

PROJECT MANUAL

State Project Number: DEW-112

State Project Name: David Elevators Emergency Power



January 18, 2019

SC Department of Employment & Workforce / Division of Administration, Support, & Operations
1550 Gadsden Street, Suite 620, Columbia, SC 29202
Phone: (803) 737 – 2406
Fax (803) 737 – 2832

SE-311 INVITATION FOR MINOR CONSTRUCTION QUOTES

PROJECT NAME: David Elevators Emergency Power

PROJECT NUMBER: DEW-112

PROJECT LOCATION: 1550 Gadsden St., Columbia, SC 29202

BID SECURITY REQUIRED? Yes No

PERFORMANCE BOND REQUIRED? Yes No

PAYMENT BOND REQUIRED? Yes No

CONSTRUCTION COST RANGE: \$ \$10,000.00-

\$50,000.00

DESCRIPTION OF PROJECT: Add 3 elevators to emergency power generator per Buford Goff & Assoc. drawings dated 11/30/2018.

BIDDING DOCUMENTS/PLANS MAY BE OBTAINED FROM: Please email drawing request to gholmstrom@dew.sc.gov for an electronic or paper copy (US mail), or contact George Holmstrom at o:(803) 737-0964, m:(803)730-0101.

PLAN DEPOSIT AMOUNT: \$ \$0.00 IS DEPOSIT REFUNDABLE Yes No N/A

Bidders must obtain Bidding Documents/Plans from the above listed source(s) to be listed as an official plan holder. Only those Bidding Documents/Plans obtained from the above listed source(s) are official. Bidders rely on copies of Bidding Documents/Plans obtained from any other source at their own risk.

IN ADDITION TO THE ABOVE OFFICIAL SOURCE(S), BIDDING DOCUMENTS/PLANS ARE ALSO AVAILABLE AT:
N/A

All questions & correspondence concerning this Invitation shall be addressed to the A/E.

A/E NAME: N/A

A/E CONTACT: N/A

A/E ADDRESS: Street/PO Box: N/A

City: N/A

State: N/A

ZIP: N/A

EMAIL: N/A

TELEPHONE: N/A

FAX: N/A

AGENCY: SC Department of Employment and Work Force

AGENCY PROJECT COORDINATOR: George Holmstrom

ADDRESS: Street/PO Box: 1550 Gadsden Street

City: Columbia

State: SC ZIP: 29202

EMAIL: gholmstrom@dew.sc.gov

TELEPHONE: (803) 737-0963

FAX: (803) 737-2832

PRE-QUOTE CONFERENCE: Yes No

MANDATORY ATTENDANCE: Yes No

PRE-QUOTE DATE: 1/23/2019

TIME: 2:00 PM

PLACE: 1550 Gadsden Street, Columbia, SC 29201

QUOTE CLOSING DATE: 1/25/2019

TIME: 2:00 PM

PLACE: 1550 Gadsden Street, Columbia, SC 29201

QUOTE DELIVERY ADDRESSES:

HAND-DELIVERY:

Attn: SCDEW ATTN: George Holmstrom

1550 Gadsden Street

Columbia, SC 29201

MAIL SERVICE:

Attn: SCDEW ATTN: George Holmstrom

1550 Gadsden Street

Columbia, SC 29201

APPROVED BY: _____



(Agency Project Coordinator)

DATE: 1/18/2019

DEW BID FORM

SC Department of Employment and Workforce

(Bidder may not qualify their quote or alter the quote requirements.)

Project Number: DEW-112

Project Name: David Elevators Emergency Power

Bid Time: Friday, January 25, 2019, 2:00 PM, email: gholmstrom@dew.sc.gov, ,
or deliver to 1550 Gadsden St., Columbia, SC 29202, Suite 623

Bid Submitted By: _____
(Bidder Name)

Bidder agrees that this bid may not be revoked or withdrawn after the opening of bids unless mutually agreed upon by Bidder and DEW, and shall remain open for acceptance for a period of 60 Days following the Quote Date, or for such longer period of time that Bidder may agree to in writing upon request of the Owner.

Addendum (List # of addendums and cost per addendum):	
Total Bid:	

Bidder Address: _____

Representative Name: _____

Rep's Phone & E-Mail: _____

License Number: _____

I acknowledge receipt and acceptance of the following numbered Addendum(s): _____

Rep's Signature and Date: _____

GENERAL REQUIREMENTS

SC Dept. of Employment & Workforce / Administration, Support, & Operations
State Project Number / Name: DEW-112 / David Elevators Emergency Power

The Contractor shall abide by these and all requirements listed elsewhere in the Contract Documents. Where a requirement listed in this section appears to conflict with a similar requirement listed in another section of the Contract Documents, the more stringent requirement shall apply.

1. Normal working hours shall 6:00 PM to 6:00 AM. Weekend or holiday shall not be permitted unless authorized by the owner, and requests for weekend and holiday work shall be made a minimum of 48 hours in advance and shall be approved by the Owner in writing prior to proceeding with the work. See floor plans for partition layout. Contractor to verify partition/stall size, and shall mount floor supports in existing cut tile. **NO** tile is to be removed unless approved by the Owner. Ambulatory and standard stall configuration to remain. Construction shall occur 1 floor at a time, that is, both bathrooms on each floor must be 100% finally completed prior to commencing construction on the next floor.
2. The successful bidder shall provide a list of all employees designated to work in the state facilities as specified in these documents. The list shall include the employee's full name, address, driver's license number, social security number, employment start date, and number of years-months direct employment with the company. The employees shall be subject to background checks. Any employees with criminal records may be denied access to the state facilities as specified in these documents.
3. At NO time will a crew be left unsupervised. A crew supervisor as listed in the referenced list of employees shall be present on site at all times during construction.
4. If a safety violation occurrence happens or an injury occurs, contact George Holmstrom immediately at (803) 737-0963-8700 or (803) 730-0101.
5. All contractor employees shall wear temporary identification badges at all times while in the buildings as required, and shall have proper identification at all times. Any employee without a temporary identification badge properly displayed or without proper identification shall be immediately removed from the job site and detained by Security Services, and will not be permitted access until authorized by the owner.
6. Parking shall be coordinated with the owner.
7. The contractor shall provide two-way radios, ladders, and any other materials needed to perform the job.
8. Blank
9. Coordinate work activities with the Owner's Agency Coordinator and Facility Coordinator in order to minimize disruptions to ongoing operations. **DO NOT INTERRUPT ANY UTILITY SERVICE WITHOUT PRIOR COORDINATION AND APPROVAL OF THE FACILITY COORDINATOR.**
10. All temporarily removed components and accessories must be protected from damage and reinstalled in clean, working condition. **DO NOT TEMPORARILY OR PERMANANTLY REMOVE, REPLACE OR MODIFY ANY STRUCTURAL COMPONENT.**
11. All materials and components used at fire-rated walls, doors, and penetrations must be "UL Approved" and meet the requirements of all applicable codes. Installation methods for such materials and components must also meet these same requirements.
12. Notify the Owner's Agency Coordinator immediately of any damaged or suspect existing materials and/or components uncovered during the course of the work which are not specifically addressed in these documents.
13. **TAKE APPROPRIATE SAFETY MEASURES TO PROTECT BUILDING OCCUPANTS FROM HAZARDS POSED BY THE WORK OF THIS CONTRACT. DO NOT BLOCK PATHWAYS FOR PEDESTRIANS AND/OR VEHICLES without prior coordination and approval of OWNER AND BUILDING OCCUPANT. DO NOT BLOCK FIREEXIT PATHWAYS.**
14. Contractor is responsible for any damage to parked vehicles caused by the work of this contract.
15. Contractor is responsible for any damage to existing landscape and hardscape caused by the work of this contract.

GENERAL REQUIREMENTS

SC Dept. of Employment & Workforce / Administration, Support, & Operations
State Project Number / Name: DEW-112 / David Elevators Emergency Power

16. CONTRACTOR SHALL NOT DISTURB OWNER'S EXISTING OFFICE FURNITURE AND/OR EQUIPMENT. CONTRACTOR SHALL NOTIFY OWNER'S AGENCY COORDINATOR IF ANY EXISTING EQUIPMENT WILL IMPEDE THE WORK OF THIS CONTRACT.
17. If ceiling tiles, office furniture, or equipment must be moved, they shall be replaced to original position at the end of each work shift prior to leaving the work site.
18. **UTILITIES:** The Contractor shall have the use of any available lights, power, and water at the project site without cost. The installation and any costs associated with the temporary extensions as necessary shall be the responsibility of the Contractor.
19. **STORAGE OF MATERIALS:** The Contractor shall limit the storage of materials to the areas designated in these documents and/or at the pre-construction site meeting. The Contractor shall be responsible for the coordination of his material deliveries and storage of materials on-site. Storage area shall be maintained in a neat and orderly way.
20. **CLEAN UP:** At the end of each workday, the Contractor shall have the area of work broom cleaned. Also broom clean areas where dust has settled outside the work area. Ceiling tiles shall be replaced to proper and original configuration at the end of each day and prior to leaving the job site. The Contractor shall also comply with all special cleaning instructions contained elsewhere in these documents.
21. All lights shall be turned off, and all doors shall be locked and secured at the end of the workday and prior to leaving the job site.
22. Chemicals and other hazardous materials shall be stored in secured storage areas and **MATERIAL SAFETY DATA SHEETS** on all materials used in the construction of the project shall be on the job site in a three ring notebook. Copies of the material safety data sheets shall be given to the Owner.
23. The SCDEW / ASO has a **LOCKOUT/TAGOUT** program for isolating equipment and machines being installed, constructed, adjusted, inspected, repaired, and/or maintained. The Contractor will comply with this program and could be denied access to areas and equipment if this procedure is not put to use. A copy of the **LOCKOUT/TAGOUT** program is included in this Project Manual.
24. Toilet Facilities: Existing toilet facilities to be designated by the owner may be used by construction personnel. If cleanliness problems or other problems result from this practice, this use may be restricted or eliminated by the owner and the contractor will have to provide toilet facilities at no additional expense to the owner.
25. **Facilities may contain asbestos containing materials (ACMs). Prior to commencing work, all contractors for this project are required to review the Owner's Operations and Maintenance Manual for this facility as well as all areas involving work of the project.** The manuals are located at 1550 Gadsden Street, Columbia, SC at the Administration, Support, & Operations Office.

After reviewing the O&M Manual(s) noted above and prior to commencing work, the Contractor will identify to the Owner any known or suspected ACMs that will need to be disturbed in order to complete the work of the project. The Owner shall select and pay a licensed asbestos professional for any additional materials sampling that would be required to determine if a suspect material is considered an ACM. The Owner shall also select and pay for a licensed abatement contractor to abate the ACMs as needed for the Contractor to perform the work of this project. This abatement shall be paid for either directly by the Owner or optionally by the Contractor through a change order to the contract as agreed to by both parties.

The Contractor shall provide to the Owner a letter certifying that no asbestos-containing materials were incorporated into the Work.

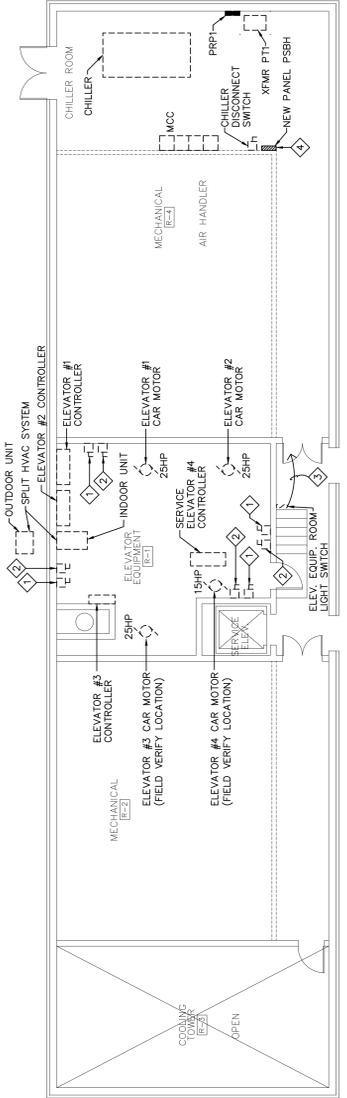
26. Contractor shall comply with all federal, state, and local regulations concerning the handling and disposal of lead containing materials.

GENERAL REQUIREMENTS

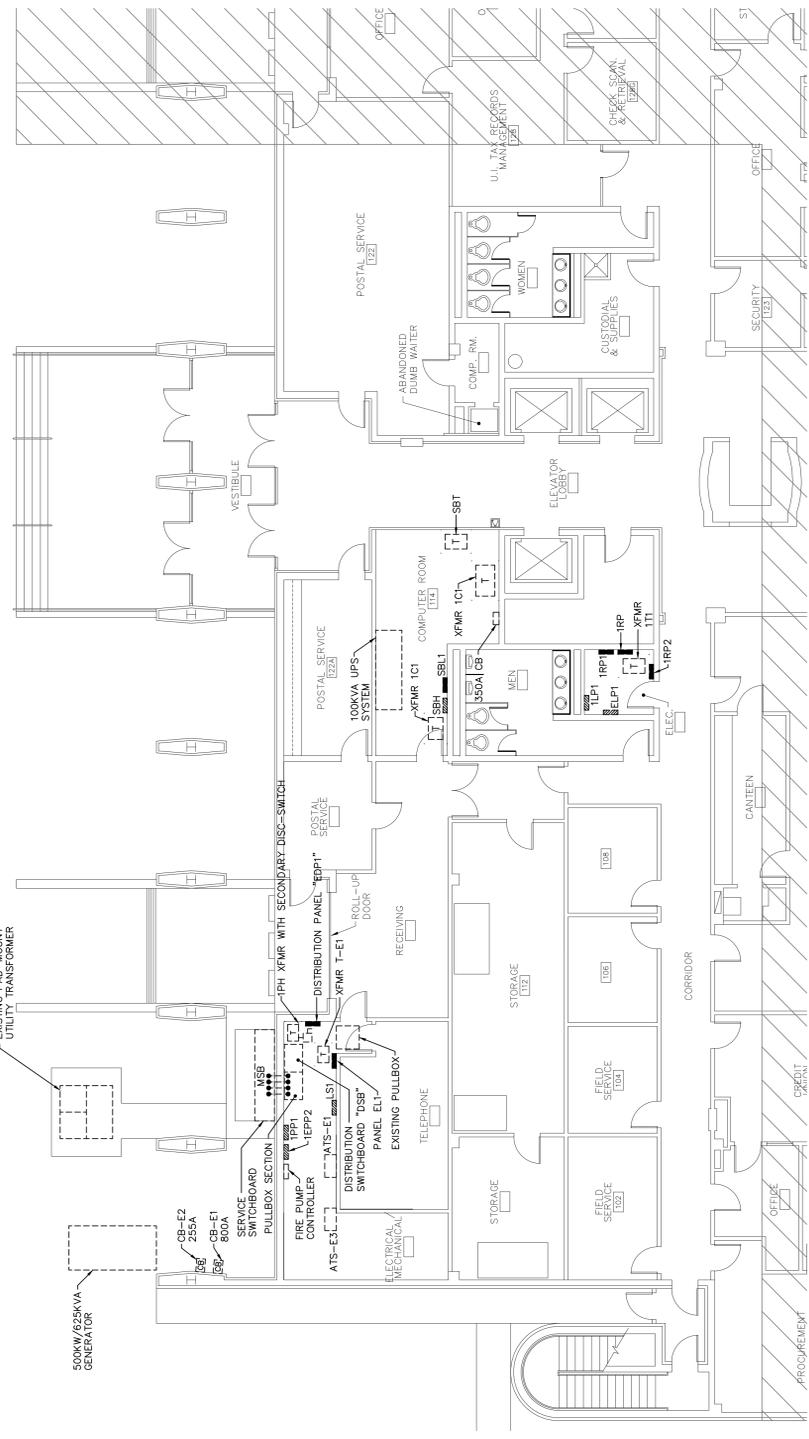
SC Dept. of Employment & Workforce / Administration, Support, & Operations
State Project Number / Name: DEW-112 / David Elevators Emergency Power

27. There shall be NO FRATERNIZATION with visitors and/or employees.

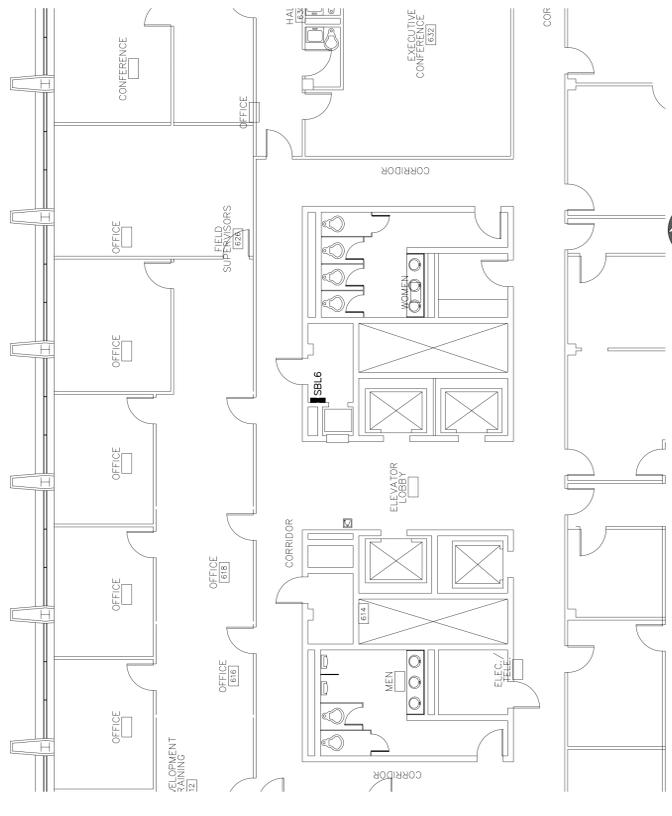
ELECTRICAL SYMBOL SCHEDULE	
SYMBOL	DESCRIPTION
	SEPARATELY ENCLOSED CIRCUIT BREAKER
	AUTOMATIC TRANSFER SWITCH
	ELECTRICAL PANELBOARD 120/208V
	ELECTRICAL PANELBOARD OR SWITCHBOARD, 480/277V
	DISCONNECT SWITCH
	ELEVATOR MOTOR
	JUNCTION BOX
	HORSEPOWER
	UNINTERRUPTIBLE POWER SUPPLY
	CONDUIT
	CIRCUIT BREAKER
	TRANSFORMER
	PANEL
	PHASE
	CONDUIT RUN, VERTICAL-DOWN
	CONDUIT RUN, VERTICAL-UP
	CONDUIT RUN CONCEALED OVERHEAD
	KEYNOTE LABEL
	TRANSIENT VOLTAGE SURGE SUPPRESSOR



3 PENTHOUSE PARTIAL PLAN - ELECTRICAL RENOVATION
SCALE: 1/8" = 1'-0"



1 FIRST FLOOR PARTIAL PLAN - ELECTRICAL RENOVATION
SCALE: 1/8" = 1'-0"



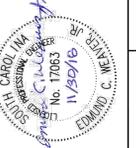
2 SIXTH FLOOR PARTIAL PLAN - ELECTRICAL RENOVATION
SCALE: 1/8" = 1'-0"



- REVISIONS:
- 1 ELEVATOR CAR LIGHTS & CONTROL POWER DISCONNECT SWITCH. SEE POWER RISER DIAGRAM (RE: SHEET E002) FOR REQUIRED DEMOLITION AND RENOVATION WORK.
 - 2 ELEVATOR CONTROLLER & CAR MOTOR DISCONNECT SWITCH. SEE POWER RISER DIAGRAM (RE: SHEET E002) FOR REQUIRED DEMOLITION AND RENOVATION WORK.
 - 3 FIELD VERIFY LIGHTING CIRCUIT VOLTAGE. IF 120V, TRANSFER CIRCUIT TO SPARE 20A, 1P CB IN PANEL SBL6. IF 277V, TRANSFER CIRCUIT TO 20A, 1P CB IN PANEL PSBH. NEW HOME RUN SHALL BE (2) #12, #12 GND., 3/4" C. REMOVE ABANDONED PORTION OF OLD HOMERUN BACK TO SOURCE PANEL.
 - 4 PROVIDE HEAVY DUTY FREE STANDING RACK, BOLTED TO FLOOR, FOR PANEL PSBH. CONTRACTOR SHALL MATCH STYLE AND MATERIAL USED FOR ADJACENT CHILLER DISCONNECT SWITCH.

Project Engineer: BCM
Drawn By: AM
Revisions:
No. Date Description
No. Date Description

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Project: SOUTH CAROLINA DEPARTMENT OF EMPLOYMENT AND WORKFORCE
STATE PROJECT NUMBER: DEW12
PARTIAL PLANS, SCHEDULES & DETAILS

Buford Goff & Associates, Inc. Engineers & Planners
1331 Elmwood Ave.
Columbia, SC 29201
Phone: (803) 254-6302

Sheet Number: E001
Date: 11/02/2018
Scale: AS SHOWN
PROJECT NUMBER: 18116

Project Engineer:	BCM	
Drawn By:	AM	
Revisions:		
No.	Date	Description

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SOUTH CAROLINA DEPARTMENT OF EMPLOYMENT AND WORKFORCE
DAVID ELEVATORS EMERGENCY POWER
 STATE PROJECT NUMBER: DEW12
 SPECIFICATIONS

Buford Goff & Associates, Inc.
 Engineers & Planners
 1331 Elmwood Ave.
 Columbia, SC 29201
 Phone: (803) 254-6302

Sheet Title: _____
 Sheet Number: _____
E003
 Date: 11/09/2018
 Scale: AS SHOWN
 PROJECT NUMBER: 18116

SECTION 16130 — ELECTRICAL BOXES
 PART 1 — GENERAL
 PART 2 — PRODUCTS
 2.1 FABRICATED MATERIALS:
 A. OUTLET AND DEVICE BOXES (DRY INTERIOR LOCATIONS) — PROVIDE GALVANIZED CAPACITIES, AND SIZES, INCLUDING BOX DEPTHS AS REQUIRED BY PARTICULAR APPLICATION, SUITABLE FOR INSTALLATION AT RESPECTIVE LOCATIONS. PROVIDE KNOCKOUT OPENINGS IN BOTTOM AND SIDES. PROVIDE BOXES WITH THREADED SCREW HOLES WITH CORROSION-RESISTANT COVER AND GROUNDING SCREWS FOR GROUNDING.
 PART 3 — EXECUTION
 3.1 INSTALLATION OF ELECTRICAL BOXES AND FITTINGS:
 A. GENERAL: INSTALL ELECTRICAL BOXES AND FITTINGS AS INDICATED, IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS, APPLICABLE REQUIREMENTS, AND AS HERINAFTER SPECIFIED.
 B. COORDINATE INSTALLATION OF ELECTRICAL BOXES AND FITTINGS WITH WIRE/CABLE, WIRING DEVICES, AND RACEWAY INSTALLATION WORK.
 3.2 GROUNDING:
 A. UPON COMPLETION OF INSTALLATION, WORK PROPERLY GROUND ELECTRICAL BOXES AND DEMONSTRATE COMPLIANCE WITH REQUIREMENTS.
 END OF SECTION

SECTION 16450 — GROUNDING
 PART 1 — GENERAL
 PART 2 — PRODUCTS
 2.1 GENERAL:
 A. PROVIDE ELECTRICAL GROUNDING SYSTEMS WITH ASSEMBLY OF MATERIALS, MATERIALS OR COMPONENTS ARE NOT INDICATED, PROVIDE PRODUCTS COMPLYING WITH NEC, UL, IEEE AND ESTABLISHED INDUSTRY STANDARDS.
 2.2 GROUNDING CONDUCTORS:
 A. SHALL BE UL AND NEC APPROVED TYPES, COPPER, WITH THIN INSULATION COLOR IDENTIFIED GREEN, EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, OR SPECIFIED.
 B. WIRE SIZE SHALL NOT BE LESS THAN #12 AWG AND NOT LESS THAN REQUIRED BY THE NEC.
 PART 3 — EXECUTION
 3.1 INSTALLATION OF ELECTRICAL GROUNDING:
 A. GENERAL: INSTALL ELECTRICAL GROUNDING SYSTEMS IN ACCORDANCE WITH APPLICABLE PORTIONS OF NEC, WITH NECA'S "STANDARD OF INSTALLATION," AND PRODUCTS COMPLY WITH REQUIREMENTS AND SERVE INTENDED FUNCTIONS.
 3.2 FEEDERS AND BRANCH CIRCUITS:
 A. INSTALL GREEN INSULATED EQUIPMENT GROUNDING CONDUCTORS WITH ALL FEEDERS AND BRANCH CIRCUITS. CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH NEC ARTICLE 250-95.
 3.3 EQUIPMENT GROUNDS:
 A. ALL EQUIPMENT THAT HAS ELECTRICAL CONNECTIONS (LIGHTS, RECEPTACLES, PANELS, AND UTILIZATION EQUIPMENT) SHALL HAVE A GROUND WIRE CONNECTED THAT IS DIRECTLY TIED TO THE GROUND BUS OF THE PANEL, WHICH SERVES IT.
 B. FIXED ELECTRICAL APPLIANCES AND EQUIPMENT SHALL HAVE A GROUND LUG CONNECTED TO THE GROUND CONDUCTOR.
 END OF SECTION

SECTION 16220 — WIRE, CABLE — BUILDING WIRE (600 VOLTS AND BELOW)
 PART 1 — GENERAL
 PART 2 — PRODUCTS
 2.1 MATERIALS:
 A. BUILDING WIRE (POWER AND LIGHTING):
 1. CABLE AND WIRE SHALL BE IN ACCORDANCE WITH UL, NEC, AS SHOWN ON THE DRAWINGS, AND AS HERINAFTER SPECIFIED.
 2. INSULATION: UNLESS OTHERWISE SHOWN ON THE DRAWINGS, INSULATION SHALL BE AS FOLLOWS:
 a. THW — DRY, WET LOCATIONS.
 b. THHN — DRY, WET LOCATIONS.
 c. THWN — DRY, DAMP LOCATIONS.
 B. COLOR CODE:
 1. ALL SECONDARY SERVICE, FEEDER, AND BRANCH CIRCUIT CONDUCTORS SHALL BE COLOR CODED AS FOLLOWS:
 208/120 VOLT PHASE
 A BLACK
 B RED
 C BLUE
 480/277 VOLT PHASE
 A BROWN
 B ORANGE
 C YELLOW
 NEUTRAL
 GRAY
 WHITE
 2. ALL NO. 12 AND NO. 10 BRANCH CIRCUIT CONDUCTORS SHALL HAVE SOLID COLOR COATING OR SOLID COLOR COATING.
 3. FOR MODIFICATIONS AND ADDITIONS TO EXISTING WIRING SYSTEMS, COLOR CODING SHALL CONFORM TO THE EXISTING WIRING SYSTEM.
 PART 3 — EXECUTION
 3.1 INSTALLATION:
 A. INSTALLATION SHALL BE IN ACCORDANCE WITH THE NEC, AS SHOWN ON THE DRAWINGS, AND AS HERINAFTER SPECIFIED.
 B. ALL WIRING SHALL BE INSTALLED IN RACEWAY SYSTEMS, EXCEPT SHOWN ON THE DRAWINGS.
 C. CABLES AND WIRES SHALL BE SPLICED ONLY IN OUTLET BOXES, JUNCTION BOXES OR PULL BOXES.
 END OF SECTION

SECTION 26216 — PANELBOARDS
 PART 1 — GENERAL
 1.1 SCOPE OF WORK:
 A. SHOWS ON THE DRAWINGS; OF APPROVED PANELBOARDS OF A TYPE INDICATED AND SPECIFIED HEREIN.
 1.2 QUALITY ASSURANCE: UL 50 & 67 LISTED AND LABELED.
 PART 2 — PRODUCTS
 2.1 LABELING: A NAMEPLATE SHALL BE PROVIDED LISTING PANEL TYPE AND RATING
 2.2 GENERAL PANELBOARD CONSTRUCTION:
 A. PROVIDE DEAD-FRONT SAFETY CONSTRUCTED FACTORY ASSEMBLED CIRCUIT BREAKER TYPE PANELBOARDS IN SIZES AND RATINGS AS INDICATED. ALUMINUM BUS BARS WHICH ARE SECURELY MOUNTED AND BRACED, AND WITH LUGS BOLTED TO MAIN BUS BARS.
 1. PROVIDE ANTI-TURN SOLDERLESS PRESSURE TYPE LUG CONNECTORS APPROVED FOR COPPER CONDUCTORS, AND CONSTRUCT UNIT FOR CONNECTING FEEDERS AT TOP OF PANEL.
 2. EQUIP WITH FULL-SIZED NEUTRAL BUS BAR WITH SUITABLE LUGS FOR CIRCUITS REQUIRING NEUTRAL CONNECTION. PROVIDE SUITABLE LUGS ON NEUTRAL BUS FOR EACH OUTGOING FEEDER.
 3. PROVIDE MAIN AND BRANCH CIRCUIT BREAKERS. BREAKERS SHALL BE MOLDED CASE BOLT-IN TYPE, HEAVY-DUTY, QUICK-MAKE, QUICK-BREAK, BREAKERS BEING INSTALLED PROVIDE WITH COMMON TRIP WITH MULTIPLE OVERLOAD ON ONE POLE WILL TRIP ALL POLES SMALL TANKOUSLY.
 4. PROVIDE BARE UNSULATED GROUNDING BARS SUITABLE FOR BOLTING TO ENCLOSURES.
 B. PANELBOARD ENCLOSURES: PROVIDE GALVANIZED SHEET STEEL CABINET TYPE ENCLOSURES, IN SIZES AND NEMA TYPES AS INDICATED, CODE-GAGE, MINIMUM THICKNESS SHALL BE 16 GA. ENCLOSURES SHALL BE PROVIDED WITH DOORS FOR BOTH INNER AND OUTER DOORS. ALL PANELBOARD LUGS SHALL BE KEVED ALIKE. DOOR HINGES SHALL BE PIANO HINGES. EQUIP WITH INTERIOR CIRCUIT-DIRECTORY FRAME, AND CARD WITH CLEAR PLASTIC COVERING.
 C. MANUFACTURERS (BRANCH CIRCUIT PANELBOARDS — 277/480 V OPERATION)
 SQUARE D
 GENERAL ELECTRIC
 P2/P3
 SIEMENS
 EATON
 PRL2A/PRL3A
 PART 3 — EXECUTION
 3.1 INSTALLATION OF PANELBOARDS:
 A. GENERAL: INSTALL PANELBOARDS AND ENCLOSURES AS INDICATED, IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS, APPLICABLE REQUIREMENTS OF NEC STANDARDS AND NECA'S "STANDARD OF INSTALLATION," AND IN COMPLIANCE WITH RECOGNIZED INDUSTRY PRACTICES.
 B. INSUR ENCLOSURES WITH GROUNDING BRACKETS TO WALLS AND STRUCTURAL SURFACES, ENSURING THAT THEY ARE PERMANENTLY AND MECHANICALLY SECURE.
 C. PROVIDE TYPED DIRECTORY CARD UPON COMPLETION OF INSTALLATION WORK.
 D. LACE ALL FEEDER CABLES WITH THE WRAPS IN PANEL HOUSING. ALL WIRING SHALL BE RUN SQUARE INSIDE HOUSING.
 E. VACUUM PANEL HOUSING TO REMOVE ALL DUST AND DIRT FROM HOUSING PRIOR TO FINAL INSPECTION.
 F. PROVIDE ENGRAVED PLASTIC IDENTIFICATION LABEL FOR EMERGENCY PANELS WITH THE FOLLOWING INFORMATION: ROOM NUMBER, PANEL NUMBER, AND VOLTAGE SYSTEM AND UPS/STREAM DISTRIBUTION INCLUDING ROOM NAME AND NUMBER. ATTACH IDENTIFICATION LABELS TO PANEL WITH RIVETS OR SHEET METAL SCREWS.
 3.2 FIELD QUALITY CONTROL:
 A. PRIOR TO ENERGIZATION OF PANELBOARDS, CHECK WITH GROUND RESISTANCE TESTER PHASE-TO-PHASE AND PHASE-TO-GROUND INSULATION RESISTANCE LEVELS TO ENSURE REQUIREMENTS ARE FULFILLED.
 B. PRIOR TO ENERGIZATION, CHECK PANELBOARDS FOR ELECTRICAL CONTINUITY OF CIRCUITS, AND FOR SHORT CIRCUITS.
 END OF SECTION 26216

SECTION 16010 — ELECTRICAL GENERAL REQUIREMENTS
 PART 1 — GENERAL CONDITIONS
 1.1 REQUIREMENTS OF REGULATORY AGENCIES/CODE COMPLIANCE:
 A. ALL WORK SHALL CONFORM TO THE FOLLOWING BUILDING CODES:
 1. NATIONAL ELECTRICAL CODE NEC 2014
 2. INTERNATIONAL BUILDING CODE 2014
 3. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
 END OF SECTION
SECTION 16020 — ELECTRICAL COORDINATION
 PART 1 — GENERAL CONDITIONS
 1.1 EXISTING CONDITIONS:
 1. THE CONTRACTOR SHALL VISIT THE PREMISES AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL DETAILS OF THE WORK. CONTRACTOR SHALL INSTALL ALL EQUIPMENT IN A MANNER TO AVOID BUILDING INTERFERENCE.
 1.2 SHOP DRAWINGS:
 A. THE CONTRACTOR SHALL NOT PURCHASE ANY MATERIALS OR EQUIPMENT PRIOR TO RECEIPT OF APPROVED SHOP DRAWINGS. PRIOR TO ASSEMBLING OR INSTALLING ELECTRICAL EQUIPMENT, PREPARE AND SUBMIT SHOP DRAWINGS FOR THE FOLLOWING ITEMS OF EQUIPMENT:
 1. LIGHTING FIXTURES
 1.3 AS-BUILT DRAWINGS:
 A. THE CONTRACTOR SHALL KEEP A RECORD SET OF DRAWINGS ON THE JOB AND, AS CONSTRUCTION PROGRESSES, SHALL SHOW THE ACTUAL INSTALLED LOCATION OF ALL ITEMS, MATERIAL, AND EQUIPMENT OF THESE JOB DRAWINGS.
 PART 2 — PRODUCTS
 PART 3 — EXECUTION
 END OF SECTION

SECTION 16111 — METALLIC CONDUITS/RACEWAYS AND FITTINGS
 PART 1 — GENERAL
 PART 2 — PRODUCTS
 2.1 ELECTRICAL METALLIC TUBING (EMT):
 A. ELECTRICAL METALLIC TUBING SHALL CONFORM TO ANSI C80.3 AND UNDERWRITERS LABORATORIES UL 797.
 B. EMT SHALL BE HOT-DIPPED GALVANIZED STEEL WITH INTERNAL COATING OF SILICONE EPOXY LUBRICANT TO ASSIST IN WIRE PULLING.
 C. FITTINGS: SHALL BE COMPRESSION TYPE, STEEL OR MALLEABLE IRON. SET SCREW OR INDENTATION TYPE OF FITTINGS ARE NOT ACCEPTABLE.
 2.2 CONDUIT SUPPORTS:
 A. ALL PARTS AND HARDWARE SHALL BE ZINC-COATED OR HAVE EQUIVALENT CORROSION PROTECTION.
 B. PIPE STRAPS: FED. SPEC. FF-S-760, TYPE 1, STYLE A OR B.
 C. INDIVIDUAL CONDUIT HANGERS: SHALL BE DESIGNED FOR THE PURPOSE, AND HANGERS SHALL BE ASSEMBLED CLOSURE BOLT AND NUT, AND PROVISIONS FOR RECEIVING HANGER ROD.
 PART 3 — EXECUTION
 3.1 CONDUIT INSTALLATION SCHEDULE:
 A. BRANCH CIRCUITS FROM PANELBOARDS:
 1. CONCEALED DRY INTERIOR LOCATION — EMT.
 2. FEEDERS — IMC
 3.2 CONDUIT INSTALLATION — GENERAL
 A. INSTALLATION SHALL BE IN ACCORDANCE WITH UL, NEC, AS SHOWN ON THE DRAWINGS, AND AS HERINAFTER SPECIFIED.
 B. CONDUIT SHALL BE SECURELY FASTENED IN PLACE AT INTERVALS AS SPECIFIED BY THE CODE USING STRAPS, HANGERS AND OTHER SUPPORTING ASSEMBLIES
 1. SPACERS AND SUPPORTING STRAPS SHALL BE OF RUGGED MALLEABLE IRON OR STEEL CONSTRUCTION HOT DIPPED GALVANIZED.
 C. CONCEALED WORK INSTALLATION:
 1. CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO THE BUILDING LINES.
 2. BRANCH CIRCUIT CONDUITS, AND CONDUITS FEEDING CEILING LIGHTING SHALL NOT BE SUPPORTED BY THE SUSPENDED CEILING, LIGHTING FIXTURES, OR AIR CONDITIONING DUCTS.
 3. RECESSED LIGHTING FIXTURES SHALL BE CONNECTED TO CONDUIT WITH NOT OVER SIX FEET OF FLEXIBLE METAL CONDUIT.
 D. EXPOSED WORK INSTALLATION:
 1. CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO THE BUILDING LINES.
 2. HORIZONTAL RUNS SHALL BE INSTALLED CLOSE TO THE CEILING OR BEAMS AND SECURED WITH APPROVED CONDUIT STRAPS.
 3. HORIZONTAL OR VERTICAL RUNS SHALL BE SUPPORTED AT NOT OVER EIGHT FOOT INTERVALS.
 3.3 CONDUIT SUPPORTS, INSTALLATION:
 A. SAFE WORKING LOAD SHALL NOT EXCEED 1/4 OF PROOF TEST LOAD OF FASTENING DEVICES.
 B. PIPE STRAPS OR INDIVIDUAL CONDUIT HANGERS SHALL BE USED FOR SUPPORTING INDIVIDUAL CONDUITS.
 END OF SECTION

SECTION 16030 — LIGHTING FIXTURES
 PART 1 — GENERAL
 PART 2 — PRODUCTS
 2.1 MATERIALS:
 A. LIGHTING FIXTURES SHALL BE IN ACCORDANCE WITH UL, NEC, AS SHOWN ON THE DRAWINGS, AND AS HERINAFTER SPECIFIED.
 B. LIGHTING FIXTURES SHALL BE INSTALLED IN PLACE AT INTERVALS AS SPECIFIED BY THE CODE USING STRAPS, HANGERS AND OTHER SUPPORTING ASSEMBLIES
 1. SPACERS AND SUPPORTING STRAPS SHALL BE OF RUGGED MALLEABLE IRON OR STEEL CONSTRUCTION HOT DIPPED GALVANIZED.
 C. CONCEALED WORK INSTALLATION:
 1. CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO THE BUILDING LINES.
 2. BRANCH CIRCUIT CONDUITS, AND CONDUITS FEEDING CEILING LIGHTING SHALL NOT BE SUPPORTED BY THE SUSPENDED CEILING, LIGHTING FIXTURES, OR AIR CONDITIONING DUCTS.
 3. RECESSED LIGHTING FIXTURES SHALL BE CONNECTED TO CONDUIT WITH NOT OVER SIX FEET OF FLEXIBLE METAL CONDUIT.
 D. EXPOSED WORK INSTALLATION:
 1. CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO THE BUILDING LINES.
 2. HORIZONTAL RUNS SHALL BE INSTALLED CLOSE TO THE CEILING OR BEAMS AND SECURED WITH APPROVED CONDUIT STRAPS.
 3. HORIZONTAL OR VERTICAL RUNS SHALL BE SUPPORTED AT NOT OVER EIGHT FOOT INTERVALS.
 3.3 CONDUIT SUPPORTS, INSTALLATION:
 A. SAFE WORKING LOAD SHALL NOT EXCEED 1/4 OF PROOF TEST LOAD OF FASTENING DEVICES.
 B. PIPE STRAPS OR INDIVIDUAL CONDUIT HANGERS SHALL BE USED FOR SUPPORTING INDIVIDUAL CONDUITS.
 END OF SECTION

SECTION 16040 — LIGHTING CONTROLS
 PART 1 — GENERAL
 PART 2 — PRODUCTS
 2.1 MATERIALS:
 A. LIGHTING CONTROLS SHALL BE IN ACCORDANCE WITH UL, NEC, AS SHOWN ON THE DRAWINGS, AND AS HERINAFTER SPECIFIED.
 B. LIGHTING CONTROLS SHALL BE INSTALLED IN PLACE AT INTERVALS AS SPECIFIED BY THE CODE USING STRAPS, HANGERS AND OTHER SUPPORTING ASSEMBLIES
 1. SPACERS AND SUPPORTING STRAPS SHALL BE OF RUGGED MALLEABLE IRON OR STEEL CONSTRUCTION HOT DIPPED GALVANIZED.
 C. CONCEALED WORK INSTALLATION:
 1. CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO THE BUILDING LINES.
 2. BRANCH CIRCUIT CONDUITS, AND CONDUITS FEEDING CEILING LIGHTING SHALL NOT BE SUPPORTED BY THE SUSPENDED CEILING, LIGHTING FIXTURES, OR AIR CONDITIONING DUCTS.
 3. RECESSED LIGHTING FIXTURES SHALL BE CONNECTED TO CONDUIT WITH NOT OVER SIX FEET OF FLEXIBLE METAL CONDUIT.
 D. EXPOSED WORK INSTALLATION:
 1. CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO THE BUILDING LINES.
 2. HORIZONTAL RUNS SHALL BE INSTALLED CLOSE TO THE CEILING OR BEAMS AND SECURED WITH APPROVED CONDUIT STRAPS.
 3. HORIZONTAL OR VERTICAL RUNS SHALL BE SUPPORTED AT NOT OVER EIGHT FOOT INTERVALS.
 3.3 CONDUIT SUPPORTS, INSTALLATION:
 A. SAFE WORKING LOAD SHALL NOT EXCEED 1/4 OF PROOF TEST LOAD OF FASTENING DEVICES.
 B. PIPE STRAPS OR INDIVIDUAL CONDUIT HANGERS SHALL BE USED FOR SUPPORTING INDIVIDUAL CONDUITS.
 END OF SECTION

SECTION 16050 — LIGHTING FIXTURES
 PART 1 — GENERAL
 PART 2 — PRODUCTS
 2.1 MATERIALS:
 A. LIGHTING FIXTURES SHALL BE IN ACCORDANCE WITH UL, NEC, AS SHOWN ON THE DRAWINGS, AND AS HERINAFTER SPECIFIED.
 B. LIGHTING FIXTURES SHALL BE INSTALLED IN PLACE AT INTERVALS AS SPECIFIED BY THE CODE USING STRAPS, HANGERS AND OTHER SUPPORTING ASSEMBLIES
 1. SPACERS AND SUPPORTING STRAPS SHALL BE OF RUGGED MALLEABLE IRON OR STEEL CONSTRUCTION HOT DIPPED GALVANIZED.
 C. CONCEALED WORK INSTALLATION:
 1. CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO THE BUILDING LINES.
 2. BRANCH CIRCUIT CONDUITS, AND CONDUITS FEEDING CEILING LIGHTING SHALL NOT BE SUPPORTED BY THE SUSPENDED CEILING, LIGHTING FIXTURES, OR AIR CONDITIONING DUCTS.
 3. RECESSED LIGHTING FIXTURES SHALL BE CONNECTED TO CONDUIT WITH NOT OVER SIX FEET OF FLEXIBLE METAL CONDUIT.
 D. EXPOSED WORK INSTALLATION:
 1. CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO THE BUILDING LINES.
 2. HORIZONTAL RUNS SHALL BE INSTALLED CLOSE TO THE CEILING OR BEAMS AND SECURED WITH APPROVED CONDUIT STRAPS.
 3. HORIZONTAL OR VERTICAL RUNS SHALL BE SUPPORTED AT NOT OVER EIGHT FOOT INTERVALS.
 3.3 CONDUIT SUPPORTS, INSTALLATION:
 A. SAFE WORKING LOAD SHALL NOT EXCEED 1/4 OF PROOF TEST LOAD OF FASTENING DEVICES.
 B. PIPE STRAPS OR INDIVIDUAL CONDUIT HANGERS SHALL BE USED FOR SUPPORTING INDIVIDUAL CONDUITS.
 END OF SECTION

SECTION 16060 — LIGHTING FIXTURES
 PART 1 — GENERAL
 PART 2 — PRODUCTS
 2.1 MATERIALS:
 A. LIGHTING FIXTURES SHALL BE IN ACCORDANCE WITH UL, NEC, AS SHOWN ON THE DRAWINGS, AND AS HERINAFTER SPECIFIED.
 B. LIGHTING FIXTURES SHALL BE INSTALLED IN PLACE AT INTERVALS AS SPECIFIED BY THE CODE USING STRAPS, HANGERS AND OTHER SUPPORTING ASSEMBLIES
 1. SPACERS AND SUPPORTING STRAPS SHALL BE OF RUGGED MALLEABLE IRON OR STEEL CONSTRUCTION HOT DIPPED GALVANIZED.
 C. CONCEALED WORK INSTALLATION:
 1. CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO THE BUILDING LINES.
 2. BRANCH CIRCUIT CONDUITS, AND CONDUITS FEEDING CEILING LIGHTING SHALL NOT BE SUPPORTED BY THE SUSPENDED CEILING, LIGHTING FIXTURES, OR AIR CONDITIONING DUCTS.
 3. RECESSED LIGHTING FIXTURES SHALL BE CONNECTED TO CONDUIT WITH NOT OVER SIX FEET OF FLEXIBLE METAL CONDUIT.
 D. EXPOSED WORK INSTALLATION:
 1. CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO THE BUILDING LINES.
 2. HORIZONTAL RUNS SHALL BE INSTALLED CLOSE TO THE CEILING OR BEAMS AND SECURED WITH APPROVED CONDUIT STRAPS.
 3. HORIZONTAL OR VERTICAL RUNS SHALL BE SUPPORTED AT NOT OVER EIGHT FOOT INTERVALS.
 3.3 CONDUIT SUPPORTS, INSTALLATION:
 A. SAFE WORKING LOAD SHALL NOT EXCEED 1/4 OF PROOF TEST LOAD OF FASTENING DEVICES.
 B. PIPE STRAPS OR INDIVIDUAL CONDUIT HANGERS SHALL BE USED FOR SUPPORTING INDIVIDUAL CONDUITS.
 END OF SECTION

SECTION 16070 — LIGHTING FIXTURES
 PART 1 — GENERAL
 PART 2 — PRODUCTS
 2.1 MATERIALS:
 A. LIGHTING FIXTURES SHALL BE IN ACCORDANCE WITH UL, NEC, AS SHOWN ON THE DRAWINGS, AND AS HERINAFTER SPECIFIED.
 B. LIGHTING FIXTURES SHALL BE INSTALLED IN PLACE AT INTERVALS AS SPECIFIED BY THE CODE USING STRAPS, HANGERS AND OTHER SUPPORTING ASSEMBLIES
 1. SPACERS AND SUPPORTING STRAPS SHALL BE OF RUGGED MALLEABLE IRON OR STEEL CONSTRUCTION HOT DIPPED GALVANIZED.
 C. CONCEALED WORK INSTALLATION:
 1. CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO THE BUILDING LINES.
 2. BRANCH CIRCUIT CONDUITS, AND CONDUITS FEEDING CEILING LIGHTING SHALL NOT BE SUPPORTED BY THE SUSPENDED CEILING, LIGHTING FIXTURES, OR AIR CONDITIONING DUCTS.
 3. RECESSED LIGHTING FIXTURES SHALL BE CONNECTED TO CONDUIT WITH NOT OVER SIX FEET OF FLEXIBLE METAL CONDUIT.
 D. EXPOSED WORK INSTALLATION:
 1. CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO THE BUILDING LINES.
 2. HORIZONTAL RUNS SHALL BE INSTALLED CLOSE TO THE CEILING OR BEAMS AND SECURED WITH APPROVED CONDUIT STRAPS.
 3. HORIZONTAL OR VERTICAL RUNS SHALL BE SUPPORTED AT NOT OVER EIGHT FOOT INTERVALS.
 3.3 CONDUIT SUPPORTS, INSTALLATION:
 A. SAFE WORKING LOAD SHALL NOT EXCEED 1/4 OF PROOF TEST LOAD OF FASTENING DEVICES.
 B. PIPE STRAPS OR INDIVIDUAL CONDUIT HANGERS SHALL BE USED FOR SUPPORTING INDIVIDUAL CONDUITS.
 END OF SECTION

UNOFFICIAL BID TABULATION

PROJECT:	David Elevators Emergency Power
PROJECT NO.	DEW-112
BID LOCATION:	Email: gholmstrom@dew.sc.gov, or 1550 Gadsden St., Columbia, SC 29202, Suite 623
BID DATE:	Friday, January 25, 2019
BID TIME:	2:00 p.m.
OWNER:	SC Department of Employment & Workforce

RANK	ELIGIBLE BIDDERS	BASE BID

UNOFFICIAL BID TABULATION
