AIA® Document G731™ – 2019

Change Order, Construction Manager as Adviser Edition

PROJECT: *(name and address)*
Christian County High School

5185 Fort Campbell Blvd Hopkinsville, KY 42240

CONTRACT INFORMATION:
Contract For: BP 260-04 Electrical
Date: September 08, 2023

CHANGE ORDER INFORMATION:
Change Order Number: 012

Date: March 13, 2024

OWNER: *(name and address)*
Christian County Board of Education
200 Glass Avenue
Hopkinsville, KY 42240

ARCHITECT: *(name and address)*
Hafer PSC
21 Southeast Third St, Ste 800
Evansville, IN 47708

CONSTRUCTION MANAGER: *(name and address)*
Alliance Corporation
116 E. College Street
Glasgow, KY 42141

CONTRACTOR: *(name and address)*
State Electric Co., Inc.
140 College Street
Crofton, KY 42217

THE CONTRACT IS CHANGED AS FOLLOWS:
(Insert a detailed description of the change and, if applicable, attach or reference specific exhibits. Also include agreed upon adjustments attributable to executed Construction Change Directives.)

Delete disconnect switches for RTUs and add power to elevator emergency power indicator lights. Add electrical to 2nd scoreboard in aux. gym. Supply side bonding jumper modifications.Electrical modifications per telescoping bleacher submittal review.

The original Contract Sum was	$	11,715,191.00
Net change by previously authorized Change Orders	$	25,951.32
The Contract Sum prior to this Change Order was	$	11,741,142.32
The Contract Sum will be increased by this Change Order in the amount of	$	24,756.35
The new Contract Sum including this Change Order will be	$	11,765,898.67

The Contract Time will be unchanged by Zero (0) days.
The Contractor's Work shall be substantially complete on .

NOTE: This Change Order does not include adjustments to the Contract Sum or Guaranteed Maximum Price, or the Contract Time, that have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONSTRUCTION MANAGER, CONTRACTOR, AND OWNER.

Hafer PSC **ARCHITECT** *(Firm name)*	Alliance Corporation **CONSTRUCTION MANAGER** *(Firm name)*
SIGNATURE	**SIGNATURE**
Eric Rang, AIA, Senior Associate **PRINTED NAME AND TITLE**	Kevin Hitchel, Sr. Project Manager **PRINTED NAME AND TITLE**
DATE:	**DATE:**
State Electric Co., Inc. **CONTRACTOR** *(Firm name)*	Christian County Board of Education **OWNER** *(Firm name)*

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User Notes: (3B9ADA3A)

SIGNATURE	**SIGNATURE**
Matt Crick	Christopher Bentzel, Superintendent
PRINTED NAME AND TITLE	**PRINTED NAME AND TITLE**
DATE:	**DATE:**

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User Notes: (3B9ADA3A)

PROPOSED CHANGE ORDER

PROJECT Christian County High School

CONTRACTOR/SUPPLIER State Electric

BID PACKAGE 260

DETAIL ITEM		**AMOUNT**
LABOR	*$*	*13,805.06*
MATERIALS	*$*	*7,722.20*
PROFIT & OVERHEAD	*$*	*3,229.09*
BOND INSURANCE		
COST BREAKDOWN TOTAL	*$*	*24,756.35*

DESCRIPTION

Delete Disconnect Switches for RTUs and Add Power to Elevator Emergency Power Indicator Lights.

Add Electrical to 2nd Scoreboard in Aux. Gym.

Supply Side Bonding Jumper Modifications.

Electrical Modifications per Telescoping Bleacher Submittal Review

PR # 4, 5, 8, and 9 *(ATTACH PR)*

CHANGE ORDER INITIATED BY:

X *ARCHITECT/ENGINEER*

____ *OWNER*

____ *CONTRACTOR*

____ *CM*

____ *CODE OFFICIAL*

____ *OTHER* _____

PLEASE INCLUDE THIS FORM WITH EVERY CHANGE ORDER.

HAFER
architects • designers • engineers

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P: 270.926.1331 • F: 270.684.4456
haferdesign.com

PROPOSAL REQUEST

Project:	Christian County High School 5185 Ft. Campbell Blvd Hopkinsville,KY 42240	**PR No.:**	004
		Date:	November 17, 2023
Owner:	Christian County Public Schools 222 Glass Ave Hopkinsville, KY 42240	**Project Number:**	2106-204
		Contract for:	Electrical
To:	Tim Geegan Alliance Corporation 116 E. College Steet Glasgow, KY 42141		

RE: **Delete E.C. Provided Disc Switches for RTUs and Add Elev on E-Pwr Ckts**

Please submit an itemized quotation for changes in the Contract Sum and/or Time incidental to proposed modifications to the Contract Documents described herein. THIS IS NOT A CHANGE ORDER NOR A DIRECTION TO PROCEED WITH THE WORK DESCRIBED HEREIN.

Description:

1) **Delete the requirement for the electrical contractor to furnish and install fusible safety disconnect switches (and the required stainless steel support structures to support the disconnect switches) for the following rooftop HVAC units. Note: The rooftop units shall be furnished with factory installed fusible safety disconnect devices as specified.**
    a. **RTU-A. "DS-RTU-A" (100A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3A & E5.3.**
    b. **RTU-B1. "DS-RTU-B1" (60A/3, 480V, Fusible, NEMA 3R) – Reference Sheet E2.3A.**
    c. **RTU-B2. "DS-RTU-B2" (200A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3B-ALT & E5.3.**
    d. **RTU-B3. "DS-RTU-B3" (200A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3B-ALT & E5.3.**
    e. **RTU-B4. "DS-RTU-B4" (200A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3B-ALT & E5.3.**
    f. **RTU-B5. "DS-RTU-B5" (200A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3B-ALT & E5.3.**
    g. **RTU-C. "DS-RTU-C" (100A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3C & E5.4.**
    h. **RTU-D. "DS-RTU-D" (200A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3A & E5.4.**
    i. **RTU-E. "DS-RTU-E" (200A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3C & E5.5.**
    j. **RTU-F1. "DS-RTU-F1" (200A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3F & E5.6.**
    k. **RTU-F2. "DS-RTU-F2" (200A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3F & E5.6.**
    l. **RTU-G1. "DS-RTU-G1" (200A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3F & E5.6.**
    m. **RTU-G2. "DS-RTU-G2" (60A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3F & E5.6.**
    n. **RTU-G3. "DS-RTU-G3" (60A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3G & E5.6.**
    o. **RTU-G4. "DS-RTU-G4" (60A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3G & E5.6.**

p. RTU-J1. "DS-RTU-J1" (200A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3H & E5.7.
q. RTU-J2. "DS-RTU-J2" (60A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3H & E5.7.
r. RTU-J3. "DS-RTU-J3" (200A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3J & E5.7.
s. RTU-J4. "DS-RTU-J4" (60A/3, 480V, Fusible, NEMA 3R) – Reference Sheets E2.3J & E5.7.
t. RTU-K. "DS-RTU-K" (60A/3, 480V, Fusible, NEMA 3R) – Reference Sheet E2.3K.

2) Add required circuits (per the elevator provider's requirements) between Automatic Transfer Switch "ATS700H" and the elevator controllers for elevators "ELEV D", "ELEV E", "ELEV G", ELEV J" & "ELEV B(Gymnasium)" for pre-signal circuits before the ATS switches between power sources and for indication circuits identifying when the elevator is on normal vs. emergency power sources. Provide additional auxiliary dry contacts within the ATS as required for correct operation with the elevators. Reference Sheet E5.2.

Attachments: None

By: Eric Rang

CC:

140 college St.
Crofton, KY 42217
PH(270) 424-8242

CCHS
Alliance Corporation
RE: PR-004
Adder

11/27/2023

Discription: PR-004 - ADDER Provide additional auxiliary contacts within the ATS as required for correct operation with elevator.

Item Discription:	Qty:	Unit:	Total:	Unit Hrs:	Total Hrs:	Labor Unit:	Total Labor:
Conduit	2809	$1.02	$2,865.18		112.39	$65.00	$7,305.35
Couplings	280	1.35	$378.00		9.83	$65.00	$638.95
Connectors	76	1.3	$98.80		3.8	$65.00	$247.00
Straps	561	3.5	$1,963.50		16.85	$65.00	$1,095.25
Four Square Box	40	3.35	$134.00		4	$65.00	$260.00
Four Square Cover	40	1.25	$50.00		2	$65.00	$130.00
Cable	2809	0.35	$983.15		28.09	$65.00	$1,825.85
Beam Clamps	40	2.1	$84.00		6	$65.00	$390.00
Wire Nuts	160	0.2	$32.00		16	$65.00	$1,040.00
Truck Cost	12	125	$1,500.00		0	$65.00	$0.00
Material Cost			$8,088.63				
Sales Tax	6.0%		$485.32				
Material Subtotal			$8,573.95				

Labor Cost		$12,932.40
Labor Burden 26%	26%	$3,362.42
Labor Subtotal		$16,294.82

Labor/Mat. Subtotal		$24,868.77
Overhead/Profit	15%	$3,730.32
Total Change Cost		$28,599.09

140 college St.
Crofton, KY 42217
PH(270) 424-8242

CCHS
Alliance Corporation
RE: PR-004
Deduct

11/27/2023

Discription: PR-004 DEDUCT Remove Disconnects and stainless hardware on 20 RTU.

Item Discription:	Qty:	Unit:	Total:	Unit Hrs:	Total Hrs:	Labor Unit:	Total Labor:
Stainless Strut	120	$8.30	$996.00	0.04	4.8	$65.00	$312.00
Stainless screw	240	0.62	$148.80	0.02	4.8	$65.00	$312.00
Stainless washer	240	0.21	$50.40	0.02	4.8	$65.00	$312.00
Disconnects Labor	20		$0.00	0.4	8	$65.00	$520.00
Truck cost	1.4	125	$175.00		0	$65.00	$0.00
			$0.00		0	$65.00	$0.00
			$0.00		0	$65.00	$0.00
			$0.00		0	$65.00	$0.00
			$0.00		0	$65.00	$0.00
			$0.00		0	$65.00	$0.00

Material Cost		$1,370.20
Sales Tax	6.0%	$82.21
Material Subtotal		$1,452.41

Labor Cost		$1,456.00
Labor Burden 26%	26%	$378.56
Labor Subtotal		$1,834.56

Labor/Mat. Subtotal		$3,286.97
Overhead/Profit	15%	$493.05
Total Change Cost		$3,780.02

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haferdesign.com

PROPOSAL REQUEST

Project:	Christian County High School 5185 Ft. Campbell Blvd Hopkinsville,KY 42240	**PR No.:**	005
		Date:	December 19, 2023
Owner:	Christian County Public Schools 222 Glass Ave Hopkinsville, KY 42240	**Project Number:**	2106-204
		Contract for:	Electrical

To: Tim Geegan
Alliance Corporation
116 E. College Steet
Glasgow, KY 42141

RE: **Add Power Circuit to 2nd Scoreboard in Aux Gym & Modify Large Gym Curtain Circuits**

Please submit an itemized quotation for changes in the Contract Sum and/or Time incidental to proposed modifications to the Contract Documents described herein. THIS IS NOT A CHANGE ORDER NOR A DIRECTION TO PROCEED WITH THE WORK DESCRIBED HEREIN.

Description:

1) **Reference revised drawing E2.1C Rev 3. Provide power circuit to scoreboard on East wall of Auxiliary Gym C101 as indicated on the revised drawing. Use the same branch circuit which feeds the scoreboard on the west wall of the Auxiliary Gym.**
2) **Reference revised drawings E2.2B-Alt Rev 1 & E6.2-Alt Rev 2. Change electrical circuits, disconnect devices and circuit breakers from 30A, 208V single-phase to 30A, 120V single-phase as indicated on the revised drawings.**

Attachments: Revised Drawings E2.1C Rev 3, E2.2B-Alt Rev 1 & E6.2-Alt Rev 2

By: Eric Rang

CC:

NOTES (FIRST FLOOR POWER PLAN - AREA "C"):

C1. INSTALL RECEPTACLE FOR GENERAL PURPOSE USE AT APPROXIMATELY 18" ABOVE THE TOP OF THE HIGHEST BLEACHER SEATING AREA TO BOTTOM OF OUTLET BOX.

C2. RECEPTACLE FOR WALL MOUNT INTERACTIVE FLAT PANEL. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT IN FIELD WITH THE ARCHITECT AND INSTALLATION REQUIREMENTS 1-0/1 THE INTERACTIVE FLAT PANEL. IN GENERAL, INSTALL BEHIND THE INTERACTIVE FLAT PANEL IN LOCATION WHICH HIDES THE OUTLETS FROM VIEW AND STILL ALLOWS THE RECEPTACLE TO BE ACCESSIBLE. SEE TYPICAL INTERACTIVE FLAT PANEL LOCATION ELECTRICAL REQUIREMENTS DETAIL, SHEET E1.4 FOR ADDITIONAL REQUIREMENTS.

C3. RECEPTACLE FOR MOBILE VIDEO CART.

C4. RECEPTACLE AND DEDICATED BRANCH CIRCUIT FED FROM A SPCI TYPE CIRCUIT BREAKER FOR POWER TO ELECTRIC WATER COOLER.

C5. PROVIDE 30AH FUSIBLE SAFETY DISCONNECT MEANS WITHIN ACCESSIBLE CEILING CAVITY SPACE NEAR DOILING SECURITY GRILL CONTROLLER. PROVIDE FUSING AND FINAL CIRCUIT TO CONTROLLER PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS. PROVIDE POWER CIRCUIT FROM PANEL AND CIRCUIT NO. AS INDICATED USING 3PW, 10AWG IN 3/4"C. PROVIDE ALL CIRCUITS REQUIRED BETWEEN THE CONTROLLER AND REMOTE CONTROL DEVICES PER EQUIPMENT MANUFACTURER'S REQUIREMENTS.

D1. PROVIDE ALL MATERIALS, EQUIPMENT AND LABOR AS REQUIRED AND INSTALL THESE CONTROL DEVICE FOR SUPPLY FAN "SF-C-101" NEAR MOTOR CONTROLLER. 1 MIN SWITCH CONTROL DEVICE SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. PROVIDE LABELING NEAR THESE CONTROL DEVICE WHICH CLEARLY IDENTIFIES THE LOAD CONTROLLED.

C7. COMBINATION MOTOR CONTROLLER FOR SUPPLY FAN "SF-C-101". SEE POWER PLAN - SECOND FLOOR - AREA "C", SHEET E1.2C, AND MOTOR CONTROL SCHEDULE & CONTROL WIRING DIAGRAM, SHEETS E1.10 & E1.11, FOR ADDITIONAL REQUIREMENTS.

C8. PROVIDE 30AH FUSIBLE SAFETY DISCONNECT SWITCH NEAR BRANCH SELECTOR UNIT WITHIN THE ACCESSIBLE CEILING CAVITY SPACE. PROVIDE FUSING CIRCUIT TO BRANCH SELECTOR UNIT (THROUGH DISCONNECT SWITCH) PER THE MANUFACTURERS REQUIREMENTS. PROVIDE POWER CIRCUIT FROM PANEL AND BRANCH CIRCUIT NO. AS INDICATED USING 3PW, 10 TOW IN 3/4"C. PROVIDE FUSING PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS. COORDINATE REQUIRED INSTALLATION LOCATION IN FIELD WITH THE HVAC UNIT REQUIREMENTS AND ALL OTHER INSTALLATION WITHIN THE AREA.

NOTES (FIRST FLOOR POWER PLAN - AREA "C") (CONT):

D9. PROVIDE 60AH FUSIBLE SAFETY DISCONNECT SWITCH NEAR HVAC UNIT WITHIN THE ACCESSIBLE CEILING CAVITY SPACE. PROVIDE POWER CIRCUIT TO HVAC UNIT (THROUGH DISCONNECT SWITCH) PER THE MANUFACTURERS REQUIREMENTS. PROVIDE POWER CIRCUIT FROM PANEL AND BRANCH CIRCUIT NO. AS INDICATED USING 3PW, 10 TOW IN 3/4"C. PROVIDE FUSING PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS. COORDINATE REQUIRED INSTALLATION LOCATION IN FIELD WITH THE HVAC UNIT REQUIREMENTS AND ALL OTHER INSTALLATION WITHIN THE AREA.

D10. SEE FIRST FLOOR SYSTEMS & TECHNOLOGY PLAN - AREA "C", SHEET E3.1C, FOR ADDITIONAL REQUIREMENTS.

C11. RECEPTACLE FOR POWER TO AUDIOVIDEO CONTROL CABINET. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT WITH THE INSTALLATION REQUIREMENTS OF THE AUDIOVIDEO CONTROL CABINET. SEE TYPICAL INSTRUCTIONS AV ACCESS CABINET LOCATION ELECTRICAL REQUIREMENT DETAIL, SHEET E1.4, FOR ADDITIONAL REQUIREMENTS.

C12. COORDINATE THE REQUIRED INSTALLATION LOCATIONS AND MOUNTING HEIGHT OF ALL INSTALLATION ALONG THE WALL WITH THE ARCHITECT PRIOR TO START OF ROUGH-IN.

C13. NOTE NOT USED.

C14. PROVIDE PIGMIO CONDUCTORS FOR ALL "PHASE", "NEUTRAL" AND EQUIPMENT GROUND CONDUCTORS FOR ENTIRE LENGTH OF BRANCH CIRCUIT.

C15. PROVIDE POWER CIRCUIT TO THE ISOLATED GROUND TYPE DUPLEX RECEPTACLE WITHIN THE FLOOR BOX FROM PANEL "L1AC" CIRCUIT NO. 29 USING 3PW2, 10AWG, 1#12GN CONDUCTORS WITHIN A DEDICATED 3/4" CONDUIT FROM PANEL TO THE FLOOR BOX.

NOTES (FIRST FLOOR POWER PLAN - AREA "C") (CONT):

C16. COORDINATE THE REQUIRED INSTALLATION LOCATION WITH ARCHITECT PRIOR TO START OF ROUGH-IN.

C17. PROVIDE TWO POWER CIRCUITS TO FLOOR BOX FROM PANEL "L1AC" CIRCUIT NO.S 31 & 33 USING 4PW2, 10AWG IN 3/4" CONDUIT DEDICATED FOR "RESULANT" POWER CIRCUIT CONDUCTORS.

C18. PROVIDE 30AH FUSIBLE SAFETY DISCONNECT SWITCH IN NEMA 1 ENCLOSURE FOR POWER CIRCUIT TO MOTORIZED BLEACHER SYSTEM. PROVIDE POWER CIRCUIT FROM PANEL "L1AC" CIRCUIT NO. 1 USING 3PW2, 10AWG IN 3/4"C. PROVIDE PANEL CIRCUIT TO MOTORIZED BLEACHER SYSTEM PER THE MANUFACTURERS REQUIREMENTS. PROVIDE REQUIRED CIRCUIT TO THE REMOTE CONTROL DEVICE PER THE BLEACHER SYSTEM MANUFACTURER'S REQUIREMENTS. NOTE: THE REMOTE CONTROL DEVICE SHALL BE INSTALLED WITHIN THE AUX GYM STORAGE ROOM ONE. PROVIDE FUSE WITHIN DISCONNECT SWITCH PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS. COORDINATE THE REQUIRED INSTALLATION LOCATION IN THE FIELD WITH THE BLEACHER SYSTEM PROVIDER PRIOR TO START OF ROUGH-IN.

C19. SPACE NEXT TO PANELBOARD SHALL BE RESERVED FOR INSTALLATION OF THE REMOTE CONTROL DEVICES FOR THE MOTORIZED SYSTEMS CONTROLLED: GYM BLEACHERS, BASKETBALL GOALS & GYM DIVIDER CURTAIN.

C20. JUNCTION BOX HIGH ON WALL AS REQUIRED FOR POWER CIRCUIT TO MOTORIZED PROJECTION SCREEN. PROVIDE CIRCUIT TO SCREEN PER THE SCREEN MANUFACTURER'S REQUIREMENTS. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT WITH THE INSTALLATION REQUIREMENTS FOR THE MOTORIZED SCREEN PRIOR TO START OF ROUGH-IN. PROVIDE ALL REQUIRED CIRCUITS BETWEEN THE UPROOM CONTROL SWITCH PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS.

C21. PROVIDE POWER CIRCUITS TO FLOORBOX ASSEMBLY FROM PANEL AND BRANCH CIRCUIT NO.S AS INDICATED USING PIGMIO CONDUCTORS FOR ALL PHASE, NEUTRAL, AND EQUIPMENT GROUND CONDUCTORS.

C22. PROVIDE POWER CIRCUIT TO FLOORBOX ASSEMBLY FROM PANEL AND BRANCH CIRCUIT NO.S AS INDICATED USING PIGMIO FOR ALL PHASE, NEUTRAL, AND EQUIPMENT GROUND CONDUCTORS.

NOTES (FIRST FLOOR POWER PLAN - AREA "C") (CONT):

C23. PROVIDE TWO ISOLATED GROUND TYPE DUPLEX RECEPTACLES FLUSH MOUNTED IN WALL BEHIND THE OWNER FURNISHED AND INSTALLED AUDIOVIDEO EQUIPMENT RACK. PROVIDE DEDICATED 20A, 120V BRANCH CIRCUIT TO EACH RECEPTACLE FROM PANEL AND BRANCH CIRCUIT NO. AS INDICATED USING 3PW, 10AWG, 1#12GN, WHERE INSTALLED WITHIN THEIR OWN DEDICATED 3/4" CONDUIT RACEWAY SYSTEMS FROM OUTLET BOX TO POWER PANEL.

C24. PROVIDE RECEPTACLE WITHIN A SINGLE-GANG STAINLESS STEEL "FOUNTAINS" TYPE FLOOR MOUNT ENCLOSURE. PROVIDE WATERPROOF GFCI SINGLE GANG, OR APPROVED EQUAL. PROVIDE POWER FEED TO RECEPTACLE FROM BELOW GRADE. COORDINATE THE REQUIRED INSTALLATION LOCATION WITH ARCHITECT PRIOR TO START OF ROUGH-IN. INSTALL CLOSE TO WALL / BASEBOARD HEATER AS REQUIRED TO MINIMIZE TRIPPING HAZARD.

C25. SEE MULTIFUNCTION FLOORBOX SCHEDULE, SHEET E1.1, FOR ADDITIONAL REQUIREMENTS.

C26. RECEPTACLE HIGH ON WALL AS REQUIRED FOR POWER CIRCUIT TO VIDEO PROJECTOR EQUIPMENT. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT WITH THE INSTALLATION REQUIREMENTS FOR THE VIDEO PROJECTOR PRIOR TO START OF ROUGH-IN.

C27. JUNCTION BOX AS REQUIRED FOR POWER CIRCUIT TO PLAYERS SCOREBOARD. PROVIDE ONE DEDICATED 120V, 20A BRANCH CIRCUIT TO JUNCTION BOX FROM PANEL AND BRANCH CIRCUIT AS INDICATED USING 3PW, 10AWG IN 3/4". COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT IN FIELD WITH THE INSTALLATION LOCATION AND REQUIREMENTS FOR THE PLAYERS SCOREBOARD PRIOR TO START OF ROUGH-IN. PROVIDE FINAL CIRCUIT TO SCOREBOARD PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS.

C28. ELECTRIC HEATER SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR WITH A FACTORY INSTALLED SAFETY DISCONNECT MEANS FOR SINGLE-POINT POWER FEED. PROVIDE 2PW CIRCUIT TO HEATER FROM PANEL "PH1AC" CIRCUIT NO. 9 USING 2PW, 10AWG IN 3/4"C.

C29. PROVIDE ONE ISOLATED GROUND TYPE NEMA 5-20R DUPLEX RECEPTACLE AND TWO NEMA 5-20R DUPLEX RECEPTACLES WITHIN THE MULTI-FUNCTION FLOOR BOX ASSEMBLY.

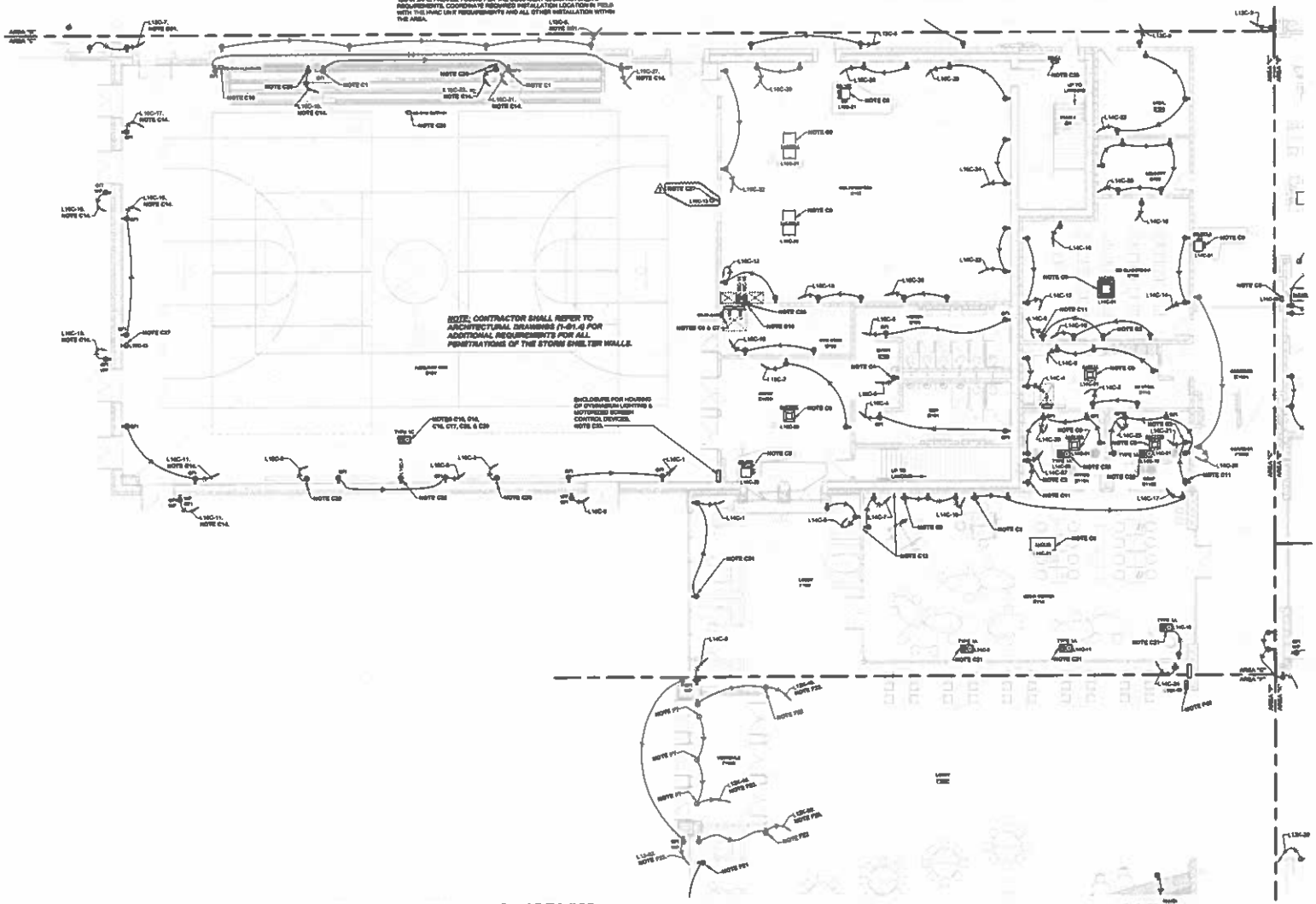
NOTES (FIRST FLOOR POWER PLAN - AREA "C") (CONT):

C30. NOTE NOT USED.

C31. NOTE NOT USED.

C32. PROVIDE ONE ISOLATED GROUND TYPE DUPLEX RECEPTACLE FLUSH MOUNTED IN WALL AT THE STANDARD RECEPTACLE MOUNTING HEIGHT. PROVIDE DEDICATED 20A, 120V BRANCH CIRCUIT TO RECEPTACLE FROM PANEL AND BRANCH CIRCUIT NO. AS INDICATED USING 3PW, 10AWG, 1#12GN INSTALLED WITHIN ITS OWN DEDICATED 3/4" CONDUIT RACEWAY SYSTEM FROM OUTLET BOX TO POWER PANEL.

C33. SEE FIRST FLOOR LIGHTING PLAN - AREA "C", SHEET E4.1C, FOR ADDITIONAL REQUIREMENTS.



POWER PLAN - FIRST FLOOR - AREA "C"
1/8" = 1'-0"

1/8" = 1'-0"

HOPKINSVILLE - CHRISTIAN COUNTY ACADEMY

CHRISTIAN COUNTY PUBLIC SCHOOLS

KDE # : BG 22-104

5185 FT. CAMPBELL BLVD
HOPKINSVILLE, KY 42240

HAFER

In association with

ALLIANCE

bell engineering

K&S Engineering, PLLC

WBW Engineering Inc

CST Design and Development Co.

KEYPLA

Revisions

		Description	Date
1		ASI #01	12-14-22
2		ASI #02	12-21-22
3		ASI #03 (Add Soundbar)	12-28-22
4		ASI #04	1-5-2023
5		ASI #05	1-9-2023

Designed By:	Drawn By:	Checked By:
MJB	BCB	MJB

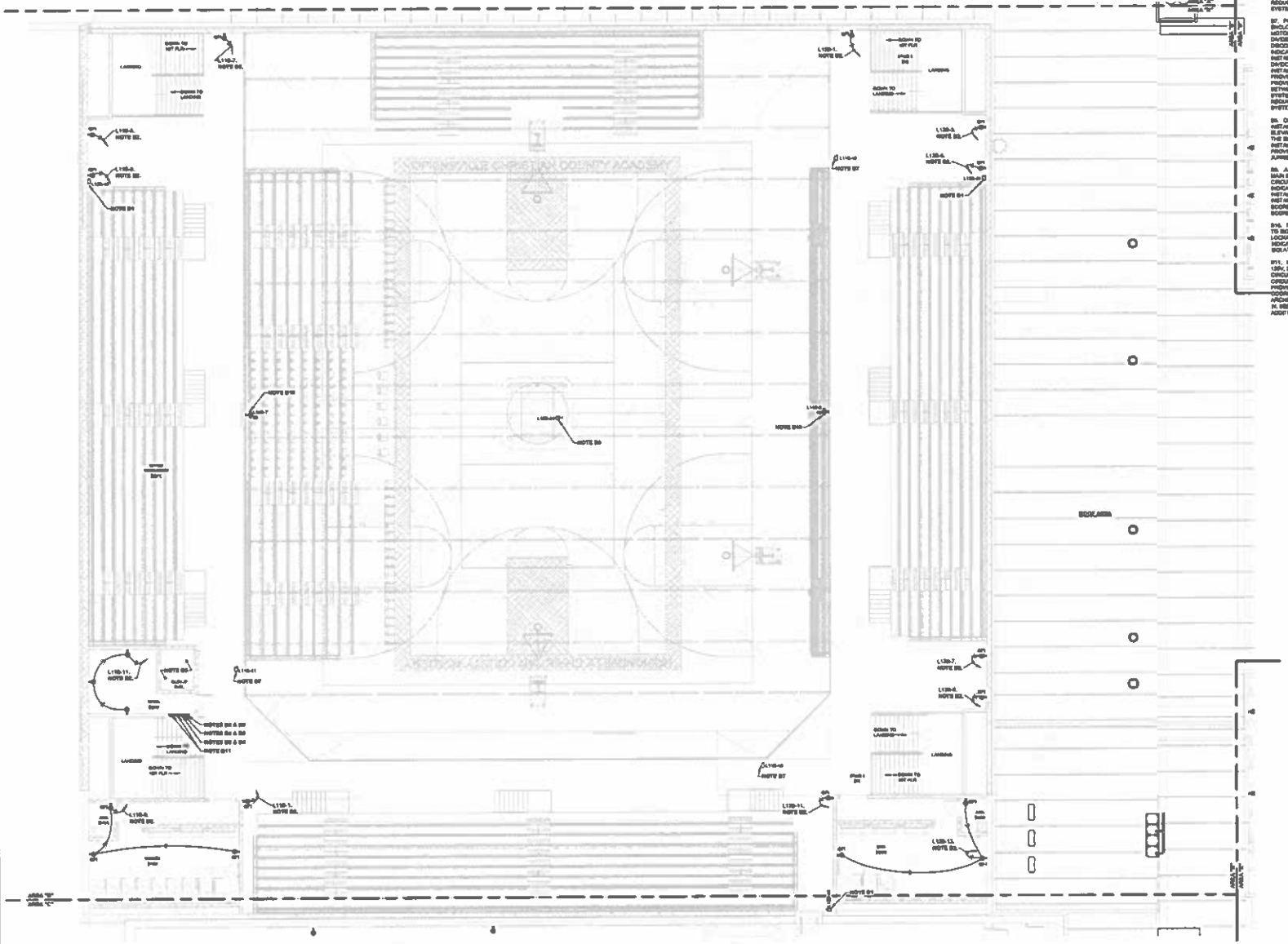
Sheet Title:

POWER PLAN - FIRST FLOO
- AREA "C"

Architect's Project No:	Date:
2106-204	May, 20

Drawing No:

E2.1C



POWER PLAN - SECOND FLOOR - AREA "B"

1/8"=1'-0"

NOTES (SECOND FLOOR POWER PLAN - AREA "B-ALT"):

01. PROVIDE 30A/3-PUSHBUTTON SAFETY DISCONNECT SWITCH IN NEMA 1 ENCLOSURE FOR POWER CIRCUIT TO MOTORIZED BLEACHER SYSTEM. PROVIDE FUSING PER THE BLEACHER SYSTEM REQUIREMENTS. PROVIDE POWER CIRCUIT TO DISCONNECT SWITCH FROM PANEL AND BRANCH CIRCUIT NUMBER AS INDICATED USING 4PW, 10/10G IN 3/4"C. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT IN FIELD WITH THE ARCHITECT AND BLEACHER SYSTEM PROVIDER PRIOR TO START OF ROUGH-IN. PROVIDE FINAL CIRCUIT TO BLEACHER SYSTEM PER THE BLEACHER SYSTEM PROVIDER'S REQUIREMENTS. PROVIDE ALL REQUIRED POWER, CONTROL, MONITORING AND ALL OTHER CIRCUITS AND ELECTRICAL INSTALLATION PER THE BLEACHER SYSTEM PROVIDER'S REQUIREMENTS. COORDINATE ALL REQUIREMENTS WITH THE BLEACHER SYSTEM PROVIDER.

02. PROVIDE FRAMED CONDUCTORS FOR ALL "PHASE", "NEUTRAL" AND EQUIPMENT GROUND CONDUCTORS FOR ENTIRE LENGTH OF BRANCH CIRCUIT.

03. REMOTE UNDOWN CONTROL DEVICE FOR MOTORIZED DIVIDER CURTAIN SYSTEM - WEST.

04. REMOTE UNDOWN CONTROL DEVICE FOR MOTORIZED DIVIDER CURTAIN SYSTEM - SOUTH.

05. REMOTE UNDOWN CONTROL DEVICE FOR MOTORIZED DIVIDER CURTAIN SYSTEM - NORTH.

06. FLUSH-MOUNT CONTROL DEVICE IN WALL. PROVIDE ALL REQUIRED CIRCUITS BETWEEN THE REMOTE "UNDOWN" CONTROL DEVICE AND THE DIVIDER SYSTEM CONTROLLER PER THE DIVIDER SYSTEM PROVIDER'S REQUIREMENTS. COORDINATE ALL REQUIREMENTS WITH THE DIVIDER SYSTEM PROVIDER.

07. PROVIDE 30A/3-PUSHBUTTON SAFETY DISCONNECT SWITCH IN NEMA 1 ENCLOSURE FOR 3-PHASE, 30A POWER CIRCUIT TO MOTORIZED DIVIDER CURTAIN SYSTEM. PROVIDE FUSING PER THE DIVIDER CURTAIN SYSTEM REQUIREMENTS. PROVIDE POWER CIRCUIT TO DISCONNECT SWITCH FROM PANEL AND BRANCH CIRCUIT NUMBER AS INDICATED USING 3PW, 10/10G IN 3/4"C. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT IN FIELD WITH THE DIVIDER CURTAIN SYSTEM PROVIDER PRIOR TO START OF ROUGH-IN. INSTALL NEAR THE DIVIDER SYSTEM MOTOR/CONTROL ENCLOSURE. PROVIDE FINAL CIRCUIT TO DIVIDER SYSTEM PER THE DIVIDER SYSTEM PROVIDER'S REQUIREMENTS. PROVIDE ALL REQUIRED CIRCUITS BETWEEN THE REMOTE "UNDOWN" CONTROL DEVICE AND THE DIVIDER SYSTEM CONTROLLER PER THE DIVIDER SYSTEM PROVIDER'S REQUIREMENTS. COORDINATE ALL REQUIREMENTS WITH THE DIVIDER SYSTEM PROVIDER.

08. COORDINATE ALL ELECTRICAL INSTALLATION REQUIREMENTS, INSTALLATION LOCATIONS AND MOUNTING HEIGHTS WITHIN THE ELEVATOR EQUIPMENT ROOM AND THE ELEVATOR SHAFT AREAS WITH THE ELEVATOR PROVIDER PRIOR TO START OF ROUGH-IN TO ENSURE INSTALLATION WILL MEET THE REQUIREMENTS OF THE ELEVATOR PROVIDER, ELEVATOR INSPECTOR AND ALL LOCAL AUTHORITIES HAVING JURISDICTION.

09. JUNCTION BOX AS REQUIRED FOR POWER CIRCUIT TO GYMNASIUM MAIN SCOREBOARD. PROVIDE ONE DEDICATED 120V, 20A BRANCH CIRCUIT TO JUNCTION BOX FROM PANEL AND BRANCH CIRCUIT NO. AS INDICATED USING 2PW, 10/10G IN 3/4"C. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT IN FIELD WITH THE INSTALLATION LOCATION AND REQUIREMENTS FOR THE MAIN SCOREBOARD PRIOR TO START OF ROUGH-IN. PROVIDE FINAL CIRCUIT TO SCOREBOARD PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS.

010. PROVIDE DEDICATED 120V, 20A ISOLATED GROUND POWER CIRCUIT TO ISOLATED GROUND TYPE RECEPTACLES WITHIN THE SPECIAL AV LOCKABLE ENCLOSURE FROM PANEL AND BRANCH CIRCUIT NUMBER AS INDICATED USING FRAMED CONDUCTORS FOR PHASE, NEUTRAL, ISOLATED GROUND AND EQUIPMENT GROUND CONDUCTORS.

011. MOTORIZED SHADE SYSTEM CONTROLLERS. PROVIDE DEDICATED 120V, 20A POWER CIRCUITS TO CONTROLLERS FROM PANEL "L110" CIRCUIT NO.S 9F & 3R. PROVIDE ALL REQUIRED POWER AND CONTROL CIRCUITS TO MOTORIZED SHADES PER THE MOTORIZED SHADE SYSTEM PROVIDER'S REQUIREMENTS AND APPROVED SUBMITTAL DRAWINGS. COORDINATE INSTALLATION LOCATION FOR CONTROL PANELS WITH ARCHITECT AND SHADE SYSTEM PROVIDER PRIOR TO START OF ROUGH-IN. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING MOTORIZED SHADE SYSTEM.

HOPKINSVILLE - CHRISTIAN COUNTY ACADEMY

CHRISTIAN COUNTY PUBLIC SCHOOLS

KDE # : BG 22-104

5186 FT. CAMPBELL BLVD
HOPKINSVILLE, KY 42240

HAFER

ALLIANCE

bell

K&S Engineering, PLLC

WBW

CST Design and Equipment Co.

KEYPLA

Revisions

	Description	Date
1	PA-08	12-20-22

Designed By: MJS | Drawn By: BDD | Checked By: GLD

Sheet title:

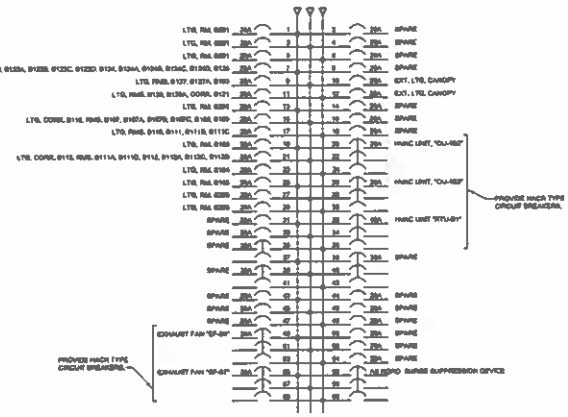
POWER PLAN - SECOND FLOOR - AREA "B"

Architect's Project No: 2106-204

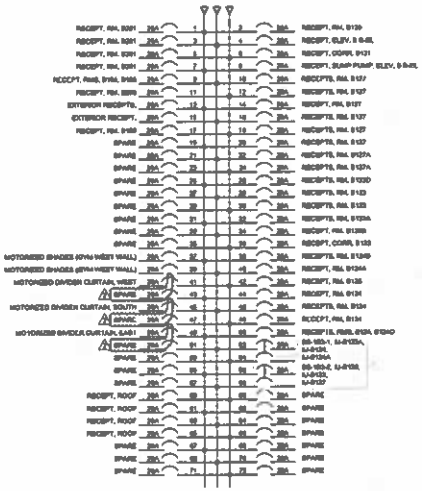
Date: May, 20

Drawing No:

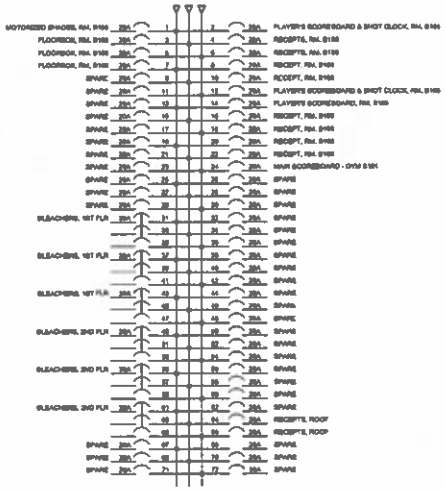
E2.2B-AI



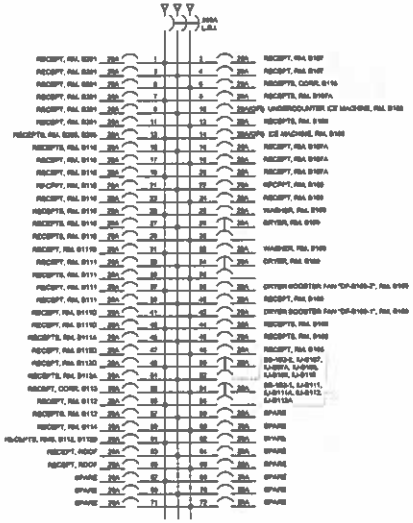
PANEL "H11B"
200A, 480Y/277V, 3Ph, 4W
SURFACE MOUNT
60 SPACE
SURE A.I.C. RATING ACCEPTABLE
PROVIDE WITH HINGED COVER ENCLOSURE.
PROVIDE WITH INTERNAL SURGE SUPPRESSION DEVICE.



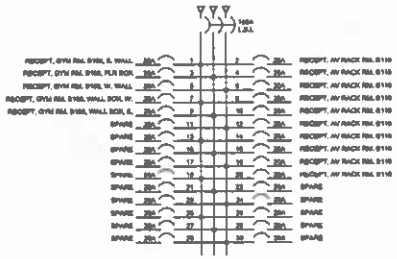
PANEL "L11B"
200A, 208Y/120V, 3Ph, 4W
SURFACE MOUNT
72 SPACE
22,000 A.I.C.
PROVIDE WITH HINGED COVER ENCLOSURE



PANEL "L12B"
200A, 208Y/120V, 3Ph, 4W
SURFACE MOUNT
72 SPACE
22,000 A.I.C.
PROVIDE WITH HINGED COVER ENCLOSURE



PANEL "L13B"
200A, 208Y/120V, 3Ph, 4W
SURFACE MOUNT
72 SPACE
22,000 A.I.C.
PROVIDE WITH HINGED COVER ENCLOSURE



PANEL "L14B"
200A, 208Y/120V, 3Ph, 4W
SURFACE MOUNT
30 SPACE
22,000 A.I.C.
PROVIDE WITH HINGED COVER ENCLOSURE.
PROVIDE WITH EQUIPMENT GROUND BUS AND WITH ISOLATED GROUND BUS.

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CHRISTIAN COUNTY PUBLIC SCHOOLS

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K&S Engineering, PLLC

WBW Engineering, Inc

C&T Design and Equipment Co.

Revisions

4	Addendum	
3	ASI-001-HV Distribution	
2	ASI-01	
1	ASI-01	

Designed By: MJS | Drawn By: | Checked By: MJS

Sheet title:
BUSSING DIAGRAMS - BLDG AREA "B" (1ST FLOOR) - NORMAL POWER

Architect's Project No: 2106-204
Date: May, 20

Drawing No:
E6.2-Alt

140 college St.
Crofton, KY 42217
PH(270) 424-8242

CCHS
Alliance Corporation
RE: PR-005
Adder

1/10/2024

Discription: PR-005 - ADDER Scoreboard power

Item Discription:	Qty:	Unit:	Total:	Unit Hrs:	Total Hrs:	Labor Unit:	Total Labor:
Material	1	$150.00	$150.00		5	$65.00	$325.00
Truck cost	0.7	125	$87.50		0	$0.00	$0.00
	0	0	$0.00		0	$0.00	$0.00
	0	0	$0.00		0	$0.00	$0.00
	0	0	$0.00		0	$0.00	$0.00
	0	0	$0.00		0	$0.00	$0.00
	0	0	$0.00		0	$0.00	$0.00
	0	0	$0.00		0	$0.00	$0.00
	0	0	$0.00		0	$0.00	$0.00
	0	0	$0.00		0	$0.00	$0.00

Material Cost		$237.50
Sales Tax	6.0%	$14.25
Material Subtotal		$251.75

Labor Cost		$325.00
Labor Burden 26%	26%	$84.50
Labor Subtotal		$409.50

Labor/Mat. Subtotal		$661.25
Overhead/Profit	15%	$99.19
Total Change Cost		$760.44

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haferdesign.com

PROPOSAL REQUEST

Project:	Christian County High School 5185 Ft. Campbell Blvd Hopkinsville,KY 42240	**PR No.:**	008
		Date:	December 23, 2023
Owner:	Christian County Public Schools 222 Glass Ave Hopkinsville, KY 42240	**Project Number:**	2106-204
		Contract for:	

To: Tim Geegan
Alliance Corporation
116 E. College Steet
Glasgow, KY 42141

RE: **SUPPLY SIDE BONDING JUMPER MODIFICATIONS**

Please submit an itemized quotation for changes in the Contract Sum and/or Time incidental to proposed modifications to the Contract Documents described herein. THIS IS NOT A CHANGE ORDER NOR A DIRECTION TO PROCEED WITH THE WORK DESCRIBED HEREIN.

Description:

1) Reference Revised Drawing E5.2 Rev 3.
    a. Change supply side bonding jumper for Panelboard "EL12H" from #4 to #2 as indicated on the revised drawing.
2) Reference Revised Drawing E5.3 Rev 2.
    a. Change supply side bonding jumper for Distribution Panelboard "LD11A" from #1 to #1/0 as indicated on the revised drawing.
    b. Change supply side bonding jumper for Distribution Panelboard "LD11B" from #1 to #1/0 as indicated on the revised drawing.
    c. Delete requirement for the 1#1(IG) conductor from transformer "X11B" to Distribution Panelboard "LD11B" as indicated on the revised drawing.
    d. Delete the requirement for Distribution Panelboard "LD11B" to be provided with an isolated ground bus bar as indicated on the revised drawing.
    e. Delete note 15 pointing to the equipment ground and isolated ground buses within Distribution Panelboard "LD11B" as indicated on the revised drawing.
    f. Change note 15 to read as follows: Both the equipment ground and isolated ground conductors shall be bonded to the equipment ground bus within the distribution panelboard "LD11B" as indicated on the revised drawing.

g. Add Note 15 pointing to the feeder for panelboard "L14B" as indicated on the revised drawing.

3) Reference Revised Drawing E5.4 Rev 2.
   a. Change supply side bonding jumper for Distribution Panelboard "LD11C" from #1/0 to #2/0 as indicated on the revised drawing.
   b. Change supply side bonding jumper for Distribution Panelboard "LD11D" from #1/0 to #4/0 as indicated on the revised drawing.
4) Reference Revised Drawing E5.5 Rev 2.
   a. Change supply side bonding jumper for Distribution Switchboard "LSB11E" from #1/0 to #2/0 as indicated on the revised drawing.
5) Reference Revised Drawing E5.6 Rev 2.
   a. Change supply side bonding jumper for Distribution Switchboard "LSB11G" from #4/0 to #400MCM as indicated on the revised drawing.
   b. Change supply side bonding jumper for Distribution Switchboard "LSB11H" from #3/0 to #250MCM as indicated on the revised drawing.
6) Reference Revised Drawing E5.7 Rev 2.
   a. Change supply side bonding jumper for Distribution Switchboard "LSB11J" from #1/0 to #2/0 as indicated on the revised drawing.
   b. Change supply side bonding jumper for Distribution Panelboard "LD11K" from #4 to #2 as indicated on the revised drawing.

Attachments: Revised Drawings E5.2 Rev 3, E5.3 Rev 2, E5.4 Rev 2, E5.5 Rev 2, E5.6 Rev 2, E5.7 Rev 2

By: Eric Rang

CC:

KIRK-KEY INTERLOCK SYSTEM OPERATION (KIRK-KEY "K2"):

NOTE: KIRK-KEY "K2" OPERATION SHALL BE THE SAME AS "K2" BUT WITH A DIFFERENT KEY)

1. THE NORMALLY OPEN (N.O.) AND NORMALLY CLOSED (N.C.) CONDITIONS SHALL BE AS SHOWN ON THE ONE-LINE DIAGRAM.

2. THERE SHALL BE A QUANTITY OF ONE "K2" KEY AND A QUANTITY OF TWO "K2" KEY-LOCK CYLINDERS.

3. ONLY ONE OF THE TWO CIRCUIT BREAKERS SHALL BE CAPABLE OF BEING IN THE "CLOSED" CONDITION AT THE SAME TIME.

4. MAIN (1ST KIND) KEY POWER CIRCUIT BREAKER SHALL NOT BE CAPABLE OF BEING CLOSED UNTIL KIRK-KEY "K2" HAS BEEN PLACED IN THE MAIN EMERGENCY POWER CIRCUIT BREAKER KEY-LOCK CYLINDER AND TURNED CLOCKWISE. THE RESTRICTING ROD SHALL BE RETRACTED THAN ALLOWING THE MAIN EMERGENCY POWER CIRCUIT BREAKER TO BE MANUALLY CLOSED. THE KIRK-KEY SHALL NOT BE ABLE TO BE REMOVED FROM THE LOCK CYLINDER WHEN THE MAIN EMERGENCY POWER CIRCUIT BREAKER IS IN THE "CLOSED" CONDITION.

5. REMOVAL OF KIRK-KEY "K2" FROM THE MAIN EMERGENCY POWER CIRCUIT BREAKER KIRK-KEY CYLINDER SHALL NOT BE POSSIBLE UNTIL THE MAIN EMERGENCY POWER CIRCUIT BREAKER HAS BEEN PLACED IN THE "OPEN" CONDITION AND THE KIRK-KEY HAS BEEN TURNED TO EXTEND THE ROD WHICH PREVENTS THE MAIN EMERGENCY POWER CIRCUIT BREAKER FROM BEING PLACED IN THE "CLOSED" CONDITION.

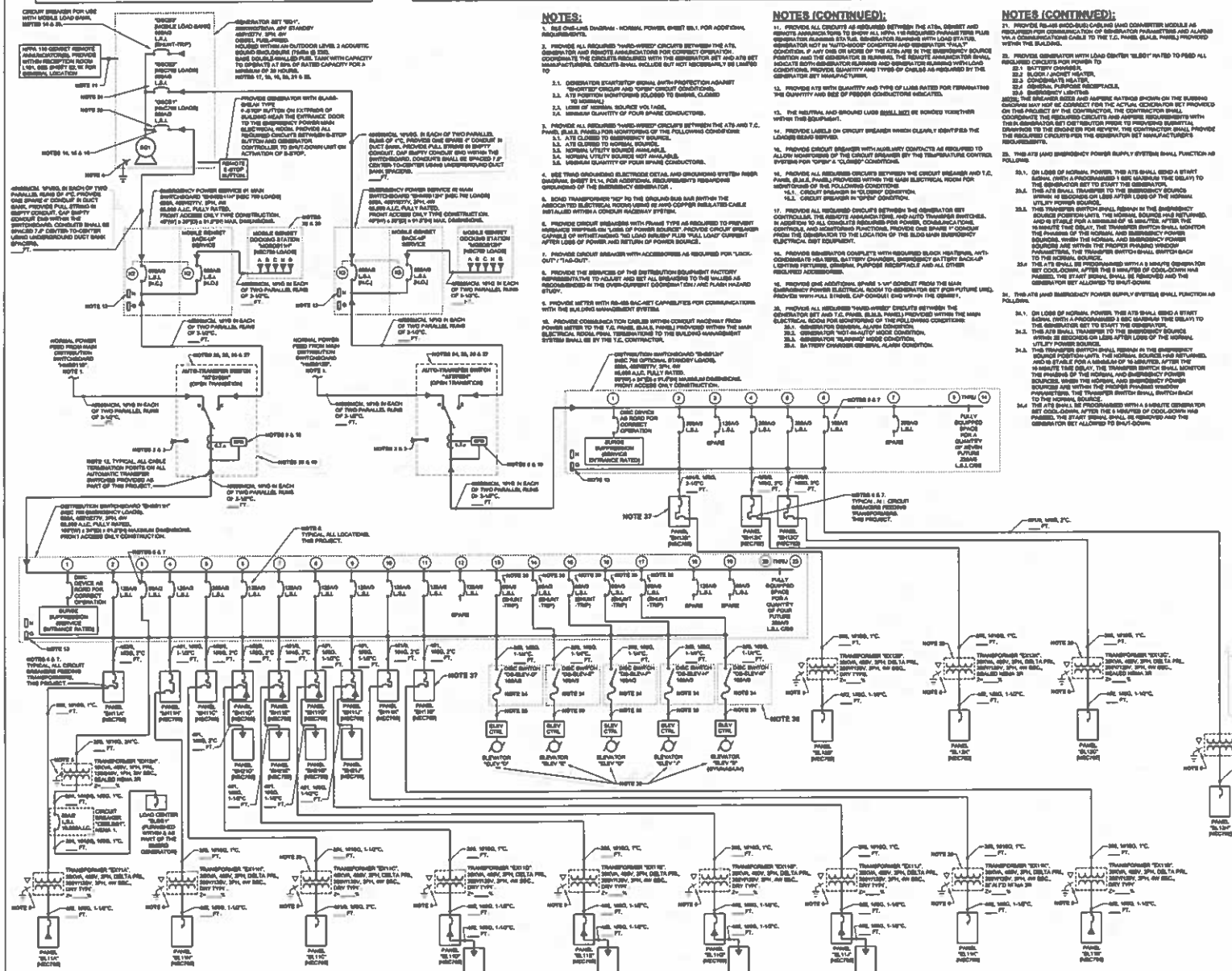
6. THE OPERATION OF KIRK-KEY LOCKING DEVICE FOR THE MOBILE GENSET BACK-UP SERVICE CIRCUIT BREAKER SHALL BE IDENTICAL TO THE OPERATION FOR MAIN EMERGENCY POWER CIRCUIT BREAKER.

TRANSFER SWITCH SCHEDULE

ACCESSORIES			
IM	-	INDICATOR LIGHTS, ENGINE CONTROL CONTACTS, VOLTAGE PER HERTZ SENSING.	MD	-	MANUAL DIRECT OPERATOR
			MC	-	MANUAL ELECTRIC OPERATOR
		TEST SWITCH	BI	-	BYPASS ISOLATION SWITCH
AC	-	AUXILIARY CONTACTS	SM	-	BYPASS MONITOR
SN	-	SWITCHED NEUTRAL	TD	-	EXTENDED TIME DELAY
CN	-	OVERLAPPING SWITCHED NEUTRAL	RC	-	REMOTE CONTROL CIRCUITS
DN	-	SOLID NEUTRAL	ML	-	ELEVATOR EMERGENCY TO NORMAL PRESIGNAL

TVSS	-	INTERNAL TRANSIENT VOLTAGE SURGE SUPPRESSION DEVICE WITH FUSED DISCONNECT.
DPM	-	DIGITAL POWER METER (CONNECTED TO LOAD SIDE).
CTS	-	CLOSED TRANSITION SWITCH
OTS	-	OPEN TRANSITION SWITCH

SWITCH NOMENCLATURE	SWITCH TYPE	VOLTAGE	POLES	AMPERAGE	NEMA TYPE ENCLOSURE	ACCESSORIES	LOAD TYPE	LOAD PRIORITY	REQUIRED TRANSFER TIME (STANDARD/ADJUSTABLE) FOR LOSS OF NORMAL UTILITY	ANTICIPATED PEAK (CLEARING/SUSTAINED) LOAD (kW)	NOTES
"ATS1EM"	AUTOMATIC OPEN TRANSITION	480VAC	4	600	1	3A, AC, 6N, OTS, IM, DPM (SEE SHEET E6.1 FOR ADDITIONAL INFORMATION)	NEC 700 "EMERGENCY LOADS"	1	10 SECONDS MAXIMUM	~170kW	PROVIDE ATS WITH EXTRA BOX BUTTON AS REQUIRED TO ALLOW FOR TOP, BOTTOM AND BACKSIDE CABLE ENTRY WITH ATS MOUNTED AGAINST A WALL, OR BACK-TO-BACK WITH DISTRIBUTION EQUIPMENT. FRONT ACCESS ONLY TYPE ENCLOSURE.
"ATS1ES"	AUTOMATIC OPEN TRANSITION	480VAC	4	600	1	3A, AC, 6N, OTS, IM, DPM (SEE SHEET E6.1 FOR ADDITIONAL INFORMATION)	NEC 700 "OPTIONAL STANDBY LOADS"	2	30 SECONDS MAXIMUM	~80kW	PROVIDE ATS WITH EXTRA BOX BUTTON AS REQUIRED TO ALLOW FOR TOP, BOTTOM AND BACKSIDE CABLE ENTRY WITH ATS MOUNTED AGAINST A WALL, OR BACK-TO-BACK WITH DISTRIBUTION EQUIPMENT. FRONT ACCESS ONLY TYPE ENCLOSURE.



NOTES:

1. SEE ONE-LINE DIAGRAM - NORMAL POWER, SHEET E5.1, FOR ADDITIONAL REQUIREMENTS.

2. PROVIDE ALL REQUIRED "HARD-WIRED" CIRCUITS BETWEEN THE ATS, GENERATOR AND REMOTE ANNUNCIATORS FOR CORRECT OPERATION. COORDINATE THE CIRCUITS REQUIRED WITH THE GENERATOR SET AND ATS SET MANUFACTURERS. CIRCUITS SHALL INCLUDE BUT NOT NECESSARILY BE LIMITED TO:

   2.1. GENERATOR START/STOP SIGNAL WITH PROTECTION AGAINST "SHORTED" CIRCUIT AND "OPEN" CIRCUIT CONDITIONS.
   2.2. ATS POSITION MONITORING (CLOSED TO SHOWN, CLOSED TO NORMAL).
   2.3. LOSS OF NORMAL SOURCE VOLTAGE.
   2.4. MINIMUM QUANTITY OF FOUR SPARE CONDUCTORS.

3. PROVIDE ALL REQUIRED "HARD-WIRED" CIRCUITS BETWEEN THE ATS AND T.C. PANEL (E.M.S. PANEL) FOR MONITORING OF THE FOLLOWING CONDITIONS:

   3.1. ATS CLOSED TO EMERGENCY SOURCE.
   3.2. ATS CLOSED TO NORMAL SOURCE.
   3.3. NORMAL UTILITY SOURCE AVAILABLE.
   3.4. NORMAL UTILITY SOURCE NOT AVAILABLE.
   3.5. MINIMUM QUANTITY OF FOUR SPARE CONDUCTORS.

4. SEE THINS GROUNDING ELECTRODE DETAIL AND GROUNDING SYSTEM RISER DIAGRAM, SHEET E1.14, FOR ADDITIONAL REQUIREMENTS REGARDING GROUNDING OF THE EMERGENCY POWER SYSTEM.

5. BOND TRANSFORMER "K3" TO THE GROUND BUS BAR WITH THE ASSOCIATED ELECTRICAL ROOMS USING #6 AWG COPPER INSULATED CABLE INSTALLED WITHIN A CONDUIT RACEWAY SYSTEM.

6. PROVIDE CIRCUIT BREAKERS WITH FRAME TYPE AS REQUIRED TO PREVENT NUISANCE TRIPPING ON "LOSS OF POWER SOURCE". PROVIDE CIRCUIT BREAKER CAPABLE OF WITHSTANDING "NO LOAD INRUSH" PLUS "FULL LOAD" CURRENT AFTER LOSS OF POWER AND RETURN OF POWER SOURCE.

7. PROVIDE CIRCUIT BREAKER WITH ACCESSORIES AS REQUIRED FOR "LOCK-OUT" / "TAG-OUT".

8. PROVIDE THE SERVICES OF THE DISTRIBUTION EQUIPMENT FACTORY REPRESENTATIVE TO ADJUST AND SET ALL BREAKERS TO THE VALUES AS RECOMMENDED IN THE OVER-CURRENT COORDINATION STUDY AND FLASH HAZARD STUDY.

9. PROVIDE METER WITH RS-485 BAC PORT CAPABILITIES FOR COMMUNICATIONS WITH THE BUILDING MANAGEMENT SYSTEM.

10. PROVIDE COMMUNICATION CABLES WITHIN CONDUIT RACEWAY FROM POWER METER TO THE T.C. PANEL (E.M.S. PANEL) PROVIDED WITHIN THE MAIN ELECTRICAL ROOM. FINAL TERMINATIONS TO THE BUILDING MANAGEMENT SYSTEM SHALL BE BY THE T.C. CONTRACTOR.

NOTES (CONTINUED):

11. PROVIDE ALL CIRCUITS AS REQUIRED BETWEEN THE ATSs, GENSET AND REMOTE ANNUNCIATORS TO SHOW ALL NFPA 110 REQUIRED PANNUNCIATOR PLUS GENERATOR RUNNING STATUS, GENERATOR RUNNING WITH LOAD STATUS, GENERATOR NOT IN "AUTO-MODE" CONDITION AND GENERATOR "FAULT" CONDITION. IF ANY ONE OR MORE OF THE ATSs ARE IN THE EMERGENCY SOURCE POSITION AND THE GENERATOR IS RUNNING, THE REMOTE ANNUNCIATOR SHALL INDICATE BOTH GENERATOR RUNNING AND GENERATOR RUNNING WITH LOAD CONDITIONS. PROVIDE QUANTITY AND TYPES OF CIRCUITS AS REQUIRED BY THE GENERATOR SET MANUFACTURER.

12. PROVIDE ATS WITH QUANTITY AND TYPE OF LUGS RATED FOR TERMINATIONS THE QUANTITY AND SIZE OF FEEDER CONDUCTORS INDICATED.

13. THE NEUTRAL AND GROUND LUGS SHALL NOT BE BONDED TOGETHER WITHIN THIS EQUIPMENT.

14. PROVIDE LABELS ON CIRCUIT BREAKER WHICH CLEARLY IDENTIFIES THE LOADS BEING SERVED.

15. PROVIDE CIRCUIT BREAKER WITH AUXILIARY CONTACTS AS REQUIRED TO ALLOW MONITORING OF THE CIRCUIT BREAKER (BY THE TEMPERATURE CONTROL SYSTEM) FOR "OPEN" & "CLOSED" CONDITIONS.

16. PROVIDE ALL REQUIRED CIRCUITS BETWEEN THE CIRCUIT BREAKER AND T.C. PANEL (E.M.S. PANEL) PROVIDED WITHIN THE MAIN ELECTRICAL ROOM FOR MONITORING OF THE FOLLOWING CONDITIONS:

   16.1. CIRCUIT BREAKER IN "CLOSED" CONDITION.
   16.2. CIRCUIT BREAKER IN "OPEN" CONDITION.

17. PROVIDE ALL REQUIRED CIRCUITS BETWEEN THE GENERATOR SET CONTROLLER, THE REMOTE ANNUNCIATORS, AND AUTO TRANSFER SWITCHES. IN ADDITION TO ALL CONDUITS REQUIRED FOR POWER, COMMUNICATIONS, CONTROLS, AND MONITORING FUNCTIONS, PROVIDE ONE SPARE 1" CONDUIT FROM THE GENERATOR TO THE LOCATION OF THE BLDG MAIN EMERGENCY ELECTRICAL SET EQUIPMENT.

18. PROVIDE GENERATOR COMPLETE WITH REQUIRED BLOCK HEATERS, ANTI-CONDENSATE HEATERS, BATTERY CHARGER, EMERGENCY BATTERY BACK-UP LIGHTING FIXTURES, GROUNDING, PURPOSE RECEPTACLE AND ALL OTHER REQUIRED ACCESSORIES.

19. PROVIDE ONE ADDITIONAL SPARE 1-1/4" CONDUIT FROM THE MAIN EMERGENCY POWER ELECTRICAL ROOM TO GENERATOR SET FOR FUTURE USE. PROVIDE WITH PULL STRING. CAP CONDUIT END WITHIN THE GENERATOR.

20. PROVIDE ALL REQUIRED "HARD-WIRED" CIRCUITS BETWEEN THE GENERATOR SET AND T.C. PANEL (E.M.S. PANEL) PROVIDED WITHIN THE MAIN ELECTRICAL ROOM FOR MONITORING OF THE FOLLOWING CONDITIONS:

   20.1. GENERATOR GENERAL ALARM CONDITION.
   20.2. GENERATOR "NOT-AUTO" MODE CONDITION.
   20.3. GENERATOR "RUNNING" MODE CONDITION.
   20.4. BATTERY CHARGER GENERAL ALARM CONDITION.

NOTES (CONTINUED):

21. PROVIDE RS-485 SHIELDED-BUS CABLING (AND CONNECTOR MODULE) AS REQUIRED FOR COMMUNICATION OF GENERATOR PARAMETERS AND ALARMS VIA COMMUNICATIONS CABLE TO THE T.C. PANEL (E.M.S. PANEL) PROVIDED WITHIN THE BUILDING.

22. PROVIDE GENERATOR WITH LOAD CENTER "ELB01" RATED TO FEED ALL REQUIRED CIRCUITS FOR POWER TO:

   22.1 BATTERY CHARGER.
   22.2 BLOCK / JACKET HEATER.
   22.3 CONDENSATE HEATER.
   22.4 GENERAL PURPOSE RECEPTACLE.
   22.5 EMERGENCY LIGHTING.

   NOTE: THE BREAKER SIZES AND AMPERE RATINGS SHOWN ON THE BUILDING DIAGRAM MAY NOT BE CORRECT FOR THE ACTUAL GENERATOR SET PROVIDED ON THIS PROJECT BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE THE REQUIRED CIRCUITS AND AMPERE REQUIREMENTS WITH THE GENERATOR SET DISTRIBUTOR PRIOR TO PROVIDING SUBMITTAL DRAWINGS TO THE ENGINEER FOR REVIEW. THE CONTRACTOR SHALL PROVIDE THE REQUIRED CIRCUITS FOR THE GENERATOR SET MANUFACTURER'S REQUIREMENTS.

23. THE ATS (AND EMERGENCY POWER SUPPLY SYSTEM) SHALL FUNCTION AS FOLLOWS:

   23.1. ON LOSS OF NORMAL POWER, THE ATS SHALL SEND A START SIGNAL (WITH A PROGRAMMABLE 1 SEC MAXIMUM TIME DELAY) TO THE GENERATOR SET TO START THE GENERATOR.
   23.2. THE ATS SHALL TRANSFER TO THE EMERGENCY SOURCE WITHIN 10 SECONDS ON LOSS AFTER LOSS OF THE NORMAL UTILITY POWER SOURCE.
   23.3. THE TRANSFER SWITCH SHALL REMAIN IN THE EMERGENCY SOURCE POSITION UNTIL THE NORMAL SOURCE HAS RETURNED, AND IS STABLE FOR A MINIMUM OF 15 MINUTES. AFTER THE 15 MINUTE TIME DELAY, THE TRANSFER SWITCH SHALL MONITOR THE PHASING OF THE NORMAL AND EMERGENCY POWER SOURCES. WHEN THE NORMAL AND EMERGENCY POWER SOURCES ARE WITHIN THE PROPER PHASING WINDOW PARAMETERS, THE TRANSFER SWITCH SHALL SWITCH BACK TO THE NORMAL SOURCE.
   23.5. THE ATS SHALL BE PROGRAMMED WITH A 5 MINUTE GENERATOR SET COOL-DOWN, AFTER THE 5 MINUTES OF COOL-DOWN HAS PASSED, THE START SIGNAL SHALL BE REMOVED AND THE GENERATOR SET ALLOWED TO SHUT-DOWN.

24. THE ATS (AND EMERGENCY POWER SUPPLY SYSTEM) SHALL FUNCTION AS FOLLOWS:

   24.1. ON LOSS OF NORMAL POWER, THE ATS SHALL SEND A START SIGNAL (WITH A PROGRAMMABLE 1 SEC MAXIMUM TIME DELAY) TO THE GENERATOR SET TO START THE GENERATOR.
   24.2. THE ATS SHALL TRANSFER TO THE EMERGENCY SOURCE WITHIN 10 SECONDS ON LOSS AFTER LOSS OF THE NORMAL UTILITY POWER SOURCE.
   24.3. THE TRANSFER SWITCH SHALL REMAIN IN THE EMERGENCY SOURCE POSITION UNTIL THE NORMAL SOURCE HAS RETURNED, AND IS STABLE FOR A MINIMUM OF 15 MINUTES. AFTER THE 15 MINUTE TIME DELAY, THE TRANSFER SWITCH SHALL MONITOR THE PHASING OF THE NORMAL AND EMERGENCY POWER SOURCES. WHEN THE NORMAL AND EMERGENCY POWER SOURCES ARE WITHIN THE PROPER PHASING WINDOW PARAMETERS, THE TRANSFER SWITCH SHALL SWITCH BACK TO THE NORMAL SOURCE.
   24.4. THE ATS SHALL BE PROGRAMMED WITH A 5 MINUTE GENERATOR SET COOL-DOWN, AFTER THE 5 MINUTES OF COOL-DOWN HAS PASSED, THE START SIGNAL SHALL BE REMOVED AND THE GENERATOR SET ALLOWED TO SHUT-DOWN.

GENERAL NOTES:

01. REFER TO PROJECT MANUAL SPECIFICATION SECTION "26013 SWITCHBOARDS" FOR ADDITIONAL REQUIREMENTS REGARDING PROVIDING SERVICES OF FACTORY REPRESENTATIVE OF THE DISTRIBUTION EQUIPMENT MANUFACTURER TO PERFORM OVER-CURRENT COORDINATION & ARC FLASH HAZARD STUDIES AND FOR SETTING OF BREAKER TRIP SETTINGS AND INSTALLATION OF ARC FLASH & SHOCK HAZARD LABELS.

02. EQUIPMENT REQUIRED AS RATING SHALL BE DETERMINED AS PART OF THE REQUIRED OVER-CURRENT COORDINATION STUDY & ARC FLASH HAZARD STUDY. THE STUDY SHALL BE PERFORMED PRIOR TO SUBMITTAL OF PRODUCT DATA AND SUBMITTAL DRAWINGS TO ENSURE THE EQUIPMENT AIC RATING IS ADEQUATE FOR THE INSTALLED LOCATION. ALL EQUIPMENT PROVIDED AS PART OF THIS PROJECT SHALL BE RATED FOR THE AVAILABLE FAULT CURRENT AT THE INSTALLED LOCATION.

03. NORMAL AND EMERGENCY ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE WIRED FOR "CLOCK-WISE" PHASE ROTATION.

NOTES (CONTINUED):

26. PROVIDE CIRCUITS BETWEEN THE ATS, THE GENERATOR SET CONTROLLER AND REMOTE ANNUNCIATORS AS REQUIRED TO MONITOR THE TRANSFER SWITCH POSITIONS (I.E. CLOSED TO NORMAL SOURCE, CLOSED TO EMERGENCY SOURCE).

28. SEE PROJECT MANUAL DIVISION 26 SECTIONS "PACKAGED ENGINE GENERATOR AND ACCESSORIES" AND "TRANSFER SWITCHES (NEMA AND LISTED" AND TRANSFER SWITCH SCHEDULE, SHEET E6.1, FOR ADDITIONAL REQUIREMENTS.

27. PROVIDE AUTOMATIC TRANSFER SWITCH WITH THE FOLLOWING AUXILIARY CONTACTS AND RATING REQUIREMENTS:

   27.1. CONTACTS AS REQUIRED FOR:
      27.1.1. GENERATOR START/STOP (BOTH N.O. & N.C.).
      27.1.2. MONITORING SWITCH IN NORMAL SOURCE (ONTY 3)
      27.1.3. MONITORING SWITCH IN EMERGENCY SOURCE (ONTY 3)
      27.1.4. MONITORING "LOSS-OF-NORMAL-POWER-SOURCE" CONDITION (ONTY 3)
   27.2. ENCLOSURE AS REQUIRED FOR FRONT ACCESS ONLY INSTALLATION, OPERATION & MAINTENANCE.
   27.3. 480 A.C. RATING (NOTE CHANGED THE AMPERE RATING OF THE ATS TO A LARGER AMPERE RATING WEETING THE A.I.C. RATING WILL BE ACCEPTABLE).

30. PROVIDE LABEL ON EMERGENCY POWER MAIN SERVICE DISCONNECTING DEVICE IDENTIFYING DEVICE AS SERVICE DISCONNECT SWITCH NO. 3 OF 4. LABEL SHALL ALSO INCLUDE THE FOLLOWING INFORMATION:

   30.1. SERVICE DISCONNECT NO. 1 OF 4 IS THE NORMAL POWER SERVICE FEED AT CIRCUIT BREAKER LOCATED WITHIN THE MAIN NORMAL POWER ELECTRICAL ROOM (NEW ROOM B).
   30.2. SERVICE DISCONNECT NO. 2 OF 4 IS THE NORMAL POWER SERVICE FEED AT CIRCUIT BREAKER LOCATED WITHIN THE MAIN NORMAL POWER ELECTRICAL ROOM (NEW ROOM B).
   30.3. SERVICE DISCONNECT NO. 3 OF 4 IS THE EMERGENCY POWER SERVICE FEED AT CIRCUIT BREAKER (SEE TBD LOADS) LOCATED WITHIN THE ON-SITE EMERGENCY GENERATOR "ENT" ENCLOSURE.

29. PROVIDE TRANSFORMER WITH ALL REQUIRED ACCESSORIES AND PROVIDE SUPPLEMENTAL STEEL SUPPORT SYSTEMS AS REQUIRED TO INSTALL TRANSFORMER ON THE THIRD FLOOR AND SUPPLEMENTAL SUPPORT (BRACE THE TRANSFORMER FROM THE BUILDING STRUCTURAL STEEL. INSTALL SUCH THAT THE BOTTOM OF THE TRANSFORMER (REQUIRED MOUNTING SPACE FOR DISTRIBUTION EQUIPMENT WITHIN THE ASSOCIATED ELECTRICAL ROOM).

32. PROVIDE GE-NEX 1 WIRE SHUNT-TRIP CIRCUIT BREAKER WITH 1 OR LESS 1111H A MOBILE LOAD BANK INTERCONNECT THE CIRCUIT BREAKER WITH THE GENERATOR CONTROLLER AND AUTOMATIC TRANSFER SWITCHES AS REQUIRED TO AUTOMATICALLY "SHUNT-TRIP" THE LOAD BANK CIRCUIT BREAKER IF THE NORMAL POWER SOURCE IS "LOST" ON ANY AUTOMATIC TRANSFER SWITCH PROVIDED AS PART OF THIS PROJECT (FOR USE DURING YEARLY LOAD BANK TESTING OF GENSET AS A MEANS TO TEST THE GENERATOR UNDER FULL RATED LOAD WITHOUT PLACING THE FACILITY AT RISK FOR LOSS OF EMERGENCY POWER SOURCE).

31. PROVIDE LABEL ON EMERGENCY POWER MAIN SERVICE DISCONNECTING DEVICE IDENTIFYING DEVICE AS SERVICE DISCONNECT SWITCH NO. 4 OF 4. LABEL SHALL ALSO INCLUDE THE FOLLOWING INFORMATION:

   31.1. SERVICE DISCONNECT NO. 1 OF 4 IS THE NORMAL POWER SERVICE FEED AT CIRCUIT BREAKER LOCATED WITHIN THE MAIN NORMAL POWER ELECTRICAL ROOM (NEW ROOM B).
   31.2. SERVICE DISCONNECT NO. 2 OF 4 IS THE NORMAL POWER SERVICE FEED AT CIRCUIT BREAKER LOCATED WITHIN THE MAIN NORMAL POWER ELECTRICAL ROOM (NEW ROOM B).
   31.3. SERVICE DISCONNECT NO. 3 OF 4 IS THE EMERGENCY POWER SERVICE FEED AT CIRCUIT BREAKER (SEE TBD LOADS) LOCATED WITHIN THE ON-SITE EMERGENCY GENERATOR "ENT" ENCLOSURE.

30. PROVIDE LABEL ON THE MOBILE GENSET DOCKING STATION FRONT PANEL WHICH IDENTIFIES THE CORRECT PHASE ROTATION FOR THE EMERGENCY POWER DISTRIBUTION SYSTEM.

29. THE GENERATOR DOCKING STATION EQUIPMENT SHALL BE FURNISHED BY THE GENERATOR PROVIDER FOR THIS PROJECT TO ENSURE THE MANUFACTURER AND QUALITY FOR BOTH DOCKING STATIONS.

34. PROVIDE FUSES OF TYPE AND AMPERE RATING AS REQUIRED BY THE ELEVATOR MAKE ACTUATOR & PROVIDE PROVIDE FUSE HOLDERS AS REQUIRED.

35. PROVIDE FINAL CIRCUIT TO ELEVATOR CONTROLLER FOR THE ELEVATOR PROVIDER'S REQUIREMENTS.

36. PROVIDE ALL MATERIALS, EQUIPMENT AND LABOR AND INTERCONNECT THE CIRCUIT BREAKER SHUNT-TRIP DEVICE WITH THE BUILDING FIRE ALARM SYSTEM AS REQUIRED TO SHUT-DOWN ELEVATOR PRIOR TO RELEASE OF WATER WITHIN THE ELEVATOR SHAFT / ASSOCIATED ELEVATOR EQUIPMENT AREAS. COORDINATE THE REQUIRED "SHUNT-TRIP" VOLTAGE WITH THE FIRE ALARM SYSTEM PROVIDER PRIOR TO PURCHASE OF MATERIALS. PROVIDE VOLTAGE AND CIRCUIT AS REQUIRED FOR CORRECT OPERATION.

37. ALTERNATE BID FOR LOAD BANK CONNECTIONS: ALL COSTS ASSOCIATED WITH PROVIDING THE PANEL AND ALL LOAD-SIDE CIRCUITS AND EQUIPMENT SHALL BE INCLUDED AS PART OF THE ADD GENERAL ALTERNATE BID. THE LINE-SIDE FEEDER CONDUIT RACEWAY SYSTEM SHALL BE INCLUDED AS PART OF THE BASE BID COSTS.

38. ALTERNATE BID FOR LOAD BANK CONNECTIONS: ALL COSTS ASSOCIATED WITH PROVIDING THE DISCONNECT SWITCH AND ALL LOAD-SIDE CIRCUITS AND EQUIPMENT SHALL BE INCLUDED AS PART OF THE ADD GENERAL ALTERNATE BID. THE LINE-SIDE FEEDER CONDUIT RACEWAY SYSTEM SHALL BE INCLUDED AS PART OF THE BASE BID COSTS.

39. PROVIDE REQUIRED CIRCUITS BETWEEN THE AUTOMATIC TRANSFER SWITCH AND THE ELEVATOR CONTROLLERS FOR ELEVATORS "ELEV 0", "ELEV 1", "ELEV 2", "ELEV 3", & "ELEV 4" (REQUIRED FOR PRE-SIGNAL CIRCUITS BEFORE THE ATS SWITCHES BETWEEN POWER SOURCES AND FOR INDICATION CIRCUITS EXPLAINING WHEN ATS IS ON ELEVATOR OR EMERGENCY VS. EMERGENCY POWER SOURCES).

40. PROVIDE ADDITIONAL AUXILIARY DRY CONTACTS WITHIN THE ATS AS REQUIRED FOR CORRECT OPERATION WITH THE ELEVATORS.

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LICENSED
NO. PE50900441
STATE OF KENTUCKY
PROFESSIONAL ENGINEER
09/11/2023

Revisions:

No.	Description	Date
1	Addendum No. 1	07/13/23
2	Addendum No. 2	07/18/23
3	Revised Bid Set	08/08/23
4	Issued for Bonding Agency Review	09/08/23

Designed by	Drawn By	Checked By
MJB	BDB	MJB

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Sheet title:

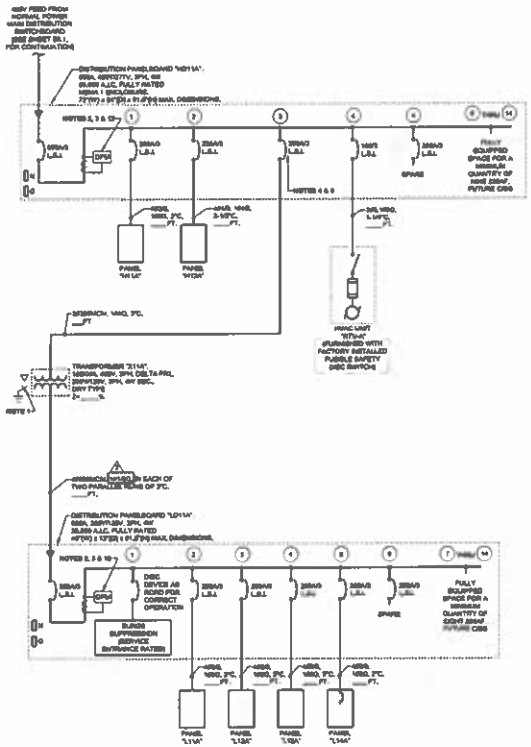
ONE-LINE DIAGRAM - EMERGENCY POWER

Architect's Project No: 2106-204

Date: May, 20

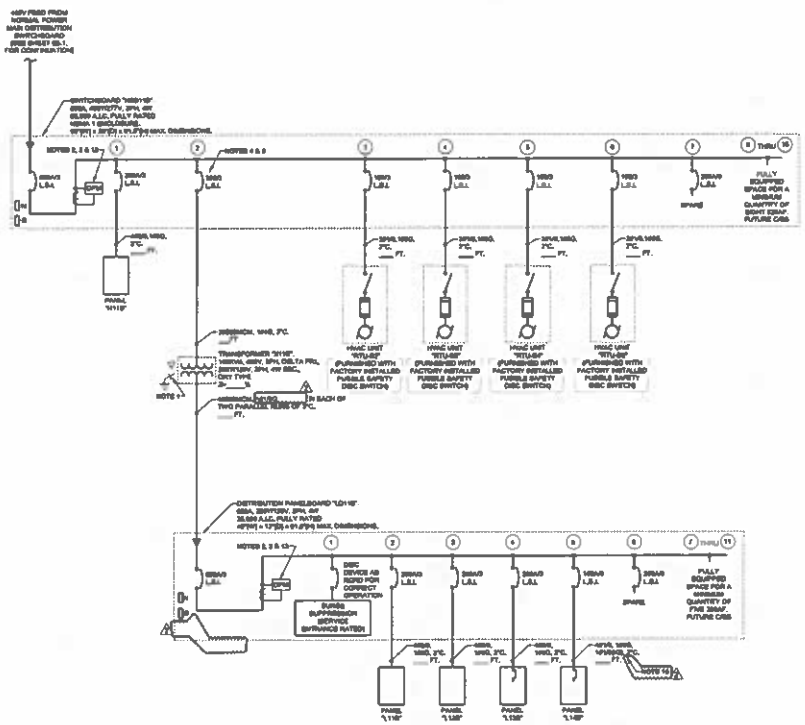
Drawing No.

E5.2



ONE-LINE DIAGRAM - BLDG AREA "A" - NORMAL POWER

NO SCALE



ONE-LINE DIAGRAM - BLDG AREA "B-ALT" (GYMNASIUM ADDITION ALTERNATE BID) - NORMAL POWER (480Y/277V DIST SYSTEM)

NO SCALE

NOTES:

1. BOND THE TRANSFORMER NEUTRAL("NO") TO THE GROUND BUS BAR IN ASSOCIATED ELEC ROOM USING #6 INSULATED COPPER CABLE INSTALLED WITHIN CONDUIT RACEWAY SYSTEM.

2. PROVIDE FACTORY INSTALLED DIGITAL POWER QUALITY METER WITH THE CAPABILITY OF DISPLAYING THE FOLLOWING MINIMUM PARAMETERS:
   - 2.A. POWER, ENERGY & DEMAND METERING
   - 2.B. POWER QUALITY MONITORING, SAGS/SWELL HARMONICS PHASE ROTATION.
   - 2.C. LOGGING AND RECORDING (RAM MEMORY), GPS TIME SYNCHRONIZATION, MINIMAX HISTORICAL WAVEFORM RECORDING, TIME STAMP RESOLUTION SUBH RECORDING
   - 2.D. VOLTAGES (LINE-TO-LINE & LINE-TO-NEUTRAL)
   - 2.E. CURRENT (EACH PHASE & NEUTRAL)
   - 2.F. POWER (REAL-TIME & PEAK DEMAND)

3. ALL REQUIRED SOURCE OF POWER AND OVERCURRENT PROTECTION SHALL BE FACTORY PROVIDED FROM WITHIN THE ASSOCIATED DISTRIBUTION EQUIPMENT.

4. PROVIDE CIRCUIT BREAKER WITH PHASE TYPE AS REQUIRED TO PREVENT NUISANCE TRIPPING ON "LOSS OF POWER SOURCE". PROVIDE CIRCUIT BREAKER CAPABLE OF WITHSTANDING "NO LOAD INRUSH" PLUS "FULL LOAD" CURRENT AFTER LOSS OF POWER AND RETURN OF POWER SOURCE.

5. PROVIDE CIRCUIT BREAKER WITH ACCESSORIES AS REQUIRED FOR "LOCK-OUT / TAG-OUT".

6. PROVIDE TRANSFORMER WITH ALL REQUIRED ACCESSORIES (AND PROVIDE SUPPLEMENTAL STEEL SUPPORT SYSTEM AS REQUIRED TO INSTALL TRANSFORMER ABOVE THE FINISHED FLOOR AND SEISMICALLY SUPPORT / BRACE THE TRANSFORMER FROM THE BUILDING STRUCTURAL SYSTEM. INSTALL SUCH THAT THE BOTTOM OF THE TRANSFORMER / SEISMIC SUPPORT SYSTEM IS NOT LOWER THAN 6-8" ABOVE FINISHED FLOOR. INSTALL THE PRIMARY DISCONNECT MOUNTED AND THE SECONDARY OVERCURRENT PROTECTION DEVICE ON WALL BELOW THE TRANSFORMER (TO MAXIMIZE MOUNTING SPACE FOR DISTRIBUTION EQUIPMENT WITHIN THE ASSOCIATED ELECTRICAL ROOM).

7. BOND THE TRANSFORMER NEUTRAL("NO") TO THE GROUND BUS BAR IN ASSOCIATED ELEC ROOM USING #6 INSULATED COPPER CABLE INSTALLED WITHIN CONDUIT RACEWAY SYSTEM. BOND THE ELECTROSTATIC SHIELDING TO THE GROUND BUS BAR PER THE TRANSFORMER MANUFACTURER'S REQUIREMENTS / RECOMMENDATIONS.

8. VFD SHALL BE FURNISHED WITH A FACTORY FUSED DISCONNECT SWITCH AND LINE SIDE REACTANCE BY THE T.C. CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED MATERIALS, EQUIPMENT AND LABOR AND INSTALL THE VFD NEAR THE ASSOCIATED MOTOR LOAD.

9. THE MOTOR PROTECTOR WITH INTEGRAL DISCONNECT SWITCH SHALL BE FURNISHED BY THE T.C. CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED MATERIALS, EQUIPMENT AND LABOR AND INSTALL THE MOTOR PROTECTOR DISC SWITCH NEAR THE ASSOCIATED MOTOR LOAD.

10. PROVIDE CIRCUIT WITH CONDUCTORS SIZED FOR A MINIMUM OF 125% OF THE MOTOR RATED FULL-LOAD AMPERES. PROVIDE CIRCUIT WITH A #6AWG EQUIPMENT GROUND CONDUCTOR.

11. PROVIDE CIRCUIT WITH CONDUCTORS SIZED FOR A MINIMUM OF 125% OF THE MOTOR RATED FULL-LOAD AMPERES. PROVIDE CIRCUIT WITH A #6AWG EQUIPMENT GROUND CONDUCTOR.

12. PROVIDE METER WITH RS-485 BAC-NET CAPABILITIES FOR COMMUNICATIONS WITH THE BUILDING MANAGEMENT SYSTEM. PROVIDE COMMUNICATION CABLES WITHIN CONDUIT RACEWAY FROM POWER METER TO THE T.C. PANEL (B.M.S. PANEL) COORDINATE THE T.C. PANEL LOCATION WHERE THE COMMUNICATION CIRCUITS NEED TO BE ROUTED TO WITH THE T.C. CONTRACTOR PRIOR TO START OF ROUGH-IN. PANEL TERMINATIONS TO THE BUILDING MANAGEMENT SYSTEM SHALL BE BY THE T.C. CONTRACTOR.

13. PROVIDE FUSES PER THE HVAC EQUIPMENT MANUFACTURER'S REQUIREMENTS.

14. SIZE CONDUCTORS PER NEC AND BASED ON THE AMPERE RATING OF THE INSTALLED UPSTREAM FUSES.

15. BOTH THE EQUIPMENT GROUND AND ISOLATED GROUND CONDUCTORS SHALL BE BONDED TO THE EQUIPMENT GROUND BUS WITHIN THE DISTRIBUTION PANELBOARD "LDH1B".

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Revisions

#	Description	Date
1	PE-01	4/13/2023
2	Bulletin Title Revision Answer Mark	4/20/2023

Designed By: MJS | Drawn By: SEB | Checked By: MJS

Sheet title:
ONE-LINE DIAGRAMS - BLD AREAS "A" & "B" - NORMAL POWER

Architect's Project No: 2106-204 | Date: May, 20

Drawing No:
E5.3

NOTES:

1. BOND THE TRANSFORMER NEUTRAL(S)(X0) TO THE GROUND BUS BAR IN ASSOCIATED ELEC ROOM USING FRE INSULATED COPPER CABLE INSTALLED WITHIN CONDUIT RACEWAY SYSTEM.

2. PROVIDE FACTORY INSTALLED DIGITAL POWER QUALITY METER WITH THE CAPABILITY OF DISPLAYING THE FOLLOWING MINIMUM PARAMETERS:
   - 2.A. POWER, ENERGY & DEMAND METERING
   - 2.B. POWER QUALITY MONITORING, SAG/SWELL HARMONICS PHASE ROTATION
   - 2.C. LOGGING AND RECORDING (WAVE MEMORY), GPS TIME SYNCHRONIZATION, MINIMUM, HISTORICAL, WAVEFORM RECORDING, TIME STAMP RESOLUTION (MSEC/SEC)
   - 2.D. VOLTAGES (LINE-TO-LINE & LINE-TO-NEUTRAL)
   - 2.E. CURRENT (EACH PHASE & NEUTRAL)
   - 2.F. POWER (REAL/TRUE & FEM DEMAND)

3. ALL REQUIRED SOURCE OF POWER AND OVERCURRENT PROTECTION SHALL BE FACTORY PROVIDED FROM WITHIN THE ASSOCIATED DISTRIBUTION EQUIPMENT.

4. PROVIDE CIRCUIT BREAKER WITH FRAME TYPE AS REQUIRED TO PREVENT NUISANCE TRIPPING ON "LOSS OF POWER SOURCE". PROVIDE CIRCUIT BREAKER CAPABLE OF WITHSTANDING "NO LOAD INRUSH" PLUS "FULL LOAD" CURRENT AFTER LOSS OF POWER AND RETURN OF POWER SOURCE.

5. PROVIDE CIRCUIT BREAKER WITH ACCESSORIES AS REQUIRED FOR "LOCK-OUT" / "TAG-OUT".

6. PROVIDE CIRCUIT WITH CONDUCTORS SIZED FOR A MINIMUM OF 125% OF THE MOTOR RATED FULL-LOAD AMPERES. PROVIDE CIRCUIT WITH A #8AWG EQUIPMENT GROUND CONDUCTOR.

7. PROVIDE CIRCUIT WITH CONDUCTORS SIZED FOR A MINIMUM OF 125% OF THE MOTOR RATED FULL-LOAD AMPERES. PROVIDE CIRCUIT WITH A #8AWG EQUIPMENT GROUND CONDUCTOR.

8. VFD SHALL BE FURNISHED WITH A FACTORY FUSED DISCONNECT SWITCH AND LINE SIDE REACTANCE BY THE T.C. CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED MATERIALS, EQUIPMENT AND LABOR AND INSTALL THE VFD NEAR THE ASSOCIATED MOTOR LOAD.

9. THE MOTOR PROTECTOR WITH INTERNAL DISCONNECT SWITCH SHALL BE FURNISHED BY THE T.C. CONTRACTOR. MECHANICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED MATERIALS, EQUIPMENT AND LABOR AND INSTALL THE MOTOR PROTECTOR DISC SWITCH NEAR THE ASSOCIATED MOTOR LOAD.

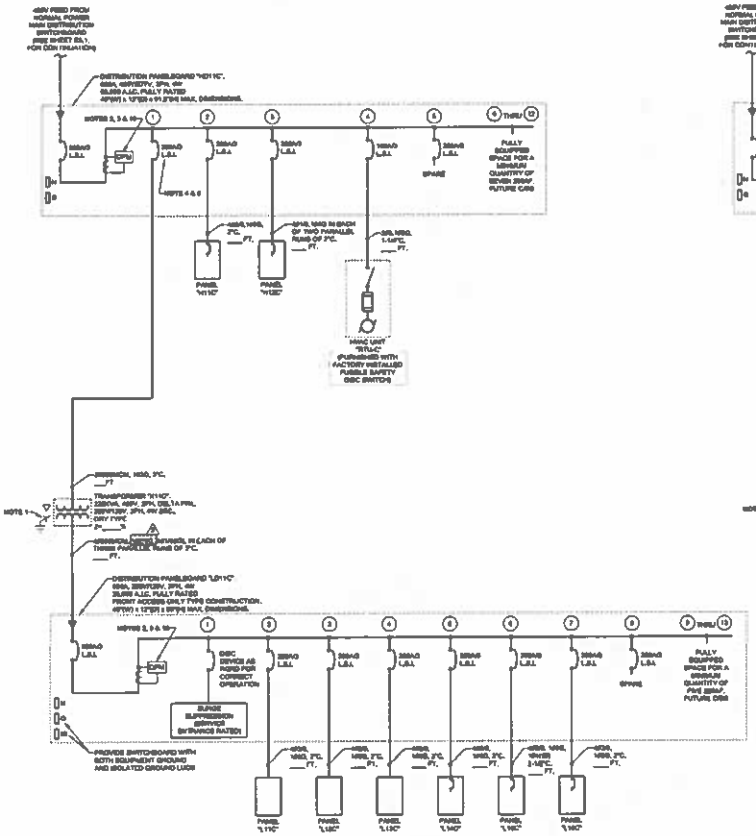
10. PROVIDE METER WITH RS-485 BAC-NET CAPABILITIES FOR COMMUNICATIONS WITH THE BUILDING MANAGEMENT SYSTEM. PROVIDE COMMUNICATION CABLES WITHIN CONDUIT RACEWAY FROM POWER METER TO THE T.C. PANEL (B.A.S. PANEL) COORDINATE THE T.C. PANEL LOCATION WHERE THE COMMUNICATION CIRCUITS NEED TO BE ROUTED TO WITH THE T.C. CONTRACTOR PRIOR TO START OF ROUGH-IN. PANEL TERMINATIONS TO THE BUILDING MANAGEMENT SYSTEM SHALL BE BY THE T.C. CONTRACTOR.

11. PROVIDE FUSES PER THE HVAC EQUIPMENT MANUFACTURER'S REQUIREMENTS.

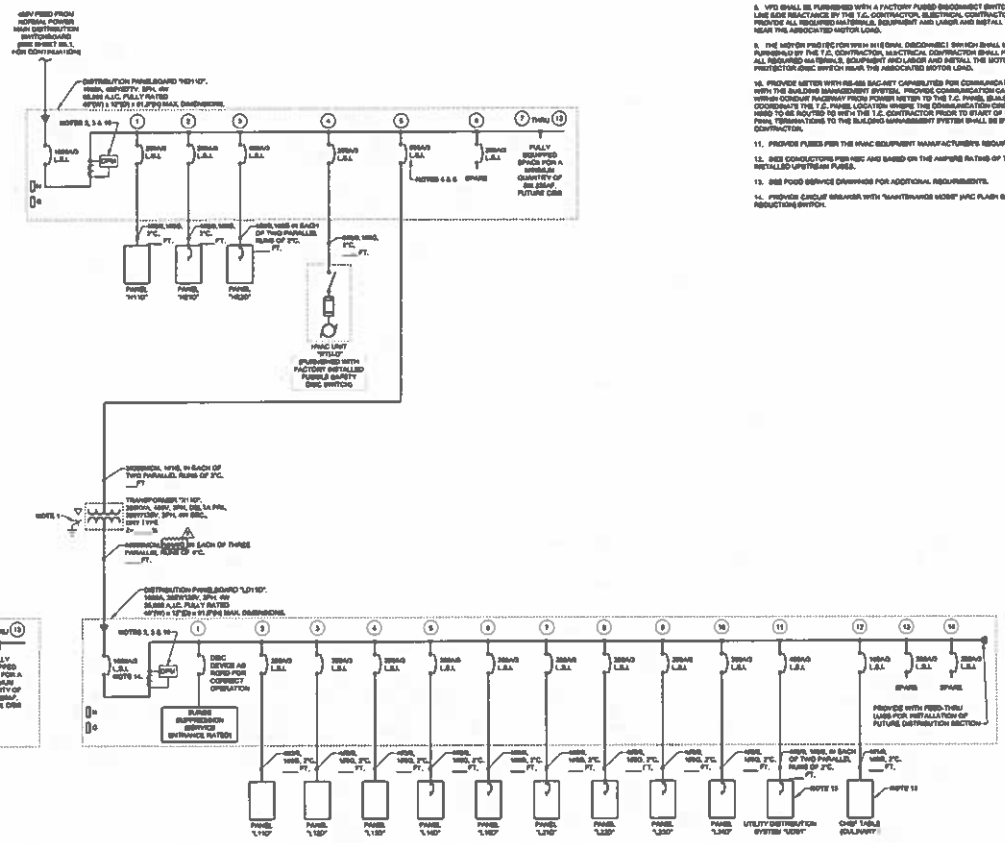
12. SIZE CONDUCTORS PER NEC AND BASED ON THE AMPERE RATING OF THE INSTALLED UPSTREAM FUSES.

13. SEE FOOD SERVICE DRAWINGS FOR ADDITIONAL REQUIREMENTS.

14. PROVIDE CIRCUIT BREAKER WITH "MAINTENANCE MODE" HVAC FLASH ENERGY REDUCTION SWITCH.



ONE-LINE DIAGRAM - BLDG AREA "C" - NORMAL POWER
NO SCALE



ONE-LINE DIAGRAM - BLDG AREA "D" - NORMAL POWER
NO SCALE

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CAT Design and Equipment Co.

MATTHEW J. BRUMMER REGISTERED NO. (PE)090044 STATE OF KENTUCKY PROFESSIONAL ENGINEER

Revisions:

1	Per Addendum	5/13/2022
2	Revised Site Specific Access Drawings	10/24/2022

Designed by: GLD | Drawn by: GLD | Checked by: GLD

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Sheet title:
ONE-LINE DIAGRAMS - BLD AREAS "C" & "D" - NORMAL POWER

Architect's Project No.: 2106-204
Date: May, 20

Drawing No:
E5.4

NOTES:

1. BOND THE TRANSFORMER NEUTRAL("NO") TO THE GROUND BUS BAR in ASSOCIATED ELEC ROOM USING #6 INSULATED COPPER CABLE INSTALLED WITHIN CONDUIT RACEWAY SYSTEM.

2. PROVIDE FACTORY INSTALLED DIGITAL POWER QUALITY METER WITH THE CAPABILITY OF DISPLAYING THE FOLLOWING MINIMUM PARAMETERS:
   - 2.A. POWER, ENERGY & DEMAND METERING
   - 2.B. POWER QUALITY MONITORING, SAMPWELL HARMONICS PHASE ROTATION
   - 2.C. LOGGING AND RECORDING (NVM MEMORY), GPS TIME SYNCHRONIZATION, MINIMUM, HISTORICAL, WAVEFORM RECORDING, TIME STAMP RESOLUTION (0.001 SECONDS)
   - 2.D. VOLTAGES (LINE-TO-LINE & LINE-TO-NEUTRAL)
   - 2.E. CURRENT (EACH PHASE & NEUTRAL)
   - 2.F. POWER (REAL, TIME & PEAK DEMAND)

3. ALL REQUIRED SOURCE OF POWER AND OVERCURRENT PROTECTION SHALL BE FACTORY PROVIDED FROM WITHIN THE ASSOCIATED DISTRIBUTION EQUIPMENT.

4. PROVIDE CIRCUIT BREAKER WITH FRAME TYPE AS REQUIRED TO PREVENT NUISANCE TRIPPING ON "LOSS OF POWER SOURCE". PROVIDE CIRCUIT BREAKER CAPABLE OF WITHSTANDING "NO LOAD INRUSH" PLUS "FULL LOAD" CURRENT AFTER LOSS OF POWER AND RETURN OF POWER SOURCE.

5. PROVIDE CIRCUIT BREAKER WITH ACCESSORIES AS REQUIRED FOR "LOCK-OUT / TAG-OUT".

6. SIZE CONDUCTORS PER NEC AND BASED ON THE AMPERE RATING OF THE INSTALLED UPSTREAM FUSES.

7. PROVIDE CIRCUIT BREAKER WITH "MAINTENANCE MODE" (VIA FLASH SWITCH REDUCTION) SWITCH.

8. VFD SHALL BE FURNISHED WITH A FACTORY FUSED DISCONNECT SWITCH AND LINE SIDE REACTANCE BY THE T.C. CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED MATERIALS, EQUIPMENT AND LABOR AND INSTALL THE VFD NEAR THE ASSOCIATED MOTOR LOAD.

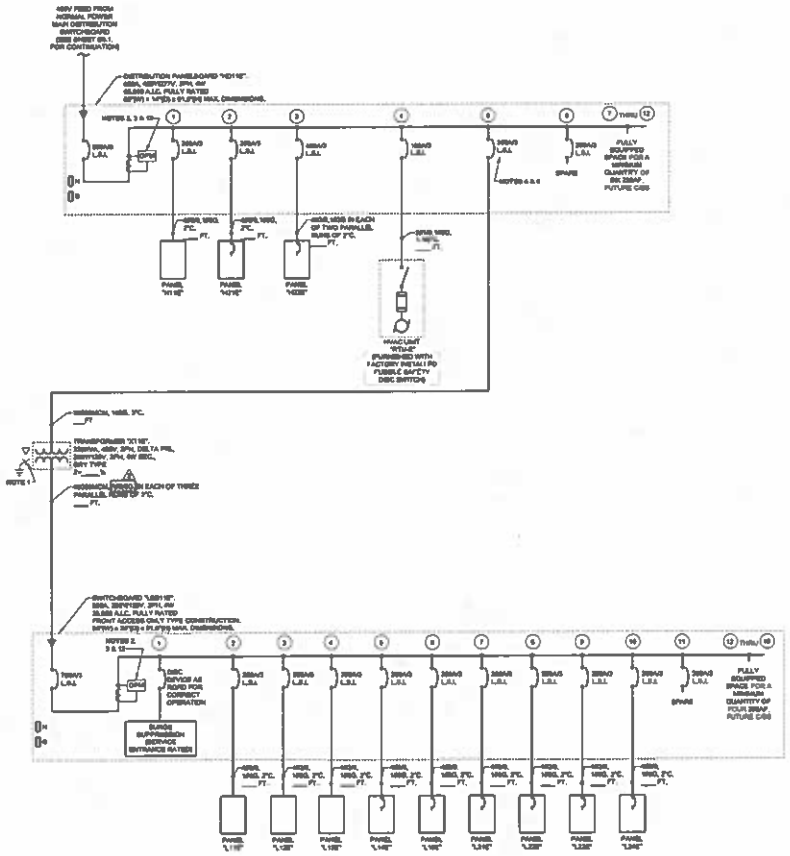
9. THE MOTOR PROTECTOR WITH INTEGRAL DISCONNECT SWITCH SHALL BE FURNISHED BY THE T.C. CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED MATERIALS, EQUIPMENT AND LABOR AND INSTALL THE MOTOR PROTECTOR DISC SWITCH NEAR THE ASSOCIATED MOTOR LOAD.

10. PROVIDE CIRCUIT WITH CONDUCTORS SIZED FOR A MINIMUM OF 125% OF THE MOTOR RATED FULL LOAD AMPERES. PROVIDE CIRCUIT WITH A 20AWG EQUIPMENT GROUND CONDUCTOR.

11. PROVIDE CIRCUIT WITH CONDUCTORS SIZED FOR A MINIMUM OF 125% OF THE MOTOR RATED FULL LOAD AMPERES. PROVIDE CIRCUIT WITH A 20AWG EQUIPMENT GROUND CONDUCTOR.

12. PROVIDE METER WITH RS-485 BAC-NET CAPABILITIES FOR COMMUNICATIONS WITH THE BUILDING MANAGEMENT SYSTEM. PROVIDE COMMUNICATION CABLES WITHIN CONDUIT RACEWAY FROM POWER METER TO THE T.C. PANEL (E.M.S. PANEL). COORDINATE THE T.C. PANEL LOCATION WHERE THE COMMUNICATION CIRCUITS NEED TO BE ROUTED TO WITH THE T.C. CONTRACTOR PRIOR TO START OF INSTALLATION. FINAL TERMINATIONS TO THE BUILDING MANAGEMENT SYSTEM SHALL BE BY THE T.C. CONTRACTOR.

13. PROVIDE FUSES FOR THE HVAC EQUIPMENT MANUFACTURER'S REQUIREMENTS.



ONE-LINE DIAGRAM - BLDG AREA "E" - NORMAL POWER
NO SCALE

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PROFESSIONAL ENGINEER

05/11/2023

Revisions:

#	Description	Date
1	Addendum	12/20/2023
2	Public Bids Services Answer Mode	02/05/2024

Designed By: MJB | Drawn By: BDB | Checked By: MJB

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Sheet title:

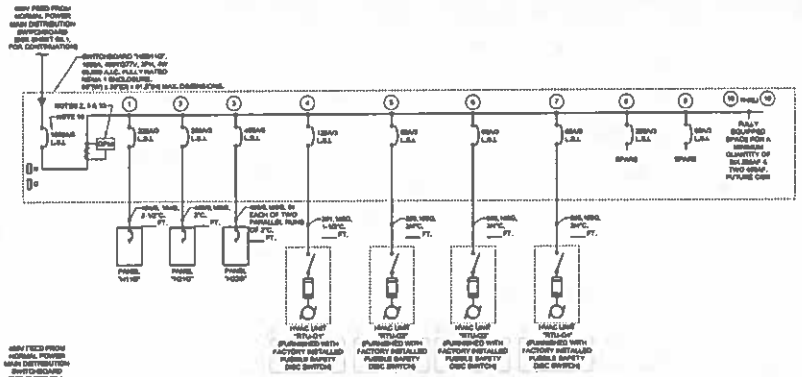
ONE-LINE DIAGRAMS - BLDG AREA "E" - NORMAL POWER

Architect's Project No: 2106-204

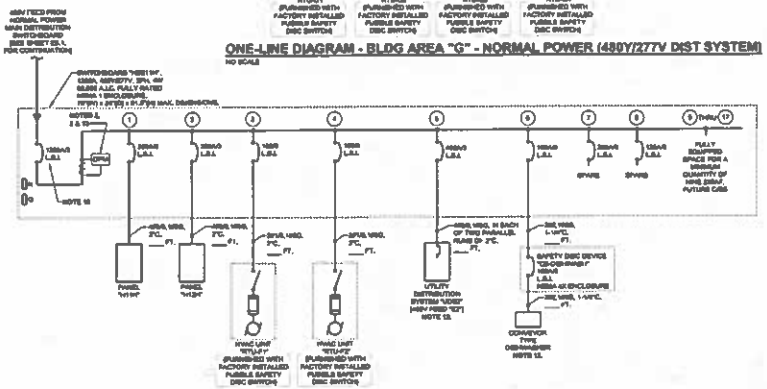
Date: May, 20

Drawing No:

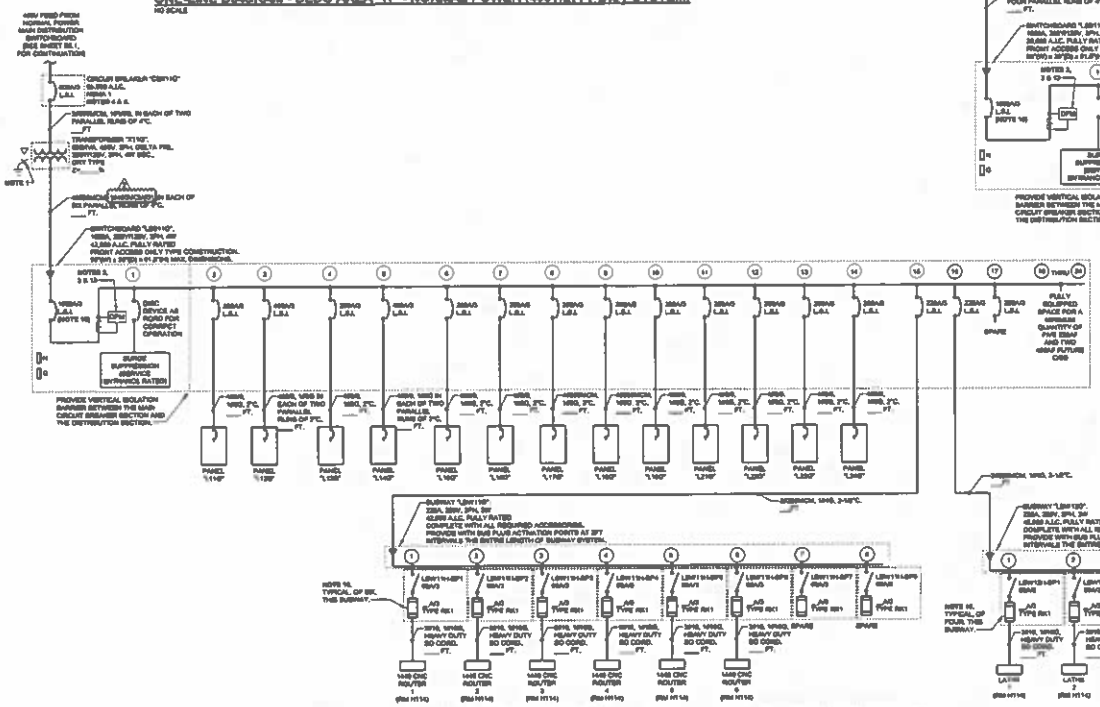
E5.5



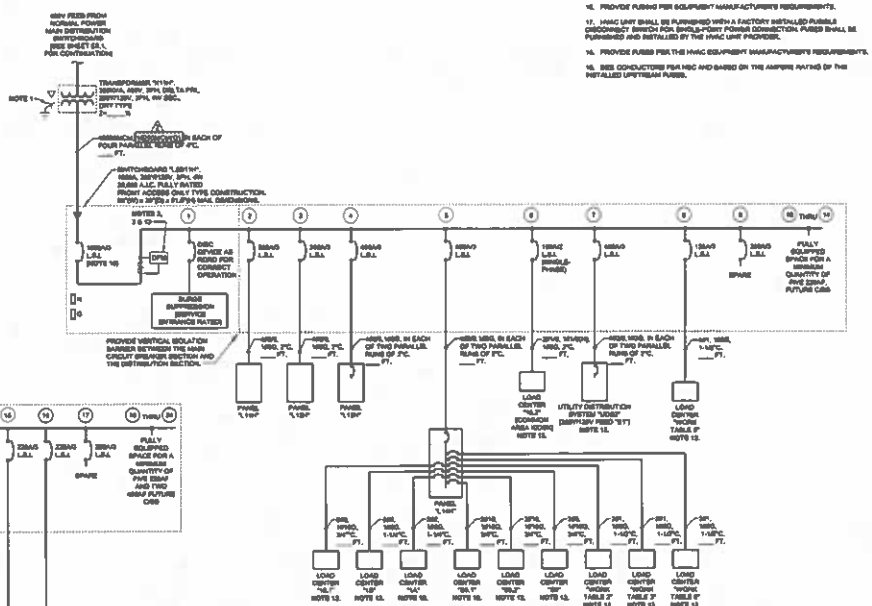
ONE-LINE DIAGRAM - BLDG AREA "G" - NORMAL POWER (480Y/277V DIST SYSTEM)
NO SCALE



ONE-LINE DIAGRAM - BLDG AREA "H" - NORMAL POWER (480Y/277V DIST SYSTEM)
NO SCALE



ONE-LINE DIAGRAM - BLDG AREA "G" - NORMAL POWER (208Y/120V DIST SYSTEM)
NO SCALE



ONE-LINE DIAGRAM - BLDG AREA "H" - NORMAL POWER (208Y/120V DIST SYSTEM)
NO SCALE

NOTES:

1. BOND THE TRANSFORMER NEUTRAL("N") TO THE GROUND BUS BAR IN ASSOCIATED ELEC ROOM USING 6AG INSULATED COPPER CABLE INSTALLED WITHIN CONDUIT RACEWAY SYSTEM.

2. PROVIDE FACTORY INSTALLED SIGNAL POWER QUALITY METER WITH THE CAPABILITY OF DISPLAYING THE FOLLOWING MINIMUM PARAMETERS:
   - 2.A. POWER, ENERGY & DEMAND METERING
   - 2.B. POWER QUALITY MONITORING, SAG/SWELL MARGINCE PHASE ROTATION.
   - 2.C. LOGGING AND RECORDING (WITH MEMORY), GPS TIME SYNCHRONIZATION, MINIMUM HISTORICAL, MAXIMUM RECORDING, TIME STAMP RESOLUTION (1MS) RECORDING
   - 2.D. VOLTAGES (L-N, L-L, L-L-N & L-N-N/TRIAL)
   - 2.E. CURRENT (EACH PHASE & NEUTRAL)
   - 2.F. POWER (REAL-TIME & PEAK DEMAND)

3. ALL REQUIRED SOURCE OF POWER AND OVERCURRENT PROTECTION SHALL BE FACTORY PROVIDED FROM WITHIN THE ASSOCIATED DISTRIBUTION EQUIPMENT.

4. PROVIDE CIRCUIT BREAKER WITH FRAME TYPE AS REQUIRED TO PREVENT NUISANCE TRIPPING ON LOSS OF POWER SOURCE. PROVIDE CIRCUIT BREAKER CAPABLE OF WITHSTANDING "NO LOAD INRUSH" PLUS "FULL LOAD CURRENT AFTER LOSS OF POWER AND RETURN OF POWER SOURCE.

5. PROVIDE CIRCUIT BREAKER WITH ACCESSORIES AS REQUIRED FOR "LOCK-OUT / TAG-OUT".

6. PROVIDE SUPPORT STRUCTURE FOR SUPPORT AS REQUIRED FOR SUPPORT OF COMBINATION MOTOR CONTROLLER. PROVIDE COMBINATION MOTOR CONTROLLER NEAR THE ASSOCIATED MOTOR LOAD. COORDINATE THE INSTALLATION LOCATION IN FIELD WITH THE MOTOR LOAD PROVIDER. INSTALL AS REQUIRED TO PROVIDE THE CODE REQUIRED WORKING SPACE CLEARANCES FOR THE ELECTRICAL EQUIPMENT AND ADEQUATE WORKING / INSPECTION SPACE FOR THE ASSOCIATED MOTOR LOAD.

7. SEE MOTOR CONTROL SCHEDULE AND MOTOR CONTROL WIRING DIAGRAM SHEETS E1.10 & E1.11, FOR ADDITIONAL REQUIREMENTS.

8. VFD SHALL BE FURNISHED WITH A FACTORY FUSED DISCONNECT SWITCH AND LINE SIDE REACTANCE BY THE T.C. CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED MATERIALS, EQUIPMENT I AND LABOR AND INSTALL IN IE VFD NEAR THE ASSOCIATED MOTOR LOAD.

9. THE MOTOR PROTECTOR WITH INTERNAL DISCONNECT SWITCH SHALL BE FURNISHED BY THE T.C. CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED MATERIALS, EQUIPMENT AND LABOR AND INSTALL THE MOTOR PROTECTOR (DISC SWITCH NEAR THE ASSOCIATED MOTOR LOAD.

10. PROVIDE CIRCUIT WITH CONDUCTORS SIZED FOR A MINIMUM OF 125% OF THE MOTOR RATED FULL-LOAD AMPERES. PROVIDE CIRCUIT WITH A PRIMARY EQUIPMENT GROUND CONDUCTOR.

11. PROVIDE CIRCUIT WITH CONDUCTORS SIZED FOR A MINIMUM OF 125% OF THE MOTOR RATED FULL-LOAD AMPERES. PROVIDE CIRCUIT WITH A PRIMARY EQUIPMENT GROUND CONDUCTOR.

12. SEE ROOF SERVICE DRAWINGS FOR ADDITIONAL REQUIREMENTS.

13. PROVIDE METER WITH RS-485 BACNET CAPABILITIES FOR COMMUNICATIONS WITH THE BUILDING MANAGEMENT SYSTEM. PROVIDE COMMUNICATION CABLES WITHIN CONDUIT RACEWAY FROM POWER METER TO THE T.C. PANEL (LABLE PANEL) COORDINATE THE T.C. PANEL LOCATION WHERE THE COMMUNICATION CIRCUITS NEED TO BE ROUTED TO WITH THE T.C. CONTRACTOR PRIOR TO START OF ROUGH-IN. FINAL TERMINATIONS TO THE BUILDING MANAGEMENT SYSTEM SHALL BE BY THE T.C. CONTRACTOR.

14. PROVIDE SUPPORT STRUCTURE FOR SUPPORT OF CIRCUIT BREAKER AS REQUIRED TO PROVIDE THE CODE REQUIRED WORKING SPACE CLEARANCES FOR THE ELECTRICAL EQUIPMENT.

15. PROVIDE CIRCUIT BREAKER WITH "MAINTENANCE MODE" (MM) & ARC FLASH PREFIXT REDUCTION SWITCH.

16. PROVIDE FUSING PER EQUIPMENT MANUFACTURER'S REQUIREMENTS.

17. HVAC UNIT SHALL BE FURNISHED WITH A FACTORY INSTALLED FUSIBLE DISCONNECT SWITCH FOR SINGLE-POINT POWER CONNECTION. FUSES SHALL BE FURNISHED AND INSTALLED BY THE HVAC UNIT PROVIDER.

18. PROVIDE FUSES PER THE HVAC EQUIPMENT MANUFACTURER'S REQUIREMENTS.

19. SIZE CONDUCTORS PER NEC AND BASED ON THE AMPERE RATING OF THE INSTALLED UPSTREAM FUSES.

HOPKINSVILLE - CHRISTIAN COUNTY ACADEMY

CHRISTIAN COUNTY PUBLIC SCHOOLS

KDE # : BG 23-104

5185 FT. CAMPBELL BLVD
HOPKINSVILLE, KY 42340

HAFER

ALLIANCE

bell

K&S Engineering, PLLC

WBW Engineering INC

CST Design and Equipment Co.

Revisions:

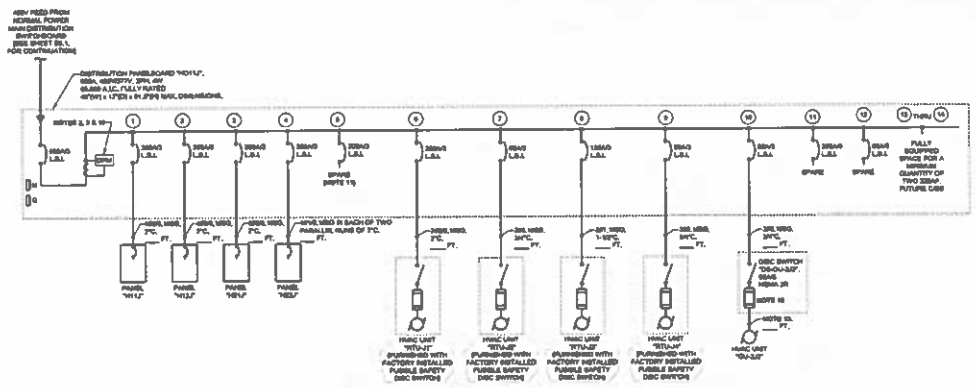
	Description	Date
1	Per RFI	11/14/2022
2	Public Bid Sealed Addendum Item	12/8/2022

Designed by: MJB
Drawn By: BDB
Checked By: MJB

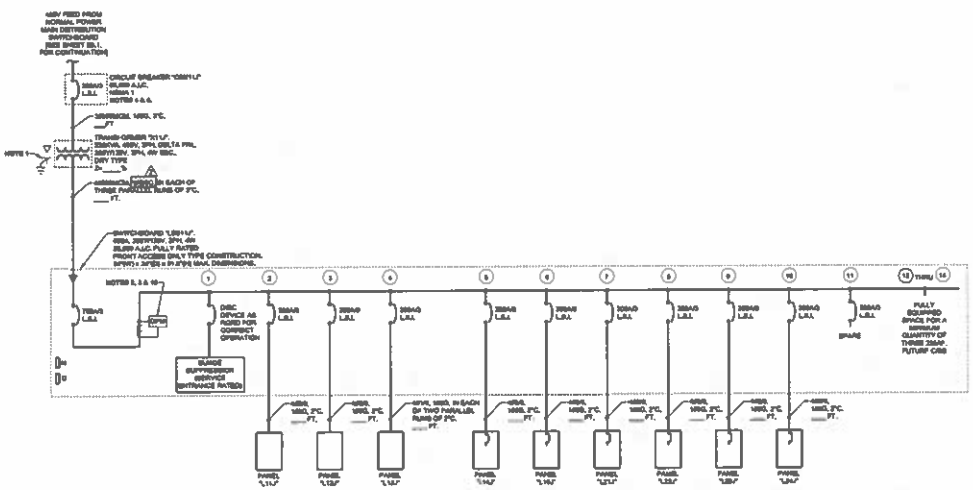
Sheet title:
ONE-LINE DIAGRAMS - BLD AREAS "G" & "H" - NORMAL POWER

Architect's Project No: 2106-204
Date: May, 20

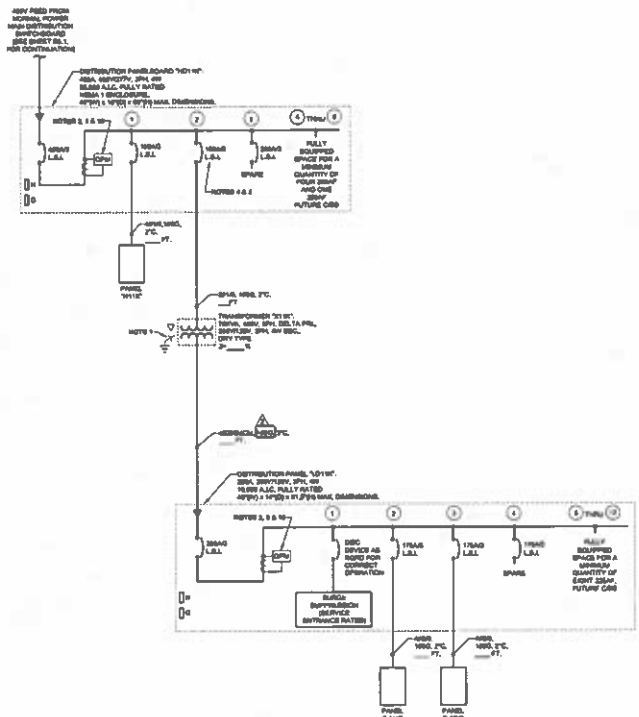
Drawing No: E5.6



ONE-LINE DIAGRAM - BLDG AREA "J" - NORMAL POWER (480Y/277V DIST SYSTEM)
NO SCALE



ONE-LINE DIAGRAM - BLDG AREA "J" - NORMAL POWER (208Y/120V DIST SYSTEM)
NO SCALE



ONE-LINE DIAGRAM - BLDG AREA "K" - NORMAL POWER
NO SCALE

NOTES:

1. BOND THE TRANSFORMER NEUTRAL (NG) TO THE GROUND BUS BAR IN ASSOCIATED ELEC ROOM USING #2G INSULATED COPPER CABLE INSTALLED WITHIN CONDUIT RACEWAY SYSTEM.

2. PROVIDE FACTORY INSTALLED DIGITAL POWER QUALITY METER WITH THE CAPABILITY OF DISPLAYING THE FOLLOWING MINIMUM PARAMETERS
   - 2.A. POWER, ENERGY & DEMAND METERING
   - 2.B. POWER QUALITY MONITORING, SAG/SWELL HARMONICS PHASE ROTATION.
   - 2.C. LOGGING AND RECORDING (16MB MEMORY), GPS TIME SYNCHRONIZATION, MINIMAL HISTORICAL WAVEFORM RECORDING, TIME STAMP RESOLUTION (0.001 SECONDS)
   - 2.D. VOLTAGE (LINE-TO-LINE & LINE-TO-NEUTRAL)
   - 2.E. CURRENT (EACH PHASE & NEUTRAL)
   - 2.F. POWER (REAL-TIME & PEAK DEMAND)

3. ALL REQUIRED SOURCE OF POWER AND OVERCURRENT PROTECTION SHALL BE FACTORY PROVIDED FROM WITHIN THE ASSOCIATED DISTRIBUTION EQUIPMENT.

4. PROVIDE CIRCUIT BREAKER WITH PHASE TYPE AS REQUIRED TO PREVENT NUISANCE TRIPPING ON "LOSS OF POWER SOURCE". PROVIDE CIRCUIT BREAKER CAPABLE OF WITHSTANDING "NO LOAD SURGE" PLUS "FULL LOAD" CURRENT AFTER LOSS OF POWER AND RETURN OF POWER SOURCE.

5. PROVIDE CIRCUIT BREAKER WITH ACCESSORIES AS REQUIRED FOR "LOCK-OUT / TAG-OUT".

6. PROVIDE CIRCUIT WITH CONDUCTORS SIZED FOR A MINIMUM OF 125% OF THE MOTOR RATED FULL-LOAD AMPERES. PROVIDE CIRCUIT WITH A #14AWG EQUIPMENT GROUND CONDUCTOR.

7. PROVIDE CIRCUIT WITH CONDUCTORS SIZED FOR A MINIMUM OF 125% OF THE MOTOR RATED FULL-LOAD AMPERES. PROVIDE CIRCUIT WITH A #8AWG EQUIPMENT GROUND CONDUCTOR.

8. VFD SHALL BE FURNISHED WITH A FACTORY FUSED DISCONNECT SWITCH AND LINE SIDE REACTANCE BY THE T.C. CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED MATERIALS, EQUIPMENT AND LABOR AND INSTALL THE VFD NEAR THE ASSOCIATED MOTOR LOAD.

9. THE MOTOR PROTECTOR WITH INTEGRAL DISCONNECT SWITCH SHALL BE FURNISHED BY THE T.C. CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED MATERIALS, EQUIPMENT AND LABOR AND INSTALL THE MOTOR PROTECTOR (DISC SWITCH PART) NEAR THE ASSOCIATED MOTOR LOAD.

10. PROVIDE METER WITH RS-485 BACNET CAPABILITIES FOR COMMUNICATIONS WITH THE BUILDING MANAGEMENT SYSTEM. PROVIDE COMMUNICATION CABLES WITHIN CONDUIT RACEWAY FROM POWER METER TO THE T.C. PANEL BLILD. PANELL COORDINATE THE T.C. PANEL LOCATION WHERE THE COMMUNICATION CIRCUITS NEED TO BE ROUTED WITH THE T.C. CONTRACTOR PRIOR TO START OF ROUGH-IN PHASE. TERMINATIONS TO THE BUILDING MANAGEMENT SYSTEM SHALL BE BY THE T.C. CONTRACTOR.

11. THIS CIRCUIT BREAKER SHALL BE RESERVED FOR A 480V, 3-PHASE, 3-WIRE PLUS GND FEEDER TO THE FUTURE COVERED STORAGE BUILDING.

12. PROVIDE FUSES PER THE HVAC EQUIPMENT MANUFACTURER'S REQUIREMENTS.

13. SIZE CONDUCTORS PER NEC AND BASED ON THE AMPERE RATING OF THE INSTALLED UPSTREAM FUSES.

HOPKINSVILLE - CHRISTIAN COUNTY ACADEMY

CHRISTIAN COUNTY PUBLIC SCHOOLS

KDE #: BG 22-104

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HOPKINSVILLE, KY 42340

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124 Hillcrest Drive
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WBW Engineering Inc
2000 Campus Drive
Hopkinsville, KY 42240
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C&T Design and Equipment Co.
2150 Kalter Avenue, Suite
Evansville, IN 47710
Telephone: 812-421-4557

MATTHEW A. BRUGMAN
REGISTERED
NO. PE80900441
STATE OF KENTUCKY
PROFESSIONAL ENGINEER

Revisions:

#	Description	Date
1	[illegible]	[illegible]
2	[illegible]	[illegible]
3	[illegible]	[illegible]

Designed by: MJB | Drawn By: BDB | Checked by: MJB

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Sheet title:
ONE-LINE DIAGRAMS - BLD AREAS "J" & "K" - NORMAL POWER

Architect's Project No: 2106-204
Date: May, 20

Drawing No:
E5.7

140 college St.
Crofton, KY 42217
PH(270) 424-8242

CCHS
Alliance Corporation
RE: PR-008
Adder

1/11/2023

Discription: PR-008 - Supply side bonding jumper modification.

Item Discription:	Qty:	Unit:	Total:	Unit Hrs:	Total Hrs:	Labor Unit:	Total Labor:
Wire	1	$1,064.16	$1,064.16		0	$65.00	$0.00
	0	0	$0.00		0	$0.00	$0.00
	0	0	$0.00		0	$0.00	$0.00
	0	0	$0.00		0	$0.00	$0.00
	0	0	$0.00		0	$0.00	$0.00
	0	0	$0.00		0	$0.00	$0.00
	0	0	$0.00		0	$0.00	$0.00
	0	0	$0.00		0	$0.00	$0.00
	0	0	$0.00		0	$0.00	$0.00
	0	0	$0.00		0	$0.00	$0.00

Material Cost		$1,064.16
Sales Tax	6.0%	$63.85
Material Subtotal		$1,128.01

Labor Cost		$0.00
Labor Burden 26%	26%	$0.00
Labor Subtotal		$0.00

Labor/Mat. Subtotal		$1,128.01
Overhead/Profit	15%	$169.20
Total Change Cost		$1,297.21

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haferdesign.com

PROPOSAL REQUEST

Project:	Christian County High School 5185 Ft. Campbell Blvd Hopkinsville,KY 42240	**PR No.:**	009
		Date:	January 16, 2024
Owner:	Christian County Public Schools 222 Glass Ave Hopkinsville, KY 42240	**Project Number:**	2106-204
		Contract for:	
To:	Tim Geegan Alliance Corporation 116 E. College Steet Glasgow, KY 42141		

RE: **TELESCOPING BLEACHERS – ELECTRICAL MODIFICATIONS**

Please submit an itemized quotation for changes in the Contract Sum and/or Time incidental to proposed modifications to the Contract Documents described herein. THIS IS NOT A CHANGE ORDER NOR A DIRECTION TO PROCEED WITH THE WORK DESCRIBED HEREIN.

Description:

1) Reference Revised Drawing E2.1B-ALT Rev 3.
    a. Change the 30A/3 fusible switches for the quantity of three telescoping bleachers to 30A/3 non-fusible switches and change the branch circuit conductor size from #10AWG to #12AWG as indicated on the revised drawing Note B19.
2) Reference Revised Drawing E2.1C Rev 4.
    a. Delete the requirement for the fusible safety disconnect switch "DS-GYM CURTAIN" as indicated on the revised drawing.
    b. Change the 30A/1 fusible switch for the quantity of one telescoping bleacher to a 30A/3 non-fusible switch and change the branch circuit conductor size from #10AWG to #12AWG as indicated on the revised drawing Note C18.
3) Reference Revised Drawing E2.2B-ALT Rev 2.
    a. Change the 30A/3 fusible switches for the quantity of three telescoping bleachers to 30A/3 non-fusible switches and change the branch circuit conductor size from #10AWG to #12AWG as indicated on the revised drawing Note B1.
4) Reference Revised Drawing E6.2-Alt Rev 3.
    a. Change the quantity of six 30A/3 circuit breakers feeding the bleachers to a quantity of six 20A/3 circuit breakers as indicated on the revised drawing.
5) Reference Revised Drawing E6.3 Rev 2.

a. Change the quantity of three 20A/1 spare circuit breakers (#45, #47 & #49) to a quantity of one 20A/3 circuit breaker feeding the motorized bleacher as indicated on the revised drawing.
b. Change the description on circuit breaker #1 from "MOTORIZED BLEACHER, RM. C101" to "SPARE" as indicated on the revised drawing.

Attachments: Revised Drawings E2.1B-ALT Rev 3, E2.1C Rev 4, E2.2B-ALT Rev 2, E6.2-ALT Rev 3, E6.3 Rev 2

By: Eric Rang

CC:

NOTES (FIRST FLOOR POWER PLAN - AREA "B" - ALT) (CONTINUED):

91. RECEPTACLE AND DEDICATED BRANCH CIRCUIT (FED FROM A GFCI TYPE CIRCUIT BREAKER) FOR POWER TO ICE MACHINE. PROVIDE CIRCUIT TO ICE MACHINE FROM PANEL "L12A" CIRCUIT NO. 18 USING 3#12, 1#12G, IN 3/4"C.

92. RECEPTACLE AND DEDICATED BRANCH CIRCUIT FOR CLOTHES WASHING MACHINE. COORDINATE THE INSTALLATION LOCATION AND THE REQUIRED MOUNTING HEIGHT WITH THE REQUIREMENTS OF THE WASHING MACHINE. CORD AND PLUG SHALL BE ACCESSIBLE WITH THE WASHING MACHINE PLACED IN IT'S FINAL INSTALLATION LOCATION. PROVIDE POWER CIRCUIT TO RECEPTACLE FROM PANEL "L12B" BRANCH CIRCUIT NO. 35 USING 3#12, 1#12G IN 3/4"C.

93. PROVIDE NEMA 5-20R DUPLEX RECEPTACLE. PROVIDE POWER FEED TO RECEPTACLE THROUGH ASSOCIATED CONTROLLER INSTALLED WITHIN ELEVATOR MACHINE ROOM. COORDINATE THE INSTALLATION LOCATION AND INSTALLATION REQUIREMENTS WITH THE PUMPCONTROLLER PROVIDER AND ELEVATOR PROVIDER PRIOR TO START OF ROUGH-IN.

94. COORDINATE ALL ELECTRICAL INSTALLATION REQUIREMENTS, INSTALLATION LOCATIONS AND MOUNTING HEIGHTS WITHIN THE ELEVATOR SHAFT AND THE ELEVATOR PIT AREAS WITH THE ELEVATOR PROVIDER PRIOR TO (6) WEEKS OF ROUGH-IN TO ENSURE INSTALLATION WILL MEET THE REQUIREMENTS OF THE ELEVATOR PROVIDER, ELEVATOR INSPECTOR AND ALL LOCAL AUTHORITIES HAVING JURISDICTION.

95. PROVIDE RECEPTACLE HIGH ON WALL FOR POWER TO VIDEO MONITOR.

96. RECEPTACLE AND DEDICATED BRANCH CIRCUIT FOR CLOTHES DRYER MACHINE. PROVIDE BRANCH CIRCUIT FROM PANEL "L12B" AND BRANCH CIRCUIT NO. 39 USING 3#10, 1#10G, IN 3/4"C.

97. PROVIDE NEMA 14-30R RECEPTACLE. PROVIDE MATCHING CORD & PLUG 30" MINIMUM LENGTHS AND INSTALL ON THE DRYER MACHINE. COORDINATE THE INSTALLATION LOCATION AND THE REQUIRED MOUNTING HEIGHT WITH THE REQUIREMENTS OF THE DRYER MACHINE. CORD AND PLUG SHALL BE ACCESSIBLE WITH THE DRYER MACHINE PLACED IN IT'S FINAL INSTALLATION LOCATION.

98. SEE ONE-LINE DIAGRAM - BLDG AREA "B-ALT", SHEET E0.3 FOR ADDITIONAL REQUIREMENTS.

NOTES (FIRST FLOOR POWER PLAN - AREA "B" - ALT) (CONTINUED):

99. ALL RECEPTACLES FED FROM THIS PANEL SHALL BE "ISOLATED" GROUND TYPE RECEPTACLES WITH ORANGE FACES AND IDENTIFIED WITH A GREEN TRIANGLE ON THE RECEPTACLE. ALL ASSOCIATED DEVICE PLATES SHALL BE COLOR ORANGE TO MATCH THE RECEPTACLE. ALL RECEPTACLES SHALL BE PROVIDED WITH DEDICATED BRANCH CIRCUITS WHICH INCLUDE A DEDICATED PHASE, DEDICATED NEUTRAL, DEDICATED "ISOLATED" GREEN WIRE WITH YELLOW STRIPES CONNECTED TO THE ISOLATED GROUND LUG ON THE RECEPTACLE, AND A SOLID GREEN ISOLATED "EQUIPMENT" GROUND CONDUCTOR WHICH SHALL BE BONDED TO THE METALLIC OUTLET BOX. THE EQUIPMENT GROUND AND ISOLATED GROUND CONDUCTORS SHALL BE BOND TO MATCH THE PHASE AND NEUTRAL CONDUCTORS.

910. RECEPTACLE AND DEDICATED 120V BRANCH CIRCUIT FOR POWER TO LARGE VIDEO BOARD. INSTALL HIGH ON WALL WITHIN WALLBOX PROVIDED AS PART OF THE PERFORMANCE AV FOR GYM PACKAGE.

911. PROVIDE A QUANTITY OF TEN DEDICATED 120V, 20A AUDIO-VIDEO TECHNICAL POWER (AVTP) BRANCH CIRCUITS TO EQUIPMENT RACK FROM CLEAN AUDIO POWER PANEL "L16B" CIRCUIT NO.S 2, 4, 6, 8, 10, 12, 14, 16, 18 & 20. EACH CIRCUIT SHALL BE PROVIDED WITH DEDICATED "PHASE", "NEUTRAL" AND "ISOLATED GROUND" CONDUCTORS. PROVIDE A COMMON EQUIPMENT GROUND CONDUCTOR WITHIN EACH CONDUIT RACEWAY FEEDING THE EQUIPMENT RACK. TERMINATE THE CIRCUITS ON ISOLATED GROUND RECEPTACLES FURNISHED AS PART OF THE AUDIO EQUIPMENT RACK.

912. PROVIDE DEDICATED BRANCH CIRCUIT WITH DEDICATED "PHASE", "NEUTRAL", "ISOLATED GROUND", AND EQUIPMENT GROUND CONDUCTORS.

913. JUNCTION BOX AS REQUIRED FOR POWER CIRCUIT TO TEMPERATURE CONTROL PANEL. PROVIDE DEDICATED 120V, 20A CIRCUIT TO T.C. PANEL FROM PANEL AND BRANCH CIRCUIT NO. AS INDICATED USING 3#12, 1#12G IN 3/4"C.

914. PROVIDE POWER CIRCUITS TO FLOOR BOX FROM PANEL AND BRANCH CIRCUIT NUMBERS AS INDICATED USING STRANDED CONDUCTORS FOR PHASE, NEUTRAL AND EQUIPMENT GROUND CONDUCTORS.

915. SEE MEA FUNCTION FLOORPLAN SCHEDULE, SHEET E1.1, FOR ADDITIONAL REQUIREMENTS.

916. COORDINATE THE REQUIRED INSTALLATION LOCATION WITH ARCHITECT PRIOR TO START OF ROUGH-IN.

NOTES (FIRST FLOOR POWER PLAN - AREA "B" - ALT):

917. PROVIDE 120V, 20A ISOLATED GROUND POWER CIRCUIT TO ISOLATED GROUND TYPE RECEPTACLE WITHIN THE FLOOR BOX FROM PANEL "L14B" CIRCUIT NUMBER 1, USING 2#12, 1#12G, 1#12G IN 1" CONDUIT.

918. PROVIDE 120V, 20A ISOLATED GROUND POWER CIRCUIT TO ISOLATED GROUND TYPE RECEPTACLE.

919. PROVIDE 30A, 250V, 3-POLE SAFETY DISCONNECT SWITCH IN NEMA 1 ENCLOSURE FOR POWER TO BLEACHER SYSTEM. PROVIDE POWER CIRCUIT TO DISCONNECT SWITCH FROM PANEL AND BRANCH CIRCUIT NUMBER AS INDICATED USING 3#10, 1#10G IN 3/4"C. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT IN FIELD WITH THE ARCHITECT AND BLEACHER SYSTEM PROVIDER PRIOR TO START OF ROUGH-IN. PROVIDE FINAL CIRCUIT TO BLEACHER SYSTEM PER THE BLEACHER SYSTEM PROVIDER'S REQUIREMENTS. PROVIDE ALL REQUIRED POWER, CONTROL, MONITORING AND ALL OTHER CIRCUITS AND ELECTRICAL INSTALLATION PER THE BLEACHER SYSTEM PROVIDER'S REQUIREMENTS. COORDINATE ALL REQUIREMENTS WITH THE BLEACHER SYSTEM PROVIDER.

920. PROVIDE POWER CONDUCTORS FOR ALL "PHASE", "NEUTRAL", "ISOLATED GROUND", AND EQUIPMENT GROUND CONDUCTORS.

921. JUNCTION BOX AS REQUIRED FOR POWER CIRCUIT TO PLAYER'S SCOREBOARD. PROVIDE ONE DEDICATED 120V, 20A BRANCH CIRCUIT TO JUNCTION BOX FROM PANEL AND BRANCH CIRCUIT AS INDICATED USING 3#10, 1#10G IN 3/4". COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT IN FIELD WITH THE INSTALLATION LOCATION AND REQUIREMENTS FOR THE PLAYER'S SCOREBOARD PRIOR TO START OF ROUGH-IN. PROVIDE FINAL CIRCUIT TO SCOREBOARD PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS.

922. PROVIDE JUNCTION BOX HIGH ON WALL FOR LOCKER ROOM FIELD CLOCK (PART OF SCOREBOARD SYSTEM). PROVIDE 3/4" FROM BOX TO FLOOR BOX WITHIN GYM NEAR THE SCORE REPORTER TABLE.

923. PROVIDE HP RATED TOGGLE SAFETY DISCONNECT SWITCH (WITH LOCK-OUT/TAG-OUT ACCESSORY) NEAR BOOSTER FAN FOR POWER TO DRIVER BOOSTER FAN. PROVIDE POWER CIRCUIT TO BOOSTER FAN PER MANUFACTURER'S REQUIREMENTS. PROVIDE POWER CIRCUIT FROM PANEL AND BRANCH CIRCUIT NO. AS INDICATED USING 3#12, 1#12G IN 3/4" C. COORDINATE REQUIRED INSTALLATION LOCATION IN FIELD WITH THE DRIVER BOOSTER FAN PROVIDER PRIOR TO ROUGH-IN.

924. JUNCTION BOX AS REQUIRED FOR POWER CIRCUIT TO SHOT CLOCK. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT IN FIELD WITH THE INSTALLATION LOCATION AND REQUIREMENTS FOR THE SHOT CLOCK PRIOR TO START OF ROUGH-IN. PROVIDE FINAL CIRCUIT TO SHOT CLOCK PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS.

925. MOTORIZED SHADE SYSTEM CONTROLLER. PROVIDE DEDICATED 120V, 20A POWER CIRCUIT TO CONTROLLER FROM PANEL AND BRANCH CIRCUIT NO. AS INDICATED USING 2#12, 1#12G IN 3/4"C. PROVIDE ALL REQUIRED POWER AND CONTROL CIRCUITS TO MOTORIZED SHADES (WITHIN THE GYMNASIUM - 3rd FLOOR EAST WALL) PER THE MOTORIZED SHADE SYSTEM PROVIDER'S REQUIREMENTS AND APPROVED SUBMITTAL DRAWINGS. COORDINATE INSTALLATION LOCATION FOR CONTROL PANEL WITH ARCHITECT AND SHADE SYSTEM PROVIDER PRIOR TO START OF ROUGH-IN. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING MOTORIZED SHADE SYSTEM.

926. RECEPTACLE FOR WALL MOUNT INTERACTIVE FLAT PANEL. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT IN FIELD WITH THE ARCHITECT AND INSTALLATION REQUIREMENTS FOR THE INTERACTIVE FLAT PANEL. IN GENERAL, INSTALL BEHIND THE INTERACTIVE FLAT PANEL IN LOCATION WHICH HIDES THE OUTLETS FROM VIEW AND STILL ALLOWS THE RECEPTACLE TO BE ACCESSIBLE. SEE TYPICAL INTERACTIVE FLAT PANEL LOCATION ELECTRICAL REQUIREMENTS DETAIL, SHEET E1.0, FOR ADDITIONAL REQUIREMENTS.

927. RECEPTACLE FOR POWER TO AUDIO-VIDEO CONTROL CABINET. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT WITH THE INSTALLATION REQUIREMENTS OF THE AUDIO-VIDEO CONTROL CABINET. SEE TYPICAL INSTRUCTORS AV ACCESS CABINET LOCATION ELECTRICAL REQUIREMENT DETAIL, SHEET E1.0, FOR ADDITIONAL REQUIREMENTS.

928. INSTALLATION SHOWN WITHIN THIS DASHED LINE INDICATES WORK WHICH SHALL BE BID AS PART OF THE SYNNUMBER ALTERNATE BID.

929. PROVIDE FUSIBLE SAFETY DISCONNECT SWITCH FOR POWER TO ELEVATOR CONTROLLER. SEE ONE-LINE DIAGRAM - EMERGENCY POWER, SHEET E0.3, FOR ADDITIONAL REQUIREMENTS.

930. RECEPTACLE AND DEDICATED BRANCH CIRCUIT. INSTALL WITHIN THE ELEVATOR PIT AREA.

931. PROVIDE NEMA 5-20R DUPLEX RECEPTACLE AND DEDICATED 120V BRANCH CIRCUIT FOR CORD AND PLUG POWER CONNECTIONS TO ELEVATOR SUMP PUMP CONTROLLER AND ASSOCIATED ALARM PANEL. PANEL AND CIRCUIT NO. INDICATED SHALL BE USED TO PROVIDE POWER TO THE CONTROLLER AND ALARM PANEL, AND FROM THE CONTROLLER TO RECEPTACLE IN ELEVATOR PIT FOR SUMP PUMP. COORDINATE THE INSTALLATION LOCATION AND INSTALLATION REQUIREMENTS WITH THE PUMPCONTROLLER PROVIDER AND ELEVATOR PROVIDER PRIOR TO START OF ROUGH-IN. THE CONTROLLER AND ASSOCIATED ALARM PANEL SHALL BE FED FROM SAME BRANCH CIRCUIT.

932. PROVIDE SUPPORT STRUCTURE AS REQUIRED FOR SUPPORT OF EQUIPMENT. SECURE STRUCTURE TO THE FLOOR AT THE BOTTOM AND TO THE BUILDING STRUCTURE AT THE TOP.

933. GROUND BUS BAR ON INSULATED STAND-OFF DEVICES. SEE GROUNDING SYSTEM RISER DIAGRAM, Sheet E1.3.4, FOR ADDITIONAL REQUIREMENTS.

934. PROVIDE SAFETY DISCONNECT MEANS NEAR THE INDOOR UNIT. PROVIDE ALL REQUIRED POWER, CONTROL & COMMUNICATION CIRCUITS BETWEEN THE INDOOR UNIT AND THE ASSOCIATED OUTDOOR CONDENSING UNIT PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS.

935. JUNCTION BOXES AND DEDICATED NEC FIR EMERGENCY POWER BRANCH CIRCUIT FOR POWER TO FIRE ALARM SYSTEM PANELS AND EQUIPMENT. PROVIDE ALL REQUIRED POWER CIRCUITS AND CONNECT TO FIRE ALARM SYSTEM PANELS AND EQUIPMENT PER THE FIRE ALARM SYSTEM MANUFACTURER'S REQUIREMENTS. COORDINATE THE REQUIRED INSTALLATION LOCATIONS WITH THE INSTALLATION REQUIREMENTS FOR THE FIRE ALARM SYSTEM.

936. PROVIDE GREEN CONDUCTORS FOR ALL "PHASE", "NEUTRAL" AND EQUIPMENT GROUND CONDUCTORS FOR ENTIRE LENGTH OF BRANCH CIRCUIT.

937. RECEPTACLE AND DEDICATED BRANCH CIRCUIT (FED FROM A GFCI TYPE CIRCUIT BREAKER) FOR POWER TO UNDERCOUNTER ICE MACHINE. PROVIDE CIRCUIT TO UNDERCOUNTER ICE MACHINE FROM PANEL "L12B" CIRCUIT NO. 19 USING 3#12, 1#12G, IN 3/4"C.

938. PROVIDE 30A FUSIBLE SAFETY DISCONNECT SWITCH NEAR HVAC UNIT WITHIN THE ACCESSIBLE CEILING CAVITY SPACE. PROVIDE POWER CIRCUIT TO HVAC UNIT (THROUGH DISCONNECT SWITCH) PER THE MANUFACTURER'S REQUIREMENTS. PROVIDE POWER CIRCUIT FROM PANEL AND BRANCH CIRCUIT NO. AS INDICATED USING 3#10, 1#10G IN 3/4"C. PROVIDE FUSING PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS. COORDINATE REQUIRED INSTALLATION LOCATION IN FIELD WITH THE HVAC UNIT REQUIREMENTS AND ALL OTHER INSTALLATION WITHIN THE AREA.

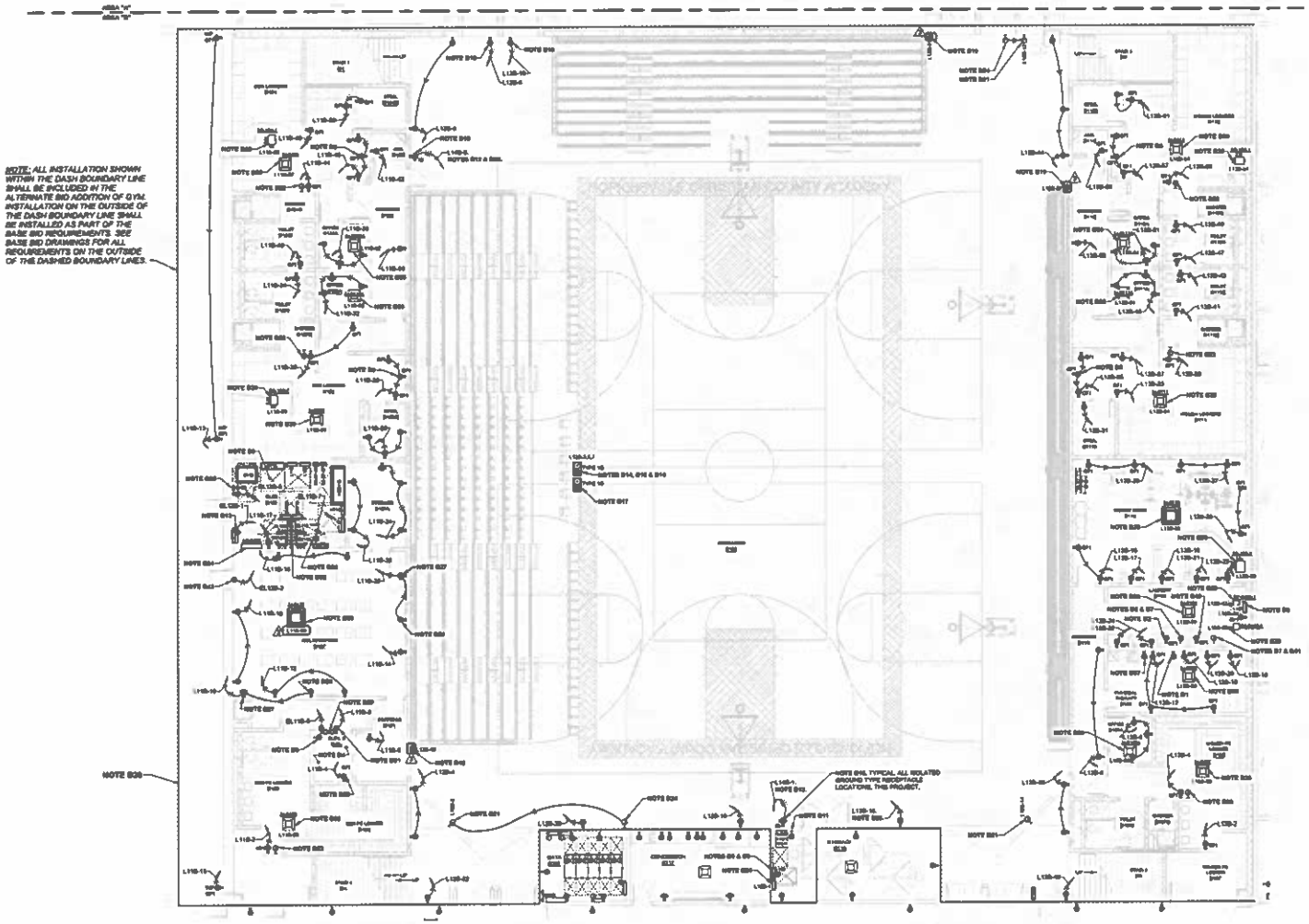
939. PROVIDE 30A FUSIBLE SAFETY DISCONNECT SWITCH NEAR BRANCH SELECTOR UNIT WITHIN THE ACCESSIBLE CEILING CAVITY SPACE. PROVIDE POWER CIRCUIT TO BRANCH SELECTOR UNIT (THROUGH DISCONNECT SWITCH) PER THE MANUFACTURER'S REQUIREMENTS. PROVIDE POWER CIRCUIT FROM PANEL AND BRANCH CIRCUIT NO. AS INDICATED USING 3#12, 1#12G IN 3/4"C. PROVIDE FUSING PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS. COORDINATE REQUIRED INSTALLATION LOCATION IN FIELD WITH THE HVAC UNIT REQUIREMENTS AND ALL OTHER INSTALLATION WITHIN THE AREA.

940. RECEPTACLE AND DEDICATED BRANCH CIRCUIT FOR CLOTHES WASHING MACHINE. COORDINATE THE INSTALLATION LOCATION AND THE REQUIRED MOUNTING HEIGHT WITH THE REQUIREMENTS OF THE WASHING MACHINE. CORD AND PLUG SHALL BE ACCESSIBLE WITH THE WASHING MACHINE PLACED IN IT'S FINAL INSTALLATION LOCATION. PROVIDE POWER CIRCUIT TO RECEPTACLE FROM PANEL "L12B" BRANCH CIRCUIT NO. 36 USING 3#12, 1#12G IN 3/4"C.

941. RECEPTACLE AND DEDICATED BRANCH CIRCUIT FOR CLOTHES DRYER MACHINE. PROVIDE BRANCH CIRCUIT FROM PANEL "L12B" AND BRANCH CIRCUIT NO. 34 USING 3#10, 1#10G, IN 3/4"C.

942. PROVIDE 120V, 20A BRANCH CIRCUIT TO POWER SUPPLY FOR DOOR HARDWARE. PROVIDE ALL REQUIRED CIRCUITS FROM POWER SUPPLY TO DOOR HARDWARE PER THE DOOR HARDWARE PROVIDER'S REQUIREMENTS.

NOTE: ALL INSTALLATION SHOWN WITHIN THE DASH BOUNDARY LINE SHALL BE INCLUDED IN THE ALTERNATE BID ADDITION OF GYM. INSTALLATION ON THE OUTSIDE OF THE DASH BOUNDARY LINE SHALL BE INSTALLED AS PART OF THE BASE BID REQUIREMENTS. SEE BASE BID DRAWINGS FOR ALL REQUIREMENTS ON THE OUTSIDE OF THE DASHED BOUNDARY LINES.



POWER PLAN - FIRST FLOOR - AREA "B" ALTERNATE

1/8"=1'-0"

HOPKINSVILLE - CHRISTIAN COUNTY ACADEMY

CHRISTIAN COUNTY PUBLIC SCHOOLS

KDE #: 80 23-104

5185 FT. CAMPBELL BLVD
HOPKINSVILLE, KY 42240

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K&S Engineering, PLLC

WBW Engineering, Inc.

CT Design and Equipment Co.

KEYPLA

Revisions:

Date	Description	Rev.
05-20-22	Bid Set	0
06-03-22	Addendum #1 (Clarifications)	1
06-17-22	Addendum #2 (Bid Date Change - Postponement)	2
06-24-22	Addendum #3 (Bid Date Change - Postponement, Alternate Scheduling Change)	3

Designed By: MJB | Drawn By: BDB | Checked By: MJB

Sheet title:

POWER PLAN - FIRST FLOO
- AREA "B" ALTERNATE

Architect's Project No: 2106-204

Date: May, 20

Drawing No.

E2.1B-AI

NOTES (FIRST FLOOR POWER PLAN - AREA "C"):

C1. INSTALL RECEPTACLE FOR GENERAL PURPOSE USE AT APPROXIMATELY 18" ABOVE THE TOP OF THE HIGHEST BLEACHER SEATING AREA TO BOTTOM OF OUTLET BOX.

C2. RECEPTACLE FOR WALL MOUNT INTERACTIVE FLAT PANEL. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT IN FIELD WITH THE ARCHITECT AND INSTALLATION SUBCONTRACTOR THE INTERACTIVE FLAT PANEL. IN LOCATION WHICH HIDES THE OUTLETS FROM VIEW AND STILL ALLOWS THE RECEPTACLE TO BE ACCESSIBLE. SEE TYPICAL INTERACTIVE FLAT PANEL LOCATION ELECTRICAL REQUIREMENTS DETAIL, SHEET E1.5 FOR ADDITIONAL REQUIREMENTS.

C3. RECEPTACLE FOR MOBILE VIDEO CART.

C4. PROVIDE 20A1P DEDICATED BRANCH CIRCUIT (FED FROM A GFCI TYPE CIRCUIT BREAKER) FOR POWER TO ELECTRIC WATER COOLER.

C5. PROVIDE 20A1P PUBBLE SAFETY DISCONNECT MEANS WITHIN ACCESSIBLE CEILING CAVITY SPACE NEAR COILING SECURITY GRILL CONTROLLER. PROVIDE PUBBING AND FINAL CIRCUIT TO CONTROLLER PER THE EQUIPMENT MANUFACTURERS REQUIREMENTS. PROVIDE POWER CIRCUIT FROM PANEL AND CIRCUIT NO. AS INDICATED USING 3PW, 1#10 IN 3/4"C. PROVIDE ALL CIRCUITS REQUIRED BETWEEN THE CONTROLLER AND REMOTE CONTROL DEVICES PER EQUIPMENT MANUFACTURER'S REQUIREMENTS.

C6. PROVIDE ALL MATERIALS, EQUIPMENT AND LABOR AS REQUIRED AND INSTALL TIMER CONTROL DEVICE FOR SUPPLY FAN "SF-C101" MEAN MOTOR CONTROLLER. TIMER SWITCH CONTROL DEVICE SHALL BE PURCHASED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. PROVIDE LABELING NEAR TIMER CONTROL DEVICE WHICH CLEARLY IDENTIFIES THE LOAD CONTROLLED.

C7. COORDINATE MOTOR CONTROLLER FOR SUPPLY FAN "SF-C101". SEE POWER PLAN - SECOND FLOOR - AREA "C", SHEET E1.2C, AND MOTOR CONTROL SCHEDULE & CONTROL WIRING DIAGRAM, SHEETS E1.10 & E1.11, FOR ADDITIONAL REQUIREMENTS.

C8. PROVIDE 20A2 PUBBLE SAFETY DISCONNECT SWITCH NEAR BRANCH SELECTION UNIT WITHIN THE ACCESSIBLE CEILING CAVITY SPACE. PROVIDE PLANUM CIRCUIT TO BRANCH SELECTION UNIT THROUGH DISCONNECT SWITCH PER THE MANUFACTURERS REQUIREMENTS. PROVIDE POWER CIRCUIT FROM PANEL AND BRANCH CIRCUIT NO. AS INDICATED USING 3PW, 1#10 IN 3/4"C. PROVIDE PUBBING PER THE EQUIPMENT MANUFACTURERS REQUIREMENTS. COORDINATE REQUIRED INSTALLATION LOCATION IN FIELD WITH THE HVAC UNIT REQUIREMENTS AND ALL OTHER INSTALLATION WITHIN THE AREA.

NOTES (FIRST FLOOR POWER PLAN - AREA "C") (CONT):

C9. PROVIDE 20A2 PUBBLE SAFETY DISCONNECT SWITCH NEAR HVAC UNIT WITHIN THE ACCESSIBLE CEILING CAVITY SPACE. PROVIDE POWER CIRCUIT TO HVAC UNIT (THROUGH DISCONNECT SWITCH) PER THE MANUFACTURER'S REQUIREMENTS. PROVIDE POWER CIRCUIT FROM PANEL AND BRANCH CIRCUIT NO. AS INDICATED USING 3PW, 1#10 IN 3/4"C. PROVIDE PUBBING PER THE EQUIPMENT MANUFACTURERS REQUIREMENTS. COORDINATE REQUIRED INSTALLATION LOCATION IN FIELD WITH THE HVAC UNIT REQUIREMENTS AND ALL OTHER INSTALLATION WITHIN THE AREA.

C10. SEE FIRST FLOOR SYSTEMS & TECHNOLOGY PLAN - AREA "C", SHEET E3.1C, FOR ADDITIONAL REQUIREMENTS.

C11. RECEPTACLE FOR POWER TO AUDIOVIDEO CONTROL CABINET. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT WITH THE INSTALLATION REQUIREMENTS OF THE AUDIOVIDEO CONTROL CABINET. SEE TYPICAL INSTRUCTORS AV ACCESS CABINET LOCATION ELECTRICAL REQUIREMENT DETAIL, SHEET E1.5 FOR ADDITIONAL REQUIREMENTS.

C12. COORDINATE THE REQUIRED INSTALLATION LOCATIONS AND MOUNTING HEIGHT OF ALL INSTALLATION ALONG THIS WALL WITH THE ARCHITECT PRIOR TO START OF ROUGH-IN.

C13. NOTE NOT USED.

C14. PROVIDE PANING CONDUCTORS FOR ALL "PHASE", "NEUTRAL" AND EQUIPMENT GROUND CONDUCTORS FOR ENTIRE LENGTH OF BRANCH CIRCUIT.

C15. PROVIDE POWER CIRCUIT TO THE ISOLATED GROUND TYPE DUPLEX RECEPTACLE WITHIN THE FLOOR BOX FROM PANEL "LMC" CIRCUIT NO. 39 USING 2#12, 1#12G, 1#12IG CONDUCTORS WITHIN A DEDICATED 3/4" CONDUIT FROM PANEL TO THE FLOOR BOX.

NOTES (FIRST FLOOR POWER PLAN - AREA "C") (CONT):

C16. COORDINATE THE REQUIRED INSTALLATION LOCATION WITH ARCHITECT PRIOR TO START OF ROUGH-IN.

C17. PROVIDE TWO POWER CIRCUITS TO FLOOR BOX FROM PANEL "LMC" CIRCUIT NOS. 31 & 33 USING 6PW, 1#10 IN 3/4" CONDUIT DEDICATED FOR "REGULAR" POWER CIRCUIT CONDUCTORS.

C18. PROVIDE 30A1P PUBBLE SAFETY DISCONNECT SWITCH IN NEMA 1 ENCLOSURE FROM POWER CIRCUIT TO MOTORIZED SCREEN CONTROL DEVICE. PROVIDE POWER CIRCUIT FROM PANEL "LMC" CIRCUIT NO. 41 USING 3PW, 1#10 IN 3/4"C. PROVIDE FINAL CIRCUIT TO MOTORIZED BLEACHER SYSTEM PER THE MANUFACTURER'S REQUIREMENTS. PROVIDE REQUIRED CIRCUIT TO THE REMOTE CONTROL DEVICE PER THE BLEACHER SYSTEM MANUFACTURER'S REQUIREMENTS. NOTE: THE REMOTE CONTROL DEVICE SHALL BE INSTALLED WITHIN THE AVA STORAGE ROOM C-001.

COORDINATE THE REQUIRED INSTALLATION LOCATION IN THE FIELD WITH THE BLEACHER SYSTEM PROVIDER PRIOR TO START OF ROUGH-IN.

C19. SPACE NEXT TO PANELBOARD SHALL BE RESERVED FOR INSTALLATION OF THE REMOTE CONTROL DEVICES FOR THE MOTORIZED SYSTEMS CONTROLLING: 5TH BLEACHERS, BASKETBALL GOALS & 5TH DIVIDER CURTAIN.

C20. JUNCTION BOX HIGH ON WALL AS REQUIRED FOR POWER CIRCUIT TO MOTORIZED PROJECTION SCREEN. PROVIDE CIRCUIT TO SCREEN PER THE SCREEN MANUFACTURER'S REQUIREMENTS. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT WITH THE INSTALLATION REQUIREMENTS FOR THE MOTORIZED SCREEN PRIOR TO START OF ROUGH-IN. PROVIDE ALL REQUIRED CIRCUITS BETWEEN THE UPWOWN CONTROL SWITCH PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS.

C21. PROVIDE POWER CIRCUITS TO FLOORBOX ASSEMBLY FROM PANEL AND BRANCH CIRCUIT NOS. AS INDICATED USING PANING CONDUCTORS FOR ALL PHASE, NEUTRAL, AND EQUIPMENT GROUND CONDUCTORS.

C22. PROVIDE POWER CIRCUIT TO FLOORBOX ASSEMBLY FROM PANEL AND BRANCH CIRCUIT NO. AS INDICATED USING PANING FOR ALL PHASE, NEUTRAL, AND EQUIPMENT GROUND CONDUCTORS.

NOTES (FIRST FLOOR POWER PLAN - AREA "C") (CONT):

C23. PROVIDE TWO ISOLATED GROUND TYPE DUPLEX RECEPTACLES FLUSH MOUNTED IN WALL BEHIND THE OWNER FURNISHED AND INSTALLED AUDIOVIDEO EQUIPMENT RACK. PROVIDE DEDICATED 20A, 120V BRANCH CIRCUIT TO EACH RECEPTACLE FROM PANEL AND BRANCH CIRCUIT NO. AS INDICATED USING 2PW, 1#12G, 1#12IG INSTALLED WITHIN THEIR OWN DEDICATED 3/4" CONDUIT RACEWAY SYSTEMS FROM OUTLET BOX TO POWER PANEL.

C24. PROVIDE RECEPTACLE WITHIN A SINGLE-GANG STAINLESS STEEL "TOMBSTONE" TYPE FLOOR MOUNT ENCLOSURE. PROVIDE WATERPROOF GRAY GASKET ENCLOSURE, ON APPROVED SQUAL. PROVIDE POWER FEED TO RECEPTACLE FROM BELOW GRADE. COORDINATE THE REQUIRED INSTALLATION LOCATION WITH ARCHITECT PRIOR TO START OF ROUGH-IN. INSTALL CLOSE TO WALL / BASEBOARD HEATER AS REQUIRED TO MINIMIZE TRIPPING HAZARD.

C25. SEE MULTIFUNCTION FLOORBOX SCHEDULE, SHEET E1.1, FOR ADDITIONAL REQUIREMENTS.

C26. RECEPTACLE HIGH ON WALL AS REQUIRED FOR POWER CIRCUIT TO VIDEO PROJECTOR EQUIPMENT. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT WITH THE INSTALLATION REQUIREMENTS FOR THE VIDEO PROJECTOR PRIOR TO START OF ROUGH-IN.

C27. JUNCTION BOX AS REQUIRED FOR POWER CIRCUIT TO PLAYER'S SCOREBOARD. PROVIDE ONE DEDICATED 120V, 20A BRANCH CIRCUIT TO JUNCTION BOX FROM PANEL AND BRANCH CIRCUIT AS INDICATED USING 3PW, 1#10 IN 3/4". COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT IN FIELD WITH THE INSTALLATION LOCATION AND REQUIREMENTS FOR THE PLAYER'S SCOREBOARD PRIOR TO START OF ROUGH-IN. PROVIDE FINAL CIRCUIT TO SCOREBOARD PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS.

C28. ELECTRIC HEATER SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR WITH A FACTORY INSTALLED SAFETY DISCONNECT MEANS FOR SINGLE-POINT POWER FEED. PROVIDE 2PW CIRCUIT TO HEATER FROM PANEL "TYH12C" CIRCUIT NO. 5 USING 3#10, 1#10G IN 3/4"C.

C29. PROVIDE ONE ISOLATED GROUND TYPE NEMA 5-20R DUPLEX RECEPTACLE AND TWO NEMA 5-20R DUPLEX RECEPTACLES WITHIN THE MULTIFUNCTION FLOOR BOX ASSEMBLY.

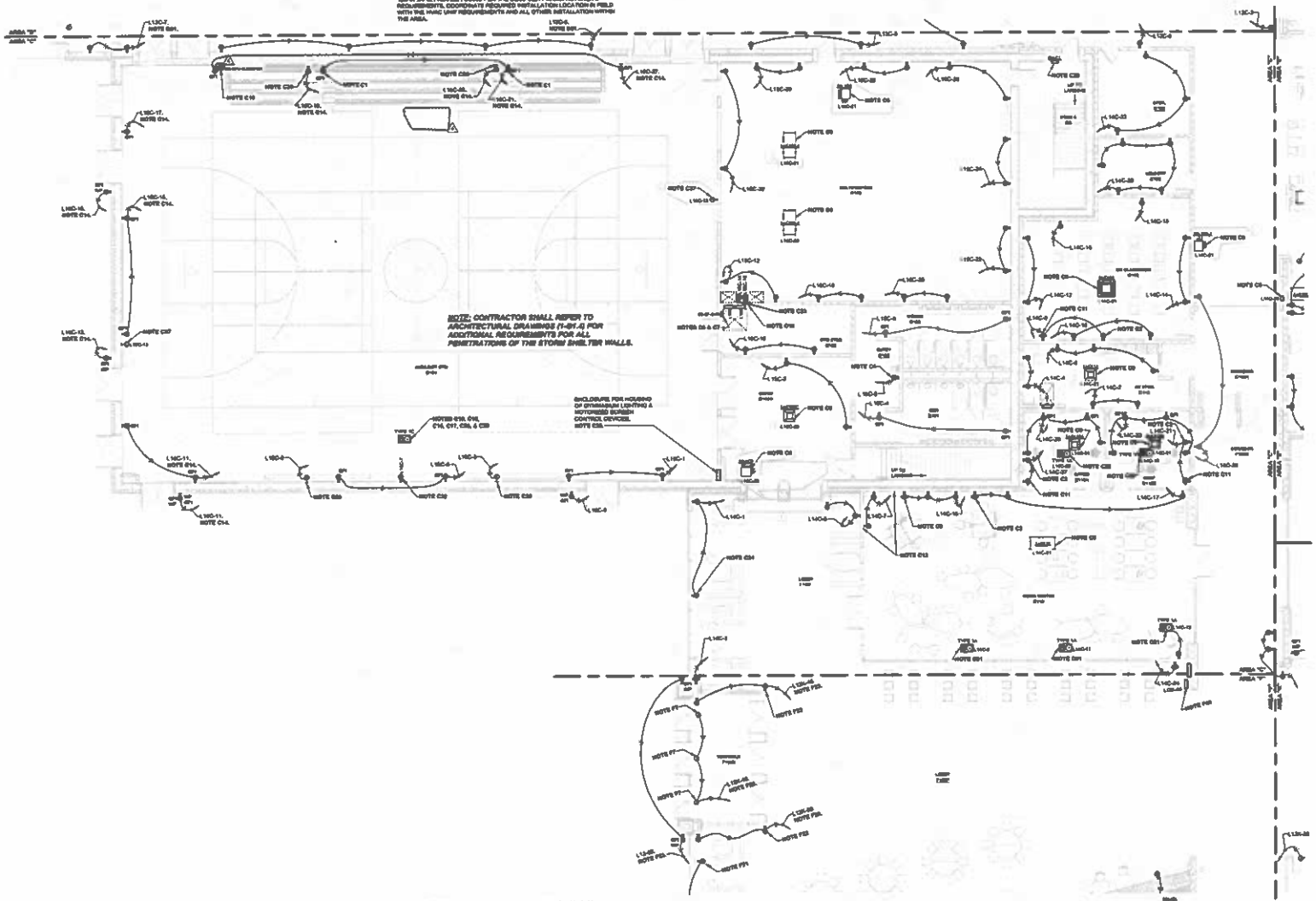
NOTES (FIRST FLOOR POWER PLAN - AREA "C") (CONT):

C30. NOTE NOT USED.

C31. NOTE NOT USED.

C32. PROVIDE ONE ISOLATED GROUND TYPE DUPLEX RECEPTACLE FLUSH MOUNTED IN WALL AT THE 51 HANDHELD RECEPTACLE MOUNTING HEIGHT. PROVIDE DEDICATED 20A, 120V BRANCH CIRCUIT TO RECEPTACLE FROM PANEL AND BRANCH CIRCUIT NO. AS INDICATED USING 2PW, 1#12G, 1#12IG INSTALLED WITHIN ITS OWN DEDICATED 3/4" CONDUIT RACEWAY SYSTEM FROM OUTLET BOX TO POWER PANEL.

C33. SEE FIRST FLOOR LIGHTING PLAN - AREA "C", SHEET E4.1C, FOR ADDITIONAL REQUIREMENTS.



POWER PLAN - FIRST FLOOR - AREA "C"
1/8" = 1'-0"

1/8"=1'-0"

HOPKINSVILLE - CHRISTIAN COUNTY ACADEMY

CHRISTIAN COUNTY PUBLIC SCHOOLS

KDE # : BG 22-164

5186 FT. CAMPBELL BLVD
HOPKINSVILLE, KY 42240

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K&S Engineering, PLLC

WBW Engineering, Inc.

CST Design and Equipment Co.

KEYPLA

Revisions

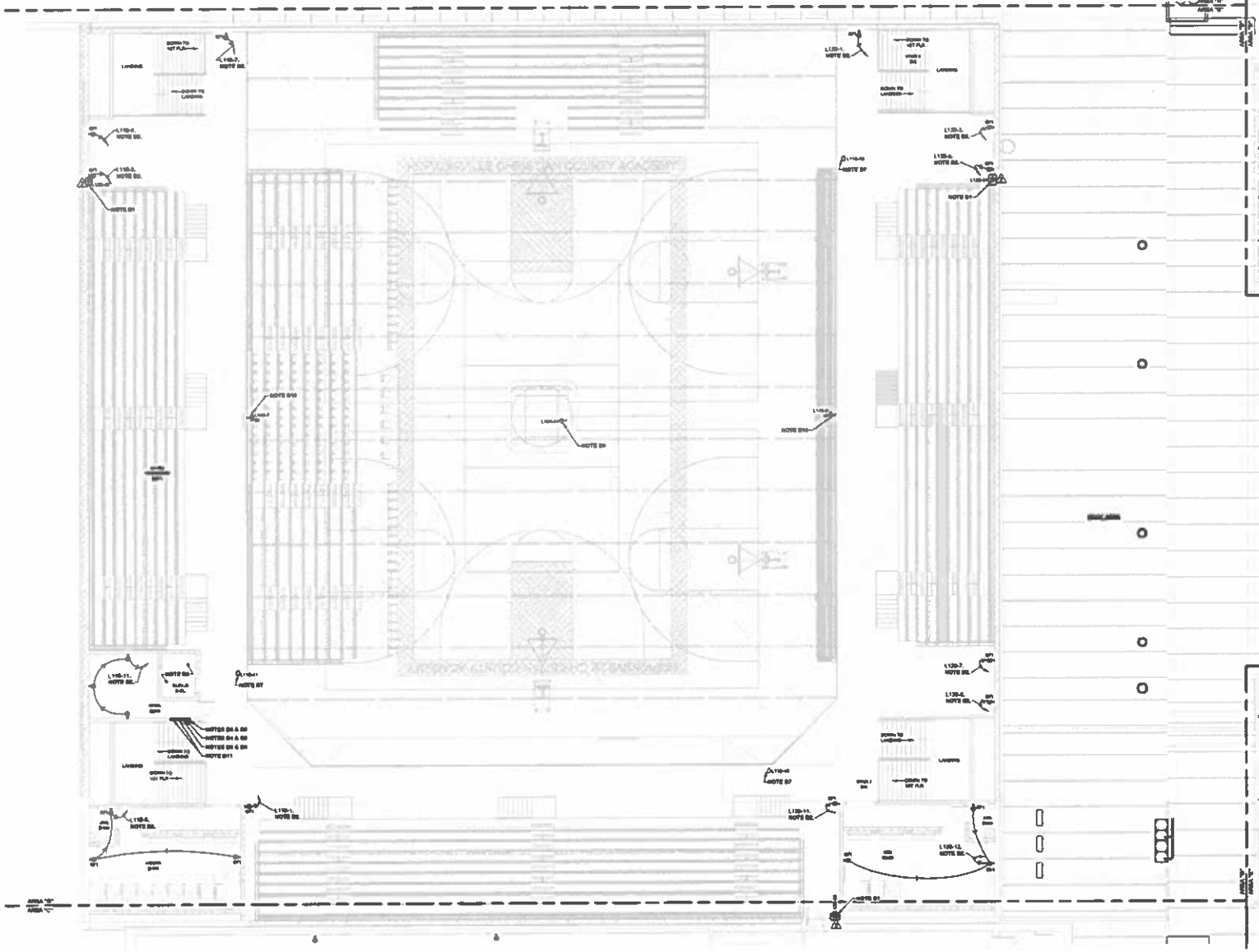
	Description	Date
1	Addendum	10-19-22
2	Change VAP Controller	12-20-22
3	Add Bid Item - Homeroom Monitor Detection System	1-12-23
4		1-19-23

Designed By: MJB | Drawn By: SDS | Checked By: MJB

Sheet title:
POWER PLAN - FIRST FLOOR - AREA "C"

Architect's Project No: 2106-204
Date: May, 20

Drawing No.
E2.1C



POWER PLAN - SECOND FLOOR - AREA "B"

1/8"=1'-0"

NOTES (SECOND FLOOR POWER PLAN - AREA "B-ALT"):

01. PROVIDE NEMA 1 FUSIBLE SAFETY DISCONNECT SWITCH IN NEMA 1 ENCLOSURE FOR CONNECTION TO MOTORIZED BLACKOUT SYSTEM.

02. PROVIDE MOTORIZED BLACKOUT SYSTEM CONTROLLER, AND BRANCH CIRCUIT CONDUIT AS INDICATED USING 3/4" HC. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT IN FIELD WITH THE ARCHITECT AND BLEACHER SYSTEM PROVIDER PRIOR TO START OF ROUGH-IN. PROVIDE FINAL CIRCUIT TO BLEACHER SYSTEM PER THE BLEACHER SYSTEM PROVIDERS REQUIREMENTS. PROVIDE ALL REQUIRED FORMAL CONTROL, MONITORING AND ALL OTHER CIRCUITS AND ELECTRICAL INSTALLATION PER THE BLEACHER SYSTEM PROVIDERS REQUIREMENTS. COORDINATE ALL REQUIREMENTS WITH THE BLEACHER SYSTEM PROVIDER.

03. PROVIDE PHASE CONDUCTORS FOR ALL "P-PAR", "NEUTRAL" AND EQUIPMENT GROUND CONDUCTORS FOR ENTIRE LENGTH OF BRANCH CIRCUIT.

04. REMOTE UPDOWN CONTROL DEVICE FOR MOTORIZED DIVIDER CURTAIN SYSTEM - WEST.

05. REMOTE UPDOWN CONTROL DEVICE FOR MOTORIZED DIVIDER CURTAIN SYSTEM - SOUTH.

06. REMOTE UPDOWN CONTROL DEVICE FOR MOTORIZED DIVIDER CURTAIN SYSTEM - NORTH.

08. FLUSH MOUNT CONTROL DEVICE IN WALL. PROVIDE ALL REQUIRED CIRCUITS BETWEEN THE REMOTE "UPDOWN" CONTROL DEVICE AND THE DIVIDER SYSTEM CONTROLLER FOR THE DIVIDER SYSTEM PROVIDERS REQUIREMENTS. COORDINATE ALL REQUIREMENTS WITH THE DIVIDER SYSTEM PROVIDER.

07. PROVIDE NEMA 1 FUSIBLE SAFETY DISCONNECT SWITCH IN NEMA 1 ENCLOSURE FOR 120V, SINGLE-PHASE, 20A POWER CIRCUIT TO MOTORIZED DIVIDER CURTAIN SYSTEM. PROVIDE FUSING PER THE DIVIDER CURTAIN SYSTEM REQUIREMENTS. PROVIDE POWER CIRCUIT TO DISCONNECT SWITCH FROM PANEL AND BRANCH CIRCUIT NUMBER AS INDICATED USING 3/4", 1/2" IN 3/4"C. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT IN FIELD WITH THE DIVIDER CURTAIN SYSTEM PROVIDER PRIOR TO START OF ROUGH-IN. INSTALL NEAR THE DIVIDER SYSTEM MOTOR/CONTROL ENCLOSURE. PROVIDE FINAL CIRCUIT TO DIVIDER SYSTEM PER THE DIVIDER SYSTEM PROVIDERS REQUIREMENTS. PROVIDE ALL REQUIRED CIRCUITS BETWEEN THE REMOTE "UPDOWN" CONTROL DEVICE AND THE DIVIDER SYSTEM CONTROLLER PER THE DIVIDER SYSTEM PROVIDERS REQUIREMENTS. COORDINATE ALL REQUIREMENTS WITH THE DIVIDER SYSTEM PROVIDER.

09. COORDINATE ALL ELECTRICAL INSTALLATION REQUIREMENTS, INSTALLATION LOCATIONS AND MOUNTING HEIGHTS WITHIN THE ELEVATOR EQUIPMENT ROOM AND THE ELEVATOR SHAFT AREAS WITH THE ELEVATOR PROVIDER PRIOR TO START OF ROUGH-IN. ENSURE INSTALLATION WILL MEET THE REQUIREMENTS OF THE ELEVATOR PROVIDER, ELEVATOR INSPECTOR AND ALL LOCAL AUTHORITIES HAVING JURISDICTION.

10. JUNCTION BOX AS REQUIRED FOR POWER CIRCUIT TO GYMNASIUM MAIN SCOREBOARD. PROVIDE ONE DEDICATED 120V, 20A BRANCH CIRCUIT TO JUNCTION BOX FROM PANEL AND BRANCH CIRCUIT NO. AS INDICATED USING 3/4" HPWB IN 3/4"C. COORDINATE THE REQUIRED INSTALLATION LOCATION AND MOUNTING HEIGHT IN FIELD WITH THE INSTALLATION LOCATION AND REQUIREMENTS FOR THE MAIN SCOREBOARD PRIOR TO START OF ROUGH-IN. PROVIDE FINAL CIRCUIT TO SCOREBOARD PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS.

11. PROVIDE DEDICATED 120V, 20A ISOLATED GROUND POWER CIRCUIT TO ISOLATED GROUND TYPE RECEPTACLES WITHIN THE SPACE. AV LOCKABLE ENCLOSURE FROM PANEL AND BRANCH CIRCUIT NUMBER AS INDICATED USING PHASE CONDUCTOR, PHASE, NEUTRAL, ISOLATED GROUND AND EQUIPMENT GROUND CONDUCTORS.

12. MOTORIZED SHADE SYSTEM CONTROLLERS. PROVIDE DEDICATED 120V, 20A POWER CIRCUITS TO CONTROLLERS FROM PANEL "L1-1B" CIRCUIT NO.2 37 & 39. PROVIDE ALL REQUIRED POWER AND CONTROL CIRCUITS TO MOTORIZED SHADES PER THE MOTORIZED SHADE SYSTEM PROVIDERS REQUIREMENTS AND APPROVED SUBMITTAL DRAWINGS. COORDINATE INSTALLATION LOCATION FOR CONTROL PANELS WITH ARCHITECT AND SHADE SYSTEM PROVIDER PRIOR TO START OF ROUGH-IN. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING MOTORIZED SHADE SYSTEM.

HOPKINSVILLE - CHRISTIAN COUNTY ACADEMY

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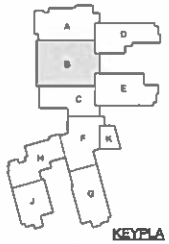


KEYPLA

MATTHEW A. BROOKMAN
LICENSED
NO. PE60900441
STATE OF KENTUCKY
PROFESSIONAL ENGINEER

Revisions:

1	06-06-23	Bid Set
2	06-09-23	Bid Set - Addendum #1
3	06-23-23	Contract Set

Designed By: MJB
Dwgn By: SDB
Checked By: MJB

Sheet Title:

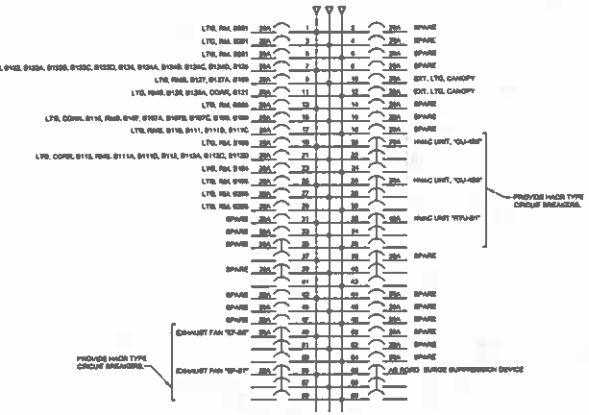
POWER PLAN - SECOND FLOOR - AREA "B"

Architect's Project No: 2106-204

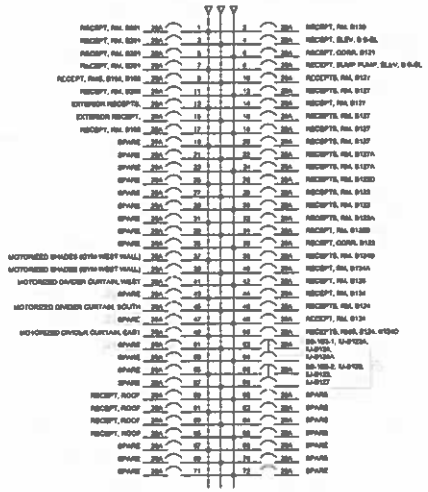
Date: May, 20

Drawing No:

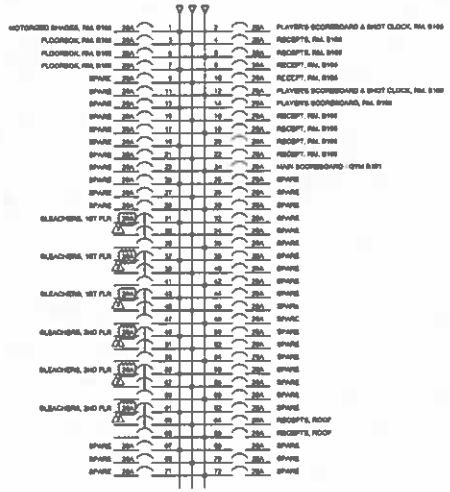
E2.2B-Al



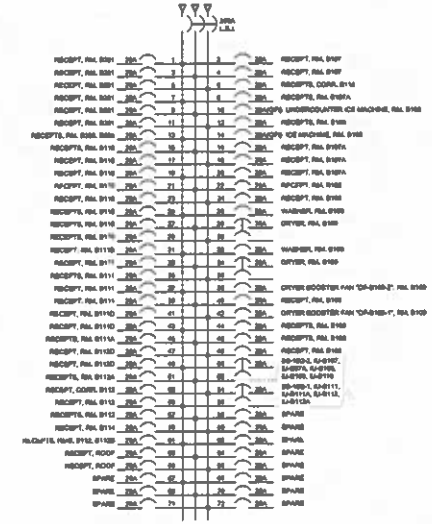
PANEL "H11B"
200A, 480Y/277V, 3PH, 4W
SURFACE MOUNT
30 SPACE
65,000 A.I.C. (SERIES RATING ACCEPTABLE)
PROVIDE WITH HINGED COVER ENCLOSURE.
PROVIDE WITH INTERNAL SURGE SUPPRESSION DEVICE.



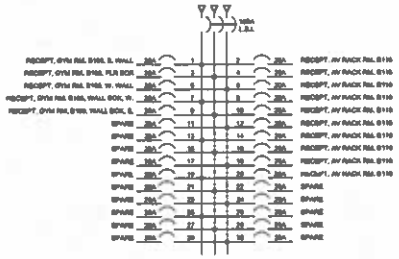
PANEL "L11B"
200A, 208Y/120V, 3PH, 4W
SURFACE MOUNT
72 SPACE
22,000 A.I.C.
PROVIDE WITH HINGED COVER ENCLOSURE



PANEL "L12B"
200A, 208Y/120V, 3PH, 4W
SURFACE MOUNT
72 SPACE
22,000 A.I.C.
PROVIDE WITH HINGED COVER ENCLOSURE



PANEL "L13B"
200A, 208Y/120V, 3PH, 4W
SURFACE MOUNT
72 SPACE
22,000 A.I.C.
PROVIDE WITH HINGED COVER ENCLOSURE



PANEL "L14B"
200A, 208Y/120V, 3PH, 4W
SURFACE MOUNT
30 SPACE
22,000 A.I.C.
PROVIDE WITH HINGED COVER ENCLOSURE.
PROVIDE WITH EQUIPMENT GROUND BUS AND WITH ISOLATED GROUND BUS.

HOPKINSVILLE - CHRISTIAN COUNTY ACADEMY

CHRISTIAN COUNTY PUBLIC SCHOOLS

KDE # BG 22-104

5185 FT. CAMPBELL BLVD
HOPKINSVILLE, KY 42240

HAFER

ALLIANCE

bell

K&S Engineering, PLLC

WBW Engineering, Inc.

C&T Design and Equipment Co.

Revisions

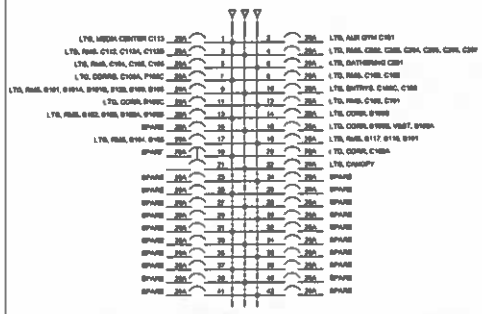
	Description	Date
1	Added UPS Generator	03-08-23
2	Addendum	04-21-23
3	Add 2nd Elec Meet - Telecomm Equipment Detailed Drawing	05-05-23

Designed by: MJB | Drawn by: BDB | Checked by: MJB

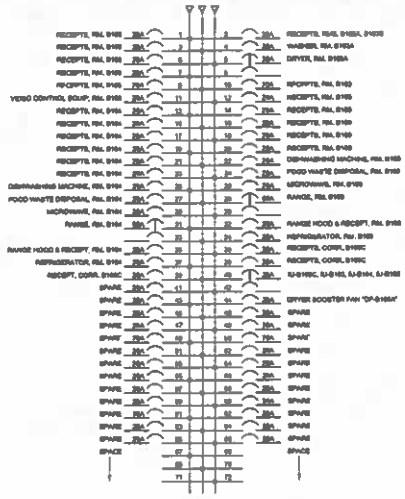
Sheet title:
BUSSING DIAGRAMS - BLDG AREA "B" (1ST FLOOR) - NORMAL POWER

Architect's Project No.: 2106-204
Date: May, 20

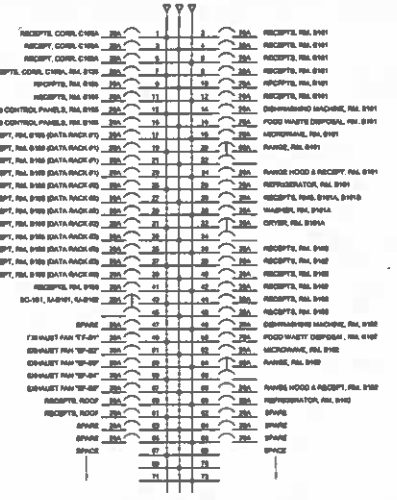
Drawing No:
E6.2-Alt



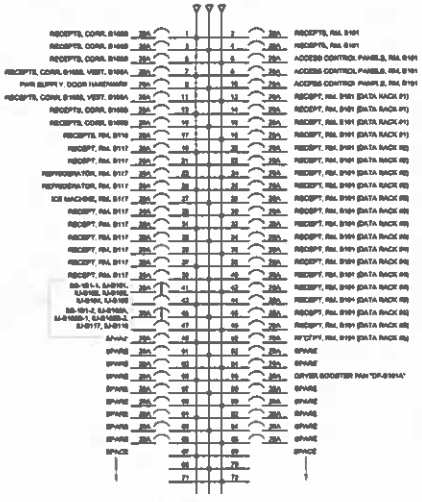
PANEL "H11C"
200A, 480Y/277V, 3PH, 4W
SURFACE MOUNT
42 SPACE
35,000 A.I.C. (SERIES RATING ACCEPTABLE)
PROVIDE WITH HINGED COVER ENCLOSURE



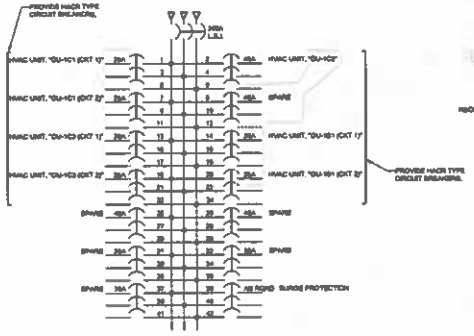
PANEL "L11C"
200A, 208Y/120V, 3PH, 4W
SURFACE MOUNT
72 SPACE
22,000 A.I.C.
PROVIDE WITH HINGED COVER ENCLOSURE



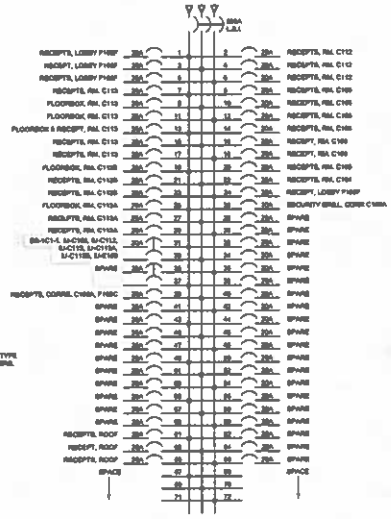
PANEL "L12C"
200A, 208Y/120V, 3PH, 4W
SURFACE MOUNT
72 SPACE
22,000 A.I.C.
PROVIDE WITH HINGED COVER ENCLOSURE



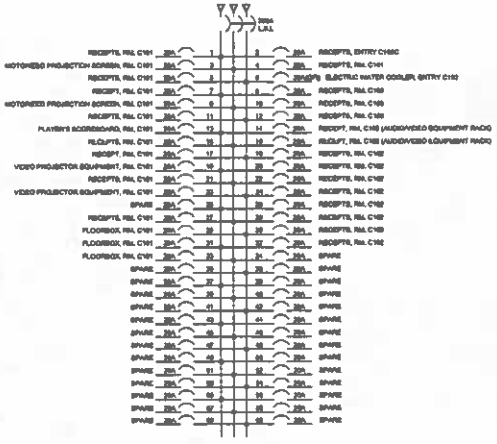
PANEL "L13C"
200A, 208Y/120V, 3PH, 4W
SURFACE MOUNT
72 SPACE
22,000 A.I.C.
PROVIDE WITH HINGED COVER ENCLOSURE



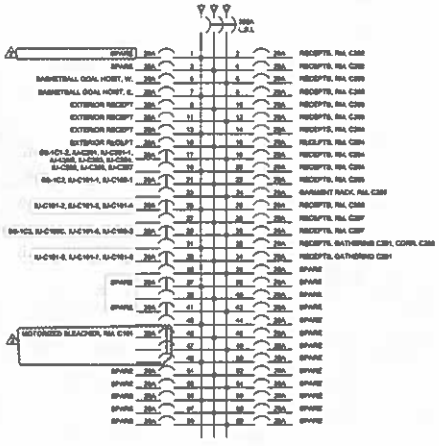
PANEL "H12C"
400A, 480Y/277V, 3PH, 4W
SURFACE MOUNT
42 SPACE
35,000 A.I.C. (SERIES RATING ACCEPTABLE)
PROVIDE WITH HINGED COVER ENCLOSURE.
PROVIDE WITH INTEGRAL SURGE SUPPRESSION.



PANEL "L14C"
200A, 208Y/120V, 3PH, 4W
FLUSH MOUNT
72 SPACE
22,000 A.I.C.
PROVIDE WITH HINGED COVER ENCLOSURE



PANEL "L15C"
200A, 208Y/120V, 3PH, 4W
SURFACE MOUNT
72 SPACE
22,000 A.I.C.
PROVIDE WITH HINGED COVER ENCLOSURE.
PROVIDE WITH EQUIPMENT GROUND BUS AND WITH ISOLATED GROUND BUS.



PANEL "L16C"
200A, 208Y/120V, 3PH, 4W
SURFACE MOUNT
72 SPACE
22,000 A.I.C.
PROVIDE WITH HINGED COVER ENCLOSURE

HOPKINSVILLE - CHRISTIAN COUNTY ACADEMY

CHRISTIAN COUNTY PUBLIC SCHOOLS

KDE # : BG 23-104

5186 FT. CAMPBELL BLVD
HOPKINSVILLE, KY 42260

HAFER

ALLIANCE

bell

K&S Engineering, PLLC

WBW Engineering, Inc.

C&T Design and Equipment Co.

Revisions:

#	Description	Date
1	Add Site Drawings	08/08/23
2	Add Site Elec - Permitting	09/08/23
3	Revise Schedules/Notes	11/08/23

Designed By: MJB | Drawn By: SCB | Checked By: MJB

Sheet title:
BUSSING DIAGRAMS - BLDG AREA "C" (1ST FLOOR) - NORMAL POWER

Architect's Project No: 2108-204 | Date: May, 20

Drawing No:
E6.3

140 college St.
Crofton, KY 42217
PH(270) 424-8242

CCHS
Alliance Corporation
RE: PR-009

2/19/2024

Discription: PR-009 DEDUCT

Item Discription:	Qty:	Unit:	Total:	Unit Hrs:	Total Hrs:	Labor Unit:	Total Labor:
DEDUCT #10 to #12 WIRE	5000	$0.07	$350.00		0	$65.00	$0.00
Remove curtain feed	1	$385	$385.00		13	$65.00	$845.00
	0	0	$0.00		0	$65.00	$0.00
	0	0	$0.00		0	$65.00	$0.00
	0	0	$0.00		0	$65.00	$0.00
	0	0	$0.00		0	$65.00	$0.00
	0	0	$0.00		0	$65.00	$0.00
	0	0	$0.00		0	$65.00	$0.00
	0	0	$0.00		0	$65.00	$0.00
	0		$0.00		0	$65.00	$0.00

Material Cost		$735.00
Sales Tax	6.0%	$44.10
Material Subtotal		$779.10

Labor Cost		$845.00
Labor Burden 26%	26%	$219.70
Labor Subtotal		$1,064.70

Labor/Mat. Subtotal			$1,843.80
Overhead/Profit	15%		$276.57
Total Change Cost		DEDUCT	$2,120.37

FACPAC Contract Change Order Supplemental Information Form (Ref# 59610)

Form Status: Saved

Tier 1 Project: Consolidated High School
BG Number: 22-104
Status: Active

District: Christian County (HB678)
Phase: Project Initiation (View Checklist)

Contract: State Electric Co Inc. , 0260, Electrical
Type: CM Bid Package

Proposed

Change Order Number	3
Time Extension Required	No
Date Of Change Order	3/13/2024
Change Order Amount To Date	Increase

Construction Contingency

Calculations below are project wide. Remaining negative Construction Contingency may require the submission of a revised BG1.

Current Approved Amount	$6,320,436.60
Net Approved COs	$376,260.91
Remaining After Approved COs	$5,944,175.69
Net All COs	$400,684.17
Remaining After All COs	$5,919,752.43

This Requested Change Order Amount $24,756.35
+/-
Change In A/E Fee This Change Order
+/-
Change In CM Fee This Change Order $0.00
+/-
Remaining Construction Contingency Balance $5,919,752.43
Contract Change Requested By Architect/Engineer
Contract Change Reason Code Expansion of Scope
Change Order Description And Justification

Delete disconnect switches for RTUs and add power to elevator emergency power indicator lights. Add electrical to 2nd scoreboard in aux. gym. Supply side bonding jumper modifications.Electrical modifications per telescoping bleacher submittal review.

Cost Benefit To Owner

The cost of this change order has been reviewed and determined to be reasonable.

Contract unit prices have been utilized to support the cost associated with this change order. No

Detailed Cost Breakdown

Contract unit prices have not been utilized, provide a detailed cost breakdown which separates labor, material, profit and overhead.

Detail Item	Amount	Percent of Total
Labor	$13,805.06	55.76%
Materials	$7,722.20	31.19%
Profit and Overhead	$3,229.09	13.04%
Bond Insurance		0.00%
Cost Breakdown Total:	$24,756.35	

Cost for this Change Order supported by an alternate bid or competitive price quote No

Explain Why

Executed contract with contractor.

Change Order Supplemental Information Form Signature Page (Online Form Ref# 59610)

Architect	Date
Construction Manager	Date
Finance Officer	Date
Local Board of Education Designee	Date