ELECTRICAL ABBREVIATIONS

ELE	CIRICAL ABBREVIATION	NS
A	AMPERES OR AMP METER	
AC		
AF AFC	AMP FRAME ABOVE FINISHED CEILING	
AFF	ABOVE FINISHED FLOOR	
AFG AIC	ABOVE FINISHED GRADE	
ALT	ALTERNATE	
	AMERICAN NATIONAL STANDARDS INSTITUTE	
ARCH	AMP TRIP	
ATS	AUTOMATIC TRANSFER SWITCH	
AWG BFC	AMERICAN WIRE GAGE BELOW FINISHED CEILING	
BFG	BELOW FINISHED GRADE	
C CB	CELSIUS; COIL CIRCUIT BREAKER	
CCTV	CLOSED CIRCUIT TELEVISION SYSTEM	
CD/Cd	CANDELA	
COAX	COAXIAL CABLE	
CONTR		
CTV	CORRENT TRANSFORMER CABLE TELEVISION	
CU	COPPER	
DWG FC	DRAWING ELECTRICAL CONTRACTOR	
ECB	ENCLOSED CIRCUIT BREAKER	
EF		
ELEC	ELECTRICAL	
EM	EMERGENCY	
EM I EPO	ELECTRICAL METALLIC TUBING EMERGENCY POWER OFF	
ETR	EXISTNG TO REMAIN	
EWC		
FATC	FIRE ALARM TERMINATION CABINET	
FFE	FINISHED FLOOR ELEVATION	
fl FLA	FLOOR FULL LOAD AMPS	
FLC	FLEXIBLE LIQUIDTIGHT CONDUIT	
FLEX FMC	FLEXIBLE FLEXIBLE METAL CONDUIT	EL
FT	FEET; FOOT	
FU		
GB	GROUND BUS	
GC		
GEC GFI,	GROUNDING ELECTRODE CONDUCTOR GROUND FAULT (CIRCUIT) INTERRUPTER	
GFCI		
HD	HEAVY DUTY	
HOA	HANDS-OFF-AUTOMATIC	
HP HVAC	HORSEPOWER HEATING. VENTILATING & AIR CONDITIONING	
HZ	HERTZ	Г
IG IMC	ISOLATED GROUND	
JB	JUNCTION BOX	
KV		l r
KW	KILOWATT	
KWH	KILOWATT HOUR	
LED LRA	LIGHT EMMITING DIODE LOCKED ROTOR AMPS	
LS	LIFE SAFETY	
LTG M	LIGHTING MOTOR: METERING	
MC	METAL CLAD	
MCB	MAIN CIRCUIT BREAKER	
MCP	MOTOR CONTROL CENTER MOTOR CONTROL PROTECTOR	
MCS	MOLDED CASE SWITCH	
MH MIN	MANHOLE MINIMUM	
MLO	MAIN LUG ONLY	
N, NEU NEC		
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIAT	ION
	NON-FUSED	
NIC	NOT IN CONTRACT	
NL	NIGHT LIGHT	
NO NOM	NORMALLY OPEN; NUMBER NOMINAL	
NTS	NOT TO SCALE	
OC OL	ON CENTER OVERLOAD	
P	POLE	
PB PC	PULL BOX	
PF	POWER FACTOR	
PH	PHASE	
PINL PT	POINT; POTENTIAL TRANSFORMER	
PUN		
PVC	POLYVINYL CHLORIDE (CONDUIT)	

ELECTRICAL ABBREVIATIONS

REVISION	Ю
RATED LOAD AMPS	$\overline{\mathbf{O}}$
RIDGID METAL CONDUIT	0
SOLID NEUTRAL	0
SIGNAL NOTIFICATION APPLIANCE CIRC	
SURGE PROTECTED	
SURGE PROTECTED DEVICE	
SINGLE POLE DOUBLE THROW	
SPECIFICATION	€ H
SINGLE POLE SINGLE THROW	1.5.
SQUARE	
SWITCHBOARD	
SWITCHGEAR	4-4
TELEPHONE BACK BOARD	
TELECOMMUNICATIONS	
	D
	S
	ے 2
	S
VOLTS ALTERNATING CURRENT	S
VOLTS DIRECT CURRENT	S ⁴
VARIABLE FREQUENCY DRIVE	ں م
VOLUME	S
WIRE	S
WITH	Sos
WIREGUARD	o ^l
WEATHERPROOF	5
TRANSFORMER	Р
EXPLOSION PROOF	S
IMPEDANCE	
ROUND; DIAMETER; PHASE	S ^T
	REVISION RATED LOAD AMPS RIDGID METAL CONDUIT SOLID NEUTRAL SIGNAL NOTIFICATION APPLIANCE CIRC SURGE PROTECTED SURGE PROTECTED DEVICE SINGLE POLE DOUBLE THROW SPECIFICATION SINGLE POLE SINGLE THROW SQUARE SWITCHBOARD SWITCHBOARD SWITCHGEAR TELEPHONE BACK BOARD TELECOMMUNICATIONS TEMPERATURE TOTAL HARMONIC DISTORTION TELEVISION TYPICAL UNDERWRITERS LABORATORIES INC. UNLESS NOTED OTHERWISE VOLTAGE; VOLT VOLTS ALTERNATING CURRENT VOLTS DIRECT CURRENT VOLTS DIRECT CURRENT VARIABLE FREQUENCY DRIVE VOLUME WIRE WITH WIREGUARD WEATHERPROOF TRANSFORMER EXPLOSION PROOF IMPEDANCE ROUND; DIAMETER; PHASE



	CEILING MTD E
€	EMERGENCY I
	CEILING MOUN
D	EMERGENCY I
⊳	GROUND MOU
_ •	AREA LUMINAI
S	FLUSH MTD TO
S ²	FLUSH MTD TO
S³	FLUSH MTD 3-
S ⁴	FLUSH MTD 4-
SD	FLUSH MTD DI
SK	FLUSH MTD KE
S	FLUSH MOUNT
S	FLUSH MTD LIG 120V. LIGHT OI
S ^P	FLUSH MTD TO CLOSED SWIT
ST	TIMED SWITCH
© _B	CEILING MTD I
©	CEILING MTD U
© _{DT}	CEILING MTD I SWITCH
PC	PHOTOCELL
Φ	FLUSH MTD DU
Ф ^{GFI}	FLUSH MTD DU
Φ_{Ω}	FLUSH MTD DI 20A, 125V, 3W
Φ	FLUSH MTD SI
⊕	FLUSH MTD Q
Ф	FLUSH MTD DU WITH TOP OUT
¢	FLUSH MTD DU VERTICALLY 4 BACKSPLASH
+	FLUSH MTD QI INSTALLED VE IF NO BACKSP
abla	WALL MOUNTI
FB	FLOOR BOX W
$\overline{\nabla}$	WALL MTD TEI
๎๗฿๗	CEILING MTD F
	CEILING MTD
	CEILING MTD TO SCHEDULE
5	CEILING MTD F
· · · · · ·	

CEILING MTD PUE FLUSH MTD VOLU WALL MTD TELE OUTLET, REFER (WIFI) WIRELESS PANELBOARD, 25 PANELBOARD, 60

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 \bigtriangledown

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HOMERUN; ARRO AND NUMBERS D INDICATE NUMBE TICK MARK(S) INE REQUIRED BY SP SPECIFIED ON TH ENTIRE CIRCUIT INCREASE FOR V SURFACE METAL F

PENDANT MTD, PLUG-IN BUS DUCT WITH PLUG-IN CIRCUIT BREAKER OR FUSIBLE SWITCH AND TAP BOX. DUCT AND SWITCH RATING AS NOTED. TOP # - DEVICE MAXIMUM RATING OR FRAME SIZE BOTTOM # - FUSE SIZE OR DEVICE SETTING DISCONNECT SWITCH. COMBINATION DISCONNECT SWITCH AND MAGNETIC MOTOR STARTER.

HEATERS \square MAGNETIC MOTOR STARTER $\bowtie^{\#}$ $VFD^{\#}$ CONTRACTOR С J JUNCTION, PULL, TAP OR OUTLET BOX (CODE SIZE)

> TIME CLOCK MAGNETIC RELAY, SIZE PER SCHEDULE

RD ROUND

ELECTRICAL SYMBOLS

WALL MTD LIGHTING FIXTURE AND OUTLET	Ê
	•
	тт л1
PENDENT MOUNTED STRIP FIXTURE	
CEILING MTD LIGHTING FIXTURE AND OUTLET	
WALL MTD EXIT SIGN AND OUTLET, SINGLE FACE. ARROW INDICATES	<u>(SPD)</u>
	60 60
INDICATE DIRECTION.	ଞ୍ଚ
EMERGENCY LIGHT BATTERY PACK - TWO HEAD UNIT.	
CEILING MOUNTED EMERGENCY BATTERY LIGHT	s S MS
EMERGENCY LIGHT REMOTE HEAD	Ŀ
	6
AREA LUMINAIR AND STANDARD	
FLUSH MTD TOGGLE SWITCH, DPST, 20A, 120/277V	E E E E E E E E E E E E E E E E E E E
FLUSH MTD 3-WAY TOGGLE SWITCH, 20A, 120/277V	I _{SB}
FLUSH MTD 4-WAY TOGGLE SWITCH, 20A, 120/277V	
FLUSH MTD DIMMER SWITCH, 20A, 120/277V	Φ
FLUSH MTD KEY SWITCH, 20A, 120/277V	
FLUSH MOUNTED OCCUPANCY SENSOR SWITCH, 20A, 120/277V	
FLUSH MTD LIGHTED HANDLE TOGGLE SWITCH, SPST, 20A, 120V. LIGHT ON WITH OPEN SWITCH	<u>آ</u> ڭ #
FLUSH MTD TOGGLE SWITCH WITH PILOT LIGHT. LIGHT ON WITH	Ч С
CLOSED SWITCH.	ଳ ଜ
	୍ଷୁ ଜ
CEILING MTD UITRASONIC OCCUPANCY SENSOR SWITCH	ñ
CEILING MTD DUAL TECHNOLOGY (IR. U) OCCUPANCY SENSOR	Ē
SWITCH	M
PHOTOCELL	FS
FLUSH MTD DUPLEX RECEPTACLE, 20A, 125V, 3W	5
FLUSH MTD DUPLEX GFCI RECEPTACLE, 20A, 125V, 3W	PV
PLUSH MID DUPLEX RECEPTACLE WITH DUPLEX USB OUTLETS, 20A, 125V, 3W	Ū
FLUSH MTD SINGLE RECEPTACLE, 20A, 125V, 3W	R
FLUSH MTD QUADRUPLEX RECEPTACLE, 20A, 125V, 3W	S
FLUSH MTD DUPLEX RECEPTACLE, 20A, 125V, 3W, SPLIT WIRED WITH TOP OUTLET SWITCHED.	ф
FLUSH MTD DUPLEX RECEPTACLE, 20A, 125V, 3W, INSTALLED VERTICALLY 4" ABOVE BACKSPLASH OR COUNTERTOP IF NO	
ELUSH MTD OLIADRUPLEX RECEPTACLE, 204, 125V, 3W	
INSTALLED VERTICALLY 4" ABOVE BACKSPLASH OR COUNTERTOP	® S
WALL MOUNTED POWER DEVICE	Ч Ф
FLOOR BOX WITH POWER AND TELECOM OUTLETS.	Υ
WALL MTD TELECOM OUTLET, REFER TO SCHEDULES FOR MARK	[ISO]
CEILING MTD RECEPTACLE AND OUTLET, 20A, 125V	DACT
CEILING MTD TELECOM OUTLET, REFER TO SCHEDULES FOR MARK	FAAP
CEILING MTD DUPLEX RECEPTACLE & TELECOM OUTLET, REFER TO SCHEDULES FOR MARK	FACP FATC
CEILING MTD PUBLIC ADDRESS SPEAKER	SNAC
FLUSH MTD VOLUME CONTROL FOR SPEAKER	DC
WALL MTD TELEVISION ANTENNA/ELECTRICAL OUTLET, REFER TO SCHEDULES FOR MARK	#
(WIFI) WIRELESS ACCESS POINT.	КР
PANELBOARD, 250V LEVEL	CR BP
PANELBOARD, 600V LEVEL	
HOMERUN; ARROW HEADS INDICATE NUMBER OF CIRCUITS, LETTERS AND NUMBERS DESIGNATE PANEL AND CIRCUITS. SHORT TICK MARKS INDICATE NUMBER OF CURRENT CARRYING PHASE CONDUCTORS. LONG TICK MARK(S) INDICATE NEUTRAL(S). GROUNDING CONDUCTORS REQUIRED BY SPECIFICATIONS ARE NOT SHOWN. CONDUCTOR SIZES SPECIFIED ON THE PANEL SCHEDULES ARE MANDATORY FOR THE ENTIRE CIRCUIT EXCEPT WHERE SPECIFICATIONS REQUIRE A SIZE INCREASE FOR VOLTAGE DROP.	
SURFACE METAL RACEWAY WITH DEVICES, LETTER DESIGNATES TYPE	RL

RL

ТЩ.

— — — EXISTING TO REMAIN

/ / / EXISTING TO BE DEMOLISHED

SEE SCHEDULE OR NOTE. FLUSH MTD MANUAL MOTOR STARTER SWITCH WITHOUT OVERLOAD

3 POLE CIRCUIT BREAKER IN ENCLOSURE. # INDICATES CB RATING. VARIABLE FREQUENCY DRIVE CONTROLLER, 40" AFF, PROVIDED BY HVAC OR PLUMBING CONTRACTOR AND WIRED BY ELECTRICAL

MAGNETIC CONTACTOR, SIZE PER SCHEDULE

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ELECTRICAL GENERAL NOTES

ALL SYMBOLS AND ABBREVIATIONS MAY I
SYMBOLS NOT SHOWN ON THIS ELECTRIC DRAWINGS WHERE THEY OCCUR.
UNLESS OTHERWISE INDICATED IN THE SE HEIGHT OF DEVICES IS TO BE THE CENTER
UNLESS OTHERWISE INDICATED, SWITCH RECEPTACLES ARE TO BE VERTICALLY MO ON THE BOTTOM.
TELEPHONE & DATA OUTLETS ARE TO BE "W" INDICATES MOUNTING AT 42" AFF; "C" ALIGNMENT AND HEIGHT AS INDICATED FO
FIRE ALARM PULL STATIONS ARE TO BE V FIRE ALARM INDICATING APPLIANCES SHA THE PLANS.
FIRE ALARM INDICATING APPLIANCES ARE VISUAL ELEMENT AT 6'-8" AFF OR 6" BFC, V OR OTHER OBSTRUCTIONS BLOCK DIRECT OBSTRUCTIONS.
CEILING MOUNTED SMOKE DETECTORS A EXACT LOCATION WITH CEILING FEATURE MOUNTED 10" BELOW FINISHED CEILING T ADJACENT WALLS OR OTHER OBSTRUCTION
COORDINATE SMOKE DETECTOR AND HEARETURN GRILLES. MAINTAIN 3'-0" CLEARA SMOKE DETECTOR.
UPPER CASE LETTER (OR LETTER/NUMBE DESIGNATES TYPE. SEE FIXTURE SCHED
LOWER CASE LETTER ADJACENT TO FIXTU
NUMBER ADJACENT TO FIX TURE, SWITCH

5

9

10

11

14

OPERATION.

ELECTRICAL DEMOLITION NOTES

(ER)	EXISTING ELECTRICAL ITEM TO REMAIN. I ADJACENT AREAS DISCONNECT EXISTING	REFEED FROM EX GRCUITING.	XISTING CIRCUITING IF DEMOLITION IN
(R)	EXISTING ELECTRICAL ITEM TO BE REMOVELECTRICAL ITEMS.	VED INCLUDING A	LL WIRING, CONDUIT AND ASSOCIATED
1	ALL DEMOLITION WORK IS TO BE COORDI ALTERNATES AS OUTLINED ON ARCHITEC	NATED WITH PHA TURAL SHEETS.	SING OF CONSTRUCTION AND BID
2	REMOVE ALL ELECTRICAL CONDUIT, CABL RELATED ITEMS FROM ALL WALLS, CEILIN BEING DEMOLISHED BY ANY DIVISION OF IN THE CONTRACT DOCUMENT SET AS RE	LE, WIRING, DEVIO IGS, FLOORS, ANI THE CONTRACT I QUIRING ELECTR	CES, JUNCTION BOXES, FITTINGS, AND D/OR PORTIONS OF SAME INDICATED A DOCUMENT SET OR INDICATED ELSEWH RICAL DEMOLITION.
3	REMOVE ALL LIGHTING FIXTURES AND RE AREAS WHERE NEW LIGHTING FIXTURES SERVING ITEMS OUTSIDE THE DEMOLITIO CONSTRUCTION AND MEET THE SPECIFIC FIXTURES ARE TO BE SUPPLIED BY NEW (LATED ITEMS FR ARE TO BE INSTA N AREA MAY REM ATIONS REQUIRE OR REUSED) CIR	OM THE DEMOLITION AREA OR OTHER LLED. EXISTING CONDUIT OR CABLE MAIN IF THEY ARE CONCEALED BY THE EMENTS OF THE PRESENT PROJECT. NE CUITS AS INDICATED.
4	EXTEND OR RELOCATE ALL EXISTING CIR OR OTHER EQUIPMENT WHERE SUCH CIR ACTIVITIES OF ANY DIVISION OF THIS PRO SIMILAR ITEMS THAT WILL BE RENDERED ANY DIVISION OF THIS PROJECT. PROVIDE (SUPPLIES) AS NEEDED TO MEET THIS RE	CUITS AND RELA CUITS OR ITEMS DJECT. RELOCATE INACCESSIBLE B E ANY AND ALL TE QUIREMENT.	TED ITEMS SERVING EXISTING UTILIZAT ARE DISRUPTED DUE TO DEMOLITION E ALL EXISTING JUNCTION BOXES OR Y NEW CONSTRUCTION FURNISHED UN EMPORARY ELECTRICAL SUPPLY
5	REMOVE ALL ABANDONED CIRCUITS BACH OTHER REMAINING LOADS ARE CONNECT "SPARE".	K TO THE POINT (ED. LABEL ANY U	OF SUPPLY OR BACK TO THE POINT WH INUSED OVERCURRENT DEVICES AS
6	WHERE EQUIPMENT OR DEVICES ARE REI EQUIPMENT, REPAIR WALL SURFACES TO REQUIRED TO MATCH EXISTING FINISHES	MOVED AND NOT MATCH EXISTING	REPLACED BY A SIMILAR ITEM OR S SURROUNDING SURFACE. PAINT AS
7	PROVIDE NEW SUPPORT(S) OR RE-SUPPO BOXES, CABLES, AND/OR OTHER ELECTRI REQUIREMENTS OF THE PRESENT PROJE	ORT AS REQUIREE ICAL ITEMS AS RE ICT.	D ALL EXISTING CONDUIT, JUNCTION EQUIRED TO MEET THE SUPPORT
8	PROVIDE NEW, OR REWORK EXISTING, FI CONDUIT OR OTHER ELECTRICAL ITEMS T FIRE STOPPING PROVIDED FOR EXISTING PROJECT.	RE STOPPING AT THAT WILL REMAII ITEMS MUST MEI	ALL THROUGH-PENETRATIONS OF N AT THE CONCLUSION OF THE PROJEC ET THE REQUIREMENTS OF THE PRESE
9	WHERE EXISTING FIXTURES ARE TO BE R AND EXTERIOR SURFACES. REPLACE LAM ELECTRICAL PARTS. ALL FLUORESCENT L	EUSED, USE MILE IPS AND BALLAST AMPS ARE TO BE	DETERGENT AND CLEAN ALL INTERIO T'S AND ANY MISSING OR BROKEN E COOL WHITE.
10	PROVIDE TEMPORARY WIRING AND CONN DURING ALL PHASES OF CONSTRUCTION.	ECTIONS TO MAI	NTAIN EXISTING SYSTEMS IN SERVICE
11	CIRCUIT NUMBERING IN PARENTHESIS (), PROVIDED IN GOOD FAITH AND ARE BELIE EXISTING CIRCUITING AND CONSULT ENG	ARE BASED ON P EVED TO BE ACCL INEER IF SERIOU	REVIOUS PROJECT DOCUMENTATION A JRATE. CONTRACTOR IS TO VERIFY S DISCREPENSIES EXIST.
	GENERAL SYM	IBOLS	
	PLAN OR DETAIL NUMBER	A	COLUMN NUMBER OR LETTER
	ELEVATION LETTER SHOWN ON SHEET NUMBER		DRAWING REVISION NUMBER
		\bigcirc	KEYED NOTE NUMBER
\mathcal{T}	SHOWN ON SHEET NUMBER		CONNECT TO

--------- DIMENSION LINE DETAIL NUMBER WITH SHEET NO. \rightarrow

ALL SYMBOLS AND ABBREVIATIONS MAY NOT BE UTILIZED FOR THIS PROJECT. RICAL SYMBOL LEGEND ARE IDENTIFIED ON THE

> SPECIFICATIONS OR ON THE DRAWINGS, MOUNTING ERLINE OF THE DEVICE.

HES AND SIMILAR DEVICES ARE TO BE LOCATED 42" AFF; 10UNTED AT 18" AFF WITH THE GROUNDING TERMINAL E MOUNTED AT 18" AFF UNLESS OTHERWISEINDICATED.

" INDICATES MOUNTING ABOVECOUNTERTOP WITH FOR RECEPTACLES SIMILARLY MOUNTED. VERTICALLY MOUNTED AT 42" AFF. IALL BE 15 Cd RATING, UNLESS NOTED OTHERWISE ON

E TO BE MOUNTED WITH THE LOWER EDGE OF THE WHICHEVER IS LOWER. WHERE DUCTWORK, CONDUIT, CT VIEW OF APPLIANCE, MOUNT 6" BELOW SUCH

ARE SHOWN IN APPROXIMATE LOCATION. COORDINATE ES. WALL MOUNTED SMOKE DETECTECTORS ARE TO BE TO THE CENTER OF DEVICE AND A MINIMUM OF 12" FROM IONS. EAT DETECTOR LOCATIONS WITH HVAC SUPPLY AND

ANCE BETWEEN EDGE OF SUPPLY GRILL AND EDGE OF ER COMBINATION) ADJACENT TO FIXTURE OR SWITCH DULE FOR DETAILS. FURE OR SWITCH DESIGNATES CONTROL RELATIONSHIP.

H, OR RECEPTACLE DESIGNATES CIRCUIT CONNECTION. SINGLE DIAGONAL LINE ACROSS A FIXTURE INDICATES FIXTURE IS UNSWITCHED FOR 24 HOUR

> TING IF DEMOLITION IN DUIT AND ASSOCIATED UCTION AND BID

DXES, FITTINGS, AND F SAME INDICATED AS R INDICATED ELSEWHERE

TION AREA OR OTHER CONDUIT OR CABLE CONCEALED BY THE NEW RESENT PROJECT. NEW

ING EXISTING UTILIZATION DUE TO DEMOLITION NCTION BOXES OR CTION FURNISHED UNDER FRICAL SUPPLY

ACK TO THE POINT WHERE RRENT DEVICES AS

NETRATIONS OF JSION OF THE PROJECT. MENTS OF THE PRESENT

CT DOCUMENTATION ARE TOR IS TO VERIFY

- CONNECT TO EXISTING
- REMOVE TO THIS POINT



ELECTRICAL DRAWING LIST NO. TITLE

E00-01	STANDARDS, SYMBOLS & ABBREVIATIONS
E11-01	FLOOR PLAN LEVEL 01 - POWER
E12-01	FLOOR PLAN LEVEL 02 - POWER
E12-02	FLOOR PLAN LEVEL 02 - LIGHTING
E12-03	FLOOR PLAN LEVEL 02 - FIRE ALARM
E30-01	ELECTRICAL DETAILS
E40-01	PANEL SCHEDULES & RISER
E50-01	LIGHTING FIXTURE SCHEDULE
E50-11	FIRE ALARM & TELECOM SYSTEMS DETAILS



North Carolina State University Facilities Division Design & Construction Administrative Services Building III 2601 Wolf Village Way, Suite 331, Raleigh, NC 27695

KEY PLAN

PROJECT

NCSU YARBROUGH

FIELD OFFICE

STATE ID #24-29063-01A

RALEIGH, NC

27695

NCSU PROJECT # 202435102

2411 YARBROUGH DRIVE

NC STATE

UNIVERSITY

ISSUE CHART

 1
 CONSTRUCTION DOCUMENTS
 12/18/2024

 MARK
 ISSUE
 DATE
 2023-01769 Job Number TITLE

STANDARDS, SYMBOLS **& ABBREVIATIONS**

SHEET NUMBER



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KEY NOTES TO E11-01

- 1 PROVIDE POWER CONNECTION TO EQUIPMENT PROVIDED BY OTHER TRADES.
- 2 PROVIDE NEW SURFACE MOUTED GFCI RECEPTACLE IN CAST, WEATHERPROOF BOX & COVER.
- 3 CORE-DRILLED POKE-THRU ELECTRICAL FLOOR OUTLET ON SECOND FLOOR.
- 4 ROUTE CIRCUIT UP THROUGH FLOOR AND INTO PANEL ON SECOND FLOOR AT THIS LOCATION.
- 5 EXISTING 480V MOTOR CONTROL CENTER.
- 6 UTILIZE EXISTING SPARE BREAKER FOR NEW PANEL NMP. SET FOR 150A.
- 7 EXTEND 1 1/4" C FROM FLOOR BOX TO TELECOM 222A. COORDINATE LOCATION OF RACEWAY ENTRY INTO TELECOM ROOM WITH NCSU COMTECH.

EXPANSION JOINT LEGEND									
SYMBOL / LINETYPE DESCRIPTION									
PROVIDE FLEXIBLE CONNECTIONS AS NEEDED AT THE EXPANSION JOINT TO ACCOMMODATE 4" IN ALL AXIAL DIRECTIONS. PROVIDE BASIS OF DESIGN METRAFLEX, OR APPROVED EQUIVALENT.	EXPANSION JOINT ** SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION								
PARTITION SCHEDULE									
	EXISTING 1HR FIRE RATED BARRIER								
	EXISTING 2HR FIRE RATED BARRIER								









KEY NOTES TO E12-01

1 EXISTING PANEL TO REMAIN. CUTLER-HAMMER PRL-1A.

2 EXTEND 1 1/4" C FROM FLOOR BOX BELOW FLOOR TO TELECOM 222A COORDINATE LOCATION OF RACEWAY ENTRY IN TELECOM ROOM WITH NCSU COMTECH.

TELECOMMUNICATIONS RACEWAYS: FOR TELECOMMUNICATION OUTLET BOX INSTALLATIONS, REFER TO NCSU COMTECH UWS 3.0 DETAILS FOR ADDITIONAL INSTALLATION REQUIREMENTS.

EXPANSION JOINT LEGEND							
SYMBOL / LINETYPE	DESCRIPTION						
PROVIDE FLEXIBLE CONNECTIONS AS NEEDED AT THE EXPANSION JOINT TO ACCOMMODATE 4" IN ALL AXIAL DIRECTIONS. PROVIDE BASIS OF DESIGN METRAFLEX, OR APPROVED EQUIVALENT.	EXPANSION JOINT ** SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION						
PARTITION SCHEDULE							
	EXISTING 1HR FIRE RATED BARRIER						
	EXISTING 2HR FIRE RATED BARRIER						











KEY NOTES TO E12-02

- 1 EXISTING LIGHTING CIRCUIT JUNCTION BOX AT STRUCTURE. EXTEND CIRCUIT OUT TO NEW LIGHTING AS INDICATED.
- 2 CONNECT TO LOCAL LIGHTING CIRCUIT SERVING EXISTING SHELL SPACE.
- 3 CONNECT TO LIGHTING CIRCUIT SERVING NEW OVERHEAD LIGHTING, UNSWITCHED FOR 24-HOUR POWER.

EXPANSION JOINT LEGEND SYMBOL / LINETYPE DESCRIPTION _-----EXPANSION JOINT PROVIDE FLEXIBLE CONNECTIONS AS NEEDED AT THE EXPANSION JOINT TO ACCOMMODATE 4" IN ALL AXIAL DIRECTIONS, PROVIDE BASIS OF DESIGN METRAFLEX, ** SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION OR APPROVED EQUIVALENT.

PARTITION SCHEDULE

EXISTING 1HR FIRE RATED BARRIER EXISTING 2HR FIRE RATED BARRIER

(i) Z











KEY NOTES TO E12-03

- 1 EXISTING FIRE ALARM DEVICE TO REMAIN, PROTECT DURING CONSTRUCTION.
- 2 RELOCATE EXISTING FIRE ALARM A/V DEVICE TO NEW WALL AS INDICATED. PROVIDE NEW WIRING FROM PREVIOUS DEVICE TO NEXT DEVICE. SPLICES ARE NOT PERMITTED.
- 3 EXISTING FIRE ALARM BEAM DETECTOR. COORDINATE/VERIFY MOUNTING HEIGHT TO REMAIN CLEAR AND OPERATIONAL.

EXPANSION JOINT LEGEND							
SYMBOL / LINETYPE	DESCRIPTION						
PROVIDE FLEXIBLE CONNECTIONS AS NEEDED AT THE EXPANSION JOINT TO ACCOMMODATE 4" IN ALL AXIAL DIRECTIONS. PROVIDE BASIS OF DESIGN METRAFLEX, OR APPROVED EQUIVALENT.	EXPANSION JOINT ** SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION						
PARTITION SCHEDULE							
	EXISTING 1HR FIRE RATED BARRIER						
	EXISTING 2HR FIRE RATED BARRIER						







7 DEDICATED SPACE FOR ELECTRICAL EQUIPMENT E30-01 SCALE: NTS

-DEDICATED

SPACE





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PANEL ID: DP006 vo			OLTAGE: 208Y/120			S	SERVICE EQUIP:		: No							M	OUNTING: Surface		
SOURCE: YL1B A		MPS	MPS: 125			MAIN:		МС	МСВ						TΥ	PE: BOLT-ON			
OCATION: OPEN OFFICE 222 PA		PANEL		C: 10,	10,000 Al		APPROX. DIM:		EXI	STING	CUTLER-HAMMER PRL-1A								
LOAD	N O T E	COND	Phase, Neu, Gi Size	rd C L E	BK	RCKT		A		В		с	скт	BKR	P O L E	Phase, Neu, Grd Size	COND	N O T E	LOAD
TUNNEL SUB PANEL 002	1	1 1/4	2-#4, 1-#4, 1-#1	10 2	60	1	2500	2500	2500	2500			2	60	2	2-#4, 1-#4, 1-#10	1 1/4	1	CEM/CON PWR PANEL 201
REC OPN OFF 222	2	3/4	1-#12, 1-#12, 1-#	#12 1	20	5					720	900	6	20	1	1-#12, 1-#12, 1-#12	3/4	2	REC OPN OFF 222
REC OPN OFF 222	2	3/4	1-#12, 1-#12, 1-#	#12 1	20	7	900	720					8	20	1	1-#12, 1-#12, 1-#12	3/4	2	REC OPN OFF 222
REC OFF 222E & MEZ	2		1-#12, 1-#12, 1-#	#12 1	20	9			1080	720			10	20	1	1-#12, 1-#12, 1-#12		2	REC OPN OFF 222
REC OFF 222D & COND UNI	rs 2		1-#12, 1-#12, 1-#	#12 1	20	11					1260	1000	12	20	1	1-#12, 1-#12, 1-#12		2	COPIER OPN OFF 222
SPARE ON TELECOM ROOM	1		2 #10 1 #10 1 #	410 0	20	13	300	200					14	20	1	1-#12, 1-#12, 1-#12	3/4	1	FIRE ALARM CONTOL PANEL
203	I		2-#10, 1-#10, 1-#	+10 Z	30	15			300	180			16	20	1	1-#12, 1-#12, 1-#12	3/4	1	FIRE ALARM BOOSTER
EXISTING RECPT 202	1		2-#12 1-#12 1-#	±12 2	20	17					750	600	18	20	1	1-#12, 1-#12, 1-#12	3/4	1	SPARE ON TELECOM RM 203
	-		$\Sigma^{-\pi} \Sigma, \Gamma^{-\pi} \Sigma, \Gamma^{-\pi}$		20	19	750	600					20	20	1	1-#12, 1-#12, 1-#12	3/4	1	UNKNOWN LOAD
TELECOM ROOM RECEPT	1		1-#12, 1-#12, 1-#	<i>‡</i> 12 1	20	21			600	780			22	20	1	1-#12, 1-#12, 1-#12	3/4	3	WATER COOLER REC 222
TELECOM ROOM RECEPT	1		1-#12, 1-#12, 1-#	<i>‡</i> 12 1	20	23					600	800	24	20	1	1-#12, 1-#12, 1-#12		3	COFFEE REC 222
FA DACT 202	1		1-#12, 1-#12, 1-#	<i>‡</i> 12 1	20	25	600	800					26	20	1	1-#12, 1-#12, 1-#12		3	REFRIG 222
TELECOM ROOM LTS 203	1		1-#12, 1-#12, 1-#	#12 1	20	27			600	0			28	20	2	2-#12, 1-#12, 1-#12	3/4	1	UNIT HEATER SPRINKLER RI
FA BELL 102	1		1-#12, 1-#12, 1-#	<i>‡</i> 12 1	20	29	0				600	0	30					-	00405
					10	31	0		0				32		1			-	SPACE
SPARE				3	40	25			0		0	820	34		1			2	
						30	0	0			0	029	20	20	-	1-#12, 1-#12, 1-#12	3/4	2	LIGHTING OFN OFF 222
SPARE				3	70	39	0	0	0	0			40	40	3				SPARE
					10	41			0	0	0	0	42	40					
							987	0 VA	926	0 VA	805	9 VA							
							84	1 A	79	A	6	7 A							
Load Classification					С	onnec	ted Load	b	Dem	and Fact	or I	Estimate	d Den	nand			Par	nel	Totals
Other						20	0 VA		1	00.00%		200) VA		-				
Power						163	00 VA		1	00.00%		1630	0 VA		-	CONNECTE	D LOA	D	27189 VA
BEC			_		986	60 VA		1	100.00%		986				DEMAN		.D	27396 VA	
					82			1	100.00%		9000 VA			•				75 A	
Lighting	Lighung				023	9 VA			125.00%		1036 VA			AVG. CONNECTED CUR			AREINI 70 A		
Lighting														AVG. DEMAND CURR			NT 76 A		

PANEL ID:	NN	IP	VOI	LTA	TAGE:		0Y/277	S	SERVICE	EQUI	P: No					MOUNTING:	SURFACE				
SOURCE:	Y-M	CC-SP-E	B AMI	PS:	3:		D	F	PANEL A	22,0	000				TYPE:	BOLT-ON					
LOCATION:	PUN	IP ROOI	M 100 MA	AIN:			:b	c	CALC SCC:			249				APPROX. DIM:	: 20" W x 5 3/4" D x 50" H				
LOAD			Phase, Neu, Grd Size	P O L E	BKF	скт		A	1	В		C	скт	BKR	P O L E	Phase, Neu, Grd Size	COND	N O T E			
				+		1	7756	2770					2								
CU-1		1	3-#8, 1-#10	3	40	3			7756	2770			4	15	3	3-#12, 1-#12	3/4	CU-2			
						5					7756	2770	6	1							
						7	15235	2770					8								
FCU-1		1 1/4	3-#4, 1-#8	3	70	9			15235	2770			10	15	3	3-#12, 1-#12	3/4	FCU-2			
						11					15235	2770	12	1							
SPACE				1		13		0					14	20	1			SPARE			
SPACE				1		15				0			16	20	1			SPARE			
SPACE				1		17						0	18	20	1			SPARE			
SPACE				1		19		0					20	20	1			SPARE			
SPACE				1		21				0			22	20	1			SPARE			
SPACE				1		23						0	24	20	1			SPARE			
SPACE				1		25							26		1			SPACE			
SPACE				1		27							28		1			SPACE			
SPACE				1		29							30		1			SPACE			
							2853	81 VA	2853	51 VA	2853	81 VA									
							10	3 A	10	3 A	10	3 A			_						
Load Classification					C	onnec	ted Load	b	Dem	and Fac	tor E	Estimated Demand					Pan	el Totals			
Mechanical					855	93 VA		1	00.00%		8559	93 VA									
																CONNECTE		0 85593 VA			
																DEMAN		0 85593 VA			
															A	VG. CONNECTED C	JRREN	Г 103 А			
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 PARTIAL ELECTRICAL RISER

 E40-01
 SCALE: NTS



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2 TYPE B LIGHTING FIXTURE MOUNTING DETAIL E50-01 SCALE: NTS

					L	.IGHT	ING	FIXTUR	RE SCHE	EDULE			
TYPE MARK	DESCRIPTION	MOUNTING	LUMENS	COLOR	VOLTAGE	WATTAGE	CONTROL	FINISH	DIMENSIONS	FIXTURE MEETING SPECIFICATION	SHIELDING TYPE	COMMENTS	IMAGE
A	2X4 LED FLAT PANEL	RECESSED, GRID LAY-IN	4934	4000	120/277	45 VA	0-10V	WHITE FRAME	24" W x 48" L x 2" D	COLUMBIA SRP24-40ML-G-EDU LITHONIA DAY-BRITE	ACRYLIC, TRANSLUCENT LENS		
В	LED HIGH BAY	PENDANT	9000	4000	120/277	63 VA	0-10V	WHITE	16 1/2" DIA x 16" H	LITHONIA LIGHTING JCBL 9000LM ACFR MVOLT GZ10 40K 80CRI COLUMBIA LIGHTING SAV-LX-40-80 DAY-BRITE RBX10L840	ACRYLIC, PRISMATIC LENS	PENDANT MOUNT TO 18'-6" AFF	
Х	THERMOPLASTIC EXIT SIGN WITH EMERGENCY LIGHTING HEADS	WALL		RED LED LETTERS	120/277	5 VA		WHITE PLASTIC	19 1/4" W x 8" H x 2 1/4" D	LITHONIA #LHQM-R-HO DUAL-LITE CHLORIDE			EXIT
ХВ	WALL MOUNT EMERGENCY LIGHTING UNIT WITH HIGH OUTPUT BATTERY	WALL	1100		120/277	5 VA		WHITE PLASTIC	13 1/2" W x 6" H x 3 3/4" D	LITHONIA #ELM6L UVOLT LTP HO DUAL-LITE CHLORIDE			

FIXTURE SCHEDULE NOTES:

- 1. THIS FIXTURE SCHEDULE IDENTIFIES A FIXTURE THAT MEETS THE SPECIFIED PERFORMANCE REQUIREMENTS AND A LEVEL OF QUALITY REQUIRED FOR THE PROJECT. <u>MANUFACTURER'S NAMES AND FIXTURE SERIES/MODELS IN</u> <u>SCHEDULE ARE NOT A BRAND NAME SPECIFICATION.</u> EQUIVALENT FIXTURES BY MANUFACTURERS OTHER THAN THOSE LISTED MAY BE SUBMITTED FOR THIS PROJECT.
- 2. PROVIDE LED DRIVERS SUITABLE FOR FULL RANGE DIMMING, INTEGRAL SURGE PROTECTION, CURRENT TOTAL HARMONIC DISTORTION (THD) OF <20% AND A POWER FACTOR >0.90. IN ADDITION, DRIVERS MUST BE RF SUPPRESSED FOR MINIMUM INJECTION OF FEEDBACK INTO SUPPLY LINES. MAXIMUM CURRENT THD AND MINIMUM POWER FACTOR MUST BE SUBMITTED AS A PART OF THE FIXTURE SUBMITTAL DATA.
- 3. UNLESS OTHERWISE INDICATED, PROVIDE SINGLE DRIVER PER FIXTURE.
- CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CEILING CONSTRUCTION. <u>CONTRACTOR IS</u> <u>RESPONSIBLE</u> FOR MODIFICATION OF FIXTURE SCHEDULE MANUFACTURER'S PART NUMBERS FOR PURPOSES OF MATCHING CEILING CONSTRUCTION.
- 5. PROVIDE DIMMING DRIVERS WHERE DIMMING CONTROLS ARE INDICATED ON THE PLANS.
- 6. ALL FIXTURES TO HAVE A COLOR TEMPERATURE OF 4000K UNLESS NOTED OTHERWISE.
- 7. UNLESS NOTED OTHERWISE, ALL FIXTURES SHALL INCLUDE INTEGRAL DRIVER.
- 8. ALL FIXTURES SHALL BE UL OR THIRD PARTY LISTED AS COMPLETE ASSEMBLY. 9. FOR LIGHT FIXTURES HAVING LINEAR VISUAL FEATURES (IE: CENTER BASKET, LOUVERS, ETC), COORDINATE AND ALIGN
- COMPONENTS IN A SIMILAR DIRECTION CONSISTENTLY ACROSS THE BUILDING SPACES.

4. PROVIDE MOUNTING FRAME AND RELATED ACCESSORIES FOR ALL FIXTURES AS REQUIRED TO MATCH CEILING

SO DETAIL: IN0011 LED



		SYSTE
1	IN-DUCT SMOKE DETECTORS	
2		
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4		
5		

GENERAL NOTES :

- DAMPERS AND SOUNDER BASES.
- AND GENERAL ALARM. GENERAL ALARM.

									Г		COI	NTR	OL	UNI	Г		Г	SYSTEM OUTPUTS												RE	EQU	SUPF						
		I.I.	10-11-11-11-11-11-11-11-11-11-11-11-11-1	LI AD A A A A A A A A A A A A A A A A A A	100 100 100 100 100 100 100 100 100 100		TO STATISTICS	A CONTRACTOR OF THE CONTRACTOR	5 7 15 100 T 10	TIN TO THE TOT THE	ANN B B C C C C C C C C C C C C C C C C C	CC		110 12 12 12 12 12 12 12 12 12 12 12 12 12		15 5 5 5 5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7		NOT THE CONTRACT OF THE CONTRACT. THE CONTRACT OF THE CONTRACT. THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT. THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT. THE CONTRACT OF TH			Let			11 10 10 10 10 10 10 10 10 10 10 10 10 1	THE COLUMN THE	CO C						Y CC		ROL	C C C C C C C C C C C C C C C C C C C	Ling the set of the se	C C C C C C C C C C C C C C C C C C C	
EM INPUTS	А	В	С	D	Е	F	G	Н	I	J	К	L	М	Ν	0	Р	Q	R	S	Т	U	V	W	Х	Y	Z	AA	BB	CC	DD	EE	FF	GG	ΗΗ		JJ		
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1. THE TENTATIVE FIRE ALARM CONTROL MATRIX SHOW HOW SYSTEM INPUTS ARE MAPPED TO SYSTEM OUTPUTS. THE MATRIX IS PROVIDED FOR GUIDANCE. THE CONTRACTOR SHALL SUBMIT AN ACTUAL CONTROL MATRIX THAT INDICATES ALL INITIATING DEVICES BY SOFTWARE ZONE AND ALL OUTPUT ACTIONS BY ANNUNCIATION ZONE. MULTIPLE INPUTS AND/OR OUTPUTS FROM SIMILAR BUT INDEPENDENT SOURCES, FOR EXAMPLE MULTIPLE ELEVATORS OR AIR HANDLING UNITS, SHALL BE SHOWN AS SEPARATE LINE ITEMS. 2. INDICATES THAT THE NAMED INPUT CAUSES THE NAMED OUTPUT TO OCCUR.

3. PROVIDE OVERRIDE FUNCTIONS FOR AHU BY-PASS, FIRE ALARM STROBES, DOOR-HOLDS,

4. ALL SOUNDER BASES IN RESIDENCE SUITES SHALL ACTIVATE IN RESPONSE TO "ROOM ALARM" (FIRST SMOKE DETECTOR IN SUITE WITH SOUNDER BASE) CONDITION WITHIN SUITE

5. STROBE UNIT(S) IN HEARING ACCESSIBLE SUITES SHALL ACTIVATE IN RESPONSE TO "ROOM ALARM" (FIRST SMOKE DETECTOR WITH SOUNDER BASE) CONDITION WITHIN SUITE AND





E50-11 SCALE: NTS

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NFPA 72 AND ADA DEVICE INSTALLATION REQUIREMENTS



