

**DEPARTMENT OF
VETERANS AFFAIRS**

VISN #16



**STATEMENT OF WORK
FOR
ESSENTIAL ELECTRICAL SYSTEM (EES)
BREAKER REPLACEMENT
AT
John L. McClellan Memorial Veterans Hospital
Little Rock, AR**

**Last Revised:
4/6/2017**

1. STATEMENT OF WORK:

- a. Replace seventeen (17) existing 480V, 800A frame Westinghouse DS-206 drawout type circuit breakers. Existing circuit breakers have 30,000 Amps Interrupting Capacity (AIC) rating. New or reconditioned breakers shall have 65,000 AIC rating minimum, and shall fit into the existing switchboard cubicle. The contractor will perform a survey to identify best methods to follow for replacement of circuit breakers.
- b. Retrofit the existing 480V, 3000A, Essential Electrical System (EES) switchboard as necessary to:
 - i. Accommodate the new/reconditioned breakers identified in the Statement of Work item 1 above (If necessary.)
 - ii. Upgrade the switchboard bus short circuit current rating to 65,000A minimum. Existing bus bracing is 50,000A. The EES Switchboard has been in service for 33 years and is original to the hospital.
- c. Clean the switchboard cabinet from all dust and debris.
 - i. Testing. The Contractor shall inspect, test, and calibrate new/reconditioned circuit breakers and their associated trip units to coordinate with a recent short circuit coordination study. Testing and maintenance performed shall be in accordance with the manufacturer's instructions for each component.
 - ii. A complete operational test shall be performed on the switchgear when the project is complete. Testing shall confirm switchgear components operate properly during a power outage when the emergency generators come online.
- d. Provide any special tools that may be required for racking and unranking breakers
- e. Provide on-site training; operation and maintenance manuals; and record drawings upon completion of project.
- f. Contractor shall update the site's short circuit coordination, arc flash study to show proper interrupting capacity for the breakers installed. Last study was completed in April 2016 using SKM software. The SKM data for the study will be made available to the contractor to update and return to the Contracting Officer's Representative. (COR.) Contractor shall provide a written summary of the changes to the SKM data.
- g. Contractor shall prepare written documentation of all testing results, visual inspections, calibrations, adjustments and maintenance recommendations, and submit to the COR. Service, calibration, and testing shall be as specified herein and in accordance with Maintenance Testing Specifications identified in International Electrical Testing Association (NETA).
- h. Spares – Provide 2 spare breakers with the same make and model as the new breakers to be installed in the in the EES Switchboard.

2. APPLICABLE DOCUMENTS:

Most recent versions of the following documents:
NETA Maintenance Testing Specs. For Elect Dist. Eqt. and Systems
NFPA 70, National Electric Code

NFPA 70E, Standard for Electrical Safety in the Work Space
NFPA 99, Health Care Facilities
NFPA 110, Standard for Emergency and Standby Power Systems
VA Electrical Design Manual

3. QUALIFICATIONS:

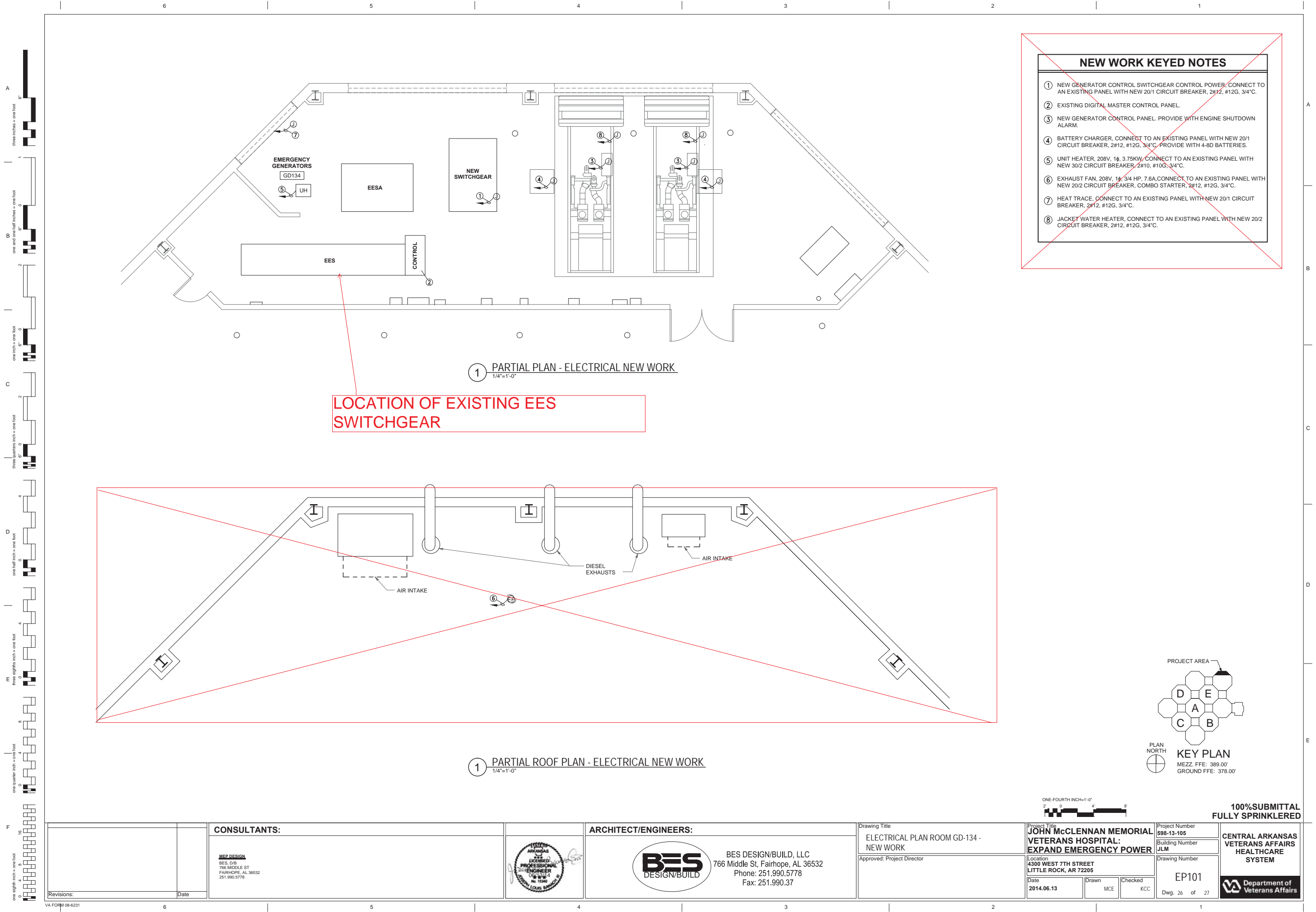
- a. Contractor shall have at least 5 years of experience with 480V switchgear and shall have access to factory trained switchgear vendors capable of performing this work.
- b. The contractor shall have access to professional electrical engineers who are proficient in the design of electrical equipment.

4. WORK PROCEDURES AND OUTAGES:

- a. The new work will be accomplished in and around areas that will remain in operation. Adequate dust control procedures shall be employed as required. Accordingly, measures shall be taken to avoid interference with the operational work routines. The site is a critical care hospital; therefore, the contractor shall ensure that interruption of electric power is limited to the absolute minimum necessary to complete the work. The contractor shall diligently pursue the installation once started, to minimize the impact on facility operations.
- b. All work must be accomplished on Saturdays. Four 800A spare breakers are available in the adjacent EESA switchboard are available to supply temporary power. The remaining 13 circuits will require a temporary switchboard to supply power while work is being done on the EES switchboard. The medical center desires the time when generators will be unavailable BE KEPT TO THE ABSOLUTE MINIMUM while circuits are being transferred from the normal to the temporary configuration (and subsequently from temporary to normal configuration, after all work on the EES switchboard is complete.) Work will be conducted such that the medical center is never more than 1 hour from having 100% emergency power restored in the event normal power is lost to the facility. Offeror shall provide a work plan with work steps that demonstrate an adequate understanding of the technical requirements. The design and installation of the work shall be planned and performed in a manner that will keep necessary outages (downtime) to the minimum possible. The contractor shall coordinate all actions, which impact the facility power, or require a power outage, with the designated COR.
- c. The contractor shall request permission for power outages at least 21 calendar days prior to the desired date of the outage. Operational circumstances may require the approval of the outage to be withdrawn at the last minute; however, the government will make all efforts to maintain the agreed schedule or will reschedule the outage in the shortest possible time.

4. PERIOD OF PERFORMANCE:

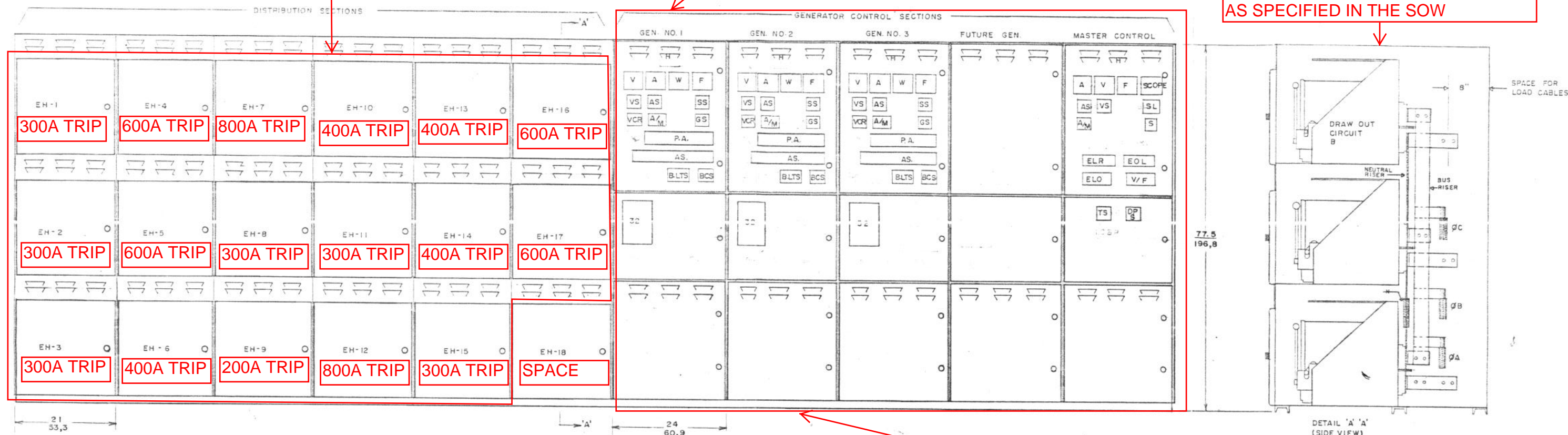
The contractor shall complete the work within 180 days after notification to proceed. Completion shall include final cleanup of job site and completion of all work.



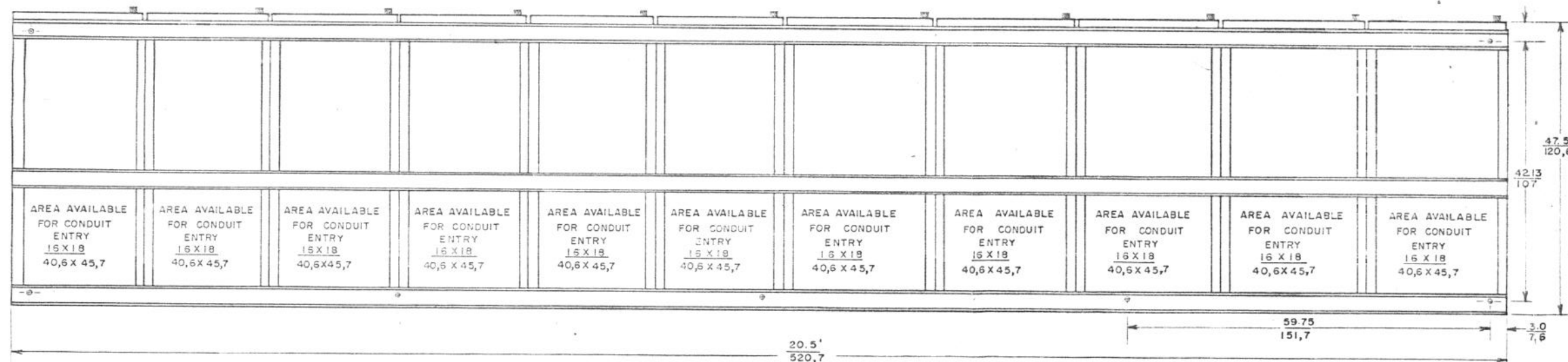
REPLACE 17 EXISTING 480V, 800A, FRAME WESTINGHOUSE DS-206 DRAWOUT TYPE CIRCUIT BREAKERS.

EXISTING GENERATOR CONTROLS ARE ABANDONED IN PLACE

RETROFIT SWITCHGEAR BUSWORK AS NECESSARY TO ACHIEVE NEW SHORT CIRCUIT WITHSTAND RATING AS SPECIFIED IN THE SOW



EXISTING EES SWITCHGEAR



ALL CIRCUIT BREAKERS ARE WESTINGHOUSE DS-206, ELECTRIC OPERATED, DRAWOUT TYPE

LEGEND

H = ALARM HORN
V = A. C. VOLTMETER
A = A. C. AMMETER
F = FREQUENCY METER
W = KILOWATT METER
VS = VOLTMETER SWITCH
AS = AMMETER SWITCH
SS = SYNCHRONIZING SWITCH

GS = GOVERNOR SWITCH
P.A. = PRE-ALARM INDICATING LIGHTS
AS = AUTOSTART CONTROL
A/M = AUTOMATIC/MANUAL SWITCH WITH MANUAL POSITION LIGHT
ES = EMERGENCY STOP PUSHBUTTON
32 = REVERSE POWER RELAY

B.LTS. = CIRCUIT BREAKER POSITION INDICATING LIGHTS
BCS = CIRCUIT BREAKER CONTROL SWITCH
SCOPE = SYNCHROSCOPE
BUS V = BUS VOLTAGE
BUS F = BUS FREQUENCY METER
S.L. = SYNCHRONIZING LIGHTS
S. = SYNCHRONIZING LIGHT ON/OFF SWITCH

DPS = DROP PRIORITY LOAD SWITCH
BVS = BUS VOLTMETER SWITCH
TS = TEST/NORMAL SWITCH
ERL = ENGINE RUN LIGHTS
EOL = ENGINE ON BUS LIGHTS
ELO = ENGINE LOCK OUT LIGHT
V/F = BUS OVER/UNDER-VOLTAGE AND FREQUENCY W/HORN SILENCE PB
LSBP = LOAD SHED BY PASS SWITCHES

DIMENSIONS = INCHES - FEET
CENTIMETERS METERS

WEIGHT = 11,500 LBS.
5175 KG

ENGINEERING CHANGE	DJM	7-16-81
	7-16-81	
SIMPLEX, INC. SPRINGFIELD, ILLINOIS		
SCALE:	APPROVED BY:	DRAWN BY DJM
DATE: 5-1-81		REVISED:
EMERGENCY GENERATOR & DISTRIBUTION SWITCHGEAR		
WD. 50522	DRAWING NUMBER 510024438	



LITTLE ROCK

28 April 2016

[illegible]

Project Number		Drawing Scale AS SHOWN		Phase	
CADD File Name E704		CADD Plot Scale 1:1		<input type="checkbox"/> CONCEPT <input type="checkbox"/> RELEASED	
Part Number		Date 28 APR. 2016		Sheet Number	
		Drawn By TJL Checked By JCE Project Number 2401-XXX		E704	
		Classification			