December 8, 2019

PROJECT: City Hall Relocation Phase 1 – Network Cabling

Dear Prospective Submitter:

You are invited to submit a sealed bid for the above project. A copy of the Public Notice, Affidavits Form, Bid Proposal Form, and Specifications are attached. Please make certain you sign the Bid Proposal Form and Affidavits Form and include with your submittal. Please note that the Affidavits Form must also be notarized. Also, please read the documents thoroughly.

If you have procurement related questions please contact me at (423) 229-9315 or email brentmorelock@kingsporttn.gov . We look forward to receiving your bid.

Regards,

Brent Morelock, CPPO, CPPB
Procurement Manager

City of Kingsport – Procurement Department
225 W. Center Street, Kingsport, TN 37660
Phone – (423) 229-9419 Fax – (423) 224-2433

INVITATION TO BID

Sealed bids for the following project will be received by the Procurement Manager until 4:00 P.M., Eastern Time, December 18, 2019, and at that time publicly opened in the Council Room, City Hall. All bids will be considered for award or rejection at a later date.

PROJECT: City Hall Relocation Phase 1 Network Cabling

Bid documents for the above referenced item is available online at https://www.kingsporttn.gov/city-services/purchasing/ interested parties may also contact the Procurement Department at 423-229-9419.

A bid bond or certified check in an amount equal to five percent (5%) of the total of the bid is required. Certified checks should be made payable to City Treasurer, City of Kingsport. The successful bidder will be required to execute acceptable Performance and Payment Bonds in an amount equal to one hundred (100%) percent of the contract price.

All bidders must be licensed Contractors as required by the Contractors Licensing Act of 1994 (TCA Title 62, Chapter 6). No bid will be opened unless the outside of the sealed envelope containing the bid provides the following information: the Contractor's license number, the date of the license's expiration, and a quotation of that part of his classification applying to the bid; the Geothermal, HVAC, Masonry, Plumbing, Mechanical and Electrical subcontractor's license number, each date of the license expiration and that part of each classification applying to the bid if the value of work is $25,000 or greater; ($100,000.00 or greater for Masonry) if value of the subcontractor's work is less than $25,000, ($100,000.00 for Masonry), the bid envelope is to be indicated with the phrase "Subcontractor's bid is less than $25,000" ($100,000.00 for Masonry) after each appropriate heading. If no Subcontractor's are being used, the outside of the envelope must state, "No Subcontractors are being used on this project".

By submission of a signed bid, the bidder certifies total compliance with Title VI and Title VII of the Civil Rights Act of 1964, as amended, and all regulations promulgated thereunder.

No submitted bids may be withdrawn for a period of sixty (60) days after the scheduled closing time for receipt of bids. All bids shall be signed, sealed and addressed to the Procurement Manager, City of Kingsport, 225 W. Center St., Kingsport, TN 37660, and marked "City Hall Relocation Phase 1 Network Cabling" The City by its governing regulations reserves the right to accept or reject any or all bids received, to waive any informalities in bidding and to re-advertise.

PUB IT: 12/08/19

Chris McCartt
City Manager

COMPLIANCE AFFIDAVIT(S) (TOTAL OF 2 PAGES)
THIS COMPLIANCE AFFIDAVIT MUST BE SIGNED, NOTARIZED AND INCLUDED WITH ALL BIDS – FAILURE TO INCLUDE THIS FORM WITH THE BID SUBMITTED SHALL DISQUALIFY THE BID FROM BEING CONSIDERED.

VENDOR: _____

CONFLICT OF INTEREST:

1. No Board Member or officer of the City of Kingsport or other person whose duty it is to vote for, let out, overlook or in any manner superintend any of the work for the City of Kingsport has a direct interest in the award of the vendor providing goods or services.

2. No employee, officer or agent of the grantee or sub-grantee will participate in selection, or in the award or administration of an award supported by Federal funds if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when the employee, officer or agent, any member of their immediate family, his or her partner, or an organization, which employs, or is about to employ, any of the above, has a financial or other interest in the firm selected for award.

3. The grantee's or sub-grantees officers, employees or agents will neither solicit nor accept gratuities, favors or anything of monetary value from vendors, potential vendors, or parties to sub-agreements.

4. By submission of this form, the vendor is certifying that no conflicts of interest exist.

DRUG FREE WORKPLACE REQUIREMENTS:

5. Private employers with five or more employees desiring to contract for construction services attest that they have a drug free workplace program in effect in accordance with TCA 50-9-112.

ELIGIBILITY:

6. The vendor is eligible for employment on public contracts because no convictions or guilty pleas or pleas of nolo contender to violations of the Sherman Anti-Trust Act, mail fraud or state criminal violations with an award from the State of Tennessee or any political subdivision thereof have occurred.

GENERAL:

7. Vendor fully understands the preparation and contents of the attached offer and of all pertinent circumstances respecting such offer.

8. Such offer is genuine and is not a collusive or sham offer.

IRAN DIVESTMENT ACT:

9. Concerning the Iran Divestment Act (TCA 12-12-101 et seq.), by submission of this bid/quote/proposal, each vendor and each person signing on behalf of any vendor certifies, and

in the case of a joint bid/quote/proposal, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each vendor is not on the list created pursuant to § 12-12-106.

NON-COLLUSION:

10. Neither the said vendor nor any of its officers, partners, owners, agents, representatives, employees or parties interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly, with any other responder, firm, or person to submit a collusive or sham offer in connection with the award or agreement for which the attached offer has been submitted or to refrain from making an offer in connection with such award or agreement ,or collusion or communication or conference with any other firm, or, to fix any overhead, profit, or cost element of the offer price or the offer price of any other firm, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against the City of Kingsport or any person interested in the proposed award or agreement.

11. The price or prices quoted in the attached offer are fair, proper and not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the firm or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

BACKGROUND CHECK REQUIREMENT FOR SCHOOL SYSTEM SUPPLIERS:

12. In submitting this bid/quote/proposal, you are certifying that you are aware of the requirements imposed by TCA § 49-5-413 (d) to conduct criminal background checks through the Tennessee Bureau of Investigation and the Federal Bureau of Investigation on yourself and any of your employees who may come in direct contact with students or who may come on or about school property anytime students are present. You are further certifying that at no time will you ever permit any individual who has committed a sexual offense or who is a registered sex offender to come in direct contact with children or to come on or about school property while students are present.

The undersigned hereby acknowledges and verifies that the response submitted to this solicitation is in full compliance with the applicable laws/listed requirements.

SIGNED
BY:_____

PRINTED NAME:_____

TITLE:_____

SUBSCRIBED AND SWORN TO BEFORE ME THIS DATE:_____

BY (NOTARY PUBLIC):_____

MY COMMISION EXPIRES ON:_____

INVITATION FOR BID

THIS FORM MUST BE COMPLETED AND
SIGNED FOR YOUR BID TO BE CONSIDERED VALID.

Address to: Procurement Manager City of Kingsport 225 W Center Street Kingsport, TN 37660 phone (423) 229-9419 or fax (423) 224-2433	Date Issued: 12/08/19

This sealed bid in the original copy, subject to the terms and conditions on the attachment, will be received by the Procurement Manager until 4**:**00 P.M., Eastern Time on December 18, 2019**,** at which time will be publicly opened in the Council Room, City Hall, 225 W. Center Street, Kingsport, Tennessee. IN THE LOWER LEFT CORNER OF YOUR ENVELOPE ADDRESSED TO ABOVE, MARK YOUR ENVELOPE "City Hall Relocation Phase 1 Data Cabling" AND DATE OF THE BID OPENING.

READ TERMS AND CONDITIONS BEFORE COMPLETING THIS FORM

Item	Quantity	U/I	Description	Unit Price	Total Price
1	1	LS	Lump sum price for the installation of a Cat 6 voice/data solution at 415 Broad Street per the specifications.		

In compliance with this Invitation for Bid and subject to all conditions thereof, the undersigned agrees, if this bid is accepted within 60 days from the date of the opening, to furnish all of the material/service upon which prices are quoted, delivered at the designated point(s) within the time specified.

(A) Terms: NET

(B) Delivery/Job completion within _____ days after notification.

(C) Specification/Letter of explanation enclosed: YES ( ) NO ( )

_____

Handwritten Signature of Authorized Representative

_____

Name of Firm Date

THIS FORM MUST BE SIGNED TO BE CONSIDERED COMPLETE

I propose to commence the work within ____ calendar days after notification of acceptance of bid and complete the work in ____ calendar days.

LIQUIDATED DAMAGES

As actual damages for any delay in completion of the work which the Contractor is required to perform under this Contract are impossible of determination, the Contractor and his Sureties shall be liable for and shall pay to the owner the sum of $50.00 per day as fixed, agreed and liquidated damages for each calendar day of delay from the above date stipulated for completion, or as modified in accordance with Section "Changes in Work" under GENERAL CONDITIONS, until such work is satisfactorily completed and accepted.

My Terms are AS PER BID DOCUMENT.

The bidder hereby agrees that the Board of Mayor and Aldermen have the right to reject any and all bids received and to waive any informalities.

Certified check or bid bond is herewith deposited with the City Treasurer, in the sum of 5% of the total bid amount, made payable to the order of City Treasurer of the City of Kingsport, Tennessee, with the understanding that if the bid herewith submitted is rejected, the said check will be returned to the bidder; and if the said bid is accepted by the City of Kingsport, check will be returned to the bidder upon the execution and securing of a contract to do the said work. If awarded the contract to this work, and the bidder refuses or neglects to execute a written contract to do the same and furnish security in the amount required within ten days after being notified that the contract has been awarded to him the certified check shall be forfeited to the City as liquidated damages for such neglect or refusal, and the amount so collected shall be paid into the fund set aside for the City's portion of the cost of the proposed improvement.

The successful contractor shall provide for workman's compensation and comprehensive general public liability insurance in amounts acceptable to the City. The contractor will furnish comprehensive automobile liability insurance and insurance in such form as shall be satisfactory to the City. The contractor shall furnish owner's liability insurance to defend, indemnify and save harmless the City of Kingsport from any and all claims and suits for injury to persons or property arising out of the performance of the contract caused in any way by the acts or omissions of the contractor or the contractor's agents, employees, or subcontractor during or in connection with the contract work, excepting bodily injury or death or property damage caused by the sole negligence of the owner, its agents or employees. The successful contractor is required to complete a Beneficial Owners Form for projects which exceed $500,000.00. The form will be provided to the successful contractor at the Pre-Construction Meeting and will be required to be submitted to the City with the first Pay Application/Request.

We have read and acknowledge the requirements of owner's liability insurance to save and defend the City harmless.

We acknowledge receipt of _____ addendum(s) to this project.

BID TO BE SUBMITTED IN DUPLICATE

_____ _____

HANDWRITTEN Signature of Authorized Representative

FIRM

_____ _____

Date

Tennessee Contractor's License Number

BID MUST BE SIGNED TO BE CONSIDERED

BID ENVELOPE COVER

THIS FORM IS TO BE FIRMLY ATTACHED TO THE OUTSIDE OF THE ENVELOPE CONTAINING THE BID

PART 1

ALL BIDDERS MUST COMPLETE THIS SECTION

Project Name: _____

Project Opening Date & Time: _____

Contractor's Name: _____

Contractor's Address: _____
_____

Contractor's License Number: _____

Contractor's License Expiration Date: _____

Contractor's License Classification: _____

PART 2 - SUBCONTRACTORS

ALL BIDDERS MUST COMPLETE THIS SECTION. IF SUBCONTRACTOR'S BID AMOUNT IS MORE THAN $25,000 FOR (1) ELECTRICAL, (2) PLUMBING, (3) HEATING, VENTILATION, AIR CONDITIONING, (4) GEOTHERMAL OR $100,000 OR MORE FOR (5) MASONRY. IF THAT PORTION OF THE BID IS LESS THAN $25,000 FOR ELECTRICAL, PLUMBING, HVAC OR GEOTHERMAL ENTER "NONE" IN THE NAME SPACE FOR THOSE CATEGORIES BELOW. IF THAT PORTION OF THE BID IS LESS THAN $100,000 FOR MASONRY ENTER "NONE" IN THE NAME SPACE FOR THAT CATEGORY BELOW.

1) Electrical
Name: _____
License Number: _____
License Expiration Date: _____
Classification: _____

2) Plumbing
Name: _____
License Number: _____
License Expiration Date: _____
Classification: _____

3) HVAC
Name: _____
License Number: _____
License Expiration Date: _____
Classification: _____

4) Geothermal
Name: _____
License Number: _____
License Expiration Date: _____
Classification: _____

5) Masonry
Name: _____
License Number: _____
License Expiration Date: _____
Classification: _____

INVITATION TO BID
CAT 6 VOICE/DATA WIRING
CITY HALL RELOCATION PH. 1– 415 BROAD STREET

The City of Kingsport is seeking bids for the installation of a Cat 6 voice/data wiring at the Relocation of City Hall Phase 1 Project (**Floors 3, 4, 5, & 6)** currently under renovation at 415 Broad Street as detailed in the attached drawings and specifications.

All Cat 6 data cable for this project shall be plenum rated.

The reply date for this bid is: **December 18, 2019** **4:00 p.m.**

The bid documents consist of:

- Data Communications Cabling Specifications
- Compliance Affidavit(s)
- Bid Form
- Plan Sheets E-22 through E-60 (14 Sheets)

Affidavit Sheet must be signed and notarized for acceptance. Bid Sheet must be signed for acceptance. Please submit a bid for the described work to City of Kingsport hand delivered to Council Room, City Hall or by mail at:

City of Kingsport
Attn: Brent Morelock, Purchasing Manager
225 W. Center Street
Kingsport, TN 37660

To arrange for a site visit, please see contact information below:

Dawn Melton
Senior Project Manager
City of Kingsport
Engineering
Office: 423-343-9792
Mobile: 423-862-0462
DawnMelton@KingsportTN.gov

KINGSPORT
TENNESSEE
www.kingsporttn.gov

PART 1 - GENERAL

1.1 SCOPE

A. Description: The work of this Section includes the wire, cable, racks, patch panels, connecting devices, cable support D-rings, all installation and testing for wiring systems and components to be used as signal pathways for high-speed data transmission.

B. The Contractor shall furnish and install all wiring and components to support data systems.

C. Installation of all communication outlets as indicated on the drawings.

D. *Owner will provide/install all Wireless Access Points*.

E. The Contractor shall furnish and install self-supporting, 4 post enclosed and lockable cage racks with cage-nut capable posts, with enclosed cable pathways, and with network manageable power distribution units with Power A side and Power B side in each Data Communications Room. Consult with the City IT Department with any questions regarding specific rack location, and model and/or part numbers, as listed in Section 2.1 – Racks and Hardware.

F. The Contractor shall furnish and install modular patch panels in the racks in each Data Communications Room. Provide the quantity of modular patch panels as required to connect all data cables. Consult with the City IT Department with any questions regarding specific rack location, model and/or part numbers, as listed in Section 2.1 – Racks and Hardware.

G. The wiring components shall consist of jacks, faceplates, wire and all accessories required to properly install the wiring and devices. Consult with the City IT Department with any questions regarding specific model and/or part numbers, as listed in Section 2.1 – Racks and Hardware.

H. The UTP wiring, jacks, and patch panels shall be of a consistent Cat6 rating throughout the entire installation where Cat6 cable is installed. The cable shall be solid, not stranded. Cat6 cable runs shall not exceed 90 meters. Consult with the City IT Department if a cable run is determined to be over 90 meters.

1.2 SUBMITTALS

A. Product Data: Submit for review complete manufacturer's product cut sheets for each component specified; these must include detailed manufacturer's specifications and data on features, ratings, and performance. Include dimensioned plan and elevation views of components. Show access and working-space requirements.

B. Qualifications:

1. Cabling contractor must provide at least 5 references with names and contact information of previous installations of $10,000 or more.

2. Cabling contractor must provide documentation showing 5 years or more experience installing data network cabling.

3. Cabling contractor must provide proof of certifications (i.e. DCIC) and/or proof of data training received within the last five years.

C. Cable Certification Tests: Submit complete field test reports to City IT Department for review and acceptance as described herein.

1. UTP cable certification must be performed ~~with a Fluke DTX1800 tester.~~

~~2.~~ Tests results shall be identified by the corresponding labeled Cable ID and must include wire map, resistance, length, propagation delay, impedance, return loss, attenuation, and cross-talk. ~~Test results must be provided in a .FLW file format.~~

3. Test results described herein shall be provided to City IT Department via DVD or CD, before Final Payment is made.

PART 2 - PRODUCTS

2.1 RACKS AND HARDWARE

A. Racks are to be lockable and have removable side panels. Racks are to be secured to the floor with adequate space on all sides of the rack. Filler blanks are to be used in all U spaces that are open and are to be the cage nut style that are easily inserted into the square open cage nut spaces. Acceptable Manufacturers:

1. Tripp Lite SR42UB rack (or approved equal)
2. Strong SR-IT-CAB-42U-30IN rack (or approved equal)

B. Provide and install UTP 24 port patch panels and wire management at the highest available position within the racks. Acceptable Manufacturers:

1. Systimax 360-E-MOD-1U-24 (or approved equal)
2. Chatsworth Products Inc. CPI 13070719 (or approved equal)

C. Provide and install cable runway to interconnect and support the rack installation to the walls, as well as for the establishment of the cable pathway to the racks once the cabling is inside the Data Communication Room. Acceptable Manufacturers:

1. Chatsworth Products Inc. CPI 10250-112 (or approved equal)

2.2 UTP CABLING

A. Install and terminate UTP Category 6 – plenum rated cable with blue colored jacket to all locations as indicated

B. For each outlet location provide one CommScope M12SP Duplex (2-hole) face plate (Finish TBD), or similar, and two CommScope MGS400-003 –blue color.

C. When more than 2 outlets are required at a given location, provide a CommScope M14SP – (4-hole) face plate (Finish TBD), or similar.

D. When more than 4 outlets are required at a given location, provide a CommScope M16SP – (6-hole) face plate (Finish TBD), or similar.

E. Provide CommScope Gray blanks (M20AP-270270 – Blank Inserts) for all unused ports.

2.3 WALL MOUNTED OUTLET BOXES & CONDUIT

A. Not Used

2.4 WIRELESS ACCESS POINTS

A. Provide and terminate UTP Category 6 – plenum rated cable drops for power over internet (POE) Wireless Access Points (WAP) as indicated on the drawings. Wireless Access Points to be provided by Owner.

B. Provide 20’ of cable slack above ceiling at each location as directed by City IT Department.

PART 3 - EXECUTION

3.1 CAT6 INSTALLATION AND ELECTRICAL SPECIFICS

A. The final number of outlets will be determined by the final construction plans.

B. Vendor should check for specifics with City IT Department prior to the installation of wireless network outlets.

C. No more than 6 cables may be installed into 1 – ¾” conduit for any Cat6 installation.

D. Every data outlet in public spaces will be in a single gang j-box, with no more than six cables, terminating in the outlet.

3.2 UTP CABLE INSTALLATION REQUIREMENTS

F. Install and terminate UTP Category 6 – plenum rated cable where appropriate. Connection locations and exact quantities for all outlets will be provided through drawings or information provided by City IT Department.

G. No single Cat 6 run shall exceed 90 meters. Any network cable run determined to exceed 90 meters, consult with the City IT Department.

H. Use existing conduit and cable trays where applicable, including trays provided in any modular or system furniture.

I. Wiring to be connected in a straight pattern (not turned over) from origination to termination point. Cable pairs shall be tied together using Velcro straps and each cable labeled on the back of each patch panel.

J. TWISTED PAIRS MUST REMAIN TWISTED TO WITHIN 1/4" OF CONNECTOR. This is required for high-speed data networks.

K. The punch down jacks and punch down patch panel cross connects shall be designed so installer will always punch down the cable pairs according to EIA/TIA 568B specifications.

From left to right: pairs 1 (Blue), pair 2 (Orange), pair 3 (Green), and pair 4 (Brown). The white striped lead shall be punched down first, followed by its corresponding solid color.

Pins	**Wire Color**
1 & 2	White Orange & Orange
3 & 6	White Green & Green
4 & 5	Blue & White Blue
7 & 8	White Brown & Brown

L. Wiring will not be installed near fluorescent lighting, high-voltage sources, electrical motors, or other sources of interference. Recommended distances for UTP cabling shall be at least 1 ft. for florescent lighting (unshielded), and 3 ft. for transformers or motors (unshielded).

M. Splices within cable runs are not acceptable.

N. All cables being run for horizontal distribution within the plenum areas must be bundled together neatly and untangled, with Velcro cable ties every 12 feet. Cabling shall lie flat within and be supported by cable trays, and/or structures attached directly to the building structure/upper decking in the plenum areas or crawl spaces.

O. Where cabling trays and conduit are not provided, wiring shall be attached and supported to upper decking by way of J- Hooks or bent steel rods installed between decking grooves, or comparable support devices, attached directly to the existing building structure decking or like framework. Wiring will not be supported by ceilings, ceiling hangers, or to existing electrical, plumbing, or air ventilation structures or to existing conduit. Wiring must be routed so that it does not interfere with access to panels, switches, valves or other maintenance systems.

P. Contractors must adhere to manufacturers' requirements for bending radius and pulling tensions for all cable runs.

Q. All conduits must have bushings at the end of the conduit to prevent cable jacket tears. Where cable is being run from one conduit to another, the cable vendor must insure that twists do not occur during the cable installations as this can cause kinking and tangling of the cabling within the cable run.

R. After installation is complete, any debris resulting from cable installation must be removed, with the area left as clean as before the installation started. On projects which contain renovations, any existing cable set for demolition as part of the project, must be removed from the outlet to the Patch Panel. Cable ties removed as part of the cable removal process must be replaced to the cable distribution pathways. The ID's and location of each cable (both room and patch panel termination location) must be given to City IT Department. In addition the cable label port ID on the patch panel must also be removed.

S. Seal all rated wall penetrations with Fire Stop red caulk (MetaCaulk 1000) or other pre-approved fire stop installation.

3.3 CAT6 TESTING AND CABLING REQUIREMENTS

A. All cable runs will be certified to Cat6 standard and appropriate for the specific type of cable installation. Each cable run will contain a data report containing the following information:

1. Circuit ID (This would be the Port Designation, i.e.: 121-a1)
2. Building Location
3. Length of cable run
4. Data Communications Room number
5. Date of Test
6. Cable Type: (e.g., Cat6e UTP)
7. Type of Scanner Used
8. Overall Test Result of Cable: (e.g., PASS)

B. Wiring will be tested and reported as complying to the following individual tests:

1. Wire Map: Show the wiring is straight through, with no open, crossed, reversed or split pairs.
2. Resistance: Measured in ohms, limit, and pass/fail
3. Length: Measure the length of each cable pair.
4. Propagation Delay: Measured in nanoseconds – each pair.
5. Impedance: Determine if anomalies exist on cables longer than 5 meters (16 ft.). Measured for each pair. Range Limit set to (80-120 Ω)
6. Return Loss: Measures the difference between the power of a transmitted signal and the power of the signal reflections caused by variations in link and channel impedance.
7. Attenuation: Measure the loss of signal over the length of the cable. Attenuation for each pair in (dB), frequency for 100 MHz, and limit tested for each pair (dB).
8. ACR: Measures the difference between the signal attenuation and the near-end crosstalk, representing the strength of the attenuated signal in the presence of crosstalk.
9. Next: Measure the near-end crosstalk of a cable, and verify the cable has adequate immunity from the next pairs signal being transmitted back onto the receive pairs. Specify Next Loss, for each of the pairs, send and receive combinations.
10. FEXT: Measures the far-end crosstalk of a cable. Specify FEXT Loss, for each pair, send and receive combinations.

11. PSNEXT: Measures the NEXT induced on a pair from all adjacent pairs.
12. PSELFEXT: Measures the ELFEXT induced on a pair from all adjacent pairs.

C. At completion, provide City IT Department with tested wire length of each cable run.

D. Deliver the test results to City IT Department in an Excel spreadsheet. If Excel spreadsheet format is not possible, consult with City IT Department.

3.4 DATA RACK LABELING

A. If there is more than one data rack required for the project, label the top of each rack numerically from left to right starting with "1".

B. Label ~~each fiber and~~ UTP patch panel alphabetically, top to bottom. This shall be done for each rack and for all Data Communications rooms where cabling is installed. See the supplied Network Rack Configuration to determine the placement and number of patch panels to be installed on each rack.

3.5 FACE PLATE LABELING.

A. Face plates must be labeled with each port indicating the corresponding rack, patch panel, and port. Ports shall be labeled with self-laminating or non-fading ink and stick on labels.

B. For Example:

1. A project with a single data rack and two 24-port patch panels would result in face plate ports labeled:
    a. A-1, A-2,...thru A-24
    b. B-1, B-2,…thru B-24
2. A project with two data racks, each with two 48-port patch panels, would result in face plate ports labeled:
    a. 1A-1, 1A-2,…thru 1A-48
    b. 1B-1, 1B-2,…thru 1B-48
    c. 2A-1, 2A-2,…thru 2A-48
    d. 2B-1, 2B-2,…thru 2B-48

3.6 DATA COMMUNICATIONS ROOM

A. Provide and install standard racks with holes drilled and tapped in each Data Communications Room. The number of racks requested will be determined and specified by City IT Department, based upon the amount of equipment to be

installed, the amount of cabling to be terminated, the prospect of future growth, and the overall size of the Data Communications Room.

1. Verify the exact placement of racks within each room with City IT Department.
2. City IT Department will supply the number of racks required for each new installation, or renovation of a Data Communications Room.
3. The contractor will provide diagrams of the Data Communications Room layout to City IT Department for review and approval, prior to the installation.

B. Secure racks to the floor.

C. Provide and install cable management as per item 2.1 above which specifies the type of cable and power management.

3.7 NETWORK RACK CONFIGURATION

Network racks shall confirm to the following configuration:

City IT Department will provide a diagrammatic layout of the rack mounted equipment.

3.8 WORK COMPLETION SIGN OFF PROCESS

A. When the cabling contractor determines the cabling work has been completed, and is in compliance with specification, the contractor will notify City IT Department to arrange a time for a representative to inspect the installation work.

B. Cable testing results for ~~both fiber~~ and UTP terminations shall be delivered to City IT Department personnel prior to inspection.

C. A list of items to be corrected will be compiled during the inspection, and a copy will be sent to the contractor via email. A re-inspection will be conducted after items have been corrected.

D. Final payment will be approved after City IT Department has confirmed that all necessary corrections have been satisfactorily completed and the terms of the agreement have been completed.

4.0 CLARIFICATIONS:

A. Scope includes 3rd – 6th Floors. 1st & 2nd floors will be in a future bid (no plans are available at this time)
B. Preferred connectivity manufacturer is CommScope, Hubbell, or equivalent.
C. The Data Room are located in the Electrical Rooms on each floor.
D. Feeders between the floors will be Fiber, which is not included in this bid.
E. City of Kingsport IT Department will provide patch cables.

END OF SECTION

WALL LEGEND

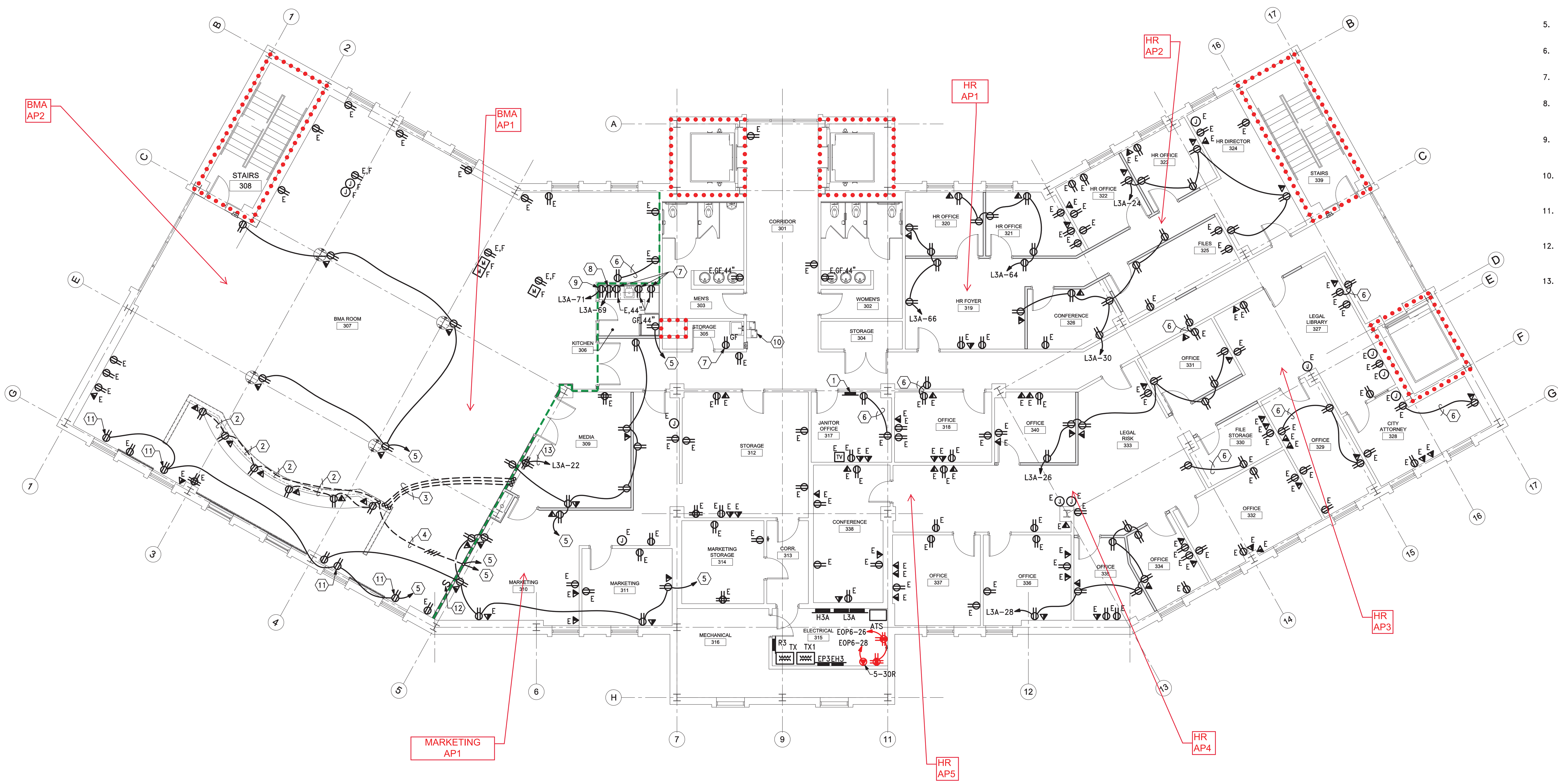
- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE REMOVED
- NEW WALL CONSTRUCTION
- NEW PARTIAL HEIGHT WALL
- DENOTES 3-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FIRE SEPARATION WALL
- DENOTES 1-HR RATED FIRE SEPARATION WALL
- DENOTES NON-RATED SMOKE PARTITION

GENERAL NOTES

1. COORDINATE CEILING MOUNTED DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
2. ALL DEVICES SHALL BE TAMPER RESISTANT.
3. PROVIDE #1/0 AWG GROUND WIRE FROM THE MAIN SERVICE GROUNDING BUS TO THE TELEPHONE TERMINAL BOARD/SPACE LOCATED IN THE ELECTRICAL ROOM ON EACH FLOOR. PROVIDE 0.25" X 2" X 12" COPPER GROUNDING BUS BAR MOUNTED ON INSULATED STANDOFFS ANCHORED WITH STAINLESS STEEL BRACKETS EQUAL TO ERICO TGB-A12L06PT.
4. PROVIDE 2 – 1" CONDUIT SLEEVES ABOVE ALL DOORS TO ROOMS SHOWN WITH PHONE, DATA, TELEVISION, OR OTHER LOW VOLTAGE COMMUNICATIONS SYSTEMS. PROVIDE 3 – 3" CONDUIT SLEEVES INTO ROOM WITH THE TELEPHONE TERMINAL BOARD (TTB).
5. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL STRING.
6. ALL LOW VOLTAGE WIRING LOCATED ABOVE THE LAY-IN CEILINGS IN THE RETURN AIR PLENUM SHALL BE PLENUM RATED.
7. COORDINATE ACTUAL MOUNTING LOCATIONS OF ALL EQUIPMENT WITH CONTRACTOR PROVIDING THE EQUIPMENT.
8. PROVIDE FINAL CONNECTIONS TO ALL EQUIPMENT SUPPLIED BY OTHERS.
9. PROVIDE NEMA 3R RATED SAFETY SWITCHES WHERE LOCATED OUTDOORS.
10. PROVIDE MATCHING PLUG, PIGTAIL, AND CONNECTIONS TO EQUIPMENT FOR ALL SPECIAL PURPOSE RECEPTACLES.
11. CONTRACTOR SHALL VERIFY THAT NO MODIFIED CIRCUIT CARRIES MORE THAN 80% OF THE CIRCUIT BREAKER NAMEPLATE RATING.
12. CONTRACTOR SHALL CHANGE ALL EXISTING NON-GFI TYPE RECEPTACLES WITH-IN SIX FEET OF A SINK TO GFI TYPE RECEPTACLES.
13. ALTERNATE BID ITEM TO REPLACE ALL EXISTING RECEPTACLES, SWITCHES, AND PROVIDE BLANK PLATES ON ALL PHONE/DATA JACKS TO MATCH THE COLOR & STYLE OF THE NEW DEVICES.

CODED NOTES

1. EMERGENCY GENERATOR REMOTE ANNUNCIATOR.
2. PROVIDE SINGLE CIRCUIT MC CABLE RUN CONCEALED WITH-IN THE CASEWORK. COORDINATE ROUTING LOCATION WITH CASEWORK SUPPLIER. (TYPICAL OF ALL RUNS)
3. PROVIDE 3 – 1.5" COMMUNICATIONS CONDUITS RUN IN THE CEILING SPACE ON THE FLOOR BELOW TURNING UP IN THE MEDIA ROOM AND UNDER THE CASEWORK. CONDUITS SHALL BE USED FOR MICROPHONE, DATA AND OTHER LOW VOLTAGE SYSTEMS.
4. PROVIDE 2 CIRCUITS WITH DEDICATED NEUTRALS FOR THE CASEWORK MOUNTED RECEPTACLES. CONDUITS SHALL BE RUN IN THE CEILING SPACE ON THE FLOOR BELOW.
5. PROVIDE POWER FROM EXISTING CIRCUIT SERVING THIS AREA WITH ALL DEVICES DEMOLISHED.
6. EXTEND EXISTING CIRCUIT FROM EXISTING RECEPTACLE TO NEW RECEPTACLE.
7. EXISTING RECEPTACLE LOCATION, CHANGE DEVICE TO GROUND FAULT TYPE.
8. PROVIDE GROUND FAULT RECEPTACLE FOR SHELF MOUNTED MICROWAVE (ESTIMATED HEIGHT AT 66"). COORDINATE EXACT DEVICE PLACEMENT WITH ARCHITECTURAL CASEWORK ELEVATIONS.
9. PROVIDE GFI RECEPTACLE UNDER THE SINK FOR THE DISHWASHER, PROVIDE 120 VOLT, 1ø (NEMA 5-20) PIGTAIL ON THE DISHWASHER, ROUTED TO THE DISHWASHER RECEPTACLE.
10. EXISTING WATER COOLER TO BE REPLACED. CONTRACTOR SHALL TRACE EXISTING WATER COOLER CIRCUIT AND PROVIDE A GROUND FAULT CIRCUIT BREAKER ON THE CIRCUIT.
11. PROVIDE CEILING RECEPTACLE FOR MOTORIZED ROLLER SHADES. COORDINATE THE REQUIRED MOUNTING LOCATION WITH ROLLER SHADE SUPPLIER.
12. PROVIDE WALL BOX FOR ROLLER SHADE WIRELESS CONTROLLER. MOUNT ADJACENT TO THE LIGHTING CONTROLS SHOWN ON SHEET E-13.
13. BOARD ROOM SOUND SYSTEM SHALL BE SHUNT TRIPPED BY THE FIRE ALARM SYSTEM IN THE EVENT OF AN ALARM.



THIRD FLOOR POWER PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

GRAPHIC SCALE
1/8" = 1'-0"
0' 4' 8' 16' 24'

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BLASER ENG JOB# 18-142

no.	date	revision	by

Building Improvements for:
City Hall Relocation-Ph. I
Kingsport, TN

KINGSPORT TENNESSEE

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JAMES A. BLASER
STATE OF TENNESSEE

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approved	J BLASER
drawn	J BLASER
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drawing name	THIRD FLOOR POWER PLAN

E-23

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WALL LEGEND

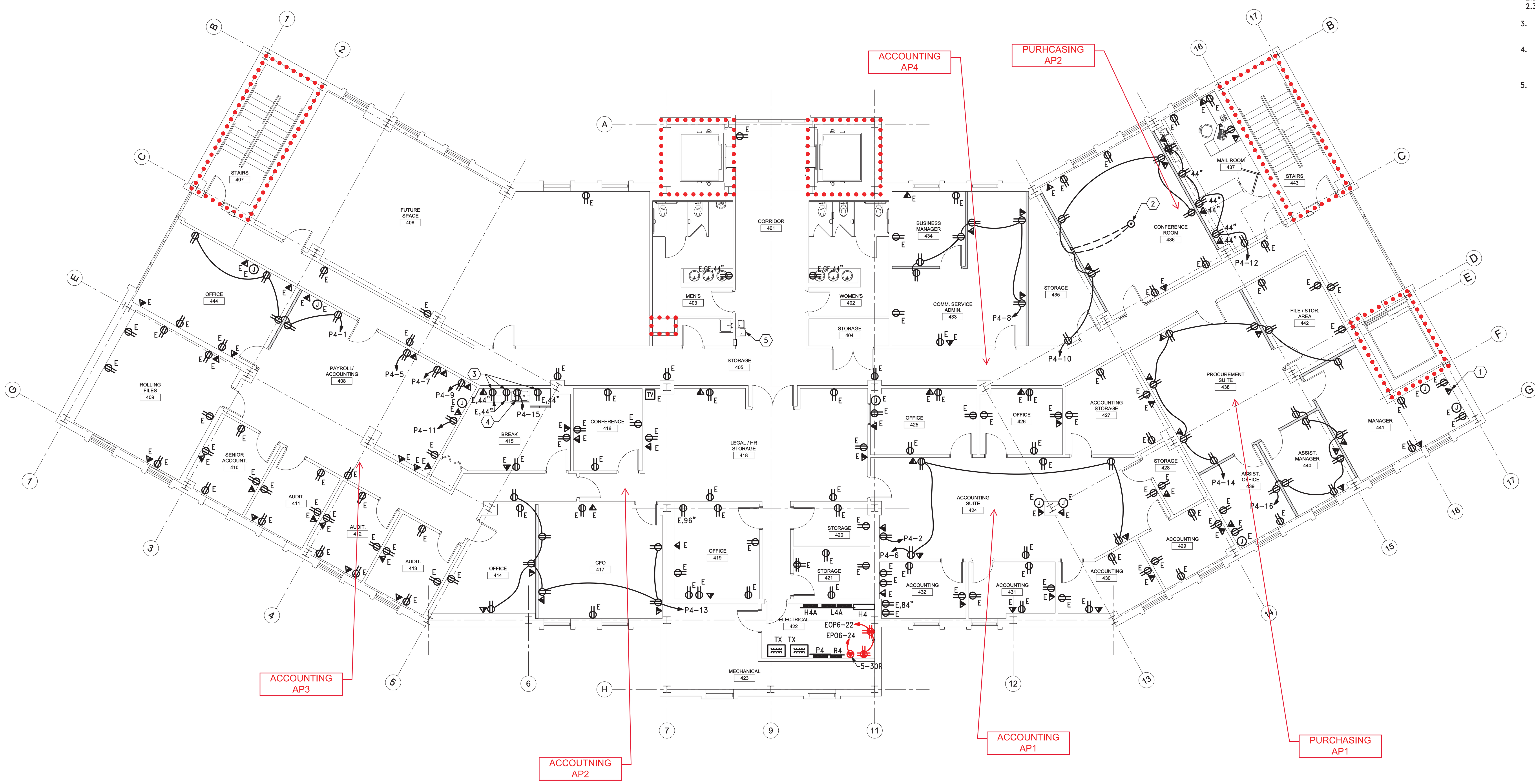
- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE REMOVED
- NEW WALL CONSTRUCTION
- NEW PARTIAL HEIGHT WALL
- DENOTES 3-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FIRE SEPARATION WALL
- DENOTES 1-HR RATED FIRE SEPARATION WALL
- DENOTES NON-RATED SMOKE PARTITION

GENERAL NOTES

1. COORDINATE CEILING MOUNTED DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
2. ALL DEVICES SHALL BE TAMPER RESISTANT.
3. PROVIDE #1/0 AWG GROUND WIRE FROM THE MAIN SERVICE GROUNDING BUS TO THE TELEPHONE TERMINAL BOARD/SPACE LOCATED IN THE ELECTRICAL ROOM ON EACH FLOOR. PROVIDE 0.25" X 2" X 12" COPPER GROUNDING BUS BAR MOUNTED ON INSULATED STANDOFFS ANCHORED WITH STAINLESS STEEL BRACKETS EQUAL TO ERICO TGB-A12L06PT.
4. PROVIDE 2 – 1" CONDUIT SLEEVES ABOVE ALL DOORS TO ROOMS SHOWN WITH PHONE, DATA, TELEVISION, OR OTHER LOW VOLTAGE COMMUNICATIONS SYSTEMS. PROVIDE 3 – 3" CONDUIT SLEEVES INTO ROOM WITH THE TELEPHONE TERMINAL BOARD (TTB).
5. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL STRING.
6. ALL LOW VOLTAGE WIRING LOCATED ABOVE THE LAY-IN CEILINGS IN THE RETURN AIR PLENUM SHALL BE PLENUM RATED.
7. COORDINATE ACTUAL MOUNTING LOCATIONS OF ALL EQUIPMENT WITH CONTRACTOR PROVIDING THE EQUIPMENT.
8. PROVIDE FINAL CONNECTIONS TO ALL EQUIPMENT SUPPLIED BY OTHERS.
9. PROVIDE NEMA 3R RATED SAFETY SWITCHES WHERE LOCATED OUTDOORS.
10. PROVIDE MATCHING PLUG, PIGTAIL, AND CONNECTIONS TO EQUIPMENT FOR ALL SPECIAL PURPOSE RECEPTACLES.
11. CONTRACTOR SHALL VERIFY THAT NO MODIFIED CIRCUIT CARRIES MORE THAN 80% OF THE CIRCUIT BREAKER NAMEPLATE RATING.
12. CONTRACTOR SHALL CHANGE ALL EXISTING NON-GFI TYPE RECEPTACLES WITH-IN SIX FEET OF A SINK TO GFI TYPE RECEPTACLES.
13. ALTERNATE BID ITEM TO REPLACE ALL EXISTING RECEPTACLES, SWITCHES, AND PROVIDE BLANK PLATES ON ALL PHONE/DATA JACKS TO MATCH THE COLOR & STYLE OF THE NEW DEVICES.

CODED NOTES

1. CONVERT EXISTING UNUSED ELECTRICAL BOX TO A PHONE/DATA JACK.
2. PROVIDE POKE-THRU FLOOR BOX DUPLEX RECEPTACLE, HDMI(FUTURE), AND PHONE/DATA RECEPTACLES. COORDINATE EXACT MOUNTING LOCATION WITH OWNER. PROVIDE 2 – 1" CONDUITS IN THE CEILING SPACE ON THE FLOOR BELOW FROM POKE-THRU FLOOR BOX TO ABOVE ACCESSIBLE CEILING (ON THIS FLOOR) FOR LOW VOLTAGE WIRING. POWER SHALL BE IN A SEPARATE 3/4" CONDUIT. PROVIDE ALL ACCESSORIES AS NECESSARY FOR A COMPLETE INSTALLATION. HUBBELL PART NUMBERS AS FOLLOWS: (OR EQUAL)
   - 2.1. POKE-THRU: HUBBELL 6AT EVOLUTION SERIES
   - 2.2. COVER: HUBBELL 6CTC2BZ (SUITABLE FOR FLOORING TYPE)
   - 2.3. CAT6 JACKS: HUBBELL HXJ6BK
3. EXISTING RECEPTACLE LOCATION, CHANGE DEVICE TO GROUND FAULT TYPE.
4. PROVIDE GROUND FAULT RECEPTACLE FOR SHELF MOUNTED MICROWAVE (ESTIMATED HEIGHT AT 66"). COORDINATE EXACT DEVICE PLACEMENT WITH ARCHITECTURAL CASEWORK ELEVATIONS.
5. EXISTING WATER COOLER TO BE REPLACED. CONTRACTOR SHALL TRACE EXISTING WATER COOLER CIRCUIT AND PROVIDE A GROUND FAULT CIRCUIT BREAKER ON THE CIRCUIT.



FOURTH FLOOR POWER PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

GRAPHIC SCALE 1/8" = 1'-0"

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BLASER ENG JOB# 18-142

no.	date	revision	by

Building Improvements for:

City Hall Relocation-Ph. I

Kingsport, TN

KINGSPORT TENNESSEE

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JAMES A. BLASER, STATE OF TENNESSEE

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drawn	J BLASER
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WALL LEGEND

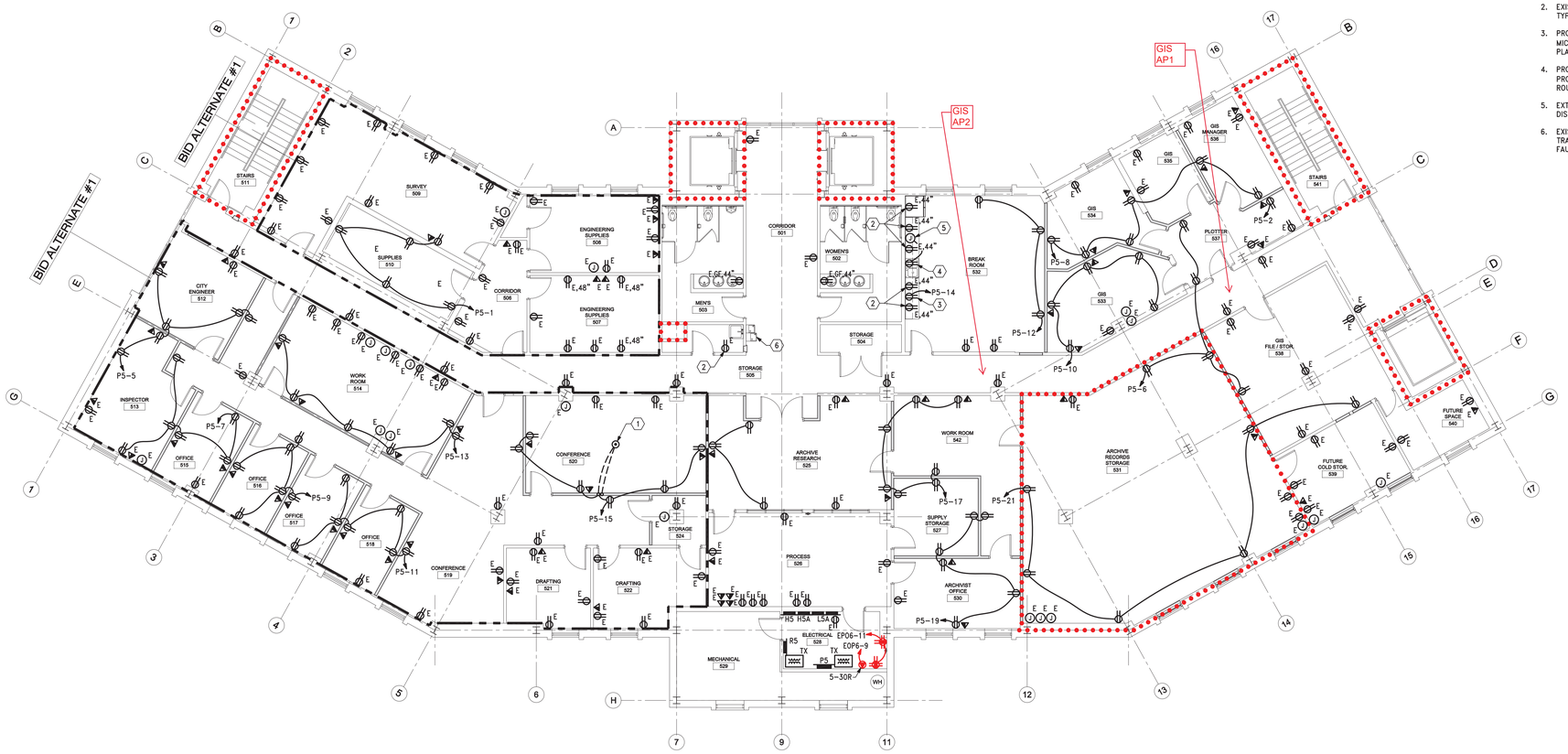
- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE REMOVED
- NEW WALL CONSTRUCTION
- NEW PARTIAL HEIGHT WALL
- DENOTES 3-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FIRE SEPARATION WALL
- DENOTES 1-HR RATED FIRE SEPARATION WALL
- DENOTES NON-RATED SMOKE PARTITION

GENERAL NOTES

1. COORDINATE CEILING MOUNTED DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
2. ALL DEVICES SHALL BE TAMPER RESISTANT.
3. PROVIDE #1/0 AWG GROUND WIRE FROM THE MAIN SERVICE GROUNDING BUS TO THE TELEPHONE TERMINAL BOARD/SPACE LOCATED IN THE ELECTRICAL ROOM ON EACH FLOOR. PROVIDE 0.25" X 2" X 12" COPPER GROUNDING BUS BAR MOUNTED ON INSULATED STANDOFFS ANCHORED WITH STAINLESS STEEL BRACKETS EQUAL TO ERICO TGB-A12L06PT.
4. PROVIDE 2 – 1" CONDUIT SLEEVES ABOVE ALL DOORS TO ROOMS SHOWN WITH PHONE, DATA, TELEVISION, OR OTHER LOW VOLTAGE COMMUNICATIONS SYSTEMS. PROVIDE 1 – 3" CONDUIT SLEEVES INTO ROOM WITH THE TELEPHONE TERMINAL BOARD (TTB).
5. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL STRING.
6. ALL LOW VOLTAGE WIRING LOCATED ABOVE THE LAY-IN CEILINGS IN THE RETURN AIR PLENUM SHALL BE PLENUM RATED.
7. COORDINATE ACTUAL MOUNTING LOCATIONS OF ALL EQUIPMENT WITH CONTRACTOR PROVIDING THE EQUIPMENT.
8. PROVIDE FINAL CONNECTIONS TO ALL EQUIPMENT SUPPLIED BY OTHERS.
9. PROVIDE NEMA 3R RATED SAFETY SWITCHES WHERE LOCATED OUTDOORS.
10. PROVIDE MATCHING PLUG, PIGTAIL, AND CONNECTIONS TO EQUIPMENT FOR ALL SPECIAL PURPOSE RECEPTACLES.
11. CONTRACTOR SHALL VERIFY THAT NO MODIFIED CIRCUIT CARRIES MORE THAN 80% OF THE CIRCUIT BREAKER NAMEPLATE RATING.
12. CONTRACTOR SHALL CHANGE ALL EXISTING NON-GFI TYPE RECEPTACLES WITH-IN SIX FEET OF A SINK TO GFI TYPE RECEPTACLES.
13. ALTERNATE BID ITEM TO REPLACE ALL EXISTING RECEPTACLES, SWITCHES, AND PROVIDE BLANK PLATES ON ALL PHONE/DATA JACKS TO MATCH THE COLOR & STYLE OF THE NEW DEVICES.

CODED NOTES

1. PROVIDE POKE-THRU FLOOR BOX DUPLEX RECEPTACLE, HDMI(FUTURE), AND PHONE/DATA RECEPTACLES. COORDINATE EXACT MOUNTING LOCATION WITH OWNER. PROVIDE 2 – 1" CONDUITS IN THE CEILING SPACE ON THE FLOOR BELOW FROM POKE-THRU FLOOR BOX TO ABOVE ACCESSIBLE CEILING (ON THIS FLOOR) FOR LOW VOLTAGE WIRING. POWER SHALL BE IN A SEPARATE 3/4" CONDUIT. PROVIDE ALL ACCESSORIES AS NECESSARY FOR A COMPLETE INSTALLATION. HUBBELL PART NUMBERS AS FOLLOWS: (OR EQUAL)
   1.1. POKE-THRU: HUBBELL 6AT EVOLUTION SERIES
   1.2. COVER: HUBBELL 6CTC2BZ (SUITABLE FOR FLOORING TYPE)
   1.3. CAT6 JACKS: HUBBELL HXJ6BK
2. EXISTING RECEPTACLE LOCATION, CHANGE DEVICE TO GROUND FAULT TYPE.
3. PROVIDE GROUND FAULT RECEPTACLE FOR SHELF MOUNTED MICROWAVE (ESTIMATED HEIGHT AT 66"). COORDINATE EXACT DEVICE PLACEMENT WITH ARCHITECTURAL CASEWORK ELEVATIONS.
4. PROVIDE GFI RECEPTACLE UNDER THE SINK FOR THE DISHWASHER, PROVIDE 120 VOLT, 1# (NEMA 5-20) PIGTAIL ON THE DISHWASHER, ROUTED TO THE DISHWASHER RECEPTACLE.
5. EXTEND EXISTING DISHWASHER CIRCUIT FROM EXISTING LOCATION TO DISHWASHER RECEPTACLE LOCATED UNDER THE SINK.
6. EXISTING WATER COOLER TO BE REPLACED. CONTRACTOR SHALL TRACE EXISTING WATER COOLER CIRCUIT AND PROVIDE A GROUND FAULT CIRCUIT BREAKER ON THE CIRCUIT.



FIFTH FLOOR POWER PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

GRAPHIC SCALE
0 4' 8' 16' 24'
1/8" = 1'-0"

no.	date	revision	by

Building Improvements for:

City Hall Relocation-Ph. I

Kingsport, TN

KINGSPORT TENNESSEE

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JAMES A. BLASER REGISTERED ENGINEER No. 0010662 STATE OF TENNESSEE

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BLASER ENG JOB# 18-142

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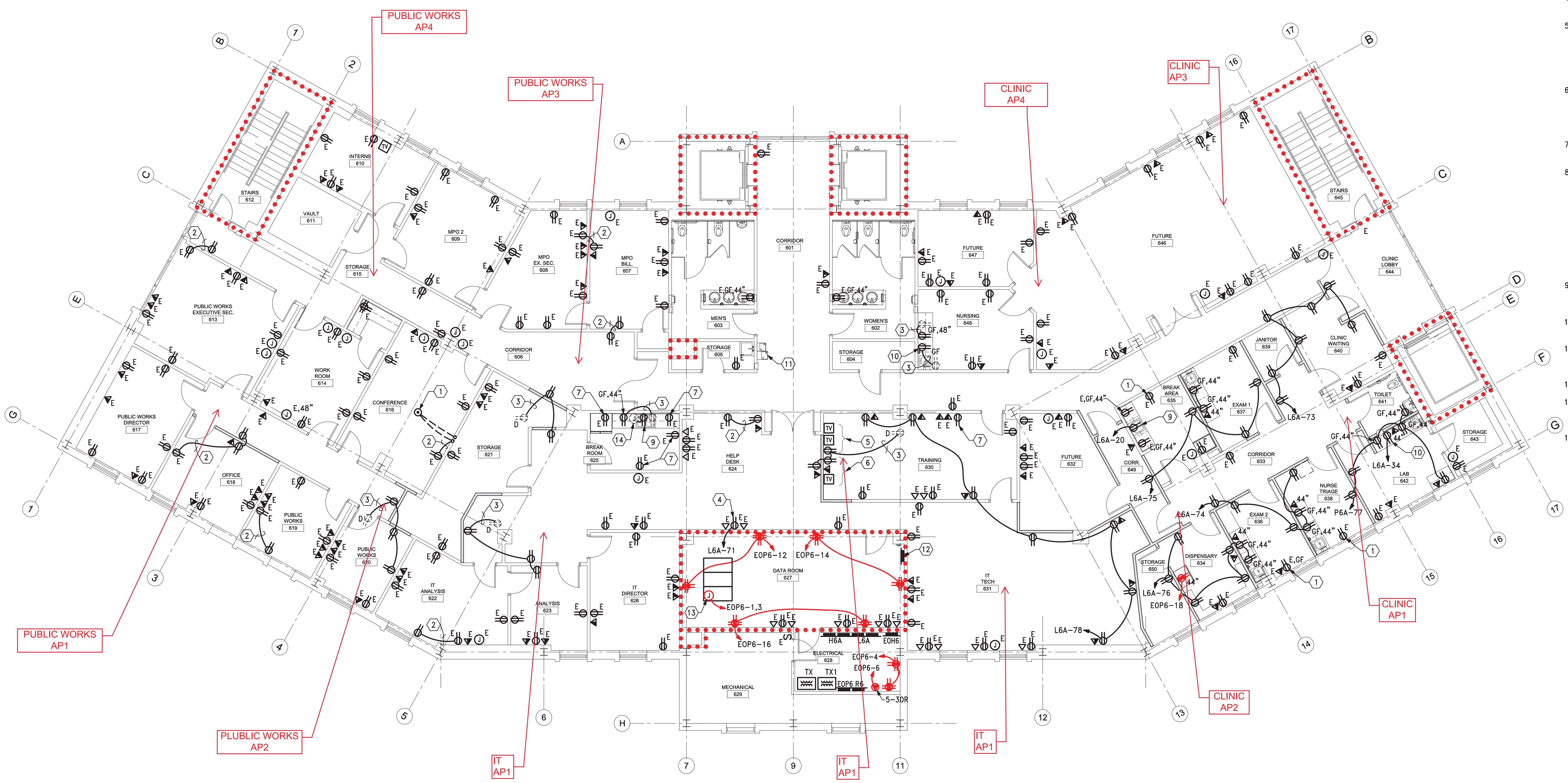
WALL LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE REMOVED
- NEW WALL CONSTRUCTION
- NEW PARTIAL HEIGHT WALL
- DENOTES 3-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FIRE SEPARATION WALL
- DENOTES 1-HR RATED FIRE SEPARATION WALL
- DENOTES NON-RATED SMOKE PARTITION



SIXTH FLOOR POWER PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

GENERAL NOTES

1. COORDINATE CEILING MOUNTED DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
2. ALL DEVICES SHALL BE TAMPER RESISTANT.
3. PROVIDE #1/0 AWG GROUND WIRE FROM THE MAIN SERVICE GROUNDING BUS TO THE TELEPHONE TERMINAL BOARD/SPACE LOCATED IN THE ELECTRICAL ROOM ON EACH FLOOR. PROVIDE 0.25" X 2" X 12" COPPER GROUNDING BUS BAR MOUNTED ON INSULATED STANDOFFS ANCHORED WITH STAINLESS STEEL BRACKETS EQUAL TO ERICO TGB–A12L06PT.
4. PROVIDE 2 – 1" CONDUIT SLEEVES ABOVE ALL DOORS TO ROOMS SHOWN WITH PHONE, DATA, TELEVISION, OR OTHER LOW VOLTAGE COMMUNICATIONS SYSTEMS. PROVIDE 3 – 3" CONDUIT SLEEVES INTO ROOM WITH THE TELEPHONE TERMINAL BOARD (TTB).
5. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL STRING.
6. ALL LOW VOLTAGE WIRING LOCATED ABOVE THE LAY–IN CEILINGS IN THE RETURN AIR PLENUM SHALL BE PLENUM RATED.
7. COORDINATE ACTUAL MOUNTING LOCATIONS OF ALL EQUIPMENT WITH CONTRACTOR PROVIDING THE EQUIPMENT.
8. PROVIDE FINAL CONNECTIONS TO ALL EQUIPMENT SUPPLIED BY OTHERS.
9. PROVIDE NEMA 3R RATED SAFETY SWITCHES WHERE LOCATED OUTDOORS.
10. PROVIDE MATCHING PLUG, PIGTAIL, AND CONNECTIONS TO EQUIPMENT FOR ALL SPECIAL PURPOSE RECEPTACLES.
11. CONTRACTOR SHALL VERIFY THAT NO MODIFIED CIRCUIT CARRIES MORE THAN 80% OF THE CIRCUIT BREAKER NAMEPLATE RATING.
12. CONTRACTOR SHALL CHANGE ALL EXISTING NON–GFI TYPE RECEPTACLES WITH–IN SIX FEET OF A SINK TO GFI TYPE RECEPTACLES.
13. ALTERNATE BID ITEM TO REPLACE ALL EXISTING RECEPTACLES, SWITCHES, AND PROVIDE BLANK PLATES ON ALL PHONE/DATA JACKS TO MATCH THE COLOR & STYLE OF THE NEW DEVICES.
14. ALL RUNS OF RACEWAY AND CONDUIT IN PATIENT CARE AREAS SHALL CONTAIN A REDUNDANT GROUND IN ACCORDANCE WITH NEC 517 PART II.

CODED NOTES

1. CHANGE EXISTING RECEPTACLE TO GROUND FAULT DEVICE.
2. EXTEND EXISTING CIRCUIT FROM EXISTING RECEPTACLE TO NEW RECEPTACLE.
3. EXTEND EXISTING CIRCUIT FROM DEMOLISHED RECEPTACLE TO NEW RECEPTACLE.
4. COPIER LOCATION, EXISTING RECEPTACLE SHALL BE REWIRED FOR A DEDICATED CIRCUIT.
5. PROVIDE WALL BOX AT 72" FOR A DUPLEX RECEPTACLE, HDMI, CATV, AND DATA JACKS MOUNTED BEHIND THE WALL MOUNTED TELEVISION. COORDINATE EXACT MOUNTING LOCATION AND HEIGHT WITH OWNER PRIOR TO ROUGH–IN. PROVIDE 2 – 1" CONDUITS TO ABOVE CEILING FOR LOW VOLTAGE WIRING. LEGRAND EVOLUTION SERIES 4 GANG WALL BOX #EFSB4 OR EQUAL.
6. PROVIDE WALL BOXES AT 18" FOR A DUPLEX RECEPTACLE, HDMI, AND DATA JACKS. PROVIDE 1" CONDUIT BETWEEN BOXES AND WALL BOX BEHIND THE TELEVISION FOR LOW VOLTAGE WIRING. DEVICES SHALL BE CENTERED ON THE WALL AND LOCATED DIRECTLY BELOW WALL BOX IN CODED NOTE #5.
7. CONTRACTOR SHALL CHANGE EXISTING SINGLE RECEPTACLE TO A DUPLEX RECEPTACLE.
8. PROVIDE POKE–THRU FLOOR BOX DUPLEX RECEPTACLE, HDMI(FUTURE), AND PHONE/DATA RECEPTACLES. COORDINATE EXACT MOUNTING LOCATION WITH OWNER. PROVIDE 2 – 1" CONDUITS IN THE CEILING SPACE ON THE FLOOR BELOW FROM POKE–THRU FLOOR BOX TO ABOVE ACCESSIBLE CEILING (ON THIS FLOOR) FOR LOW VOLTAGE WIRING. POWER SHALL BE IN A SEPARATE 3/4" CONDUIT. PROVIDE ALL ACCESSORIES AS NECESSARY FOR A COMPLETE INSTALLATION. HUBBELL PART NUMBERS AS FOLLOWS: (OR EQUAL)
   - 8.1. POKE–THRU: HUBBELL 6AT EVOLUTION SERIES
   - 8.2. COVER: HUBBELL 6CTC2BZ (SUITABLE FOR FLOORING TYPE)
   - 8.3. CAT6 JACKS: HUBBELL HXJ6BK
9. PROVIDE GROUND FAULT RECEPTACLE FOR SHELF MOUNTED MICROWAVE (ESTIMATED HEIGHT AT 66"). COORDINATE EXACT DEVICE PLACEMENT WITH ARCHITECTURAL CASEWORK ELEVATIONS.
10. PROVIDE GROUND FAULT RECEPTACLE FOR UNDER COUNTER REFRIGERATOR.
11. EXISTING WATER COOLER TO BE REPLACED. CONTRACTOR SHALL TRACE EXISTING WATER COOLER CIRCUIT AND PROVIDE A GROUND FAULT CIRCUIT BREAKER ON THE CIRCUIT.
12. GENERATOR REMOTE ANNUNCIATOR PANEL.
13. PROVIDE JUNCTION BOX FOR HARDWIRED RACK MOUNTED UPS. CIRCUIT TO BE FED FROM OVERHEAD. COORDINATE ROUTING OF CONDUIT ON THE SERVER RACK WITH THE IT DEPARTMENT.
14. EXTEND CIRCUIT FROM DEMOLISHED DISHWASHER TO SHELF MOUNTED MICROWAVE RECEPTACLE.

GRAPHIC SCALE 1/8" = 1'-0" (0 4' 8' 16' 24')

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BLASER ENG JOB# 18-142

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JAMES A. BLASER · STATE OF TENNESSEE

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E-26

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WALL LEGEND

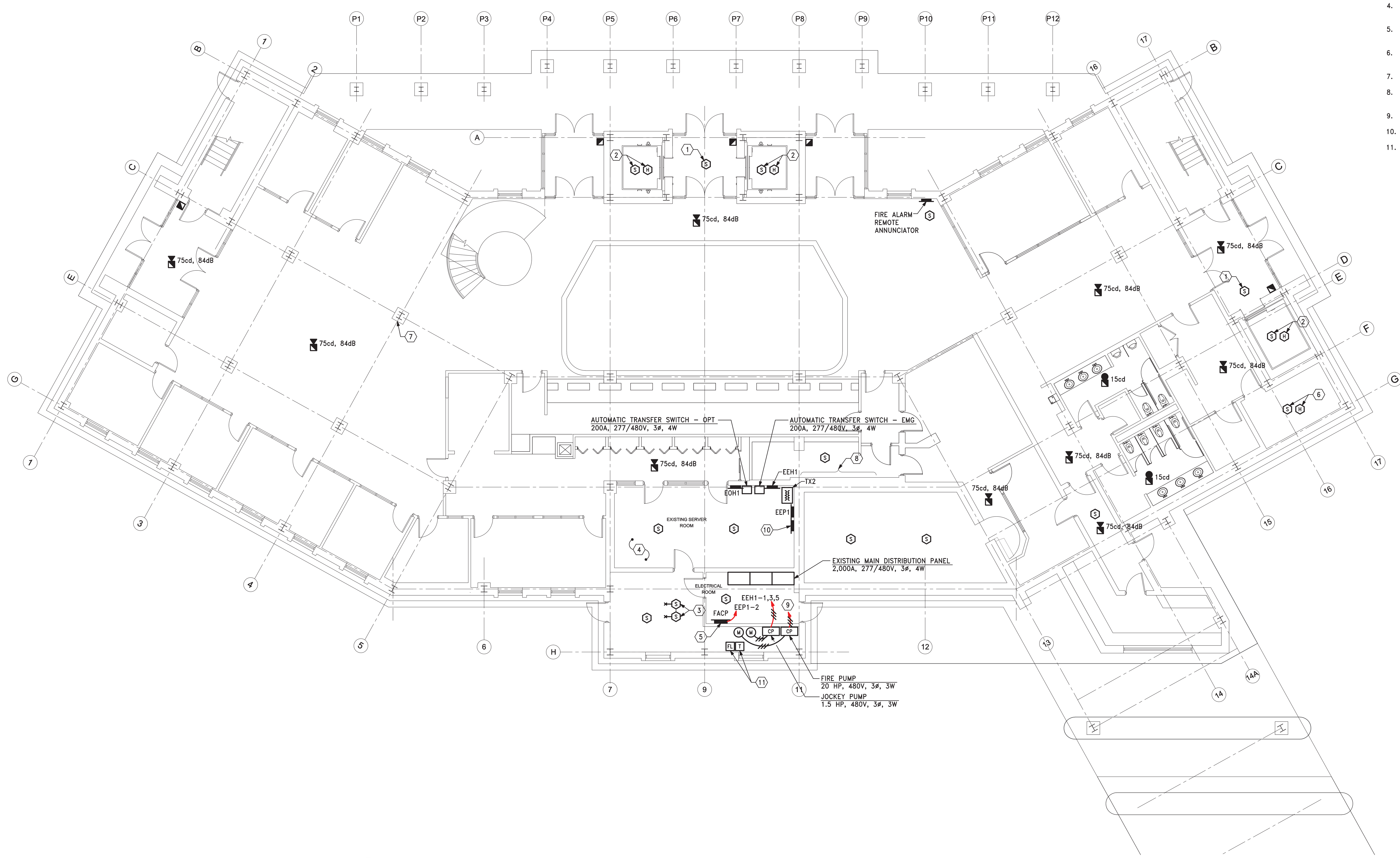
- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE REMOVED
- NEW WALL CONSTRUCTION
- NEW PARTIAL HEIGHT WALL
- DENOTES 3-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FIRE SEPARATION WALL
- DENOTES 1-HR RATED FIRE SEPARATION WALL
- DENOTES NON-RATED SMOKE PARTITION

GENERAL NOTES

1. COORDINATE CEILING MOUNTED DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
2. ALL DEVICES SHALL BE TAMPER RESISTANT.
3. PROVIDE #1/0 AWG GROUND WIRE FROM THE MAIN SERVICE GROUNDING BUS TO THE TELEPHONE TERMINAL BOARD/SPACE LOCATED IN THE ELECTRICAL ROOM ON EACH FLOOR. PROVIDE 0.25" X 2" X 12" COPPER GROUNDING BUS BAR MOUNTED ON INSULATED STANDOFFS ANCHORED WITH STAINLESS STEEL BRACKETS EQUAL TO ERICO TGB–A12L06PT.
4. PROVIDE 2 – 1" CONDUIT SLEEVES ABOVE ALL DOORS TO ROOMS SHOWN WITH PHONE, DATA, TELEVISION, OR OTHER LOW VOLTAGE COMMUNICATIONS SYSTEMS. PROVIDE 3 – 3" CONDUIT SLEEVES INTO ROOM WITH THE TELEPHONE TERMINAL BOARD (TTB).
5. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL STRING.
6. ALL LOW VOLTAGE WIRING LOCATED ABOVE THE LAY–IN CEILINGS IN THE RETURN AIR PLENUM SHALL BE PLENUM RATED.
7. COORDINATE ACTUAL MOUNTING LOCATIONS OF ALL EQUIPMENT WITH CONTRACTOR PROVIDING THE EQUIPMENT.
8. PROVIDE FINAL CONNECTIONS TO ALL EQUIPMENT SUPPLIED BY OTHERS.
9. PROVIDE NEMA 3R RATED SAFETY SWITCHES WHERE LOCATED OUTDOORS.
10. PROVIDE MATCHING PLUG, PIGTAIL, AND CONNECTIONS TO EQUIPMENT FOR ALL SPECIAL PURPOSE RECEPTACLES.
11. CONTRACTOR SHALL VERIFY THAT NO MODIFIED CIRCUIT CARRIES MORE THAN 80% OF THE CIRCUIT BREAKER NAMEPLATE RATING.
12. CONTRACTOR SHALL CHANGE ALL EXISTING NON–GFI TYPE RECEPTACLES WITH–IN SIX FEET OF A SINK TO GFI TYPE RECEPTACLES.
13. CONTRACTOR SHALL FIELD VERIFY SHUNT TRIP CAPABILITIES OF THE ELEVATOR CIRCUIT BREAKERS. IF EXISTING BREAKERS DON'T HAVE SHUNT TRIP CAPABILITIES, THE CIRCUIT BREAKER SHALL BE REPLACED WITH A SHUNT TRIP BREAKER OF THE SAME AMPACITY.

CODED NOTES

1. SMOKE DETECTOR SHALL BE TIED INTO THE FIRE ALARM CONTROL PANEL AND THE ELEVATOR RECALL SYSTEM.
2. PROVIDE SMOKE AND HEAT DETECTORS IN THE BOTTOM OF THE ELEVATOR SHAFT. TIE INTO THE ELEVATOR RECALL SYSTEM.
3. PROVIDE DUCT SMOKE DETECTORS ON THE SUPPLY AND RETURN DUCT FOR THE EXISTING AIR HANDLER LOCATED IN THIS ROOM.
4. DRY AGENT SUPPRESSION SYSTEM IN THIS ROOM SHALL BE MONITORED FOR ALARM AND TROUBLE CONDITIONS.
5. EXISTING FIRE ALARM CONTROL PANEL TO BE REPLACED WITH NEW FIRE ALARM SYSTEM.
6. PROVIDE SMOKE AND HEAT DETECTORS IN THE ELEVATOR MACHINE ROOM. TIE INTO THE ELEVATOR RECALL SYSTEM.
7. EXISTING REMOTE ANNUNCIATOR TO BE REMOVED.
8. LOCATION OF EXISTING ELECTRICAL PANELS INCLUDING H1A, L1A, H1E AND L1E.
9. SEE ONE–LINE DIAGRAM FOR FEEDER AND PANEL INFORMATION.
10. GENERATOR REMOTE ANNUNCIATOR PANEL.
11. FIELD VERIFY QUANTITIES.



NOTE

1. EXTERIOR EMERGENCY LIGHTING SHALL BE PROVIDED AT ALL GROUND LEVEL EXITS AS PART OF THE PHASE 2 BUILDING RENOVATION PROJECT.

FIRST FLOOR SYSTEMS PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

GRAPHIC SCALE 1/8" = 1'-0" (0, 4', 8', 16', 24')

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JAMES A. BLASER · STATE OF TENNESSEE

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drawn	J BLASER
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drawing name	FIRST FLOOR SYSTEMS PLAN

E-31

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WALL LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE REMOVED
- NEW WALL CONSTRUCTION
- NEW PARTIAL HEIGHT WALL
- DENOTES 3-HR RATED FREE STANDING FIRE WALL
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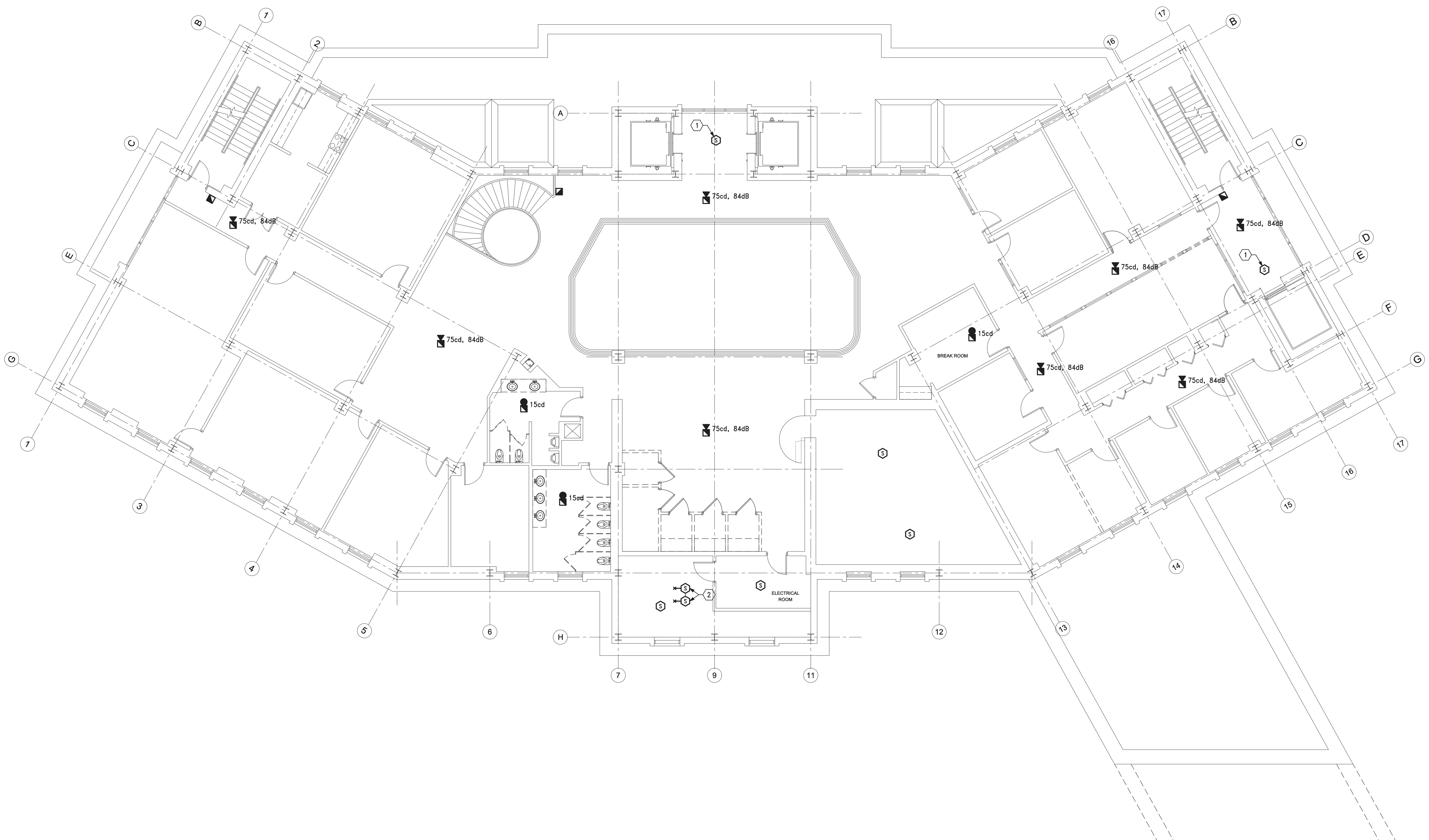
- DENOTES 2-HR RATED FIRE SEPARATION WALL
- DENOTES 1-HR RATED FIRE SEPARATION WALL
- DENOTES NON-RATED SMOKE PARTITION

GENERAL NOTES

1. COORDINATE CEILING MOUNTED DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
2. ALL DEVICES SHALL BE TAMPER RESISTANT.
3. PROVIDE #1/0 AWG GROUND WIRE FROM THE MAIN SERVICE GROUNDING BUS TO THE TELEPHONE TERMINAL BOARD/SPACE LOCATED IN THE ELECTRICAL ROOM ON EACH FLOOR. PROVIDE 0.25" X 2" X 12" COPPER GROUNDING BUS BAR MOUNTED ON INSULATED STANDOFFS ANCHORED WITH STAINLESS STEEL BRACKETS EQUAL TO ERICO TGB-A12L06PT.
4. PROVIDE 2 - 1" CONDUIT SLEEVES ABOVE ALL DOORS TO ROOMS SHOWN WITH PHONE, DATA, TELEVISION, OR OTHER LOW VOLTAGE COMMUNICATIONS SYSTEMS. PROVIDE 3 - 3" CONDUIT SLEEVES INTO ROOM WITH THE TELEPHONE TERMINAL BOARD (TTB).
5. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL STRING.
6. ALL LOW VOLTAGE WIRING LOCATED ABOVE THE LAY-IN CEILINGS IN THE RETURN AIR PLENUM SHALL BE PLENUM RATED.
7. COORDINATE ACTUAL MOUNTING LOCATIONS OF ALL EQUIPMENT WITH CONTRACTOR PROVIDING THE EQUIPMENT.
8. PROVIDE FINAL CONNECTIONS TO ALL EQUIPMENT SUPPLIED BY OTHERS.
9. PROVIDE NEMA 3R RATED SAFETY SWITCHES WHERE LOCATED OUTDOORS.
10. PROVIDE MATCHING PLUG, PIGTAIL, AND CONNECTIONS TO EQUIPMENT FOR ALL SPECIAL PURPOSE RECEPTACLES.
11. CONTRACTOR SHALL VERIFY THAT NO MODIFIED CIRCUIT CARRIES MORE THAN 80% OF THE CIRCUIT BREAKER NAMEPLATE RATING.
12. CONTRACTOR SHALL CHANGE ALL EXISTING NON-GFI TYPE RECEPTACLES WITH-IN SIX FEET OF A SINK TO GFI TYPE RECEPTACLES.
13. CONTRACTOR SHALL FIELD VERIFY SHUNT TRIP CAPABILITIES OF THE ELEVATOR CIRCUIT BREAKERS. IF EXISTING BREAKERS DON'T HAVE SHUNT TRIP CAPABILITIES, THE CIRCUIT BREAKER SHALL BE REPLACED WITH A SHUNT TRIP BREAKER OF THE SAME AMPACITY.

CODED NOTES

1. SMOKE DETECTOR SHALL BE TIED INTO THE FIRE ALARM CONTROL PANEL AND THE ELEVATOR RECALL SYSTEM.
2. PROVIDE DUCT SMOKE DETECTORS ON THE SUPPLY AND RETURN DUCT FOR THE EXISTING AIR HANDLER LOCATED IN THIS ROOM.



SECOND FLOOR SYSTEMS PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

GRAPHIC SCALE
1/8" = 1'-0"

Blaser Engineering
342 Moore Street
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BLASER ENG JOB# 18-142

no.	date	revision	by

Building Improvements for:
City Hall Relocation-Ph. I
Kingsport, TN

KINGSPORT TENNESSEE

Architectural Services
Cain Rash West Architects
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JAMES A. BLASER — STATE OF TENNESSEE

issued	05-24-19
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drawn	J BLASER
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drawing name	SECOND FLOOR SYSTEMS PLAN

E-32

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WALL LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE REMOVED
- NEW WALL CONSTRUCTION
- NEW PARTIAL HEIGHT WALL
- DENOTES 3-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FIRE SEPARATION WALL
- DENOTES 1-HR RATED FIRE SEPARATION WALL
- DENOTES NON-RATED SMOKE PARTITION

GENERAL NOTES

1. COORDINATE CEILING MOUNTED DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
2. ALL DEVICES SHALL BE TAMPER RESISTANT.
3. PROVIDE #1/0 AWG GROUND WIRE FROM THE MAIN SERVICE GROUNDING BUS TO THE TELEPHONE TERMINAL BOARD/SPACE LOCATED IN THE ELECTRICAL ROOM ON EACH FLOOR. PROVIDE 0.25" X 2" X 12" COPPER GROUNDING BUS BAR MOUNTED ON INSULATED STANDOFFS ANCHORED WITH STAINLESS STEEL BRACKETS EQUAL TO ERICO TGB-A12L06PT.
4. PROVIDE 2 – 1" CONDUIT SLEEVES ABOVE ALL DOORS TO ROOMS SHOWN WITH PHONE, DATA, TELEVISION, OR OTHER LOW VOLTAGE COMMUNICATIONS SYSTEMS. PROVIDE 3 – 3" CONDUIT SLEEVES INTO ROOM WITH THE TELEPHONE TERMINAL BOARD (TTB).
5. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL STRING.
6. ALL LOW VOLTAGE WIRING LOCATED ABOVE THE LAY-IN CEILINGS IN THE RETURN AIR PLENUM SHALL BE PLENUM RATED.
7. COORDINATE ACTUAL MOUNTING LOCATIONS OF ALL EQUIPMENT WITH CONTRACTOR PROVIDING THE EQUIPMENT.
8. PROVIDE FINAL CONNECTIONS TO ALL EQUIPMENT SUPPLIED BY OTHERS.
9. PROVIDE NEMA 3R RATED SAFETY SWITCHES WHERE LOCATED OUTDOORS.
10. PROVIDE MATCHING PLUG, PIGTAIL, AND CONNECTIONS TO EQUIPMENT FOR ALL SPECIAL PURPOSE RECEPTACLES.
11. CONTRACTOR SHALL VERIFY THAT NO MODIFIED CIRCUIT CARRIES MORE THAN 80% OF THE CIRCUIT BREAKER NAMEPLATE RATING.
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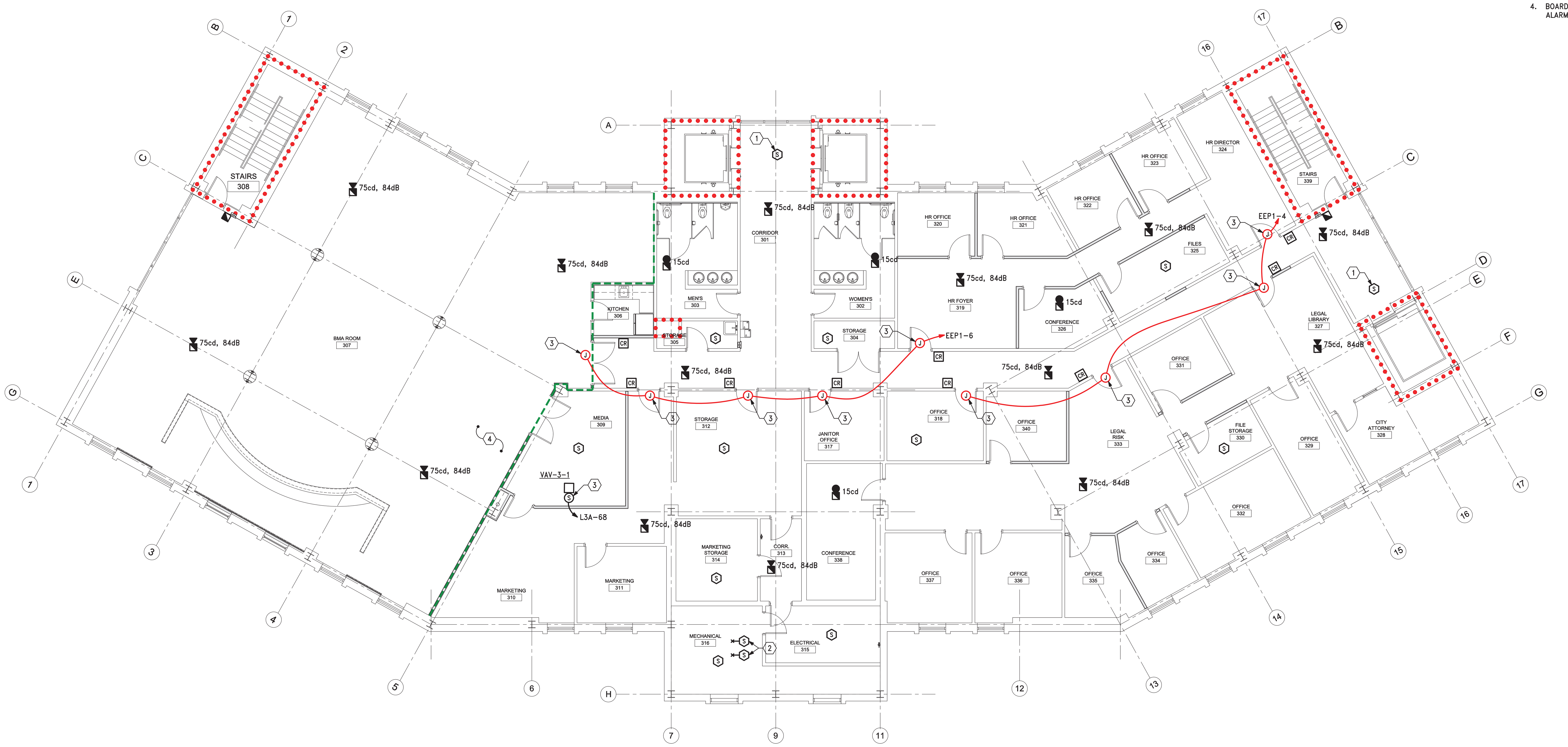
13. CONTRACTOR SHALL FIELD VERIFY SHUNT TRIP CAPABILITIES OF THE ELEVATOR CIRCUIT BREAKERS. IF EXISTING BREAKERS DON'T HAVE SHUNT TRIP CAPABILITIES, THE CIRCUIT BREAKER SHALL BE REPLACED WITH A SHUNT TRIP BREAKER OF THE SAME AMPACITY.

CODED NOTES

1. SMOKE DETECTOR SHALL BE TIED INTO THE FIRE ALARM CONTROL PANEL AND THE ELEVATOR RECALL SYSTEM.
2. PROVIDE DUCT SMOKE DETECTORS ON THE SUPPLY AND RETURN DUCT FOR THE EXISTING AIR HANDLER LOCATED IN THIS ROOM.
3. PROVIDE POWER CONNECTION TO DOOR SECURITY POWER SUPPLY. POWER SUPPLY SHALL INTERFACE WITH THE FIRE ALARM SYSTEM TO RELEASE THE DOOR UPON A FIRE ALARM. PROVIDE 3/4" CONDUIT AND WIRING FROM POWER SUPPLY THE CARD READER AND DOOR STRIKE.
4. BOARD ROOM SOUND SYSTEM SHALL BE SHUNT TRIPPED BY THE FIRE ALARM SYSTEM IN THE EVENT OF AN ALARM.



THIRD FLOOR SYSTEMS PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

GRAPHIC SCALE 1/8" = 1'-0"

0' 4' 8' 16' 24'

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BLASER ENG JOB# 18-142

no.	date	revision	by

Building Improvements for:
City Hall Relocation-Ph. I
Kingsport, TN

KINGSPORT TENNESSEE

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JAMES A. BLASER, STATE OF TENNESSEE

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E-33

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WALL LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE REMOVED
- NEW WALL CONSTRUCTION
- NEW PARTIAL HEIGHT WALL
- DENOTES 3-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FIRE SEPARATION WALL
- DENOTES 1-HR RATED FIRE SEPARATION WALL
- DENOTES NON-RATED SMOKE PARTITION

GENERAL NOTES

1. COORDINATE CEILING MOUNTED DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
2. ALL DEVICES SHALL BE TAMPER RESISTANT.
3. PROVIDE #1/0 AWG GROUND WIRE FROM THE MAIN SERVICE GROUNDING BUS TO THE TELEPHONE TERMINAL BOARD/SPACE LOCATED IN THE ELECTRICAL ROOM ON EACH FLOOR. PROVIDE 0.25" X 2" X 12" COPPER GROUNDING BUS BAR MOUNTED ON INSULATED STANDOFFS ANCHORED WITH STAINLESS STEEL BRACKETS EQUAL TO ERICO TGB–A12L06PT.
4. PROVIDE 2 – 1" CONDUIT SLEEVES ABOVE ALL DOORS TO ROOMS SHOWN WITH PHONE, DATA, TELEVISION, OR OTHER LOW VOLTAGE COMMUNICATIONS SYSTEMS. PROVIDE 3 – 3" CONDUIT SLEEVES INTO ROOM WITH THE TELEPHONE TERMINAL BOARD (TTB).
5. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL STRING.
6. ALL LOW VOLTAGE WIRING LOCATED ABOVE THE LAY–IN CEILINGS IN THE RETURN AIR PLENUM SHALL BE PLENUM RATED.
7. COORDINATE ACTUAL MOUNTING LOCATIONS OF ALL EQUIPMENT WITH CONTRACTOR PROVIDING THE EQUIPMENT.
8. PROVIDE FINAL CONNECTIONS TO ALL EQUIPMENT SUPPLIED BY OTHERS.
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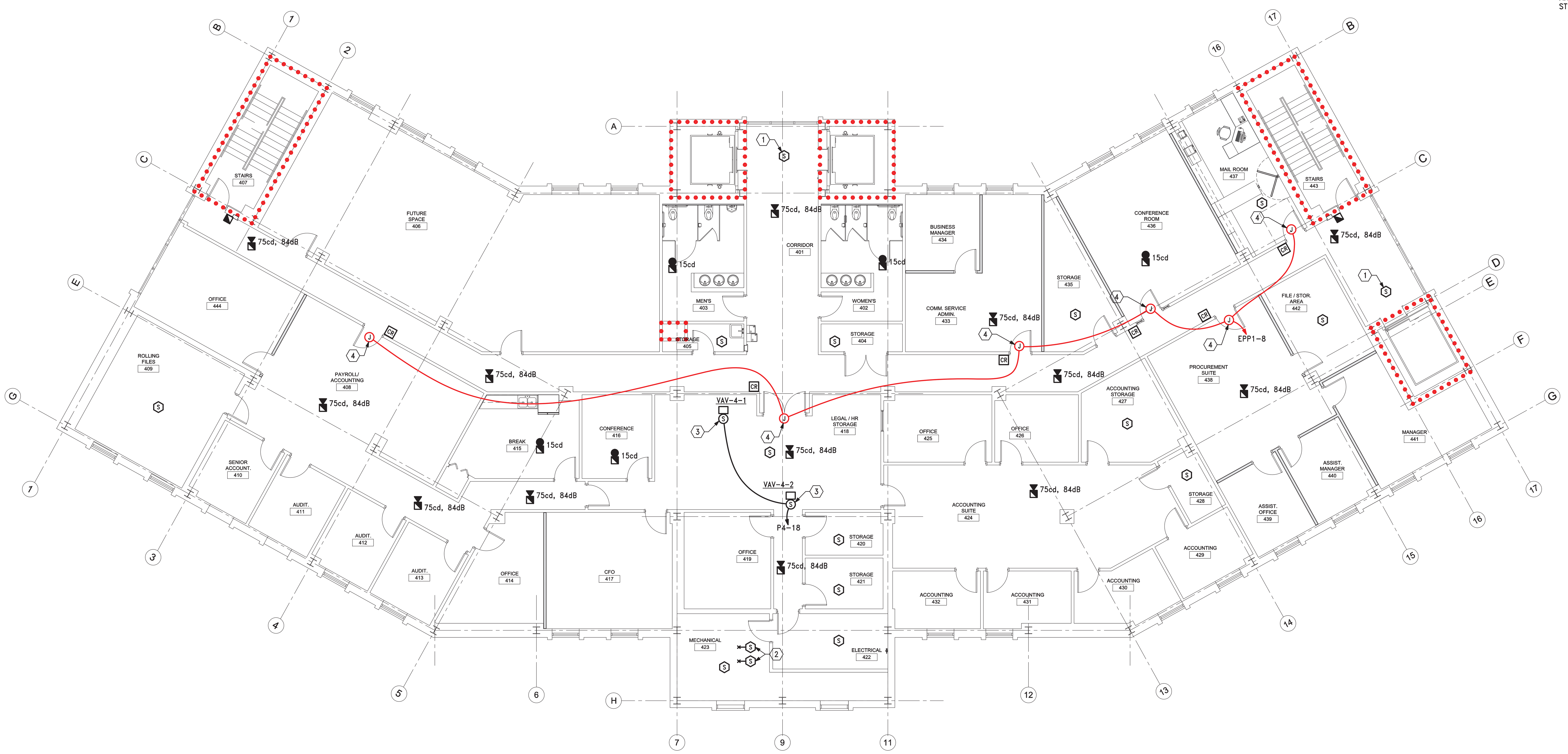
13. CONTRACTOR SHALL FIELD VERIFY SHUNT TRIP CAPABILITIES OF THE ELEVATOR CIRCUIT BREAKERS. IF EXISTING BREAKERS DON'T HAVE SHUNT TRIP CAPABILITIES, THE CIRCUIT BREAKER SHALL BE REPLACED WITH A SHUNT TRIP BREAKER OF THE SAME AMPACITY.

CODED NOTES

1. SMOKE DETECTOR SHALL BE TIED INTO THE FIRE ALARM CONTROL PANEL AND THE ELEVATOR RECALL SYSTEM.
2. PROVIDE DUCT SMOKE DETECTORS ON THE SUPPLY AND RETURN DUCT FOR THE EXISTING AIR HANDLER LOCATED IN THIS ROOM.
3. PROVIDE POWER CONNECTION TO VAV BOX CONTROL TRANSFORMER.
4. PROVIDE POWER CONNECTION TO DOOR SECURITY POWER SUPPLY. POWER SUPPLY SHALL INTERFACE WITH THE FIRE ALARM SYSTEM TO RELEASE THE DOOR UPON A FIRE ALARM. PROVIDE 3/4" CONDUIT AND WIRING FROM POWER SUPPLY THE CARD READER AND DOOR STRIKE.



FOURTH FLOOR SYSTEMS PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

GRAPHIC SCALE
1/8" = 1'-0"

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BLASER ENG JOB# 18-142

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Kingsport, TN

KINGSPORT TENNESSEE

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E-34

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WALL LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE REMOVED
- NEW WALL CONSTRUCTION
- NEW PARTIAL HEIGHT WALL
- DENOTES 3-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FIRE SEPARATION WALL
- DENOTES 1-HR RATED FIRE SEPARATION WALL
- DENOTES NON-RATED SMOKE PARTITION

GENERAL NOTES

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3. PROVIDE #1/0 AWG GROUND WIRE FROM THE MAIN SERVICE GROUNDING BUS TO THE TELEPHONE TERMINAL BOARD/SPACE LOCATED IN THE ELECTRICAL ROOM ON EACH FLOOR. PROVIDE 0.25" X 2" X 12" COPPER GROUNDING BUS BAR MOUNTED ON INSULATED STANDOFFS ANCHORED WITH STAINLESS STEEL BRACKETS EQUAL TO ERICO TGB-A12L06PT.
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5. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL STRING.
6. ALL LOW VOLTAGE WIRING LOCATED ABOVE THE LAY-IN CEILINGS IN THE RETURN AIR PLENUM SHALL BE PLENUM RATED.
7. COORDINATE ACTUAL MOUNTING LOCATIONS OF ALL EQUIPMENT WITH CONTRACTOR PROVIDING THE EQUIPMENT.
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9. PROVIDE NEMA 3R RATED SAFETY SWITCHES WHERE LOCATED OUTDOORS.
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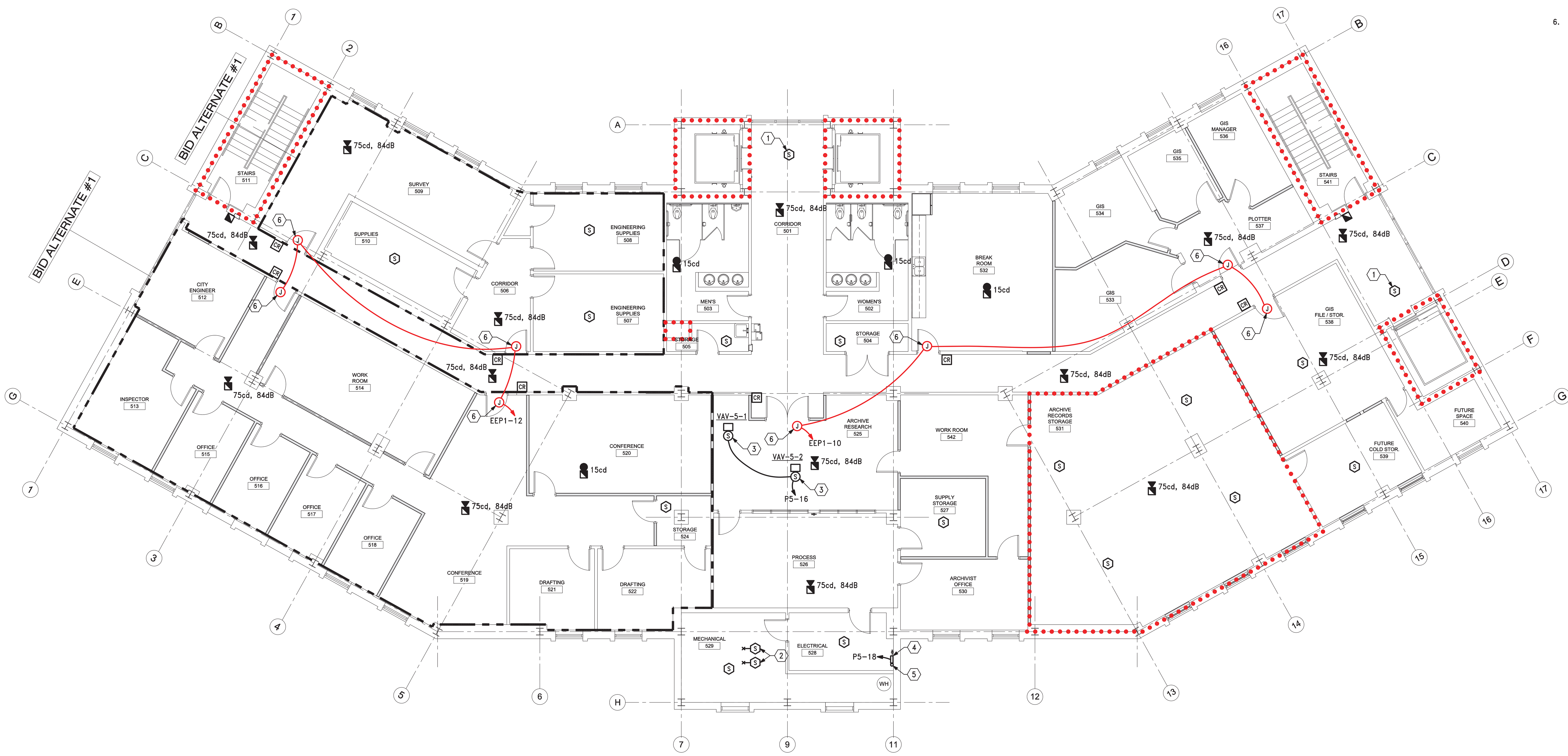
CODED NOTES

1. SMOKE DETECTOR SHALL BE TIED INTO THE FIRE ALARM CONTROL PANEL AND THE ELEVATOR RECALL SYSTEM.
2. PROVIDE DUCT SMOKE DETECTORS ON THE SUPPLY AND RETURN DUCT FOR THE EXISTING AIR HANDLER LOCATED IN THIS ROOM.
3. PROVIDE POWER CONNECTION TO VAV BOX CONTROL TRANSFORMER.
4. PROVIDE POWER AND DATA CONNECTION TO SURVEY ANTENNA RECEIVER.
5. PROVIDE 2" CONDUIT THROUGH THE ROOF OF THE MECHANICAL PENTHOUSE FOR THE SURVEY ANTENNA.
6. PROVIDE POWER CONNECTION TO DOOR SECURITY POWER SUPPLY. POWER SUPPLY SHALL INTERFACE WITH THE FIRE ALARM SYSTEM TO RELEASE THE DOOR UPON A FIRE ALARM. PROVIDE 3/4" CONDUIT AND WIRING FROM POWER SUPPLY THE CARD READER AND DOOR STRIKE.



FIFTH FLOOR SYSTEMS PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

GRAPHIC SCALE 1/8" = 1'-0"

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BLASER ENG JOB# 18-142

no.	date	revision	by

Building Improvements for:
City Hall Relocation-Ph. I
Kingsport, TN

KINGSPORT TENNESSEE

Architectural Services

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issued	05-24-19
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approved	J BLASER
drawn	J BLASER
project no.	2018-27
drawing name	FIFTH FLOOR SYSTEMS PLAN

E-35

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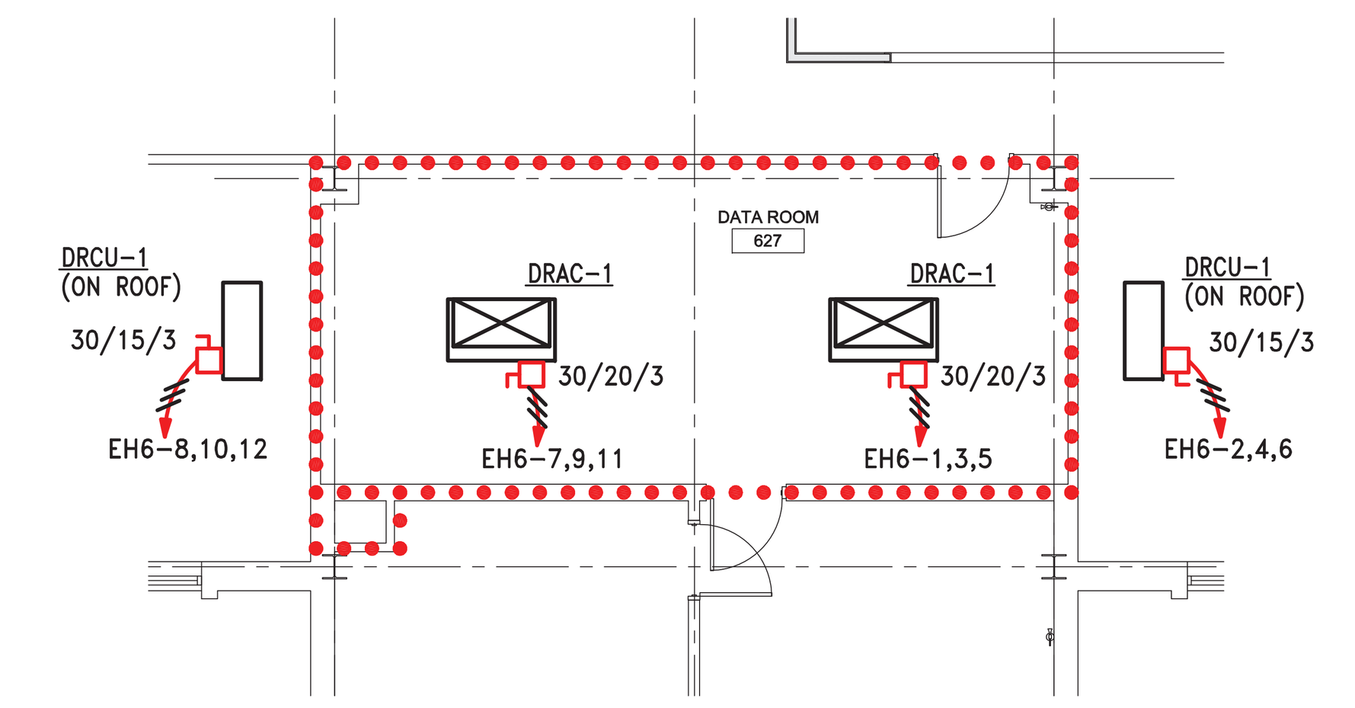
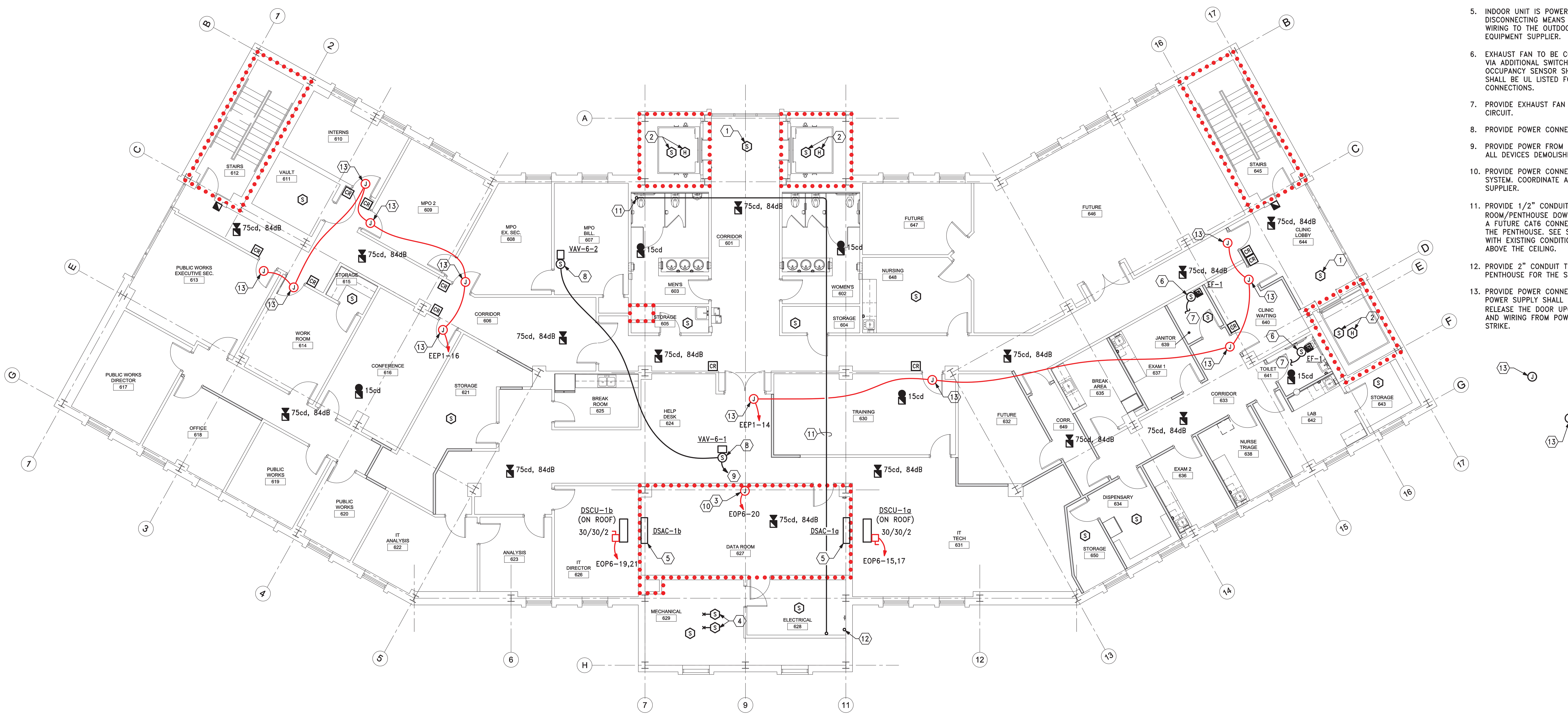


DATA ROOM MECHANICAL BID ALTERNATE

SCALE: 1/8" = 1'-0"



SIXTH FLOOR SYSTEMS PLAN

SCALE: 1/8" = 1'-0"

WALL LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE REMOVED
- NEW WALL CONSTRUCTION
- NEW PARTIAL HEIGHT WALL
- DENOTES 3-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FREE STANDING FIRE WALL
- DENOTES 2-HR RATED FIRE SEPARATION WALL
- DENOTES 1-HR RATED FIRE SEPARATION WALL
- DENOTES NON-RATED SMOKE PARTITION

GENERAL NOTES

1. COORDINATE CEILING MOUNTED DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
2. ALL DEVICES SHALL BE TAMPER RESISTANT.
3. PROVIDE #1/0 AWG GROUND WIRE FROM THE MAIN SERVICE GROUNDING BUS TO THE TELEPHONE TERMINAL BOARD/SPACE LOCATED IN THE ELECTRICAL ROOM ON EACH FLOOR. PROVIDE 0.25" X 2" X 12" COPPER GROUNDING BUS BAR MOUNTED ON INSULATED STANDOFFS ANCHORED WITH STAINLESS STEEL BRACKETS EQUAL TO ERICO TGB-A12L06PT.
4. PROVIDE 2 - 1" CONDUIT SLEEVES ABOVE ALL DOORS TO ROOMS SHOWN WITH PHONE, DATA, TELEVISION, OR OTHER LOW VOLTAGE COMMUNICATIONS SYSTEMS. PROVIDE 3 - 3" CONDUIT SLEEVES INTO ROOM WITH THE TELEPHONE TERMINAL BOARD (TTB).
5. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL STRING.
6. ALL LOW VOLTAGE WIRING LOCATED ABOVE THE LAY-IN CEILINGS IN THE RETURN AIR PLENUM SHALL BE PLENUM RATED.
7. COORDINATE ACTUAL MOUNTING LOCATIONS OF ALL EQUIPMENT WITH CONTRACTOR PROVIDING THE EQUIPMENT.
8. PROVIDE FINAL CONNECTIONS TO ALL EQUIPMENT SUPPLIED BY OTHERS.
9. PROVIDE NEMA 3R RATED SAFETY SWITCHES WHERE LOCATED OUTDOORS.
10. PROVIDE MATCHING PLUG, PIGTAIL, AND CONNECTIONS TO EQUIPMENT FOR ALL SPECIAL PURPOSE RECEPTACLES.
11. CONTRACTOR SHALL VERIFY THAT NO MODIFIED CIRCUIT CARRIES MORE THAN 80% OF THE CIRCUIT BREAKER NAMEPLATE RATING.
12. CONTRACTOR SHALL CHANGE ALL EXISTING NON-GFI TYPE RECEPTACLES WITH-IN SIX FEET OF A SINK TO GFI TYPE RECEPTACLES.
13. CONTRACTOR SHALL FIELD VERIFY SHUNT TRIP CAPABILITIES OF THE ELEVATOR CIRCUIT BREAKERS. IF EXISTING BREAKERS DON'T HAVE SHUNT TRIP CAPABILITIES, THE CIRCUIT BREAKER SHALL BE REPLACED WITH A SHUNT TRIP BREAKER OF THE SAME AMPACITY.

CODED NOTES

1. SMOKE DETECTOR SHALL BE TIED INTO THE FIRE ALARM CONTROL PANEL AND THE ELEVATOR RECALL SYSTEM.
2. PROVIDE SMOKE AND HEAT DETECTORS IN THE TOP OF THE ELEVATOR SHAFT. TIE INTO THE ELEVATOR RECALL SYSTEM.
3. DRY AGENT SUPPRESSION SYSTEM IN THIS ROOM SHALL BE MONITORED BY THE FIRE ALARM SYSTEM FOR ALARM AND TROUBLE CONDITIONS.
4. PROVIDE DUCT SMOKE DETECTORS ON THE SUPPLY AND RETURN DUCT FOR THE EXISTING AIR HANDLER LOCATED IN THIS ROOM.
5. INDOOR UNIT IS POWERED FROM THE OUTDOOR UNIT. PROVIDE LOCAL DISCONNECTING MEANS AT THE INDOOR UNIT, AND INTERCONNECTING WIRING TO THE OUTDOOR UNIT. COORDINATE REQUIREMENTS WITH EQUIPMENT SUPPLIER.
6. EXHAUST FAN TO BE CONTROLLED BY ROOM OCCUPANCY SENSOR(S) VIA ADDITIONAL SWITCHPACK, OR BY DUAL POLE WALL MOUNTED OCCUPANCY SENSOR SHARED WITH LIGHTING CONTROLS. DEVICE SHALL BE UL LISTED FOR 277 VOLT LIGHTING AND 120 VOLT FAN CONNECTIONS.
7. PROVIDE EXHAUST FAN POWER FROM NEAREST GENERAL RECEPTACLE CIRCUIT.
8. PROVIDE POWER CONNECTION TO VAV BOX CONTROL TRANSFORMER.
9. PROVIDE POWER FROM EXISTING CIRCUIT SERVING THIS AREA WITH ALL DEVICES DEMOLISHED.
10. PROVIDE POWER CONNECTION TO DRY AGENT FIRE SUPPRESSION SYSTEM. COORDINATE ADDITIONAL REQUIREMENTS WITH SYSTEM SUPPLIER.
11. PROVIDE 1/2" CONDUIT FROM THE ROOF OF THE ELEVATOR MACHINE ROOM/PENTHOUSE DOWN TO THE 6TH FLOOR ELECTRICAL ROOM FOR A FUTURE CAT6 CONNECTION TO A WEATHERCAM ON THE ROOF OF THE PENTHOUSE. SEE SHEET E-37 FOR CONTINUATION. COORDINATE WITH EXISTING CONDITIONS FOR THE BEST ROUTING OF THE CONDUIT ABOVE THE CEILING.
12. PROVIDE 2" CONDUIT THROUGH THE ROOF OF THE MECHANICAL PENTHOUSE FOR THE SURVEY ANTENNA.
13. PROVIDE POWER CONNECTION TO DOOR SECURITY POWER SUPPLY. POWER SUPPLY SHALL INTERFACE WITH THE FIRE ALARM SYSTEM TO RELEASE THE DOOR UPON A FIRE ALARM. PROVIDE 3/4" CONDUIT AND WIRING FROM POWER SUPPLY THE CARD READER AND DOOR STRIKE.

0 4' 8' 16' 24'
GRAPHIC SCALE
1/8" = 1'-0"

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JAMES A. BLASER — STATE OF TENNESSEE

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E-36

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WALL LEGEND

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- DENOTES 3-HR RATED FREE STANDING FIRE WALL
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GENERAL NOTES

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3. PROVIDE #1/0 AWG GROUND WIRE FROM THE MAIN SERVICE GROUNDING BUS TO THE TELEPHONE TERMINAL BOARD/SPACE LOCATED IN THE ELECTRICAL ROOM ON EACH FLOOR. PROVIDE 0.25" X 2" X 12" COPPER GROUNDING BUS BAR MOUNTED ON INSULATED STANDOFFS ANCHORED WITH STAINLESS STEEL BRACKETS EQUAL TO ERICO TGB-A12L06PT.
4. PROVIDE 2 – 1" CONDUIT SLEEVES ABOVE ALL DOORS TO ROOMS SHOWN WITH PHONE, DATA, TELEVISION, OR OTHER LOW VOLTAGE COMMUNICATIONS SYSTEMS. PROVIDE 3 – 3" CONDUIT SLEEVES INTO ROOM WITH THE TELEPHONE TERMINAL BOARD (TTB).
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6. ALL LOW VOLTAGE WIRING LOCATED ABOVE THE LAY-IN CEILINGS IN THE RETURN AIR PLENUM SHALL BE PLENUM RATED.
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8. PROVIDE FINAL CONNECTIONS TO ALL EQUIPMENT SUPPLIED BY OTHERS.
9. PROVIDE NEMA 3R RATED SAFETY SWITCHES WHERE LOCATED OUTDOORS.
10. PROVIDE MATCHING PLUG, PIGTAIL, AND CONNECTIONS TO EQUIPMENT FOR ALL SPECIAL PURPOSE RECEPTACLES.
11. CONTRACTOR SHALL VERIFY THAT NO MODIFIED CIRCUIT CARRIES MORE THAN 80% OF THE CIRCUIT BREAKER NAMEPLATE RATING.
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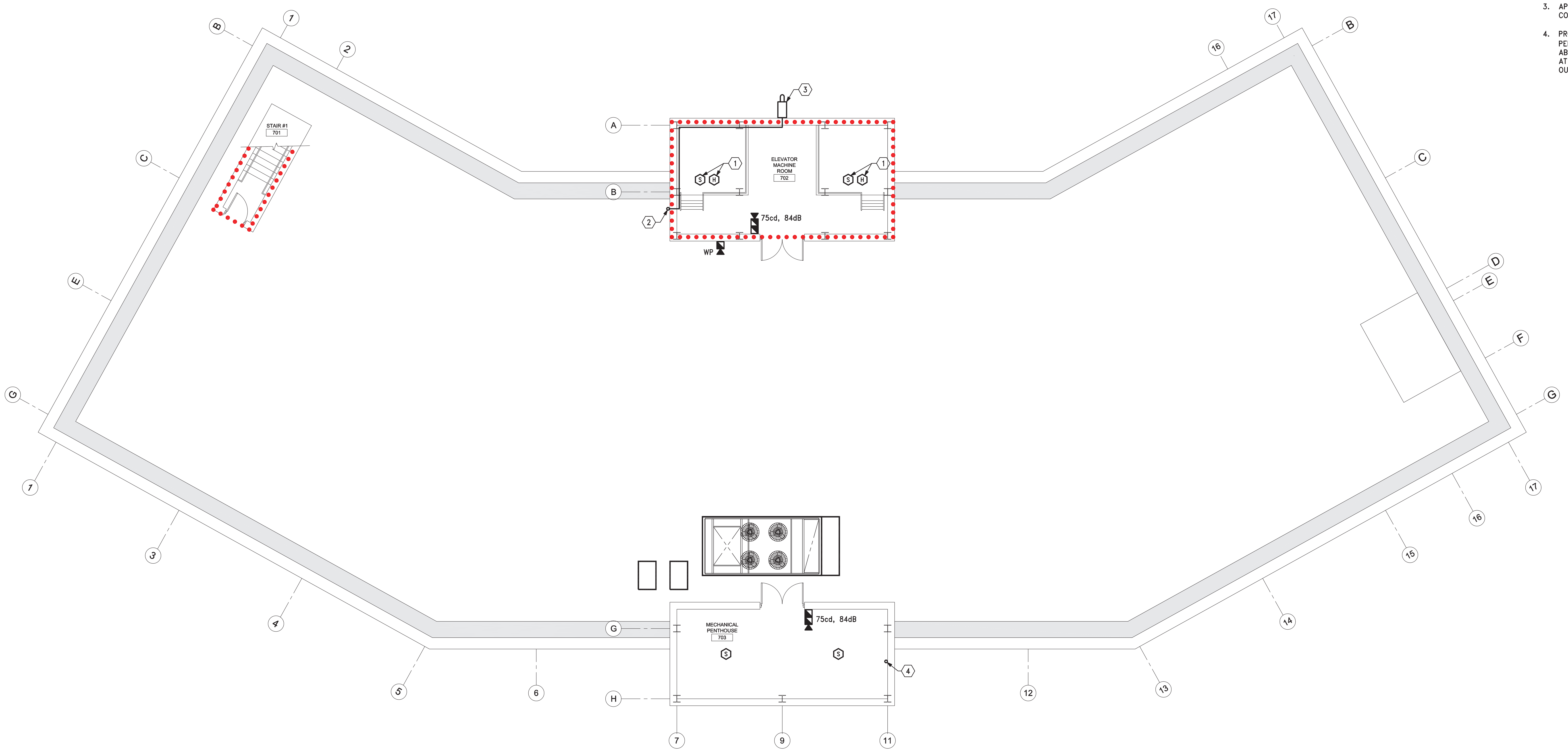
CODED NOTES

1. PROVIDE SMOKE AND HEAT DETECTORS IN THE ELEVATOR MACHINE ROOM. TIE INTO THE ELEVATOR RECALL SYSTEM.
2. PROVIDE 1/2" WEATHERPROOF CONDUIT FROM THE ROOF OF THE ELEVATOR MACHINE ROOM/PENTHOUSE DOWN TO THE 6TH FLOOR ELECTRICAL ROOM FOR A FUTURE CAT6 CONNECTION TO A WEATHERCAM ON THE ROOF OF THE PENTHOUSE. CONDUIT SHALL NOT BE RUN INSIDE THE ELEVATOR MACHINE ROOM. COORDINATE WITH EXISTING CONDITIONS FOR THE BEST ROUTING OF THE CONDUIT. PROVIDE RACEWAY SEALING PER NEC 300.7 AT THE TRANSITION FROM THE INSIDE OF THE BUILDING TO THE OUTSIDE.
3. APPROXIMATE LOCATION OF FUTURE ROOF MOUNTED WEATHERCAM. COORDINATE EXACT LOCATION WITH THE OWNER.
4. PROVIDE 2" CONDUIT THROUGH THE ROOF OF THE MECHANICAL PENTHOUSE FOR THE SURVEY ANTENNA. PROVIDE WEATHERHEAD 18" ABOVE THE ROOF AND PROVIDE RACEWAY SEALING PER NEC 300.7 AT THE TRANSITION FROM THE INSIDE OF THE BUILDING TO THE OUTSIDE.



ROOF & MECHANICAL PENTHOUSE SYSTEMS PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

GRAPHIC SCALE 1/8" = 1'-0"

Blaser Engineering
342 Moore Street
Bristol, VA 24201
Phone: (423) 349-8380

BLASER ENG JOB# 18-142

no.	date	revision	by

Building Improvements for:
City Hall Relocation-Ph. I
Kingsport, TN

KINGSPORT TENNESSEE

Architectural Services
Cain Rash West Architects

130 Regional Park Dr.
Kingsport, TN 37660
Phn (423) 349-7760
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JAMES A. BLASER — STATE OF TENNESSEE

issued	05-24-19
checked	J BLASER
approved	J BLASER
drawn	J BLASER
project no.	2018-27
drawing name	ROOF & MECHANICAL PENTHOUSE PLAN

E-37

plotted: 5/29/2019 11:12:15 PM file:18142 ELECTRICAL.DWG

PANEL ID: EXISTING P4 VOLTAGE: 120/208
LOCATION: ELECTRICAL ROOM 422 PHASE: 3
MOUNTING: SURFACE WIRE: 4
MAIN TYPE: BREAKER MAIN SIZE: 225 AMPS

LEGEND:
LO: LOCK ON DEVICE
N: NEW CIRCUIT BREAKER, ALL OTHERS ARE EXISTING
*: EXISTING CIRCUIT

BE-JOB# 18-142

GND SIZE	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION	CIRCUIT BREAKER	LOAD KVA	CIRCUIT NUMBER	LOAD KVA	CIRCUIT BREAKER	BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	GND SIZE
10	10	RECEPTACLES	20/1	0.90	1 *|| 2	1.50	20/1	COPIER	12	12
*	*	EX. RECEPTACLES	20/1		3 |*| 4		20/1	EX. RECEPTACLES	*	*
10	10	COPIER	20/1	1.50	5 ||* 6	0.72	20/1	RECEPTACLES	12	12
12	12	PRINTER	20/1	1.20	7 *|| 8	1.08	20/1	RECEPTACLES	12	12
12	12	PRINTER	20/1	1.20	9 |*| 10	1.26	20/1	RECEPTACLES	10	10
12	12	PRINTER	20/1	1.20	11 ||* 12	1.08	20/1	RECEPTACLES	10	10
12	12	RECEPTACLES	20/1	1.26	13 *|| 14	1.26	20/1	RECEPTACLES	10	10
		SPARE	20/1		15 |*| 16	1.26	20/1	RECEPTACLES	10	10
		SPARE	20/1		17 ||* 18	0.50	20/1	VAV BOXES	12	12
		SPARE	20/1		19 *|| 20		20/1	SPARE		
		SPARE	20/1		21 |*| 22		20/1	SPARE		
		SPARE	20/1		23 ||* 24		20/1	SPARE		
		SPARE	20/1		25 *|| 26		20/1	SPARE		
		SPARE	20/1		27 |*| 28		50/2	SPARE		
		SPARE	20/1		29 ||* 30		–	–		

PANEL LOAD SUMMARY:
LIGHTING: 0.00 KVA
RECEPT & MISC: 15.42 KVA 7.20 KVA PHASE A
MOTORS: 0.50 KVA 3.72 KVA PHASE B
HEATING: 0.00 KVA 5.00 KVA PHASE C
TOTAL: 15.92 KVA

PANEL ID: EXISTING P5 VOLTAGE: 120/208
LOCATION: ELECTRICAL ROOM 528 PHASE: 3
MOUNTING: SURFACE WIRE: 4
MAIN TYPE: BREAKER MAIN SIZE: 225 AMPS

LEGEND:
LO: LOCK ON DEVICE
N: NEW CIRCUIT BREAKER, ALL OTHERS ARE EXISTING
*: EXISTING CIRCUIT

BE-JOB# 18-142

GND SIZE	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION	CIRCUIT BREAKER	LOAD KVA	CIRCUIT NUMBER	LOAD KVA	CIRCUIT BREAKER	BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	GND SIZE
10	10	RECEPTACLES	20/1	0.90	1 *|| 2	1.00	20/1	PLOTTER	10	10
*	*	EX. RECEPTACLES	20/1		3 |*| 4		20/1	EX. RECEPTACLES	*	*
10	10	RECEPTACLES	20/1	1.08	5 ||* 6	0.90	20/1	RECEPTACLES	12	12
10	10	RECEPTACLES	20/1	1.08	7 *|| 8	1.08	20/1	RECEPTACLES	12	12
10	10	RECEPTACLES	20/1	1.08	9 |*| 10	0.90	20/1	RECEPTACLES	12	12
12	12	RECEPTACLES	20/1	1.26	11 ||* 12	0.54	20/1	RECEPTACLES	12	12
12	12	RECEPTACLES	20/1	1.08	13 *|| 14	1.50	20/1	MICROWAVE	12	12
12	12	RECEPTACLES	20/1	1.26	15 |*| 16	0.50	20/1	VAV BOXES	12	12
12	12	RECEPTACLES	20/1	1.26	17 ||* 18	1.00	20/1	SURVEY ANT. RECEIVER	12	12
12	12	RECEPTACLES	20/1	1.08	19 *|| 20		20/1	SPARE		
12	12	RECEPTACLES	20/1	1.08	21 |*| 22		20/1	SPARE		
		SPARE	20/1		23 ||* 24		20/1	SPARE		
		SPARE	20/1		25 *|| 26		20/1	SPARE		
		SPARE	20/1		27 |*| 28		20/1	SPARE		
		SPARE	20/1		29 ||* 30		20/1	SPARE		

PANEL LOAD SUMMARY:
LIGHTING: 0.00 KVA
RECEPT & MISC: 18.08 KVA 7.72 KVA PHASE A
MOTORS: 0.50 KVA 4.82 KVA PHASE B
HEATING: 0.00 KVA 6.04 KVA PHASE C
TOTAL: 18.58 KVA

PANEL ID: L3A VOLTAGE: 120/208
LOCATION: ELECTRICAL ROOM 315 PHASE: 3
MOUNTING: SURFACE WIRE: 4
MAIN TYPE: BREAKER MAIN SIZE: 225 AMPS

LEGEND:
LO: LOCK ON DEVICE
N: NEW CIRCUIT BREAKER, ALL OTHERS ARE EXISTING
*: EXISTING CIRCUIT
ST: SHUNT TRIP

BE-JOB# 18-142

GND SIZE	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION	CIRCUIT BREAKER	LOAD KVA	CIRCUIT NUMBER	LOAD KVA	CIRCUIT BREAKER	BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	GND SIZE
*	*	EX. RECEPTACLES	20/1		1 *|| 2		20/1	EX. RECEPTACLES	*	*
*	*	EX. RECEPTACLES	20/1		3 |*| 4		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		5 ||* 6		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		7 *|| 8		20/1	EX. ENERGY MGMT		
*	*	EX. RECEPTACLES	20/1		9 |*| 10		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		11 ||* 12		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		13 *|| 14		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		15 |*| 16		20/2	EX. AC UNIT		
*	*	EX. RECEPTACLES	20/1		17 ||* 18		–	–		
*	*	EX. RECEPTACLES	20/1		19 *|| 20		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		21 |*| 22	1.50	20/1 ST	SOUND SYSTEM	12	12
*	*	EX. RECEPTACLES	20/1		23 ||* 24	1.08	20/1	RECEPTACLES	10	10
*	*	EX. RECEPTACLES	20/1		25 *|| 26	1.26	20/1	RECEPTACLES	12	12
		SPARE	40/2		27 |*| 28	1.26	20/1	RECEPTACLES	12	12
		–	–		29 ||* 30	1.08	20/1	RECEPTACLES	12	12
*	*	EX. RECEPTACLES	20/1		31 *|| 32		20/1	EX. TTB		
*	*	EX. RECEPTACLES	20/1		33 |*| 34		20/1	EX. HVAC PIU		
*	*	EX. RECEPTACLES	20/1		35 ||* 36		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		37 *|| 38		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		39 |*| 40		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		41 ||* 42		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		43 *|| 44		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		45 |*| 46		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		47 ||* 48		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		49 *|| 50		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		51 |*| 52		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		53 ||* 54		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		55 *|| 56		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		57 |*| 58		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		59 ||* 60		20/1	EX. RECEPTACLES		
*	*	EX. RECEPTACLES	20/1		61 *|| 62		20/1	EX. RECEPTACLES		
*	*	–	–		63 |*| 64	1.08	20/1 N	RECEPTACLES	12	12
*	*	EX. CIRCUIT	20/3		65 ||* 66	0.72	20/1 N	RECEPTACLES	12	12
*	*	–	–		67 *|| 68	0.50	20/1 N	VAV BOXES	12	12
12	12	MICROWAVE	20/1 N	1.50	69 |*| 70		30/2	EX. HEAT	*	*
12	12	DISHWASHER	20/1 N	1.50	71 ||* 72		–	–	*	*

PANEL LOAD SUMMARY:
LIGHTING: 0.00 KVA
RECEPT & MISC: 9.48 KVA 1.76 KVA PHASE A
MOTORS: 1.00 KVA 5.34 KVA PHASE B
HEATING: 1.00 KVA 4.38 KVA PHASE C
TOTAL: 11.48 KVA

PANEL ID: EXISTING L6A VOLTAGE: 120/208
LOCATION: ELECTRICAL ROOM 628 PHASE: 3
MOUNTING: SURFACE WIRE: 4
MAIN TYPE: BREAKER MAIN SIZE: 150 AMPS

LEGEND:
LO: LOCK ON DEVICE
N: NEW CIRCUIT BREAKER, ALL OTHERS ARE EXISTING
*: EXISTING CIRCUIT

BE-JOB# 18-142

GND SIZE	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION	CIRCUIT BREAKER	LOAD KVA	CIRCUIT NUMBER	LOAD KVA	CIRCUIT BREAKER	BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	GND SIZE
		EX. CIRCUIT	20/1		1 *|| 2		20/1	EX. SIGN		
		EX. SIGN	20/1		3 |*| 4		20/1	EX. SIGN		
		EX. ELEV ROOM RECEPT	20/1		5 ||* 6		20/1	EX. LIGHTING		
		EX. LIGHTING	20/1		7 *|| 8		20/1	EX. RECEPTACLES		
		EX. RECEPTACLES	20/1		9 |*| 10		20/1	EX. RECEPTACLES		
		EX. RECEPTACLES	20/1		11 ||* 12		20/1	EX. RECEPTACLES		
		EX. RECEPTACLES	20/1		13 *|| 14		20/1	EX. RECEPTACLES		
		EX. RECEPT/FLR BOX	20/1		15 |*| 16		20/1	EX. RECEPTACLES		
		EX. RECEPT/FLR BOX	20/1		17 ||* 18		20/1	EX. RECEPTACLES		
		EX. RECEPTACLES	20/1		19 *|| 20	1.50	20/1 N	MICROWAVE	12	12
		EX. RECEPTACLES	20/1		21 |*| 22		20/1	EX. RECEPTACLES		
		EX. RECEPTACLES	20/1		23 ||* 24		20/1	EX. RECEPTACLES		
		EX. RECEPTACLES	20/1		25 *|| 26		20/1	EX. RECEPTACLES		
		EX. RECEPTACLES	20/1		27 |*| 28		20/1	EX. WATER FOUNTAIN		
		EX. RECEPTACLES	20/1		29 ||* 30		20/1	EX. RECEPTACLES		
		EX. RECEPTACLES	20/1		31 *|| 32		20/1	EX. RECEPTACLES		
		EX. RECEPTACLES	20/1		33 |*| 34	1.00	20/1 N	LAB REFRIGERATOR	10	10
		EX. RECEPTACLES	20/1		35 ||* 36		20/1	EX. RECEPTACLES		
		EX. RECEPTACLES	20/1		37 *|| 38		20/1	EX. CHILLER OIL HTR		
		EX. RECEPTACLES	20/1		39 |*| 40		20/1	EX. RECEPTACLES		
		EX. RECEPTACLES	20/1		41 ||* 42		20/1	EX. RECEPTACLES		
		EX. CIRCUIT	20/1		43 *|| 44		20/1	EX. RECEPTACLES		
		EX. CIRCUIT	20/1		45 |*| 46		20/1	EX. HVAC CONTROLS		
		EX. CIRCUIT	20/1		47 ||* 48		20/1	EX. TEL. BOARD		
		EX. CIRCUIT	20/1		49 *|| 50		20/1	EX. CIRCUIT		
		EX. CIRCUIT	20/1		51 |*| 52		20/1	EX. CIRCUIT		
		EX. CIRCUIT	20/1		53 ||* 54		20/1	EX. CIRCUIT		
		EX. ROOF RECEPT.	20/1		55 *|| 56		20/1	EX. CIRCUIT		
		EX. ROOF RECEPT.	20/1		57 |*| 58		20/1	EX. CIRCUIT		
		EX. CIRCUIT	20/2		59 ||* 60		20/1	EX. CIRCUIT		
		–	–		61 *|| 62		30/2	EX. CIRCUIT		
		EX. DISHWASHER	20/1		63 |*| 64		–	EX. CIRCUIT		
		EX. MICROWAVE	20/1		65 ||* 66		20/1	EX. CIRCUIT		
		EX. CIRCUIT	30/2		67 *|| 68		20/1	EX. CIRCUIT		
		–	–		69 |*| 70		20/1	EX. CIRCUIT		
12	12	COPIER	20/1 N	1.50	71 ||* 72		20/1	EX. CIRCUIT		
12	12	CLINIC RECEPT	20/1 N	1.26	73 *|| 74	1.08	20/1 N	CLINIC RECEPT	12	12
12	12	CLINIC RECEPT	20/1 N	1.08	75 |*| 76	1.26	20/1 N	CLINIC RECEPT	12	12
12	12	CLINIC RECEPT	20/1 N	1.08	77 ||* 78	1.26	20/1 N	RECEPTACLES	12	12

PANEL LOAD SUMMARY:
LIGHTING: 0.00 KVA
RECEPT & MISC: 11.02 KVA 3.84 KVA PHASE A
MOTORS: 0.00 KVA 3.34 KVA PHASE B
HEATING: 0.00 KVA 3.84 KVA PHASE C
TOTAL: 11.02 KVA

PANEL ID: EXISTING H5 VOLTAGE: 277/480
LOCATION: ELECTRICAL ROOM 528 PHASE: 3
MOUNTING: SURFACE WIRE: 4
MAIN TYPE: LUGS MAIN SIZE: 100 AMPS

LEGEND:
LO: LOCK ON DEVICE
N: NEW CIRCUIT BREAKER, ALL OTHERS ARE EXISTING
R: RELAY PANEL CONTROLLED CIRCUIT
*: EXISTING CIRCUIT

BE-JOB# 18-142

GND SIZE	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION	CIRCUIT BREAKER	LOAD KVA	CIRCUIT NUMBER	LOAD KVA	CIRCUIT BREAKER	BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	GND SIZE
12	12	LIGHTING	20/1 R	0.74	1 *|| 2	1.85	20/1	LIGHTING	12	12
12	12	LIGHTING	20/1 R	0.51	3 |*| 4	1.17	20/1	LIGHTING	12	12
12	12	LIGHTING	20/1	2.22	5 ||* 6		20/1	SPARE		
		SPARE	20/1		7 *|| 8		20/1	SPARE		
		SPACE			9 |*| 10			SPACE		
		SPACE			11 ||* 12			SPACE		
		SPACE			13 *|| 14			SPACE		
		SPACE			15 |*| 16			SPACE		
		SPACE			17 ||* 18			SPACE		
		SPACE			19 *|| 20			SPACE		
		SPACE			21 |*| 22			SPACE		
		SPACE			23 ||* 24			SPACE		
		SPACE			25 *|| 26			SPACE		
		SPACE			27 |*| 28			SPACE		
		SPACE			29 ||* 30			SPACE		

PANEL LOAD SUMMARY:
LIGHTING: 6.48 KVA
RECEPT & MISC: 0.00 KVA 2.58 KVA PHASE A
MOTORS: 0.00 KVA 1.68 KVA PHASE B
HEATING: 0.00 KVA 2.22 KVA PHASE C
TOTAL: 6.48 KVA

PANEL ID: EXISTING H5A VOLTAGE: 277/480
LOCATION: ELECTRICAL ROOM 528 PHASE: 3
MOUNTING: SURFACE WIRE: 4
MAIN TYPE: LUGS MAIN SIZE: 400 AMPS

LEGEND:
LO: LOCK ON DEVICE
N: NEW CIRCUIT BREAKER, ALL OTHERS ARE EXISTING
R: RELAY PANEL CONTROLLED CIRCUIT
*: EXISTING CIRCUIT

BE-JOB# 18-142

GND SIZE	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION	CIRCUIT BREAKER	LOAD KVA	CIRCUIT NUMBER	LOAD KVA	CIRCUIT BREAKER	BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	GND SIZE
		SPARE	20/1		1 *|| 2		20/1	SPARE		
		SPARE	20/1		3 |*| 4		–	EXISTING		
		SPARE	20/1		5 ||* 6		100/3	PANEL H5		
		EXISTING HVAC	–		7 *|| 8		–	–		
		OUTDOOR UNIT	15/3		9 |*| 10		–	EXISITING HVAC		
		–	–		11 ||* 12		30/3	INDOOR UNIT		
		EXISTING	–		13 *|| 14		–	–		
		CIRC PUMP	15/3		15 |*| 16			SPACE		
		–	–		17 ||* 18			SPACE		
		EXISTING	–		19 *|| 20		–	EXISTING		
		HEATER	20/3		21 |*| 22		20/3	HEATER		
		–	–		23 ||* 24		–	–		
		EXISTING	–		25 *|| 26		–	EXISTING		
		HEATER	20/3		27 |*| 28		20/3	HEATER		
		–	–		29 ||* 30		–	–		
		EXISTING	–		31 *|| 32		–	EXISTING		
		HEATER	20/3		33 |*| 34		20/3	HEATER		
		–	–		35 ||* 36		–	–		
		EXISTING	–		37 *|| 38		–	EXISTING		
		TRANSFORMER	100/3		39 |*| 40		30/3	AIR HANDLER		
		–	–		41 ||* 42		–	–		

PANEL LOAD SUMMARY:
LIGHTING: 0.00 KVA
RECEPT & MISC: 0.00 KVA 0.00 KVA PHASE A
MOTORS: 0.00 KVA 0.00 KVA PHASE B
HEATING: 0.00 KVA 0.00 KVA PHASE C
TOTAL: 0.00 KVA

PANEL ID: EXISTING H6A VOLTAGE: 277/480
LOCATION: ELECTRICAL ROOM 628 PHASE: 3
MOUNTING: SURFACE WIRE: 4
MAIN TYPE: LUGS MAIN SIZE: 400 AMPS

LEGEND:
LO: LOCK ON DEVICE
N: NEW CIRCUIT BREAKER, ALL OTHERS ARE EXISTING
R: RELAY PANEL CONTROLLED CIRCUIT
*: EXISTING CIRCUIT

BE-JOB# 18-142

GND SIZE	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION	CIRCUIT BREAKER	LOAD KVA	CIRCUIT NUMBER	LOAD KVA	CIRCUIT BREAKER	BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	GND SIZE
		EXISTING	–		1 *|| 2		–	EXISTING		
		TRANSFORMER	100/3		3 |*| 4		30/3	AIR HANDLER		
		–	–		5 ||* 6		–	–		
		EXISTING	–		7 *|| 8		–	EXISTING		
		UNIT HEATER	20/3		9 |*| 10		20/3	DUCT HEATER		
		–	–		11 ||* 12		–	–		
		EXISTING	–		13 *|| 14		–	EXISTING		
		UNIT HEATER	20/3		15 |*| 16		20/3	DUCT HEATER		
		–	–		17 ||* 18		–	–		
		EXISTING	–		19 *|| 20		–	EXISTING		
		DUCT HEATER	20/3		21 |*| 22		20/3	DUCT HEATER		
		–	–		23 ||* 24		–	–		
		EXISTING	–		25 *|| 26		–	EXISTING		
		DUCT HEATER	20/3		27 |*| 28		20/3	DUCT HEATER		
		–	–		29 ||* 30		–	–		
		EXISTING	–		31 *|| 32		–	EXISTING		
		EXISTING CIRCUIT	20/3		33 |*| 34		20/3	DUCT HEATER		
		–	–		35 ||* 36		–	–		
		SPACE			37 *|| 38			SPACE		
		SPACE			39 |*| 40			SPACE		
		SPACE			41 ||* 42			SPACE		
12	12	LIGHTING	20/1 R	0.81	43 *|| 44		20/1	EX. PIV		
12	12	LIGHTING	20/1 R	0.83	45 |*| 46		20/1	SPARE		
12	12	LIGHTING	20/1	2.15	47 ||* 48		20/1	EX. LIGHTING		
12	12	LIGHTING	20/1	1.44	49 *|| 50		20/1	EX. LIGHTING		
12	12	LIGHTING	20/1	1.42	51 |*| 52		20/1	EX. LIGHTING		
		EX. CIRCUIT	20/1		53 ||* 54		20/1	EX. CIRCUIT		
		EX. CIRCUIT	20/1		55 *|| 56		20/1	EX. CIRCUIT		
		EX. CIRCUIT	20/1		57 |*| 58		30/1	SPARE		
		EX. CIRCUIT	30/1		59 ||* 60		30/1	SPARE		
		EX. CIRCUIT	30/1		61 *|| 62		30/1	SPARE		
		SPARE	30/1		63 |*| 64		20/1	SPARE		
		SPARE	20/1		65 ||* 66		20/1	SPARE		
		SPARE	20/1		67 *|| 68		20/1	SPARE		
		SPARE	20/1		69 |*| 70			SPACE		
		SPACE			71 ||* 72			SPACE		
		SPACE			73 *|| 74			SPACE		
		SPACE			75 |*| 76			SPACE		
		SPACE			77 ||* 78			SPACE		
		SPACE			79 *|| 80			SPACE		
		SPACE			81 |*| 82			SPACE		
		SPACE			83 ||* 84			SPACE		

PANEL LOAD SUMMARY:
LIGHTING: 6.65 KVA
RECEPT & MISC: 0.00 KVA 2.25 KVA PHASE A
MOTORS: 0.00 KVA 2.25 KVA PHASE B
HEATING: 0.00 KVA 2.15 KVA PHASE C
TOTAL: 6.65 KVA

PANEL ID: EXISTING H3A VOLTAGE: 277/480
LOCATION: ELECTRICAL ROOM 315 PHASE: 3
MOUNTING: SURFACE WIRE: 4
MAIN TYPE: LUGS MAIN SIZE: 400 AMPS

LEGEND:
LO: LOCK ON DEVICE
N: NEW CIRCUIT BREAKER, ALL OTHERS ARE EXISTING
R: RELAY PANEL CONTROLLED CIRCUIT
*: EXISTING CIRCUIT

BE-JOB# 18-142

GND SIZE	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION	CIRCUIT BREAKER	LOAD KVA	CIRCUIT NUMBER	LOAD KVA	CIRCUIT BREAKER	BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	GND SIZE
12	12	LIGHTING	20/1	0.51	1 *|| 2	1.26	20/1	LIGHTING	12	12
12	12	LIGHTING	20/1	1.38	3 |*| 4	2.23	20/1	LIGHTING	12	12
12	12	LIGHTING	20/1	1.81	5 ||* 6		20/1	SPARE		
		EX. HVAC PIU	20/1		7 *|| 8		20/1	SPARE		
		SPARE	20/1		9 |*| 10		20/1	SPARE		
		SPARE	20/1		11 ||* 12		20/1	SPARE		
		SPARE	20/1		13 *|| 14			SPACE		
		SPACE			15 |*| 16			SPACE		
		SPACE			17 ||* 18			SPACE		
		SPACE			19 *|| 20		–	EXISTING		
		SPACE			21 |*| 22		20/3	HEATER		
		EX. CIRCUIT	20/1		23 ||* 24		–	–		
		EXISTING	–		25 *|| 26		–	EXISTING		
		HEATER	20/3		27 |*| 28		20/3	HEATER		
		–	–		29 ||* 30		–	–		
		EXISTING	–		31 *|| 32		–	EXISTING		
		HEATER	20/3		33 |*| 34		20/3	HEATER		
		–	–		35 ||* 36		–	–		
		EXISTING	–		37 *|| 38		–	EXISTING		
		INDOOR UNIT	30/3		39 |*| 40		20/3	HEATER		
		–	–		41 ||* 42		–	–		
		SUBFEED BKR	–		43 *|| 44			N/A		
		EX. TRANSFORMER	150/3		45 |*| 46			N/A		
		–	–		47 ||* 48			N/A		

PANEL LOAD SUMMARY:
LIGHTING: 7.18 KVA
RECEPT & MISC: 0.00 KVA 1.77 KVA PHASE A
MOTORS: 0.00 KVA 3.61 KVA PHASE B
HEATING: 0.00 KVA 1.81 KVA PHASE C
TOTAL: 7.18 KVA

PANEL ID: EXISTING H4 VOLTAGE: 277/480
LOCATION: ELECTRICAL ROOM 422 PHASE: 3
MOUNTING: SURFACE WIRE: 4
MAIN TYPE: LUGS MAIN SIZE: 100 AMPS

LEGEND:
LO: LOCK ON DEVICE
N: NEW CIRCUIT BREAKER, ALL OTHERS ARE EXISTING
R: RELAY PANEL CONTROLLED CIRCUIT
*: EXISTING CIRCUIT

BE-JOB# 18-142

GND SIZE	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION	CIRCUIT BREAKER	LOAD KVA	CIRCUIT NUMBER	LOAD KVA	CIRCUIT BREAKER	BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	GND SIZE
12	12	LIGHTING	20/1 R	0.74	1 *|| 2		20/1	SPARE		
12	12	LIGHTING	20/1 R	1.45	3 |*| 4		20/1	SPARE		
12	12	LIGHTING	20/1	1.95	5 ||* 6		20/1	EX. DUCT HTR FAN		
12	12	LIGHTING	20/1	2.41	7 *|| 8		20/1	SPARE		
		SPARE	20/1		9 |*| 10			SPACE		
		SPARE	20/1		11 ||* 12			SPACE		
		SPACE			13 *|| 14			SPACE		
		SPACE			15 |*| 16			SPACE		
		SPACE			17 ||* 18			SPACE		
		SPACE			19 *|| 20			SPACE		
		SPACE			21 |*| 22			SPACE		
		SPACE			23 ||* 24			SPACE		
		SPACE			25 *|| 26			SPACE		
		SPACE			27 |*| 28			SPACE		
		SPACE			29 ||* 30			SPACE		

PANEL LOAD SUMMARY:
LIGHTING: 6.56 KVA
RECEPT & MISC: 0.00 KVA 3.15 KVA PHASE A
MOTORS: 0.00 KVA 1.45 KVA PHASE B
HEATING: 0.00 KVA 1.95 KVA PHASE C
TOTAL: 6.56 KVA

PANEL ID: EXISTING H4A VOLTAGE: 277/480
LOCATION: ELECTRICAL ROOM 422 PHASE: 3
MOUNTING: SURFACE WIRE: 4
MAIN TYPE: LUGS MAIN SIZE: 400 AMPS

LEGEND:
LO: LOCK ON DEVICE
N: NEW CIRCUIT BREAKER, ALL OTHERS ARE EXISTING
R: RELAY PANEL CONTROLLED CIRCUIT
*: EXISTING CIRCUIT

BE-JOB# 18-142

GND SIZE	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION	CIRCUIT BREAKER	LOAD KVA	CIRCUIT NUMBER	LOAD KVA	CIRCUIT BREAKER	BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	GND SIZE
		SPARE	20/1		1 *|| 2		–	EXISTING		
		SPARE	20/1		3 |*| 4		100/3	PANEL H4		
		SPARE	20/1		5 ||* 6		–	–		
		EXISTING HVAC	–		7 *|| 8		–	EXISITING HVAC		
		OUTDOOR UNIT	15/3		9 |*| 10		30/3	INDOOR UNIT		
		–	–		11 ||* 12		–	–		
		EXISTING PENTHOUSE	–		13 *|| 14			SPACE		
		CIRC PUMP	15/3		15 |*| 16			SPACE		
		–	–		17 ||* 18			SPACE		
		EXISTING	–		19 *|| 20		–	EXISTING		
		HEATER	20/3		21 |*| 22		20/3	HEATER		
		–	–		23 ||* 24		–	–		
		EXISTING	–		25 *|| 26		–	EXISTING		
		HEATER	20/3		27 |*| 28		20/3	HEATER		
		–	–		29 ||* 30		–	–		
		EXISTING	–		31 *|| 32		–	EXISTING		
		HEATER	20/3		33 |*| 34		20/3	HEATER		
		–	–		35 ||* 36		–	–		
		EXISTING	–		37 *|| 38		–	EXISTING		
		TRANSFORMER	100/3		39 |*| 40		30/3	AIR HANDLER		
		–	–		41 ||* 42		–	–		

PANEL LOAD SUMMARY:
LIGHTING: 0.00 KVA
RECEPT & MISC: 0.00 KVA 0.00 KVA PHASE A
MOTORS: 0.00 KVA 0.00 KVA PHASE B
HEATING: 0.00 KVA 0.00 KVA PHASE C
TOTAL: 0.00 KVA

0 4' 8' 16' 24'
GRAPHIC SCALE
1/8" = 1'-0"

Blaser Engineering
342 Moore Street
Bristol, VA 24201
Phone: (423) 349-8380

BLASER ENG JOB# 18-142

no.	date	revision	by

Building Improvements for:
City Hall Relocation-Ph. I
Kingsport, TN

KINGSPORT
TENNESSEE

Architectural Services

Cain Rash West Architects
130 Regional Park Dr.
Kingsport, TN 37660
Phn (423) 349-7760
Fax (423) 349-7413
www.grcinc.com

JAMES A. BLASER
No. 00106903
5-24-19

issued	05-24-19
checked	J BLASER
approved	J BLASER
drawn	J BLASER
project no.	2018-27
drawing name	SCHEDULES

E-50

plotted: 5/29/2019 11:12:19 PM file:18142 ELECTRICAL.DWG

PANEL ID: EOH6 VOLTAGE: 277/480
LOCATION: ELECTRICAL ROOM 628 PHASE: 3
MOUNTING: SURFACE WIRE: 4
MAIN TYPE: LUGS MAIN SIZE: 150 AMPS AIC RATING: 22,000

LEGEND: LO: LOCK ON DEVICE
PROVIDE PANEL WITH INTEGRAL SURGE PROTECTION DEVICE (SPD)
**: SEE ONE LINE DIAGRAM
*: ALTERNATE BID; PROVIDE BREAKERS AS SPARES IN THE BASE BID

BE-JOB# 18-142

<table>
<tr><th>GND SIZE</th><th>WIRE SIZE</th><th>BRANCH CIRCUIT DESCRIPTION</th><th>CIRCUIT BREAKER</th><th>LOAD KVA</th><th>CIRCUIT NUMBER</th><th>LOAD KVA</th><th>CIRCUIT BREAKER</th><th>BRANCH CIRCUIT DESCRIPTION</th><th>WIRE SIZE</th><th>GND SIZE</th></tr>
<tr><td>12</td><td>12</td><td>DRAC-1</td><td>–</td><td>4.13</td><td>1 *|| 2</td><td>2.11</td><td>–</td><td>DRCU-1</td><td>12</td><td>12</td></tr>
<tr><td>–</td><td>12</td><td>LIEBERT EVAPORATOR</td><td>20/3*</td><td>4.13</td><td>3 |*| 4</td><td>2.11</td><td>15/3*</td><td>LIEBERT CONDENSING</td><td>12</td><td>–</td></tr>
<tr><td>–</td><td>12</td><td>#1</td><td>–</td><td>4.13</td><td>5 ||* 6</td><td>2.11</td><td>–</td><td>UNIT #1</td><td>12</td><td>–</td></tr>
<tr><td>12</td><td>12</td><td>DRAC-1</td><td>–</td><td>4.13</td><td>7 *|| 8</td><td>2.11</td><td>–</td><td>DRCU-1</td><td>12</td><td>12</td></tr>
<tr><td>–</td><td>12</td><td>LIEBERT EVAPORATOR</td><td>20/3*</td><td>4.13</td><td>9 |*| 10</td><td>2.11</td><td>15/3*</td><td>LIEBERT CONDENSING</td><td>12</td><td>–</td></tr>
<tr><td>–</td><td>12</td><td>#2</td><td>–</td><td>4.13</td><td>11 ||* 12</td><td>2.11</td><td>–</td><td>UNIT #2</td><td>12</td><td>–</td></tr>
<tr><td>**</td><td>**</td><td>PANEL EOP6 VIA</td><td>–</td><td>16.60</td><td>13 *|| 14</td><td></td><td>20/1</td><td>SPARE</td><td></td><td></td></tr>
<tr><td>**</td><td>**</td><td>TRANSFORMER TX1</td><td>100/3</td><td>18.98</td><td>15 |*| 16</td><td></td><td>20/1</td><td>SPARE</td><td></td><td></td></tr>
<tr><td>**</td><td>**</td><td>–</td><td>–</td><td>16.35</td><td>17 ||* 18</td><td></td><td>20/1</td><td>SPARE</td><td></td><td></td></tr>
<tr><td></td><td></td><td>SPACE</td><td></td><td></td><td>19 *|| 20</td><td></td><td>20/1</td><td>SPARE</td><td></td><td></td></tr>
<tr><td></td><td></td><td>SPACE</td><td></td><td></td><td>21 |*| 22</td><td></td><td>20/1</td><td>SPARE</td><td></td><td></td></tr>
<tr><td></td><td></td><td>SPACE</td><td></td><td></td><td>23 ||* 24</td><td></td><td>20/1</td><td>SPARE</td><td></td><td></td></tr>
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<tr><td></td><td></td><td>SPACE</td><td></td><td></td><td>35 ||* 36</td><td></td><td></td><td>SPACE</td><td></td><td></td></tr>
<tr><td></td><td></td><td>SPACE</td><td></td><td></td><td>37 *|| 38</td><td></td><td></td><td>SPACE</td><td></td><td></td></tr>
<tr><td></td><td></td><td>SPACE</td><td></td><td></td><td>39 |*| 40</td><td></td><td></td><td>SPACE</td><td></td><td></td></tr>
<tr><td></td><td></td><td>SPACE</td><td></td><td></td><td>41 ||* 42</td><td></td><td></td><td>SPACE</td><td></td><td></td></tr>
</table>

PANEL LOAD SUMMARY:
LIGHTING: 0.00 KVA
FROM OTHER PANELS: 51.93 KVA 29.08 KVA PHASE A
MOTORS: 37.44 KVA 31.46 KVA PHASE B
HEATING: 0.00 KVA 28.83 KVA PHASE C
TOTAL: 89.37 KVA

PANEL ID: EOP6 VOLTAGE: 120/208
LOCATION: ELECTRICAL ROOM 628 PHASE: 3
MOUNTING: SURFACE WIRE: 4
MAIN TYPE: BREAKER MAIN SIZE: 200 AMPS AIC RATING: 22,000

LEGEND: LO: LOCK ON DEVICE
PROVIDE PANEL WITH INTEGRAL SURGE PROTECTION DEVICE (SPD)
*: BASE BID ONLY; PROVIDE BREAKERS AS SPARES IN THE LIEBERT UNIT ALTERNATE
200% RATED NEUTRAL BUS

BE-JOB# 18-142

<table>
<tr><th>GND SIZE</th><th>WIRE SIZE</th><th>BRANCH CIRCUIT DESCRIPTION</th><th>CIRCUIT BREAKER</th><th>LOAD KVA</th><th>CIRCUIT NUMBER</th><th>LOAD KVA</th><th>CIRCUIT BREAKER</th><th>BRANCH CIRCUIT DESCRIPTION</th><th>WIRE SIZE</th><th>GND SIZE</th></tr>
<tr><td>4</td><td>4</td><td>SERVER RACK</td><td>70/2</td><td>5.50</td><td>1 *|| 2</td><td></td><td>20/1</td><td>SPARE</td><td></td><td></td></tr>
<tr><td>–</td><td>4</td><td>UPS</td><td>–</td><td>5.50</td><td>3 |*| 4</td><td>1.80</td><td>20/1</td><td>IT EQUIPMENT 6TH</td><td>12</td><td>12</td></tr>
<tr><td></td><td></td><td>FUTURE UPS</td><td>70/2</td><td>5.50</td><td>5 ||* 6</td><td>2.50</td><td>30/1</td><td>IT EQUIPMENT 6TH</td><td>10</td><td>10</td></tr>
<tr><td></td><td></td><td>SPARE</td><td>–</td><td>5.50</td><td>7 *|| 8</td><td></td><td>20/1</td><td>SPARE</td><td></td><td></td></tr>
<tr><td>10</td><td>10</td><td>IT EQUIPMENT 5TH</td><td>30/1</td><td>2.50</td><td>9 |*| 10</td><td></td><td>20/1</td><td>SPARE</td><td></td><td></td></tr>
<tr><td>12</td><td>12</td><td>IT EQUIPMENT 5TH</td><td>20/1</td><td>1.80</td><td>11 ||* 12</td><td>0.72</td><td>20/1</td><td>IT RECEPTACLES</td><td>12</td><td>12</td></tr>
<tr><td></td><td></td><td>SPARE</td><td>20/1</td><td></td><td>13 *|| 14</td><td>0.72</td><td>20/1</td><td>IT RECEPTACLES</td><td>12</td><td>12</td></tr>
<tr><td>10</td><td>10</td><td>DSCU-1a</td><td>30/2*</td><td>2.08</td><td>15 |*| 16</td><td>0.72</td><td>20/1</td><td>IT RECEPTACLES</td><td>12</td><td>12</td></tr>
<tr><td>–</td><td>10</td><td>–</td><td>–</td><td>2.08</td><td>17 ||* 18</td><td>1.25</td><td>20/1</td><td>CLINIC REFRIGERATOR</td><td>10</td><td>10</td></tr>
<tr><td>10</td><td>10</td><td>DSCU-1b</td><td>30/2*</td><td>2.08</td><td>19 *|| 20</td><td>1.00</td><td>20/1 LO</td><td>FIRE SUPPRESSION</td><td>12</td><td>12</td></tr>
<tr><td>–</td><td>10</td><td>–</td><td>–</td><td>2.08</td><td>21 |*| 22</td><td>1.80</td><td>20/1</td><td>IT EQUIPMENT 4TH</td><td>12</td><td>12</td></tr>
<tr><td></td><td></td><td>SPARE</td><td>20/1</td><td></td><td>23 ||* 24</td><td>2.50</td><td>30/1</td><td>IT EQUIPMENT 4TH</td><td>10</td><td>10</td></tr>
<tr><td></td><td></td><td>SPARE</td><td>20/1</td><td></td><td>25 *|| 26</td><td>1.80</td><td>20/1</td><td>IT EQUIPMENT 3RD</td><td>12</td><td>12</td></tr>
<tr><td></td><td></td><td>SPARE</td><td>20/1</td><td></td><td>27 |*| 28</td><td>2.50</td><td>30/1</td><td>IT EQUIPMENT 3RD</td><td>10</td><td>10</td></tr>
<tr><td></td><td></td><td>SPARE</td><td>20/1</td><td></td><td>29 ||* 30</td><td></td><td></td><td>SPACE</td><td></td><td></td></tr>
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<tr><td></td><td></td><td>SPARE</td><td>20/1</td><td></td><td>33 |*| 34</td><td></td><td></td><td>SPACE</td><td></td><td></td></tr>
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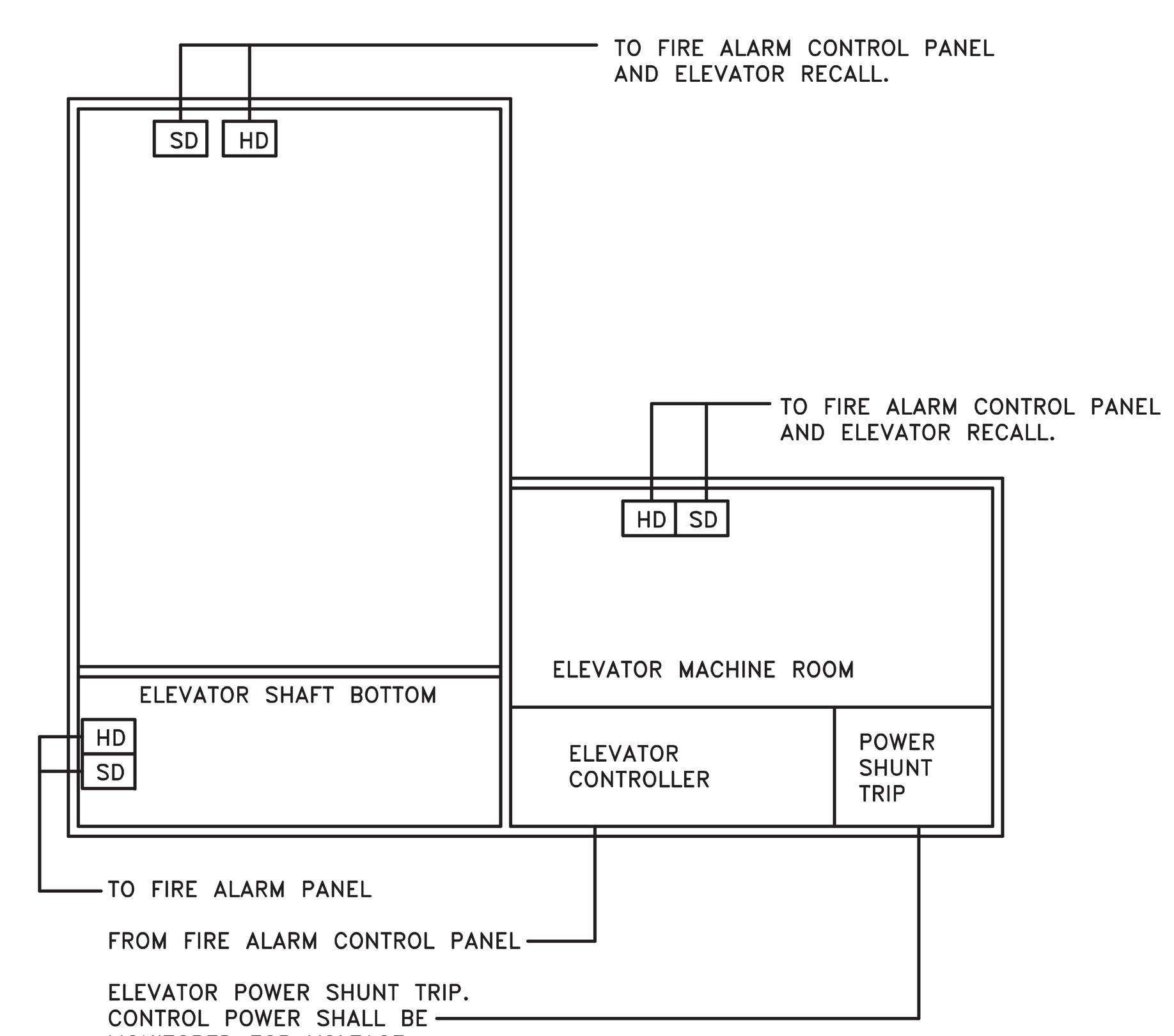
<tr><td></td><td></td><td>SPACE</td><td></td><td></td><td>39 |*| 40</td><td></td><td></td><td>SPACE</td><td></td><td></td></tr>
<tr><td></td><td></td><td>SPACE</td><td></td><td></td><td>41 ||* 42</td><td></td><td></td><td>SPACE</td><td></td><td></td></tr>
</table>

PANEL LOAD SUMMARY:
LIGHTING: 0.00 KVA
RECEPT & MISC: 43.61 KVA 16.60 KVA PHASE A
MOTORS: 8.32 KVA 18.98 KVA PHASE B
HEATING: 0.00 KVA 16.35 KVA PHASE C
TOTAL: 51.93 KVA



NOTES:
1. SMOKE DETECTORS LOCATED IN ELEVATOR LOBBIES, ELEVATOR MACHINE ROOMS AND HOISTWAYS SHALL BE CONNECTED TO THE FIRE ALARM CONTROL PANEL (FACP). ACTIVATION OF ANY OF THESE DEVICES SHALL SEND A SIGNAL FROM THE FACP TO THE ELEVATOR CONTROLLER FOR SEIZURE PURPOSES. ELEVATOR TO BE RECALLED TO GRADE LEVEL ACCESS FLOOR, UNLESS THE FIRE IS ON THAT FLOOR, IN WHICH CASE THE ELEVATOR SHALL BE RECALLED TO AN ALTERNATE FLOOR AS DESIGNATED BY THE LOCAL FIRE MARSHALL.
2. PROVIDE A SMOKE DETECTOR ON EACH ELEVATOR LANDING CENTERED IN FRONT OF THE ELEVATOR CAR DOOR, IN EACH ELEVATOR MACHINE ROOM; AND IN THE ELEVATOR HOISTWAY, TOP AND BOTTOM. WIRE FROM THE FIRE ALARM CONTROL PANEL TO THE ELEVATOR CONTROLLER TO PERMIT CAPTURE AND CONTROL OF ALL ELEVATORS DURING A FIRE. CONNECT ANY WATER FLOW AND TAMPER SWITCHES IN SPRINKLER PIPING AT EACH HOISTWAY AND MACHINE ROOM TO FIRE ALARM PANEL.
3. ELEVATOR POWER SHALL SHUNT TRIP UPON ACTIVATION OF ANY HEAT DETECTORS IN MACHINE ROOM OR ELEVATOR SHAFT. RENDERING THE ELEVATOR TOTALLY INOPERABLE. ADD SHUNT TRIP TO EXISTING ELEVATOR CIRCUIT BREAKERS AS NECESSARY.

ELEVATOR CONTROL DETAIL

NOT TO SCALE

PANEL ID: EEH1 VOLTAGE: 277/480
LOCATION: FIRST FLOOR SERVER ROOM PHASE: 3
MOUNTING: SURFACE WIRE: 4
MAIN TYPE: LUGS MAIN SIZE: 200 AMPS AIC RATING: 22,000

LEGEND: LO: LOCK ON DEVICE
PROVIDE PANEL WITH INTEGRAL SURGE PROTECTION DEVICE (SPD)
**: SEE ONE LINE DIAGRAM

BE-JOB# 18-142

<table>
<tr><th>GND SIZE</th><th>WIRE SIZE</th><th>BRANCH CIRCUIT DESCRIPTION</th><th>CIRCUIT BREAKER</th><th>LOAD KVA</th><th>CIRCUIT NUMBER</th><th>LOAD KVA</th><th>CIRCUIT BREAKER</th><th>BRANCH CIRCUIT DESCRIPTION</th><th>WIRE SIZE</th><th>GND SIZE</th></tr>
<tr><td>12</td><td>12</td><td>–</td><td>–</td><td>0.72</td><td>1 *|| 2</td><td>1.63</td><td>20/1</td><td>EMG LIGHTING 3RD</td><td>10</td><td>10</td></tr>
<tr><td>–</td><td>12</td><td>JOCKEY PUMP</td><td>15/3</td><td>0.72</td><td>3 |*| 4</td><td>1.13</td><td>20/1</td><td>EMG LIGHTING 4TH</td><td>10</td><td>10</td></tr>
<tr><td>–</td><td>12</td><td>–</td><td>–</td><td>0.72</td><td>5 ||* 6</td><td>1.33</td><td>20/1</td><td>EMG LIGHTING 5TH</td><td>10</td><td>10</td></tr>
<tr><td>**</td><td>**</td><td>–</td><td>–</td><td>7.50</td><td>7 *|| 8</td><td>1.86</td><td>20/1</td><td>EMG LIGHTING 6TH</td><td>10</td><td>10</td></tr>
<tr><td>–</td><td>**</td><td>FIRE PUMP</td><td>60/3</td><td>7.50</td><td>9 |*| 10</td><td>0.32</td><td>20/1</td><td>STAIR LTG 1ST & 2ND</td><td>10</td><td>10</td></tr>
<tr><td>–</td><td>**</td><td>–</td><td>–</td><td>7.50</td><td>11 ||* 12</td><td></td><td>20/1</td><td>SPARE</td><td></td><td></td></tr>
<tr><td>**</td><td>**</td><td>PANEL EEP1</td><td>–</td><td>2.82</td><td>13 *|| 14</td><td></td><td>20/1</td><td>SPARE</td><td></td><td></td></tr>
<tr><td>–</td><td>**</td><td>VIA TRANSFORMER TX2</td><td>50/3</td><td>1.68</td><td>15 |*| 16</td><td></td><td>20/1</td><td>SPARE</td><td></td><td></td></tr>
<tr><td>–</td><td>**</td><td>–</td><td>–</td><td>1.08</td><td>17 ||* 18</td><td></td><td>20/1</td><td>SPARE</td><td></td><td></td></tr>
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<tr><td></td><td></td><td>SPACE</td><td></td><td></td><td>21 |*| 22</td><td></td><td>20/1</td><td>SPARE</td><td></td><td></td></tr>
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<tr><td></td><td></td><td>SPACE</td><td></td><td></td><td>25 *|| 26</td><td></td><td>20/1</td><td>SPARE</td><td></td><td></td></tr>
<tr><td></td><td></td><td>SPACE</td><td></td><td></td><td>27 |*| 28</td><td></td><td></td><td>SPACE</td><td></td><td></td></tr>
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<tr><td></td><td></td><td>SPACE</td><td></td><td></td><td>37 *|| 38</td><td></td><td></td><td>SPACE</td><td></td><td></td></tr>
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</table>

PANEL LOAD SUMMARY:
LIGHTING: 6.26 KVA
FROM OTHER PANELS: 5.58 KVA 14.53 KVA PHASE A
MOTORS: 24.66 KVA 11.35 KVA PHASE B
HEATING: 0.00 KVA 10.63 KVA PHASE C
TOTAL: 36.50 KVA

PANEL ID: EEP1 VOLTAGE: 120/208
LOCATION: FIRST FLOOR SERVER ROOM PHASE: 3
MOUNTING: SURFACE WIRE: 4
MAIN TYPE: BREAKER MAIN SIZE: 100 AMPS AIC RATING: 22,000

LEGEND: LO: LOCK ON DEVICE
PROVIDE PANEL WITH INTEGRAL SURGE PROTECTION DEVICE (SPD)

BE-JOB# 18-142

<table>
<tr><th>GND SIZE</th><th>WIRE SIZE</th><th>BRANCH CIRCUIT DESCRIPTION</th><th>CIRCUIT BREAKER</th><th>LOAD KVA</th><th>CIRCUIT NUMBER</th><th>LOAD KVA</th><th>CIRCUIT BREAKER</th><th>BRANCH CIRCUIT DESCRIPTION</th><th>WIRE SIZE</th><th>GND SIZE</th></tr>
<tr><td></td><td></td><td>SPARE</td><td>20/1</td><td></td><td>1 *|| 2</td><td>1.50</td><td>20/1 LO</td><td>FACP</td><td>10</td><td>10</td></tr>
<tr><td></td><td></td><td>SPARE</td><td>20/1</td><td></td><td>3 |*| 4</td><td>0.48</td><td>20/1</td><td>DOOR SECURITY 3RD</td><td>10</td><td>10</td></tr>
<tr><td></td><td></td><td>SPARE</td><td>20/1</td><td></td><td>5 ||* 6</td><td>0.60</td><td>20/1</td><td>DOOR SECURITY 3RD</td><td>10</td><td>10</td></tr>
<tr><td></td><td></td><td>SPARE</td><td>20/1</td><td></td><td>7 *|| 8</td><td>0.72</td><td>20/1</td><td>DOOR SECURITY 4TH</td><td>10</td><td>10</td></tr>
<tr><td></td><td></td><td>SPARE</td><td>20/1</td><td></td><td>9 |*| 10</td><td>0.48</td><td>20/1</td><td>DOOR SECURITY 5TH</td><td>10</td><td>10</td></tr>
<tr><td></td><td></td><td>SPARE</td><td>20/1</td><td></td><td>11 ||* 12</td><td>0.48</td><td>20/1</td><td>DOOR SECURITY 5TH</td><td>10</td><td>10</td></tr>
<tr><td></td><td></td><td>SPARE</td><td>20/1</td><td></td><td>13 *|| 14</td><td>0.60</td><td>20/1</td><td>DOOR SECURITY 6TH</td><td>10</td><td>10</td></tr>
<tr><td></td><td></td><td>SPARE</td><td>20/1</td><td></td><td>15 |*| 16</td><td>0.72</td><td>20/1</td><td>DOOR SECURITY 6TH</td><td>10</td><td>10</td></tr>
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</table>

PANEL LOAD SUMMARY:
LIGHTING: 0.00 KVA
RECEPT & MISC: 5.58 KVA 2.82 KVA PHASE A
MOTORS: 0.00 KVA 1.68 KVA PHASE B
HEATING: 0.00 KVA 1.08 KVA PHASE C
TOTAL: 5.58 KVA

PANEL ID: EOH1 VOLTAGE: 277/480
LOCATION: FIRST FLOOR SERVER ROOM PHASE: 3
MOUNTING: SURFACE WIRE: 4
MAIN TYPE: LUGS MAIN SIZE: 200 AMPS AIC RATING: 22,000

LEGEND: LO: LOCK ON DEVICE
PROVIDE PANEL WITH INTEGRAL SURGE PROTECTION DEVICE (SPD)
**: SEE ONE LINE DIAGRAM

BE-JOB# 18-142

<table>
<tr><th>GND SIZE</th><th>WIRE SIZE</th><th>BRANCH CIRCUIT DESCRIPTION</th><th>CIRCUIT BREAKER</th><th>LOAD KVA</th><th>CIRCUIT NUMBER</th><th>LOAD KVA</th><th>CIRCUIT BREAKER</th><th>BRANCH CIRCUIT DESCRIPTION</th><th>WIRE SIZE</th><th>GND SIZE</th></tr>
<tr><td>**</td><td>**</td><td>–</td><td>–</td><td>12.00</td><td>1 *|| 2</td><td>29.08</td><td>–</td><td>–</td><td>**</td><td>**</td></tr>
<tr><td>–</td><td>**</td><td>EXISTING PANEL</td><td>60/3</td><td>12.00</td><td>3 |*| 4</td><td>31.46</td><td>150/3</td><td>PANEL EOH6</td><td>**</td><td>–</td></tr>
<tr><td>–</td><td>**</td><td>H1E</td><td>–</td><td>12.00</td><td>5 ||* 6</td><td>28.83</td><td>–</td><td>–</td><td>**</td><td>–</td></tr>
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PANEL LOAD SUMMARY:
LIGHTING: 0.00 KVA
FROM OTHER PANELS: 125.37 KVA 41.08 KVA PHASE A
MOTORS: 0.00 KVA 43.46 KVA PHASE B
HEATING: 0.00 KVA 40.83 KVA PHASE C
TOTAL: 125.37 KVA

LIGHTING FIXTURE SCHEDULE

NOTES:
FIXTURE NUMBER, LETTER PREFIX INDICATES TYPE OF MOUNTING AS FOLLOWS:
C-CEILING MOUNTED; S-SUSPENDED; W-WALL MOUNTED; R-CEILING RECESSED; WR-WALL RECESSED; CV-COVE MOUNTED; U-UNDERCABINET; P-POST; G-GROUND MOUNTED; X-UNIVERSAL MOUNTED; T-TRACK.

ALL FIXTURES SHALL BE 80 CRI MINIMUM, UNLESS NOTED OTHERWISE
PARTIAL MODEL NUMBERS MAY BE SHOWN AND ARE INTENDED TO INDICATE ACCEPTABLE MANUFACTURER'S PRODUCT LINE.
EXACT MODEL NUMBERS MEETING THE FIXTURE DESCRIPTION SHALL BE OBTAINED FROM MANUFACTURER'S AGENT.
ALL FIXTURES MAY NOT BE USED. REFER TO PLANS FOR FIXTURE QUANTITIES.
FIXTURE DIMENSIONS MAY VARY BETWEEN MANUFACTURERS.
REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

BE-JOB # 18-142

FIXTURE NUMBER	FIXTURE DESCRIPTION	FIXTURE VOLTAGE	LAMP TYPE	APPROVED MANUFACTURERS
R1	2' x 4' x 2.375", CEILING RECESSED LED TROFFER, WHITE BAKED ENAMEL STEEL HOUSING, CURVED RIBBED ACRYLIC DIFFUSER, GRID CLIPS, 0-10 VOLT DIMMING DOWN TO 1%, 3500K COLOR TEMPERATURE, 7245 LUMENS, L90/60,000 LUMEN MAINTENANCE, 5 YEAR WARRANTY, UL LISTING. FIXTURE: 59 WATTS, 7245 LUMENS	MVOLT	LED W/FIXTURE	LITHONIA 2BLT4-72L-ADP-LP835 SERIES COLUMBIA LCAT SERIES OR EQUAL
R2	2' x 4' x 2.375", CEILING RECESSED LED TROFFER, WHITE BAKED ENAMEL STEEL HOUSING, CURVED RIBBED ACRYLIC DIFFUSER, GRID CLIPS, 0-10 VOLT DIMMING DOWN TO 1%, 3500K COLOR TEMPERATURE, 6016 LUMENS, L90/60,000 LUMEN MAINTENANCE, 5 YEAR WARRANTY, UL LISTING. FIXTURE: 47 WATTS, 6016 LUMENS	MVOLT	LED W/FIXTURE	LITHONIA 2BLT4-60L-ADP-LP835 SERIES COLUMBIA LCAT SERIES OR EQUAL
R3	2' x 4' x 2.375", CEILING RECESSED LED TROFFER, WHITE BAKED ENAMEL STEEL HOUSING, CURVED RIBBED ACRYLIC DIFFUSER, GRID CLIPS, 0-10 VOLT DIMMING DOWN TO 1%, 3500K COLOR TEMPERATURE, 4960 LUMENS, L90/60,000 LUMEN MAINTENANCE, 5 YEAR WARRANTY, UL LISTING. FIXTURE: 38 WATTS, 4960 LUMENS	MVOLT	LED W/FIXTURE	LITHONIA 2BLT4-48L-ADP-LP835 SERIES COLUMBIA LCAT SERIES OR EQUAL
R4	2' x 4' x 2.375", CEILING RECESSED LED TROFFER, WHITE BAKED ENAMEL STEEL HOUSING, CURVED RIBBED ACRYLIC DIFFUSER, GRID CLIPS, 0-10 VOLT DIMMING DOWN TO 1%, 3500K COLOR TEMPERATURE, 4000 LUMENS, L90/60,000 LUMEN MAINTENANCE, 5 YEAR WARRANTY, UL LISTING. FIXTURE: 32 WATTS, 4000 LUMENS	MVOLT	LED W/FIXTURE	LITHONIA 2BLT4-40L-ADP-LP835 SERIES COLUMBIA LCAT SERIES OR EQUAL
R5	2' x 2' x 2.375", CEILING RECESSED LED TROFFER, WHITE BAKED ENAMEL STEEL HOUSING, CURVED RIBBED ACRYLIC DIFFUSER, GRID CLIPS, 0-10 VOLT DIMMING DOWN TO 1%, 3500K COLOR TEMPERATURE, 4041 LUMENS, L90/60,000 LUMEN MAINTENANCE, 5 YEAR WARRANTY, UL LISTING. FIXTURE: 31 WATTS, 4041 LUMENS	MVOLT	LED W/FIXTURE	LITHONIA 2BLT2-40L-ADP-LP835 SERIES COLUMBIA LCAT SERIES OR EQUAL
R6	2' x 2' x 2.375", CEILING RECESSED LED TROFFER, WHITE BAKED ENAMEL STEEL HOUSING, CURVED RIBBED ACRYLIC DIFFUSER, GRID CLIPS, 0-10 VOLT DIMMING DOWN TO 1%, 3500K COLOR TEMPERATURE, 3332 LUMENS, L90/60,000 LUMEN MAINTENANCE, 5 YEAR WARRANTY, UL LISTING. FIXTURE: 27 WATTS, 3332 LUMENS	MVOLT	LED W/FIXTURE	LITHONIA 2BLT2-33L-ADP-LP835 SERIES COLUMBIA LCAT SERIES OR EQUAL
S7	2.125" x 2.125" x 48", PENDANT HUNG LED DIRECT LIGHTING FIXTURE, STEEL HOUSING, END CAPS, LENSED, AIRCRAFT CABLE SUSPENSION, WHITE FINISH, COLOR TEMP. 3500K, 80+ CRI, 7,479 LUMENS 5 YEAR WARRANTY, UL LISTING. MOUNT AT 9'-0" FIXTURE: 60 WATTS, 7,479 LUMENS	MVOLT	LED W/FIXTURE	LITHONIA ZL1D-L48-7000LM-FST-MVOLT-35K-80CRI-WH SERIES OR EQUAL
R8	6" DIA, 8" DEEP, LED, CEILING RECESSED DOWNLIGHT, SELF-FLANGED CLEAR SEMI-SPECULAR REFLECTOR, MEDIUM DISTRIBUTION, 3500K COLOR TEMP, 1642 LUMENS, 85CRI, DIMMABLE LED DRIVER, BAR HANGERS, PREWIRED HOUSING, 5 YEAR WARRANTY, UL LISTING. FIXTURE: 18.5 WATTS, 1642 LUMENS	MVOLT	LED W/FIXTURE	GOTHAM EVO-35/15-6AR-MD SERIES OR EQUAL
R9	6" DIA, 8" DEEP, LED, CEILING RECESSED DOWNLIGHT, SELF-FLANGED CLEAR SEMI-SPECULAR REFLECTOR, MEDIUM DISTRIBUTION, 3500K COLOR TEMP, 1105 LUMENS, 85CRI, DIMMABLE LED DRIVER, BAR HANGERS, PREWIRED HOUSING, 5 YEAR WARRANTY, UL LISTING. FIXTURE: 11.75 WATTS, 1105 LUMENS	MVOLT	LED W/FIXTURE	GOTHAM EVO-35/10-6AR-MD SERIES OR EQUAL
C10	15" x 48", CEILING MOUNTED LED WRAP FIXTURE, ACRYLIC PRISMATIC LENS, WHITE BAKED ENAMEL STEEL HOUSING, LENS HINGED FROM EITHER SIDE, 3500 COLOR TEMPERATURE, 82 CRI, 4564 LUMENS, L90/60,000 LUMEN MAINTENANCE FACTOR, DAMP LOCATION UL LISTING. FIXTURE: 41 WATTS, 4564 LUMENS	MVOLT	LED W/FIXTURE	LITHONIA LBL4-40L-LP835 SERIES OR EQUAL
R11	2' x 4', CEILING RECESSED, FLANGED LED TROFFER, 3.25" DEEP WHITE BAKED ENAMEL STEEL HOUSING, #12 ACRYLIC LENS 0.125" THICK, REGRESSED WHITE ALUMINUM DOOR FRAME, SPRING LOADED OR CAM LATCHES, 3500K COLOR TEMPERATURE, 4777 LUMENS, L80/72,000 LUMEN MAINTENANCE, 5 YEAR WARRANTY, UL LISTING. VERIFY FIXTURE FITS IN EXISTING RECESSED STAIR LIGHT SPACE FIXTURE: 36 WATTS, 4777 LUMENS	MVOLT	LED W/FIXTURE	LITHONIA 2GTL-F-4-48L-RW-A12125-LP835 SERIES OR EQUAL
X12	12" x 8" x 2" , UNIVERSAL CANOPY MOUNT, SINGLE OR DOUBLE FACE LED EXIT SIGN, BLACK CAST ALUMINUM HOUSING, BRUSHED ALUMINUM STENCIL FACE, RED LETTERS, DIRECTIONAL ARROWS AS SHOWN ON PLANS, 90 MIN SEALED UNIT POWER SUPPLY, MAINTENANCE FREE BATTERY, WITH TEST SWITCH AND LED. FIXTURE: 1.3 WATTS	MVOLT	LED W/FIXTURE	LITHONIA LE-S1R-EL-N SERIES OR EQUAL
S13	36" DIAM X 10" DEEP LED BOWL FIXTURE WITH 15" CUSTOM LENGTH STEM, SEAMLESS FAUX ALABASTER ACRYLIC BOWL, SPUN ALUMINUM TRIM RING, DARK BRONZE POWDERCOAT FINISH, SUSPENSION ARMS, DIMMABLE LED DRIVER, 16,400 LUMENS, 3500K, LED SOURCE, UL LISTING. FIXTURE: 130 WATTS, 16,400 LUMENS	MVOLT	LED W/FIXTURE	G-LIGHTING ADAGIO GL-2002-L95-9LED35-F-DBZ-3-0AH-24 SERIES OR PRE-APPROVED EQUAL
W14	50" x 5" x 4", LED STAIR LIGHTER/WALL BRACKET, WHITE POWDER COAT STEEL HOUSING, IMPACT RESISTANT CRESCENT SHAPED LENS, COLOR TEMPERATURE 3500K, 4124 LUMENS, 82 CRI, L90/60,000 LUMEN MAINTENANCE FACTOR, LED DRIVER, OCCUPANCY SENSOR, DIM TO 50% WHEN UNOCCUPIED, 5 YEAR WARRANTY, UL LISTING. FIXTURE: 39 WATTS, 4124 LUMENS	MVOLT	LED W/FIXTURE	LITHONIA WL4-40L-LP835-DIM50 SERIES OR EQUAL

0 4' 8' 16' 24'
GRAPHIC SCALE
1/8" = 1'-0"

Blaser Engineering
342 Moore Street
Bristol, VA 24201
Phone: (423) 349-8380

BLASER ENG JOB# 18-142

no. | date | revision | by

Building Improvements for:
City Hall Relocation-Ph. I
Kingsport, TN

KINGSPORT TENNESSEE

Architectural Services
Cain Rash West Architects
130 Regional Park Dr.
Kingsport, TN 37660
Phn (423) 349-7760
Fax (423) 349-7413
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JAMES A. BLASER REGISTERED ENGINEER STATE OF TENNESSEE No. 00106903

issued	05-24-19
checked	J BLASER
approved	J BLASER
drawn	J BLASER
project no.	2018-27
drawing name	SCHEDULES

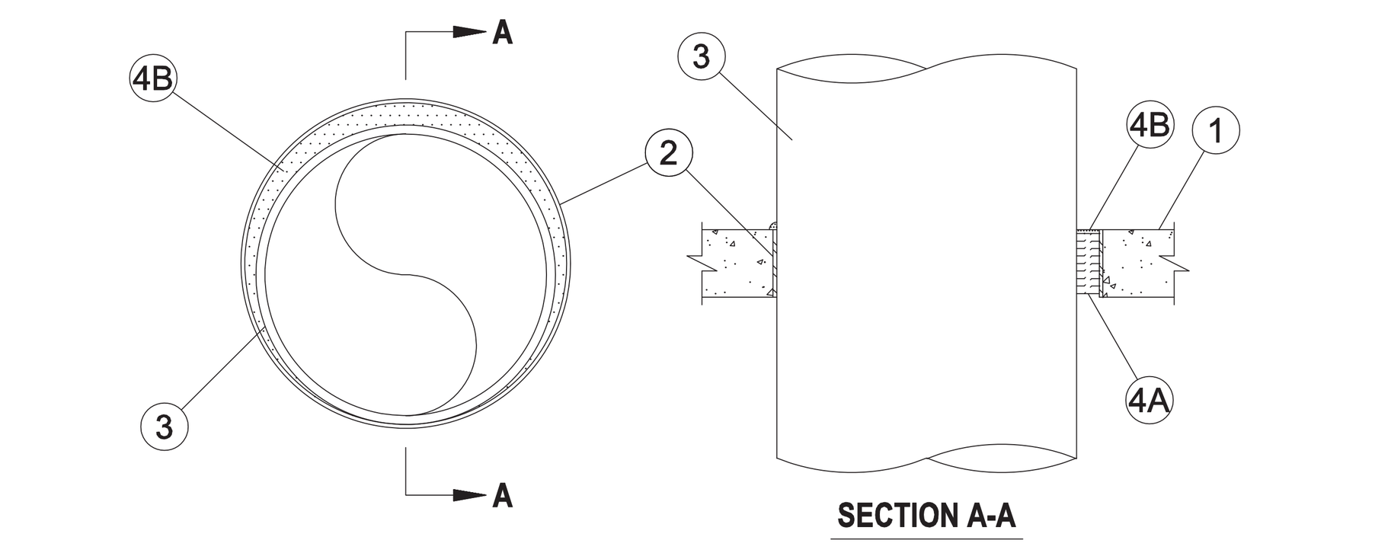
E-51

plotted 5/29/2019 11:12:23 PM file:18142 ELECTRICAL.DWG

System No. C-AJ-1226

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

F Rating — 3 Hr
T Rating — 0 Hr
L Rating At Ambient — Less Than 1 CFM/Sq Ft
L Rating At 400 F — 4 CFM/Sq Ft



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 32 in.
2. Metallic Sleeve — (Optional) Nom 32 in. diam (or smaller) Schedule 40 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces or extending a max of 3 in. above floor or beyond both surfaces of wall.
2A. Sheet Metal Sleeve — (Optional) Max 6 in. diam, min 26 ga galv steel provided with a 26 ga galv steel square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. below the bottom of the deck and a max of 1 in. above the top surface of the concrete floor.
2B. Sheet Metal Sleeve — (Optional) - Max 12 in. diam, min 24 ga galv steel provided with a 24 ga galv steel square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. below the bottom of the deck and a max of 1 in. above the top surface of the concrete floor.
3. Through-Penetrant — One metallic pipe, tube or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and periphery of opening shall be min 0 in. (point contact) to max 1-7/8 in. Penetrant may be installed with continuous point contact. Penetrant to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic penetrants may be used:
   A. Steel Pipe — Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. diam (or smaller) cast or ductile iron pipe.
   C. Copper Pipe — Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
   D. Copper Tubing — Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. Conduit — Nom 6 in. diam (or smaller) steel conduit.
   F. Conduit — Nom 4 in. diam (or smaller) steel electrical metallic tubing (EMT).
4. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 4 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or sleeve or from both surfaces of wall or sleeve as required to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* — Sealant — Min 1/4 in. thickness of fill material applied within the annulus, flush with top surface of floor or sleeve or with both surfaces of wall or sleeve. At the point or continuous contact locations between penetrant and concrete or sleeve, a min 1/4 in. diam bead of fill material shall be applied at the concrete or sleeve/ pipe penetrant interface on the top surface of floor and on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant

*Bearing the UL Classification Mark

Hilti Firestop Systems

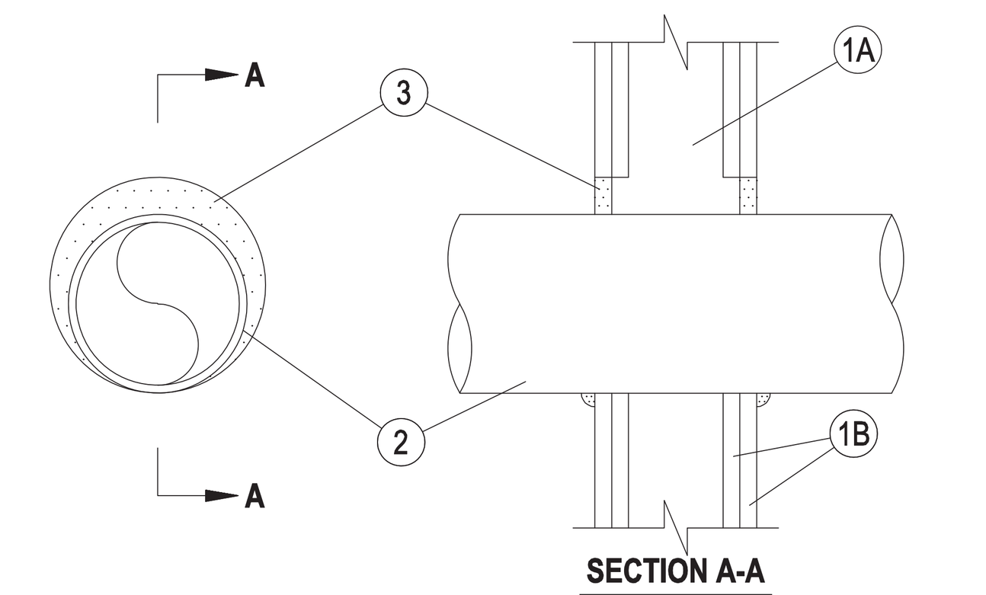
Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. June 27, 2007

EQUALS BY STI, OR OTHERS

System No. W-L-1054

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings —1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating at Ambient — Less Than 1 CFM/sq ft	FH Ratings —1 and 2 Hr (See Items 1 and 3)
L Rating at 400 F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
	FTH Rating — 0 Hr
	L Rating at Ambient — Less Than 1 CFM/sq ft L Rating at 400 F — Less Than 1 CFM/sq ft



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* — 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. for steel stud walls. Max diam of opening is 14-1/2 in. for wood stud walls.
   The F Rating of the firestop system is equal to the fire rating of the wall assembly.
2. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. Pipe may be installed with continuous point contact. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 30 in diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in diam (or smaller) steel electrical metallic tubing or 6 in. diam steel conduit.
   D. Copper Tubing — Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 6 in. diam (or smaller) regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall .
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant

*Bearing the UL Classification Mark

Hilti Firestop Systems

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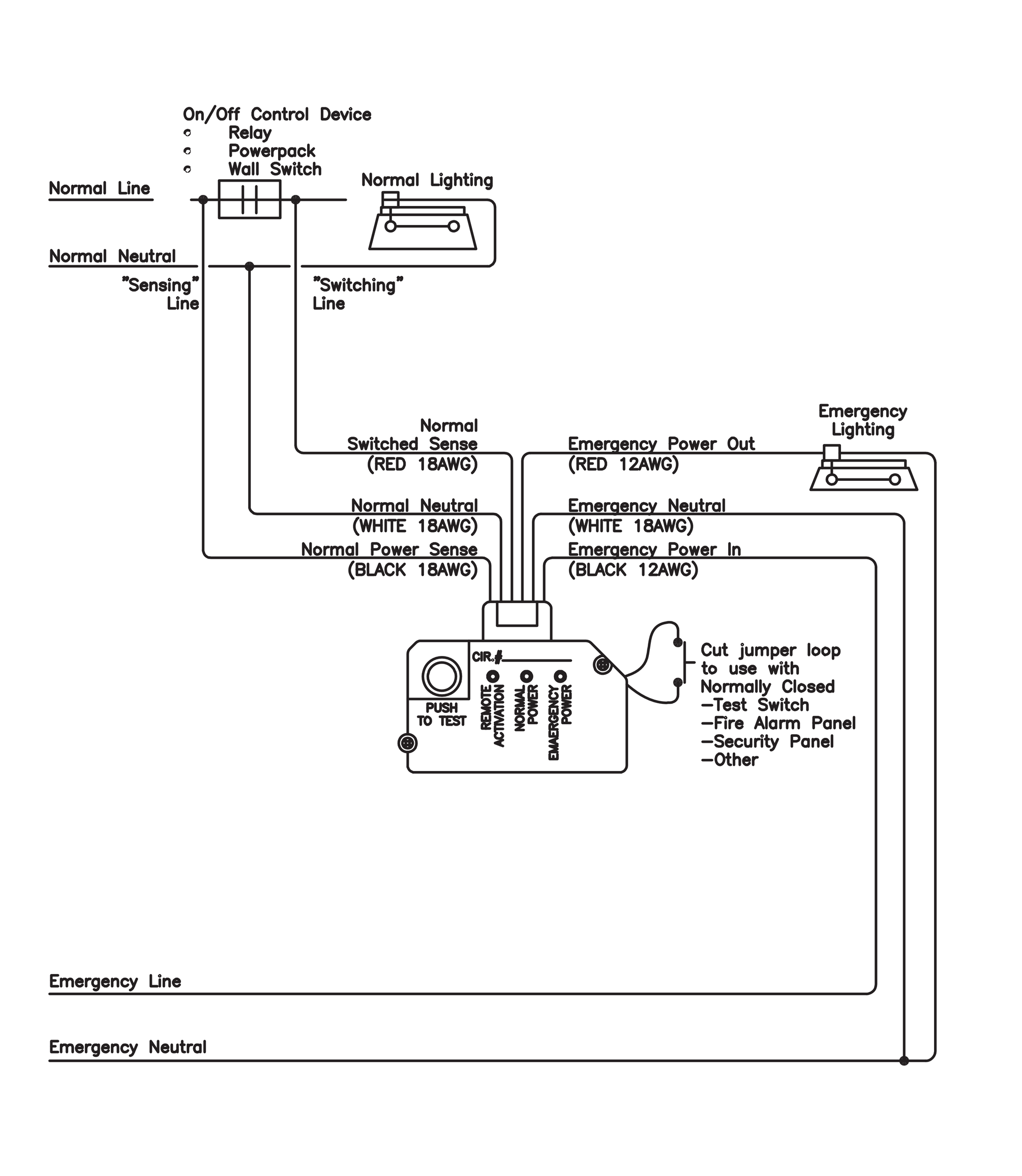
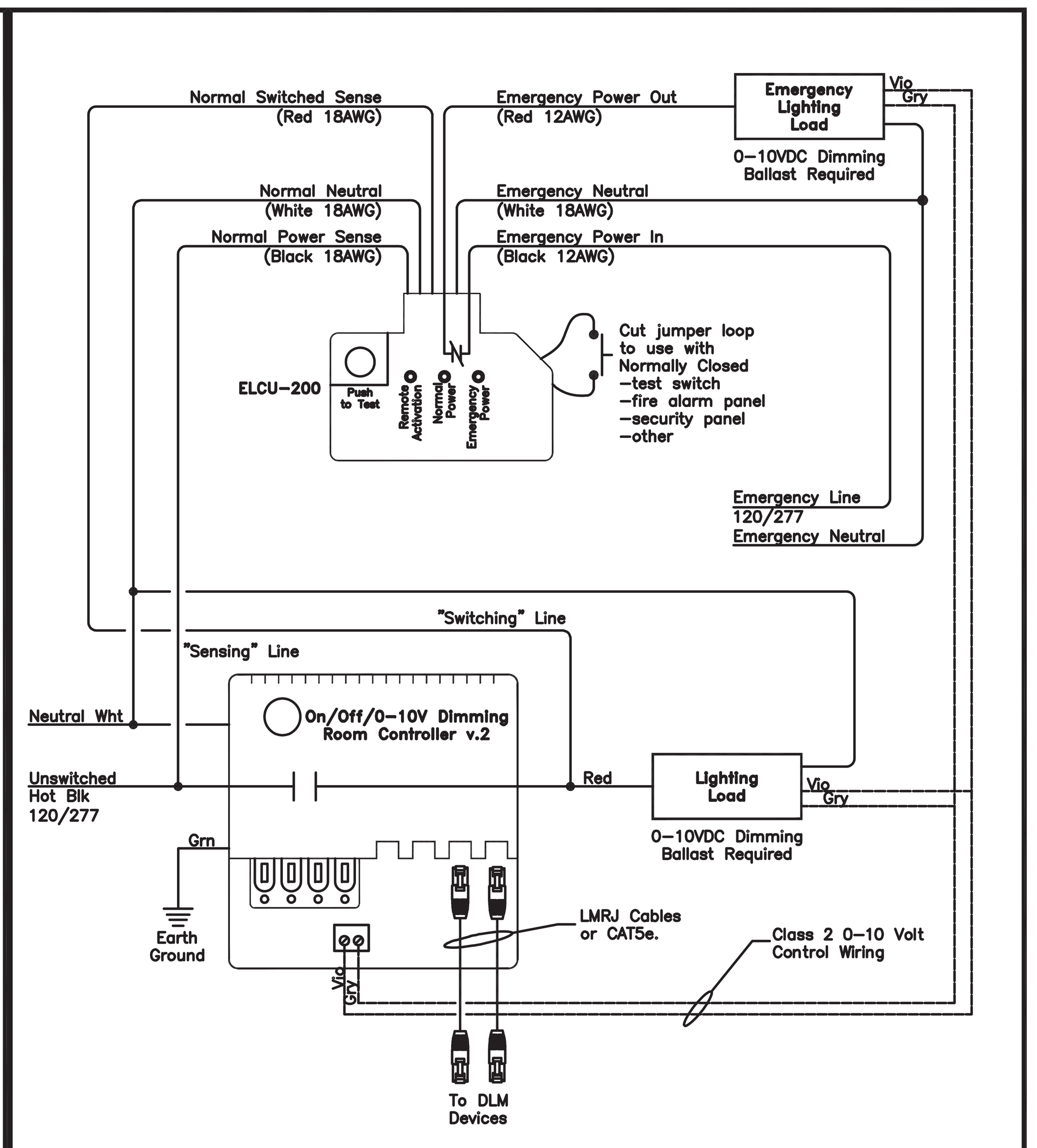
EQUALS BY STI, OR OTHERS

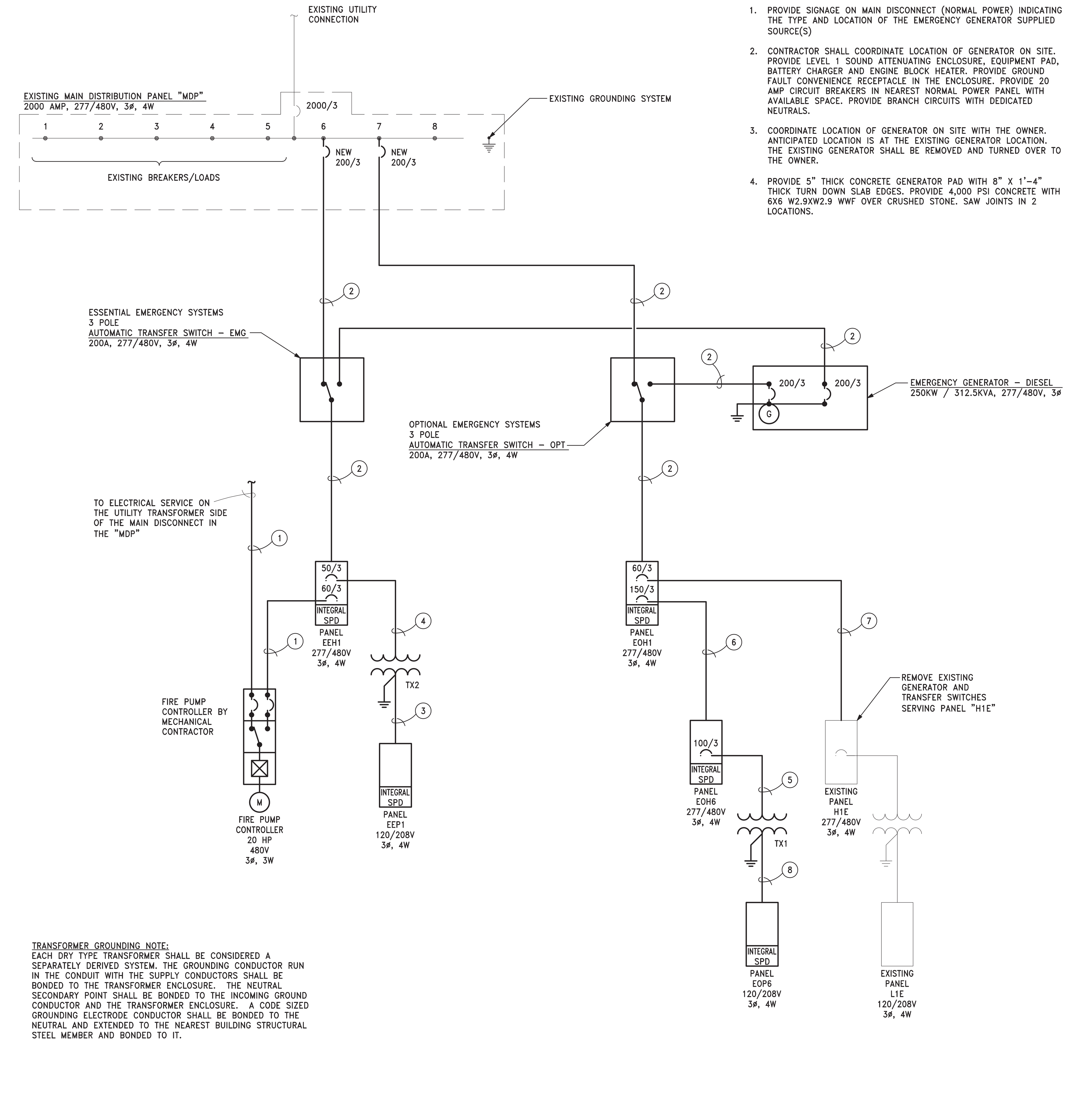


WattStopper 800-879-8585
Title: Emergency Lighting Control Unit ELCU-200 Typical Wiring
Scale: None | Drawing#: 61-510 | Date: 9/23/09



Sequence of Operation:
Upon the loss of normal power, the ELCU–200 will bypass the Room Controller and force the dimmed emergency fixtures ON. The Room Controller will force the dimmed emergency fixture to 100%. The ELCU–200 is UL924 listed.

WattStopper 800-879-8585
Title: Enhanced Room Controller (v.2) with Emergency Bypass
Scale: None | Drawing#: 90–291–1 | Date: 09/06/11 | Rev: 0



GENERATOR NOTES

1. PROVIDE SIGNAGE ON MAIN DISCONNECT (NORMAL POWER) INDICATING THE TYPE AND LOCATION OF THE EMERGENCY GENERATOR SUPPLIED SOURCE(S)
2. CONTRACTOR SHALL COORDINATE LOCATION OF GENERATOR ON SITE. PROVIDE LEVEL 1 SOUND ATTENUATING ENCLOSURE, EQUIPMENT PAD, BATTERY CHARGER AND ENGINE BLOCK HEATER. PROVIDE GROUND FAULT CONVENIENCE RECEPTACLE IN THE ENCLOSURE. PROVIDE 20 AMP CIRCUIT BREAKERS IN NEAREST NORMAL POWER PANEL WITH AVAILABLE SPACE. PROVIDE BRANCH CIRCUITS WITH DEDICATED NEUTRALS.
3. COORDINATE LOCATION OF GENERATOR ON SITE WITH THE OWNER. ANTICIPATED LOCATION IS AT THE EXISTING GENERATOR LOCATION. THE EXISTING GENERATOR SHALL BE REMOVED AND TURNED OVER TO THE OWNER.
4. PROVIDE 5" THICK CONCRETE GENERATOR PAD WITH 8" X 1'–4" THICK TURN DOWN SLAB EDGES. PROVIDE 4,000 PSI CONCRETE WITH 6X6 W2.9XW2.9 WWF OVER CRUSHED STONE. SAW JOINTS IN 2 LOCATIONS.

TRANSFORMER GROUNDING NOTE:
EACH DRY TYPE TRANSFORMER SHALL BE CONSIDERED A SEPARATELY DERIVED SYSTEM. THE GROUNDING CONDUCTOR RUN IN THE CONDUIT WITH THE SUPPLY CONDUCTORS SHALL BE BONDED TO THE TRANSFORMER ENCLOSURE. THE NEUTRAL SECONDARY POINT SHALL BE BONDED TO THE INCOMING GROUND CONDUCTOR AND THE TRANSFORMER ENCLOSURE. A CODE SIZED GROUNDING ELECTRODE CONDUCTOR SHALL BE BONDED TO THE NEUTRAL AND EXTENDED TO THE NEAREST BUILDING STRUCTURAL STEEL MEMBER AND BONDED TO IT.

A WIRING DIAGRAM

ONE LINE — SCALE: N.T.S.

NOTE

1. EXISTING EMERGENCY CIRCUITS CONNECTED TO PANELS "H1E" AND "L1E" SHALL BE REWIRED TO THE NEW EMERGENCY PANELS AS PART OF THE PHASE 2 BUILDING RENOVATION PROJECT.

TRANSFORMER SCHEDULE

TFMR NO.	VOLTAGE	KVA	COMMENTS
TX1	480 V, △ ~ 208/120 V, 3 ø	75	K13 RATED
TX2	480 V, △ ~ 208/120 V, 3 ø	30	–

FEEDER SCHEDULE

NOTE NUMBER	FEEDER AMPS	NUMBER OF SETS	PHASE WIRES QUANTITY – SIZE	NEUTRAL WIRE QUANTITY – SIZE	GROUND SIZE	CONDUIT SIZE PER SET	COMMENTS/REMARKS
1	60	1	3 – #4	–	#10	1"	FIRE PUMP, PER NEC 695.6(A)(2)
2	200	1	3 – #3/0	1 – #3/0	#6	2"	–
3	100	1	3 – #1	1 – #1	#8	1.5"	–
4	50	1	3 – #6	–	#10	0.75"	TRANSFORMER TX2
5	100	1	3 – #1	–	#8	1.25"	TRANSFORMER TX1
6	150	1	3 – #1/0	1 – #1/0	#6	1.5"	–
7	60	1	3 – #4	1 – #4	#10	1"	–
8	200	1	3 – #3/0	2 – #3/0	#6	2.5"	–

FEEDERS BASED ON COPPER CONDUCTORS.

GRAPHIC SCALE 1/8" = 1'-0"

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Phone: (423) 349-8380

BLASER ENG JOB# 18-142

Building Improvements for:
City Hall Relocation-Ph. I
Kingsport, TN

KINGSPORT TENNESSEE

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JAMES A. BLASER — STATE OF TENNESSEE

issued	05-24-19
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approved	J BLASER
drawn	J BLASER
project no.	2018-27
drawing name	ONE-LINE DIAGRAM & DETAILS

E-60

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