



People. Partnership. Performance.

P.O. Box 1837
Tacoma, WA 98401-1837
www.portoftacoma.com

October 20, 2015

TO: PLANHOLDERS

SUBJECT: TOTE ADMINISTRATION BUILDING HVAC UPGRADE
PROJECT NO. 098034
CONTRACT NO. 070083

ADDENDUM NUMBER THREE

This addendum is issued to amend the following:

SPECIFICATIONS

A. 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

1. **REVISE** paragraph 1.07 B in Section 01 50 00 to read as follows:

B. Telecommunications services shall include:

1. Windows-based personal computer dedicated to project telecommunications, with necessary software and laser printer.
2. Internet Connections: Minimum of one; DSL modem or faster. 4G LTE is acceptable.
3. Email: Account and addresses reserved for the Contractor's project superintendent and project manager respectively.
- ~~2. Telephone Land Lines: One line, minimum; one handset per line.~~
- ~~3. Internet Connections: Minimum of one; DSL modem or faster.~~

B. SECTION 01 52 00 – OFFICE RELOCATION SERVICES

1. **DELETE AND REPLACE** the issued Section 01 52 00 - Office Relocation Services with the attached, revised Section 01 52 00 - Office Relocation Services - Addendum No. 03 (Attachment A)

C. SECTION 27 15 00 – COMMUNICATIONS CABLING

1. **ADD** Section 27 15 00 – Communications Cabling to the project manual. (Attachment B)

DRAWINGS

A. DRAWING SHEET M7 - CONTROLS DIAGRAM

1. **DELETE AND REPLACE** the issued Sheet M7 with revised Drawing Sheet M7 (Attachment C)

**Receipt for this addendum shall be indicated in the space provided in Section 00 41 00,
Bid Form.**

END OF SECTION

ATTACHMENT A – Section 01 52 00 – Office Relocation Services

ATTACHMENT B – Section 27 15 00 – Communications Cabling

ATTACHMENT C - Revised Drawing Sheet M7 - Controls Diagram

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes services to provide coordination and performance of all activities required to move and relocate office furniture, office equipment, records and file systems, other equipment, boxes, crates, and general office effects.

- 1. Services shall include but not be limited to

- a. Coordinate pre-move activities
- b. Pack, load, move, unload, and place all office furniture, office equipment and general office effects designated for relocation
- c. Move remaining furniture, files and equipment to a storage container located on-site and provided by Tenant.

- B. DEFINITION OF TERMS AND ACRONYMS

- 1. Office Furniture and Equipment – Any furniture, equipment, or general office effects utilized within the total office area. This includes, but is not limited to: chairs, desks, bookcases, conference and other types of tables, file cabinets, plan files, facsimile machines, automation equipment, etc.

1.02 SCHEDULING

- A. Schedule Work to coincide with construction schedule and phasing.
- B. Relocate Tenant to temporary modular office trailers prior to commencement of demolition and construction. Relocate Tenant at the completion of construction and tenant-provided carpet and paint, and following receipt of a Certificate of Occupancy in accordance with the Contractor's schedule and as agreed on by the Engineer and the Tenant representative.

1.03 COORDINATION

- A. Coordinate Work with Contractor, Engineer and Tenant representative.

1.04 QUALIFICATIONS

- A. Company specializing in office relocation and moving services with minimum three (3) years documented experience, preferably in association with construction or renovation deadlines dependent upon receipt of certificates of occupancy.
- B. Have the necessary equipment and supplies to provide moves as described above.
- C. Move supervisor to have a minimum of two years of experience supervising office relocations, including coordination with the customer and managing and directing move personnel.
- D. Move personnel shall have a minimum of 60 days of experience within the last year in office relocation services. Move personnel shall read and understand labels written in English and use of moving equipment.
- E. Truck operators shall have a minimum of one year of experience within the last two years in office relocation services or similar type of moving and hauling services. Operators will hold a current Commercial Driver License for operating trucks rated at Gross Vehicle Weight Rating of trucks to be used. Operators will have no Driving Under Influence (DUI) incidents on driving record within the past three years.

1.05 INFORMATIONAL SUBMITTALS

- A. Within 3 calendar days of contract execution and as a requirement for the Notice to Proceed, submit the documentation required below.
 - 1. Documentation verifying the qualifications defined in 1.03 Qualifications.
 - 2. Washington Utilities and Transportation Commission (WUTC) licensing.
 - 3. Business license.
 - 4. Insurance certificate naming Port of Seattle and Totem Ocean Trailer Express as additional insured in accordance with Section 00 73 16 Insurance Requirements.
 - 5. Move supervisor contact information.
 - 6. List of personnel in accordance with 00 73 63 Security Requirements

1.06 FIELD CONDITIONS

- A. Tenant will occupy the site during entire schedule period. Tenant operates shipping trailers and storage containers on the site. Cooperate with Tenant during operations to minimize conflicts with Tenant's operations. Coordinate with Engineer and Tenant on logistics of move to avoid impacts to Tenant's operations.

1.07 SECURITY

- A. Access to the site is secure and requires coordination with Port of Tacoma. Prearrangements and an escort or a Transportation Worker Identification Credential (TWIC) is required to enter the site. Workers must carry approved photo identification at all times. Refer to Section 00 73 63 Security Requirements for requirements.

PART 2 - PRODUCTS

2.01 VENDORS

- A. Vendors meeting qualifications identified in 1.01 Qualifications are acceptable.
- B. Emerald City Moving and Storage has provided moving and systems furniture set-up for the Port of Tacoma, contact Bob Haworth, 206.779.5590, bhaworth@emeraldcityms.com.

PART 3 - EXECUTION

3.01 GENERAL

- A. Adhere to the Terms and Conditions identified on the solicitation.
- B. Provide all labor, materials and equipment necessary to meet requirements of the specified services throughout the term of the contract.
- C. Provide a primary point of contact.
- D. Move supervisor shall function as a liaison between the Port of Tacoma's and Tenant's representatives and the move contractor's crew at the site. Move supervisor shall be responsible for site supervision of the move contractor's crew at all times and be on site for all moves to ensure adherence to all the requirements of the specification.
- E. Prepare a written relocation plan outlining how the move will be executed with a minimum of disruption to the relocated tenant. The relocation plan must be reviewed and agreed on with the Port of Tacoma's representative and the Tenant before the move.

- F. Tenant packed and prepared materials, furnishings and equipment will be labeled as followed:
 - 1. Blue sticker - goes to modular office trailers
 - 2. Red sticker - goes to storage container/trailer organized for Tenant access and retrieval
 - 3. Yellow sticker - goes to storage container/trailer with no access requirement
- G. Provide packing services for any remaining Tenant's materials, furnishings and equipment.
- H. Accomplish relocation in accordance with the construction schedule and complete each move within the time frame agreed to.
- I. Be flexible in regard to move dates. Move schedules are contingent upon actual construction start and completion dates.
- J. Protect building floors, walls, doors, ceilings, and elevator walls and door frames.
- K. Be responsible for any damages (scratches, punctures, dents, tape residue, stains, etc.) sustained to building surfaces.

3.02 MATERIALS AND EQUIPMENT

- A. The contractor shall provide:
 - 1. All materials and equipment required for the move; i.e., boxes, tape, labels, zip ties, bubble wrap, flat monitor covers, dollies, protective coverings and wrapping, crates, crate dollies. All materials shall be removed by the contractor during the post-move pickup. Materials shall be delivered prior to the scheduled move, according to the move schedule.
 - a. Contractor shall label all boxes, crates and equipment packed by move personnel as directed by Tenant.
 - 2. Provide and utilize sufficient blankets or other protective covering and wrapping to protect all furniture and equipment. Desks and tables shall not be stacked without providing protection between units to prevent damage to surface tops.
 - 3. Provide and utilize wheeled carts or other similar devices designed to move electronic equipment such as computers, printers and facsimile machines. Equipment shall be protected from contact with other equipment to prevent physical damage during the move. This equipment shall not be stacked.
 - 4. Tenant shall de-install and re-install all electronic equipment.

3.03 CLEAN UP

- A. Vendor shall be responsible for collection, removal, and proper disposal of all packing materials from the move site (i.e., empty boxes and cartons). Immediately upon final completion of the office relocation, the vendor shall remove all debris associated with the move.

3.04 VENDOR PERSONNEL SAFETY

- A. The contractor shall prepare a safety plan and provide all required safety equipment and instruct personnel to observe all safety policies, rules and requirements at all times, including, but not limited to, wearing hard hats, safety shoes, goggles, etc.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. The Work under this Section includes furnishing materials, equipment, labor, supervision, tools and items necessary for the construction, installation, labeling and testing of a communication cabling system.

1.02 SUBMITTALS

- A. Manufacturer's Instructions:
 - 1. Submit application conditions and limitations of use stipulated by the manufacturer.
- B. Product Data
 - 1. System data.
 - 2. Materials list.

1.03 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual information of the installed work.
 - 1. Cable tests.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Protect material from the entrance of dirt, dust, moisture and debris.

1.05 COORDINATION

- A. Coordinate the Work with the Division 23 Work.
- B. Coordinate the final labeling nomenclature for cables, and termination devices with the Engineer prior to installation of cable and device labels.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Subject to compliance with requirements, provide products by one of the manufacturers

2.02 OPTICAL FIBER CABLES

- A. Manufacturers:
 - 1. Berk-Tek.
 - 2. CommScope.
 - 3. Corning Cable Company.
 - 4. General Cable.
 - 5. Mohawk.
 - 6. Systemax.
 - 7. Superior Essex.
- B. Multi-Mode Optical Fiber Cable:

1. Physical Specifications: Multimode fiber 50 µm dual window graded index optical glass/ nominal 125 µm core/cladding diameter, 1500/500 minimum OFL bandwidth, 4700 minimum effective modal bandwidth, OM4 rated.
2. Performance Characteristics:

	<u>850nm</u>	<u>1300nm</u>
a. 1Gb Ethernet distances (m):	1000m	600m
b. 10Gb Ethernet distances (m):	400m	NA
c. Maximum Attenuation(dB/km)	3.0	1.0
3. Cable Construction: Tight buffered, individually insulated conductors, reinforced with a dielectric fibrous strength member, under a common indoor/outdoor rated sheath, with no metallic components in compliance with ANSI/TIA-492AAAA.
4. 2-Strand.

2.03 PATCH CORDS

A. Manufacturers:

1. CommScope.
2. Hubbell.
3. Leviton.
4. Ortronics.
5. Panduit.
6. Siemon Company.
7. Systimax.

B. 8-Pin Modular-to-8-pin Modular UTP Patch Cords

1. Physical Specifications: 4-pair cable, with male 8-pin modular plugs with insert-molded strain relief on both ends.
2. Performance Characteristics: Superior to the individual characteristics established in TIA 568-B for category 6 cable performance.
3. Cable Jacket Color: Green.

2.04 TERMINATION HARDWARE

A. Manufacturers:

1. CommScope.
2. Corning Cable Company.
3. Hubbell.
4. Leviton.
5. Ortronics.
6. Panduit.
7. Siemon Company.
8. Systimax.

B. Optical Fiber Connectors:

1. SC connector with ceramic ferrule, suitable for termination on the approved multi-mode optical fiber cables.

2.05 IDENTIFICATION LABELS

A. Manufacturers

1. Brady
2. Panduit.

- B. Machine printed self-adhesive, smudge resistant labels for cables and face-plates. Labels shall be appropriately sized for cable diameter. Labels shall be appropriately colored for face-plate color contrast. Submit sample labels for approval.

- C. Comply with TIA-606-B and applicable requirements in this section.

2.06 ETHERNET EXTENDERS/CONVERTORS

- A. Managed Ethernet extenders/converters, 10/100/1000 - 8-pin modular to SC multi-mode optical fiber, compete with SNMP management module, 2 module AC chassis and wall mounting kit.

- B. Manufacturers: Omnitron Systems Technologies, part number 8382-0, 8000N-0, 8230/0 and 8249-0 or approved equivalent.

- C. Manufacturer contact information – Christina Cocotis, 949 250-6510 X 8170

2.07 INNERDUCT

A. Manufacturers:

1. Carlon.
2. Prymid.

B. Innerduct

1. Construction: Plastic tube, 1 1/4 inch diameter.
2. Rating: OSP.

PART 3 - EXECUTION

3.01 GENERAL

- A. Comply with manufacturers' instructions for installing components and adjusting equipment and telecommunications cables. Where no instructions are included with the equipment, follow accepted industry best practices as identified in the BICSI design and installation manual.

- B. Keep items protected before and after installation, with dust and waterproof barrier materials as necessary. Maintain the integrity of the protective measures throughout the life of the project.

- C. Protect cables, termination devices and extenders from damage, at all times during the construction.

- D. Maintain safe ingress and egress from work areas during the movement and installation of materials.

- E. Examine the areas to receive the work and the conditions under which the Work would be performed. Remedy unsatisfactory conditions detrimental to the proper and timely completion of the Work. Where a remedy of unsatisfactory conditions is not available or possible, notify the Engineer for resolution. Do not proceed until unsatisfactory conditions have been corrected.
- F. Examine pathway elements intended for the installation and support of communication cables. Verify the proposed routes of communication cables prior to commencement.

3.02 METHODS AND PROCEDURES

- A. Maintain manufacturer's recommended minimum bend radius of the cables. Do not stretch, stress, tightly coil, bend or crimp the workstation cables during the installation or when leaving them out of the way of other trades during the staging of the work. The Contractor, at the Contractors expense shall replace all abused or stressed cables.
- B. After dressing the cable to its final location, remove only enough jacketing to allow the conductors to be splayed and terminated in a neat and uniform fashion. Maintain jacketing integrity.
- C. Install cable in continuous runs without splices or mechanical couplers.
- D. When pulling cables through conduits, leave in-place all drag-lines for future use.

3.03 CABLING

- A. Provide a 2 strand multi-mode optical fiber cable between the DDC Controller in the 2nd floor mechanical room in the TOTE Administration Building to the communication cabinet in the Guard Shack. Terminate the cable with SC connectors at each end location. Route the cable through an innerduct installed in the inter-building conduit.

3.04 CONNECTORS/FACEPLATES

- A. Provide SC connectors for the termination of multi-mode optical fiber backbone cables installed under this Work

3.05 PATCH CORDS

- A. Provide 8-pin-modular-to-8-pin-modular patch cords.

3.06 ETHERNET EXTENDERS/CONVERTORS

- A. Provide Ethernet Extenders/convertors at the DDC controller and at the communication cabinet.

3.07 INNERDUCT

- A. Provide plastic tube Innerducts in the inter-building conduits. Provide a service loop in the utility vaults. Secure innerducts to the walls of the buildings

3.08 IDENTIFICATION

- A. Provide identification labels on each end of the cable identifying the origin and destination.
- B. Provide machine-generated labels on cables in black uppercase lettering on a permanent adhesive, white label stock, covered with a permanent water-resistant sealer. Place labels on both ends of each cable and no more than 6 inches from the point at which the cable is broken out into individual strands. Install labels so that labels are readily visible. Do not label cables with hand lettered labels.

3.09 FIELD QUALITY CONTROL

- A. Visually inspect cable placement, cable termination, grounding and bonding, equipment and patch cords, and labeling of all components.
- B. Optical Fiber Cable Test:
 - 1. Use test instruments shall meet or exceed applicable requirements in TIA-568-B.1.
 - 2. Use launch cords and adapters approved by the test equipment manufacturer for channel or link tests.
 - 3. Multi-mode cable: Conduct an end -to-end attenuation test at 850 nm in accordance with TIA-526-14-A, Method B, and one reference jumper. Attenuation test results shall be less than that calculated according to equation in TIA-568-B.1.
 - 4. Provide test reports for each cable strand.
- C. Provide dust caps on optical fiber connectors until they are connected to the Ethernet Extenders/convertors.
- D. Ethernet Extenders/Convertors:
 - 1. Coordinate the testing of the Ethnet Extenders/Convertors with the installation and testing of the DDC Controller to ensure a complete and functioning system.

END OF SECTION

SEQUENCE OF OPERATION

GENERAL:

- A. DDC UNITARY CONTROLLER INTEGRATED WITH OEM CONTROL PACKAGE TO CONTROL SPACE TEMPERATURE AND PROVIDE OCCUPIED/UNOCCUPIED SCHEDULING. THE FOLLOWING CONTROL SEQUENCES ARE PROVIDED BY THE DDC CONTROLLER.
- B. FULLY INTEGRATE THE NEW SYSTEM WITH THE EXISTING "FRONT END" COMPUTER, DATABASE, GRAPHIC SCREENS, ETC.

OCCUPIED MODE:

- A. COOLING SETPOINT: 75°F. HEATING SETPOINT: 70°F.
- B. SYSTEM IS ENABLED 6AM TO 6PM AND OPERATES ON SPACE LOAD DEMAND.
- C. FAN RUNS CONTINUOUSLY.
- D. THE CHANGEOVER VALVE IS OPERATED TO SWITCH HEAT PUMP BETWEEN HEATING AND COOLING MODE.
- E. THE COMPRESSOR IS ENABLED AND SWITCHED BETWEEN OFF, STAGE 1 AND STAGE 2 AS DEMAND INCREASES.
- F. THE MIXED AIR DAMPERS ARE USED FOR THE FIRST STAGE OF COOLING IF THE OUTSIDE AIR TEMPERATURE IS LOWER THAN THE RETURN AIR TEMPERATURE. IF THE OUTSIDE AIR TEMPERATURE IS GREATER THAN THE RETURN AIR TEMPERATURE, THE MIXING DAMPERS REMAIN AT MINIMUM VENTILATION POSITION AND THE MECHANICAL COOLING BECOMES THE FIRST STAGE OF COOLING.
- G. THE OUTSIDE AIR (OSA) ELECTRIC DUCT HEATER IS CONTROLLED TO MAINTAIN INCOMING OSA BETWEEN 38°F AND 48°F. THE ELECTRIC DUCT HEATER IS DISABLED IF THE FAN IS STOPPED OR IF OSA DAMPER IS MODULATING IN ECONOMIZER MODE (OPEN PAST MINIMUM POSITION). FIRST STAGE HEATING IS THE HEAT PUMP IN HEATING MODE. SECOND STAGE HEATING IS ELECTRIC RESISTANCE HEATING COIL.

UNOCCUPIED MODE:

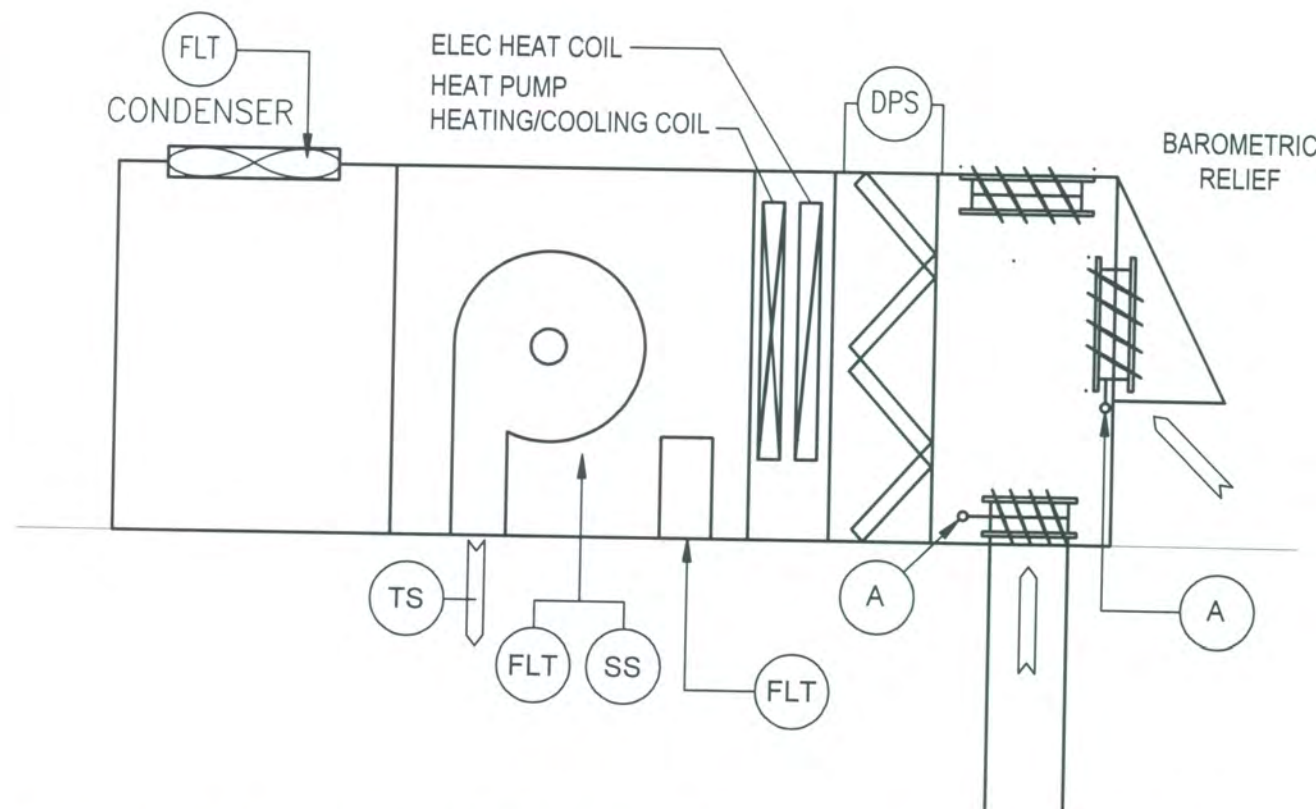
- A. THE HEAT PUMP WILL CYCLE ON AND OFF TO MAINTAIN ROOM TEMPERATURE OF 65°F. (ADJ.)

OCCUPANCY OVERRIDE:

- A. ACTIVATION OF ANY OVERRIDE SWITCH (LOCATED ON ZONE THERMOSTAT) WILL PUT HEAT PUMP INTO OCCUPIED MODE FOR AN ADJUSTABLE PERIOD (INITIALLY SET AT TWO HOURS).

MAINTENANCE ALARM:

- A. IF THE DIFFERENTIAL PRESSURE ACROSS THE FILTER BANK EXCEEDS 0.9"W.C. (INITIAL SETTING, ADJUSTABLE), GENERATE A MAINTENANCE ALARM AT THE FRONT END COMPUTER.



CONTROL SYMBOLS:

- SS START/STOP
- A ACTUATOR
- FLT FAULT
- TS TEMPERATURE SENSOR
- DPS DIFFERENTIAL PRESSURE SWITCH

SEQUENCE OF OPERATION AND CONTROL DIAGRAM - HEAT PUMP

SCALE: NTS

SEQUENCE OF OPERATION

GENERAL:

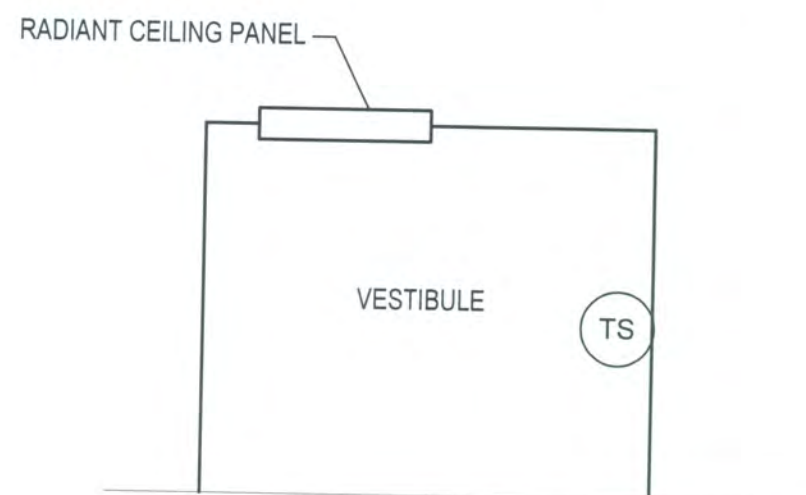
- A. CONNECT TO BUILDING DDC CONTROL SYSTEM, SIEMENS FRONT END.
- B. DDC SYSTEM SHALL COMMAND TO RUN AND MONITOR POINTS.

OCCUPIED MODE:

- A. RADIANT CEILING PANEL SHALL BE ENABLED WHEN ZONE TEMPERATURE FALLS BELOW SET POINT: 60°F.
- B. RADIANT CEILING PANEL SHALL BE DISABLED WHEN ZONE TEMPERATURE RISES ABOVE SET POINT: 65°F.

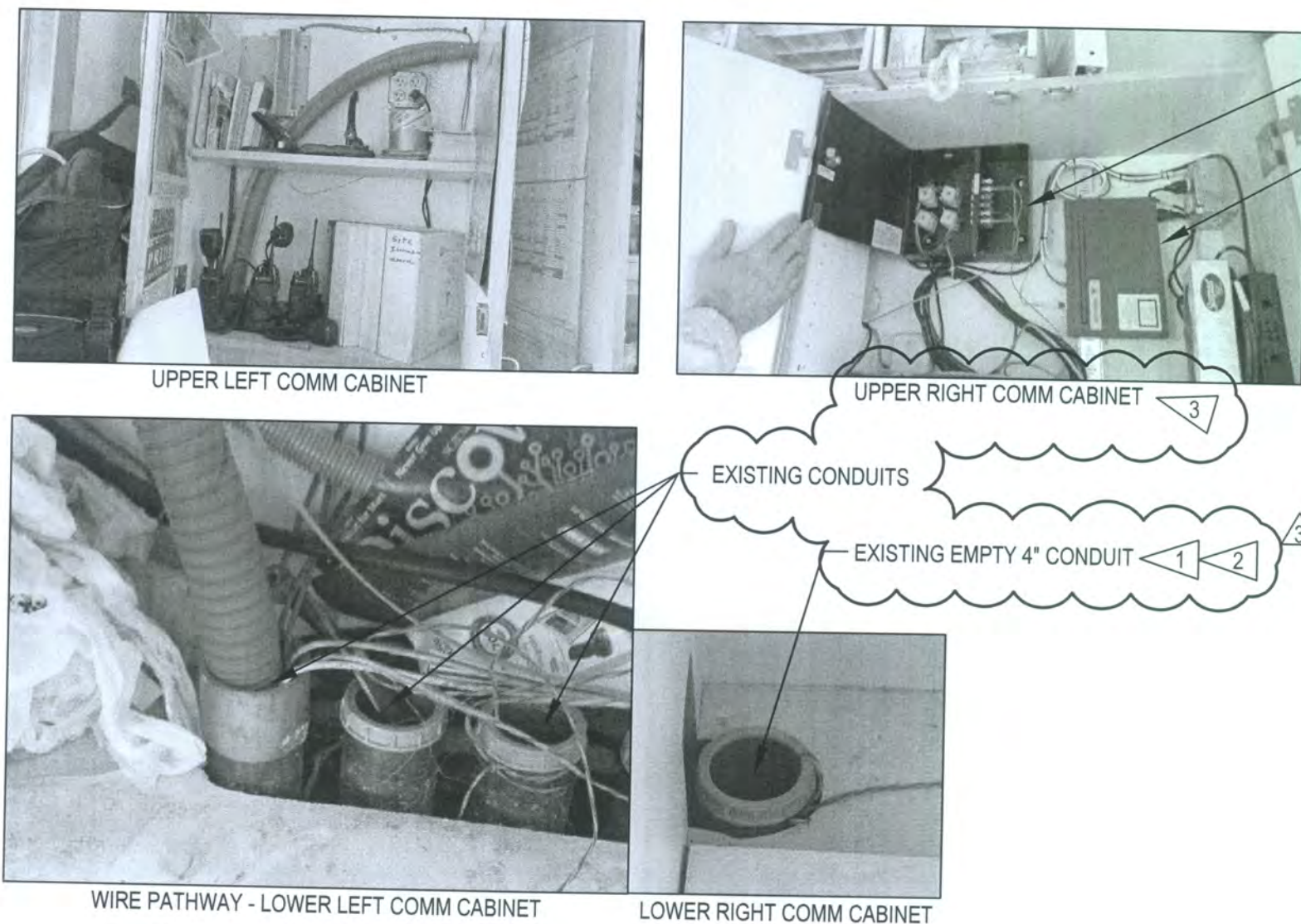
UNOCCUPIED MODE:

- A. THE RADIANT CEILING PANEL WILL CYCLE ON AND OFF TO MAINTAIN SPACE TEMPERATURE OF 55°F.



SEQUENCE OF OPERATION AND CONTROL DIAGRAM - RADIANT CEILING PANEL

SCALE: NTS

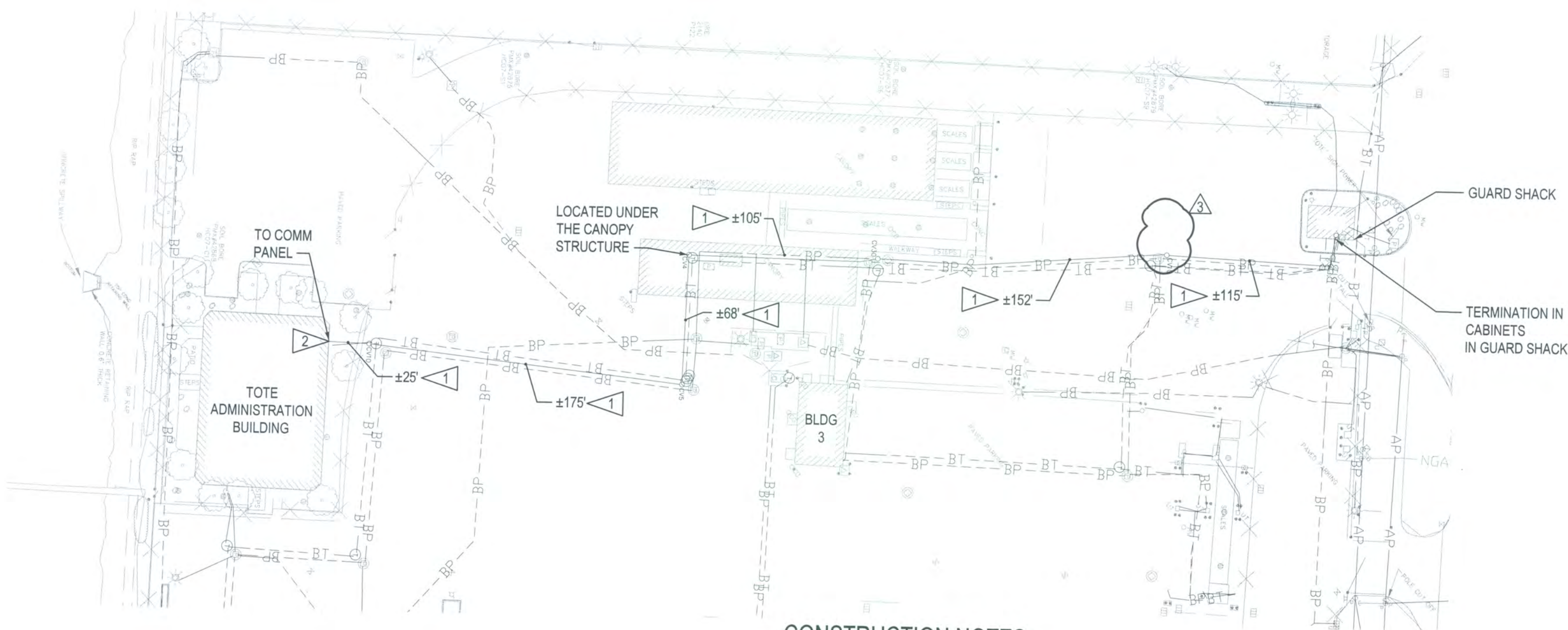


CONSTRUCTION NOTES

- 1 PROVIDE CABLE CONNECTORS, ETHERNET SIGNAL EXTENDERS AND PATCH CORDS, FROM DDC CONTROLLER IN TOTE BUILDING TO NETWORK SWITCH IN GUARD SHACK.
- 2 PROVIDE (2) 1 1/4" INNER DUCTS IN EXISTING 4" CONDUIT BETWEEN TOTE BUILDING AND GUARD SHACK. EXTEND INNER DUCTS TO COMM. CABINET IN GUARD SHACK. PROVIDE SERVICE LOOPS IN UNDERGROUND VAULTS.
- 3 PROVIDE CABLE SERVICE LOOPS AT EACH END.
- 4 COORDINATE NETWORK SWITCH PORT ASSIGNMENT WITH OWNER.

GUARD SHACK - COMM CABINET CONDUIT ROUTING

SCALE: NTS

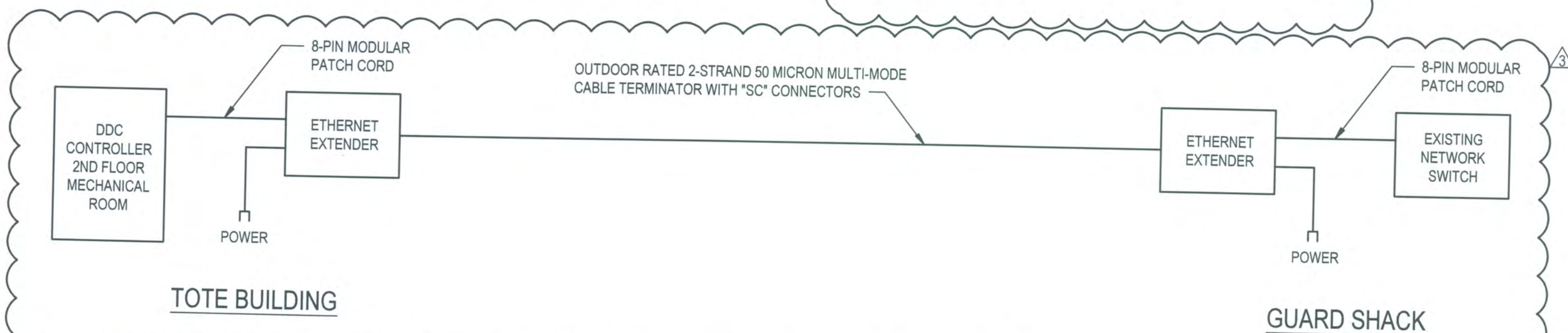


CONSTRUCTION NOTES

- 1 THE CV LOCATIONS AND DIMENSIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTROLS CONTRACTOR.
- 2 PROVIDE DDC WIRING FROM BUILDING DDC CONTROL PANEL AND TERMINATE AT CABINET IN GUARD SHACK. ROUTE VIA UNDERGROUND CONDUIT.

SITE PLAN - UNDERGROUND CONDUIT ROUTING

SCALE: NTS



NETWORK CONNECTION - SINGLE LINE DIAGRAM

SCALE: NTS

SAZAN GROUP
600 Stewart St., Ste 1400
Seattle, Washington 98101
Tel 206.267.1700
Fax 206.267.1701
P.O. BOX 1837 TACOMA, WA 98401 (206)384-1841



CHECKED BY	DATE
<i>[Signature]</i>	
DIRECTOR ENG./DATE	PROJ. ENGR DATE
Agatheke Sep 21, 2015	
PRINTED BY:	PORT ADDRESS:
ONE SITCUM PLAZA	TACOMA, WA 98401-1837

TOTE ADMINISTRATION BUILDING
HVAC SYSTEM REPLACEMENT
CONTROLS DIAGRAM

6545

M7

SHT# 18 OF 27

CONTRACT/CONS: 070083

M. ID: 098034

PHASE: BID SET

TOWNSHIP: 21N

DAT-HRZ: WA83-SF

PARCEL: 1A

RANGE: 3E

VERT: MLLW 19.39' @ Tide 22 1933

DRAWING SCALE: AS NOTED

10/20/2015

REVISION: ADDENDUM NO. 3

MARK: BY: DBJ

APPR: DATE: OCT 20 2015

THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION