partition	3,233
Exterior Floor	0
Internal Floor	693
Slab	663
Other Floor	693

WR20

Coil Peak
Peak Time (Mo/D/H:M): 10/21/13:00
Outside Air (DB/WB/HR): 87.8 / 63.6 / 49.9

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	23,574	67,603	0	91,177	79.6	107.5
Door	0	-681	0	-681	-0.6	-1.8
Wall	0	795	0	795	0.7	0.7
Below-Grade Wall	0	0	0	0	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-6,623	0	-6,623	-5.8	-0.9
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-18,491	0	-18,491	-16.1	-6.2
Slab	0	0	0	0	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	1,043	0	-404	638	0.6	0.6
Envelope Subtotal	24,617	42,603	-404	66,816	58.3	-
People	3,612	6,394	6,478	16,485	14.4	5.8
Lights	973	2,897	0	3,869	3.4	2.8
RA Sensible (Lights)	3,659	0	0	3,659	3.2	0.0
Miscellaneous Loads	6,142	5,165	0	11,307	9.9	4.0
Internal Subtotal	14,386	14,456	6,478	35,320	30.8	-
Ventilation	10,408	0	-4,003	6,405	5.6	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-4,054	0	-4,054	-3.5	-1.3
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	10,728	0	-	10,728	9.4	-
Time Delay Correction	0	-536	-	-536	-0.5	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	-62	0	-26	-89	-0.1	-
Grand Total	60,076	52,470	2,045	114,591	100.0	

Fan Peak
Peak Time (Mo/D/H:M): 10/21/13:00
Outside Air (DB/WB/HR): 87.8 / 63.6 / 49.9

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	0	0	0.0	0
	0	0	0	0.0	0
	23,574	67,603	91,177	103.9	849
	0	-681	-681	-0.8	374
	0	795	795	0.9	1,099
	0	0	0	0.0	0
	0	0	0	0.0	1,099
	0	-6,623	-6,623	-7.5	7,020
	0	0	0	0.0	0
	0	-18,491	-18,491	-21.1	3,008
	0	0	0	0.0	0
	0	0	0	0.0	3,008
	1,043	0	1,043	1.2	1,099
	24,617	42,603	67,220	76.6	-
	3,612	6,394	10,007	11.4	2,857
	973	2,897	3,869	4.4	2,857
	-	-	-	-	-
	6,142	5,165	11,307	12.9	2,857
	10,727	14,456	25,183	28.7	-
	-	-	-	-	-
			0	0.0	0
	0	-4,054	-4,054	-4.6	3,008
			0	0.0	2,857
			0	0.0	2,857
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-536	-536	-0.6	-
	0	-	0	0.0	-
	-62	-	-62	-0.1	-
	35,281	52,470	87,751	100.0	

Temperatures
°F

Supply	55.0
Return	72.8
Mixed Air	74.7
Fan Heat TD	2.1

Airflows
cfm

Main Fan	4,759
Ventilation	606
Infiltration	61
Min Stop / Reheat	1,226

Engineering Checks

% OA	12.73
cfm/ft²	1.67
Btu/h-ft²	40.13
cfm/ton	498.40
ft²/ton	299.19
People	35
ft²/person	80.99

Areas
ft²

Roof	0
Other Roof	0
Ceiling	3,008
Window	849
Door	374
Wall	1,099
Below-Grade Wall	0
Other Wall	1,099
Partition	7,020
Exterior Floor	0
Internal Floor	3,008
Slab	0
Other Floor	3,008

WR14

Coil Peak						
Peak Time (Mo/D/H:M):	7/21/15:00					
Outside Air (DB/WB/HR):	103.5 /	71.0	/	63.0		

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	0	0	0	0.0	0.0
Other Roof	0	0	0	0	0.0	0.0
Glass	243	205	0	447	0.9	0.8
Door	0	57	0	57	0.1	0.2
Wall	0	63	0	63	0.1	1.3
Below-Grade Wall	0	288	0	288	0.6	0.3
Other Wall	0	0	0	0	0.0	0.0
Partition	0	1,456	0	1,456	2.9	0.3
Exterior Floor	0	0	0	0	0.0	0.0
Interior Floor	0	-49	0	-49	-0.1	0.0
Slab	0	358	0	358	0.7	0.2
Other Floor	0	0	0	0	0.0	0.0
Infiltration	2,545	0	17	2,562	5.0	51.6
Envelope Subtotal	2,787	2,377	17	5,182	10.2	-
People	2,552	2,285	5,103	9,939	19.6	3.2
Lights	2,072	2,548	0	4,621	9.1	3.0
RA Sensible (Lights)	3,392	0	0	3,392	6.7	0.0
Miscellaneous Loads	6,702	3,006	0	9,707	19.1	3.1
Internal Subtotal	14,718	7,838	5,103	27,659	54.5	-
Ventilation	12,940	0	93	13,033	25.7	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	1,993	0	1,993	3.9	0.6
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	3,185	0	-	3,185	6.3	-
Time Delay Correction	0	-253	-	-253	-0.5	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	-19	0	-20	-39	-0.1	-
Grand Total	33,612	11,956	5,193	50,761	100.0	

Fan Peak						
Peak Time (Mo/D/H:M):	7/21/15:00					
Outside Air (DB/WB/HR):	103.5 /	71.0	/	63.0		

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	0	0	0.0	0
	0	0	0	0.0	0
	243	205	447	1.7	571
	0	57	57	0.2	293
	0	63	63	0.2	50
	0	288	288	1.1	1,077
	0	0	0	0.0	50
	0	1,456	1,456	5.6	5,136
	0	0	0	0.0	0
	0	-49	-49	-0.2	1,532
	0	358	358	1.4	1,703
	0	0	0	0.0	1,532
	2,545	0	2,545	9.8	50
	2,787	2,377	5,165	19.8	-
	2,552	2,285	4,836	18.6	3,118
	2,072	2,548	4,621	17.7	3,118
	-	-	-	-	-
	6,702	3,006	9,707	37.3	3,118
	11,326	7,838	19,165	73.6	-
	-	-	-	-	-
			0	0.0	0
	0	1,993	1,993	7.6	3,234
			0	0.0	3,118
			0	0.0	3,118
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-253	-253	-1.0	-
	0	-	0	0.0	-
	-19	-	-19	-0.1	-
	14,095	11,956	26,051	100.0	

Temperatures °F	
Supply	55.0
Return	75.0
Mixed Air	82.7
Fan Heat TD	2.1

Airflows cfm	
Main Fan	1,413
Ventilation	379
Infiltration	74
Min Stop / Reheat	1,413

Engineering Checks	
% OA	26.80
cfm/ft²	.45
Btu/h-ft²	16.29
cfm/ton	334.02
ft²/ton	737.03
People	24
ft²/person	130.40

Areas ft²	
Roof	0
Other Roof	0
Ceiling	3,234
Window	571
Door	293
Wall	50
Below-Grade Wall	1,077
Other Wall	50
Partition	5,136
Exterior Floor	0
Internal Floor	1,532
Slab	1,703
Other Floor	1,532

WR22

Coil Peak	
Peak Time (Mo/D/H:M):	7/21/14:00
Outside Air (DB/WB/HR):	103.5 / 71.0 / 63.0

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	1,172	0	1,172	1.0	2.7
Other Roof	0	0	0	0	0.0	0.0
Glass	10,358	8,559	0	18,918	15.6	23.0
Door	0	-96	0	-96	-0.1	-0.1
Wall	0	241	0	241	0.2	0.4
Below-Grade Wall	0	0	0	0	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-631	0	-631	-0.5	-0.1
Exterior Floor	0	-243	0	-243	-0.2	-0.7
Interior Floor	0	-1,873	0	-1,873	-1.5	-0.4
Slab	0	0	0	0	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	3,851	0	221	4,072	3.4	6.4
Envelope Subtotal	14,210	7,128	221	21,559	17.8	-
People	3,475	5,835	6,109	15,419	12.7	3.4
Lights	2,434	5,292	0	7,726	6.4	3.1
RA Sensible (Lights)	5,082	0	0	5,082	4.2	0.0
Miscellaneous Loads	9,718	7,226	0	16,944	14.0	3.8
Internal Subtotal	20,709	18,353	6,109	45,171	37.3	-
Ventilation	20,327	0	997	21,324	17.6	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-1,241	0	-1,241	-1.0	-0.3
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	8,368	0	-	8,368	6.9	-
Time Delay Correction	0	-533	-	-533	-0.4	-
Sizing Factor Correction	0	-	-	0	0.0	-
Airflow Correction	14,903	0	11,462	26,365	21.8	-
Grand Total	78,517	23,708	18,788	121,013	100.0	

Fan Peak	
Peak Time (Mo/D/H:M):	11/21/13:00
Outside Air (DB/WB/HR):	72.7 / 57.3 / 46.2

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	378	378	0.6	428
	0	0	0	0.0	428
	11,499	38,518	50,017	73.1	824
	0	-150	-150	-0.2	699
	0	167	167	0.2	639
	0	0	0	0.0	0
	0	0	0	0.0	639
	0	-1,351	-1,351	-2.0	10,226
	0	-1,362	-1,362	-2.0	349
	0	-9,256	-9,256	-13.5	4,362
	0	0	0	0.0	0
	0	0	0	0.0	4,362
	83	0	83	0.1	639
	11,583	26,945	38,527	56.3	-
	3,475	5,713	9,188	13.4	4,521
	2,434	5,190	7,624	11.1	4,521
	-	-	-	-	-
	9,718	7,091	16,808	24.6	4,521
	15,627	17,993	33,620	49.1	-
	-	-	-	-	-
			0	0.0	0
	0	-3,130	-3,130	-4.6	4,282
			0	0.0	4,521
			0	0.0	4,521
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-516	-516	-0.8	-
	0	-	0	0.0	-
	-54	-	-54	-0.1	-
	27,156	41,292	68,447	100.0	

Temperatures °F	
Supply	55.0
Return	74.0
Mixed Air	78.7
Fan Heat TD	2.1

Airflows cfm	
Main Fan	3,712
Ventilation	595
Infiltration	112
Min Stop / Reheat	3,712

Engineering Checks	
% OA	16.02
cfm/ft²	.82
Btu/h-ft²	26.79
cfm/ton	368.13
ft²/ton	448.27
People	34
ft²/person	131.38

Areas ft²	
Roof	428
Other Roof	428
Ceiling	4,282
Window	824
Door	699
Wall	639
Below-Grade Wall	0
Other Wall	639
Partition	10,226
Exterior Floor	349
Internal Floor	4,362
Slab	0
Other Floor	4,362

WR16

Coil Peak	
Peak Time (Mo/D/H:M):	7/21/16:00
Outside Air (DB/WB/HR):	101.7 / 70.5 / 63.0

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	2,384	0	2,384	0.9	2.8
Other Roof	0	0	0	0	0.0	0.0
Glass	26,093	33,996	0	60,089	21.7	32.0
Door	0	-522	0	-522	-0.2	-0.5
Wall	0	4,356	0	4,356	1.6	1.4
Below-Grade Wall	0	0	0	0	0.0	0.0
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-9,685	0	-9,685	-3.5	-0.4
Exterior Floor	0	13	0	13	0.0	0.5
Interior Floor	0	-9,304	0	-9,304	-3.4	-1.0
Slab	0	-1	0	-1	0.0	-0.2
Other Floor	0	0	0	0	0.0	0.0
Infiltration	6,836	0	-4	6,832	2.5	2.2
Envelope Subtotal	32,929	21,238	-04	54,162	19.6	-
People	14,769	26,008	30,875	71,652	25.9	7.9
Lights	4,087	13,199	0	17,286	6.3	4.0
RA Sensible (Lights)	14,664	0	0	14,664	5.3	0.0
Miscellaneous Loads	19,740	20,006	939	40,685	14.7	4.5
Internal Subtotal	53,259	59,213	31,814	144,286	52.2	-
Ventilation	57,337	0	-276	57,061	20.6	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-3,291	0	-3,291	-1.2	-0.4
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	18,756	0	-	18,756	6.8	-
Time Delay Correction	0	-1,848	-	-1,848	-0.7	-
Sizing Factor Correction	5,800	-	-	5,800	2.1	-
Airflow Correction	776	0	715	1,491	0.5	-
Grand Total	168,857	75,312	32,249	276,418	100.0	

Fan Peak	
Peak Time (Mo/D/H:M):	7/21/17:00
Outside Air (DB/WB/HR):	99.4 / 69.8 / 63.0

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	2,171	2,171	1.4	857
	0	0	0	0.0	857
	24,810	38,112	62,922	41.0	1,881
	0	-505	-505	-0.3	1,089
	0	4,092	4,092	2.7	3,118
	0	0	0	0.0	0
	0	0	0	0.0	3,118
	0	-9,552	-9,552	-6.2	22,653
	0	16	16	0.0	24
	0	-11,221	-11,221	-7.3	9,453
	0	-1	-1	0.0	3
	0	0	0	0.0	9,453
	6,317	0	6,317	4.1	3,118
	31,126	23,113	54,239	35.4	-
	14,769	26,427	41,195	26.9	9,030
	4,087	13,364	17,451	11.4	9,030
	-	-	-	-	-
	19,740	20,185	39,925	26.0	9,030
	38,595	59,976	98,571	64.3	-
	-	-	-	-	-
			0	0.0	0
	0	-3,312	-3,312	-2.2	8,624
			0	0.0	9,030
			0	0.0	9,030
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-1,847	-1,847	-1.2	-
	5,818	-	5,818	3.8	-
	-58	-	-58	0.0	-
	75,481	77,930	153,411	100.0	

Temperatures °F	
Supply	55.0
Return	74.1
Mixed Air	80.0
Fan Heat TD	2.1

Airflows cfm	
Main Fan	8,319
Ventilation	1,778
Infiltration	213
Min Stop / Reheat	8,319

Engineering Checks	
% OA	21.38
cfm/ft²	.92
Btu/h-ft²	30.63
cfm/ton	361.22
ft²/ton	392.01
People	136
ft²/person	66.39

Areas ft²	
Roof	857
Other Roof	857
Ceiling	8,624
Window	1,881
Door	1,089
Wall	3,118
Below-Grade Wall	0
Other Wall	3,118
Partition	22,653
Exterior Floor	24
Internal Floor	9,453
Slab	3
Other Floor	9,453

Unassigned

Coil Peak	
Peak Time (Mo/D/H:M):	7/21/15:00
Outside Air (DB/WB/HR):	103.5 / 71.0 / 63.0

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	15,880	0	15,880	0.8	2.9
Other Roof	0	0	0	0	0.0	0.0
Glass	160,957	157,778	0	318,736	16.0	15.6
Door	0	-3,087	0	-3,087	-0.2	-0.3
Wall	0	21,324	0	21,324	1.1	1.1
Below-Grade Wall	0	262	0	262	0.0	0.1
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-41,603	0	-41,603	-2.1	-0.2
Exterior Floor	0	-375	0	-375	0.0	-0.7
Interior Floor	0	-71,022	0	-71,022	-3.6	-1.0
Slab	0	-150	0	-150	0.0	0.0
Other Floor	0	0	0	0	0.0	0.0
Infiltration	56,890	0	586	57,476	2.9	3.0
Envelope Subtotal	217,847	79,008	586	297,442	14.9	-
People	94,135	162,697	184,771	441,605	22.2	5.8
Lights	35,377	103,464	0	138,841	7.0	3.9
RA Sensible (Lights)	114,144	0	0	114,144	5.7	0.0
Miscellaneous Loads	164,730	149,442	4,657	318,830	16.0	4.2
Internal Subtotal	408,387	415,602	189,428	1,013,419	50.9	-
Ventilation	484,241	0	3,974	488,214	24.5	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-10,210	0	-10,210	-0.5	-0.1
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	125,485	0	-	125,485	6.3	-
Time Delay Correction	0	-19,697	-	-19,697	-1.0	-
Sizing Factor Correction	5,428	-	-	5,428	0.3	-
Airflow Correction	44,173	0	45,443	89,616	4.5	-
Grand Total	1,285,561	464,703	239,432	1,989,694	100.0	

Fan Peak	
Peak Time (Mo/D/H:M):	9/21/14:00
Outside Air (DB/WB/HR):	98.3 / 67.2 / 51.1

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	13,075	13,075	1.3	5,534
	0	0	0	0.0	5,534
	171,572	256,263	427,836	41.7	20,506
	0	-2,969	-2,969	-0.3	12,239
	0	17,866	17,866	1.7	18,896
	0	323	323	0.0	3,183
	0	0	0	0.0	18,896
	0	-41,376	-41,376	-4.0	170,614
	0	-673	-673	-0.1	553
	0	-102,156	-102,156	-10.0	71,017
	0	-390	-390	0.0	7,968
	0	0	0	0.0	71,017
	47,899	0	47,899	4.7	18,896
	219,471	139,963	359,434	35.0	-
	94,135	159,276	253,412	24.7	76,113
	35,377	101,255	136,632	13.3	76,113
	-	-	-	-	-
	164,730	146,365	311,095	30.3	76,113
	294,243	406,897	701,140	68.3	-
	-	-	-	-	-
			0	0.0	0
	0	-20,865	-20,865	-2.0	74,005
			0	0.0	76,113
			0	0.0	76,113
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-19,305	-19,305	-1.9	-
	6,570	-	6,570	0.6	-
	-580	-	-580	-0.1	-
	519,703	506,690	1,026,394	100.0	

Temperatures °F	
Supply	55.0
Return	74.7
Mixed Air	82.0
Fan Heat TD	2.1

Airflows cfm	
Main Fan	17,727
Ventilation	2,400
Infiltration	1,678
Min Stop / Reheat	55,660

Engineering Checks	
% OA	25.46
cfm/ft²	.73
Btu/h-ft²	26.16
cfm/ton	335.74
ft²/ton	459.03
People	890
ft²/person	85.52

Areas ft²	
Roof	5,534
Other Roof	5,534
Ceiling	74,005
Window	20,506
Door	12,239
Wall	18,896
Below-Grade Wall	3,183
Other Wall	18,896
Partition	170,613
Exterior Floor	553
Internal Floor	71,017
Slab	7,968
Other Floor	71,017

Unassigned Unconditioned Space

Coil Peak						
Peak Time (Mo/D/H:M):	7/21/15:00					
Outside Air (DB/WB/HR):	103.5 /	71.0	/	63.0		

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Latent (Btu/h)	Total (Btu/h)	Percent of Total (%)	Btu/h per ft²
Roof	0	14,358	0	14,358	2.8	2.6
Other Roof	0	0	0	0	0.0	0.0
Glass	41,398	43,507	0	84,905	16.4	28.4
Door	0	-464	0	-464	-0.1	-0.3
Wall	0	14,917	0	14,917	2.9	1.5
Below-Grade Wall	0	-1,088	0	-1,088	-0.2	-0.6
Other Wall	0	0	0	0	0.0	0.0
Partition	0	-22,827	0	-22,827	-4.4	-0.3
Exterior Floor	0	193	0	193	0.0	0.2
Interior Floor	0	-15,887	0	-15,887	-3.1	-0.9
Slab	0	-2,514	0	-2,514	-0.5	-0.7
Other Floor	0	0	0	0	0.0	0.0
Infiltration	19,335	0	673	20,008	3.9	2.0
Envelope Subtotal	60,733	30,194	673	91,600	17.7	-
People	16,008	31,434	31,857	79,299	15.3	3.7
Lights	8,032	26,092	0	34,124	6.6	3.0
RA Sensible (Lights)	25,587	0	0	25,587	4.9	0.0
Miscellaneous Loads	48,444	77,018	8,108	133,570	25.8	6.3
Internal Subtotal	98,071	134,544	39,965	272,580	52.6	-
Ventilation	82,016	0	3,009	85,025	16.4	-
DOAS Direct to Zone	0	0	0	0	0.0	-
Ceiling	0	-8,795	0	-8,795	-1.7	-0.5
Refrigeration	0	0	0	0	0.0	0.0
Service Water	0	0	0	0	0.0	0.0
HVAC Equipment Losses	0	0	0	0	0.0	0.0
Adj Air Transfer Heat	0	0	0	0	0.0	0.0
Supply Fan Heat	39,965	0	-	39,965	7.7	-
Time Delay Correction	0	-2,030	-	-2,030	-0.4	-
Sizing Factor Correction	40,020	-	-	40,020	7.7	-
Airflow Correction	-257	0	-188	-445	-0.1	-
Grand Total	320,549	153,912	43,459	517,920	100.0	

Fan Peak						
Peak Time (Mo/D/H:M):	7/21/15:00					
Outside Air (DB/WB/HR):	103.5 /	71.0	/	63.0		

	Instant Sensible (Btu/h)	Time Delay Sensible (Btu/h)	Total Sensible (Btu/h)	Percent of Total (%)	Related Area (ft²)
	0	14,358	14,358	4.4	5,456
	0	0	0	0.0	5,456
	41,398	43,507	84,905	26.0	2,987
	0	-464	-464	-0.1	1,610
	0	14,917	14,917	4.6	10,261
	0	-1,088	-1,088	-0.3	1,888
	0	0	0	0.0	10,261
	0	-22,827	-22,827	-7.0	77,528
	0	193	193	0.1	833
	0	-15,887	-15,887	-4.9	18,078
	0	-2,514	-2,514	-0.8	3,557
	0	0	0	0.0	18,078
	19,335	0	19,335	5.9	10,261
	60,733	30,194	90,927	27.8	-
	16,008	31,434	47,442	14.5	21,233
	8,032	26,092	34,124	10.4	21,233
	-	-	-	-	-
	48,444	77,018	125,462	38.4	21,233
	72,484	134,544	207,028	63.3	-
	-	-	-	-	-
			0	0.0	0
	0	-8,795	-8,795	-2.7	17,014
			0	0.0	21,233
			0	0.0	21,233
			0	0.0	0
	0	0	0	0.0	0
	-	-	-	-	-
	0	-2,030	-2,030	-0.6	-
	40,020	-	40,020	12.2	-
	-257	-	-257	-0.1	-
	172,980	153,912	326,892	100.0	

Temperatures °F	
Supply	55.0
Return	73.8
Mixed Air	77.8
Fan Heat TD	2.1

Airflows cfm	
Main Fan	17,727
Ventilation	2,400
Infiltration	566
Min Stop / Reheat	3,508

Engineering Checks	
% OA	13.54
cfm/ft²	.83
Btu/h-ft²	24.41
cfm/ton	410.79
ft²/ton	491.94
People	151
ft²/person	140.68

Areas ft²	
Roof	5,456
Other Roof	5,456
Ceiling	17,014
Window	2,987
Door	1,610
Wall	10,261
Below-Grade Wall	1,888
Other Wall	10,261
Partition	77,528
Exterior Floor	833
Internal Floor	18,078
Slab	3,557
Other Floor	18,078

Appendix C – RFIs Issued & Log

VA Project Number: 570-20-308
Davenergy Project Number: 90209
VACCHCS Fresno Replace & Expand Chilled Water Infrastructure
REQUESTS FOR INFORMATION (RFI) LOG

RFI #	Subject	Questions	Status	Date Initiated	Due Date	To Be Answered By:	Date VA Responded	Notes / Comments
1	ICRA Req.	While onsite during the charrette visit on August 3, 2022, ICRA requirements were discussed with the Chief of Maintenance and Plant Operations Chief. During the discussion it was brought up that the Fresno station has additional ICRA requirements than the traditional levels. Can the site specific ICRA requirements be provided?	Closed	8/8/2022	8/19/2022	VA	8/24/2022	Sample ICRA Checklist is attached.
2	SHPO Req.	While onsite discussing various chilled water riser routing it was brought up if there were any State Historic Preservation Office (SHPO) requirements the VA must comply with. Can any / all SHPO requirements be provided to the AE?	Closed	8/8/2022	8/19/2022	VA	3/22/2023	SHPO requirements do not apply because the majority of the facility modifications are within the Building interior. SHPO requirements do not apply to the external chase running from the 6th to the 7th floor.
3	Pipe-FLO Model	Davenergy has previously been provided with a chilled water study generated previously for the facility. Can the Pipe-FLO model used / created be provided for review and consolidation with the Building 1 & OPC chilled water infrastructure project?	Closed	8/8/2022	8/19/2022	VA	8/19/2022	Requested files have been shared to DAV Energy's TEAMS share folder - BDM
4	Cost Estimation	In discussion with the cost estimator, they are requesting an additional 5 business days when generating their independent cost estimates due to market volatility and difficulty getting accurate costs from MEP vendors. Is it acceptable to submit the cost estimate for each submission phase to the VA 5 Days after submission of the drawing review sets at the 35%, 65%, and 100% NFC?	Closed	8/9/2022	8/19/2022	VA	8/17/2022	VA Fresno takes no exception to receiving cost estimates 5 days after each progress set._BDM
5	Other Ongoing or Planned Projects	Can copies of currently planned construction and renovation projects be provided for coordination with the chilled water replacement? Such as interior renovations, EHRM, or other major renovation projects within the Building 1 and OPC scope area.	Closed	8/16/2022	8/26/2022	VA	8/17/2022	Please refer to your TEAMS folder for the following projects: Phase II Chiller Project, EHRM and ED Beds.-(BDM)
6	Department Map	Does the VA have a current set of CAI drawings or floorplans which denote department areas or usages? If so can they be provided?	Closed	8/26/2022	9/2/2022	VA	8/26/2022	Requested CAI have been uploaded into DAV Energy's TEAMS share folder - BDM
7	Contractor Laydown Area	During the site visit in August Parking Lot C was discussed as a possible contractor laydown area, is that still an acceptable location? If not what other locations might be acceptable?	Closed	9/6/2022	9/16/2022	VA	10/11/2022	Please see attached document outling the Contractor's Laydown Area.
8	Work in Existing Mechanical Rooms	Would contractors be allowed to stage work and/or perform cutting and welding of chilled water piping within the mechanical rooms of the building?	Closed	9/6/2022	9/16/2022	VA	10/26/2022	No, the contractors will not be allowed to stage work or perform cutting and welding of chilled water piping inside of the hospital's mechanical rooms. Contractors shall conduct welding and prefabrication of Chilled Water piping outside the building. Contractor's Lay down area in Parking Lot "C" should be used for welding. All spot welding performed inside Buildings 1 & OPC shall be accompanied with the appropriate Activity Hazard Analyses (AHA), ICRA work-up and Hot-Work approval.

RFI #	Subject	Questions	Status	Date Initiated	Due Date	To Be Answered By:	Date VA Responded	Notes / Comments
9	OPC Fire As-Builts	Can as-built drawings of the Fire Protection / Alarm systems be provided for the OPC building?	Closed	9/6/2022	9/16/2022	VA	10/19/2022	Uploaded to Teams by VA COR
10	Existing Fire Contractor	Can point of contract information for the existing Fire Alarm / Protection vendors be provided for coordination?	Closed	9/6/2022	9/16/2022	VA	11/1/2022	Fire Protection Point of Contact: Jason Schiavon Johnson Controls, Service Manager for the Central Valley Email: jason.schiavon@jci.com Work: (559) 312-9089 Fire Alarm System Point of Contact: Vadim Johnson Pacific Coast Contracting Group Email: vadim@paccgroup.com Work: (916) 412-5495
11	Mechanical Schedules	1)Please provide a mechanical schedule for existing equipment. Airflow values are missing on floorplans in multiple locations. 2)On floorplans provided the 6th floor shows all the supply diffusers set to 1000 CFM. Please verify if this is accurate. 3)The list of fan coil units and chilled water coils from the 2017 chilled water loop study does not match what is shown on the provided drawings, with a handful of the units missing on the floorplans. The locations of several of these units could not be located during a site investigation. Please see the attached list with comments in the airflow column if equipment is not found on drawings ("Remodel Removed") or airflow values not listed on drawings ("Undocumented"). Can additional drawings showing these missing units be provided? Please advise.	Closed	9/20/22	9/30/22	VA	2/5/2025	1. A mechanical schedule of the entire facilisty is not available. Tim Buskell and Tony Litton of Davenergy performed a site visit to verify Mechanical Equipment of facility 7/24/23. The Air flows for the entire facility are not available. 2. The 1,000 CFM is the maximum Air Flow of the units. The actual air flow provided by the units is unknown. 3. Tim Buskell and Tony Litton performed a site visit and confirmed the location of the fan coil units 7/4/23. The air flows are not available.
12		After reviewing the following two documents, there are some items that need clarification. Documents reviewed: A. Phase II Chiller Plant Infrastructure Final Report.pdf B. Chilled Water Loop Study Report - 062917.pdf Questions: 1. Both reports are dated June 2017 but the information in them does not line up. Which is more accurate/should we be referencing? 2. In sections 1, 2, and Appendix A of reports A and B, flow and pressure values do not line up between reports. Which is correct? 3. Section 2 mentions analysis of CHW capacity to serve 2nd floor Pathology & Lab areas were submitted on 5/11/17 and not included in the report provided. Can this analysis be provided to DAV Energy for review? 4. Values in the Results Summary in report B do not match values in Section 1 and Appendix A. Which values are accurate?	Closed	12/7/22	12/17/22	VA	2/28/2025	It is unknown which report is more accurate. The facility has changed significantly since the report was completed in 2017. The subbasement air handler unit AHU8 has been replaced with. AHU 9 & 10 located on 3rd & 6th floor are being replaced, currenlty under construction. The ED AHU OPC basement is being replaced currently under construction. SPS is adding a new AHU dedicated to serve the 3rd floor of building 1. Submittal and project drawings will be sent for new air handlers. 2nd floor pathology report not available.

RFI #	Subject	Questions	Status	Date Initiated	Due Date	To Be Answered By:	Date VA Responded	Notes / Comments
13	Control Systems	1. Control systems: a)What information is available from control and monitoring systems? b) Are space conditions monitored? c) Sequence of operation for any of the systems? 2. Is building 1 the only building that is a 2-pipe heating and cooling system? How is this system currently configured and controlled? What is entailed in switchover? If this is the case does it make sense to convert over perhaps MUA to heating and cooling while the internal zones that don't require heating to be able to continue to operate as cooling only zones?	Closed	4/13/23	4/21/23	VA	2/28/2025	DATA is available on subbasement AHU 8, ICU AHU temperature and pressure. Chiller data is available. 2 chillers operate in summer one in winter mode. EXCEL export will be provided. AHU-8 subbasement sequence of operations on 1-M701 on As builds. AHU-3 OPC basement sequence of operations for VAV, CAV and steam humidifiers M-803, M-804. AHU-9,10 3rd & 6th floor air handler 01-M-801. AHU SPS M-504 serves east wing of 3rd floor and warehouse building 32. Switch over proeces is currently manually switch over. The facility would like the ability to have automated valve system.
14	Chilled H2O return temp	1. What are typical chilled water return temperatures at the plant and from building 1?	Closed	4/13/23	4/21/23	VA	2/28/2025	Please see attached temperatures from excel of chiller 3 for the summer months. Note two chillers operate in the summer chiller 3 & 4 but data is only available for chiller 3.
15	System Controls	1. Building 1 has 3 original drawings show there are 3 built up air handlers providing MUA to the building. Are these still functional and in use? Have they been upgraded and modified if they are in use? What are the current design conditions and what are the control sequences? 2. Is building 1 the only building that is a 2-pipe heating and cooling system? How is this system currently configured and controlled? What is entailed in switchover? If this is the case does it make sense to convert over perhaps MUA to heating and cooling while the internal zones that don't require heating to be able to continue to operate as cooling only zones?	Closed	4/13/23	4/21/23	VA	2/28/2025	The following ahu's operate on 100% outside air (MUA) air handling unit 8 located in the subbasements. Air handler unit 3 for the Emergency Department located in OPC basement. Air handler 9 & 10 located on 3rd and 6th floor. Air handler for SPS 3rd floor of building 1 being added. Not 100% outside air. Drawings/As builds and submittal provided. Change over is currently being done manually. The facility want to automate the process.
16	Zoning Defined	Is the most recent zoning defined in the (Final Schematic Design Submittal 30% Design October 8 2012 Teter) or is there something more current that is maintained as system changes are made?	Closed	4/13/23	4/21/23	VA	2/28/2025	Teter report is most recent zone defining report. The facility configuration has changed with the addition of new AHU 3 Basement OPC, AHU 8 Subbasement Bldg. 1, AHU9 3rd Floor, AHU10 6th Floor and AHU SPS (Sterile Service Supply)

RFI #	Subject	Questions	Status	Date Initiated	Due Date	To Be Answered By:	Date VA Responded	Notes / Comments
17	Chilled Water	The pipe size at the tie-in from the Phase 2 Chiller Infrastructure Project Number 570-16-302 shown on drawing M-602 that a 10-inch drops from the 14-inch headers are being tied into 10-inch pipes in the tunnel. The drawing is 100% construction dated 02/02/2018. Please confirm the size of these drops and the size of the pipe at the tie-in.	Closed	6/14/23	6/28/23	VA	6/21/2023	The 10" drop down pipes from the 14" Headers are represented correctly. The 10" drop downs will be reduced to 8" and connected by elbow joint to the existing 8" lines in the tunnel (depicted as 10" in the drawings). The 8" lines will be capped after the connections to building 24. The pipe in the tunnel between the 10" drop downs and the connection to B24 will be abandoned in place. See attached marked up drawing for clarification. Please see RFI 17 folder for additional information.
18	Air Handling Units	Please provide the start of construction and completion of construction dates for the project number 570-17-700 Replace AHUs Sub-Basement Air Handler AHU-8 and Project Number 570-19-307 Replace Mechanical Systems Building 1 (includes replacement of AHU-9 and AHU 10)	Closed	6/14/23	6/28/23	VA	6/21/2023	The VA will not execute on construction of Phase 3 Expand Chilled water until AHU 8, 9 & 10 are installed for the design of the Fresno Chilled water system. Please see RFI folder 18 for additional information.
19	Air Handling Units	Please provide the Discharge Air Temperature (DAT) setpoint for AHU 8, AHU 9 and AHU-10. These are the 100 percent makeup air units located in the subbasement, 3rd, and 6th floors. Also indicate if these units have historically been able to maintain DAT temperature set point and what temperature they are able to obtain during hot weather. Basis for Question: It may be possible to convert the zone coils in the system to reheat only coils provided AHU 8, AHU 9 and AHU-10 are able to provide sufficient cooling to the air. It is understood that when these units are replaced that they are intended to operate at 55F DAT and that this design needs to support the existing conditions. This information is required to be facilitate sizing of the replacement coils, their mode of operation and impact of their operation when AHU 8, AHU 9 and AHU-10 are replaced.	Closed	6/19/23	7/3/23	VA	1/23/2025	The existing AHU's (8,9,10) will be replaced by the new AHU's

RFI #	Subject	Questions	Status	Date Initiated	Due Date	To Be Answered By:	Date VA Responded	Notes / Comments
20	Concept Pipe Routing	The meeting regarding RFI 17 indicated that the chilled water piping to be installed as a part Phase 2 Chiller Infrastructure Project Number 570-16-302 is 8-inch elbows to building 1 and demolition of the segment of piping in the tunnel between the new elbow and upstream to the tie to building 24. The following depicts concept route A and B for possible routing options. Concept A route would tie into the 14-inch mains provided by Phase 2 Chiller Infrastructure Project and go up the wall across the roof and would be routed the currently planned routing to the subbasement. The piping from the roof to the subbasement could be 8 inch provided the existing 8 inch supply and return were currently in the subbasement were kept in service. This would provide a double feed supply and return loop. Concept B route would be to tie into the 14-inch mains provided by Phase 2 Chiller Infrastructure Project and route pipe via shallow trench to a vault that extends to the sub-basement / crawl space area. It is anticipated that the trench would have removable tops. These concept routes require considerable vetting to confirm that they are feasible. We would like direction from the VA if these concepts acceptable to the VA prior to further investigation into feasibility. Davenergy Systems' initial preference is routing across the roof.	closed	6/19/23	7/3/23	VA	6/21/2023 & 02/05/2025	before phase 3 construction begins. Please use 55F DAT for the. The trench option B is perferred. Please proceed with option B, the trench method.
21	Air Handling Units	It is requested that subbasement areas Engineering Shop B2A01 and Storage B2A01B be utilized to facilitate construction and to be used for piping and pipe routing. Please provide if these spaces can be used and to what extent.	Closed	6/19/23	7/3/23	VA	6/21/2023 & 02/05/2026	design of the new chilled water system. B2A01 & B2A01B will be unavailable for to facilitate construction. Those rooms currently facilitate out maintenance personnel and supplies. Parking lot C can be used as a lay down area to support the project.
NEW SECTION - RE-ENGAGEMENT								
22	7th Floor Dx Unit Cut Sheets	1. Provide engineering details/cut sheets and locations for DX units on the 7th floor. 1. Note – At the 65% review meeting the VA stated the desire for the system sizing and configuration for future DX unit replacement with chilled water units under a separate project	Closed	6/6/25	6/20/25	VA	1/26/2026	There are (2) sets of three VRF DX units on the 7th floor. See plan view photo below. Per maintenance one unit acts as a master and the other 2 units acts as slaves
23	Surgical AHU CHW Connections	1.Does the wish to have the 6th floor surgical AHU, which is being replaced under a separate project, connected to the heating and cooling water loop under this project? 1.Note for reference the system does not provide year round chilled water currently and would be switched over to heating during winter months. A secondary chilled water source would need to remain for the unit during that period as it is a 100% outside air unit.	Open	6/6/25	6/20/25	VA		
24	VOIDED	VOIDED	VOIDED	VOIDED	VOIDED	VOIDED	VOIDED	VOIDED

RFI #	Subject	Questions	Status	Date Initiated	Due Date	To Be Answered By:	Date VA Responded	Notes / Comments
25	ICRA Clarification	1.Are ICRA levels determined for each department? 2.If outside air is required to be compliant with an ICRA level what means would the VA be willing to give the contractor, can the contractor remove windows to bring in outside air? 3.The infection control safety officer should define the ICRA barriers to be used and the level of precaution taken. Does level 3 ICRA support all areas as currently shown in the design? 4.Would the contractor be allowed to work out of sequence or will they be required to follow a predetermined construction path forward? 5.Would ICRA barriers be required on both floors when floor penetrations are being made / modified?	open	6/12/25	6/26/25	VA		Level 4 for outside work.
26	Phasing	1.What area will the VA be prepared to turn over to the contractor during renovation? 2.Is the VA prepared to shut down large sections of the floors at a time? 3.If a space is being completed and turned back over to the VA would that then require separate and individual punch list for each phase? 4.Has each department manager been made aware of the impact of renovations? Are there any special considerations we need to include with phasing? I.E., night work only, weekends only, etc.?	open	6/12/25	6/26/25	VA		
27	Condensate Reclamation	Based on on-site observations, there appear to be multiple chilled water condensate pipes on each floor that are connected to risers from floors above down to the sub-basement. Is the condensate off of the chilled water coils being reclaimed for use in the chilled water system? Or where is this condensate being disposed?	Closed	2/12/26	2/26/26	VA	2/19/2026	The condensate is reclaimed. The condensate line is a closed loop.

RFI #	Subject	Questions	Status	Date Initiated	Due Date	To Be Answered By:	Date VA Responded	Notes / Comments
27.1	Condensate Reclamation Follow Up	RFI #27.1 As a follow up to RFI #27: RFI #27 response stated that the condensate is reclaimed and that condensate line is a closed loop. Our site observations seemed to indicate that the condensate from the cooling coils is not in a closed loop but is either drained to the sanitary sewer or daylighted. We believe that there may be a difference in defined terminology. To ensure that there is no confusion, here are several terms that can have different meanings depending on the context. As a point of clarification, Davenergy is defining the following terms in the context of this project as listed below: □ Condensate: The condensation formed from, and only from, the chilled water coils. (This is different than the condensate formed from steam coil, which is almost always reclaimed) 1. Reclaimed: The condensate is being re-used and is staying within the facility and being used for either steam water make-up or chilled water make-up. 2. Disposed: The condensate is being removed from the facility, either by discharging into the sanitary system, the storm drain system, or day lighted. □ Daylighted: Water (usually storm water or condensate) is discharged to the environment.Considering these definitions, and our site observations, Davenergy once again asks for clarification: Is the condensate from, and only from, the chilled water coils, being reclaimed (re-used within the facility) or is the condensate being disposed (discharged into the sanitary system, storm drain system, or daylighted)?	Open	3/26/26	4/9/26	VA		
28	K-Coil	From the phasing plan review meeting on March 13, please confirm the following: □ The “K-coil” system serves the sub-basement air handler (AHU-8), the 3rd floor air handler (AHU-9), the 6th floor air handler (AHU-10), and building 32 (warehouse). □ The “North zone” and “South zone” systems serve the fan coil units and duct coils that are on the floors □ The intent at the end of this project is to have the “K-coil” system remain a seasonal change over system, with the possibility of becoming a dedicated chilled water system as a part of a future project. □ The intent at the end of this project is to have the “North Zone” and “South Zone” systems combine into a single system that will remain a seasonal change over system, with the possibility of becoming a dedicated hot water system as a part of a future project.	Open	3/26/26	4/9/26	VA		
29	SPS Pumps	The plans provided for project # 570-17-207 depict two (2) new pumps to be installed in the sub-basement for the purpose of conveying heating hot water to the SPS area. The plans provided do not depict how these pumps are being powered. Please provide details regarding which panels are being utilized to power these two pumps so that we can coordinate the available power for the new change over system pumps.	Open	5/21/26	6/4/26	VA		

Current Log Date: 7/1/2026

Appendix D – Internal Meeting Minutes to Date

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**02/22/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**Internal Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Rachael Vigil	Davenergy		rachael.vigil@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	X

New Topics

Issue #	Topic	Action Item	Who

1.0	**Current Project Status:**
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued: 2/15/23**
	  ▪ **Any issues or concerns? – No initial issues or concerns.**
	  ○ **Next Deliverable Date: 4/7/23 – 35%**
	• **Current Project Actions:**
	  ○ **Review of provided Chilled Water Load Analysis Report**
	  ▪ **Was the utilized ASHRAE weather values a more stringent requirement then the VA weather guidelines on the TIL.**
	  • **Davenergy will check and confirm.**
	  ▪ **VA is still reviewing and will complete tarting next week**
	  ○ **Currently Setting up Backgrounds and Layouts for 3/6 week Site Visit**
	• **Site Visit Dates:**
	  ○ **Planning on 3/6 Site visit for Chilled Water Survey and 3D scanning, schedule to be issued later today or tomorrow.**
	  ▪ **Reviewed the proposed schedule, Davenergy will color code and send the schedule back out today for ease of coordination.**
		1
		
		2
			DAV
			
			DAV

Issue #	Topic	Action Item	Who

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-002 – SHPO Requirements**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	• **Any New RFIs?**
	  ○ **None at this time.**		

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **None at this time.**
	• **Pending or Upcoming Modifications?**
	  • **None at this time.**		

4.0	**Questions and General Discussion Items** •		

Action Items

Task/Item	Responsible	Due Date
1) Verify ASHRAE Load values are higher than the VA	Davenergy	2/24/2023
2) Provide color coded site visit schedule for 3/6 site visit	Davenergy	2/24/2023

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**03/08/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**Internal Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	
Rachael Vigil	Davenergy		rachael.vigil@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	X

New Topics

Issue #	Topic	Action Item	Who

1.0	**Current Project Status:**
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued: 2/15/23**
	  ○ **Next Deliverable Date: 4/7/23 – 35%**
	• **Current Project Actions:**
	  ○ **Currently onsite performing site survey, review, and routing data collection**
	• **Site Visit Dates:**
	  ○ **TBD based on the 35% development.**		

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-002 – SHPO Requirements**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	• **Any New RFIs?**
	  ○ **None at this time.**		

Issue #	Topic	Action Item	Who

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **None at this time.**
	• **Pending or Upcoming Modifications?**
	  • **None at this time.**		

4.0	**Questions and General Discussion Items** •		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**04/05/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**Internal Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Rachael Vigil	Davenergy		rachael.vigil@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	X

New Topics

Issue #	Topic	Action Item	Who

1.0	**Current Project Status:**
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued: 2/15/23**
	  ○ **Next Deliverable Date: 4/7/23 – 35%**
	• **Current Project Actions:**
	  ○ **Currently onsite performing site survey, review, and routing data collection**
	• **Site Visit Dates:**
	  ○ **TBD based on the 35% development.**		

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-002 – SHPO Requirements**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	• **Any New RFIs?**
	  ○ **None at this time.**		

Issue #	Topic	Action Item	Who

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **None at this time.**
	• **Pending or Upcoming Modifications?**
	  • **None at this time.**		

4.0	**Questions and General Discussion Items** •		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**04/19/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Rachael Vigil	Davenergy		rachael.vigil@davenergy.com	X
Kyle Davis				X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	X
Mandy Thompson				X

New Topics

Issue #	Topic	Action Item	Who

1.0	**Current Project Status:**
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued: 2/15/23 – Extend out 2 weeks for review period.**
	  ○ **Next Deliverable Date: 4/7/23 – 35%**
	• **Current Project Actions:**
	  ○ **Currently onsite performing site survey, review, and routing data collection**
	• **Site Visit Dates:**
	  ○ **TBD based on the 35% development.**		

Issue #	Topic	Action Item	Who

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	• **Any New RFIs?**
	  ○ **None at this time.**		

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **None at this time.**
	• **Pending or Upcoming Modifications?**
	  • **None at this time.**		

4.0	**Questions and General Discussion Items** • **AC100A – Hatches are crossing over each other looks correct on the electronic copy but the hard copy shows different. Need to change the symbol to darker for the hatching so it will be different than the new ceiling tile hatching.** • **6th floor is missing and there are hard lid ceilings that will be there. There are demo plans for this floor.** • **The 7th floor is 2nd in order and doesn't make sense. Jamal wants to move to after the 6th floor. The index is out of order.** • **MP105 is not listed on the index, it's part of the mechanical plans.** • **Address is incorrect.** • **Will there be shut off valves and how will they access?**		

Action Items

Task/Item	Responsible	Due Date
1) Send comment log with review comments.	Davenergy	
2) Dates for the site visit to review the comments and the team can confirm.		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**05/03/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Rachael Vigil	Davenergy		rachael.vigil@davenergy.com	
Kyle Davis				X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	X
Mandy Thompson				

New Topics

Issue #	Topic	Action Item	Who

1.0	**Current Project Status:**
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued: 2/15/23 – Extend out 2 weeks for review period.**
	  ○ **Next Deliverable Date: 4/7/23 – 35%**
	• **Current Project Actions:**
	  ○ **Currently onsite performing site survey, review, and routing data collection**
	• **Site Visit Dates:**
	  ○ **TBD based on the 35% development.**		

Issue #	Topic	Action Item	Who

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	• **Any New RFIs?**
	  ○ **None at this time.**		

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **None at this time.**
	• **Pending or Upcoming Modifications?**
	  • **None at this time.**		

4.0	**Questions and General Discussion Items** • **AC100A – Hatches are crossing over each other looks correct on the electronic copy but the hard copy shows different. Need to change the symbol to darker for the hatching so it will be different than the new ceiling tile hatching.** • **6th floor is missing and there are hard lid ceilings that will be there. There are demo plans for this floor.** • **The 7th floor is 2nd in order and doesn't make sense. Jamal wants to move to after the 6th floor. The index is out of order.** • **MP105 is not listed on the index, it's part of the mechanical plans.** • **Address is incorrect.** • **Will there be shut off valves and how will they access?**		

Action Items

Task/Item	Responsible	Due Date
1) Send comment log with review comments.	Davenergy	
2) Dates for the site visit to review the comments and the team can confirm.		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing - 05/17/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	X
Mandy Thompson				X

New Topics

Issue #	Topic	Action Item	Who

1.0	**Current Project Status:**
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued: 4/21/23**
	  ○ **Next Internal QC Date: 6/9/23**
	  ○ **Next Deliverable Date: 6/23/23**
	• **Current Project Actions:**
	  ○ Currently onsite performing site survey, review, and routing data collection
	• **Site Visit Dates:**
	  ○ **TBD based on the 35% development.**		

Issue #	Topic	Action Item	Who

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	• **Any New RFIs?**
	  ○ **None at this time.**		

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **None at this time.**
	• **Pending or Upcoming Modifications?**
	  • **None at this time.**		

4.0	**Questions and General Discussion Items** •		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing - 05/31/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	X
Mandy Thompson				

New Topics

Issue #	Topic	Action Item	Who

1.0	**Current Project Status:**
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued: 4/21/23**
	  ○ **Next Internal QC Date: 6/9/23**
	  ○ **Next Deliverable Date: 6/23/23**
	• **Current Project Actions:**
	  ○ Currently onsite performing site survey, review, and routing data collection
	• **Site Visit Dates:**
	  ○ **TBD based on the 35% development.**		

Issue #	Topic	Action Item	Who

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	• **Tim and Tony will be on site next week to gather information about the electrical routing. After site visit, we will revisit the existing RFI's to see if we can answer them based on the information gathered at the site. If not, we will continue to pursue and if so, we will rescind the corresponding RFIs.**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	• **Any New RFIs?**
	  ○ **None at this time.**		

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **None at this time.**
	• **Pending or Upcoming Modifications?**
	  • **None at this time.**		

4.0	**Questions and General Discussion Items** •		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 06/14/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Tony Litton	Davenergy		Tony.litton@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	X
Mandy Thompson				

New Topics

Issue #	Topic	Action Item	Who

1.0	**Current Project Status:**
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued: 5/19/23**
	  ○ **Next Deliverable Date: 6/23/23**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Completed Last Week 6/5 – 6/9/23**		

Issue #	Topic	Action Item	Who

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	• **Any New RFIs?**
	  ○ **RFI-017 (Pending) – Phase 2 Chiller Project Pipe Size**
	  ○ **RFI-018 (Pending) – AHU Replacement Project Dates**		

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **See Discussion Below, and RFI-017 above.**
	• **Pending or Upcoming Modifications?**
	  • **None at this time.**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8” line, drawings show 10”**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 06/27/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	
Tony Litton	Davenergy		Tony.litton@davenergy.com	
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	
Mandy Thompson				

New Topics

Issue #	Topic	Action Item	Who

1.0	**Current Project Status:**
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued: 5/19/23**
	  ○ **Next Deliverable Date: 6/23/23**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Completed Last Week 6/5 – 6/9/23**		

Issue #	Topic	Action Item	Who

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	• **Any New RFIs?**
	  ○ **RFI-017 (Pending) – Phase 2 Chiller Project Pipe Size – Close?**
	  ○ **RFI-018 (Pending) – AHU Replacement Project Dates – Close?**		

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **See Discussion Below, and RFI-017 above.**
	• **Pending or Upcoming Modifications?**
	  • **None at this time.**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8” line, drawings show 10”**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 07/06/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Tony Litton	Davenergy		Tony.litton@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	X
Mandy Thompson				

New Topics

Issue #	Topic	Action Item	Who

1.0	**Current Project Status:**
	• **Meeting in person will be arranged with key personnel. Need to decide which direction we will be taking to resolve the wrong size pipes that were installed.**
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued: 5/19/23**
	  ○ **Next Deliverable Date: 6/23/23**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Completed Last Week 6/5 – 6/9/23**		

Issue #	Topic	Action Item	Who

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	• **Any New RFIs?**
	  ○ **RFI-017 (Pending) – Phase 2 Chiller Project Pipe Size – Close?**
	  ○ **RFI-018 (Pending) – AHU Replacement Project Dates – Close?**		

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **See Discussion Below, and RFI-017 above.**
	• **Pending or Upcoming Modifications?**
	  • **None at this time.**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1) Provide dates for site visit.	Davenergy	7/7/23
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 07/13/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Tony Litton	Davenergy		Tony.litton@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	
Mandy Thompson				

New Topics

Issue #	Topic	Action Item	Who

1.0	**Current Project Status:**
	• **Meeting in person will be arranged with key personnel. Need to decide which direction we will be taking to resolve the wrong size pipes that were installed.**
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued: 5/19/23**
	  ○ **Next Deliverable Date: 6/23/23**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Completed Last Week 6/5 – 6/9/23**		

Issue #	Topic	Action Item	Who

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	• **Any New RFIs?**
	  ○ **RFI-017 (Pending) – Phase 2 Chiller Project Pipe Size – Close?**
	  ○ **RFI-018 (Pending) – AHU Replacement Project Dates – Close?**		

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **See Discussion Below, and RFI-017 above.**
	• **Pending or Upcoming Modifications?**
	  • **None at this time.**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1) Provide dates for site visit.	Davenergy	7/7/23
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 07/27/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	
Tony Litton	Davenergy		Tony.litton@davenergy.com	
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	
Mandy Thompson				

New Topics

Issue #	Topic	Action Item	Who

1.0	**Current Project Status:**
	• **Meeting in person will be arranged with key personnel. Need to decide which direction we will be taking to resolve the wrong size pipes that were installed.**
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued: 5/19/23**
	  ○ **Next Deliverable Date: 6/23/23**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Completed Last Week 6/5 – 6/9/23**		

Issue #	Topic	Action Item	Who

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	• **Any New RFIs?**
	  ○ **RFI-017 (Pending) – Phase 2 Chiller Project Pipe Size – Close?**
	  ○ **RFI-018 (Pending) – AHU Replacement Project Dates – Close?**		

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **See Discussion Below, and RFI-017 above.**
	• **Pending or Upcoming Modifications?**
	  • **None at this time.**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1) Provide dates for site visit.	Davenergy	7/7/23
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 08/10/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Tony Litton	Davenergy		Tony.litton@davenergy.com	
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	
Mandy Thompson				

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

1.0	**Current Project Status:**
	• Verbal update that Friday's meeting is still scheduled.
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	• **Any New RFIs?**
	  ○ **RFI-017 (Pending) – Phase 2 Chiller Project Pipe Size – Close?**
	  ○ **RFI-018 (Pending) – AHU Replacement Project Dates – Close?**		

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **See Discussion Below, and RFI-017 above.**
	• **Pending or Upcoming Modifications?**
	  • **None at this time.**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 08/23/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Tony Litton	Davenergy		Tony.litton@davenergy.com	
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	X
Mandy Thompson				

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

1.0	**Current Project Status:**
	• Verbal update that Friday's meeting is still scheduled.
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	  ○ **RFI – 017 – CHW Pipe Size at New Tie-in to Bldg. 1**
	  ○ **RFI – 019 – AHU DAT**
	  ○ **RFI – 020 – Concept Pipe Routing**
	• **Any New RFIs?**
	  ○ **Not at this time.**		

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **See Discussion Below, and RFI-017 above.**
	• **Pending or Upcoming Modifications?**
	  • **None at this time.**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8” line, drawings show 10”**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 09/06/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Tony Litton	Davenergy		Tony.litton@davenergy.com	
Karen Wagstaff	Davenergy		Karen.wagstaff@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	X
Mandy Thompson				

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

1.0	**Current Project Status:**
	• Verbal update that Friday's meeting is still scheduled.
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	  ○ **RFI – 019 – AHU DAT**
	  ○ **RFI – 020 – Concept Pipe Routing**
	• **Any New RFIs?**
	  ○ **Not at this time.**		

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **See Discussion Below, and RFI-017 above.**
	• **Pending or Upcoming Modifications?**
	  • **VA would like a cost estimate for the design/scope change. Karen stated Davenergy would provide that next week.**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8” line, drawings show 10”**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 09/20/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Tony Litton	Davenergy		Tony.litton@davenergy.com	
Karen Wagstaff	Davenergy		Karen.wagstaff@davenergy.com	
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	X
Mandy Thompson				

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

1.0	**Current Project Status:**
	• Verbal update that Friday's meeting is still scheduled.
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	  ○ **RFI – 019 – AHU DAT**
	  ○ **RFI – 020 – Concept Pipe Routing**
	• **Any New RFIs?**
	  ○ **Not at this time.**		

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **See Discussion Below, and RFI-017 above.**
	• **Pending or Upcoming Modifications?**
	  • **VA would like a cost estimate for the design/scope change. Karen stated Davenergy would provide that next week.**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8” line, drawings show 10”**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 10/04/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	
Drew Gaffield	Davenergy			X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Tony Litton	Davenergy		Tony.litton@davenergy.com	
Karen Wagstaff	Davenergy		Karen.wagstaff@davenergy.com	
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	X
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

1.0	**Current Project Status:**
	• Verbal update that Friday's meeting is still scheduled.
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	  ○ **RFI – 019 – AHU DAT**
	  ○ **RFI – 020 – Concept Pipe Routing**
	  ○ **RFI – 021 – Air Handling Units**
	• **Any New RFIs?**
	  ○ **Not at this time.**		

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **See Discussion Below, and RFI-017 above.**
	• **Pending or Upcoming Modifications?**
	  • **VA would like a cost estimate for the design/scope change. Karen stated Davenergy would provide that next week.**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**
4.0	**Questions and General Discussion Items** • **Review and Discuss the Architectural floorplans submitted ahead of the 65%:** • **Site Identified Information for Discussion:** 1. **MAU Replacement Project / Riser:** 2. **Possibility of Zone Reheats to year round heating loop:** 3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"** • **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:** 1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.** 2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?** 3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 10/20/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	
Mandy Thompson				

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

1.0	**Current Project Status:**
	• VA still reviewing the cost estimate. Currently at 3rd party cost estimate and they have a deadline of 11/1/23. Then it would be another 2 weeks to get the justifications.
	• VA still deciding the scope.
	• Verbal update that Friday's meeting is still scheduled.
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**
2.0	**Current RFI Status:** • **Review Recent RFI Responses** ○ **None at this time.** • **Review Outstanding RFIs** ○ **RFI-011 – Mechanical Schedules** ○ **RFI-012 – 2017 Chilled Water Report** ○ **RFI-013 – Control Systems** ○ **RFI-014 – Chilled H2O Return Temp** ○ **RFI-015 – System Controls** ○ **RFI-016 – Zoning Defined** ○ **RFI – 019 – AHU DAT** ○ **RFI – 020 – Concept Pipe Routing** ○ **RFI – 021 – Air Handling Units** • **Any New RFIs?** ○ **Not at this time.**		
3.0	**Potential Delays or Modifications:** • **Any potential Delays?** ○ **See Discussion Below, and RFI-017 above.** • **Pending or Upcoming Modifications?** • **VA would like a cost estimate for the design/scope change. Karen stated Davenergy would provide that next week.**		
4.0	**Questions and General Discussion Items** • **Review and Discuss the Architectural floorplans submitted ahead of the 65%:** • **Site Identified Information for Discussion:** 1. **MAU Replacement Project / Riser:** 2. **Possibility of Zone Reheats to year round heating loop:** 3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"** • **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:** 1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.** 2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?** 3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 11/01/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	X
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

1.0	**Current Project Status:**
	• VA still reviewing the cost estimate. Currently at 3rd party cost estimate and they have a deadline of 11/1/23. Then it would be another 2 weeks to get the justifications.
	• VA still deciding the scope.
	• Verbal update that Friday's meeting is still scheduled.
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	  ○ **RFI – 019 – AHU DAT – There is a response but also more questions.**
	  ○ **RFI – 020 – Concept Pipe Routing – There is a response but also more questions.**
	• **Any New RFIs?**
	  ○ **Not at this time.**		

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **See Discussion Below, and RFI-017 above.**
	• **Pending or Upcoming Modifications?**
	  • **VA would like a cost estimate for the design/scope change. Karen stated Davenergy would provide that next week.**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8” line, drawings show 10”**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 11/17/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	
Mandy Thompson				

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

1.0	**Current Project Status:**
	• VA still reviewing the cost estimate. Currently at 3rd party cost estimate and they have a deadline of 11/1/23. Then it would be another 2 weeks to get the justifications.
	• VA still deciding the scope.
	• Verbal update that Friday's meeting is still scheduled.
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	  ○ **RFI – 019 – AHU DAT – There is a response but also more questions.**
	  ○ **RFI – 020 – Concept Pipe Routing – There is a response but also more questions.**
	• **Any New RFIs?**
	  ○ **Not at this time.**		

3.0	**Potential Delays or Modifications:**
	• **Any potential Delays?**
	  ○ **See Discussion Below, and RFI-017 above.**
	• **Pending or Upcoming Modifications?**
	  • **VA would like a cost estimate for the design/scope change. Karen stated Davenergy would provide that next week.**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8” line, drawings show 10”**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 11/29/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Carla Groves	VA Contracting		Carla.groves@va.gov	

Meeting Cancelled this week.

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

1.0	**Current Project Status:**
	• VA still reviewing the cost estimate. Currently at 3rd party cost estimate and they have a deadline of 11/1/23. Then it would be another 2 weeks to get the justifications.
	• VA still deciding the scope.
	• Verbal update that Friday's meeting is still scheduled.
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	  ○ **RFI – 019 – AHU DAT – There is a response but also more questions.**
	  ○ **RFI – 020 – Concept Pipe Routing – There is a response but also more questions.**
	• **Any New RFIs?**
	  ○ **Not at this time.**		

3.0	**Potential Delays or Modifications:** • **Any potential Delays?** ○ **See Discussion Below, and RFI-017 above.** • **Pending or Upcoming Modifications?**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8” line, drawings show 10”**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 12/13/2023**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	X

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

1.0	**Current Project Status:**
	Reviewed the cost change that is needed with Priscilla Murray.
	• VA still reviewing the cost estimate. Currently at 3rd party cost estimate and they have a deadline of 11/1/23. Then it would be another 2 weeks to get the justifications.
	• VA still deciding the scope.
	• Verbal update that Friday's meeting is still scheduled.
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	  ○ **RFI – 019 – AHU DAT – There is a response but also more questions.**
	  ○ **RFI – 020 – Concept Pipe Routing – There is a response but also more questions.**
	• **Any New RFIs?**
	  ○ **Not at this time.**		

3.0	**Potential Delays or Modifications:** • **Any potential Delays?** ○ **See Discussion Below, and RFI-017 above.** • **Pending or Upcoming Modifications?**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**
4.0	**Questions and General Discussion Items** • **Review and Discuss the Architectural floorplans submitted ahead of the 65%:** • **Site Identified Information for Discussion:** 1. **MAU Replacement Project / Riser:** 2. **Possibility of Zone Reheats to year round heating loop:** 3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"** • **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:** 1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.** 2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?** 3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 01/09/2024**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	X
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

1.0	**Current Project Status:**
	Follow up call from last discussion. Travis was supposed to review the documents but he couldn't make the meeting today.
	Bran doesn't take exception to us routing along the southern portion of the hospital.
	
	Reviewed the cost change that is needed with Priscilla Murray.
	• VA still reviewing the cost estimate. Currently at 3rd party cost estimate and they have a deadline of 11/1/23. Then it would be another 2 weeks to get the justifications.
	• VA still deciding the scope.
	• Verbal update that Friday's meeting is still scheduled.
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	  ○ **RFI – 019 – AHU DAT – There is a response but also more questions.**
	  ○ **RFI – 020 – Concept Pipe Routing – There is a response but also more questions.**
	• **Any New RFIs?**
	  ○ **Not at this time.**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**
3.0	**Potential Delays or Modifications:** • **Any potential Delays?** ○ **See Discussion Below, and RFI-017 above.** • **Pending or Upcoming Modifications?**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 03/06/2024**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**

1.0	**Current Project Status:**
	Follow up call from last discussion. Travis was supposed to review the documents but he couldn't make the meeting today.
	Bran doesn't take exception to us routing along the southern portion of the hospital.
	
	Reviewed the cost change that is needed with Priscilla Murray.
	
	• VA still reviewing the cost estimate. Currently at 3rd party cost estimate and they have a deadline of 11/1/23. Then it would be another 2 weeks to get the justifications.
	• VA still deciding the scope.
	• Verbal update that Friday's meeting is still scheduled.
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **Review Outstanding RFIs**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
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	• **Any New RFIs?**
	  ○ **Not at this time.**		

3.0	**Potential Delays or Modifications:** • **Any potential Delays?** ○ **See Discussion Below, and RFI-017 above.** • **Pending or Upcoming Modifications?**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**	**1**	**Davenergy**
4.0	**Questions and General Discussion Items** • **Review and Discuss the Architectural floorplans submitted ahead of the 65%:** • **Site Identified Information for Discussion:** 1. **MAU Replacement Project / Riser:** 2. **Possibility of Zone Reheats to year round heating loop:** 3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"** • **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:** 1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.** 2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?** 3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 04/03/2024**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	X

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		

1.0	**Current Project Status:**
	Follow up call from last discussion. Travis was supposed to review the documents but he couldn't make the meeting today.
	Bran doesn't take exception to us routing along the southern portion of the hospital.
	
	Reviewed the cost change that is needed with Priscilla Murray.
	
	• VA still reviewing the cost estimate. Currently at 3rd party cost estimate and they have a deadline of 11/1/23. Then it would be another 2 weeks to get the justifications.
	• VA still deciding the scope.
	• Verbal update that Friday's meeting is still scheduled.
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **<u>Review Outstanding RFIs</u>**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
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	• **Any New RFIs?**
	  ○ **Not at this time.**		

3.0	**Potential Delays or Modifications:** • **Any potential Delays?** ○ **See Discussion Below, and RFI-017 above.** • **Pending or Upcoming Modifications?**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		
4.0	**Questions and General Discussion Items** • **Review and Discuss the Architectural floorplans submitted ahead of the 65%:** • **Site Identified Information for Discussion:** 1. **MAU Replacement Project / Riser:** 2. **Possibility of Zone Reheats to year round heating loop:** 3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"** • **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:** 1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.** 2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?** 3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1) Provide site visit dates to VA.	Davenergy	04/03/2024
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 04/17/2024**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		

1.0	**Current Project Status:**
	Follow up call from last discussion. Travis was supposed to review the documents but he couldn't make the meeting today.
	Bran doesn't take exception to us routing along the southern portion of the hospital.
	
	Reviewed the cost change that is needed with Priscilla Murray.
	
	• VA still reviewing the cost estimate. Currently at 3rd party cost estimate and they have a deadline of 11/1/23. Then it would be another 2 weeks to get the justifications.
	• VA still deciding the scope.
	• Verbal update that Friday's meeting is still scheduled.
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **<u>Review Outstanding RFIs</u>**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	  ○ **RFI – 019 – AHU DAT – There is a response but also more questions.**
	  ○ **RFI – 020 – Concept Pipe Routing – There is a response but also more questions.**
	• **Any New RFIs?**
	  ○ **Not at this time.**		

3.0	**Potential Delays or Modifications:** • **Any potential Delays?** ○ **See Discussion Below, and RFI-017 above.** • **Pending or Upcoming Modifications?**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		
4.0	**Questions and General Discussion Items** • **Review and Discuss the Architectural floorplans submitted ahead of the 65%:** • **Site Identified Information for Discussion:** 1. **MAU Replacement Project / Riser:** 2. **Possibility of Zone Reheats to year round heating loop:** 3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"** • **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:** 1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.** 2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?** 3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1) Provide site visit dates to VA.	Davenergy	04/03/2024
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 05/01/2024**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		
1.0	**Current Project Status:** 05/01/2024 - • **F**ollow up call from last discussion. Travis was supposed to review the documents but he couldn't make the meeting today. Bran doesn't take exception to us routing along the southern portion of the hospital. **Reviewed the cost change that is needed with Priscilla Murray.** • VA still reviewing the cost estimate. Currently at 3rd party cost estimate and they have a deadline of 11/1/23. Then it would be another 2 weeks to get the justifications. • VA still deciding the scope. • Verbal update that Friday's meeting is still scheduled. • **Review of Revised Project Schedule** ○ **Updated Schedule issued:** ○ **Next Deliverable Date:** • **Current Project Actions:** ○ **Finalizing routing based on site visit (See Discussion Below)** ○ **Reviewing Architectural Layouts (See Discussion Below)** ○ **Discussions of the site visits items (See Discussion Below)** ○ **Discussion of Structural conditions (See Discussion Below)** • **Site Visit Dates:** ○ **Not at this time.**		
2.0	**Current RFI Status:** • **Review Recent RFI Responses** ○ **None at this time.** • **<u>Review Outstanding RFIs</u>** ○ **RFI-011 – Mechanical Schedules** ○ **RFI-012 – 2017 Chilled Water Report** ○ **RFI-013 – Control Systems** ○ **RFI-014 – Chilled H2O Return Temp** ○ **RFI-015 – System Controls** ○ **RFI-016 – Zoning Defined** ○ **RFI – 019 – AHU DAT – There is a response but also more questions.** ○ **RFI – 020 – Concept Pipe Routing – There is a response but also more questions.** • **Any New RFIs?** ○ **Not at this time.**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		
3.0	**Potential Delays or Modifications:** • **Any potential Delays?** ○ **See Discussion Below, and RFI-017 above.** • **Pending or Upcoming Modifications?**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1) Provide site visit dates to VA.	Davenergy	04/03/2024
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 05/15/2024**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	X

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		
1.0	**Current Project Status:** **05/15/2024 – No new updates from VA.** • **Alex is working on proposal for the AE portion.** 05/01/2024 - • **F**ollow up call from last discussion. Travis was supposed to review the documents but he couldn't make the meeting today. Bran doesn't take exception to us routing along the southern portion of the hospital. **Reviewed the cost change that is needed with Priscilla Murray.** • VA still reviewing the cost estimate. Currently at 3rd party cost estimate and they have a deadline of 11/1/23. Then it would be another 2 weeks to get the justifications. • VA still deciding the scope. • Verbal update that Friday's meeting is still scheduled. • **Review of Revised Project Schedule** ○ **Updated Schedule issued:** ○ **Next Deliverable Date:** • **Current Project Actions:** ○ **Finalizing routing based on site visit (See Discussion Below)** ○ **Reviewing Architectural Layouts (See Discussion Below)** ○ **Discussions of the site visits items (See Discussion Below)** ○ **Discussion of Structural conditions (See Discussion Below)** • **Site Visit Dates:** ○ **Not at this time.**		
2.0	**Current RFI Status:** • **Review Recent RFI Responses** ○ **None at this time.** • **<u>Review Outstanding RFIs</u>** ○ **RFI-011 – Mechanical Schedules** ○ **RFI-012 – 2017 Chilled Water Report** ○ **RFI-013 – Control Systems** ○ **RFI-014 – Chilled H2O Return Temp** ○ **RFI-015 – System Controls** ○ **RFI-016 – Zoning Defined** ○ **RFI – 019 – AHU DAT – There is a response but also more questions.** ○ **RFI – 020 – Concept Pipe Routing – There is a response but also more questions.** • **Any New RFIs?** ○ **Not at this time.**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		
3.0	**Potential Delays or Modifications:** • **Any potential Delays?** ○ **See Discussion Below, and RFI-017 above.** • **Pending or Upcoming Modifications?**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1) Provide site visit dates to VA.	Davenergy	04/03/2024
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 06/12/2024**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	X

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		

1.0	**Current Project Status:**
	06/12/2024 –
	• Still waiting on the Arch estimate.
	• Funding limit is $20MM
	• Chris B. is still on vacation until the end of the month so it would be in July before it would be addressed. Priscilla wants to meet and have a discussion of everything before they go to Chris B.
	
	05/15/2024 – No new updates from VA.
	• **Alex is working on proposal for the AE portion.**
	
	05/01/2024 -
	•
	Follow up call from last discussion. Travis was supposed to review the documents but he couldn't make the meeting today.
	Bran doesn't take exception to us routing along the southern portion of the hospital.
	
	Reviewed the cost change that is needed with Priscilla Murray.
	
	• VA still reviewing the cost estimate. Currently at 3rd party cost estimate and they have a deadline of 11/1/23. Then it would be another 2 weeks to get the justifications.
	• VA still deciding the scope.
	• Verbal update that Friday's meeting is still scheduled.
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **<u>Review Outstanding RFIs</u>**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	  ○ **RFI – 019 – AHU DAT – There is a response but also more questions.**
	  ○ **RFI – 020 – Concept Pipe Routing – There is a response but also more questions.**
	• **Any New RFIs?**
	  ○ **Not at this time.**		

3.0	**Potential Delays or Modifications:** • **Any potential Delays?** ○ **See Discussion Below, and RFI-017 above.** • **Pending or Upcoming Modifications?**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8” line, drawings show 10”**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1) Provide site visit dates to VA.	Davenergy	04/03/2024
2)		

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 06/26/2024**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		

1.0	**Current Project Status:**
	06/26/2024 –
	• This project will not go into construction for FY25. This money was taken from the project but Chris B. is working to get it back.
	• Bran still wants to complete the design portion.
	• Architect sent cost estimate for the new internal hot water riser and external trenching route so the next Friday is when it will be ready to send to VA.
	• Revisit the reheat for the fan coils.
	
	06/12/2024 –
	• Still waiting on the Arch estimate.
	• Funding limit is $20MM
	• Chris B. is still on vacation until the end of the month so it would be in July before it would be addressed. Priscilla wants to meet and have a discussion of everything before they go to Chris B.
	
	05/15/2024 – No new updates from VA.
	• **Alex is working on proposal for the AE portion.**
	
	05/01/2024 -
	•
	Follow up call from last discussion. Travis was supposed to review the documents but he couldn't make the meeting today.
	Bran doesn't take exception to us routing along the southern portion of the hospital.
	
	Reviewed the cost change that is needed with Priscilla Murray.
	
	• VA still reviewing the cost estimate. Currently at 3rd party cost estimate and they have a deadline of 11/1/23. Then it would be another 2 weeks to get the justifications.
	• VA still deciding the scope.
	• Verbal update that Friday's meeting is still scheduled.
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **<u>Review Outstanding RFIs</u>**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	  ○ **RFI – 019 – AHU DAT – There is a response but also more questions.**
	  ○ **RFI – 020 – Concept Pipe Routing – There is a response but also more questions.**
	• **Any New RFIs?**
	  ○ **Not at this time.**		

3.0	**Potential Delays or Modifications:** • **Any potential Delays?** ○ **See Discussion Below, and RFI-017 above.** • **Pending or Upcoming Modifications?**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8” line, drawings show 10”**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1) Provide site visit dates to VA.	Davenergy	04/03/2024
2)		

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 07/10/2024**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	X

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		

1.0	**Current Project Status:**
	07/10/2024 –
	• Sent modification proposal with 2 different options on 07/08/2024. Jamal has it but hasn't reviewed it yet.
	• Priscilla – wants to get the VA to meet early next week to review the new proposal.
	
	06/26/2024 –
	• This project will not go into construction for FY25. This money was taken from the project but Chris B. is working to get it back.
	• Bran still wants to complete the design portion.
	• Architect sent cost estimate for the new internal hot water riser and external trenching route so the next Friday is when it will be ready to send to VA.
	• Revisit the reheat for the fan coils.
	
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **<u>Review Outstanding RFIs</u>**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	  ○ **RFI – 019 – AHU DAT – There is a response but also more questions.**
	  ○ **RFI – 020 – Concept Pipe Routing – There is a response but also more questions.**
	• **Any New RFIs?**
	  ○ **Not at this time.**		

3.0	**Potential Delays or Modifications:** • **Any potential Delays?** ○ **See Discussion Below, and RFI-017 above.** • **Pending or Upcoming Modifications?**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		
4.0	**Questions and General Discussion Items** • **Review and Discuss the Architectural floorplans submitted ahead of the 65%:** • **Site Identified Information for Discussion:** 1. **MAU Replacement Project / Riser:** 2. **Possibility of Zone Reheats to year round heating loop:** 3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"** • **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:** 1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.** 2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?** 3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 08/07/2024**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	X

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		
1.0	**Current Project Status:** 08/07/2024 – • VA still making a decision for the future of this project. • Davenergy sent delta for cost differential. 07/10/2024 – • Sent modification proposal with 2 different options on 07/08/2024. Jamal has it but hasn't reviewed it yet. • Priscilla – wants to get the VA to meet early next week to review the new proposal. 06/26/2024 – • This project will not go into construction for FY25. This money was taken from the project but Chris B. is working to get it back. • Bran still wants to complete the design portion. • Architect sent cost estimate for the new internal hot water riser and external trenching route so the next Friday is when it will be ready to send to VA. • Revisit the reheat for the fan coils. • **Review of Revised Project Schedule** ○ **Updated Schedule issued:** ○ **Next Deliverable Date:** • **Current Project Actions:** ○ **Finalizing routing based on site visit (See Discussion Below)** ○ **Reviewing Architectural Layouts (See Discussion Below)** ○ **Discussions of the site visits items (See Discussion Below)** ○ **Discussion of Structural conditions (See Discussion Below)** • **Site Visit Dates:** ○ **Not at this time.**		
2.0	**Current RFI Status:** • **Review Recent RFI Responses** ○ **None at this time.** • **<u>Review Outstanding RFIs</u>** ○ **RFI-011 – Mechanical Schedules** ○ **RFI-012 – 2017 Chilled Water Report** ○ **RFI-013 – Control Systems** ○ **RFI-014 – Chilled H2O Return Temp** ○ **RFI-015 – System Controls** ○ **RFI-016 – Zoning Defined** ○ **RFI – 019 – AHU DAT – There is a response but also more questions.** ○ **RFI – 020 – Concept Pipe Routing – There is a response but also more questions.** • **Any New RFIs?** ○ **Not at this time.**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		
3.0	**Potential Delays or Modifications:** • **Any potential Delays?** ○ **See Discussion Below, and RFI-017 above.** • **Pending or Upcoming Modifications?**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 08/21/2024**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	X

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		

1.0	**Current Project Status:**
	08/21/2024 –
	• Bran working on CLI (credit limit increase) expected to take about 3-4 weeks for completion.
	• Going with pre-cast.
	• Alex is revising the schedule and will send to VA.
	
	08/07/2024 –
	• VA still making a decision for the future of this project.
	• Davenergy sent delta for cost differential.
	
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **<u>Review Outstanding RFIs</u>**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	  ○ **RFI – 019 – AHU DAT – There is a response but also more questions.**
	  ○ **RFI – 020 – Concept Pipe Routing – There is a response but also more questions.**
	• **Any New RFIs?**
	  ○ **Not at this time.**		

3.0	**Potential Delays or Modifications:** • **Any potential Delays?** ○ **See Discussion Below, and RFI-017 above.** • **Pending or Upcoming Modifications?**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		
4.0	**Questions and General Discussion Items** • **Review and Discuss the Architectural floorplans submitted ahead of the 65%:** • **Site Identified Information for Discussion:** 1. **MAU Replacement Project / Riser:** 2. **Possibility of Zone Reheats to year round heating loop:** 3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"** • **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:** 1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.** 2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?** 3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 09/18/2024**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	X

New Topics

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		

1.0	**Current Project Status:**
	09/18/2024 –
	• We should receive the CLI within the next week. Hold until then.
	
	08/21/2024 –
	• Bran working on CLI (credit limit increase) expected to take about 3-4 weeks for completion.
	• Going with pre-cast.
	• Alex is revising the schedule and will send to VA.
	
	08/07/2024 –
	• VA still making a decision for the future of this project.
	• Davenergy sent delta for cost differential.
	
	• **Review of Revised Project Schedule**
	  ○ **Updated Schedule issued:**
	  ○ **Next Deliverable Date:**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **Not at this time.**		

2.0	**Current RFI Status:**
	• **Review Recent RFI Responses**
	  ○ **None at this time.**
	• **<u>Review Outstanding RFIs</u>**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	  ○ **RFI – 019 – AHU DAT – There is a response but also more questions.**
	  ○ **RFI – 020 – Concept Pipe Routing – There is a response but also more questions.**
	• **Any New RFIs?**
	  ○ **Not at this time.**		

Issue #	Topic	Action Item	Who
	Action Items from last meeting: • **Provide site visit dates.**		
3.0	**Potential Delays or Modifications:** • **Any potential Delays?** ○ **See Discussion Below, and RFI-017 above.** • **Pending or Upcoming Modifications?**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 10/02/2024**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	X
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	X

New Topics

Issue #	Topic	Action Item	Who

	Review of Action Items from Last Meeting:
	• Action Item #1:
	  ○ Status / Discussion
	• Action Item #2:
	  ○ Status / Discussion
	• Action Item #3:
	  ○ Status / Discussion		

Issue #	Topic	Action Item	Who
1.0	**Project Status – Overall Status** • **Current Status of Project:** ○ **Project Schedule Updates: Issued ##/##/###** ▪ **Next Key Date / Milestone** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ○ **Next / Upcoming Site Visits (Target Next 30 Days)** ▪ TBD – • **Davenergy Design Deliverables Status:** **Next Submission Date to Govt.** **Current Project Status:** 09/18/2024 – • We should receive the CLI within the next week. Hold until then. 08/21/2024 – • Bran working on CLI (credit limit increase) expected to take about 3-4 weeks for completion. • Going with pre-cast. • Alex is revising the schedule and will send to VA. 08/07/2024 – • VA still making a decision for the future of this project. • Davenergy sent delta for cost differential. • **Review of Revised Project Schedule** ○ **Updated Schedule issued:** ○ **Next Deliverable Date:** • **Current Project Actions:** ○ **Finalizing routing based on site visit (See Discussion Below)** ○ **Reviewing Architectural Layouts (See Discussion Below)** ○ **Discussions of the site visits items (See Discussion Below)** ○ **Discussion of Structural conditions (See Discussion Below)** • **Site Visit Dates:** ○ **Not at this time.**		
2.0	**Project Status – Ongoing Activities** • **Updating details on current activity in AE Services that requires Discussion** ○ **Sub Point #1** ○ **Sub Point #2**		

Issue #	Topic	Action Item	Who

3.0	**Current RFI Status:**
	• **Recently Received RFIs – None at this time**
	• **Recently Submitted RFIs – None at this time**
	• **Pending RFIs –**
	• **<u>Review Outstanding RFIs</u>**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	  ○ **RFI-019 – AHU DAT – There is a response but also more questions.**
	  ○ **RFI-020 – Concept Pipe Routing – There is a response but also more questions.**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**
	• **9/18/24 – Bran sent the CLI to Travis Horn, Chief of Engineering. Bran followed up but they don't have the hard copies that are signed.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 10/16/2024**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	X

New Topics

Issue #	Topic	Action Item	Who

	Review of Action Items from Last Meeting:
	• Action Item #1:
	  ○ Status / Discussion
	• Action Item #2:
	  ○ Status / Discussion
	• Action Item #3:
	  ○ Status / Discussion		

Issue #	Topic	Action Item	Who
1.0	**Project Status – Overall Status** • **Current Status of Project:** ○ **Project Schedule Updates: Issued ##/##/###** ▪ **Next Key Date / Milestone** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ○ **Next / Upcoming Site Visits (Target Next 30 Days)** ▪ TBD – • **Davenergy Design Deliverables Status:** **Next Submission Date to Govt.** 10/16/24 – Still waiting on the MOD for the CLI. **Current Project Status:** 09/18/2024 – • We should receive the CLI within the next week. Hold until then. 08/21/2024 – • Bran working on CLI (credit limit increase) expected to take about 3-4 weeks for completion. • Going with pre-cast. • Alex is revising the schedule and will send to VA. 08/07/2024 – • VA still making a decision for the future of this project. • Davenergy sent delta for cost differential. • **Review of Revised Project Schedule** ○ **Updated Schedule issued:** ○ **Next Deliverable Date:** • **Current Project Actions:** ○ **Finalizing routing based on site visit (See Discussion Below)** ○ **Reviewing Architectural Layouts (See Discussion Below)** ○ **Discussions of the site visits items (See Discussion Below)** ○ **Discussion of Structural conditions (See Discussion Below)** • **Site Visit Dates:** ○ **Not at this time.**		
2.0	**Project Status – Ongoing Activities** • **Updating details on current activity in AE Services that requires Discussion** ○ **Sub Point #1** ○ **Sub Point #2**		

Issue #	Topic	Action Item	Who

3.0	**Current RFI Status:**
	• **Recently Received RFIs – None at this time**
	• **Recently Submitted RFIs – None at this time**
	• **Pending RFIs –**
	• **<u>Review Outstanding RFIs</u>**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
	  ○ **RFI-013 – Control Systems**
	  ○ **RFI-014 – Chilled H2O Return Temp**
	  ○ **RFI-015 – System Controls**
	  ○ **RFI-016 – Zoning Defined**
	  ○ **RFI-019 – AHU DAT – There is a response but also more questions.**
	  ○ **RFI-020 – Concept Pipe Routing – There is a response but also more questions.**		

4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
	  1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.**
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	  3. **Currently no destructive testing was anticipated, nor any x-ray verification.**
	• **9/18/24 – Bran sent the CLI to Travis Horn, Chief of Engineering. Bran followed up but they don't have the hard copies that are signed.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 10/31/2024**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	X

New Topics

Issue #	Topic	Action Item	Who

	Review of Action Items from Last Meeting:
	• Action Item #1:
	  ○ Status / Discussion
	• Action Item #2:
	  ○ Status / Discussion
	• Action Item #3:
	  ○ Status / Discussion		

Issue #	Topic	Action Item	Who
1.0	**Project Status – Overall Status** • **Current Status of Project:** ○ **Project Schedule Updates: Issued ##/##/###** ▪ **Next Key Date / Milestone** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ○ **Next / Upcoming Site Visits (Target Next 30 Days)** ▪ TBD – • **Davenergy Design Deliverables Status:** **Next Submission Date to Govt.** 10/16/24 – Still waiting on the MOD for the CLI. **Current Project Status:** 09/18/2024 – • We should receive the CLI within the next week. Hold until then. 08/21/2024 – • Bran working on CLI (credit limit increase) expected to take about 3-4 weeks for completion. • Going with pre-cast. • Alex is revising the schedule and will send to VA. 08/07/2024 – • VA still making a decision for the future of this project. • Davenergy sent delta for cost differential. • **Review of Revised Project Schedule** ○ **Updated Schedule issued:** ○ **Next Deliverable Date:** • **Current Project Actions:** ○ **Finalizing routing based on site visit (See Discussion Below)** ○ **Reviewing Architectural Layouts (See Discussion Below)** ○ **Discussions of the site visits items (See Discussion Below)** ○ **Discussion of Structural conditions (See Discussion Below)** • **Site Visit Dates:** ○ **Not at this time.**		
2.0	**Project Status – Ongoing Activities** • **Updating details on current activity in AE Services that requires Discussion** ○ **Sub Point #1** ○ **Sub Point #2**		

Issue #	Topic	Action Item	Who

3.0	**Current RFI Status:**
	• **Recently Received RFIs – None at this time**
	• **Recently Submitted RFIs – None at this time**
	• **Pending RFIs –**
	• **<u>Review Outstanding RFIs</u>**
	  ○ **RFI-011 – Mechanical Schedules**
	  ○ **RFI-012 – 2017 Chilled Water Report**
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4.0	**Questions and General Discussion Items**
	• **Review and Discuss the Architectural floorplans submitted ahead of the 65%:**
	• **Site Identified Information for Discussion:**
	  1. **MAU Replacement Project / Riser:**
	  2. **Possibility of Zone Reheats to year round heating loop:**
	  3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"**
	• **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:**
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	  2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?**
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	• **9/18/24 – Bran sent the CLI to Travis Horn, Chief of Engineering. Bran followed up but they don't have the hard copies that are signed.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 12/26/2024**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

NO VA PERSONNEL ATTENDED

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	

New Topics

Issue #	Topic	Action Item	Who

	Review of Action Items from Last Meeting:
	• Action Item #1:
	  ○ Status / Discussion
	• Action Item #2:
	  ○ Status / Discussion
	• Action Item #3:
	  ○ Status / Discussion		

Issue #	Topic	Action Item	Who
1.0	**Project Status – Overall Status** • **Current Status of Project:** ○ **Project Schedule Updates: Issued 12/17/2024** ▪ **Next Key Date / Milestone** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ○ **Next / Upcoming Site Visits (Target Next 30 Days)** ▪ TBD – • **Davenergy Design Deliverables Status:** **Next Submission Date to Govt.** 10/16/24 – Still waiting on the MOD for the CLI. • **Review of Revised Project Schedule** ○ **QAQC Due: 3/10/25** ○ **Next Deliverable Date: 03/25/25** • **Current Project Actions:** ○ **Finalizing routing based on site visit (See Discussion Below)** ○ **Reviewing Architectural Layouts (See Discussion Below)** ○ **Discussions of the site visits items (See Discussion Below)** ○ **Discussion of Structural conditions (See Discussion Below)** • **Site Visit Dates:** ○ **Not at this time.**		
2.0	**Project Status – Ongoing Activities** • **Updating details on current activity in AE Services that requires Discussion** ○ **Sub Point #1** ○ **Sub Point #2**		
3.0	**Current RFI Status:** • **Recently Received RFIs – None at this time** • **Recently Submitted RFIs – None at this time** • **Pending RFIs –** • **<u>Review Outstanding RFIs</u>** ○ **RFI-011 – Mechanical Schedules** ○ **RFI-012 – 2017 Chilled Water Report** ○ **RFI-013 – Control Systems** ○ **RFI-014 – Chilled H2O Return Temp** ○ **RFI-015 – System Controls** ○ **RFI-016 – Zoning Defined** ○ **RFI-019 – AHU DAT – There is a response but also more questions.** ○ **RFI-020 – Concept Pipe Routing – There is a response but also more questions.**		

Issue #	Topic	Action Item	Who
4.0	**Questions and General Discussion Items** • **Review and Discuss the Architectural floorplans submitted ahead of the 65%:** • **Site Identified Information for Discussion:** 1. **MAU Replacement Project / Riser:** 2. **Possibility of Zone Reheats to year-round heating loop:** 3. **Tie in from Phase 2 identified as an 8" line, drawings show 10"** • **The location of riser as currently planned is at the location of existing steel beams, possibly needing verification:** 1. **Might be possible to shift and adjust pipe size within the chase area to minimize conflict.** 2. **Need to verify exact location of the structural wall and beam, does the VA have recent surveys?** 3. **Currently no destructive testing was anticipated, nor any x-ray verification.** • **9/18/24 – Bran sent the CLI to Travis Horn, Chief of Engineering. Bran followed up but they don't have the hard copies that are signed.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 01/10/2025**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
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Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	

New Topics

Issue #	Topic	Action Item	Who

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	• Action Item #1:
	  ○ Status / Discussion
	• Action Item #2:
	  ○ Status / Discussion
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Issue #	Topic	Action Item	Who
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2.0	**Project Status – Ongoing Activities** • **Updating details on current activity in AE Services that requires Discussion** ○ **Sub Point #1** ○ **Sub Point #2**		
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Issue #	Topic	Action Item	Who
4.0	**Questions and General Discussion Items** • Discussed coordination of upcoming site visits. • Meeting with the civil team Monday to get dates and information on GPR times as their original sub doubled in cost. • The architect will be planning scanning site visit.		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 01/23/2025**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
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Issue #	Topic	Action Item	Who
4.0	**Questions and General Discussion Items** • No VA updates right now. • Reviewed the plans and layouts to discuss the drawings and the revisions needed. • Next scheduled QAQC submittal 65% 3/7/2025. • The architect will be planning scanning site visit. • Reviewed and discussed outstanding RFI's.		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 02/06/2025**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
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Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
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Kayla Haruguchi				X

New Topics

Issue #	Topic	Action Item	Who

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4.0	**Questions and General Discussion Items** • **Dav team is updating drawings/documents to reflect changes.** • **Reviewed and discussed outstanding RFI's.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 02/21/2025**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
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Kayla Haruguchi				

New Topics

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Issue #	Topic	Action Item	Who
4.0	**Questions and General Discussion Items** • **Reviewed RFI's due to needed clarity.** • **Discussed when the phasing plan would be submitted, with 65%.** • **Dav team is updating drawings/documents to reflect changes.**		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 02/21/2025**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

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Issue #	Topic	Action Item	Who
4.0	**Questions and General Discussion Items** • **Reviewed RFI's due to needed clarity.** • **Discussed when the phasing plan would be submitted, with 65%.** • **Dav team is updating drawings/documents to reflect changes.**		

Action Items

Task/Item	Responsible	Due Date
1)		
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Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 03/06/2025**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

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Issue #	Topic	Action Item	Who
4.0	**Questions and General Discussion Items** • QAQC set next Tuesday, working on submittal for Friday, • Developing controls sequence. •		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 03/20/2025**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

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4.0	**Questions and General Discussion Items** • Submittal tomorrow afternoon. • We are still in budget on the cost estimate. • Getting plan for moving the equipment/machinery down.		

Action Items

Task/Item	Responsible	Due Date
1)		

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 04/03/2025**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

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	  ○ Status / Discussion		

Issue #	Topic	Action Item	Who
1.0	**Project Status – Overall Status** • **Current Status of Project:** ○ **Project Schedule Updates: Issued 12/17/2024** ▪ **Next Key Date / Milestone** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ○ **Next / Upcoming Site Visits (Target Next 30 Days)** ▪ TBD – • **Davenergy Design Deliverables Status:** **Next Submission Date to Govt.** 10/16/24 – Still waiting on the MOD for the CLI. • **Review of Revised Project Schedule** ○ **QAQC Due: 3/10/25** ○ **Next Deliverable Date: 03/25/25** • **Current Project Actions:** ○ **Finalizing routing based on site visit (See Discussion Below)** ○ **Reviewing Architectural Layouts (See Discussion Below)** ○ **Discussions of the site visits items (See Discussion Below)** ○ **Discussion of Structural conditions (See Discussion Below)** • **Site Visit Dates:** ○ **April 21st week - Alex T., Jaeden to be onsite to confirm above ceiling items.**		
2.0	**Project Status – Ongoing Activities** • **Updating details on current activity in AE Services that requires Discussion** ○ **Sub Point #1** ○ **Sub Point #2**		
3.0	**Current RFI Status:** • **Recently Received RFIs – None at this time** • **Recently Submitted RFIs – None at this time** • **Pending RFIs –** • **Review Outstanding RFIs** ○ None at this time		
4.0	**Questions and General Discussion Items** • VA still reviewing submittal. No comments so far. • Reviewed dates for site visits.		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 05/09/2025**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	X
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	
Kayla Haruguchi				
Jaedan Ford				X
Roberto Perez				X
Jack Lambert				X
Michael Hawarny				X
Josh Murray				X
Hugo Flores				X
Zachary Morrow				X
Tori Chang				X
Nathan Fishnick				X

New Topics

Issue #	Topic	Action Item	Who

	Review of Action Items from Last Meeting:
	• Action Item #1:
	  ○ Status / Discussion
	• Action Item #2:
	  ○ Status / Discussion
	• Action Item #3:
	  ○ Status / Discussion		

1.0	**Project Status – Overall Status**
	• **Current Status of Project:**
	  ○ **Project Schedule Updates: Issued 12/17/2024**
	  ▪ **Next Key Date / Milestone**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ○ **Next / Upcoming Site Visits (Target Next 30 Days)**
	  ▪ TBD –
	• **Davenergy Design Deliverables Status:**
	Next Submission Date to Govt.
	10/16/24 – Still waiting on the MOD for the CLI.
	
	• **Review of Revised Project Schedule**
	  ○ **QAQC Due: 3/10/25**
	  ○ **Next Deliverable Date: 03/25/25**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **April 21st week - Alex T., Jaeden to be onsite to confirm above ceiling items.**		

2.0	**Project Status – Ongoing Activities**
	• **Updating details on current activity in AE Services that requires Discussion**
	  ○ **Sub Point #1**
	  ○ **Sub Point #2**		

3.0	**Current RFI Status:** • **3rd party installing AHU???** • **CG101 – Note 9 – Expound on this note. Jordan** • **Note 3 – Was GPR conducted here? Yes, Jordan. Zone X?? FEMA flood zone** • **V-101 – Need North Arrows, font at the bottom is really small.** • **Title block line weights** • **C-101 – Saw cut is good, then demo right? Why are we saw cut? To be sure not to disturb any expansion joints or panels. The façade wall will be demoed and we need to rebuild. Note 3 – install sod but note the type of species of grass that is currently there. And thickness** • **C-102 – F2 & D9 isn't being shown but was referenced. Key Note 7 – is the valve volt #5 in that area being referenced.** • **C-501 – Needs a detail for the intent.** • **AD001-ICRA Notes – was it collabed with anyone in the ICRA dept. We were given a class 3. Need to set up meeting with ICRA & Safety.** • **AD101 –Key Note 14 – saw cut and remove. What is the phasing?sequence is good. Should be located more north and west. For the Pumps. Adjust hatching for key note 12. There's not a door or wall, Mike H. stated it was temporary. Key note 1 – any coordination with EHRM in that space? Remove extra X's, Overlapping text, Linen Cart Alcove label needs to move up.** • **AD103 – Increase font size, clean up overlapping text, clean up location.** • **AD104 – More text overlap and correct font size, pallative exam room clean up room names.** • **AD108 – overlap on key note 1 labeling** • **AD109 – dumbwaiter 1 & 2 – clarify wording positioning. Key Note 13 – coordinate penetration location not to go through electrical room or working areas around equipment. what is the intent of these sheets? It's putting the ceiling back, reflective celing plan? What is the intent?** • **AE103 – line weights – EMS Office, need labels, new chase location needs unhatched. Need dimension on length of chase.** • **AE104 – line weights and overlapping** • **AE105 – " " Key note covered up.** • **AE106 – line weights and overlapping. Use for font size, line weights overall good to replicate.** • **AE107 – same as above** • **AE108 – by section 2 reference there's a AE108 that needs to be removed. If we are using key notes, font needs to be clear, darker.** • **AE109 – same as above – Reference section 3 has overlap. General Note – note 3 clarify, specs, dwgs? Is this note needed.** • **AC101** • **AC102 – same as above** • **AC103 – same as above – passenger elevator overlapping with wall, east side.** • **AC104 – Same as above** • **AC105 – same as above** • **AC106, AC107, AC108, A109 – same comments as above** • **AI420 – reference in the details to each one** • **Structural – S001 – general note 2 – just common note – revise or remove**		

	• S100 – No subbasement? Is there a subbasement sheet for structural? No, we don't but can update. There's 2 openings south, VA thought this would be a subbasement not just the basement. Will clarify. Notes - Section 1 Sawcutting of existing concrete, lines are longer than 9 inches. Update. Generate sheets for each floor showing penetrations. 4 inch hole at corner – intent is showing a technique of how to cut the concrete. • M001 – nothing • MDSB – Intergrate phasing of the demo. Language adjust notes for phasing. Plan west where demo. DN.to C CirC. Pumps – need key note for detail. Add note for removing abandoned piping-demo out. Following the demo line – it just stops, identify point of disconnect. Include cut and cap requirements. Add pics for demo. Are there 2 lines separate or 1? Coming in as 1 supply. Drawing will have revisions due to site visit. • Section 1 MD-SB Identify what these lines go to and what needs to occur. Add key notes whats needed. Grid line 7 – 2" Hot water update services area and demo requirements with key notes. If removing risers, need to be accounted for. Phasing for demo will work from the top down. Need scans of the subbasement. Need to add all of the pumps. Show location of the existing to remain pumps. • MPSB – labels for VFD schedules – grid line 8, north of H. ID control valves in this area. Check notes on sheet from alex. Tunnel and trenches will be active at the same time. Valves can be added for servicing/emergency backup. • MP100 – Fan coil schedule? M401 – Trueblood got notes • Mechanical – No north arrows. CAV vs VAV – what's the TIL say? How equipment operates determine if CAV or VAV. Grid lines 14 – 15 overlapping/clashing. • M-503 – piping riser diagram. • Check line weights. • MP-101- Keep font size consistent, enlarge on sheet, add phasing detail. Room 1B12 – what is that? Missing key notes for demo duct between grid lines 9-8. Section view label is overlapping. Add OPC layout. Need comment of what's demoed and which are staying with new. Correspond with new schedules and floors. Gird Line E – can we using the size pipe? Adjust naming to be consistent between sheets. • MD-102 – keep font consistent and enlarge. Grid lines B1 – A6 – still an OPC there but didn't see anything being captured. Should it be? Yes, add OPC layout. • MD-103 – same as above – intent for contractor to remove all piping not being used. • MP103 – phasing accountability and orientation • MD104 – too dark – grid lines 4 – 5 below C, ID and phasing call out needed. Title block • MP-104 – same as above. The riser area is clashing. Title block • MD-105 – title block – grid 8 – 9 below C 2 – what is that? Verify the piping. How do they connect to the reheat coils? Need demo notes back to header or something. Might need another site walk, get it incorporated. Clean up and enlarge. • MP105 – title block, font, key notes		

Issue #	Topic	Action Item	Who
	• MD-106 – grid lines 8 – 9 below C there' s 2 dots – what is this? AHU-5B coordinate with new AHU project. Orientation. • We are in construction. • MP106 - before grid line 8 – there's piping going through, is this possible? Show valves for future work. ICU AHU has a dedicated chilled water line. What type of unit is this? G2 – include location on the schedule for the existing units. Orientation and title • MD107 – Orientation, title is good, spacing, looks like different font. • MP107 – section 2 7th floor piping new plan – move to new sheet if iso view. Orientation • M401 – clarify sheet • M501 – integration of calling them out in documents. Add point list requirements. • M502 – TT change to just T. 2 way and 3 way valves show which way it goes. • Electrical – E-001 – • E101 – panel layout for pumps, SLD's, where do the panels go? Add in panel schedules, locations & SLDs. Add in sheets for FCU electrical loads and panels. • F-001 – need orientation, • FD101A – sheets with just hash marks, verbiage for the intent. Add location details and devices for the drawings. • Third floor of fire – no surgical areas included – mechanical work will be in these areas. Will adjust the hashing. Need OPC layout. FA104B • BOD – Add table of the fan coils being replaced as appendix. Pg 2 – details needed for the connection in the arch. • Pg 4 – bldg. 1 – bldg. description 2 paragraph. Tier 3 study being completed currently. Doc states there was seismic retrofit but Bran doesn't know about it. It was previously retrofit but being upgraded to new standards. • Pg 8 – Table 1 – Summary of cooling loads – is this 5th floor is enough cooling with 60 ton unit? Yes, Trueblood will update with actual Dx capacity. Add in Dx loads – Bran will send Trueblood docs about it. • Section 6 – description calls out 3 pumps? Yes, it's 3 pumps. Add verbiage on power/conduits for new FCU being replaced. • Pg 9 – fire protection – same comment – 3 paragraph – Qualified Fire Protection Engineer – needs more meat for fire. • Pg 26 – phasing – intergrate into plans • OPC drawing – the • Appendix B – • System cooling checksums – how to tell where in the plans this is related to? Like WR7 – based on old riser locations. Is there a better way to present this? • Appendix G – pipe flow model update – System overview, can't read this?? Need pipeflow software for this to open and be able to read it. Work on the quality for the 95%. • Budget – reviewed some of the line items pricing. Award Q3-26; start Q4-26. •		

Issue #	Topic	Action Item	Who
4.0	**Questions and General Discussion Items** • VA still reviewing submittal. No comments so far. • Reviewed dates for site visits.		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 05/15/2025**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
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Tori Chang				
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New Topics

Issue #	Topic	Action Item	Who

	Review of Action Items from Last Meeting:
	• Action Item #1:
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	  ○ Status / Discussion
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1.0	**Project Status – Overall Status**
	• **Current Status of Project:**
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	  ▪ **Next Key Date / Milestone**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
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	  ▪ TBD –
	• **Davenergy Design Deliverables Status:**
	Next Submission Date to Govt.
	10/16/24 – Still waiting on the MOD for the CLI.
	
	• **Review of Revised Project Schedule**
	  ○ **QAQC Due: 3/10/25**
	  ○ **Next Deliverable Date: 03/25/25**
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	  ○ **Finalizing routing based on site visit (See Discussion Below)**
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	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **April 21st week - Alex T., Jaeden to be onsite to confirm above ceiling items.**		

2.0	**Project Status – Ongoing Activities**
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3.0	**Current RFI Status:** • **3rd party installing AHU???** • **CG101 – Note 9 – Expound on this note. Jordan** • **Note 3 – Was GPR conducted here? Yes, Jordan. Zone X?? FEMA flood zone** • **V-101 – Need North Arrows, font at the bottom is really small.** • **Title block line weights** • **C-101 – Saw cut is good, then demo right? Why are we saw cut? To be sure not to disturb any expansion joints or panels. The façade wall will be demoed and we need to rebuild. Note 3 – install sod but note the type of species of grass that is currently there. And thickness** • **C-102 – F2 & D9 isn't being shown but was referenced. Key Note 7 – is the valve volt #5 in that area being referenced.** • **C-501 – Needs a detail for the intent.** • **AD001-ICRA Notes – was it collabed with anyone in the ICRA dept. We were given a class 3. Need to set up meeting with ICRA & Safety.** • **AD101 –Key Note 14 – saw cut and remove. What is the phasing?sequence is good. Should be located more north and west. For the Pumps. Adjust hatching for key note 12. There's not a door or wall, Mike H. stated it was temporary. Key note 1 – any coordination with EHRM in that space? Remove extra X's, Overlapping text, Linen Cart Alcove label needs to move up.** • **AD103 – Increase font size, clean up overlapping text, clean up location.** • **AD104 – More text overlap and correct font size, pallative exam room clean up room names.** • **AD108 – overlap on key note 1 labeling** • **AD109 – dumbwaiter 1 & 2 – clarify wording positioning. Key Note 13 – coordinate penetration location not to go through electrical room or working areas around equipment. what is the intent of these sheets? It's putting the ceiling back, reflective celing plan? What is the intent?** • **AE103 – line weights – EMS Office, need labels, new chase location needs unhatched. Need dimension on length of chase.** • **AE104 – line weights and overlapping** • **AE105 – " " Key note covered up.** • **AE106 – line weights and overlapping. Use for font size, line weights overall good to replicate.** • **AE107 – same as above** • **AE108 – by section 2 reference there's a AE108 that needs to be removed. If we are using key notes, font needs to be clear, darker.** • **AE109 – same as above – Reference section 3 has overlap. General Note – note 3 clarify, specs, dwgs? Is this note needed.** • **AC101** • **AC102 – same as above** • **AC103 – same as above – passenger elevator overlapping with wall, east side.** • **AC104 – Same as above** • **AC105 – same as above** • **AC106, AC107, AC108, A109 – same comments as above** • **AI420 – reference in the details to each one** • **Structural – S001 – general note 2 – just common note – revise or remove**		

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Issue #	Topic	Action Item	Who
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Issue #	Topic	Action Item	Who
4.0	**Questions and General Discussion Items** • VA still reviewing submittal. Received some comments from VA but not all. • DAV was on site today taking pictures. • Will send revised schedule.		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 06/05/2025**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	
Kayla Haruguchi				
Jaedan Ford	Davenergy			
Roberto Perez	Davenergy			
Jack Lambert	Davenergy			
Michael Hawarny	Bodwe			
Josh Murray	Davenergy			
Hugo Flores	Davenergy			
Zachary Morrow				
Tori Chang	SGH			
Nathan Fishnick	Valiint			

New Topics

Issue #	Topic	Action Item	Who

	Review of Action Items from Last Meeting:
	• Action Item #1:
	  ○ Status / Discussion
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1.0	**Project Status – Overall Status**
	• **Current Status of Project:**
	  ○ **Project Schedule Updates: Issued 12/17/2024**
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	• **Davenergy Design Deliverables Status:**
	Next Submission Date to Govt.
	10/16/24 – Still waiting on the MOD for the CLI.
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	  ○ **Next Deliverable Date: 03/25/25**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
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	• **Site Visit Dates:**
	  ○ **April 21st week - Alex T., Jaeden to be onsite to confirm above ceiling items.**		

2.0	**Project Status – Ongoing Activities**
	• **Updating details on current activity in AE Services that requires Discussion**
	  ○ **Sub Point #1**
	  ○ **Sub Point #2**		

3.0	**RFI Status:**		

Issue #	Topic	Action Item	Who
4.0	**Questions and General Discussion Items** • DAV has RFI's to send. • Next site visit, Justin Millerberg will be above the ceiling tile for routing. • Discussion for ICRA bc there will be sections that need to be open. Need to define specifically to convey to contractor. • ICRA POC: Tina •		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 12/29/2025**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

NO VA PERSONNEL ATTENDED

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Priscilla Murray	VA Contracting		Priscilla.murray@va.gov	
Kayla Haruguchi				
Jaedan Ford	Davenergy			
Roberto Perez	Davenergy			
Jack Lambert	Davenergy			
Michael Hawarny	Bodwe			
Josh Murray	Davenergy			
Hugo Flores	Davenergy			
Zachary Morrow				
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New Topics

Issue #	Topic	Action Item	Who

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	  ○ Status / Discussion
	• Action Item #3:
	  ○ Status / Discussion		

1.0	**Project Status – Overall Status**
	• **Current Status of Project:**
	  ○ **Project Schedule Updates: Issued 12/24/25**
	  ▪ **Next Key Date / Milestone**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ○ **Next / Upcoming Site Visits (Target Next 30 Days)**
	  ▪ TBD –
	• **Davenergy Design Deliverables Status:**
	Next Submission Date to Govt.
	10/16/24 – Still waiting on the MOD for the CLI.
	• **Review of Revised Project Schedule**
	  ○ **QAQC Due: 3/10/25**
	  ○ **Next Deliverable Date: 03/25/25**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **April 21st week - Alex T., Jaeden to be onsite to confirm above ceiling items.**		

2.0	**Project Status – Ongoing Activities**
	• **Updating details on current activity in AE Services that requires Discussion**
	  ○ **Sub Point #1**
	  ○ **Sub Point #2**		

3.0	**RFI Status:**		

Issue #	Topic	Action Item	Who
4.0	**Questions and General Discussion Items** • DAV has RFI's to send. • Next site visit, Justin Millerberg will be above the ceiling tile for routing. • Discussion for ICRA bc there will be sections that need to be open. Need to define specifically to convey to contractor. • ICRA POC: Tina •		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 12/31/2025**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Christopher Aguon	VA			X
Kayla Haruguchi				
Jaedan Ford	Davenergy			
Roberto Perez	Davenergy			
Jack Lambert	Davenergy			
Michael Hawarny	Bodwe			
Josh Murray	Davenergy			
Hugo Flores	Davenergy			
Zachary Morrow				
Tori Chang	SGH			
Nathan Fishnick	Valiint			

New Topics

Issue #	Topic	Action Item	Who

	Review of Action Items from Last Meeting:
	• Action Item #1:
	  ○ Status / Discussion
	• Action Item #2:
	  ○ Status / Discussion
	• Action Item #3:
	  ○ Status / Discussion		

1.0	**Project Status – Overall Status**
	• **Current Status of Project:**
	  ○ **Project Schedule Updates: Issued 12/24/25**
	  ▪ **Next Key Date / Milestone**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ○ **Next / Upcoming Site Visits (Target Next 30 Days)**
	  ▪ TBD –
	• **Davenergy Design Deliverables Status:**
	Next Submission Date to Govt.
	10/16/24 – Still waiting on the MOD for the CLI.
	• **Review of Revised Project Schedule**
	  ○ **QAQC Due: 3/10/25**
	  ○ **Next Deliverable Date: 03/25/25**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **April 21st week - Alex T., Jaeden to be onsite to confirm above ceiling items.**		

2.0	**Project Status – Ongoing Activities**
	• **Updating details on current activity in AE Services that requires Discussion**
	  ○ **Sub Point #1**
	  ○ **Sub Point #2**		

3.0	**RFI Status:**		

Issue #	Topic	Action Item	Who
4.0	**Questions and General Discussion Items** • Reviewed new schedule; need to revise and send back out to VA. • • DAV has RFI's to send. • Next site visit, Justin Millerberg will be above the ceiling tile for routing. • Discussion for ICRA bc there will be sections that need to be open. Need to define specifically to convey to contractor. • ICRA POC: Tina •		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 01/08/2026**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Christopher Aguon	VA			
Kayla Haruguchi				
Jaedan Ford	Davenergy			
Roberto Perez	Davenergy			
Jack Lambert	Davenergy			
Michael Hawarny	Bodwe			
Josh Murray	Davenergy			
Hugo Flores	Davenergy			
Zachary Morrow				
Tori Chang	SGH			
Nathan Fishnick	Valiint			

New Topics

Issue #	Topic	Action Item	Who

	Review of Action Items from Last Meeting:
	• Action Item #1:
	  ○ Status / Discussion
	• Action Item #2:
	  ○ Status / Discussion
	• Action Item #3:
	  ○ Status / Discussion		

1.0	**Project Status – Overall Status**
	• **Current Status of Project:**
	  ○ **Project Schedule Updates: Issued 12/24/25**
	  ▪ **Next Key Date / Milestone**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ○ **Next / Upcoming Site Visits (Target Next 30 Days)**
	  ▪ TBD –
	• **Davenergy Design Deliverables Status:**
	Next Submission Date to Govt.
	10/16/24 – Still waiting on the MOD for the CLI.
	• **Review of Revised Project Schedule**
	  ○ **QAQC Due: 3/10/25**
	  ○ **Next Deliverable Date: 03/25/25**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **April 21st week - Alex T., Jaeden to be onsite to confirm above ceiling items.**		

2.0	**Project Status – Ongoing Activities**
	• **Updating details on current activity in AE Services that requires Discussion**
	  ○ **Sub Point #1**
	  ○ **Sub Point #2**		

3.0	**RFI Status:**		

Issue #	Topic	Action Item	Who
4.0	**Questions and General Discussion Items** • Reviewed schedule changes – need to have full statement of work & IGCE with supporting documents. Needed by Feb 2026. • Phasing plan will also by needed Feb 2026. • Construction/Phasing analysis report – will have cost estimate complete estimate on constructability report. • BID set no later than July 2026. Currently without 65% making phasing plan heavy we can have BID set by June 2026. • • Reviewed new schedule; need to revise and send back out to VA. • • DAV has RFI's to send. • Next site visit, Justin Millerberg will be above the ceiling tile for routing. • Discussion for ICRA bc there will be sections that need to be open. Need to define specifically to convey to contractor. • ICRA POC: Tina •		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 01/15/2026**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Christopher Aguon	VA			
Kayla Haruguchi				
Jaedan Ford	Davenergy			
Roberto Perez	Davenergy			
Jack Lambert	Davenergy			
Michael Hawarny	Bodwe			
Josh Murray	Davenergy			
Hugo Flores	Davenergy			
Zachary Morrow				
Tori Chang	SGH			
Nathan Fishnick	Valiint			

New Topics

Issue #	Topic	Action Item	Who

	Review of Action Items from Last Meeting:
	• Action Item #1:
	  ○ Status / Discussion
	• Action Item #2:
	  ○ Status / Discussion
	• Action Item #3:
	  ○ Status / Discussion		

1.0	**Project Status – Overall Status**
	• **Current Status of Project:**
	  ○ **Project Schedule Updates: Issued 01/07/2026**
	  ▪ **Next Key Date / Milestone**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ○ **Next / Upcoming Site Visits (Target Next 30 Days)**
	  ▪ TBD –
	• **Davenergy Design Deliverables Status:**
	Next Submission Date to Govt.
	10/16/24 – Still waiting on the MOD for the CLI.
	• **Review of Revised Project Schedule**
	  ○ **QAQC Due: 3/10/25**
	  ○ **Next Deliverable Date: 03/25/25**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **April 21st week - Alex T., Jaeden to be onsite to confirm above ceiling items.**		

2.0	**Project Status – Ongoing Activities**
	• **Updating details on current activity in AE Services that requires Discussion**
	  ○ **Sub Point #1**
	  ○ **Sub Point #2**		

3.0	**RFI Status:**		

Issue #	Topic	Action Item	Who
4.0	**Questions and General Discussion Items** • Scope of work; construction cost (IGCE) anticipated amount; as soon as possible for market research. • Will send out schedule today. • Contact cost estimator to get expedited report. • Need weekly meetings now. • Justin is on site this week and next week. • • Reviewed schedule changes – need to have full statement of work & IGCE with supporting documents. Needed by Feb 2026. • Phasing plan will also by needed Feb 2026. • Construction/Phasing analysis report – will have cost estimate complete estimate on constructability report. • BID set no later than July 2026. Currently without 65% making phasing plan heavy we can have BID set by June 2026. • • Reviewed new schedule; need to revise and send back out to VA. • • DAV has RFI's to send. • Next site visit, Justin Millerberg will be above the ceiling tile for routing. • Discussion for ICRA bc there will be sections that need to be open. Need to define specifically to convey to contractor. • ICRA POC: Tina •		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 01/22/2026**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

NO VA PERSONNEL

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Christopher Aguon	VA			
Kayla Haruguchi				
Jaedan Ford	Davenergy			
Roberto Perez	Davenergy		Robert.perez@davenergy.com	
Jack Lambert	Davenergy		Jack.lambert@davenergy.com	
Michael Hawarny	Bodwe			
Josh Murray	Davenergy		Josh.murray@davenergy.com	
Hugo Flores	Davenergy		Hugo.flores@davenergy.com	
Zachary Morrow				
Tori Chang	SGH			
Nathan Fishnick	Valiint			

New Topics

Issue #	Topic	Action Item	Who

	Review of Action Items from Last Meeting:
	• Action Item #1:
	  ○ Status / Discussion
	• Action Item #2:
	  ○ Status / Discussion
	• Action Item #3:
	  ○ Status / Discussion		

1.0	**Project Status – Overall Status**
	• **Current Status of Project:**
	  ○ **Project Schedule Updates: Issued 01/07/2026**
	  ▪ **Next Key Date / Milestone**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ▪ **Major AE Services Activity Update:**
	  • **Description of discussion point.**
	  ○ **Next / Upcoming Site Visits (Target Next 30 Days)**
	  ▪ TBD –
	• **Davenergy Design Deliverables Status:**
	Next Submission Date to Govt.
	10/16/24 – Still waiting on the MOD for the CLI.
	• **Review of Revised Project Schedule**
	  ○ **QAQC Due: 3/10/25**
	  ○ **Next Deliverable Date: 03/25/25**
	• **Current Project Actions:**
	  ○ **Finalizing routing based on site visit (See Discussion Below)**
	  ○ **Reviewing Architectural Layouts (See Discussion Below)**
	  ○ **Discussions of the site visits items (See Discussion Below)**
	  ○ **Discussion of Structural conditions (See Discussion Below)**
	• **Site Visit Dates:**
	  ○ **April 21st week - Alex T., Jaeden to be onsite to confirm above ceiling items.**		

2.0	**Project Status – Ongoing Activities**
	• **Updating details on current activity in AE Services that requires Discussion**
	  ○ **Sub Point #1**
	  ○ **Sub Point #2**		

3.0	**RFI Status:**		

Issue #	Topic	Action Item	Who
4.0	**Questions and General Discussion Items** • No VA personnel in attendance, email follow up sent. • • Scope of work; construction cost (IGCE) anticipated amount; as soon as possible for market research. • Will send out schedule today. • Contact cost estimator to get expedited report. • Need weekly meetings now. • Justin is on site this week and next week. • • Reviewed schedule changes – need to have full statement of work & IGCE with supporting documents. Needed by Feb 2026. • Phasing plan will also by needed Feb 2026. • Construction/Phasing analysis report – will have cost estimate complete estimate on constructability report. • BID set no later than July 2026. Currently without 65% making phasing plan heavy we can have BID set by June 2026. • • Reviewed new schedule; need to revise and send back out to VA. • • DAV has RFI's to send. • Next site visit, Justin Millerberg will be above the ceiling tile for routing. • Discussion for ICRA bc there will be sections that need to be open. Need to define specifically to convey to contractor. • ICRA POC: Tina •		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 01/29/2026**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Christopher Aguon	VA			
Kayla Haruguchi				
Jaedan Ford	Davenergy			
Roberto Perez	Davenergy		Robert.perez@davenergy.com	
Jack Lambert	Davenergy		Jack.lambert@davenergy.com	
Michael Hawarny	Bodwe			
Josh Murray	Davenergy		Josh.murray@davenergy.com	
Hugo Flores	Davenergy		Hugo.flores@davenergy.com	
Zachary Morrow				
Tori Chang	SGH			
Nathan Fishnick	Valiint			

New Topics

Issue #	Topic	Action Item	Who
1.0	**Review Action Items from the Last Meeting:** ○		

Issue #	Topic	Action Item	Who
2.0	**Project Status Updates:** • Review project schedule and status: • Review / discuss next milestone deliverable: **Project Status – Overall Status** • **Current Status of Project:** ○ **Project Schedule Updates: Issued 01/07/2026** ▪ **Next Key Date / Milestone** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ▪ **Major AE Services Activity Update:** • **Description of discussion point.** ○ **Next / Upcoming Site Visits (Target Next 30 Days)** ▪ TBD – • **Davenergy Design Deliverables Status:** **Next Submission Date to Govt.** 10/16/24 – Still waiting on the MOD for the CLI. • **Review of Revised Project Schedule** ○ **QAQC Due: 3/10/25** ○ **Next Deliverable Date: 03/25/25** • **Current Project Actions:** ○ **Finalizing routing based on site visit (See Discussion Below)** ○ **Reviewing Architectural Layouts (See Discussion Below)** ○ **Discussions of the site visits items (See Discussion Below)** ○ **Discussion of Structural conditions (See Discussion Below)** • **Site Visit Dates:** ○ **April 21st week - Alex T., Jaeden to be onsite to confirm above ceiling items.**		
3.0	**Current RFI Status:** • Recently Received RFIs – None at this time • Recently Submitted RFIs – None at this time • Pending RFIs – None at this Time		

Issue #	Topic	Action Item	Who
4.0	**Questions and General Discussion Items** • Cost estimate being reviewed now, should go to VA Tuesday morning. • They will be doing scanning but not the same as last time. It's like the google maps car. They wear it and it takes pics as they walk through the space. • Need another site visit, will be requested soon. • • No VA personnel in attendance, email follow up sent. • • Scope of work; construction cost (IGCE) anticipated amount; as soon as possible for market research. • Will send out schedule today. • Contact cost estimator to get expedited report. • Need weekly meetings now. • Justin is on site this week and next week. • • Reviewed schedule changes – need to have full statement of work & IGCE with supporting documents. Needed by Feb 2026. • Phasing plan will also by needed Feb 2026. • Construction/Phasing analysis report – will have cost estimate complete estimate on constructability report. • BID set no later than July 2026. Currently without 65% making phasing plan heavy we can have BID set by June 2026. •		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 02/05/2026**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Alexander Trueblood	Davenergy		Alexander.trueblood@davenergy.com	
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Christopher Aguon	VA			
Kayla Haruguchi				
Jaedan Ford	Davenergy			
Roberto Perez	Davenergy		Robert.perez@davenergy.com	
Jack Lambert	Davenergy		Jack.lambert@davenergy.com	
Michael Hawarny	Bodwe			
Josh Murray	Davenergy		Josh.murray@davenergy.com	
Hugo Flores	Davenergy		Hugo.flores@davenergy.com	
Zachary Morrow				
Tori Chang	SGH			
Nathan Fishnick	Valiint			

New Topics

Issue #	Topic	Action Item	Who
1.0	**Review Action Items from the Last Meeting:** ○		

Issue #	Topic	Action Item	Who

2.0	**Project Status Updates:**
	• Review project schedule and status:
	  ○ Site visit February
	  ○ Phasing plan in progress.
	• Review / discuss next milestone deliverable:		

3.0	**Current RFI Status:** • Recently Received RFIs – None at this time • Recently Submitted RFIs – None at this time • Pending RFIs – None at this Time		
4.0	**Questions and General Discussion Items** • Reclaiming condensate lines? VA will find out. • •		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 02/19/2026**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Justin Millerberg	Davenergy		Justin.millerberg@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Christopher Aguon	VA			
Kayla Haruguchi				
Jaedan Ford	Davenergy			
Roberto Perez	Davenergy		Robert.perez@davenergy.com	
Jack Lambert	Davenergy		Jack.lambert@davenergy.com	
Michael Hawarny	Bodwe			
Josh Murray	Davenergy		Josh.murray@davenergy.com	
Hugo Flores	Davenergy		Hugo.flores@davenergy.com	
Zachary Morrow				
Tori Chang	SGH			
Nathan Fishnick	Valiint			

New Topics

Issue #	Topic	Action Item	Who
1.0	**Review Action Items from the Last Meeting:** ○		

Issue #	Topic	Action Item	Who

2.0	**Project Status Updates:**
	• Review project schedule and status:
	  ○ Site visit February
	  ○ Phasing plan in progress.
	• Review / discuss next milestone deliverable:		

3.0	**Current RFI Status:** • Recently Received RFIs – None at this time • Recently Submitted RFIs – None at this time • Pending RFIs – None at this Time		
4.0	**Questions and General Discussion Items** • Follow up on RFIs outstanding. • Follow up on cost estimate. • •		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 02/26/2026**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Justin Millerberg	Davenergy		Justin.millerberg@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Christopher Aguon	VA			X
Kayla Haruguchi				
Jaedan Ford	Davenergy			
Roberto Perez	Davenergy		Robert.perez@davenergy.com	
Jack Lambert	Davenergy		Jack.lambert@davenergy.com	
Michael Hawarny	Bodwe			
Josh Murray	Davenergy		Josh.murray@davenergy.com	
Hugo Flores	Davenergy		Hugo.flores@davenergy.com	
Zachary Morrow				
Tori Chang	SGH			
Nathan Fishnick	Valiint			

New Topics

Issue #	Topic	Action Item	Who
1.0	**Review Action Items from the Last Meeting:** ○		

Issue #	Topic	Action Item	Who

2.0	**Project Status Updates:**
	• Review project schedule and status:
	  ○ Site visit February
	  ○ Phasing plan in progress.
	• Review / discuss next milestone deliverable:		

3.0	**Current RFI Status:** • Recently Received RFIs – None at this time • Recently Submitted RFIs – None at this time • Pending RFIs – None at this Time		
4.0	**Questions and General Discussion Items** • Phase Plan will be sent to VA today. • Site visit plan to be sent to VA tomorrow. • Reviewed and discussed outstanding RFIs. • Follow up on cost estimate. • •		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 03/05/2026**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Justin Millerberg	Davenergy		Justin.millerberg@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Christopher Aguon	VA			X
Kayla Haruguchi				
Jaedan Ford	Davenergy			
Roberto Perez	Davenergy		Robert.perez@davenergy.com	
Jack Lambert	Davenergy		Jack.lambert@davenergy.com	
Michael Hawarny	Bodwe			
Josh Murray	Davenergy		Josh.murray@davenergy.com	
Hugo Flores	Davenergy		Hugo.flores@davenergy.com	
Zachary Morrow				
Tori Chang	SGH			
Nathan Fishnick	Valiint			

New Topics

Issue #	Topic	Action Item	Who
1.0	**Review Action Items from the Last Meeting:** ○		

Issue #	Topic	Action Item	Who

2.0	**Project Status Updates:**
	• Review project schedule and status:
	  ○ Site visit planned for Fire 03/09-03/11/2026 – VA will have ladders.
	  ○ Phasing plan in progress.
	• Review / discuss next milestone deliverable:		

3.0	**Current RFI Status:** • Recently Received RFIs – None at this time • Recently Submitted RFIs – None at this time • Pending RFIs – None at this Time		

4.0	**Questions and General Discussion Items**
	• Phase Plan will be sent to VA today.
	  ○ 2 options available –
	  ▪ Option 1 – replace condensate in kind, new central Chilled Water riser.
	  ▪ Option 2 – replace condensate and chilled water at the existing riser locations.
	• Site visit plan to be sent to VA tomorrow.
	• Reviewed and discussed outstanding RFIs.
	• Follow up on cost estimate.		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 03/19/2026**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Justin Millerberg	Davenergy		Justin.millerberg@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Christopher Aguon	VA			X
Kayla Haruguchi				
Jaedan Ford	Davenergy			
Roberto Perez	Davenergy		Robert.perez@davenergy.com	
Jack Lambert	Davenergy		Jack.lambert@davenergy.com	
Michael Hawarny	Bodwe			
Josh Murray	Davenergy		Josh.murray@davenergy.com	
Hugo Flores	Davenergy		Hugo.flores@davenergy.com	
Zachary Morrow				
Tori Chang	SGH			
Nathan Fishnick	Valiint			

New Topics

Issue #	Topic	Action Item	Who
1.0	**Review Action Items from the Last Meeting:** ○		

Issue #	Topic	Action Item	Who

2.0	**Project Status Updates:**
	• Review project schedule and status:
	  ○ Need VA direction for which option they would like.
	  ○ Phasing plan in progress.
	  ○ Provide updated schedule to VA.
	• Review / discuss next milestone deliverable:		

3.0	**Current RFI Status:** • Recently Received RFIs – None at this time • Recently Submitted RFIs – None at this time • Pending RFIs – None at this Time		

4.0	**Questions and General Discussion Items**
	• Phase Plan will be sent to VA today.
	  ○ 2 options available –
	  ▪ Option 1 – replace condensate in kind, new central Chilled Water riser.
	  ▪ Option 2 – replace condensate and chilled water at the existing riser locations.
	• Follow up on cost estimate.		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 04/02/2026**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Justin Millerberg	Davenergy		Justin.millerberg@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Christopher Aguon	VA			X
Kayla Haruguchi				
Jaedan Ford	Davenergy			
Roberto Perez	Davenergy		Robert.perez@davenergy.com	
Jack Lambert	Davenergy		Jack.lambert@davenergy.com	
Michael Hawarny	Bodwe			
Josh Murray	Davenergy		Josh.murray@davenergy.com	
Hugo Flores	Davenergy		Hugo.flores@davenergy.com	
Zachary Morrow				
Tori Chang	SGH			
Nathan Fishnick	Valiint			

New Topics

Issue #	Topic	Action Item	Who
1.0	**Review Action Items from the Last Meeting:** ○		

Issue #	Topic	Action Item	Who

2.0	**Project Status Updates:**
	• Review project schedule and status:
	  ○ Schedule discussion of shortening the end date to possibly 06/18/26 instead of 07/01/26.
	  ○ VA to review and update outstanding RFIs.
	  ○ BID Support 06/18/26 – 11/12/26
	  ○ Site visit – week 4/20 – to confirm the routing is possible or what the issue is. Jamal will be out on PTO.
	  ○ Fire/Life Safety Review for VA will be needed.
	• Review / discuss next milestone deliverable: 95% QC-04/24/26 / VA-05/04/26		

3.0	**Current RFI Status:** • Recently Received RFIs – None at this time • Recently Submitted RFIs – None at this time • Pending RFIs – None at this Time		

4.0	**Questions and General Discussion Items**
	• Phase Plan will be sent to VA today.
	  ○ 2 options available –
	  ▪ Option 1 – replace condensate in kind, new central Chilled Water riser.
	  ▪ Option 2 – replace condensate and chilled water at the existing riser locations.		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 04/09/2026**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Justin Millerberg	Davenergy		Justin.millerberg@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Christopher Aguon	VA			X
Kayla Haruguchi				
Jaedan Ford	Davenergy			
Roberto Perez	Davenergy		Robert.perez@davenergy.com	
Jack Lambert	Davenergy		Jack.lambert@davenergy.com	
Michael Hawarny	Bodwe			
Josh Murray	Davenergy		Josh.murray@davenergy.com	
Hugo Flores	Davenergy		Hugo.flores@davenergy.com	
Zachary Morrow				
Tori Chang	SGH			
Nathan Fishnick	Valiint			

New Topics

Issue #	Topic	Action Item	Who
1.0	**Review Action Items from the Last Meeting:** ○		

Issue #	Topic	Action Item	Who

2.0	**Project Status Updates:**
	• Review project schedule and status:
	  ○ Schedule discussion of shortening the end date to possibly 06/18/26 instead of 07/01/26. Revised schedule sent to VA 03/26/26.
	  ○ VA to review and update outstanding RFIs.
	  ○ BID Support 06/18/26 – 11/12/26
	  ○ Site visit – week 4/20 – to confirm the routing is possible or what the issue is. Jamal will be out on PTO.
	  ○ Fire/Life Safety Review for VA will be needed.
	• Review / discuss next milestone deliverable: 95% QC-04/24/26 / VA-05/04/26		

3.0	**Current RFI Status:** • Recently Received RFIs – None at this time • Recently Submitted RFIs – None at this time • Pending RFIs – None at this Time		
4.0	**Questions and General Discussion Items** • Discussed new phasing. • New work piping being added to model. • Pipe flow model updated. Electrical is getting pump size info. Circuits identified. • Meeting with TAB contractor tomorrow regarding site visit. • Discussed/Reviewed outstanding RFIs. • Discussed/Reviewed revised schedule.		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 04/10/2026**
Project No.	**570-20-308 / 90209**	**Subject:**	**TAB Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	X
Justin Millerberg	Davenergy		Justin.millerberg@davenergy.com	X
William Clayton				X
Chip				X

New Topics

Issue #	Topic	Action Item	Who
1.0	**Review Action Items from the Last Meeting:** ○		
2.0	**Project Status Updates:** • Review project schedule and status: ○ Schedule discussion of shortening the end date to possibly 06/18/26 instead of 07/01/26. Revised schedule sent to VA 03/26/26. ○ VA to review and update outstanding RFIs. ○ BID Support 06/18/26 – 11/12/26 ○ Site visit – week 4/20 – to confirm the routing is possible or what the issue is. Jamal will be out on PTO. ○ Fire/Life Safety Review for VA will be needed. • Review / discuss next milestone deliverable: 95% QC-04/24/26 / VA-05/04/26		
3.0	**Current RFI Status:** • Recently Received RFIs – None at this time • Recently Submitted RFIs – None at this time • Pending RFIs – None at this Time		

Issue #	Topic	Action Item	Who
4.0	**Questions and General Discussion Items** • The scope is to replace all chilled water lines. TAB asking about how the site conditions are. Are there pete's ports on the coils? • Delta across the flow; air side would be great too. Shouldn't be a problem for TAB team. • Reviewed and discussed existing pics Davenergy already had. • Contact Miguel for parking. • • Discussed new phasing. • New work piping being added to model. • Pipe flow model updated. Electrical is getting pump size info. Circuits identified. • Meeting with TAB contractor tomorrow regarding site visit. • Discussed/Reviewed outstanding RFIs. • Discussed/Reviewed revised schedule.		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 04/16/2026**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Justin Millerberg	Davenergy		Justin.millerberg@davenergy.com	X
Jamal Ahmid-Kargbo				X
Bran Murphy				
Christopher Aguon	VA			X

New Topics

Issue #	Topic	Action Item	Who
1.0	**Review Action Items from the Last Meeting:** ○		
2.0	**Project Status Updates:** • Review project schedule and status: ○ Schedule discussion of shortening the end date to possibly 06/18/26 instead of 07/01/26. Revised schedule sent to VA 03/26/26. ○ VA to review and update outstanding RFIs. ○ BID Support 06/18/26 – 11/12/26 ○ Site visit – week 4/20 – to confirm the routing is possible or what the issue is. Jamal will be out on PTO. ○ Fire/Life Safety Review for VA will be needed. • Review / discuss next milestone deliverable: 95% QC-04/24/26 / VA-05/04/26		
3.0	**Current RFI Status:** • Recently Received RFIs – None at this time • Recently Submitted RFIs – None at this time • Pending RFIs – None at this Time		

Issue #	Topic	Action Item	Who
4.0	**Questions and General Discussion Items** • Received email from VA, stating they wanted the stamped set to put it in force before May 1. Due to VA 04/23/26. • • The scope is to replace all chilled water lines. TAB asking about how the site conditions are. Are there pete's ports on the coils? • Delta across the flow; air side would be great too. Shouldn't be a problem for TAB team. • Reviewed and discussed existing pics Davenergy already had. • Contact Miguel for parking. • • Discussed new phasing. • New work piping being added to model. • Pipe flow model updated. Electrical is getting pump size info. Circuits identified. • Meeting with TAB contractor tomorrow regarding site visit. • Discussed/Reviewed outstanding RFIs. • Discussed/Reviewed revised schedule.		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Meeting Agenda & Minutes

Project:	**Replace and Expand CHW Infrastructure Bldg. 1**	**Date:**	**Ongoing – 03/13/2026**
Project No.	**570-20-308 / 90209**	**Subject:**	**AE Meeting**
Location:	**Teams**	**Written By:**	**Alexander Boucher, Davenergy**

Attendees

Name	Organization/ Company	Contact #	Email	Present
Alexander P. Boucher	Davenergy	240-499-5981 (M)	Alexander.boucher@davenergy.com	X
Jennifer Smith	Davenergy		Jennifer.smith@davenergy.com	X
Drew Laverty	Davenergy		Andrew.laverty@davenergy.com	
Justin Millerberg	Davenergy		Justin.millerberg@davenergy.com	X
Bran Murphy	VA-COR		Bran.murphy@va.gov	X
Jamal Ahmid-Kargbo	VA		jamal.ahmid-kargbo@va.gov	X
Upen Maharjan	VA		Upen.maharjan@va.gov	
Daniel Jhun	VA Contracting		Daniel.jhun@va.gov	
Christopher Aguon	VA			
Travis Horn	VA			X
Kayla Haruguchi				
Jaedan Ford	Davenergy			
Roberto Perez	Davenergy		Robert.perez@davenergy.com	
Jack Lambert	Davenergy		Jack.lambert@davenergy.com	
Michael Hawarny	Bodwe			
Josh Murray	Davenergy		Josh.murray@davenergy.com	
Hugo Flores	Davenergy		Hugo.flores@davenergy.com	
Zachary Morrow				
Tori Chang	SGH			
Nathan Fishnick	Valiint			

New Topics

Issue #	Topic	Action Item	Who
1.0	**Review Action Items from the Last Meeting:** ○		

Issue #	Topic	Action Item	Who

2.0	**Project Status Updates:**
	• Review project schedule and status:
	  ○ Site visit planned for Fire 03/09-03/11/2026 – VA will have ladders.
	  ○ Phasing plan in progress.
	• Review / discuss next milestone deliverable:		

3.0	**Current RFI Status:** • Recently Received RFIs – None at this time • Recently Submitted RFIs – None at this time • Pending RFIs – None at this Time		

4.0	**Questions and General Discussion Items**
	• Phase Plan was reviewed and discussed.
	  ○ 2 options available –
	  ▪ Option 1 – replace condensate in kind, new central Chilled Water riser.
	  ▪ Option 2 – replace condensate and chilled water at the existing riser locations.
	• Reviewed and discussed outstanding RFIs.
	• Follow up on cost estimate.		

Action Items

Task/Item	Responsible	Due Date
1)		
2)		

Additional Notes:

Appendix E – October 2022 TAB Report

RESEARCH AIR FLO, INC.

5571 Peachtree Road - Atlanta, Georgia 30341

Phone 770.452.8292 - Fax 770.455.6209

www.researchairflo.com

Certified Test, Adjust and Balance Report

Date:	*October 19, 2022*
Project TB#:	*39418*
Project:	*Fresno VA Hospital CHW Onsite Data Collection - TAB Survey*
Address:	*2615 E.Clinton Avenue* *Fresno, CA*
Architect:	*N/A*
Engineer:	*N/A*
HVAC Contractor:	*DAV Energy Solutions, Inc.* *San Diego, CA*

RESEARCH AIR FLO, INC.

Table Of Contents

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Page	Description
1	Cover
2	Table Of Contents
3	Certification
4	Instrumentation
5	Nomenclature
6	Project Summary
7	1-3-AH-A&B Cooling Coil Test
8	1-3-AH-C&1C-FC-2 Coil Test
9	1-AA & 1-AB Cooling Coil Test
10	1-AC & 1-AD Cooling Coil Test
11	1-AE & 1-BA Cooling Coil Test
12	1-BB & 1-BC Cooling Coil Test
13	1-BD & 1-BE Cooling Coil Test
14	1-BF & 1-BG Cooling Coil Test
15	1-BH & 1-BI Cooling Coil Test
16	1-BK Cooling Coil Test
17	1-CA Cooling Coil Test
18	1-CB&1C-FC-1 Cooling Coil Test
19	1-6-GA & 1-A2 Cooling Coil Test
20	OPC-B-AH-A&B Cooling Coil
21	OPC-P-AH-A&B Cooling Coil Test
22	OPC-P-AH-C&D Cooling Coil Test
23	OPC-P-AH-E Cooling Coil Test
24	11X17 Diagram

RESEARCH AIR FLO, INC.

Report Certification

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

THE DATA PRESENTED IN THIS REPORT IS A RECORD OF SYSTEM MEASUREMENTS AND FINAL ADJUSTMENTS THAT HAVE BEEN OBTAINED IN ACCORDANCE WITH THE CURRENT EDITION OF THE NEBB PROCEDURAL STANDARDS FOR TESTING, ADJUSTING, AND BALANCING OF ENVIRONMENTAL SYSTEMS.
ANY VARIANCES FROM DESIGN QUANTITIES, WHICH EXCEED NEBB TOLERANCES, ARE NOTED IN THE TEST- ADJUST- BALANCE REPORT PROJECT SUMMARY.

Submitted and Certified by: ***Kevin J Derrick***
NEBB CERTIFIED PROFESSIONAL

Report Certification Date: October 19, 2022

Research Air Flo, Inc.
Certification Number: **2736**
Expiration Date: **3/31/2024**

Not valid without NEBB Professional's Signature above

Research Air Flo, Inc.
Kevin J Derrick
CERTIFICATION
2736
Exp. 3/31/2024
Air and Hydronic Systems

RESEARCH AIR FLO, INC.

Instrumentation Calibration

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Instrument Type	Manufacturer	Model Number	Serial Number	Calibration Date	
Air Data Multimeter	Shortridge	ADM-860C	M10134	6/22/2022	
Hydro Data Multimeter	Shortridge	HDM-250	W11207	6/22/2022	
Temperature Sensor	Cooper	SRH77A	103118022	6/24/2022	
Humidity Sensor	Cooper	SRH77A	103118022	6/24/2022	
Tachometer	Shimpo	MT-100	A167B5001P	6/22/2022	
Amp / Volt Meter	FLIR	CM83	13-CM83-0002718	6/22/2022	
Ultrasonic Flow Meter	Controlotron	1010WDP1	U2202	N/C/R	
Rotating Vane Anemometer	Testo	RVA417	60696300	6/22/2022	

N/C/R = No Calibration Required

RESEARCH AIR FLO, INC.

Nomenclature

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Airflow Data		
CFM	=	Cubic Feet Per Minute
FPM	=	Feet Per Minute
SA	=	Supply Air
RA	=	Return Air
OA	=	Outside Air
EA	=	Exhaust Air

Waterflow Data		
GPM	=	Gallons Per Minute
CHW	=	Chilled Water
HW	=	Hot Water
CW	=	Condenser Water
PW	=	Process Water

Air Pressure Data		
TSP	=	Total Static Pressure (in.wc.)
ESP	=	External Static Pressure (in.wc.)
SP	=	Static Pressure (in.wc.)
ΔP or DP	=	Differential Pressure
OTA	=	Open To Atmosphere

Water Pressure Data		
FT	=	Feet Of Water Column
IN	=	Inches Of Water Column
IN HG	=	Inches Of Mercury
PSI	=	Pounds Per Square Inch
ΔP or DP	=	Differential Pressure

Temperature Data (°F)		
EAT DB	=	Entering Air Temp. Dry Bulb
LAT DB	=	Leaving Air Temp. Dry Bulb
EAT WB	=	Entering Air Temp. Wet Bulb
LAT WB	=	Leaving Air Temp. Wet Bulb
EWT	=	Entering Water Temperature
LWT	=	Leaving Water Temperature
ΔT or DT	=	Differential Temperature
°F	=	Degrees Fahrenheit

Electrical Data		
HP	=	Horsepower
KW	=	Kilowatts
FLA	=	Full Load Amps
BHP	=	Brake Horsepower
VFD	=	Variable Frequency Drive
ECM	=	Electronically Commutated Motor
VSM	=	Variable Speed Motor
VSC	=	Variable Speed Controller
MSM	=	Multiple Speed Motor

Distribution Data		
CD	=	Ceiling Diffuser
SD	=	Slot Diffuser
SG	=	Supply Grille
LFD	=	Laminar Flow Diffuser
FG	=	Floor Grille
RG	=	Return Grille
EG	=	Exhaust Grille
ES	=	Exhaust Slot

Miscellaneous		
FFU	=	Fan Filter Unit
CSD	=	Continuous Slot Diffuser
NL	=	Not Listed
ID	=	Inaccessible Data
HEPA	=	High Efficiency Particulate Air
BAS	=	Building Automation System
LSD	=	Linear Supply Diffuser
RVA	=	Rotating Vane Anemometer

RESEARCH AIR FLO, INC.

Project Summary

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Item No.	Device	Description	Page Number
1	**Coils**	*Unless otherwise noted, there were no available means to determine the actual flows for any of the CHW coils on this project.*	-
2	**1C-FC-2, 1-BK,1C-FC-1, 1-6-GA & 1-A2**	*No test ports were installed to obtain the waterside temperatures and coil ΔP's.*	8,16,18&19
3	**1-AA,1-AB, 1-BD,1-BE, 1-BF,1-BG & 1-BI**	*No test ports were installed to obtain the waterside temperatures and coil ΔP's. The coils are inaccessible.*	9,13,14&15
4	**1-AC,1-AD,1-AE, OPC-P-AH-C thru E**	*The coils are not in use and were found valved off at the time of testing.*	10,11,22&23
5	**1-BA,1BB,1-BC**	*The coils were inaccessible at the time of testing.*	11&12
6	**1-BH**	*The control valve was found closed and nonoperational at the time of testing. The coil could not be tested.*	15
7	**1-CA&1-CB**	*No coil test ports were installed. The leaving water temperatures were taken at the circuit setter test ports.*	17&18
8	**OPC-B-AH-A&B**	*The pipes are significantly corroded. Damage to the pipes will most likely occur if the currently installed gauges are removed to add test ports.*	20

RESEARCH AIR FLO, INC.

Apparatus Cooling Coil Test Report

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Test Date: 9/19/2022 - 10/7/2022 **Tested By:** B. Hadley

Unit Data		Note
Unit Number	1-3-AH-A	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	43.3	
Leaving Wtr.(ºF)	-	54.0	
Coil ΔP (ft.wc.)	-	0.56(1)/ 0.77(2)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Unit Data		Note
Unit Number	1-3-AH-B	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	43.7	
Leaving Wtr.(ºF)	-	56.3	
Coil ΔP (ft.wc.)	-	0.42	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Remarks:

Note: Unless otherwise noted, there were no available means to determine the actual flows for any of the CHW coils on this project.

(1) Top Coil.

(2) Bottom Coil.

RESEARCH AIR FLO, INC.

Apparatus Cooling Coil Test Report

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Test Date: 9/19/2022 - 10/7/2022 **Tested By:** B. Hadley

Unit Data		Note
Unit Number	1-3-AH-C	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	43.7	
Leaving Wtr.(ºF)	-	54.5	
Coil ΔP (ft.wc.)	-	0.68(1)/ 1.05(2)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Unit Data		Note
Unit Number	1C-FC-2	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(3)	
Leaving Wtr.(ºF)	-	(3)	
Coil ΔP (ft.wc.)	-	(3)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Remarks:

(1) Top Coil.

(2) Bottom Coil.

(3) No test ports were installed to obtain the waterside temperatures and coil ΔP.

RESEARCH AIR FLO, INC.

Apparatus Cooling Coil Test Report

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Test Date: 9/19/2022 - 10/7/2022 **Tested By:** B. Hadley

Unit Data		Note
Unit Number	1-AA	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Unit Data		Note
Unit Number	1-AB	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Remarks:

(1) No test ports were installed to obtain the waterside temperatures and coil ΔP. The coil is inaccessible.

RESEARCH AIR FLO, INC.

Apparatus Cooling Coil Test Report

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Test Date: 9/19/2022 - 10/7/2022 **Tested By:** B. Hadley

Unit Data		Note
Unit Number	1-AC	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Unit Data		Note
Unit Number	1-AD	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Remarks:

(1) The coil is not in use and was found valved off at the time of testing.

RESEARCH AIR FLO, INC.

Apparatus Cooling Coil Test Report

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Test Date: 9/19/2022 - 10/7/2022 **Tested By:** B. Hadley

Unit Data		Note
Unit Number	1-AE	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Unit Data		Note
Unit Number	1-BA	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(2)	
Leaving Wtr.(ºF)	-	(2)	
Coil ΔP (ft.wc.)	-	(2)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Remarks:

(1) The coil is not in use and was found valved off at the time of testing.

(2) The coil was inaccessible at the time of testing.

RESEARCH AIR FLO, INC.

Apparatus Cooling Coil Test Report

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Test Date: 9/19/2022 - 10/7/2022 **Tested By:** B. Hadley

Unit Data		Note
Unit Number	1-BB	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Unit Data		Note
Unit Number	1-BC	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Remarks:

(1) The coil was inaccessible at the time of testing.

RESEARCH AIR FLO, INC.

Apparatus Cooling Coil Test Report

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Test Date: 9/19/2022 - 10/7/2022 **Tested By:** B. Hadley

Unit Data		Note
Unit Number	1-BD	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Unit Data		Note
Unit Number	1-BE	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Remarks:

(1) No test ports were installed to obtain the waterside temperatures and coil ΔP. The coil is inaccessible.

RESEARCH AIR FLO, INC.

Apparatus Cooling Coil Test Report

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Test Date: 9/19/2022 - 10/7/2022 **Tested By:** B. Hadley

Unit Data		Note
Unit Number	1-BF	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Unit Data		Note
Unit Number	1-BG	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Remarks:

(1) No test ports were installed to obtain the waterside temperatures and coil ΔP. The coil is inaccessible.

RESEARCH AIR FLO, INC.

Apparatus Cooling Coil Test Report

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Test Date: 9/19/2022 - 10/7/2022 **Tested By:** B. Hadley

Unit Data		Note
Unit Number	1-BH	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Unit Data		Note
Unit Number	1-BI	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(2)	
Leaving Wtr.(ºF)	-	(2)	
Coil ΔP (ft.wc.)	-	(2)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Remarks:

(1) The control valve was found closed and nonoperational at the time of testing. The coil could not be tested.

(2) No test ports were installed to obtain the waterside temperatures and coil ΔP. The coil is inaccessible.

RESEARCH AIR FLO, INC.

Apparatus Cooling Coil Test Report

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Test Date: 9/19/2022 - 10/7/2022 **Tested By:** B. Hadley

Unit Data		Note
Unit Number	1-BK	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Unit Data		Note
Unit Number		
Service		

Air Data	Design	Actual	Note
CFM			
Entering DB (ºF)			
Entering WB (ºF)			
Leaving DB (ºF)			
Leaving WB (ºF)			

Water Data	Design	Actual	Note
GPM			
Entering Wtr.(ºF)			
Leaving Wtr.(ºF)			
Coil ΔP (ft.wc.)			

Flow Control Device Data		Note
Manufacturer		
Type		
Size (in.)		
Position		
ΔP ( )		

Remarks:

(1) No test ports were installed to obtain the waterside temperatures and coil ΔP.

RESEARCH AIR FLO, INC.

Apparatus Cooling Coil Test Report

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Test Date: 9/19/2022 - 10/7/2022 **Tested By:** B. Hadley

Unit Data		Note
Unit Number	1-CA	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	4.9	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	58.2	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	Bell & Gossett	
Type	Circuit Setter	
Size (in.)	0.75	
Position	0	
ΔP (Ft.)	7.2	

Unit Data		Note
Unit Number		
Service		

Air Data	Design	Actual	Note
CFM			
Entering DB (ºF)			
Entering WB (ºF)			
Leaving DB (ºF)			
Leaving WB (ºF)			

Water Data	Design	Actual	Note
GPM			
Entering Wtr.(ºF)			
Leaving Wtr.(ºF)			
Coil ΔP (ft.wc.)			

Flow Control Device Data		Note
Manufacturer		
Type		
Size (in.)		
Position		
ΔP ( )		

Remarks:

(1) No coil test ports were installed. The leaving water temperature was taken at the circuit setter test port.

RESEARCH AIR FLO, INC.

Apparatus Cooling Coil Test Report

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Test Date: 9/19/2022 - 10/7/2022 **Tested By:** B. Hadley

Unit Data		Note
Unit Number	1-CB	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	4.4	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	58.4	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	Bell & Gossett	
Type	Circuit Setter	
Size (in.)	0.75	
Position	0	
ΔP (Ft.)	6.0	

Unit Data		Note
Unit Number	1C-FC-1	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(2)	
Leaving Wtr.(ºF)	-	(2)	
Coil ΔP (ft.wc.)	-	(2)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Remarks:

(1) No coil test ports were installed. The leaving water temperature was taken at the circuit setter test port.

(2) No test ports were installed to obtain the waterside temperatures and coil ΔP.

RESEARCH AIR FLO, INC.

Apparatus Cooling Coil Test Report

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Test Date: 9/19/2022 - 10/7/2022 **Tested By:** B. Hadley

Unit Data		Note
Unit Number	1-6-GA	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Unit Data		Note
Unit Number	1-A2	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Remarks:

(1) No test ports were installed to obtain the waterside temperatures and coil ΔP.

RESEARCH AIR FLO, INC.

Apparatus Cooling Coil Test Report

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Test Date: 9/19/2022 - 10/7/2022 **Tested By:** B. Hadley

Unit Data		Note
Unit Number	OPC-B-AH-A	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Unit Data		Note
Unit Number	OPC-B-AH-B	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Remarks:

(1) The pipes are significantly corroded. Damage to the pipes will most likely occur if the currently installed gauges are removed to add test ports.

RESEARCH AIR FLO, INC.

Apparatus Cooling Coil Test Report

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Test Date: 9/19/2022 - 10/7/2022 **Tested By:** B. Hadley

Unit Data		Note
Unit Number	OPC-P-AH-A	
Service	AH-1 2nd Fl. Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	43.5	
Leaving Wtr.(ºF)	-	51.6	
Coil ΔP (ft.wc.)	-	19.1	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Unit Data		Note
Unit Number	OPC-B-AH-B	
Service	AH-1 2nd Fl. Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	43.5	
Leaving Wtr.(ºF)	-	57.0	
Coil ΔP (ft.wc.)	-	10.1	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Remarks:

RESEARCH AIR FLO, INC.

Apparatus Cooling Coil Test Report

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Test Date: 9/19/2022 - 10/7/2022 **Tested By:** B. Hadley

Unit Data		Note
Unit Number	OPC-P-AH-C	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Unit Data		Note
Unit Number	OPC-P-AH-D	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Remarks:

(1) The coil is not in use and was found valved off at the time of testing.

RESEARCH AIR FLO, INC.

Apparatus Cooling Coil Test Report

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Test Date: 9/19/2022 - 10/7/2022 **Tested By:** B. Hadley

Unit Data		Note
Unit Number	OPC-P-AH-E	
Service	Chilled Water	

Air Data	Design	Actual	Note
CFM	-	-	
Entering DB (ºF)	-	-	
Entering WB (ºF)	-	-	
Leaving DB (ºF)	-	-	
Leaving WB (ºF)	-	-	

Water Data	Design	Actual	Note
GPM	-	-	
Entering Wtr.(ºF)	-	(1)	
Leaving Wtr.(ºF)	-	(1)	
Coil ΔP (ft.wc.)	-	(1)	

Flow Control Device Data		Note
Manufacturer	-	
Type	-	
Size (in.)	-	
Position	-	
ΔP ( )	-	

Unit Data		Note
Unit Number		
Service		

Air Data	Design	Actual	Note
CFM			
Entering DB (ºF)			
Entering WB (ºF)			
Leaving DB (ºF)			
Leaving WB (ºF)			

Water Data	Design	Actual	Note
GPM			
Entering Wtr.(ºF)			
Leaving Wtr.(ºF)			
Coil ΔP (ft.wc.)			

Flow Control Device Data		Note
Manufacturer		
Type		
Size (in.)		
Position		
ΔP ( )		

Remarks:

(1) The coil is not in use and was found valved off at the time of testing.

RESEARCH AIR FLO, INC.

System Diagram

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

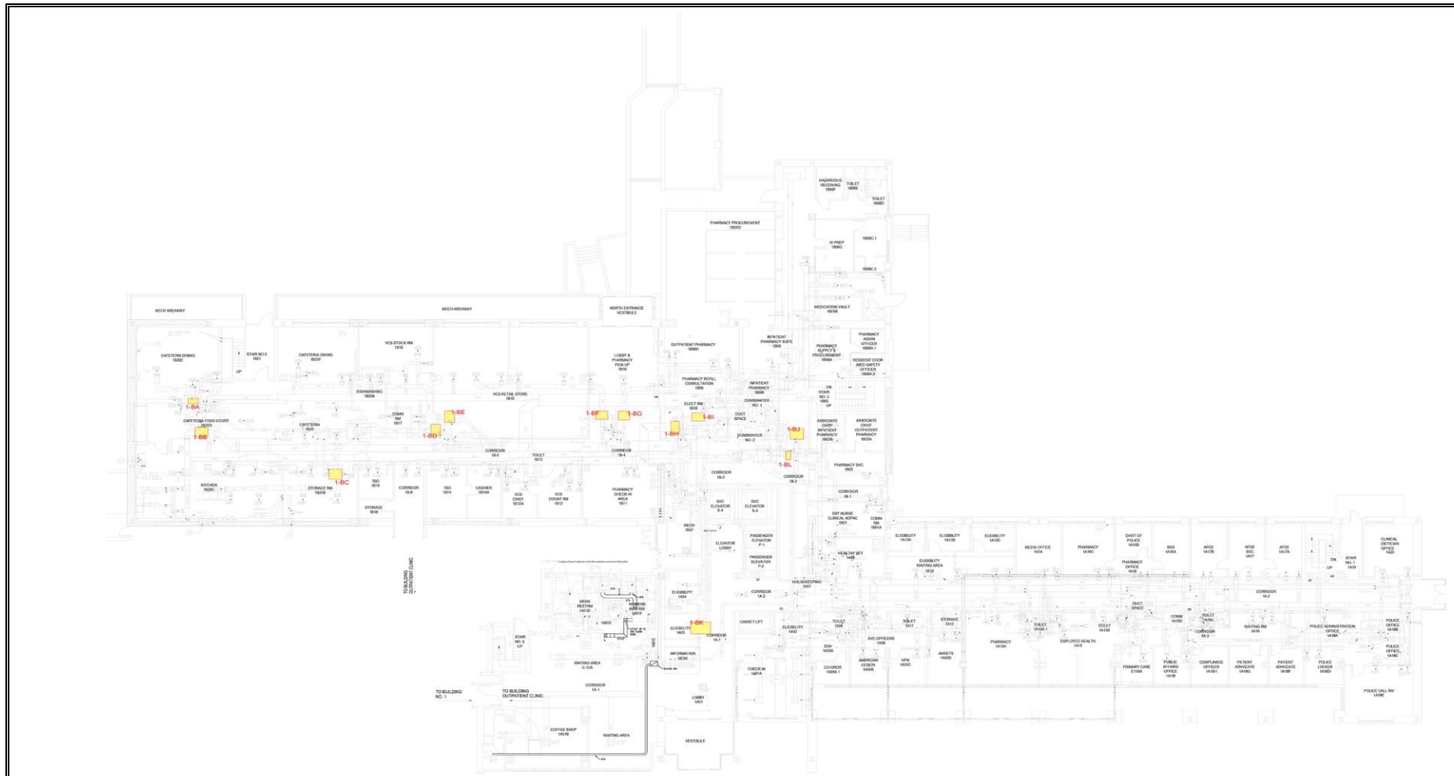
Project Address	*Drawing Number*	***RAF-1***
2615 E.Clinton Avenue	*Floor Plan*	*Mechanical*
Fresno, CA	*Drawing By*	*RCH*
	System	***Hydronic***

RESEARCH AIR FLO, INC.

System Diagram

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Project Address	Drawing Number	RAF-2
2615 E.Clinton Avenue	Floor Plan	Mechanical
Fresno, CA	Drawing By	RCH
	System	Hydronic

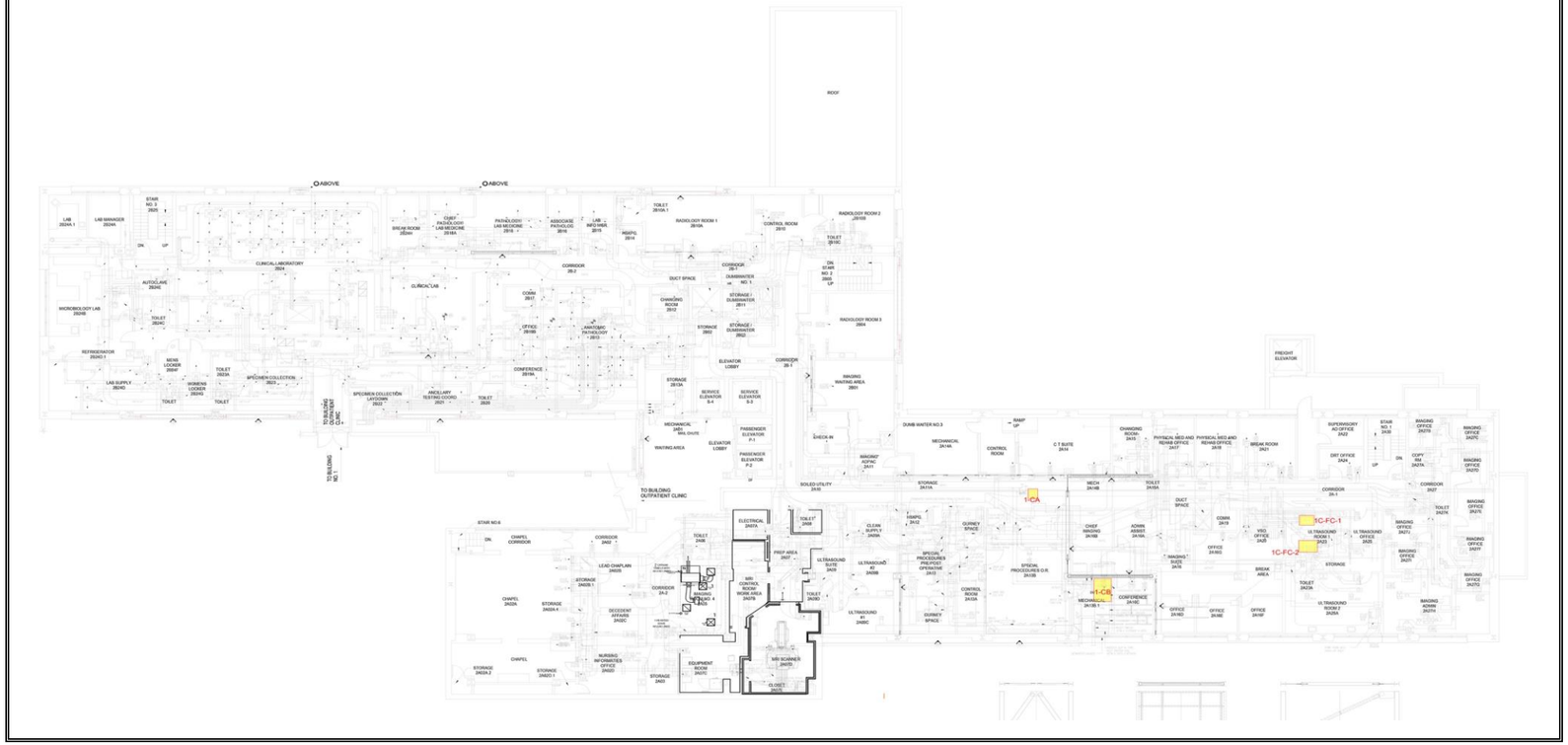


RESEARCH AIR FLO, INC.

System Diagram

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Project Address	Drawing Number	RAF-3
2615 E.Clinton Avenue	Floor Plan	Mechanical
Fresno, CA	Drawing By	RCH
	System	Hydronic


ROOF
ABOVE
ABOVE
1-CA
1C-FC-1
1C-FC-2
1-CB
TO BUILDING OUTPATIENT CLINIC
TO BUILDING OUTPATIENT CLINIC
CLINICAL LABORATORY 2024
CORRIDOR 2B-2
RADIOLOGY ROOM 1 2B16A
RADIOLOGY ROOM 2 2B16B
RADIOLOGY ROOM 3 2B04
CONTROL ROOM 2B15
CORRIDOR 2B-1
CORRIDOR 2B-4
CORRIDOR 2A-2
CORRIDOR 2A-1
CORRIDOR 2A27
CHANGING ROOM 2B12
STORAGE 2B02
STORAGE / DUMBWAITER 2B13
STORAGE / DUMBWAITER NO. 1 2B17
STORAGE 2B13A
ELEVATOR LOBBY
ELEVATOR LOBBY
WAITING AREA
IMAGING WAITING AREA 2B01
CHECK-IN
MECHANICAL 2A14A
CONTROL ROOM
C T SUITE 2A14
CHANGING ROOM 2A15
PHYSICAL MED AND REHAB OFFICE 2A17
PHYSICAL MED AND REHAB OFFICE 2A18
BREAK ROOM 2A21
SUPERVISORY AU OFFICE 2A22
IMAGING OFFICE 2A27A
IMAGING OFFICE 2A27B
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RESEARCH AIR FLO, INC.

System Diagram

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

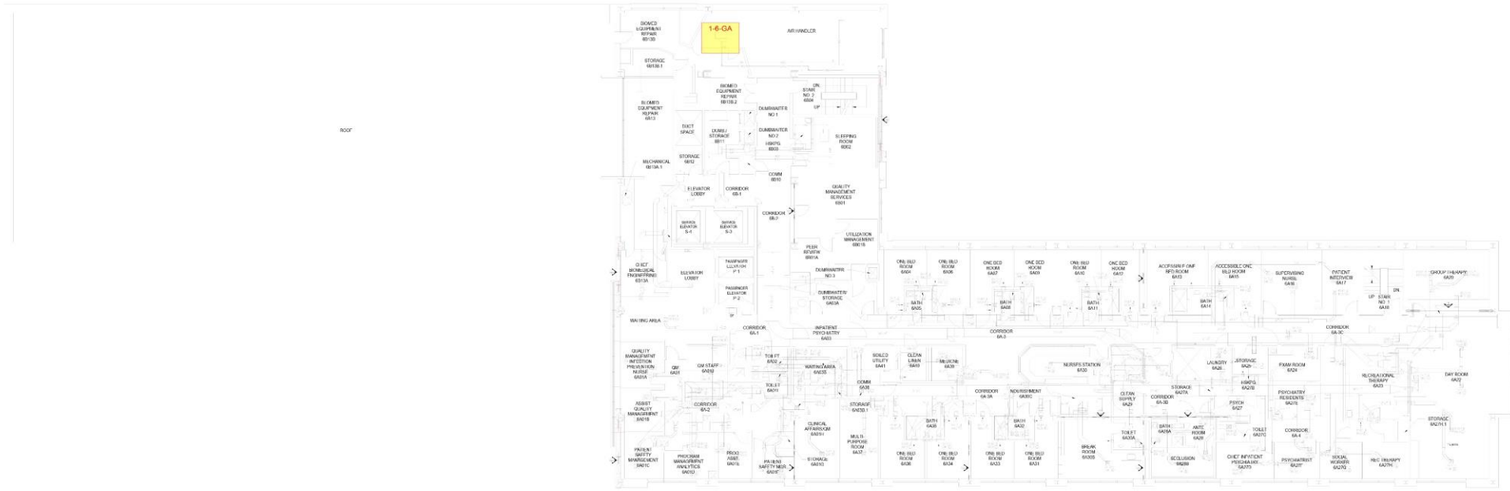
Project Address	Drawing Number	RAF-4
2615 E.Clinton Avenue	Floor Plan	Mechanical
Fresno, CA	Drawing By	RCH
	System	Hydronic

RESEARCH AIR FLO, INC.

System Diagram

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Project Address	Drawing Number	RAF-5
2615 E.Clinton Avenue	Floor Plan	Mechanical
Fresno, CA	Drawing By	RCH
	System	Hydronic

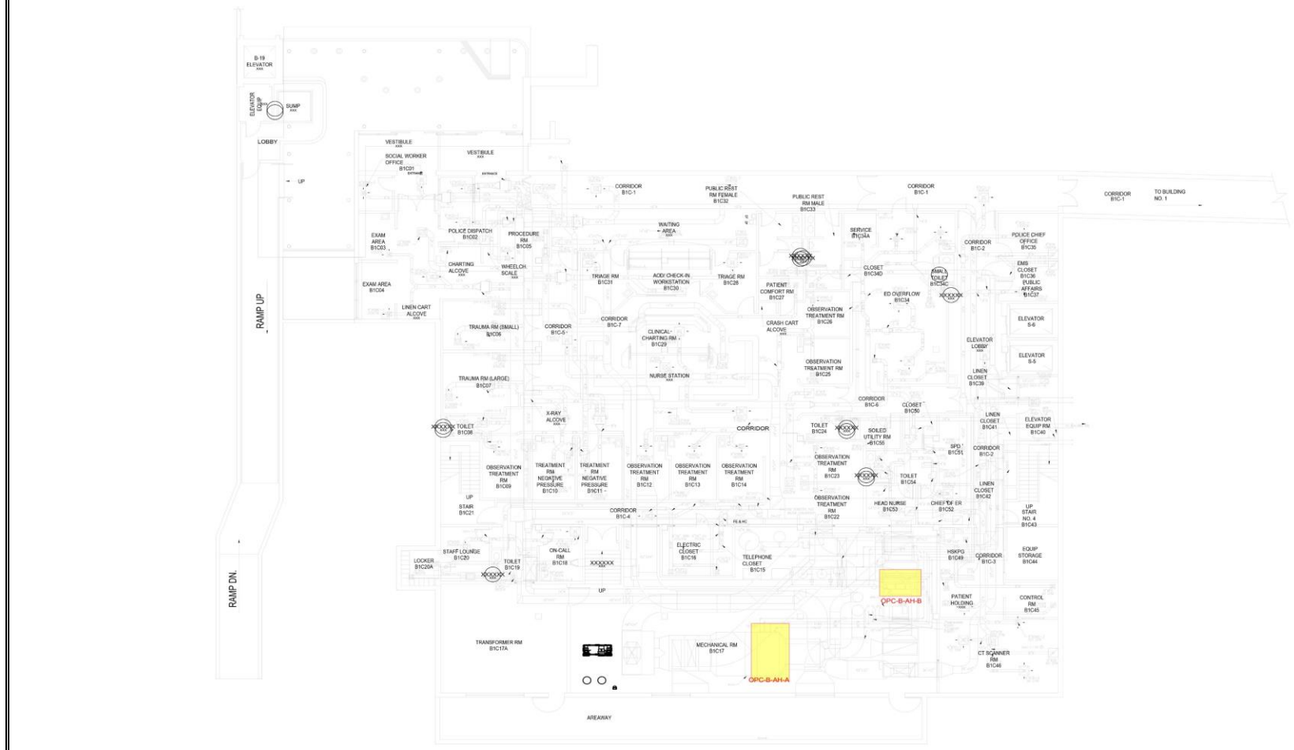


RESEARCH AIR FLO, INC.

System Diagram

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Project Address	Drawing Number	RAF-6
2615 E.Clinton Avenue	Floor Plan	Mechanical
Fresno, CA	Drawing By	RCH
	System	Hydronic



RESEARCH AIR FLO, INC.

System Diagram

Project: Fresno VA Hospital CHW Onsite Data Collection - TAB Survey **TB#:** 39418

Project Address	Drawing Number	RAF-7
2615 E.Clinton Avenue	Floor Plan	Mechanical
Fresno, CA	Drawing By	RCH
	System	Hydronic

Appendix F – Equipment Cutsheets

SFI PUMP SERIES | Submittal Data

Submittal No: 301-S105 **| MODEL NO** SFI3007D **| RPM** 3500 **| HP** 30 **| Effective:** January 27, 2020 **| Supersedes** New

JOB: 90209 **REPRESENTATIVE:**

ENGINEER: **CONTRACTOR:**

PRODUCT DATA

ITEM NO. Zone - 230 V **MODEL NO** SFI3007D **DOE BASIC MODEL NO.** SFI3007D-A-2P-PD

IMPELLER DIA 6.6 **GPM** 500 **HEAD** 98.9 **PEI:** 0.46 **HI ENERGY RATING** 54

NSF 61 CERTIFIED No **RPM** 3500 **HP** 30

VOLTAGE / CYCLE (HZ) / PHASE 230-460V / 60Hz / 3 Phase

OPERATING SPECIFICATIONS

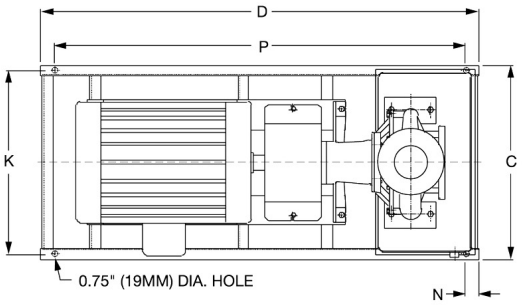
FLANGE 125 **TEMPERATURE** 250 Deg F

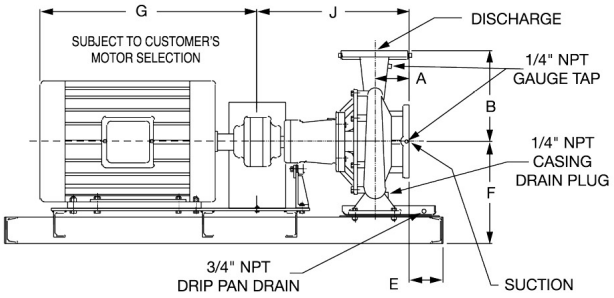
PRESSURE 175 PSIG

DIMENSIONS

Flange Size 4.0 x 3.0

HORSEPOWER	30
MOTOR ENCLOSURE (TEFC VS ODP)	TEFC
MOTOR FRAME	286TS
G MAX	24.83 (631)
MAX ASSEMBLY WEIGHT LBS. (KG)	684 (310)
A	4.72 (120)
B	9.00 (229)
C	21.18 (538)
D	56.00 (1422)
E	1.41 (36)
F	11.28 (287)
J	23.97 (609)
K	19.68 (500)
N	2.00 (51)
P	52.00 (1321)





English dimensions are in inches. Metric dimensions are in milimeters.
Metric data is presented in ( ). Do not use for construction purposes unless certified.

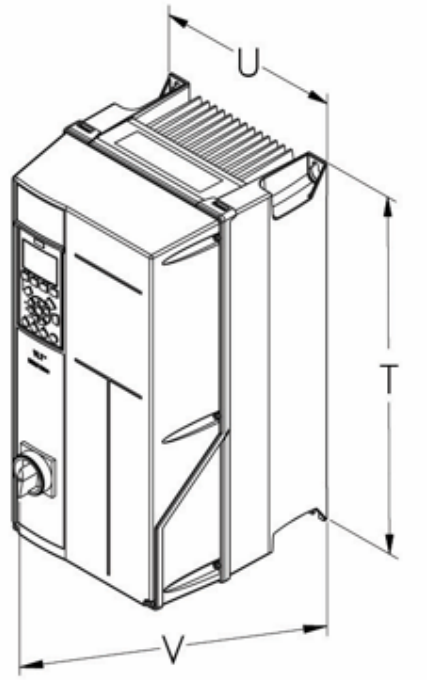
MATERIALS OF CONSTRUCTION

FLANGE	125
CASING	Cast Iron ASTM A48/A48M-03 Class 30A
COVER	Cast Iron ASTM A48/A48M-03 Class 30A
IMPELLER	Bronze
WEAR RING	n/a
SHAFT	Stainless Steel
SHAFT SLEEVE	Bronze
MECHANICAL SEAL	Seat Half: Ceramic, Rubber: EPT,
SEAL FLUSH LINE ASSEMBLY	n/a

NOTES:

DRIVE DATA

PROTOCOLS (STANDARD)	BACnet, Modbus RTU, N2 Metasys, FLN Apogee, FC Protocol
PROTOCOLS (OPTIONAL)	LonWorks | DeviceNet | Profibus
ENCLOSURE	NEMA Type 12 / IP 55
I/O (STANDARD)	6 Digital Inputs / 2 Digital Outputs, 1 Analog Current Output / 2 Analog Inputs, 2 Pulse Inputs, 2 Form C Relays
ADDITIONAL CONTROL OPTIONS	General Purpose I/O | Relay Card | 24DC Supply | Analog I/O
ELECTRICAL CONFIGURATION	Fused Disconnect without bypass (STANDARD)
EMC/RFI CONTROL	Integrated filter designed to meet EN61800-3
HARMONIC SUPPRESSION	Dual DC-link chokes (Equivalent: 5% AC line reactor), Supporting IEEE 519-1992 requirements
COOLING	Fan-cooled through back channel
AMBIENT TEMPERATURE	-10C to 45C up to 1000 meters above sea level, -14F to 113F up to 3000 feet above sea level



Drive with optional disconnect

SFI PUMP SERIES | Submittal Data

Submittal No: 301-S103 **| MODEL NO** SFI3007D **| RPM** 3500 **| HP** 25 **| Effective:** January 27, 2020 **| Supersedes** New

JOB: 90209 **REPRESENTATIVE:**

ENGINEER: **CONTRACTOR:**

PRODUCT DATA

ITEM NO. K-Coil - 230 V **MODEL NO** SFI3007D **DOE BASIC MODEL NO.** SFI3007D-A-2P-PD

IMPELLER DIA 6.2 **GPM** 430 **HEAD** 88 **PEI:** 0.46 **HI ENERGY RATING** 54

NSF 61 CERTIFIED No **RPM** 3500 **HP** 25

VOLTAGE / CYCLE (HZ) / PHASE 230-460V / 60Hz / 3 Phase

OPERATING SPECIFICATIONS

FLANGE 125 **TEMPERATURE** 250 Deg F

PRESSURE 175 PSIG

DIMENSIONS

Flange Size 4.0 x 3.0

HORSEPOWER	25
MOTOR ENCLOSURE (TEFC VS ODP)	TEFC
MOTOR FRAME	284TS
G MAX	24.83 (631)
MAX ASSEMBLY WEIGHT LBS. (KG)	684 (310)
A	4.72 (120)
B	9.00 (229)
C	21.18 (538)
D	56.00 (1422)
E	1.41 (36)
F	11.28 (287)
J	23.97 (609)
K	19.68 (500)
N	2.00 (51)
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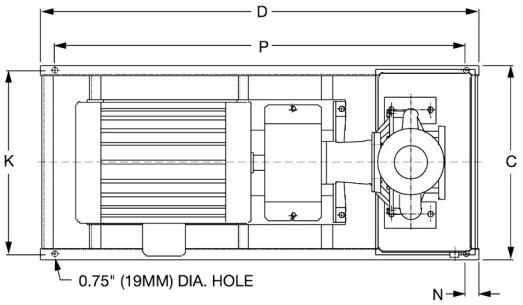
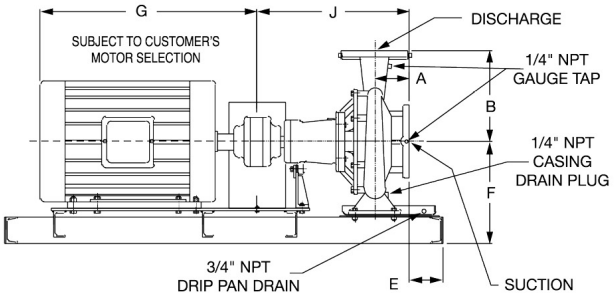




English dimensions are in inches. Metric dimensions are in milimeters.
Metric data is presented in ( ). Do not use for construction purposes unless certified.

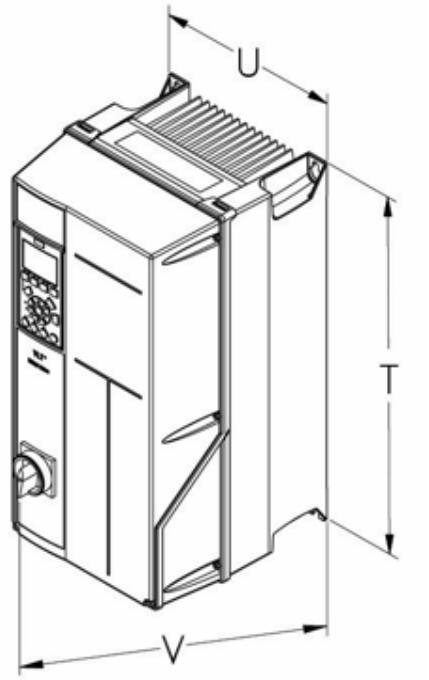
MATERIALS OF CONSTRUCTION

FLANGE	125
CASING	Cast Iron ASTM A48/A48M-03 Class 30A
COVER	Cast Iron ASTM A48/A48M-03 Class 30A
IMPELLER	Bronze
WEAR RING	n/a
SHAFT	Stainless Steel
SHAFT SLEEVE	Bronze
MECHANICAL SEAL	Seat Half: Ceramic, Rubber: EPT,
SEAL FLUSH LINE ASSEMBLY	n/a

NOTES:

DRIVE DATA

PROTOCOLS (STANDARD)	BACnet, Modbus RTU, N2 Metasys, FLN Apogee, FC Protocol
PROTOCOLS (OPTIONAL)	LonWorks | DeviceNet | Profibus
ENCLOSURE	NEMA Type 12 / IP 55
I/O (STANDARD)	6 Digital Inputs / 2 Digital Outputs, 1 Analog Current Output / 2 Analog Inputs, 2 Pulse Inputs, 2 Form C Relays
ADDITIONAL CONTROL OPTIONS	General Purpose I/O | Relay Card | 24DC Supply | Analog I/O
ELECTRICAL CONFIGURATION	Fused Disconnect without bypass (STANDARD)
EMC/RFI CONTROL	Integrated filter designed to meet EN61800-3
HARMONIC SUPPRESSION	Dual DC-link chokes (Equivalent: 5% AC line reactor), Supporting IEEE 519-1992 requirements
COOLING	Fan-cooled through back channel
AMBIENT TEMPERATURE	-10C to 45C up to 1000 meters above sea level, -14F to 113F up to 3000 feet above sea level



Drive with optional disconnect

Appendix G – Pipe-FLO Model

PDF-XChange
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ENGINEERING | CONSTRUCTION MANAGEMENT

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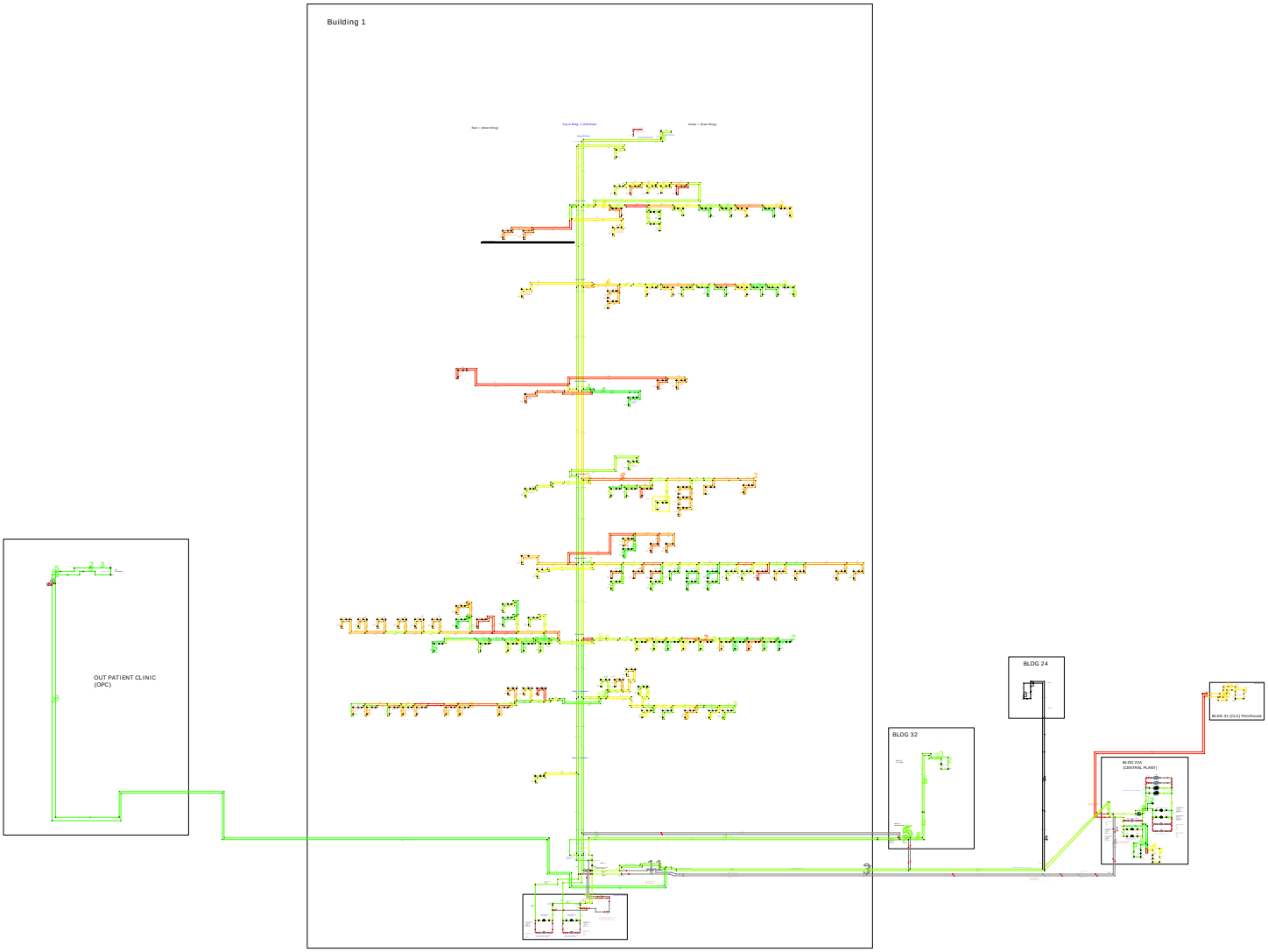
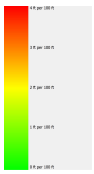


Color Gradient Criteria			
Head Loss per 100			
Range	Minimum	Maximum	Unit
Actual	0.00	4.32	t per 100 f
Specified	0.00	4.00	



PIPE-FLO Professional			Units Used				Project Information	
Program Version:	18.0		**Area:**	ft²	**Viscosity:**	cP	**Company:**	Davenergy Solutions
Calculation Method:	Darcy-Weisbach		**Length:**	ft	**Temperature:**	°F	**Project:**	Fresno VA Chilled Water System
Maximum Iterations:	100		**Elevation:**	ft	**Heat Transfer Rate:**	BTU/h	**Drawn by:**	Matthew Crowley, CEM
Percent Tolerance:	0.01	%	**Diameter:**	in	**Heat Transfer Coeff:**	BTU/h*ft²°F	**File Name:**	90209_Fresno_VA_Central_CHW_Riser_95Pct_D
Laminar Cutoff Re:	2100		**Velocity:**	ft/s	**Specific Heat Capacity:**	BTU/lb°F	**Lineup:**	Dual Pump
Allowable Deviation:	1	%	**Flow rate:**	gpm	**Thermal Capacitance:**	BTU/h°F	**Print Date:**	Friday, May 01, 2026 02:29 PM
			Pressure:	psi	**Thermal Insulance:**	h*ft²°F/BTU		
			Power:	hp	**Volume:**	gal		
			Density:	lb/ft³	**Atm Pressure:**	14.2 psi a		

Appendix H – April 2026 TAB Report

Fresno VA

CHW Survey

2615 E Clinton Ave, Fresno, CA 93703

Submission of

Certified Test, Adjust and Balance Report

April 29, 2026

Architect:	Not Applicable
Engineer:	Not Applicable
General Contractor:	Not Applicable
Mechanical Contractor:	Not Applicable
NEBB Certified TAB Firm:	United Test & Balance, Inc. 7013 Flagler Rd, Nordland, WA 98358
NEBB Certification Number:	3753

Report Certification

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

Certification

The data presented in this report is a record of system measurements and final adjustments that have been obtained in accordance with the current edition of the NEBB Procedural Standard for Testing, Adjusting and Balancing of Environmental Systems. The measurements shown, and the information given, in this report are certified to be accurate and complete, at the time and date information was gathered. Any variances from design quantities, which exceed NEBB tolerances, are noted in the TAB report project summary.

Submitted & Certified By

Firm Name

United Test & Balance, Inc.

NEBB Certification Number

3753

Expiration Date

12/31/2026

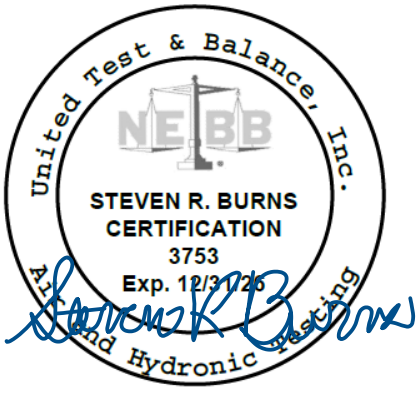
Certification Date

April 29, 2026

Signed & Sealed By

Certifying NEBB Certified TAB Professional

Steven Burns



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PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

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Report Summary and Remarks

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
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DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Report Summary and Remarks

Scope of Work

Includes

The Test and Balance (TAB) scope of work consist of auditing the flows at the existing chilled water valves.

General Remarks

Remark 1

There were not circuit setters installed in the typical position (after the 3 way valve on the return side of the coil), and were instead installed on the bypass. Flow was measured through the bypass on the majority of measurements, and it is noted as "Bypass Valve".

Remark 2

There were coils that were still on the heating loop, and had not been moved over to chilled water yet. They were noted as such.

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

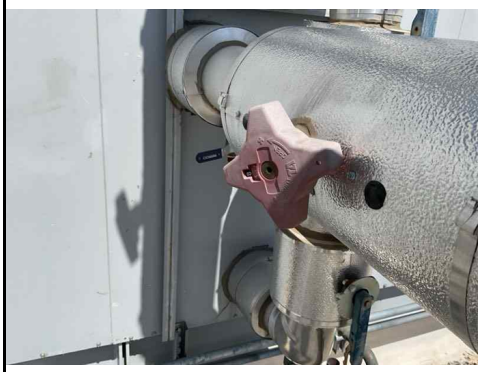
DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/AHU-1-1 Lower
AREA: Level 5 Roof

Valve Data	
Service	Chilled Water
Make	TA Hyd
Tag Photo	Yes
Model #	STAF
Size (in)	2 1/2
Installed Autoflow Range	NA

Test Data	
Actual Flow	88.00 GPM
Actual PD	0.80
PD Type	Valve (PSI)
Valve Position	8.1

Make Photo:



Name: AHU-AHU-1-1(1).jpg
Captured: 4/29/2026 8:16 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

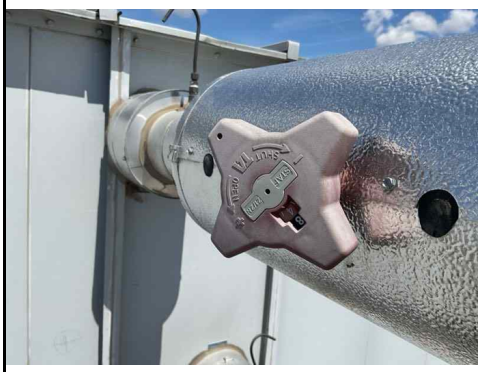
SYSTEM/UNIT: Chilled Water System/AHU-1-1 Upper
AREA: Level 5 Roof

Tested By: Charles Martin
Date: 4/14/2026

Valve Data	
Service	Chilled Water
Make	TA Hyd
Tag Photo	Yes
Model #	STAF
Size (in)	2 1/2
Installed Autoflow Range	NA

Test Data	
Actual Flow	93.30 GPM
Actual PD	0.90
PD Type	Valve (PSI)
Valve Position	8.4

Make Photo:



Name: AHU-AHU-1-1.jpg
Captured: 4/29/2026 6:08 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/AHU-1-3-AH-A
AREA: 4B34

Tested By: Charles Martin
Date: 4/14/2026

Valve Data	
Service	Chilled Water
Make	TA Hyd
Tag Photo	Yes
Model #	STAF
Size (in)	3
Installed Autoflow Range	NA

Test Data	
Actual Flow	56.90 GPM
Actual PD	0.16
PD Type	Valve (PSI)
Valve Position	8.0

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/AHU-1-3-AH-B
AREA: 4B08

Tested By: Charles Martin
Date: 4/14/2026

Valve Data	
Service	Chilled Water
Make	TA Hyd
Tag Photo	No
Model #	STAF
Size (in)	3
Installed Autoflow Range	NA

Test Data	
Actual Flow	52.80 GPM
Actual PD	4.82
PD Type	Valve (PSI)
Valve Position	3.5

Make Photo:

Name: AHU-1-3-AH-B.jpg
Captured: 4/29/2026 6:08 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/AHU-1-3-AH-C
AREA: 4A19

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	TA Hyd
Tag Photo	No
Model #	STAF
Size (in)	3
Installed Autoflow Range	NA

Test Data	
Actual Flow	24.60 GPM
Actual PD	0.03 PSI
PD Type	Valve (PSI)
Valve Position	8.0

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/AHU-3B06 (AHU-9)
AREA: 3B06

Tested By: Charles Martin
Date: 4/15/2026

Valve Data	
Service	Chilled Water
Make	Issue
Tag Photo	NA
Model #	-
Size (in)	-
Installed Autoflow Range	-

Test Data	
Actual Flow	Issue GPM
Actual PD	-
PD Type	-
Valve Position	-

Notes:

Chilled Water System/AHU-3B06 (AHU -9)	4/29/2026	William Clayton	No access unit has been demoed out.

No access unit has been demoed out.
Photo:

Name: AHU-3B06.jpg
Captured: 4/29/2026 6:19 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

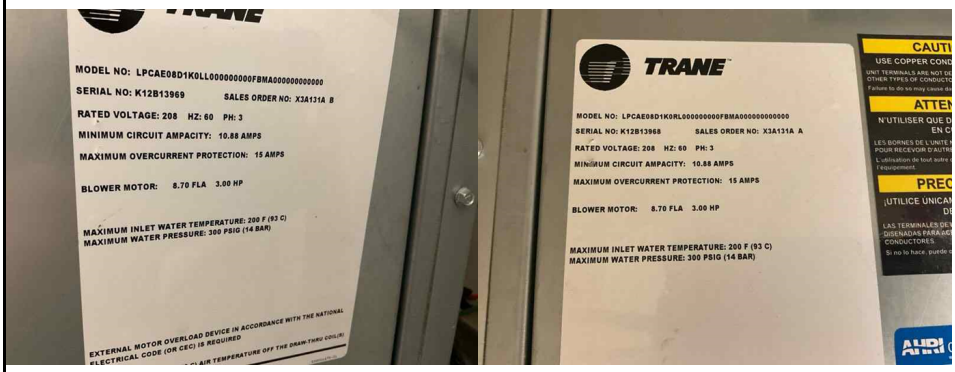
SYSTEM/UNIT: Chilled Water System/AHU-CT
AREA: 2A17A

Tested By: Charles Martin
Date: 4/15/2026

Valve Data	
Service	Chilled Water
Make	No Circuit Setter
Tag Photo	NA
Model #	-
Size (in)	-
Installed Autoflow Range	-

Test Data	
Actual Flow	Issue
Actual PD	No Ports
PD Type	-
Valve Position	-

Service Photo:



Name: AHU-CT1.jpg
Captured: 4/29/2026 5:58 AM
Caption:

Name: AHU-CT.jpg
Captured: 4/29/2026 5:58 AM
Caption:

Notes:

Chilled Water System/AHU-CT	4/29/2026	William Clayton	There's no circuit setters installed. There are no test ports installed for balancing.
Chilled Water System/AHU-CT	4/29/2026	William Clayton	Unit is actually two units stacked.

Unit is actually two units stacked.
Photo:

Name: AHU-CT Stacked2.jpg
Captured: 4/29/2026 6:20 AM
Caption:

Name: AHU-CT Stacked.jpg
Captured: 4/29/2026 6:20 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

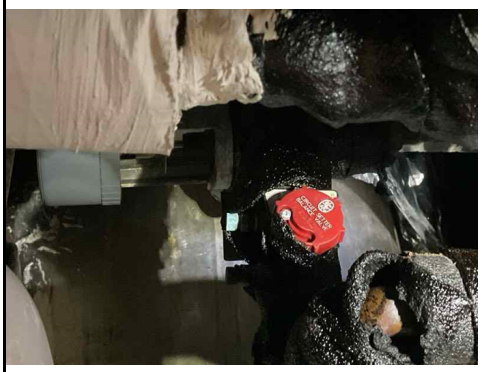
SYSTEM/UNIT: Chilled Water System/B-17

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	Yes
Model #	CB
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	1.40 GPM
Actual PD	0.40
PD Type	Bypass Valve (Ft)
Valve Position	0

Make Photo:



Name: 1st Flr B-17.jpg
Captured: 4/29/2026 5:59 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/C-19-1

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	Yes
Model #	CB
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	1.20 GPM
Actual PD	0.32
PD Type	Bypass Valve (Ft)
Valve Position	0

Make Photo:

Name: C-19-1.jpg
Captured: 4/29/2026 6:00 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil- G-1
AREA: 6B13B

Tested By: Charles Martin
Date: 4/15/2026

Valve Data	
Service	Chilled Water
Make	Armstrong
Tag Photo	No
Model #	ArmFlo
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	8.00 GPM
Actual PD	5.50
PD Type	Bypass Valve (Ft)
Valve Position	0.0

Notes:

Chilled Water System/Coil- G-1	4/29/2026	William Clayton	Control Valve CV is 4.6,

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

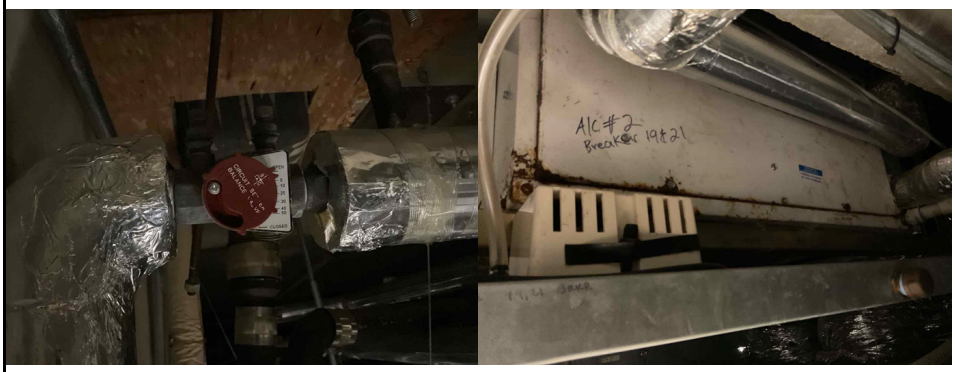
SYSTEM/UNIT: Chilled Water System/Coil- G-11

Tested By: Charles Martin
Date: 4/15/2026

Valve Data	
Service	Heating Water
Make	B&G
Tag Photo	Yes
Model #	CB
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	1.70 GPM
Actual PD	1.30
PD Type	Valve (Ft)
Valve Position	17

Make Photo:



Name: Make.jpg
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Caption:

Name: Make.jpg
Captured: 4/13/2026 12:54 PM
Caption:

Notes:

Chilled Water System/Coil- G-11	4/29/2026	William Clayton	G-10 is buried above the ceiling and is not accessible. I read G-11 instead.

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil- G-12

Tested By: Charles Martin
Date: 4/15/2026

Valve Data	
Service	Heating Water
Make	Armstrong
Tag Photo	Yes
Model #	ArmFlo
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	8.30 GPM
Actual PD	5.31
PD Type	Valve (Ft)
Valve Position	2.7

Make Photo:

Name: Coil-G-12.jpg
Captured: 4/29/2026 6:23 AM
Caption:

Notes:

Chilled Water System/Coil- G-12	4/29/2026	William Clayton	Unit is in heating mode.

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

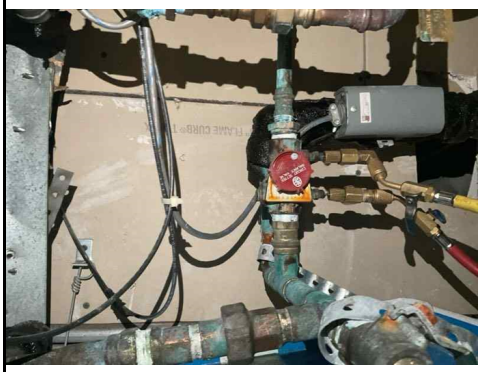
SYSTEM/UNIT: Chilled Water System/Coil- G-2

Tested By: Charles Martin
Date: 4/15/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	Yes
Model #	CB
Size (in)	1/2
Installed Autoflow Range	NA

Test Data	
Actual Flow	3.60 GPM
Actual PD	10.00
PD Type	Bypass Valve (Ft)
Valve Position	Full Open

Make Photo:



Name: Coil-G-2.jpg
Captured: 4/29/2026 6:08 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

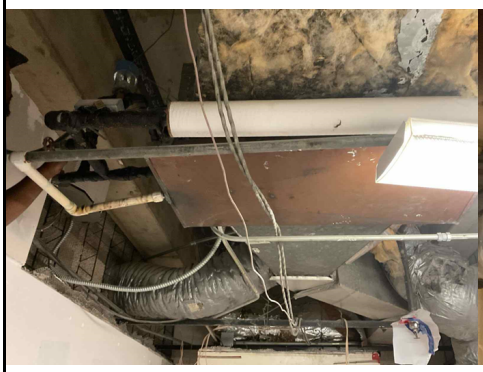
SYSTEM/UNIT: Chilled Water System/Coil- G-3
AREA: 6B11

Tested By: Charles Martin
Date: 4/15/2026

Valve Data	
Service	Chilled Water
Make	Armstrong
Tag Photo	Yes
Model #	ArmFlo
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	Issue GPM
Actual PD	No Ports
PD Type	Valve (PSI)
Valve Position	1.9

Make Photo:



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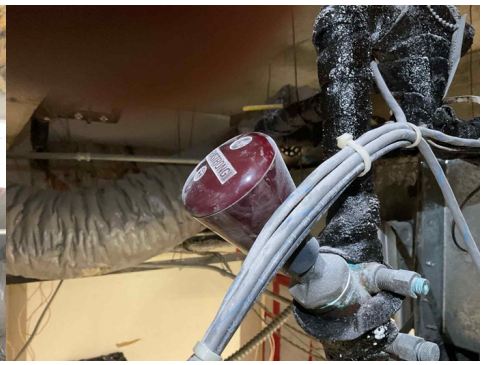


Name: Make.jpg
Captured: 4/14/2026 2:01 PM
Caption:

Notes:

Chilled Water System/Coil- G-3	4/29/2026	William Clayton	Valve would not move to bypass for flow to be measured. CV IS 4.6.

Valve would not move to bypass for flow to be measured. CV IS 4.6. Photo:

Name: Coil-G-3(1).jpg
Captured: 4/29/2026 6:24 AM
Caption:

Name: Coil-G-3.jpg
Captured: 4/29/2026 6:24 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil- G-4

Tested By: Charles Martin
Date: 4/14/2026

Valve Data	
Service	Chilled Water
Make	Issue
Tag Photo	NA
Model #	-
Size (in)	-
Installed Autoflow Range	-

Test Data	
Actual Flow	Issue GPM
Actual PD	Not Accessible
PD Type	-
Valve Position	-

Actual PD Photo:

Name: Coil-G-4.jpg
Captured: 4/29/2026 6:25 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

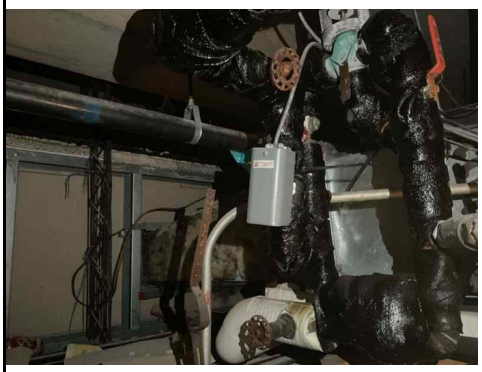
SYSTEM/UNIT: Chilled Water System/Coil- G-7

Tested By: Charles Martin
Date: 4/14/2026

Valve Data	
Service	Chilled Water
Make	Issues
Tag Photo	NA
Model #	-
Size (in)	-
Installed Autoflow Range	-

Test Data	
Actual Flow	Issue GPM
Actual PD	Not Accessible
PD Type	-
Valve Position	-

Actual PD Photo:



Name: Coil-G-7.jpg
Captured: 4/29/2026 6:26 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

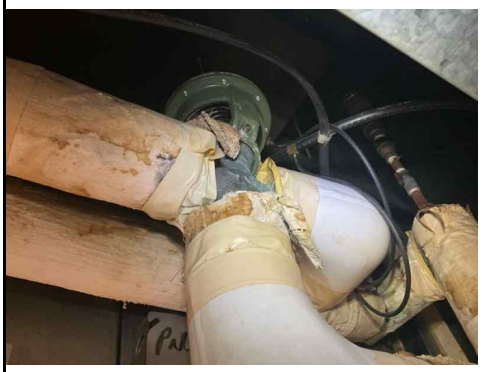
SYSTEM/UNIT: Chilled Water System/Coil-1B10-1
AREA: 1B10

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	Issues
Tag Photo	NA
Model #	-
Size (in)	-
Installed Autoflow Range	-

Test Data	
Actual Flow	Issue GPM
Actual PD	No Ports
PD Type	-
Valve Position	-

Actual PD Photo:



Name: Coil-1B10-1.jpg
Captured: 4/29/2026 6:26 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil-1B10-2

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	Yes
Model #	CB
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	4.50 GPM
Actual PD	4.00
PD Type	Bypass Valve (Ft)
Valve Position	0

Tag Photo Photo:

Name: Tag Photo.jpg
Captured: 4/16/2026 2:02 PM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil-A10

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	Armstrong
Tag Photo	No
Model #	ArmFlo
Size (in)	1/2
Installed Autoflow Range	NA

Test Data	
Actual Flow	Issue GPM
Actual PD	Not Accessible
PD Type	-
Valve Position	-

Actual PD Photo:

Name: Coil-A10.jpg
Captured: 4/29/2026 6:27 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

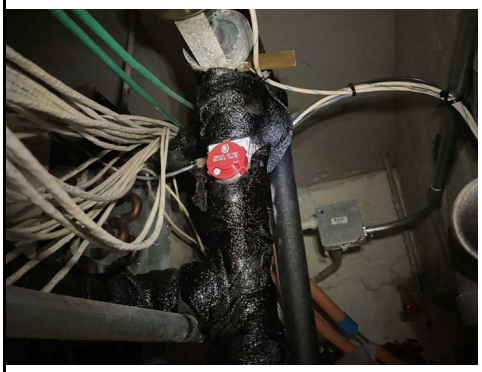
SYSTEM/UNIT: Chilled Water System/Coil-A2

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	Yes
Model #	CB
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	0.00 GPM
Actual PD	0.00
PD Type	Valve (Ft)
Valve Position	20

Tag Photo Photo:



Name: Tag Photo.jpg
Captured: 4/16/2026 4:33 PM
Caption:

Notes:

Chilled Water System/Coil-A2	4/29/2026	William Clayton	Bypass is closed to the coil. There is no flow through the bypass or the coil.

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

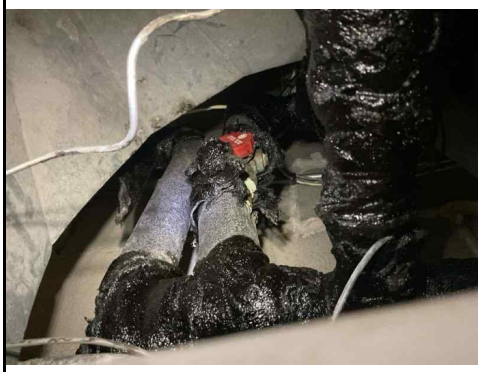
SYSTEM/UNIT: Chilled Water System/Coil-A3

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	Issue
Tag Photo	NA
Model #	-
Size (in)	-
Installed Autoflow Range	-

Test Data	
Actual Flow	Issue GPM
Actual PD	Not Accessible
PD Type	-
Valve Position	-

Actual PD Photo:



Name: Coil-A3.jpg
Captured: 4/29/2026 6:29 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil-A5

Valve Data	
Service	Chilled Water
Make	Issue
Tag Photo	NA
Model #	-
Size (in)	-
Installed Autoflow Range	-

Test Data	
Actual Flow	Issue GPM
Actual PD	Not Accessible
PD Type	-
Valve Position	-

Notes:

Chilled Water System/Coil-A5	4/29/2026	William Clayton	We have no access to the space where we think this coil is.

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

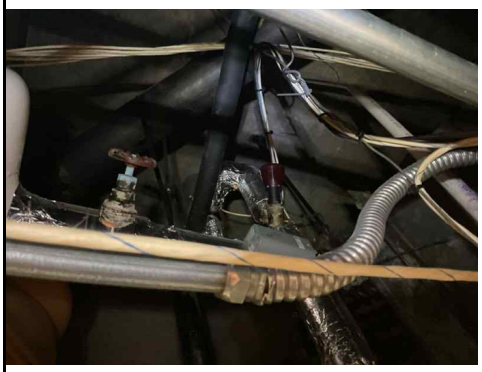
SYSTEM/UNIT: Chilled Water System/Coil-A7

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	Armstrong
Tag Photo	No
Model #	ArmFlo
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	0.00 GPM
Actual PD	0.00
PD Type	Valve (Ft)
Valve Position	0.0

Make Photo:



Name: Coil-A7.jpg
Captured: 4/29/2026 5:58 AM
Caption:

Notes:

Chilled Water System/Coil-A7	4/29/2026	William Clayton	3-way valve cv=4.6. Valve is open to the coil with no access to close it.

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil-B17

Valve Data	
Service	Chilled Water
Make	No Circuit Setter
Tag Photo	NA
Model #	-
Size (in)	-
Installed Autoflow Range	Not Applicable

Test Data	
Actual Flow	Issue GPM
Actual PD	No Ports
PD Type	-
Valve Position	-

Notes:

Chilled Water System/Coil-B17	4/29/2026	William Clayton	There's no circuit setter installed. There are no Pete's ports installed.

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil-B22

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	Armstrong
Tag Photo	No
Model #	ArmFlo
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	2.30 GPM
Actual PD	1.10
PD Type	Bypass Valve (Ft)
Valve Position	1.6

Make Photo:

Name: Coil-B22.jpg
Captured: 4/29/2026 6:10 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil-B23

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	No
Model #	CN
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	3.10 GPM
Actual PD	1.90
PD Type	Bypass Valve (Ft)
Valve Position	0

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil-B24 (Unit 163)

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	Armstrong
Tag Photo	No
Model #	ArmFlo
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	Issue GPM
Actual PD	0.00
PD Type	Valve (Ft)
Valve Position	2.1

Make Photo:

Name: Coil-B24.jpg
Captured: 4/29/2026 6:10 AM
Caption:

Notes:

Chilled Water System/Coil-B24 (Unit 163)	4/29/2026	William Clayton	Control Valve is broken, stuck in Coil, unable to obtain flow across bypass circuit setter.

Control Valve is broken, stuck in Coil, unable to obtain flow across bypass circuit setter. Photo:

Name: Coil-B24 Control.jpg
Captured: 4/29/2026 6:32 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil-B4

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	No Circuit Setter
Tag Photo	NA
Model #	-
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	No Submittal GPM
Actual PD	3.60
PD Type	Coil (Ft)
Valve Position	0

Actual Temperatures (°F)	
Entering Temp	62.0
Leaving Temp	67.9

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

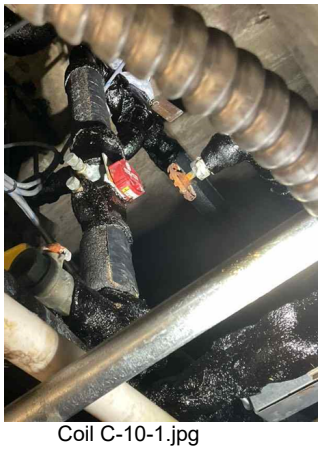
SYSTEM/UNIT: Chilled Water System/Coil-C-10

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	Yes
Model #	CB
Size (in)	1/2
Installed Autoflow Range	NA

Test Data	
Actual Flow	0.60 GPM
Actual PD	0.24
PD Type	Bypass (Ft)
Valve Position	0

Make Photo:



Name: Coil C-10-1.jpg
Captured: 4/29/2026 6:01 AM
Caption:

Notes:

Chilled Water System/Coil-C-10	4/29/2026	William Clayton	Bypass flow

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil-C-13-1
AREA: 2A-1 (Gurney Space)

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	No Circuit Setter
Tag Photo	NA
Model #	-
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	Issue GPM
Actual PD	No Ports
PD Type	-
Valve Position	-

Tag Photo Photo:

Name: Coil C-13-1.jpg
Captured: 4/29/2026 5:59 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

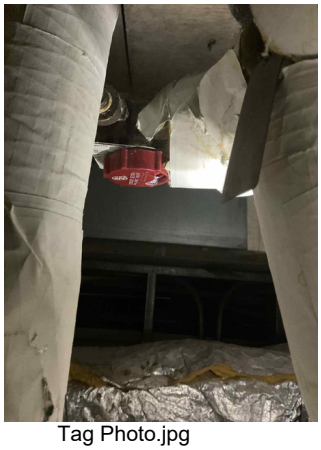
SYSTEM/UNIT: Chilled Water System/Coil-C-13-2
AREA: 2A-1 (Gurney Space)

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	Yes
Model #	CB
Size (in)	1/2
Installed Autoflow Range	NA

Test Data	
Actual Flow	Issue GPM
Actual PD	Not Accessible
PD Type	Bypass Valve (Ft)
Valve Position	30

Tag Photo Photo:



Name: Tag Photo.jpg
Captured: 4/16/2026 12:35 PM
Caption:

Notes:

Chilled Water System/Coil-C-13-2	4/29/2026	William Clayton	The ceiling light blocks access to the balance valve.

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

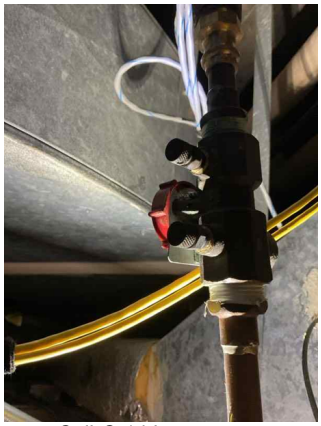
SYSTEM/UNIT: Chilled Water System/Coil-C-14
AREA: 2A-1 (Gurney Space)

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	Yes
Model #	CB
Size (in)	1/2
Installed Autoflow Range	NA

Test Data	
Actual Flow	0.60 GPM
Actual PD	0.20
PD Type	Bypass Valve (Ft)
Valve Position	0

Make Photo:



Name: Coil-C-14.jpg
Captured: 4/29/2026 6:02 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil-C-15
AREA: 2A-1 (Gurney Space)

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	Yes
Model #	CB
Size (in)	1/2
Installed Autoflow Range	NA

Test Data	
Actual Flow	0.60 GPM
Actual PD	0.21
PD Type	Valve (Ft)
Valve Position	0

Make Photo:

Name: Coil-C-15.jpg
Captured: 4/29/2026 6:01 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil-C9

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Heating Water
Make	B&G
Tag Photo	No
Model #	CB
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	1.60 GPM
Actual PD	0.49
PD Type	Bypass Valve (Ft)
Valve Position	0

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil-D13A

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Heating Water
Make	No Circuit Setter
Tag Photo	NA
Model #	-
Size (in)	-
Installed Autoflow Range	-

Test Data	
Actual Flow	Need Coil Design GPM
Actual PD	0.61
PD Type	Coil (Ft)
Valve Position	Not Applicable

Actual Temperatures (°F)	
Entering Temp	114.6
Leaving Temp	98.1

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil-D14AB

Tested By: Charles Martin
Date: 4/15/2026

Valve Data	
Service	Chilled Water
Make	No Circuit Setter
Tag Photo	NA
Model #	-
Size (in)	-
Installed Autoflow Range	-

Test Data	
Actual Flow	Issue GPM
Actual PD	No Circuit Setter
PD Type	-
Valve Position	-

Make Photo:

Name: Make.jpg
Captured: 4/15/2026 2:36 PM
Caption:

Notes:

Chilled Water System/Coil-D14AB	4/29/2026	William Clayton	Balance valve not installed, primary or bypass.

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

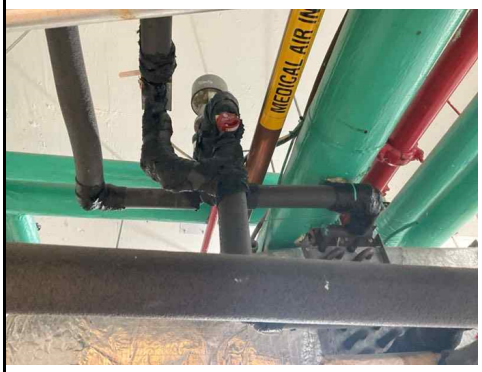
SYSTEM/UNIT: Chilled Water System/Coil-D9
AREA: 3B06

Tested By: Charles Martin
Date: 4/15/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	Yes
Model #	CB
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	1.20 GPM
Actual PD	0.30
PD Type	Valve (Ft)
Valve Position	0

Make Photo:



Name: Coil D9.jpg
Captured: 4/29/2026 6:07 AM
Caption:

Notes:

Chilled Water System/Coil-D9	4/29/2026	William Clayton	Bypass was read.

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil-F11

Tested By: Charles Martin
Date: 4/15/2026

Valve Data	
Service	Chilled Water
Make	Armstrong
Tag Photo	No
Model #	ArmFlo
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	2.56 GPM
Actual PD	0.50
PD Type	Bypass Valve (Ft)
Valve Position	4.1

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil-F16

Valve Data	
Service	Chilled Water
Make	Issue
Tag Photo	NA
Model #	-
Size (in)	-
Installed Autoflow Range	-

Test Data	
Actual Flow	Issue GPM
Actual PD	Not Accessible
PD Type	-
Valve Position	-

Notes:

Chilled Water System/Coil-F16	4/29/2026	William Clayton	Unit is not accessible.

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil-F18

Tested By: Charles Martin
Date: 4/15/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	No
Model #	CB
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	Issue GPM
Actual PD	Not Accessible
PD Type	Valve (Ft)
Valve Position	0

Make Photo:

Name: Coil-F18.jpg
Captured: 4/29/2026 6:08 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/Coil-F21

Tested By: Charles Martin
Date: 4/15/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	Yes
Model #	CB
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	1.60 GPM
Actual PD	1.00
PD Type	Valve (Ft)
Valve Position	14

Make Photo:

Name: Coil-F21.jpg
Captured: 4/29/2026 6:07 AM
Caption:

Notes:

Chilled Water System/Coil-F21	4/29/2026	William Clayton	Bypass was read.

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

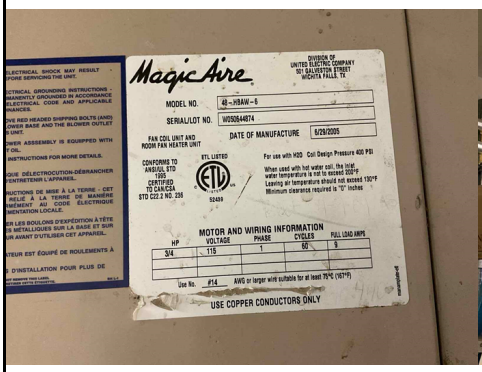
SYSTEM/UNIT: Chilled Water System/FCU B1B16-4 (AC-4)

Tested By: Charles Martin
Date: 4/14/2026

Valve Data	
Service	Chilled Water
Make	No Circuit Setter
Tag Photo	NA
Model #	-
Size (in)	1/2
Installed Autoflow Range	NA

Test Data	
Actual Flow	Issue GPM
Actual PD	No Ports
PD Type	-
Valve Position	-

Service Photo:



Name: Service.jpg
Captured: 4/13/2026 1:06 PM
Caption:

Name: Service.jpg
Captured: 4/13/2026 1:06 PM
Caption:

Notes:

Chilled Water System/FCU B1B16-4 (AC-4)	4/29/2026	William Clayton	Labeled as AC -2 on the unit

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/FCU B1B16-5 (AC-5)

Tested By: Charles Martin
Date: 4/14/2026

Valve Data	
Service	Chilled Water
Make	Issue
Tag Photo	NA
Model #	-
Size (in)	-
Installed Autoflow Range	-

Test Data	
Actual Flow	0.00 GPM
Actual PD	0.00
PD Type	Valve (PSI)
Valve Position	Full Open

Notes:

Chilled Water System/FCU B1B16-5 (AC-5)	4/29/2026	William Clayton	There is no flow.

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/FCU-1B5-1
AREA: Pharmacy Corridor

Tested By: Charles Martin
Date: 4/16/2026

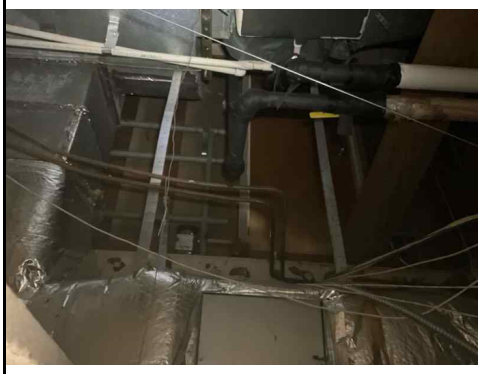
Valve Data	
Service	Chilled Water
Make	Issue
Tag Photo	NA
Model #	-
Size (in)	-
Installed Autoflow Range	-

Test Data	
Actual Flow	Issue GPM
Actual PD	Not Accessible
PD Type	-
Valve Position	-

Notes:

Chilled Water System/FCU-1B5-1	4/29/2026	William Clayton	Valve was not accessible

Valve was not accessible Photo:



Name: FCU-1B5-1.jpg
Captured: 4/29/2026 7:23 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/FCU-3A10A-1
AREA: 3A10A

Tested By: Charles Martin
Date: 4/15/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	Yes
Model #	CB
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	16.20 GPM
Actual PD	136.70
PD Type	Valve (Ft)
Valve Position	18

Make Photo:

Name: FCU-3A10A-1.jpg
Captured: 4/29/2026 6:02 AM
Caption:

Notes:

Chilled Water System/FCU-3A10A-1	4/29/2026	William Clayton	Bypass was read.

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/FCU-B1A01B-1
AREA: B1A01B

Tested By: Charles Martin
Date: 4/14/2026

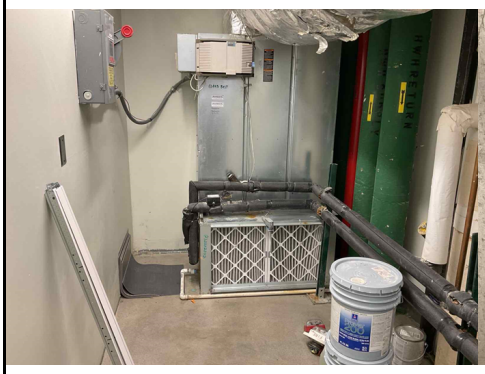
Valve Data	
Service	Chilled Water
Make	Taco
Tag Photo	Yes
Model #	-
Size (in)	1
Installed Autoflow Range	NA

Test Data	
Actual Flow	Issue GPM
Actual PD	Not Accessible
PD Type	Valve (Ft)
Valve Position	10

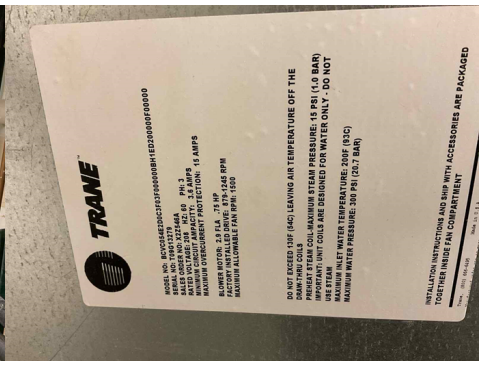
Make Photo:

Name: FCU-B1A01B-1.jpg
Captured: 4/29/2026 5:57 AM
Caption:

Service Photo:



Name: Service.jpg
Captured: 4/14/2026 7:52 AM
Caption:



Name: Service.jpg
Captured: 4/14/2026 7:52 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/FCU-B1A01B-1
AREA: B1A01B

Tested By: Charles Martin
Date: 4/14/2026

Actual PD Photo:

Name: FCU-B1A01B-1 (2).jpg
Captured: 4/29/2026 6:14 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/FCU-B1A01D-1
AREA: B1A01D

Tested By: Charles Martin
Date: 4/14/2026

Valve Data	
Service	Chilled Water
Make	Armstrong
Tag Photo	Yes
Model #	ArmFlo
Size (in)	1
Installed Autoflow Range	NA

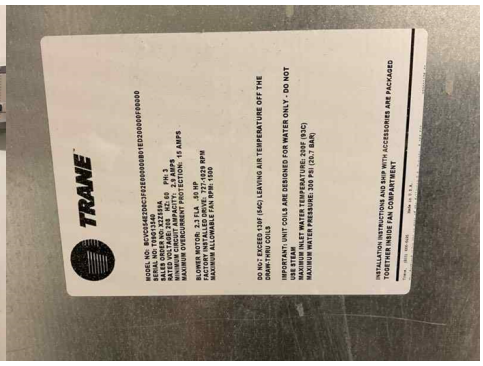
Test Data	
Actual Flow	3.60 GPM
Actual PD	0.16
PD Type	Valve (Ft)
Valve Position	1

Make Photo:

Name: FCU-B1A01D-1(3).jpg
Captured: 4/29/2026 6:09 AM
Caption:

Service Photo:

Name: FCU-B1A01D-1(2).jpg
Captured: 4/29/2026 6:09 AM
Caption:



Name: FCU-B1A01D-1.jpg
Captured: 4/29/2026 6:09 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/FCU-B1B06A-1
AREA: B1B06A

Tested By: Charles Martin
Date: 4/13/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	No
Model #	CB
Size (in)	1/2
Installed Autoflow Range	-

Test Data	
Actual Flow	Issue GPM
Actual PD	Not Accessible
PD Type	-
Valve Position	-

Make Photo:

Name: Make.jpg
Captured: 4/13/2026 2:52 PM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/FCU-B1B10-1
AREA: B1B10

Valve Data	
Service	Chilled Water
Make	Issue
Tag Photo	NA
Model #	-
Size (in)	3/4
Installed Autoflow Range	-

Test Data	
Actual Flow	Issue GPM
Actual PD	No Ports
PD Type	-
Valve Position	-

Notes:

Chilled Water System/FCU-B1B10-1	4/29/2026	William Clayton	There are no test ports installed.

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/FCU-B1B16-2
AREA: B1B16

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	Yes
Model #	CB
Size (in)	1/2
Installed Autoflow Range	NA

Test Data	
Actual Flow	0.00 GPM
Actual PD	0.00
PD Type	Valve (Ft)
Valve Position	Full Open

Make Photo:

Name: Make.jpg
Captured: 4/13/2026 11:10 AM
Caption:

Name: Make.jpg
Captured: 4/13/2026 11:10 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/FCU-B1B16-3
AREA: B1B16

Tested By: Charles Martin
Date: 4/16/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	No
Model #	CB
Size (in)	3/4
Installed Autoflow Range	NA

Test Data	
Actual Flow	0.00 GPM
Actual PD	0.00
PD Type	Valve (Ft)
Valve Position	0

Service Photo:

Name: Service.jpg
Captured: 4/13/2026 1:36 PM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/FCU-B1B16G-1
AREA: B1B16G

Tested By: Charles Martin
Date: 4/13/2026

Valve Data	
Service	Chilled Water
Make	B&G
Tag Photo	Yes
Model #	CB
Size (in)	1/2
Installed Autoflow Range	NA

Test Data	
Actual Flow	1.90 GPM
Actual PD	24.40
PD Type	Valve (Ft)
Valve Position	24

Service Photo:

Name: Service.jpg
Captured: 4/13/2026 9:31 AM
Caption:

Name: Service.jpg
Captured: 4/13/2026 9:31 AM
Caption:

Model # Photo:

Name: FCU-B1816G-1.jpg
Captured: 4/29/2026 5:56 AM
Caption:

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

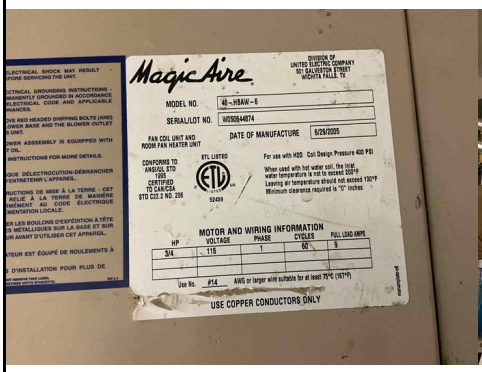
SYSTEM/UNIT: Chilled Water System/FCU-B1B16G2-1
AREA: B1B16G2

Tested By: Charles Martin
Date: 4/13/2026

Valve Data	
Service	Chilled Water
Make	No Circuit Setter
Tag Photo	NA
Model #	-
Size (in)	1/2
Installed Autoflow Range	NA

Test Data	
Actual Flow	Issue GPM
Actual PD	No Ports
PD Type	-
Valve Position	-

Service Photo:



Name: Service.jpg
Captured: 4/13/2026 10:45 AM
Caption:

Name: Service.jpg
Captured: 4/13/2026 10:45 AM
Caption:

Notes:

Chilled Water System/FCU-B1B16G2-1	4/29/2026	William Clayton	Fan was measured at 1100 CFM.

Balance Valves

PROJECT: Fresno VA Hospital CHW Survey
LOCATION: Fresno, CA
PROJECT #: 26165

DATE: 4/29/2026
CONTACT: Charles Martin

SYSTEM/UNIT: Chilled Water System/HP-B1B14-1
AREA: B1B14

Valve Data	
Service	Chilled Water
Make	Heat Pump
Tag Photo	NA
Model #	-
Size (in)	-
Installed Autoflow Range	-

Test Data	
Actual Flow	Heat Pump GPM
Actual PD	-
PD Type	-
Valve Position	-

Instrument Calibration

Air Pressure Measurement					
Instrument Type:	ADM	**Date of Calibration:**	7/29/2025	**Measured Units**	in wg
Manufacturer:	Evergreen Telemetry	**Due for Calibration:**	7/29/2026	**Accuracy**	+/- 2%
Model:	S-PVF-1	**Range:**	+/- 60 in wg	**Resolution**	0.0001 in wg
Serial:	1800345			*Corrects local bar. press. to standard cond.	

Air Volume Measurement / Balometer					
Instrument Type:	Balometer	**Date of Calibration:**	2/25/2025	**Measured Units**	CFM
Manufacturer:	Evergreen Telemetry			**Accuracy**	+/- 2%
Model:	CH-15D / S-PVF-1	**Range:**	25-1500 CFM (Exhaust) 24-2500 CFM (Supply)	**Resolution**	1 CFM
Serial:	1900146				

*Balometer is just an instrument. Applicable calibration is with the associated PVF. Balometers are checked for accuracy against traverse and periodically calibrated/reconditioned.

Electrical Measurement					
Instrument Type:	V/A Meter	**Date of Calibration:**	9/25/2025	**Measured Units**	Volts / Amperes
Manufacturer:	Fluke	**Due for Calibration:**	9/25/2026	**Accuracy**	1% / 2%
Model:	375 FC	**Range:**	0 - 600.0V / 0 - 600.0A	**Resolution**	0.1 V / 0.1 A
Serial:	60961116MV				

Hydronic Pressure Measurement					
Instrument Type:	HDM	**Date of Calibration:**	5/17/2025	**Measured Units**	psi, Ft, inches
Manufacturer:	Evergreen Telemetry	**Due for Calibration:**	5/17/2026	**Accuracy**	+/- 2%
Model:	SP-DP-250	**Range:**	0.01 - 250 psi	**Resolution**	0.01 psi
Serial:	2000157B			*For use w/ADM	

Rotation Measurement					
Instrument Type:	Tachometer	**Date of Calibration:**	9/25/2025	**Measured Units**	RPM
Manufacturer:	Shimpo	**Due for Calibration:**	9/25/2026	**Accuracy**	+/- 1 RPM
Model:	DT-207LR	**Range:**	0.01 - 250 psi	**Resolution**	1 RPM
Serial:	D2320042R				

Humidity WB/DB Probe					
Instrument Type:	RH Probe	**Date of Calibration:**	9/22/2025	**Measured Units**	WB / %RH
Manufacturer:	Evergreen Telemetry	**Due for Calibration:**	9/22/2026	**Accuracy**	+/- 1°F / 2.5%RH
Model:	PR-TH-1	**Range:**	-4 to 140°F 0% - 100%RH	**Resolution**	0.1°F / .1 %RH
Serial:	2500372				

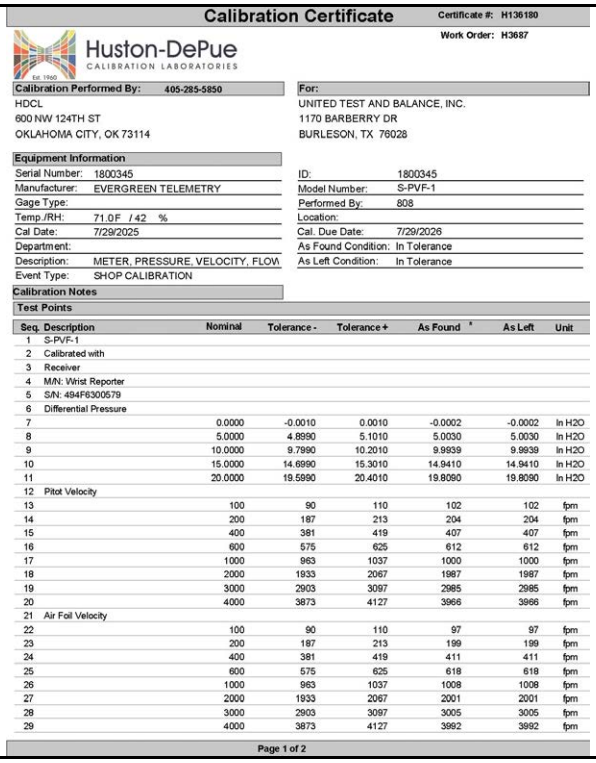
Temperature Measurement (Immersion)					
Instrument Type:	Temperature	**Date of Calibration:**	9/22/2025	**Measured Units**	°F
Manufacturer:	Evergreen Telemetry	**Due for Calibration:**	9/22/2026	**Accuracy**	+/- .05%
Model:	PR-T-4-6	**Range:**	−40°F to 500°F	**Resolution**	0.1°F
Serial:	2500349				

Instrument Calibration

Temperature Measurement Meter					
Instrument Type:	Temp Module	**Date of Calibration:**	9/18/2025	**Measured Units**	°F
Manufacturer:	Evergreen Telemetry	**Due for Calibration:**	9/18/2026	**Accuracy**	+/- .05%
Model:	MS-T&H-101	**Range:**	−40°F to 500°F	**Resolution**	0.1°F
Serial:	25j-00384			*For use w/Imm./Sur.	

Ultrasonic Flow Meter					
Instrument Type:	Ultrasonic Flow Meter	**Date of Calibration:**	5/12/2025	**Measured Units**	ft/min conv. to GPM
Manufacturer:	Fuji Electric Systems Co	**Due for Calibration:**	5/12/2027	**Accuracy**	+/- 1%
Model:	FSCS	**Range:**	0-6300 fpm 0-79,000 GPM	**Resolution**	0.1
Serial:	N3C1840T			Calibrated with FSSC and FSSD Probe	

Proof of Calibration



Calibration Certificate

Certificate #: H136180

Work Order: H3687

Huston-DePue
CALIBRATION LABORATORIES

Calibration Performed By: 405-285-5850

HDCL
600 NW 124TH ST
OKLAHOMA CITY, OK 73114

For:

UNITED TEST AND BALANCE, INC.
1170 BARBERRY DR
BURLESON, TX 76028

Equipment Information

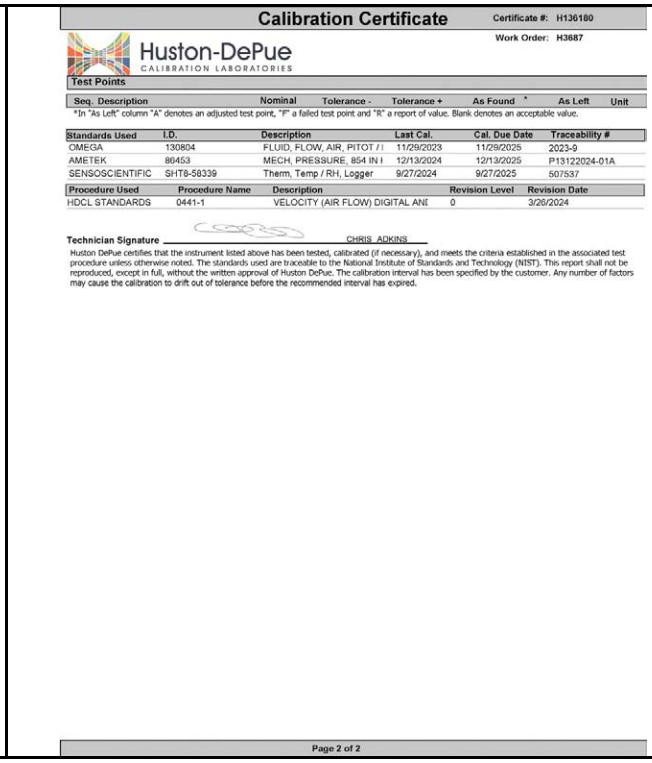
Serial Number:	1800345	ID:	1800345
Manufacturer:	EVERGREEN TELEMETRY	Model Number:	S-PVF-1
Gage Type:		Performed By:	808
Temp./RH:	71.0 F / 42 %	Location:	
Cal Date:	7/29/2025	Cal. Due Date:	7/29/2026
Department:		As Found Condition:	In Tolerance
Description:	METER, PRESSURE, VELOCITY, FLOW	As Left Condition:	In Tolerance
Event Type:	SHOP CALIBRATION		

Calibration Notes

Test Points

Seq.	Description	Nominal	Tolerance -	Tolerance +	As Found *	As Left	Unit
1	S-PVF-1						
2	Calibrated with						
3	Receiver						
4	M/N: Wrist Reporter						
5	S/N: 494F6300579						
6	Differential Pressure						
7		0.0000	-0.0010	0.0010	-0.0002	-0.0002	In H2O
8		5.0000	4.8990	5.1010	5.0030	5.0030	In H2O
9		10.0000	9.7990	10.2010	9.9939	9.9939	In H2O
10		15.0000	14.6990	15.3010	14.9410	14.9410	In H2O
11		20.0000	19.5990	20.4010	19.8090	19.8090	In H2O
12	Pitot Velocity						
13		100	90	110	102	102	fpm
14		200	187	213	204	204	fpm
15		400	381	419	407	407	fpm
16		600	575	625	612	612	fpm
17		1000	963	1037	1000	1000	fpm
18		2000	1933	2067	1987	1987	fpm
19		3000	2903	3097	2985	2985	fpm
20		4000	3873	4127	3966	3966	fpm
21	Air Foil Velocity						
22		100	90	110	97	97	fpm
23		200	187	213	199	199	fpm
24		400	381	419	411	411	fpm
25		600	575	625	618	618	fpm
26		1000	963	1037	1008	1008	fpm
27		2000	1933	2067	2001	2001	fpm
28		3000	2903	3097	3005	3005	fpm
29		4000	3873	4127	3992	3992	fpm

Page 1 of 2



Calibration Certificate

Certificate #: H136180

Work Order: H3687

Huston-DePue
CALIBRATION LABORATORIES

Test Points

Seq.	Description	Nominal	Tolerance -	Tolerance +	As Found *	As Left	Unit

*In "As Left" column "A" denotes an adjusted test point, "F" a failed test point and "R" a report of value. Blank denotes an acceptable value.

Standards Used	I.D.	Description	Last Cal.	Cal. Due Date	Traceability #
OMEGA	130804	FLUID, FLOW, AIR, PITOT / I	11/29/2023	11/29/2025	2023-9
AMETEK	89453	MECH, PRESSURE, 854 IN I	12/13/2024	12/13/2025	P13122024-01A
SENSOSCIENTIFIC	SHT8-58339	Therm, Temp / RH, Logger	9/27/2024	9/27/2025	507537

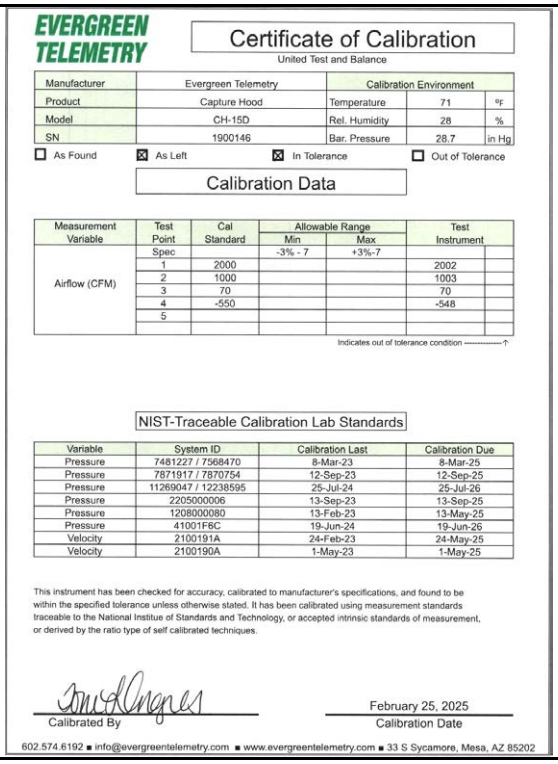
Procedure Used	Procedure Name	Description	Revision Level	Revision Date
HDCL STANDARDS	0441-1	VELOCITY (AIR FLOW) DIGITAL ANI	0	3/26/2024

Technician Signature CHRIS ADKINS

Huston DePue certifies that the instrument listed above has been tested, calibrated (if necessary), and meets the criteria established in the associated test procedure unless otherwise noted. The standards used are traceable to the National Institute of Standards and Technology (NIST). This report shall not be reproduced, except in full, without the written approval of Huston DePue. The calibration interval has been specified by the customer. Any number of factors may cause the calibration to drift out of tolerance before the recommended interval has expired.

Page 2 of 2

Air Pressure Measurement



EVERGREEN TELEMETRY

Certificate of Calibration

United Test and Balance

Manufacturer	Evergreen Telemetry	Calibration Environment		
Product	Capture Hood	Temperature	71	°F
Model	CH-15D	Rel. Humidity	28	%
SN	1900146	Bar. Pressure	28.7	in Hg

☐ As Found ☒ As Left ☒ In Tolerance ☐ Out of Tolerance

Calibration Data

Measurement Variable	Test Point	Cal Standard	Allowable Range Min	Allowable Range Max	Test Instrument	
Airflow (CFM)	Spec		-3% - 7	+3%-7		
	1	2000			2002	
	2	1000			1003	
	3	70			70	
	4	-550			-548	
	5					

Indicates out of tolerance condition ----------↑

NIST-Traceable Calibration Lab Standards

Variable	System ID	Calibration Last	Calibration Due
Pressure	7481227 / 7568470	8-Mar-23	8-Mar-25
Pressure	7871917 / 7870754	12-Sep-23	12-Sep-25
Pressure	11269047 / 12238595	25-Jul-24	25-Jul-26
Pressure	2205000006	13-Sep-23	13-Sep-25
Pressure	1208000080	13-Feb-23	13-May-25
Pressure	41001F6C	19-Jun-24	19-Jun-26
Velocity	2100191A	24-Feb-23	24-May-25
Velocity	2100190A	1-May-23	1-May-25

This instrument has been checked for accuracy, calibrated to manufacturer's specifications, and found to be within the specified tolerance unless otherwise stated. It has been calibrated using measurement standards traceable to the National Institue of Standards and Technology, or accepted intrinsic standards of measurement, or derived by the ratio type of self calibrated techniques.

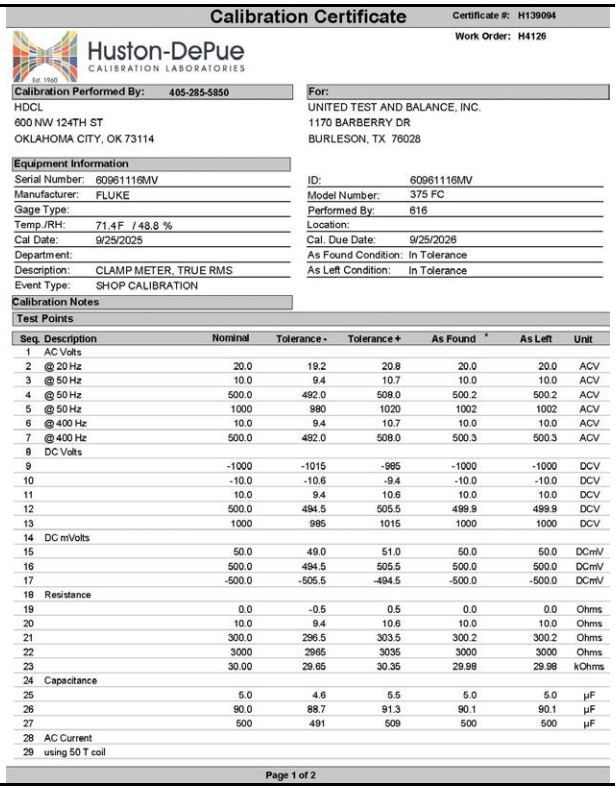
Calibrated By

February 25, 2025
Calibration Date

602.574.6192 ■ info@evergreentelemetry.com ■ www.evergreentelemetry.com ■ 33 S Sycamore, Mesa, AZ 85202

Air Volume Measurement / Balometer

Proof of Calibration



Calibration Certificate

Certificate #: H139094

Work Order: H4126

Huston-DePue
CALIBRATION LABORATORIES
Est. 1960

Calibration Performed By: 405-285-5850
HDCL
600 NW 124TH ST
OKLAHOMA CITY, OK 73114

For:
UNITED TEST AND BALANCE, INC.
1170 BARBERRY DR
BURLESON, TX 76028

Equipment Information

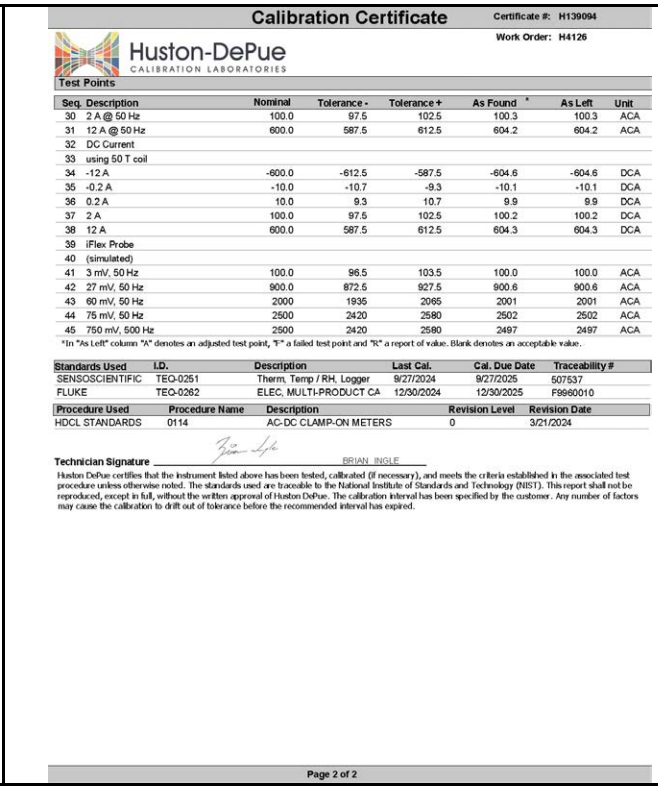
Serial Number:	60961116MV	ID:	60961116MV
Manufacturer:	FLUKE	Model Number:	375 FC
Gage Type:		Performed By:	616
Temp./RH:	71.4 F / 48.8 %	Location:	
Cal Date:	9/25/2025	Cal. Due Date:	9/25/2026
Department:		As Found Condition:	In Tolerance
Description:	CLAMP METER, TRUE RMS	As Left Condition:	In Tolerance
Event Type:	SHOP CALIBRATION		

Calibration Notes

Test Points

Seq.	Description	Nominal	Tolerance -	Tolerance +	As Found *	As Left	Unit
1	AC Volts						
2	@ 20 Hz	20.0	19.2	20.8	20.0	20.0	ACV
3	@ 50 Hz	10.0	9.4	10.7	10.0	10.0	ACV
4	@ 50 Hz	500.0	492.0	508.0	500.2	500.2	ACV
5	@ 50 Hz	1000	980	1020	1002	1002	ACV
6	@ 400 Hz	10.0	9.4	10.7	10.0	10.0	ACV
7	@ 400 Hz	500.0	492.0	508.0	500.3	500.3	ACV
8	DC Volts						
9		-1000	-1015	-985	-1000	-1000	DCV
10		-10.0	-10.6	-9.4	-10.0	-10.0	DCV
11		10.0	9.4	10.6	10.0	10.0	DCV
12		500.0	494.5	505.5	499.9	499.9	DCV
13		1000	985	1015	1000	1000	DCV
14	DC mVolts						
15		50.0	49.0	51.0	50.0	50.0	DCmV
16		500.0	494.5	505.5	500.0	500.0	DCmV
17		-500.0	-505.5	-494.5	-500.0	-500.0	DCmV
18	Resistance						
19		0.0	-0.5	0.5	0.0	0.0	Ohms
20		10.0	9.4	10.6	10.0	10.0	Ohms
21		300.0	296.5	303.5	300.2	300.2	Ohms
22		3000	2965	3035	3000	3000	Ohms
23		30.00	29.65	30.35	29.98	29.98	kOhms
24	Capacitance						
25		5.0	4.6	5.5	5.0	5.0	µF
26		90.0	88.7	91.3	90.1	90.1	µF
27		500	491	509	500	500	µF
28	AC Current						
29	using 50 T coil						

Page 1 of 2



Calibration Certificate

Certificate #: H139094

Work Order: H4126

Huston-DePue
CALIBRATION LABORATORIES

Test Points

Seq.	Description	Nominal	Tolerance -	Tolerance +	As Found *	As Left	Unit
30	2 A @ 50 Hz	100.0	97.5	102.5	100.3	100.3	ACA
31	12 A @ 50 Hz	600.0	587.5	612.5	604.2	604.2	ACA
32	DC Current						
33	using 50 T coil						
34	-12 A	-600.0	-612.5	-587.5	-604.6	-604.6	DCA
35	-0.2 A	-10.0	-10.7	-9.3	-10.1	-10.1	DCA
36	0.2 A	10.0	9.3	10.7	9.9	9.9	DCA
37	2 A	100.0	97.5	102.5	100.2	100.2	DCA
38	12 A	600.0	587.5	612.5	604.3	604.3	DCA
39	iFlex Probe						
40	(simulated)						
41	3 mV, 50 Hz	100.0	96.5	103.5	100.0	100.0	ACA
42	27 mV, 50 Hz	900.0	872.5	927.5	900.6	900.6	ACA
43	60 mV, 50 Hz	2000	1935	2065	2001	2001	ACA
44	75 mV, 50 Hz	2500	2420	2580	2502	2502	ACA
45	750 mV, 500 Hz	2500	2420	2580	2497	2497	ACA

*In "As Left" column "A" denotes an adjusted test point, "F" a failed test point and "R" a report of value. Blank denotes an acceptable value.

Standards Used	I.D.	Description	Last Cal.	Cal. Due Date	Traceability #
SENSOSCIENTIFIC	TEQ-0251	Therm, Temp / RH, Logger	9/27/2024	9/27/2025	507537
FLUKE	TEQ-0262	ELEC, MULTI-PRODUCT CA	12/30/2024	12/30/2025	F9960010

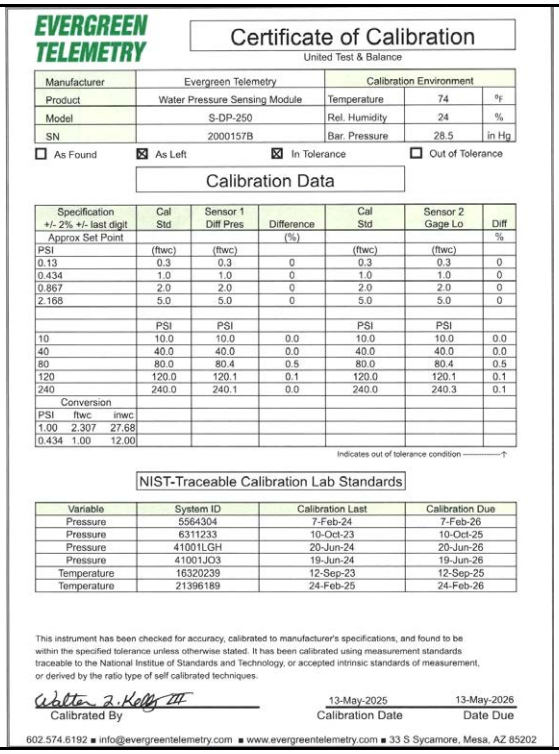
Procedure Used	Procedure Name	Description	Revision Level	Revision Date
HDCL STANDARDS	0114	AC-DC CLAMP-ON METERS	0	3/21/2024

Technician Signature BRIAN INGLE

Huston DePue certifies that the instrument listed above has been tested, calibrated (if necessary), and meets the criteria established in the associated test procedure unless otherwise noted. The standards used are traceable to the National Institute of Standards and Technology (NIST). This report shall not be reproduced, except in full, without the written approval of Huston DePue. The calibration interval has been specified by the customer. Any number of factors may cause the calibration to drift out of tolerance before the recommended interval has expired.

Page 2 of 2

Electrical Measurement



EVERGREEN TELEMETRY

Certificate of Calibration

United Test & Balance

Manufacturer	Evergreen Telemetry	Calibration Environment		
Product	Water Pressure Sensing Module	Temperature	74	°F
Model	S-DP-250	Rel. Humidity	24	%
SN	2000157B	Bar. Pressure	28.5	in Hg

☐ As Found ☒ As Left ☒ In Tolerance ☐ Out of Tolerance

Calibration Data

Specification +/- 2% +/- last digit	Cal Std	Sensor 1 Diff Pres	Difference	Cal Std	Sensor 2 Gage Lo	Diff
Approx Set Point			(%)			%
PSI	(ftwc)	(ftwc)		(ftwc)	(ftwc)	
0.13	0.3	0.3	0	0.3	0.3	0
0.434	1.0	1.0	0	1.0	1.0	0
0.867	2.0	2.0	0	2.0	2.0	0
2.168	5.0	5.0	0	5.0	5.0	0
	PSI	PSI		PSI	PSI	
10	10.0	10.0	0.0	10.0	10.0	0.0
40	40.0	40.0	0.0	40.0	40.0	0.0
80	80.0	80.4	0.5	80.0	80.4	0.5
120	120.0	120.1	0.1	120.0	120.1	0.1
240	240.0	240.1	0.0	240.0	240.3	0.1

Conversion

PSI	ftwc	inwc
1.00	2.307	27.68
0.434	1.00	12.00

Indicates out of tolerance condition ←

NIST-Traceable Calibration Lab Standards

Variable	System ID	Calibration Last	Calibration Due
Pressure	5564304	7-Feb-24	7-Feb-26
Pressure	6311233	10-Oct-23	10-Oct-25
Pressure	41001LGH	20-Jun-24	20-Jun-26
Pressure	41001JO3	19-Jun-24	19-Jun-26
Temperature	16320239	12-Sep-23	12-Sep-25
Temperature	21396189	24-Feb-25	24-Feb-26

This instrument has been checked for accuracy, calibrated to manufacturer's specifications, and found to be within the specified tolerance unless otherwise stated. It has been calibrated using measurement standards traceable to the National Institute of Standards and Technology, or accepted intrinsic standards of measurement, or derived by the ratio type of self calibrated techniques.

Walter J. Kelly III — Calibrated By

13-May-2025 — Calibration Date

13-May-2026 — Date Due

602.574.6192 ■ info@evergreentelemetry.com ■ www.evergreentelemetry.com ■ 33 S Sycamore, Mesa, AZ 85202

Hydronic Pressure Measurement

Proof of Calibration

Calibration Certificate

Certificate #: H139093
Work Order: H4126

Huston-DePue
CALIBRATION LABORATORIES
Est. 1960

Calibration Performed By: 405-285-5850
HDCL
600 NW 124TH ST
OKLAHOMA CITY, OK 73114

For:
UNITED TEST AND BALANCE, INC.
1170 BARBERRY DR
BURLESON, TX 76028

Equipment Information

Serial Number:	D2320042R	ID:	D2320042R
Manufacturer:	NIDEC	Model Number:	DT-207LR
Gage Type:		Performed By:	616
Temp./RH:	71.4F / 48.8 %	Location:	
Cal Date:	9/25/2025	Cal. Due Date:	9/25/2026
Department:		As Found Condition:	In Tolerance
Description:	TACHOMETER, CONTACT & PHOTO	As Left Condition:	In Tolerance
Event Type:	SHOP CALIBRATION		

Calibration Notes
Contact attachment not provided for testing

Test Points

Seq.	Description	Nominal	Tolerance -	Tolerance +	As Found *	As Left	Unit
1	Tachometer						
2	Non Contact						
3	1 Hz applied	60.0	59.0	61.0	60.0	60.0	rpm
4	15 Hz applied	900.0	899.0	901.0	900.0	900.0	rpm
5	50 Hz applied	3000.0	2999.0	3001.0	3000.0	3000.0	rpm
6	100 Hz applied	6000	5998	6002	6000	6000	rpm
7	150 Hz applied	9000	8998	9002	9000	9000	rpm
8	200 Hz applied	12000	11998	12002	12000	12000	rpm
9	500 Hz applied	30000	29997	30003	30001	30001	rpm
10	1000 Hz applied	60000	59995	60005	60002	60002	rpm
11	1500 Hz applied	90000	89994	90006	90003	90003	rpm

*In "As Left" column "A" denotes an adjusted test point, "F" a failed test point and "R" a report of value. Blank denotes an acceptable value.

Standards Used	I.D.	Description	Last Cal.	Cal. Due Date	Traceability #
SENSOSCIENTIFIC	TEQ-0251	Therm, Temp / RH, Logger	9/27/2024	9/27/2025	507537
FLUKE	TEQ-0262	ELEC, MULTI-PRODUCT CA	12/30/2024	12/30/2025	F9960010

Procedure Used	Procedure Name	Description	Revision Level	Revision Date
HDCL STANDARDS	0415-2	R.P.M. INSTRUMENTS	0	3/26/2024

Technician Signature BRIAN INGLE

Huston DePue certifies that the instrument listed above has been tested, calibrated (if necessary), and meets the criteria established in the associated test procedure unless otherwise noted. The standards used are traceable to the National Institute of Standards and Technology (NIST). This report shall not be reproduced, except in full, without the written approval of Huston DePue. The calibration interval has been specified by the customer. Any number of factors may cause the calibration to drift out of tolerance before the recommended interval has expired.

Page 1 of 1

Rotation Measurement

EVERGREEN TELEMETRY — Certificate of Calibration

United Test & Balance, Inc

Manufacturer	Evergreen Telemetry	Calibration Environment		
Product	Humidity Sensor	Temperature	77	°F
Model	PR-TH-1	Rel. Humidity	40	%
SN	2500372	Bar. Pressure	28.6	in Hg

☐ As Found ☒ In Tolerance ☐ Out of Tolerance

Calibration Data

Measurement Variable	Test Point	Cal Standard	Allowable Range Min	Allowable Range Max	Test Instrument	
Temperature (°F)	Spec					
	1	40.3	-1.0	1.0	39.9	
	2	75.1	-1.0	1.0	75.2	
	3	85.9	-1.0	1.0	85.8	
	4	128.7	-2.0	2.0	128.8	
Barometric Pressure (in Hg)	Spec		-2% - 0.1	+ 2% + 0.1		
	1	20.0			20.0	
	2	28.6			28.6	
	3	33.0			33.0	
Humidity %RH 10 to 90%	Spec		-3	3		
	1	8.7			9.3	
	2	24.5			24.5	
	3	59.1			58.9	
	4	90.2			90.0	

Indicates out of tolerance condition ------↑

Calibration Standard

Variable	System ID	Calibration Last	Calibration Due
Temperature	16320239	11-Aug-25	11-Aug-27
Temperature	21396189	24-Feb-25	24-Feb-27
Pressure	2205000006	13-Sep-23	15-Oct-25
Pressure	1208000080	14-Aug-25	14-Aug-27
Humidity	20558772	18-Sep-24	15-Oct-25
Humidity	20052171	13-Feb-25	13-Feb-26

This instrument has been checked for accuracy, calibrated to manufacturer's specifications, and found to be within the specified tolerance unless otherwise stated. It has been calibrated using measurement standards traceable to the National Institue of Standards and Technology, or accepted intrinsic standards of measurement, or derived by the ratio type of self calibrated techniques.

Temperature accuracy (dry bulb) varies across the operating range:
Temperature over 32-100F +/- 1.0 F
Temperature over 100-158F +/- 2.0 F

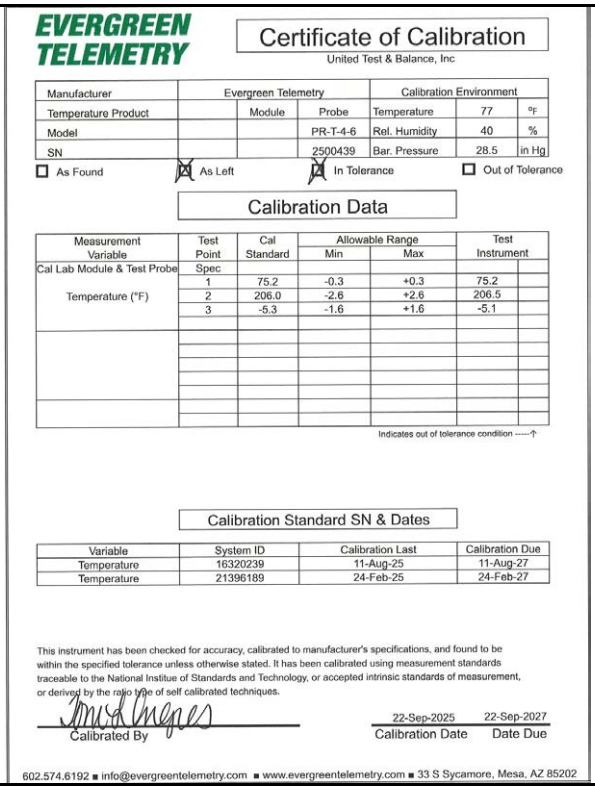
Calibrated By

22-Sep-2025 Calibration Date
22-Sep-2026 Date Due

602.574.6192 ■ info@evergreentelemetry.com ■ www.evergreentelemetry.com ■ 33 S Sycamore, Mesa, AZ 85202

Humidity WB/DB Probe

Proof of Calibration



EVERGREEN TELEMETRY

Certificate of Calibration

United Test & Balance, Inc

Manufacturer	Evergreen Telemetry			Calibration Environment		
Temperature Product		Module	Probe	Temperature	77	°F
Model			PR-T-4-6	Rel. Humidity	40	%
SN			2500439	Bar. Pressure	28.5	in Hg

☐ As Found ☒ As Left ☒ In Tolerance ☐ Out of Tolerance

Calibration Data

Measurement Variable	Test Point	Cal Standard	Allowable Range Min	Allowable Range Max	Test Instrument	
Cal Lab Module & Test Probe	Spec					
Temperature (°F)	1	75.2	-0.3	+0.3	75.2	
	2	206.0	-2.6	+2.6	206.5	
	3	-5.3	-1.6	+1.6	-5.1	

Indicates out of tolerance condition -----↑

Calibration Standard SN & Dates

Variable	System ID	Calibration Last	Calibration Due
Temperature	16320239	11-Aug-25	11-Aug-27
Temperature	21396189	24-Feb-25	24-Feb-27

This instrument has been checked for accuracy, calibrated to manufacturer's specifications, and found to be within the specified tolerance unless otherwise stated. It has been calibrated using measurement standards traceable to the National Institue of Standards and Technology, or accepted intrinsic standards of measurement, or derived by the ratio type of self calibrated techniques.

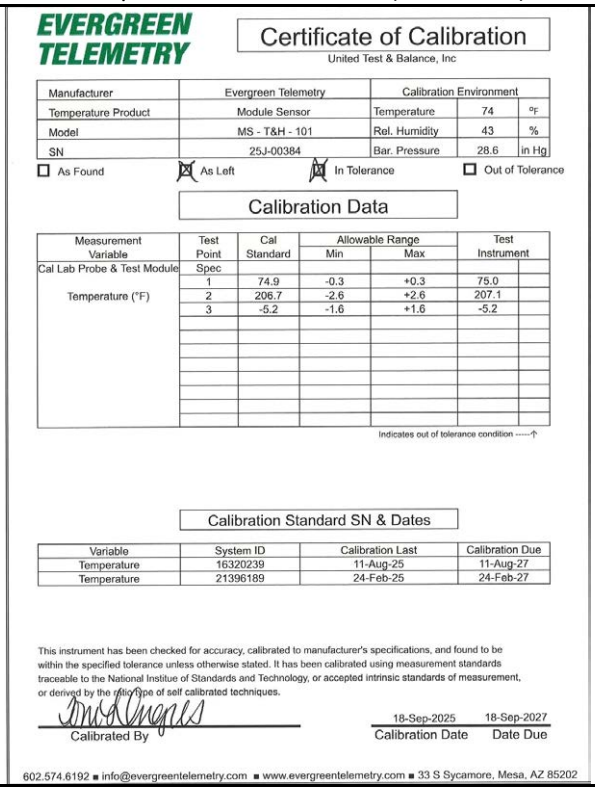
Calibrated By

22-Sep-2025 Calibration Date

22-Sep-2027 Date Due

602.574.6192 ■ info@evergreentelemetry.com ■ www.evergreentelemetry.com ■ 33 S Sycamore, Mesa, AZ 85202

Temperature Measurement (Immersion)



EVERGREEN TELEMETRY

Certificate of Calibration

United Test & Balance, Inc

Manufacturer	Evergreen Telemetry		Calibration Environment		
Temperature Product	Module Sensor		Temperature	74	°F
Model	MS - T&H - 101		Rel. Humidity	43	%
SN	25J-00384		Bar. Pressure	28.6	in Hg

☐ As Found ☒ As Left ☒ In Tolerance ☐ Out of Tolerance

Calibration Data

Measurement Variable	Test Point	Cal Standard	Allowable Range Min	Allowable Range Max	Test Instrument	
Cal Lab Probe & Test Module	Spec					
Temperature (°F)	1	74.9	-0.3	+0.3	75.0	
	2	206.7	-2.6	+2.6	207.1	
	3	-5.2	-1.6	+1.6	-5.2	

Indicates out of tolerance condition -----↑

Calibration Standard SN & Dates

Variable	System ID	Calibration Last	Calibration Due
Temperature	16320239	11-Aug-25	11-Aug-27
Temperature	21396189	24-Feb-25	24-Feb-27

This instrument has been checked for accuracy, calibrated to manufacturer's specifications, and found to be within the specified tolerance unless otherwise stated. It has been calibrated using measurement standards traceable to the National Institue of Standards and Technology, or accepted intrinsic standards of measurement, or derived by the ratio type of self calibrated techniques.

Calibrated By

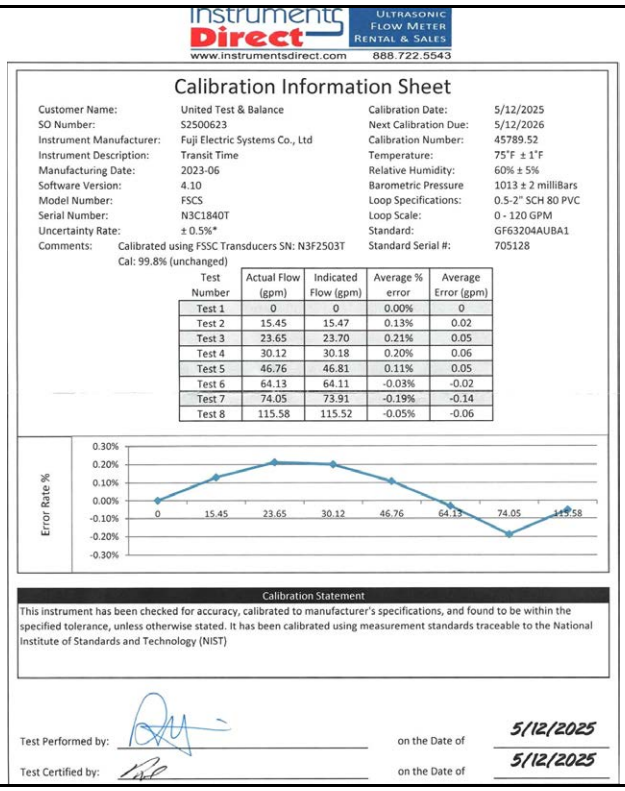
18-Sep-2025 Calibration Date

18-Sep-2027 Date Due

602.574.6192 ■ info@evergreentelemetry.com ■ www.evergreentelemetry.com ■ 33 S Sycamore, Mesa, AZ 85202

Temperature Measurement Meter

Proof of Calibration



Instruments Direct — Ultrasonic Flow Meter Rental & Sales
www.instrumentsdirect.com 888.722.5543

Calibration Information Sheet

Customer Name:	United Test & Balance	Calibration Date:	5/12/2025
SO Number:	S2500623	Next Calibration Due:	5/12/2026
Instrument Manufacturer:	Fuji Electric Systems Co., Ltd	Calibration Number:	45789.52
Instrument Description:	Transit Time	Temperature:	75°F ± 1°F
Manufacturing Date:	2023-06	Relative Humidity:	60% ± 5%
Software Version:	4.10	Barometric Pressure	1013 ± 2 milliBars
Model Number:	FSCS	Loop Specifications:	0.5-2" SCH 80 PVC
Serial Number:	N3C1840T	Loop Scale:	0 - 120 GPM
Uncertainty Rate:	± 0.5%*	Standard:	GF63204AUBA1
Comments:	Calibrated using FSSC Transducers SN: N3F2503T Cal: 99.8% (unchanged)	Standard Serial #:	705128

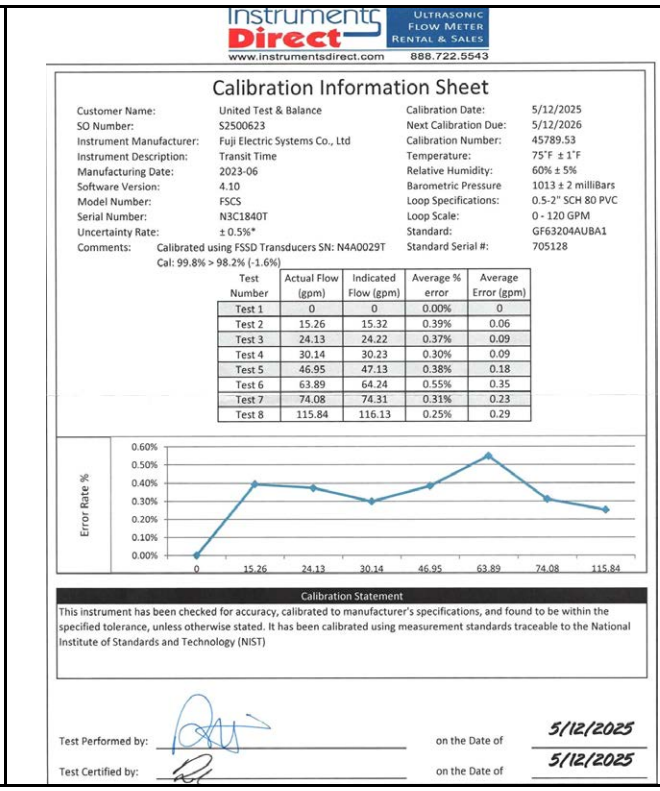
Test Number	Actual Flow (gpm)	Indicated Flow (gpm)	Average % error	Average Error (gpm)
Test 1	0	0	0.00%	0
Test 2	15.45	15.47	0.13%	0.02
Test 3	23.65	23.70	0.21%	0.05
Test 4	30.12	30.18	0.20%	0.06
Test 5	46.76	46.81	0.11%	0.05
Test 6	64.13	64.11	-0.03%	-0.02
Test 7	74.05	73.91	-0.19%	-0.14
Test 8	115.58	115.52	-0.05%	-0.06

Calibration Statement

This instrument has been checked for accuracy, calibrated to manufacturer's specifications, and found to be within the specified tolerance, unless otherwise stated. It has been calibrated using measurement standards traceable to the National Institute of Standards and Technology (NIST)

Test Performed by: _____ on the Date of 5/12/2025

Test Certified by: _____ on the Date of 5/12/2025



Instruments Direct — Ultrasonic Flow Meter Rental & Sales
www.instrumentsdirect.com 888.722.5543

Calibration Information Sheet

Customer Name:	United Test & Balance	Calibration Date:	5/12/2025
SO Number:	S2500623	Next Calibration Due:	5/12/2026
Instrument Manufacturer:	Fuji Electric Systems Co., Ltd	Calibration Number:	45789.53
Instrument Description:	Transit Time	Temperature:	75°F ± 1°F
Manufacturing Date:	2023-06	Relative Humidity:	60% ± 5%
Software Version:	4.10	Barometric Pressure	1013 ± 2 milliBars
Model Number:	FSCS	Loop Specifications:	0.5-2" SCH 80 PVC
Serial Number:	N3C1840T	Loop Scale:	0 - 120 GPM
Uncertainty Rate:	± 0.5%*	Standard:	GF63204AUBA1
Comments:	Calibrated using FSSD Transducers SN: N4A0029T Cal: 99.8% > 98.2% (-1.6%)	Standard Serial #:	705128

Test Number	Actual Flow (gpm)	Indicated Flow (gpm)	Average % error	Average Error (gpm)
Test 1	0	0	0.00%	0
Test 2	15.26	15.32	0.39%	0.06
Test 3	24.13	24.22	0.37%	0.09
Test 4	30.14	30.23	0.30%	0.09
Test 5	46.95	47.13	0.38%	0.18
Test 6	63.89	64.24	0.55%	0.35
Test 7	74.08	74.31	0.31%	0.23
Test 8	115.84	116.13	0.25%	0.29

Calibration Statement

This instrument has been checked for accuracy, calibrated to manufacturer's specifications, and found to be within the specified tolerance, unless otherwise stated. It has been calibrated using measurement standards traceable to the National Institute of Standards and Technology (NIST)

Test Performed by: _____ on the Date of 5/12/2025

Test Certified by: _____ on the Date of 5/12/2025

Ultrasonic Flow Meter

Terms & Abbreviations

AHU	AIR HANDLING UNIT
AC OR ACU	AIR CONDITIONER UNIT
ACCU	AIR COOLED CONDENSING UNIT
ADJ P.D.	ADJUSTED PITCH DIAMETER
AMP	AMPERE
AVG	AVERAGE
B.H.P.	BRAKE HORSEPOWER
C.D.	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
C.E.	CEILING EXHAUST
CH	CHILLER
CHWR	CHILLED WATER RETURN
CHW OR CHWS	CHILLED WATER SUPPLY
C.R.	CEILING RETURN
CT	COOLING TOWER
CWR	CONDENSER WATER RETURN
CW OR CWS	CONDENSER WATER SUPPLY
DB	DRY BULB
D.D.	DIRECT DRIVE
D.P.	DIFFERENCE, NET DECREASE OR INCREASE
DIA	DIAMETER
D.N.A.	DATA NOT AVAILABLE
D.N.L	DATA NOT LISTED
EAT	ENTERING AIR TEMPERATURE
EDC	ELECTRIC DUCT COIL
EDH	ELECTRIC DUCT HEALER
EF	EXHAUST FAN
EMCS	ENERGY MANAGEMENT CONTROL SYSTEM
EWT	ENTERING WATER TEMPERATURE
FCU	FAN COIL UNIT
FH	FUME HOOD
FG	FLOOR GRILLE
F.E.	FLOOR EXHAUST OR RETURN
F.L.A	FULL LOAD AMPERAGE
FPB	FAN POWERED BOX
FPM	FEET PER MINUTE
F.S.	FLOOR SUPPLY
F.S.R	FLOOR SUPPLY REGISTER
FT. HD	FEET OF HEAD
GPM	GALLONS PER MINUTE
GFH	GAS FIRED HEATER
HC	HEATING COIL
HEATER O.L.	THERMAL OVERLOAD PROTECTION FOR MOTORS
	LOCATED AT THE MOTOR STARTER
HEPA	HIGH EFFICIENCY PARTICULATE AIR
H.F.	HEPA FILTER
HOA	HAND/OFF/AUTO SWITCH
H.P.	HORSEPOWER
HPS	HIGH PRESSURE STEAM
HRC	HEAT RECOVERY COIL OR HEAT RECLAIM COIL
HVAC	HEATING , VENTILATION AND AIR CONDITIONING
HWR	HOT WATER RETURN OR HEATING WATER RETURN
HWS	HOT WATER SUPPLY OR HEATING WATER SUPPLY
HX	HEAT EXCHANGER
I.D.	INSIDE DIAMETER
LAT	LEAVING AIR TEMPERATURE
L.D.	LINEAR SUPPLY DIFFUSER
LPS	LOW PRESSURE STEAM
L.T.	LIGHT TROFFER
LWG	LOW WALL GRILLE
LWR	LOW WALL RETURN
LWT	LEAVING WATER TEMPERATURE
MAU/MUA	MAKE UP AIR UNIT
MBH	1,000 BTU'S PER HOUR
N.A.	NOT ACCESSIBLE or NOT APPLICABLE
N.I.	NOT INSTALLED
N.P.	NOT PROVIDED (Submittal was not provided)
N.L.	NOT LISTED (Data was not on submittal or schedule)
N.T.	NOT TAKEN
N.V.L	NO VALID LOCATION
N.Z.	NOZZLE
O.D.	OUTSIDE DIAMETER
OPEN	NO TERMINAL DEVICE INSTALLED
O.S.A. MIN	OUTSIDE AIR MINIMUM
OAT	OUTSIDE AIR TEMPERATURE
PF	POWER FACTOR
PMP	CIRCULATING PUMP
PSI	POUNDS PER SQUARE INCH
P.T.	PITOT TRAVERSE
RA	RETURN AIR
RF	RETURN AIR FAN
R.G.	RETURN GRILLE
RHC	REHEAT COIL
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SAT	SUPPLY AIR TEMPERATURE
PHC	PREHEAT COIL
PH	PHASE(S)
S.D.	SUPPLY DIFFUSER
SEF	SMOKE EXHAUST FAN
SF (AIR)	SUPPLY FAN
S.F. (ELECT)	SERVICE FACTORS
SHC	STEAM HEATING COIL
S.P. "W.C."	STATIC PRESSURE RESISTANCE, MEASURED
	IN INCHES OF WATER COLUMN
S.W.E.	SIDEWALL EXHAUST
S.W.R.	SIDEWALL RETURN
S.W.S.	SIDEWALL SUPPLY
TAB	TESTING, ADJUSTING, AND BALANCING
TSP	TOTAL STATIC PRESSURE
UH	UNIT HEATER
V	VOLTS
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
VP	VELOCITY PRESSURE
W	WATTS
WB	WET BULB
W.G.	WATER GAUGE
°F	DEGREES FAHRENHEIT
ΔP	DIFFERENTIAL (DELTA) PRESSURE
	OR PRESSURE DROP
ΔT	DIFFERENTIAL (DELTA) TEMPERATURE, NET
	TEMPERATURE DECREASE OR INCREASE

Warranty Page

United Test & Balance, Inc. (United) provides a one-year warranty for the Test and Balance or Commissioning work performed by them or their subcontractors on this project. The warranty period is one year from the date of this report and/or warranty page. Within the warranty period if the systems tested and reported show evidence of major performance deterioration, or is significantly out of tolerance, resulting from defective test and balance workmanship; United will repair and/or replace defective work or materials if responsibility is solely identified as related to the TAB work. Any evidence of the following will be deemed as not a material work defect caused by tested and balance 1) evidence of improper materials, improper installation or failed control operations 2) evidence of controls, mechanical or commissioning contractor's failure to perform specified project requirements 3) evidence of the owner or occupant's failure to maintain mechanical systems.

If the warranty issue is found to be attributed to mechanical equipment, control or maintenance related failure, or any other cause not related to the TAB work, the return trip may be subject to a service charge. Important: United TAB reserves the right to resolve TAB issues and correct any errors or omissions in test data. If any third-party or competing agency (TAB or Commissioning) tests or adjust any equipment or fluid flows, ALL PROJECT WARRANTY IS VOIDED.

United needs written notice for any TAB warranty item. Notice should be specific, itemized, and include any issues or concerns, including the specific location or system. After receiving written notice, United TAB will Assign a Project Manager to address the warrant issue. United TAB recommends an owner representative is on-site for the warrant visit.

For any balancing issues or concerns that arise, United TAB will return to the project site to address the issue or concern. United TAB will check and corroborate that the tested systems adhere with the reported data. This work will be performed at no charge.

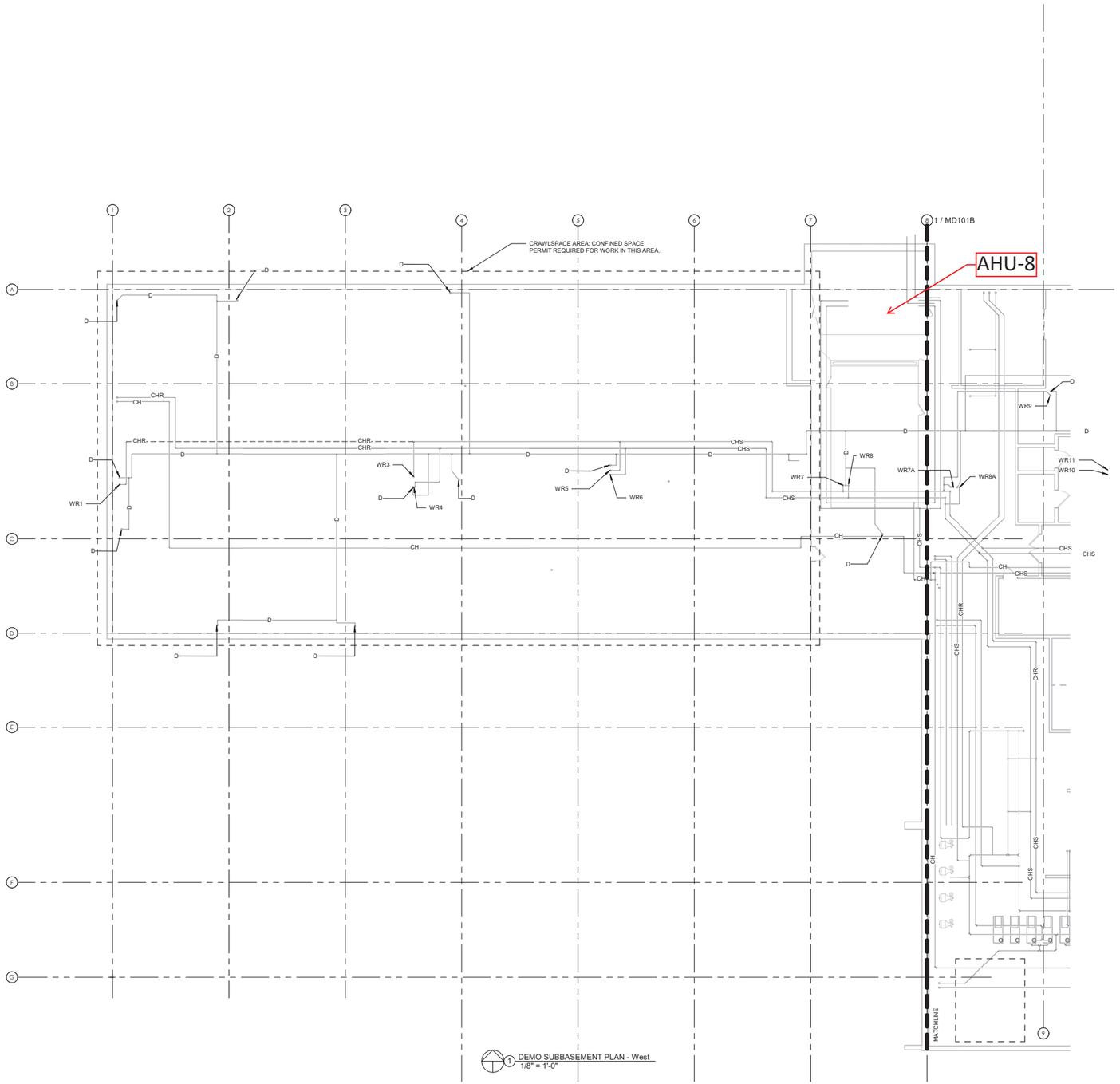
United's warranty covers comfort balancing for occupants at a maximum of one year or two warranty comfort balance visits.

As a default, TAB work is performed with systems configured for total design flow condition for both cooling and heating modes regardless of OA ambient temperature. Therefore, unless otherwise noted, this TAB report fulfills any Opposite Season requirements.

United keeps an electronic file of all test documents through the end of the warranty period. During that time electronic copies of the report are provided at no charge. Extra paper copies may be subject to a fee. Building owners should keep all documentation for future reference. All documentation about this project will be destroyed in accordance with our record retention schedule.

Keyed Drawings and Schematics

United's Keyed Drawings follow this page.



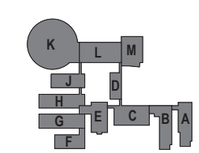
1 DEMO SUBBASEMENT PLAN - West
1/8" = 1'-0"

SHEET NOTES:

1. DRAWINGS ARE DIAGRAMMATIC IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR(S) TO VERIFY EXISTING DUCTWORK, PIPING AND EQUIPMENT LOCATIONS. REPORT ANY DISCREPANCIES BETWEEN PLANS AND SITE CONDITIONS TO A/E. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES AND EXISTING CONDITIONS.
2. DUCTWORK AND PIPING SIZES SHOWN ARE BEST INTERPRETATION OF AVAILABLE DATA. CONTRACTOR TO VERIFY PIPE SIZES DURING COURSE OF WORK, AND REPORT ANY DISCREPANCIES BETWEEN PLANS AND SITE CONDITIONS.

KEY NOTES:

1. EXISTING TERMINAL UNIT TO REMAIN AND BE REUSED. PROVIDE NEW SUPPLY AND RETURN PIPING AND ROUTE TO NEW RISERS. CONDENSATE PIPING TO REMAIN UNCHANGED.



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95% CONSTRUCTION DOCUMENTS	04/24/2026
65% DESIGN DEVELOPMENT	03/21/2025
35% SCHEMATIC DESIGN	04/07/2023
Revisions:	Date:

CONSULTANT

DAVENERGY SOLUTIONS
2207 GARNET AVE, SUITE I
SAN DIEGO, CA 92109
619-770-8552

DAVENERGY SOLUTIONS
ENGINEERING | CONSTRUCTION MANAGEMENT

DESIGNER OF RECORD

A/E:
DAVENERGY SOLUTIONS
2207 GARNET AVE, SUITE I
SAN DIEGO, CA 92109
619-770-8552

DAVENERGY SOLUTIONS
ENGINEERING | CONSTRUCTION MANAGEMENT

STAMP

NOT FOR CONSTRUCTION

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: DEMO SUBBASEMENT PLAN - WEST

Approved: Approver

Phase: 95% CONSTRUCTION DOCUMENTS

-

Project Title: REPLACE AND EXPAND CHILLED WATER INFRASTRUCTURE, BUILDING 1 AND OPC

Location: FRESNO VA HOSPITAL, 2615 E CLINTON AVE, FRESNO, CA 93703

Issue Date: 04/24/2026 | Checked: JMM | Drawn: JM

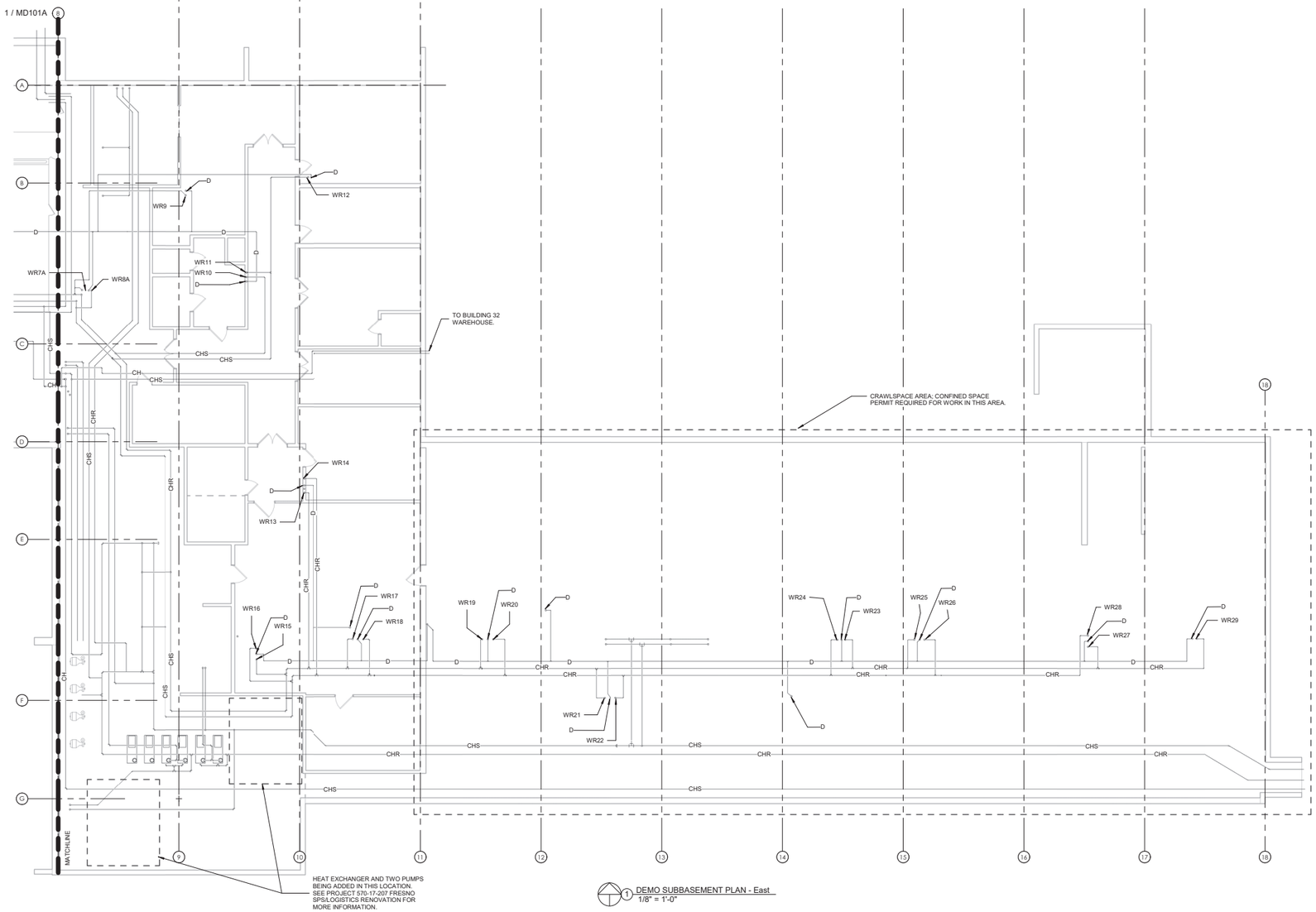
Project Number: 570-20-308

Building Number: 1

Drawing Number: MD101A

Autodesk Docs://222010 VA Fresno Chilled Water Infrastructure/570-20-308 VA CA Fresno Chilled Water Infrastructure_MECH-R23.rvt 4/13/2026 9:36:18 AM

VA FORM 08 - 6231



1 DEMO SUBBASEMENT PLAN - East
1/8" = 1'-0"

SHEET NOTES:

1. DRAWINGS ARE DIAGRAMMATIC IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR(S) TO VERIFY EXISTING DUCTWORK, PIPING AND EQUIPMENT LOCATIONS. REPORT ANY DISCREPANCIES BETWEEN PLANS AND SITE CONDITIONS TO A/E. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES AND EXISTING CONDITIONS.
2. DUCTWORK AND PIPING SIZES SHOWN ARE BEST INTERPRETATION OF AVAILABLE DATA. CONTRACTOR TO VERIFY PIPE SIZES DURING COURSE OF WORK, AND REPORT ANY DISCREPANCIES BETWEEN PLANS AND SITE CONDITIONS.

(#) KEY NOTES:

1. EXISTING TERMINAL UNIT TO REMAIN AND BE REUSED. PROVIDE NEW SUPPLY AND RETURN PIPING AND ROUTE TO NEW RISERS. CONDENSATE PIPING TO REMAIN UNCHANGED.

95% CONSTRUCTION DOCUMENTS	04/24/2026
65% DESIGN DEVELOPMENT	03/21/2025
35% SCHEMATIC DESIGN	04/07/2023
Revisions:	**Date:**

CONSULTANT

DAVENERGY SOLUTIONS
2207 GARNET AVE, SUITE I
SAN DIEGO, CA 92109
619-770-8552

DAVENERGY SOLUTIONS ENGINEERING | CONSTRUCTION MANAGEMENT

DESIGNER OF RECORD

A/E:
DAVENERGY SOLUTIONS
2207 GARNET AVE, SUITE I
SAN DIEGO, CA 92109
619-770-8552

DAVENERGY SOLUTIONS ENGINEERING | CONSTRUCTION MANAGEMENT

STAMP

NOT FOR CONSTRUCTION

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: DEMO SUBBASEMENT PLAN - EAST

Approved: Approver

Phase: 95% CONSTRUCTION DOCUMENTS

-

Project Title: REPLACE AND EXPAND CHILLED WATER INFRASTRUCTURE, BUILDING 1 AND OPC

Location: FRESNO VA HOSPITAL
2615 E CLINTON AVE, FRESNO, CA 93703

Project Number: 570-20-308

Building Number: 1

Drawing Number: MD101B

Issue Date	Checked	Drawn
04/24/2026	JMM	JM

VA FORM 08 - 6231

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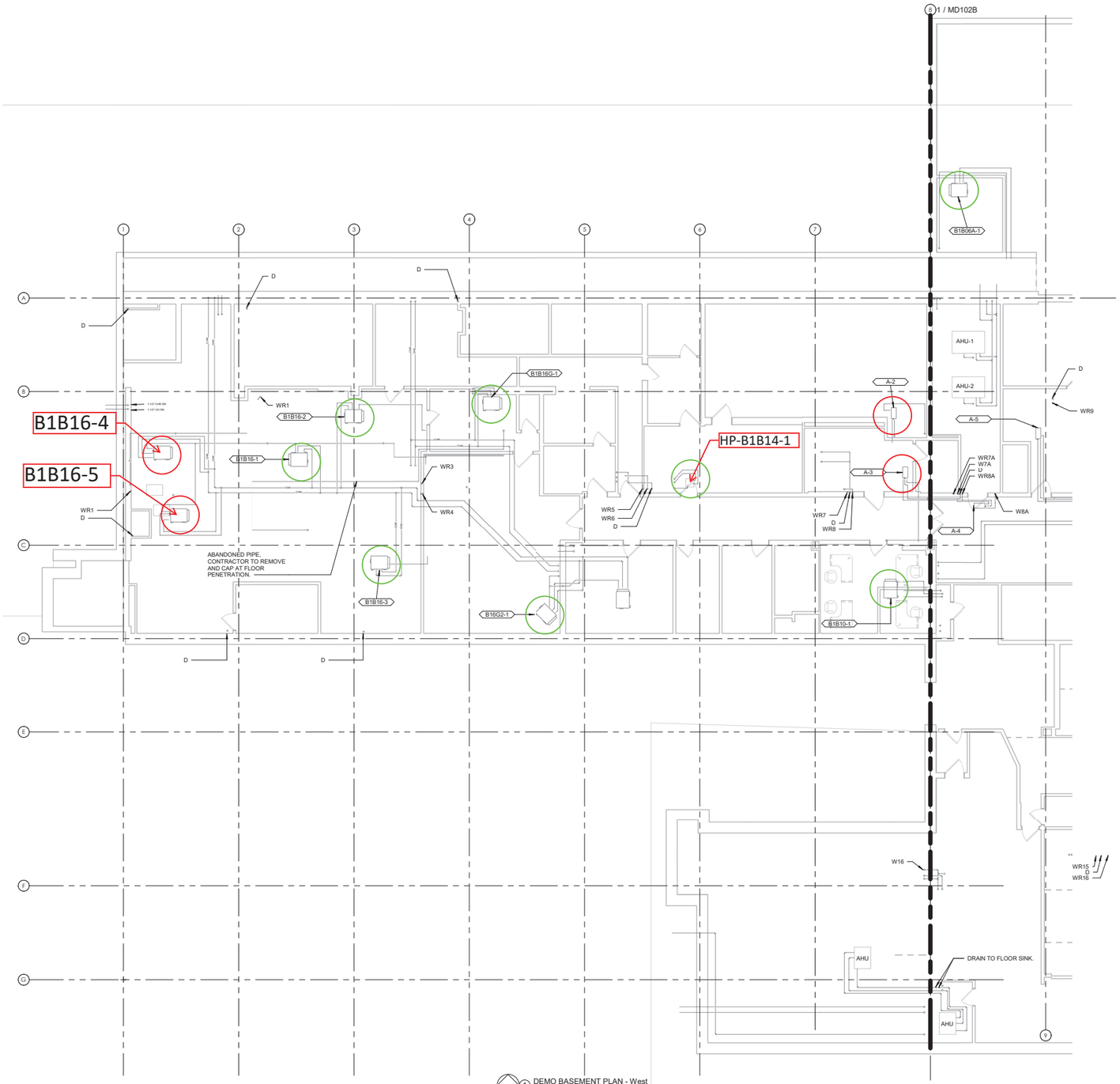

1 DEMO BASEMENT PLAN - West
1/8" = 1'-0"

SHEET NOTES:

1. DRAWINGS ARE DIAGRAMMATIC IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR(S) TO VERIFY EXISTING DUCTWORK, PIPING AND EQUIPMENT LOCATIONS. REPORT ANY DISCREPANCIES BETWEEN PLANS AND SITE CONDITIONS TO A/E. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES AND EXISTING CONDITIONS.
2. DUCTWORK AND PIPING SIZES SHOWN ARE BEST INTERPRETATION OF AVAILABLE DATA. CONTRACTOR TO VERIFY PIPE SIZES DURING COURSE OF WORK, AND REPORT ANY DISCREPANCIES BETWEEN PLANS AND SITE CONDITIONS.

(#) KEY NOTES:

1. EXISTING TERMINAL UNIT TO REMAIN AND BE REUSED. PROVIDE NEW SUPPLY AND RETURN PIPING AND ROUTE TO NEW RISERS. CONDENSATE PIPING TO REMAIN UNCHANGED.

95% CONSTRUCTION DOCUMENTS	04/24/2026
65% DESIGN DEVELOPMENT	03/21/2025
35% SCHEMATIC DESIGN	04/07/2023
Revisions:	**Date:**

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VA U.S. Department of Veterans Affairs

Drawing Title	DEMO BASEMENT PLAN - WEST
Approved: Approver	
Phase	95% CONSTRUCTION DOCUMENTS
-	
Project Title	REPLACE AND EXPAND CHILLED WATER INFRASTRUCTURE, BUILDING 1 AND OPC
Location	FRESNO VA HOSPITAL 2615 E CLINTON AVE, FRESNO, CA 93703
Issue Date	04/24/2026
Checked	JMM
Drawn	JM
Project Number	570-20-308
Building Number	
Drawing Number	MD102A

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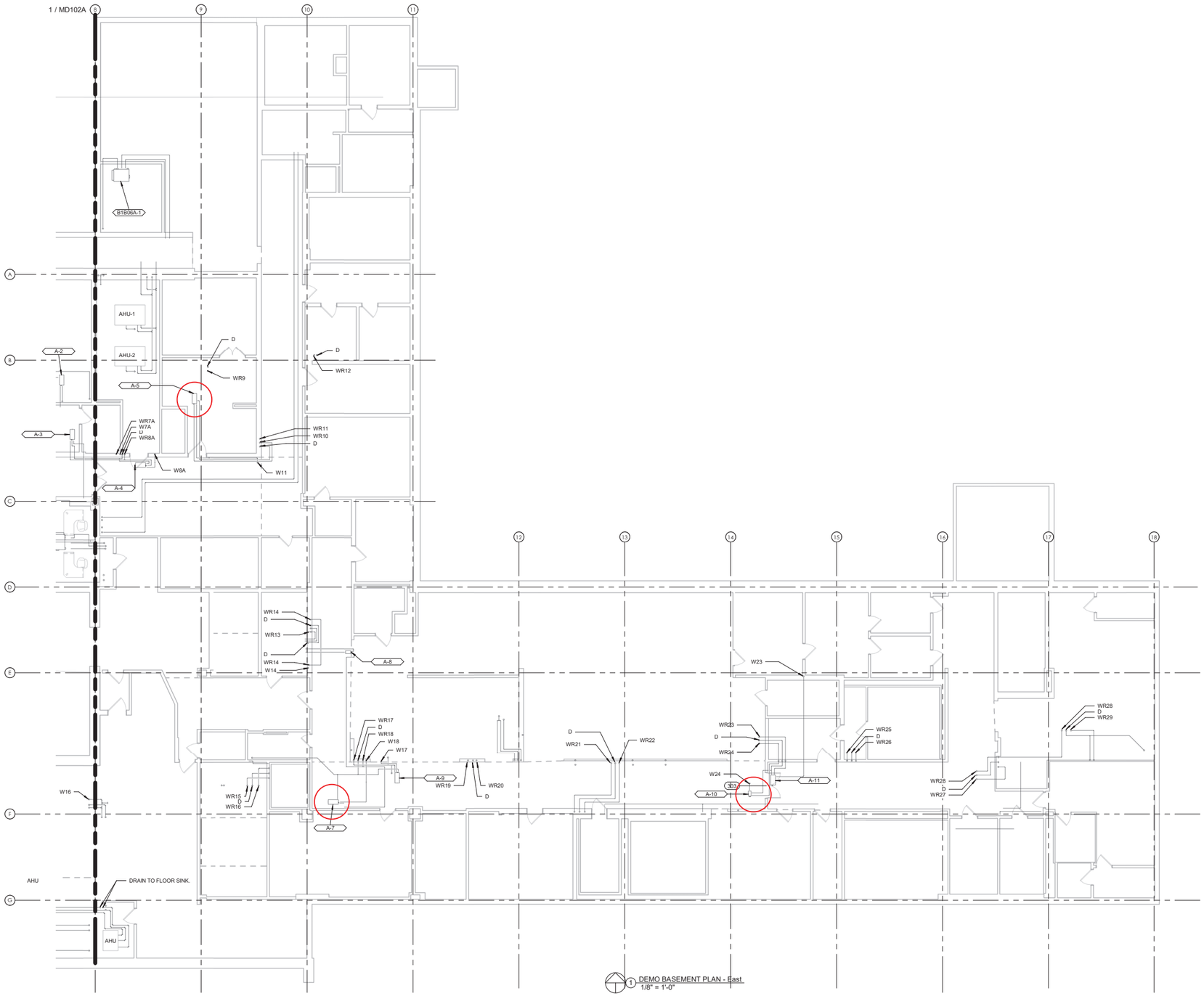

DEMO BASEMENT PLAN - East
1/8" = 1'-0"

SHEET NOTES:

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95% CONSTRUCTION DOCUMENTS	04/24/2026
65% DESIGN DEVELOPMENT	03/21/2025
35% SCHEMATIC DESIGN	04/07/2023
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Drawing Title	DEMO BASEMENT PLAN - EAST
Phase	95% CONSTRUCTION DOCUMENTS
Project Title	REPLACE AND EXPAND CHILLED WATER INFRASTRUCTURE, BUILDING 1 AND OPC
Location	FRESNO VA HOSPITAL 2615 E CLINTON AVE, FRESNO, CA 93703
Project Number	570-20-308
Building Number	
Drawing Number	MD102B
Approved: Approver	-
Issue Date	04/24/2026
Checked	JMM
Drawn	JM

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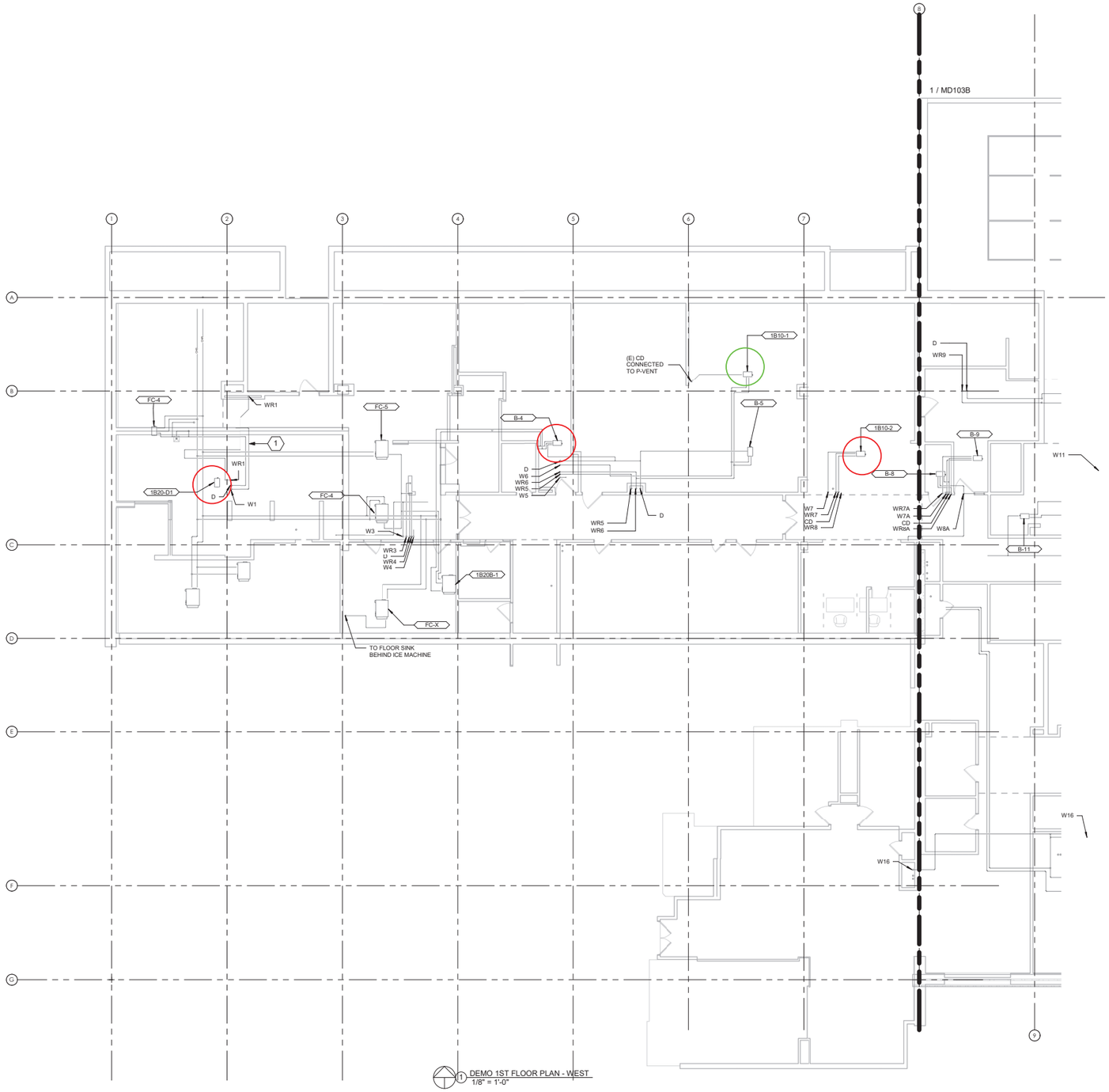

1 DEMO 1ST FLOOR PLAN - WEST
1/8" = 1'-0"

SHEET NOTES:

1. DRAWINGS ARE DIAGRAMMATIC IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR(S) TO VERIFY EXISTING DUCTWORK, PIPING AND EQUIPMENT LOCATIONS. REPORT ANY DISCREPANCIES BETWEEN PLANS AND SITE CONDITIONS TO A/E. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES AND EXISTING CONDITIONS.
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(#) KEY NOTES:

1. PIPE ROUTING SHOWN IS DIAGRAMATIC IN NATURE, AND IS DRAWN SUCH THAT PIPE CONNECTIONS AND VALVES ARE CLEARLY DENOTED. CONTRACTOR IS RESPONSIBLE TO ADJUST THE PIPE ROUTING IN ACCORDANCE WITH VA STANDARDS AND TO COORDINATE WITH EXISTING CONDITIONS AND OTHER TRADES WHILE MAINTAINING PROPER MAINTANANCE ACCESS TO VALVES AND OTHER EQUIPEMNT.
2. EXISTING TERMINAL UNIT TO REMAIN AND BE REUSED. PROVIDE NEW SUPPLY AND RETURN PIPING AND ROUTE TO NEW RISERS. CONDENSATE PIPING TO REMAIN UNCHANGED.

95% CONSTRUCTION DOCUMENTS	04/24/2026
65% DESIGN DEVELOPMENT	03/21/2025
35% SCHEMATIC DESIGN	04/07/2023
Revisions:	**Date:**

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Drawing Title DEMO 1ST FLOOR PLAN - WEST	**Phase** 95% CONSTRUCTION DOCUMENTS	**Project Title** REPLACE AND EXPAND CHILLED WATER INFRASTRUCTURE, BUILDING 1 AND OPC	**Project Number** 570-20-308
			Building Number
Approved: Approver	-	**Location** FRESNO VA HOSPITAL 2615 E CLINTON AVE, FRESNO, CA 93703	**Drawing Number** MD103A
		Issue Date 04/24/2026 / **Checked** JMM / **Drawn** JM	

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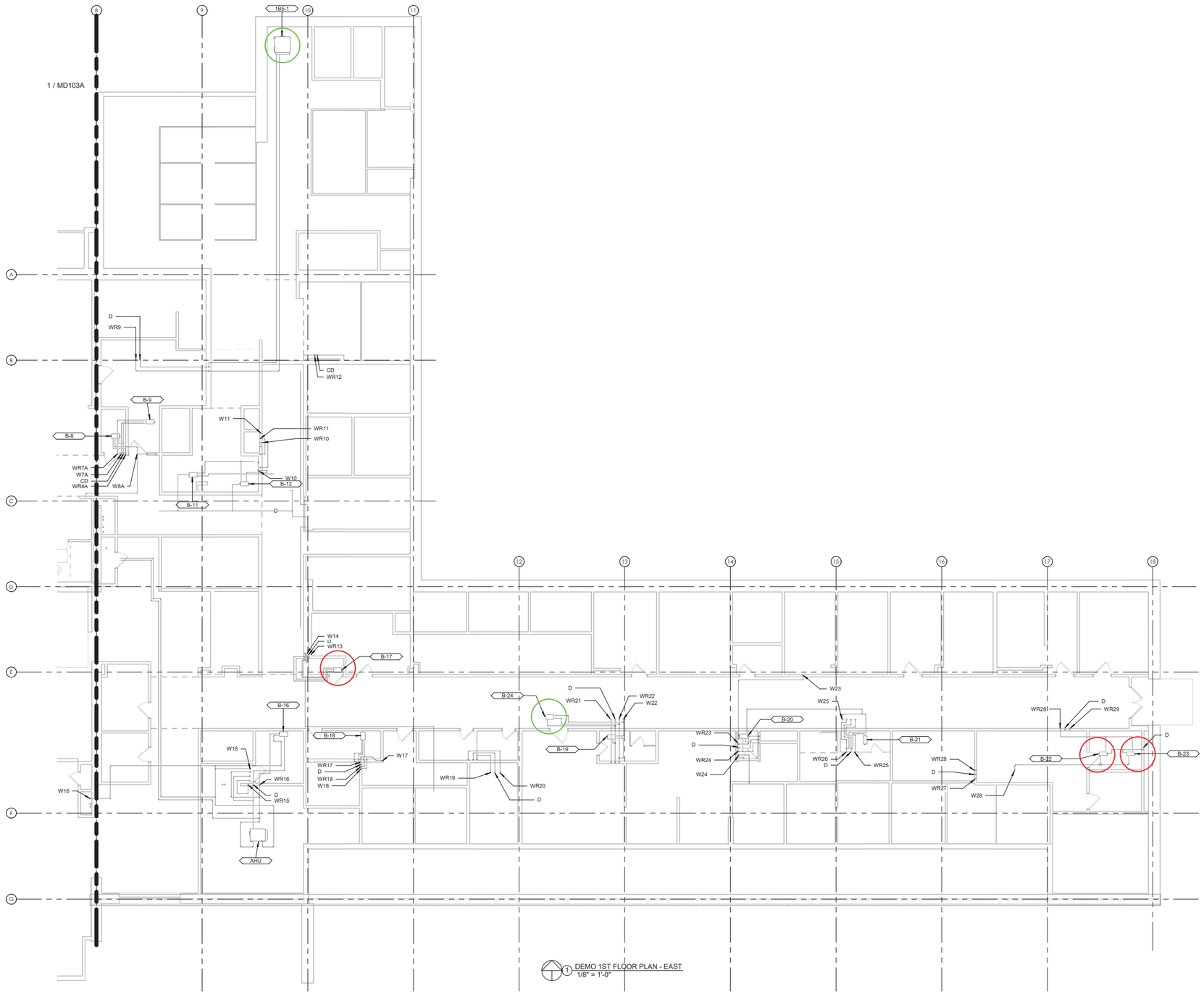

1 DEMO 1ST FLOOR PLAN - EAST
1/8" = 1'-0"

SHEET NOTES:

1. DRAWINGS ARE DIAGRAMMATIC IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR(S) TO VERIFY EXISTING DUCTWORK, PIPING AND EQUIPMENT LOCATIONS. REPORT ANY DISCREPANCIES BETWEEN PLANS AND SITE CONDITIONS TO A/E. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES AND EXISTING CONDITIONS.
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95% CONSTRUCTION DOCUMENTS	04/24/2026
65% DESIGN DEVELOPMENT	03/21/2025
35% SCHEMATIC DESIGN	04/07/2023
Revisions:	**Date:**

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Drawing Title: DEMO 1ST FLOOR PLAN - EAST	Phase: 95% CONSTRUCTION DOCUMENTS	Project Title: REPLACE AND EXPAND CHILLED WATER INFRASTRUCTURE, BUILDING 1 AND OPC	Project Number: 570-20-308
Approved: Approver	-	Location: FRESNO VA HOSPITAL, 2615 E CLINTON AVE, FRESNO, CA 93703	Building Number
		Issue Date: 04/24/2026 / Checked: JMM / Drawn: JM	Drawing Number: MD103B

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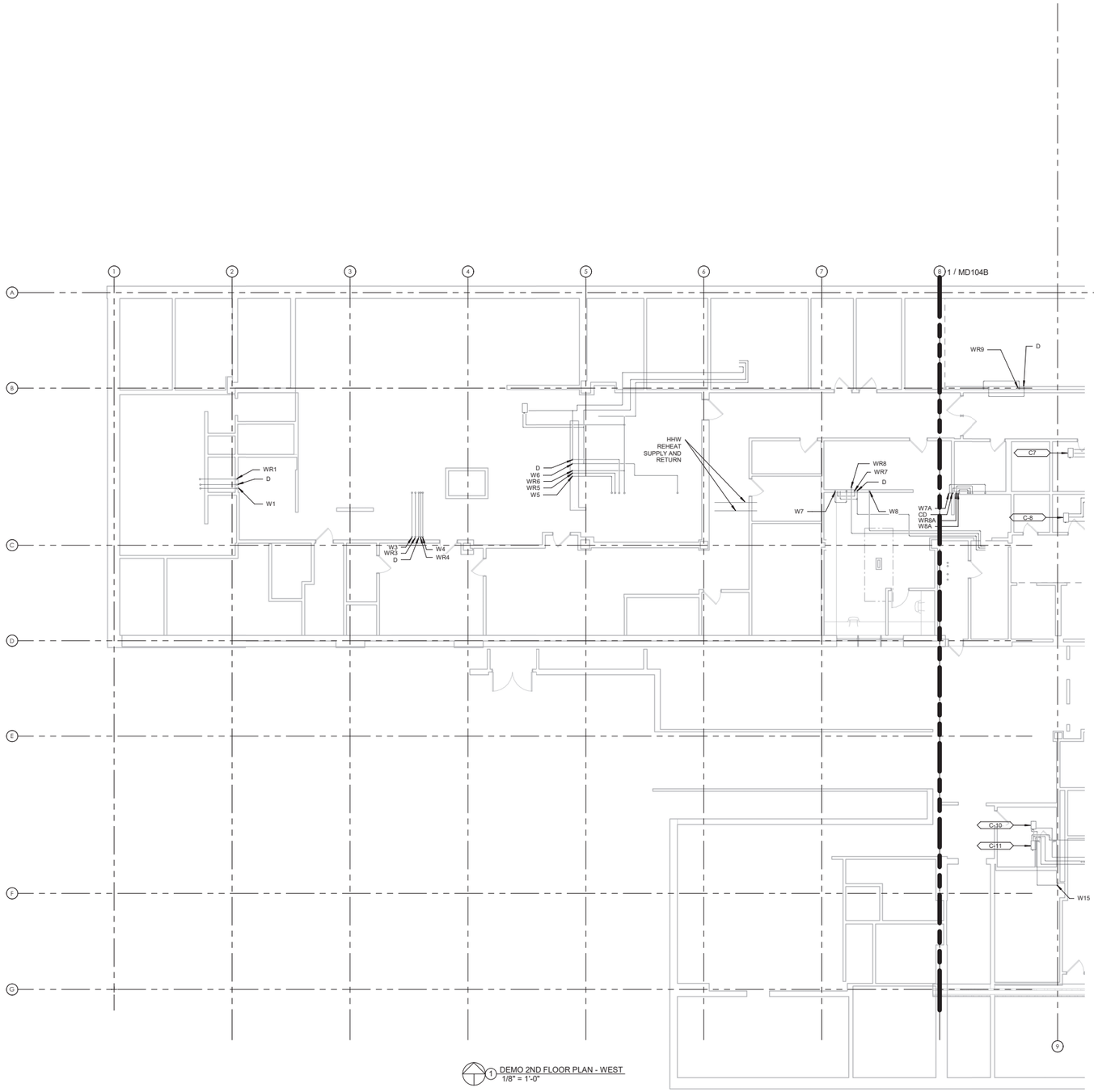

1 DEMO 2ND FLOOR PLAN - WEST
1/8" = 1'-0"

SHEET NOTES:

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Revisions:	Date:
95% CONSTRUCTION DOCUMENTS	04/24/2026
65% DESIGN DEVELOPMENT	03/21/2025
35% SCHEMATIC DESIGN	04/07/2023

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Drawing Title: DEMO 2ND FLOOR PLAN - WEST	Phase: 95% CONSTRUCTION DOCUMENTS	Project Title: REPLACE AND EXPAND CHILLED WATER INFRASTRUCTURE, BUILDING 1 AND OPC	Project Number: 570-20-308
Approved: Approver	-	Location: FRESNO VA HOSPITAL, 2615 E CLINTON AVE, FRESNO, CA 93703	Building Number
		Issue Date: 04/24/2026 / Checked: JMM / Drawn: JM	Drawing Number: MD104A

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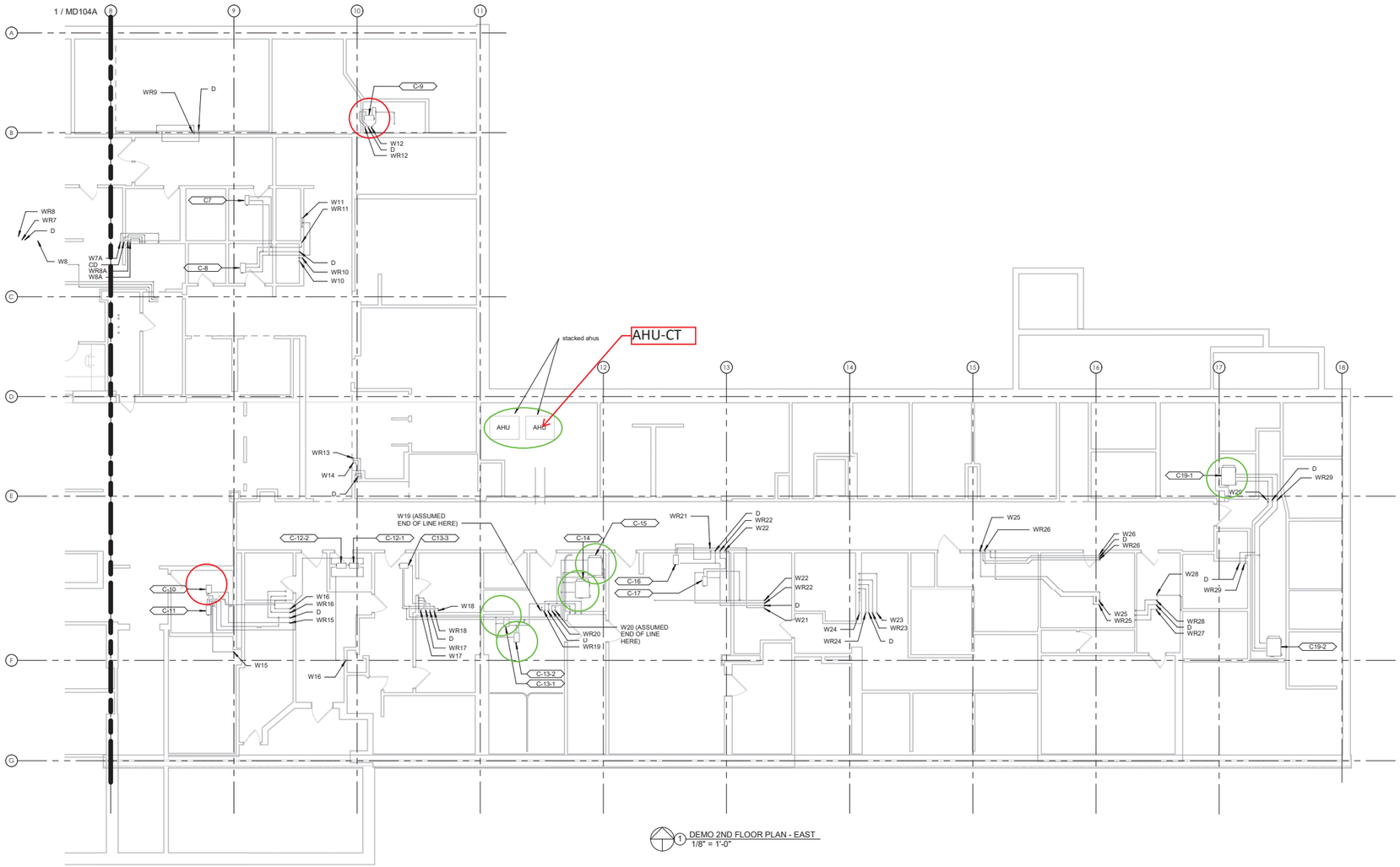

1 DEMO 2ND FLOOR PLAN - EAST
1/8" = 1'-0"

SHEET NOTES:

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Revisions:	**Date:**

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VA U.S. Department of Veterans Affairs

Drawing Title: DEMO 2ND FLOOR PLAN - EAST

Approved: Approver

Phase: 95% CONSTRUCTION DOCUMENTS

-

Project Title: REPLACE AND EXPAND CHILLED WATER INFRASTRUCTURE, BUILDING 1 AND OPC

Location: FRESNO VA HOSPITAL, 2615 E CLINTON AVE, FRESNO, CA 93703

Issue Date: 04/24/2026 | **Checked:** JMM | **Drawn:** JM

Project Number: 570-20-308

Building Number:

Drawing Number: MD104B

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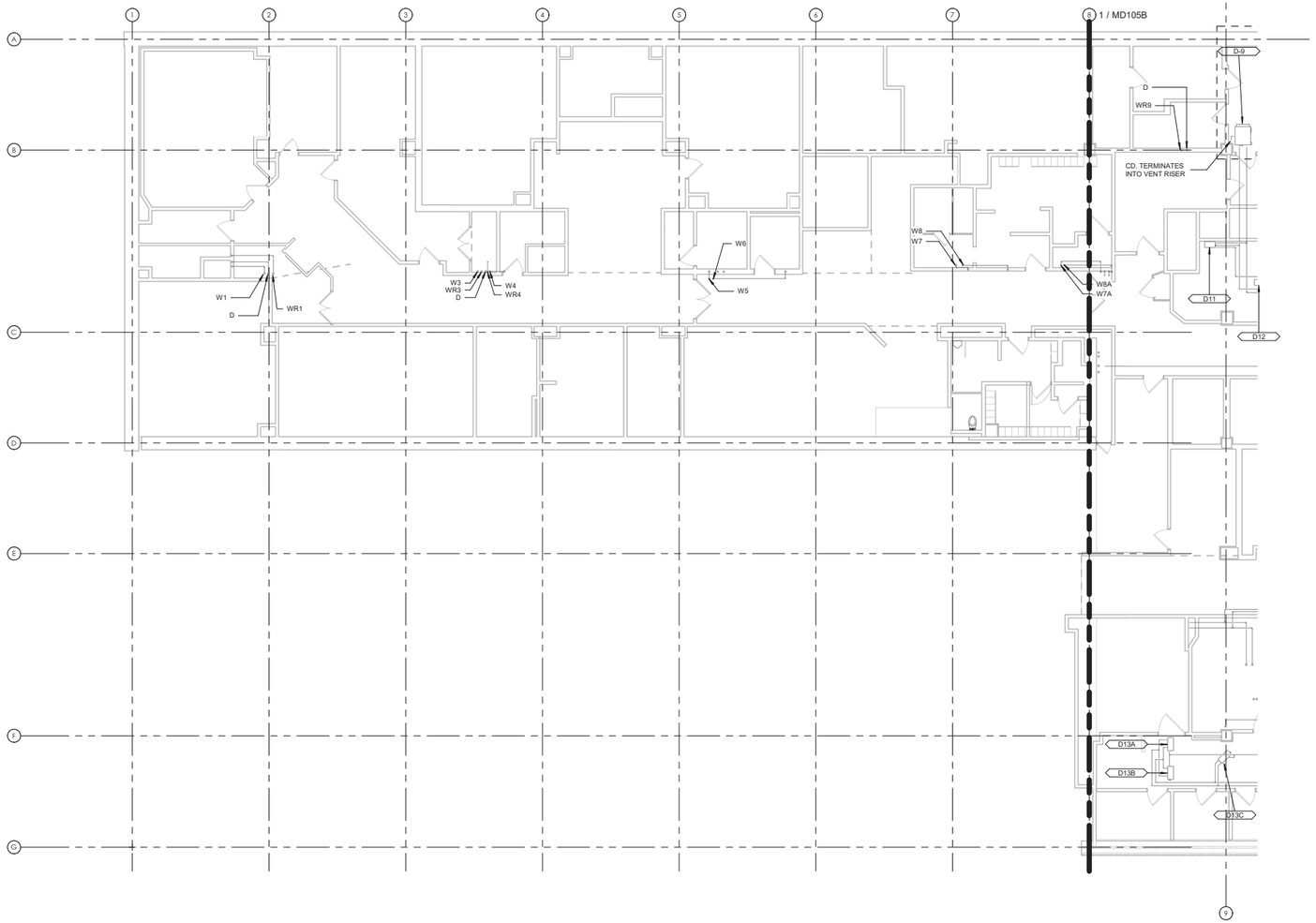

1 DEMO 3RD FLOOR PLAN - WEST
1/8" = 1'-0"

SHEET NOTES:

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Revisions:	**Date:**

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VA U.S. Department of Veterans Affairs

Drawing Title: DEMO 3RD FLOOR PLAN - WEST

Approved: Approver

Phase: 95% CONSTRUCTION DOCUMENTS

-

Project Title: REPLACE AND EXPAND CHILLED WATER INFRASTRUCTURE, BUILDING 1 AND OPC

Location: FRESNO VA HOSPITAL
2615 E CLINTON AVE, FRESNO, CA 93703

Issue Date: 04/24/2026 | **Checked:** JMM | **Drawn:** JM

Project Number: 570-20-308

Building Number:

Drawing Number: MD105A

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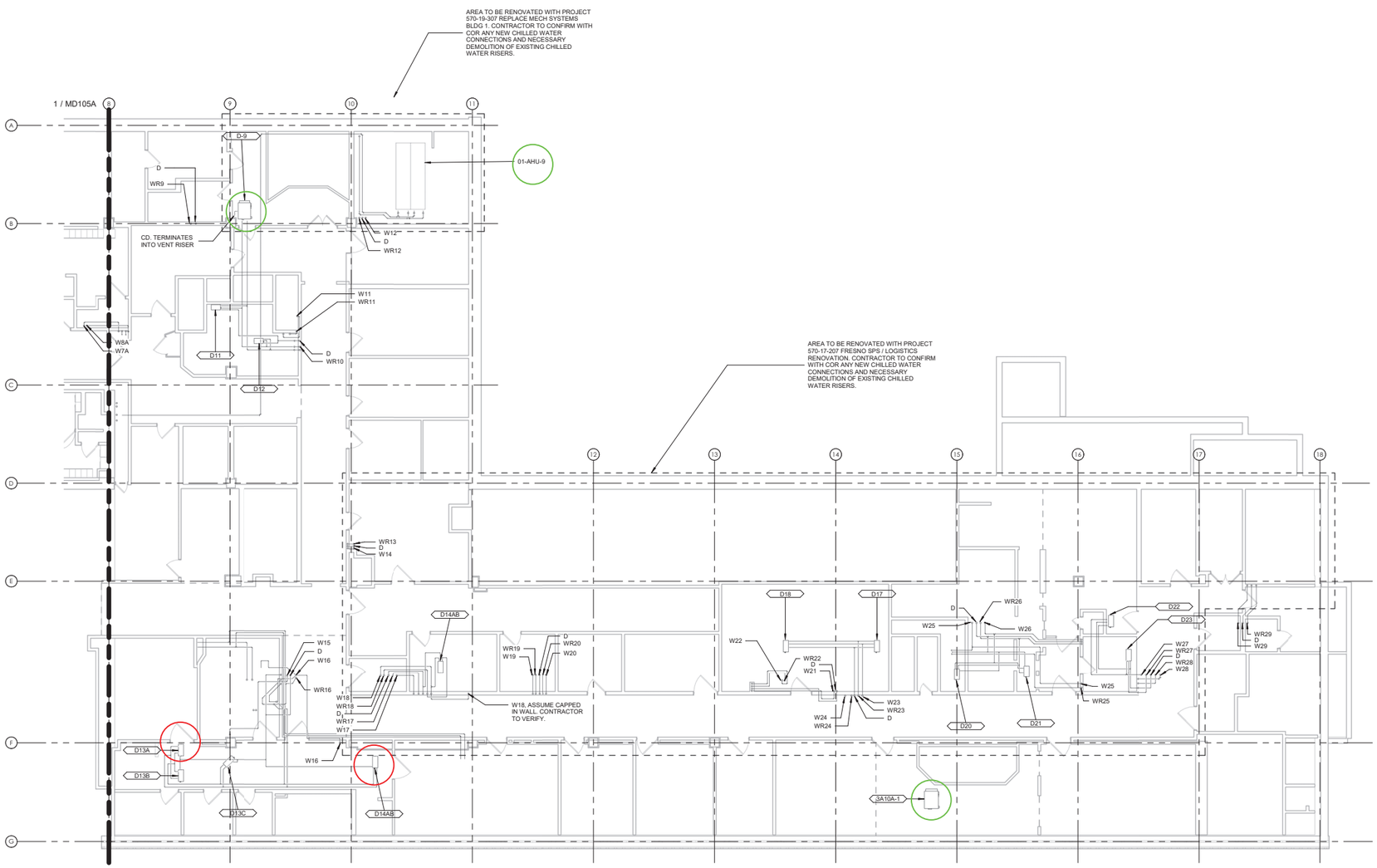

1 DEMO 3RD FLOOR PLAN - EAST
1/8" = 1'-0"

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Revisions:	**Date:**

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Drawing Title	DEMO 3RD FLOOR PLAN - EAST
Approved: Approver	
Phase	95% CONSTRUCTION DOCUMENTS
	-
Project Title	REPLACE AND EXPAND CHILLED WATER INFRASTRUCTURE, BUILDING 1 AND OPC
Location	FRESNO VA HOSPITAL 2615 E CLINTON AVE, FRESNO, CA 93703
Issue Date	04/24/2026
Checked	JMM
Drawn	JM
Project Number	570-20-308
Building Number	
Drawing Number	MD105B

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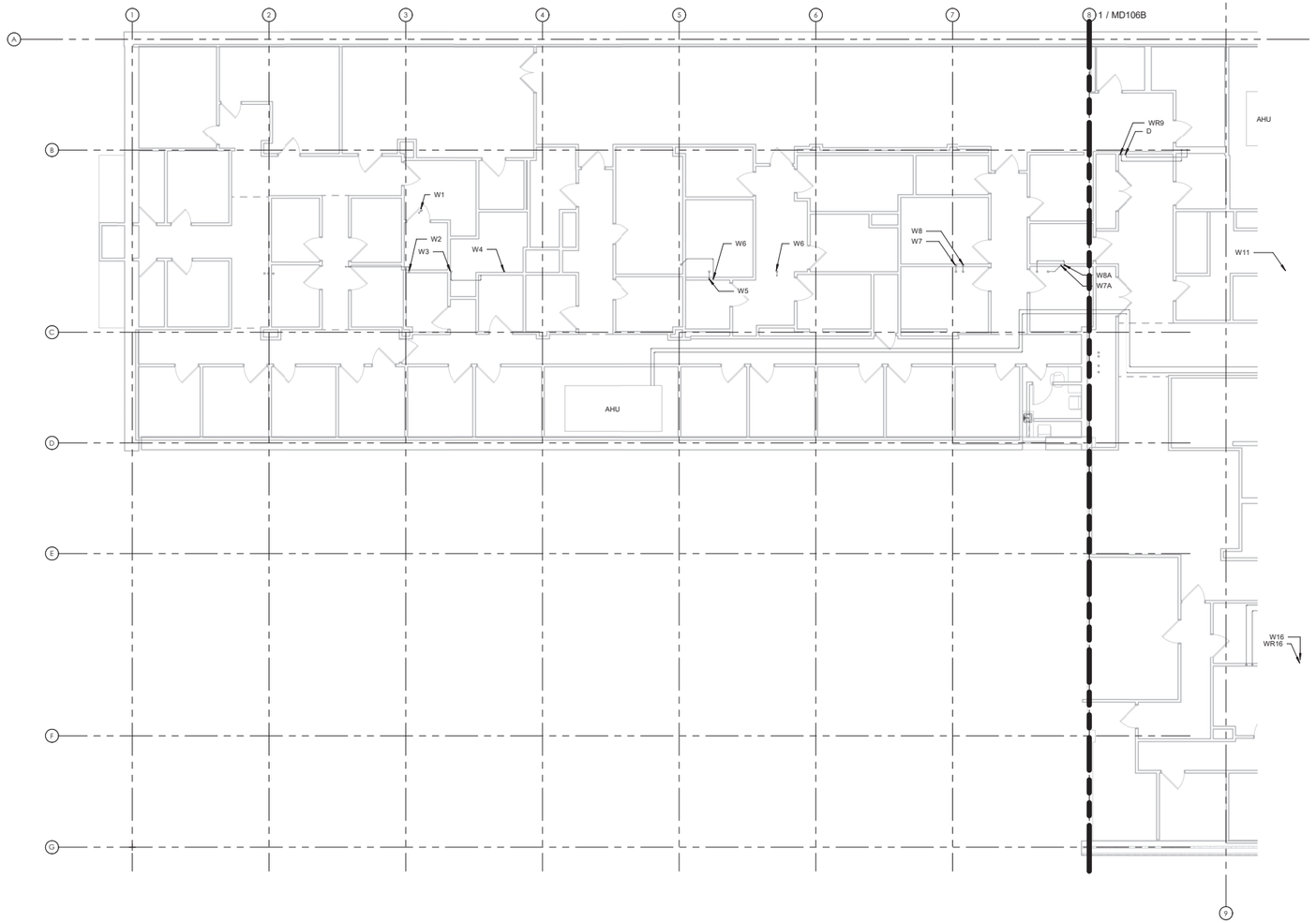

1 DEMO 4TH FLOOR PLAN - WEST
1/8" = 1'-0"

SHEET NOTES:

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Drawing Title: DEMO 4TH FLOOR PLAN - WEST

Approved: Approver

Phase: 95% CONSTRUCTION DOCUMENTS

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Project Title: REPLACE AND EXPAND CHILLED WATER INFRASTRUCTURE, BUILDING 1 AND OPC

Location: FRESNO VA HOSPITAL, 2615 E CLINTON AVE, FRESNO, CA 93703

Issue Date: 04/24/2026 | **Checked:** JMM | **Drawn:** JM

Project Number: 570-20-308

Building Number:

Drawing Number: MD106A

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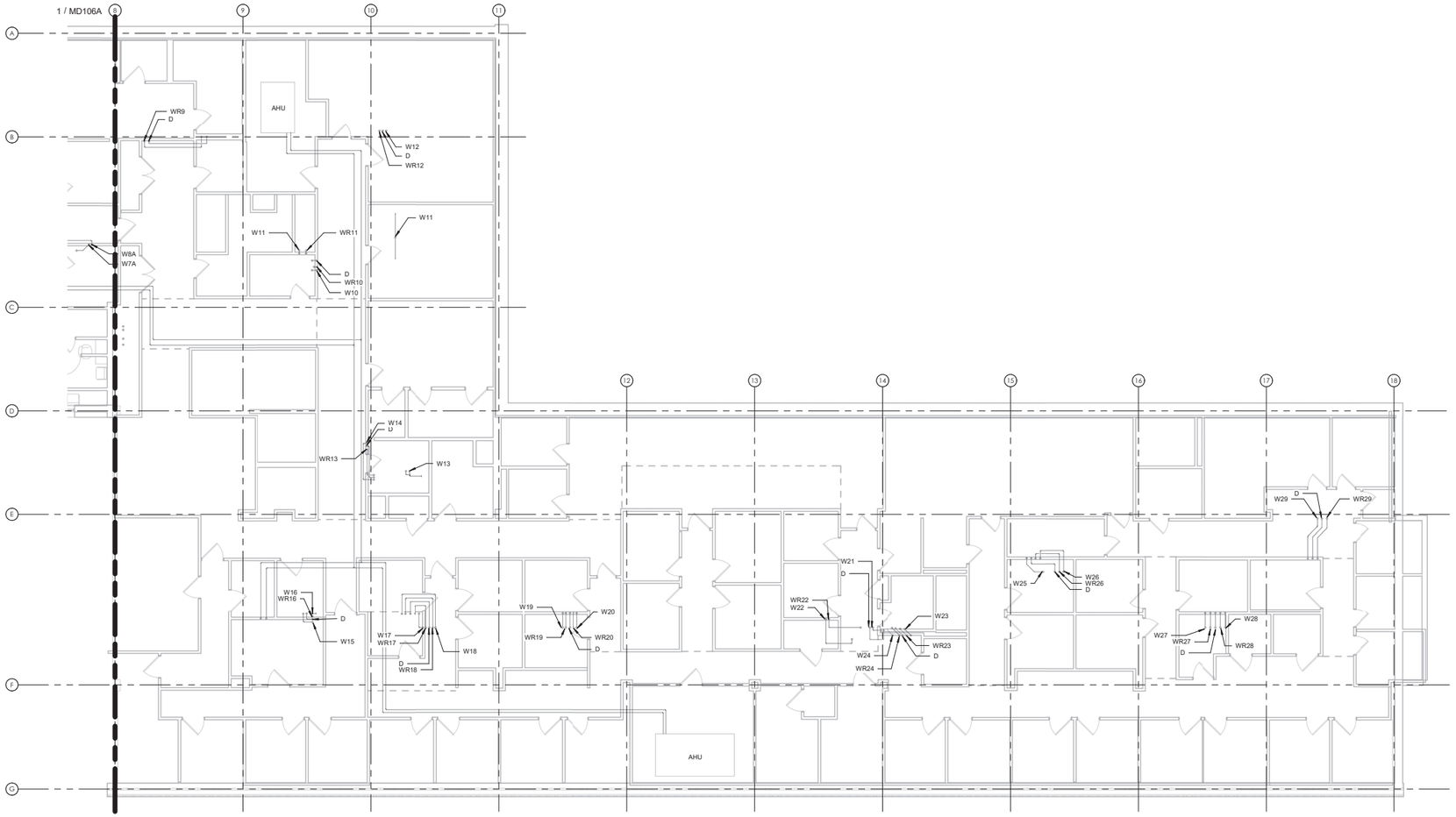

1 DEMO 4TH FLOOR PLAN - EAST
1/8" = 1'-0"

SHEET NOTES:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title DEMO 4TH FLOOR PLAN - EAST	**Phase** 95% CONSTRUCTION DOCUMENTS	**Project Title** REPLACE AND EXPAND CHILLED WATER INFRASTRUCTURE, BUILDING 1 AND OPC	**Project Number** 570-20-308
			Building Number
Approved: Approver	-	**Location** FRESNO VA HOSPITAL 2615 E CLINTON AVE, FRESNO, CA 93703	**Drawing Number** MD106B
		Issue Date 04/24/2026 / **Checked** JMM / **Drawn** JM	

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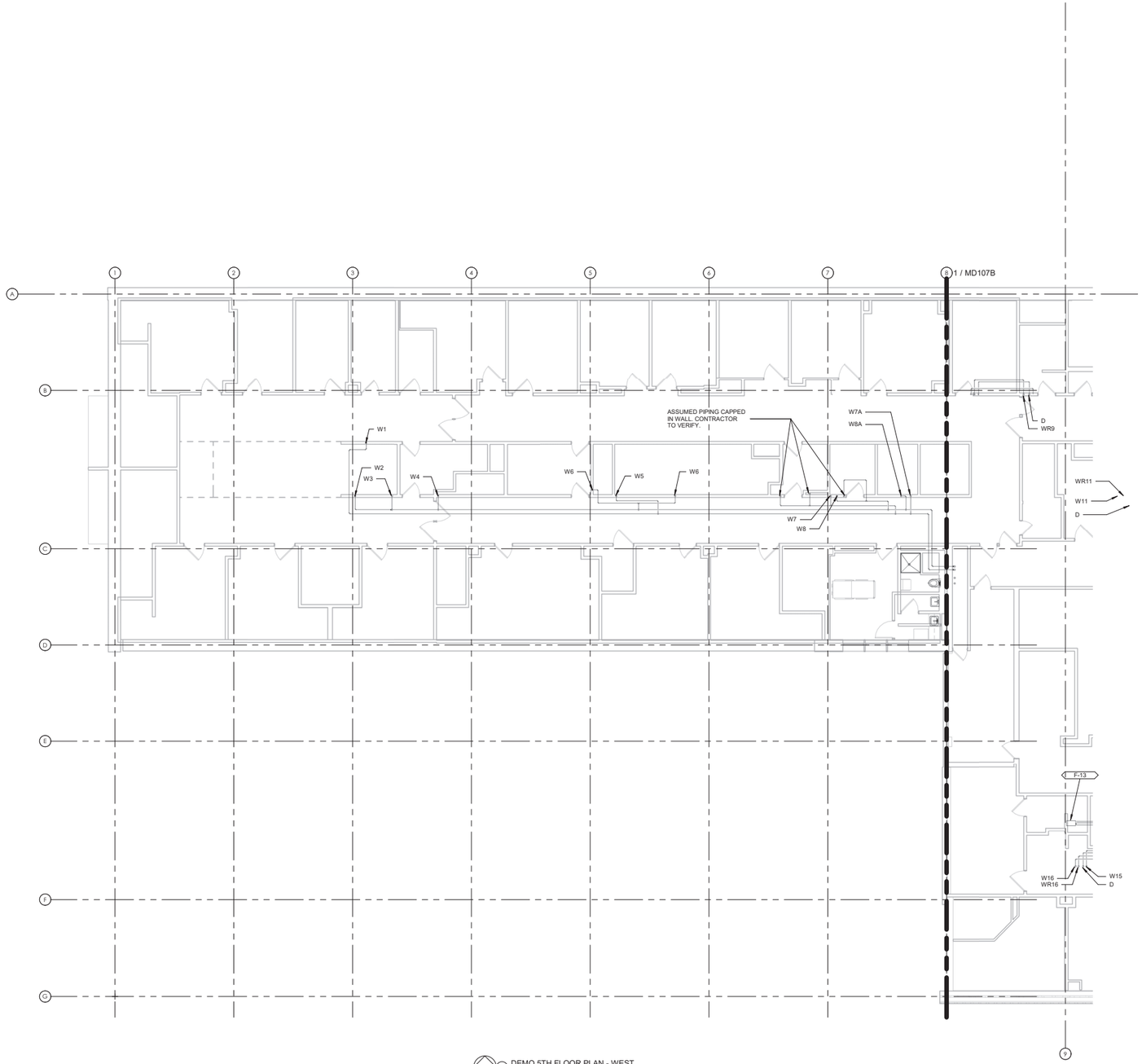

1 DEMO 5TH FLOOR PLAN - WEST
1/8" = 1'-0"

SHEET NOTES:

1. DRAWINGS ARE DIAGRAMMATIC IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR(S) TO VERIFY EXISTING DUCTWORK, PIPING AND EQUIPMENT LOCATIONS. REPORT ANY DISCREPANCIES BETWEEN PLANS AND SITE CONDITIONS TO A/E. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES AND EXISTING CONDITIONS.
2. DUCTWORK AND PIPING SIZES SHOWN ARE BEST INTERPRETATION OF AVAILABLE DATA. CONTRACTOR TO VERIFY PIPE SIZES DURING COURSE OF WORK, AND REPORT ANY DISCREPANCIES BETWEEN PLANS AND SITE CONDITIONS.

(#) KEY NOTES:

1. EXISTING TERMINAL UNIT TO REMAIN AND BE REUSED. PROVIDE NEW SUPPLY AND RETURN PIPING AND ROUTE TO NEW RISERS. CONDENSATE PIPING TO REMAIN UNCHANGED.

95% CONSTRUCTION DOCUMENTS	04/24/2026
65% DESIGN DEVELOPMENT	03/21/2025
35% SCHEMATIC DESIGN	04/07/2023
Revisions:	**Date:**

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Drawing Title: DEMO 5TH FLOOR PLAN - WEST

Approved: Approver

Phase: 95% CONSTRUCTION DOCUMENTS

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Project Title: REPLACE AND EXPAND CHILLED WATER INFRASTRUCTURE, BUILDING 1 AND OPC

Location: FRESNO VA HOSPITAL, 2615 E CLINTON AVE, FRESNO, CA 93703

Issue Date	Checked	Drawn
04/24/2026	JMM	JM

Project Number: 570-20-308

Building Number:

Drawing Number: MD107A

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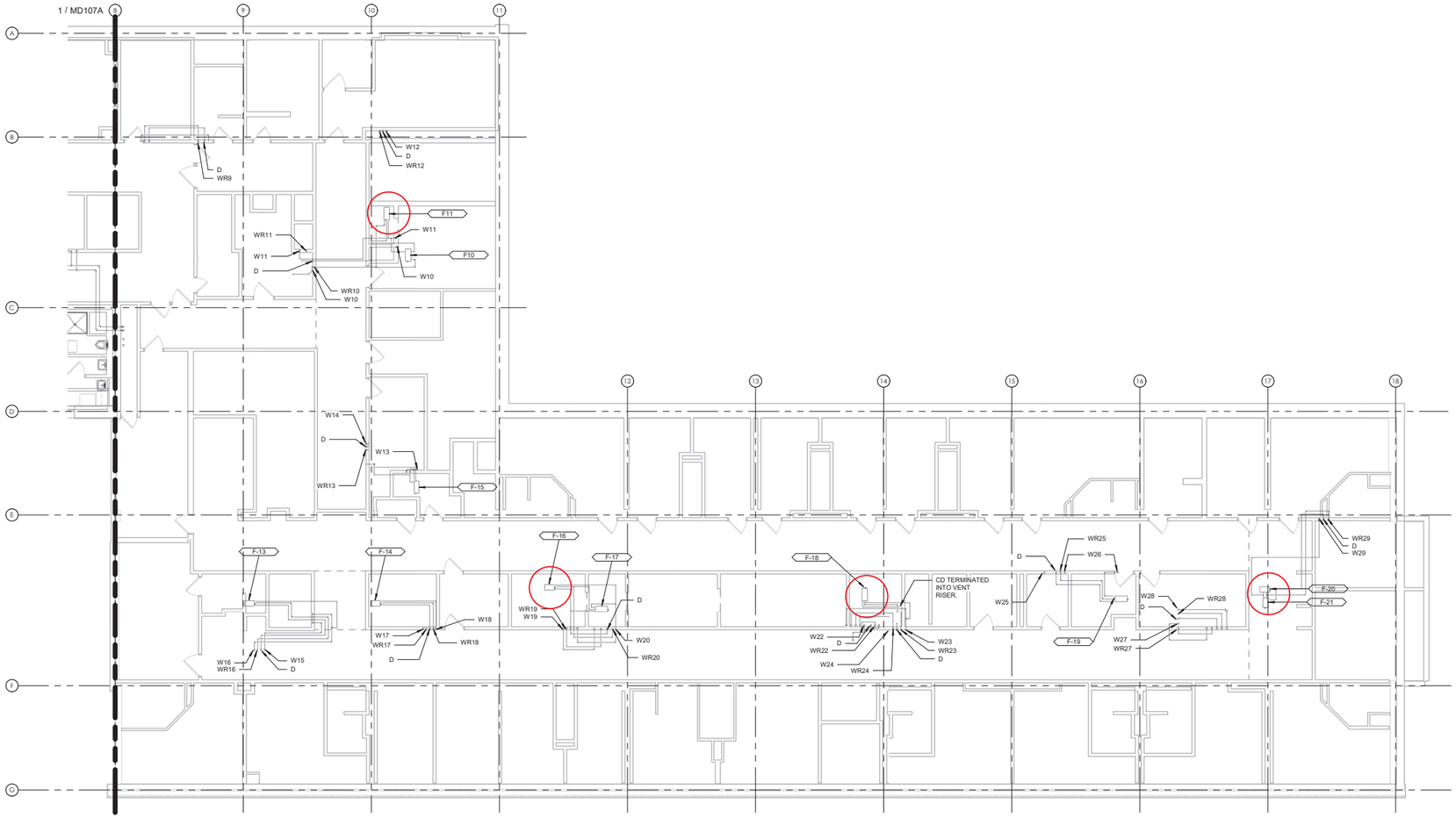

1 DEMO 5TH FLOOR PLAN - EAST
1/8" = 1'-0"

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VA U.S. Department of Veterans Affairs

Drawing Title: DEMO 5TH FLOOR PLAN - EAST

Approved: Approver

Phase: 95% CONSTRUCTION DOCUMENTS

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Project Title: REPLACE AND EXPAND CHILLED WATER INFRASTRUCTURE, BUILDING 1 AND OPC

Location: FRESNO VA HOSPITAL
2615 E CLINTON AVE, FRESNO, CA 93703

Issue Date	Checked	Drawn
04/24/2026	JMM	JM

Project Number: 570-20-308

Building Number:

Drawing Number: MD107B

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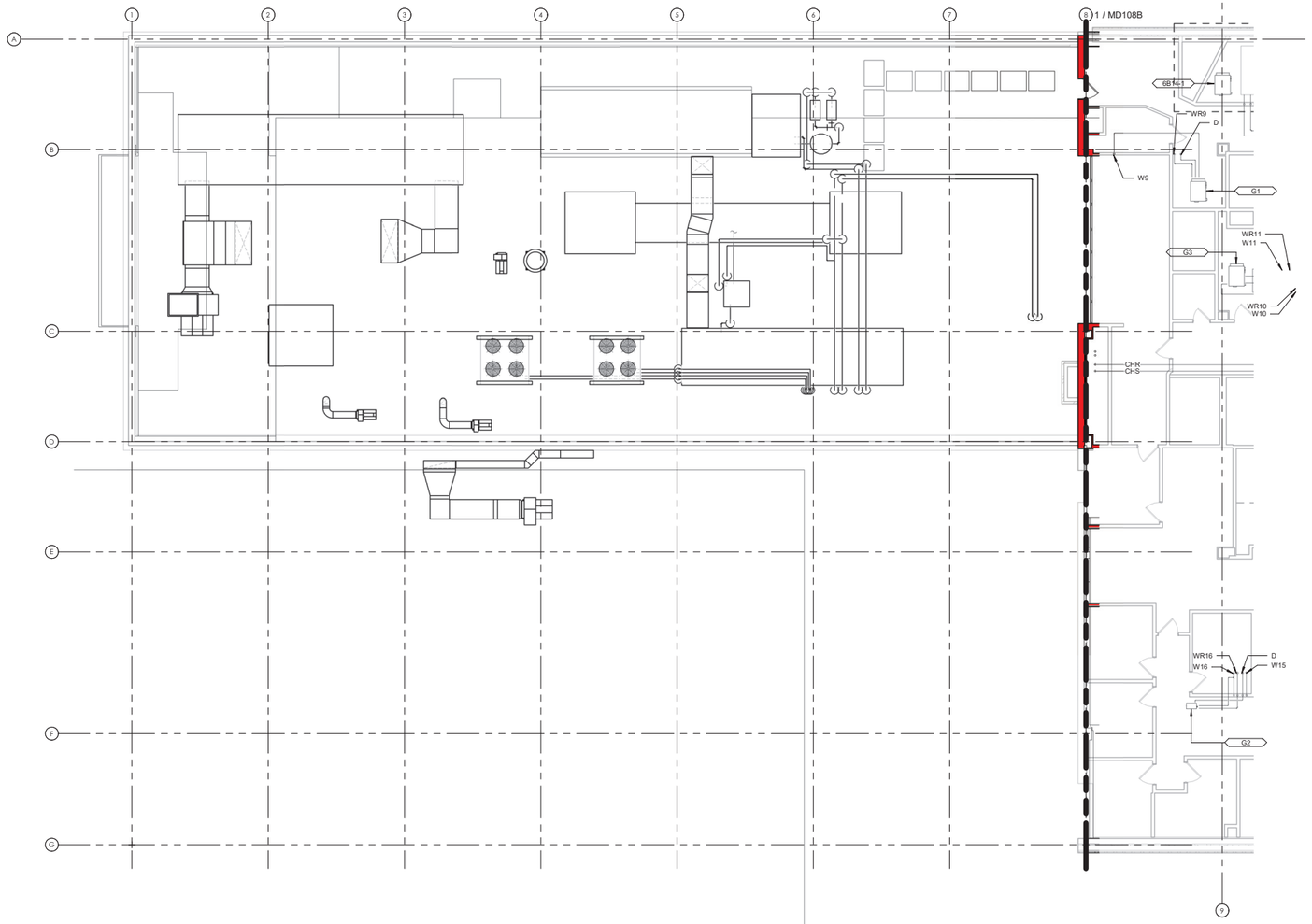

1 DEMO 6TH FLOOR PLAN - WEST
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Drawing Title: DEMO 6TH FLOOR PLAN - WEST

Phase: 95% CONSTRUCTION DOCUMENTS

Project Title: REPLACE AND EXPAND CHILLED WATER INFRASTRUCTURE, BUILDING 1 AND OPC

Project Number: 570-20-308

Building Number:

Approved: Approver

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Location: FRESNO VA HOSPITAL
2615 E CLINTON AVE, FRESNO, CA 93703

Drawing Number: MD108A

Issue Date: 04/24/2026 | Checked: JMM | Drawn: JM

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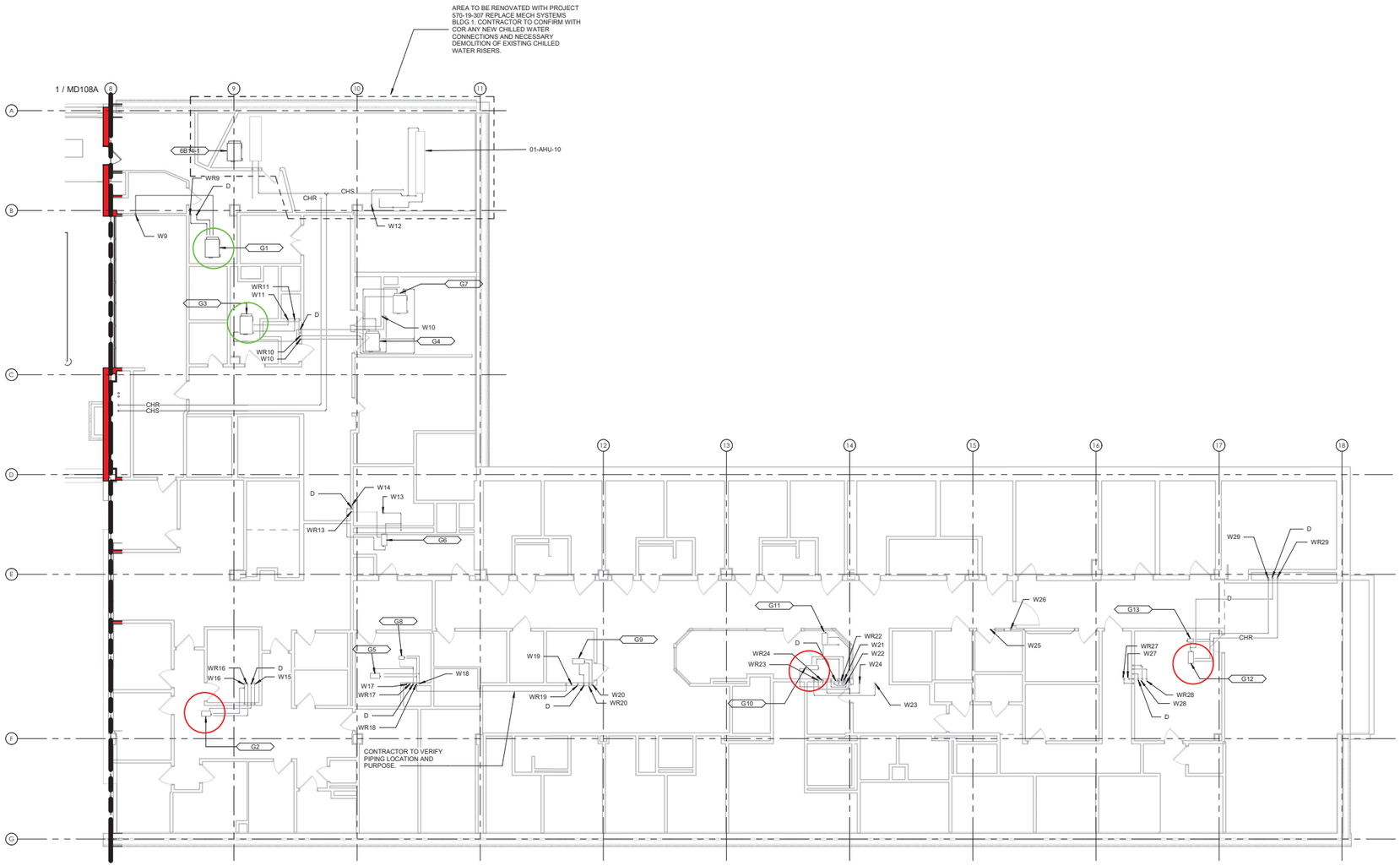

1 DEMO 6TH FLOOR PLAN - EAST
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Drawing Title: DEMO 6TH FLOOR PLAN - EAST

Approved: Approver

Phase: 95% CONSTRUCTION DOCUMENTS

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Project Title: REPLACE AND EXPAND CHILLED WATER INFRASTRUCTURE, BUILDING 1 AND OPC

Location: FRESNO VA HOSPITAL
2615 E CLINTON AVE, FRESNO, CA 93703

Issue Date: 04/24/2026 | Checked: JMM | Drawn: JM

Project Number: 570-20-308

Building Number:

Drawing Number: MD108B

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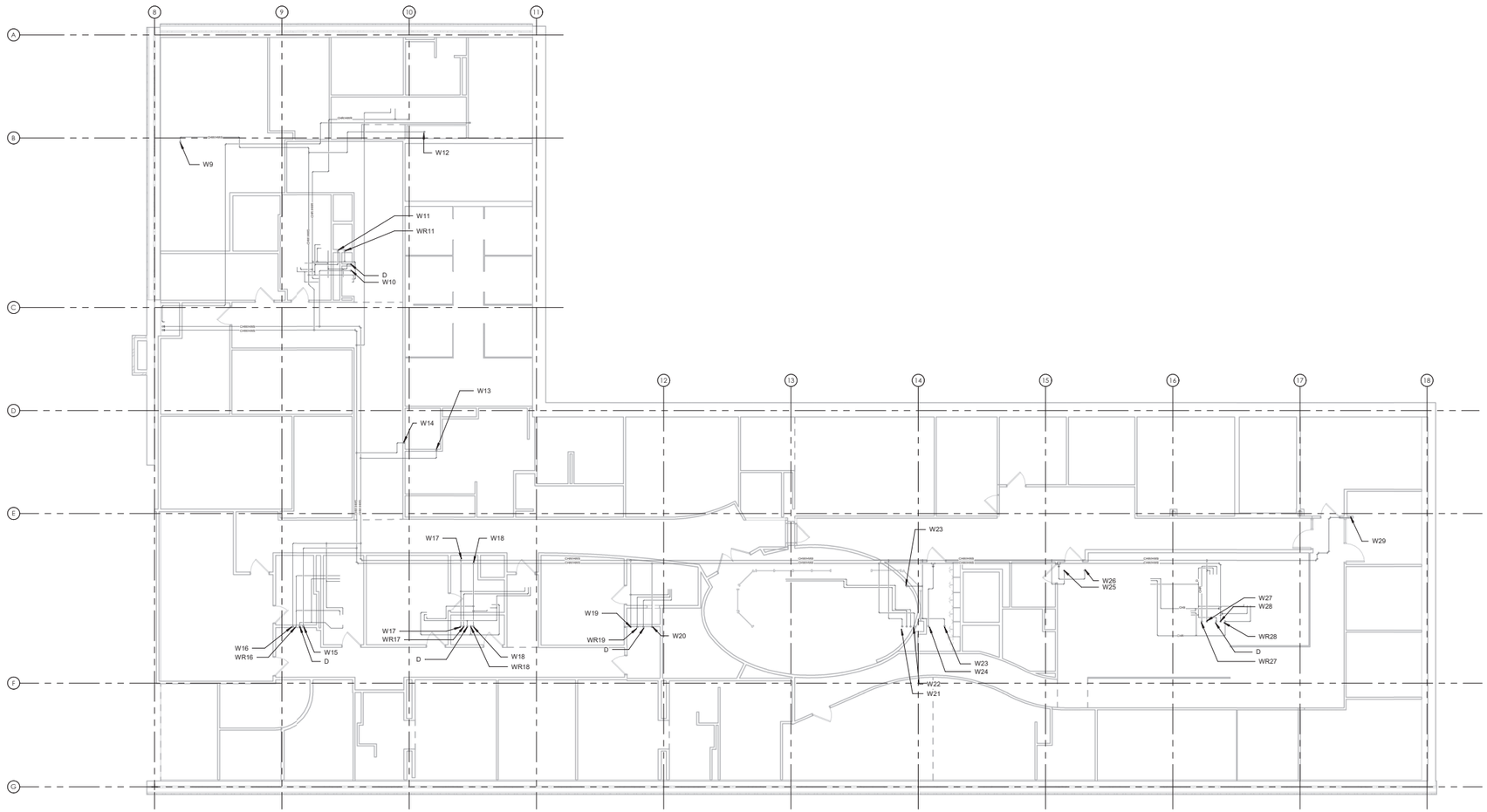

1 DEMO 7TH FLOOR PLAN
1/8" = 1'-0"

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Drawing Title: DEMO 7TH FLOOR PLAN

Approved: Approver

Phase: 95% CONSTRUCTION DOCUMENTS

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Project Title: REPLACE AND EXPAND CHILLED WATER INFRASTRUCTURE, BUILDING 1 AND OPC

Location: FRESNO VA HOSPITAL
2615 E CLINTON AVE, FRESNO, CA 93703

Issue Date: 04/24/2026 | **Checked:** JMM | **Drawn:** JM

Project Number: 570-20-308

Building Number:

Drawing Number: MD109

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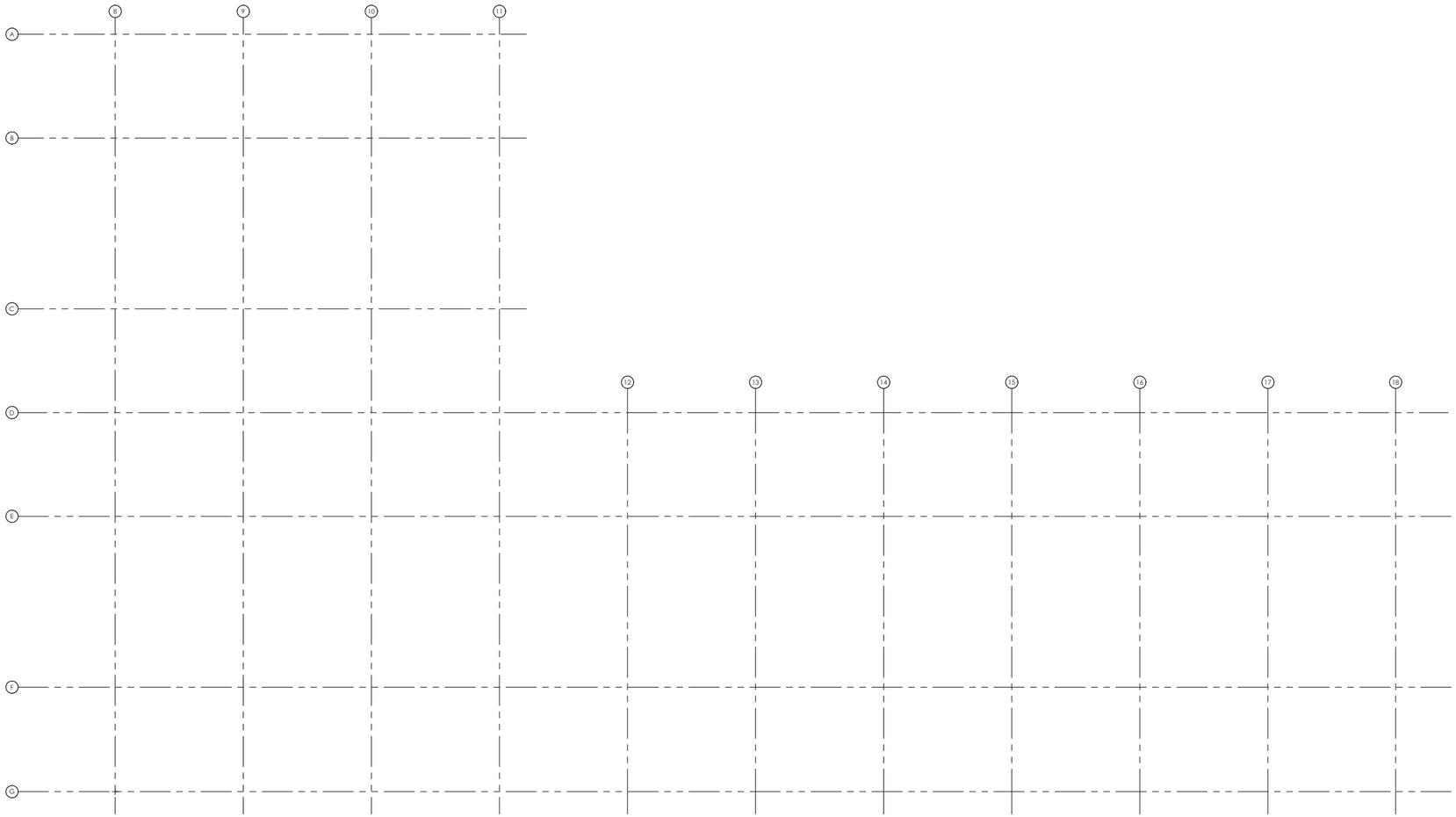

1 DEMO ROOF PLAN
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Drawing Title: DEMO ROOF PLAN

Approved: Approver

Phase: 95% CONSTRUCTION DOCUMENTS

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Location: FRESNO VA HOSPITAL
2615 E CLINTON AVE, FRESNO, CA 93703

Issue Date	Checked	Drawn
04/24/2026	JMM	JM

Project Number: 570-20-308

Building Number:

Drawing Number: MD110

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