

SOW
PROJECT PROGRAM
Replace Air Handling Units (UHA) at SOC building 1551 Old Town Complex.

1.1 Points of Contact

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1.2 Project Location and Completion

The jobsite is located in the SOC (RM 1551) of OT-1 on the Old Town complex on Taylor Street. CONTRACTOR will have 84 days (12 weeks) to complete this project. Standard working hours apply from 7 till 5, and outages and access will need to be coordinated.

1.3 Project Description

The internal building (1551 the SOC) of OT-1 is classified a SCIF space and currently does not have heat. This project will provide proper HVAC to the internal space by first demoing the (4) existing AHU on the roof and replacing them with (4) new AHU's that have new insulated HW and CW lines running to them, and also installing (1) new AHU to serve for both server spaces. This project will also include sealing up the server space, re-routing supply ducting, reconfigure and install new LED lighting.

Division 02: Demolition

2.1 CONTRACTOR shall Demo (4) Existing TRANE AHU's on roof

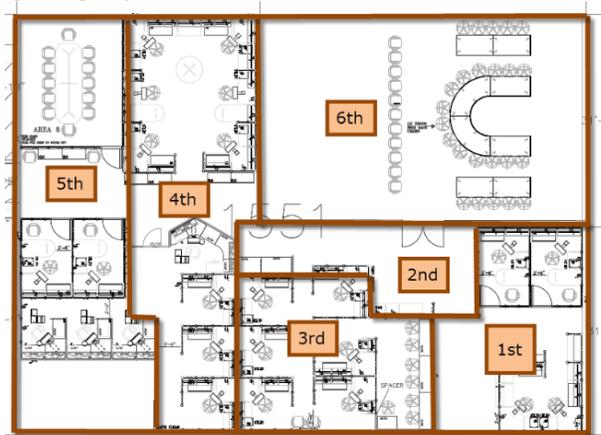
- 2.1.1 (Units are assembled in a 7 part system)
- 2.1.2 Disconnect the electrical, the condensate, the CW supply and return connections: remove and demo the units from the roof, and thermostats from the rooms
- 2.1.3 Remove roof mounting supports and fill the holes left in the roof
- 2.1.4 Units shall be removed in stages to maintain temperature control of the space
- 2.1.5 Use the base recycling program for the removed AHU's

2.2 Asbestos and Lead remediation

- 2.2.1 Government has tested and no lead and asbestos has been found:
 - 2.2.1.1 Disclosure: potential asbestos in the insulated doors that were not tested due to destructive testing shall be handled accordingly. A full detail report can be provided upon request from the Government.
- 2.2.2 Lead and asbestos is commonly present in many existing construction materials at Naval Base Point Loma. The NBPL FEAD has attempted to test all affected spaces that will be contacted on this project. Contractor shall be responsible for validating the testing of the spaces and notifying the Government if additional testing is required.

2.3 CONTRACTOR shall demo the 76 existing florescent lamps, located in 6 different zones and circuits; zone 6 has a drop ceiling.

Diagram 1: existing lighting layout



Division 09: Finishes

9.1 CONTRACTOR shall isolate the server room from the occupied space

- 9.1.1** Contractor shall build a full height internal wall around server room A to thermally isolate the server room from the office space
- 9.1.2** Install missing flooring panels to close in the server room A

9.2 CONTRACTOR shall install security bars for the SA and RA room penetrations

- 9.2.1** Install all security measures per UFC -4-010-05
- 9.2.2** All vents or duct openings exceeding 96 square inches (619 cm²) that penetrate the perimeter shall be protected with permanently affixed bars, grills, metal sound baffles or wave forms. If one dimension of the penetration measures less than 6 inch (150mm), protection is not required. One of the following can be used to secure them.
- 9.2.3** Bars shall be a minimum of ½ inch (13 mm) diameter steel, welded vertically and horizontally 6 inch (150 mm) on center. A deviation of ½ inch (13 mm) in vertical and/or horizontal spacing is permissible, see Figure 3-8.
- 9.2.4** Grills shall be shall be of ¾ inch (20 mm) #9 (10 gauge) case hardened expanded metal. When used, metal sound baffles or wave forms shall be permanently installed and set no farther apart than 6 inch (150 mm) in one dimension.
- 9.2.5** Metal sound baffles or \1\ waveguide-below-cutoff RF filters /1/ permanently installed and set no farther apart than 6 inch (150 mm) in one dimension.
- 9.2.6** For vents or ducts that require bars or grill, provide an accessible access panel in the bottom within the perimeter of the SCIF to allow visual inspection of the bars ,grill, or waveguide-below-cutoff RF filter

Division 22: Plumbing

22.1 CONTRACTOR shall install CW and HW supply and return piping

- 22.1.1 “Hot tap” HW supply and return lines to include the install isolation valves at tap location and properly insulate all valves
- 22.1.2 Install piping and insulation to supply the (5) new AHU, using hangers and straps as need to secure the piping
- 22.1.3 Install isolation valves on HW and CW at each AHU
- 22.1.4 Install piping as needed to connect HW and CW lines from the isolation valves to the AHU, to include strainers and cleanouts.
- 22.1.5 Install 2-way control valve for HW and CW at each AHU, to be monitored and controlled by the DDC thermostat

DIAGRAM 2: New CW and HW tap / valve



22.2 CONTRACTOR shall install insulated condensate lines

- 22.2.1 Install condensate line and all needed connections to run lines from the 5 new units into existing condensate drain lines. Condensate lines will need to be fully insulated

22.3 CONTRACTOR shall demo CW piping

- 22.3.1 Disconnect CW piping and valves then Demo and remove supply and return piping from the AHU's back to a location away from the PEB and abandon the remaining in place :: Cap the supply and return lines directly after the isolation valve
- 22.3.2 HOT tap the CW supply and return lines, close to the HW taps

22.3.3 Install new supply and return lines from the tap to the (5) new nit locations and use hangers and supports as needed. (the piping shall not interfere with normal building operation)

DIAGRAM 1: Existing roof top



Division 23: HVAC

- 23.1** (The existing chiller supplies 44 deg chilled water and main line is running at 1056gpm and the boiler system supplies 130 deg hot water temperature)
- 23.2** The existing units are CLCH-D-7 unit size 08 to be checked and verified by contractor
- 23.3** All new units shall use a programmable thermostat equivalent to the Viconics VT7600, with integrated motion sensor and advanced active occupancy logic, a 7 day time clock, and capable of network control.
- 23.4** CONTRACTOR shall install a DP sensor across the filter and wired back to the thermostat as a service input for direct reading of the filter status.
- 23.5** All units are to sit on a vibration/support mounting pads to prevent building or duct vibration
- 23.6** CONTRACTOR shall provide **nameplates and Equipment Warranty Tags**, At the time of installation, each item of manufacturer's standard warranted equipment shall be tagged with a durable, oil- and water-resistant tag, suitable for interior and exterior locations.

23.7 CONTRACTOR shall install (3) new 4 ton AHU'S (units 1,2,3)

- 23.7.1 Units to replace the existing downflow/ return air units, without modifying the roof penetration.
- 23.7.2 Units shall have CW and HW coils, have a down-flow supply air, with mixing of OA and RA
- 23.7.3 New thermostats shall be spread out throughout the room

23.8 CONTRACTOR shall install (1) new 5 Ton AHU (unit 4)

- 23.8.1.1 Unit to replace existing ducted supply and RA unit over the auditorium
- 23.8.1.2 Units shall have CW and HW coils
- 23.8.1.3 Reuse existing supply and return ducting and reinsulate all ducted connection points
- 23.8.1.4 New thermostat shall be mounted in the auditorium

23.9 Install (1) new 2 Ton AHU cooling only unit (unit 5)

- 23.9.1 Unit is new and shall provide cooling only and no OA to server room A and B
- 23.9.2 Thermostat shall be located inside server room A, and SA only to room B
- 23.9.3 Install new secure penetrations into each space

DIAGRAM 3 : NEW unit placements

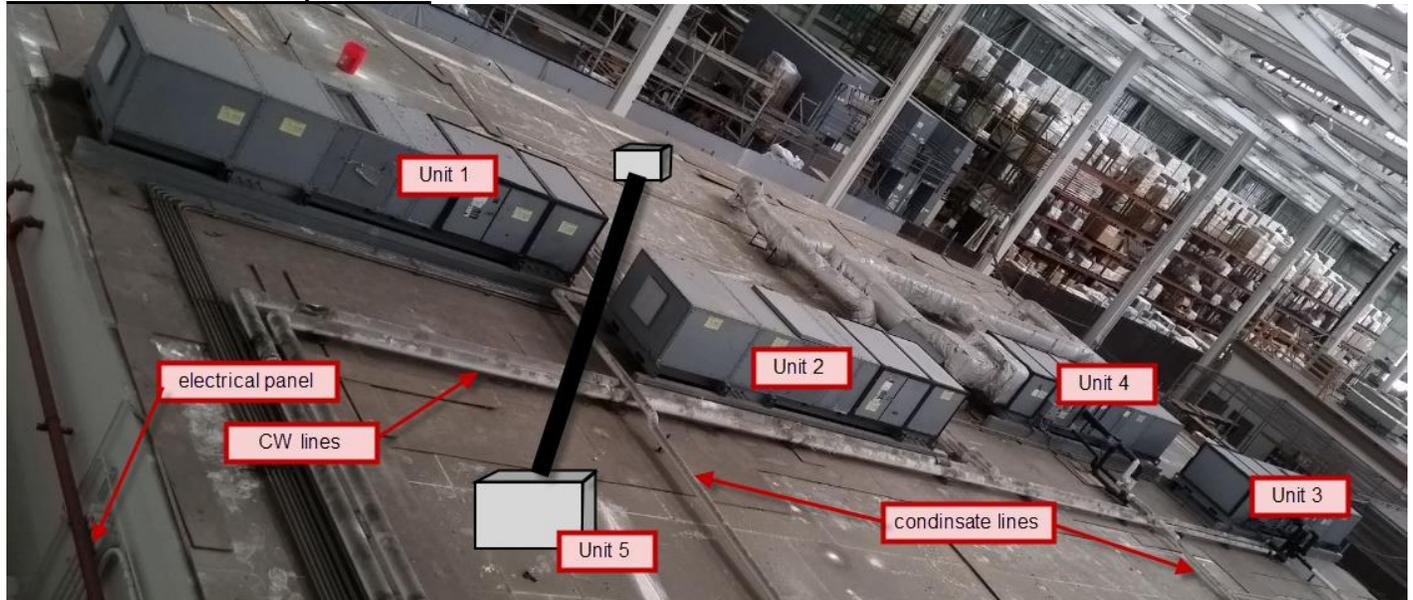
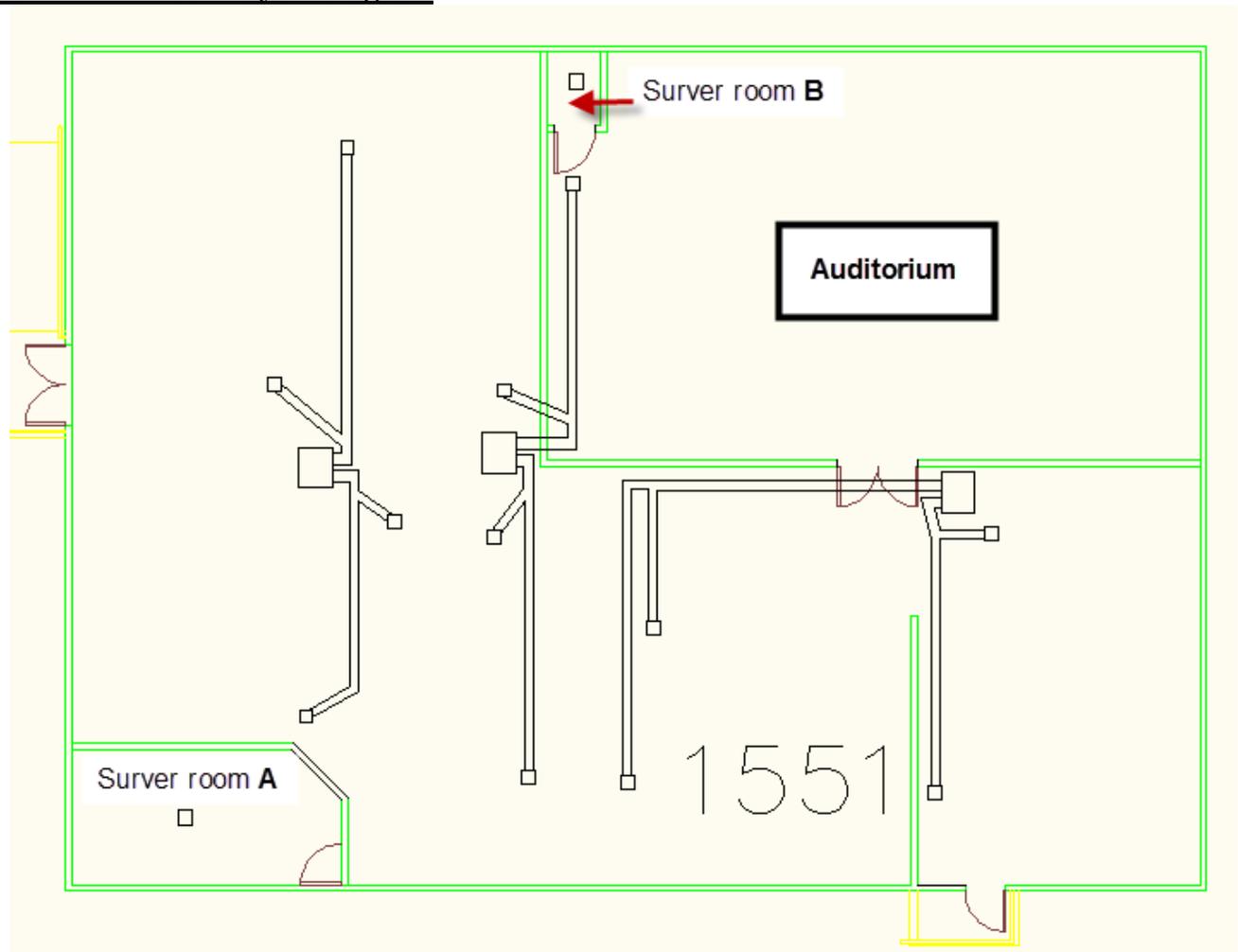


DIAGRAM 4: Room layout diagram



Division 26: Electrical

26.1 CONTRACTOR shall install a new electrical disconnect for each unit

26.2 CONTRACTOR shall install new conduit and wire for unit 5

26.1.1 Install new conduit and wire for the new server room unit and reuse existing conduits and wire for the remaining 4 units

26.1.2 Label panel and units for all electrical connections and locations

26.3 CONTRACTOR shall install new thermostat lines in the space; location per POC

26.4 CONTRACTOR shall design and install a new LED lighting system, that is complete and operable per the NEC

26.4.1 Design a lighting layout per IES footcandle recommendations, and cubicle layout, Contractor shall run electrical conduit and wire as needed to install the lighting circuits including low voltage wiring

22.3.3.1 Office Spaces shall have an IES standard of 50-70 Footcandles

22.3.3.2 Corridor areas shall have an IES standard of 10-20 footcandles.
(But no less than 20% of adjacent area levels)

22.3.3.3 Meeting Rooms shall have an IES standard of 30-70 footcandles.

22.3.3.4 Server Rooms shall have an IES standard of 30-50 footcandles.

22.3.3.5 Storage Rooms shall have an IES standard of 10-23 footcandles.

22.3.3.6 Restrooms shall have an IES standard of 10-50 footcandles.

26.4.2 Install ceiling mounted motion sensors in zones 1, 2, 3 and wall mounted override for zones 1,2, and 3 in the main entrance

26.4.3 Install wall mounted motion sensor at the entrance to zone 4, zone 5 and zone 6

26.4.4 Install a 4 stage dimming panel for zone 6 that is wall mounted and meets the POC requirements for the space

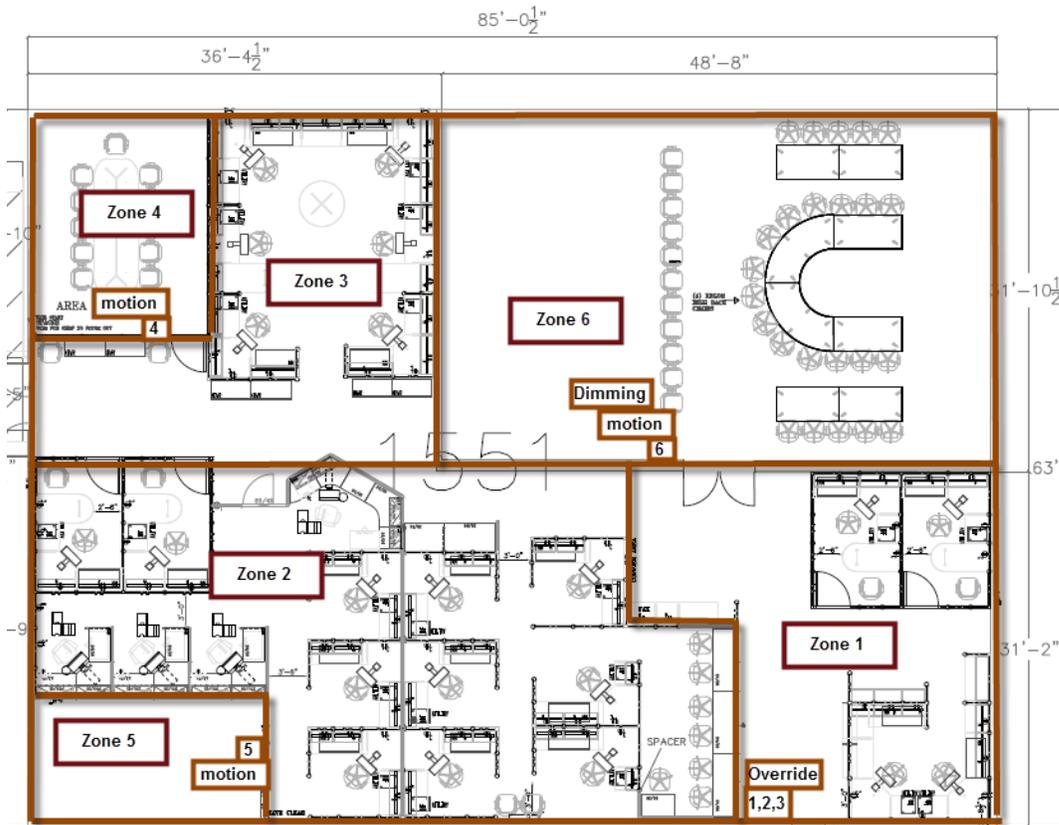
26.4.5 LED lighting in zone 1-5 will be exposed and hung from the ceiling, while LED lighting in zone 6 will installed in a 2x4 drop ceiling grid.

26.5 CONTRACTOR shall install emergency lighting per NEC

26.5.1 Contractor shall provide emergency lighting for mans of egress per NFPA 101

26.5.2 Contractor shall use emergency backup battery packs integrated with the new LED fixtures installed, to meet the lumen requirements as well as the time duration requirements.

Diagram 2: new lighting zone layout



Division 00 : Extra and Submittals

- 00.1 CONTRACTOR'S representatives shall become familiar with and obey base regulations. CONTRACTOR'S representatives shall not enter restricted areas unless cleared for such entry, and coordinate all outages with POC.
- 00.2 CONTRACTOR shall provide 3 copies of each owner's manual, Maintenance/service manuals, manufacturer's installation instructions, and warranty information covering all equipment.
- 00.3 CONTRACTOR shall provide a roof layout diagram showing the roof the new and existing roof penetrations. Diagram shall be submitted to the Taylor street records department for permanent storage.
- 00.4 CONTRACTOR shall provide a photometric drawing, emergency lighting diagram, and provide spot reading verifications in all zones
- 00.5 CONTRACTOR shall provide visual conformation per POC that the lighting control operates per design