

PROJECT OWNER



UNIVERSITY OF LOUISVILLE WEST CAMPUS MEDIUM VOLTAGE SWITCHGEAR

2301 S 3RD ST, LOUISVILLE, KY 40292
Project No: VUGR22

PROJECT DESIGN



10411 Meeting Street,
Prospect, Kentucky 40059
502 326.3085 • f 502 326.2691
www.cmtaegr.com

DRAWING INDEX

- C1.0 COVER SHEET
- E1.0 ELECTRICAL- NOTES, LEGEND, AND DETAILS
- E2.0 ELECTRICAL ONLINE
- E3.0 ELECTRICAL FLOOR PLANS
- E4.0 ELECTRICAL DETAILS

Reference drawings
NOT USED.

Project Description

PHASING.
EARLY PROCUREMENT DRAWING PACKAGE FOR THE FOLLOWING
MV FUSED SWITCHGEAR
500KVA TRANSFORMER
1500A, 120/208V,3PH,4W- REPLACEMENT SWITCHGEAR FOR GRANEMEYER.
EXTERIOR PAD MOUNTED LARGE METERING SWITCH

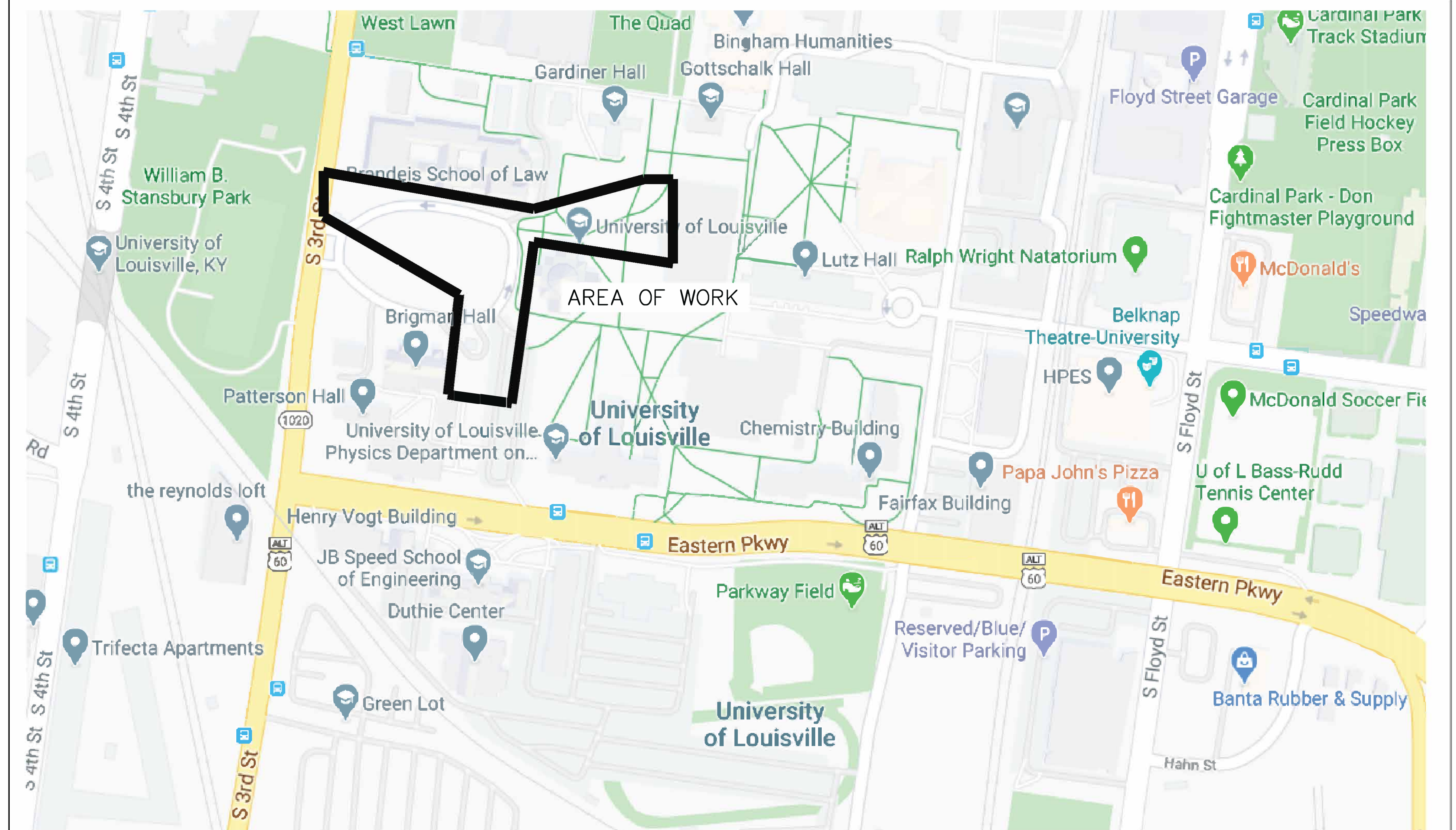
OTHER MATERIAL SHOWN IN THESE DRAWINGS WILL BE PROVIDED UNDER A SEPARATE CONTRACT AND ARE NOT TO BE INCLUDED THIS THE BID
THE EQUIPMENT MUST BE ABLE TO BE FIT IN THE BUILDING SPACES SHOWN IN THESE DRAWINGS AND MAINTAIN NEC CLEARANCES

CODE INFORMATION

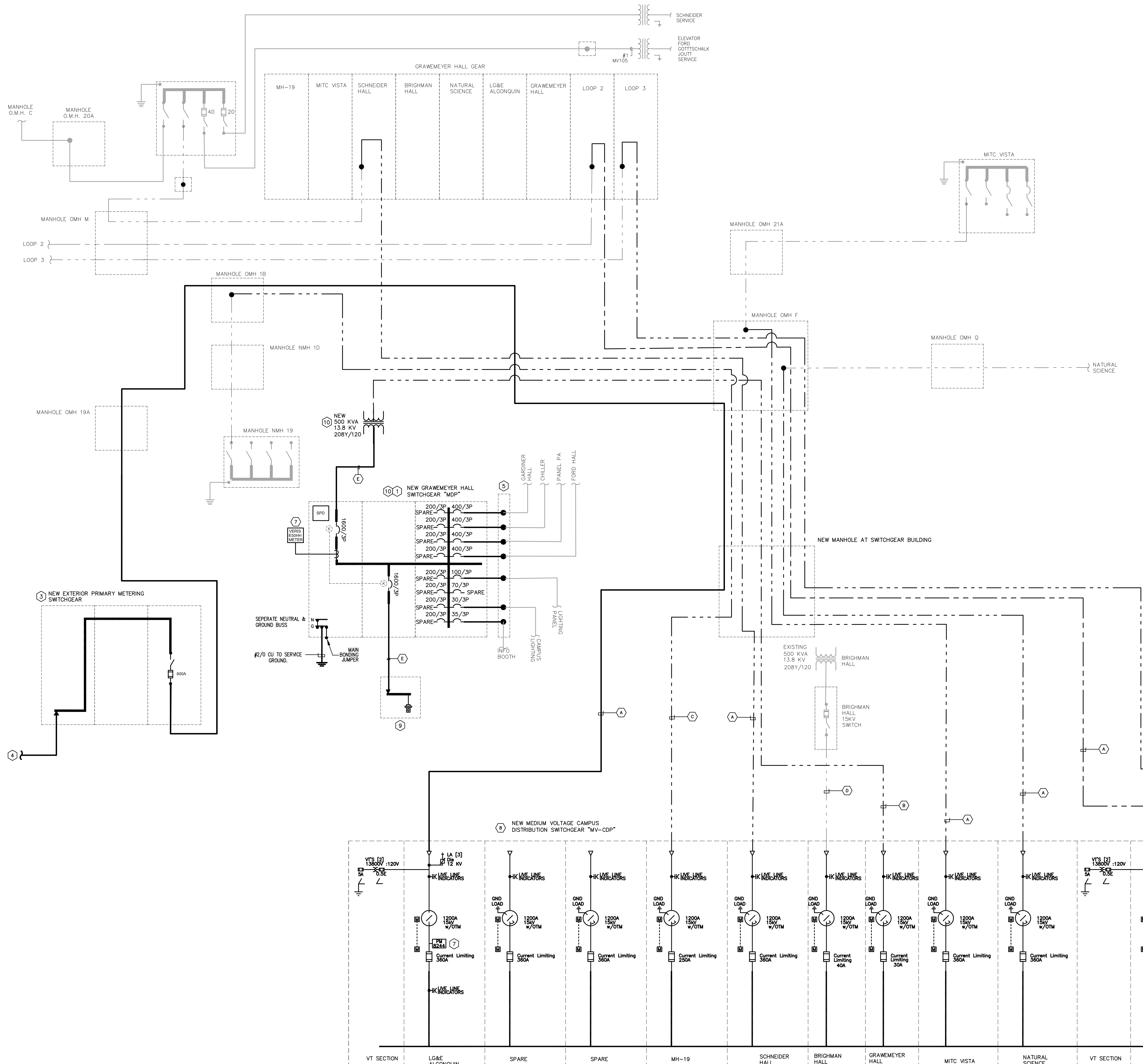
APPLICABLE CODES - KENTUCKY
INTERNATIONAL BUILDING CODE
NATIONAL ELECTRIC CODE

IBC 2015 EDITION
NEC 2017 EDITION

VICINITY / LOCATOR MAP



V:\Projects\UUGR22 - UOFL Grawmeyer gear replacement\9. Elec\1. Drawings\UUGR22 - gear E2.0.dwg-OPTION 1 Jun 27, 2024-12:25pm - arowan



POWER RISER GENERAL NOTES :

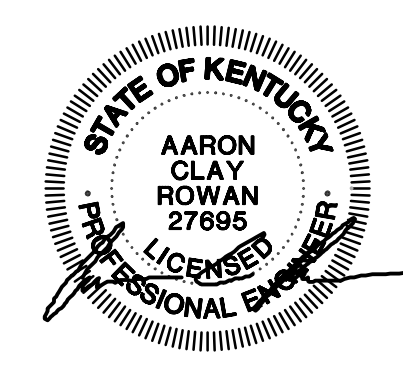
- ALL NEW CONDUCTORS SHALL BE COPPER (SEE SPECIFICATIONS FOR TYPES).
- REFER TO DETAILS FOR TYPICAL PANEL LABELING REQUIREMENTS.
- AS PART OF THIS CONTRACT, PROVIDE A COMPREHENSIVE ARC FLASH HAZARD ANALYSIS FOR ALL POWER DISTRIBUTION DEVICES ON THIS PROJECT. PROVIDE ALL LABELS, WARNING SIGNAGE, ETC. PER NFPA-70E AND OSHA REQUIREMENTS.
- CONTRACTOR SHALL INSTALL SEPARATE CONDUITS, PULL BOXES, ETC. FOR EMERGENCY POWER & NORMAL POWER FEEDERS PER NEC FOR COMPLETE SEPARATION OF POWER SERVICES.

POWER RISER FEEDER NOTES:

- PROVIDE (3) #500KCMIL MV105 15KV CABLES AND (1) #2/0 (600V) GROUND IN A NEW 6" SCHEDULE 40 PVC CONCRETE ENCASED CONDUITS. REFER TO SITE ELECTRICAL PLAN FOR ADDITIONAL REQUIREMENTS.
- PROVIDE (3) #1 MV105 15KV CABLES AND (1) #2/0 (600V) GROUND IN A NEW 6" SCHEDULE 40 PVC CONCRETE ENCASED CONDUITS. REFER TO SITE ELECTRICAL PLAN FOR ADDITIONAL REQUIREMENTS.
- PROVIDE (3) #350 KCMIL MV105 15KV CABLES AND (1) #2/0 (600V) GROUND IN A NEW 6" SCHEDULE 40 PVC CONCRETE ENCASED CONDUITS. REFER TO SITE ELECTRICAL PLAN FOR ADDITIONAL REQUIREMENTS.
- PROVIDE (3) #2/0 MV105 15KV CABLES AND (1) #2/0 (600V) GROUND IN A NEW 6" SCHEDULE 40 PVC CONCRETE ENCASED CONDUITS. REFER TO SITE ELECTRICAL PLAN FOR ADDITIONAL REQUIREMENTS.
- PROVIDE (4) PARALLEL RUNS OF (4) #600KCMIL CONDUCTORS, AND #3/0 GROUND IN 4" CONDUIT.
- PROVIDE (3) #4 MV105 15KV CABLES AND (1) #2/0 (600V) GROUND IN A NEW 6" SCHEDULE 40 PVC CONCRETE ENCASED CONDUITS. REFER TO SITE ELECTRICAL PLAN FOR ADDITIONAL REQUIREMENTS.

TAGGED NOTES :

- PROVIDE REPLACEMENT SWITCHGEAR IN THE SAME ROOM AS THE EXISTING GEAR. EXISTING FEEDERS SHALL BE INTERCEPTED AND RECONNECTED TO THE NEW SWITCHGEAR.
 - MAIN SECTION: SECTION SHALL HOUSE 1600A/3P, 100% RATED FULL-FUNCTION, ELECTRONIC TRIP, MOLDED CASE "MICRO-LOGIC" MAIN CIRCUIT BREAKER WITH DIGITAL VOLT/AMMETER. PROVIDE WITH ARC REDUCTION MAINTENANCE SWITCH, 35KAC RATED, KIRK-KEY INTERLOCKED WITH GENERATOR SECTION.
 - TEMPORARY GENERATOR SECTION: SECTION SHALL HOUSE 1600A/3P, 100% RATED FULL-FUNCTION, ELECTRONIC TRIP, MOLDED CASE "MICRO-LOGIC" MAIN CIRCUIT BREAKER. PROVIDE WITH ARC REDUCTION MAINTENANCE SWITCH, 35KAC RATED, KIRK-KEY INTERLOCKED WITH MAIN SECTION.
 - DISTRIBUTION SECTIONS: 1600A DOUBLE ROW SECTION WITH 112.5" OF MOUNTING SPACE FOR I-LINE THERMAL MAGNETIC TRIP TYPE CIRCUIT BREAKERS (U.O.N.) MATCH LAYOUT INDICATED ON PLAN. 35KAC RATED.
 - PROVIDE VERS E50HH POWER METER W/BACKET MS/TP PROTOCOL OR APPROVED EQUAL. MOUNT ON WALL BY PANEL/SWITCHGEAR. CONTROLS CONTRACTOR SHALL PROVIDE CONNECTION TO BUILDING AUTOMATION SYSTEM.
- SPlice NEW CONDUCTOR TO THE EXISTING WITH A NEW MODULAR SPLICING KIT AND DEAD BREAK STACKING ACCESSORY (3M MODULAR SPLICING KIT 5815).
- NEW EXTERIOR RATED 15KV METAL CLAD PRIMARY METERING SWITCHGEAR. SWITCHGEAR TO MEET LG&E'S PRIMARY SERVICE REQUIREMENTS. REFERENCE LG&E DRAWING 81 TO 36 FOR METERING CUBICLE REQUIREMENTS AND SPECIFICATION FOR METAL CLAD GEAR REQUIREMENTS. THIS EQUIPMENT SHALL BE PRICED AS PART OF ALTERNATE #1
- ROUTE (2) 5" CONDUITS FROM GEAR TO EXISTING UTILITY POLE. LG&E TO PROVIDE THE CONDUCTORS
- ALL EXISTING CONDUCTOR ARE TO BE INTERCEPTED AND EXTENDED TO THE NEW PANEL SERVICE PANEL. CONTRACTOR SHALL MATCH EXISTING WIRE SIZES.
- EXISTING SWITCHGEAR INTERNAL COMPONENTS AND FIRKKEYS TO BE REMOVED, AND THE CABINETS ARE TO BE USED AS A SPlice CABINET. PROVIDE NEW PAD LOCK ON EACH DOOR. PADLOCKS TO BE SHLAGE AND KEYED INTO THE EXISTING UOFL MASTER KEY SYSTEM
- SWITCHGEAR METERS TO BE CONNECTED TO THE CAMPUS DDC SYSTEM FOR MONITORING. METERS TO COMMUNICATE VIA BACKET MSTP.
- NEW METAL ENCLOSED SWITCHGEAR REFER TO SPECS FOR FURTHER REQUIREMENTS
- PROVIDE NEW GENERATOR DOCKING STATION. 120/208V/3P/4W+G, CAM LOCKS, AND PHASE SEQUENCE MONITOR. UNIT TO BE WALL MOUNTED IN A NEMA-3R ENCLOSURE. UNION CONNECTOR "GCP-N-D-3-1600-1-1-1-3" OR EQUAL
- THE INSTALLATION OF THIS NEW GEAR NEEDS TO BE PLANNED DURING A SCHOOL BREAK AND WITH PRIOR APPROVAL OF UOFL BEFORE POWER SHUTDOWN TO THE BUILDING. SWITCHOVER SHALL BE PERFORMED NON STOP AND POWER RESTORED AT GRAWMEYER AT THE EARLIEST.
- CONTRACTOR SHALL PROVIDE NEW PULL BOX TO INTERCEPT EXISTING CONDUIT AND FEED. SPlice NEW CONDUCTOR TO THE EXISTING WITH A NEW MODULAR SPLICING KIT AND DEAD BREAK STACKING ACCESSORY (3M MODULAR SPLICING KIT 5815).



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REVISIONS

NO.	DESCRIPTION

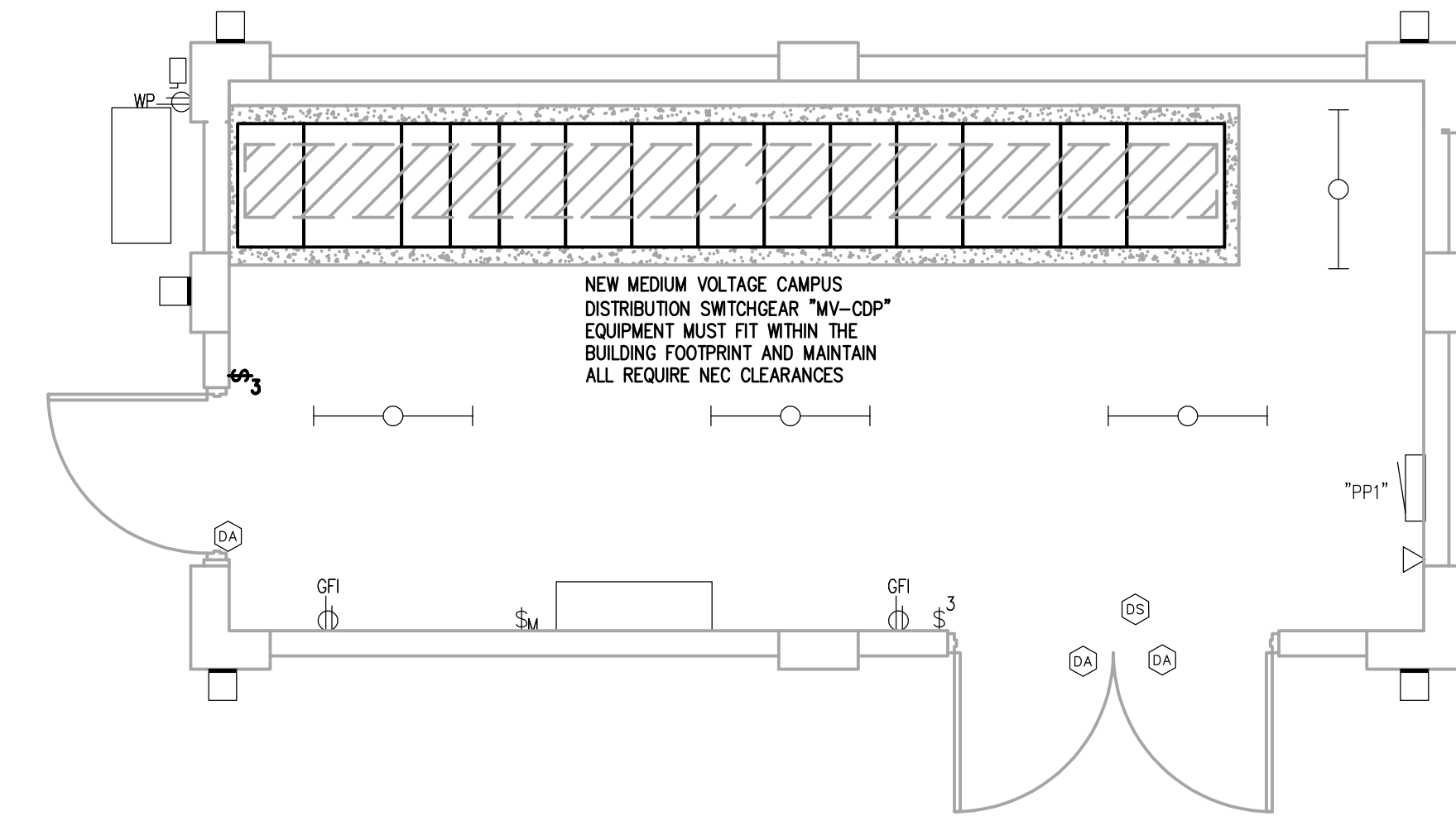
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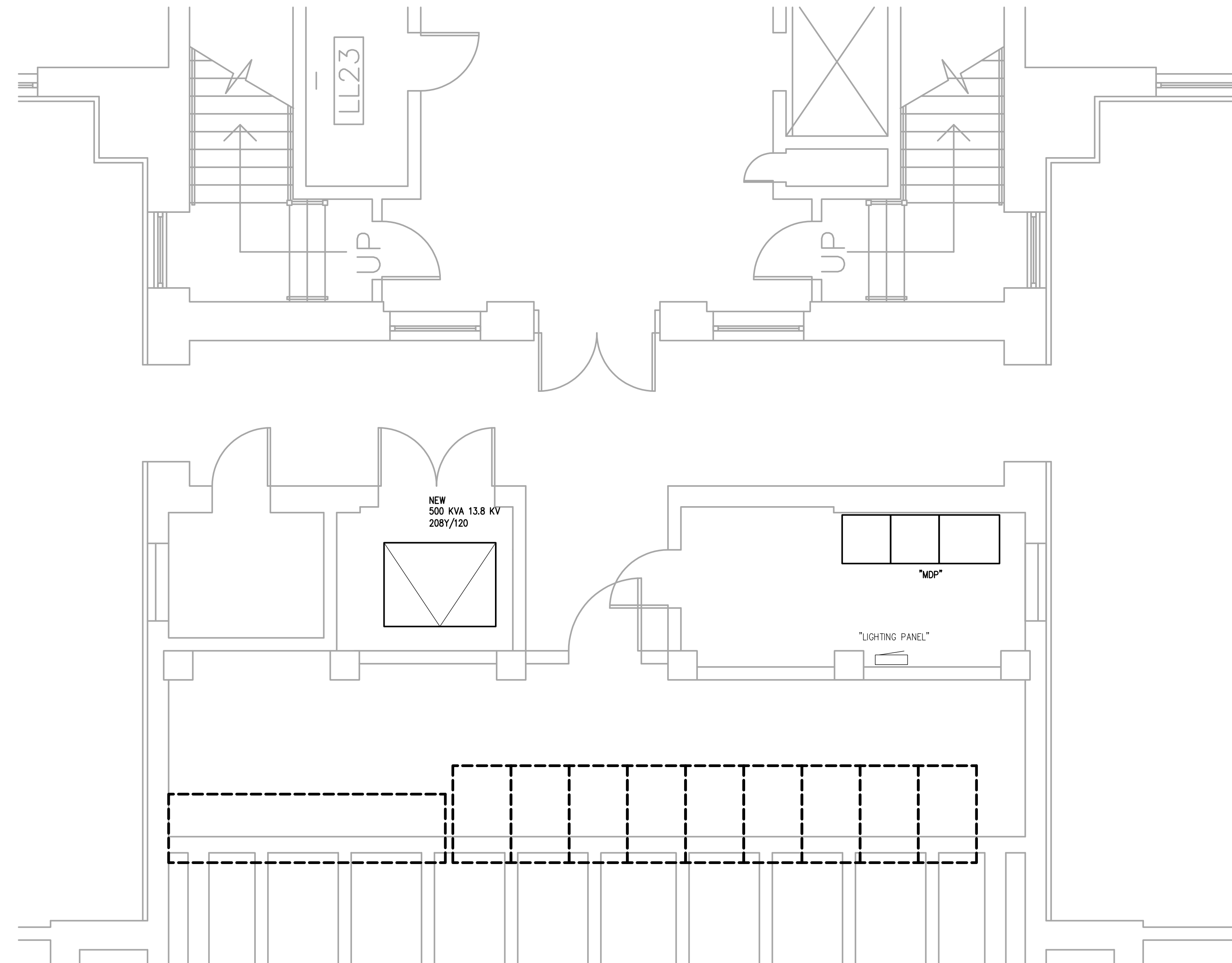
E2.0

ELECTRICAL ONE-LINE DIAGRAM

W:\Projects\U06R22 - U0FL Grawmeyer gear replacement\9. Elec\1. Drawings\U06R22 - gear E3.0.dwg-E5.0 Jun 27, 2024-12:26pm - arowon



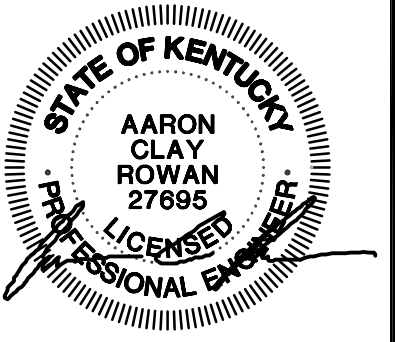
① GRAWMEYER MV SWITCHGEAR BLDG - ELECTRICAL
1/4" = 1'-0"



② GRAWMEYER HALL - ELECTRICAL
1/4" = 1'-0"

GENERAL NEW WORK NOTES (ELECTRICAL):

- A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.
- B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HUMERUS. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RUN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER N.E.C. 800.15(B)(3), AND UPSIDE CONDUIT AS REQUIRED PER N.E.C. 800.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN N.E.C. 800.7 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.
- C. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING.
- D. LOCATE CHAIN-HUNG INDUSTRIAL FIXTURES IN MECHANICAL ROOMS TO AVOID DUCTWORK AND PIPING TO MAXIMIZE AVAILABLE LIGHT. SPACE AROUND EQUIPMENT, AIR HANDLERS, ETC. TO PROVIDE ADEQUATE LIGHTING TO ALL AREAS OF ROOM. PROVIDE ADDITIONAL FIXTURES OF SAME TYPE AS NEEDED TO FULFILL THIS REQUIREMENT.
- E. WHERE EMERGENCY BATTERY PACKS ARE PROVIDED, THEY SHALL BE CONNECTED TO AN UNSWITCHED LINE.
- F. CONTRACTOR SHALL PROVIDE UNSWITCHED CONDUCTOR TO ALL EXIT SIGNS, EMERGENCY INVERTER BATTERY PACKS, AND NIGHT LIGHTS AS REQUIRED.
- G. LOCATIONS OF ELECTRICAL CONNECTIONS AND LOCAL DISCONNECTS SHALL BE COORDINATED WITH MECHANICAL AND PLUMBING CONTRACTORS TO ENSURE ACCESS AND WORKING CLEARANCE IS MAINTAINED PER NEC. NOTIFY OTHER TRADES OF REQUIRED CLEARANCE AREAS TO AVOID ROUTING OF OTHER SYSTEMS IN THESE AREAS. DO NOT INSTALL ELECTRICAL EQUIPMENT OVER EQUIPMENT NAMEPLATES OR ACCESS PANELS OR THROUGH ACCESS/MAINTENANCE CLEARANCES OF EQUIPMENT BY OTHER TRADES.
- H. REFER TO "SYSTEM INSTALLATION MATRIX" (ON SYSTEMS LEGEND SHEET) AND SPECIFICATIONS FOR CONTRACTOR REQUIREMENTS OF EACH SYSTEM.



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ELECTRICAL FLOOR PLAN

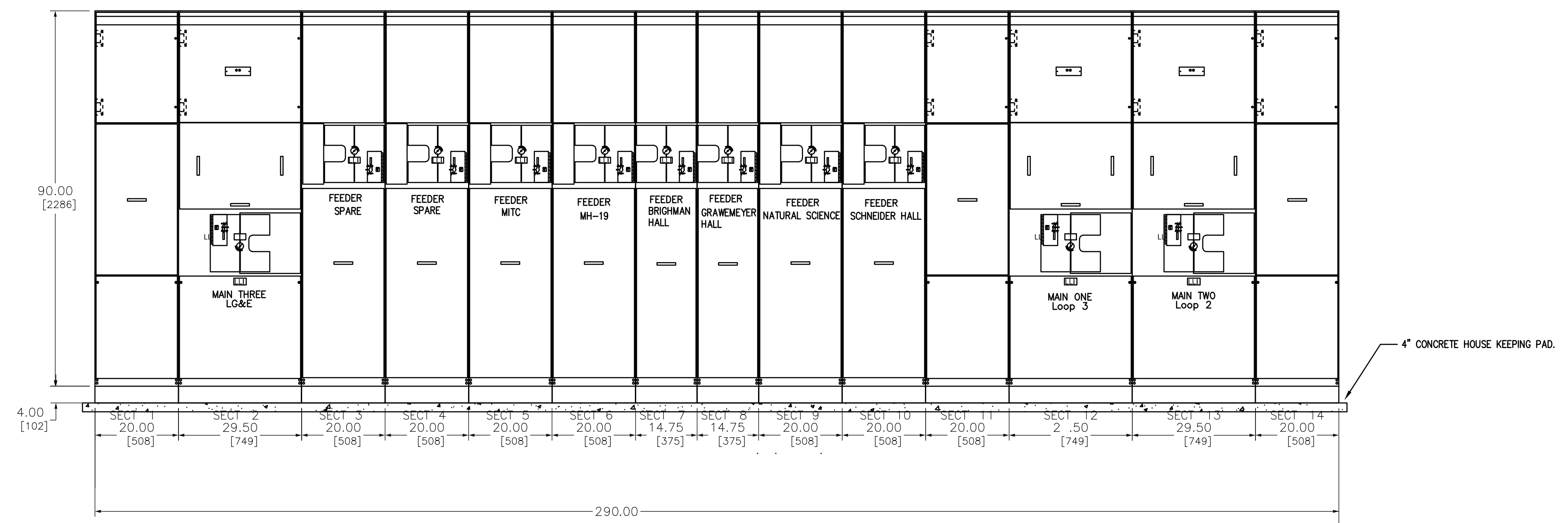
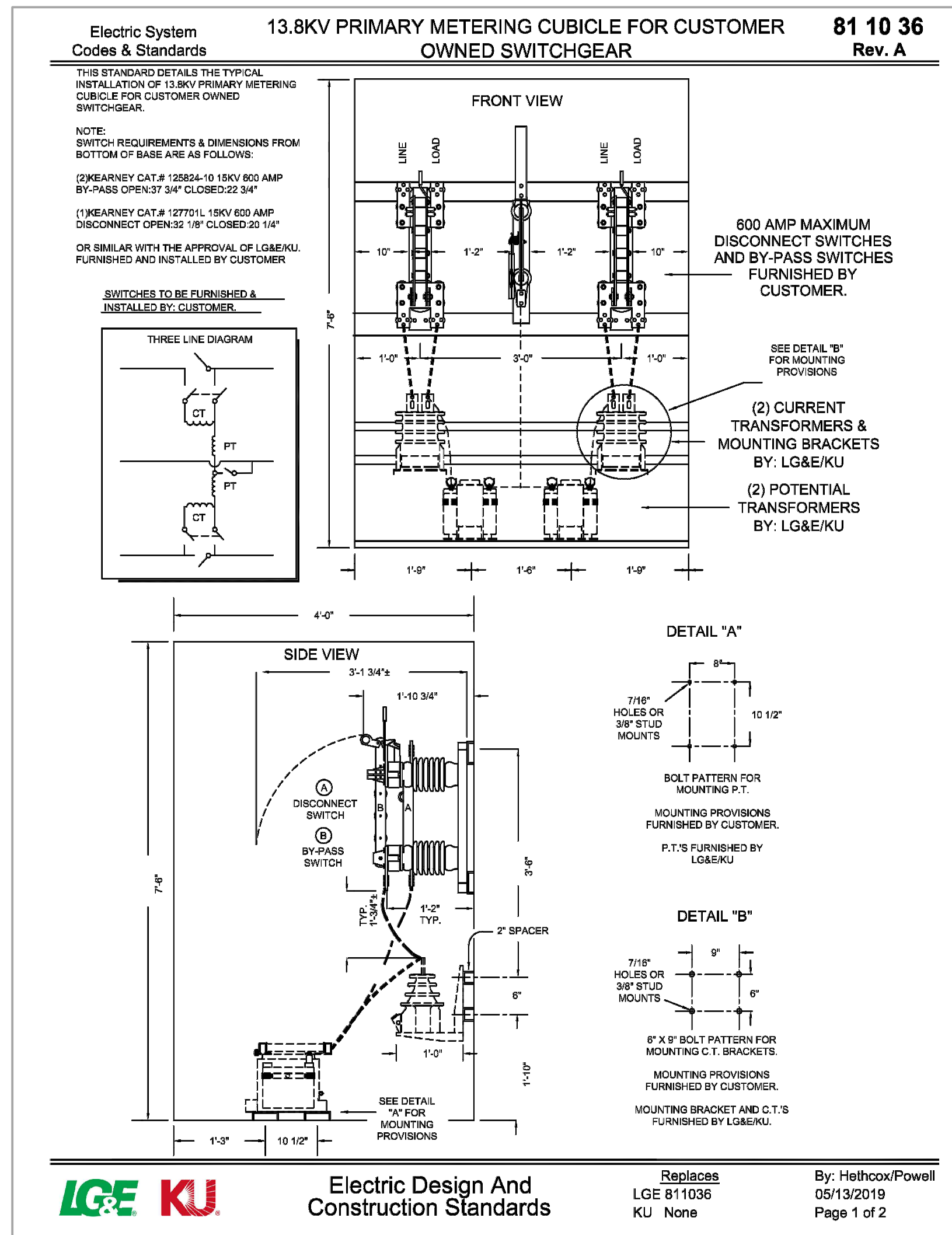
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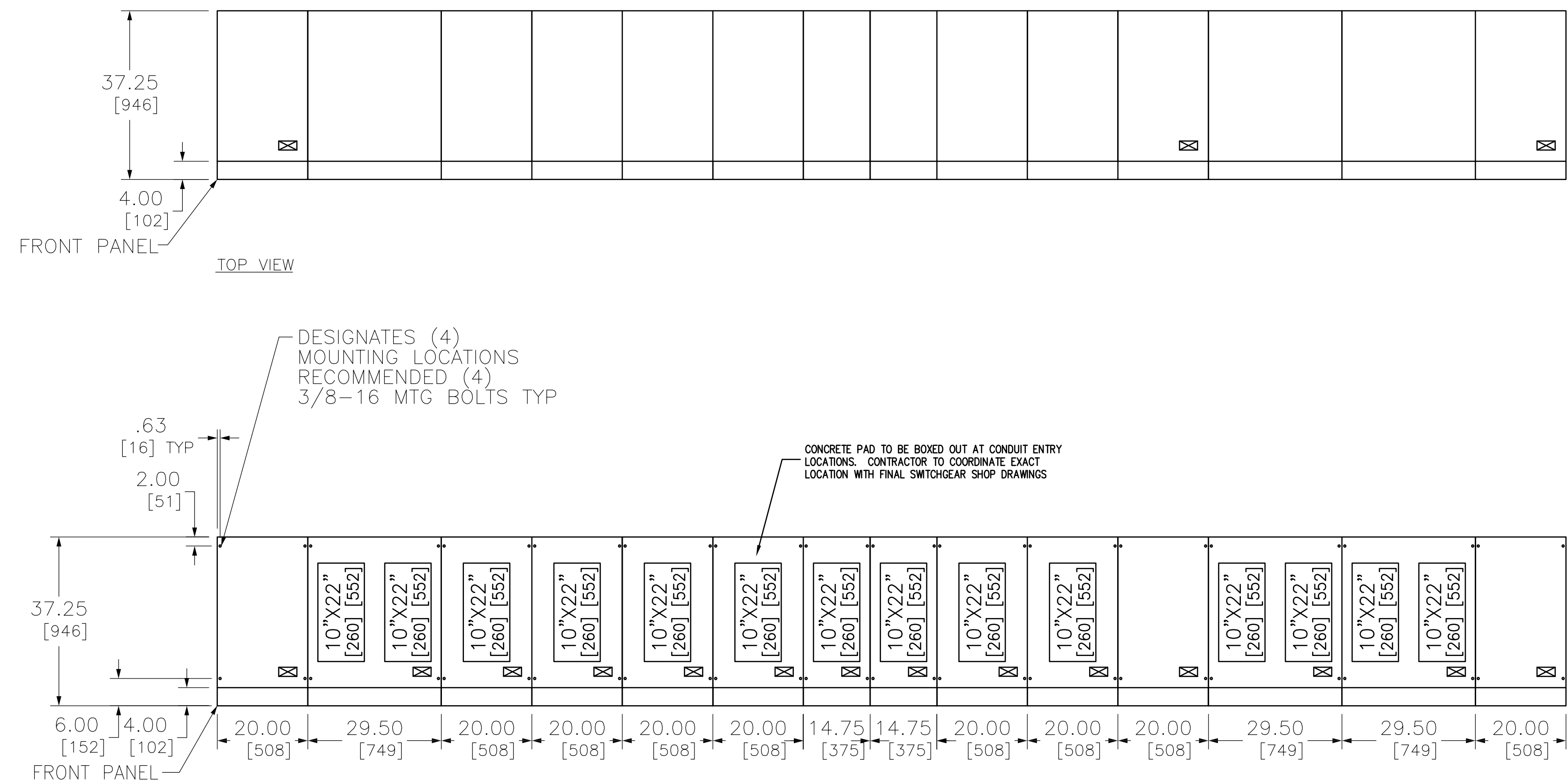
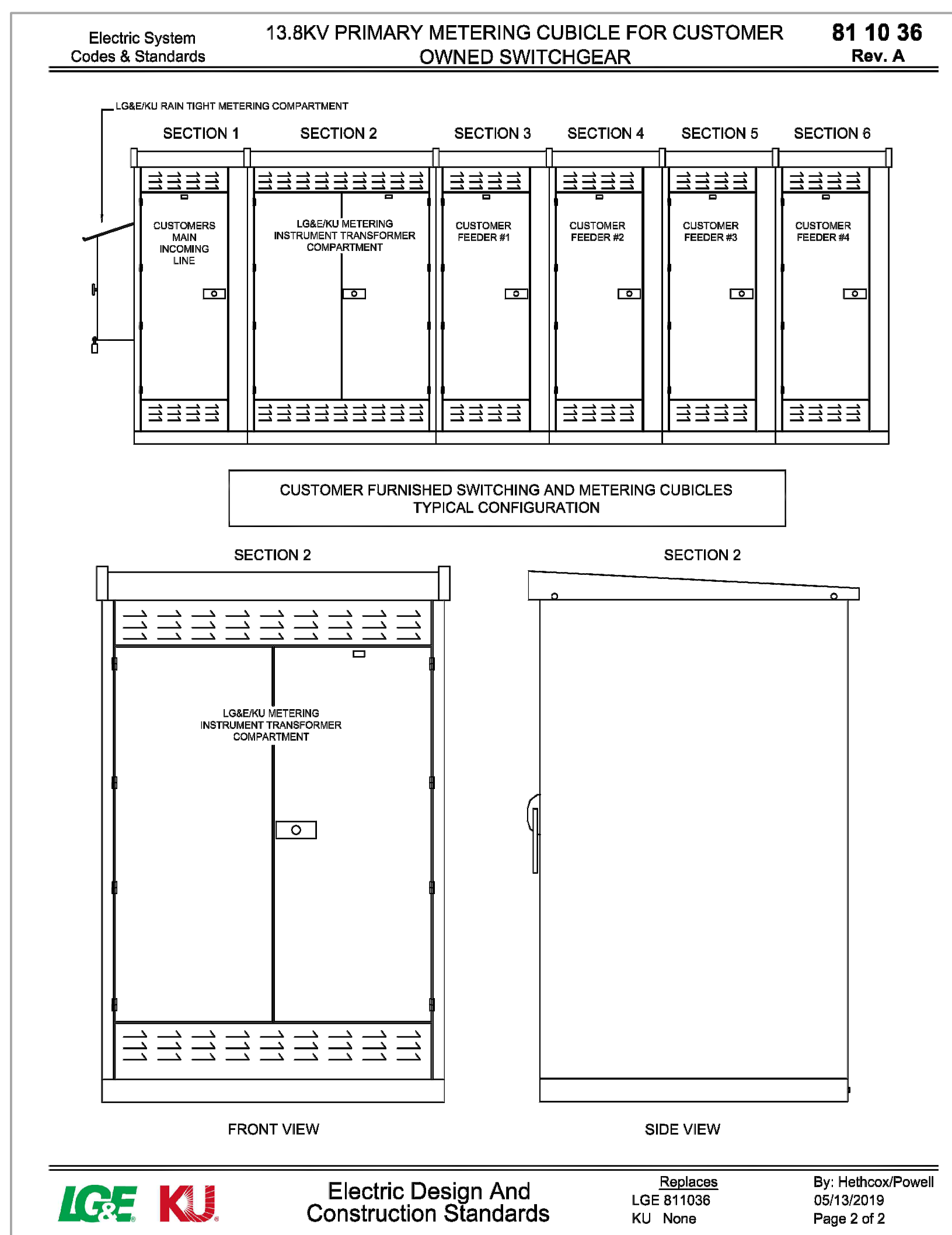
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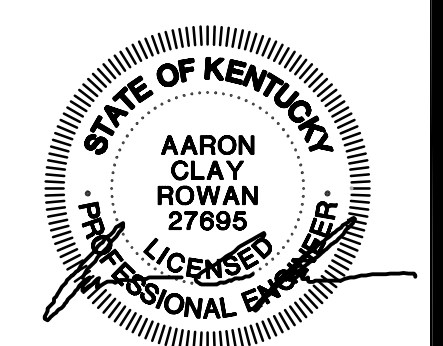
E3.0



GRAWMEYER MV SWITCHGEAR BASIS OF DESIGN ELEVATION
NO SCALE



GRAWMEYER MV SWITCHGEAR BASIS OF DESIGN FOOT PRINT
NO SCALE



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ELECTRICAL DETAILS

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