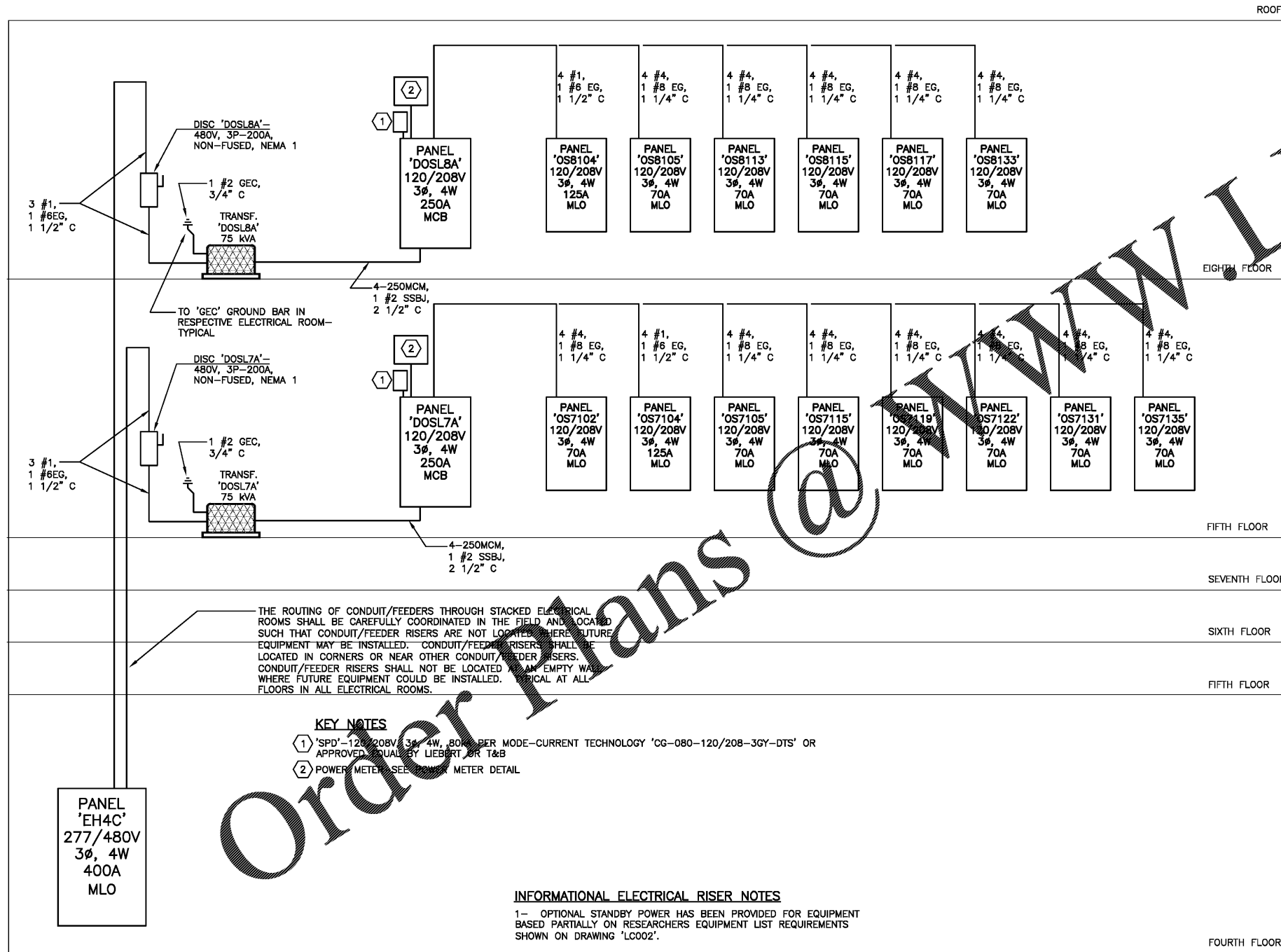


**ELECTRICAL RISER NOTES (NOTES APPLY TO RISER ON DRAWINGS E303 AND E304)**

- 1- THE AMPERAGE SHOWN IN PANEL OR EQUIPMENT ICON IS FEEDER AMPERAGE TO EQUIPMENT, NOT PANEL BUS AMPERAGE. SEE PANEL SCHEDULE FOR BUS AMPERAGE FOR NEW EQUIPMENT.
- 2- INSULATION RESISTANCE TESTS SHALL BE PERFORMED ON ALL FEEDERS ACCORDING TO THE SPECIFICATIONS. SOME TESTS SHALL BE PERFORMED BEFORE MAKING ANY TERMINATIONS AND SOME TESTS SHALL BE PERFORMED AFTER TERMINATIONS WITH THE FEEDER NEUTRAL DISCONNECTED AT THE PANEL. THE CONTRACTOR SHALL READ AND FOLLOW THIS TESTING ACCORDING TO THE SPECIFICATIONS.
- 3- FEEDERS AND WIRING SHALL BE TORQUED USING A TORQUE WRENCH PER THE SPECIFICATIONS. TIGHTENING LUGS, TERMINALS OR SCREWS FOR WIRE TERMINATION BY HAND ONLY IS STRICTLY PROHIBITED.
- 4- PROVIDE A FRAMED POWER RISER SECURED TO WALL NEAR THE SERVICE ENTRANCE EQUIPMENT. THE DESIGNER WILL PROVIDE PDF FILE VERSION OF THE POWER RISER TO THE CONTRACTOR AND THE CONTRACTOR SHALL HAVE THE RISER PRINTED AND FRAMED OR LAMINATED. RISER SHALL BE COVERED WITH A CLEAR ACRYLIC SHEET AND FRAMED IN WOOD. ALTERNATIVELY WHERE WALL SPACE DOES NOT ALLOW A FRAMED RISER, PROVIDE A RISER ENCAPSULATED IN A 5 MIL CLEAR PHOTO QUALITY LAMINATE. LAMINATED SHEET(S) SHALL HAVE A 1" GUTTER BORDER FOR MINIMUM THREE ATTACHMENT RINGS. HANG LAMINATED RISERS ON WALL NEAR EQUIPMENT.
- 5- PROVIDE ARC-FLASH HAZARD WARNING LABELS ON ALL NEW ELECTRICAL EQUIPMENT, INCLUDING PANELS, DISCONNECTS AND OTHER REQUIRED EQUIPMENT TO MEET REQUIREMENTS OF NEC 110.16.
- 6- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SHOWING SCALED PLANS AND WALL ELEVATIONS OF EQUIPMENT IN ELECTRICAL ROOMS. PLANS AND ELEVATIONS SHALL INCLUDE ALL EQUIPMENT IN ROOMS WHERE EQUIPMENT OTHER THAN ELECTRICAL EQUIPMENT IS INSTALLED.
- 7- HORIZONTAL FEEDER ROUTING - FEEDER HORIZONTAL RUNS SHALL BE ROUTED THROUGH MECHANICAL ROOMS, ELECTRICAL ROOMS AND CORRIDORS. FEEDERS SHALL NOT BE ROUTED THROUGH FINISHED ROOMS/AREAS OTHER THAN CORRIDORS UNLESS REQUESTED BY THE CONTRACTOR AND GRANTED PERMISSION IN WRITING BY THE DESIGNER. FEEDERS SHALL NOT BE ROUTED THROUGH THE VIVARIUM AREA ON THE FIRST FLOOR UNLESS REQUESTED BY THE CONTRACTOR AND GRANTED PERMISSION IN WRITING BY THE DESIGNER.
- 8- FEEDER RISERS (VERTICAL FEEDER ROUTING) - THE ELECTRICAL ROOMS WITH EXISTING PANEL 'EH4C' AND THE DRY TYPE TRANSFORMERS ARE STACKED THEREFORE THE FEEDERS TO THE TRANSFORMERS SHOULD BE ROUTED VERTICALLY IN THESE STACKED ELECTRICAL ROOMS ON EACH FLOOR. ANY REQUIRED FEEDER RISERS ROUTED ELSEWHERE SHALL BE COORDINATED IN THE FIELD WITH THE OWNER AND THE DESIGNER, OR ROUTED WITHIN THE MECHANICAL CHASES. FEEDER RISERS SHALL NOT BE ROUTED THROUGH FINISHED ROOMS/AREAS UNLESS REQUESTED BY THE CONTRACTOR AND GRANTED PERMISSION IN WRITING BY THE DESIGNER.
- 9- WHERE EXISTING EQUIPMENT TO REMAIN IS REFEED OR WORK IS PERFORMED WITHIN THIS EXISTING EQUIPMENT, THE CONTRACTOR SHALL TIGHTEN AND TORQUE ALL EXISTING TERMINALS WITHIN EQUIPMENT WHICH IS OPENED OR WHERE WORK IS PERFORMED. WHERE WORK IS PERFORMED ON AN EXISTING DRY TYPE TRANSFORMER THE CONTRACTOR SHALL OPEN AND TIGHTEN AND TORQUE ALL TERMINALS IN THE PANEL OR OTHER EQUIPMENT WHICH THE TRANSFORMER SERVES.
- 10- ALL FEEDERS WHICH ARE PART OF THE OPTIONAL STANDBY SYSTEM AND THE EMERGENCY SYSTEM SHALL BE CONTINUOUS FROM EQUIPMENT SOURCE TO EQUIPMENT LOAD. THESE FEEDERS SHALL HAVE NO SPLICES FROM SOURCE TO LOAD EQUIPMENT. THE EXCEPTION FOR THIS REQUIREMENT IS FOR FEEDER LENGTHS WHICH EXCEED THE MANUFACTURER'S MAXIMUM CONDUCTOR REEL LENGTH.
- 11- LIMIT THE INSTALLATION OF PULL BOXES TO THE GREATEST EXTENT POSSIBLE FOR FEEDERS. PROVIDE MOGUL CONDUIT BODIES FOR PULLING PURPOSES.

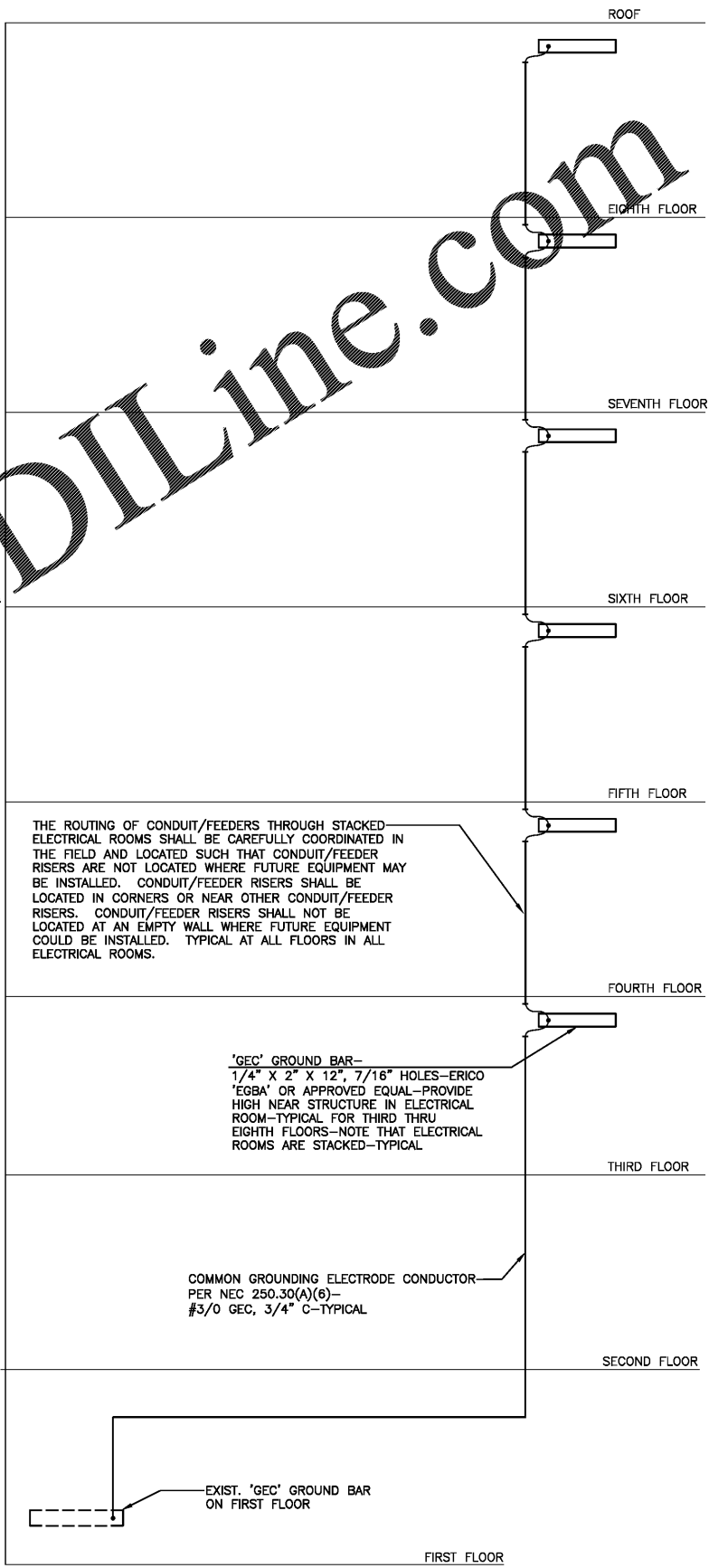


THE ROUTING OF CONDUIT/FEEDERS THROUGH STACKED ELECTRICAL ROOMS SHALL BE CAREFULLY COORDINATED IN THE FIELD AND LOCATED SUCH THAT CONDUIT/FEEDER RISERS ARE NOT LOCATED WHERE FUTURE EQUIPMENT MAY BE INSTALLED. CONDUIT/FEEDER RISERS SHALL BE LOCATED IN CORNERS OR NEAR OTHER CONDUIT/FEEDER RISERS. CONDUIT/FEEDER RISERS SHALL NOT BE LOCATED IN AN EMPTY WALL WHERE FUTURE EQUIPMENT COULD BE INSTALLED. TYPICAL AT ALL FLOORS IN ALL ELECTRICAL ROOMS.

- KEY NOTES**
- 1) 'SPD'-120/208V, 3φ, 4W, 80% PER MODE-CURRENT TECHNOLOGY 'CG-080-120/208-3GY-DTS' OR APPROVED EQUAL BY LIEBERT OR T&B
  - 2) POWER METER SEE POWER METER DETAIL

**INFORMATIONAL ELECTRICAL RISER NOTES**

1- OPTIONAL STANDBY POWER HAS BEEN PROVIDED FOR EQUIPMENT BASED PARTIALLY ON RESEARCHERS EQUIPMENT LIST REQUIREMENTS SHOWN ON DRAWING 'LC002'.



THE ROUTING OF CONDUIT/FEEDERS THROUGH STACKED ELECTRICAL ROOMS SHALL BE CAREFULLY COORDINATED IN THE FIELD AND LOCATED SUCH THAT CONDUIT/FEEDER RISERS ARE NOT LOCATED WHERE FUTURE EQUIPMENT MAY BE INSTALLED. CONDUIT/FEEDER RISERS SHALL BE LOCATED IN CORNERS OR NEAR OTHER CONDUIT/FEEDER RISERS. CONDUIT/FEEDER RISERS SHALL NOT BE LOCATED AT AN EMPTY WALL WHERE FUTURE EQUIPMENT COULD BE INSTALLED. TYPICAL AT ALL FLOORS IN ALL ELECTRICAL ROOMS.

'GEC' GROUND BAR-  
1/4" X 2" X 12", 7/16" HOLES-ERICO  
'EGBA' OR APPROVED EQUAL-PROVIDE  
HIGH NEAR STRUCTURE IN ELECTRICAL  
ROOM-TYPICAL FOR THIRD THRU  
EIGHTH FLOORS-NOTE THAT ELECTRICAL  
ROOMS ARE STACKED-TYPICAL

COMMON GROUNDING ELECTRODE CONDUCTOR-  
PER NEC 250.30(A)(6)-  
#3/0 GEC, 3/4" C-TYPICAL

EXIST. 'GEC' GROUND BAR  
ON FIRST FLOOR

1 ELECTRICAL RISER - OPTIONAL STANDBY SYSTEM  
E303 NOT TO SCALE

2 GROUNDING RISER  
E303 NOT TO SCALE

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ISSUE DATE: 9/25/2019  
JOB NO: 10761-00  
DWG NO: E303

BID SET