THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT THIS SHEETS ORIGINAL PAGE SIZE

DESCRIPTION	MOUNTING HEIGHT (TO CENTER OF BOX)	DRAWING SYMBOL
SWITCHES		
LIGHT SWITCH:GENERAL PURPOSE	46"	$
LOWER CASE LETTER INDICATES SWITCH ZONE		"a"
'#' INDICATES NUMBER OF SWITCHES WITHIN MULTI-GANG BOX	46"	$#G
DIMMER SWITCH, 0-10V	46"	$D
DOUBLE-POLE SWITCH	46"	$2
THREE-WAY SWITCH	46"	$3
FOUR-WAY SWITCH	46"	$4
KEYED SWITCH	46"	$K
OCCUPANCY OR VACANCY SENSOR SWITCH	46"	$OS, $VS
ILLUMINATED HANDLE LIGHT SWITCH (ILLUMINATED WHEN LOAD IS OFF)	46"	$IL
PILOT LIGHT SWITCH (ILLUMINATED WHEN LOAD IS ON)	46"	$PL
NON-REVERSING MOTOR STARTER SNAP SWITCH	AS NOTED	$M
MOMENTARY CONTACT SWITCH	46"	$MC
HAND-OFF-AUTO 3-POSTION SWITCH	46"	$HOA
DIGITAL TIMER SWITCH	46"	$DT
OCCUPANCY OR VACANCY SENSOR, CEILING MOUNT	CLG	OS, VS
PHOTO-CELL AS NOTED	AS NOTED	PC
EMERGENCY CONTROL RELAY FOR LIGHTING CONTROLSL COMPLYING WITH UL924 (REFER TO DETAIL)		ER
BRANCH CIRCUIT EMERGENCY LIGHTING TRANSFER SWITCH COMPLYING WITH UL1008		ET
BRANCH CIRCUIT LIGHTING RELAY		PR
LIGHTING CONTACTOR CABINET		C
POWER OUTLETS		
SIMPLEX RECEPTACLE	1'-6"	
DUPLEX RECEPTACLE-SAFETY TYPE, TAMPER-RESISTANT	1'-6"	
SLASH THROUGH ANY DEVICE INDICATES MOUNTING ABOVE COUNTERTOP 4" ABOVE BACKSPLASH, OR AT 46" WHERE NO COUNTER IS PRESENT		
FILLED CENTER BAR INDICATES INTEGRAL GROUND FAULT PROTECTION (GFCI)	1'-6"	
DEAD FRONT GFCI DEVICE, LABEL AND INSTALL IN READILY ACCESSIBLE LOCATION		
FILLED OUTER BARS INDICATES INTEGRAL INTEGRAL USB OUTLETS IN ADDITION TO POWER RECEPTACLES	1'-6"	
GANG RECEPTACLE IN COMBINATION WITH SWITCH (PROVIDE DIVIDER IF LIGHTING CIRCUIT IS 277V)	46"	C/S
DUPLEX RECEPTACLE, CEILING MOUNTED	CLG	
QUADRUPLEX RECEPTACLE	1'-6"	
JUNCTION BOX, CEILING OR WALL		J, J
VOLTAGE/1PH RECEPTACLE, AS NOTED	AS NOTED	
VOLTAGE/3PH RECEPTACLE, AS NOTED	1'-6"	
SS INDICATES SURGE SUPPRESION TYPE OUTLET(S)		SS
GROUND FAULT PROTECTED DUPLEX WITH WEATHER-PROOF "WHILE IN USE" TYPE DIE-CAST METAL COVERPLATE WITH LOCKABLE ENCLOSURE AT OUTLET - SEE SPECIFICATIONS	2'-2"	WP
DUPLEX FOR ELECTRIC WATER COOLER: COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR TO CONCEAL OUTLET BEHIND COOLER, PROVIDE ACCESSIBLE GFI CIRCUIT BREAKER AS SHOWN ON PANELBOARD SCHEDULE.		EWC
DROP TYPE RECEPTACLE (SEE DETAIL)		D
FIRE ALARM		
MAIN CONTROL PANEL CENTRAL PROCESSING UNIT (CPU)	6'-6" TO TOP	FACP
PULL STATION : DOUBLE ACTION	46" TO LEVER	F
KEYED, LOCKED PULL STATION : DOUBLE ACTION. STATION SHALL ONLY BE OPERABLE VIA KEY IN POSSESSION OF STAFF.	46" TO LEVER	F K
AUDIO/VISUAL NOTIFICATION APPLIANCE	WALL, CLG	F, F
AUDIO-ONLY NOTIFICATION APPLIANCE	WALL, CLG	A, A
VISUAL-ONLY NOTIFICATION APPLIANCE	WALL, CLG	V, V
BELL / LIGHT	80"	BL
BELL ONLY	80"	B
PHOTO-ELECTRIC SMOKE DETECTOR	CLG	SD
PHOTO-ELECTRIC SMOKE DETECTOR FOR PATIENT ROOM MONITORING (SEE RISER)	CLG	SD P
PROJECTED BEAM SMOKE DETECTOR; EMITTER (BE) AND RECEIVER (BR)		BE, BR
HEAT DETECTOR	CLG	HD
CARBON MONOXIDE DUCT DETECTOR	ABV CLG	CD
CARBON MONOXIDE ALARM: SINGLE STATION W/SOUNDER BASE	CLG	CM
CARBON MONOXIDE AUDIO/VISUAL NOTIFICATION APPLIANCE	WALL	F CM
DOOR HOLDER : WALL TYPE	WALL	DH
DOOR HOLDER : CLOSURE TYPE	ABV DOOR	DH C
DUCT SMOKE DETECTOR	ABV CLG	DD
CONNECTION TO SPRINKLER FLOW SWITCH WITH ADDRESSABLE MODULE		FS
CONNECTION TO SPRINKLER TAMPER SWITCH WITH ADDRESSABLE MODULE		TS
PRESSURE SWITCH		PS
REMOTE L.C.D. FIRE ALARM ANNUNCIATOR	54"	FAA
REMOTE FIRE ALARM ANNUNCIATOR W/ MICROPHONE	54"	FAAM
POST INDICATOR VALVE		PIV
POWER SUPPLY/CONTROL FOR AUDIO/VISUAL DEVICES	46"	NAC
FIRE ALARM CONTROL EXTENDER		EXT
ISOLATION MODULE	WALL	I
ZONE ADDRESSABLE MODULE		Z
H.V.A.C. SMOKE DAMPER CONNECTION		SM
FLUSH MOUNTED REMOTE ALARM INDICATING STATION/TEST SWITCH	7'-6"	RI
FIREMAN'S PHONE JACK	4'-6"	FP
FIREMAN'S KNOX BOX CONNECTION		KB
ADDRESSABLE RELAY MODULE		R
INDICATES VANDAL-PROOF POLYCARBONATE COVER, VANDAL PROOF COVERS SHALL BE UL LISTED FOR USE WITH THE SPECIFIC DEVICE THEY ARE PROTECTING		PC
INDICATES CHIME AUDIBLE NOTIFACTION		CH
DEVICE USED FOR ELEVATOR CONTROL		EL

DESCRIPTION	MOUNTING HEIGHT (TO CENTER OF BOX)	DRAWING SYMBOL
LIGHTING		
REFER TO LUMINAIRE SCHEDULE FOR EXACT FIXTURE SPECIFICATIONS, MOUNTING HEIGHTS, ETC.		
SURFACE OR SUSPENDED CEILING FIXTURE (SLASH INDICATES RECESSED)		
POLE MOUNTED AREA LIGHT		
EMERGENCY BATTERY WALL-PACK		
WALL MOUNT FIXTURE		
EXIT LIGHT (CEILING, END, WALL MOUNT)		
STRIP FIXTURE		
PARALLEL-HATCHING INDICATES LIGHT IS POWERED FROM THE EMERGENCY-LIFE SAFETY BRANCH		
MISCELLANEOUS		
CONDUIT CONCEALED IN WALLS OR IN CEILING SPACE: ARROW(S) INDICATE(S) HOME RUN & # OF CIRCUITS: HASHMARKS INDICATE # OF CONDUCTORS. DASHED LINE INDICATES CONDUIT BELOW FLOOR.		GROUND, NEUTRAL, PHASE
DISCONNECT SWITCH	5'-0"	
MAGNETIC STARTER	5'-0"	
MAGNETIC COMBINATION STARTER	5'-0"	
VARIABLE FREQUENCY DRIVE	5'-0"	
ENCLOSED FLUSH MTD. CIRCUIT BREAKER	5'-0"	
BOX ON ANY DEVICE INDICATES SURFACE MOUNTED BACKBOX/WIREMOLD		
CIRCLE ON ANY DEVICE INDICATES DEVICE FED FROM STUB UP CONDUIT		
WIREWAY WITH REMOVABLE COVER (SIZE AS NOTED)	AS SHOWN	
TRENCH DUCT (SIZE AS NOTED)	AS SHOWN	
PUSHBUTTON STATION	46"	
FLEXIBLE CONDUIT		
PANELBOARD, SURFACE OR FLUSH MOUNTED, HATCHING INDICATES EMERGENCY	6'-6" TO TOP	
TRANSFORMER	AS NOTED	
EQUIPMENT TAG, REFER TO EQUIPMENT SCHEDULE		EQUIP-1
TAGGED NOTE		
REVISION TAG		
MECHANICAL EQUIPMENT DESIGNATOR (SEE MECH. SCHEDULES)		
WIRE BASKET CABLE TRAY, SIZE AS NOTED	AS SHOWN	
LADDER CABLE TRAY, SIZE AS NOTED	AS SHOWN	
SOLID BOTTOM CABLE TRAY, SIZE AS NOTED	AS SHOWN	
LOW VOLTAGE CABLE PATH		
DOORBELL PUSHBUTTON STATION, PROVIDE COMPLETE WITH TRANSFORMER (MOUNT ABOVE CEILING IN CORRIDOR NEAR PUSH-BUTTON) AND ALL ACCESSORIES, POWER FROM NEAREST AVAILABLE 120V NORMAL POWER GENERAL RECEPTACLE CIRCUIT, NUTONE OR EQUAL	46"	DB
DOORBELL AUDIO/VISUAL STATION, PROVIDE PROVIDE CONNECTION TO PUSHBUTTON STATION IN AREA. COORDINATE EXACT AUDIO SOUND (CHIME, BUZZER, ETC.) DESIRED WITH OWNER/ARCHITECT, NUTONE OR EQUAL	7'-6"	DB
EQUIPMENT HARDWIRE CONNECTION (SEE DETAIL)		J
KITCHEN EQUIPMENT OUTLET COUPLING CONNECTION (SEE DETAIL)		J K
MOTOR CONNECTION, REFER TO EQUIPMENT CONNECTION SCHEDULE		
INDICATES MOUNTING ABOVE COUNTER-TOP, 2" ABOVE BACKSPLASH, NO HIGHER THAN 48"		C
WIREGUARD - PROVIDE MANUFACTURER'S SPECIFIC GUARD FOR DEVICE NOTED		WG
WEATHERPROOF - NEMA-3R, WET LOCATION LISTED. PROVIDE COVERS, RATINGS, ETC, AS SUITABLE FOR OUTDOORS.		WP
INDICATES EMERGENCY POWER		E,EM
PLUMBING FIXTURE SOLENOID VALVE/ELECTRIC EYE SENSOR CONNECTION. COORDINATE EXACT CONNECTION REQUIREMENTS WITH MANUFACTURER.		
PLUMBING FIXTURE ELECTRIC EYE TRANSFORMER CONNECTION. TRANSFORMER SHALL BE 120V-24V. MOUNT ABOVE SUSPENDED ACCESSIBLE CEILING IN J-BOX. PROVIDE ADDITIONAL TRANSFORMERS OF SAME TYPE AS/IF NEEDED		
PROVIDE CONNECTION TO HAND DRYER (SEE ARCHITECTURAL SPECIFICATIONS)	VERIFY WITH ARCHITECT	
SURGE PROTECTION DEVICE		SPD
GENERATOR ANNUNCIATOR PANEL - SEE SPECIFICATIONS	46"	GEN-A
THERMOSTAT PROVIDED BY MECHANICAL CONTRACTOR, ELECTRICAL CONTRACTOR SHALL PROVIDE BACK-BOX CONDUIT STUB-UP, REFER TO MECHANICAL DRAWINGS FOR LOCATIONS		T
CONDUIT UP		
CONDUIT DOWN		
GROUND BUS BAR ON INSULATED STANDOFFS	2'-0"	
BUS DUCT, AMPERAGES AS NOTED	AS SHOWN	

DESCRIPTION	MOUNTING HEIGHT (TO CENTER OF BOX)	DRAWING SYMBOL
ABBREVIATIONS		
UNLESS OTHERWISE NOTED		UON
OWNER FURNISHED CONTRACTOR INSTALLED		OFCI
OWNER FURNISHED OWNER INSTALLED		OFOI
CONTRACTOR FURNISHED CONTRACTOR INSTALLED		CFCI
CONTRACTOR FURNISHED OWNER INSTALLED		CFOI
INDICATES EMERGENCY POWER		EM
SPECIAL OUTLETS		
FLOORBOX, POWER ONLY, AS SCHEDULED	FLOOR	
6" RECESSED FLOORBOX, COMBINATION POWER AND LOW VOLTAGE, HUBBELL #AFBS1 (OR APPROVED EQUAL) QUADRAPLEX RECEPTACLE WITH DEVICE PLATE (1) 4-PORT DATA OUTLET WITH DEVICE PLATE. PROVIDE (1) - 1"C FOR POWER PROVIDE (1) - 1-1/4"C FOR DATA	FLOOR	
FIRE RATED POKE THOUGH FLOOR BOX, COORDINATE EXACT COVER REQUIREMENTS WITH ARCHITECTURAL FINISHES, DEVICES AS SCHEDULED	FLOOR	
AUDIO/VISUAL SYSTEM OUTLET WITH DUPLEX RECEPTACLE, REFER TO ASSOCIATED DETAIL FOR ADDITIONAL INFORMATION	1'-6"	AV
COMBINATION POWER AND DATA OUTLET LOCATION, REFER TO ASSOCIATED DETAIL FOR ADDITIONAL INFORMATION	1'-6"	
COMBINATION POWER AND DATA OUTLET LOCATION, GFCI DUPLEX RECEPTACLE, REFER TO ASSOCIATED DETAIL FOR ADDITIONAL INFORMATION	1'-6"	
OVERHEAD PROJECTOR: PROVIDE DUPLEX RECEPTACLE, ONE DATA, HDMI, 3.5mm AUDIO, AND VGA OUTLET ON (3) PLATES	CLG	
TELEVISION		
TELEVISION SPLITTERS/AMPLIFIERS/DISTRIBUTION	46"	TV-HE
TELEVISION SYSTEM OUTLET WITH DUPLEX RECEPTACLE, COORDINATE LOCATION WITH WALL BRACKET WHERE APPLICABLE	6'-0"	T
OVERHEAD PAGING		
PAGING SPEAKER: CEILING	CLG	S
PAGING SPEAKER W/ VOLUME CONTROL	CLG	SV
PAGING SPEAKER: WALL	8'-0"	S
RECESSED WALL MOUNTED PAGING SPEAKER	8'-0"	S R
WALL MOUNTED PAGING HORN	9'-0"	H
EXTERIOR VANDAL PROOF / WEATHERPROOF WALL MOUNTED PAGING SPEAKER, COLOR SELECTED BY ARCHITECT/OWNER.	SEE FLOOR PLANS	S EXT.
CALL INITIATION STATION (HANDSET)	46"	C
WALL VOLUME CONTROL	46"	V
LCD WALL DISPLAY		LD
MASTER STATTION	1'-6"	M, M
PAGING SYSTEM AMPLIFIER/TUNER CABINET	46"	PA
CLOCKS		
WIRELESS ANALOG CLOCK	84"	
TWO-WAY EMERGENCY COMMUNICATION		
TWO-WAY COMMUNICATION MASTER STATION		T M
TWO-WAY COMMUNICATION REMOTE CALL BOX		T
DATA / VOICE		
DATA OUTLET : NUMBER BESIDE OUTLET INDICATES NUMBER OF DATA JACKS	1'-6"	#D
VOICE OUTLET : NUMBER BESIDE OUTLET INDICATES NUMBER OF VOICE JACKS	1'-6"	#V
COMBINATION OUTLET : NUMBER BESIDE OUTLET INDICATES NUMBER OF DATA/VOICE JACKS	1'-6"	#D/#V
MAIN DISTRIBUTION FRAME - REFERENCE DATA SYSTEM SCHEMATICS AND DETAILS FOR ADDITIONAL REQUIREMENTS		MDF
INTERMEDIATE DISTRIBUTION FRAME - REFERENCE DATA SYSTEM SCHEMATICS AND DETAILS FOR ADDITIONAL REQUIREMENTS		IDF
TELECOMMUNICATIONS SYSTEM BACKBOARD. PROVIDE 96"H x 3/4"D FIRE-RETARDENT PLYWOOD BACKBOARD WITH TWO (2) COATS OF NON-C0NDUCTIVE, FIRE-RETARDANT LIGHT GRAY PAINT, #3/0 TO GROUND BAR AT MAIN SERVICE SWITCHBOARD, 30-PT GROUND BAR AND A 6'-0", #3 AWG PIGTAIL AT BACKBOARD. INSTALL BOARD AT 2' AFF. (LENGTH OF BOARD AS INDICATED ON FLOOR PLAN)		TEL
WIRELESS ACCESS POINT WITH PROVISIONS FOR (1D DATA OUTLET FOR ANTENNA. PROVIDE A COMPLETE DATA OUTLET WITH FACEPLATE ABOVE CEILING, MOUNTED AT AN ACCESSIBLE HEIGHT NO MORE THAN 24" ABOVE CEILING. AT EACH OUTLET, PROVIDE A 20' COIL OF CABLE AHEAD OF THE OUTLET FOR ADJUSTMENT OF FINAL OUTLET LOCATION. THE CONTRACTOR SHALL COORDINATE EXACT LOCATIONS WITH THE OWNER AND ADJUST OUTLET LOCATIONS AT SUBSTANTIAL COMPLETION TO ACCOMMODATE OWNER'S WAP LOCATIONS. WAP'S ARE OWNER-FURNISHED, OWNER-INSTALLED		WAP
CLASSROOM A/V EQUIPMENT		
CEILING MOUNTED PROJECTOR		
A/V SYSTEM CABLING TERMINATIONS / WALLPLATE		AV
LOCAL SOUND		
WALL MICRO-PHONE OUTLET : SINGLE	1'-4"	M
SMARTBOARD WALL MICRO-PHONE OUTLETS(# AS NOTED)	1'-4"	M 2,3,4
FLOOR MICRO-PHONE OUTLET : SINGLE	FLOOR	M
FLOOR MICRO-PHONE OUTLETS(# AS NOTED)	FLOOR	M2,M3,M4
SOUND SYSTEM AMPLIFIER	5'-0" TO CENTER	SS-A
SOUND SYSTEM SPEAKER	SEE SPECS	SS
MONITOR SOUND SYSTEM SPEAKER	SEE SPECS	MS

DESCRIPTION	MOUNTING HEIGHT (TO CENTER OF BOX)	DRAWING SYMBOL
SECURITY PANIC ALARM		
PANIC ALARM BUTTON	46"	PB
PANIC ALARM ANNUNCIATOR	46"	PA
AMBER STROBE	80"	AS
PANIC ALARM POWER SUPPLY CABINET	46"	SEC-P
SECURITY INTERCOM		
AUDIO/VIDEO INTERCOM STATION: MASTER WITH SELECTIVE DOOR CONTROLS, POWER SUPPLIES & DOOR RELAY CONTACTS AS REQUIRED FOR OPERATION OF ANY DOOR IN THE SYSTEM AND VIEWING OF ANY AUDIO/VIDEO INTERCOM REMOTE ON THE SYSTEM. AIPHONE#AX-MV W/DESK STAND - COLOR BY ARCHITECT.	18"	IM
SAME AS "IM" EXCEPT WALL MOUNTED	46"	IM W
AUDIO/VIDEO INTERCOM STATION: REMOTE WITH FLUSH-MTD S.S. ENCLOSURE. AIPHONE #IX SERIES.	46"	IR
SECURITY ACCESS CONTROL		
DOOR ALARM/POSITION SWITCH	DOOR FRAME	DA
ELECTROMAGNETIC DOOR HOLDER	ABV DOOR	EM
DOOR POWER SUPPLY	ABV CLG	DS
DOOR DELAYED EGRESS/ELECTRIFIED PANIC MECHANISM	ABV DOOR	DP
ELECTRIC LOCKSET	AT LATCH	EL
AUTOMATIC DOOR CONNECTION (MAY ALSO HAVE ELECTRIC STRIKE/MAG-LOCK/ELECTRIFIED PANIC CONNECTION - SEE ARCHITECTURAL HARDWARE SPECIFICATIONS)	CLG	AD
DOOR RELEASE PUSH-PLATE / INFRA-RED OPERATOR STATION. PROVIDE ANY ADDITIONAL ROUGH-IN FOR "EMERGENCY RELEASE" OPERATOR STATIONS AS REQUIRED.	46"	PP
DOOR RELEASE KEYSWITCH STATION	6'-0"	KS
DOOR RELEASE KEYPAD STATION	46"	KP
DOOR RELEASE CARD READER STATION. PROVIDE ANY ADDITIONAL ROUGH-IN FOR "EMERGENCY RELEASE" OPERATOR STATIONS AS REQUIRED.	46"	CR
SAME AS "CR" EXCEPT MULLION MOUNT	46"	CR M
MOTION SENSOR DOOR CONTROL	CEIL.	MS
PUSH-TO-EXIT BUTTON	46"	PE
ACCESS CONTROL POWER SUPPLIES/CONTROL PANEL	46"	SEC-A
SECURITY CCTV VIDEO SURVEILLANCE		
REMOTE DOOR RELEASE PUSH-BUTTON	8" ACT	RR
CCTV CAMERA: CEILING MOUNT DOME	CLG	CC
CCTV CAMERA: WALL MOUNT DOME	WALL	CC
INDICATES EXTERIOR CAMERA RATED FOR CONDITIONS, WET LOCATION LISTED, WITH AUXILLARY HEATER		WP
INDICATES CAMERA WITH PAN/TILT/ZOOM FUNCTION		PTZ
CCTV POWER SUPPLIES/CONTROL PANEL	46"	SEC-C
SECURITY INTRUSION DETECTION		
MOTION DETECTOR	CLG	MD
MOTION DETECTOR KEYPAD CONTROLLER	46"	MK
SECURITY SYSTEM HEAD END	46"	SEC-M
SECURITY		
NOTE: ALL INTRUSION SYSTEM DEVICES SHALL BE ROUTED IN SURFACE RACEWAY WHERE EXPOSED OR ON EXISTING WALL TO ABOVE CEILING. (U.O.N.) CONTRACTOR SHALL PROVIDE 2" BRIDLE RING PATH OR 3/4" "CONDUIT FOR ROUTING ALL CABLE CONCEALED TO EXPANSION MODULE OR MAIN CONTROL PANEL. FIELD VERIFY BEST ROUTING PATH. ALL EXACT DEVICE LOCATIONS SHALL BE ESTABLISHED PRIOR TO INSTALLATION AT "PRE-SECURITY INSTALLATION MEETING".		
CEILING MOUNTED INTRUSION DETECTOR. LOCATED AT LEAST 24" AWAY FROM ANY AIR DIFFUSER.		M
WALL MOUNTED INTRUSION DETECTOR		M
CORNER MOUNTED INTRUSION DETECTOR		M
MAIN CONTROL PANEL. SURFACE-MOUNTED WITH BOTTOM AT 60" AFF - (SEE SPECIFICATIONS)		MP
SECONDARY CONTROL PANEL. SURFACE-MOUNTED WITH BOTTOM AT 60" AFF - (SEE SPECIFICATIONS)		MP
KEYPAD STATION. SURFACE-MOUNTED BOTTOM AT 60" AFF - (SEE SPECIFICATIONS)		KP
EXPANSION MODULE PANEL. SURFACE MOUNTED WITH CENTERLINE AT 54" AFF - (SEE SPECIFICATIONS)		EP
FIRE ALARM. PROVIDE CONNECTION TO FIRE ALARM CONTROL PANEL AS REQUIRED BY OWNER.		FA
BOILER ALARM. FROM PANEL TO N.O. CONTACTS WITH E.O.L. RESISTOR AT FAULT RELAY IN THE I/O J-BOX LOCATED IN THE BOILER.		B
SPARE SECURITY SYSTEM CABLE. INSTALL J-BOX AT POINT INDICATED. COIL UP 30' AT J-BOX AND 10' AT PANEL TROUGH. LABEL EACH END AND IDENTIFY WITH WIRE MARKERS.		S
BOILER MANAGEMENT ALARM. FROM SECURITY PANEL TO SEQUENCER PANEL AS REQUIRED BY OWNER.		BM
MAKE UP WATER ALARM. FROM PANEL TO N.O. CONTACTS WITH E.O.L. RESISTOR AT FAULT RELAY OF THE MONITORING EQUIPMENT		MW
EMERGENCY GENERATOR (FROM SECURITY PANEL AND TERMINATED TO N.O. SETSET OF CONTACTS AT THE FAULT OR TROUBLE RELAY OF THE CONTROL PANEL, OR TRANSFER SWITCH CABINET.		EG
DDC INTERLOCK, HOLDS HEATING AND AIR OFF UNTIL SECURITY SYSTEM HAS BEEN DISARMED.		EI
HOLD-UP BUTTON AT MAIN RECEPTION DESK		HB
ALL SECURITY DEVICES INDICATED WITH "WG" SHALL BE PROVIDED WITH WIREGUARD FOR PROTECTION.		WG

DESCRIPTION

SYSTEM RESPONSIBILITY MATRIX

SYSTEM	ITEM USED ON PROJECT		DEVICES - O F O I	DEVICES - O F C I	DEVICES - C F C I		CABLING/CONDUCTORS - O F O I	CABLING/CONDUCTORS - O F C I	CABLING/CONDUCTORS - C F C I	SYSTEM SYMBOL
OVERHEAD PAGING	●				●				●	
FIRE ALARM	●				●				●	
SECURITY: PANIC ALARM	●				●				●	
SECURITY: ACCESS CONTROL	●				●				●	
SECURITY: INTERCOM	●				●				●	
SECURITY: CCTV	●				●				●	
TELEVISION	●			●					●	
DATA PROCESSING	●				●				●	
TELEPHONE	●			●					●	
LOCAL SOUND	●				●				●	
SECURITY INTRUSION DETECTION	●				●				●	

SYSTEM RESPONSIBILITY GENERAL NOTES:

A. REFER TO VENDOR DRAWINGS FOR COMPLETE SCOPE OF WORK RELATING TO VENDOR-FURNISHED EQUIPMENT. ALL WORK INDICATED ON VENDOR DRAWINGS SHALL BE INCLUDED BY THE CONTRACTOR.
B. REFER TO ARCHITECTURAL DOOR HARDWARE SPECIFICATIONS FOR ACCESS CONTROL DEVICE SPECIFICATIONS AND FURTHER REQUIREMENTS.
C. PROVIDE BACKBOXES AND CONDUIT WITH PULL-STRINGS FOR ALL SYSTEMS. CONTRACTOR SHALL VERIFY BACKBOX SIZES, CONDUIT, ETC. AND EXACT INSTALLATION LOCATIONS/REQUIREMENTS WITH SUCCESSFUL VENDORS OF ALL SYSTEMS PRIOR TO CONSTRUCTION.
D. AT ALL SYSTEMS EQUIPMENT CABINET/TERMINAL BOARD LOCATIONS, CONTRACTOR SHALL PROVIDE SIZE AND NUMBER OF CONDUIT STUB-OUTS TO CABLE PATHS AS REQUIRED BY SYSTEM VENDORS, TERMINATE CONDUITS AT CABINETS/ON BACKBOARDS AS REQUIRED. COORDINATE EXACT REQUIREMENTS WITH APPROPRIATE VENDORS PRIOR TO CONSTRUCTION.
E. REFER TO SPECIFICATIONS FOR REQUIREMENTS APPLICABLE TO ALL SYSTEMS INCLUDING CABLING, CABLE MANAGEMENT, INSTALLATION, GROUNDING, TESTING, LABELING, ETC.
F. WHERE INDICATED AS CFCI, THE CONTRACTOR SHALL PROVIDE THE SYSTEM COMPLETE, INCLUDING ALL ROUGH-INS, CABLING, DEVICES, POWER, ETC. THE CONTRACTOR SHALL CONTACT THE LISTED VENDOR FOR PRICING PRIOR TO BID. ALL SYSTEMS SHALL MATCH EXISTING FACILITY STANDARDS AND BE FULLY COMPATIBLE WITH ANY EXISTING SYSTEMS. ALL SYSTEM VENDORS SHALL COORDINATE EXACT SYSTEM REQUIREMENTS WITH OWNER PRIOR TO BID. NEW COMPONENTS SHALL BE INTERCONNECTED WITH EXISTING SYSTEMS WHERE POSSIBLE. ALL NEW SYSTEM DESIGNS AND PROGRAMMING SHALL BE COORDINATED WITH THE OWNER PRIOR TO ORDERING. ALL PROGRAMMING SHALL BE INCLUDED AS REQUIRED BY THE OWNER. PROVIDE 4 HOURS OF TRAINING FOR EACH SYSTEM.

SYSTEM	COMPANY	CONTACT
ELECTRIC UTILITY	DUKE ENERGY	TIQUAN GILLIAM (919) 817-9820 TIQUAM.GILLIAM@DUKE-ENERGY.COM
UTILITY SITE LIGHTING	DUKE ENERGY	BILL BRYAN (919) 239-0671 BILL.BRYAN2@DUKE-ENERGY.COM

GENERAL NOTES (LEGEND):

A. EACH CONTRACTOR, PROPOSER, SUPPLIER AND/OR MANUFACTURER SHALL REFER TO ALL DOCUMENTS PERTAINING TO THIS PROJECT AND COORDINATE ACCORDINGLY SO AS TO ENSURE ADEQUACY OF FIT, COMPLIANCE WITH SPECIFICATIONS, PROPER VOLTAGE AND CURRENT CHARACTERISTICS TO AVOID CONFLICT WITH ANY OTHER BUILDINGS SYSTEMS. VERIFY SAME WITH SHOP DRAWINGS.

B. ADDITIONAL ELECTRICAL REQUIREMENTS MAY BE SHOWN ON PLANS FROM OTHER DISCIPLINES IN THIS SET. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL PLANS AND SPECIFICATIONS FOR A COMPLETE UNDERSTANDING OF THE PROJECT REQUIREMENTS.

C. WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ALL LOCAL, STATE, AND NATIONAL CODES. INCLUDING BUT NOT LIMITED TO NFPA 70 (NEC), NFPA 72, INTERNATIONAL BUILDING CODES, ETC. IN ADDITION, OBSERVE ALL APPLICABLE RULES AND REGULATIONS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT FROM CITY, COUNTY, LOCAL, STATE, FEDERAL, MUNICIPALITY, UTILITY COMPANY, OSHA, ETC.

D. CONTRACTOR SHALL FOLLOW SEISMIC RESTRAINT AND DESIGN REQUIREMENTS CONTAINED IN LATEST ADOPTED STATE AND INTERNATIONAL BUILDING CODES, WITH ALL AMENDMENTS AS ADOPTED BY THE CURRENT LEGISLATION. REFER TO ELECTRICAL AND STRUCTURAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

E. ADVISE THE ENGINEER OF ANY CONFLICTS, ERRORS, OMISSIONS, ETC. AT LEAST TEN DAYS PRIOR TO BID DATE, TO ALLOW CLARIFICATION BY WRITTEN ADDENDUM.

F. WHERE CONFLICTS ARE FOUND BETWEEN DRAWINGS, DETAILS, OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY. NOTIFY ARCHITECT OF DISCREPANCY IN WRITING.

G. DEVIATION FROM SPECIFICATIONS OR PLANS REQUIRES PRIOR WRITTEN APPROVAL FROM THE ENGINEERS AND MUST BE SUBMITTED IN WRITING NO LATER THAN TEN DAYS PRIOR TO THE BID DATE.

H. ALL ELECTRICAL COMPONENTS OR EQUIPMENT SHALL BE LISTED AND LABELED BY UNDERWRITER'S LABORATORIES OR OTHER APPROVED LISTING AGENCY. APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.

I. ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODES, NATIONAL FIRE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION, THE REQUIREMENTS OF LOCAL UTILITY COMPANIES, AND WITH THE REQUIREMENTS OF ALL GOVERNMENTAL AGENCIES OR DEPARTMENTS HAVING JURISDICTION. IF ANY CONFLICTS OR DISCREPANCIES OCCUR THE MOST STRINGENT SHALL APPLY.

J. MOUNTING HEIGHTS FOR WALL MOUNTED DEVICES INDICATED ABOVE FINISHED FLOOR ARE TO CENTER OF DEVICE UNO. MOUNTING HEIGHTS TO CEILING SUSPENDED DEVICES ARE TO BOTTOM OF DEVICE UNO. WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEER BEFORE AFFECTING INSTALLATION. REFER ALSO TO ARCHITECTURAL INTERIOR AND EXTERIOR ELEVATIONS, CEILING HEIGHTS AND OTHER DETAILS OF THESE DOCUMENTS, AS APPLICABLE.

K. DO NOT SCALE FROM DRAWINGS, AS PRINTING DISTORTS SCALE. WORK SHALL BE LAID OUT FROM DIMENSIONED DRAWINGS, OR DIMENSIONS SUPPLIED TO THE CONTRACTOR.

L. REFER TO ARCHITECTURAL WALL ELEVATIONS (WHERE GIVEN) FOR HEIGHTS AND MOUNTING RELATIONSHIP OF OUTLETS AND FURNITURE, CASEWORK, AND/OR EQUIPMENT. ADDITIONAL OUTLETS MAY BE SHOWN ON ARCHITECTURAL DRAWINGS AND SHALL BE INCLUDED IN THE CONTRACT.

M. FLUSH OR PEDESTAL TYPE FLOOR OUTLETS/BOXES, AS INDICATED ON PLAN, SHALL BE LOCATED BY DIMENSIONS PROVIDED BY THE ARCHITECT, UNLESS OTHERWISE SHOWN ON PLANS. IF IN DOUBT, CONTACT THE ENGINEER PRIOR TO ROUGHING-IN ANY WORK.

N. INSTALL EQUIPMENT, MATERIALS, ETC. IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND DIRECTIONS. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEER PRIOR TO INSTALLATION FOR CLARIFICATION.

O. THE CONSTRUCTION MANAGER, GENERAL CONTRACTOR, OR WHOMEVER HOLDS THE PRIME CONTRACT(S) FOR THIS CONSTRUCTION IS RESPONSIBLE FOR THE COORDINATION, APPEARANCE, SCHEDULING AND TIMELINESS OF THE WORK OF ALL TRADES, CONTRACTORS, SUPPLIERS, INSTALLERS, ETC. POOR OR UNTIMELY WORK ON THE PART OF ANY SUBCONTRACTOR SHALL BE RESOLVED BY THE PARTY WHO ENGAGED THEM ON THIS PROJECT.

P. THE PURPOSE AND INTENT OF ALL OF THE DOCUMENTS PERTAINING TO THIS PROJECT IS TO PROVIDE A COMPLETE, FUNCTIONAL, SAFE, LIKE-NEW FACILITY. ANYTHING LESS SHALL BE UNACCEPTABLE.

Q. ALL SYSTEMS, EQUIPMENT AND MATERIALS ARE TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. WORK NOT MEETING THIS CRITERION SHALL BE REMOVED AND REINSTALLED SATISFACTORILY. FINAL DETERMINATION OF THE ACCEPTABILITY OF THE QUALITY OF WORK RESIDES WITH THE ENGINEER

R. ALL WORK, MATERIALS, EQUIPMENT, ETC. SHALL BE FULLY GUARANTEED FOR ONE FULL CALENDAR YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION AS DOCUMENTED BY THE ENGINEER, UNLESS LONGER WARRANTY PERIODS FOR EQUIPMENT ARE SPECIFIED.

S. ALL WORK SHALL BE CONCEALED UNLESS SPECIFICALLY INDICATED TO BE EXPOSED, OR REQUIRED TO BE EXPOSED. IF IN DOUBT, CONTACT THE ENGINEER FOR CLARIFICATIONS PRIOR TO INSTALLING ANY SUCH WORK.

T. UNLESS OTHERWISE SPECIFIED OR INDICATED, ALL EQUIPMENT AND/OR MATERIALS WITHIN OCCUPIED SPACES OR EXPOSED TO VIEW ON THE BUILDING EXTERIOR SHALL BE PRIMED AND FINISHED SO AS TO COMPLEMENT ADJACENT SURFACE, UNLESS OTHERWISE NOTED. COORDINATE WORK AND COLORS WITH ARCHITECT.

U. WHERE PENETRATING ROOFING MEMBRANE OR OTHER MATERIALS USED FOR WEATHERPROOFING THE BUILDING, MAKE SUCH PENETRATION IN A WAY THAT WILL NOT VOID OR DIMINISH THE ROOFING WARRANTY OR INTEGRITY IN ANYWAY. COORDINATE ALL SUCH PENETRATIONS WITH THE ROOFING MANUFACTURER AND ARCHITECT.

V. CEILING-MOUNTED ELECTRICAL DEVICES SHALL BE CENTERED IN 2'X2' CEILING TILE AND INSTALLED CENTERED ON 2' DIMENSION OF 2'X4' TILE AND ON CENTERLINE OR A QUARTER POINT ON 4' DIMENSION.

W. PROVIDE DETAILED SHOP DRAWINGS TO ENGINEER PRIOR TO PURCHASING OR INSTALLING ANY EQUIPMENT DEVIATIONS IN SIZES, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT PRIME SPECIFIED SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ENGINEER OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.

X. WHERE FIRE-RATED CEILING ASSEMBLIES ARE NOTED, PROVIDE UL-LISTED FIRE-RATED GYPSUM BOARD OR PRE-MANUFACTURED ENCLOSURES ABOVE LUMINAIRES, CEILING DEVICES, ETC. IN OR ON CEILING, AS REQUIRED TO MAINTAIN CEILING RATINGS.

Y. DO NOT RECESS PANELBOARD TUBS OR OTHER FLUSH-MOUNTED EQUIPMENT IN WALLS THAT HAVE A FIRE RATING. NO INSTALLATION SHALL DIMINISH OR VOID FIRE RESISTIVE RATINGS IN ANYWAY.

Z. COORDINATE THE LOCATION OF DRAINS, ELECTRICAL OUTLETS, GAS OUTLETS, ETC. WITH ALL CASEWORK, KITCHEN EQUIPMENT, MECHANICAL ROOM EQUIPMENT, ETC. PRIOR TO COMMENCING INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE RESPONSIBLE CONTRACTOR(S).

AA. ALL OFFSETS, TURNS, FITTINGS, TRIM, DETAIL, ETC. MAY NOT BE INDICATED, BUT SHALL BE PROVIDED AS REQUIRED. ADDITIONAL ALLOWANCES SHALL BE INCLUDED FOR SAME AT EACH PROPOSER'S DISCRETION.

BB. INSTALL NO PIPING, CONDUIT, DUCTWORK, ETC. IN A LOCATION OR IN A MANNER WHICH WILL ALLOW FREEZING OR THE COLLECTION OF CONDENSATION THEREON. IF IN DOUBT, CONTACT THE ENGINEER.

CC. ALL WIRING SYSTEMS SHALL BE INSTALLED WITH A MINIMUM OF SPLICES. CONDUCTORS, WHETHER SINGLE OR MULTI-PAIR, SHALL BE INSTALLED CONTINUOUS INSOFAR AS POSSIBLE FROM TERMINAL POINT TO TERMINAL POINT.

DD. NO CONDUIT, SUPPORTS, ETC. SHALL BE RUN THROUGH ACCESS CLEARANCES OF EQUIPMENT BY OTHER TRADES (I.E. VAV BOXES). COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

EE. ALL SUPPORTS FOR EQUIPMENT, DEVICES OR FIXTURES SHALL BE UNIQUE, DIRECTLY FROM THE BUILDING STRUCTURE. DO NOT SUPPORT WORK FROM OTHER TRADES EQUIPMENT OR SUPPORTS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER AND CONSENT OF THE OTHER TRADE, IN WRITING.

FF. WHERE BACKBOXES ARE LOCATED IN THE SAME VERTICAL CHANNEL/STUD SPACE ON OPPOSITE SIDES OF THE SAME WALL, PROVIDE SOUND-INSULATING PUTTY AROUND BOXES AS REQUIRED TO ELIMINATE SOUND TRANSMISSION FROM ROOM TO ROOM.

GG. JUNCTION BOXES LOCATED ABOVE ACCESSIBLE CEILINGS SHALL BE LOCATED NO MORE THAN 36" ABOVE CEILING LEVEL. LABEL EACH BOX IN AREA OF WORK WITH A PERMANENT MARKER OR IN ACCORDANCE WITH SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.

HH. ANY VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTORS' EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE ENGINEER.

II. CHECK ALL THREE PHASE MOTORS WITH A PHASE ROTATION METER, PRIOR TO PLACING IN SERVICE.

JJ. ALL ITEMS HAVING KEYED LOCKS/OPERATORS SHALL HAVE CORED LOCKS/OPERATORS. ALL KEYING SHALL MATCH THE OWNER'S EXISTING KEY-WAYS. COORDINATE EXACT REQUIREMENTS WITH OWNER PRIOR TO CONSTRUCTION.

KK. NOISY WORK, WORK OUTSIDE CONSTRUCTION BARRIERS, WORK IN OCCUPIED AREAS, ETC. SHALL BE PERFORMED AFTER HOURS OR ON WEEKENDS. COORDINATE EXACT SCHEDULING WITH FACILITY PRIOR TO CONSTRUCTION.

LL. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR HIS WORK. ALL CUTTING AND PATCHING SHALL BE IN ACCORDANCE WITH THE ARCHITECT'S STANDARDS FOR SUCH WORK.

MM. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY COMPANY FEES, CASH CONTRIBUTIONS OR OTHER COSTS THAT THE UTILITY COMPANY MAY REQUIRE TO COMPLETE THEIR WORK. (ELECTRIC, TELEPHONE, TELEVISION, DATA, ETC.).

NN. ALL CONTRACTORS SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO ENSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE OR SUB-SERVICE FOR SAFETY PURPOSES. PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE, ETC. OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, REGULATIONS, STANDARD AND SAFETY REQUIREMENTS. UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY.

OO. INTERRUPTION OF ANY EXISTING SERVICES SHALL BE COORDINATED WITH THE OWNER, GENERAL CONTRACTOR, UTILITY COMPANY AS NECESSARY, AND THE ARCHITECT, AT LEAST TWO WEEKS IN ADVANCE OF ANTICIPATED INTERRUPTION. A SCHEDULE FOR THESE OUTAGES SHALL BE DEVELOPED AND AGREED UPON BETWEEN THE PARTIES MENTIONED TO AVOID UNNECESSARY INCONVENIENCE TO THE OWNER OR ANY AFFECTED PARTY. NOTIFY THE UTILITY COMPANY OF ANY ANTICIPATED SERVICES REQUIRED TWO WEEKS IN ADVANCE, IN WRITING. IF UTILITY COMPANY REQUIRES A LONGER NOTIFICATION PERIOD, SO PROVIDE.

PP. WHERE INTERRUPTING AN EXISTING UTILITY OR SERVICE DELIBERATELY OR ACCIDENTALLY, THE RESPONSIBLE CONTRACTOR SHALL WORK CONTINUOUSLY AS NEEDED TO RESTORE SAME, PROVIDING PREMIUM TIME AS NEEDED.

QQ. AS APPLICABLE, REFER TO ARCHITECTURAL PHASING PLANS AND PHASING BOUNDARIES ON THESE DRAWINGS FOR SEQUENCING OF WORK, FULL EXTENT OF AREAS INVOLVED, EXTENT OF CEILING WORK, ETC. PROVIDE TEMPORARY CONNECTIONS FOR CIRCUITS AND WORK AS REQUIRED TO MAINTAIN SEQUENCE OF THE WORK FROM PHASE TO PHASE. PROVIDE ALL REQUIRED INCREMENTAL INSPECTIONS, CERTIFICATIONS, ETC. AND ALL TEMPORARY SERVICES AS REQUIRED BY OWNER TO ACCOMPLISH THE PHASING PLAN.

Wake County Public School System

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04/10/2024

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME: ELECTRICAL LEGEND

BID SET SUBMISSION: 2024.04.10

SHEET: E00.01

BID SET

4/3/2024 3:58:07 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH E SHEETS ORIGINAL PLOT SIZE

LUMINAIRE SCHEDULE

TYPE	Count	DESCRIPTION	MANUFACTURER	BASIS OF DESIGN	EQUAL MANUFACTURERS	MOUNTING	LAMPS / CCT	MINIMUM LUMENS	MAXIMUM WATTAGE	VOLTAGE	REMARKS
A4	11	2X4 RECESSED VOLUMETRIC LED TROFFER, STEEL HOUSING, ACRYLIC PRISMATIC REFRACTOR, BI-LEVEL DIMMING DRIVER	LITHONIA	2BLT4-40LHE-ADP-MVOLT-SLD-LP840	METALUX CRUZE, COLUMBIA	RECESSED	4000K LED 80CRI	4000 LUMENS	29	277	
A5	185	2X4 RECESSED VOLUMETRIC LED TROFFER, STEEL HOUSING, ACRYLIC PRISMATIC REFRACTOR, BI-LEVEL DIMMING DRIVER	LITHONIA	2BLT4-48LHE-ADP-MVOLT-SLD-LP840	METALUX CRUZE, COLUMBIA	RECESSED	4000K LED 80CRI	4800 LUMENS	35	277	
A6	336	2X4 RECESSED VOLUMETRIC LED TROFFER, STEEL HOUSING, ACRYLIC PRISMATIC REFRACTOR, BI-LEVEL DIMMING DRIVER	LITHONIA	2BLT4-60LHE-ADP-MVOLT-SLD-LP840	METALUX CRUZE, COLUMBIA	RECESSED	4000K LED 80CRI	6000 LUMENS	44	277	
A7	76	2X4 RECESSED VOLUMETRIC LED TROFFER, STEEL HOUSING, ACRYLIC PRISMATIC REFRACTOR, BI-LEVEL DIMMING DRIVER	LITHONIA	2BLT4-72LHE-ADP-MVOLT-SLD-LP840	METALUX CRUZE, COLUMBIA	RECESSED	4000K LED 80CRI	7200 LUMENS	53	277	
A10	16	2X4 RECESSED VOLUMETRIC LED TROFFER, HIGH DURABILITY, IMPACT RESISTANT, STEEL HOUSING, POLYCARBONATE LENS, HIGH EFFICIENCY DRIVER	KURTZON	IS-R-5-2X4-3/LEDR-840-UNV-LEX	KENALL, CERTOLUX	RECESSED	4000K LED 80CRI	10000 LUMENS	83	277	
B4	40	1X4 RECESSED VOLUMETRIC LED TROFFER, STEEL HOUSING, ACRYLIC PRISMATIC REFRACTOR, BI-LEVEL DIMMING DRIVER	LITHONIA	BLT4-40LHE-ADP-MVOLT-SLD-LP840	METALUX CRUZE, COLUMBIA	RECESSED	4000K LED 80CRI	4000 LUMENS	30	277	
C3	32	2X2 RECESSED VOLUMETRIC LED TROFFER, STEEL HOUSING, ACRYLIC PRISMATIC REFRACTOR, BI-LEVEL DIMMING DRIVER	LITHONIA	2BLT2-33LHE-ADP-MVOLT-SLD-LP840	METALUX CRUZE, COLUMBIA	RECESSED	4000K LED 80CRI	3300 LUMENS	25	277	
C4	47	2X2 RECESSED VOLUMETRIC LED TROFFER, STEEL HOUSING, ACRYLIC PRISMATIC REFRACTOR, BI-LEVEL DIMMING DRIVER	LITHONIA	2BLT2-40LHE-ADP-MVOLT-SLD-LP840	METALUX CRUZE, COLUMBIA	RECESSED	4000K LED 80CRI	4000 LUMENS	31	277	
C5	61	2X2 RECESSED VOLUMETRIC LED TROFFER, STEEL HOUSING, ACRYLIC PRISMATIC REFRACTOR, BI-LEVEL DIMMING DRIVER	LITHONIA	2BLT2-48LHE-ADP-MVOLT-SLD-LP840	METALUX CRUZE, COLUMBIA	RECESSED	4000K LED 80CRI	4800 LUMENS	38	277	
D6-1	2	RECESSED OPEN LED DOWNLIGHT, 6" APERTURE, MEDIUM DISTRIBUTION, CLEAR SEMI-SPECULAR RELECTOR WITH FLANGED TRIM	LITHONIA	LDN6-40/10-LO4-AR-LSS-TRW-MVOLT-GZ10	HALO, PRESCOLITE	RECESSED	4000K LED 80CRI	1000 LUMENS	11	277	
D6-2	6	RECESSED OPEN LED DOWNLIGHT, 6" APERTURE, MEDIUM DISTRIBUTION, CLEAR SEMI-SPECULAR RELECTOR WITH FLANGED TRIM	LITHONIA	LDN6-40/20-LO4-AR-LSS-TRW-MVOLT-GZ10	HALO, PRESCOLITE	RECESSED	4000K LED 80CRI	2000 LUMENS	23	277	
D6-7	40	RECESSED OPEN LED DOWNLIGHT, 6" APERTURE, MEDIUM DISTRIBUTION, CLEAR SEMI-SPECULAR RELECTOR WITH FLANGED TRIM	LITHONIA	LDN6-40/07-LO4-AR-LSS-TRW-MVOLT-GZ10	HALO, PRESCOLITE	RECESSED	4000K LED 80CRI	750 LUMENS	9	277	
K5	31	2X4 RECESSED VOLUMETRIC LED TROFFER, STEEL HOUSING, ACRYLIC LENS, HIGH EFFICIENCY DRIVER, GASKETED	LITHONIA	2GTL4-48L-MVOLT-GZ10-LP840-ABC	METALUX, COLUMBIA	RECESSED	4000K LED 80CRI	4800 LUMENS	36	277	
LR4-6	12	RECESSED LINEAR LED FIXTURE, 4" APERATURE, 6FT LONG, FLUSH LENS, FLANGED	AXIS	BBRLED-800-80-40-FL-6-W-UNV-DP-1-DB	METALUX, COLUMBIA	RECESSED	4000K LED 80CRI	800LM/F	54	277	
LS2-6	54	SURFACE MOUNTED LINEAR LED FIXTURE, 2" APERATURE, 6FT LONG, BOXED SATIN LENS	AXIS	MBSLED-800-80-40-S-6-AP-UNV-DP-1-SC	METALUX, COLUMBIA	SURFACE	4000K LED 80CRI	800LM/F	48	277	COORDINATE CONTINOUS RUNS WITH CEILING PLANS FOR EXACT LENGTHS.
LS2-8	10	SURFACE MOUNTED LINEAR LED FIXTURE, 2" APERATURE, 8FT LONG, BOXED SATIN LENS	AXIS	MBSLED-800-80-40-S-8-AP-UNV-DP-1-SC	METALUX, COLUMBIA	SURFACE	4000K LED 80CRI	800LM/F	64	277	
ODR1	16	RECESSED OPEN LED DOWNLIGHT, 4" APERTURE, MEDIUM DISTRIBUTION, CLEAR SEMI-SPECULAR RELECTOR WITH FLANGED TRIM	LITHONIA	LDN4-35/07-LO4-AR-LSS-TRW-MVOLT-GZ10	HALO, PRESCOLITE	RECESSED	3500K LED 80CRI	750 LUMENS	9	277	
ODR2	16	RECESSED OPEN LED DOWNLIGHT, 4" APERTURE, MEDIUM DISTRIBUTION, CLEAR SEMI-SPECULAR RELECTOR WITH FLANGED TRIM	LITHONIA	LDN4-35/10-LO4-AR-LSS-TRW-MVOLT-GZ10	HALO, PRESCOLITE	RECESSED	3500K LED 80CRI	1000 LUMENS	11	277	
ODS1	22	SURFACE LED CYLINDER, 4" APERTURE, MEDIUM DISTRIBUTION, CLEAR SEMI-SPECULAR RELECTOR, WET LOCATION LISTED UNDER CANOPY	LITHONIA	LDN4CYL-35/10-LO4-AR-LSS-MVOLT-GZ10-FCM WL-DDB	HALO, PRESCOLITE	SURFACE	4000K LED 80CRI	1000 LUMENS	11	277	
OP1	35	UTILITY PROVIDED FIXTURE, POLE, AND BASE	-	-	-	POLE	-	-	1	277	
OP2	2	UTILITY PROVIDED FIXTURE, POLE, AND BASE	-	-	-	POLE	-	-	1	277	
OWP2	50	LED WALL PACK, DIE CAST ALUMINUM HOUSING, POWDER COAT FINISH, GASKETED, FORWARD THROW, LOW PROFILE	LIGHTWAY	PDSW-12-LED-O2C-3-Z3-CSA	METALUX, COLUMBIA	WALL	3500K LED 80CRI	2400 LUMEN	18	277	FINISH PER ARCHITECT
P6	6	6" DIAMETER LED TUBE FIXTURE, MOUNTED VERTICALLY, 360 COVERAGE, ACRYLIC DIFFUSER, POWER SUPPLY WITHIN CANOPY	SPI	SIP-12126-L23W-120/277V-4000K-DF_80-DF-DIM1-NO_ DL-DF-MA01-PSS-AC1-XXX	OCL, DELRAY	SUSPENDED VIA STEM	4000K LED 80CRI	2500 LUMENS	23	277	FINISH PER ARCHITECT, COORDINATE MOUNTING HEIGHTS WITH ARCHITECTURAL ELEVATIONS
S4	97	4FT INDUSTRIAL LED STRIP FIXTURE, ALUMINUM HOUSING, FROSTED DIFFUSER	LITHONIA	CLX L48 4000LM SEF MVOLT 40K 80CRI	METALUX, COLUMBIA	SUSPENDED	4000K LED 80CRI	4000 LUMENS	59	277	
T1	11	THEATRICAL TRACK LIGHTING, 2 CIRCUIT, DMX CONTROLLED, YOKE MOUNTED, WHITE FINISH, COLOR CHANGING RGBW LED, DIMMABLE	ETC	D22 DESIRE: #SELD22L	PREFERRED BRAND ALT, SEE SPECFICATIONS	TRACK	-	-	57	120	COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-INS. LENGTHS AND QUANTITES SHOWN ON PLANS
TR	3	THEATRICAL TRACK, TWO CIRCUIT WITH INTEGRATED DMX CONTROL, YOKE MOUNTED HEADS, WHITE FINISH (ALL TRACKS AND ACCESSORIES)	ETC	DATA TRACK: #7066A	PREFERRED BRAND ALT, SEE SPECFICATIONS	SURFACE	-	-	0	120	COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-INS. LENGTHS AND QUANTITES SHOWN ON PLANS
V4	28	4' LED LINEAR WALL MOUNT VANITY, INDIRECT/DIRECT, ASYMMETRIC INDIRECT DISTRIBUTION	MARK LIGHTING	S2WID-LLP-4FT-MSL4-80CRI-40K-800LMF-I80CRI-I40K -I800LMF-AS-SCT-NODIM-FLL-MVOLT-WHTT	METALUX, COLUMBIA	SURFACE	4000K LED 80CRI	800LM/F	46	277	COORDINATE MOUNTING HEIGHTS WITH ARCHITECTURAL ELEVATIONS. +8'-0"AFF (TYP)
VP2	4	2' LED VAPORTIGHT, FIBERGLASS HOUSING, ACRYLIC LENS, GASKETED, STAINLESS STEEL LATCHES, WITH INTEGRAL EMERGENCY BACK-UP	LITHONIA	DMW2-L24-2000LM-ACL-MD-MVOLT-GZ10-40K-80CRI	METALUX, COLUMBIA	SURFACE	4000K LED 80CRI	2000 LUMENS	15	277	
VP4	1	4' LED VAPORTIGHT, FIBERGLASS HOUSING, POLYCARBONATE LENS, GASKETED, STAINLESS STEEL LATCHES, SPLASH RATED	LITHONIA	VAP-4000LM-FST-MD-MVOLT-GZ10-40K-80CRI	METALUX, COLUMBIA	SURFACE	4000K LED 80CRI	4000 LUMENS	33	277	
W4	18	4' LED SURFACE MOUNT LED FIXTURE	LITHONIA	BLWP4-48LHE-ADP-MVOLT-GZ10-LP840	METALUX, COLUMBIA	SURFACE	4000K LED 80CRI	4000 LUMENS	39	277	
X1	78	LED EXIT SIGN, UNIVERSAL MOUNTING, VANDAL RESISTANT, IMPACT RATED	LITHONIA	LV-S-W-1-R-120.277-UM	SURELITE, ISOLITE	UNIVERSAL	-	-	2	277	
X2	14	LED EXIT SIGN, UNIVERSAL MOUNTING, VANDAL RESISTANT, IMPACT RATED, DOUBLE FACE	LITHONIA	LV-S-W-2-R-120.277-UM	SURELITE, ISOLITE	UNIVERSAL	-	-	2	277	

ELEC - EQUIPMENT CONNECTION SCHEDULE

EQUIP ID	DESCRIPTION	DISCONNECT MEANS	VOLTAGE	POLES	HP	POWER (kVA)	MCA
AC-1	INDOOR AIR CONDENSING UNIT	INTEGRAL DISCONNECT, FURNISHED WITH UNIT, POWERED FROM OUTDOOR UNIT	208	2		0.50	
AC-2	INDOOR AIR CONDENSING UNIT	INTEGRAL DISCONNECT, FURNISHED WITH UNIT, POWERED FROM OUTDOOR UNIT	208	2		0.50	
AHU-A1	AHU-1 SUPPLY FAN	VFD, REFER TO MECHANICAL	480	3	10	11.70	9.8
AHU-A2	AHU-2 SUPPLY FAN	VFD, REFER TO MECHANICAL	480	3	10	11.70	
AHU-A3	AHU-3 SUPPLY FAN	VFD, REFER TO MECHANICAL	480	3	5	5.60	6.7
AHU-A4	AHU-4 SUPPLY FAN	VFD, REFER TO MECHANICAL	480	3	3	6.40	
AHU-A5	AHU-5 SUPPLY FAN	VFD, REFER TO MECHANICAL	480	3	5	6.32	
AHU-A6	AHU-7 SUPPLY FAN	VFD, REFER TO MECHANICAL	480	3	5	6.32	
AHU-A7	AHU-8 SUPPLY FAN	VFD, REFER TO MECHANICAL	480	3	3	4.00	
AHU-R1	AHU-1 RETURN FAN	VFD, REFER TO MECHANICAL	480	3	5	6.32	4.6
AHU-R2	AHU-2 RETURN FAN	VFD, REFER TO MECHANICAL	480	3	5	6.32	
AHU-R3	AHU-3 RETURN FAN	VFD, REFER TO MECHANICAL	480	3	2	2.80	3.4
AHU-R4	AHU-4 RETURN FAN	VFD, REFER TO MECHANICAL	480	3	1.5	2.50	
AHU-R5	AHU-6 RETURN FAN	VFD, REFER TO MECHANICAL	480	3	3	4.00	
AHU-R6	AHU-7 RETURN FAN	VFD, REFER TO MECHANICAL	480	3	3	4.00	
AHU-R7	AHU-8 RETURN FAN	VFD, REFER TO MECHANICAL	480	3	1.5	2.50	
B-1	NATURAL GAS BOILER	MOTOR RATED SNAP SWTICH 20A/1P	120	1	-	1.56	
B-2	NATURAL GAS BOILER	MOTOR RATED SNAP SWTICH 20A/1P	120	1	-	1.56	
CH-1	PACKAGED AIR COOLED CHILLER	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	480	3		263.50	317
CH-2	PACKAGED AIR COOLED CHILLER	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	480	3		263.50	317
CU-1	OUTDOOR CONDENSING UNIT	30A/2P HEAVY-DUTY DISCONNECT, NEMA-3X	208	2		2.80	13.2
CU-2	OUTDOOR CONDENSING UNIT	30A/2P HEAVY-DUTY DISCONNECT, NEMA-3X	208	2		2.80	13.2
CUH-1	CABINET HEATER	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	480	3		5.00	
DP-1	RECIRCULATING PUMP	MOTOR RATED SNAP SWTICH 20A/1P	120	1		0.50	
EF-1	CEILING EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.25	0.70	
EF-2	CEILING EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.25	0.70	
EF-3	CEILING EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.25	0.70	
EF-4	CEILING EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.25	0.70	
EF-5	CEILING EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.25	0.70	
EF-6	CEILING EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.25	0.70	
EF-7	CEILING EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.25	0.70	
EF-8	CEILING EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.25	0.70	
EF-9	CEILING EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.25	0.70	
EF-10	CEILING EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.25	0.70	
EF-11	CEILING EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.25	0.70	
EF-12	CEILING EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.75	1.65	
EF-13A	EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.75	1.65	
EF-13B	EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.75	1.65	
EF-14	EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.25	0.70	
EF-15	CEILING EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.25	0.70	
EF-16	CEILING EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.75	1.65	
EF-17	CEILING EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.25	0.70	
EF-18	CEILING EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.5	1.18	
EF-19	EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.25	0.70	
EF-20	EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.25	0.70	
EF-21	EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1	0.5	1.18	
HP-1	HOT WATER PUMPS	MOTOR STARTER, 20A/3P	480	3	2	2.90	
HP-2	HOT WATER PUMPS	MOTOR STARTER, 20A/3P	480	3	2	2.90	
KEF-1	KITCHEN EXHAUST FAN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	208	3	2.75	4.00	
KILN	KILN PROVIDED BY OTHERS	60A/3P HEAVY-DUTY DISCONNECT, NEMA-1	208	3		11.00	
KILN FAN	DEDICATED KILN DOWNDRAFT EXHAUST FAN	PLUG AND CORD	120	1	.25	0.70	
PCHWP-1	PRIMARY CHILLED WATER PUMPS	VFD, REFER TO MECHANICAL	480	3	5	6.40	
PCHWP-2	PRIMARY CHILLED WATER PUMPS	VFD, REFER TO MECHANICAL	480	3	5	6.40	
RF	RADON FANS	MOTOR RATED SNAP SWTICH 20A/1P	120	1		0.17	
RH	RANGE HOOD	M.C. PROVIDED, MOTOR RATED SNAP SWITCH	120	1		0.50	
SCHWP-1	SECONDARY CHILLED WATER PUMPS	VFD, REFER TO MECHANICAL	480	3	10	17.50	
SCHWP-2	SECONDARY CHILLED WATER PUMPS	VFD, REFER TO MECHANICAL	480	3	10	17.50	
SHWP-1	SECONDARY HOT WATER PUMPS	VFD, REFER TO MECHANICAL	480	3	7.5	9.20	
SHWP-2	SECONDARY HOT WATER PUMPS	VFD, REFER TO MECHANICAL	480	3	7.5	9.20	
TCP	TEMPERATURE CONTROL PANEL	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	120	1		0.50	
UH-1	UNIT HEATER	MOTOR RATED SNAP SWTICH 20A/2P	208	2		2.30	
UH-2	UNIT HEATER	MOTOR RATED SNAP SWTICH 20A/2P	208	2		4.00	
VAV-XFMR	VAV TRANSFORMER	PLUG AND CORD	120	1		0.18	
WH-1	GAS WATER HEATER	MOTOR RATED SNAP SWTICH 20A/1P	120	1		1.80	15

GENERAL NOTES (LUMINAIRE SCHEDULE):

A. ALL LUMINAIRES AND COMPONENTS SHALL BE UL LISTED.

B. WHERE LUMINAIRES ARE SHOWN SPLIT-WIRED (HALF EMERGENCY POWER/ HALF NORMAL POWER) ON FLOOR PLANS, LUMINAIRES SHALL BE PROVIDED WITH MULTIPLE ELECTRONIC BALLASTS FOR MULTIPLE POWER CIRCUITS AS INDICATED ON FLOOR PLANS.

C. PROVIDE BALLASTS FOR FIXTURE LAMP SWITCHING AS INDICATED ON LIGHTING FLOOR PLANS. WHERE A SINGLE FIXTURE IS POWERED FROM NORMAL AND EMERGENCY POWER, HALF OF THE LAMPS WITH A MINIMUM OF TWO LAMPS SHALL BE ON EMERGENCY POWER.

D. CONTRACTOR SHALL FOCUS, AIM AND ADJUST LUMINAIRES UNDER THE SUPERVISION AND DIRECTION OF THE ENGINEER AND ARCHITECT. ALLOW LABOR FOR FINAL FOCUS AND ADJUSTMENTS AFTER DARK. LIFTS AND SCAFFOLDING SHALL BE AVAILABLE.

E. ALL LAY-IN FIXTURES SHALL BE PROVIDED WITH SCREW ON HOLD DOWN CLIPS AND MAXIMUM 6'-0" LONG FLEXIBLE CONDUIT WHIPS.

F. EXIT SIGNS AND FIXTURES THAT ARE HATCHED OR WHERE THE FIXTURE TYPE CONTAINS THE SUFFIX "E" FOR EMERGENCY OPERATION SHALL HAVE AN INTEGRAL 90 MINUTE BATTERY INVERTER IF NOT POWERED FROM AN EMERGENCY GENERATOR.

G. ALL BATTERY POWERED FIXTURES SHALL HAVE TEST SWITCHES FACTORY INSTALLED INTEGRAL TO THE REFLECTOR, REMOTE TEST SWITCHES WILL NOT BE ACCEPTED.

Wake County Public School System

LS3P

434 FAYETTEVILLE STREET SUITE 1700
RALEIGH, NORTH CAROLINA 27601
TEL. 919.829.2730 FAX. 919.829.2700
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CMTA
A LEGENCE Company

NORTH CAROLINA PROFESSIONAL SEAL 043650 ENGINEER STEVE E. ROBEY
04/10/2024

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201.207411

Δ	DATE	DESCRIPTION

SHEET NAME:
ELECTRICAL SCHEDULES

BID SET SUBMISSION: 2024.04.10

SHEET:
E00.02

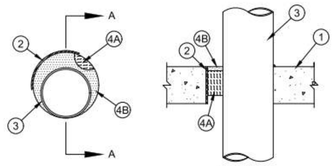
BID SET

4/3/2024 3:58:12 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ORIGINAL PLOT SHEETS

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. C-AJ-1353**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 3 Hr	F Rating - 3 Hr
T Rating - 0 Hr	FT Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Rating - 3 Hr
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Rating - 0 Hr
	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F - Less Than 1 CFM/sq ft



Section A-A

1. **Floor or Wall Assembly -** Lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete floor or wall. Min thickness of concrete is shown in table in Item 4B. Floor may also be constructed of any min 6 in. (152 mm) thick hollow-core **Precast Concrete Units***. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max diam of opening is 14 in. (356 mm). Max diam of opening in floors constructed of hollow-core is 7 in. (178 mm). See **Concrete Blocks** (CAZT) or **Precast Concrete Units** (CFTV) categories in the Fire Resistance Directory for names of manufacturers.
2. **Steel Sleeve -** (Optional) - Nom 14 in. (356 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe or No. 26 ga (0.022 in. or 0.56 mm thick) sheet steel sleeve with square anchor flange spot welded to the sleeve at approx mid-height. Sleeve cast or grouted in place flush with floor or wall surfaces. Steel pipe sleeve may project a max of 2 in. (51 mm) beyond the floor or wall surfaces.
3. **Through Penetrant -** One metallic pipe, conduit or tube to be installed eccentrically or concentrically within the firestop system. The annular space between the pipe, conduit or tube and the periphery of the opening shall be min 0 in. (point contact). The max annular space is 1 in. or 2 in. (25 or 51 mm) as shown in the table in Item 4B . Pipe, conduit or tube to be rigidly supported on both sides of the floor or wall assembly. The following types and sizes of metallic pipes, conduits and tubes may be used:
   A. **Steel Pipe -** Nom 12 in. (305 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. **Iron Pipe -** Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Conduit -** Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit, nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) or nom 4 in. (102 mm) diam (or smaller) flexible steel conduit.
   D. **Copper Pipe -** Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
   E. **Copper Tube -** Nom 4 in. (102 mm) diam (or smaller) Regular L (or heavier) copper tube.

3A. **Through Penetrating Product* - Flexible Metal Piping -** As an alternate to Item 3, one nom 2 in. (51 mm) diam (or smaller) flexible steel pipe (with or without plastic jacketing) to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe, conduit or tube and the periphery of the opening shall be min 0 in. (0 mm or point contact). The max annular space is 1 or 2 in. (25 or 51 mm) as shown in the table in Item 4B. Pipe to be rigidly supported on both sides of the floor or wall assembly.

OMEGA FLEX INC

GASTITE, DIV OF TITEFLEX

WARD MFG L L C

4. **Firestop System -** The firestop system shall consist of the following:
   A. **Packing Material -** When required as shown in the table in Item 4B, min 4 pcf (64 kg/m3) mineral wool batt insulation compressed and tightly packed to min 2-1/4 in. (57 mm) thickness. Packing material recessed from top surface of floor or both surfaces of wall as required to accommodate fill material (Item 4B). When packing material is shown as being optional, mineral wool or glass fiber insulation or polyethylene foam backer rod may be used as a permanent form to facilitate installation of the fill material. In floors constructed of hollow-core precast concrete units, packing material to be recessed from both top and bottom surfaces of floor, as required to accommodate fill material (Item 4B). When steel sleeve projects from top of floor or from both sides of wall, the thickness of mineral wool batt packing material should be increased by an amount equal to the distance that the sleeve extends past the floor or wall surface.
   B. **Fill, Void or Cavity Material* - Sealant -** Fill material applied within annulus, flush with top surface of floor assembly or top edge of steel sleeve. In walls and in floors constructed from hollow core precast concrete units, fill material applied symmetrically on both sides of assembly flush with wall/floor surfaces or both ends of steel sleeve. At point contact location, apply min 1/4 in. (6 mm) diam bead of fill material at pipe/concrete interface or pipe/steel sleeve interface on top surface of floor or both surfaces of wall or precast concrete units. The fill material thickness shall be as specified in the following table:

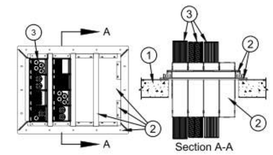
Min Concrete Thickness in. (mm)	Steel Sleeve	Max Annular Space, in. (mm)	Packing Material	Min Fill Material Thickness in. (mm)	F Rating
2-1/2 (64)	Optional	2 (51)	Required	1/4 (6)	3 hr
4-1/2 (114)	Optional	1 (25)	Optional	1/2 (13)	2 hr

SPECIFIED TECHNOLOGIES INC - SpecSeal LCI Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. C-AJ-3317**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 3 Hr	F Rating - 3 Hr
T Ratings - 0 and 2 Hr (See Items 4 and 5)	FT Ratings - 0 and 2 Hr (See Items 4 and 5)
	FH Rating -3 Hr
	FTH Ratings - 0 and 2 Hr (See Items 4 and 5)



Section A-A

1. **Floor or Wall Assembly -** Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***. See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. **Firestop Device* -** The range-taking Grid System shall be installed in accordance with the accompanying installation instructions. The Grid System provides one to four slots for mounting banks of four "ganged" firestop device modules and is made up of multiple steel components. End, side and splice brackets shall be secured together forming various rectangular Grid Systems by means of bolts and nuts (provided) located at each corner. The Grid System may be installed blank through the use of intumescent cover plates, steel clips and steel holders. The Grid System shall be activated with optional rows of "ganged" firestop device modules. Optional "ganged" modules with holder plates shall be placed into open slots within the Grid Systems and shall be secured to the steel frame through the use of bolts and nuts (provided). The frame of the Grid System shall be installed with gasketing material (provided) and secured to the top surface of the floor or one surface of the wall through predrilled openings located on the grid brackets using min 3/16 in. (4.8 mm) diam by 1 1/4 in. (32 mm) long steel concrete screws. As an alternate to the steel concrete screws, min 1 1/4 in. (32 mm) long steel powder actuated fasteners provided with min 3/4 in. (19 mm) diam steel washers may be used. As an option in walls, a second frame of the Grid System may be installed on the second side of the wall. Each firestop device module consists of a 4 by 4-5/8 by 14 in. (102 by 118 by 356 mm) long galv steel tube with an intumescent material lining. Series 44 device modules have spring loaded steel retainer plates. Firestop device modules to be installed in accordance with the accompanying installation instructions. Four device modules are "ganged" together by means of an integral hook and eye window attachments. Two holder plates, one on each side of the four "ganged" modules, are to be attached to each end module using an integral hook and eye window attachment. The space between the firestop device and the periphery of the opening shall be min 0 in. (point contact) to max 1-1/4 in. (32 mm). As an option, firestop devices may be cast or grouted into floor or wall assembly. The opening size and maximum number of pathway modules for each Grid System shall be as shown in the following table:

Part No.	Description	Max No. of Pathway Modules	Max Opening Size
EZDG444 or EZDG444S	Single Bank Grid System	4	6 by 18 in. (15.2 by 45.7 cm)
EZDG444 or EZDG444S (up to 4 required)	Single Bank Grid System With Splice Plate(s)	16	6 by 81 in. (15.2 by 205.7 cm)
EZG844, EZG844S, EZDG844 or EZDG844S	Double Bank Grid System	8	12 by 18 in. (30.5 by 45.7 cm)
EZG1644, EZG1644S, EZDG1644 or EZDG1644S	Quad Bank Grid System	16	24 by 18 in. (61.0 by 45.7 cm)

SPECIFIED TECHNOLOGIES INC - EZ PATH Series 44 or Series 44+ Fire Rated Pathway

2A. **Firestop Device* - Extension Module -** (Optional, Not Shown) - Module attached to ends of firestop device module (Item 2) to increase its length to facilitate installation in thicker floors or walls. Each module consists of a 4 by 4-5/8 by 6 in. (102 by 118 by 152 mm) long galv steel tube with an intumescent material lining. Extension module to be installed in accordance with the accompanying installation instructions.

SPECIFIED TECHNOLOGIES INC - EZ PATH Series 44+ Extension

3. **Cables -** Cables may represent a 0 to 100 percent visual fill within the loading area for the firestop device modules. Cables to be rigidly supported on both sides of the floor or wall assembly. Any combination of the following types of cables may be used:
   A. Max 400 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with polyvinyl chloride (PVC) or plenum-rated jacketing and insulation.
   B. Max 750 kcmil single copper conductor power cable with XLPE jacket and insulation or plenum-rated jacketing and insulation.
   C. Max 7/C No. 12 AWG copper conductor control cable with PVC or XLPE jacket and insulation or plenum-rated jacketing and insulation.
   D. Max 3/C No. 2/0 AWG metal clad or armored cable with steel or aluminum jacket.
   E. Max 3/C No. 8 AWG NM cable (Romex) with PVC insulation and jacket or plenum-rated jacketing and insulation.
   F. Max four pair No. 22 AWG (or smaller) copper conductor data cable with PVC or plenum rated jacketing and insulation.
   G. Coaxial cable with fluorinated ethylene or PVC insulation and jacketing or plenum rated jacketing and insulation having a max diam of 5/8 in. (16 mm).
   H. Optical fiber cable with PVC or polyethylene (PE) jacket and insulation or plenum rated jacketing and insulation and having a max diam of 5/8 in. (16 mm).
4. **Firestop Device* -** Not Shown - Optional - Nom 2 in. (51 mm) thick blanket to be installed in accordance with the accompanying installation instructions. Blanket tightly wrapped around grouped cables and pathway devices to extend 36 in. (914 mm) above floor or both sides of the wall and secured with integral closure straps.

SPECIFIED TECHNOLOGIES INC - EZ PATH TRK444 Grid T Rating Kit

5. **Duct Wrap Material* -** Not Shown - Optional, for use in lieu of item 4 - Nom 2 in. (51 mm) thick duct wrap tightly wrapped around grouped cables and pathway devices to extend 36 in. (914 mm) above floor or both sides of the wall. All longitudinal seams of duct wrap to be sealed with foil tape.

THERMAL CERAMICS INC - FireMaster FastWrap XL or Pyroscat Duct Wrap XL

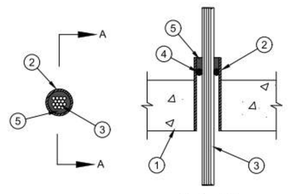
NOTE: When Item 4 or 5 is used the T, FT and FTH Ratings are 2 hr. Otherwise, the T, FT and FTH Ratings are 0 hr.

+Bearing the UL Listing Mark

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Classified by
Underwriters Laboratories, Inc.
to ASTM/UL1479 (ASTM E814)

System No. C-AJ-3215
F Rating - 3 Hr
T Rating - 1 Hr



Section A-A

1. **Floor or Wall Assembly -** Min 4-1/2 in. thick lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***.
   See **Concrete Blocks** category (CAZT) in the Fire Resistance Directory for names of manufacturers.
2. **Steel Sleeve -** Nom 2 in. diam (or smaller) Schedule 10 (or heavier) steel pipe sleeve or rigid steel conduit sleeve cast or grouted into concrete floor or wall. End of sleeve to project 2 in. beyond top surface of floor or beyond both surfaces of wall.
3. **Cables -** Cables to be max 4 pair No. 24 AWG (or smaller) copper conductor cables with polyvinyl chloride (PVC) insulation and jacket or max 4 pair No. 24 AWG (or smaller) copper conductor cables intended for plenum applications. Aggregate cross-sectional area of cables to be max 40 percent of the aggregate cross-sectional area of the steel sleeve (Item 2). The annular space within the firestop system shall be a min of 1/4 in. to a max of 1 in. Cables to be rigidly supported on both sides of floor or wall assembly.
4. **Packing Material -** (Optional) - Open or closed cell polyethylene or polyurethane foam backer rod used as a form to prevent leakage of the fill material. Packing material to be recessed from end of sleeve as required to accommodate the required thickness of fill material.
5. **Fill, Void or Cavity Material* - Putty or Sealant -** Min 1 in. thickness applied within annulus flush with top edge of sleeve in floors or both edges of sleeve in walls.

SPECIFIED TECHNOLOGIES INC - SpecSeal 100, 101, 102, 105, 120 or 129 Sealant, SpecSeal Putty

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814)
and ANSI/UL263 (ASTM E119)

CLIV.R14288
Wall-opening Protective Materials

SpecSeal Power Shield Box Inserts, for use with flush device UL Listed Metallic Outlet Boxes without internal clamps installed with steel mud rings in framed wall assemblies. When protective material is used in outlet boxes on both sides of the wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in. (610 mm) provided that the boxes are not installed back-to-back. Installation shall comply with the National Electrical Code (NFPA 70). The max outlet box dimensions, hourly rating, type of stud, use of stud cavity insulation and type of faceplate are tabulated below. Additional general construction features shall comply as follows:

A. **Studs -** Unless otherwise specified, the minimum stud width is 3-1/2 in. (89 mm).

B. **Stud Cavity Insulation -** Where indicated in the table below, stud cavity insulation to consist of min 3-1/2 in. (89 mm) thick fiberglass (min 0.5 pcf or 8 kg/m3) or mineral fiber (min 4 pcf or 64 kg/m3). Unless indicated as required, stud cavity insulation is optional.

C. **Wall Design -** Stud composition is indicated in the table below. Wall construction shall comply with the individual U300, U400 or V400 Series Wall and Partition Design in the Fire Resistance Directory.

D. **Pad Dimensions -** The minimum dimensions of the insert pad are shown in the table below. Pads may be cut to achieve dimensions shown in table and partial insert pads may be utilized.

Product	Max Outlet Box Size, in. (mm)	Outlet Box Type	Outlet Box Mfr	Pad Size, in. (mm)	Rating, hr	Stud	Cavity Insulation	Face Plate Type	Putty Ball
EP 23	2 x 3 x 2-1/4 (51 x 76 x 57) deep	-	-	1-7/8 x 2-3/4 (48 x 70)	2	Steel	No	Steel	-
EP 23	2 x 3 x 2-1/4 (51 x 76 x 57) deep	-	-	1-7/8 x 2-3/4 (48 x 70)	2	Steel	Yes	Plastic	-
EP 23	2 x 3 x 2-1/4 (51 x 76 x 57) deep	-	-	1-7/8 x 2-3/4 (48 x 70)	1	Steel or Wood	Yes	Plastic or Steel	-
EP 24	2-1/8 x 4 x 2-1/8 (54 x 102 x 54) deep	-	-	1-7/8 x 3-3/4 (48 x 95)	2	Steel	No	Steel	-
EP 24	2-1/8 x 4 x 2-1/8 (54 x 102 x 54) deep	-	-	1-7/8 x 3-3/4 (48 x 95)	2	Steel	Yes	Plastic	-
EP 24	2-1/8 x 4 x 2-1/8 (54 x 102 x 54) deep	-	-	1-7/8 x 3-3/4 (48 x 95)	1	Steel or Wood	Yes	Plastic or Steel	-
EP 44	4 x 4 x 2-1/8 (102 x 102 x 54) deep	-	-	3-3/4 x 3-3/4 (95 x 95)	2	Steel	No	Steel	-
EP 44	4 x 4 x 2-1/8 (102 x 102 x 54) deep	-	-	3-3/4 x 3-3/4 (95 x 95)	2	Steel	Yes	Plastic	-
EP 44	4 x 4 x 2-1/8 (102 x 102 x 54) deep	-	-	3-3/4 x 3-3/4 (95 x 95)	1	Steel or Wood	Yes	Plastic or Steel	-
EP 45	4-11/16 x 4-11/16 x 2-1/8 (119 x 119 x 54) deep	-	-	4-1/2 x 4-1/2 (114 x 114)	1 or 2	Steel or Wood	Yes	Plastic or Steel	-
EP 45	4-1/2 x 5 x 2-3/8 (114 x 127 x 60) deep	-	-	4-1/2 x 4-1/2 (114 x 114)	1 or 2	Steel or Wood	Yes	Plastic or Steel	-
EP 45	4-1/2 x 14 x 2-1/2 (114 x 356 x 64) deep	-	-	4-1/2 x 13-3/4 (114 x 349)	1 or 2	Steel or Wood	Yes	Plastic or Steel	-

SpecSeal Putty Pads, for use with max 5 by 5 by 2 7/8 in. (127 by 127 by 73 mm) deep flush device UL Listed Metallic Outlet Boxes or UL Listed Communications-Circuit Accessories manufactured by Randl Industries Inc for use in 1 hr or 2 hr fire rated gypsum board wall assemblies framed with min 3-5/8 in. (92 mm) wide wood or steel studs and constructed as specified in the individual U300, U400, or V400 or W400 Series Wall and Partition Designs in the Fire Resistance Directory. Metallic outlet boxes to be provided with UL Listed Signal Appliance with steel cover plate manufactured by Cooper Wheelock Inc. Moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud unless otherwise noted) including nailing tabs and to completely seal against the stud within the stud cavity. Multiple moldable putty pads may be installed on an outlet box to attain the required minimum thickness of putty material. Additional putty material used to seal around each conduit and/or cable fitting on the exterior of each box. A min 3/16 in. (4.8 mm) thickness of putty material is required on the exterior surfaces of flush device boxes in 1 and 2 hr fire rated Wall and Partition Designs. When the moldable putty pad outlet box protective material is used on boxes on both sides of wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in. (610 mm) provided that the outlet boxes are not installed back to back, except as noted.

SpecSeal Putty Pads, for use with max 5 by 5 by 2 7/8 in. (127 by 127 by 73 mm) deep flush device UL Listed Metallic Outlet Boxes or UL Listed Communications-Circuit Accessories manufactured by Randl Industries Inc for use in 1 hr or 2 hr fire rated gypsum board wall assemblies framed with min 3-5/8 in. (92 mm) wide wood or steel studs and constructed as specified in the individual U300, U400, or V400 or W400 Series Wall and Partition Designs in the Fire Resistance Directory. Metallic outlet boxes to be provided with UL Listed Signal Appliance with steel cover plate manufactured by Cooper Wheelock Inc. Moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud) and to completely seal against the stud within the stud cavity. Adjoining pieces of moldable putty pads to be overlapped approx 1/2 in. (13 mm) at the seam. An additional 3/16 in. (5 mm) thickness of putty to be formed around the connector securing the end of each Type MC cable, electrical metallic tube (EMT) or conduit to the box. An insert pad shall be installed to completely cover the back inside surface of each outlet box.

D. **Metallic Outlet Boxes** - Except as indicated in the table below, when steel outlet boxes are used and the boxes are interconnected by means of electrical metallic tube or conduit, a ball of putty is to be installed to plug the open end of each electrical metallic tube (EMT) or conduit within the outlet box. When MC cable is used and/or when the outlet boxes are not interconnected, the ball of putty is not required.

E. **Nonmetallic Outlet Boxes** - The box manufacturer is indicated in the table below. Boxes shall bear a 2 hr rating under the "Outlet Boxes and Fittings Classified for Fire Resistance" category in the Fire Resistance Directory.

Model	Max Outlet Box in. (mm)	Outlet Box Type	Outlet Box Mfr	Pad Size in. (mm)	Rating, hr	Stud	Cavity Insulation	Face Plate Type	Putty Ball
-	4 x 4 x 2-1/8 (102 x 102 x 54) deep	Steel	N.A.	-	1	Steel or Wood	-	Steel	No
-	4 x 4 x 2-1/8 (102 x 102 x 54) deep	Steel	N.A.	-	1	Steel or Wood	-	Plastic	Yes
-	4-11/16 x 4-11/16 x 2-1/8 (119 x 119 x 54) deep	Steel	N.A.	-	1 or 2	Steel or Wood	-	Steel	Yes
-	4-1/2 x 5 x 2-3/8 (114 x 127 x 60) deep	Steel	N.A.	-	1 or 2	Steel or Wood	-	Steel	Yes
-	4-1/2 x 14 x 2-1/2 (114 x 127 x 60) deep	Steel	N.A.	-	1 or 2	Steel or Wood	-	Steel	Yes
-	3-3/4 x 4 x 3 (95 x 102 x 76) deep	Polyvinyl Chloride	Lamson & Sessions or Carlon	-	1 or 2	Wood	-	Plastic or Steel	N.A.
-	3-3/4 x 4 x 3 (95 x 102 x 76) deep	Phenolic	Allied Moulded Prods	-	1 or 2	Wood	-	Plastic or Steel	N.A.
-	3-3/4 x 4 x 3 (95 x 102 x 76) deep	Polycarbonate	Thomas & Betts	-	1 or 2	Wood	-	Plastic or Steel	N.A.
-	3-3/4 x 4 x 3 (95 x 102 x 76) deep	Phenolic	Thomas & Betts	-	1 or 2	Wood	-	Plastic or Steel	N.A.
-	2-1/4 x 3-3/4 x 2-3/4 (57 x 95 x 70) deep	Polyvinyl Chloride	Pass & Seymour	-	1 or 2	Wood	-	Plastic or Steel	N.A.

SpecSeal Putty Pads , for use with maximum 4 by 4 by 2-1/8 in. (102 by 102 by 54 mm) deep flush device UL Listed Metallic Outlet Boxes installed with steel mud rings and with steel faceplates in 1 hr or 2 hr fire rated gypsum board wall assemblies constructed with min 5-1/2 in. (140 mm) wide wood or steel studs and with stud cavities filled with fiberglass (nom 0.5 pcf or 8 kg/m3) or mineral fiber (nom 4 pcf or 64 kg/m3) insulation. When protective material is used on outlet boxes on both sides of the wall as directed, the boxes may be installed back-to-back provided that the boxes on opposite sides of the wall are not interconnected with conduit or, when interconnected, the open end of the conduit within the outlet box is filled with a ball of putty. Installation shall comply with the National Electrical Code (NFPA 70). Min 3/16 in. (5 mm) thick moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud) and to completely seal against the stud within the stud cavity. Adjoining pieces of moldable putty pads to be overlapped approx 1/2 in. (13 mm) at the seam. An additional 3/16 in. (5 mm) thickness of putty to be formed around the connector securing the end of each Type MC cable, electrical metallic tube (EMT) or conduit to the box.

SpecSeal EP23, EP24 and EP44 Power Shield Box Inserts and SpecSeal Putty Pads, for use with maximum 4 by 4 by 1-1/2 or 2-1/8 in. (102 by 102 by 38 or 54 mm) deep flush device UL Listed **Metallic Outlet Boxes** installed with steel mud rings and with steel or plastic faceplates in 1 hr or 2 hr fire rated gypsum board wall assemblies constructed with min 3-1/2 in. (89 mm) wide wood or steel studs. When both protective materials are used with outlet boxes on both sides of the wall as directed, the boxes may be installed back-to-back provided that the backs of the boxes are minimum 1/2 in. (13 mm) apart and provided that the boxes are not interconnected. Installation shall comply with the National Electrical Code (NFPA 70). Min 3/16 in. (5 mm) thick moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud) and to completely seal against the stud within the stud cavity. Adjoining pieces of moldable putty pads to be overlapped approx 1/2 in. (13 mm) at the seam. An additional 3/16 in. (5 mm) thickness of putty to be formed around the connector securing the end of each Type MC cable, electrical metallic tube (EMT) or conduit to the box. An insert pad shall be installed to completely cover the back inside surface of each outlet box.

SpecSeal Putty Pads, for use with max 5 by 5 by 2 7/8 in. (127 by 127 by 73 mm) deep flush device UL Listed Metallic Outlet Boxes or UL Listed Communications-Circuit Accessories manufactured by Randl Industries Inc for use in 1 hr or 2 hr fire rated gypsum board wall assemblies framed with min 3-5/8 in. (92 mm) wide wood or steel studs and constructed as specified in the individual U300, U400, or V400 or W400 Series Wall and Partition Designs in the Fire Resistance Directory. Metallic outlet boxes to be provided with UL Listed Signal Appliance with steel cover plate manufactured by Cooper Wheelock Inc. Moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud unless otherwise noted) including nailing tabs and to completely seal against the stud within the stud cavity. Multiple moldable putty pads may be installed on an outlet box to attain the required minimum thickness of putty material. Additional putty material used to seal around each conduit and/or cable fitting on the exterior of each box. A min 3/16 in. (4.8 mm) thickness of putty material is required on the exterior surfaces of flush device boxes in 1 and 2 hr fire rated Wall and Partition Designs. When the moldable putty pad outlet box protective material is used on boxes on both sides of wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in. (610 mm) provided that the outlet boxes are not installed back to back, except as noted.

SpecSeal EP55 Power Shield Box Inserts, for use with max 5 by 5 by 2 7/8 in. (127 by 127 by 73 mm) deep flush device UL Listed Metallic Outlet Boxes or UL Listed Communications-Circuit Accessories manufactured by Randl Industries Inc for use in 1 hr or 2 hr fire rated gypsum board wall assemblies framed with min 3-5/8 in. (92 mm) wide wood or steel studs and constructed as specified in the individual U300, U400, or V400 or W400 Series Wall and Partition Designs in the Fire Resistance Directory. Metallic outlet boxes to be provided with UL Listed Signal Appliance with steel cover plate manufactured by Cooper Wheelock Inc. Power Shield Box Insert is to be applied to the back surface of the box and may be slit to accommodate communications-circuit accessories. When the Power Shield Box Insert is used on boxes on both sides of wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in. (610 mm) provided that the outlet boxes are not installed back to back, except as noted.

Wake County Public School System

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CMTA
A LEGENCE Company

NORTH CAROLINA PROFESSIONAL SEAL 043650 ENGINEER STEVE E. ROBEY 04/10/2024

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Swift Creek Elementary School
5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME:
UL PENETRATION DETAILS

BID SET SUBMISSION: 2024.04.10

SHEET:
E00.03

BID SET

4/3/2024 3:58:12 PM

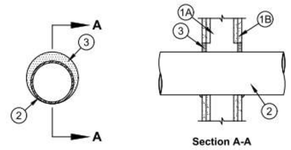
1 2 3 4 5 6

A B C D E

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ALL SHEETS ORIGINAL PLOT SIZE

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. W-L-1049**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Rating - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr	FT Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Rating - 1 and 2 Hr (See Item 1)
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Rating - 0 Hr
	L Rating at Ambient - Less Than 5.1 L/S/m2
	L Rating at 204°C - Less Than 5.1 L/S/m2



Section A-A

1. **Wall Assembly -** The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, V300, U400, V400 or W400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs -** Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.
   B. **Gypsum Board* -** 5/8 in. (16 mm) thick, 4 ft (1.22 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, V300, U400, V400 or W400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 38 in. (965 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls.
   The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.

1A. **Metallic Sleeve -** (Optional, Not Shown) - Cylindrical sleeve fabricated from min 0.016 in. (0.41 mm) to max 0.105 in. (2.7 mm) thick sheet steel. Length of steel sleeve to be equal to the thickness of wall. Longitudinal seam of sleeve welded or overlapped min 1 in. (25 mm). The ends of the steel sleeve shall be flush or recessed max 1/4 in. (6 mm) from wall surfaces.

2. **Through Penetrant -** One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. The annular space between pipe, conduit or tubing and periphery of opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. **Steel Pipe -** Nom 36 in. (914 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe -** Nom 36 in. (914 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Conduit -** Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit, nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) or nom 4 in. (102 mm) diam (or smaller) flexible steel conduit.
   D. **Copper Tubing -** Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. **Copper Pipe -** Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

2A. **Through Penetrating Product* - Flexible Metal Piping -** As an alternate to Item 2, one nom 2 in. (51 mm) diam (or smaller) steel flexible metal pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe and the periphery of the opening shall be min 0 in. (point contact) to max 2 in. (51 mm). Pipe to be rigidly supported on both sides of the wall assembly.

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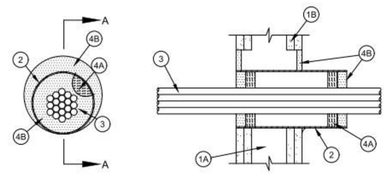
3. **Fill, Void or Cavity Material* - Sealant -** Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall. At point contact location between through penetrant and gypsum board, a min 3/8 in. (10 mm) diam bead of fill material shall be applied at the gypsum board/through penetrant interface on both surfaces of wall.

SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. W-L-3210**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 3/4 Hr	FT Rating - 3/4 Hr
	FH Ratings - 1 and 2 Hr (See Item 1)
	FTH Rating - 3/4 Hr



Section A-A

1. **Wall Assembly -** The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs -** Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (76 mm) wide and spaced max 24 in. (610 mm) OC.
   B. **Gypsum Board* -** Thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, V300, U400 , V400 or W400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 6-1/2 in. (165 mm) when sleeve (Item 2) is installed. Max diam of opening is 4 in. (102 mm) when sleeve is not used.
   The hourly F rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. **Steel Sleeve - (Optional) -** Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT), steel conduit, Schedule 5 (or heavier) steel pipe sleeve or min 0.016 in. thick (0.41 mm, No. 26 ga) galv steel sleeve installed flush with wall surfaces. The annular space between the steel sleeve and periphery of opening shall be min 0 in. (continuous point contact) to max 2 in. (51 mm). When Schedule 5 steel pipe or EMT is used, sleeve may be installed flush with or extend up to 18 in. (46 cm) beyond one or both wall surfaces. Steel sleeve may be installed at an angle not greater than 45 degrees from perpendicular. Schedule 5 steel pipe or EMT sleeves may extend continuously beyond one wall surface. Sleeve to be rigidly supported when extending from the wall surfaces.

3. **Cables -** Aggregate cross-sectional area of cables in steel sleeve to be max 48 percent of the aggregate cross-sectional area of the opening or sleeve. Cables to be bundled and rigidly supported on both sides of wall assembly. When the sleeve (Item 2) is installed, the annular space between the cables and the sleeve shall be min 0 in. (point contact) to max 1-1/2 in. (38 mm). When the sleeve (Item 2) is not used, the annular space between the cables and the opening shall be a min 0 in. (point contact) to a max 1/2 in. (13 mm). Cable bundle, using cables described below, may penetrate the wall at an angle not greater than 45 degrees. Any combination of the following types and sizes of copper conductor cable may be used:
   A. Max 200 pair No. AWG (or smaller) copper conductor cable with polyvinyl chloride (PVC) or plenum-rated jacketing and insulation.
   B. Max 3/C No. 2/0 AWG (or smaller) aluminum or copper conductor service entrance cable with PVC insulation and jacket.
   C. Max 3/C No. 8 AWG (or smaller) nonmetallic sheathed (Romex) cable with copper conductors, PVC insulation and jacket.
   D. Max 7/C No. 2/0 AWG (or smaller) multiconductor power and control cables with XLPE or PVC insulation and XLPE or PVC jacket.
   E. Max RG/U (or smaller) coaxial cable with fluorinated ethylene or plenum-rated insulation and jacketing.
   F. Max 62.5/48 fiber optic cable with PVC or plenum-rated insulation and jacketing.
   G. Max 4 pair No. 24 AWG (or smaller) copper conductor data cable with PVC or plenum-rated insulation and jacket.
   H. Max 4/C No. 2/0 aluminum or copper conductor aluminum or steel Metal-Clad# or Armored-Clad# cable.
   I. Max ¾-in. (19 mm) copper ground cable with or without a PVC jacket.

4. **Firestop System -** The firestop system shall consist of the following:
   A. **Packing Material -** When required (See table in Item 4B), min 1 in. (25 mm) thickness of min 4.0 pcf (64 kg/m3) mineral wool batt insulation firmly packed into each end of sleeve as a permanent form. Packing material to be recessed from each end of sleeve as required to accommodate the required thickness of fill material.
   B. **Fill, Void or Cavity Material* - Sealant or Putty -** Fill material applied to appropriate thickness within steel sleeve, flush with edges of steel sleeve on both surfaces of wall. Min 1/2 in. (13 mm) thickness of fill material installed into annular space between sleeve and wall flush with both surfaces of the wall. Min 1/2 in. (13 mm) diam bead of sealant or "rope" of putty shall be applied around the perimeter of the sleeve on each side of the wall when sleeve extends beyond surface of wall and is installed at continuous point contact. See table below for fill material thickness requirements around cables.

Sealant or Putty Type	Thickness, In. (mm)	Packing Material Required
SpecSeal Series SSS Sealant or LCI Sealant	1/2 in. (13)	Yes
SpecSeal Series SSS Sealant or LCI Sealant	1 in. (25)	No
SpecSeal Putty	1 in. (25)	No

SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant, SpecSeal LCI Sealant or SpecSeal Putty

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Wake County Public School System

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CMTA
A LEGENCE Company

NORTH CAROLINA PROFESSIONAL SEAL 043650 ENGINEER STEVE E. ROBEY
04/10/2024

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME:
UL PENETRATION DETAILS

BID SET SUBMISSION: 2024.04.10

SHEET:
E00.04

BID SET

4/3/2024 3:58:13 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ORIGINAL PLOT SHEETS

COMcheck Software Version 4.1.5.5
Interior Lighting Compliance Certificate

Project Information

Energy Code: 2015 IECC
Project Title: Swift Creek Elementary School
Project Type: New Construction

Construction Site:
5601 Tryon Rd
Raleigh, NC 27606

Owner/Agent:

Designer/Contractor:
CMTA
10411 Meeting St
Louisville, KY 40059
502-326-3085

Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed
Reduced Lighting Power, 1.0 credit

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-School/University	106262	0.78	83203
		Total Allowed Watts =	83203

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-School/University				
A4: 2X4 RECESSED VOLUMETRIC TROFFER: Other:	1	11	29	319
A5: 2X4 RECESSED VOLUMETRIC TROFFER: Other:	1	185	35	6475
A6: 2X4 RECESSED VOLUMETRIC TROFFER: Other:	1	336	44	14784
A7: 2X4 RECESSED VOLUMETRIC TROFFER: Other:	1	73	53	3869
A10: 2X4 RECESSED VOLUMETRIC TROFFER: Other:	1	16	83	1328
B4: 1X4 RECESSED VOLUMETRIC LED: Other:	1	40	30	1200
C3: 2X2 RECESSED VOLUMETRIC TROFFER: Other:	1	32	25	800
C4: 2X2 RECESSED VOLUMETRIC TROFFER: Other:	1	47	31	1457
C5: 2X2 RECESSED VOLUMETRIC TROFFER: Other:	1	61	38	2318
D6-1: RECESSED OPEN LED DOWNLIGHT: Other:	1	2	11	22
D6-2: RECESSED OPEN LED DOWNLIGHT: Other:	1	6	23	138
D6-7: RECESSED OPEN LED DOWNLIGHT: Other:	1	40	9	360
K5: 2X4 RECESSED VOLUMETRIC TROFFER: Other:	1	31	36	1116
LR4-6: 6FT RECESSED LINEAR LED: Other:	1	12	54	648
LS2-6: 6FT SURFACE LINEAR LED: Other:	1	54	48	2592
LS2-8: 6FT SURFACE LINEAR LED: Other:	1	15	64	960
P6: 6" DIAMETER LED TUBE: Other:	1	6	23	138
S4: 4FT INDUSTRIAL STRIP: Other:	1	97	59	5723
T1: THEATRICAL TRACK: Other:	1	11	57	627
V4: 4FT LINEAR WAL MOUNT VANITY: Other:	1	28	46	1288
VP2: 2FT LED VAPORLIGHT: Other:	1	4	15	60

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
VP4: 4FT LED VAPORLIGHT: Other:	1	1	33	33
W4: 4' SURFACE MOUNT: Other:	1	18	39	702
			Total Proposed Watts =	46957

Interior Lighting PASSES: Design 44% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2015 IECC requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Kishan Patel - Electrical Engineer (Name - Title) Signature 02/02/2024 Date

COMcheck Software Version 4.1.5.5
Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2015 IECC
Project Title: Swift Creek Elementary School
Project Type: New Construction
Exterior Lighting Zone 2 (Residential mixed use area (LZ2))

Construction Site:
5601 Tryon Rd
Raleigh, NC 27606

Owner/Agent:

Designer/Contractor:
CMTA
10411 Meeting St
Louisville, KY 40059
502-326-3085

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
Entry canopy	3145 ft2	0.25	Yes	786
Illuminated area of facade wall or surface	18393 ft2	0.1	No	1839
			Total Tradable Watts (a) =	786
			Total Allowed Watts =	2626
			Total Allowed Supplemental Watts (b) =	600

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 600 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Entry canopy (3145 ft2): Tradable Wattage				
ODR1: RECESSED OPEN LED DOWNLIGHT: Other:	1	16	9	144
ODR2: RECESSED OPEN LED DOWNLIGHT: Other:	1	16	11	176
ODS1: SURFACE LED CYLINDER: Other:	1	22	11	242
Illuminated area of facade wall or surface (18393 ft2): Non-tradable Wattage				
OPW2: LED WALL PACK: Other:	1	50	18	900
			Total Tradable Proposed Watts =	562

Exterior Lighting PASSES: Design 59% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2015 IECC requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Kishan Patel - Electrical Engineer (Name - Title) Signature 02/02/2024 Date

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: Energy Code: ☒ Prescriptive ☐ Performance
ASHRAE 90.1: ☐ Prescriptive ☐ Performance

Lighting schedule (each fixture type)
lamp type required in fixture
number of lamps in fixture
ballast type used in the fixture
number of ballasts in fixture
total wattage per fixture
total interior wattage specified vs. allowed (whole building or space by space)
total exterior wattage specified vs. allowed

Additional Efficiency Package Options
(When using the 2018 NCECC; not required for ASHRAE 90.1)
☐ C406.2 More Efficient Mechanical Equipment
☒ C406.3 Reduced Lighting Power Density
☐ C406.4 Enhanced Digital Lighting Controls
☐ C406.5 On-Site Renewable Energy
☐ C406.6 Dedicated Outdoor Air System
☐ C406.7 Reduced Energy Use in Service Water Heating

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Swift Creek Elementary School
5601 Tryon Rd Raleigh, NC 27606
LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME:
COMCHECK - ELEMENTARY SCHOOL

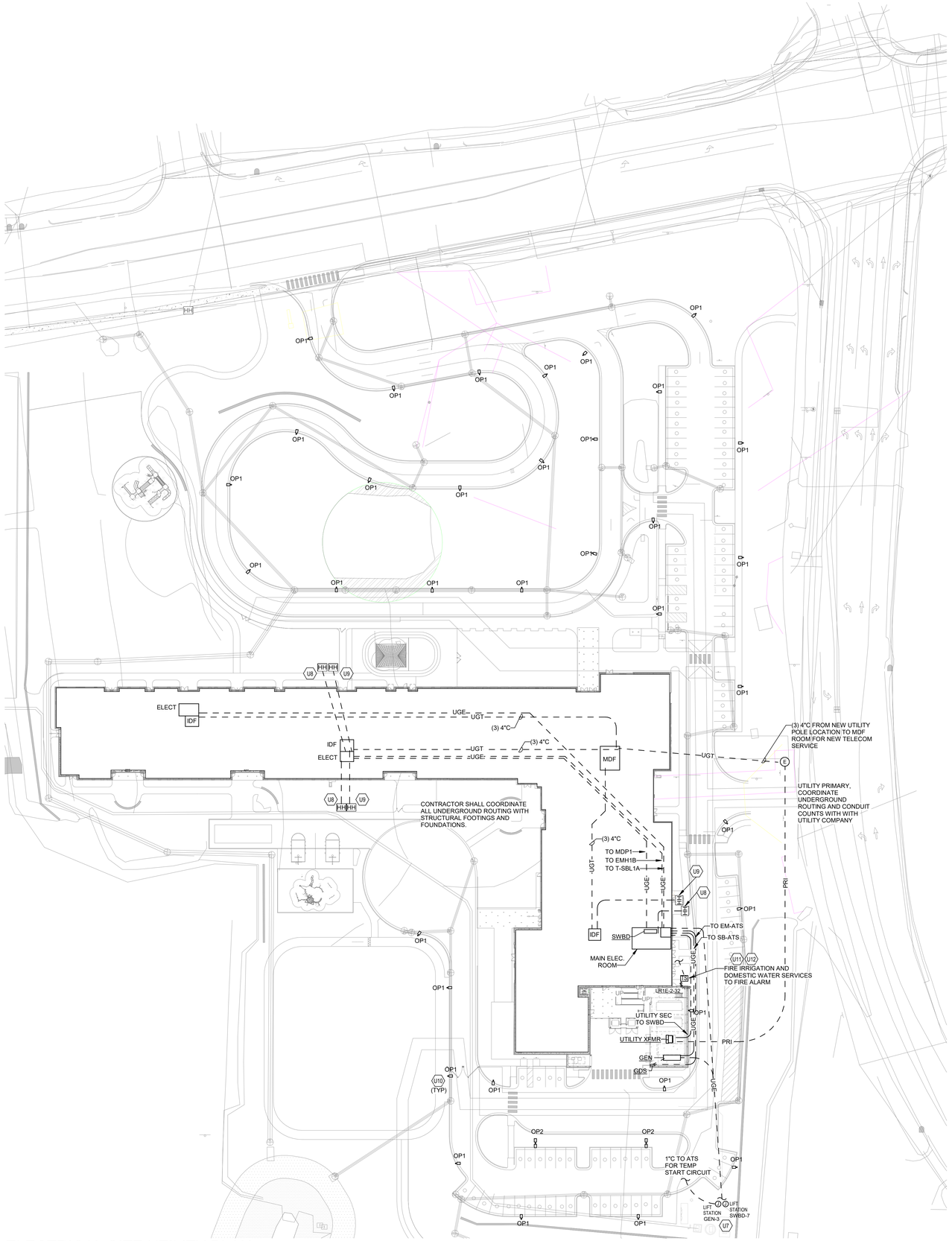
BID SET SUBMISSION: 2024.04.10

SHEET:
E00.05

BID SET

4/3/2024 3:58:14 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH D SHEETS ORIGINAL PLOT SIZE



1 ELECTRICAL SITE UTILITY PLAN

NO SCALE

UTILITY LEGEND

---- PRI ----	UNDERGROUND ELECTRICAL UTILITY PRIMARY
---- SEC- ----	UNDERGROUND ELECTRICAL SERVICE SECONDARY
---- UGE- ----	UNDERGROUND ELECTRIC
---- UGT- ----	UNDERGROUND TELECOMMUNICATIONS
----|H|----	UNDERGROUND BRANCH CIRCUIT
HH	HANDHOLE

GENERAL NOTES (SITE):

A. DO NOT SCALE FROM MECHANICAL AND ELECTRICAL DRAWINGS. FIELD VERIFY REQUIRED DIMENSIONS AND COORDINATE WITH CIVIL DRAWINGS AND SURVEYS.

B. REFER ALSO TO ALL OTHER PLANS AND THE SPECIFICATION, BUT ESPECIALLY TO: THE SITE SURVEY, THE ARCHITECTURAL SITE PLAN, THE SITE GRADING PLAN, THE PLANTING PLAN (WHERE AVAILABLE), FOUNDATION PLAN(S), APPROPRIATE MECHANICAL & ELECTRICAL FLOOR PLANS FOR SERVICE CONTINUATIONS, THE SITE UTILITY PLAN - MECHANICAL & ELECTRICAL. WHERE THERE ARE CONFLICTS AMONG THESE PLANS AND/OR RELATED SPECIFICATIONS, ADVISE THESE ENGINEERS AT LEAST TEN DAYS PRIOR TO SUBMISSION OF BIDS.

C. ALL FEES AND ANY OTHER COSTS TO UTILITY COMPANIES, MUNICIPALITIES, INSPECTORS, REVIEWING AGENCIES, ETC. ARE TO BE INCLUDED AS A PART OF THIS CONTRACT.

D. FEDERAL, STATE, LOCAL, MUNICIPALITY AND UTILITY COMPANY CODES, RULES, REGULATIONS AND REQUIREMENTS APPLY UNLESS EXCEEDED BY THIS DESIGN.

E. WHEN INTERRUPTION OF AN EXISTING UTILITY OR SERVICE IS PLANNED OR OCCURS ACCIDENTALLY, THE CONTRACTOR(S) SHALL WORK CONTINUOUSLY AS NEEDED TO RESTORE SAME PROVIDING PREMIUM TIME AS NEEDED AT NO INCREASE IN THE CONTRACT PRICE.

F. LOCATIONS, DEPTHS, MATERIAL TYPES, ELEVATIONS, ETC. OF ALL APPURTENANCES, LINES, BUILDINGS, ETC. INDICATED ON THESE DRAWINGS WERE TAKEN FROM VARIOUS SOURCES, ARE DIAGRAMMATIC ONLY AND ARE SUBJECT TO SUBSTANTIAL VARIATION FROM EXISTING CONDITIONS, EXISTING UTILITIES LOCATIONS MAY VARY. CONSEQUENTLY ALL CONTRACTORS SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO ENSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE. FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND/OR LOCAL RULES, REGULATIONS, STANDARDS AND SAFETY REQUIREMENTS.

G. PROVIDE LONG RADIUS ELBOWS FOR UNDERGROUND CONDUIT BENDS. WHERE SERVING A UTILITY OWNED TRANSFORMER, THE UTILTY STANDARDS SHALL TAKE PRECEDENCE.

H. UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY. IF ANY VARIATION OCCURS, CONSULT THE ENGINEER. CONTRACTOR SHALL VISIT THE SITE AND FIELD VERIFY THE ROUTING OF ALL UTILITIES NEW AND EXISTING PRIOR TO SUBMISSION OF BIDS. SUBMISSION OF A BID PROPOSAL INDICATES THAT THE CONTRACTOR IS FULLY AWARE OF ALL OBSTRUCTIONS AND WILL INSTALL ALL OF THE NEW UTILITIES WITHOUT REQUESTS FOR ANY ADDITIONAL CHANGES.

I. PROVIDE GALVANIZED RIGID CONDUIT FOR EXTERIOR UNDERGROUND TRANSITIONS TO ABOVE GRADE; EXTEND CONDUIT A MINIMUM OF 6" ABOVE GRADE.

J. CONTRACTOR SHALL CONTACT ENGINEER FOR INSPECTION OF TRENCHES PRIOR TO INSTALLATION OF CONDUITS OR RACEWAYS. PROVIDE PHOTOS UPON REQUEST.

K. CONTRACTOR SHALL CUT AND PATCH ALL PAVEMENT, CURBING, ETC. AS REQUIRED FOR WORK. CONTRACTOR SHALL REPAIR ALL LANDSCAPING THAT IS DAMAGED FOR WORK. FINISH GRADE, SEED AND STRAW ALL DISTURBED GREEN SPACES. ALL PATCH AND REPAIR WORK SHALL BE IN ACCORDANCE WITH BOTH CIVIL AND LANDSCAPE DRAWINGS AND SPECIFICATIONS.

KEYNOTES

U7 PROVIDE PATHWAYS AND CABLING FOR LIFT STATION. COORDINATE EXACT LOCATIONS FOR FINAL CONNECTIONS WITH LIFT STATION CONTRACTOR. REFER TO FEEDER SCHEDULE FOR CONDUCTOR SIZES.

U8 PROVIDE TWO (2) 2" UNDERGROUND CONDUIT, STUBBED UP IN ELECTRICAL ROOM INDICATED. TO IN-GRADE 24"x36" HAND-HOLE FOR FUTURE POWER CONNECTIONS. REFER TO TYPICAL ELECTRICAL HAND-HOLE DETAIL.

U9 PROVIDE TWO (2) 2" UNDERGROUND CONDUIT, STUBBED UP IN IDF/MDF ROOM INDICATED, TO IN-GRADE 24"x36" HAND-HOLE FOR FUTURE TELECOM CONNECTIONS. REFER TO TYPICAL TELECOM HAND-HOLE DETAIL.

U10 GENERAL PARKING LOT LIGHTING AND POLES ARE UTILITY PROVIDED AND OWNED VIA LEASE AGREEMENT. COORDINATE WITH UTILITY FOR DIRECTIONAL BORING UNDER DRIVEWAYS.

U11 PROVIDE TAMPER SWITCHES AND MONITORING FOR BACKFLOW PREVENTER VALVES. TIE INTO FIRE ALARM LOOP. COORDINATE EXACT LOCATIONS WITH CIVIL DRAWINGS.

U12 PROVIDE 20A/1P, MOTOR RATED SWITCH FOR BACKFLOW PREVENTER ENCLOSURE HEATER. SEE CIVIL DRAWINGS FOR MORE INFORMATION.

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME: ELECTRICAL SITE UTILITY PLAN

BID SET SUBMISSION: 2024.04.10

SHEET: **E01.00**

BID SET

4/3/2024 3:58:49 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ALL SHEETS ORIGINAL PLOT SIZE

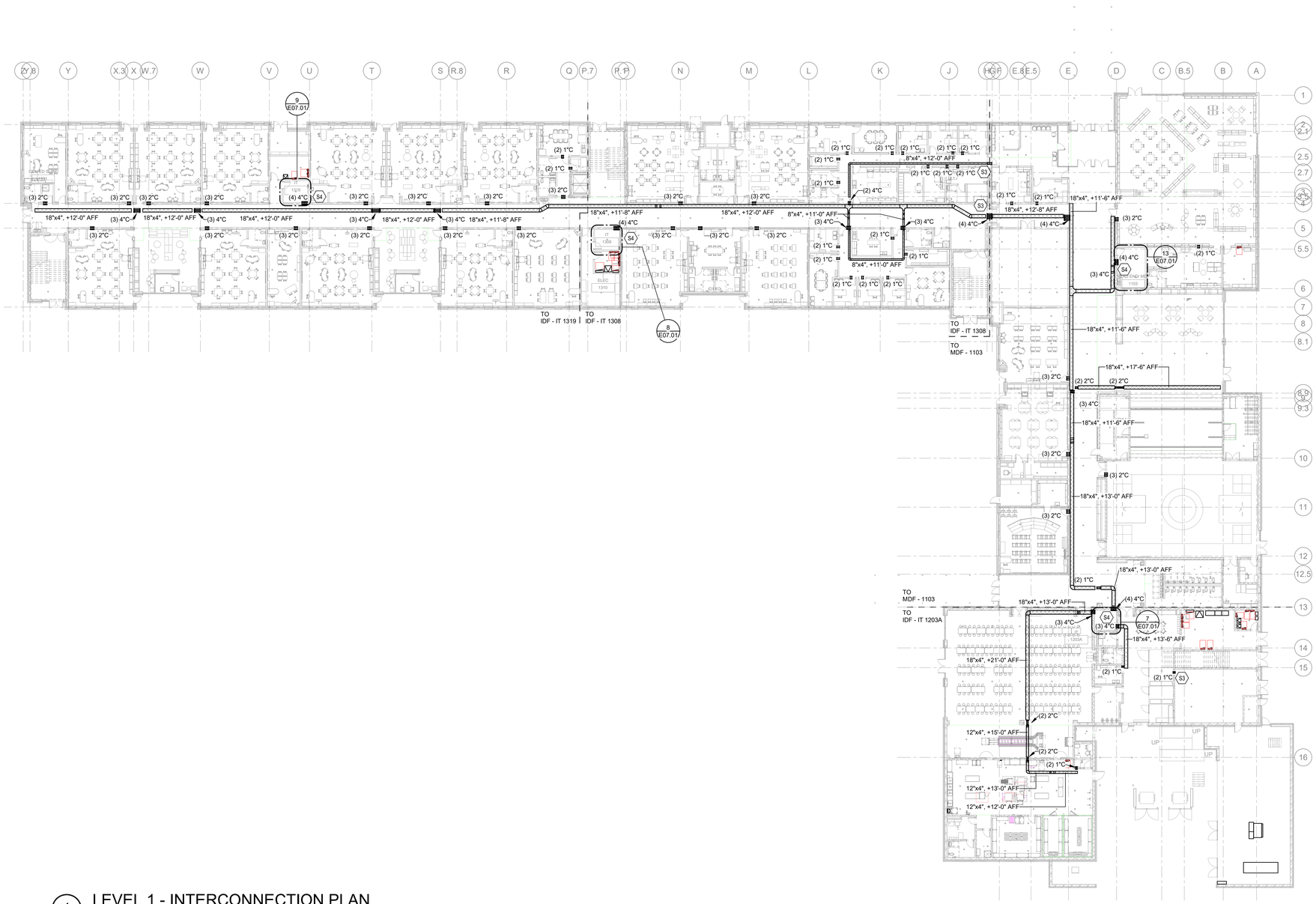
GENERAL NOTES (INTERCONNECTION):

A. SUPPORT ALL WORK FROM STRUCTURE, NOT FROM THE WORK OF OTHER TRADES.
B. COORDINATE ALL WORK WITH ARCHITECTURAL/MECHANICAL PHASING AND APPROPRIATE FACILITY STAFF. WORK IN CERTAIN AREAS SHALL BE DONE ON WEEKENDS AND/OR AT NIGHT. COORDINATE ALL REQUIREMENTS WITH ARCHITECT/OWNER PRIOR TO BID.
C. PROVIDE UL LISTED PENETRATIONS TO MATCH RATING OF WALL/FLOOR ASSEMBLY.
D. OPEN CABLING PATHWAYS ARE NOT PERMITTED ABOVE INACCESSIBLE CEILINGS OR IN AREAS WITH NO CEILING UNLESS OTHERWISE NOTED. PROVIDE RACEWAY FROM OUTLET BOX TO CABLE TRAY OR ACCESSIBLE CEILING.
E. COORDINATE EXACT LOCATION OF ALL SLEEVES SO THEY ARE CONCEALED ABOVE CEILINGS AND INSTALLED ABOVE CABLE TRAYS.

KEYNOTES

S3 PROVIDE RE-PENETRABLE FIRE STOPPING. STI EZPATH SERIES 44+ OR EQUAL.

S4 PROVIDE RE-PENETRABLE ACOUSTIC SLEEVE. STI EZPATH SERIES 44NEZ OR EQUAL.



ROOM TYPE	MINIMUM SLEEVE REQUIREMENTS U.N.O
CLASSROOM/RESOURCE	(3) 2"C
CONFERENCE ROOMS	(2) 1"C
OFFICES	(2) 1"C
CABLE TRAY BREAKS	(4) 4"C
TELCOM ROOMS	EZ PATH SERIES EQUIVALENT
OTHER	(2) 1"C

1 LEVEL 1 - INTERCONNECTION PLAN
SCALE: 1" = 20'-0"

4/3/2024 3:59:17 PM

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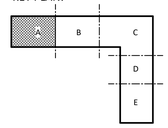
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME: LEVEL 1 - INTERCONNECTION PLAN

BID SET SUBMISSION: 2024.04.10

SHEET: E01.10

BID SET

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ALL ORIGINAL PLOT SHEETS

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KEYNOTES

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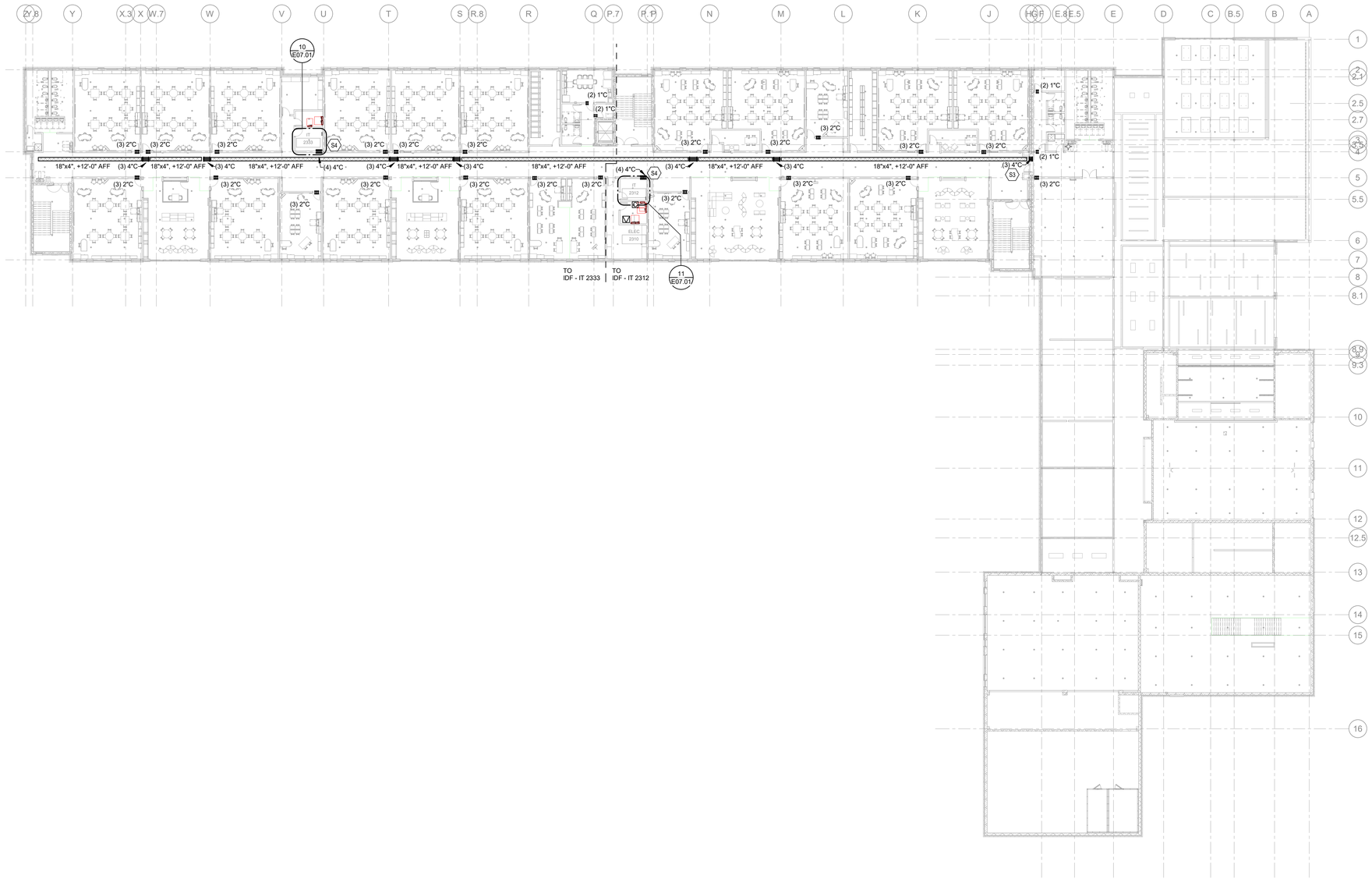
S4 PROVIDE RE-PENETRABLE ACOUSTIC SLEEVE. STI EZPATH SERIES 44NEZ OR EQUAL.



ROOM TYPE	MINIMUM SLEEVE REQUIREMENTS U.N.O
CLASSROOM/RESOURCE	(3) 2"C
CONFERENCE ROOMS	(2) 1"C
OFFICES	(2) 1"C
CABLE TRAY BREAKS	(4) 4"C
TELCOM ROOMS	EZ PATH SERIES EQUIVALENT
OTHER	(2) 1"C

1 LEVEL 2 - INTERCONNECTION PLAN
SCALE: 1" = 20'-0"

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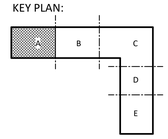
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME: LEVEL 2 - INTERCONNECTION PLAN

BID SET SUBMISSION: 2024.04.10

SHEET: E01.20

BID SET

4/3/2024 3:59:36 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH D SHEETS ORIGINAL PAGE SIZE

2 LEVEL 1 FLOOR PLAN - LIGHTING

SCALE: 1/8" = 1'-0"

GENERAL NOTES (LIGHTING):

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER N.E.C. #310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER N.E.C. #300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN N.E.C #100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

C. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING.

D. LOCATE CHAIN-HUNG INDUSTRIAL FIXTURES IN MECHANICAL ROOMS TO AVOID DUCTWORK AND PIPING. TO MAXIMIZE AVAILABLE LIGHT, SPACE AROUND EQUIPMENT, AIR HANDLERS, ETC. TO PROVIDE ADEQUATE LIGHTING TO ALL AREAS OF ROOM. PROVIDE ADDITIONAL FIXTURES OF SAME TYPE AS NEEDED TO FULFILL THIS REQUIREMENT.

E. LOCATE EXIT SIGNS FOR MAXIMUM VIEWING AREA TO IDENTIFY EGRESS PATHS AS INDICATED ON PLANS. COORDINATE LOCATIONS SUCH THAT ARCHITECTURAL FEATURES OR EQUIPMENT FROM OTHER TRADES DO NOT OBSTRUCT VIEW.

F. RECESSED LUMINAIRES SHALL BE SECURED SUCH THAT THE FORCE REQUIRED INSERTING LAMPS, TRIMS, LENSES, LOUVERS, OR DOOR FRAMES DOES NOT SHIFT HOUSING. ALL TRIMS SHALL BE COMPLETELY FLUSH WITH FINISHED CEILINGS AT COMPLETION OF CONSTRUCTION.

G. CONTRACTOR SHALL PROVIDE UNSWITCHED CONDUCTOR TO ALL EXIT SIGNS, AND NIGHT LIGHTS AS REQUIRED.

H. ALL LIGHTING SHALL BE CONTROLLED THROUGH CONTACTOR CABINET INDICATED ON LIGHTING CONTROL ZONE PLANS.

KEYNOTES

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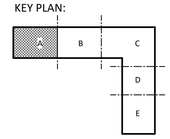
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME: LIGHTING PLAN - LEVEL 1 - AREA A

BID SET SUBMISSION: 2024.04.10

SHEET: E02.11A

BID SET

4/3/2024 3:59:53 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH D SHEETS ORIGINAL PAGE SIZE

2 LEVEL 1 FLOOR PLAN - LIGHTING

SCALE: 1/8" = 1'-0"

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G. CONTRACTOR SHALL PROVIDE UNSWITCHED CONDUCTOR TO ALL EXIT SIGNS, AND NIGHT LIGHTS AS REQUIRED.

H. ALL LIGHTING SHALL BE CONTROLLED THROUGH CONTACTOR CABINET INDICATED ON LIGHTING CONTROL ZONE PLANS.

KEYNOTES

L2 PROVIDE LIGHTING CONTACTOR CABINETS FOR EXTERIOR AND INTERIOR LIGHTING. PROVIDED. REFER TO LIGHTING CONTROL DETAILS ON SHEET E09.01 FOR MORE INFORMATION.

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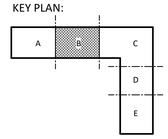
5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
LIGHTING PLAN - LEVEL 1 - AREA B

BID SET SUBMISSION: 2024.04.10

SHEET:
E02.11B

BID SET

4/3/2024 4:00:09 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT THIS SHEETS ORIGINAL PAGE SIZE

2 LEVEL 1 FLOOR PLAN - LIGHTING

SCALE: 1/8" = 1'-0"

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E. LOCATE EXIT SIGNS FOR MAXIMUM VIEWING AREA TO IDENTIFY EGRESS PATHS AS INDICATED ON PLANS. COORDINATE LOCATIONS SUCH THAT ARCHITECTURAL FEATURES OR EQUIPMENT FROM OTHER TRADES DO NOT OBSTRUCT VIEW.

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G. CONTRACTOR SHALL PROVIDE UNSWITCHED CONDUCTOR TO ALL EXIT SIGNS, AND NIGHT LIGHTS AS REQUIRED.

H. ALL LIGHTING SHALL BE CONTROLLED THROUGH CONTACTOR CABINET INDICATED ON LIGHTING CONTROL ZONE PLANS.

KEYNOTES

L3 CONTRACTOR SHALL COORDINATE LIGHT FIXTURE MOUNTING LOCATIONS WITH MECHANICAL EQUIPMENT AND DUCTS.

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LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN: A B C D E

SHEET NAME: LIGHTING PLAN - LEVEL 1 - AREA C

BID SET SUBMISSION: 2024.04.10

SHEET: E02.11C

BID SET

4/3/2024 4:00:28 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH D SHEETS ORIGINAL PAGE SIZE

2 LEVEL 1 FLOOR PLAN - LIGHTING

SCALE: 1/8" = 1'-0"

GENERAL NOTES (LIGHTING):

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER N.E.C. #310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER N.E.C. #300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN N.E.C #100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

C. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING.

D. LOCATE CHAIN-HUNG INDUSTRIAL FIXTURES IN MECHANICAL ROOMS TO AVOID DUCTWORK AND PIPING. TO MAXIMIZE AVAILABLE LIGHT, SPACE AROUND EQUIPMENT, AIR HANDLERS, ETC. TO PROVIDE ADEQUATE LIGHTING TO ALL AREAS OF ROOM. PROVIDE ADDITIONAL FIXTURES OF SAME TYPE AS NEEDED TO FULFILL THIS REQUIREMENT.

E. LOCATE EXIT SIGNS FOR MAXIMUM VIEWING AREA TO IDENTIFY EGRESS PATHS AS INDICATED ON PLANS. COORDINATE LOCATIONS SUCH THAT ARCHITECTURAL FEATURES OR EQUIPMENT FROM OTHER TRADES DO NOT OBSTRUCT VIEW.

F. RECESSED LUMINAIRES SHALL BE SECURED SUCH THAT THE FORCE REQUIRED INSERTING LAMPS, TRIMS, LENSES, LOUVERS, OR DOOR FRAMES DOES NOT SHIFT HOUSING. ALL TRIMS SHALL BE COMPLETELY FLUSH WITH FINISHED CEILINGS AT COMPLETION OF CONSTRUCTION.

G. CONTRACTOR SHALL PROVIDE UNSWITCHED CONDUCTOR TO ALL EXIT SIGNS, AND NIGHT LIGHTS AS REQUIRED.

H. ALL LIGHTING SHALL BE CONTROLLED THROUGH CONTACTOR CABINET INDICATED ON LIGHTING CONTROL ZONE PLANS.

KEYNOTES

L4 SWITCH TO CONTROL CASEWORK LIGHTING. CONTRACTOR TO PROVIDE ALL REQUIRED DEVICES AND WIRING FOR A FULLY FUNCTIONING SYSTEM. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION. PROVIDE (2) #12, #12G, 3/4"C FROM NEAREST 120V, 1PH, 20A, CIRCUIT.

Wake County Public School System

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NORTH CAROLINA PROFESSIONAL SEAL 043650 ENGINEER STEVE E. ROBEY
04/10/2024

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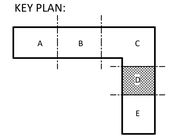
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
LIGHTING PLAN - LEVEL 1 - AREA D

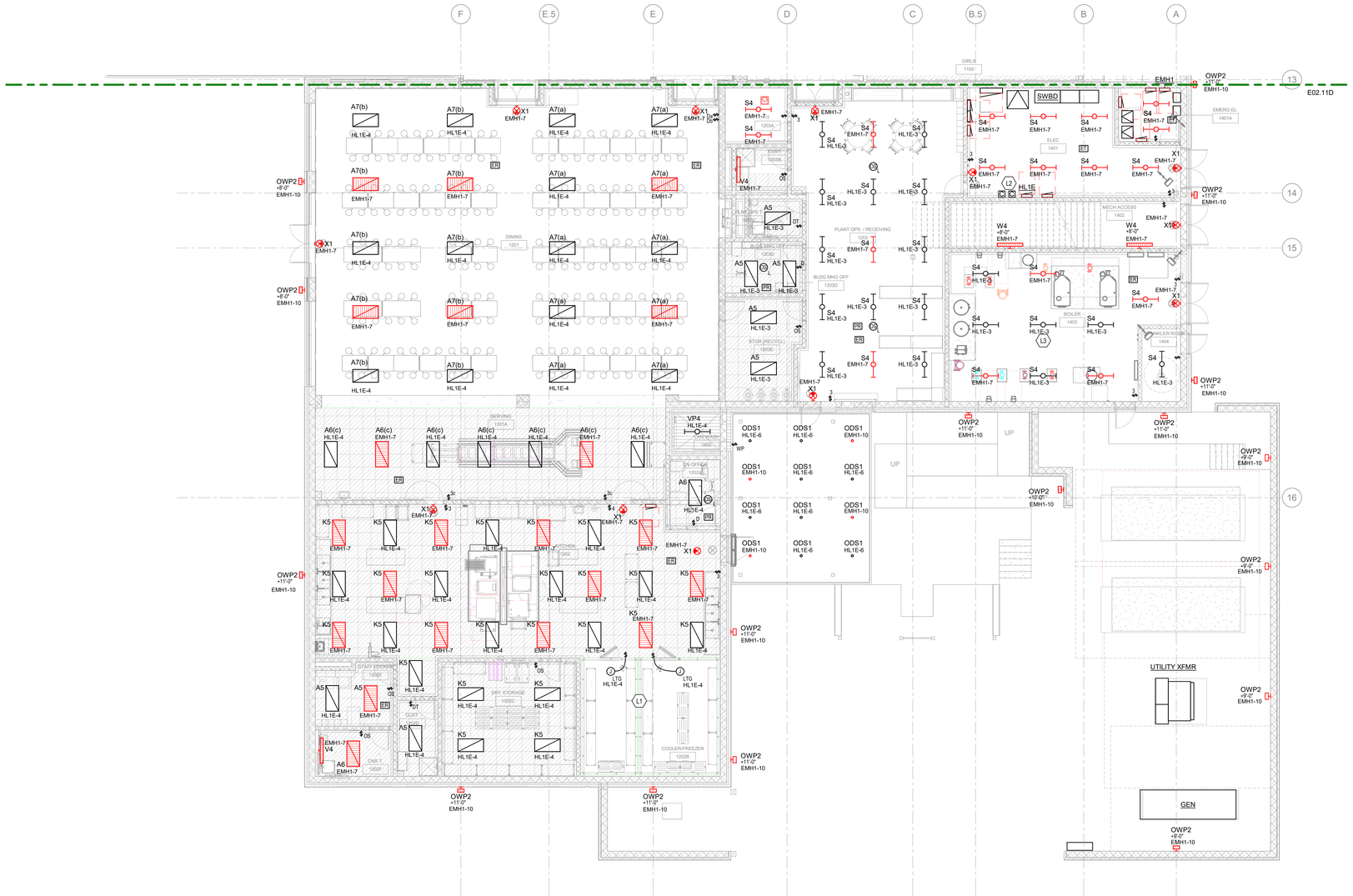
BID SET SUBMISSION: 2024.04.10

SHEET:
E02.11D

BID SET

4/3/2024 4:00:40 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ALL SHEETS ORIGINAL PAGE SIZE



2 LEVEL 1 FLOOR PLAN - LIGHTING

SCALE: 1/8" = 1'-0"

GENERAL NOTES (LIGHTING):

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER N.E.C. #310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER N.E.C. #300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN N.E.C #100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

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F. RECESSED LUMINAIRES SHALL BE SECURED SUCH THAT THE FORCE REQUIRED INSERTING LAMPS, TRIMS, LENSES, LOUVERS, OR DOOR FRAMES DOES NOT SHIFT HOUSING. ALL TRIMS SHALL BE COMPLETELY FLUSH WITH FINISHED CEILINGS AT COMPLETION OF CONSTRUCTION.

G. CONTRACTOR SHALL PROVIDE UNSWITCHED CONDUCTOR TO ALL EXIT SIGNS, AND NIGHT LIGHTS AS REQUIRED.

H. ALL LIGHTING SHALL BE CONTROLLED THROUGH CONTACTOR CABINET INDICATED ON LIGHTING CONTROL ZONE PLANS.

KEYNOTES

L1 REFER TO FOOD SERVICE DRAWINGS FOR FIXTURE LAYOUT. PROVIDE CIRCUIT INDICATED FOR LIGHT FIXTURES.

L2 PROVIDE LIGHTING CONTACTOR CABINETS FOR EXTERIOR AND INTERIOR LIGHTING. PROVIDED. REFER TO LIGHTING CONTROL DETAILS ON SHEET E09.01 FOR MORE INFORMATION.

L3 CONTRACTOR SHALL COORDINATE LIGHT FIXTURE MOUNTING LOCATIONS WITH MECHANICAL EQUIPMENT AND DUCTS.

Wake County Public School System

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04/10/2024

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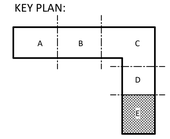
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
LIGHTING PLAN - LEVEL 1 - AREA E

BID SET SUBMISSION: 2024.04.10

SHEET:
E02.11E

BID SET

4/3/2024 4:00:49 PM

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2 LEVEL 2 FLOOR PLAN - LIGHTING

SCALE: 1/8" = 1'-0"

GENERAL NOTES (LIGHTING):

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KEYNOTES

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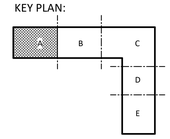
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
LIGHTING PLAN - LEVEL 2 - AREA A

BID SET SUBMISSION: 2024.04.10

SHEET:
E02.21A

BID SET

4/3/2024 4:01:00 PM

2 LEVEL 2 FLOOR PLAN - LIGHTING

SCALE: 1/8" = 1'-0"

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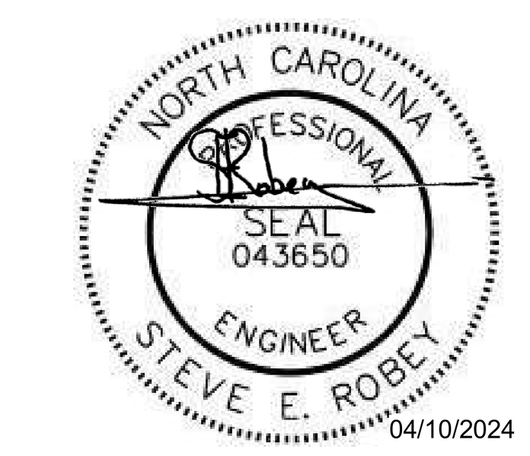

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN: A B C D E

SHEET NAME: LIGHTING PLAN - LEVEL 2 - AREA B

BID SET SUBMISSION: 2024.04.10

SHEET: E02.21B

BID SET

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4/3/2024 4:01:14 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH E SHEETS ORIGINAL PAGE SIZE

2 LEVEL 2 FLOOR PLAN - LIGHTING

SCALE: 1/8" = 1'-0"

GENERAL NOTES (LIGHTING):

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KEYNOTES

L3 CONTRACTOR SHALL COORDINATE LIGHT FIXTURE MOUNTING LOCATIONS WITH MECHANICAL EQUIPMENT AND DUCTS.

Wake County Public School System

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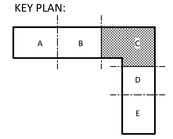
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
LIGHTING PLAN - LEVEL 2 - AREA C

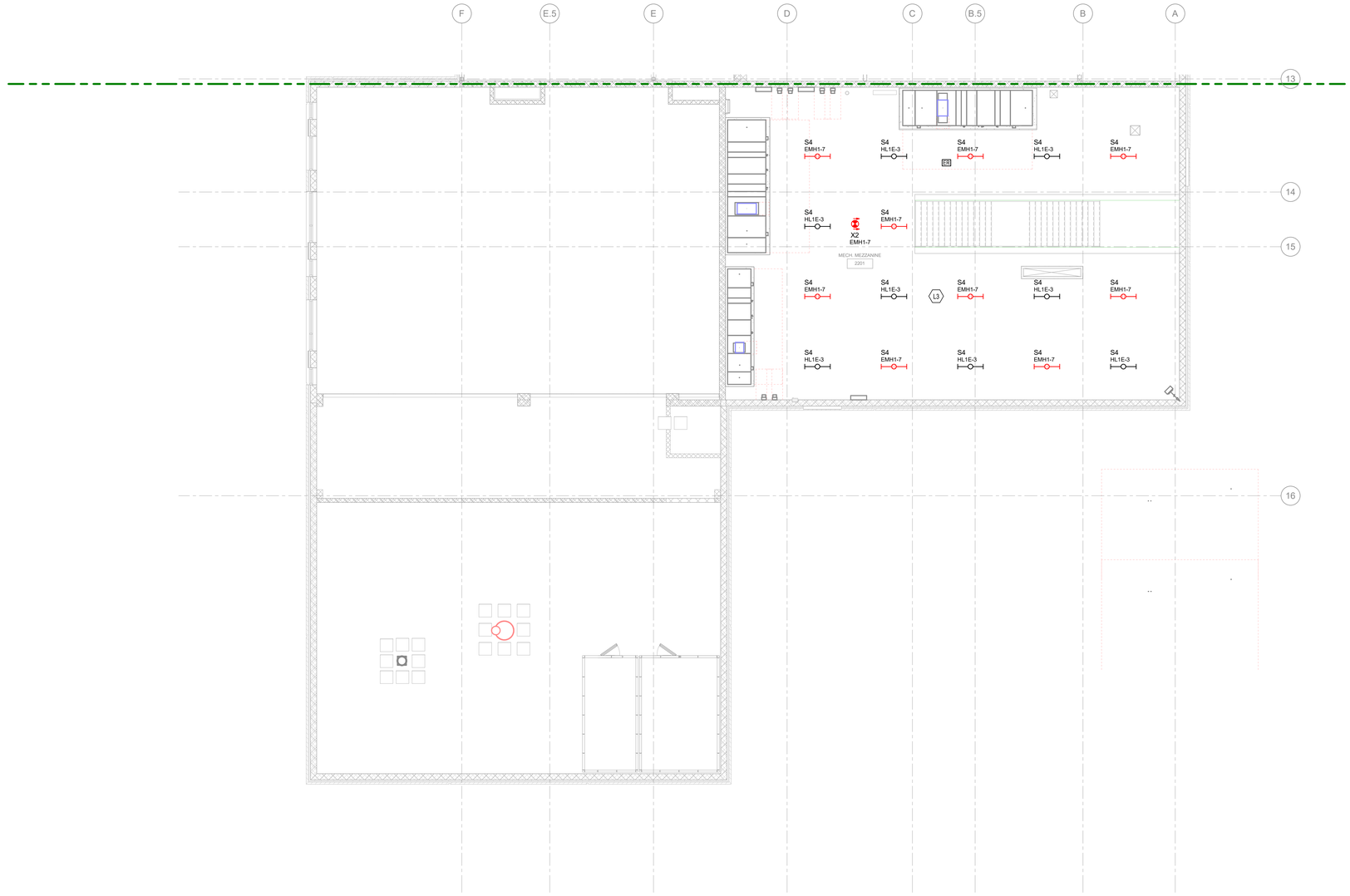
BID SET SUBMISSION: 2024.04.10

SHEET:
E02.21C

BID SET

4/3/2024 4:01:23 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ALL ORIGINAL PLOT SHEETS



1 LEVEL 2 FLOOR PLAN - LIGHTING

SCALE: 1/8" = 1'-0"

GENERAL NOTES (LIGHTING):

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KEYNOTES

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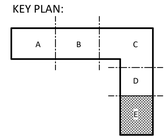
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
LIGHTING PLAN - LEVEL 2 - AREA E

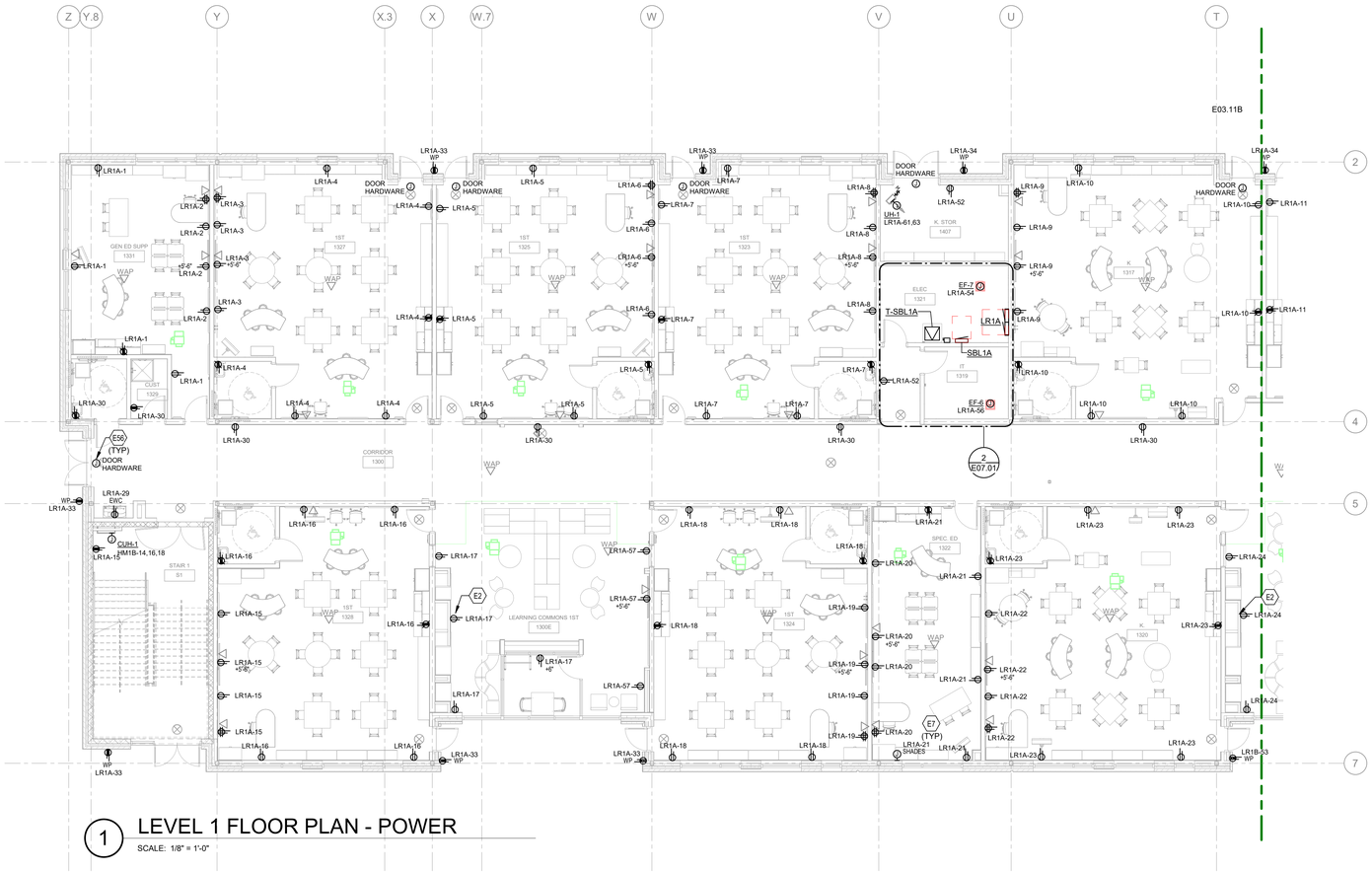
BID SET SUBMISSION: 2024.04.10

SHEET:
E02.21E

BID SET

4/3/2024 4:01:26 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH D SHEETS ORIGINAL PAGE SIZE



1 LEVEL 1 FLOOR PLAN - POWER

SCALE: 1/8" = 1'-0"

GENERAL NOTES (POWER):

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B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER NEC 310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER NEC 300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN NEC 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

C. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING.

D. COORDINATE LOCATIONS OF ELECTRICAL CONNECTIONS AND LOCAL DISCONNECTS WITH MECHANICAL AND PLUMBING CONTRACTORS TO ENSURE ACCESS AND WORKING CLEARANCE IS MAINTAINED PER NEC. NOTIFY OTHER TRADES OF REQUIRED CLEARANCE AREAS TO AVOID ROUTING OF OTHER SYSTEMS IN THESE AREAS. DO NOT INSTALL ELECTRICAL EQUIPMENT OVER EQUIPMENT NAMEPLATES OR ACCESS PANELS OR THROUGH ACCESS/MAINTENANCE CLEARANCES OF EQUIPMENT BY OTHER TRADES.

KEYNOTES

E2 INSTALL RECEPTACLES IN FRONT FACE OF CASEWORK.

E7 MOTORIZED WINDOW SHADES SHALL BE LOCALLY CONTROLLED FROM LOCATION INDICATED USING RAISE/LOWER FUNCTION. MOTORIZED SHADES TO BE CONNECTED TO BAS SYSTEM FOR OVERRIDE AND TIME SCHEDULING CONTROLS. PROVIDE ALL PATHWAYS AND CABLING AS REQUIRED FOR SYSTEM CONNECTIONS AND INTEGRATION TO BAS. COORDINATE INSTALLATION, AND ALL DEVICE MOUNTING HEIGHTS AND LOCATIONS WITH MANUFACTURER INSTRUCTIONS. SHADE SYSTEM BASIS OF DESIGN TO BE MECHOSYSTEMS "CLASSIC MECHO/S" OR APPROVED EQUAL. PROVIDE NUMBER OF INDIVIDUAL CONTROL SWITCHES AS REQUIRED FOR LOCAL CONTROL OF SHADES IN THIS AREA. COORDINATE LOCAL CONTROL LOCAATIONS WITH OWNER.

E56 PROVIDE JUNCTION BOX ABOVE CEILING (OR MOUNTED ABOVE DOOR WHERE INSTALLED IN EXPOSED AREAS) FOR DOOR HARDWARE CONNECTIONS. PROVIDE 1"C FROM DOOR JUNCTION BOX BACK TO SYSTEM CONTROLLER IN TELECOMM ROOM. REFER TO DETAIL ON SHEET E8.04.

Wake County Public School System

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04/10/2024

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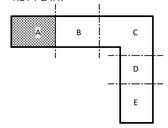
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
POWER PLAN - LEVEL 1 - AREA A

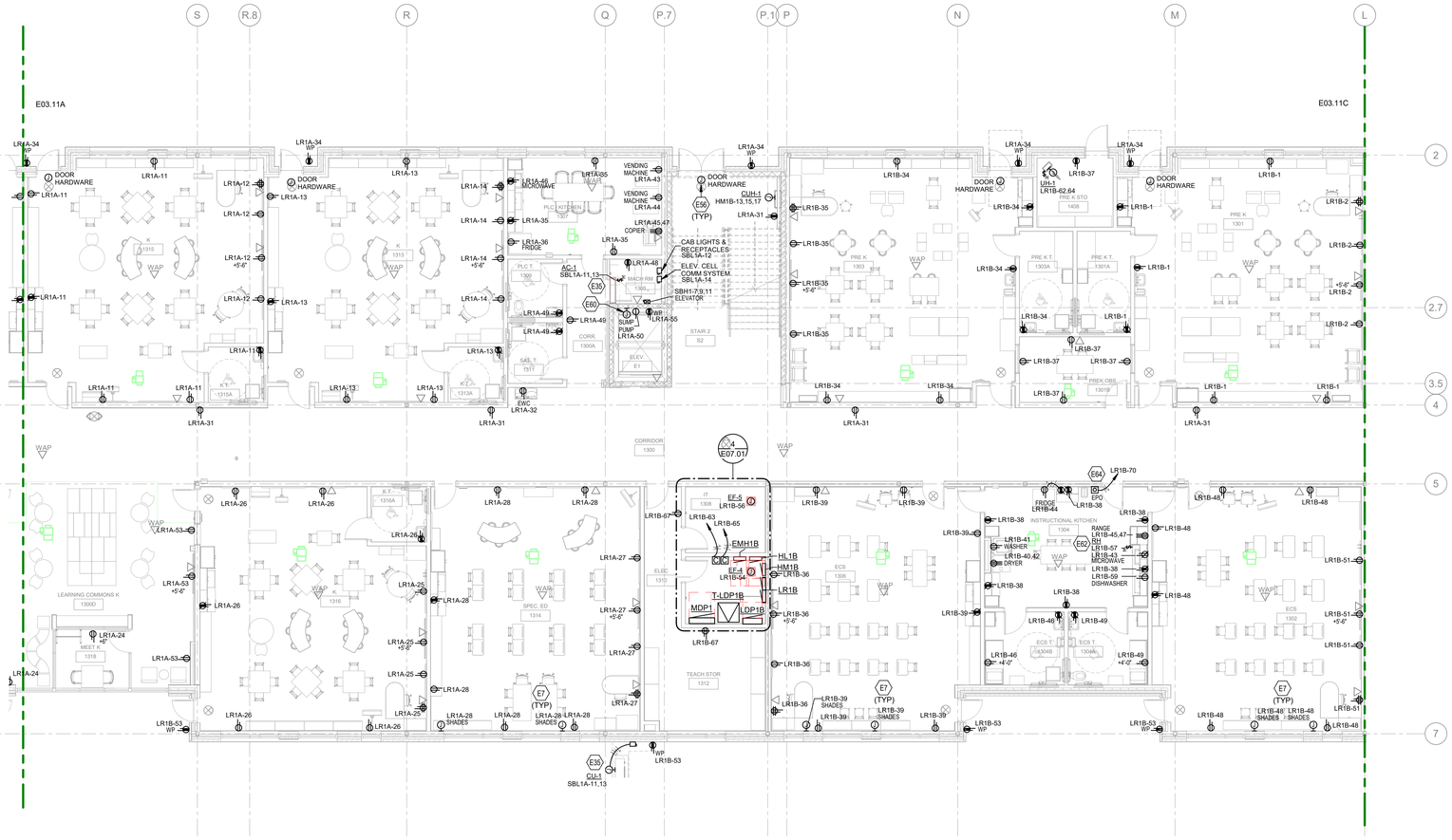
BID SET SUBMISSION: 2024.04.10

SHEET:
E03.11A

BID SET

4/3/2024 4:01:36 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT FULL SCALE ON ORIGINAL PLOT SETS



1 LEVEL 1 FLOOR PLAN - POWER

SCALE: 1/8" = 1'-0"

GENERAL NOTES (POWER):

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER NEC 310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER NEC 300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN NEC 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

C. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING.

D. COORDINATE LOCATIONS OF ELECTRICAL CONNECTIONS AND LOCAL DISCONNECTS WITH MECHANICAL AND PLUMBING CONTRACTORS TO ENSURE ACCESS AND WORKING CLEARANCE IS MAINTAINED PER NEC. NOTIFY OTHER TRADES OF REQUIRED CLEARANCE AREAS TO AVOID ROUTING OF OTHER SYSTEMS IN THESE AREAS. DO NOT INSTALL ELECTRICAL EQUIPMENT OVER EQUIPMENT NAMEPLATES OR ACCESS PANELS OR THROUGH ACCESS/MAINTENANCE CLEARANCES OF EQUIPMENT BY OTHER TRADES.

KEYNOTES

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E35 PROVIDE 1-1/4" CONDUIT FROM EACH "CU" CONDENSING UNITS TO THE CORRESPONDING INDOOR "AC" UNIT FOR INSTALLATION OF WIRING AS PROVIDED WITH UNITS (REFER TO MECHANICAL EQUIPMENT SCHEDULES).

E56 PROVIDE JUNCTION BOX ABOVE CEILING (OR MOUNTED ABOVE DOOR WHERE INSTALLED IN EXPOSED AREAS) FOR DOOR HARDWARE CONNECTIONS. PROVIDE 1"C FROM DOOR JUNCTION BOX BACK TO SYSTEM CONTROLLER IN TELECOMM ROOM. REFER TO DETAIL ON SHEET E8.04.

E60 PROVIDE JUNCTION BOX FOR CONNECTION OF ELEVATOR SUMP PUMP TO OIL MINDER SYSTEM. REFER TO PLUMBING DRAWINGS AND DETAILS.

E62 MECHANICAL CONTRACTOR PROVIDED ADA SWITCH FOR RANGE HOOD OPERATION. PROVIDE PATHWAYS AND BACKBOXES FOR ADA SWITCH. COORDINATE INSTALLATION OF ADA SWITCH IN FACE OF CASEWORK WITH ARCHITECTURAL DRAWINGS AND GENERAL CONTRACTOR. PROVIDE CIRCUIT INDICATED FOR COMPLETE RANGEHOOD OPERATION.

E64 PROVIDE EMERGENCY STOP PUSH BUTTON FOR KITCHEN OVEN RANGE AND COUNTER-TOP RECEPTACLES FOR POWER OFF. REFER TO DETAIL ON SHEET E09.05 FOR MORE INFORMATION.

Wake County Public School System

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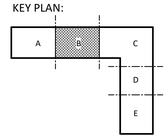
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



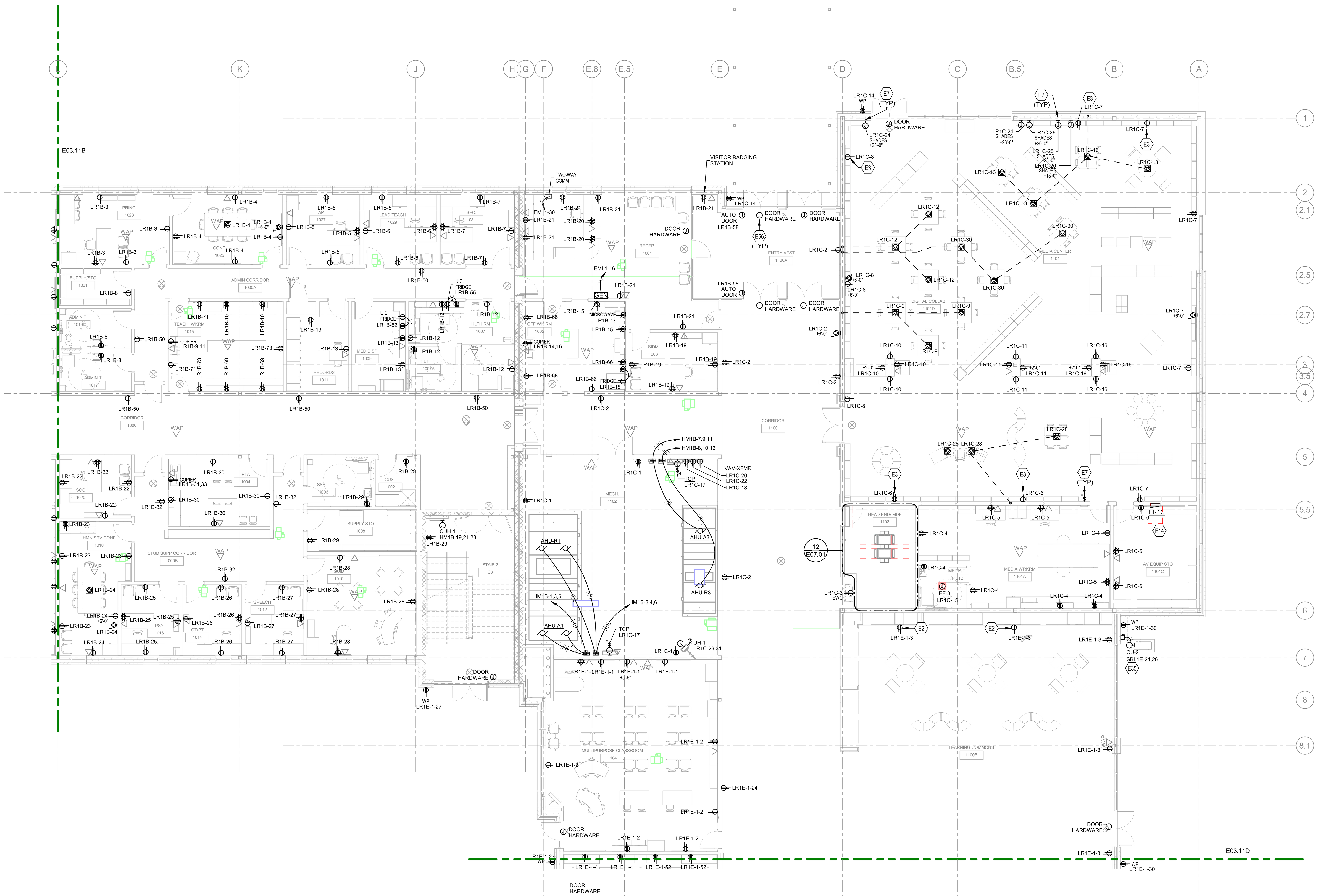
SHEET NAME:
POWER PLAN - LEVEL 1 - AREA B

BID SET SUBMISSION: 2024.04.10

SHEET:
E03.11B

BID SET

4/3/2024 4:01:46 PM



1 LEVEL 1 FLOOR PLAN - POWER

SCALE: 1/8" = 1'-0"

GENERAL NOTES (POWER):

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

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KEYNOTES

E2	INSTALL RECEPTACLES IN FRONT FACE OF CASEWORK.
E3	INSTALL RECEPTACLE IN FRONT FACE OF BOOK CASE SHELVING.
E7	MOTORIZED WINDOW SHADES SHALL BE LOCALLY CONTROLLED FROM LOCATION INDICATED USING RAISE/LOWER FUNCTION. MOTORIZED SHADES TO BE CONNECTED TO BAS SYSTEM FOR OVERRIDE AND TIME SCHEDULING CONTROLS. PROVIDE ALL PATHWAYS AND CABLING AS REQUIRED FOR SYSTEM CONNECTIONS AND INTEGRATION TO BAS. COORDINATE INSTALLATION, AND ALL DEVICE MOUNTING HEIGHTS AND LOCATIONS WITH MANUFACTURER INSTRUCTIONS, SHADE SYSTEM BASIS OF DESIGN TO BE MECHOSYSTEMS "CLASSIC MECHO/5" OR APPROVED EQUAL. PROVIDE NUMBER OF INDIVIDUAL CONTROL SWITCHES AS REQUIRED FOR LOCAL CONTROL OF SHADES IN THIS AREA. COORDINATE LOCAL CONTROL LOCAATIONS WITH OWNER.
E14	PROVIDE (3) 3/4"C SPARE CONDUIT STUBBED-UP ABOVE ACCESSIBLE CEILINGS FOR ALL RECESSED PANELBOARDS.
E35	PROVIDE 1-1/4" CONDUIT FROM EACH "CU" CONDENSING UNITS TO THE CORRESPONDING INDOOR "AC" UNIT FOR INSTALLATION OF WIRING AS PROVIDED WITH UNITS (REFER TO MECHANICAL EQUIPMENT SCHEDULES).
E56	PROVIDE JUNCTION BOX ABOVE CEILING (OR MOUNTED ABOVE DOOR WHERE INSTALLED IN EXPOSED AREAS) FOR DOOR HARDWARE CONNECTIONS. PROVIDE 1"C FROM DOOR JUNCTION BOX BACK TO SYSTEM CONTROLLER IN TELECOMM ROOM. REFER TO DETAIL ON SHEET E8.04.

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04/10/2024

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:

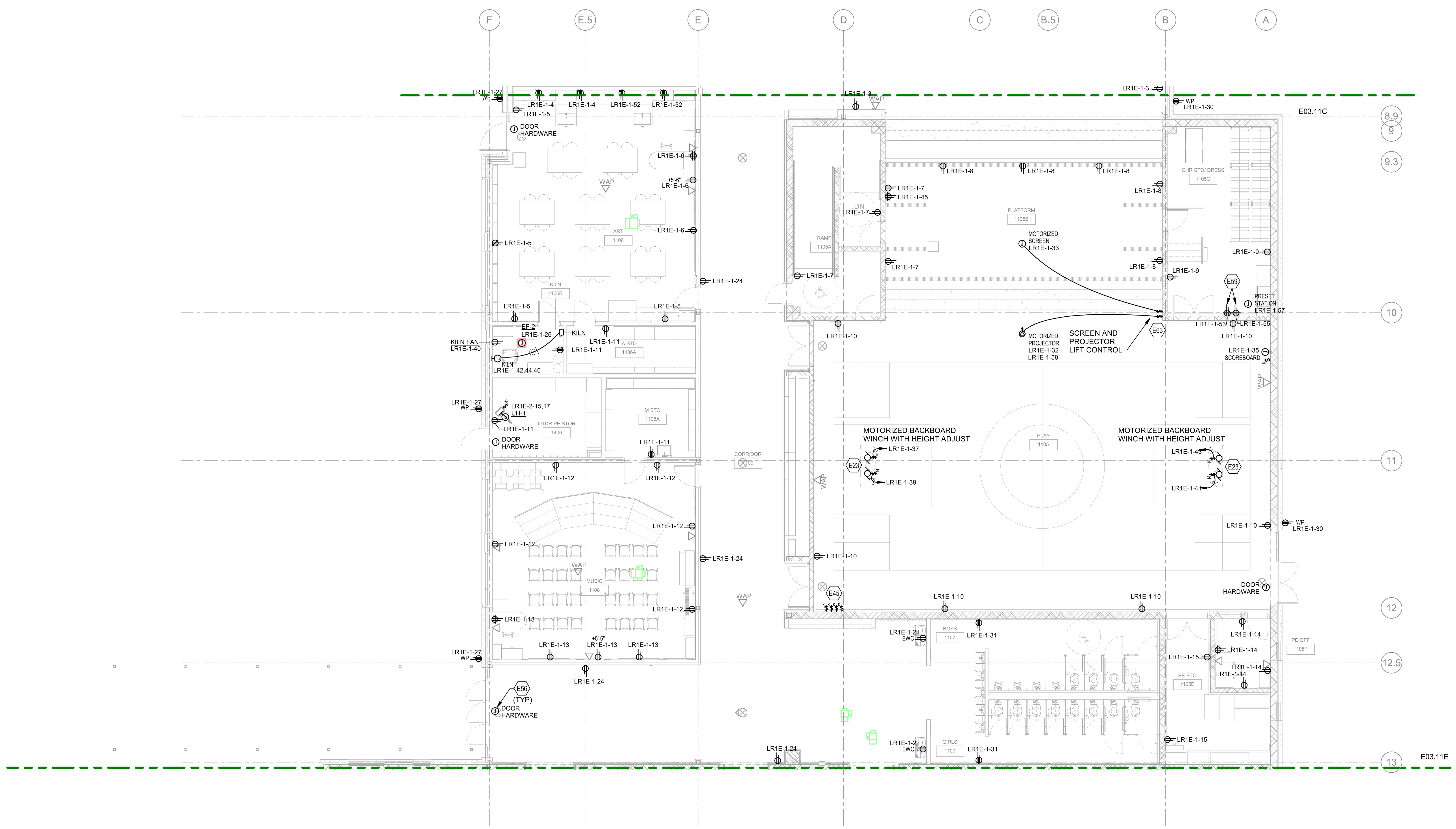
SHEET NAME:
POWER PLAN - LEVEL 1 - AREA C

BID SET SUBMISSION: 2024.04.10

SHEET: E03.11C

BID SET

4/3/2024 4:01:56 PM



1 LEVEL 1 FLOOR PLAN - POWER

SCALE: 1/8" = 1'-0"

GENERAL NOTES (POWER):

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

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KEYNOTES

E23	PROVIDE CONNECTION TO ELECTRIC GOAL WINCH/MOTOR, EXTEND POWER TO KEYED MOTOR SWITCH IN GYM CONTROL PANEL FOR RAISE/LOWER FUNCTION.
E45	BASKETBALL GOAL KEYED SWITCHES FOR MOTOR CONTROL. PROVIDE IN RECESSED LOCKABLE ENCLOSURE. REFER TO GYM MOTOR CONTROL PANEL DETAIL FOR MORE INFORMATION.
E56	PROVIDE JUNCTION BOX ABOVE CEILING (OR MOUNTED ABOVE DOOR WHERE INSTALLED IN EXPOSED AREAS) FOR DOOR HARDWARE CONNECTIONS. PROVIDE 1"C FROM DOOR JUNCTION BOX BACK TO SYSTEM CONTROLLER IN TELECOMM ROOM. REFER TO DETAIL ON SHEET E8.04.
E59	PLAY AREA SOUND EQUIPMENT RACK. COORDINATE EXACT MOUNTING HEIGHT OF RECEPTACLES PRIOR TO ROUGH-IN(S).
E63	FOR MOTORIZED PROJECTION SCREEN AND PROJECTOR LIFT, PROVIDE REMOTE, KEY-OPERATED, 3-POSITION CONTROL SWITCHES INSTALLED IN RECESSED METAL BOX WITH FLUSH COVERPLATE MATCHING OTHER ELECTRICAL DEVICE COVERPLATES IN THIS AREA. PROVIDE PATHWAYS FROM SWITCH TO INDIVIDUAL CONTROLS SWITCHES INDICATED ON PLANS.

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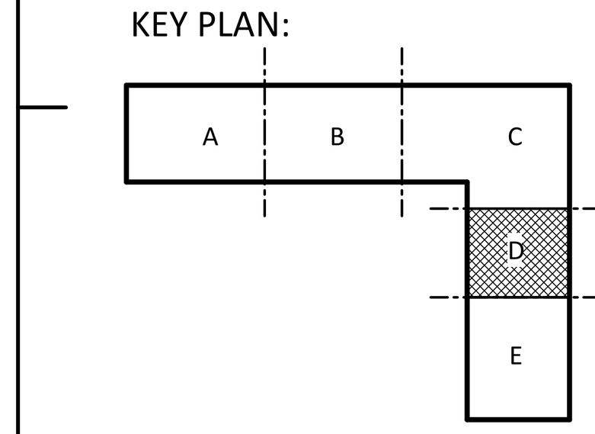
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
POWER PLAN - LEVEL 1 - AREA D

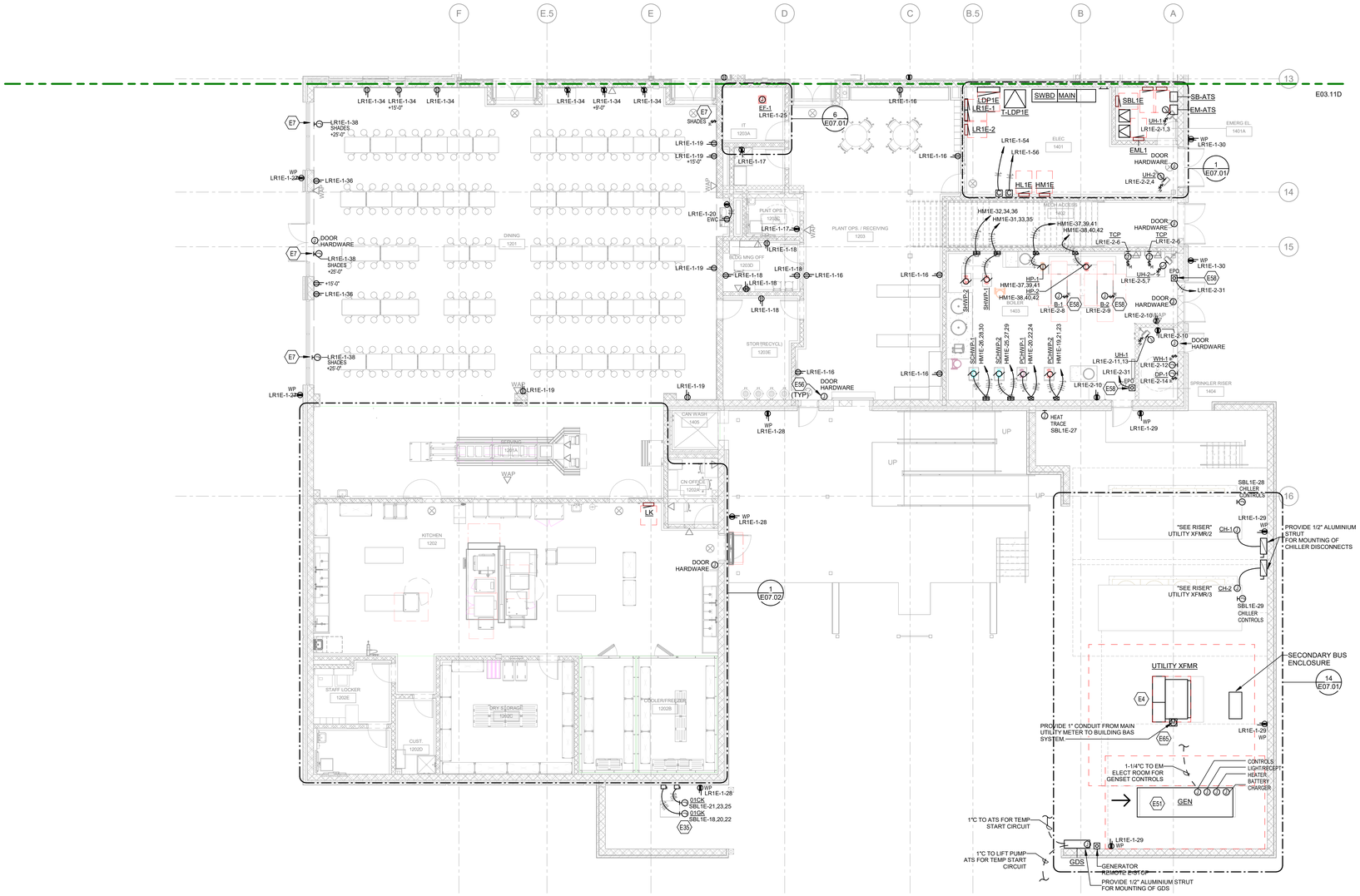
BID SET SUBMISSION: 2024.04.10

SHEET: E03.11D

BID SET

4/3/2024 4:02:03 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH E SHEETS ORIGINAL PAGE SIZE



1 LEVEL 1 FLOOR PLAN - POWER

SCALE: 1/8" = 1'-0"

GENERAL NOTES (POWER):

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

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C. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING.

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KEYNOTES

E4 PROVIDE LARGE PIT PAD TYPE TRANSFORMER PAD IN ACCORDANCE WITH UTILITY COMPANY STANDARDS. REFER TO LARGE PIT PAD DETAIL FOR MORE INFORMATION.

E7 MOTORIZED WINDOW SHADES SHALL BE LOCALLY CONTROLLED FROM LOCATION INDICATED USING RAISE/LOWER FUNCTION. MOTORIZED SHADES TO BE CONNECTED TO BAS SYSTEM FOR OVERRIDE AND TIME SCHEDULING CONTROLS. PROVIDE ALL PATHWAYS AND CABLING AS REQUIRED FOR SYSTEM CONNECTIONS AND INTEGRATION TO BAS. COORDINATE INSTALLATION, AND ALL DEVICE MOUNTING HEIGHTS AND LOCATIONS WITH MANUFACTURER INSTRUCTIONS. SHADE SYSTEM BASIS OF DESIGN TO BE MECHOSYSTEMS "CLASSIC MECHOSR" OR APPROVED EQUAL. PROVIDE NUMBER OF INDIVIDUAL CONTROL SWITCHES AS REQUIRED FOR LOCAL CONTROL OF SHADES IN THIS AREA. COORDINATE LOCAL CONTROL LOCAATIONS WITH OWNER.

E35 PROVIDE 1-1/4" CONDUIT FROM EACH "CU" CONDENSING UNITS TO THE CORRESPONDING INDOOR "AC" UNIT FOR INSTALLATION OF WIRING AS PROVIDED WITH UNITS (REFER TO MECHANICAL EQUIPMENT SCHEDULES).

E51 PROVIDE CONCRETE GENERATOR PAD. SEE PAD FOUNDATION DETAIL FOR MORE INFORMATION. PROVIDE 3/4"X10' GROUND ROD AT EACH CORNER AND BOND TOGETHER WITH #4 BARE COPPER CONDUCTOR. EXTEND #4 PIGTAIL FROM GROUND RING TO CONDUIT OPENING FOR BONDING GENERATOR ENCLOSURE.

E56 PROVIDE JUNCTION BOX ABOVE CEILING (OR MOUNTED ABOVE DOOR WHERE INSTALLED IN EXPOSED AREAS) FOR DOOR HARDWARE CONNECTIONS. PROVIDE 1"C FROM DOOR JUNCTION BOX BACK TO SYSTEM CONTROLLER IN TELECOMM ROOM. REFER TO DETAIL ON SHEET E8.04.

E58 PROVIDE EMERGENCY STOP PUSH BUTTON FOR BOILERS FOR POWER OFF. REFER TO DETAIL ON SHEET E09.05 FOR MORE INFORMATION.

E65 METER TO BE PULSE TYPE. THE ELECTRICAL CONTRACTOR TO REQUEST THE INSTALLATION OF THE PULSE METER WHEN THE COORDINATING WITH UTILITY.

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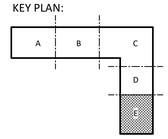
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
POWER PLAN - LEVEL 1 - AREA E

BID SET SUBMISSION: 2024.04.10

SHEET:
E03.11E

BID SET

4/3/2024 4:02:10 PM

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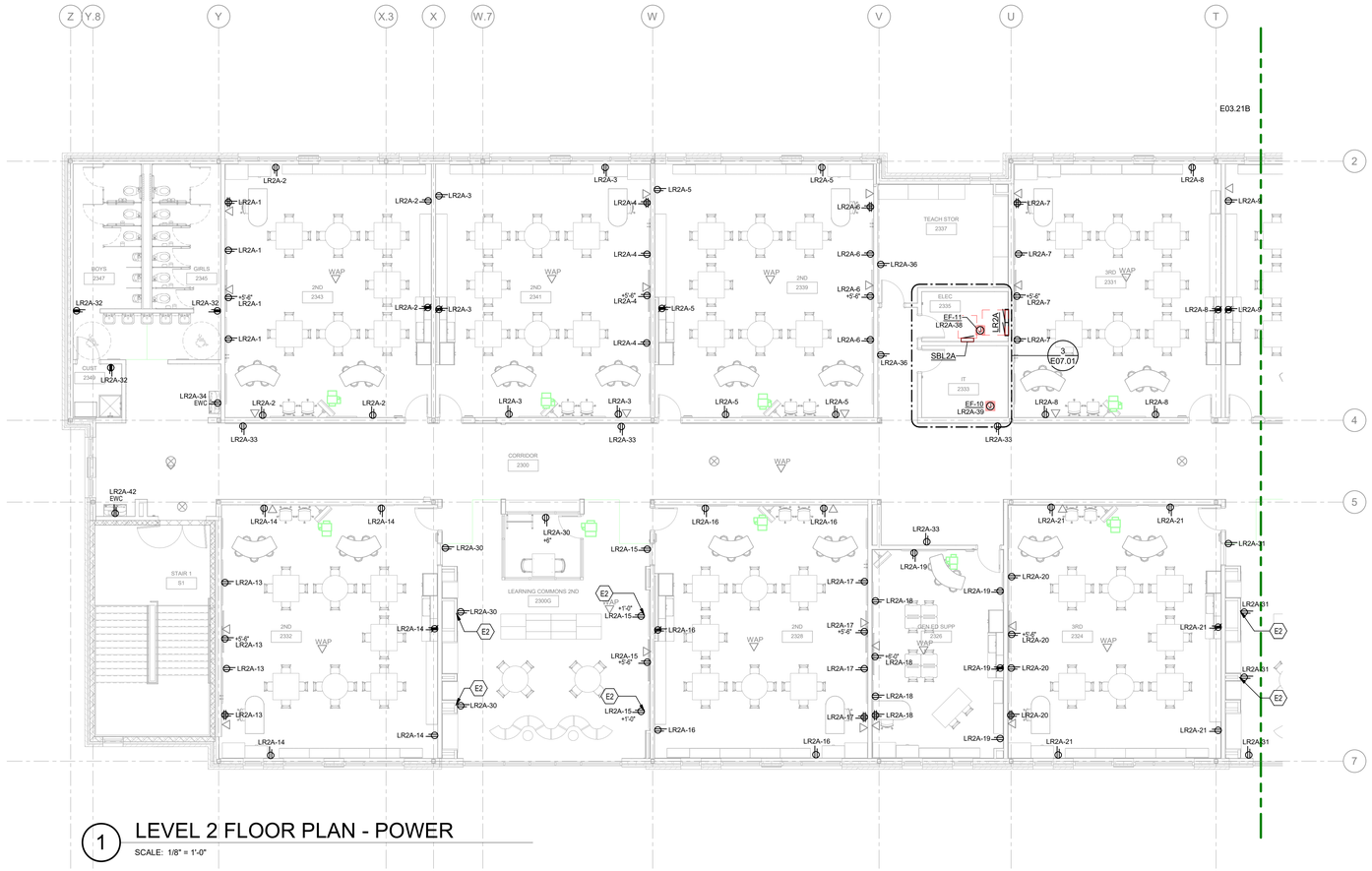

1 LEVEL 2 FLOOR PLAN - POWER

SCALE: 1/8" = 1'-0"

GENERAL NOTES (POWER):

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KEYNOTES

E2 INSTALL RECEPTACLES IN FRONT FACE OF CASEWORK.

Wake County Public School System

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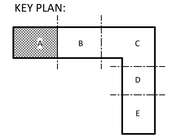
Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
POWER PLAN - LEVEL 2 - AREA A

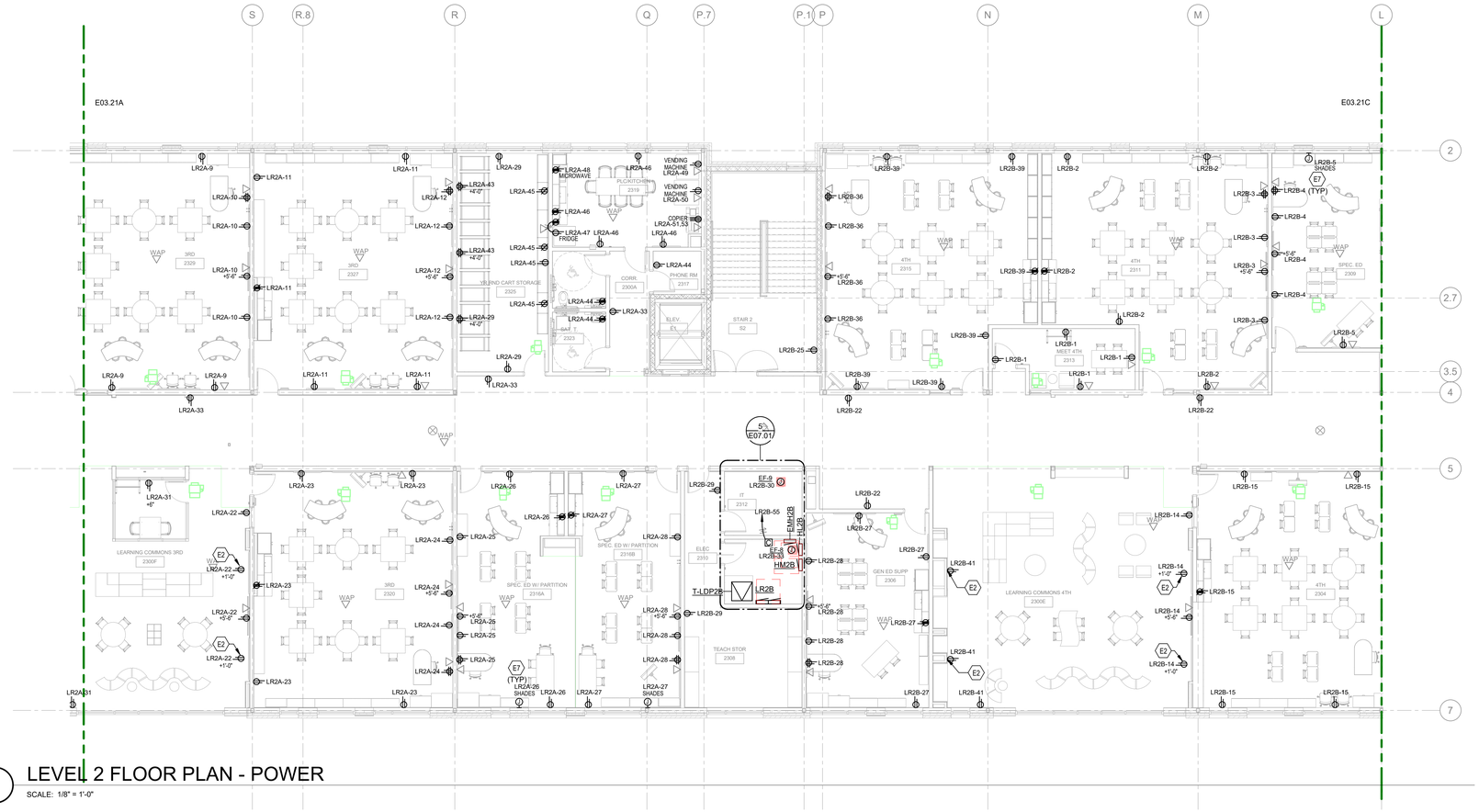
BID SET SUBMISSION: 2024.04.10

SHEET:
E03.21A

BID SET

4/3/2024 4:02:19 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH D SHEETS ORIGINAL PLOT SIZE



1 LEVEL 2 FLOOR PLAN - POWER

SCALE: 1/8" = 1'-0"

GENERAL NOTES (POWER):

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER NEC 310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER NEC 300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN NEC 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

C. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING.

D. COORDINATE LOCATIONS OF ELECTRICAL CONNECTIONS AND LOCAL DISCONNECTS WITH MECHANICAL AND PLUMBING CONTRACTORS TO ENSURE ACCESS AND WORKING CLEARANCE IS MAINTAINED PER NEC. NOTIFY OTHER TRADES OF REQUIRED CLEARANCE AREAS TO AVOID ROUTING OF OTHER SYSTEMS IN THESE AREAS. DO NOT INSTALL ELECTRICAL EQUIPMENT OVER EQUIPMENT NAMEPLATES OR ACCESS PANELS OR THROUGH ACCESS/MAINTENANCE CLEARANCES OF EQUIPMENT BY OTHER TRADES.

KEYNOTES

E2 INSTALL RECEPTACLES IN FRONT FACE OF CASEWORK.

E7 MOTORIZED WINDOW SHADES SHALL BE LOCALLY CONTROLLED FROM LOCATION INDICATED USING RAISE/LOWER FUNCTION. MOTORIZED SHADES TO BE CONNECTED TO BAS SYSTEM FOR OVERRIDE AND TIME SCHEDULING CONTROLS. PROVIDE ALL PATHWAYS AND CABLING AS REQUIRED FOR SYSTEM CONNECTIONS AND INTEGRATION TO BAS. COORDINATE INSTALLATION, AND ALL DEVICE MOUNTING HEIGHTS AND LOCATIONS WITH MANUFACTURER INSTRUCTIONS. SHADE SYSTEM BASIS OF DESIGN TO BE MECHOSYSTEMS "CLASSIC MECHO/S" OR APPROVED EQUAL. PROVIDE NUMBER OF INDIVIDUAL CONTROL SWITCHES AS REQUIRED FOR LOCAL CONTROL OF SHADES IN THIS AREA. COORDINATE LOCAL CONTROL LOCAATIONS WITH OWNER.

Wake County Public School System

LS3P

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04/10/2024

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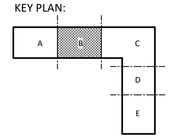
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
POWER PLAN - LEVEL 2 - AREA B

BID SET SUBMISSION: 2024.04.10

SHEET:
E03.21B

BID SET

4/3/2024 4:02:29 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH D SHEETS ORIGINAL PLOT SIZE

1 LEVEL 2 FLOOR PLAN - POWER

SCALE: 1/8" = 1'-0"

GENERAL NOTES (POWER):

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KEYNOTES

E2 INSTALL RECEPTACLES IN FRONT FACE OF CASEWORK.

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04/10/2024

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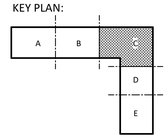
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
POWER PLAN - LEVEL 2 - AREA C

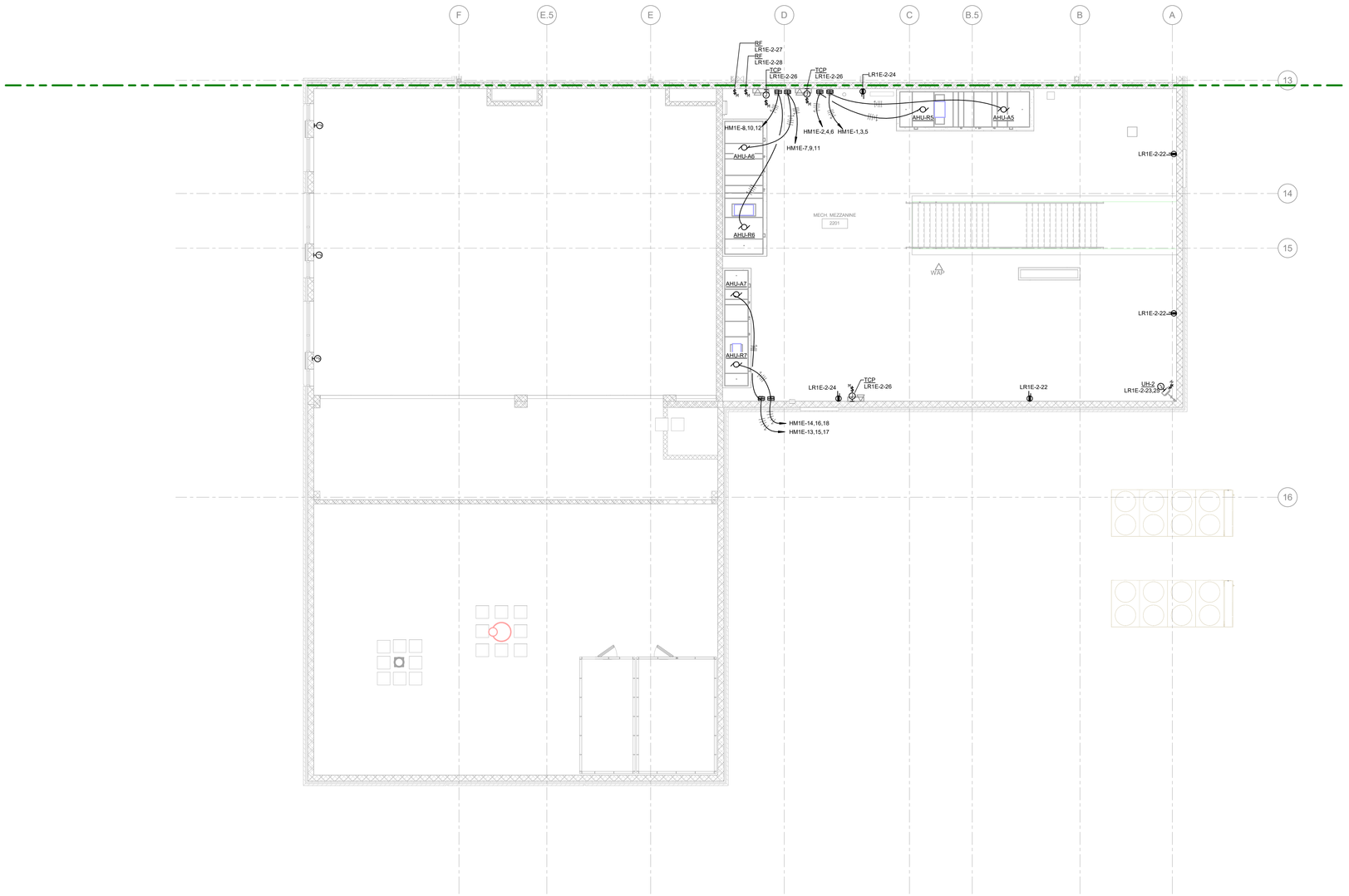
BID SET SUBMISSION: 2024.04.10

SHEET:
E03.21C

BID SET

4/3/2024 4:02:36 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH E SHEETS ORIGINAL PAGE SIZE



1 LEVEL 2 FLOOR PLAN - POWER

SCALE: 1/8" = 1'-0"

GENERAL NOTES (POWER):

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

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KEYNOTES

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04/10/2024

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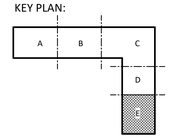
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
POWER PLAN - LEVEL 2 - AREA E

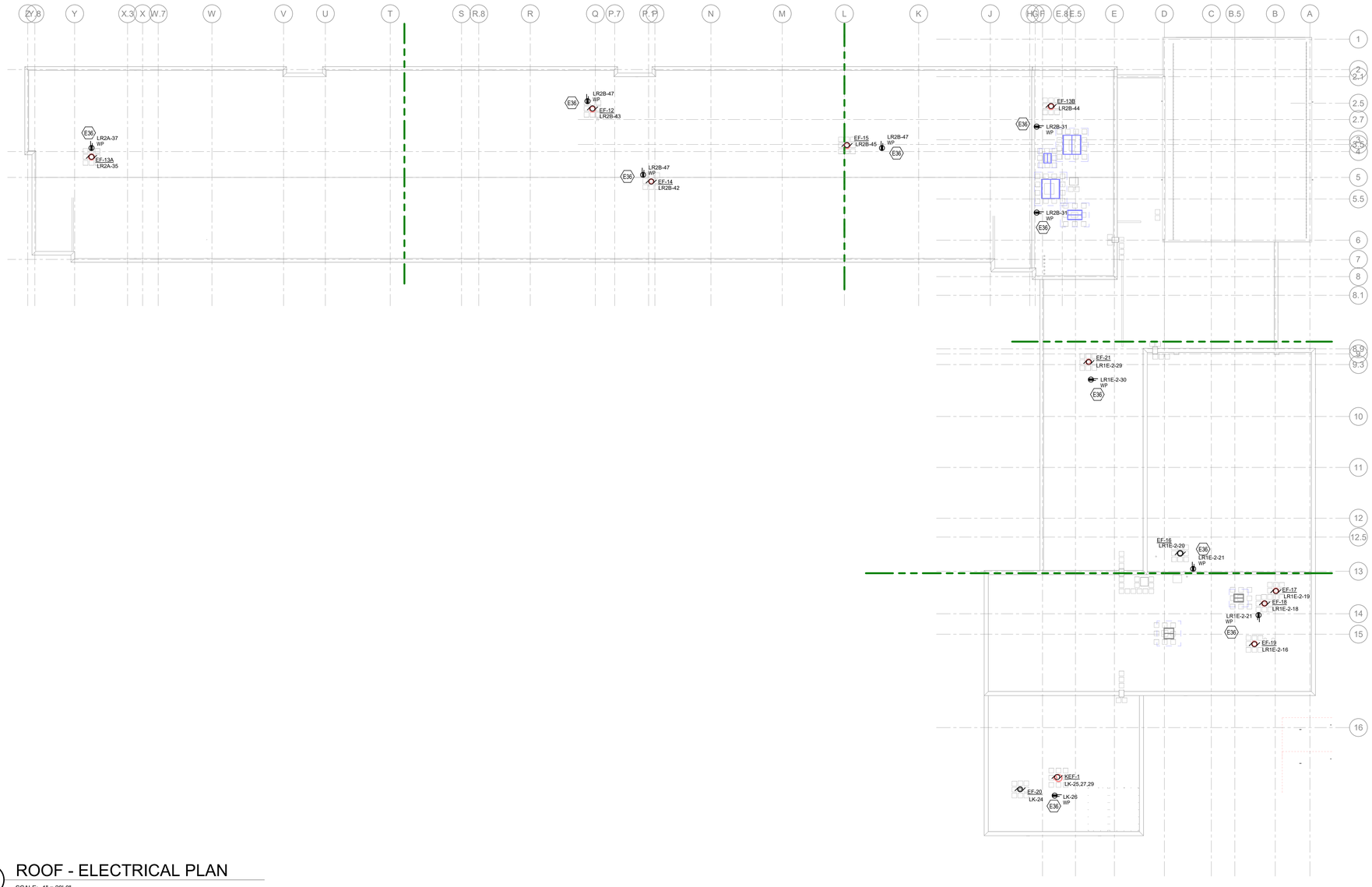
BID SET SUBMISSION: 2024.04.10

SHEET:
E03.21E

BID SET

4/3/2024 4:02:39 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH E SHEETS ORIGINAL PLOT SIZE



GENERAL NOTES (ROOF):

A. REFER TO POWER, SYSTEMS, AND LIGHTING PLANS FOR GENERAL NOTES APPLICABLE TO INTERIOR SPACES SHOWN ON THIS PLAN.

B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER NEC 310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER NEC 300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN NEC 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

C. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE ENGRAVED LAMACOID LABLES FOR ALL EXTERIOR DEVICES. MARK INSIDES OF ALL DEVICE BOXES WITH PANEL AND CIRCUIT NUMBER.

D. PROVIDE UNI-STRUT AS REQUIRED FOR MOUNTING OF ALL DEVICES ON ROOF. COORDINATE WITH ROOFING CONTRACTOR PRIOR TO CONSTRUCTION FOR ALL PENETRATIONS. SEAL PENETRATIONS AS REQUIRED PER ROOFING CONTRACTOR AND ROOFING MANUFACTURER'S RECOMMENDATIONS AS REQUIRED TO MAINTAIN ROOF WARRANTY. PROVIDE CURBS AND/OR FLASHED BOOTS AT ALL DEVICES AND PENETRATIONS.

E. CONDUITS SHALL PENETRATE ROOF FROM BELOW AS CLOSE TO FINAL ROOF EQUIPMENT TERMINATION POINT AS POSSIBLE. SUPPORT ALL ROOF MOUNTED CONDUITS AT INTERVALS NOT EXCEEDING 10 FEET WITH STRUT-BASED SUPPORT SYSTEM. SUPPORT SYSTEM TO BE CADDY PYRAMID ST SERIES OR APPROVED EQUAL.

F. ALL CONDUIT EXPOSED TO DIRECT SUNLIGHT SHALL BE AT LEAST 12" ABOVE THE ROOF-TOP. NO CONDUIT SHALL BE EXPOSED TO DIRECT SUNLIGHT BELOW THIS HEIGHT.

G. WHERE RACEWAY OR CONDUCTORS ARE INSTALLED EXPOSED ON ROOF, DERATE AMPACITY OF CONDUCTORS IN ACCORDANCE WITH NEC.

H. LOCATIONS OF ELECTRICAL CONNECTIONS AND LOCAL DISCONNECTS SHALL BE COORDINATED WITH MECHANICAL AND PLUMBING CONTRACTORS TO ENSURE ACCESS AND WORKING CLEARANCE IS MAINTAINED PER NEC. NOTIFY OTHER TRADES OF REQUIRED CLEARANCE AREAS TO AVOID ROUTING OF OTHER SYSTEMS IN THESE AREAS. DO NOT INSTALL ELECTRICAL EQUIPMENT OVER EQUIPMENT NAMEPLATES OR ACCESS PANELS OR THROUGH ACCESS/MAINTENANCE CLEARANCES OF EQUIPMENT BY OTHER TRADES.

I. PROVIDE MAINTENANCE RECEPTACLE WITHIN 25 FT OF EACH MECHANICAL UNIT AS REQUIRED BY NEC. COORDINATE INSTALLATION LOCATIONS WITH FINAL EQUIPMENT LAYOUT PROVIDE BY MECHANICAL CONTRACTOR.

J. CONDUIT FOR ROOF MOUNTED EQUIPMENT SHALL BE ROUTED IN CEILING SPACE BELOW ROOF DECK UNO.

KEYNOTES

E36 PROVIDE UNISTRUT AS REQUIRED FOR MOUNTING SERVICE RECEPTACLES ON ROOF. COORDINATE EXACT MOUNTING LOCATION WITH ALL TRADES PRIOR TO ROUGH-IN.

1 ROOF - ELECTRICAL PLAN
SCALE: 1" = 20'-0"

Wake County Public School System

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04/10/2024

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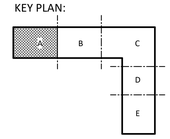
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
ROOF - ELECTRICAL PLAN

BID SET SUBMISSION: 2024.04.10

SHEET:
E03.31

BID SET

4/3/2024 4:02:46 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH E SHEETS ORIGINAL PAPER SIZE

1 LEVEL 1 FLOOR PLAN - SYSTEMS

SCALE: 1/8" = 1'-0"

GENERAL NOTES (SYSTEMS):

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER NEC 310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER NEC 300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN NEC 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

C. IDENTIFY THE DATA RACK AND PORT NUMBER FOR ALL TELECOMMUNICATION OUTLETS, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING.

D. REFER TO "SYSTEM INSTALLATION MATRIX" (ON SYSTEMS LEGEND SHEET) AND SPECIFICATIONS FOR CONTRACTOR REQUIREMENTS OF EACH SYSTEM.

E. THE CONTRACTOR SHALL ROUTE ALL "SYSTEM CONDUIT STUB-UPS" TO THE NEAREST CORRIDOR CABLING PATH (SEE "STUB-UP" DETAILS). REFER TO CABLING PATH INSTALLATION DETAIL FOR ADDITIONAL REQUIREMENTS.

F. CONTRACTOR SHALL PAINT ALL SYSTEMS CONDUIT STUB-UPS LIGHT BLUE FOR SYSTEMS CABLING INTO THE CORRIDOR CABLING PATH. PROVIDE PULL STRINGS IN ALL NEW CONDUIT RUNS FOR SYSTEM CABLING INSTALLATION.

KEYNOTES

Wake County Public School System

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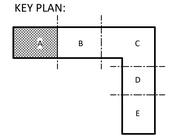
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
SYSTEMS PLAN - LEVEL 1 - AREA A

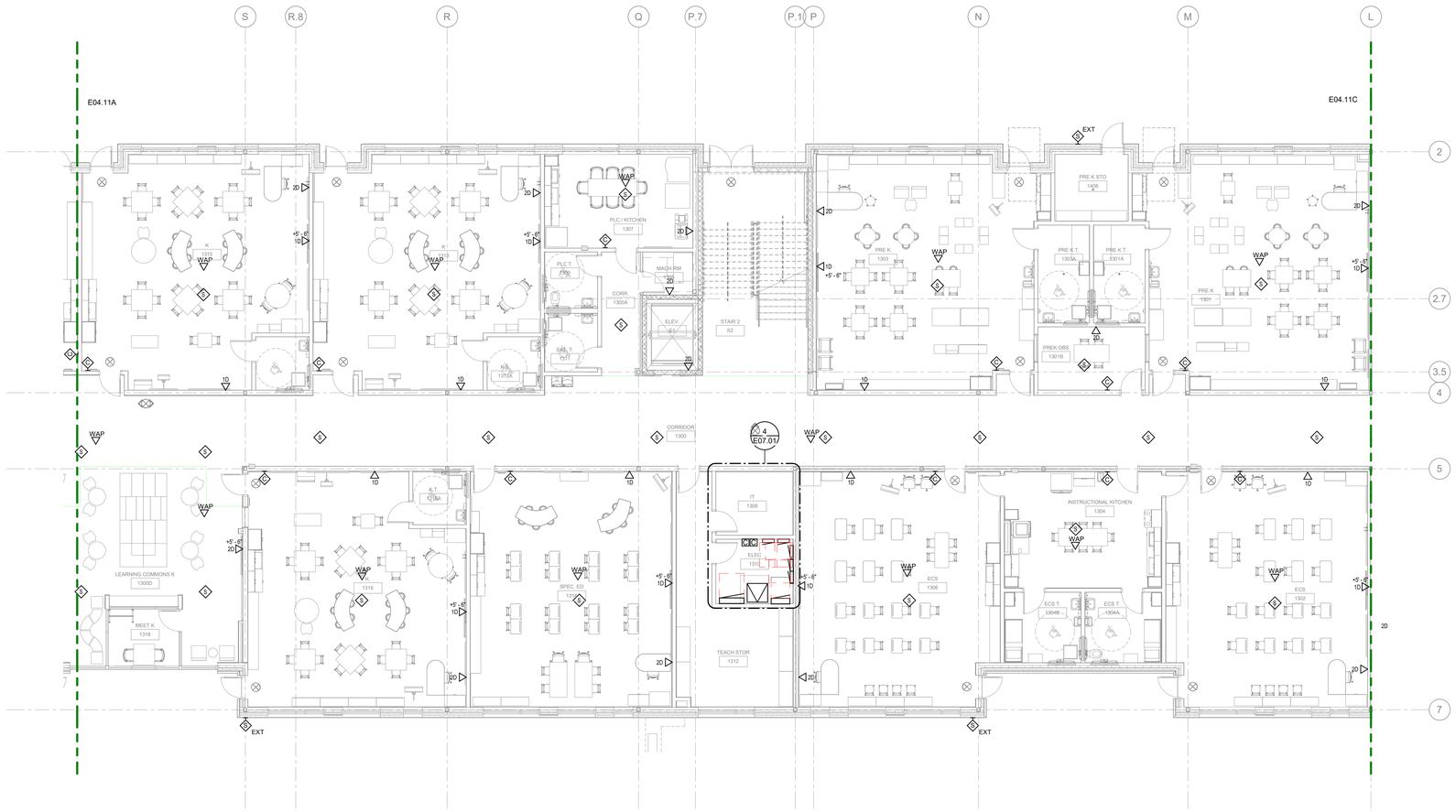
BID SET SUBMISSION: 2024.04.10

SHEET:
E04.11A

BID SET

4/3/2024 4:02:56 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ALL SHEETS ORIGINAL PAGE SIZE



1 LEVEL 1 FLOOR PLAN - SYSTEMS

SCALE: 1/8" = 1'-0"

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04/10/2024

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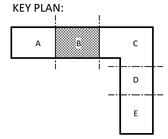
LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
SYSTEMS PLAN - LEVEL 1 - AREA B

BID SET SUBMISSION: 2024.04.10

SHEET:
E04.11B

BID SET

4/3/2024 4:03:05 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH D SHEETS ORIGINAL PLOT SIZE

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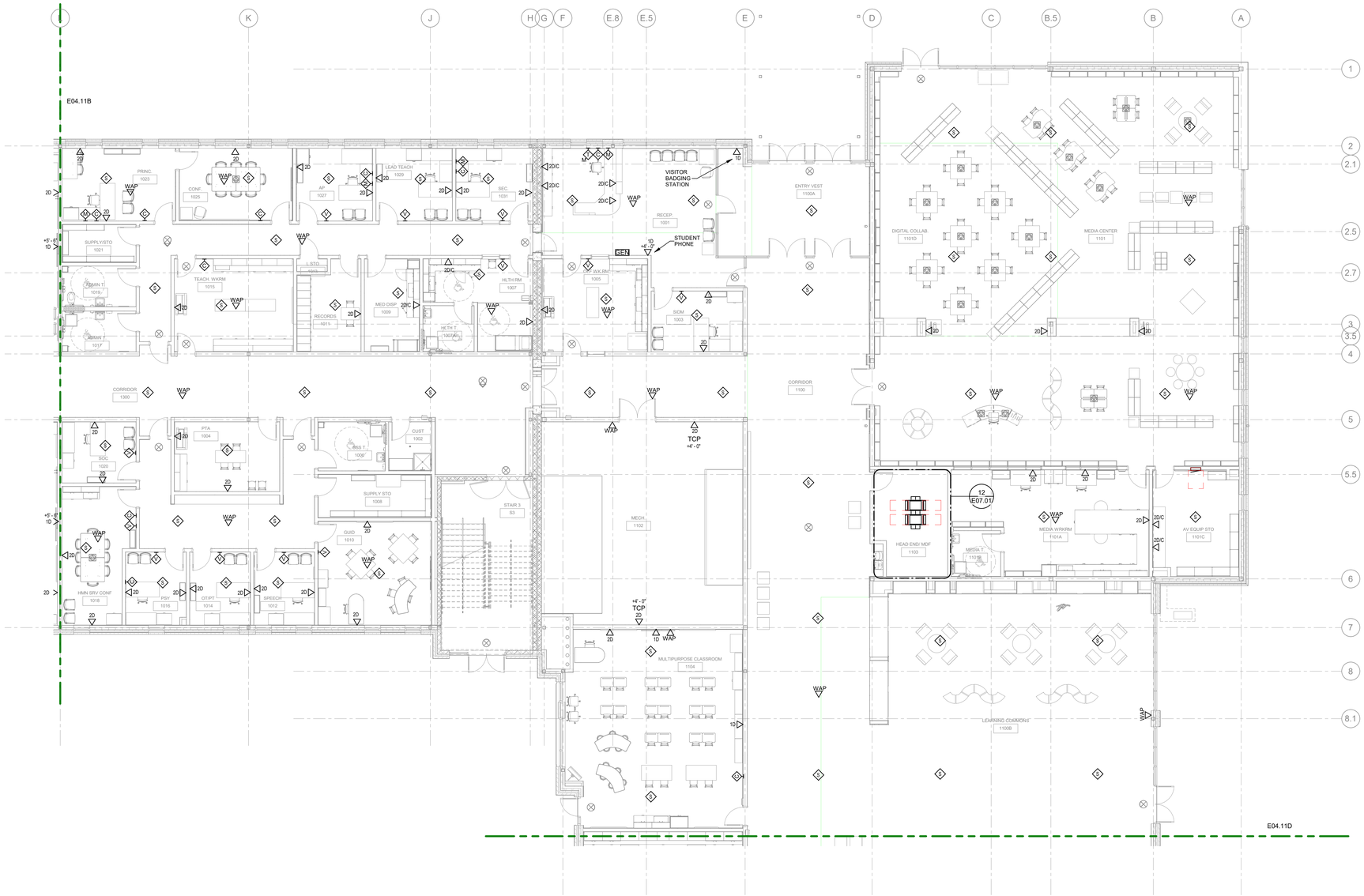
KEYNOTES



1 LEVEL 1 FLOOR PLAN - SYSTEMS
SCALE: 1/8" = 1'-0"

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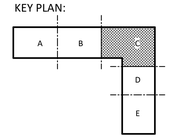
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
SYSTEMS PLAN - LEVEL 1 - AREA C

BID SET SUBMISSION: 2024.04.10

SHEET:
E04.11C

BID SET

4/3/2024 4:03:12 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH E SHEETS ORIGINAL PAGE SIZE

GENERAL NOTES (SYSTEMS):

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER NEC 310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER NEC 300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN NEC 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

C. IDENTIFY THE DATA RACK AND PORT NUMBER FOR ALL TELECOMMUNICATION OUTLETS, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING.

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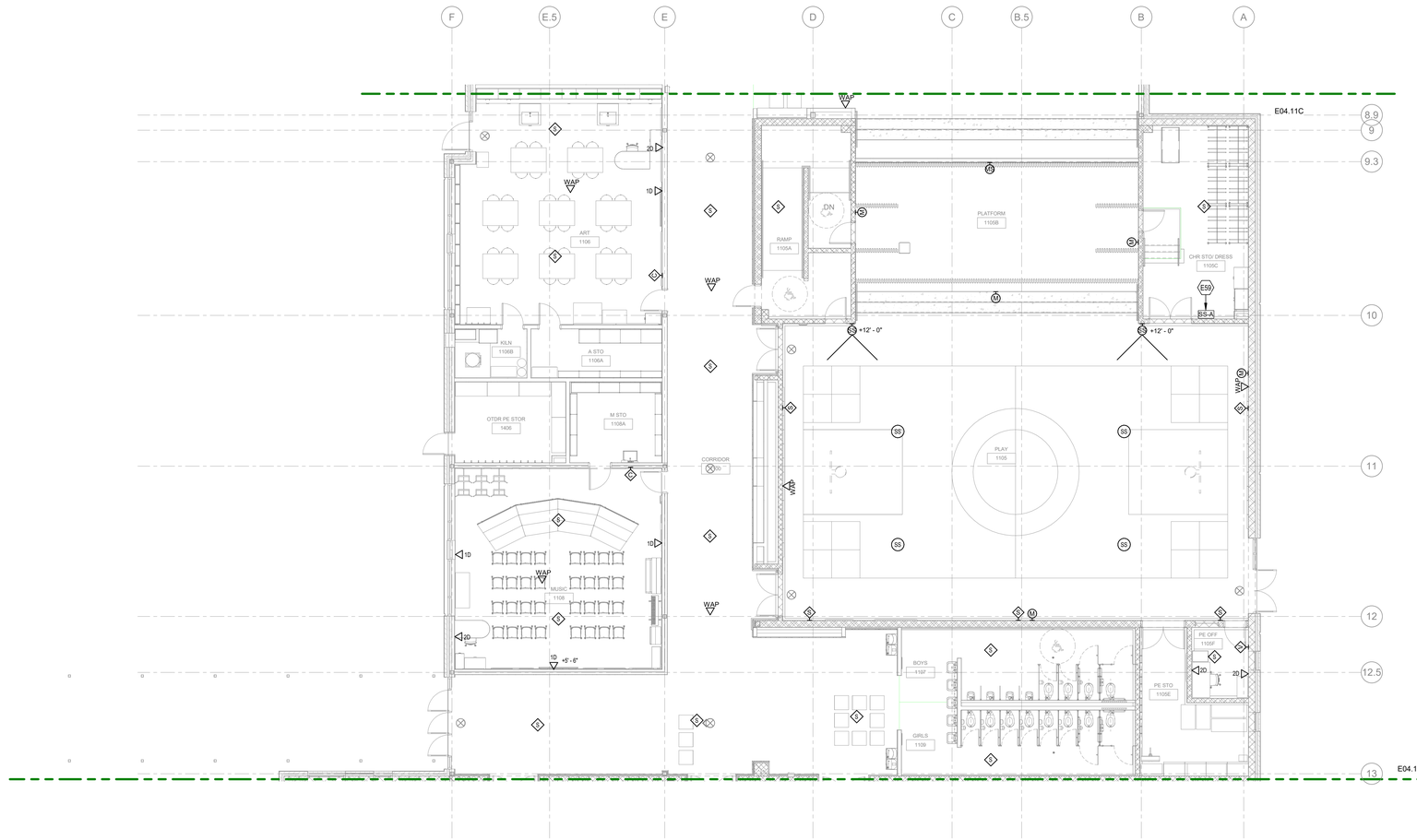
KEYNOTES

E59 PLAY AREA SOUND EQUIPMENT RACK. COORDINATE EXACT MOUNTING HEIGHT OF RECEPTACLES PRIOR TO ROUGH-IN(S).



1 LEVEL 1 FLOOR PLAN - SYSTEMS

SCALE: 1/8" = 1'-0"

Wake County Public School System

LS3P

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RALEIGH, NORTH CAROLINA 27601
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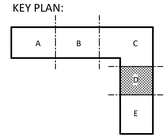

SHEET NAME:
SYSTEMS PLAN - LEVEL 1 - AREA D

BID SET SUBMISSION: 2024.04.10

SHEET:
E04.11D

BID SET

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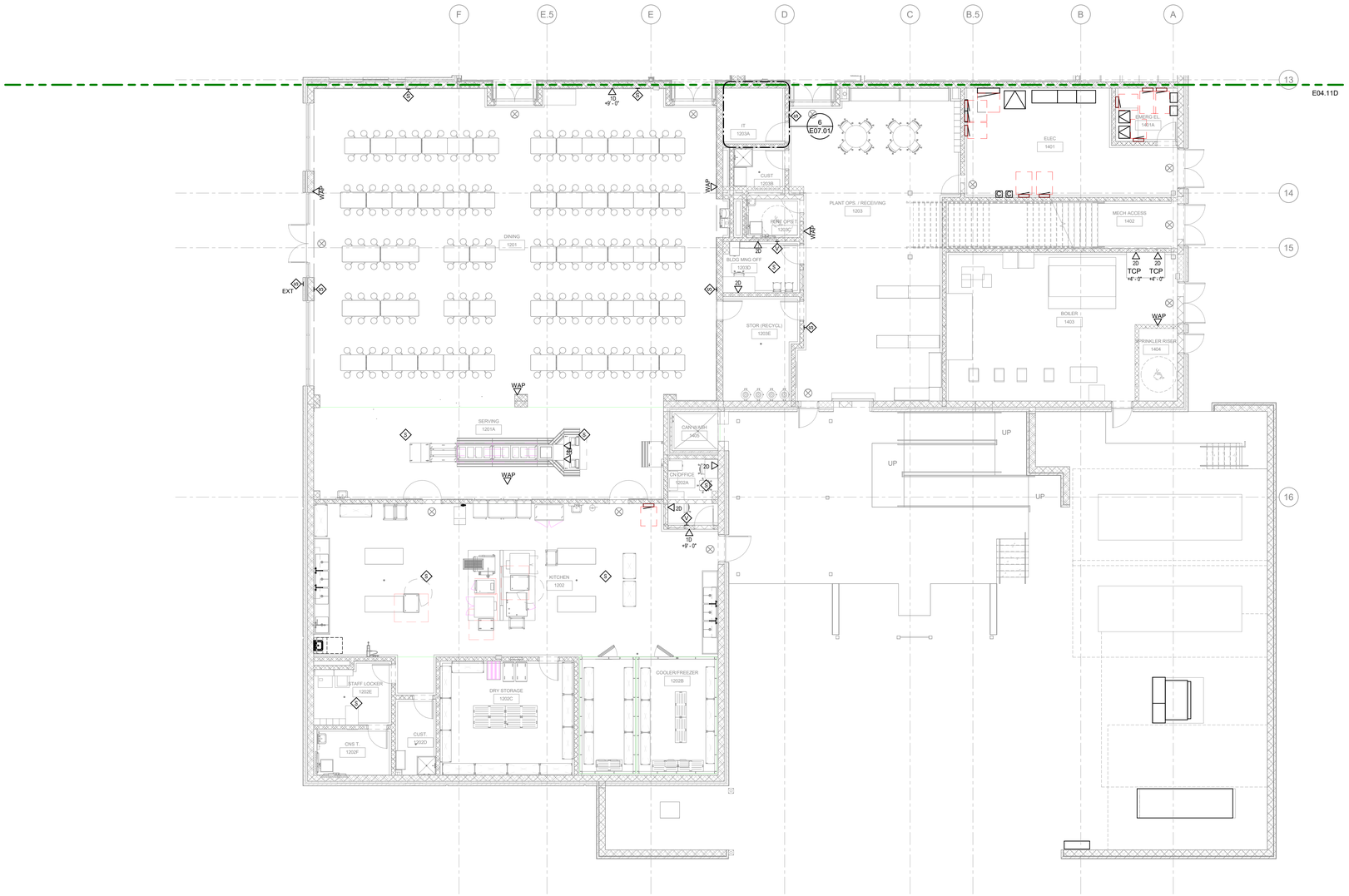

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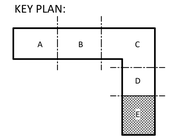

SHEET NAME:
SYSTEMS PLAN - LEVEL 1 - AREA E

BID SET SUBMISSION: 2024.04.10

SHEET:
E04.11E

BID SET

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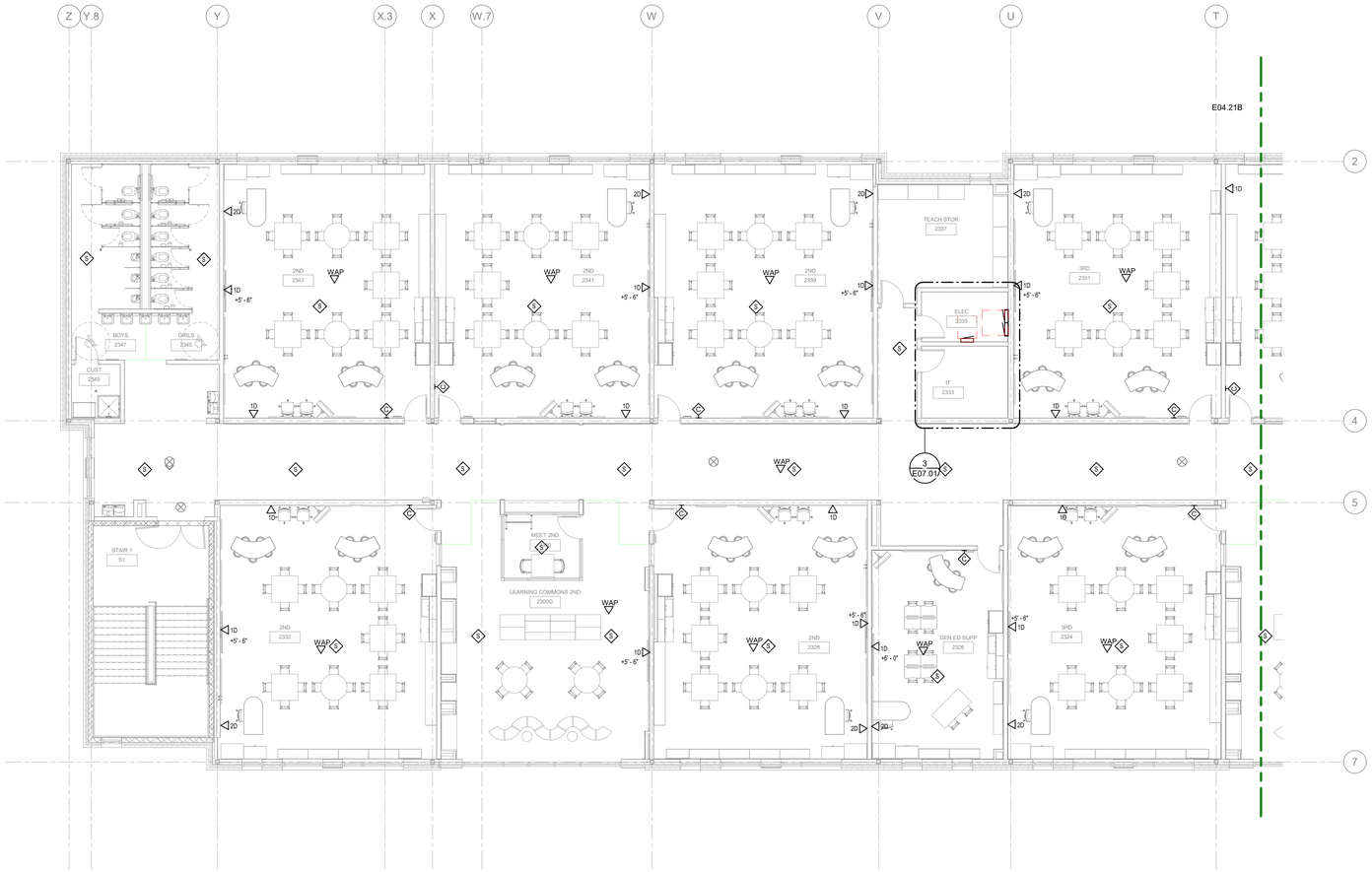

1 LEVEL 2 FLOOR PLAN - SYSTEMS

SCALE: 1/8" = 1'-0"

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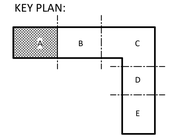

SHEET NAME: SYSTEMS PLAN - LEVEL 2 - AREA A

BID SET SUBMISSION: 2024.04.10

SHEET: **E04.21A**

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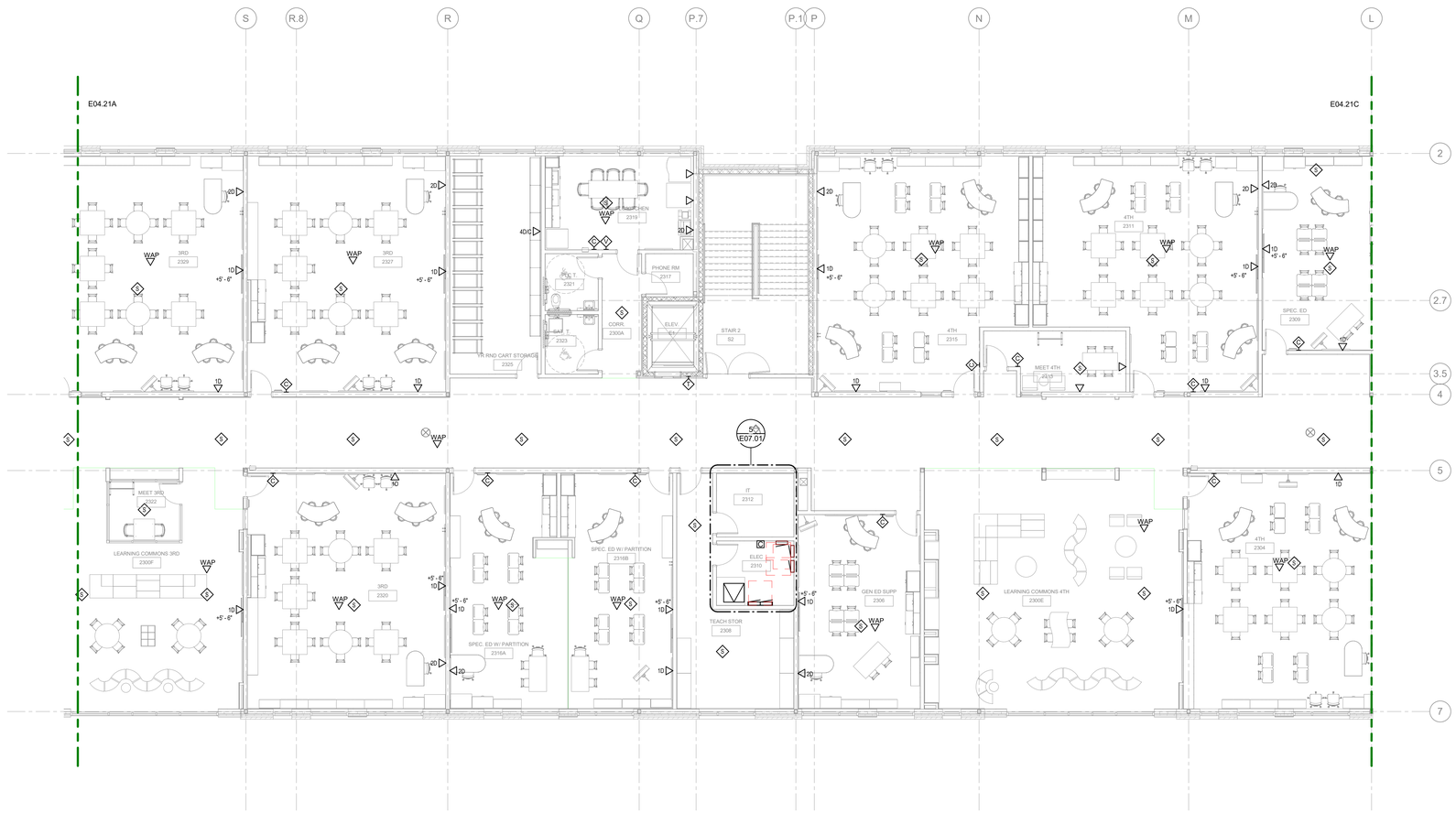

1 LEVEL 2 FLOOR PLAN - SYSTEMS

SCALE: 1/8" = 1'-0"

4/3/2024 4:03:43 PM

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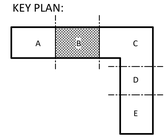

SHEET NAME:
SYSTEMS PLAN - LEVEL 2 - AREA B

BID SET SUBMISSION: 2024.04.10

SHEET:
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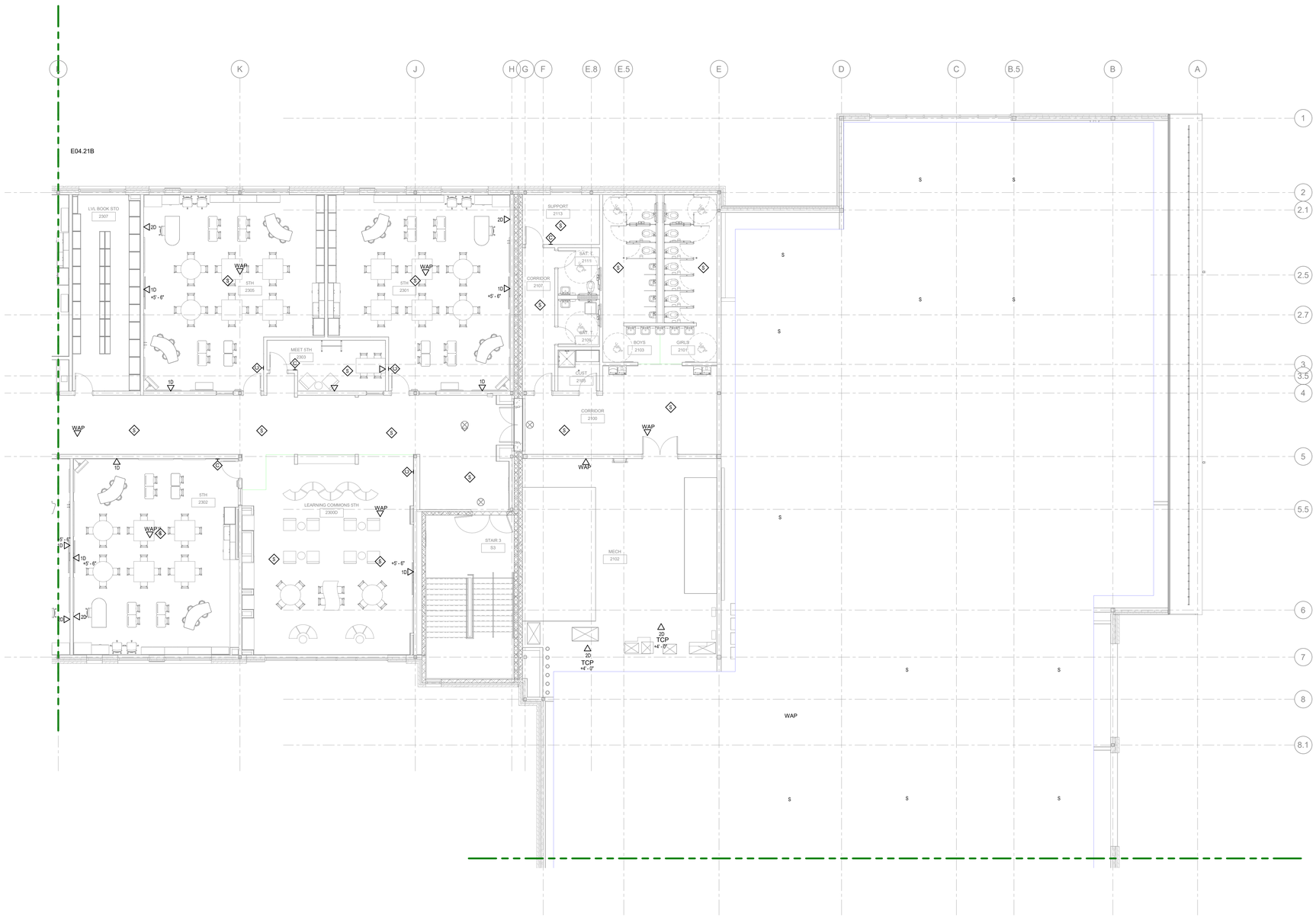

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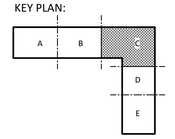

SHEET NAME:
SYSTEMS PLAN - LEVEL 2 - AREA C

BID SET SUBMISSION: 2024.04.10

SHEET:
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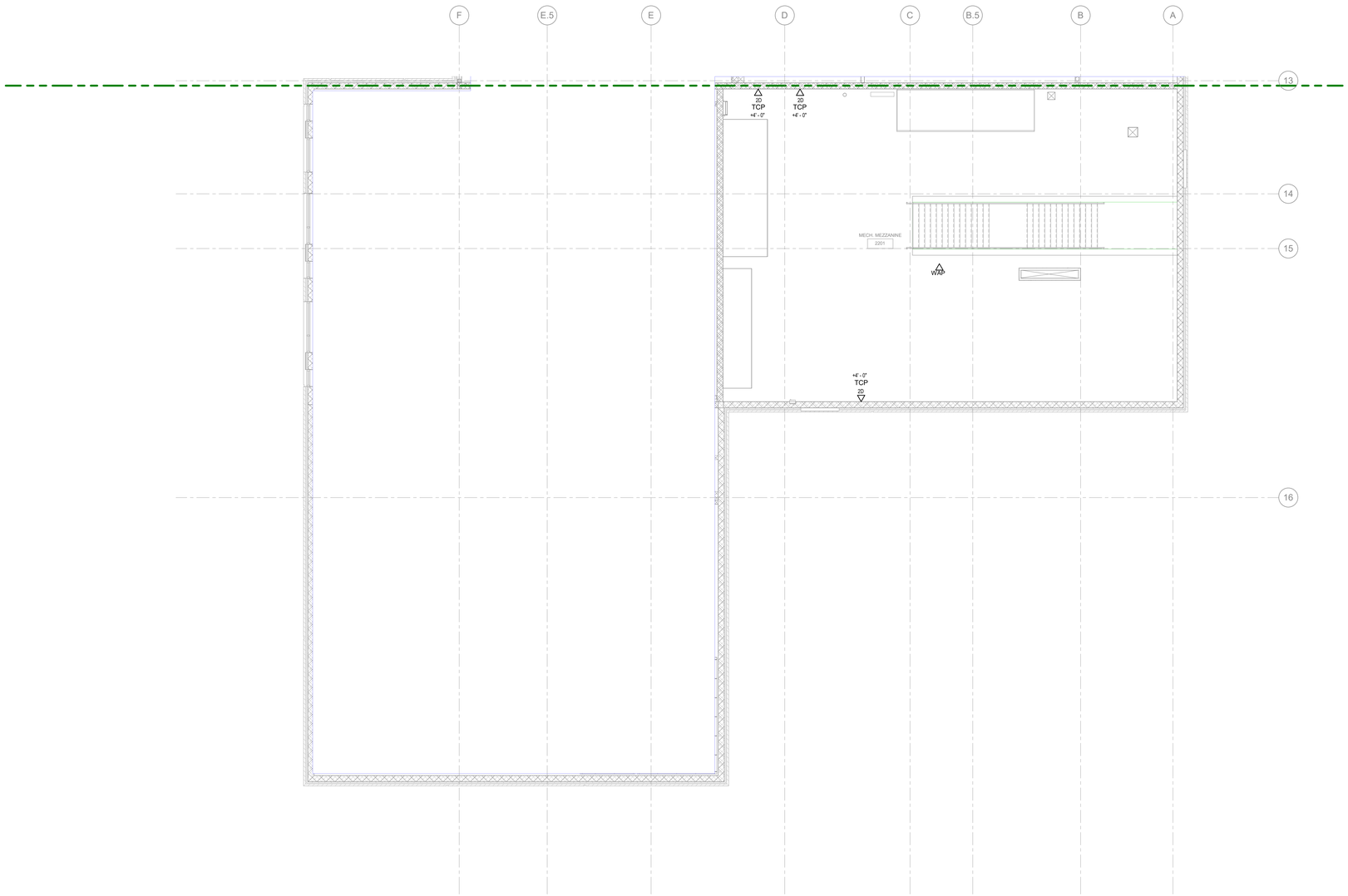

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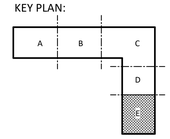

SHEET NAME:
SYSTEMS PLAN - LEVEL 2 - AREA E

BID SET SUBMISSION: 2024.04.10

SHEET:
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BID SET

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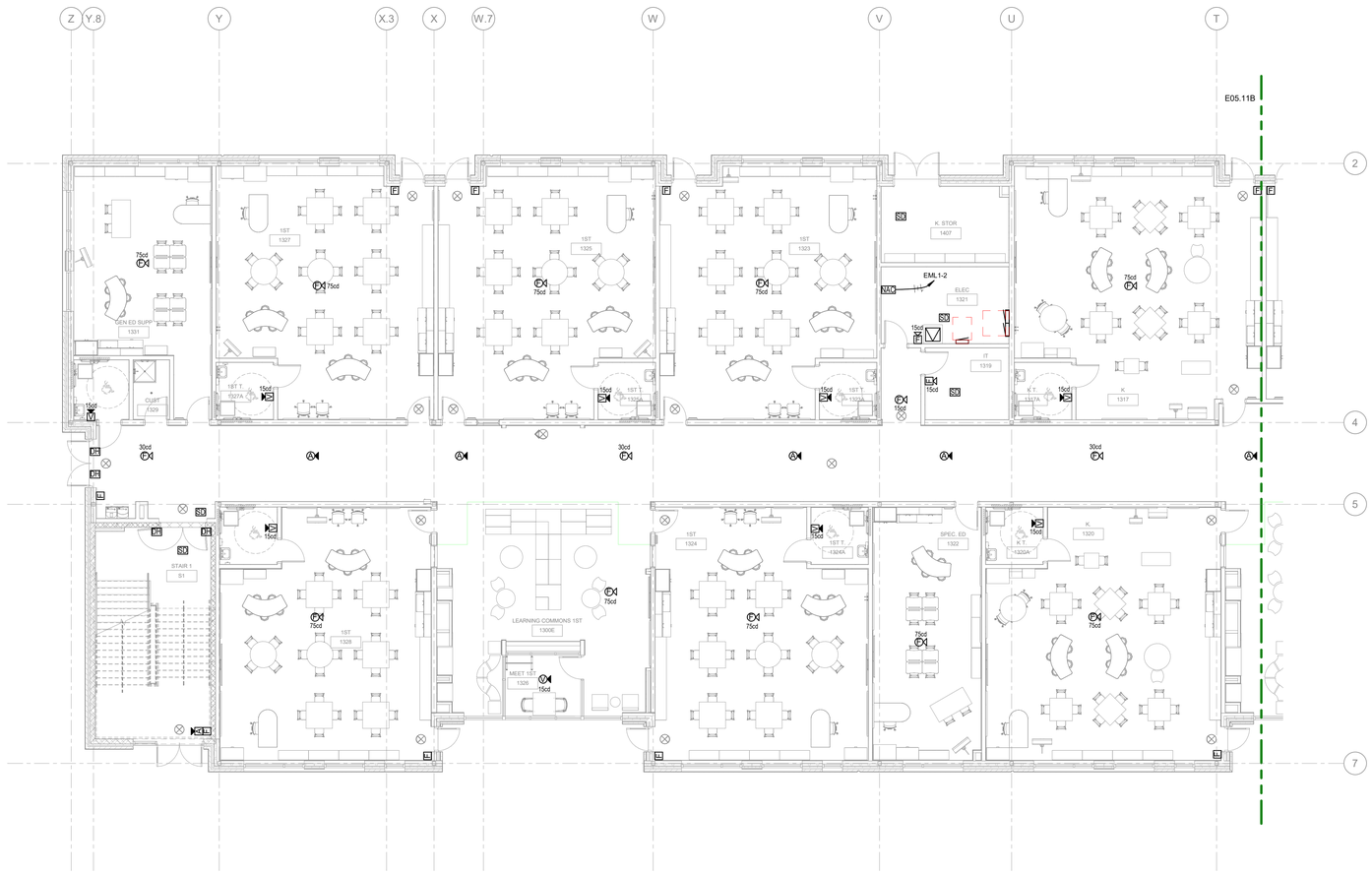

1 LEVEL 1 FLOOR PLAN - FIRE ALARM

SCALE: 1/8" = 1'-0"

GENERAL NOTES (FIRE ALARM):

A. FIELD VERIFY THE EXACT NUMBER AND LOCATIONS OF ALL MECHANICALLY RELATED ITEMS (SPRINKLER CONNECTIONS, EXTINGUISHING SYSTEMS, SMOKE DAMPERS, RANGE HOOD SUPPRESSION SYSTEMS, ETC.) AND MAKE CONNECTIONS AS REQUIRED/INDICATED.

B. PROVIDE CONNECTIONS TO ALL FIRE PROTECTION TAMPER AND FLOW SWITCHES VIA ZONE ADDRESSABLE MODULES AS REQUIRED. CONTRACTOR SHALL VERIFY ALL LOCATIONS WITH FIRE PROTECTION SYSTEM SHOP DRAWINGS. CONTRACTOR SHALL PROVIDE A LINIT PRICE FOR COMPLETE INSTALLATION OF A CONNECTION TO EXISTING FIRE PROTECTION SWITCHES.

C. ALL FIRE ALARM STROBE LIGHTS SHALL BE SYNCHRONIZED TO ACCOMMODATE BUILDING STANDARDS AS REQUIRED.

D. TAP SPEAKERS TO PROVIDE SUFFICIENT AUDIBILITY FOR AREA SERVED.

E. SMOKE DETECTORS SHALL NOT BE LOCATED CLOSER THAN 36" TO SUPPLY, RETURN OR EXHAUST AIR OPENINGS NOR CLOSER THAN 12" TO WALL/ CEILING INTERSECTIONS.

F. REFER TO FIRE ALARM OPERATION MATRIX AND BUILDING CONTROLS SPECIFICATIONS FOR AHU SHUTDOWN REQUIREMENTS.

G. PROVIDE DUCT SMOKE DETECTORS WITH REMOTE TEST SWITCH/INDICATOR LIGHT AT 7'-6" AFF ON WALL IN AREA BELOW DETECTOR.

H. RISER DIAGRAM IS FOR BID PURPOSES ONLY. SYSTEM SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH WIRING DIAGRAMS OBTAINED FROM MANUFACTURER, THAT HAVE BEEN APPROVED BY THE STATE FIRE MARSHAL'S OFFICE OR AUTHORITY HAVING JURISDICTION.

I. PROVIDE FIRE ALARM MANUFACTURER WITH LOCATION DESCRIPTIONS FOR ALL FIRE ALARM DEVICES AS SOON AS POSSIBLE AFTER AWARD OF CONTRACT FOR PRE-PROGRAMMING OF FIRE ALARM SYSTEM. COORDINATE DESCRIPTIONS WITH BUILDING OWNER. UTILIZE FINAL ROOM NAMES AND NUMBERS, NOT NAMES AND NUMBERS FROM FLOOR PLANS.

J. EACH FIRE ALARM DEVICE SHALL BE LABELED WITH SELF ADHESIVE POLYESTER COATED PRINTED LABELS INDICATING DEVICE ADDRESS AND CIRCUIT PER FIRE ALARM SHOP DRAWINGS.

K. PROVIDE CONNECTIONS TO NEW ACCESS CONTROL DOORS TO ALLOW POSITIVE LATCHING AND FREE EGRESS UNDER ALARM CONDITIONS. COORDINATE EXACT REQUIREMENTS WITH SUCCESSFUL DOOR HARDWARE MANUFACTURER PRIOR TO CONSTRUCTION.

L. PROVIDE ACCESS PANELS AS REQUIRED FOR MAINTENANCE AND TESTING FOR SMOKE DETECTORS LOCATED ABOVE INACCESSIBLE CEILINGS. COORDINATE SIZE AND LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

M. PROVIDE APPROVED TESTING AND REQUIRED CERTIFICATION OF SYSTEM COMPONENTS AND PROVE OPERATION OF SYSTEM FOR THE AREA OF WORK WHEN COMPLETE.

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Q. PROVIDE A DEDICATED POWER CIRCUIT TO EACH FIRE ALARM EQUIPMENT PANEL OR POWER SUPPLY.

R. FIRE ALARM OCP DEVICES SHALL HAVE NON-REMOVABLE LOCKABLE HANDLE PAINTED RED.

S. WRITTEN CERTIFICATION OF ENTIRE FIRE ALARM SYSTEM SHALL BE SUBMITTED TO OWNER & ENGINEER AT CLOSE OF PROJECT.

T. A TECHNICAL REPRESENTATIVE OF FIRE ALARM MANUFACTURER SHALL BE PRESENT AT ALL TIMES DURING FIRE ALARM CERTIFICATION.

U. INITIATING DEVICE CIRCUITS AND NOTIFICATION APPLIANCE CIRCUITS SHALL BE IN SEPARATE RACEWAYS. FIRE ALARM SYSTEM JUNCTION BOXES, BACK BOXES, AND PULL BOXES SHALL BE PAINTED RED.

V. PROVIDE QUANTITY OF POWER SUPPLIES AND NAC PANELS BASED UPON FINAL SYSTEM DESIGN AND REQUIRED SPARE CAPACITY. LOCATE ADDITIONAL PANELS ADJACENT TO THOSE SHOWN ON PLANS. DO NOT INSTALL ADDITIONAL EQUIPMENT IN OTHER AREAS OF THE PROJECT WITHOUT WRITTEN CONSENT BY THE ENGINEER.

KEYNOTES

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LS3P

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043650 STEVE E. ROBEY 04/10/2024

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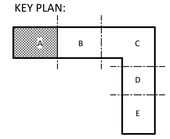
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



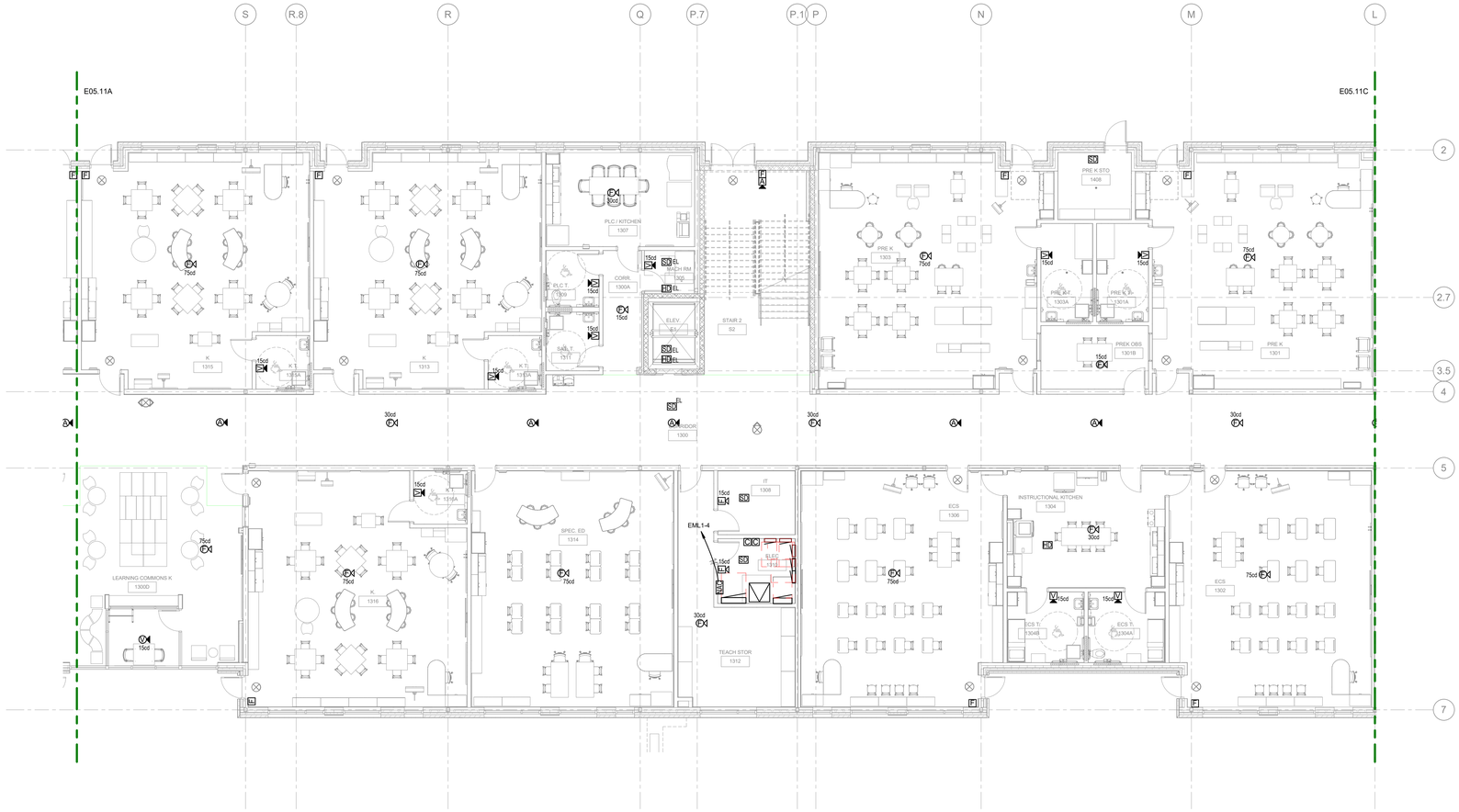
SHEET NAME:
FIRE ALARM PLAN - LEVEL 1 - AREA A

BID SET SUBMISSION: 2024.10

SHEET:
E05.11A

BID SET

4/3/2024 4:04:01 PM



1 LEVEL 1 FLOOR PLAN - FIRE ALARM

SCALE: 1/8" = 1'-0"

GENERAL NOTES (FIRE ALARM):

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D. TAP SPEAKERS TO PROVIDE SUFFICIENT AUDIBILITY FOR AREA SERVED.

E. SMOKE DETECTORS SHALL NOT BE LOCATED CLOSER THAN 36" TO SUPPLY, RETURN OR EXHAUST AIR OPENINGS NOR CLOSER THAN 12" TO WALL/ CEILING INTERSECTIONS.

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G. PROVIDE DUCT SMOKE DETECTORS WITH REMOTE TEST SWITCH/INDICATOR LIGHT AT 7'-6" AFF ON WALL IN AREA BELOW DETECTOR.

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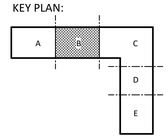
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
FIRE ALARM PLAN - LEVEL 1 - AREA B

BID SET SUBMISSION: 2024.04.10

SHEET:
E05.11B

BID SET

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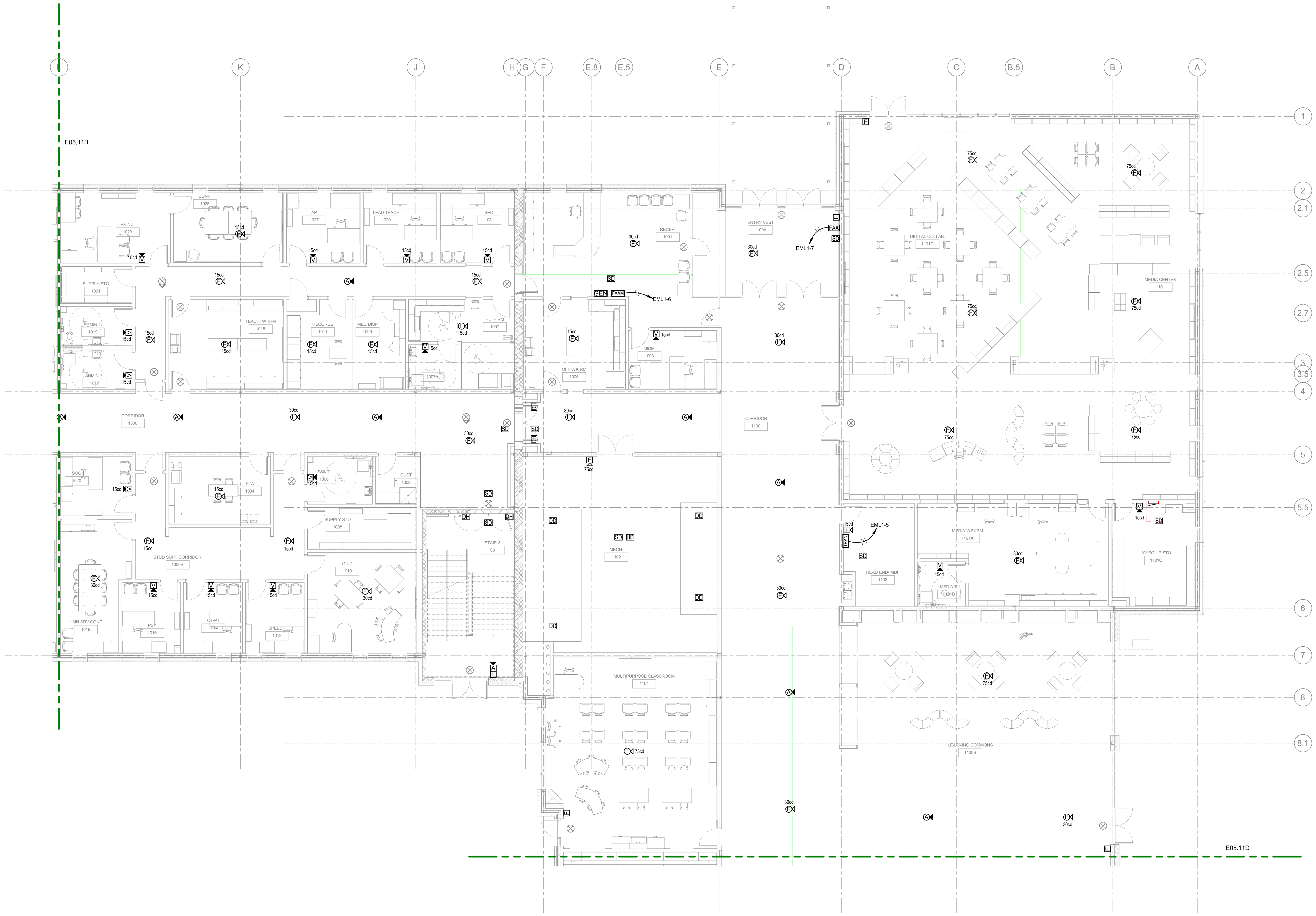

1 LEVEL 1 FLOOR PLAN - FIRE ALARM

SCALE: 1/8" = 1'-0"

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04/10/2024

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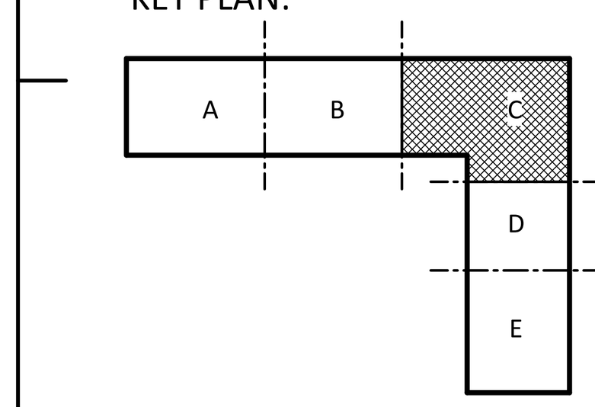
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
FIRE ALARM PLAN - LEVEL 1 - AREA C

BID SET SUBMISSION: 2024.04.10

SHEET: E05.11C

BID SET

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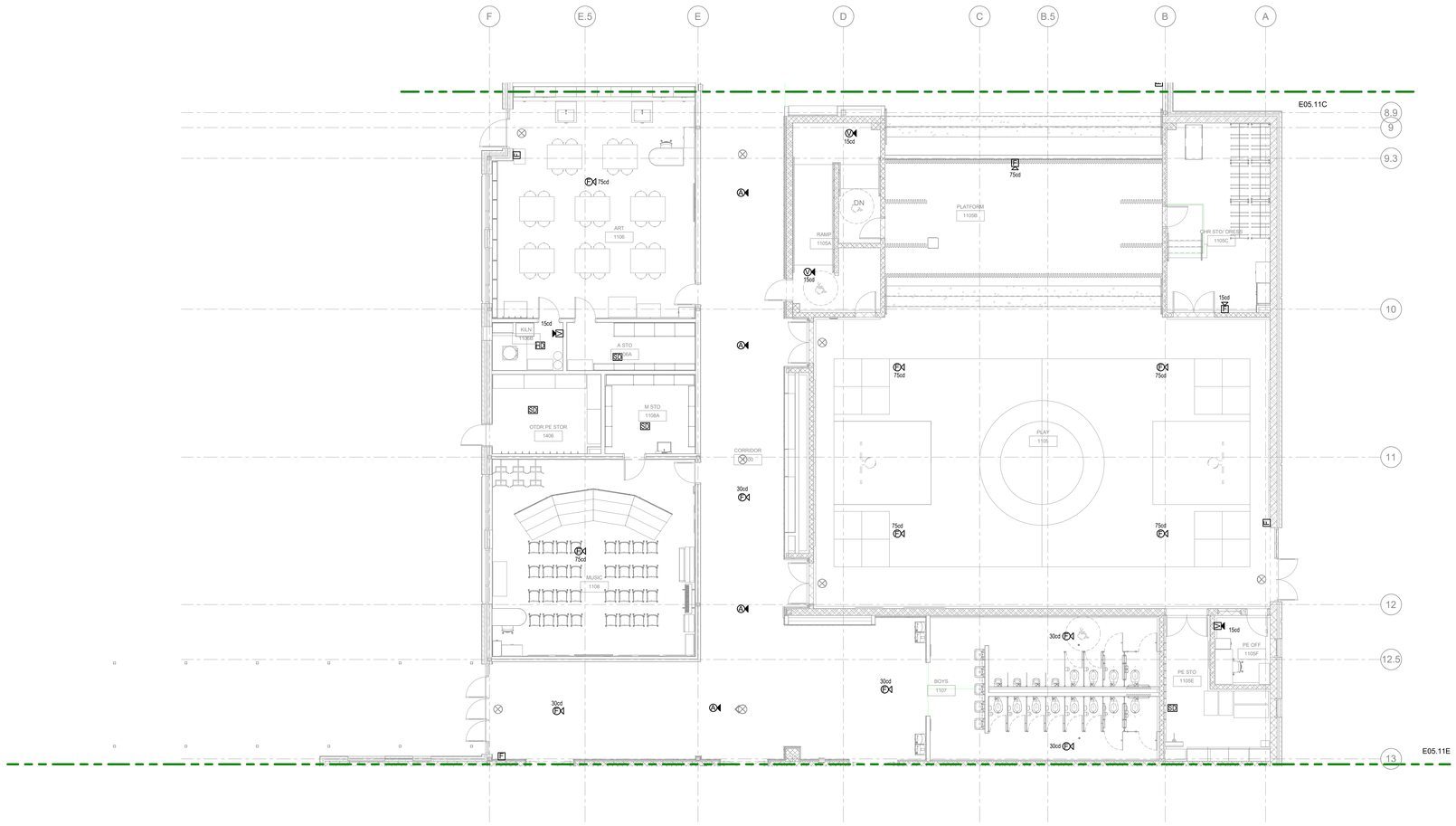

1 LEVEL 1 FLOOR PLAN - FIRE ALARM

SCALE: 1/8" = 1'-0"

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LS3P PROJECT: 8201-207411

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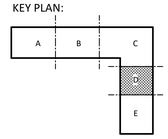
KEY PLAN:



SHEET NAME:
FIRE ALARM PLAN - LEVEL 1 - AREA D

BID SET SUBMISSION: 2024.04.10

SHEET:
E05.11D

BID SET

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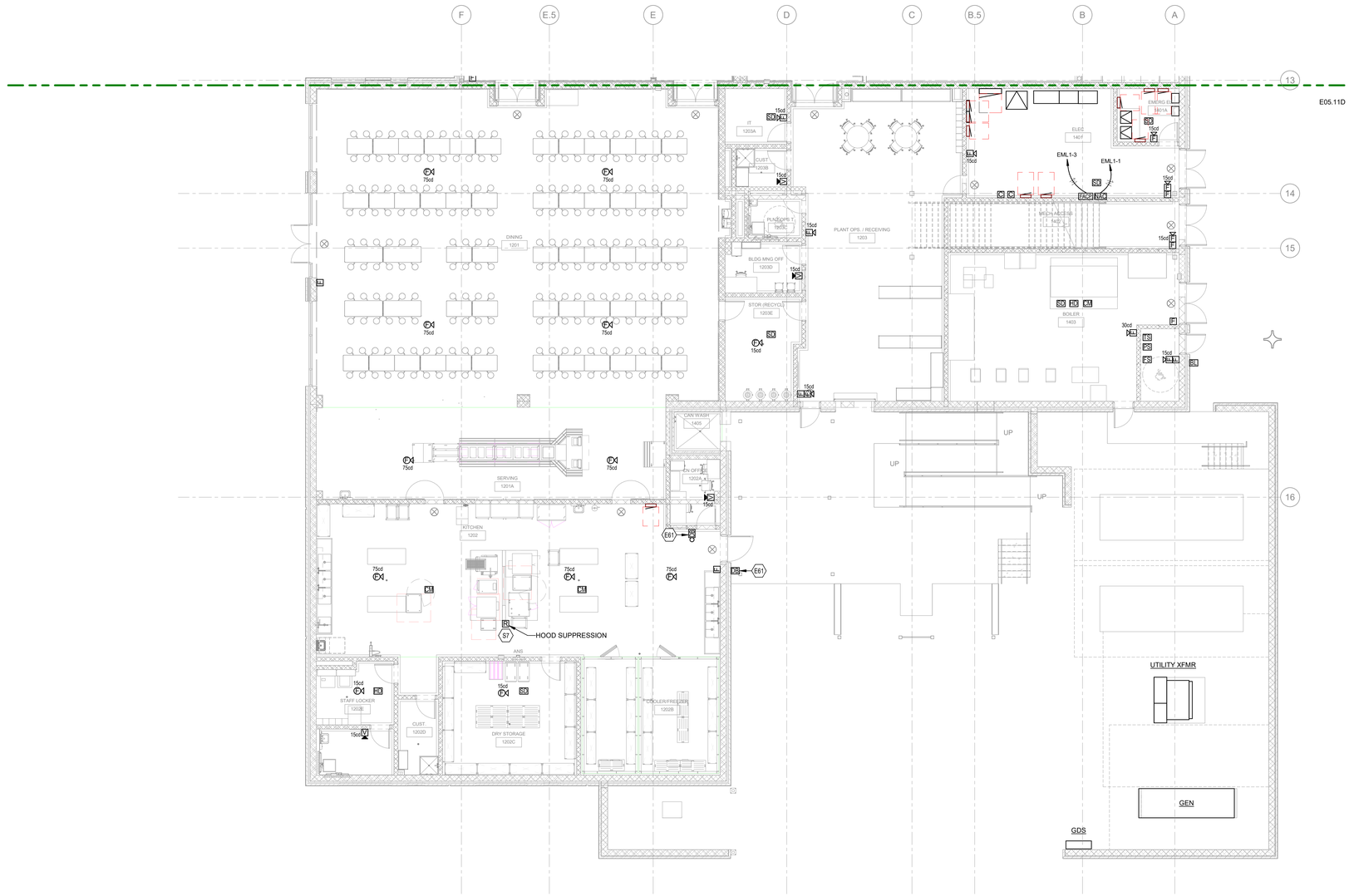

1 LEVEL 1 FLOOR PLAN - FIRE ALARM

SCALE: 1/8" = 1'-0"

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E61 PROVIDE DOORBELL SYSTEM FOR KITCHEN WITH PUSHBUTTON STATION BY EXTERIOR DOOR WITH ONE REMOTE BUZZER LOCATED ON FLOOR PLANS. BUZZER TO CONNECT TO KITCHEN OFFICE DESK PHONE. SYSTEM SHALL COME COMPLETE WITH TRANSFORMER (MOUNT ABOVE CEILING INSIDE NEAR EXTERIOR DOOR SERVICED BY PUSHBUTTON) AND ALL ACCESSORIES AS REQUIRED. SYSTEM SHALL BE EDWARDS #620 PUSHBUTTON, #147-1 FACEPLATE, AND #340A-4ES VIBRATING BELL, OR APPROVED EQUAL. PROVIDE SHOP DRAWING SUBMITTAL TO ENGINEER FOR REVIEW AND COORDINATE EXACT SOUND LEVEL AND INTENSITY DESIRED BY OWNER PRIOR TO ORDERING OF MATERIALS.

S7 PROVIDE INTERFACE WITH HOOD FIRE SUPPRESSION SYSTEM. COORDINATE CONNECTION REQUIREMENTS WITH EQUIPMENT VENDOR.

Wake County Public School System

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NORTH CAROLINA PROFESSIONAL SEAL 043650 ENGINEER STEVE E. ROBEY
04/10/2024

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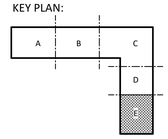
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
FIRE ALARM PLAN - LEVEL 1 - AREA E

BID SET SUBMISSION: 2024.04.10

SHEET:
E05.11E

BID SET

4/3/2024 4:04:29 PM

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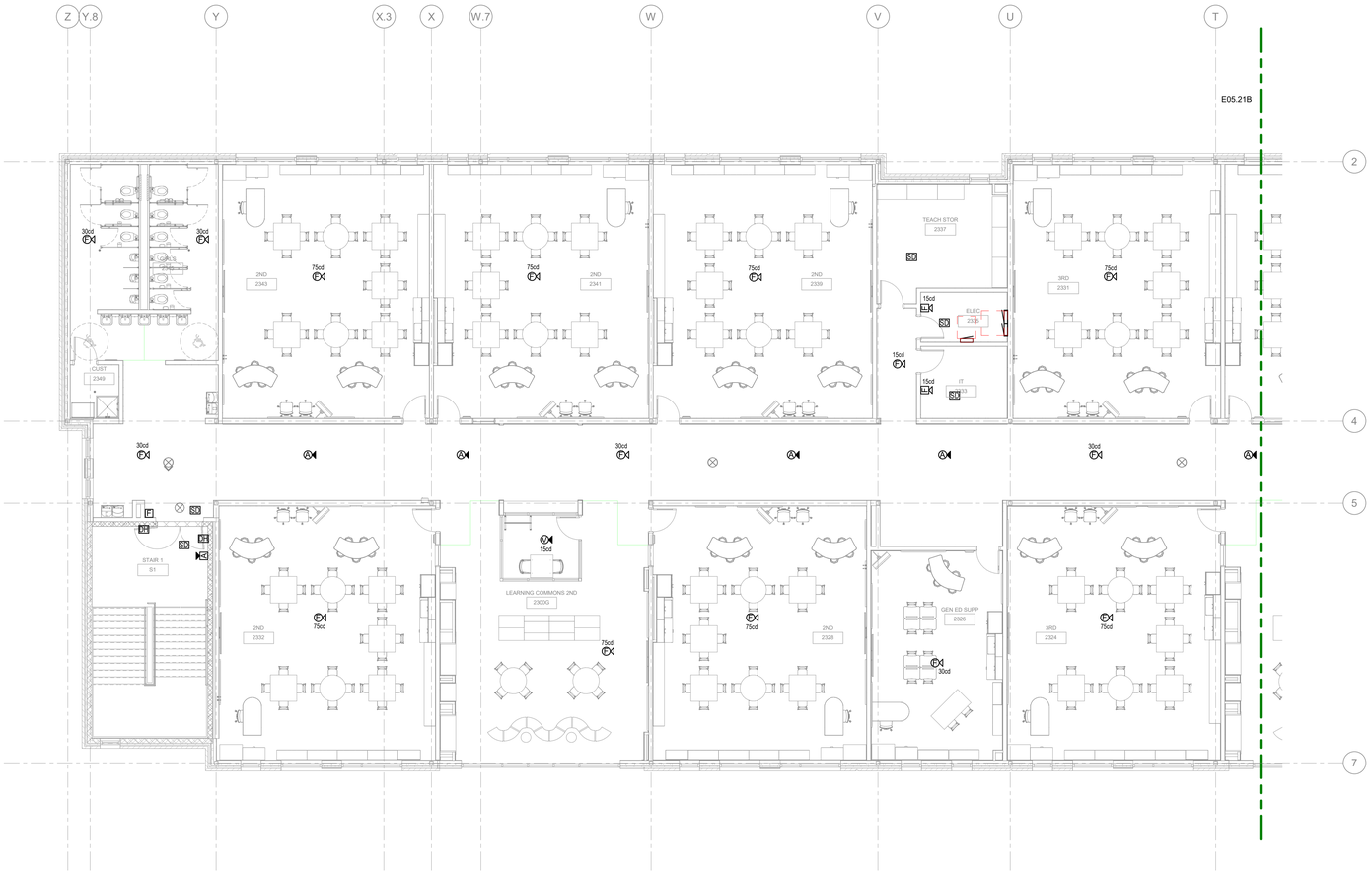

1 LEVEL 2 FLOOR PLAN - FIRE ALARM

SCALE: 1/8" = 1'-0"

GENERAL NOTES (FIRE ALARM):

A. FIELD VERIFY THE EXACT NUMBER AND LOCATIONS OF ALL MECHANICALLY RELATED ITEMS (SPRINKLER CONNECTIONS, EXTINGUISHING SYSTEMS, SMOKE DAMPERS, RANGE HOOD SUPPRESSION SYSTEMS, ETC.) AND MAKE CONNECTIONS AS REQUIRED/INDICATED.

B. PROVIDE CONNECTIONS TO ALL FIRE PROTECTION TAMPER AND FLOW SWITCHES VIA ZONE ADDRESSABLE MODULES AS REQUIRED. CONTRACTOR SHALL VERIFY ALL LOCATIONS WITH FIRE PROTECTION SYSTEM SHOP DRAWINGS. CONTRACTOR SHALL PROVIDE A UNIT PRICE FOR COMPLETE INSTALLATION OF A CONNECTION TO EXISTING FIRE PROTECTION SWITCHES.

C. ALL FIRE ALARM STROBE LIGHTS SHALL BE SYNCHRONIZED TO ACCOMMODATE BUILDING STANDARDS AS REQUIRED.

D. TAP SPEAKERS TO PROVIDE SUFFICIENT AUDIBILITY FOR AREA SERVED.

E. SMOKE DETECTORS SHALL NOT BE LOCATED CLOSER THAN 36" TO SUPPLY, RETURN OR EXHAUST AIR OPENINGS NOR CLOSER THAN 12" TO WALL/ CEILING INTERSECTIONS.

F. REFER TO FIRE ALARM OPERATION MATRIX AND BUILDING CONTROLS SPECIFICATIONS FOR AHU SHUTDOWN REQUIREMENTS.

G. PROVIDE DUCT SMOKE DETECTORS WITH REMOTE TEST SWITCH/INDICATOR LIGHT AT 7'-6" AFF ON WALL IN AREA BELOW DETECTOR.

H. RISER DIAGRAM IS FOR BID PURPOSES ONLY. SYSTEM SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH WIRING DIAGRAMS OBTAINED FROM MANUFACTURER, THAT HAVE BEEN APPROVED BY THE STATE FIRE MARSHAL'S OFFICE OR AUTHORITY HAVING JURISDICTION.

I. PROVIDE FIRE ALARM MANUFACTURER WITH LOCATION DESCRIPTIONS FOR ALL FIRE ALARM DEVICES AS SOON AS POSSIBLE AFTER AWARD OF CONTRACT FOR PRE-PROGRAMMING OF FIRE ALARM SYSTEM. COORDINATE DESCRIPTIONS WITH BUILDING OWNER. UTILIZE FINAL ROOM NAMES AND NUMBERS, NOT NAMES AND NUMBERS FROM FLOOR PLANS.

J. EACH FIRE ALARM DEVICE SHALL BE LABELED WITH SELF ADHESIVE POLYESTER COATED PRINTED LABELS INDICATING DEVICE ADDRESS AND CIRCUIT PER FIRE ALARM SHOP DRAWINGS.

K. PROVIDE CONNECTIONS TO NEW ACCESS CONTROL DOORS TO ALLOW POSITIVE LATCHING AND FREE EGRESS UNDER ALARM CONDITIONS. COORDINATE EXACT REQUIREMENTS WITH SUCCESSFUL DOOR HARDWARE MANUFACTURER PRIOR TO CONSTRUCTION.

L. PROVIDE ACCESS PANELS AS REQUIRED FOR MAINTENANCE AND TESTING FOR SMOKE DETECTORS LOCATED ABOVE INACCESSIBLE CEILINGS. COORDINATE SIZE AND LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

M. PROVIDE APPROVED TESTING AND REQUIRED CERTIFICATION OF SYSTEM COMPONENTS AND PROVE OPERATION OF SYSTEM FOR THE AREA OF WORK WHEN COMPLETE.

N. WIRING TO ALL FIRE ALARM DEVICES SHALL BE PER NEC AND MANUFACTURER'S RECOMMENDATIONS. VERIFY ALL WIRING REQUIREMENTS WITH THE OWNER AND FIRE ALARM VENDOR.

O. ALL NEW DEVICES INDICATED, SUCH AS SMOKE DETECTORS, NOTIFICATION APPLIANCES, ETC., SHALL MATCH.

P. ALL 120V POWER FOR NEW FIRE ALARM SYSTEM COMPONENTS SHALL BE CONNECTED TO EMERGENCY LIFE-SAFETY BRANCH PANELS AS APPLICABLE. PROVIDE ALL NEW POWER CONNECTIONS AS REQUIRED FOR SYSTEM OPERATION.

Q. PROVIDE A DEDICATED POWER CIRCUIT TO EACH FIRE ALARM EQUIPMENT PANEL OR POWER SUPPLY.

R. FIRE ALARM OCP DEVICES SHALL HAVE NON-REMOVABLE LOCKABLE HANDLE PAINTED RED.

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T. A TECHNICAL REPRESENTATIVE OF FIRE ALARM MANUFACTURER SHALL BE PRESENT AT ALL TIMES DURING FIRE ALARM CERTIFICATION.

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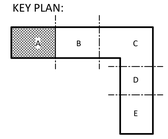
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
FIRE ALARM PLAN - LEVEL 2 - AREA A

BID SET SUBMISSION: 2024.04.10

SHEET:
E05.21A

BID SET

4/3/2024 4:04:36 PM

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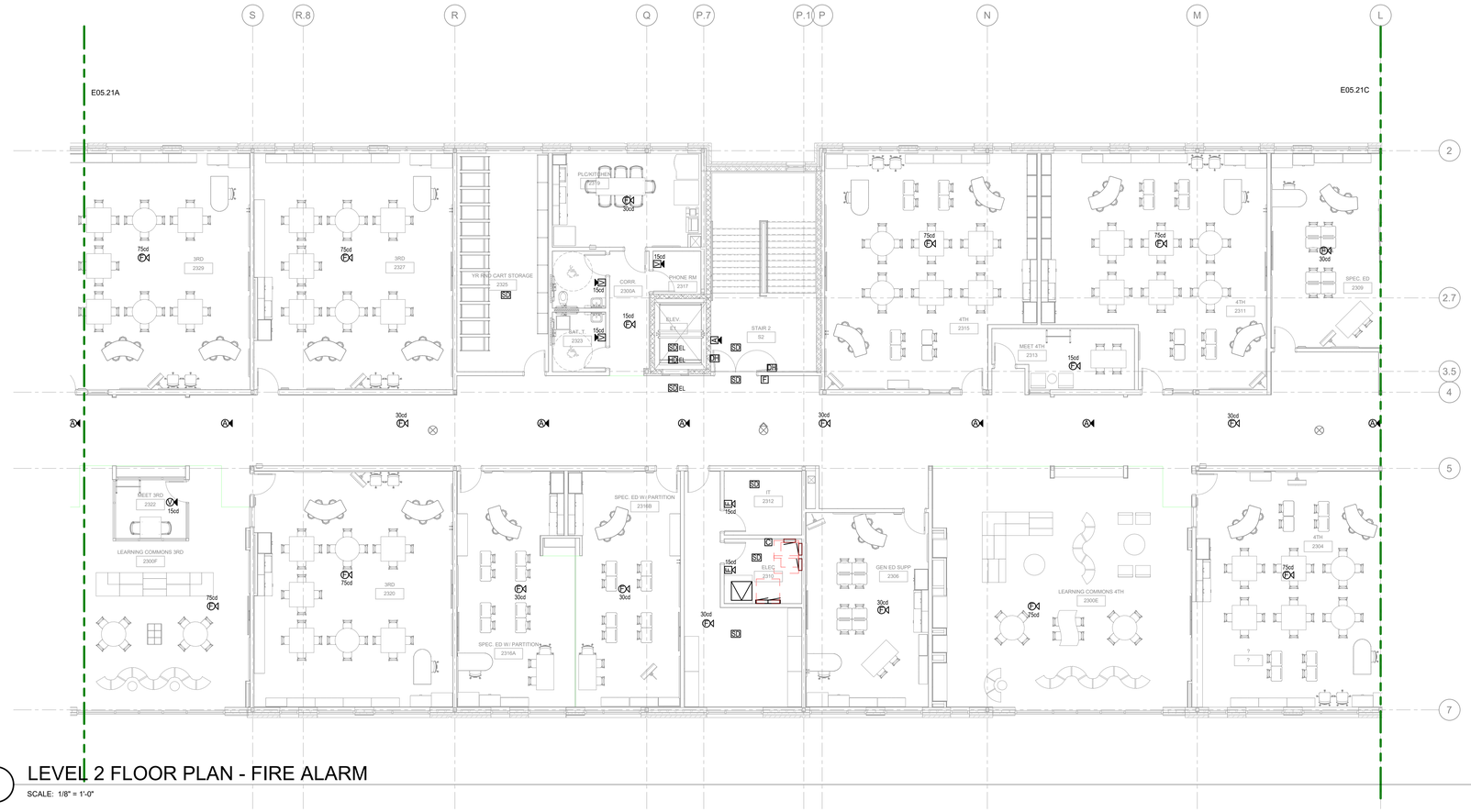

1 LEVEL 2 FLOOR PLAN - FIRE ALARM

SCALE: 1/8" = 1'-0"

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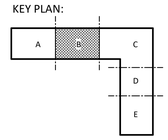
Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
FIRE ALARM PLAN - LEVEL 2 - AREA B

BID SET SUBMISSION: 2024.04.10

SHEET:
E05.21B

BID SET

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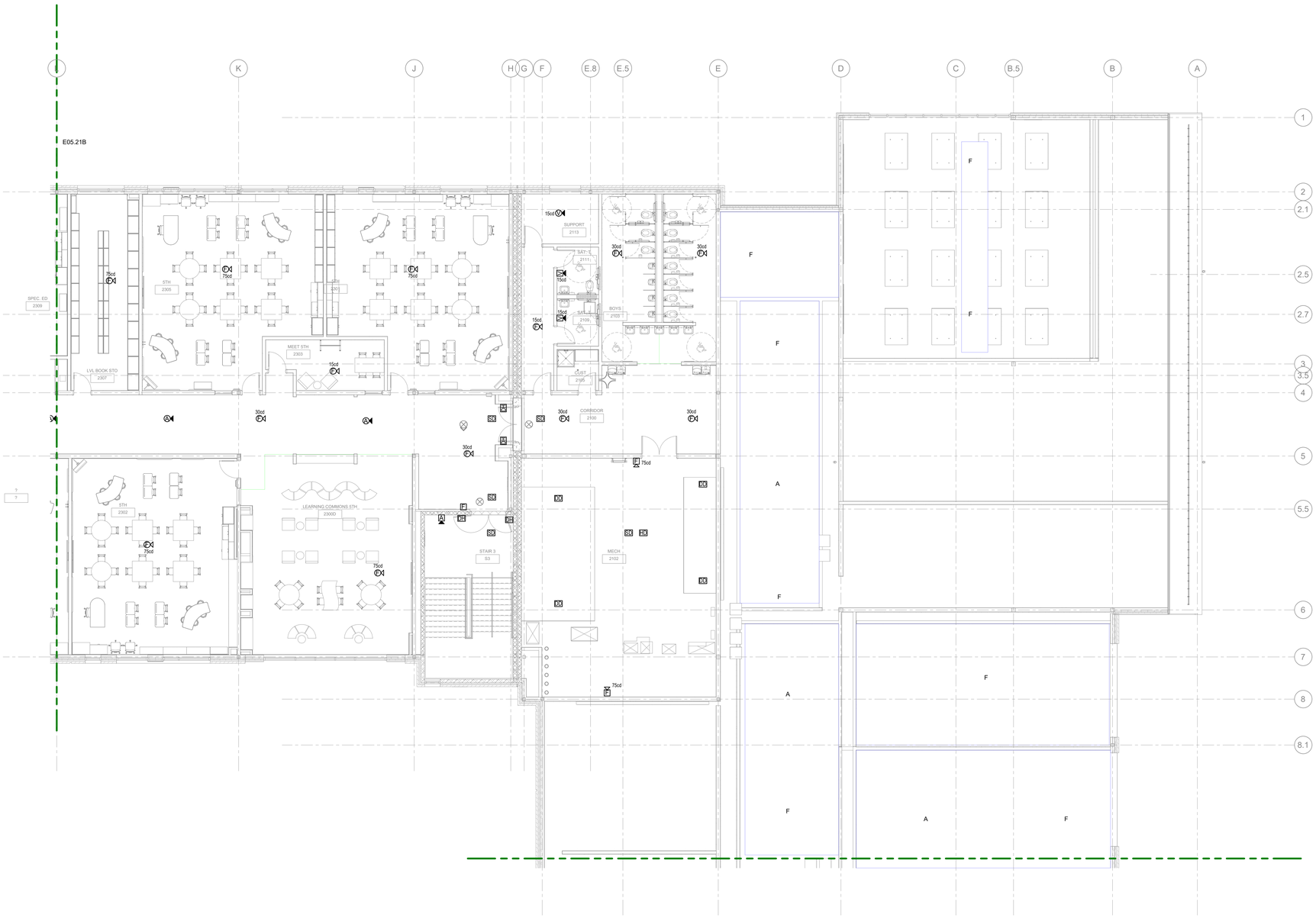

1 LEVEL 2 FLOOR PLAN - FIRE ALARM

SCALE: 1/8" = 1'-0"

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Swift Creek Elementary School

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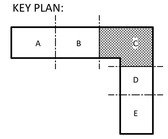
LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
FIRE ALARM PLAN - LEVEL 2 - AREA C

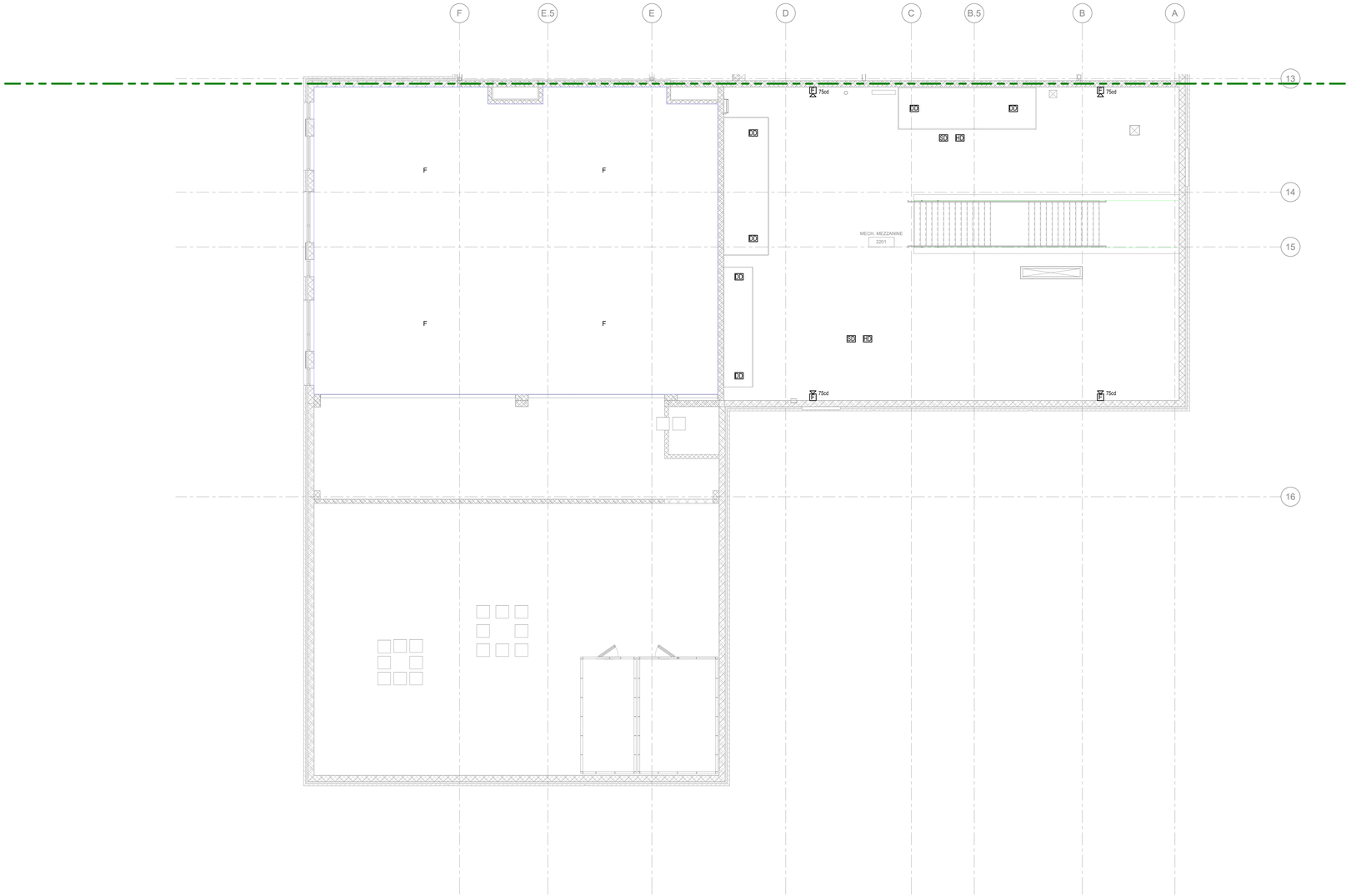
BID SET SUBMISSION: 2024.04.10

SHEET:
E05.21C

BID SET

4/3/2024 4:04:52 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ALL SHEETS EXCEPT ARCHITECTURAL PLOT SETS



1 LEVEL 2 FLOOR PLAN - FIRE ALARM
SCALE: 1/8" = 1'-0"

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A. FIELD VERIFY THE EXACT NUMBER AND LOCATIONS OF ALL MECHANICALLY RELATED ITEMS (SPRINKLER CONNECTIONS, EXTINGUISHING SYSTEMS, SMOKE DAMPERS, RANGE HOOD SUPPRESSION SYSTEMS, ETC.) AND MAKE CONNECTIONS AS REQUIRED/INDICATED.

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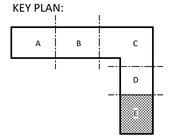
LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

KEY PLAN:



SHEET NAME:
FIRE ALARM PLAN - LEVEL 2 - AREA E

BID SET SUBMISSION: 2024.04.10

SHEET:
E05.21E

BID SET

4/3/2024 4:04:55 PM

E
D
C
B
A

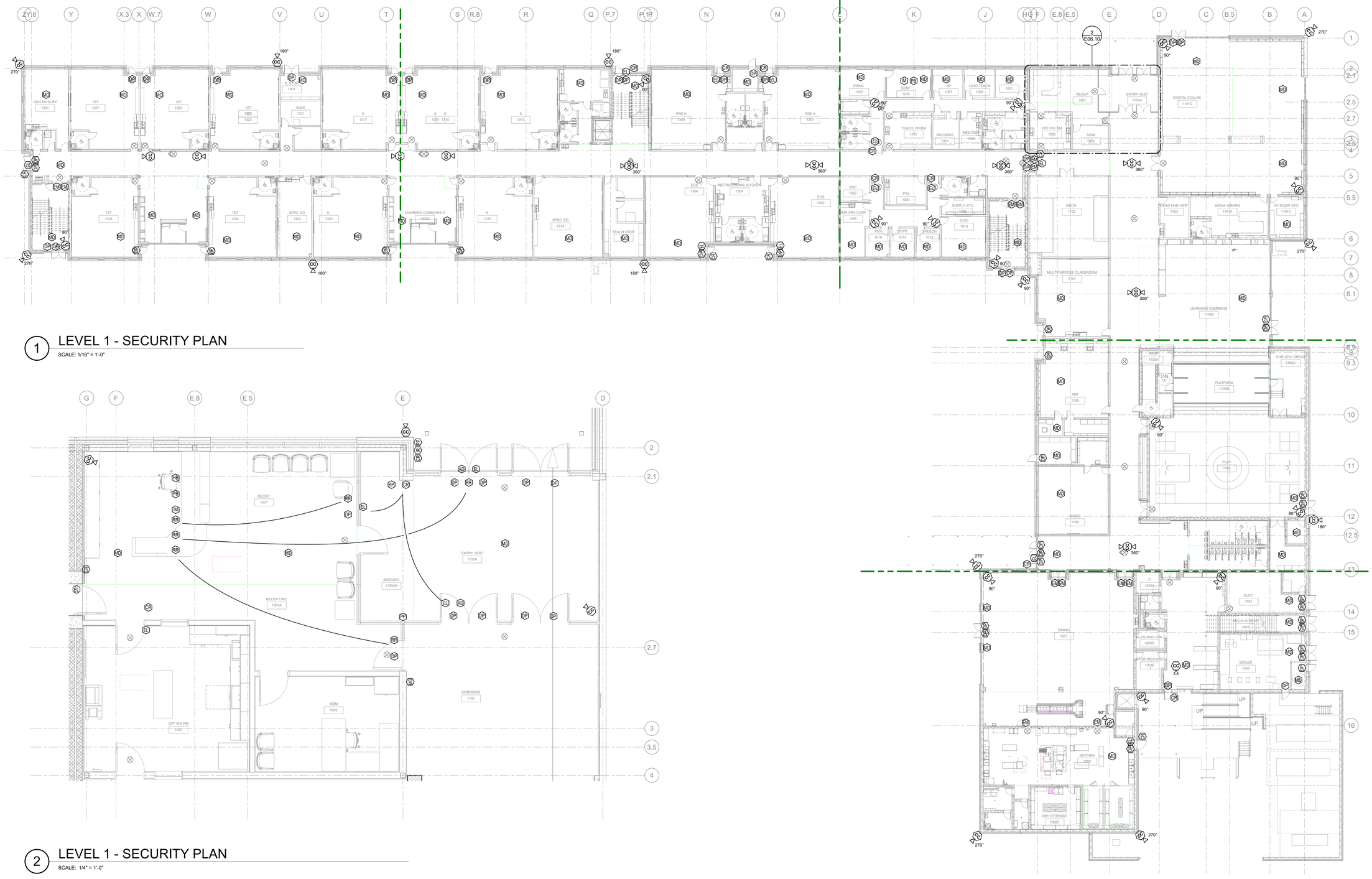
1 2 3 4 5 6

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH E SHEETS ORIGINAL PAGE SIZE

KEYNOTES

GENERAL NOTES (SECURITY):

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.
B. REFER TO "SYSTEM INSTALLATION MATRIX" AND SPECIFICATIONS FOR CONTRACTOR REQUIREMENTS OF EACH SYSTEM.
C. REFER TO CABLING PATH INSTALLATION DETAILS FOR PATHWAY REQUIREMENTS. DO NOT ROUTE OPEN CABLING ABOVE INACCESSIBLE CEILINGS OR IN FINISHED AREAS WITH NO CEILING.
D. CABLING REQUIREMENT SHOWN ON PLANS MAY VARY BY MANUFACTURER. COORDINATE EXACT CABLING REQUIREMENTS WITH EQUIPMENT SUPPLIERS.
E. COORDINATE FINAL PLACEMENT OF ALL BUILDING MOUNTED CCTV CAMERAS WITH ARCHITECT & ENGINEER PRIOR TO INSTALLATION.
F. COORDINATE PLACEMENT OF DESKTOP MOUNTED SECURITY DEVICES WITH MILLWORK/CASEWORK AND FURNITURE PLANS PRIOR TO INSTALLATION.



1 LEVEL 1 - SECURITY PLAN
SCALE: 1/16" = 1'-0"

2 LEVEL 1 - SECURITY PLAN
SCALE: 1/4" = 1'-0"

4/3/2024 4:05:13 PM

Wake County Public School System

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CMTA
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NORTH CAROLINA PROFESSIONAL SEAL 043650 ENGINEER STEVE E. ROBEY 04/10/2024

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME:
LEVEL 1 - SECURITY PLAN

BID SET SUBMISSION: 2024.04.10

SHEET:
E06.10

BID SET

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ALL SHEETS ORIGINAL PAPER SIZE

KEYNOTES

GENERAL NOTES (SECURITY):

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.
B. REFER TO "SYSTEM INSTALLATION MATRIX" AND SPECIFICATIONS FOR CONTRACTOR REQUIREMENTS OF EACH SYSTEM.
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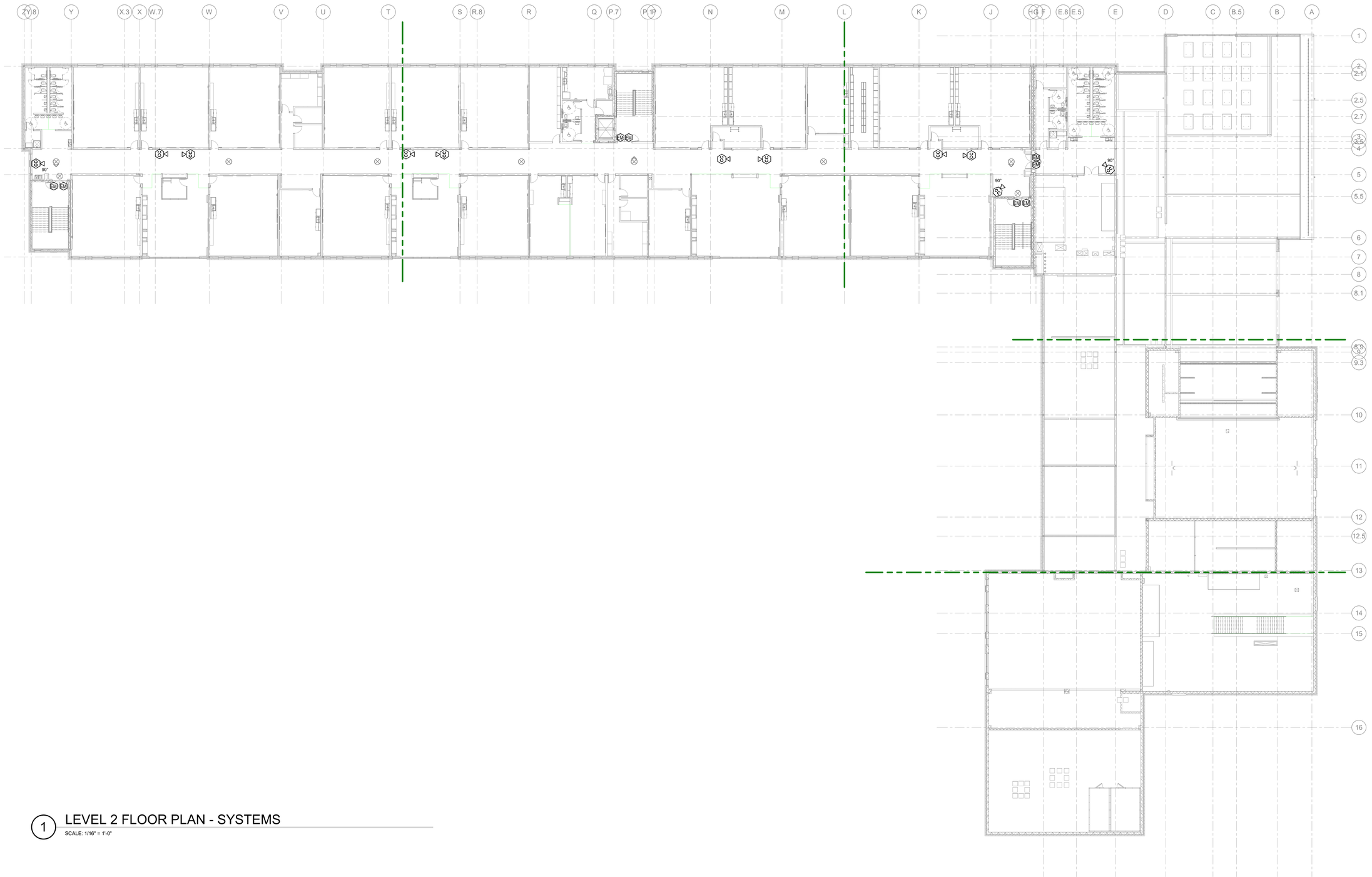
F. COORDINATE PLACEMENT OF DESKTOP MOUNTED SECURITY DEVICES WITH MILLWORK/CASEWORK AND FURNITURE PLANS PRIOR TO INSTALLATION.



1 LEVEL 2 FLOOR PLAN - SYSTEMS
SCALE: 1/16" = 1'-0"

4/3/2024 4:05:21 PM

Wake County Public School System

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04/10/2024

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

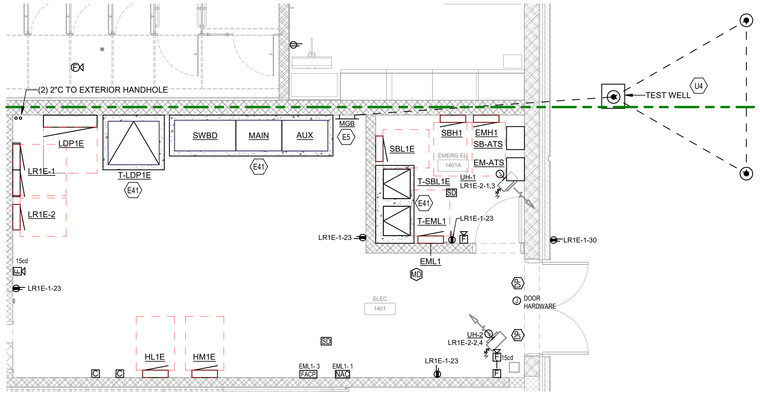
SHEET NAME: LEVEL 2 - SECURITY PLAN

BID SET SUBMISSION: 2024.04.10

SHEET: E06.20

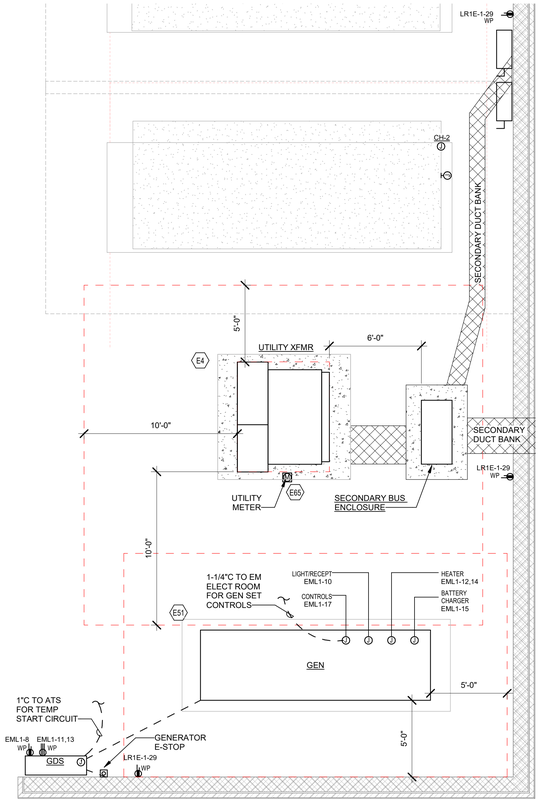
BID SET

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ALL SHEETS ORIGINAL PLOT SIZE



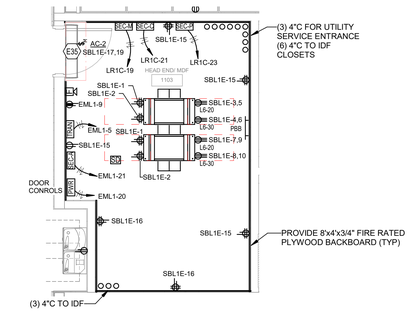
1 ENLARGED - MAIN ELECTRICAL ROOM

SCALE: 1/4" = 1'-0"



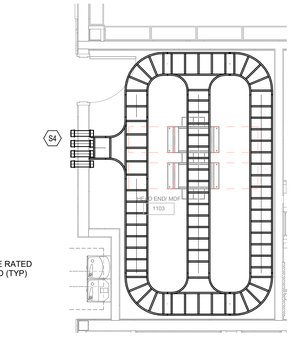
14 ENLARGED - UTILITY YARD

SCALE: 1/4" = 1'-0"



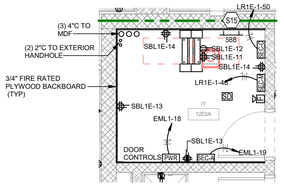
12 ENLARGED - MDF ROOM

SCALE: 1/4" = 1'-0"



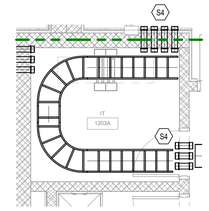
13 ENLARGED - MDF ROOM RCP

SCALE: 1/4" = 1'-0"



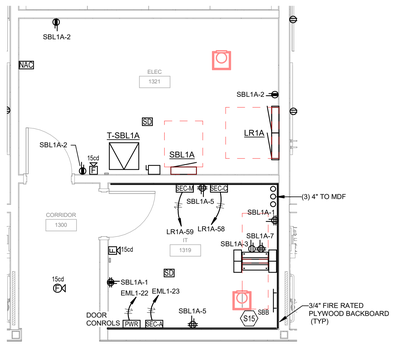
6 ENLARGED - IT 1203A

SCALE: 1/4" = 1'-0"



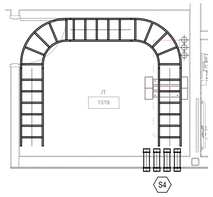
7 ENLARGED - IT 1203A RCP

SCALE: 1/4" = 1'-0"



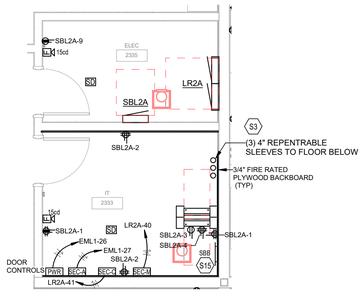
2 ENLARGED - LEVEL 1 - ELEC 1321 & IT 1319

SCALE: 1/4" = 1'-0"



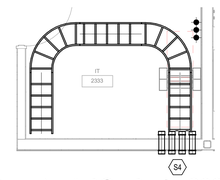
9 ENLARGED - IT 1319 RCP

SCALE: 1/4" = 1'-0"



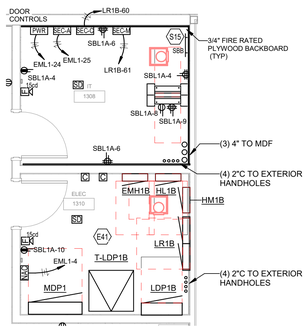
3 ENLARGED - LEVEL 2 - ELEC 2335 & IT 2333

SCALE: 1/4" = 1'-0"



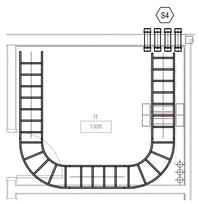
10 ENLARGED - IT 2333 RCP

SCALE: 1/4" = 1'-0"



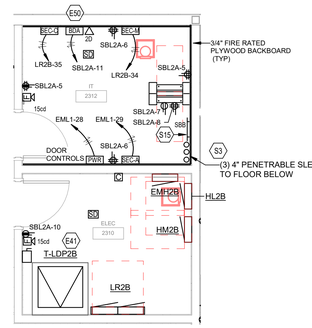
4 ENLARGED - LEVEL 1 - ELEC 1310 & IT 1308

SCALE: 1/4" = 1'-0"



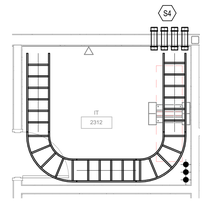
8 ENLARGED - IT 1308 RCP

SCALE: 1/4" = 1'-0"



5 ENLARGED - LEVEL 2 - ELEC 2310 & IT 2312

SCALE: 1/4" = 1'-0"



11 ENLARGED - IT 2312 RCP

SCALE: 1/4" = 1'-0"

KEYNOTES

E4 PROVIDE LARGE PIT PAD TYPE TRANSFORMER PAD IN ACCORDANCE WITH UTILITY COMPANY STANDARDS. REFER TO LARGE PIT PAD DETAIL FOR MORE INFORMATION.

E5 ELECTRICAL SERVICE MAIN GROUNDING BUSBAR (MGB). REFER TO GROUNDING ELECTRODE SYSTEM DETAIL FOR MORE INFORMATION.

E35 PROVIDE 1-1/4" CONDUIT FROM EACH "CU" CONDENSING UNITS TO THE CORRESPONDING INDOOR "AC" UNIT FOR INSTALLATION OF WIRING AS PROVIDED WITH UNITS (REFER TO MECHANICAL EQUIPMENT SCHEDULES).

E41 PROVIDE 4-INCH HOUSEKEEPING PAD. INCLUDE VIBRATION ISOLATION PADS FOR PAD MOUNT TRANSFORMERS IN ACCORDANCE WITH PAD MOUNT TRANSFORMER DETAIL.

E50 PROVIDE EMERGENCY RESPONDER RADIO COMMUNICATION SYSTEM (ERRCS) FOR NEW SCHOOL BUILDING. PROVIDE EMERGENCY POWER AS REQUIRED FOR SYSTEM OPERATION. PROVIDE ACCESSIBLE PATHWAYS PER SYSTEM REQUIREMENTS. REFER TO PERFORMANCE SPECIFICATION FOR INSTALLATION OF SYSTEM AND ALL NECESSARY COMPONENTS. REFER TO TYPICAL DETAIL ON SHEET E-803. PROVIDE (1) - 2"C GALVANIZED CONDUIT ROOF PENETRATION FOR ANTENNA.

E51 PROVIDE CONCRETE GENERATOR PAD. SEE PAD FOUNDATION DETAIL FOR MORE INFORMATION. PROVIDE 3/4"X10' GROUND ROD AT EACH CORNER AND BOND TOGETHER WITH #4 BARE COPPER CONDUCTOR. EXTEND #4 PIGTAIL FROM GROUND RING TO CONDUIT OPENING FOR BONDING GENERATOR ENCLOSURE.

E65 METER TO BE PULSE TYPE. THE ELECTRICAL CONTRACTOR TO REQUEST THE INSTALLATION OF THE PULSE METER WHEN THE COORDINATING WITH UTILITY.

S3 PROVIDE RE-PENETRABLE FIRE STOPPING. STI EZPATH SERIES 44+ OR EQUAL.

S4 PROVIDE RE-PENETRABLE ACOUSTIC SLEEVE. STI EZPATH SERIES 44NEZ OR EQUAL.

S15 PROVIDE SECONDARY BONDING BUSBAR. REFER TO BONDING BUSBAR DETAILS AND GROUNDING RISER DIAGRAMS FOR MORE INFORMATION.

U4 GROUNDING ELECTRODE SYSTEM. REFER TO GROUNDING ELECTRODE SYSTEM DETAIL FOR MORE INFORMATION.

Wake County Public School System

LS3P

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME:
ENLARGED PLANS - ELECTRICAL PLANS

BID SET SUBMISSION: 2024.04.10

SHEET: **E07.01**

BID SET

4/3/2024 4:05:44 PM

E D C B A

1 2 3 4 5 6

PANELBOARD AND WIRING SCHEDULE

PANEL: **LK** | MAINS TYPE: MCB | SCCR (kA): 10
VOLTAGE: 208Y/120V,3P,4W | SPD: No | AVAIL FAULT CURRENT (kA): 4.7
AMPERES: 225 A | MOUNTING: SURFACE | SUPPLY FROM: LDP1E

CIRCUIT DESCRIPTION	N	WIRE	GND	C	OCP	P	CKT	A		B		C		CKT	P	OCP	C	GND	WIRE	N	CIRCUIT DESCRIPTION
MILK COOLER 35K	1				20	1	1	0.2	0.2					2	1	20				1	HOT/COLD WELL - SERVING...
HOT/COLD WELL - SERVING...	1	#10	#10	3/4"	30	1	3			1.4	1.2			4	1	20				1	HOT/COLD WELL - SERVING...
ICE CREAM CABINET -...	1				20	1	5					0.9	0.2	6	1	20				1	POINT OF SALE - SERVING...
POINT OF SALE - SERVING...	1				20	1	7	0.2	0.2					8	1	20				1	POINT OF SALE - SERVING...
REC - SERVING 1201A	1				20	1	9			0.7	1.1			10	1	20					REC - CN OFFICE 1202A
REC - KITCHEN 1202	1				20	1	11					0.5	1.9	12	1	20				1	ICE MAKER 16K
PASS-THRU HEATED CABINET 32K	1				20	2	13	0.7	0.8					14	1	20				1	REFRIDGERATOR - KITCHEN...
							15			0.7	0.7			16	1	20				1	REFRIDGERATOR - KITCHEN...
DRYER - STAFF LOCKER 1202E	1				40	2	17					0.1	0.2	18	1	20				1	WASHER - STAFF LOCKER...
							19	0.1	0.5					20	1	20					REC - STAFF LOCKER 1202E
EXHAUST HOOD					20	1	21			0.2	0.2			22	1	20					FIRE SUPPRESSION SYSTEM
REC - DRY STORAGE 1202C					20	1	23					0.5	0.7	24	1	20					EF-9
KEF-1					20	3	25	1.3	0.2					26	1	20					REC - ROOFTOP MAINT
							27			1.3	0.7			28	1	20				1	REC SERVING 322
							29					1.3	0.0	30	1	20	--	--	--		SPARE
AIR CURTAIN 30K					20	1	31	0.5	0.7					32	1	20				1	REC - KITCHEN 1202
PASS-THRU HEATED CABINET 32K	1				20	2	33			0.7	0.7			34	1	20					REC - KITCHEN 1202
							35					0.7	2.4	36	1	20				1	PROOFING CABINET 06K
SNEEZE GUARD 37.2K	1				20	1	37	0.6	0.2					38	1	20					GAS/SHUNT CONTROL
EXHAUST HOOD LIGHTS					20	1	39			0.2	1.0			40	1	20					COOLER/FREEZER LIGHTS
SPARE		--	--	--	20	1	41					0.0	0.0	42	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	43	0.0	0.0					44	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	45			0.0	0.0			46	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	47					0.0	0.0	48	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	49	0.0	0.0					50	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	51			0.0	0.0			52	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	53					0.0	0.0	54	1	20	--	--	--		SPARE
							TOTAL LOAD (kVA):	6.4 kVA		10.8 kVA		9.4 kVA									
							TOTAL CURRENT (A):	53 A		94 A		82 A									

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
HVAC	4700 VA	100.00%	4700 VA	TOTAL CONNECTED LOAD:	27 kVA
KITCH	14860 VA	65.00%	9659 VA	TOTAL ESTIMATED DEMAND:	21 kVA
REC	7044 VA	100.00%	7044 VA	TOTAL CONNECTED CURRENT:	74 A
				TOTAL ESTIMATED DEMAND CURRENT:	59 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE G.F.C.I. TYPE CIRCUIT BREAKER

ELEC - FOOD SERVICE EQUIPMENT SCHEDULE

EQUIP ID	DESCRIPTION	CONNECTION TYPE	MOUNTING HEIGHT	VOLTAGE	POLES	EQUIPMENT RATING HP	AMP	POWER (kVA)	REMARKS
01AK	COOLER LIGHTS	DIRECT	1'-6"	120	1			0.50 kVA	
01BK	EVAPORATOR COIL, COOLER	DIRECT	9'-0"	208	3			0.00 kVA	
01CK	OUTDOOR CONDENSING UNIT, COOLER	30A/3P SAFETY SWITCH	4'-0"	208	3			5.00 kVA	
01DK	FREEZER LIGHTS	DIRECT	1'-6"	120	1			0.50 kVA	
01EK	EVAPORATOR COIL, FREEZER	DIRECT	9'-0"	208	3			0.00 kVA	
01FK	EVAPORATOR COIL, FREEZER	DIRECT	9'-0"	208	3			0.00 kVA	
01GK	OUTDOOR CONDENSING UNIT, FREEZER	30A/3P SAFETY SWITCH	4'-0"	208	3			1.80 kVA	
06K	PROOFER/HOLDING CABINET	NEMA 5-20P (UDS)	1'-6"	120	1		19.3	2.40 kVA	
15K	TILT SKILLET	DIRECT (UDS)	1'-6"	208	3		44.5	16.02 kVA	REFER TO MECHANICAL DRAWINGS FOR UTILITY DISTRIBUTION SYSTEM
16K	NUGGET ICE MAKER	DIRECT	1'-6"	120	1		16	1.92 kVA	
18K	REACH-IN REFRIGERATOR (2-DOOR)	NEMA 5-15P	1'-6"	120	1		5.4	0.70 kVA	
20K	UTILITY DISTRIBUTION SYSTEM (UDS)	CIRCUIT BREAKER PANEL	4'-0"	208	3		66	24.00 kVA	REFER TO MECHANICAL DRAWINGS FOR UTILITY DISTRIBUTION SYSTEM
21K	EXHAUST HOOD	DIRECT	9'-0"	120	1			0.20 kVA	
22K	FIRE SUPPRESSION SYSTEM	DIRECT	9'-0"	120	1			0.20 kVA	
23AK	COMBI-OVEN (GAS)	DIRECT (UDS)	1'-6"	120	1		7.5	0.90 kVA	REFER TO MECHANICAL DRAWINGS FOR UTILITY DISTRIBUTION SYSTEM
23BK	COMBI-OVEN (GAS)	DIRECT (UDS)	1'-6"	120	1		7.5	0.90 kVA	REFER TO MECHANICAL DRAWINGS FOR UTILITY DISTRIBUTION SYSTEM
24AK	CONVECTION OVEN (GAS)	(2) NEMA 5-15P (UDS)	1'-6"	120	1		(2) 8	0.96 kVA	REFER TO MECHANICAL DRAWINGS FOR UTILITY DISTRIBUTION SYSTEM
24BK	CONVECTION OVEN (GAS)	NEMA 5-15P (UDS)	1'-6"	120	1		8	0.96 kVA	REFER TO MECHANICAL DRAWINGS FOR UTILITY DISTRIBUTION SYSTEM
25K	CONVECTION STEAMER (GAS)	(2) DIRECT (UDS)	1'-6"	120	1		2	0.24 kVA	REFER TO MECHANICAL DRAWINGS FOR UTILITY DISTRIBUTION SYSTEM
30K	AIR CURTAIN	INTEGRAL DISCONNECT, FURNISHED WITH UNIT	4'-0"	120	1		2	0.50 kVA	TIE INTO MICROSWITCH AT DOOR
31K	PASS-THRU REFRIGERATOR, 2-SECTION	NEMA 5-15P	1'-6"	120	1		6.5	0.78 kVA	
32K	PASS-THRU REFRIGERATOR, 1-SECTION	CORD & PLUG	1'-6"	208	2		6.3	1.31 kVA	COORDINATE EXACT PLUG TYPE W/ MANUFACTURER
35K	MILK COOLER	NEMA 5-15P (STUB)	1'-6"	120	1	1/5	2.3	0.24 kVA	
36.1K	DROP-IN HOT/COLD WELL	NEMA 5-30P (STUB)	1'-6"	120	1		12	1.44 kVA	
36.2K	DROP-IN HOT/COLD WELL	NEMA 5-20P (STUB)	1'-6"	120	1		10	1.20 kVA	
37.1K	DROP-IN HOT/COLD WELL	NEMA 14-20P (STUB)	1'-6"	120	1		14	0.18 kVA	
37.2K	DROP-IN HOT/COLD WELL	SNEEZE GUARD	1'-6"	120	1		5	0.60 kVA	
40.1K	ICE CREAM DIPPING CABINET	NEMA 5-15P (STUB)	1'-6"	120	1	1/3	7.2	0.86 kVA	
41K	CASHIER STAND	NEMA 5-15P (STUB)	1'-6"	120	1			0.18 kVA	
42K	P.O.S	NEMA 5-15P (STUB)	1'-6"	120	1			0.18 kVA	

GENERAL NOTES (KITCHEN):

A. PROVIDE BREAKER LOCK-OUT PROVISIONS IN PANELS FOR BREAKERS THAT SERVE HARD-WIRED KITCHEN EQUIPMENT CONNECTIONS.

B. KITCHEN PLANS ARE BASED UPON COORDINATION WITH THE KITCHEN DESIGN CONSULTANT'S DRAWINGS. ALL ROUGH-INS AND FINAL CONNECTIONS SHALL BE VERIFIED WITH KITCHEN EQUIPMENT SHOP DRAWINGS AND ARCHITECTURAL PLANS AND ELEVATIONS PRIOR TO CONSTRUCTION.

C. FOR ALL CIRCUITS SERVING RECEPTACLES AND EQUIPMENT IN KITCHEN AND SERVING AREAS, PROVIDE "GFCI" TYPE CIRCUIT BREAKERS FOR THOSE CIRCUITS. FOR ALL RECEPTACLES THAT ARE CONNECTED TO "GFCI" CIRCUIT BREAKERS, PROVIDE PERMANENT LABELS ON THE RECEPTACLE COVERPLATE INDICATING "GFCI" PROTECTED CIRCUIT".

D. PROVIDE #302 STAINLESS STEEL COVERPLATES ON ALL OUTLETS LOCATED ON A WALL WITH STAINLESS STEEL COVERINGS. VERIFY LOCATIONS OF THESE STAINLESS STEEL WALLS WITH THE KITCHEN VENDOR DRAWINGS / SHOP DRAWINGS.

E. REFER TO KITCHEN ELECTRICAL CONNECTIONS SCHEDULES FOR MOUNTING HEIGHTS OF RECEPTACLES AND JUNCTION BOXES.

F. VERIFY EXACT OUTLET NEMA CONFIGURATIONS WITH EQUIPMENT SUPPLIER PRIOR TO CONSTRUCTION.

G. PROVIDE LIQUID-TIGHT FLEXIBLE CONDUIT FOR FINAL CONNECTIONS FROM JUNCTION BOXES TO EQUIPMENT/DEVICES.

H. WHERE EXPOSED PIPES AND CONDUITS ARE NECESSARY, THEY SHOULD BE MOUNTED 1 TO 2 INCHES OFF THE WALL AND 6 INCHES OFF THE FLOOR TO ALLOW FOR CLEANING.

I. WHERE EQUIPMENT IS PROVIDED WITH A UTILITY DISTRIBUTION SYSTEM, PROVIDE FINAL CONNECTION TO UNIT AND FINAL CONNECTIONS TO SUB-COMPONENTS AND ADJACENT EQUIPMENT.

J. PROVIDE ALL FINAL CONNECTIONS AND CONDUIT TO REFRIGERATION EQUIPMENT REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. MOUNT LIGHTS WHERE INDICATED ON FOOD SERVICE DRAWINGS. INSTALL CONDUITS EXPOSED ON THE TOP OF WALK-IN UNITS. DO NOT INSTALL EXPOSED CONDUIT INSIDE WALK-IN UNITS. AT PENETRATIONS THRU WALK-IN UNITS, FOAM AND SEAL THE INSIDE AND OUTSIDE OF THE CONDUIT FOR A VAPOR TIGHT PENETRATION.

K. COORDINATE LOCATION OF REMOTE PULL STATIONS WITH HOOD SUPPRESSION SYSTEM PRIOR TO ROUGH IN.

L. PROVIDE CONNECTIONS FOR SHUT-DOWN AND CONTROL OF HOOD LIGHTS, MAKE-UP AIR FAN INTERLOCK, AND FIRE ALARM SYSTEM MONITORING.

KEYNOTES

E8 PROVIDE SPARE 3/4"C WITH PULL STRING FOR FUTURE USE TO ABOVE CEILING.

E9 PROVIDE CONNECTIONS TO HOOD FIRE SUPPRESSION CONTROL PANELS FOR CONTROL AS REQUIRED. COORDINATE EXACT REQUIREMENTS WITH KITCHEN EQUIPMENT AND UDS VENDORS PRIOR TO CONSTRUCTION.

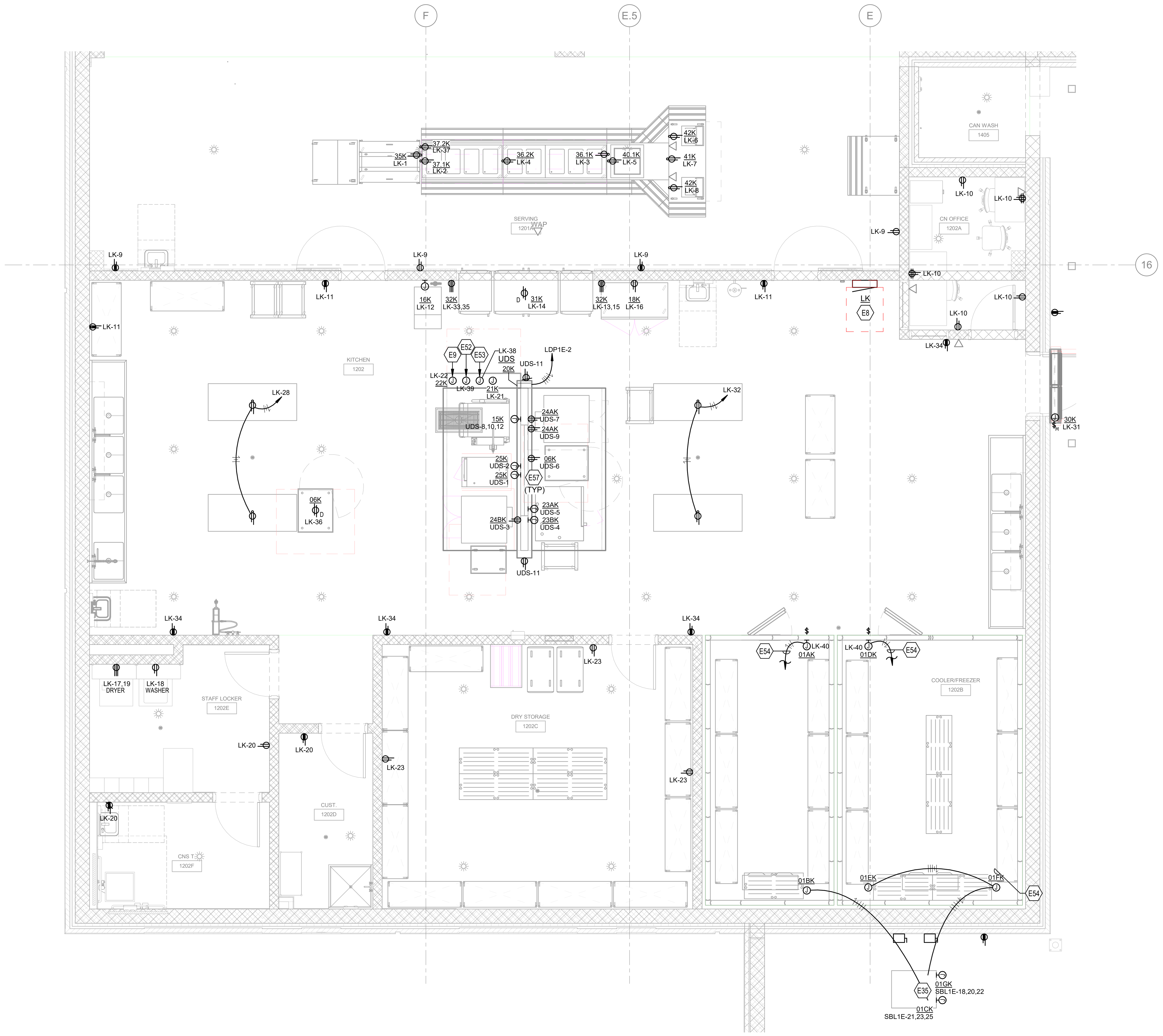
E35 PROVIDE 1-1/4" CONDUIT FROM EACH "CU" CONDENSING UNITS TO THE CORRESPONDING INDOOR "AC" UNIT FOR INSTALLATION OF WIRING AS PROVIDED WITH UNITS (REFER TO MECHANICAL EQUIPMENT SCHEDULES).

E52 PROVIDE CONDUIT AND WIRING TO LIGHT AND PRE-WIRED PACKAGE SWITCH ON BOTTOM OF FIRE CONTROL CABINET.

E53 GAS/SHUNT CONTROL

E54 INTERCONNECTION WIRING TO COOLER/FREEZER LIGHTS PROVIDED WITH EQUIPMENT BY ELECTRICAL CONTRACTOR. REFER TO FOOD SERVICE DRAWINGS.

E57 ALL EQUIPMENT LOCATED UNDER KITCHEN EXHAUST HOOD TO BE ROUTED THROUGH KTICHEN CONTACTOR CABINET. SEE DETAIL ON THIS SHEET.



1 LEVEL 1 - ENLARGED KITCHEN/DINING AREA
SCALE: 1/4" = 1'-0"

Wake County Public School System

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043650 STEVE E. ROBEY
04/10/2024

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Swift Creek Elementary School
5601 Tryon Rd Raleigh, NC 27606
LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME: ENLARGED PLANS - KITCHEN

BID SET SUBMISSION: 2024.04.10

SHEET: **E07.02**

BID SET

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THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ALL SHEETS ORIGINAL PAGE SIZE

ELEC RISER - TRANSFER SWITCH SCHEDULE

NAME	SIZE	MOUNT	VOLTAGE	kAIC VALUE	AIC RATING	POLES	TRANSITION
EM-ATS	100A	SURFACE	480V	13.3	35	3	OPEN
SB-ATS	200A	SURFACE	480V	17.2	35	3	OPEN

ELECTRICAL TRANSFORMER SCHEDULE

NAME	SIZE (kVA)	MOUNT	PRIMARY VOLTAGE	SECONDARY VOLTAGE	TEMP RISE	GEC	PRIMARY DISCONNECT	SECONDARY DISCONNECT	AIC RATING
T-EML1	30	PAD	480V 3Ø,3W	280Y/120 3Ø,4W	150 °F	#6	PANEL BREAKER	PANEL MCB	22
T-LDP1B	112.5	PAD	480V 3Ø,3W	280Y/120 3Ø,4W	150 °F	#1/0	PANEL BREAKER	PANEL MCB	22
T-LDP1E	225	PAD	480V 3Ø,3W	280Y/120 3Ø,4W	150 °F	#1/0	SWITCHBOARD BREAKER	PANEL MCB	22
T-LDP2B	112.5	PAD	480V 3Ø,3W	280Y/120 3Ø,4W	150 °F	#1/0	DISCONNECT SWITCH	PANEL MCB	22
T-SBL1A	30	PAD	480V 3Ø,3W	280Y/120 3Ø,4W	150 °F	#6	DISCONNECT SWITCH	PANEL MCB	10
T-SBL1E	30	PAD	480V 3Ø,3W	280Y/120 3Ø,4W	150 °F	#6	PANEL BREAKER	PANEL MCB	10

ELECTRICAL FEEDER SCHEDULE

LOAD NAME	FED FROM	VOLTAGE	RATING	MATERIAL	SETS	CONDUCTOR SIZE		CONDUIT SIZE
						WIRE	GROUND	
CH-1	UTILITY XFMR	480 V	400 A	AL	2	(4) #250 KCMIL	#1	2-1/2"
CH-2	UTILITY XFMR	480 V	400 A	AL	2	(4) #250 KCMIL	#1	2-1/2"
ELEVATOR	SBH1	480 V	60 A	CU	1	(3) #4	#8	1-1/4"
EM-ATS (E)	GDS	480 V	100 A	AL	1	(4) #1/0	#6	2"
EM-ATS (N)	SWBD	480 V	100 A	AL	1	(4) #1/0	#6	2"
EMH1	EM-ATS	480 V	100 A	AL	1	(4) #1/0	#6	2"
EMH1B	EMH1	480 V	60 A	CU	1	(4) #4	#8	1-1/4"
EMH2B	EMH1B	480 V	60 A	CU	1	(4) #4	#8	1-1/4"
EML1	T-EML1	208 V	100 A	AL	1	(4) #1/0	#6	2"
GDS	GEN	480 V	100 A	AL	1	(4) #1/0	#6	2"
HL1B	MDP1	480 V	100 A	AL	1	(4) #1/0	#6	2"
HL1E	SWBD	480 V	60 A	AL	1	(4) #3	#6	1-1/4"
HL2B	HL1B	480 V	100 A	AL	1	(4) #1/0	#6	2"
HM1B	MDP1	480 V	200 A	AL	1	(4) #250 KCMIL	#4	2-1/2"
HM1E	SWBD	480 V	200 A	AL	1	(4) #250 KCMIL	#4	2-1/2"
HM2B	MDP1	480 V	200 A	AL	1	(4) #250 KCMIL	#4	2-1/2"
LDP1B	T-LDP1B	208 V	400 A	AL	2	(4) #250 KCMIL	#1/0	2-1/2"
LDP1E	T-LDP1E	208 V	800 A	AL	3	(4) #400 KCMIL	#3/0	3"
LIFT STATION	SWBD	480 V	100 A	AL	1	(4) #1/0	#6	2"
LIFT STATION	GEN	480 V	100 A	AL	1	(4) #1/0	#6	2"
LK	LDP1E	208 V	225 A	AL	1	(4) #300 KCMIL	#1	2-1/2"
LR1A	LDP1B	208 V	150 A	AL	1	(4) #4/0	#3/0	2-1/2"
LR1B	LDP1B	208 V	150 A	AL	1	(4) #3/0	#3	2"
LR1C	LDP1E	208 V	150 A	AL	1	(4) #3/0	#3	2"
LR1E-1	LDP1E	208 V	225 A	AL	1	(4) #300 KCMIL	#1	2-1/2"
LR1E-2	LDP1E	208 V	150 A	AL	1	(4) #3/0	#3	2"
LR2A	LR2B	208 V	150 A	AL	1	(4) #4/0	#3/0	2-1/2"
LR2B	T-LDP2B	208 V	400 A	AL	2	(4) #250 KCMIL	#1/0	3"
MDP1	SWBD	480 V	800 A	AL	3	(4) #500 KCMIL	#4/0	4"
SB-ATS (E)	GEN	480 V	200 A	AL	1	(4) #250 KCMIL	#1/0	3"
SB-ATS (N)	SWBD	480 V	200 A	AL	1	(4) #250 KCMIL	#4	3"
SBH1	SB-ATS	480 V	200 A	AL	1	(4) #250 KCMIL	#4	3"
SBL1A	T-SBL1A	208 V	100 A	AL	1	(4) #1/0	#6	2"
SBL1E	T-SBL1E	208 V	100 A	AL	1	(4) #1/0	#6	2"
SBL2A	SBL1A	208 V	100 A	AL	1	(4) #1/0	#6	2"
SWBD	UTILITY XFMR	480 V	1600 A	AL	5	(4) #600 KCMIL	#2/0	4"
T-EML1	EMH1	480 V	50 A	CU	1	(3) #6	#10	1"
T-LDP1B	MDP1	480 V	200 A	AL	1	(4) #250 KCMIL	#3	2-1/2"
T-LDP1E	SWBD	480 V	400 A	AL	2	(4) #250 KCMIL	#1/0	2-1/2"
T-LDP2B	MDP1	480 V	200 A	AL	1	(4) #250 KCMIL	#3	2-1/2"
T-SBL1A	SBH1	480 V	50 A	CU	1	(3) #3	#6	1-1/4"
T-SBL1E	SBH1	480 V	50 A	CU	1	(3) #6	#10	1"
UDS - KITCHEN 1202	LDP1E	208 V	225 A	AL	1	(4) #300 KCMIL	#1	2-1/2"

NEC LOAD ANALYSIS CHART:

LIGHTING CONNECTED LOAD =	48.5 kVA
RECEPTACLES CONNECTED LOAD =	183.9 kVA
HVAC CONNECTED LOAD =	138.2 kVA
KITCHEN CONNECTED LOAD =	46.3 kVA
ELEVATOR CONNECTED LOAD =	30.0 kVA
OTHER CONNECTED LOAD =	212.0 kVA
TOTAL CONNECTED LOAD =	658.9 kVA
NEC LOAD ANALYSIS PER NEC 220.86 SCHOOLS	
BUILDING AREA w/EXISTING: 69300 ft² =	9.51 W/ft²
FIRST 3 VA/SQ.FT @ 100% =	3.00 W/ft²
3 - 20 VA/SQ.FT @ 75% =	4.88 W/ft²
OVER 20 VA/SQ. FT @ 25% =	0.00 W/ft²
DIVERSIFIED POWER DENSITY PER 220.86 =	7.88 W/ft²
DIVERSIFIED LOAD PER 220.86 =	546.1 kVA
546139 VA / 831.38 V =	656.9 A
657 A + 25% SPARE =	821.1 A
SERVICE SIZE =	1600A, 277/480v, 3PH

GENERAL NOTES (RISER):

A. PROVIDE ENGRAVED LAMACOID LABELS FOR ALL POWER DISTRIBUTION EQUIPMENT FURNISHED OR MODIFIED IN THIS PROJECT, LABELS PER DETAILS AND SPECIFICATIONS.

B. MARK SWITCHBOARD, PANELBOARDS, AND ELEVATOR CONTROLLER WITH THE MAXIMUM AVAILABLE FAULT-CURRENT AT THE EQUIPMENT AND THE DATE THE CALCULATION WAS PERFORMED. APPLY A TYPE-WRITTEN ADHESIVE LABEL WITH WHITE BACKGROUND, 1/2" HIGH BLACK LETTERING.

C. CONTRACTOR SHALL INSTALL SEPARATE CONDUITS, PULL BOXES, ETC. FOR EACH EMERGENCY POWER BRANCH & NORMAL POWER PER NEC FOR COMPLETE SEPARATION OF POWER SERVICES.

D. ALL CIRCUIT BREAKERS AND/OR DISCONNECTS SERVING THE PRIMARY SIDE OF A TRANSFORMER WHICH ARE NOT WITHIN SITE OF THE TRANSFORMER SHALL BE PROVIDED WITH PERMANENTLY INSTALLED MEANS TO LOCK THE BREAKER IN THE OFF POSITION. SUCH TRANSFORMERS SHALL HAVE THE ROOM NAME AND NUMBER OF THE PRIMARY DISCONNECTING MEANS ENGRAVED ON THE EQUIPMENT NAMEPLATE.

E. REFER TO SPECIFICATIONS FOR ARC FLASH AND RELATED POWER SYSTEM STUDY REQUIREMENTS.

F. PROVIDE ALL DISTRIBUTION PANELBOARDS WITH MINIMUM OF 99" CIRCUIT BREAKER MOUNTING SPACE UNLESS NOTED OTHERWISE.

G. MAIN SERVICE SWITCHBOARD SHALL BE 100% FULLY RATED OVER ITS DISTRIBUTION SECTIONS. DISTRIBUTION END BUS SECTIONS SHALL BE BUILT FOR FUTURE SECTIONS INCLUDING PRE-DRILLING BUS FOR FUTURE BUS EXTENSION.

H. INCREASE CONDUIT SIZE AS REQUIRED WHERE INSTALLING PVC CONDUIT UNDERGROUND.

I. ALL UNUSED SPACES IN SWITCHBOARDS AND DISTRIBUTION PANELBOARDS SHALL BE PREPARED SPACES THAT ALLOW EASY INSTALLATION OF A CIRCUIT BREAKER.

J. PROVIDE GROUND LUGS FOR EACH DEVICE.

K. PROVIDE LOCKABLE CIRCUIT BREAKERS FOR ALL BREAKERS IN SWITCHBOARD.

L. PROVIDE A REDUCED SIZE (17" X 22" MINIMUM), BUT CLEARLY READABLE, COPY OF THE AS-BUILT RISER DIAGRAM MOUNTED TO THE WALL ADJACENT TO THE MAIN DISTRIBUTION PANEL (MDP) AT THE SERVICE ENTRANCE. IT SHALL BE LAMINATED AND RIGIDLY MOUNTED UNDER PLEXIGLAS OR OTHER MEANS THAT PROTECTS IT FROM DAMAGE OR EASY REMOVAL.

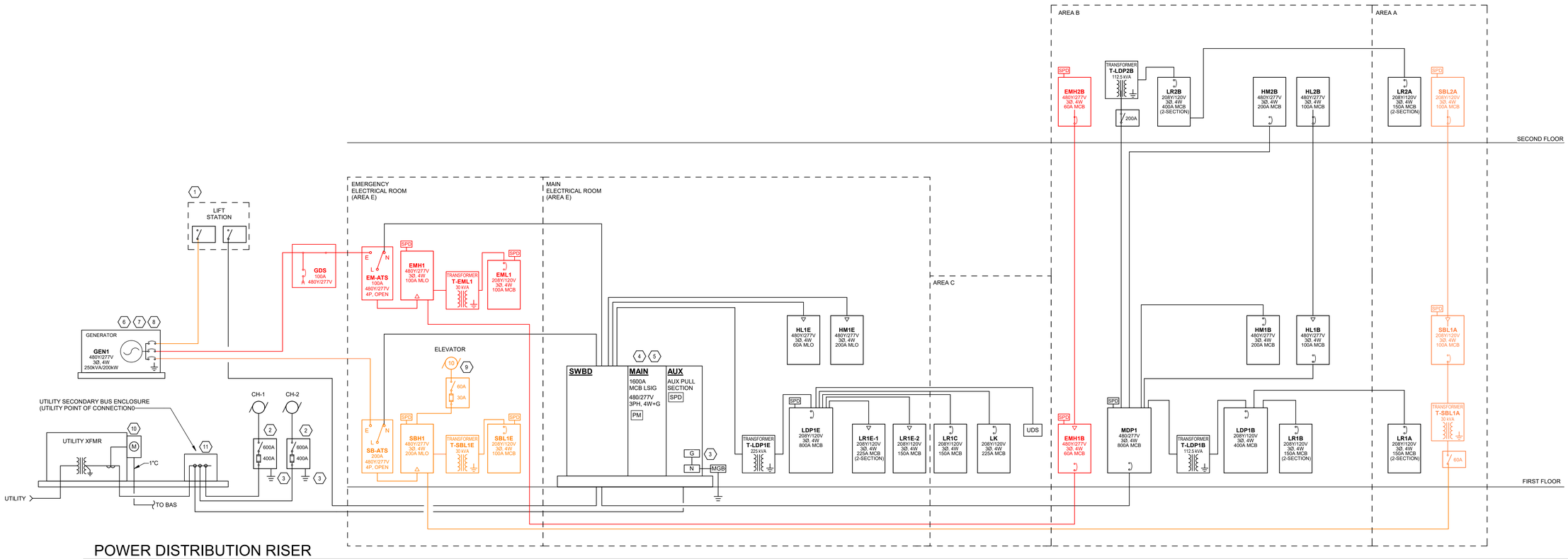
M. REFER TO TRANSFORMER GROUNDING DETAIL FOR MORE INFORMATION ON CONNECTION OF GROUNDING ELECTRODE CONDUCTORS AND SUPPLY SIDE BONDING JUMPERS.

N. THE GROUND-FAULT PROTECTION SYSTEM SHALL BE PERFORMANCE TESTED WHEN FIRST INSTALLED ON SITE. THE TEST SHALL BE CONDUCTED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. A WRITTEN RECORD OF THIS TEST SHALL BE MADE AND SHALL BE AVAILABLE TO THE AUTHORITY HAVING JURISDICTION.

O. PANELBOARDS TO BE SURFACE MOUNTED IN UNFINISHED SPACES AND RECESSED IN FINISHED SPACES. FOR ALL RECESSED PANELBOARDS, PROVIDE THREE (3) 3/4" SPARE CONDUITS STUBBED-UP ABOVE ACCESSIBLE CEILINGS. WHEN PANEL IS IN AN AREA WITH HARD CEILINGS, CONDUITS SHALL BE STUBBED TO NEAREST ACCESSIBLE ABOVE CEILING LOCATION.

KEYNOTES

1. LIFT STATION PROVIDED BY OTHERS. COORDINATE WITH CONTRACTOR FOR EXACT LOCATION OF POWER CONNECTIONS TO LIFT STATION DISCONNECTS.
2. HEAVY DUTY, NEMA 3R, SERVICE RATED FUSED DISCONNECT FURNISHED WITH EQUIPMENT. COORDINATE FINAL CONNECTIONS WITH UTILITY COMPANY. DISCONNECT TO BE PROVIDED WITH SURGE PROTECTION DEVICE. REFER TO SPECIFICATIONS.
3. PROVIDE MAIN BONDING JUMPER, GROUNDING ELECTRODE CONDUCTORS AND GROUNDING ELECTRODES AT SERVICE ENTRANCE. REFER TO GROUNDING ELECTRODE SYSTEM DETAIL FOR MORE INFORMATION.
4. PROVIDE ARC FLASH REDUCTION MAINTENANCE SWITCH.
5. PROVIDE MULTI-FUNCTION POWER METER. REFER TO SPECIFICATIONS FOR MORE DETAIL.
6. PROVIDE GENERATOR CIRCUIT BREAKERS WITH ADVANCED ELECTRONIC TRIP UNIT, 400A FRAME.
7. PROVIDE BONDING FOR SEPARATELY DERIVED GENERATOR. REFER TO GENERATOR BONDING DETAIL.
8. PROVIDE PATHWAYS AND CONTROL CABLING FOR GENERATOR CONNECTIONS TO TRANSFER SWITCH AND ANNUNCIATOR PANELS. REFER TO FLOOR PLANS FOR GENERATOR ANNUNCIATOR LOCATIONS.
9. PROVIDE NON-REGEN ELEVATOR MOTOR. IF ONE CANNOT BE PROVIDED, MANUFACTURER SHALL PROVIDE LOAD BANK.
10. COORDINATE WITH UTILITY TO PROVIDE PULSE TYPE METER. INTEGRATE METER WITH BUILDING BAS SYTEM.
11. PROVIDE (8) 4" PVC CONDUITS TO SECONDARY BUS ENCLOSURE PER UTILITY COMPANY REQUIREMENTS. CONDUCTORS TO BE PROVIDED BY THE UTILITY. SEE UTILITY DETAILS ON SHEET E09.04 FOR MORE INFORMATION.



POWER DISTRIBUTION RISER

NO SCALE

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Wake County Public School System

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME:
ELECTRICAL RISER DIAGRAM

BID SET SUBMISSION: 2024.04.10

SHEET:
E08.01

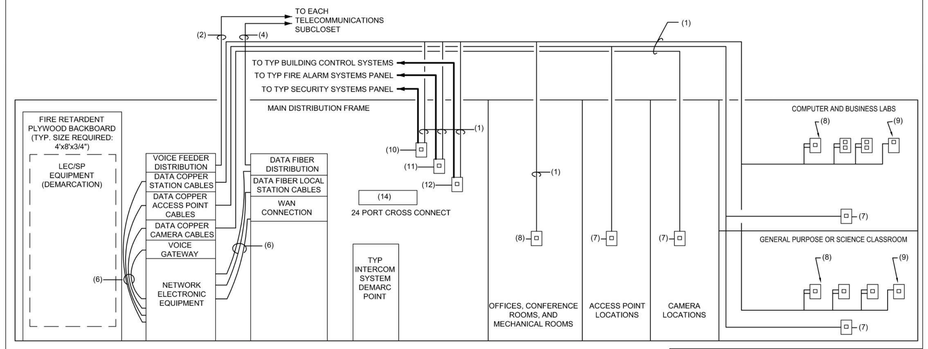
BID SET

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH E SHEETS ORIGINAL PLOT SIZE

CABLE SCHEDULE

MARKS DESCRIPTION

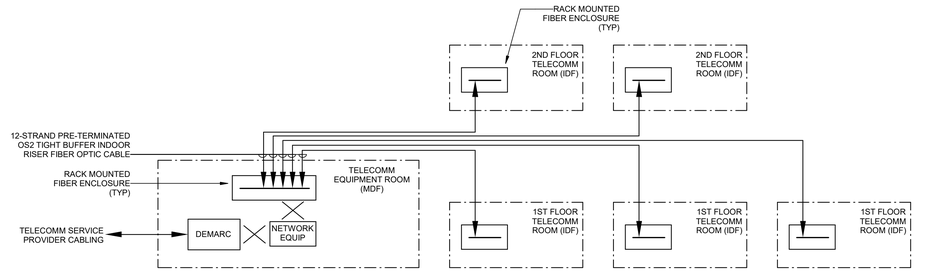
(1) 1 - 4 PAIR Cat6 CABLE FOR DATA PER PORT.
(2) MULTI-PAIR Cat3 CABLE FOR VOICE DISTRIBUTION.
(3) 1 - 2 STRAND MULTIMODE FIBER CABLE FOR DATA TO SWITCH ENCLOSURE.
(4) MULTIPLE STRANDS OF MULTIMODE FIBER CABLE FOR DATA DISTRIBUTION TO MAIN BUILDING. SINGLEMODE TO ALL OUTBUILDINGS.
(5) COPPER PATCH CORDS TO BE PROVIDED BY CONTRACTOR AND INSTALLED BY WCPSS.
(6) PATCH CORDS TO BE PROVIDED AND INSTALLED BY WCPSS.
(7) ACCESS POINT OR CAMERA DROP TERMINATED WITH A MODULAR RJ45 PLUG.
(8) TYPICAL TCO - REFER TO 270000 FOR REQUIRED QUANTITY PER LOCATION.
(9) TCO FOR WALL MOUNTED TELEVISION.
(10) TYP FIRE PANEL DEMARCATION POINT
(11) TYP SECURITY DEMARCATION POINT
(12) TYP BUILDING SYSTEM CONTROL DEMARCATION POINT
(13) FOUR POST RACK (TWO RACKS FOR ELEMENTARY AND MIDDLE, THREE FOR HIGH SCHOOLS.) POSTS ARE TO BE INSTALLED WITH 32" FRONT TO BACK.
(14) 24 PORT PATCH PANEL TO CROSS CONNECT "VOICE" CONNECTIONS FOR LIFE SAFETY,BUILDING CONTROL, SECURITY, AND INTERCOM SYSTEMS. PORTS SHOULD CONNECT TO PORTS 1 - 24 ON COPPER DATA PATCH PANEL.



E2.00 MAIN TELECOMMUNICATIONS DISTRIBUTION ROOM TYPICAL DESIGN

SCALE: NONE

WAKE COUNTY PUBLIC SCHOOL SYSTEM
111 Corning Road,Suite 190
Cary, NC 27518
(919) 588-3608



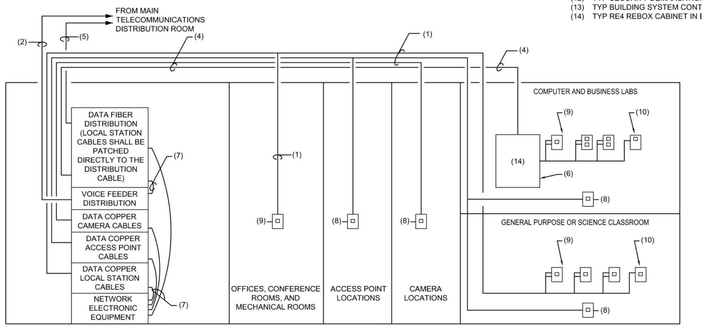
2 TELECOMM ONE LINE DIAGRAM

NO SCALE

CABLE SCHEDULE

MARKS DESCRIPTION

(1) 1 - 4 PAIR Cat6 CABLE FOR DATA PER PORT.
(2) MULTI-PAIR Cat3 CABLE FOR VOICE DISTRIBUTION.
(3) 1 - 2 STRAND MULTIMODE FIBER CABLE FOR DATA TO SWITCH ENCLOSURE.
(4) 1 - 6 STRAND MULTIMODE FIBER CABLE FOR DATA TO EACH REBOX CABINET IN COMPUTER LAB AND BUSINESS LABS.
(5) MULTIPLE STRANDS ON MULTIMODE FIBER CABLE FOR DATA DISTRIBUTION.
(6) COPPER PATCH CORDS TO BE PROVIDED BY CONTRACTOR AND INSTALLED BY WCPSS.
(7) PATCH CORDS TO BE PROVIDED AND INSTALLED BY WCPSS.
(8) ACCESS POINT OR CAMERA DROP TERMINATED WITH A MODULAR RJ45 PLUG.
(9) TYPICAL TCO - REFER TO 270000 FOR REQUIRED QUANTITY PER LOCATION.
(10) TCO FOR INTERACTIVE WHITE BOARD.
(11) TYP FIRE PANEL DEMARCATION POINT
(12) TYP SECURITY DEMARCATION POINT
(13) TYP BUILDING SYSTEM CONTROL DEMARCATION POINT
(14) TYP RE4 REBOX CABINET IN EACH COMPUTER AND BUSINESS LAB



E2.01 TELECOMMUNICATIONS SUBCLOSET TYPICAL DESIGN

SCALE: NONE

WAKE COUNTY PUBLIC SCHOOL SYSTEM
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Wake County Public School System

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04/10/2024

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME: SYSTEMS RISER DIAGRAM

BID SET SUBMISSION: 2024.04.10

SHEET: **E08.02**

BID SET

4/3/2024 4:05:59 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH E SHEETS ORIGINAL PLOT SIZE

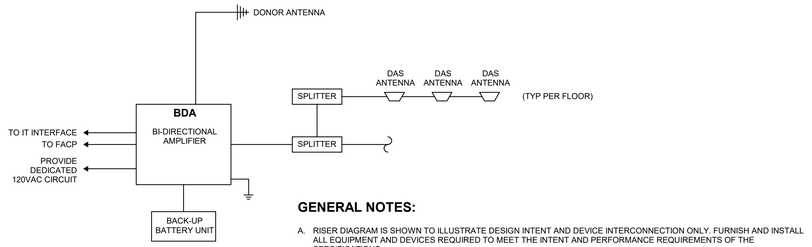
SYSTEM OUTPUT:

SYSTEM INPUT:

	CONTROL UNIT FUNCTIONS								NOTIFICATION																CONTROL											
	ACTUATE AUDIBLE AND VISIBLE FIRE ALARM SIGNAL	ACTUATE AUDIBLE AND VISIBLE SUPERVISORY SIGNAL	ACTUATE AUDIBLE AND VISUAL TROUBLE SIGNAL	ACTUATE AUDIBLE AND VISIBLE CARBON MONOXIDE ALARM	RECORD EVENT IN SYSTEM MEMORY	DISPLAY/PRINT ALARMED DEVICE LOCATION AND ADDRESS	SEND SIGNAL TO REMOTE ANNUNCIATOR AND FA NETWORK	TRANSMIT GENERAL ALARM TO SUPERVISING STATION	TRANSMIT SUPERVISORY TO SUPERVISING STATION	TRANSMIT TROUBLE TO SUPERVISING STATION	TRANSMIT CARBON MONOXIDE ALARM TO SUPERVISING STATION	ACTIVATE AUDIBLE AND VISUAL NOTIFICATION DEVICES	ACTIVATE SPRINKLER WATER FLOW ALARM BELL	ACTIVATE AUDIBLE ALARM (TEMPORAL 4 PATTERN)	ANTENNA FAILURE - BDA	TROUBLE - BDA	POWER LOSS - BDA	CHARGER TROUBLE - BDA	LOW BATTERY - BDA	SHUTDOWN ASSOCIATED HVAC EQUIPMENT	CLOSE ASSOCIATED SMOKE DAMPERS	SILENCE SPEAKERS AND DISABLE STROBES	TEMPORARY OVERRIDE FIRE ALARM MESSAGE AND FA STROBES	RECALL ELEVATOR TO DESIGNATED LEVEL	RECALL ELEVATOR TO ALTERNATE LEVEL	ACTIVATE ELEVATOR VISUAL WARNING SIGNAL	INITIATE ELEVATOR POWER SHUT-DOWN	RELEASE MAGNETIC DOOR HOLD OPENS	RELEASE ELECTRONICALLY LOCKED SECURITY DOORS
MANUAL PULL STATION	●				●	●	●	●				●																●	●						
SMOKE/HEAT DETECTION	●				●	●	●	●				●																●	●						
SMOKE DETECTOR CONTAMINATION			●		●	●	●			●																									
SPRINKLER WATERFLOW SWITCH	●				●	●	●	●				●	●															●	●						
SPRINKLER TAMPER SWITCH		●			●	●	●		●																										
SPRINKLER PRESSURE SWITCH		●			●	●	●		●																										
DUCT SMOKE DETECTOR - HVAC		●			●	●	●		●											●															
DUCT SMOKE DETECTOR - SMOKE DAMPER		●			●	●	●		●											●	●														
SMOKE DETECTOR - ELEVATOR LOBBY	●				●	●	●	●				●												●		●		●	●						
SMOKE DETECTOR - DESIGNATED LEVEL ELEVATOR LOBBY	●				●	●	●	●				●													●	●		●	●						
SMOKE DETECTOR - ELEVATOR MACHINE/CONTROL ROOM OR SPACE	●				●	●	●	●				●												●		●		●	●						
SMOKE DETECTOR - HOISTWAY		●			●	●	●		●															●		●									
HEAT DETECTOR - ELEVATOR HOISTWAY OR MACHINE/CONTROL ROOM OR SPACE	●				●	●	●	●				●																●	●	●	●				
ELEVATOR SHUNT TRIP VOLTAGE MONITORING		●			●	●	●		●																										
ALARM SILENCE AT FACP LOCATION		●			●	●	●		●																										
MANUAL MICROPHONE ACTIVATION					●	●	●				●																								
FIRE ALARM AC POWER FAILURE			●		●	●	●			●																									
FIRE ALARM DC POWER FAILURE/SYSTEM DISABLE			●		●	●	●			●																									
FIRE ALARM SYSTEM LOW BATTERY/FAILURE			●		●	●	●			●																									
VOICE AMPLIFIER FAILURE			●		●	●	●			●																									
OPEN CIRCUIT/GROUND FAULT/SHORT CIRCUIT			●		●	●	●			●																									
LOSS OF COMMUNICATION			●		●	●	●			●																									
DEVICE TAMPER		●			●	●	●		●																										
FIRE SUPPRESSION/EXTINGUISHING SYSTEM OPERATION	●				●	●	●	●				●																							
FIRE SUPPRESSION/EXTINGUISHING SYSTEM TROUBLE		●			●	●	●		●																										
CARBON MONOXIDE DETECTION				●	●	●	●		●		●			●																					
CARBON MONOXIDE DETECTOR END OF LIFE			●		●	●	●			●																									
FIRE WATER SERVICE BACKFLOW ENCLOSURE LOW TEMP		●			●	●	●		●																										
HVAC SYSTEM SHUTDOWN BYPASS			●		●	●	●			●																									
BDA SYSTEM			●							●					●	●	●	●	●																

1 FIRE ALARM OPERATIONS MATRIX

NO SCALE



GENERAL NOTES:

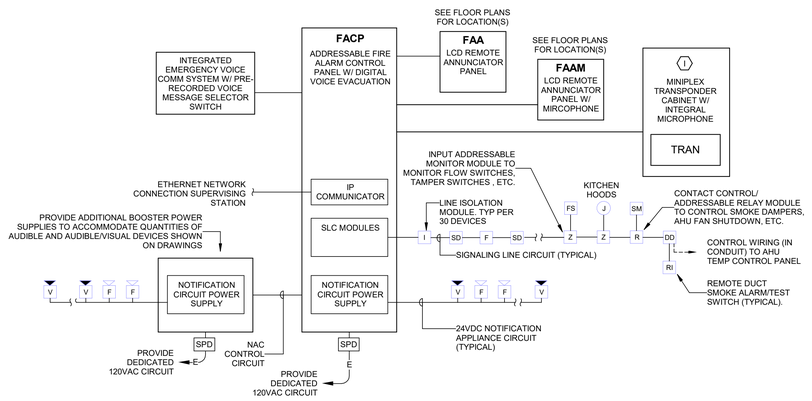
A. RISER DIAGRAM IS SHOWN TO ILLUSTRATE DESIGN INTENT AND DEVICE INTERCONNECTION ONLY. FURNISH AND INSTALL ALL EQUIPMENT AND DEVICES REQUIRED TO MEET THE INTENT AND PERFORMANCE REQUIREMENTS OF THE SPECIFICATIONS.
B. COORDINATE LOCATION OF DONOR ANTENNA WITH RF SIGNAL STRENGTH FROM NEAREST TOWER PRIOR TO INSTALLATION.
C. PROVIDE GROUNDING KIT FOR ALL OUTDOOR CABLES.
D. PROVIDE SERVICE LOOP FOR ALL COAXIAL CABLING ON ROOF LEVEL.
E. PROVIDE CONNECTION TO FIRE ALARM SYSTEM VIA DRY CONTACT MONITORING MODULES.
F. THE CONTRACTOR SHALL PERFORM TESTING FOR EMERGENCY RESPONDER RADIO COVERAGE WITHIN THE BUILDING DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE A COMPLETE EMERGENCY RESPONDER RADIO COVERAGE SYSTEM (ERRCS) PER IFC 510, IF COVERAGE WITHIN THE BUILDING IS SHOWN TO BE INADEQUATE. TESTING REQUIREMENTS AND ERRCS SHALL BE CLOSELY COORDINATED WITH THE LOCAL AHJ, ESPECIALLY IN REGARDS TO THE REQUIREMENT FOR AN ERRCS FOR THIS BUILDING TYPE/USE. TESTING METHODOLOGY/TIMING, AND SURVIVABILITY OF ERRCS SYSTEM COMPONENTS (I.E. FIRE RATINGS AND ENCLOSURES FOR CABLES AND CABINETS).
   1. THE CONTRACTOR SHALL, IN THEIR BASE BID, ENGAGE A QUALIFIED AND REPUTABLE DAS TECHNOLOGY FIRM TO PROVIDE A TEST FOR RADIO COVERAGE INSIDE THE BUILDING, DURING CONSTRUCTION, AT A TIME AT WHICH THE LOCAL AHJ WILL CONSIDER THE TEST AS REFLECTING THE ACTUAL CONDITION OF RADIO COVERAGE WITHIN THE FINISHED BUILDING. THE COST FOR THIS TEST SHALL BE IDENTIFIED IN THE SCHEDULE OF VALUES AS A SEPARATE COST FROM THE DESIGN AND INSTALLATION OF THE ERRCS.
   2. IF THE TEST SHOWS INADEQUATE RADIO COVERAGE, PROVIDE A COMPLETE AND OPERATIONAL ERRCS IN COMPLIANCE WITH IFC 510 AND AHJ REQUIREMENTS, TO PROVIDE ADEQUATE COVERAGE WITHIN THE BUILDING. THE CONTRACTOR SHALL PROVIDE COMPLETE SHOP DRAWINGS, INCLUDING PRODUCT DATA AND STAMPED, ENGINEERED DESIGN DRAWINGS.
   3. THE CONTRACTOR MUST EXPEDITE DESIGN, PROCUREMENT, AND INSTALLATION, AS REQUIRED TO MEET THEIR EXPECTED DATE OF PROJECT SUBSTANTIAL COMPLETION. THE REQUIREMENT FOR AN ERRCS SHALL NOT DELAY BUILDING OCCUPANCY.

3 EMERGENCY RESPONDER RADIO COMMUNICATION SYSTEM (ERRCS)

NO SCALE

GENERAL FIRE ALARM NOTES:

A. RISER DIAGRAM IS SHOWN TO ILLUSTRATE DESIGN INTENT AND DEVICE INTERCONNECTION ONLY. SEE PLANS FOR LOCATION AND QUANTITIES OF DEVICES. FURNISH AND INSTALL ALL EQUIPMENT AND DEVICES TO MEET THE INTENT OF THE SPECIFICATIONS.
B. PROVIDE FOR DOOR RELEASE UPON FIRE ALARM SIGNAL TO DOORS WITH ACCESS CONTROL DEVICES OR MAGNETIC DOOR HOLD OPEN DEVICES.
C. PROVIDE IP INTERFACE WITH CENTRAL MONITORING STATION.
D. PROVIDE PLENUM CABLE
E. INTERLOCK FIRE ALARM SYSTEM WITH AIR HANDLING UNITS. FIRE DAMPERS AND SMOKE DAMPERS TO PROVIDE FAN SHUTDOWN AND DAMPER CLOSURE AS REQUIRED BY NFPA.
F. LOCATE ADDRESSABLE RELAY MODULES WITHIN 3'-0" OF ASSOCIATED MOTOR STARTER.
G. PROVIDE SEPARATE SIGNALING LINE CIRCUIT (SLC) TO EACH ZONE OR FLOOR.
H. PROVIDE 25% SPARE CAPACITY ON EACH NOTIFICATION APPLIANCE CIRCUIT.
I. PROVIDE MINIPLEX TRANSPONDER CABINET WITH LOCAL MODE CONTROLLER COMPATIBLE WITH FIRE ALARM CONTROL PANEL. REFER TO FLOOR PLANS FOR LOCATIONS. PROVIDE QUANTITY AS REQUIRED TO SERVE ALL INITIATING AND NOTIFICATIONS DEVICES WITH 20% SPARE CAPACITY FOR SYSTEM GROWTH.



2 FIRE ALARM RISER DIAGRAM-ADDRESSABLE

NO SCALE

Wake County Public School System

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NORTH CAROLINA PROFESSIONAL SEAL 043650 ENGINEER STEVE E. ROBEY
04/10/2024

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME:
FIRE ALARM RISER DIAGRAM

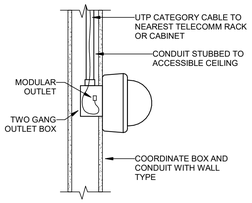
BID SET SUBMISSION: 2024.04.10

SHEET:
E08.03

BID SET

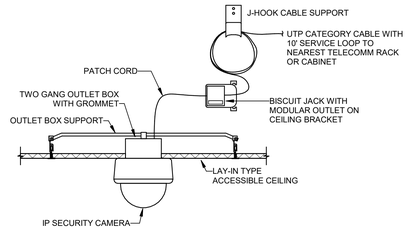
4/3/2024 4:06:02 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH D SHEETS ORIGINAL PLOT SIZE



1 CCTV INDOOR WALL MOUNT

NO SCALE

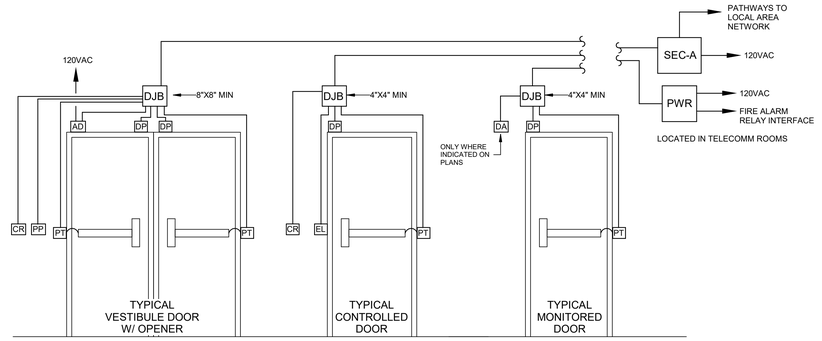


2 CCTV INDOOR MOUNT ACCESSIBLE CEILING

NO SCALE

NOTES:
1. PROVIDE 1/2"C BETWEEN DOOR JUNCTION PANEL (DJB) AND DEVICES.
2. PROVIDE 1"C FROM DOOR JUNCTION BOX BACK TO SYSTEM CONTROLLER IN TELECOMM ROOM.
3. COORDINATE EXACT DOOR HARDWARE REQUIREMENTS AND CONTROLLER LOCATIONS WITH DOOR HARDWARE SCHEDULE AND SECURITY INTEGRATOR.
4. PROVIDE ALL 120V CONNECTIONS AND FIRE ALARM INTERFACES REQUIRED BY SYSTEM HARDWARE.
5. AT VESTIBULE DOORS, INTEGRATE AUTO DOOR OPERATION FUNCTIONS WITH ACCESS CONTROL SYSTEM.
6. PROVIDE WIRING PER MANUFACTURER'S RECOMMENDATIONS.

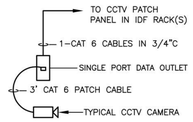
LEGEND
SEC - SECURITY SYSTEM CONTROL PANELS
DP - MAGNETIC DOOR POSITION SWITCH
DJB - DOOR JUNCTION BOX
PWR - DOOR HARDWARE POWER SUPPLY
EL- ELECTRONIC LOCKSET
PT- ELECTRONIC POWER TRANSFER AND ELECTRIFIED EXIT DEVICE
AD - POWERED AUTO DOOR OPENER
DA - DOOR SOUND/ALARM
CR - CARD READER
PP - PUSH PLATE FOR POWERED DOOR OPENER

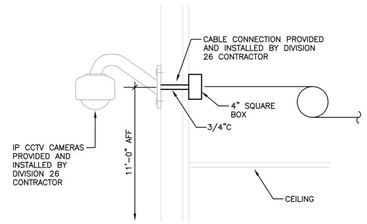


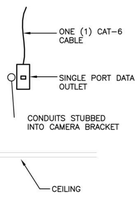
3 DOOR ACCESS CONTROL & MONITORING DETAIL

NO SCALE

NOTES:
1. ALL CONDUIT AND OUTLET BOXES BY ELECTRICAL CONTRACTOR.
2. ALL CAMERA CABLING SHALL BE GREEN AND PROVIDED AND INSTALLED BY STRUCTURED WIRING CONTRACTOR.
3. SEE SPECIFICATIONS FOR FURTHER INSTALLATION REQUIREMENTS.
4. PROVIDE 15'-0" SERVICE LOOP AT EACH CAMERA LOCATION.
5. PLEASE NOTE: BECAUSE THE CAMERAS ARE OWNER PROVIDED AND INSTALLED, THE CAMERAS MAY BE ISNTALLED LATER. THE CONTRACTOR SHALL PLACE A YELLOW DOT ON CEILING WITH THE RESPECTIVE CABLE NUMBER. THE CABLE NUMBER SHALL BE TAGGED ON THE CABLE JACKET ABOVE THE CEILING. COORDINATE ALL WORK WITH THE OWNERS IT AND SECURITY DEPARTMENTS PRIOR TO INSTALLATION/ROUGH-IN.
6. CAMERAS CABLES SHALL BE TERMINATED ON SEPARATE PATCH PANEL IN DATA RACK AT MDF/IDF TELECOM CLOSETS. NETWORK POE SWITCHES SHALL BE PROVIDED AND INSTALLED BY THE OWNER.
7. PLENUM RATED CAT-6 CAMERA DATA CABLE LENGTHS SHALL NOT EXCEED 90 METERS. CONTRACTOR SHALL TAKE CARE IN MAINTAINING THESE LENGTHS.
8. ALL CAMERA CABLES SHALL BE TESTED IN COMPLIANCE WITH THE DATA CABLE REQUIREMENTS.
9. REFER TO ARCHITECT'S DIVISION 1 ALTERNATES SECTION.



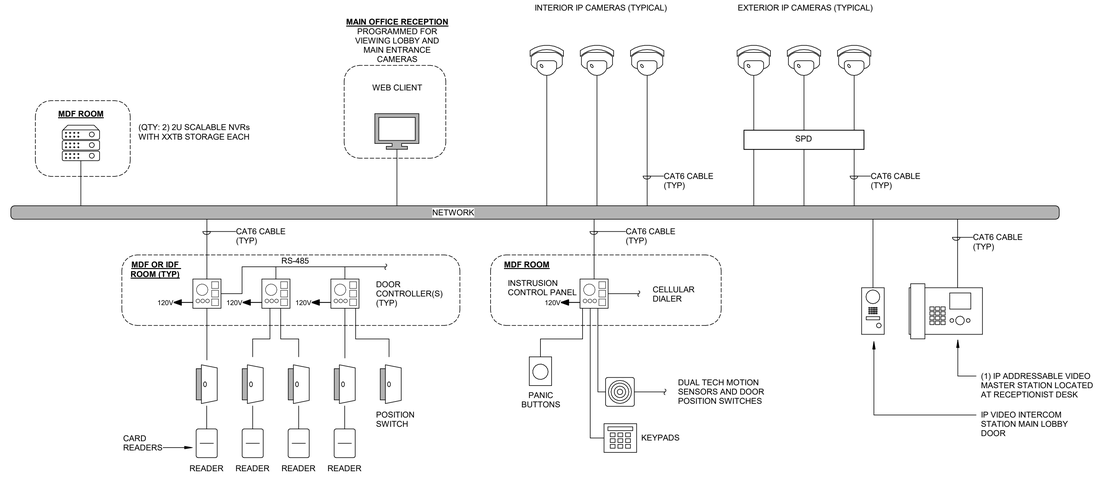




E2.04 CCTV EXTERIOR CAMERA TERMINATION DETAIL

SCALE: NONE

WAKE COUNTY PUBLIC SCHOOL SYSTEM
111 Corning Road,Suite 190
Cary, NC 27518
(919) 588-3608



4 SECURITY SYSTEM BLOCK DIAGRAM

NO SCALE

Wake County Public School System

LS3P
434 FAYETTEVILLE STREET SUITE 1700
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NORTH CAROLINA PROFESSIONAL SEAL 043650 ENGINEER STEVE E. ROBEY
04/10/2024

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME: SECURITY RISER DIAGRAMS

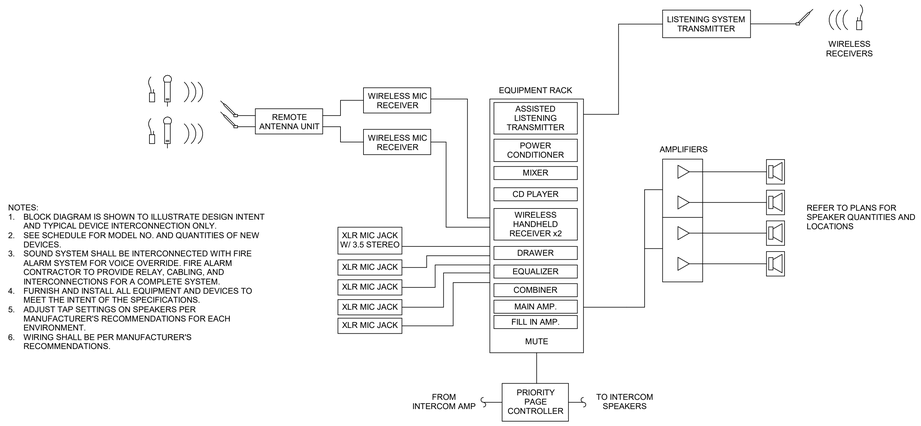
BID SET SUBMISSION: 2024.04.10

SHEET: E08.04

BID SET

4/3/2024 4:06:05 PM

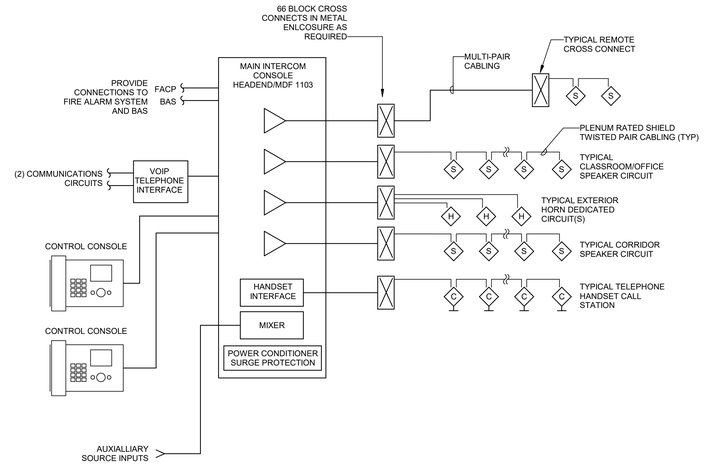
THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ALL SHEETS ORIGINAL PLOT SIZE



NOTES:
1. BLOCK DIAGRAM IS SHOWN TO ILLUSTRATE DESIGN INTENT AND TYPICAL DEVICE INTERCONNECTION ONLY.
2. SEE SCHEDULE FOR MODEL NO. AND QUANTITIES OF NEW DEVICES.
3. SOUND SYSTEM SHALL BE INTERCONNECTED WITH FIRE ALARM SYSTEM FOR VOICE OVERRIDE. FIRE ALARM CONTRACTOR TO PROVIDE RELAY, CABLING, AND INTERCONNECTIONS FOR A COMPLETE SYSTEM.
4. FURNISH AND INSTALL ALL EQUIPMENT AND DEVICES TO MEET THE INTENT OF THE SPECIFICATIONS.
5. ADJUST TAP SETTINGS ON SPEAKERS PER MANUFACTURER'S RECOMMENDATIONS FOR EACH ENVIRONMENT.
6. WIRING SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.

2 GYM SOUND SYSTEM BLOCK DIAGRAM

NO SCALE

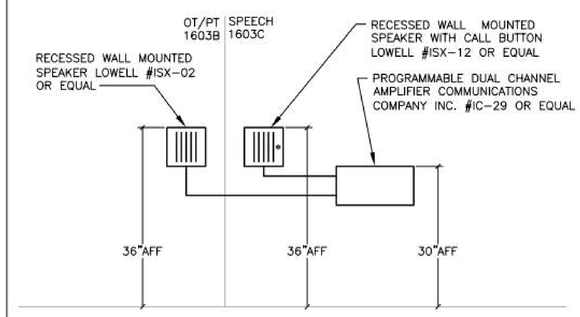


NOTES:
1. BLOCK DIAGRAM IS SHOWN TO ILLUSTRATE DESIGN INTENT AND TYPICAL DEVICE INTERCONNECTION ONLY.
2. INSTALL MAIN CONSOLE AND ASSOCIATED HARDWARE IN STANDARD 19" RACK AND INTERFACE SPEAKER CIRCUITS THROUGH WALL MOUNTED PUNCHDOWN BLOCKS.
3. SEE PLANS FOR LOCATION AND QUANTITIES OF NEW DEVICES.
4. FURNISH AND INSTALL ALL EQUIPMENT AND DEVICES TO MEET THE INTENT OF THE SPECIFICATIONS.
5. DETERMINE TERMIANTION DEVICES AND AMPLIFIER QUANTITY AND SIZE BASED ON ACTUAL HORN / SPEAKER QUANTITIES PLUS 20% MINIMUM SPARE CAPACITY. SYSTEM SHALL BE ABLE TO ACCOMODATE ADDITIONAL AMPLIFIERS AND CIRCUITS FOR EXPANSION.
6. ADJUST TAP SETTINGS ON SPEAKERS PER MANUFACTURER'S RECOMMENDATIONS FOR EACH ENVIRONMENT.
7. WIRING SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.

1 INTERCOM SYSTEM BLOCK DIAGRAM

NO SCALE

WAKE COUNTY PUBLIC SCHOOL SYSTEM
111 Corning Road,Suite 190
Cary, NC 27518
(919) 588-3608



NOTES:
1. WALL MOUNTED SPEAKERS REQUIRE A STANDARD 2-GANG BACKBOX THAT WILL ACCOMODATE A 2 1/2" DEEP DEVICE.
2. PROVIDE ALL COMPONENTS FOR A COMPLETE OPERATING SYSTEM.
3. PROVIDE ALL WIRING PER MANUFACTURERS SPECIFICATIONS.
4. PROVIDE SPEAKER-TO-SPEAKER, PUSH TO TALK CONNECTION WITH SPEAKER IN SPEECH ALWAYS RETURNING TO LISTEN.
5. CONNECT TO NEAREST RECEPTACLE CIRCUIT.

E1.03 OT/PT & SPEECH LOCAL INTERCOM SYSTEM DETAIL

SCALE: NONE

Wake County Public School System

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Swift Creek Elementary School
5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME:
AUDIO VISUAL BLOCK DIAGRAMS

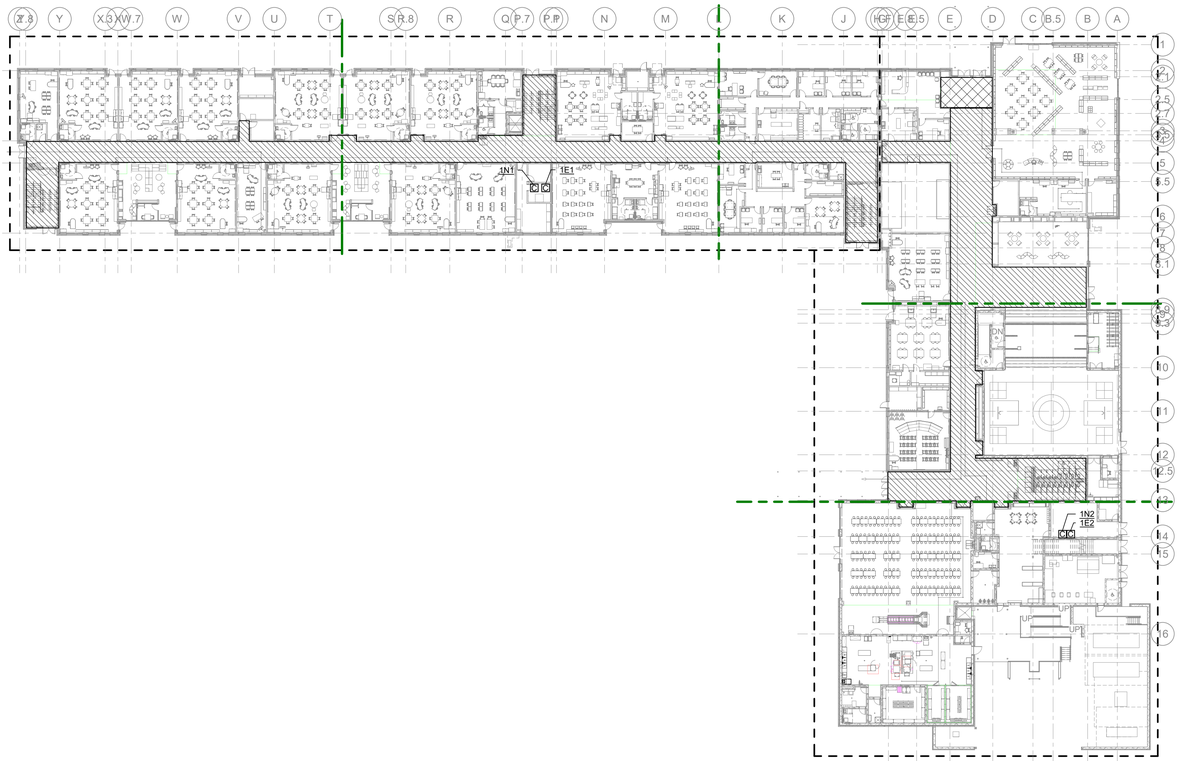
BID SET SUBMISSION: 2024.04.10

SHEET:
E08.05

BID SET

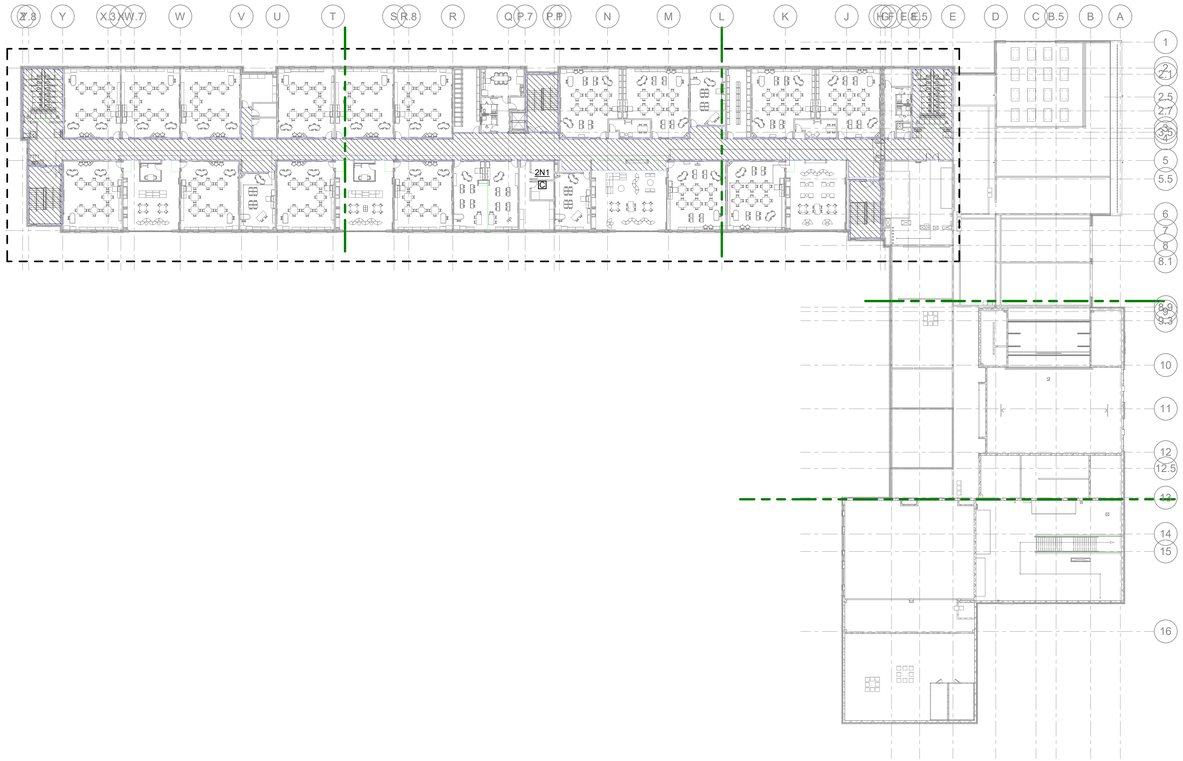
4/3/2024 4:06:06 PM

THE LINE BROWN ABOVE IS EXACTLY ONE INCH LONG ON ALL PROPERLY SCALED PLOT SETS



2 LEVEL 1 - LIGHTING CONTROLS ZONING PLANS

NO SCALE



3 LEVEL 2 - LIGHTING CONTROLS ZONING PLANS

NO SCALE

	SENSOR				SCHEDULE		WALL SWITCH			OTHER			
	VACANCY	OCCUPANCY	SENSOR TIMEOUT PERIOD (MINUTES)	DUAL-TECHNOLOGY	SCHEDULED ON AT	SCHEDULED OFF AT	BAS INTERFACE	ON/OFF	ON/OFF W/ CONT DIMMING	HI/LOW/OFF PRESET DIMMING	DIGITAL TIMER	EXTERIOR LOCATION	SEQUENCE
RESTROOM-PRIVATE		X	15 MIN	X	BAS	BAS	X	X					A1,E
STORAGE		X	15 MIN	X	BAS	BAS	X	X					A1,E
CONFERENCE		X	15 MIN	X	BAS	BAS	X		X				A2, E
PRIVATE OFFICE		X	15 MIN	X	BAS	BAS	X		X				A2, E
ADMINISTRATIVE		X	15 MIN	X	BAS	BAS	X		X				A2, E
CLASSROOM		X	15 MIN	X	BAS	BAS	X		X				A2, E
LOUNGE/BREAKROOM		X	15 MIN	X	BAS	BAS	X		X				A2, E
JANITORIAL CLOSET					BAS	BAS	X	X			X		B, E
KITCHEN					BAS	BAS	X	X					C1, E
MECH/ELECT/TELECOM					BAS	BAS	X	X					C1, E
MAIN GYMNASIUM					BAS	BAS	X		X				C2, E
CAFETERIA					BAS	BAS	X		X				C2, E
MEDIA CENTER					BAS	BAS	X		X				C2, E
MULTIPURPOSE					BAS	BAS	X		X				C2, E
CORRIDOR					BAS	BAS	X						E
RESTROOM-GROUP					BAS	BAS	X						E
VESTIBULE					BAS	BAS	X						E
STAIRWELL					BAS	BAS	X						E
RECEIVING					BAS	BAS	X						E
VESTIBULE (NIGHTLIGHTS)													D
BUILDING EXTERIOR					BAS	BAS	X					X	F

SEQUENCE	CONTROL TYPE	DESCRIPTION	SEQUENCE OF OPERATION
A1	OCCUPANCY	AUTO ON AUTO OFF	ON: AUTO ON WHEN OCCUPANCY IS DETECTED OFF: MANUAL OVERIDE TO OFF VIA WALL SWITCH OFF: AUTOMATIC OFF WHEN NO OCCUPANCY IS DETECTED DURING ADJUSTABLE TIME DELAY.
A2	OCCUPANCY W/ PRESET DIMMING	AUTO ON MANUAL ON TO 50% MANUAL ADJUST TO 100% AUTO OFF	ON: AUTO ON IF SWITCH IS SET TO 50% OR 100% ADJUST: MANUAL ADJUSTMENT TO 0%,50%,100% VIA WALL SWITCH. OFF: AUTO OFF WHEN NO OCCUPANCY IS DETECTED DURING ADJUSTABLE TIME DELAY.
B	DIGITAL TIMER	MANUAL ON TIME DELAY AUTO OFF	ON: MANUAL ON TO PRESET TIME DELAY VIA WALL SWITCH OFF: AUTOMATIC OFF WHEN ADJUSTABLE TIME DELAY TIMES OUT
C1	MANUAL	MANUAL ON MANUAL OFF	ON: MANUAL ON VIA WALL SWITCH OFF: MANUAL OFF VIA WALL SWITCH
C2	MANUAL	MANUAL ON CONTINUOUS DIMMING MANUAL OFF	ON: MANUAL ON VIA WALL SWITCH ADJUST: MANUAL DIMMING VIA WALL SWITCH OFF: MANUAL OFF VIA WALL SWITCH
D	ALWAYS ON	ALWAYS ON	ALWAYS ON
E	BAS (INTERIOR)	AUTO ON AUTO OFF	ON: AUTO ON VIA CONTACTOR CABINET TO 100% WHEN SECURITY SYSTEM IS "DISARMED" ON: AUTO ON VIA CONTACTOR CABINET TO 100% WHEN SECURITY SYSTEM IS "ALARMED" OFF: AUTO OFF AFTER 10 MIN TIME DELAY VIA CONTACTOR CABINET WHEN SECURITY SYSTEM IS "ARMED".
F	BAS (EXTERIOR)	AUTO ON AUTO OFF	ON: AUTO ON VIA CONTACTOR CABINET AT DUSK VIA PROGRAM INPUT ON: AUTO ON VIA CONTACTOR CABINET TO 100% WHEN SECURITY SYSTEM IS "ALARMED" OFF: AUTO OFF VIA CONTACTOR CABINET AT DAWN VIA PROGRAM INPUT

1 LIGHTING CONTROL SEQUENCES

NO SCALE

LIGHTING CONTACTOR SCHEDULE

ID	CONTACTOR	CONTROL LOCATION	CIRCUIT
1N1	10-POLE, 30AMP	CORRIDOR 1300	HL1B-2
		1ST FL - AREA A	HL1B-1
			HL1B-3
		1ST FL - AREA B	HL1B-5
			HL1B-6
		1ST FL - AREA C - ADMIN	HL1B-4
		SPARE X4	-
1N2	12-POLE, 30AMP	CORRIDOR 1100	HL1E-2
		1ST FL - AREA C	HL1E-5
		1ST FL - MEDIA CENTER	HL1E-5
		1ST FL - AREA D	HL1E-1
		1ST FL - PLAY	HL1E-1
		1ST FL - AREA E/ MECH MEZZ	HL1E-3
		1ST FL - DINING	HL1E-3
		1ST FL - AREA E	HL1E-4
		SPARE X4	-
2N1	10-POLE, 30AMP	CORRIDOR 2300	HL2B-1
		2ND FL - AREA A	HL2B-2
			HL2B-3
		2ND FL - AREA B	HL2B-4
			HL2B-5
		2ND FL - AREA C	HL2B-6
		SPARE X4	-
1E1	5-POLE, 30AMP	EXTERIOR AREA A/B/C	EMH1B-6
		SPARE X4	-
1E1	6-POLE, 30AMP	EXTERIOR AREA D/E	HL1E-6
		EXTERIOR AREA D/E	EMH1-10
		SPARE X4	-

UNSWITCHED

Wake County Public School System

LS3P

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04/10/2024

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME:
LIGHTING CONTROL ZONES

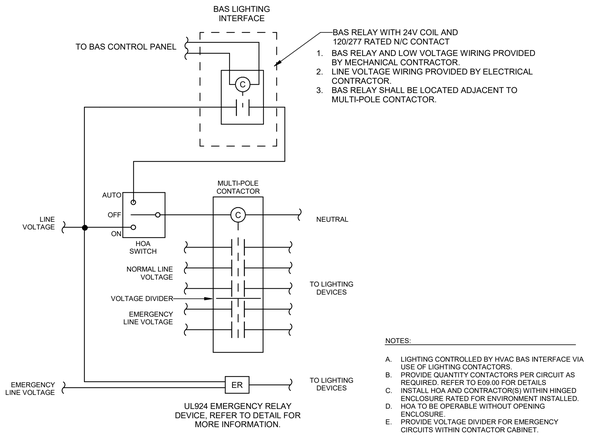
BID SET SUBMISSION: 2024.04.10

SHEET:
E09.00

BID SET

4/3/2024 4:06:45 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH E1 SHEETS ORIGINAL PAGE SIZE

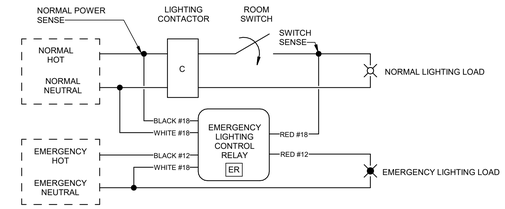


NOTES:

A. LIGHTING CONTROLLED BY HVAC BAS INTERFACE VIA USE OF LIGHTING CONTACTORS.
B. PROVIDE QUANTITY CONTACTORS PER CIRCUIT AS REQUIRED. REFER TO E09.00 FOR DETAILS
C. INSTALL HOA AND CONTRACTOR(S) WITHIN HINGED ENCLOSURE RATED FOR ENVIRONMENT INSTALLED.
D. HOA TO BE OPERABLE WITHOUT OPENING ENCLOSURE.
E. PROVIDE VOLTAGE DIVIDER FOR EMERGENCY CIRCUITS WITHIN CONTACTOR CABINET.

7 TYPICAL LIGHTING CONTROL WIRING

NO SCALE



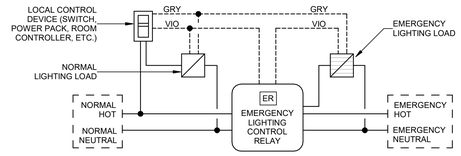
EMERGENCY LIGHTING CONTROL UNIT WITH 30AMP RATING, INTEGRAL TEST SWITCH, THREE LED STATUS LIGHTS THAT INDICATE UNIT POWER MODE. UNITS TO BE UL 924 RATED WITH FIRE RATED HOUSING. UNIT TO HAVE A FIVE YEAR UNCONDITIONAL WARRANTY. UNIT SHALL MONITOR NORMAL POWER AND THE NORMAL POWER LOCAL CONTROL DEVICE (OCCUPANCY SENSOR, PHOTOCELL, SWITCH, ETC.) AND CONTROL THE EMERGENCY LUMINAIRE(S) IN TANDEM, LUMINAIRES SHALL AUTOMATICALLY TURN ON UPON NORMAL POWER LOSS. MANUFACTURED BY WATTSTOPPER: ELCU-200 (OR PRE APPROVED EQUAL).

NOTES:

A. INSTALL UNITS ABOVE ACCESSIBLE CEILING NEAR LUMINAIRE(S) TO BE CONTROLLED.
B. THE CONTRACTOR SHALL PROVIDE CAD DRAWINGS INDICATING EXACT LOCATION OF EMERGENCY LIGHTING CONTROL UNITS AND SUBMIT INFORMATION AS SHOP DRAWINGS FOR APPROVAL BY ENGINEER. LOCATE ALL RELAYS SUCH THAT STATUS INDICATOR LIGHTS ARE IN VIEW FROM BELOW FOR EASE OF INSPECTION.
C. UNIT SHALL NOT HAVE AUDIBLE INDICATOR.
D. RELAYS CONTROLLING LIGHTS WITH DIMMING CONTROLS SHALL HAVE EMERGENCY AND NORMAL FEEDS ON SAME PHASE.

3 TYPICAL EMERGENCY CONTROL RELAY WIRING DIAGRAM

NO SCALE



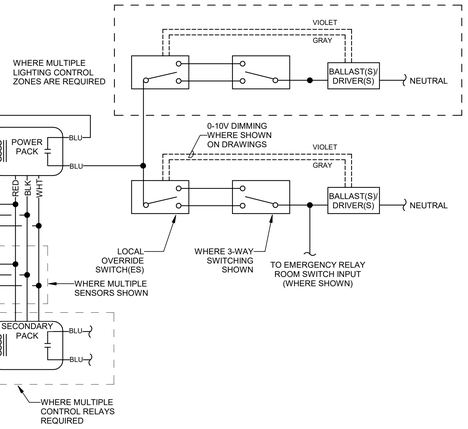
EMERGENCY LIGHTING CONTROL UNIT WITH MINIMUM 16AMP RATING AND 0-10V DIMMING FUNCTION, INTEGRAL TEST SWITCH, THREE LED STATUS LIGHTS THAT INDICATE UNIT POWER MODE. UNITS TO BE UL 924 RATED WITH FIRE RATED HOUSING . UNIT TO HAVE A FIVE YEAR UNCONDITIONAL WARRANTY. UNIT SHALL MONITOR NORMAL POWER, THE NORMAL POWER LOCAL CONTROL DEVICE (OCCUPANCY SENSOR, PHOTOCELL, SWITCH, ETC.), AND THE CONTROL DEVICE DIMMING OUTPUT LEVEL (0-10V). DEVICE SHALL CONTROL THE EMERGENCY LUMINAIRE(S) IN TANDEM, LUMINAIRES SHALL AUTOMATICALLY TURN ON UPON NORMAL POWER LOSS. BODINE BLCD16DIM, LVS EPC-1-D, OR PRE APPROVED EQUAL.

NOTES:

A. INSTALL UNITS ABOVE ACCESSIBLE CEILING NEAR LUMINAIRE(S) TO BE CONTROLLED.
B. THE CONTRACTOR SHALL PROVIDE CAD DRAWINGS INDICATING EXACT LOCATION OF EMERGENCY LIGHTING CONTROL UNITS AND SUBMIT INFORMATION AS SHOP DRAWINGS FOR APPROVAL BY ENGINEER. LOCATE ALL RELAYS SUCH THAT STATUS INDICATOR LIGHTS ARE IN VIEW FROM BELOW FOR EASE OF INSPECTION.
C. UNIT SHALL NOT HAVE AUDIBLE INDICATOR.

1 EMERGENCY CONTROL RELAY WIRING DIAGRAM

NO SCALE



NOTES:

A. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
B. PROVIDE ONE POWER PACK PER CONTROL ZONE.
C. ADJUST SENSOR LOCATION AND SENSITIVITY LEVELS TO MINIMIZE NUISANCE TRIPPING AND FALSE OFFS.
D. VERIFY ALL WIRING REQUIREMENTS WITH MANUFACTURER OF SENSOR PRIOR TO ROUGH-IN.

8 OCC SENSOR - LOW VOLTAGE

NO SCALE

LIGHTING CONTROL LEGEND

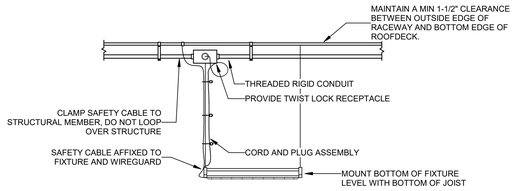
WALL SWITCH SENSOR, STAND ALONE, DUAL TECHNOLOGY, SINGLE POLE	SENSOR SWITCH: WSX PDT $_{VS}$, $_{OS}$
WALL SWITCH SENSOR, DUAL TECHNOLOGY, TWO ZONE, INDEPENDANT POWER SOURCES AND TIME DELAY	SENSOR SWITCH: WSX PDT 2P $_{VS2}$, $_{OS2}$
WALL SWITCH, ON/OFF, SINGLE ZONE	PER SPEC $_{S}$
WALL SWITCH, 277V, STAND ALONE 0-10V DIMMER, SLIDER WITH ON/OFF BUTTON	LEVITON: IPZ10-LFZ $_{D}$
DIGITAL WALL TIMER SWITCH, LOW TEMP, HIGH HUMIDITY, FLASH WARNING	SENSOR SWITCH: PTS-60-LT $_{DT}$
CEILING SENSOR, DUAL TECHNOLOGY, SURFACE, LOW VOLTAGE, RELAY	CM-PDT-9-R CM-PDT-10-R VS OS
BRANCH CIRUIT RELAY, ON/OFF, SINGLE ZONE, 16A	PP20 PR
EMERGENCY RELAY, ON/OFF, SINGLE ZONE, 16A, UL924 EMERGENCY FUNCTION	ELCU-200 ER

NOTES:

A. OS - OCCUPANCY SENSORS TO BE PROGRAMMED AS AUTOMATIC ON, AUTOMATIC OFF.
B. VS - VACANCY SENSORS TO BE PROGRAMMED AS MANUAL ON, AUTOMATIC OFF.
C. OR EQUAL BY LEVITON/SENSOR SWITCH.
D. SENSOR AUTOMATIC OFF TIME INTERVAL TO BE SET AT 20 MIN.
E. ADJUST SENSOR LOCATION AND SENSITIVITY LEVELS TO MINIMIZE NUISANCE TRIPPING AND FALSE OFFS.
F. ALL DEVICES TO BE LOCATED IN ACCESSIBLE LOCATIONS APPROVED BY ENGINEER.
G. REFER TO SPECIFICATIONS FOR DEVICE FINISHES.

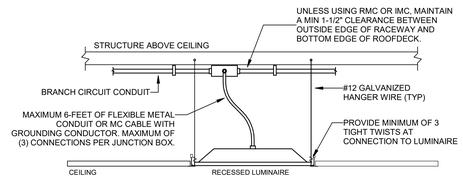
2 LIGHTING CONTROL LEGEND

NO SCALE



6 GYM HIGH BAY MOUNTING DETAIL

NO SCALE



NOTES:

1. PROVIDE EACH LUMINAIRE WITH (2) STEEL WIRE SUPPORTS AT OPPOSITE CORNERS AND SECURE TO STRUCTURE. SECURE LUMINAIRE TO MAIN RUNNERS OF CEILING GRID AT ALL (4) CORNERS WITH MACHINE SCREWS OR APPROVED MECHANICAL FASTENERS.
2. LUMINAIRE SUPPORTS MUST BE INDEPENDENT OF ANY CEILING OR OTHER BUILDING SYSTEM SUPPORTS.

5 LUMINAIRE SUPPORT DETAIL

NO SCALE

Wake County Public School System

LS3P

434 FAYETTEVILLE STREET SUITE 1700
RALEIGH, NORTH CAROLINA 27601
TEL. 919.829.2730 FAX. 919.829.2700
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CMTA
A LEGENCE Company

NORTH CAROLINA PROFESSIONAL SEAL 043650 ENGINEER STEVE E. ROBEY 04/10/2024

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME:
LIGHTING DETAILS

BID SET SUBMISSION: 2024.04.10

SHEET:
E09.01

BID SET

4/3/2024 4:06:48 PM

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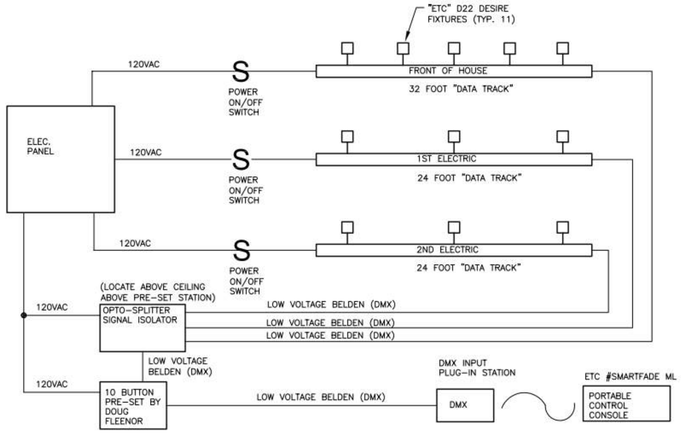

PLATFORM DIMMING RISER GENERAL NOTES:

1. THE PLATFORM DIMMING SYSTEM IS A PREFERRED BRAND ALTERNATE, REFER TO SPECIFICATIONS.
2. PROVIDE ALL NECESSARY PARTS, SUPPORTS, AND ACCESSORIES FOR A COMPLETE SYSTEM.
3. ALL WIRING SHALL BE IN CONDUIT (3/4" MINIMUM).
4. COORDINATE TRACK AND FIXTURE LOCATION WITH MANUFACTURER FOR OPTIMUM LOCATION.
5. REFER TO PLANS FOR EXACT EQUIPMENT LOCATION AND CIRCUIT INFORMATION.
6. DMX CABLING NOT SHOWN ON PLANS FOR CLARITY.

E1.04 PLATFORM DIMMING RISER DIAGRAM

SCALE: NONE

WAKE COUNTY PUBLIC SCHOOL SYSTEM
111 Corning Road,Suite 190
Cary, NC 27518
(919) 588-3608

Wake County Public School System

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NORTH CAROLINA PROFESSIONAL SEAL 043650 ENGINEER STEVE E. ROBEY
04/10/2024

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

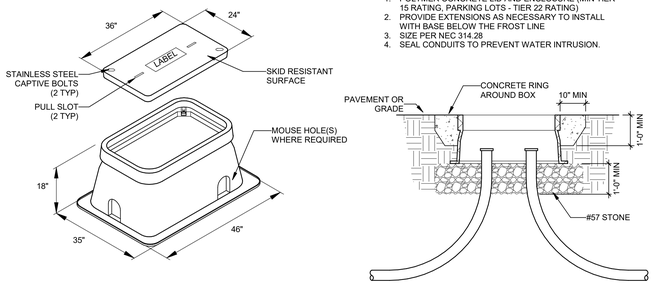
SHEET NAME:
LIGHTING DETAILS

BID SET SUBMISSION: 2024.04.10

SHEET:
E09.02

BID SET

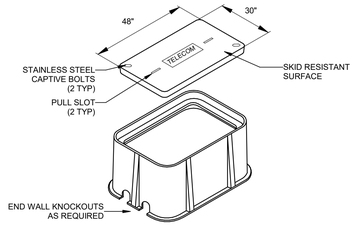
4/3/2024 4:06:49 PM

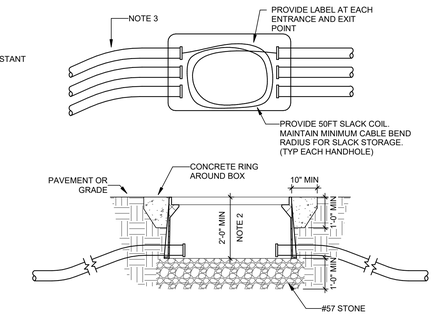


NOTES:
1. POLYMER CONCRETE LID AND ENCLOSURE (MIN TIER 15 RATING, PARKING LOTS - TIER 22 RATING)
2. PROVIDE EXTENSIONS AS NECESSARY TO INSTALL WITH BASE BELOW THE FROST LINE
3. SIZE PER NEC 314.28
4. SEAL CONDUITS TO PREVENT WATER INTRUSION.

6 TYP ELECT HANDHOLE - NON TRAFFIC

SCALE: 1/2" = 1'-0"

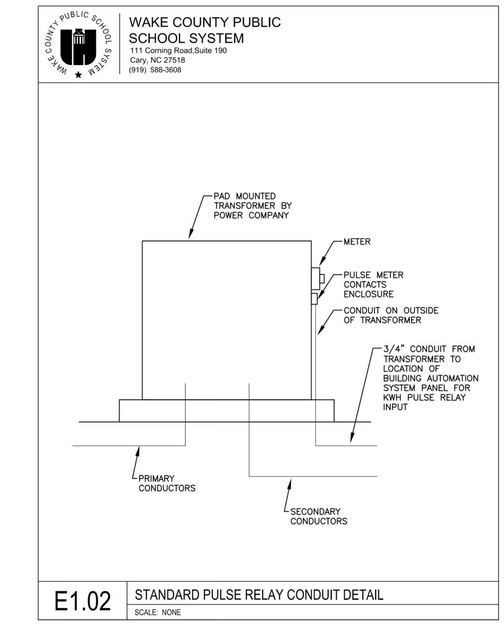




NOTES:
1. POLYMER CONCRETE LID AND ENCLOSURE (MIN TIER 15 RATING, PARKING LOTS - TIER 22 RATING)
2. PROVIDE EXTENSIONS AS NECESSARY TO INSTALL WITH BASE BELOW THE FROST LINE
3. HANDHOLES SHALL NOT BE USED FOR CHANGE OF DIRECTION. ALL DIRECTIONAL CHANGES SHALL BE MADE PRIOR TO ENTRY OR AFTER EXITING HANDHOLE USING LONG RADIUS SWEEPS.
4. SEAL CONDUITS TO PREVENT WATER INTRUSION.

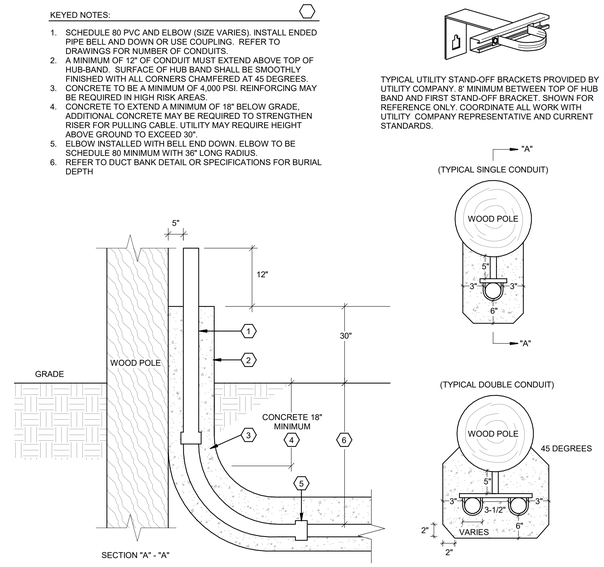
7 TYP TELECOMM HANDHOLE - NON TRAFFIC

SCALE: 1/2" = 1'-0"



KEYED NOTES:

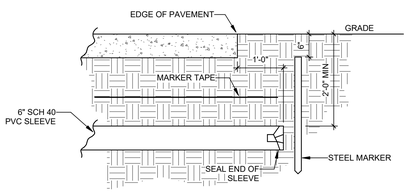
1. SCHEDULE 80 PVC AND ELBOW (SIZE VARIES). INSTALL ENDED PIPE BELL AND DOWN OR USE COUPLING. REFER TO DRAWINGS FOR NUMBER OF CONDUITS.
2. A MINIMUM OF 12" OF CONDUIT MUST EXTEND ABOVE TOP OF HUB-BAND. SURFACE OF HUB BAND SHALL BE SMOOTHLY FINISHED WITH ALL CORNERS CHAMFERED AT 45 DEGREES.
3. CONCRETE TO BE A MINIMUM OF 4,000 PSI. REINFORCING MAY BE REQUIRED IN HIGH RISK AREAS.
4. CONCRETE TO EXTEND A MINIMUM OF 18" BELOW GRADE. ADDITIONAL CONCRETE MAY BE REQUIRED TO STRENGTHEN RISER FOR PULLING CABLE. UTILITY MAY REQUIRE HEIGHT ABOVE GROUND TO EXCEED 30".
5. ELBOW INSTALLED WITH BELL END DOWN. ELBOW TO BE SCHEDULE 80 MINIMUM WITH 36" LONG RADIUS.
6. REFER TO DUCT BANK DETAIL OR SPECIFICATIONS FOR BURIAL DEPTH



TYPICAL UTILITY STAND-OFF BRACKETS PROVIDED BY UTILITY COMPANY. 8' MINIMUM BETWEEN TOP OF HUB BAND AND FIRST STAND-OFF BRACKET. SHOWN FOR REFERENCE ONLY. COORDINATE ALL WORK WITH UTILITY COMPANY REPRESENTATIVE AND CURRENT STANDARDS.

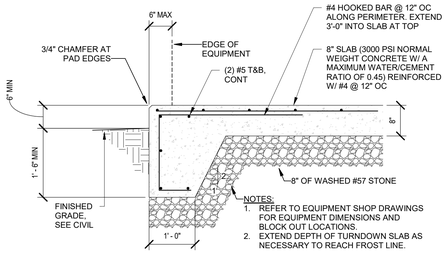
10 HUB-BAND DETAIL

NO SCALE



8 TYP UNDERGROUND SLEEVE DETAIL

SCALE: 3/4" = 1'-0"

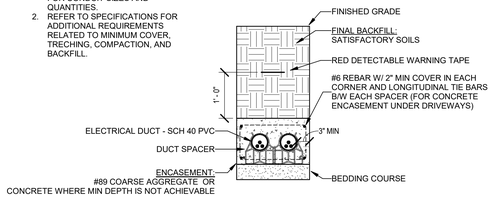


NOTES:
1. REFER TO EQUIPMENT SHOP DRAWINGS FOR EQUIPMENT DIMENSIONS AND BLOCK OUT LOCATIONS.
2. EXTEND DEPTH OF TURNDOWN SLAB AS NECESSARY TO REACH FROST LINE.

9 TYP EXTERIOR EQUIPMENT PAD

SCALE: 3/4" = 1'-0"

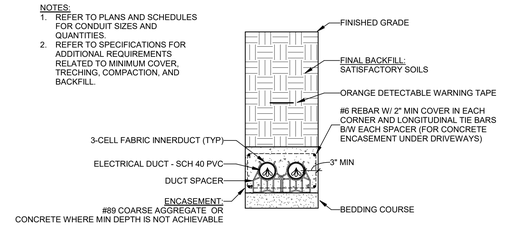
NOTES:
1. REFER TO PLANS AND SCHEDULES FOR CONDUIT SIZES AND QUANTITIES.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS RELATED TO MINIMUM COVER, TRECHING, COMPACTION, AND BACKFILL.



1 TYP ELECT DUCT BANK (UGE)

SCALE: 3/4" = 1'-0"

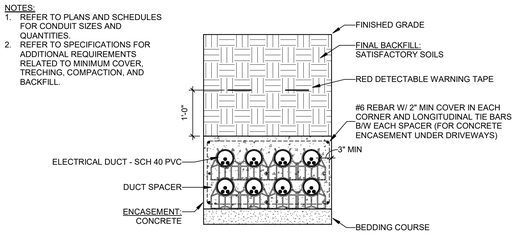
NOTES:
1. REFER TO PLANS AND SCHEDULES FOR CONDUIT SIZES AND QUANTITIES.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS RELATED TO MINIMUM COVER, TRECHING, COMPACTION, AND BACKFILL.



2 TYP TELECOMM DUCT BANK (UGT)

SCALE: 3/4" = 1'-0"

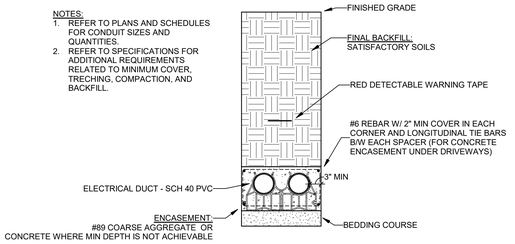
NOTES:
1. REFER TO PLANS AND SCHEDULES FOR CONDUIT SIZES AND QUANTITIES.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS RELATED TO MINIMUM COVER, TRECHING, COMPACTION, AND BACKFILL.



3 TYP SECONDARY DUCTBANK (SEC)

SCALE: 3/4" = 1'-0"

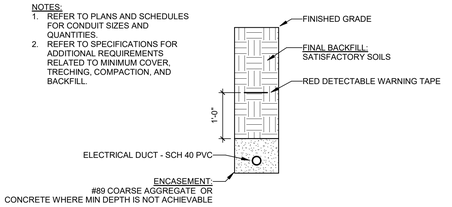
NOTES:
1. REFER TO PLANS AND SCHEDULES FOR CONDUIT SIZES AND QUANTITIES.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS RELATED TO MINIMUM COVER, TRECHING, COMPACTION, AND BACKFILL.



4 TYP PRIMARY DUCTBANK (PRI)

SCALE: 3/4" = 1'-0"

NOTES:
1. REFER TO PLANS AND SCHEDULES FOR CONDUIT SIZES AND QUANTITIES.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS RELATED TO MINIMUM COVER, TRECHING, COMPACTION, AND BACKFILL.



5 TYP UNDERGROUND BRANCH CIRCUIT

SCALE: 3/4" = 1'-0"

Wake County Public School System

LS3P

434 FAYETTEVILLE STREET SUITE 1700
RALEIGH, NORTH CAROLINA 27601
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CMTA
A LEGENCE Company

NORTH CAROLINA PROFESSIONAL SEAL 043650 ENGINEER STEVE E. ROBEY
04/10/2024

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME: ELECTRICAL SITE DETAILS

BID SET SUBMISSION: 2024.04.10

SHEET: **E09.03**

BID SET

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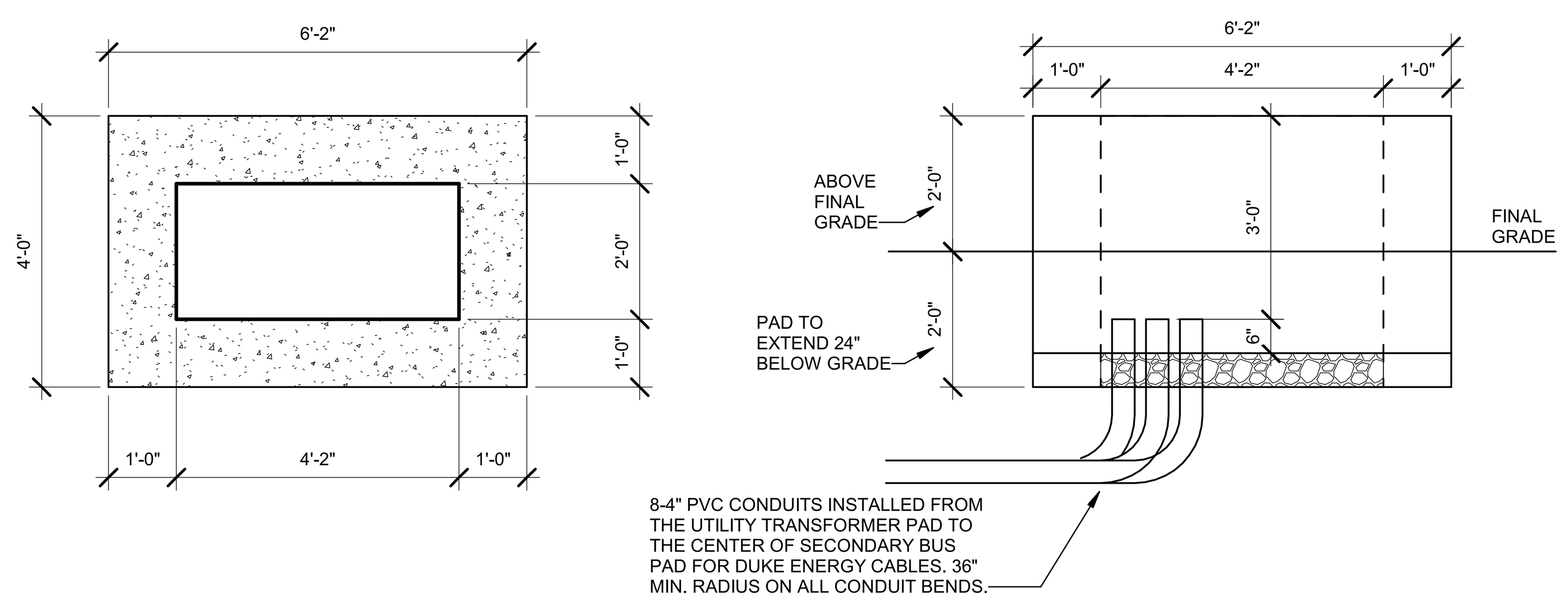
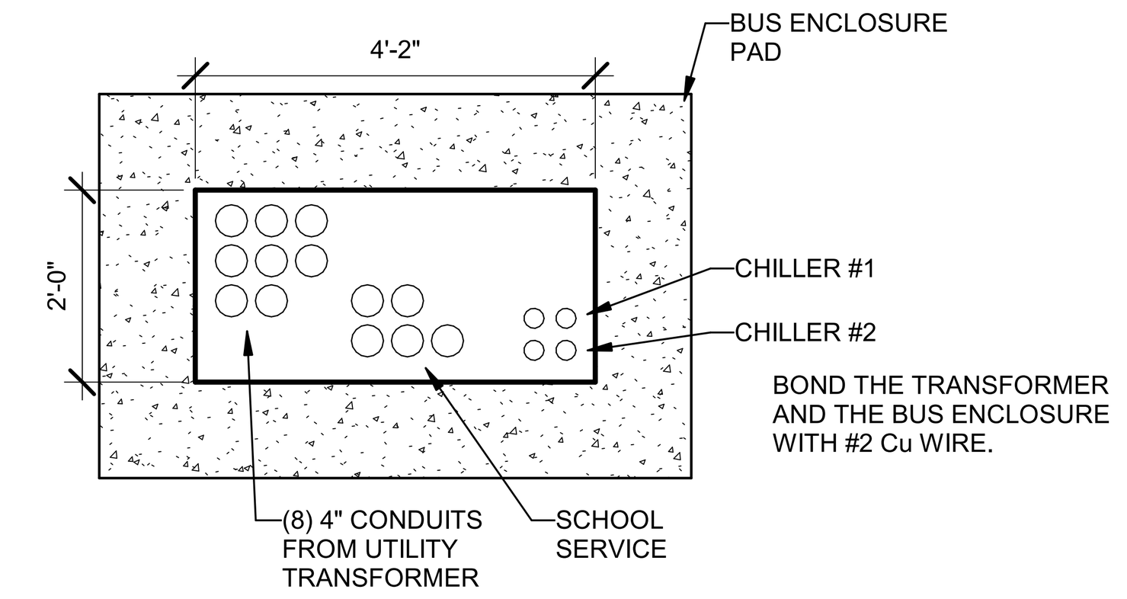
4/3/2024 4:06:52 PM



GENERAL NOTES:

1. SECONDARY BUS ENCLOSURE PAD TO BE MINIMUM OF 24" THICK.
2. CONCRETE TO BE GRADE "A" AT 3000 LBS.
3. PAD TO BE POURED ON SITE WITH CONTINUOUS #4 REBAR IN THE CENTER AND AROUND THE PERIMETER.
4. PAD SHALL BE LOCATED SO THAT A MINIMUM OF 6 FEET OF CLEARANCE IS MAINTAINED ON THE FRONT AND BACK SIDES OF THE PAD. AS WELL AS 2 FEET OF CLEARANCE ON THE OTHER SIDES.

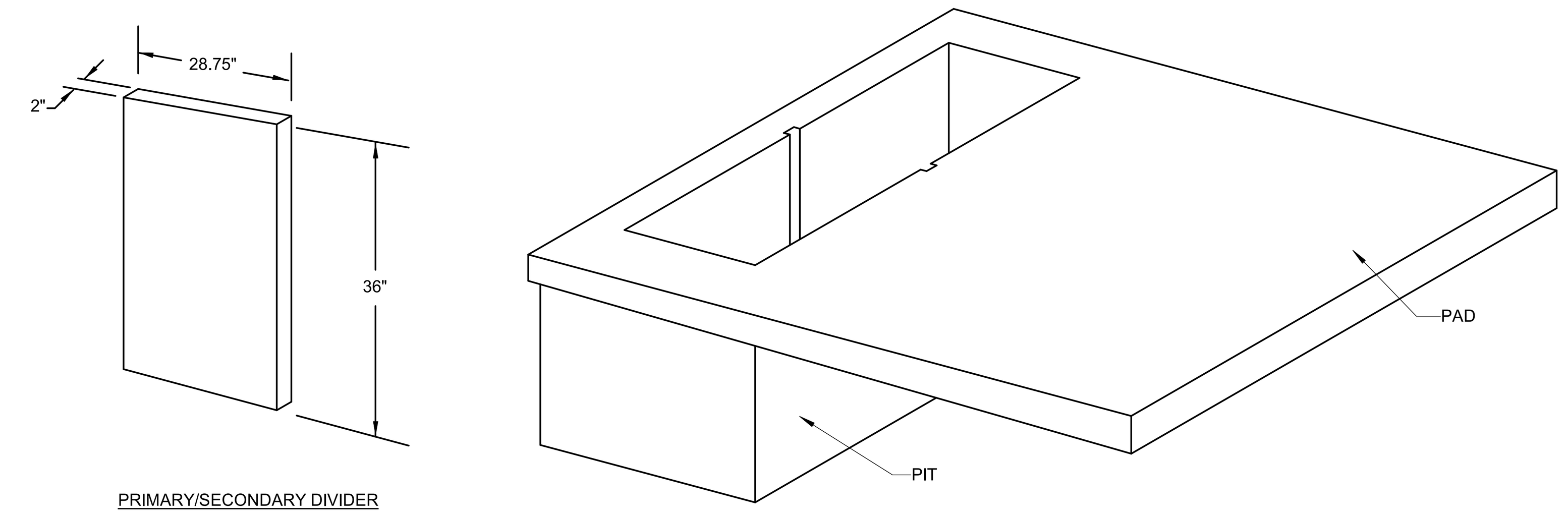


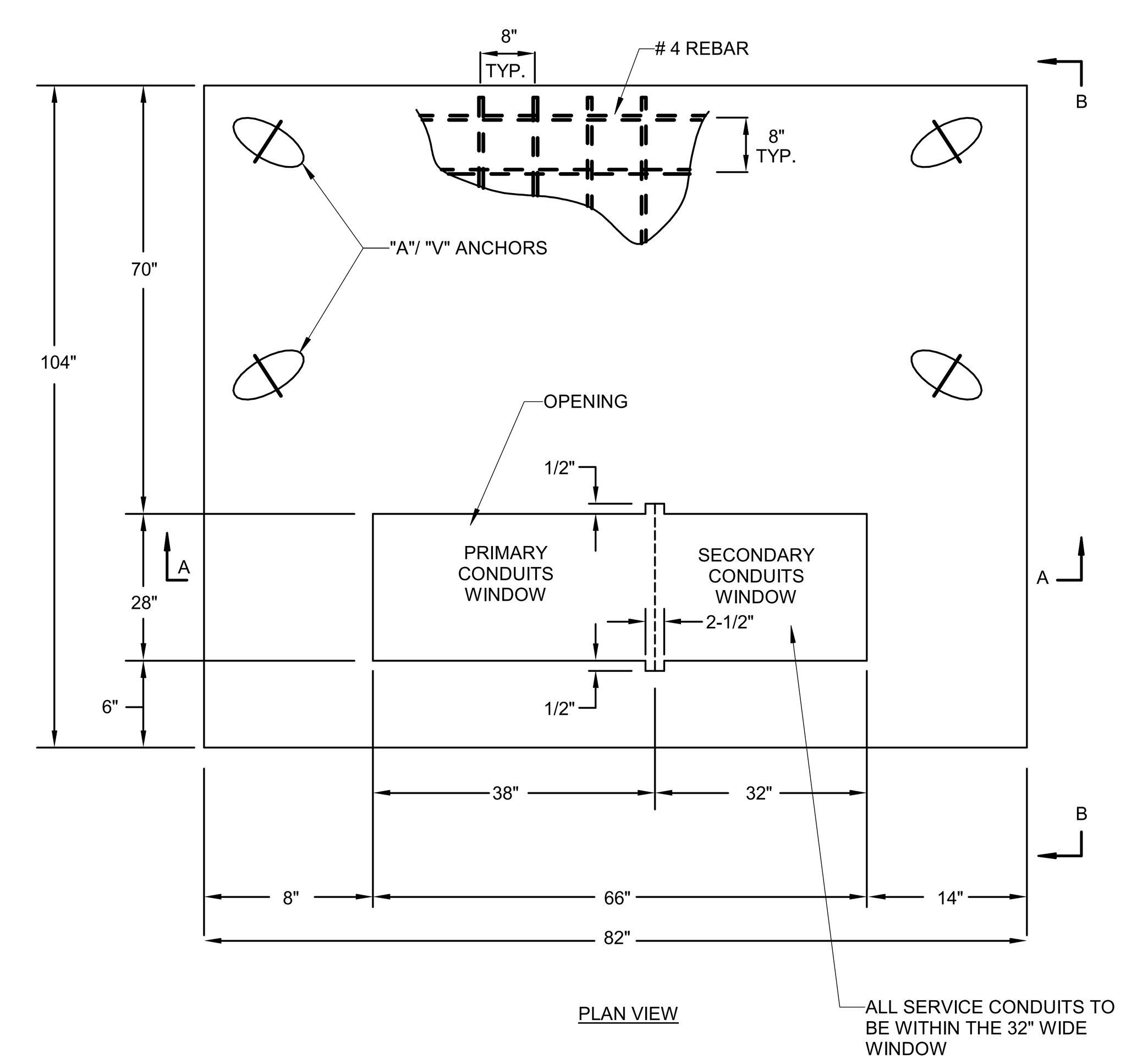
GENERAL NOTES (UTILITY):

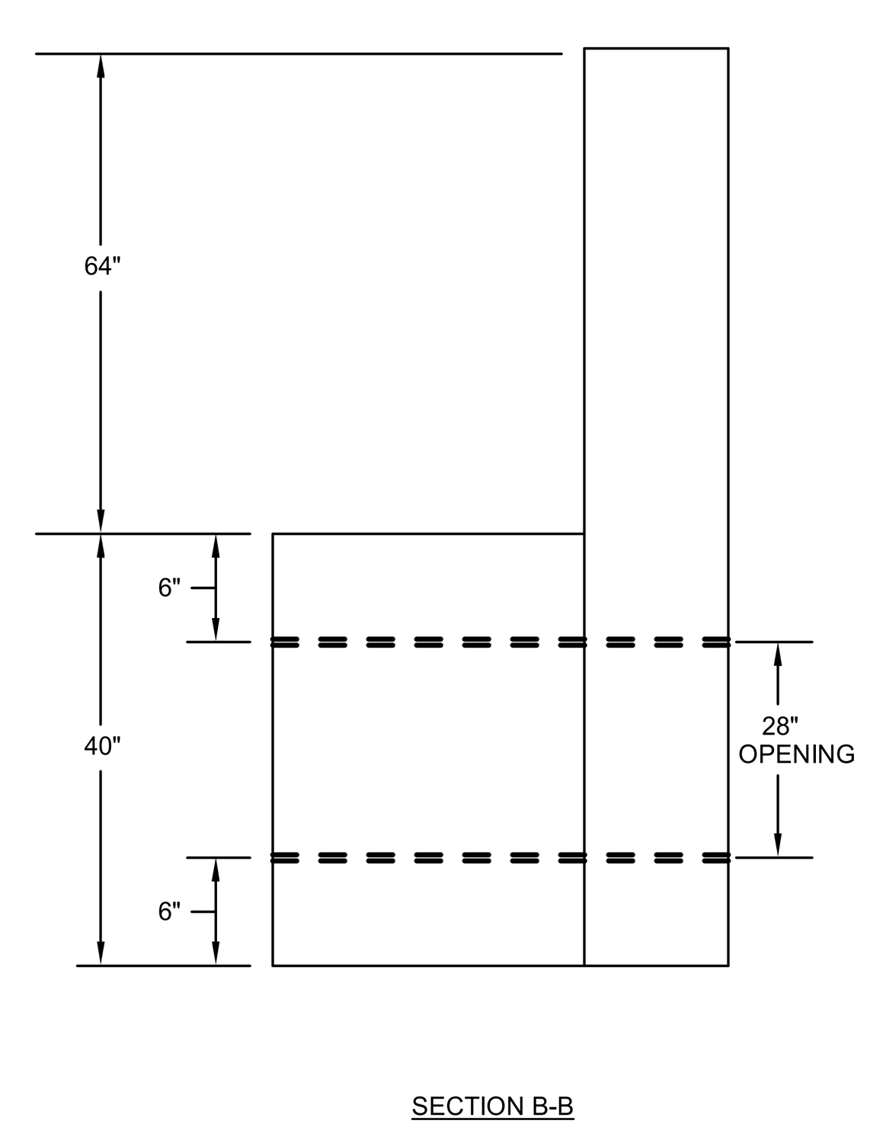
A. ALL WORK ASSOCIATED WITH THE PRIMARY CONDUITS AND TRANSFORMERS PADS SHOULD BE COORDINATED AND APPROVED BY THE DUKE ENERGY REPRESENTATIVE.
B. PROVIDE THE DUKE ENERGY REPRESENTATIVE THE FINAL QUANTITIES, SIZE, AND TYPE OF SECONDARY CONDUCTORS THAT WILL BE INSTALLED.
C. DUKE ENERGY WILL PROVIDE THE GROUND RODS PRIOR TO THE INSTALLATION OF THE PAD MOUNTED TRANSFORMERS.
D. ALL TERMINATIONS TO THE PAD MOUNT TRANSFORMERS WILL BE PROVIDED BY DUKE ENERGY.
E. ALL PRIMARY CONDUITS SHALL BE 6" SCH 40 PVC WITH A MINIMUM 15" BEND RADIUS UNLESS OTHERWISE REQUIRED BY THE DUKE ENERGY REPRESENTATIVE. CONDUITS SHALL BE INSTALLED AND APPROVED BY THE DUKE ENERGY REPRESENTATIVE PRIOR TO THE INSTALLATION OF THE TRANSFORMER PADS.
F. INSTALL CONDUIT END BELLS WHERE CABLES EXIT CONDUITS IN THE PRIMARY AND SECONDARY COMPARTMENTS OF THE TRANSFORMER TO MINIMIZE DAMAGE TO THE CABLES DURING INSTALLATION.
G. INSTALL THE CONDUIT FOR THE PRIMARY CONDUCTORS AS CLOSE TO THE CENTER OF THE DESIGNATED PRIMARY SIDE OF THE WINDOW OF THE PAD AS PRACTICAL.
H. SERVICE CONDUITS SHALL NOT CROSS OR INTERFERE WITH THE PRIMARY CONDUITS. THE SERVICE CONDUITS CAN EXIT THE SECONDARY SIDE OF THE PAD FROM THE FRONT, REAR OR RIGHT SIDE.
I. REFER TO DUKE ENERGY GUIDELINES FOR APPROVED PRECAST PAD VENDORS AND PART NUMBERS.

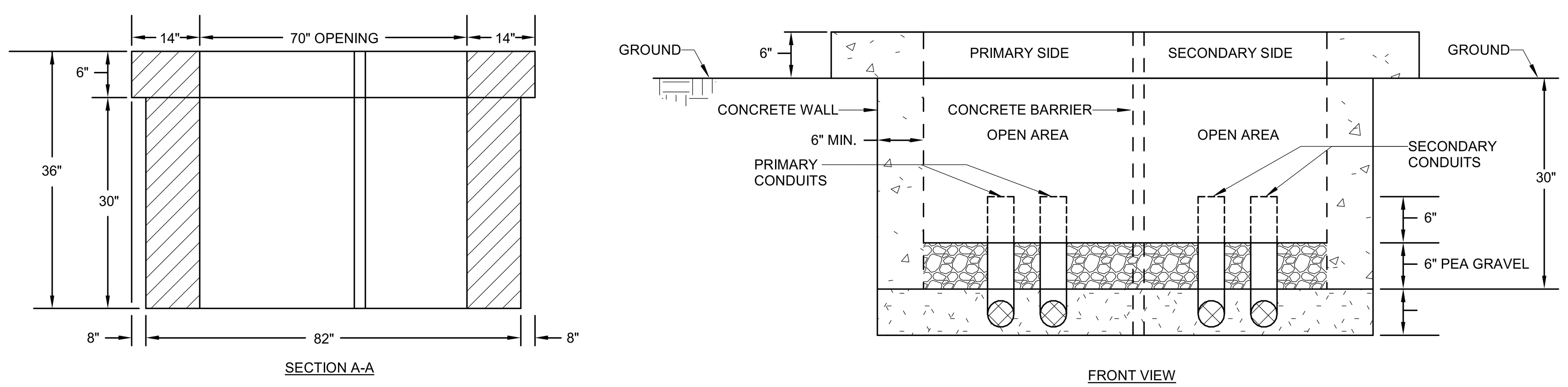
2 LARGE PIT PAD MOUNTED UTILITY TRANSFORMER CONCRETE PAD DETAIL

NO SCALE









INSTALLATION OF LARGE TWO-PIECE PRE-CAST PIT PAD

1. REFER TO DUKE ENERGY DOCUMENTS FOR DETAILED INSTRUCTIONS AND CONTRACTOR REQUIREMENTS.
2. DIG HOLE APPROXIMATELY 46" X 82" AND 36" DEEP FOR THE PIT.
   A. NOTE: PAD TO BE LOCATED SO THAT THERE IS A MINIMUM OF 10 FEET CLEARANCE MAINTAINED IN FRONT OF THE TRANSFORMER AND A MINIMUM OF 3 FEET CLEARANCE BE MAINTAINED ON ALL OTHER SIDES.
3. INSTALL (2) CONDUIT ELBOWS IN THE BOTTOM OF THE HOLE FOR THE PRIMARY CONDUCTORS AS SPECIFIED FROM DUKE ENERGY ENTERING FROM THE FRONT OF THE HOLE. THESE ARE TO BE PLACED SO THEY COME UP IN THE CENTER OF THE PRIMARY SIDE OF THE WINDOW OPENING.
   A. NOTE: THE SECONDARY CONDUITS SHOULD BE INSTALLED AT THIS TIME .
4. FILL APPROXIMATELY 6" OF LEVELED, COMPACT SOIL IN THE HOLE TO SUPPORT THE CONDUIT ELBOWS. INSTALL THE PIT SO THAT THE CONDUITS ARE LOCATED IN THE CORRECT POSITION WITHIN THE WINDOW.
   A. NOTE: MAKE SURE THE PIT IS INSTALLED LEVEL AND FLUSH, SO THAT WHEN THE PAD IS INSTALLED THE BOTTOM IS IN CONTACT WITH THE ENTIRE SURFACE OF THE TOP OF THE PIT.
5. FILL BOTTOM OF PIT WITH 6" OF PEA GRAVEL.
6. APPLY A LAYER OF CONSEAL ON THE TOP OF THE PIT BEFORE PLACING THE PAD ONTO THE PIT.
7. INSTALL THE FLAT PORTION OF THE PAD ON THE GROUND AND PIT, LINING UP THE WINDOW OF THE PAD WITH THE PIT. SECURE THE PAD TO THE PIT.
8. ADD THE DIVIDER INTO THE GROOVES IN THE PAD AND PIT SO THAT IT IS FLUSH WITH THE TOP OF THE PAD.
   A. NOTE: CUT OFF ALL ELBOWS 6" ABOVE GRAVEL

1 LARGE PIT PAD MOUNTED UTILITY TRANSFORMER CONCRETE PAD DETAIL

NO SCALE

4/3/2024 4:06:53 PM

Wake County Public School System

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

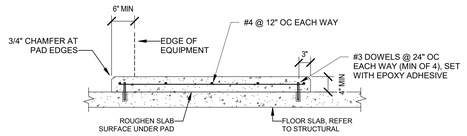
SHEET NAME: UTILITY DETAILS

BID SET SUBMISSION: 2024.04.10

SHEET: E09.04

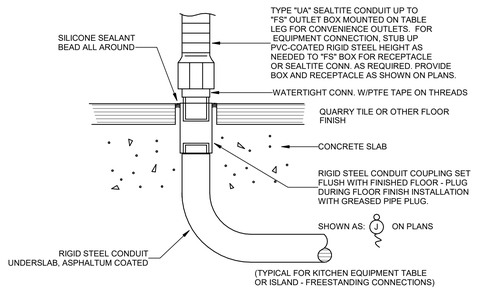
BID SET

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH D SHEETS ORIGINAL PAGE SIZE



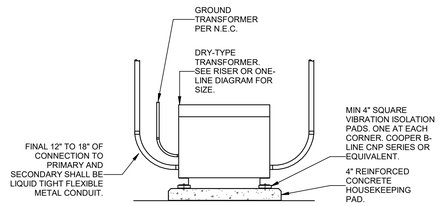
8 TYP HOUSEKEEPING PAD

NO SCALE



9 FLOOR OUTLET COUPLING TO FLEX STUB-UP DETAIL

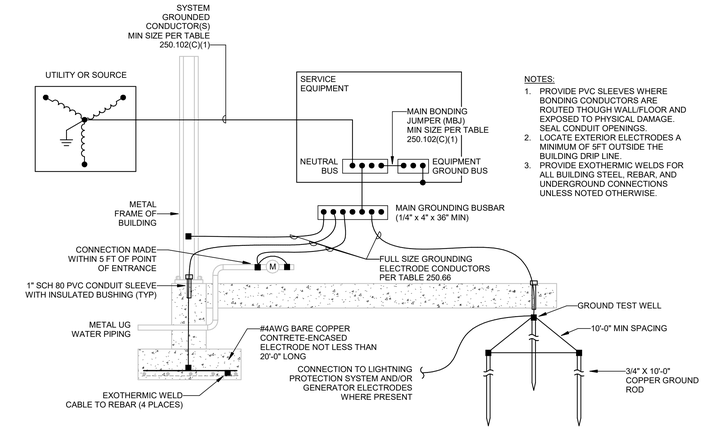
NO SCALE



NOTES:
1. SIZE VIBRATION ISOLATION PADS TO ACCOMODATE RATED LOAD OF EQUIPMENT.
2. SECURELY ANCHOR TRANSFORMER TO PAD.
3. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR CLEARANCE FROM WALL TO ALLOW PROPER AIR CIRCULATION BEHIND TRANSFORMER.

3 TRANSFORMER (DRY-TYPE) - PAD MOUNT

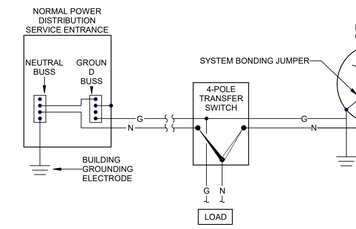
NO SCALE



NOTES:
1. PROVIDE PVC SLEEVES WHERE BONDING CONDUCTORS ARE ROUTED THOUGH WALL/FLOOR AND EXPOSED TO PHYSICAL DAMAGE. SEAL CONDUIT OPENINGS.
2. LOCATE EXTERIOR ELECTRODES A MINIMUM OF 5FT OUTSIDE THE BUILDING DRIP LINE.
3. PROVIDE EXOTHERMIC WELDS FOR ALL BUILDING STEEL, REBAR, AND UNDERGROUND CONNECTIONS UNLESS NOTED OTHERWISE.

1 GROUNDING ELECTRODE SYSTEM DETAIL

SCALE: 12" = 1'-0"

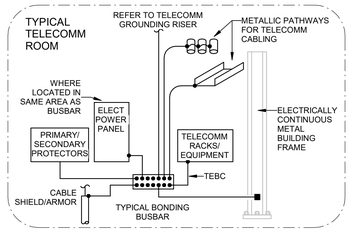


NOTES:
1. REFER TO POWER RISER DIAGRAM FOR CONDUCTOR SIZES AND REQUIREMENTS.

2 GENERATOR GROUNDING DETAIL W/4P ATS

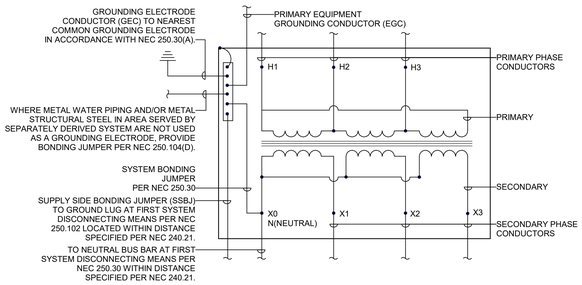
NO SCALE

NOTES:
1. ALL WORK TO BE DONE IN ACCORDANCE WITH ANSI/TIA STD-607-C
2. ALL GROUNDING AND BONDING CONDUCTORS SHALL BE GREEN INSULATED COPPER CONDUCTORS AND LISTED FOR INTENDED APPLICATION.
3. LABEL ALL GROUNDING AND BONDING CONDUCTORS IN ACCORDANCE WITH ANSI/TIA/EIA 606 REQUIREMENTS.
4. ALL CONNECTIONS SHALL BE EXOTHERMIC WELD, LISTED COMPRESSION TWO-HOLE LUGS, OR OTHER IRREVERSIBLE COMPRESSION TYPE CONNECTION.
5. ALL METALLIC RACEWAYS FOR TELECOMM CABLING SHALL BE BONDED TO BUSBAR IF LOCATED IN SAME ROOM OR AREA.
6. WHERE THE OSP OR BACKBONE CABLING INCORPORATES A SHIELD OR METALLIC ARMOR, IT SHALL BE BONDED TO THE BUSBAR WHERE THE CABLES ARE TERMINATED OR WHERE THE PAIRS ARE BROKEN OUT FROM THE CABLE SHEATH.
7. BONDING CONDUCTOR TO BUILDING STEEL SHALL BE SIZED TO MATCH BACKBONE CONDUCTOR. OTHER BONDING CONDUCTORS SHALL BE A MINIMUM #6 AWG AND INSTALLED WITH A MINIMUM 8-INCH BEND RADIUS.
8. BONDING CONDUCTORS FOR ENTRANCE PROTECTORS AND CABLE SHIELDING CAPABLE OF CONDUCTING LIGHTNING AND FAULT CURRENTS SHALL MAINTAIN A MINIMUM OF 1FT SEPARATION FROM ALL TELECOMM CABLING.



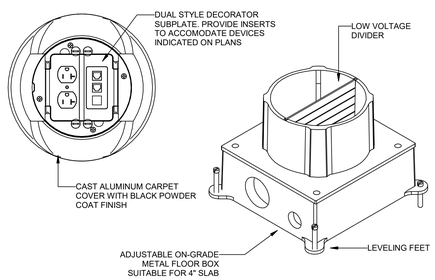
7 TELECOMM BUSBAR CONNECTIONS

SCALE: 12" = 1'-0"



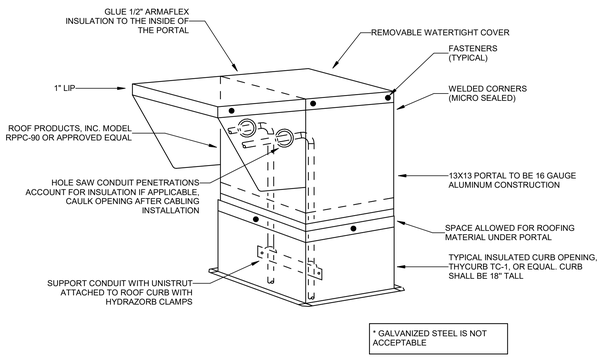
5 TRANSFORMER (DRY-TYPE) GROUNDING DETAIL

SCALE: 12" = 1'-0"



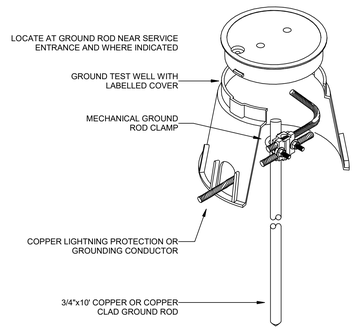
11 TYPICAL FLOOR BOX DETAIL

NO SCALE



10 ROOF CURB DETAIL

NO SCALE



6 GROUND INSPECTION WELL

SCALE: 6" = 1'-0"

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04/10/2024

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

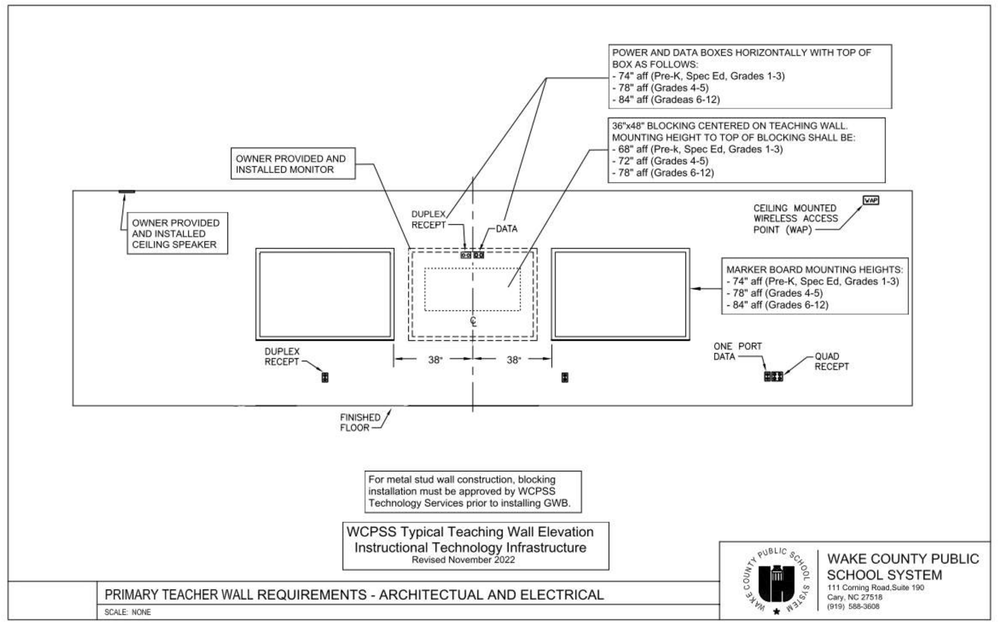
SHEET NAME: ELECTRICAL DETAILS

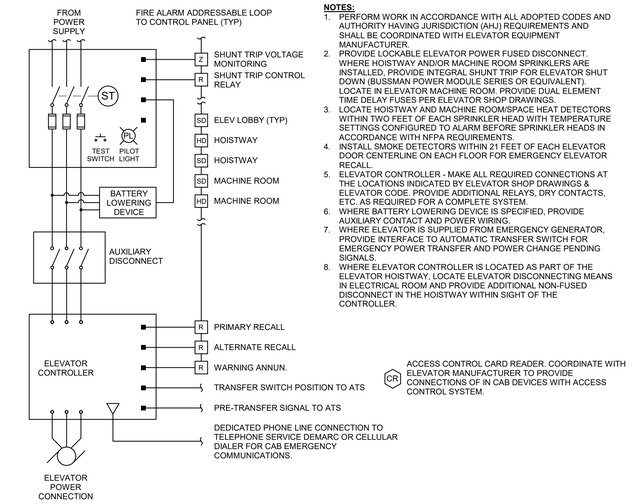
BID SET SUBMISSION: 2024.10.10

SHEET: E09.05

BID SET

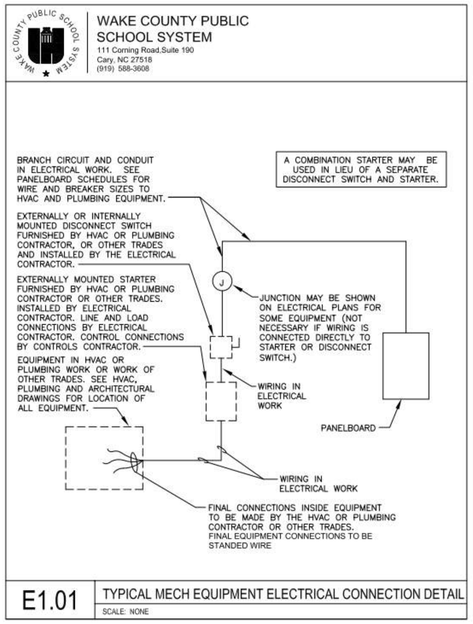
4/3/2024 4:06:56 PM

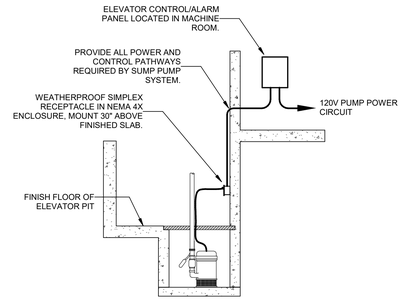




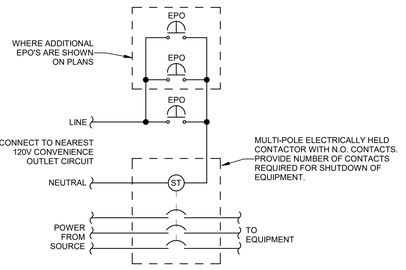
NOTES:
1. PERFORM WORK IN ACCORDANCE WITH ALL ADOPTED CODES AND AUTHORITY HAVING JURISDICTION (AHJ) REQUIREMENTS AND SHALL BE COORDINATED WITH ELEVATOR EQUIPMENT MANUFACTURER.
2. PROVIDE LOCKABLE ELEVATOR POWER FUSED DISCONNECT. WHERE HOISTWAY AND/OR MACHINE ROOM SPRINKLERS ARE INSTALLED, PROVIDE INTEGRAL SHUNT TRIP FOR ELEVATOR SHUT DOWN (BUSSMAN POWER MODULE SERIES OR EQUIVALENT). LOCATE IN ELEVATOR MACHINE ROOM. PROVIDE DUAL ELEMENT TIME DELAY FUSES PER ELEVATOR SHOP DRAWINGS.
3. LOCATE HOISTWAY AND MACHINE ROOM/SPACE HEAT DETECTORS WITHIN TWO FEET OF EACH SPRINKLER HEAD WITH TEMPERATURE SETTINGS CONFIGURED TO ALARM BEFORE SPRINKLER HEADS IN ACCORDANCE WITH NFPA REQUIREMENTS.
4. INSTALL SMOKE DETECTORS WITHIN 21 FEET OF EACH ELEVATOR DOOR CENTERLINE ON EACH FLOOR FOR EMERGENCY ELEVATOR RECALL.
5. ELEVATOR CONTROLLER - MAKE ALL REQUIRED CONNECTIONS AT THE LOCATIONS INDICATED BY ELEVATOR SHOP DRAWINGS & ELEVATOR CODE. PROVIDE ADDITIONAL RELAYS, DRY CONTACTS, ETC. AS REQUIRED FOR A COMPLETE SYSTEM.
6. WHERE BATTERY LOWERING DEVICE IS SPECIFIED, PROVIDE AUXILIARY CONTACT AND POWER WIRING.
7. WHERE ELEVATOR IS SUPPLIED FROM EMERGENCY GENERATOR, PROVIDE INTERFACE TO AUTOMATIC TRANSFER SWITCH FOR EMERGENCY POWER TRANSFER AND POWER CHANGE PENDING SIGNALS.
8. WHERE ELEVATOR CONTROLLER IS LOCATED AS PART OF THE ELEVATOR HOISTWAY, LOCATE ELEVATOR DISCONNECTING MEANS IN ELECTRICAL ROOM AND PROVIDE ADDITIONAL NON-FUSED DISCONNECT IN THE HOISTWAY WITHIN SIGHT OF THE CONTROLLER.

1 ELEVATOR CONNECTION DIAGRAM
NO SCALE



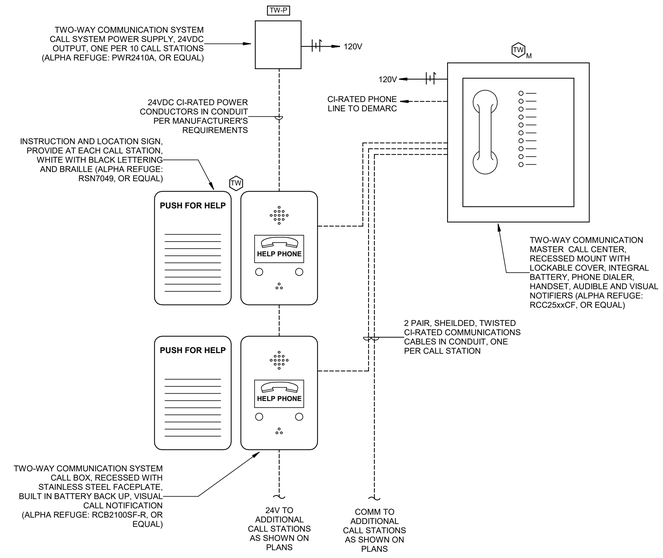


2 ELEVATOR SUMP PUMP W/ MONITOR
NO SCALE



NOTES:
A. EMERGENCY POWER OFF (EPO) TO BE PUSH/PULL LATCHING TYPE.
B. PROVIDE EPO WITH INDOOR/OUTDOOR PROTECTIVE COVER.
C. PROVIDE #12 AWG CONTROL WIRING IN SEPARATE RACEWAY TO EPO(S).

3 SHUNT TRIP EPO WIRING DIAGRAM
NO SCALE



GENERAL NOTES:
1. INSTALLED SYSTEM SHALL COMPLY WITH IBC, NFPA, ADAAG, AND ELEVATOR CODE REQUIREMENTS.
2. COORDINATE EQUIPMENT LOCATIONS WITH ARCHITECTURAL ELEVATIONS AND ELEVATOR CALL STATIONS (WHEN APPLICABLE).
3. PROVIDE SYSTEM CAPACITY FOR NUMBER OF CALL BOXES SHOWN ON PLANS.
4. INSTALL POWER SUPPLY ABOVE ACCESSIBLE CEILING NEAR MASTER STATION. PROVIDE ADDITIONAL REMOTE POWER SUPPLIES WHERE VOLTAGE DROP EXCEEDS MANUFACTURER'S RECOMENDATIONS.
5. SYSTEM TO HAVE INTEGRAL BATTERY BACKUP.
6. CALL CENTER CABINET SHALL BE ABLE TO ACCEPT FIREMAN'S LOCK (BY OTHERS).
7. PROVIDE 'ABL-VOIP' ANALOG TO VOIP ADAPTER WHERE USED WITH VOIP PHONE SYSTEM.
8. SYSTEM SHALL BE CAPABLE OF DIALING OUT TO FIVE REMOTE PHONE NUMBERS INCLUDING 911.

4 TWO-WAY COMMUNICATION DETAIL
NO SCALE

Wake County Public School System

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04/10/2024

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Swift Creek Elementary School
5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME: ELECTRICAL DETAILS

BID SET SUBMISSION: 2024.04.10

SHEET: **E09.06**

BID SET

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THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ALL ARCH D SHEETS ORIGINAL PLOT SIZE

E

D

C

B

A

1 2 3 4 5 6

XFMR T-MP1

PRI: 480V 3Ø,3W AMPS: 175A
FROM: DP1 (ELECTRICAL 106)
(3)#2/0, (1)#6G, 1-1/2"C
SEC: 208Y/120V, 3Ø,4W TO PP301A

PANEL DP1

VOLTS: 208Y/120V 3Ø,4W
AMPS: 1600A
FROM: MDP (ELECTRICAL 002)
(5) SETS - (3)400Ø, (1)400N, (1)#3/0G

1/2"H, STANDARD BLOCK LETTERING

1/4"H, STANDARD BLOCK LETTERING

AHU-4

208V, 3Ø, 60A
FROM: DP1-5,7 (ELECTRICAL 501)

EMERGENCY ATS-EM

VOLTS: 480Y/277V 3Ø,4W
AMPS: 1600A
EMER. FROM: GEN (UTILITY YARD)
(5) SETS - (3)400Ø, (1)400N, (1)#3/0G
NORM. FROM: MDP (ELECTRICAL 001)
(5) SETS - (3)400Ø, (1)400N, (1)#3/0G
LOAD: PANEL EDP1

EMERGENCY PANEL EDP1

VOLTS: 208Y/120V 3Ø,4W
AMPS: 1600A
FROM: MDP (ELECTRICAL 002)
(5) SETS - (3)400Ø, (1)400N, (1)#3/0G

IDENTIFICATION 208Y/120V, 3Ø,4W	IDENTIFICATION 480Y/277V, 3Ø,4W
PHASE A - BLACK	PHASE A - BROWN
PHASE B - RED	PHASE B - ORANGE
PHASE C - BLUE	PHASE C - YELLOW
NEUTRAL - WHITE	NEUTRAL - GRAY
GROUND - GREEN	GROUND - GREEN

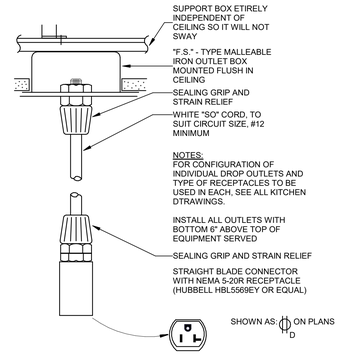
SERVICE DISCONNECT SWITCH (1 OF 2)

NOTES:

- REFER TO SPECIFICATIONS FOR NAMEPLATE BACKGROUND AND LETTERING COLORS.
- PROVIDE NAMEPLATES ON ALL NEW OR MODIFIED POWER DISTRIBUTION EQUIPMENT INCLUDING PANELBOARDS, SWITCHBOARDS, MOTOR CONTROLLERS, TRANSFORMERS, DISCONNECT SWITCHES, PUSHBUTTON STATIONS, AND SIMILAR DEVICES.
- ATTACH ALL LABELS USING STAINLESS STEEL SCREWS MAKING SURE TO AVOID EXPOSED SHARP EDGES.
- ALL ROOM NUMBERS SHALL REFERENCE FINAL OWNER APPROVED DESIGNATIONS.

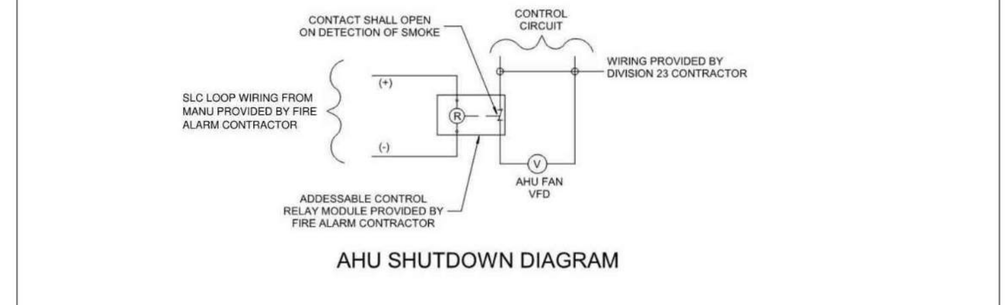
1 POWER DIST EQ NAMEPLATE DETAIL

SCALE: 12" = 1'-0"



3 TYPICAL CEILING OUTLET DROP DETAIL

NO SCALE



AHU SHUTDOWN DIAGRAM

FIRE ALARM INTERLOCK

The Fire Alarm Contractor shall provide a fire alarm relay for the supply fan(s) at each AHU. The relay shall be a be wired directly to the fan variable frequency drive for AHU shutdown by the BAS Contractor.

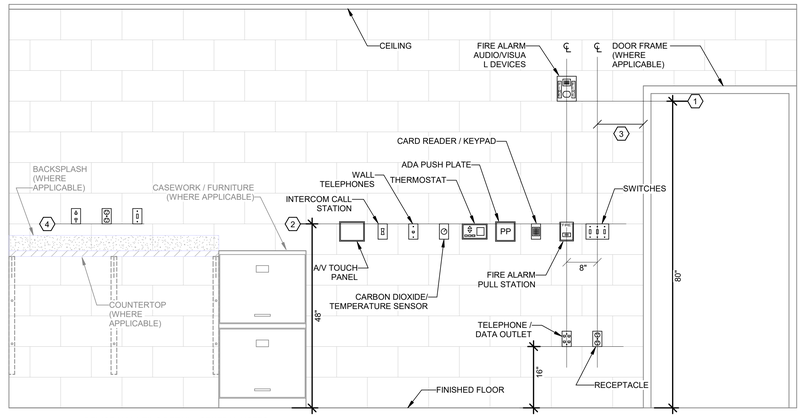
The relay shall also have an auxiliary contact. The BAS Contractor shall wire from the auxiliary contact to the BAS controller to monitor FA shutdown for that fan on the BAS front end.

For AHU relief fans, the scope shall be the same as for the supply fans. Relief fans do NOT require an auxiliary contact or BAS monitoring of FA shutdown status.

X0.00

SCALE: NONE

WAKE COUNTY PUBLIC SCHOOL SYSTEM
111 Corning Road,Suite 190
Cary, NC 27518
(919) 588-3608



DEVICE MOUNTING DETAIL - GENERAL NOTES:

A. WHERE DEVICES OF ANY DISCIPLINE ARE LOCATED IN THE SAME GENERAL AREA ON THE PLANS AND ARE SHOWN TO BE MOUNTED AT A SIMILAR HEIGHT, ALIGN HORIZONTALLY ALONG TOP OF DEVICE BACKBOX (AS SHOWN IN DETAIL AND DESCRIBED IN KEY NOTE #2).

B. WHERE DEVICES OF ANY DISCIPLINE ARE LOCATED IN THE SAME GENERAL AREA ON THE PLANS AND ARE SHOWN MOUNTED AT DIFFERENT HEIGHTS, ALIGN VERTICALLY ALONG THE CENTERLINE OF THE DEVICE BACKBOX (AS SHOWN IN DETAIL).

C. FOR ANY WALL OTHER THAN PAINTED GYPSUM BOARD OR CMU, DEVICE LOCATIONS MUST BE FIELD APPROVED BY ENGINEER OR ARCHITECT PRIOR TO INSTALLATION OF FINISHES.

DEVICE MOUNTING DETAIL - KEY NOTES:

1. MOUNT VISUAL NOTIFICATION APPLIANCES SO THAT ENTIRE LENS IS BETWEEN 80" AND 96" AFF. IF CEILING IS TOO LOW FOR DEVICE TO BE MOUNTED ABOVE 80", MOUNT SO THAT THE LENS IS WITHIN 6" OF FINISHED CEILING.
2. ALIGN BACKBOXES OF DEVICES AT THE MOUNTING HEIGHT INDICATED. MEASURE TO THE TOP OF THE BACKBOX FOR STANDARD OUTLET BOXES. NON-STANDARD BACKBOXES ARE TO BE INSTALLED SUCH THAT THE FINISHED DEVICES ARE ALIGNED ALONG THEIR RESPECTIVE CENTERLINES.
3. MOUNTING HEIGHTS SHOWN ILLUSTRATE DESIGN INTENT AND ARE TO BE FOLLOWED UNLESS CONTRADICTED BY APPLICABLE CODE. WHERE DEVICES ARE SHOWN ADJACENT TO DOOR FRAMES ON PLANS INSTALL 12" FROM FRAME TO AVOID SLUSHED SECTIONS OR BRACING. SPECIFIC DEVICES ARE SHOWN IN RELATIVE ORDER FROM DOOR FRAME; WHERE THESE DEVICES ARE NOT PRESENT AT A PARTICULAR LOCATION, ADJUST LOCATIONS CLOSER TO DOOR ACCORDINGLY.
4. THE CONTRACTOR IS TO COORDINATE ALL ROUGH-INS WITH ANY COUNTERTOPS/BACKSPLASHES TO AVOID CONFLICT. ALIGN DEVICE BACKBOXES IN THE BOTTOM OF THE NEXT FULL BLOCK ABOVE THE BACKSPLASH AS SHOWN. FOR NON-BLOCK WALLS ALIGN BOTTOM OF DEVICE BACKBOXES 4" ABOVE BACKSPLASH. COORDINATE WORK WITH CASEWORK AND KITCHEN SHOP DRAWINGS ACCORDINGLY. IF CONFLICT STILL ARISES CONTACT THE ENGINEER FOR DIRECTION ON HOW TO PROCEED.

4 TYPICAL WALL DEVICE MOUNTING DETAIL

NO SCALE

Wake County Public School System

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04/10/2024

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME:
ELECTRICAL DETAILS

BID SET SUBMISSION: 2024.04.10

SHEET:
E09.07

BID SET

4/3/2024 4:06:59 PM

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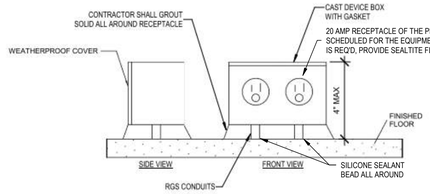

GENERAL NOTE:

A. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY RECEPTACLES, SWITCHES, DISCONNECTS AND STARTERS ASSOCIATED WITH THE KITCHEN EQUIPMENT. PROVIDE ALL LINE AND LOAD SIDE WIRING AND MAKE FINAL CONNECTIONS TO THE EQUIPMENT. PROVIDE STAINLESS STEEL CONDUIT SLEEVES FOR ALL CONDUITS IN KITCHEN AND SERVING AREA THAT PENETRATE FLOOR SLAB.

TYPICAL KITCHEN CONNECTIONS
NOT TO SCALE

EXX.XX SERVING LINE ELECTRICAL OUTLET JUNCTION BOX
SCALE: NONE

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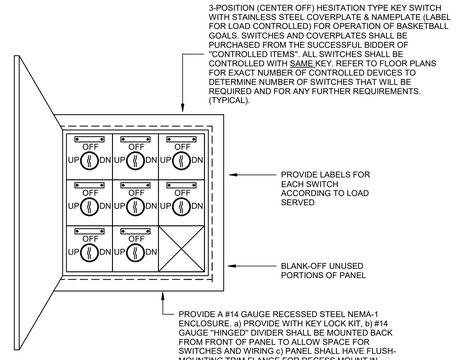
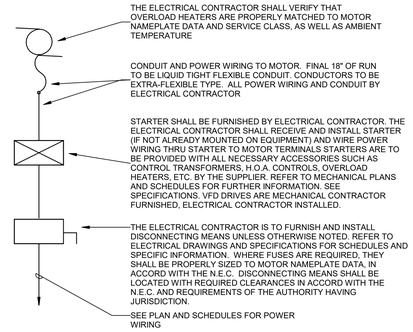
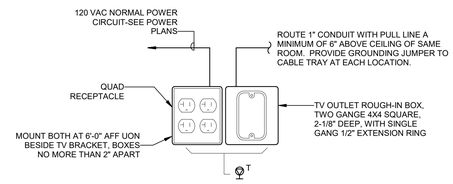
111 Corning Road,Suite 190
Cary, NC 27518
(919) 588-3608



1 GYMNASIUM MOTOR CONTROL PANEL DETAIL
NO SCALE



2 DETAIL OF TYPICAL MOTOR/STARTER INSTALLATION
NO SCALE



3 TELEVISION OUTLET INSTALLATION DETAIL
NO SCALE

Wake County Public School System

LS3P
434 FAYETTEVILLE STREET SUITE 1700
RALEIGH, NORTH CAROLINA 27601
TEL. 919.829.2730 FAX. 919.829.2700
WWW.LS3P.COM

CMTA
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NORTH CAROLINA PROFESSIONAL SEAL 043650 ENGINEER STEVE E. ROBEY
04/10/2024

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Swift Creek Elementary School
5601 Tryon Rd Raleigh, NC 27606
LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

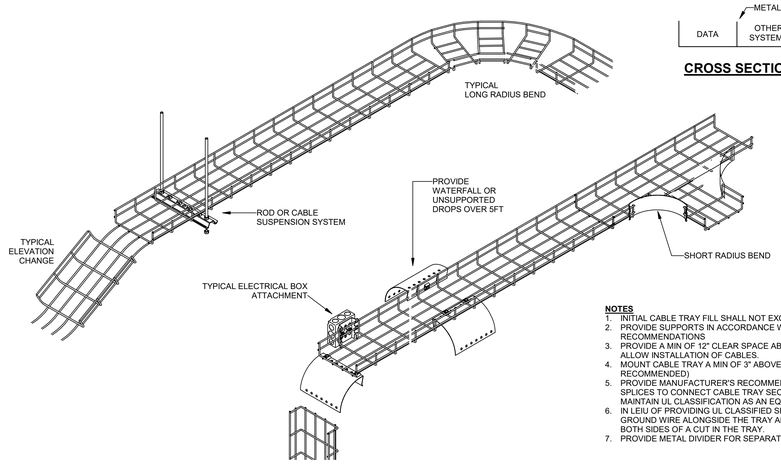
SHEET NAME:
ELECTRICAL DETAILS

BID SET SUBMISSION: 2024.04.10

SHEET:
E09.08
BID SET

4/3/2024 4:07:01 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH E SHEETS ORIGINAL PLOT SIZE

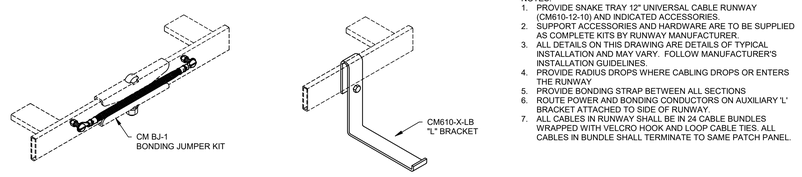


CROSS SECTION

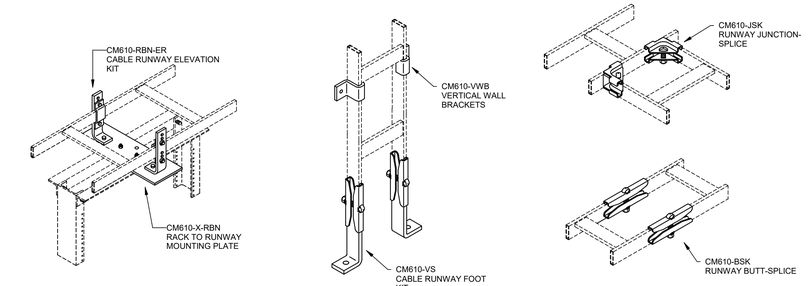
NOTES
1. INITIAL CABLE TRAY FILL SHALL NOT EXCEED 25%.
2. PROVIDE SUPPORTS IN ACCORDANCE WITH NEMA VE2 AND MANUFACTURER'S RECOMMENDATIONS
3. PROVIDE A MIN OF 12" CLEAR SPACE ABOVE THE TOP OF THE CABLE TRAY TO ALLOW INSTALLATION OF CABLES.
4. MOUNT CABLE TRAY A MIN OF 3" ABOVE CEILING TILE AND GRID (6" RECOMMENDED)
5. PROVIDE MANUFACTURER'S RECOMMENDED QUANTITY OF UL CLASSIFIED SPLICES TO CONNECT CABLE TRAY SECTIONS AND FITTINGS IN ORDER TO MAINTAIN UL CLASSIFICATION AS AN EQUIPMENT GROUNDING CONDUCTOR.
6. IN LEU OF PROVIDING UL CLASSIFIED SPLICES, RUN APPROPRIATELY SIZED GROUND WIRE ALONGSIDE THE TRAY AND ATTACH IT TO EACH TRAY SECTION ON BOTH SIDES OF A CUT IN THE TRAY.
7. PROVIDE METAL DIVIDER FOR SEPARATION OF LOW VOLTAGE CABLES.

4 T-WIRE BASKET TRAY DETAILS

SCALE: 1/4" = 1'-0"

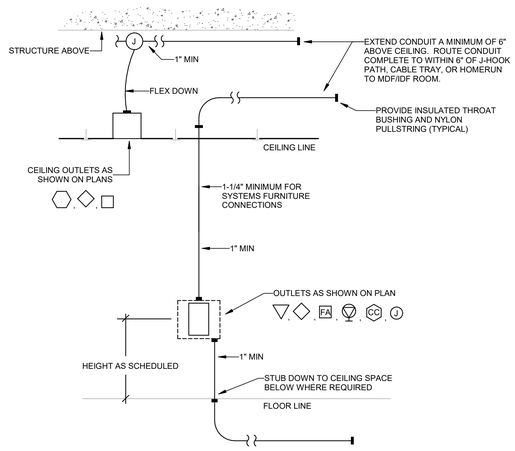


NOTES:
1. PROVIDE SNAKE TRAY 12" UNIVERSAL CABLE RUNWAY (CM610-12-10) AND INDICATED ACCESSORIES.
2. SUPPORT ACCESSORIES AND HARDWARE ARE TO BE SUPPLIED AS COMPLETE KITS BY RUNWAY MANUFACTURER.
3. ALL DETAILS ON THIS DRAWING ARE DETAILS OF TYPICAL INSTALLATION AND MAY VARY. FOLLOW MANUFACTURER'S INSTALLATION GUIDELINES.
4. PROVIDE RADIUS DROPS WHERE CABLING DROPS OR ENTERS THE RUNWAY
5. PROVIDE BONDING STRAP BETWEEN ALL SECTIONS
6. ROUTE POWER AND BONDING CONDUCTORS ON AUXILIARY 'L' BRACKET ATTACHED TO SIDE OF RUNWAY.
7. ALL CABLES IN RUNWAY SHALL BE IN 24 CABLE BUNDLES WRAPPED WITH VELCRO HOOK AND LOOP CABLE TIES. ALL CABLES IN BUNDLE SHALL TERMINATE TO SAME PATCH PANEL.



1 T-CABLE RUNWAY DETAILS

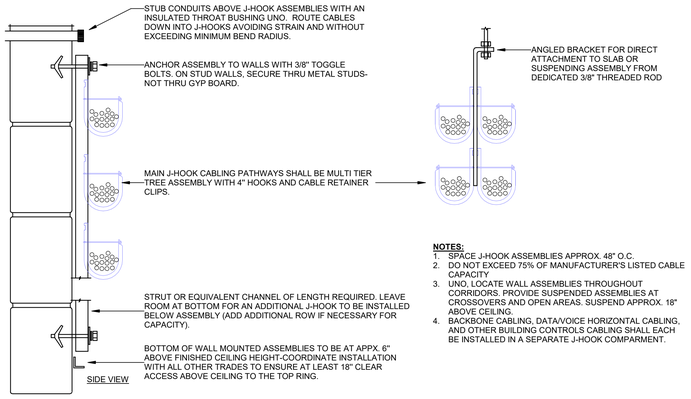
SCALE: 3/4" = 1'-0"



NOTES:
1. EXTEND CONDUIT TO NEAREST LOW VOLTAGE PATHWAY UNLESS CABLING TERMINATES AT ANOTHER OUTLET IN THE SAME ROOM.
2. WHERE OPEN CABLING IS INSTALLED WITHIN ENVIRONMENT AIR PLENUMS, CABLING AND HARDWARE SHALL BE LISTED FOR INSTALLATION IN SUCH LOCATIONS.
3. LABEL BACK OF OUTLET BOXES AND ENDS OF CONDUIT WITH UNIQUE NUMBER TO IDENTIFY EACH STUB-UP. USE PERMANENT MARKER PEN, 3/4" HIGH LETTERS. MATCH NUMBER ON OUTLET BOX TO END OF CONDUIT
4. INSTALL TELECOMMUNICATION AND TV OUTLETS WITHIN 6" OF POWER RECEPTACLE WHERE POWER RECEPTACLE IS SHOWN ON POWER PLANS IN SAME GENERAL LOCATION.

5 TELECOMM OUTLET ROUGH-IN DETAIL

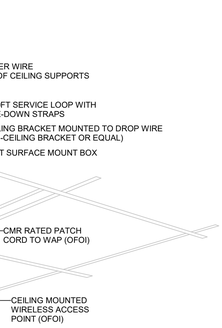
SCALE: 12" = 1'-0"



NOTES:
1. SPACE J-HOOK ASSEMBLIES APPROX. 48" O.C.
2. DO NOT EXCEED 75% OF MANUFACTURER'S LISTED CABLE CAPACITY
3. UNO, LOCATE WALL ASSEMBLIES THROUGHOUT CORRIDORS. PROVIDE SUSPENDED ASSEMBLIES AT CROSSOVERS AND OPEN AREAS. SUSPEND APPROX. 18" ABOVE CEILING.
4. BACKBONE CABLING, DATA/VOICE HORIZONTAL CABLING, AND OTHER BUILDING CONTROLS CABLING SHALL EACH BE INSTALLED IN A SEPARATE J-HOOK COMPARMENT.

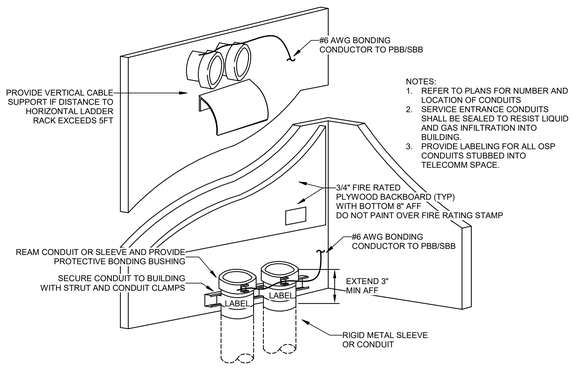
2 J-HOOK INSTALLATION DETAIL

SCALE:1 1/2" = 1'-0"



7 WAP - CEILING MOUNTED

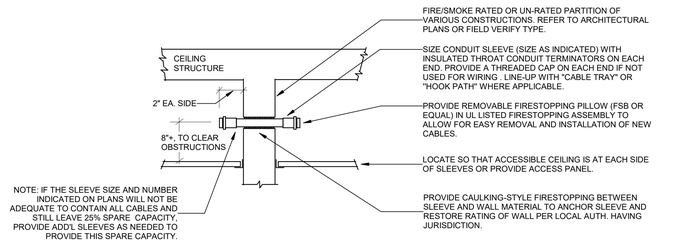
NO SCALE



NOTES:
1. REFER TO PLANS FOR NUMBER AND LOCATION OF CONDUITS
2. SERVICE ENTRANCE CONDUITS SHALL BE SEALED TO RESIST LIQUID AND GAS INFILTRATION INTO BUILDING.
3. PROVIDE LABELING FOR ALL OSP CONDUITS STUBBED INTO TELECOMM SPACE.

6 TELECOMM CONDUIT ENTRANCE

SCALE: 1" = 1'-0"



GENERAL NOTES:
1. PROVIDE ONE 2" SPARE CONDUIT SLEEVE THROUGH ALL FULL HEIGHT PARTITIONS FOR FUTURE USE. LABEL AS SPARE FOR OWNER'S USE ONLY. REFER TO ARCHITECTURAL PLANS FOR FULL HEIGHT PARTITION LOCATIONS.
2. USE AT ALL "OPEN" TYPE CABLING PENETRATIONS THROUGH WALLS, FLOORS, ETC.

3 SYSTEMS CABLING SLEEVE INSTALLATION

SCALE: 12" = 1'-0"

Wake County Public School System

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CMTA
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NORTH CAROLINA PROFESSIONAL SEAL 043650 ENGINEER STEVE E. ROBEY
04/10/2024

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Swift Creek Elementary School
5601 Tryon Rd Raleigh, NC 27606
LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME:
TELECOMMUNICATION DETAILS

BID SET SUBMISSION: 2024.04.10

SHEET:
E09.09

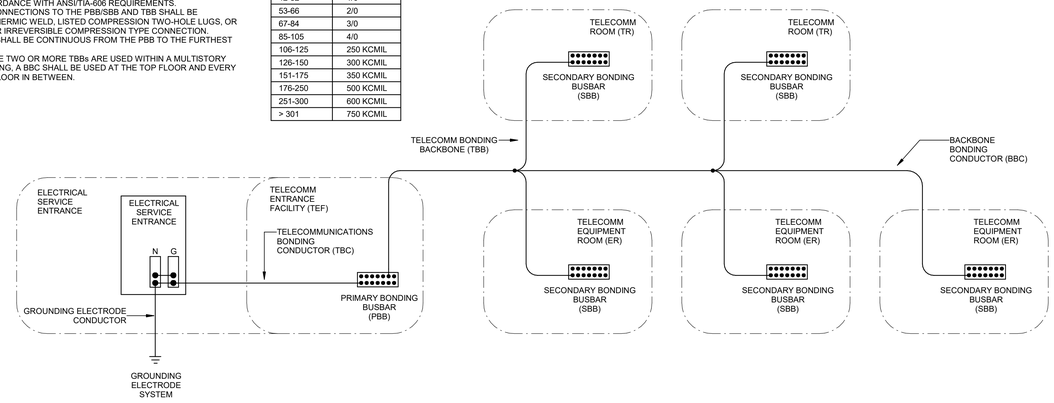
BID SET

4/3/2024 4:07:05 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ANSI D SHEETS ORIGINAL PLOT SIZE

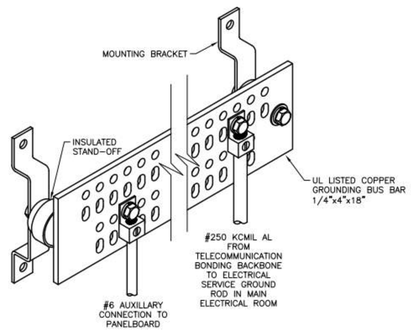
NOTES:
1. ALL WORK TO BE DONE IN ACCORDANCE WITH ANSI/TIA STD-607-C
2. LOCATE PBB IN TELECOMM ENTRANCE FACILITY TO MINIMIZE LENGTH OF TBC. MAXIMUM LENGTH IS 30FT. SHALL BE AT MINIMUM SAME SIZE AS TBB.
3. ALL GROUNDING AND BONDING CONDUCTORS SHALL BE GREEN INSULATED COPPER CONDUCTORS AND LISTED FOR INTENDED APPLICATION.
4. LABEL ALL GROUNDING AND BONDING CONDUCTORS IN ACCORDANCE WITH ANSI/TIA-606 REQUIREMENTS.
5. ALL CONNECTIONS TO THE PBB/SBB AND TBB SHALL BE EXOTHERMIC WELD, LISTED COMPRESSION TWO-HOLE LUGS, OR OTHER IRREVERSIBLE COMPRESSION TYPE CONNECTION.
6. TBBs SHALL BE CONTINUOUS FROM THE PBB TO THE FURTHEST SBB.
7. WHERE TWO OR MORE TBBs ARE USED WITHIN A MULTISTORY BUILDING, A BBC SHALL BE USED AT THE TOP FLOOR AND EVERY 3RD FLOOR IN BETWEEN.

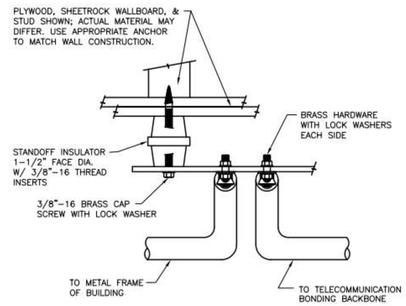
SIZING BONDING CONDUCTOR	
LENGTH (FT)	SIZE (AWG)
< 13	6
14-20	4
21-26	3
27-33	2
34-41	1
42-52	1/0
53-66	2/0
67-84	3/0
85-105	4/0
106-125	250 KCMIL
126-150	300 KCMIL
151-175	350 KCMIL
176-250	500 KCMIL
251-300	600 KCMIL
> 301	750 KCMIL



1 TELECOMM GROUNDING RISER - MULTI FLOOR

NO SCALE

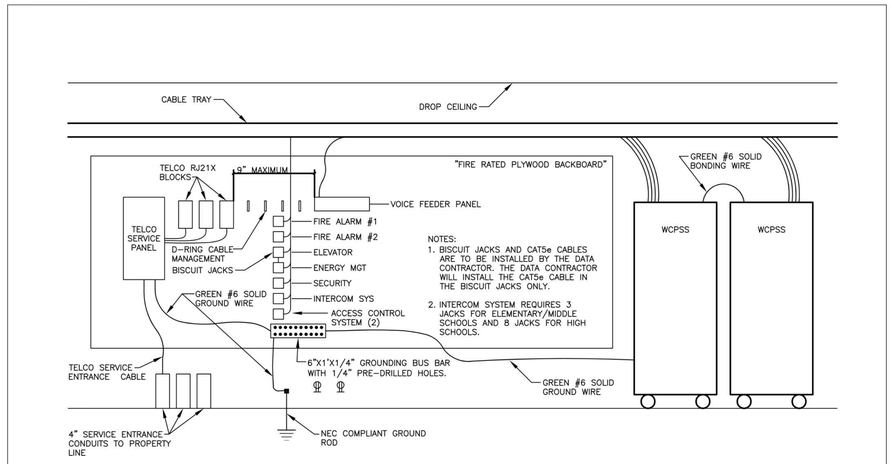




E2.08 TELECOMMUNICATIONS GROUNDING BUSSBAR DETAIL

SCALE: NONE

WAKE COUNTY PUBLIC SCHOOL SYSTEM
111 Corning Road,Suite 190
Cary, NC 27518
(919) 588-3608



E2.05 MDF/DEMARC ROOM GROUNDING SYSTEM DETAIL

SCALE: NONE

WAKE COUNTY PUBLIC SCHOOL SYSTEM
111 Corning Road,Suite 190
Cary, NC 27518
(919) 588-3608

Wake County Public School System

LS3P
434 FAYETTEVILLE STREET SUITE 1700
RALEIGH, NORTH CAROLINA 27601
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04/10/2024

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME:
TELECOMMUNICATION DETAILS

BID SET SUBMISSION: 2024.04.10

SHEET:
E09.10

BID SET

4/3/2024 4:07:07 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ORIGINAL PLOT SHEETS

SWITCHBOARD AND WIRING SCHEDULE

SWITCHBOARD: SWBD — **MAINS TYPE:** MCB LSIG — **SCCR (kA):** 65
VOLTAGE: 480Y/277V,3P,4W — **SPD:** Yes — **AVAIL FAULT CURRENT (kA):** 24.1
AMPERES: 1600 A — **MOUNTING:** FLOOR — **SUPPLY FROM:** UTILITY XFMR

CKT	CIRCUIT DESCRIPTION	SETS	WIRE	GND	COND	POLES	FRAME	TRIP	Load	REMARKS
1	T-LDP1E	2	(4) #250 KCMIL	#1/0	2-1/2"	3	400 A	400 A	158.5	LSI
2	HL1E	1	(4) #3	#6	1-1/4"	3	125 A	60 A	11.7	LSI
3	HM1E	1	(4) #250 KCMIL	#4	2-1/2"	3	200 A	200 A	99.1	LSI
4	MDP1	3	(4) #500 KCMIL	#4/0	4"	3	800 A	800 A	310.3	LSI
5	EM-ATS (N)	1	(4) #1/0	#6	2"	3	125 A	100 A	26.5	LSI
6	SB-ATS (N)	1	(4) #250 KCMIL	#4	3"	3	250 A	200 A	42.0	LSI
7	LIFT STATION	1	(4) #1/0	#6	2"	3	125 A	100 A	40.0	LSI
8	SPARE	--	--	--	--	1	--	250 A	0.0	LSI
9	SPARE	--	--	--	--	1	--	250 A	0.0	LSI
10	SPARE	--	--	--	--	1	--	100 A	0.0	LSI
11	SPARE	--	--	--	--	1	--	100 A	0.0	LSI
12	SPD	--	--	--	--	1	--	100 A	0.0	LSI

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
EQUIP	90280 VA	100.00%	90280 VA	TOTAL CONNECTED LOAD: 685 kVA
HVAC	194452 VA	100.00%	194452 VA	TOTAL ESTIMATED DEMAND: 568 kVA
KITCH	45780 VA	65.00%	29757 VA	TOTAL CONNECTED CURRENT: 823 A
LTNG	47986 VA	100.00%	47986 VA	TOTAL ESTIMATED DEMAND CURRENT: 683 A
Motor	83700 VA	100.00%	83700 VA	
REC	210804 VA	52.37%	110432 VA	
EQUIP - MISC	11500 VA	100.00%	11500 VA	

NOTES:
1. PROVIDE ELECTRONIC TRIP UNIT AND SELECT FRAME SIZE PER POWER SYSTEM STUDY.
2. PROVIDE GROUD FAULT PROTECTION.
3. PROVIDE ARC FLASH ENERGY REDUCTION MAINTENANCE SWITCH.

SWITCHBOARD AND WIRING SCHEDULE

SWITCHBOARD: MDP1 — **MAINS TYPE:** MCB — **SCCR (kA):** 18
VOLTAGE: 480Y/277V,3P,4W — **SPD:** Yes — **AVAIL FAULT CURRENT (kA):** 12.1
AMPERES: 800 A — **MOUNTING:** SURFACE — **SUPPLY FROM:** SWBD

CKT	CIRCUIT DESCRIPTION	SETS	WIRE	GND	COND	POLES	FRAME	TRIP	Load	REMARKS
1	T-LDP2B	1	(4) #250 KCMIL	#3	2-1/2"	3	200 A	200 A	82.1	
2	HM2B	1	(4) #250 KCMIL	#4	2-1/2"	3	200 A	200 A	44.9	
3	HM1B	1	(4) #250 KCMIL	#4	2-1/2"	3	200 A	200 A	59.4	
4	HL1B	1	(4) #1/0	#6	2"	3	100 A	100 A	21.2	
5	T-LDP1B	1	(4) #250 KCMIL	#3	2-1/2"	3	200 A	200 A	102.5	
6	SPARE	--	--	--	--	3	--	100 A	0.0	
7	SPARE	--	--	--	--	3	--	100 A	0.0	
8	SPARE	--	--	--	--	3	--	100 A	0.0	
9	SPARE	--	--	--	--	3	--	100 A	0.0	
10	SPD	--	--	--	--	3	--	50 A	0.0	

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
EQUIP	9020 VA	100.00%	9020 VA	TOTAL CONNECTED LOAD: 310 kVA
HVAC	125270 VA	100.00%	125270 VA	TOTAL ESTIMATED DEMAND: 240 kVA
LTNG	21222 VA	100.00%	21222 VA	TOTAL CONNECTED CURRENT: 373 A
REC	150200 VA	53.33%	80100 VA	TOTAL ESTIMATED DEMAND CURRENT: 288 A
EQUIP - MISC	4000 VA	100.00%	4000 VA	

NOTES:

PANELBOARD AND WIRING SCHEDULE

PANEL: HL1B — **MAINS TYPE:** MCB — **SCCR (kA):** 18
VOLTAGE: 480Y/277V,3P,4W — **SPD:** No — **AVAIL FAULT CURRENT (kA):** 8.8
AMPERES: 100 A — **MOUNTING:** SURFACE — **SUPPLY FROM:** MDP1

CIRCUIT DESCRIPTION	WIRE	GND	C	OCP	P	CKT	A	B	C	CKT	P	OCP	C	GND	WIRE	CIRCUIT DESCRIPTION
LTNG - 1ST AREA A - NORTH				20	1	1	1.5	1.4		2	1	20				LTNG - CORRIDOR 1300
LTNG - 1ST AREA A - SOUTH				20	1	3		1.4	1.9	4	1	20				LTNG - 1ST AREA C - ADMIN
LTNG - 1ST AREA B - NORTH				20	1	5			1.7	6	1	20				LTNG - 1ST AREA B - SOUTH
SPARE	--	--	--	20	1	7	0.0	0.0		8	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	9		0.0	0.0	10	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	11			0.0	12	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	13	0.0	0.0		14	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	15		0.0	0.0	16	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	17	0.0	0.0		18	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	19			0.0	20	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	21	0.0	0.0		22	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	23			0.0	24	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	25	0.0	0.0		26	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	27			0.0	28	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	29			0.0	30	1	20	--	--	--	SPARE
							TOTAL LOAD (kVA):	6.2 kVA	6.9 kVA	8.1 kVA						
							TOTAL CURRENT (A):	22 A	25 A	30 A						

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
LTNG	21222 VA	100.00%	21222 VA	TOTAL CONNECTED LOAD: 21 kVA
				TOTAL ESTIMATED DEMAND: 21 kVA
				TOTAL CONNECTED CURRENT: 26 A
				TOTAL ESTIMATED DEMAND CURRENT: 26 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE FEED THROUGH LUGS

PANELBOARD AND WIRING SCHEDULE

PANEL: HL1E — **MAINS TYPE:** MLO — **SCCR (kA):** 18
VOLTAGE: 480Y/277V,3P,4W — **SPD:** No — **AVAIL FAULT CURRENT (kA):** 10.3
AMPERES: 60 A — **MOUNTING:** SURFACE — **SUPPLY FROM:** SWBD

CIRCUIT DESCRIPTION	WIRE	GND	C	OCP	P	CKT	A	B	C	CKT	P	OCP	C	GND	WIRE	CIRCUIT DESCRIPTION
LTNG - 1ST AREA D				20	1	1	2.9	1.8		2	1	20				LTNG - CORRIDOR 1100
LTNG - 1ST AREA E				20	1	3			1.7	4	1	20				LTNG - 1ST AREA E
LTNG - 1ST AREA C				20	1	5			3.4	6	1	20				LTNG - EXT CANOPY
SPARE	--	--	--	20	1	7	0.0	0.0		8	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	9		0.0	0.0	10	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	11			0.0	12	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	13	0.0	0.0		14	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	15		0.0	0.0	16	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	17			0.0	18	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	19	0.0	0.0		20	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	21		0.0	0.0	22	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	23	0.0	0.0		24	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	25		0.0	0.0	26	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	27	0.0	0.0		28	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	29			0.0	30	1	20	--	--	--	SPARE
							TOTAL LOAD (kVA):	4.7 kVA	3.4 kVA	3.6 kVA						
							TOTAL CURRENT (A):	17 A	12 A	13 A						

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
LTNG	11666 VA	100.00%	11666 VA	TOTAL CONNECTED LOAD: 12 kVA
				TOTAL ESTIMATED DEMAND: 12 kVA
				TOTAL CONNECTED CURRENT: 14 A
				TOTAL ESTIMATED DEMAND CURRENT: 14 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

PANELBOARD AND WIRING SCHEDULE

PANEL: HL2B — **MAINS TYPE:** MCB — **SCCR (kA):** 18
VOLTAGE: 480Y/277V,3P,4W — **SPD:** No — **AVAIL FAULT CURRENT (kA):** 6.3
AMPERES: 100 A — **MOUNTING:** SURFACE — **SUPPLY FROM:** HL1B

CIRCUIT DESCRIPTION	WIRE	GND	C	OCP	P	CKT	A	B	C	CKT	P	OCP	C	GND	WIRE	CIRCUIT DESCRIPTION
LTNG - CORRIDOR 2300				20	1	1	1.8	1.5		2	1	20				LTNG - 2ND AREA A - NORTH
LTNG - 2ND AREA A - SOUTH				20	1	3			1.7	4	1	20				LTNG - 2ND AREA B - NORTH
LTNG - 2ND AREA B - SOUTH				20	1	5			2.3	6	1	20				LTNG - 2ND AREA C
SPARE	--	--	--	20	1	7	0.0	0.0		8	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	9		0.0	0.0	10	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	11			0.0	12	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	13	0.0	0.0		14	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	15		0.0	0.0	16	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	17			0.0	18	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	19	0.0	0.0		20	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	21		0.0	0.0	22	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	23	0.0	0.0		24	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	25		0.0	0.0	26	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	27	0.0	0.0		28	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	29			0.0	30	1	20	--	--	--	SPARE
							TOTAL LOAD (kVA):	3.3 kVA	3.5 kVA	4.4 kVA						
							TOTAL CURRENT (A):	12 A	13 A	16 A						

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
LTNG	11225 VA	100.00%	11225 VA	TOTAL CONNECTED LOAD: 11 kVA
				TOTAL ESTIMATED DEMAND: 11 kVA
				TOTAL CONNECTED CURRENT: 14 A
				TOTAL ESTIMATED DEMAND CURRENT: 14 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

PANELBOARD AND WIRING SCHEDULE

PANEL: HM1B — **MAINS TYPE:** MCB — **SCCR (kA):** 18
VOLTAGE: 480Y/277V,3P,4W — **SPD:** No — **AVAIL FAULT CURRENT (kA):** 10.7
AMPERES: 200 A — **MOUNTING:** SURFACE — **SUPPLY FROM:** MDP1

CIRCUIT DESCRIPTION	WIRE	GND	C	OCP	P	CKT	A	B	C	CKT	P	OCP	C	GND	WIRE	CIRCUIT DESCRIPTION
						1	7.8	4.2		2						
AHU-A1	#6	#10	1"	60	3	3		7.8	4.2	4	3	35	3/4"	#10	#8	AHU-R1
						5			7.8	6						
						7	1.9	0.9		8						
AHU-A3				20	3	9		1.9	0.9	10	3	20				AHU-R3
						11			1.9	12						
						13	1.7	1.7		14						
CUH-1 STAIR 2				20	3	15		1.7	1.7	16	3	20				CUH-1 STAIR 1
						17			1.7	18						
						19	1.7	0.0		20						
CUH-1 STAIR 3				20	3	21		1.7	0.0	22	3	30	--	--	--	SPARE
						23			1.7	24						
						25	0.0	0.0		26						
SPARE	--	--	--	50	3	27		0.0	0.0	28	3	30	--	--	--	SPARE
						29			0.0	30						
						31	0.0	0.0		32	1	30	--	--	--	SPARE
SPARE	--	--	--	20	3	33		0.0	0.0	34	1	30	--	--	--	SPARE
						35			0.0	36	1	30	--	--	--	SPARE
						37	0.0	0.0		38	1	20	--	--	--	SPARE
SPARE	--	--	--	20	3	39		0.0	0.0	40	1	20	--	--	--	SPARE
						41			0.0	42	1	20	--	--	--	SPARE
							TOTAL LOAD (kVA):	19.8 kVA	19.8 kVA	19.8 kVA						
							TOTAL CURRENT (A):	72 A	72 A	72 A						

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
HVAC	59440 VA	100.00%	59440 VA	TOTAL CONNECTED LOAD: 59 kVA
				TOTAL ESTIMATED DEMAND: 59 kVA
				TOTAL CONNECTED CURRENT: 71 A
				TOTAL ESTIMATED DEMAND CURRENT: 71 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

PANELBOARD AND WIRING SCHEDULE

PANEL: HM1E — **MAINS TYPE:** MLO — **SCCR (kA):** 35
VOLTAGE: 480Y/277V,3P,4W — **SPD:** No — **AVAIL FAULT CURRENT (kA):** 17.7
AMPERES: 225 A — **MOUNTING:** SURFACE — **SUPPLY FROM:** SWBD

CIRCUIT DESCRIPTION	WIRE	GND	C	OCP	P	CKT	A	B	C	CKT	P	OCP	C	GND	WIRE	CIRCUIT DESCRIPTION
						1	2.1	1.3		2						
AHU-A6				20	3	3		2.1	1.3	4	3	20				AHU-R6
						5			2.1	6						
						7	2.1	1.3		8						
AHU-A7				20	3	9		2.1	1.3	10	3	20				AHU-R7
						11			2.1	12						
						13	1.3	0.8		14						
AHU-A8				20	3	15		1.3	0.8	16	3	20				AHU-R8
						17			1.3	18						
						19	2.1	2.1		20						
PCHWP-2				20	3	21		2.1	2.1	22	3	20				PCHWP-1
						23			2.1	24						
						25	5.8	5.8		26						
SCHWP-2	#8	#10	3/4"	35	3	27		5.8	5.8	28	3	35	3/4"	#10	#8	SCHWP-1
						29			5.8	30						
						31	3.1	3.1		32						
SHWP-1				20	3	33		3.1	3.1	34	3	20				SHWP-2
						35			3.1	36						
						37	1.0	1.0		38						
HP-1				20	3	39		1.0	1.0	40	3	20				HP-2
						41			1.0	42						
						43	0.0	0.0		44						
SPARE	--	--	--	30	3	45		0.0	0.0	46	3	20	--	--	--	SPARE
						47			0.0	48						
						49	0.0	0.0		50						
SPARE	--	--	--	30	3	51		0.0	0.0	52	3	20	--	--	--	SPARE
						53			0.0	54						
							TOTAL LOAD (kVA):	33.0 kVA	33.0 kVA	33.0 kVA						
							TOTAL CURRENT (A):	119 A	119 A	119 A						

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
HVAC	27140 VA	100.00%	27140 VA	TOTAL CONNECTED LOAD: 99 kVA
Motor	72000 VA	100.00%	72000 VA	TOTAL ESTIMATED DEMAND: 99 kVA
				TOTAL CONNECTED CURRENT: 119 A
				TOTAL ESTIMATED DEMAND CURRENT: 119 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

PANELBOARD AND WIRING SCHEDULE

PANEL: HM2B — **MAINS TYPE:** MCB — **SCCR (kA):** 18
VOLTAGE: 480Y/277V,3P,4W — **SPD:** No — **AVAIL FAULT CURRENT (kA):** 9.6
AMPERES: 200 A — **MOUNTING:** SURFACE — **SUPPLY FROM:** MDP1

CIRCUIT DESCRIPTION	WIRE	GND	C	OCP	P	CKT	A	B	C	CKT	P	OCP	C	GND	WIRE	CIRCUIT DESCRIPTION
						1	7.8	4.2		2						
AHU-A2	#6	#10	1"	60	3	3		7.8	4.2	4	3	35	3/4"	#10	#8	AHU-R2
						5			7.8	6						
						7	2.1	0.8		8						
AHU-A4				20	3	9		2.1	0.8	10	3	20				AHU-R4
						11			2.1	12						
						13	0.0	0.0		14						
SPARE	--	--	--	50	3	15		0.0	0.0	16	3	50	--	--	--	SPARE
						17			0.0	18						
						19	0.0	0.0		20						
SPARE	--	--	--	30	3	21		0.0	0.0	22	3	30	--	--	--	SPARE
						23			0.0	24						
						25	0.0	0.0		26						
SPARE	--	--	--	20	3	27		0.0	0.0	28	3	20	--	--	--	SPARE
						29			0.0	30						
						31	0.0	0.0		32	1	30	--	--	--	SPARE
SPARE	--	--	--	20	3	33		0.0	0.0	34	1	30	--	--	--	SPARE
						35			0.0	36	1	30	--	--	--	SPARE
						37	0.0	0.0		38	1	20	--	--	--	SPARE
SPARE	--	--	--	20	3	39		0.0	0.0	40	1	20	--	--	--	SPARE
						41			0.0	42	1	20	--	--	--	SPARE
							TOTAL LOAD (kVA):	15.0 kVA	15.0 kVA	15.0 kVA						
							TOTAL CURRENT (A):	54 A	54 A	54 A						

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
HVAC	44940 VA	100.00%	44940 VA	TOTAL CONNECTED LOAD: 45 kVA
				TOTAL ESTIMATED DEMAND: 45 kVA
				TOTAL CONNECTED CURRENT: 54 A
				TOTAL ESTIMATED DEMAND CURRENT: 54 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

Wake County Public School System

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A LEGENCE Company

NORTH CAROLINA PROFESSIONAL SEAL 043650 ENGINEER STEVE E. ROBEY 04/10/2024

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME:
PANEL SCHEDULES

BID SET SUBMISSION: 2024.04.10

SHEET:
E10.01

BID SET

4/3/2024 4:07:11 PM

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT THIS SHEETS ORIGINAL PAGE SIZE

DISTRIBUTION PANELBOARD AND WIRING SCHEDULE

SWITCHBOARD: LDP1B **MAINS TYPE:** MCB **SCCR (kA):** 10
VOLTAGE: 208Y/120V,3P,4W **SPD:** No **AVAIL FAULT CURRENT (kA):** 5.8
AMPERES: 400 A **MOUNTING:** SURFACE **SUPPLY FROM:** T-LDP1B

CKT	CIRCUIT DESCRIPTION	SETS	WIRE	GND	COND	POLES	FRAME	TRIP	Load	REMARKS
1	LR1B	1	(4) #3/0	#3	2"	3	200 A	150 A	57.9	
2	LR1A	1	(4) #4/0	#3/0	2-1/2"	3	200 A	150 A	44.6	
3	SPARE	--	--	--	--	3	--	100 A	0.0	
4	SPARE	--	--	--	--	3	--	100 A	0.0	
5	SPARE	--	--	--	--	3	--	60 A	0.0	
6	SPARE	--	--	--	--	3	--	60 A	0.0	
7	SPD	--	--	--	--	3	--	50 A	0.0	
8	SPACE	--	--	--	--	--	--	--	0.0	--
9	SPACE	--	--	--	--	--	--	--	0.0	--
10	SPACE	--	--	--	--	--	--	--	0.0	--

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	5000 VA	100.00%	5000 VA	TOTAL CONNECTED LOAD:	102 kVA
HVAC	7900 VA	100.00%	7900 VA	TOTAL ESTIMATED DEMAND:	64 kVA
REC	87280 VA	55.73%	48640 VA	TOTAL CONNECTED CURRENT:	284 A
EQUIP - MISC	2000 VA	100.00%	2000 VA	TOTAL ESTIMATED DEMAND CURRENT:	176 A

NOTES:

PANELBOARD AND WIRING SCHEDULE

PANEL: LR1A **MAINS TYPE:** MCB **SCCR (kA):** 10
VOLTAGE: 208Y/120V,3P,4W **SPD:** No **AVAIL FAULT CURRENT (kA):** 3
AMPERES: 150 A **MOUNTING:** SURFACE **SUPPLY FROM:** LDP1B

CIRCUIT DESCRIPTION	N	WIRE	GND	C	OCP	P	CKT	A		B		C		CKT	P	OCP	C	GND	WIRE	N	CIRCUIT DESCRIPTION
REC - GEN ED SUPP 1331					20	1	1	0.7	0.9					2	1	20					REC - GEN ED SUPP 1331
REC - 1ST 1327					20	1	3			0.9	1.1			4	1	20					REC - 1ST 1327
REC - 1ST 1325					20	1	5					1.1	0.9	6	1	20					REC - 1ST 1325
REC - 1ST 1323					20	1	7	1.1	0.9					8	1	20					REC - 1ST 1323
REC - K 1317					20	1	9			0.7	1.1			10	1	20					REC - K 1317
REC - K 1315					20	1	11					1.1	0.7	12	1	20					REC - K 1315
REC - K 1313					20	1	13	1.1	0.7					14	1	20					REC - K 1313
REC - 1ST 1328					20	1	15			0.9	1.1			16	1	20					REC - 1ST 1328
REC - COMMONS 1ST 1300E					20	1	17					0.7	1.1	18	1	20					REC - 1ST 1324
REC - 1ST 1324					20	1	19	0.7	0.7					20	1	20					REC - SPEC ED 1322
REC - SPEC ED 1322					20	1	21			1.2	0.7			22	1	20					REC - K 1320
REC - K 1320					20	1	23					1.1	0.7	24	1	20					REC - COMMONS K 1300D
REC - K 1316					20	1	25	0.9	1.1					26	1	20					REC - K 1316
REC - SPEC ED 1314					20	1	27			0.7	2.1			28	1	20					REC - SPEC ED 1314
EWC - CORRIDOR 1300	1				20	1	29					0.5	1.1	30	1	20					REC - COORIDOOR 1300
REC - CORRIDOR 1300					20	1	31	0.9	0.2					32	1	20				1	EWC - CORRIDOR 1300
REC - EXTERIOR AREA A					20	1	33			1.1	1.1			34	1	20					REC - EXTERIOR AREA A/B
REC - PLC/KITCHEN 1307					20	1	35					0.5	1.5	36	1	20				1	FRIDGE - PLC/KITCHEN 1307
SPACE	--	--	--	--	--	--	37	0.0	0.0					38	--	--	--	--	--	--	SPACE
SPACE	--	--	--	--	--	--	39			0.0	0.0			40	--	--	--	--	--	--	SPACE
SPACE	--	--	--	--	--	--	41					0.0	0.0	42	--	--	--	--	--	--	SPACE
VENDING - PLC/KITCHEN 1307	1				20	1	43	1.0	1.0					44	1	20				1	VENDING - PLC/KITCHEN 1307
COPIER - PLC/KITCHEN 1307					20	2	45			0.1	1.5			46	1	20					REC - PLC/KITCHEN 1307
							47					0.1	0.4	48	1	20					REC - MACH RM 1305
REC - CORR 1300A					20	1	49	0.5	0.2					50	1	20					REC - SUMP ELEV E1
SPARE		--	--	--	20	1	51			0.0	0.4			52	1	20					REC - CORR. 1300C
REC - COMMONS K 1300D					20	1	53					0.5	0.7	54	1	20					EF-7 ELEC 1321
REC - ELEVATOR					20	1	55	0.2	0.7					56	1	20					EF-6 IT 1319
REC - COMMONS 1ST 1300E					20	1	57			0.5	0.5			58	1	20					SEC-C IT 1319
SEC-M IT 1319					20	1	59					0.5	0.0	60	1	20	--	--	--		SPARE
UH-1 K. STOR 1406					20	2	61	1.2	0.0					62	1	20	--	--	--		SPARE
							63			1.2	0.0			64	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	65					0.0	0.0	66	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	67	0.0	0.0					68	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	69			0.0	0.0			70	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	71					0.0	0.0	72	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	73	0.0	0.0					74	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	75			0.0	0.0			76	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	77					0.0	0.0	78	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	79	0.0	0.0					80	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	81			0.0	0.0			82	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	83					0.0	0.0	84	1	20	--	--	--		SPARE
							TOTAL LOAD (kVA):	14.7 kVA		16.8 kVA		13.2 kVA									
							TOTAL CURRENT (A):	124 A		142 A		110 A									

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	2000 VA	100.00%	2000 VA	TOTAL CONNECTED LOAD:	45 kVA
HVAC	3700 VA	100.00%	3700 VA	TOTAL ESTIMATED DEMAND:	31 kVA
REC	37940 VA	63.18%	23970 VA	TOTAL CONNECTED CURRENT:	124 A
EQUIP - MISC	1000 VA	100.00%	1000 VA	TOTAL ESTIMATED DEMAND CURRENT:	85 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE G.F.C.I. TYPE CIRCUIT BREAKER.

PANELBOARD AND WIRING SCHEDULE

PANEL: LR1B **MAINS TYPE:** MLO **SCCR (kA):** 10
VOLTAGE: 208Y/120V,3P,4W **SPD:** No **AVAIL FAULT CURRENT (kA):** 4.8
AMPERES: 150 A **MOUNTING:** SURFACE **SUPPLY FROM:** LDP1B

CIRCUIT DESCRIPTION	N	WIRE	GND	C	OCP	P	CKT	A		B		C		CKT	P	OCP	C	GND	WIRE	N	CIRCUIT DESCRIPTION
REC - PRE K 1301					20	1	1	1.1	0.7					2	1	20					REC - PRE K 1301
REC - PRINC 1023					20	1	3			0.9	1.3			4	1	20					REC - CONF 1025
REC - AP 1027					20	1	5					0.9	0.9	6	1	20					REC - LEAD TECH 1029
REC - SEC 1031					20	1	7	0.9	0.5					8	1	20					REC - ADMIN T 1017
COPIER - TEACH WKRM 1015					20	2	9			0.1	0.4			10	1	20					REC - TEACH WKRM 1015
							11					0.1	0.9	12	1	20					REC - HEALTH RM 1007
REC - RECORDS 1011					20	1	13	0.7	0.1					14	2	20					COPIER - OFF WKRM 1005
REC - OFF WKRM 1005					20	1	15			0.4	0.1			16							
MICROWAVE - OFF WKRM 1005					20	1	17					0.2	0.2	18	1	20					FRIDGE - OFF WKRM 1005
REC - SIDM 1003					20	1	19	0.9	0.7					20	1	20					REC - RECEP 1001
REC - RECEP 1001					20	1	21			1.3	0.9			22	1	20					REC - SOC 1020
REC - CONF 1016					20	1	23					0.7	0.9	24	1	20					REC - CONF 1016
REC - PSY 1014					20	1	25	0.9	0.9					26	1	20					REC - OT/PT 1018
REC - SPEECH 1012					20	1	27			0.9	0.9			28	1	20					REC - GUID 1010
REC - SUPPLY STO 1008					20	1	29					0.7	0.7	30	1	20					REC - PTA 1004
COPPIER - PTA 1004					20	2	31	0.1	0.5					32	1	20					REC - CORRIDOR 1000B
							33			0.1	1.1			34	1	20					REC - PRE K 1303
REC - PRE K 1303					20	1	35					0.7	0.7	36	1	20					REC - ECS 1306
REC - PREK OBS 1301B					20	1	37	0.9	1.1					38	1	20					REC - INSTR KITCHEN 1304
REC - ECS 1306					20	1	39			2.1	1.3			40	2	30	3/4"	#10	#10	1	DRYER - INSTR KITCHEN 1304
WASHER - INSTR KITCHEN 1304	1				20	1	41					1.0	1.3	42							
MICROWAVE - INSTR KITCN...	1				20	1	43	1.5	1.5					44	1	20					FRIDGE - INSTR KITCHEN 1304
RANGE- INSTR KITCHEN 1304		#8	#10	3/4"	50	2	45			4.0	0.4			46	1	20					REC - ECS T 1304B
							47					4.0	2.1	48	1	20					REC - ECS 1302
REC - ECS T 1304A					20	1	49	0.4	0.9					50	1	20					REC - CORRIDOR 1300
REC - ECS 1302					20	1	51			0.7	0.2			52	1	20					UC FRIDGE - MED DISP 1009
REC - EXTERIOR AREA A/B					20	1	53					0.9	0.7	54	1	20					EF-4 IT 1308
UC FRIDGE - HLTH RM 1007					20	1	55	0.2	0.7					56	1	20					EF-5 ELEC 1310
RANGEHOOD					20	1	57			0.5	1.0			58	1	20					AUTO DOORS - ENTRY VEST...
DISHWASHER	1				20	1	59					1.0	0.5	60	1	20					SEC-C IT 1308
SEC-M IT 1308					20	1	61	0.5	1.2					62	2	20					UH-1 PRE K STO 1407
CONTACTOR CABINET					20	1	63			0.2	1.2			64							
CONTACTOR CABINET					20	1	65					0.2	0.4	66	1	20					REC - OFF WKRM 1005
REC - TEACH STOR 1312					20	1	67	0.4	0.4					68	1	20					REC - OFF WKRM 1005
REC - TEACH WKRM 1015					20	1	69			0.4	0.0			70	1	20					ESTOP - KITCHEN 1304
REC - TEACH WKRM 1015					20	1	71					0.4	0.0	72	1	20	--	--	--		SPARE
REC - TEACH WKRM 1015					20	1	73	0.4	0.0					74	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	75			0.0	0.0			76	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	77					0.0	0.0	78	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	79	0.0	0.0					80	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	81			0.0	0.0			82	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	83					0.0	0.0	84	1	20	--	--	--		SPARE
							TOTAL LOAD (kVA):	18.0 kVA		20.0 kVA		20.0 kVA									
							TOTAL CURRENT (A):	150 A		169 A		169 A									

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	3000 VA	100.00%	3000 VA	TOTAL CONNECTED LOAD:	58 kVA
HVAC	4200 VA	100.00%	4200 VA	TOTAL ESTIMATED DEMAND:	38 kVA
REC	49340 VA	60.13%	29670 VA	TOTAL CONNECTED CURRENT:	160 A
EQUIP - MISC	1000 VA	100.00%	1000 VA	TOTAL ESTIMATED DEMAND CURRENT:	105 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE G.F.C.I. TYPE CIRCUIT BREAKER.

PANELBOARD AND WIRING SCHEDULE

PANEL: LR2A **MAINS TYPE:** MCB **SCCR (kA):** 10
VOLTAGE: 208Y/120V,3P,4W **SPD:** No **AVAIL FAULT CURRENT (kA):** 3.1
AMPERES: 150 A **MOUNTING:** SURFACE **SUPPLY FROM:** LR2B

CIRCUIT DESCRIPTION	N	WIRE	GND	C	OCP	P	CKT	A		B		C		CKT	P	OCP	C	GND	WIRE	N	CIRCUIT DESCRIPTION
REC - 2ND 2343					20	1	1	0.9	1.1					2	1	20					REC - 2ND 2343
REC - 2ND 2341					20	1	3			1.1	0.9			4	1	20					REC - 2ND 2341
REC - 2ND 2339					20	1	5					1.1	0.9	6	1	20					REC - 2ND 2339
REC - 3RD 2331					20	1	7	0.9	0.7					8	1	20					REC - 3RD 2331
REC - 3RD 2329					20	1	9			1.1	0.9			10	1	20					REC - 3RD 2329
REC - 3RD 2327					20	1	11					1.1	0.9	12	1	20					REC - 3RD 2327
REC - 2ND 2332					20	1	13	0.9	1.1					14	1	20					REC - 2ND 2332
REC - COMMONS 2ND 2300G					20	1	15			0.9	1.1			16	1	20					REC - 2ND 2328
REC - 2ND 2328					20	1	17					0.9	0.9	18	1	20					REC - GEN ED SUPP 2326
REC - GEN ED SUPP 2326					20	1	19	0.7	0.9					20	1	20					REC - 3RD 2324
REC -3RD 2324					20	1	21			1.1	0.9			22	1	20					REC -COMMONS 3RD 2300F
REC - 3RD 2320					20	1	23					1.1	0.9	24	1	20					REC - 3RD 2320
REC - SPEC ED 2316A					20	1	25	0.9	1.0					26	1	20					REC - SPEC ED 2316A
REC - SPEC ED 2316B					20	1	27			1.0	0.7			28	1	20					REC - SPEC ED 2316B
REC - CART STORAGE 2325					20	1	29					0.5	0.7	30	1	20					REC - COMMONS 2ND 2300G
REC - COMMONS 3RD 2300F					20	1	31	0.9	0.5					32	1	20					REC - CUST 2349
REC - CORRIDOR 2300					20	1	33			1.3	0.5			34	1	20				1	EWC - CORRIDOR 2300
EF-13A					20	1	35					1.7	0.4	36	1	20					REC - CORRIDOR 2300C
REC - ROOFTOP MAINT.					20	1	37	0.2	0.7					38	1	20					EF-11
EF-10					20	1	39			0.7	0.5			40	1	20					SEC-M IT 2333
SEC-C IT 2333					20	1	41					0.5	0.5	42	1	20				1	EWC - CORRIDOR 2300
REC - CART STORAGE 2325					20	1	43	0.4	0.5					44	1	20					REC - PHONE RM 2317
REC - CART STORAGE 2325					20	1	45			0.7	0.7			46	1	20					REC - PLC/KITCHEN 2319
FRIDGE - PLC/KITCHEN 2319	1				20	1	47					1.7	1.5	48	1	20					MICROWAVE - PLC/KITCHEN...
VENDING - PLC/KITCHEN 2319	1				20	1	49	1.0	1.0					50	1	20				1	VENDING - PLC/KITCHEN 2319
COPIER - PLC/KITCHEN 2319					20	2	51			0.1	0.0			52	1	20	--	--	--		SPARE
							53					0.1	0.0	54	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	55	0.0	0.0					56	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	57			0.0	0.0			58	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	59					0.0	0.0	60	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	61	0.0	0.0					62	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	63			0.0	0.0			64	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	65					0.0	0.0	66	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	67	0.0	0.0					68	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	69			0.0	0.0			70	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	71					0.0	0.0	72	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	73	0.0	0.0					74	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	75			0.0	0.0			76	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	77					0.0	0.0	78	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	79	0.0	0.0					80	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	81			0.0	0.0			82	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	83					0.0	0.0	84	1	20	--	--	--		SPARE
							TOTAL LOAD (kVA):	14.4 kVA		14.2 kVA		15.3 kVA									
							TOTAL CURRENT (A):	120 A		118 A		128 A									

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	1500 VA	100.00%	1500 VA	TOTAL CONNECTED LOAD:	44 kVA
HVAC	3050 VA	100.00%	3050 VA	TOTAL ESTIMATED DEMAND:	30 kVA
REC	38260 VA	63.07%	24130 VA	TOTAL CONNECTED CURRENT:	122 A
EQUIP - MISC	1000 VA	100.00%	1000 VA	TOTAL ESTIMATED DEMAND CURRENT:	82 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE G.F.C.I. TYPE CIRCUIT BREAKER.

PANELBOARD AND WIRING SCHEDULE

PANEL: LR2B **MAINS TYPE:** MCB **SCCR (kA):** 10
VOLTAGE: 208Y/120V,3P,4W **SPD:** No **AVAIL FAULT CURRENT (kA):** 4.9
AMPERES: 400 A **MOUNTING:** SURFACE **SUPPLY FROM:** T-LDP2B

CIRCUIT DESCRIPTION	N	WIRE	GND	C	OCP	P	CKT	A		B		C		CKT	P	OCP	C	GND	WIRE	N	CIRCUIT DESCRIPTION
REC - MEET 4TH 2313					20	1	1	0.7	1.1					2	1	20					REC - 4TH 2311
REC - 4TH 2311					20	1	3			0.9	0.9			4	1	20					REC - SPEC ED 2309
REC - SPEC ED 2309					20	1	5					1.8	0.4	6	1	20					REC - BOOK STO 2307
REC - 5TH 2305					20	1	7	0.7	1.1					8	1	20					REC - 5TH 2305
REC - MEET 5TH 2303					20	1	9			0.7	1.3			10	1	20					REC - 5TH 2301
REC - 5TH 2301					20	1	11					0.9	0.5	12	1	20					REC - CUST 2105
REC - BOYS 2103					20	1	13	0.4	0.7					14	1	20					REC - COMMONS 4TH 2300E
REC - 4TH 2304					20	1	15			1.1	0.9			16	1	20					REC - 4TH 2304
REC - 5TH 2302					20	1	17					0.9	0.9	18	1	20					REC - 5TH 2302
REC - LEARNING COMMONS...					20	1	19	0.7	0.5					20	1	20					REC - MECH 2102
REC - CORRIDOR 2100					20	1	21			0.7	1.1			22	1	20					REC - CORRIDOR 2300
EWC - CORRIDOR 2300	1				20	1	23					0.5	0.5	24	1	20				1	EWC - CORRIDOR 2300
REC - STAIR S2					20	1	25	0.2	0.2					26	1	20					VAV CONTROL PANELS
REC - GEN ED SUPP 2306					20	1	27			0.9	0.7			28	1	20					REC - GEN ED SUPP 2306
REC - TEACH STOR 2308					20	1	29					0.4	0.7	30	1	20					EF-9
REC					20	1	31	0.4	1.0					32	1	20					TEMP. CONTROL PANEL
EF-8					20	1	33			0.7	0.5			34	1	20					SEC-M IT 2312
SEC-C IT 2312					20	1	35					0.5	0.9	36	1	20					REC - 4TH 2315
VAV CONTROL PANELS					20	1	37	0.2	0.2					38	1	20					VAV CONTROL PANELS
REC - 4TH 2315					20	1	39			1.3	0.5			40	1	20					REC - COMMONS 2300D
REC - COMMONS 4TH 2300E					20	1	41					0.5	0.7	42	1	20					EF-14
EF-12					20	1	43	1.7	1.7					44	1	20					EF-13B
EF-15					20	1	45			0.7	0.2			46	1	20					RADON FAN - MECH 2102
REC - ROOFTOP MAINT					20	1	47					0.5	0.2	48	1	20					RADON FAN - MECH 2102
RADON FAN - MECH 2102					20	1	49	0.2	0.2					50	1	20					RADON FAN - MECH 2102
RADON FAN - MECH 2102					20	1	51			0.2	1.2			52	2	30	3/4"	#10	#10		UH-2 MECH 2102
RADON FAN - MECH 2102					20	1	53					0.2	1.2	54							
CONTACTOR CABINET					20	1	55	0.2	0.0					56	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	57			0.0	0.0			58	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	59					0.0	0.0	60	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	61	0.0	0.0					62	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	63			0.0	0.0			64	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	65					0.0	0.0	66	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	67	0.0	0.0					68	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	69			0.0	0.0			70	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	71					0.0	0.0	72	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	73	0.0	0.0					74	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	75			0.0	0.0			76	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	77					0.0	0.0	78	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	79	0.0	14.4					80	3	150	2-1/2"	#3/0	(4) #4/0		LR2A
SPARE		--	--	--	20	1	81			0.0	14.2			82							
SPARE		--	--	--	20	1	83					0.0	15.3	84							
							TOTAL LOAD (kVA):	26.2 kVA		28.5 kVA		27.4 kVA									
							TOTAL CURRENT (A):	218 A		239 A		230 A									

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	4020 VA	100.00%	4020 VA	TOTAL CONNECTED LOAD:	82 kVA
HVAC	12990 VA	100.00%	12990 VA	TOTAL ESTIMATED DEMAND:	55 kVA
REC	62920 VA	57.95%	36460 VA	TOTAL CONNECTED CURRENT:	227 A
EQUIP - MISC	2000 VA	100.00%	2000 VA	TOTAL ESTIMATED DEMAND CURRENT:	154 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE G.F.C.I. TYPE CIRCUIT BREAKER.

Wake County Public School System

434 FAYETTEVILLE STREET SUITE 1700
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CMTA
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043650 STEVE E. ROBEY 04/10/2024

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Swift Creek Elementary School
5601 Tryon Rd Raleigh, NC 27606
LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME:
PANEL SCHEDULES

BID SET SUBMISSION: 2024.04.10

SHEET:
E10.02

BID SET

4/3/2024 4:07:16 PM

SWITCHBOARD AND WIRING SCHEDULE

SWITCHBOARD: LDP1E **MAINS TYPE:** MCB **SCCR (kA):** 25
VOLTAGE: 208Y/120V,3P,4W **SPD:** No **AVAIL FAULT CURRENT (kA):** 8.6
AMPERES: 800 A **MOUNTING:** SURFACE **SUPPLY FROM:** T-LDP1E

CKT	CIRCUIT DESCRIPTION	SETS	WIRE	GND	COND	POLES	FRAME	TRIP	Load	REMARKS
1	LK	1	(4) #300 KCMIL	#1	2-1/2"	3	250 A	225 A	26.6	
2	UDS - KITCHEN 1202	1	(4) #300 KCMIL	#1	2-1/2"	3	250 A	225 A	23.9	
3	LR1C	1	(4) #3/0	#3	2"	3	200 A	150 A	23.6	
4	LR1E-1	1	(4) #300 KCMIL	#1	2-1/2"	3	250 A	225 A	49.3	
5	LR1E-2	1	(4) #3/0	#3	2"	3	200 A	150 A	35.0	
6	SPARE	--	--	--	--	3	--	100 A	0.0	
7	SPARE	--	--	--	--	3	--	100 A	0.0	
8	SPARE	--	--	--	--	3	--	50 A	0.0	
9	SPARE	--	--	--	--	3	--	50 A	0.0	
10	SPD	--	--	--	--	3	--	60 A	0.0	

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LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	30460 VA	100.00%	30460 VA	TOTAL CONNECTED LOAD:	157 kVA
HVAC	36442 VA	100.00%	36442 VA	TOTAL ESTIMATED DEMAND:	124 kVA
KITCH	38980 VA	65.00%	25337 VA	TOTAL CONNECTED CURRENT:	434 A
LTNG	627 VA	100.00%	627 VA	TOTAL ESTIMATED DEMAND CURRENT:	345 A
REC	47524 VA	60.52%	28762 VA		
EQUIP - MISC	2500 VA	100.00%	2500 VA		

NOTES:

PANELBOARD AND WIRING SCHEDULE

PANEL: LR1C **MAINS TYPE:** MCB **SCCR (kA):** 10
VOLTAGE: 208Y/120V,3P,4W **SPD:** No **AVAIL FAULT CURRENT (kA):** 2.9
AMPERES: 150 A **MOUNTING:** SURFACE **SUPPLY FROM:** LDP1E

CIRCUIT DESCRIPTION	N	WIRE	GND	C	OCP	P	CKT	A		B		C		CKT	P	OCP	C	GND	WIRE	N	CIRCUIT DESCRIPTION
REC - MECH 1102					20	1	1	0.5	1.1					2	1	20					REC - CORRIDOR 1100
EWC - CORRIDOR 1100	1				20	1	3			0.5	1.1			4	1	20					REC - MEDIA WKRM 1101A
REC - MEDIA WKRM 1101A					20	1	5					0.9	0.9	6	1	20					REC - AV EQUIP STORAGE...
REC - MEDIA CENTER 1101					20	1	7	1.1	0.7					8	1	20					REC - MEDIA CENTER 1101
REC - COLLAB 1101D					20	1	9			1.1	0.7			10	1	20					REC - MEDIA CENTER 1101
REC - MEDIA CENTER 1101					20	1	11					0.7	1.1	12	1	20					REC - COLLAB 1101D
REC - MEDIA CENTER 1101					20	1	13	1.4	0.4					14	1	20					REC - WP
EF-3					20	1	15			0.7	0.7			16	1	20					REC - MEDIA CENTER 1101
TCP					20	1	17					1.0	0.2	18	1	20					VAV CONTROL PANELS
SEC-M H.E./MDF 1103					20	1	19	0.5	0.2					20	1	20					VAV CONTROL PANELS
SEC-C HEAD END/MDF 1103					20	1	21			0.5	0.2			22	1	20					VAV CONTROL PANELS
SEC-P HEAD END/MDF 1103					20	1	23					0.5	1.0	24	1	20					POWER SHADES - MEDIA 1101
POWER SHADES - MEDIA 1101					20	1	25	0.5	1.0					26	1	20					POWER SHADES - MEDIA 1101
SPARE		--	--	--	20	1	27			0.0	1.1			28	1	20					REC - MEDIA CENTER 1101
UH-1 MECH 1102					20	2	29					1.2	1.1	30	1	20					REC - MEDIA CENTER 1101
							31	1.2	0.0					32	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	33			0.0	0.0			34	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	35					0.0	0.0	36	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	37	0.0	0.0					38	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	39			0.0	0.0			40	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	41					0.0	0.0	42	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	43	0.0	0.0					44	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	45			0.0	0.0			46	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	47					0.0	0.0	48	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	49	0.0	0.0					50	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	51			0.0	0.0			52	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	53					0.0	0.0	54	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	55	0.0	0.0					56	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	57			0.0	0.0			58	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	59					0.0	0.0	60	1	20	--	--	--		SPARE
							TOTAL LOAD (kVA):	8.6 kVA		6.6 kVA		8.5 kVA									
							TOTAL CURRENT (A):	74 A		55 A		73 A									

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	3000 VA	100.00%	3000 VA	TOTAL CONNECTED LOAD:	24 kVA
HVAC	4540 VA	100.00%	4540 VA	TOTAL ESTIMATED DEMAND:	21 kVA
REC	14580 VA	84.29%	12290 VA	TOTAL CONNECTED CURRENT:	66 A
EQUIP - MISC	1500 VA	100.00%	1500 VA	TOTAL ESTIMATED DEMAND CURRENT:	59 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE G.F.C.I. TYPE CIRCUIT BREAKER.

PANELBOARD AND WIRING SCHEDULE

PANEL: LR1E-1 **MAINS TYPE:** MLO **SCCR (kA):** 10
VOLTAGE: 208Y/120V,3P,4W **SPD:** No **AVAIL FAULT CURRENT (kA):** 7.0
AMPERES: 225 A **MOUNTING:** SURFACE **SUPPLY FROM:** LDP1E

CIRCUIT DESCRIPTION	N	WIRE	GND	C	OCP	P	CKT	A		B		C		CKT	P	OCP	C	GND	WIRE	N	CIRCUIT DESCRIPTION
REC - CLASSROOM 1104					20	1	1	0.9	0.9					2	1	20					REC - CLASSROOM 1104
REC - COMMONS 1100B					20	1	3			1.1	0.4			4	1	20					REC - ART 1106
REC - ART 1106					20	1	5					0.7	0.7	6	1	20					REC - ART 1106
REC - RAMP 1105A					20	1	7	0.7	0.9					8	1	20					REC - PLATFORM 1105B
REC - CHR STO / DRESS 1105C					20	1	9			0.4	1.1			10	1	20					REC - PLAY 1105
REC - KILN 1106B					20	1	11					0.7	0.9	12	1	20					REC - MUSIC 1108
REC - MUSIC 1108					20	1	13	0.9	0.9					14	1	20					REC - PE OFF 1105F
REC - PE STO 1105E					20	1	15			0.4	1.1			16	1	20					REC - RECEIVING 1203
REC - CUST 1203C					20	1	17					0.4	1.1	18	1	20					REC - MNG OFF 1203D
REC - DINING 1201					20	1	19	0.9	0.7					20	1	20				1	EWC - DINING 1201
EWC - CORRIDOR 1100	1				20	1	21			0.5	0.5			22	1	20				1	EWC - CORRIDOR 1100
REC - ELEC 1401					20	1	23					0.7	0.9	24	1	20					REC - CORRIDOR 1100
EF-1 IT 1203A					20	1	25	0.7	0.7					26	1	20					EF-2 KILN 1106B
REC - EXTERIOR					20	1	27			1.1	0.5			28	1	20					REC - EXTERIOR
REC - EXTERIOR					20	1	29					0.7	0.9	30	1	20					REC - EXTERIOR
REC- RESTROOMS					20	1	31	0.4	0.5					32	1	20					PROJECTOR - PLATFORM...
MOTOR SCREEN - PLATFORM...					20	1	33			0.5	1.1			34	1	20					REC - DINING 1201
SCOREBOARD - PLAY 1105					20	1	35					0.5	0.5	36	1	20					REC - DINING ROOM
GOAL BACKBOARD - 1105					20	1	37	1.0	1.5					38	1	20					POWER SHADES - DINING 1201
GOAL BACKBOARD - 1105					20	1	39			1.0	0.7			40	1	20					REC-KILN FAN
GOAL BACKBOARD - 1105					20	1	41					1.0	3.7	42	3	40	3/4"	#10	#8		KILN
GOAL BACKBOARD - 1105					20	1	43	1.0	3.7					44							
REC - PLATFORM 1105B					20	1	45			0.4	3.7			46							
PLATFORM LTG					20	1	47					0.3	0.5	48	1	20					SEC-M IT 1203A
PLATFORM LTG					20	1	49	0.2	0.5					50	1	20					SEC-C IT 1203A
PLATFORM LTG					20	1	51			0.2	0.4			52	1	20					REC - ART 1106
SOUND EQUIPMENT					20	1	53					0.4	1.0	54	1	20					CONTACTOR CABINET
SOUND EQUIPMENT					20	1	55	0.4	1.0					56	1	20					CONTACTOR CABINET
PRESET STATION					20	1	57			0.2	0.0			58	1	20	--	--	--		SPARE
EQUIP					20	1	59					0.5	0.0	60	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	61	0.0	0.0					62	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	63			0.0	0.0			64	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	65					0.0	0.0	66	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	67	0.0	0.0					68	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	69			0.0	0.0			70	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	71					0.0	0.0	72	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	73	0.0	0.0					74	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	75			0.0	0.0			76	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	77					0.0	0.0	78	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	79	0.0	0.0					80	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	81			0.0	0.0			82	1	20	--	--	--		SPARE
SPARE		--	--	--	20	1	83					0.0	0.0	84	1	20	--	--	--		SPARE
							TOTAL LOAD (kVA):	18.3 kVA		15.0 kVA		16.1 kVA									
							TOTAL CURRENT (A):	154 A		125 A		136 A									

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	20200 VA	100.00%	20200 VA	TOTAL CONNECTED LOAD:	47 kVA
HVAC	1400 VA	100.00%	1400 VA	TOTAL ESTIMATED DEMAND:	40 kVA
KITCH	180 VA	100.00%	180 VA	TOTAL CONNECTED CURRENT:	131 A
LTNG	627 VA	100.00%	627 VA	TOTAL ESTIMATED DEMAND CURRENT:	112 A
REC	23920 VA	70.90%	16960 VA		
EQUIP - MISC	1000 VA	100.00%	1000 VA		

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. POVIDE G.F.C.I. TYPE CIRCUIT BREAKER.

PANELBOARD AND WIRING SCHEDULE

PANEL: LR1E-2 **MAINS TYPE:** MLO **SCCR (kA):** 10
VOLTAGE: 208Y/120V,3P,4W **SPD:** No **AVAIL FAULT CURRENT (kA):** 7.0
AMPERES: 150 A **MOUNTING:** SURFACE **SUPPLY FROM:** LDP1E

CIRCUIT DESCRIPTION	WIRE	GND	C	OCP	P	CKT	A		B		C		CKT	P	OCP	C	GND	WIRE	CIRCUIT DESCRIPTION
UH-1 EMERG EL 1401A				20	2	1	1.2	2.0					2	2	30	3/4"	#10	#10	UH-2 ELEC 1401
						3			1.2	2.0			4						
UH-2 - BOILER 1403	#10	#10	3/4"	30	2	5					2.0	1.0	6	1	20				BAS PANELS - BOILER 1403
						7	2.0	1.6					8	1	20				BOILER-1
BOILER-2				20	1	9			1.6	0.5			10	1	20				REC - BOILER 1403
UH-1 - SPRINKLER RISER 1404				20	2	11					1.2	1.8	12	1	20				WH-1 - WATER HEATER
						13	1.2	0.5					14	1	20				DP-1 -RECIRCULATION PUMP
UH-1 - PE STOR 1406				20	2	15			1.2	0.7			16	1	20				EF-19
						17					1.2	1.2	18	1	20				EF-18
EF-17				20	1	19	0.7	1.7					20	1	20				EF-16
REC - ROOFTOP MAINT				20	1	21			0.4	0.5			22	1	20				REC - MECH MEZZ. 2201
UH-2 MECH MEZZANINE 2201	#10	#10	3/4"	30	2	23					2.0	0.4	24	1	20				REC - MECH MEZZ. 2201
						25	2.0	1.5					26	1	20				TEMP CONTROL PANEL MEZZ
RADON FAN - MECH				20	1	27			0.2	0.2			28	1	20				RADON FAN - MECH
EF-21				20	1	29					1.2	0.2	30	1	20				REC - ROOFTOP MAINT
ESTOP - BOILER ROOM				20	1	31	0.0	0.5					32	1	20				BACKFLOW PIV
SPARE	--	--	--	20	1	33			0.0	0.0			34	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	35					0.0	0.0	36	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	37	0.0	0.0					38	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	39			0.0	0.0			40	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	41					0.0	0.0	42	1	20	--	--	--	SPARE
						TOTAL LOAD (kVA):	14.7 kVA		8.3 kVA		12.0 kVA								
						TOTAL CURRENT (A):	127 A		70 A		105 A								

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	7260 VA	100.00%	7260 VA	TOTAL CONNECTED LOAD:	35 kVA
HVAC	25802 VA	100.00%	25802 VA	TOTAL ESTIMATED DEMAND:	35 kVA
REC	1980 VA	100.00%	1980 VA	TOTAL CONNECTED CURRENT:	97 A
				TOTAL ESTIMATED DEMAND CURRENT:	97 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. POVIDE G.F.C.I. TYPE CIRCUIT BREAKER.

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT THIS SHEETS ORIGINAL PAGE SIZE

4/3/2024 4:07:20 PM

Wake County Public School System

LS3P
434 FAYETTEVILLE STREET SUITE 1700
RALEIGH, NORTH CAROLINA 27601
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04/10/2024

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Swift Creek Elementary School
5601 Tryon Rd Raleigh, NC 27606
LS3P PROJECT: 8201-207411

Δ	DATE	DESCRIPTION

SHEET NAME:
PANEL SCHEDULES

BID SET SUBMISSION: 2024.04.10

SHEET:
E10.03

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ORIGINAL PLOT SHEETS

PANELBOARD AND WIRING SCHEDULE

PANEL: EMH1 — **MAINS TYPE:** MLO — **SCCR (kA):** 18
VOLTAGE: 480Y/277V,3P,4W — **SPD:** Yes — **AVAIL FAULT CURRENT (kA):** 10
AMPERES: 100 A — **MOUNTING:** SURFACE — **SUPPLY FROM:** EM-ATS

CIRCUIT DESCRIPTION	WIRE	GND	C	OCP	P	CKT	A		B		C		CKT	P	OCP	C	GND	WIRE	CIRCUIT DESCRIPTION
						1	3.4	3.5					2						
T-EML1	(3) #6	#10	1"	50	3	3			4.8	3.8			4	3	60	1-1/4"	#8	(4) #4	EMH1B
						5					3.9	0.5	6						
EM LTNG - 1ST AREA E				20	1	7	2.6	1.1					8	1	20				EM LTNG - COORIDOR 1100
EM LTNG - 1ST AREA C/D				20	1	9			2.1	0.7			10	1	20				EM LTNG - EXTERIOR
SPARE	--	--	--	20	1	11					0.0	0.0	12	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	13	0.0	0.0					14	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	15			0.0	0.0			16	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	17					0.0	0.0	18	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	19	0.0	0.0					20	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	21			0.0	0.0			22	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	23					0.0	0.0	24	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	25	0.0	0.0					26						
SPARE	--	--	--	20	1	27			0.0	0.0			28	3	30	--	--	--	SPD
SPARE	--	--	--	20	1	29					0.0	0.0	30						
							TOTAL LOAD (kVA):	10.6 kVA		11.4 kVA		4.4 kVA							
							TOTAL CURRENT (A):	42 A		45 A		16 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
EQUIP	5300 VA	100.00%	5300 VA	**TOTAL CONNECTED LOAD:** 25 kVA
LTNG	14471 VA	100.00%	14471 VA	**TOTAL ESTIMATED DEMAND:** 25 kVA
REC	720 VA	100.00%	720 VA	**TOTAL CONNECTED CURRENT:** 31 A
EQUIP - MISC	5000 VA	100.00%	5000 VA	**TOTAL ESTIMATED DEMAND CURRENT:** 31 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

PANELBOARD AND WIRING SCHEDULE

PANEL: EML1 — **MAINS TYPE:** MCB — **SCCR (kA):** 10
VOLTAGE: 208Y/120V,3P,4W — **SPD:** Yes — **AVAIL FAULT CURRENT (kA):** 1.8
AMPERES: 100 A — **MOUNTING:** SURFACE — **SUPPLY FROM:** T-EML1

CIRCUIT DESCRIPTION	WIRE	GND	C	OCP	P	CKT	A		B		C		CKT	P	OCP	C	GND	WIRE	CIRCUIT DESCRIPTION
NAC PANEL - ELEC 1401				20	1	1	0.5	0.5					2	1	20				NAC PANEL - ELEC 1321
FACP - ELEC 1401				20	1	3			0.5	0.5			4	1	20				NAC PANEL - ELEC 1310
TRAN - HEAD END/MDF 1103				20	1	5					0.5	0.5	6	1	20				FAAM - RECEP. 1001
FAA - ENTRY VEST 1100A				20	1	7	0.0	0.2					8	1	20				REC - GDS
BDA EQUIPMENT				20	1	9			0.4	0.2			10	1	20				GEN.LIGHTING
REC - GDS				20	2	11					0.1	0.1	12	2	20				GEN. HEATER
						13	0.1	0.1					14						
GEN. BATTERY CHARGER				20	1	15			0.2	1.0			16	1	20				GEN ANN
GEN. CONTROLS				20	1	17					0.2	0.5	18	1	20				DOOR POWER - IT 1203A
SEC-A IT 1203A				20	1	19	0.5	0.5					20	1	20				DOOR POWER - H.E./MDF 1103
SEC-A HEAD END/MDF 1103				20	1	21			0.5	0.5			22	1	20				DOOR POWER - IT 1319
SEC-C IT 1319				20	1	23					0.5	0.5	24	1	20				DOOR POWER - IT 1308
SEC-A IT 1308				20	1	25	0.5	0.5					26	1	20				DOOR POWER - IT 2333
SEC-A IT 2333				20	1	27			0.5	0.5			28	1	20				DOOR POWER - IT 2312
SEC-A IT 2312				20	1	29					0.5	0.5	30	1	20				TWO-WAY COMM
SPARE	--	--	--	20	1	31	0.0	0.0					32	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	33			0.0	0.0			34	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	35					0.0	0.0	36	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	37	0.0	0.0					38						
SPARE	--	--	--	20	1	39			0.0	0.0			40	3	30	--	--	--	SPD
SPARE	--	--	--	20	1	41					0.0	0.0	42						
							TOTAL LOAD (kVA):	3.4 kVA		4.8 kVA		3.9 kVA							
							TOTAL CURRENT (A):	28 A		40 A		33 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
EQUIP	5300 VA	100.00%	5300 VA	**TOTAL CONNECTED LOAD:** 11 kVA
REC	720 VA	100.00%	720 VA	**TOTAL ESTIMATED DEMAND:** 11 kVA
EQUIP - MISC	5000 VA	100.00%	5000 VA	**TOTAL CONNECTED CURRENT:** 31 A
				TOTAL ESTIMATED DEMAND CURRENT: 31 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

PANELBOARD AND WIRING SCHEDULE

PANEL: SBL1E — **MAINS TYPE:** MCB — **SCCR (kA):** 10
VOLTAGE: 208Y/120V,3P,4W — **SPD:** Yes — **AVAIL FAULT CURRENT (kA):** 2.0
AMPERES: 100 A — **MOUNTING:** SURFACE — **SUPPLY FROM:** T-SBL1E

CIRCUIT DESCRIPTION	WIRE	GND	C	OCP	P	CKT	A		B		C		CKT	P	OCP	C	GND	WIRE	CIRCUIT DESCRIPTION
REC - HEAD END/MDF 1103				20	1	1	0.7	0.7					2	1	20				REC - HEAD END/MDF 1103
						3			0.2	0.2			4						
NEMA L6-20 - HEAD END/MDF 1103				20	2	5					0.2	0.2	6	2	20				NEMA L6-30 - HEAD END/MDF 1103
						7	0.2	0.2					8						
NEMA L6-20 - HEAD END/MDF 1103				20	2	9			0.2	0.2			10	2	20				NEMA L6-30 - HEAD END/MDF 1103
REC - IT 1203A				20	1	11					0.4	0.2	12	1	20				REC - IT 1203A
REC - IT 1203A				20	1	13	0.7	0.7					14	1	20				REC - IT 1203A
REC - MDF 1103				20	1	15			1.4	0.7			16	1	20				REC - MDF 1103
AC-1 HEAD END/MDF 1103				20	2	17					0.3	0.6	18						
						19	0.3	0.6					20	3	20				OUTDOOR CONDENSER FREEZER
						21			1.7	0.6			22						
OUTDOOR CONDENSER FRIDGE				20	3	23					1.7	1.4	24						
						25	1.7	1.4					26	2	20				CU-2
HEAT TRACE	1			20	1	27			0.5	0.5			28	1	20				CHILLER 2 CONTROL
CHILLER 1 CONTROL				20	1	29					0.5	0.0	30	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	31	0.0	0.0					32	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	33			0.0	0.0			34	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	35					0.0	0.0	36	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	37	0.0	0.0					38						
SPARE	--	--	--	20	1	39			0.0	0.0			40	3	30	--	--	--	SPD
SPARE	--	--	--	20	1	41					0.0	0.0	42						
							TOTAL LOAD (kVA):	7.2 kVA		6.1 kVA		5.3 kVA							
							TOTAL CURRENT (A):	61 A		52 A		44 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
EQUIP	2000 VA	100.00%	2000 VA	**TOTAL CONNECTED LOAD:** 19 kVA
HVAC	2800 VA	100.00%	2800 VA	**TOTAL ESTIMATED DEMAND:** 17 kVA
KITCH	6800 VA	70.00%	4760 VA	**TOTAL CONNECTED CURRENT:** 52 A
REC	7020 VA	100.00%	7020 VA	**TOTAL ESTIMATED DEMAND CURRENT:** 46 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE G.F.C.I. TYPE CIRCUIT BREAKER

PANELBOARD AND WIRING SCHEDULE

PANEL: EMH1B — **MAINS TYPE:** MCB — **SCCR (kA):** 18
VOLTAGE: 480Y/277V,3P,4W — **SPD:** Yes — **AVAIL FAULT CURRENT (kA):** 1.7
AMPERES: 60 A — **MOUNTING:** SURFACE — **SUPPLY FROM:** EMH1

CIRCUIT DESCRIPTION	WIRE	GND	C	OCP	P	CKT	A		B		C		CKT	P	OCP	C	GND	WIRE	CIRCUIT DESCRIPTION
EM LTNG - 1ST AREA A				20	1	1	0.9	1.1					2	1	20				EM LTNG - 1ST AREA B
EM LTNG - 1ST AREA C				20	1	3			0.6	1.6			4	1	20				EM - LTNG - EXTERIOR
EM LTNG - EXT AREA A/B/C				20	1	5					0.5	0.0	6	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	7	0.0	0.0					8	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	9			0.0	0.0			10	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	11					0.0	0.0	12	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	13	0.0	0.0					14	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	15			0.0	0.0			16	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	17					0.0	0.0	18	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	19	0.0	0.0					20	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	21			0.0	0.0			22	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	23					0.0	0.0	24	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	25	0.0	0.0					26	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	27			0.0	0.0			28	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	29					0.0	0.0	30	1	20	--	--	--	SPARE
							TOTAL LOAD (kVA):	3.5 kVA		3.8 kVA		0.5 kVA							
							TOTAL CURRENT (A):	14 A		16 A		2 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
LTNG	7870 VA	100.00%	7870 VA	**TOTAL CONNECTED LOAD:** 8 kVA
				TOTAL ESTIMATED DEMAND: 8 kVA
				TOTAL CONNECTED CURRENT: 9 A
				TOTAL ESTIMATED DEMAND CURRENT: 9 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE FEED THROUGH LUGS

PANELBOARD AND WIRING SCHEDULE

PANEL: SBH1 — **MAINS TYPE:** MLO — **SCCR (kA):** 18
VOLTAGE: 480Y/277V,3P,4W — **SPD:** Yes — **AVAIL FAULT CURRENT (kA):** 14
AMPERES: 200 A — **MOUNTING:** SURFACE — **SUPPLY FROM:** SB-ATS

CIRCUIT DESCRIPTION	WIRE	GND	C	OCP	P	CKT	A		B		C		CKT	P	OCP	C	GND	WIRE	CIRCUIT DESCRIPTION
						1	7.2	5.0					2						
T-SBL1E	(3) #6	#10	1"	50	3	3			6.1	1.6			4	3	50	1-1/4"	#6	(3) #3	T-SBL1A
						5					5.3	5.1	6						
						7	3.9	0.0					8						
ELEVATOR	(3) #4	#8	1-1/4"	60	3	9			3.9	0.0			10	3	50	--	--	--	SPARE
						11					3.9	0.0	12						
						13	0.0	0.0					14						
SPARE	--	--	--	30	3	15			0.0	0.0			16	3	30	--	--	--	SPARE
						17					0.0	0.0	18						
						19	0.0	0.0					20						
SPARE	--	--	--	30	3	21			0.0	0.0			22	3	30	--	--	--	SPARE
						23					0.0	0.0	24						
						25	0.0	0.0					26						
SPARE	--	--	--	20	3	27			0.0	0.0			28	3	20	--	--	--	SPARE
						29					0.0	0.0	30						
						31	0.0	0.0					32						
SPARE	--	--	--	20	3	33			0.0	0.0			34	3	30	--	--	--	SPD
						35					0.0	0.0	36						
SPARE	--	--	--	20	1	37	0.0	0.0					38	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	39			0.0	0.0			40	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	41					0.0	0.0	42	1	20	--	--	--	SPARE
							TOTAL LOAD (kVA):	16.0 kVA		11.7 kVA		14.3 kVA							
							TOTAL CURRENT (A):	59 A		42 A		53 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
EQUIP	5500 VA	100.00%	5500 VA	**TOTAL CONNECTED LOAD:** 42 kVA
HVAC	5600 VA	100.00%	5600 VA	**TOTAL ESTIMATED DEMAND:** 39 kVA
KITCH	6800 VA	70.00%	4760 VA	**TOTAL CONNECTED CURRENT:** 51 A
Motor	11700 VA	100.00%	11700 VA	**TOTAL ESTIMATED DEMAND CURRENT:** 47 A
REC	12420 VA	90.26%	11210 VA	

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

PANELBOARD AND WIRING SCHEDULE

PANEL: SBL2A — **MAINS TYPE:** MCB — **SCCR (kA):** 10
VOLTAGE: 208Y/120V,3P,4W — **SPD:** Yes — **AVAIL FAULT CURRENT (kA):** 1.8
AMPERES: 100 A — **MOUNTING:** SURFACE — **SUPPLY FROM:** SBL1A

CIRCUIT DESCRIPTION	WIRE	GND	C	OCP	P	CKT	A		B		C		CKT	P	OCP	C	GND	WIRE	CIRCUIT DESCRIPTION
REC - IT 2333				20	1	1	0.4	0.4					2	1	20				REC - IT 2333
REC - IT 2333				20	1	3			0.2	0.2			4	1	20				REC - IT 2333
REC - IT 2312				20	1	5					0.4	0.4	6	1	20				REC - IT 2312
REC - IT 2312				20	1	7	0.2	0.2					8	1	20				REC - IT 2312
REC - ELEC 2335				20	1	9			0.2	0.2			10	1	20				REC - ELEC 2310
BDA				20	1	11					1.0	0.0	12	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	13	0.0	0.0					14	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	15			0.0	0.0			16	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	17					0.0	0.0	18	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	19	0.0	0.0					20	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	21			0.0	0.0			22	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	23					0.0	0.0	24	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	25	0.0	0.0					26						
SPARE	--	--	--	20	1	27			0.0	0.0			28	3	30	--	--	--	SPD
SPARE	--	--	--	20	1	29					0.0	0.0	30						
							TOTAL LOAD (kVA):	1.1 kVA		0.7 kVA		1.7 kVA							
							TOTAL CURRENT (A):	9 A		6 A		15 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
EQUIP	1000 VA	100.00%	1000 VA	**TOTAL CONNECTED LOAD:** 4 kVA
REC	2520 VA	100.00%	2520 VA	**TOTAL ESTIMATED DEMAND:** 4 kVA
				TOTAL CONNECTED CURRENT: 10 A
				TOTAL ESTIMATED DEMAND CURRENT: 10 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

PANELBOARD AND WIRING SCHEDULE

PANEL: EMH2B — **MAINS TYPE:** MCB — **SCCR (kA):** 18
VOLTAGE: 480Y/277V,3P,4W — **SPD:** Yes — **AVAIL FAULT CURRENT (kA):** 1.5
AMPERES: 60 A — **MOUNTING:** SURFACE — **SUPPLY FROM:** EMH1B

CIRCUIT DESCRIPTION	WIRE	GND	C	OCP	P	CKT	A		B		C		CKT	P	OCP	C	GND	WIRE	CIRCUIT DESCRIPTION
EM LTNG - 2ND AREA A/B				20	1	1	1.5	0.0					2	1	20				SPARE
EM LTNG - 2ND AREA B/C				20	1	3			1.7	0.0			4	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	5					0.0	0.0	6	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	7	0.0	0.0					8	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	9			0.0	0.0			10	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	11					0.0	0.0	12	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	13	0.0	0.0					14	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	15			0.0	0.0			16	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	17					0.0	0.0	18	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	19	0.0	0.0					20	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	21			0.0	0.0			22	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	23					0.0	0.0	24	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	25	0.0	0.0					26						
SPARE	--	--	--	20	1	27			0.0	0.0			28	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	29					0.0	0.0	30						
							TOTAL LOAD (kVA):	1.5 kVA		1.7 kVA		0.0 kVA							
							TOTAL CURRENT (A):	6 A		7 A		0 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
LTNG	3203 VA	100.00%	3203 VA	**TOTAL CONNECTED LOAD:** 3 kVA
				TOTAL ESTIMATED DEMAND: 3 kVA
				TOTAL CONNECTED CURRENT: 4 A
				TOTAL ESTIMATED DEMAND CURRENT: 4 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

PANELBOARD AND WIRING SCHEDULE

PANEL: SBL1A — **MAINS TYPE:** MCB — **SCCR (kA):** 10
VOLTAGE: 208Y/120V,3P,4W — **SPD:** Yes — **AVAIL FAULT CURRENT (kA):** 2.0
AMPERES: 100 A — **MOUNTING:** SURFACE — **SUPPLY FROM:** T-SBL1A

CIRCUIT DESCRIPTION	WIRE	GND	C	OCP	P	CKT	A		B		C		CKT	P	OCP	C	GND	WIRE	CIRCUIT DESCRIPTION
REC - IT 1319				20	1	1	0.4	0.5					2	1	20				REC - ELEC 1321
REC - IT 1319				20	1	3			0.2	0.4			4	1	20				REC - IT 1308
REC - IT 1319				20	1	5					0.4	0.4	6	1	20				REC - IT 1308
REC - IT 1319				20	1	7	0.2	0.2					8	1	20				REC - IT 1308
REC - IT 1308				20	1	9			0.2	0.2			10	1	20				REC - ELEC 1310
AC-1/CU-1				20	2	11					1.7	1.0	12	1	20				ELEVATOR CAB LIGHTS & RECEPT
						13	1.7	1.0					14	1	20				ELEV. CELL COMM SYSTEM
SPARE	--	--	--	20	1	15			0.0	0.0			16	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	17					0.0	0.0	18	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	19	0.0	0.0					20	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	21			0.0	0.0			22	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	23					0.0	0.0	24	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	25	0.0	0.0					26						
SPARE	--	--	--	20	1	27			0.0	0.0			28	3	20	--	--	--	SPARE
SPARE	--	--	--	20	1	29					0.0	0.0	30						
							TOTAL LOAD (kVA):	5.0 kVA		1.6 kVA		5.1 kVA							
							TOTAL CURRENT (A):	46 A		14 A		47 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
EQUIP	3500 VA	100.00%	3500 VA	**TOTAL CONNECTED LOAD:** 12 kVA
HVAC	2800 VA	100.00%	2800 VA	**TOTAL ESTIMATED DEMAND:** 12 kVA
REC	5400 VA	100.00%	5400 VA	**TOTAL CONNECTED CURRENT:** 32 A
				TOTAL ESTIMATED DEMAND CURRENT: 32 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE FEED THROUGH LUGS

Wake County Public School System

LS3P

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Swift Creek Elementary School

5601 Tryon Rd Raleigh, NC 27606

LS3P PROJECT: 8201.207411

Δ	DATE	DESCRIPTION

SHEET NAME:
PANEL SCHEDULES

BID SET SUBMISSION: 2024.10.10

SHEET:
E10.04

BID SET

4/3/2024 4:07:25 PM