

ELECTRICAL SYMBOLS

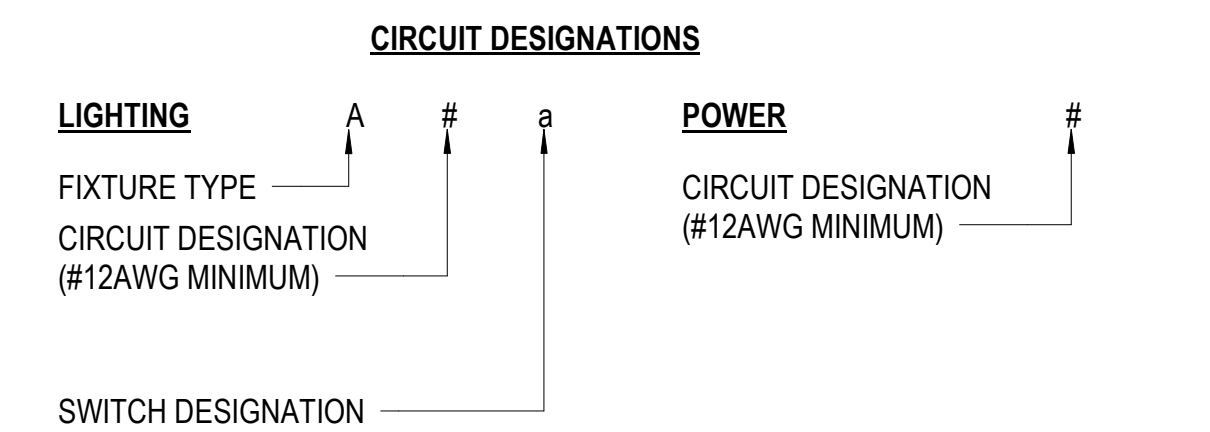
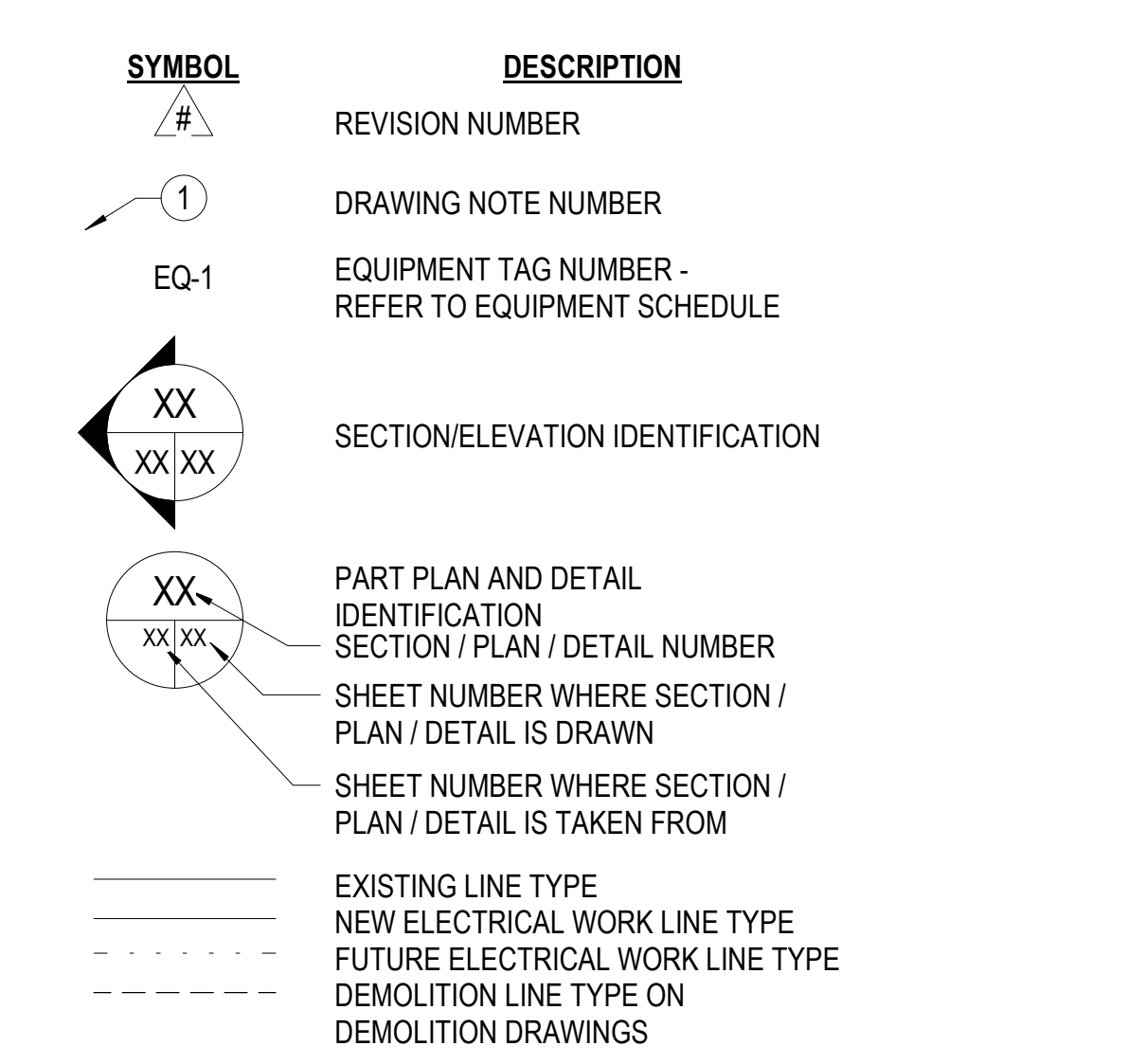
SYMBOL	DESCRIPTION	MH (UON)
	SINGLE POLE TOGGLE SWITCH	48" TOD
	SWITCH: SUB-LETTER INDICATES FIXTURES CONTROLLED (a)	48" TOD
	DOUBLE POLE TOGGLE SWITCH	48" TOD
	THREE-WAY TOGGLE SWITCH (SPDT)	48" TOD
	FOUR-WAY TOGGLE SWITCH (DPDT)	48" TOD
	KEY OPERATED SWITCH	48" TOD
	THREE WAY DIMMER SWITCH: SUBLETTER INDICATES FIXTURES CONTROLLED (a)	48" TOD
	MANUAL STARTER W/ OVERLOADS	48" TOD
	SWITCH W/ PILOT LIGHT	48" TOD
	DIMMER SWITCH	48" TOD
	4 BUTTON DIMMER SWITCH	48" TOD
	LOW VOLTAGE CONTROL SWITCH	48" TOD
	MANUAL TIME SWITCH	48" TOD
	MOMENTARY CONTACT SWITCH	48" TOD
	SWITCH WITH WEATHERPROOF ENCLOSURE	48" TOD
	OCCUPANCY SENSOR SWITCH	48" TOD
	OCCUPANCY SENSOR (CEILING & WALL MOUNTED)	
	TIME CLOCK	
	RELAY	
	LIGHTING CONTACTOR	
	PHOTOCELL OR PUSHPLATE SWITCH	
	LIGHTING FIXTURE: RECESSED, SURFACE, OR PENDANT MOUNTED - TYPE AS SPECIFIED	
	LIGHTING FIXTURE: 2 BALLAST	
	LIGHTING FIXTURE: INDUSTRIAL	
	LIGHTING FIXTURE: WALL MOUNTED - TYPE AS SPECIFIED	
	LIGHTING FIXTURE: RECESSED, SURFACE, OR PENDANT MOUNTED	
	LIGHTING FIXTURE: WALL MOUNTED - TYPE AS SPECIFIED	
	WALL WASHER	
	ADJUSTABLE WALL WASHER	
	LIGHTING FIXTURE WITH BATTERY PACK OR ON EMERGENCY CIRCUIT	
	EMERGENCY BATTERY PACK: W/ NUMBER OF HEADS INDICATED	
	EMERGENCY BATTERY PACK: W/ REMOTE HEADS	
	REMOTE EMERGENCY HEAD	
	EMERGENCY BATTERY PACK: SEMI RECESSED, CEILING MOUNT	
	EXIT SIGN: CEILING OR PENDANT MOUNTED (SHADED PORTION INDICATES FACE)	
	EXIT SIGN: WALL MOUNTED - END, BACK	
	EXIT SIGN: W/ DIRECTIONAL ARROWS	
	POLE MOUNTED LIGHTING FIXTURE: SINGLE HEAD, DOUBLE HEAD	
	POLE MOUNTED LIGHTING FIXTURE: SINGLE, POLE TOP	
	LIGHTING POLE (SPORTS)	

SYMBOL	DESCRIPTION	MH (UON)
	FIRE ALARM FLASHING STROBE LIGHT - WALL MOUNTED - 15cd UON	NOTE 5
	FIRE ALARM HORN - WALL MOUNTED	NOTE 5
	COMBINATION FIRE ALARM HORN AND FLASHING STROBE LIGHT - WALL MOUNTED - 15cd UON. S - CEILING SPEAKER, F - FIRE ALARM SPEAKER	NOTE 5
	FIRE ALARM HORN W/ STROBE - CEILING MOUNTED - 15cd UON	
	MAGNETIC DOOR HOLDER	
	DIGITAL ALARM COMMUNICATOR TRANSMITTER	
	FIRE ALARM ANNUNCIATOR PANEL	
	FIRE ALARM CONTROL PANEL	
	RESCUE ASSISTANCE MASTER CONTROL PANEL	48" TOD
	RESCUE ASSISTANCE REMOTE STATION	48" TOD
	FIRE ALARM RESPONDER	
	DOOR SOLENOID, ELECTRIC STRIKE - LOCKING DEVICE CONNECTION POINT	
	FIRE ALARM PULL STATION	48" TOD
	HEAT DETECTOR: E = ELEVATOR CONTROLS SMOKE DETECTOR (PHOTOELECTRIC); AB = AUDIBLE BASE, E = ELEVATOR CONTROLS	
	SMOKE DETECTOR (IONIZATION)	
	FIRE ALARM DUCT DETECTOR WITH RELAY	
	CARBON MONOXIDE DETECTOR	
	FIRE ALARM SYSTEM ADDRESSABLE RELAY - CONTROL	
	FIRE ALARM SYSTEM ADDRESSABLE RELAY - MONITOR	
	FIRE ALARM SYSTEM REMOTE ALARM LIGHT	
	FLOW SWITCH CONNECTION	
	TAMPER SWITCH CONNECTION	
	KEYPAD	48" TOD
	CARD READER, SEE DETAIL ON SHEET E-401	48" TOD
	DOOR ALARM CONTACT	
	PUSH BUTTON PLATE	
	INTERIOR CEILING MOUNTED SURVEILLANCE CAMERA: PROVIDE SIAMESE RG59U COAX CABLE WITH 18/2 POWER CABLE FROM OWNER PROVIDED EQUIPMENT RACK IN IT 113. PROVIDE 15 FT OF EXTRA CABLING SPOOLED AT END FOR CONNECTION TO OWNER PROVIDED CAMERA. TERMINATE BOTH ENDS OF CABLE WITH COMPRESSION BNC FITTINGS AND 2.1MM MALE DC CONNECTORS. PROVIDE 1" CONDUIT FROM BOX TO ABOVE INTERIOR ACCESSIBLE CEILING.	
	EXTERIOR WALL MOUNTED SURVEILLANCE CAMERA: PROVIDE WEATHER PROOF DIE CAST SINGLE GANG BACKBOX MOUNTED FLUSH WITH WALL SURFACE AND SIAMESE RG59U COAX CABLE WITH 18/2 POWER CABLE FROM OWNER PROVIDED EQUIPMENT RACK IN IT 113 FOR CONNECTION TO OWNER PROVIDED CAMERA. TERMINATE BOTH ENDS OF CABLE WITH COMPRESSION BNC FITTINGS AND 2.1MM MALE DC CONNECTORS. PROVIDE 1" CONDUIT FROM BOX TO ABOVE INTERIOR ACCESSIBLE CEILING.	96" CTR
	DATA OUTLET: PROVIDE DOUBLE GANG BACKBOX WITH SINGLE GANG REDUCER AND 1" CONDUIT WITH PULL STRING STUBBED TO ABOVE ACCESSIBLE CEILING.	18" CTR
	TV DATA OUTLET: PROVIDE DOUBLE GANG BACKBOX WITH SINGLE GANG REDUCER AND 1" CONDUIT WITH PULL STRING STUBBED TO ABOVE ACCESSIBLE CEILING.	60" CTR
	TV = PROVIDE (2) CAT5E CABLES AND JACKS IN FACEPLATE. ROUTE CABLES TO OWNER PROVIDED EQUIPMENT RACK IN IT 113.	
	ATC PANEL OUTLET: PROVIDE DOUBLE GANG BACKBOX WITH SINGLE GANG REDUCER AND 1" CONDUIT WITH PULL STRING STUBBED TO ABOVE ACCESSIBLE CEILING. LOCATE OUTLET TO SERVICE MECHANICAL ATC PANEL. COORDINATE EXACT LOCATION IN THE FIELD WITH CONTROLS CONTRACTOR.	18" CTR
	BAS = PROVIDE (2) CAT5E CABLES AND JACKS IN FACEPLATE. ROUTE CABLES TO OWNER PROVIDED EQUIPMENT RACK IN IT 113.	
	WIRELESS ACCESS POINT: PROVIDE (1) CAT5E CABLE FROM OWNER PROVIDED EQUIPMENT RACK IN IT 113 TERMINATED TO A BISCUIT JACK ABOVE CEILING WITH 5 FT COILED SLACK CABLE.	

SYMBOL	DESCRIPTION	MH (UON)
	COMBINATION SWITCH AND SIMPLEX RECEPTACLE	48" TOD
	COMBINATION SWITCH AND DUPLEX RECEPTACLE	48" TOD
	SIMPLEX RECEPTACLE	18" CTR
	DUPLEX RECEPTACLE: 'E' (IF SHOWN) INDICATES CONNECTED TO EMERGENCY CIRCUIT	18" CTR
	DUPLEX RECEPTACLE: FLOOR MOUNTED	
	DUPLEX RECEPTACLE: SPLIT WIRED, BOTTOM HALF SWITCHED	18" CTR
	DUPLEX RECEPTACLE: CEILING MOUNTED	
	DUPLEX RECEPTACLE: PEDESTAL TYPE	
	DUPLEX RECEPTACLE: MOUNTED 6" ABOVE BACKSPLASH OR COUNTER	
	DUPLEX RECEPTACLE: GROUND FAULT INTERRUPTER TYPE	18" CTR
	DUPLEX RECEPTACLE: GFI MOUNTED 6" ABOVE BACKSPLASH OR COUNTER	
	DUPLEX RECEPTACLE: MOUNTED HIGH	84" CTR
	DUPLEX RECEPTACLE: ISOLATED GROUND	18" CTR
	DUPLEX RECEPTACLE: AT 60" A.F.F.	60" CTR
	DOUBLE DUPLEX RECEPTACLE	18" CTR
	DOUBLE DUPLEX RECEPTACLE ISOLATED GROUND	18" CTR
	SIMPLEX RECEPTACLE: CART RECHARGE	36" CTR
	DUPLEX RECEPTACLE: PAY PHONE	54" CTR
	DUPLEX RECEPTACLE: CART RECHARGE	36" CTR
	SPECIAL RECEPTACLE: NEMA 6-20R (20A, 2P, 3W, 208V)	18" CTR
	SPECIAL RECEPTACLE: NEMA 6-30R (30A, 2P, 3W, 208V)	18" CTR
	SPECIAL RECEPTACLE: NEMA 14-30R (30A, 3P, 4W, 208/120V)	18" CTR
	SPECIAL RECEPTACLE: NEMA 15-30R (30A, 3P, 4W, 208V)	18" CTR
	SPECIAL RECEPTACLE: FLOOR MOUNTED, NEMA 6-20R	
	SPECIAL RECEPTACLE: PEDESTAL TYPE, NEMA 6-20R	
	TELEVISION RECEPTACLE	72" CTR
	TELEVISION RECEPTACLE	18" BFC
	CLOCK HANGER OUTLET	84" CTR
	PROGRAM CLOCK OUTLET: SINGLE FACE, DOUBLE FACE	84" CTR
	EMERGENCY POWER OFF SWITCH	48" TOD
	JUNCTION BOX	
	JUNCTION BOX - WALL MOUNTED	48" TOD
	EQUIPMENT CONNECTION AS NOTED	
	EQUIPMENT CONNECTION AS NOTED - WALL MOUNTED	48" TOD
	HEATER CONNECTION - NUMBER INDICATES KILOWATTS (3KW)	
	HEATER FAN - CEILING MOUNTED	
	ENCLOSED CIRCUIT BREAKER	
	NON-FUSED DISCONNECT SWITCH: 30A, 3P (UON)	
	FUSED DISCONNECT SWITCH: FUSE SIZE AS INDICATED (40A)	40
	MAGNETIC MOTOR STARTER	
	COMBINATION MAGNETIC MOTOR STARTER: ABBREVIATION INDICATES TYPE - FVNR, FVR, RVAT, 2S1W, 2S2W, SST	
	VARIABLE FREQUENCY CONTROLLER W/ FUSED DISCONNECT SWITCH	
	VARIABLE FREQUENCY DRIVE W/ DISCONNECT SWITCH	
	MOTOR: NUMERALS (IF SHOWN) INDICATE HP	
	GENERATOR: NUMERALS (IF SHOWN) INDICATE KW	
	MANUAL MOTOR STARTER W/ THERMAL OVERLOADS	
	CONTROL PANEL: TYPE AS INDICATED	
	MOMENTARY CONTACT START-STOP PUSHBUTTON STATION	48" TOD
	MAINTAINED CONTACT START-STOP PUSHBUTTON STATION	48" TOD
	MAINTAINED CONTACT EMERGENCY STOP PUSHBUTTON STATION	48" TOD
	BRANCH PANELBOARD	90" TOC
	DISTRIBUTION PANELBOARD	
	TRANSFORMER, CONCRETE PAD MOUNTED	

SYMBOL	DESCRIPTION
	RACEWAY "UP" OR "TOWARDS"
	RACEWAY "DOWN" OR "AWAY"
	RACEWAY CONCEALED IN WALLS OR CEILING SPACE: CONDUCTORS SHALL BE MINIMUM 2#12 AWG AND 1# 12 AWG GROUND IN 3/4" CONDUIT (UON)
	RACEWAY CONCEALED IN SLAB OR BELOW GRADE
	BRANCH CIRCUIT HOMERUN TO PANELBOARD: QUANTITY OF CIRCUITS INDICATED BY ARROWS. NUMBER OF CONDUCTORS SHALL BE MINIMUM 4#12 AWG AND 1#12 AWG GROUND IN 3/4" CONDUIT (UON)
	RACEWAY RUN EXPOSED: CONDUCTORS SHALL BE MINIMUM 2#12 AWG AND 1# 12 AWG GROUND IN 3/4" CONDUIT (UON)
	BUS DUCT OR CABLE TRAY "UP" OR "TOWARDS"
	BUS DUCT OR CABLE TRAY "DOWN" OR "AWAY"
	BUS DUCT: TYPE AND SIZE AS INDICATED
	TELEPHONE AND POWER POLE ASSEMBLY
	CONCRETE ENCASED DUCTBANK BELOW GRADE
	SURFACE MOUNTED RACEWAY ASSEMBLY WITH REMOVABLE COVER
	MULTI-OUTLET ASSEMBLY: DARK SQUARES INDICATE PREWIRED RECEPTACLE LOCATIONS. SIZE AS INDICATED
	MULTI-OUTLET ASSEMBLY: WITH RECEPTACLES LOCATED WHERE INDICATED
	2 CELL MULTI-OUTLET ASSEMBLY: WITH COMMUNICATION DEVICES AND RECEPTACLES LOCATED WHERE INDICATED
	MULTI-OUTLET ASSEMBLY: WITH COMMUNICATION DEVICES LOCATED WHERE INDICATED
	FLEXIBLE CONDUIT
	CABLE TRAY
	GROUND ROD
	LIGHTNING PROTECTION AIR TERMINAL
	GROUND WIRE CONNECTION
	GROUND WIRE
	LIGHTNING PROTECTION DOWN LEAD
	UTILITY POLE

ELECTRICAL DRAWING PRESENTATION



ELECTRICAL SYMBOLS NOTES

- THIS IS A STANDARD SYMBOL LIST. SOME SYMBOLS MAY NOT APPEAR ON THE ACCOMPANYING DRAWINGS.
- REFER TO SPECIFICATIONS FOR DETAILED REQUIREMENTS.
- PLAN AND SECTION SYMBOLS MAY ALSO BE USED ON RISER DIAGRAMS.
- ON SINGLE LINE DIAGRAMS FOR 3 PHASE SYSTEMS, DEVICE QUANTITY = 3, UNLESS OTHERWISE NOTED.
- DEVICE SHALL BE MOUNTED A MINIMUM OF 90" AFF TO BOTTOM OF DEVICE OR BELOW THE FINISHED CEILING OF NOT LESS THAN 6" TO TOP OF DEVICE, WHICHEVER IS LOWER.
- UNLESS OTHERWISE NOTED, ALL INTERIOR CONDUITS AND BOXES SHALL BE CONCEALED.

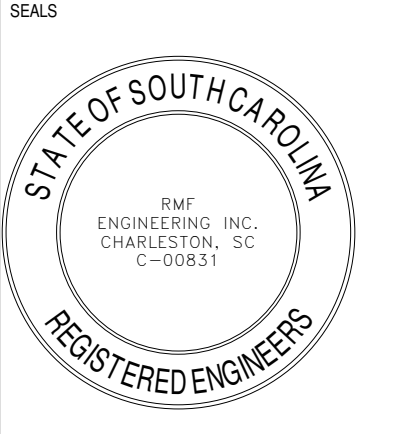
ELECTRICAL ABBREVIATIONS

NOTE: THIS IS A STANDARD ABBREVIATION LIST. SOME ABBREVIATIONS MAY NOT APPEAR ON THE ACCOMPANYING DRAWINGS.

2S1W	2 SPEED SINGLE WINDING	KWH	KILOWATT HOUR
2S2W	2 SPEED DOUBLE WINDING	LA	LIGHTNING ARRESTOR
A, AMP	AMPERE	LC	LIGHTING CONTACTOR
A/C	AIR CONDITIONING	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LP	LIGHTING PANEL
AFCI	ARC FAULT CIRCUIT INTERRUPTER	LRA	LOCKED ROTOR AMPERES
AFF	ABOVE FINISHED FLOOR	LTG	LIGHTNING
AFG	ABOVE FINAL GRADE	LTNG	LIGHTNING
AHU	AIR HANDLING UNIT	MATV	MASTER ANTENNA TELEVISION
AIC	AVAILABLE INTERRUPTING CURRENT	MCB	MAIN CIRCUIT BREAKER
ALT	ALTERNATE	MCC	MOTOR CONTROL CENTER
ANN	ANNUNCIATOR	MEH	METAL HALIDE
APPROX	APPROXIMATELY	MH	MANHOLE, MOUNTING HEIGHT
ARCH	ARCHITECT	MLO	MAIN LUGS ONLY
ATC	AUTOMATIC TEMPERATURE CONTROL	MSP	MOTOR STARTER PANEL
ATV	AUTOMATIC TRANSFER SWITCH	MTD	MOUNTED
AVS	AUDIOVISUAL	MV	MERCURY VAPOR
AWG	AMERICAN WIRE GAUGE	NC	NORMALLY CLOSED
BAS	BUILDING AUTOMATION SYSTEM	NEC	NATIONAL ELECTRIC CODE
BFC	BELOW FINISHED CEILING	NFSS	NON-FUSED SAFETY SWITCH
BFG	BELOW FINISHED GRADE	NO	NUMBER, NORMALLY OPEN
BLDG	BUILDING	OC	ON CENTER
BOD	BOTTOM OF DEVICE	OCFI	OWNER FURNISHED CONTRACTOR INSTALLED
C, CND	CONDUIT	OFOI	OWNER FURNISHED OWNER INSTALLED
CATV	CABLE TELEVISION	OH	OVERHEAD
CB	CIRCUIT BREAKER	P	POLE
CCTV	CLOSED CIRCUIT TELEVISION	PB	PUSHBUTTON
CKT, CCT	CIRCUIT	PF	POWER FACTOR
CL	CURRENT LIMITING	PFCC	POWER FACTOR CORRECTION CAPACITOR
CLG	CEILING	PL	PILOT LIGHT
CONN	CONNECT	PLC	PROGRAMMABLE LIGHTING CONTROL
CPT	CONTROL POWER TRANSFORMER	PNL	PANEL
CT	CURRENT TRANSFORMER	PP	POWER PANEL
CTR	CENTER	Pp	PUMP
CU	COPPER	PR	PAIR
CWP	COLD WATER PIPE	PRN	PRINTER
CX	CONNECT TO EXISTING	PT	POTENTIAL TRANSFORMER
DC	DIRECT CURRENT	PV, PH	POLYVINYL CHLORIDE PHASE
DISC	DISCONNECT	QTY	QUANTITY
DN	DOWN	RCS	REMOTE CONTROL SWITCH
DP	DISTRIBUTION PANEL	REC.	RECEPTACLE
DPDT	DOUBLE POLE DOUBLE THROW	RECP	RECEPTACLE
DPST	DOUBLE POLE SINGLE THROW	REQD	REQUIRED
DT	DOUBLE THROW	RFI	RADIO FREQUENCY INTERFERENCE
DWG	DRAWING	RGS	RIGID GALVANIZED STEEL
E, EMERG	EMERGENCY	RLA	RUNNING LOAD AMPERES
EA	EACH	RM	ROOM
EC	EMPTY CONDUIT	RVAT	REDUCED VOLTAGE AUTO TRANSFORMER
EF	EXHAUST FAN	RX	REMOVE EXISTING
EH	ELECTRIC HEATER	SC	SURGE CAPACITOR
ELEC	ELECTRIC	SEC	SECONDARY
ELEV	ELEVATOR	SN, SN	SOLID NEUTRAL
ETR	EXISTING TO REMAIN	SP	SURGE PROTECTION
EWC	ELECTRIC WATER COOLER	SPD	SURGE PROTECTION DEVICE
EX	EXISTING	SPDT	SINGLE POLE DOUBLE THROW
EXP	EXPOSED	SS	SAFETY SWITCH
FA	FIRE ALARM	SST	SOLID STATE
FAAP	FIRE ALARM ANNUNCIATOR PANEL	ST	SINGLE THROW
FACP	FIRE ALARM CONTROL PANEL	SW	SWITCH
FBO	FURNISHED BY OTHERS	SWBD	SWITCHBOARD
FC	FAN COIL	TBR	TO BE REMOVED
FDR	FEEDER	TC	TIME CLOCK
FLA	FULL LOAD AMPERES	TEL, TELE	TELEPHONE
FLR	FLOOR	TH	TUNGSTEN HALOGEN
FR	FRAME	TOC	TOP OF CABINET
FU	FUSED, FUSIBLE	TOD	TOP OF DEVICE
FUSS	FUSED SAFETY SWITCH	TRANS,	TRANSFORMER

DRAWING NOTES

- 1 PROVIDE 4"X8"X3/4" PLYWOOD, AC GRADE OR BETTER, ALONG ENTIRE LENGTH OF WALL. PAINT ALL SIDES WITH TWO COATS OF WHITE FIRE RETARDANT PAINT.
- 2 MOUNT DATA OUTLET AT SAME HEIGHT AS ADJACENT ABOVE COUNTER RECEPTACLE.
- 3 PROVIDE (2) 2" CONDUIT SLEEVES WITH PULL STRING, (1) FOR SECURITY CABLING AND (1) FOR DATA CABLING, ROUTED ABOVE CANOPY AND STUBBED TO ABOVE ACCESSIBLE CEILING. ROUTE GROUPED IN CLOSE PROXIMITY TO MECHANICAL PIPING IN THE AREA.
- 4 PROVIDE 2-TIER J-HOOK TREE SYSTEM 4'-0" ON CENTER ALONG PATH INDICATED FOR DATA AND SECURITY CABLING. COORDINATE EXACT ROUTING IN THE FIELD WITH OTHER ABOVE CEILING UTILITIES.
- 5 PROVIDE 12" LADDER RUNWAY SECURED TO TOP OF OWNER PROVIDED EQUIPMENT RACK.
- 6 PROVIDE AN ADDITIONAL SIAMENSE RG59/U COAX CABLE WITH 18/2 POWER CABLE FROM OWNER PROVIDED EQUIPMENT RACK TO THIS OUTLET FOR SECURITY CAMERA FEED.
- 7 PROVIDE CELLULAR FIRE ALARM COMMUNICATOR HONEYWELL #IPGSM-4G, OR APPROVED EQUAL, FOR CONNECTION TO FACP DACT.



LANCASTER COUNTY
LANCASTER ANIMAL SHELTER
 LANCASTER, SC

SHEET ISSUE:

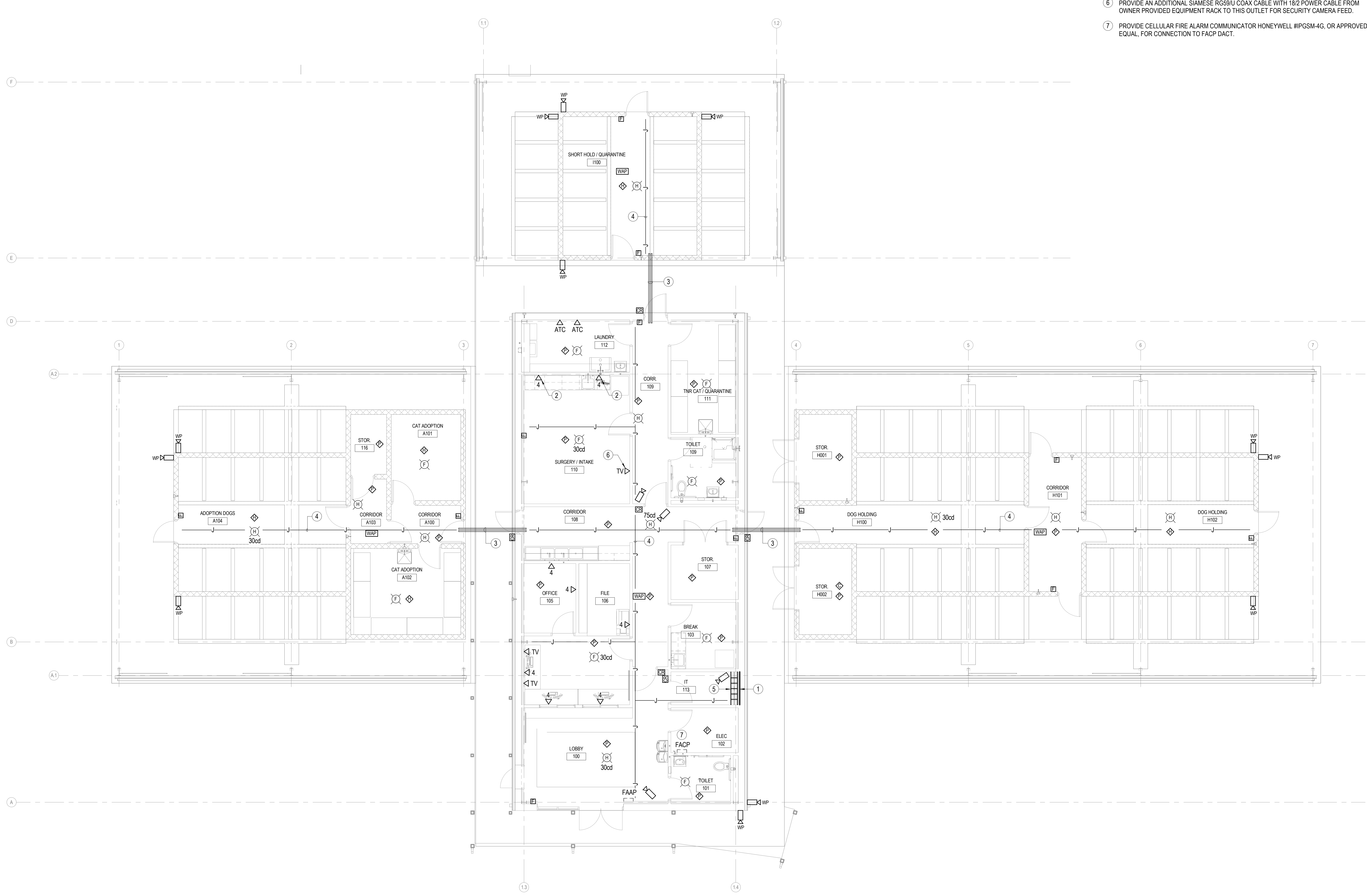
NO.	DATE	DESCRIPTION	BY
A	7/5/18	ISSUE FOR PRICING	
B	9/14/18	COORDINATION	
1	10/17/18	ISSUE FOR BID AND PERMIT	

ISSUE FOR BID AND PERMIT 10/17/18
 PRINCIPAL IN CHARGE: DSC
 PROJECT ARCHITECT: DMS
 DRAWN BY: SY

SHEET TITLE:
**ELECTRICAL
 SPECIAL SYSTEMS
 PLAN**

SHEET NO. PROJ. NO.
 E-301 318201.A0

ALL DIMENSIONS, SPECIFICATIONS AND NOTES UNLESS OTHERWISE SPECIFIED ARE THE PROPERTY OF MCMILLAN PAZDAN SMITH ARCHITECTURE. THESE DRAWINGS ARE THE PROPERTY OF MCMILLAN PAZDAN SMITH ARCHITECTURE AND SHALL REMAIN THE PROPERTY OF MCMILLAN PAZDAN SMITH ARCHITECTURE. NO PARTS OF THESE DRAWINGS ARE TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF MCMILLAN PAZDAN SMITH ARCHITECTURE.



SPECIAL SYSTEMS PLAN
 3/16" = 1'-0"

