

PROJECT LOCATION ARCHITECTURAL ELECTRICAL

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MECH./PLUMBING

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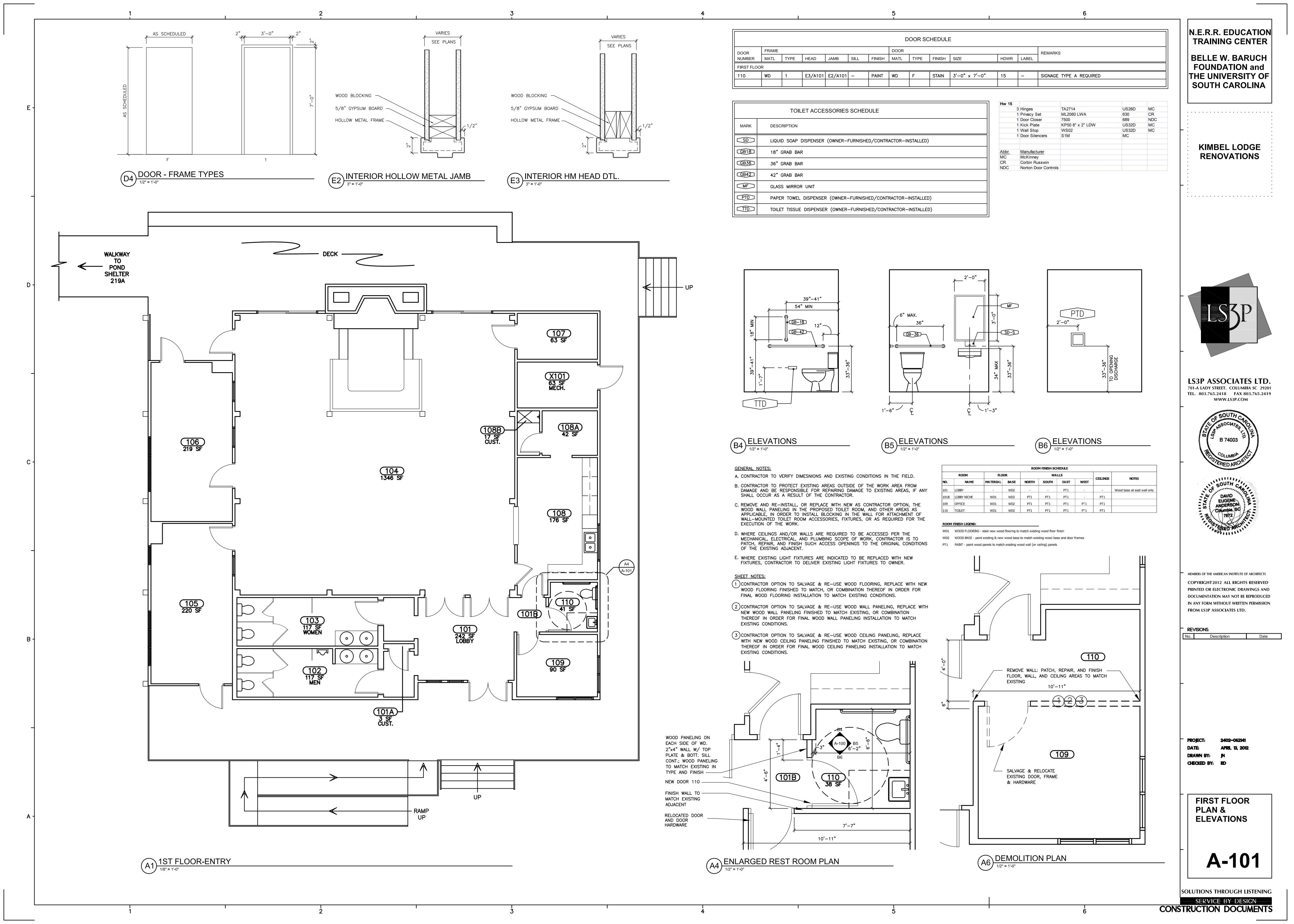
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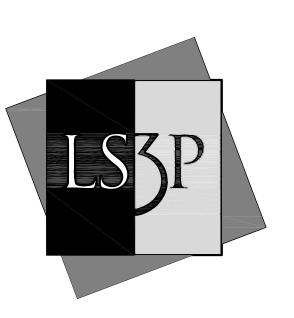


- METAL FRAME COLOR: BROWN ------ GRAPHIC COLOR: BROWN BACKGROUND COLOR: WHITE 8 1/2" BACKGROUND COLOR: BROWN RAISED PERMANENT TEXT 1/32" CENTERED IN SPACE. COLOR: WHITE 1 1/4" 3/4" - TEXT: BRAILLE, RAISED 1/32" CENTERED IN SPACE. COLOR: BROWN 1 1/4" BACKGROUND COLOR: WHITE

N.E.R.R. EDUCATION TRAINING CENTER

BELLE W. BARUCH FOUNDATION and THE UNIVERSITY OF SOUTH CAROLINA

KIMBEL LODGE RENOVATIONS



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SIGNAGE TYPES

SOLUTIONS THROUGH LISTENING

SERVICE BY DESIGN
CONSTRUCTION DOCUMENTS

MECHANICAL LEGEND

PLUMBING LEGEND

	DUCTWORK SYMBOLS		PIPING SYMBOLS	RISER DIA	GRAM COMPONENTS AND SPECIALTIES
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
4	AIR FLOW		DOMESTIC COLD WATER (POTABLE)	——————————————————————————————————————	SHOCK ARRESTER
	EXHAUST AIR GRILLE		DOMESTIC HOT WATER DOMESTIC HOT WATER RECIRCULATION	」 ¦∟	VENT THROUGH ROOF
0	ROUND DUCT RISER (SMALLER THAN 12")	, , ,			TRAP ARM
			VENT	Ţ	URINAL/WATER CLOSET (FLOOR MOUNTED)
	EQUIPMENT DESIGNATIONS	<u>CC</u>	OMPONENTS AND SPECIALTIES	∠ CO	WALL/PIPE CLEANOUT
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	, , , , ,	
<u>TEF-X</u>	TOILET EXHAUST FAN DESIGNATION	——————————————————————————————————————	CLEAN OUT (WALL/PIPE)		EQUIPMENT DESIGNATIONS

WATER METER

——O+ HB

COLD WATER INTERIOR HOSE BIBB

EXTERIOR WALL HYDRANT (FREEZE PROOF)

MECHANICAL ABBREVIATIONS

ADOVE FINICHED FLOOD

AFF	ABOVE FINISHED FLOOR
CFM	CUBIC FEET PER MINUTE
CO	CLEANOUT
CW	COLD WATER, CITY WATER

COLD WAIER, CITY WAIER

EA EXHAUST AIR ESP EXTERNAL STATIC PRESSURE EX **EXISTING**

FINISHED FLOOR HOSE BIBB HP HORSEPOWER

DOWN

HOT WATER **HWR** HOT WATER RECIRCULATION LBS POUNDS

RPM REVOLUTIONS PER MINUTE

STATIC PRESSURE TYP **TYPICAL**

WALL HYDRANT

GENERAL SYMBOLS

PIPING SYMBOLS

SYMBOL	DESCRIPTION
	PIPE DROP
	PIPE RISE
	PIPE CAP
	BRANCH TAKE OFF
	PIPE DROP TEE
	PIPE RISE TEE
───	SHUTOFF VALVE (REFER TO SPECIFICATIONS FOR TYPE)
	CONCENTRIC REDUCER

DESIGNATION

<u>P-X</u>

DESCRIPTION

PLUMBING FIXTURE DESIGNATION

LINETYPE SYMBOLS

DESIGNATION DESCRIPTION

> EXISTING WORK NEW WORK

> > REFERENCE SYMBOLS

DESIGNATION DESCRIPTION

 Θ POINT OF CONNECTION TO EXISTING

GENERAL NOTES

- 1. NOTIFY THE OWNER, IN WRITING, AT LEAST SEVEN (7) DAYS IN ADVANCE OF ALL REQUIRED SHUTDOWNS OF WATER, FIRE, SEWER, GAS, ELECTRICAL SERVICE, OR OTHER UTILITIES. UPON WRITTEN RECEIPT OF APPROVAL FROM OWNER, SHUTDOWN SHALL BE PERFORMED BETWEEN THE HOURS OF SIX (6) P.M. AND SIX (6) A.M. OR AS DIRECTED OTHERWISE BY THE OWNER AND SHALL BE ACCOMPLISHED AT NO ADDITIONAL CONTRACT COST. AT THE END OF EACH SHUTDOWN ALL SERVICES SHALL BE RESTORED SO THAT NORMAL USE OF THE UTILITIES CAN CONTINUE.
- THE SATISFACTION OF THE ARCHITECT ALL EXISTING WORK DAMAGED IN THE PERFORMANCE OF DEMOLITION AND/OR NEW WORK.
- 3. ALL EXISTING PIPING, EQUIPMENT, DUCTWORK, AND MATERIALS NOT REQUIRED FOR RE-USE OR RE-INSTALLATION (SHOWN OR OTHERWISE) SHALL BE REMOVED. ALL EXISTING MATERIALS AND EQUIPMENT WHICH ARE REMOVED AND ARE DESIRED BY THE OWNER, OR ARE INDICATED TO REMAIN THE PROPERTY OF THE OWNER, SHALL BE DELIVERED TO HIM ON THE PREMISES BY THE CONTRACTOR WHERE DIRECTED BY THE ARCHITECT. ALL OTHER MATERIALS AND EQUIPMENT WHICH ARE REMOVED SHALL BECOME
- 4. EXISTING CONDITIONS, I.E., PRESENCE AND LOCATION OF DUCTWORK, PIPING, EQUIPMENT AND MATERIALS, INDICATED ARE BASED ON INFORMATION OBTAINED FROM AVAILABLE RECORD DRAWINGS AND FIELD SURVEYS AND ARE NOT WARRANTED TO BE COMPLETE OR CORRECT. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL DUCTWORK, PIPING, EQUIPMENT AND MATERIALS IN THE FIELD PRIOR TO STARTING ALL WORK.
- 5. EXISTING DUCT, PIPE, AND EQUIPMENT SIZES NOTED ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY AND ARE NOT WARRANTED TO BE CORRECT. CONTRACTOR SHALL VERIFY ALL SIZES IN THE FIELD IF THEY EFFECT HIS WORK.
- 6. EXISTING MECHANICAL AND ELECTRICAL EQUIPMENT, PIPING, DUCTWORK, AND MATERIALS AFFECTED BY DEMOLITION OR NEW WORK INSTALLATION AND REQUIRED TO REMAIN IN SERVICE SHALL BE RE-INSTALLED OR SUPPORTED AS REQUIRED IN ACCORDANCE WITH NEW WORK SPECIFICATION. ALL WORK SHALL BE COMPLETED TO THE SATISFACTION OF THE ARCHITECT AND AT NO ADDITIONAL
- 7. PATCH ALL DISTURBED SURFACES, INCLUDING WALLS, CEILINGS, ROOF, AND FLOOR. PATCHING SHALL MATCH EXISTING ADJACENT SURFACES AS TO THICKNESS, TEXTURE, MATERIALS, AND COLOR. ALL PATCHING SHALL BE PERFORMED TO THE SATISFACTION OF THE OWNER/ENGINEER AND AT NO ADDITIONAL CONTRACT COST.
- EQUIPMENT, DUCTWORK, AND MATERIALS SHOWN "HEAVY AND DASHED" IS EXISTING AND SHALL BE DEMOLISHED.
- 10. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL OTHER TRADES/SUBCONTRACTORS INCLUDING BUT NOT LIMITED TO AUTOMATIC TEMPERATURE CONTROLS, ELECTRICAL, AND GENERAL TRADES.

- 14. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER PRIOR TO CLOSING ANY CEILINGS FOR A COMPLETE CHECKOUT OF THE HVAC SYSTEM. THE SYSTEM MUST BE COMPLETE AND OPERATIONAL INCLUDING CONTROLS, REGISTERS, INSULATION, AND BALANCING WITH REPORT. THE SYSTEM SHALL BE RUN THROUGH ITS COMPLETE HEATING AND COOLING CYCLES. THE CONTRACTOR AND ALL APPROVED SUBCONTRACTORS SHALL BE PRESENT AT THE ARCHITECT-ENGINEER CHECKOUT. THE TESTING AND BALANCE AGENCY SHALL CERTIFY THAT THESE CONDITIONS ARE MET.

WHEN WORKING IN AND AROUND THE EXISTING BUILDING, EXTREME CARE SHALL BE EXERCISED WITH REGARD TO PROTECTION OF THE EXISTING STRUCTURE AND MECHANICAL AND ELECTRICAL SERVICES WHICH WILL REMAIN. REPAIR, REPLACE, OR RESTORE TO

THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED BY THE CONTRACTOR FROM THE PREMISES.

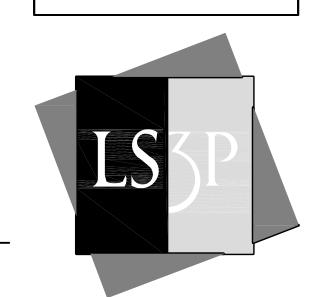
CONTRACT COST.

- 8. IN GENERAL ALL PIPING, EQUIPMENT, DUCTWORK, AND MATERIALS SHOWN "LIGHT" IS EXISTING TO REMAIN. ALL PIPING, CONDUITS,
- 9. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SOUTH CAROLINA CODES AND THE STATE FIRE MARSHALL'S REQUIREMENTS.
- 11. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL EGRESS CORRIDORS DURING CONSTRUCTION.
- 12. ALL PENETRATIONS MUST BE SEALED WITH FIRE STOP MATERIAL AFTER SERVICES ARE RUN THROUGH. ALL PENETRATIONS THROUGH EXTERIOR WALLS ABOVE AND BELOW GRADE OR SLAB ON GRADE MUST BE WATERPROOFED.
- 13. FINAL CEILING HEIGHTS TO BE DETERMINED WITH ARCHITECT IN FIELD AFTER DEMOLITION OF EXISTING CEILINGS. NO FABRICATION OF DUCTWORK, HVAC PIPING OR PLUMBING PIPING SHALL BEGIN UNTIL AFTER THE CONTRACTOR HAS COMPLETED COORDINATION DRAWINGS AND COORDINATED THE CEILING HEIGHTS WITH THE ARCHITECT.

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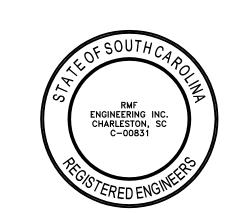


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194 SEVEN FARMS DRIVE, SUITE G CHARLESTON, SC 29492 RMF PROJECT #:312022.A0





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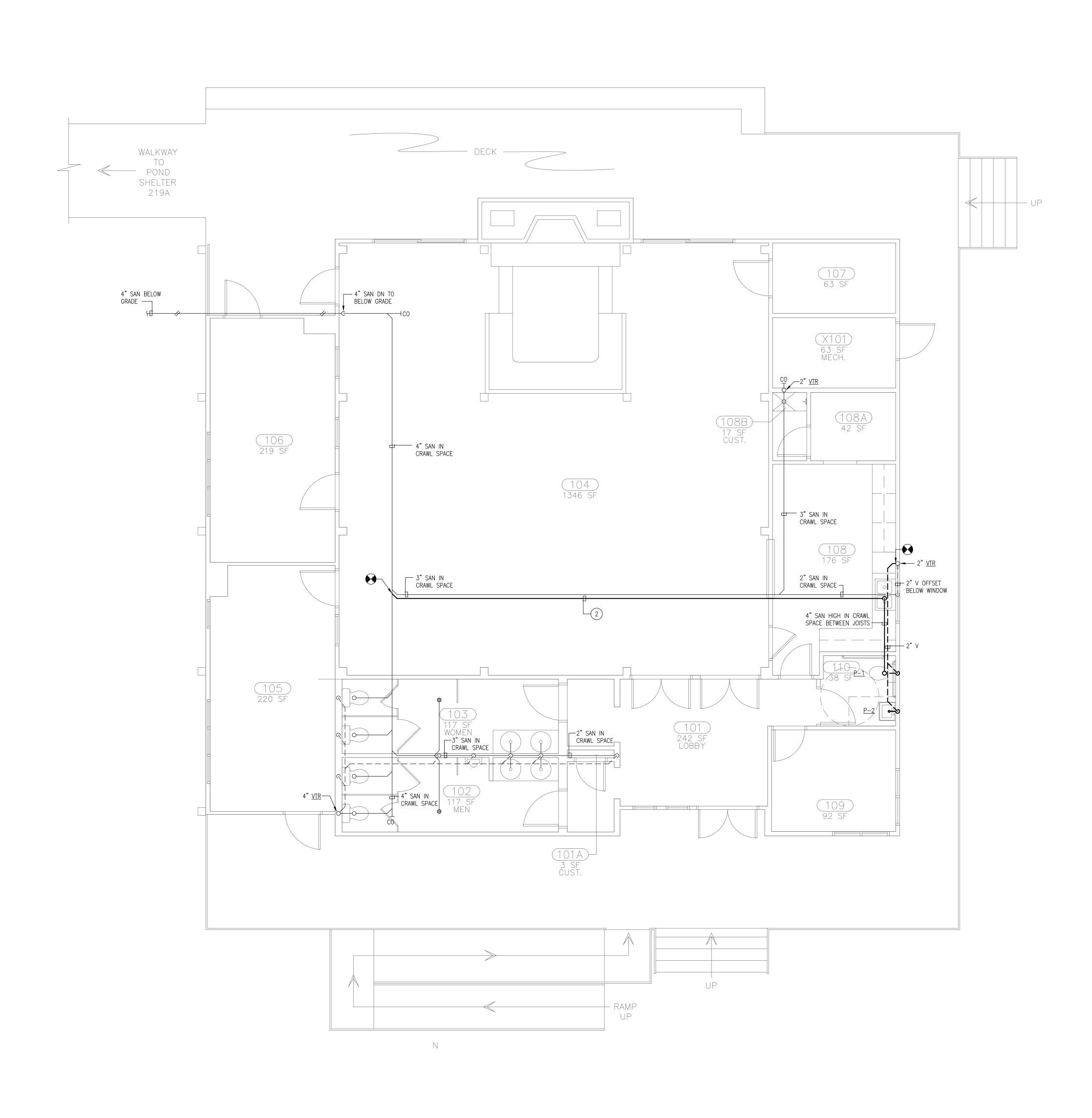
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MECHANICAL AND PLUMBING ABBREVIATIONS, **LEGENDS AND SCHEDULES**

SOLUTIONS THROUGH LISTENING SERVICE BY DESIGN

FAN SCHEDULE												
DESIG	SERVICE	CFM	SP INCH H₂O	APPROX RPM	WATTS (MOTOR SIZE)	DRIVE	AMCA CONSTRUCTION CLASS	ELECTRICAL	APPROX WEIGHT (LBS)	REMARKS		
TEF-1	TOILET EXHAUST	CEILING	75	0.5	925	67	DIRECT	II	120/1/60	15	-	

	PLUMBING FIXTURE SCHEDULE										
No.	FIXTURE	CW RC	OUGH-IN (CONNECTION SAN	VENT	FI)	TURE UNIT	TS SAN	REMARKS		
P-1	WATER CLOSET	1"	_	4"	2"	10.0	_	4	FLOOR MTD, ADA		
P-2	LAVATORY	1/2"	1/2"	1 1/2"	1 1/2"	1.5	1.5	2	WALL MTD, ADA		

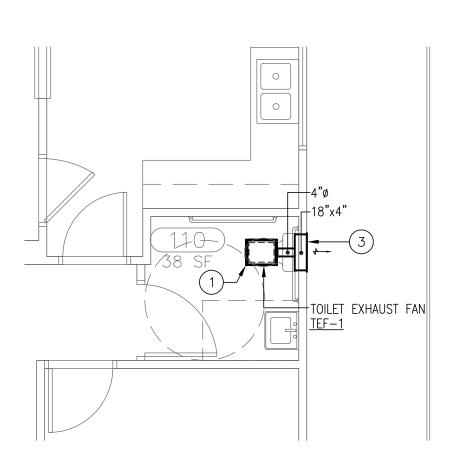


FLOOR PLAN — PLUMBING
SCALE: 1/4"=1'-0"

GENERAL NOTES:

- 1. TOILET EXHAUST FAN T $\underline{\mathsf{EF}} = 1$ SHALL BE EQUAL TO LOREN COOK 100 SERIES CEILING FAN WITH ALUMINUM
- 2. WATER CLOSET (P-1) SHALL BE EQUAL TO AMERICAN STANDARD CADET FLOWISE 2467.100 PRESSURE-ASSISTED, HIGH EFFICIENCY, LOW CONSUMPTION AT 1.1 GALLONS PER FLUSH, ADA COMPLIANT. THE SEAT SHALL BE EQUAL TO CHURCH NO. 9500C, OPEN FRONT. THE WATER CLOSET SHALL BE FLOOR MOUNTED, ELONGATED BOWL, VITREOUS CHINA, EVERCLEAN SURFACE. INSTALLATION SHALL MEET THE AMERICAN WITH DISABILITIES ACT GUIDELINES AND ANSI A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES (16-1/2" RIM HEIGHT).
- 3. LAVATORY (P-2) SHALL BE EQUAL TO AMERICAN STANDARD MURRO 0954.000 WITH VITREOUS CHINA SHROUD/KNEE CONTACT GUARD 0059.020. FAUCET SHALL BE EQUAL TO CHICAGO FAUCET 895-317GN2FCCP, COUNTERTOP MOUNTED GOOSENECK FAUCET, FOUR (4) INCHES ON CENTER WITH 4" WRISTBLADES, HOT AND COLD INDEXES, COMPRESSION CARTRIDGE. STRAINER SHALL BE MCGUIRE 155A2 CAST BRASS CHRÔME PLATED OPEN GRID P.O. PLUG WITH 17 GAUGE 1-1/2"x6' SEAMLESS BRASS TAILPIECE, BRAS LOCKNUT, HEAVY RUBBER BASIN WASHER AND FIBER FRICTION WASHER. P.O. PLUG SHALL BE IN COMPLIANCE WITH CSA AND BEAR BOTH MANUFACTURER AND TESTING MARK. TRAP SHALL BE EQUAL TO MCGUIRE 8912 CAST BRASS CHROME PLATED P-TRAP WITH CLEANOUT WITH 17 GAUGE TUBULAR WALL BEND, CAST BRASS SLIP NUTS. TRAP SHALL BE IN COMPLIANCE WITH CSA AND BEAR BOTH MANUFACTURER AND TESTING MARK. SUPPLIES AND STOPS SHALL BE EQUAL TO CHICAGO FAUCET NO. 1006 WITH 1-100XTJKNF CARTRIDGE, 1/4 TURN, BALL VALVE TYPE ANGLE STOP FITTING. CARRIER SHALL BE EQUAL TO JOSAM SERIES 17100 FLOOR-MOUNTED SINGLE LAVATORY CARRIER. LAVATORY SHALL BE WALL MOUNTED FOR THE HANDICAPPED (TOP OF FRONT RIM MOUNTED 34" FROM FINISHED FLOOR). CONTRACTOR SHALL VERIFY AND COORDINATE ROUGH-IN LOCATIONS.
- 4. PIPING MATERIAL:
- SANITARY AND VENT PIPING CAST IRON SOIL PIPE, SERVICE WEIGHT NO-HUB, ASTM A-888.
- PIPING FITTINGS:
- SANITARY AND VENT PIPING CAST IRON SOIL PIPE FITTINGS, NO HUB, ASTM A-888. 1. PIPING JOINTS:
- SANITARY AND VENT PIPING NO—HUB NEOPRENE GASKET AND STAINLESS STEEL CORRUGATED SHIELD, TYLER NO-HUB COUPLING.

- 1) EXHAUST FAN SHALL BE TIED TO LIGHT SWITCH TO TURN FAN ON. REFER TO ELECTRICAL DRAWINGS FOR SWITCH CONNECTION. EXHAUST DUCT FROM FAN SHALL BE PROVIDED WITH AN ALUMINUM BACKDRAFT DAMPER.
- 2 SANITARY PIPING SHALL BE SUPPORTED FROM STRUCTURE BENEATH THE BUILDING. SUPPORTS SHALL BE GALVANIZED FOR EXTERIOR LOCATIONS.
- 3 ALUMINUM EXHAUST GRILLE SHALL BE EQUAL TO TITUS 355FL, SIZE 18"x4". THE GRILLE SHALL BE LOCATED BELOW ROOF OVERHANG SIMILAR TO EXISTING INSTALLATION ON OTHER SIDE OF BUILDING. GRILLE SHALL BE PAINTED TO MATCH EXTERIOR OF BUILDING. MESH SCREEN SHALL BE PROVIDED ON THE BACKSIDE OF THE



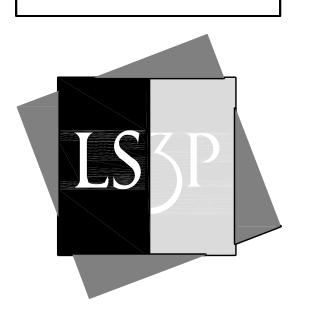
PART PLAN - MECHANICAL

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

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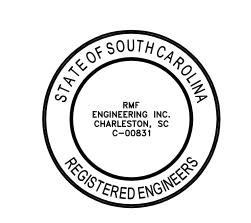


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RMF ENGINEERING, INC. 194 SEVEN FARMS DRIVE, SUITE G CHARLESTON, SC 29492 RMF PROJECT #:312022.A0





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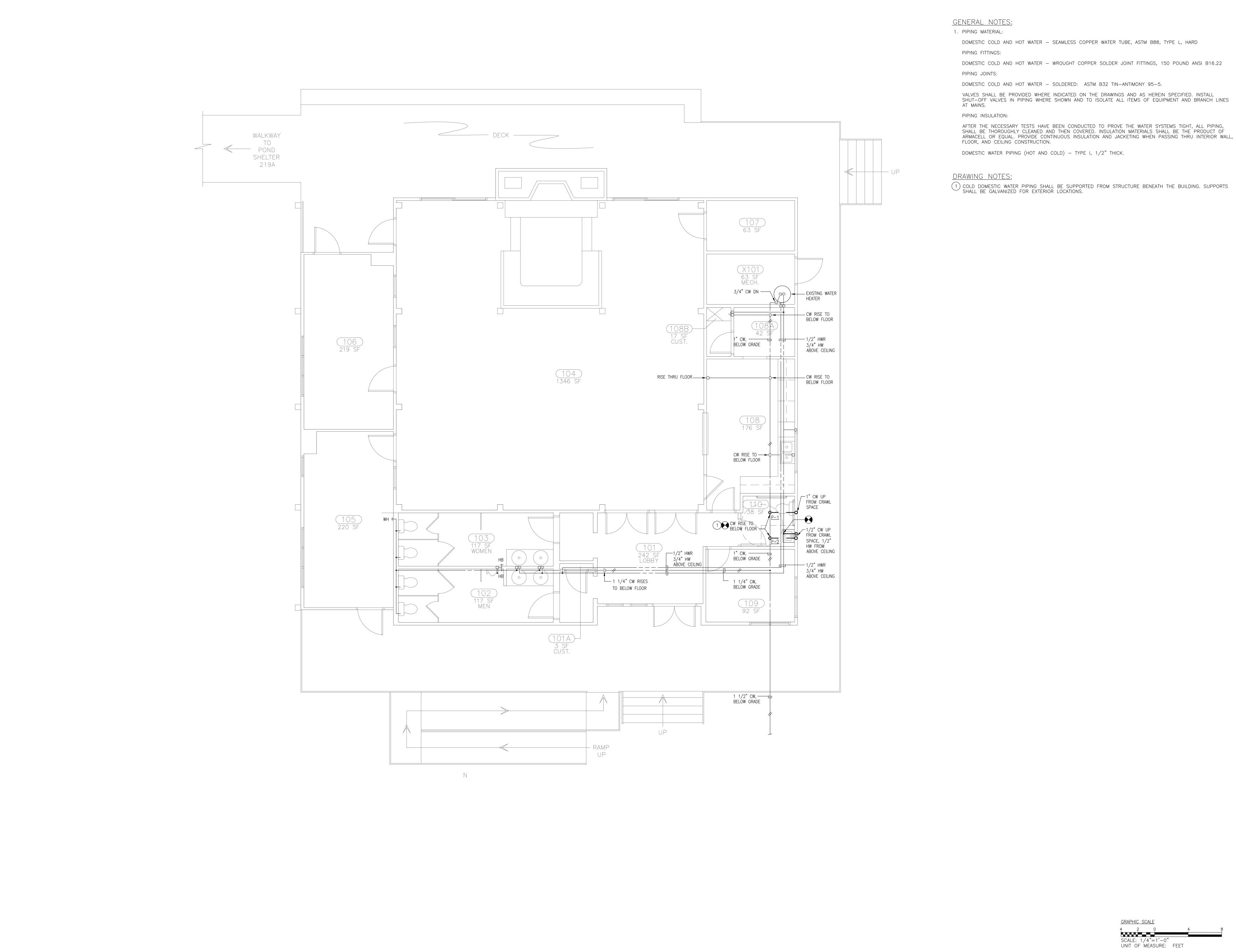
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MECHANICAL, SANITARY AND **VENT FIRST FLOOR PLAN**

SOLUTIONS THROUGH LISTENING SERVICE BY DESIGN

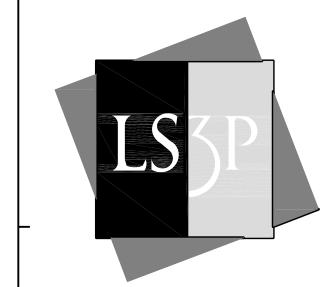
GRAPHIC SCALE SCALE: 1/4"=1'-0" UNIT OF MEASURE: FEET



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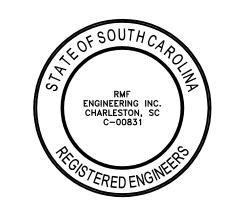


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DOMESTIC WATER FIRST FLOOR PLAN

SOLUTIONS THROUGH LISTENING

SERVICE BY DESIGN **CONSTRUCTION DOCUMENTS**

	ELECTRICAL DIAGRAMS		POWER SYMBOLS			LIGHTING SYMBOLS	
SYMBOL	DESCRIPTIONS	SYMBOL	DESCRIPTIONS	MH (UON)	SYMBOL	DESCRIPTIONS	MH (UON)
N \ E	AUTOMATIC TRANSFER DEVICE	<u>\$ Φ</u>	COMBINATION SWITCH AND SIMPLEX RECEPTACLE	48" TOD	\$	SINGLE POLE TOGGLE SWITCH	48" TOD
A.	METERING DEVICES: A-AMMETER, V-VOLTMETER, PF-POWER	<u>\$ P</u>	COMBINATION SWITCH AND DUPLEX RECEPTACLE	48" TOD	\$ a	SWITCH - SUBLETTER INDICATES FIXTURES CONTROLLED	48" TOD
	FACTOR, HZ-FREQUENCY METER DIGITAL METER	€ C	SIMPLEX RECEPTACLE 'F' (IF SHOWN) INDICATES	18" CTR 18" CTR	\$ ₂	DOUBLE POLE TOGGLE SWITCH THREE—WAY TOGGLE SWITCH (SPDT)	48" TOD 48" TOD
	FUSE, FUSE SIZE AS INDICATED (50A)		DUPLEX RECEPTACLE. 'E' (IF SHOWN) INDICATES CONNECTED TO EMERGENCY CIRCUIT.	IO CIR	\$ ₃ \$ ₄	FOUR-WAY TOGGLE SWITCH (DPDT)	48" TOD
——(50)	GROUND CONNECTION	⊜	DUPLEX RECEPTACLE, FLOOR MOUNTED DUPLEX RECEPTACLE, SPLIT WIRED — TOP	18" CTR	\$ _K	KEY OPERATED SWITCH	48" TOD
Δ <u></u>	TRANSFORMER (DELTA — RESISTANCE GROUNDED		HALF SWITCHED	10 0111	\$ 3aD	THREE WAY DIMMER SWITCH CONTROLLING FIXTURES INDICATED WITH LOWERCASE a.	48" TOD
<u> </u>	WYE SHOWN)	⊕	DUPLEX RECEPTACLE, CEILING MOUNTED PEDESTAL TYPE DUPLEX RECEPTACLE		\$ _M	MANUAL STARTER WITH OVERLOADS	48" TOD
⊱ ⊰⊱	CURRENT TRANSFORMER POTENTIAL TRANSFORMER	A © H	SPECIAL RECEPTACLE: 20A, 2P, 3W, 208V NEMA 6-20R	18" CTR	\$ _P \$ _D	SWITCH WITH PILOT LIGHT DIMMER SWITCH	48" TOD 48" TOD
⊸ ^L A.	LIGHTNING ARRESTOR	в ⊘ Н	SPECIAL RECEPTACLE: 30A, 2P, 3W, 208V	18" CTR	\$ _{LV}	LOW VOLTAGE CONTROL SWITCH	48" TOD
4F-00	MOTOR STARTER CONTACTOR AND THERMAL OVERLOAD	c ⊘ H	NEMA 6-30R SPECIAL RECEPTACLE: 20A, 3P, 4W, 208/120V	18" CTR	\$ _T	MANUAL TIME SWITCH	48" TOD
→K→ I _{N TRIP}	KIRK KEY INTERLOCK SYSTEM	D ⊘ H	NEMA 14-20 SPECIAL RECEPTACLE: 30A, 3P, 4W, 208V	18" CTR	\$ _C	MOMENTARY CONTACT SWITCH OCCUPANCY SENSOR	48" TOD
TRIP FRAME	MOLDED CASE CIRCUIT BREAKER WITH RATINGS AS INDICATED		NEMA 15-30	10 CIK		TIME CLOCK	
→ ` < >	SWITCH DRAW OUT DEVICE	A (∑) A (∑)	SPECIAL RECEPTACLE, FLOOR MOUNTED, NEMA 6-20R PEDESTAL TYPE SPECIAL RECEPTACLE, NEMA 6-20R		R	RELAY	
<u>√ 52</u> →	DRAW OUT POWER CIRCUIT BREAKER	₽	DOUBLE DUPLEX RECEPTACLE	18" CTR	L P	LIGHTING CONTACTOR PHOTOCELL OR PUSHPLATE SWITCH	
ΠВ	TEST TERMINAL BLOCK	 	RECEPTACLE MOUNTED 6" ABOVE BACK SPLASH OR COUNTER			THOTOGER ON TOSHI BATE SWITCH	
ТВ	WIRING TERMINAL BLOCK	GFI 😝	GROUND FAULT INTERRUPTER TYPE RECEPTACLE	18" BOD	0	FLUORESCENT LIGHTING FIXTURE — RECESSED,	
Ø	INDICATOR OR PILOT LIGHT: R—RED, B—BLUE, W—WHITE, G—GREEN, A—AMBER	н 😝	RECEPTACLE OUTLET MOUNTED HIGH	84" CTR	00	SURFACE, OR PENDANT MOUNTED, TYPE AS SPECIFIED FLUORESCENT LIGHTING FIXTURE — 2 BALLAST	
CB 7	ENCLOSED CIRCUIT BREAKER COMPINATION MACNETIC MOTOR STARTER APPREVIATION	ા લ્લ	ISOLATED GROUND RECEPTACLE DUPLEX RECEPTACLE AT 54" AFF	18" BOD 54" CTR	<u> </u>	FLUORESCENT LIGHTING FIXTURE	
FVNR -	COMBINATION MAGNETIC MOTOR STARTER. ABBREVIATION INDICATES TYPE: FVNR, FVR, RVAT, 2S1W, 2S2W, SST	₽ 😝	DUPLEX RECEPTACLE FOR PAY PHONE	54" CTR	<u> </u>	FLUORESCENT LIGHTING FIXTURE — WALL MOUNTED, TYPE AS SPECIFIED	
VFC 1	VARIABLE FREQUENCY CONTROLLER W/FUSED DISCONNECT SWITCH	c ⇔	DUPLEX RECEPTACLE FOR CART RECHARGE	36" CTR	0	LIGHTING FIXTURE — RECESSED, SURFACE, OR PENDANT MOUNTED	
	VARIABLE FREQUENCY CONTROLLER	¢ ⊖ ι	SIMPLEX RECEPTACLE FOR CART RECHARGE TELEVISION RECEPTACLE	36" CTR 72" CTR	O1	LIGHTING FIXTURE — WALL MOUNTED TYPE AS SPECIFIED WALL WASHER	
ļ [*]	MOTOD CINICIE WINDING LINESCO OTHERWISE WATER	н∳Т	TELEVISION RECEPTACLE	18" BFC	<0	ADJUSTABLE WALL WASHER	
2S2W 5	MOTOR — SINGLE WINDING UNLESS OTHERWISE NOTED: 2S2W = 2 SPEED 2 WINDING 2S1W = 2 SPEED 1 WINDING	©H	CLOCK HANGER OUTLET	84" CTR	• •	LIGHTING FIXTURE ON EMERGENCY OR NIGHT LIGHT CIRCUIT	
1 1 1	NUMERALS (IF SHOWN) INDICATE HP	'₩ '₩	PROGRAM CLOCK OUTLET - SINGLE FACE, DOUBLE FACE	84" CTR	\vdash	EMERGENCY BATTERY PACK WITH NUMBER OF HEADS INDICATED	
- 	CONDUCTORS NOT CONNECTED	₽	EMERGENCY POWER OFF SWITCH JUNCTION BOX	48" TOD	B	EMERGENCY BATTERY PACK WITH REMOTE HEADS	
	CONDUCTORS CONNECTED	©	EQUIPMENT CONNECTION AS NOTED		<i>⊥</i>	REMOTE EMERGENCY HEAD EMERGENCY BATTERY PACK — SEMI RECESSED,	
N.O.	NORMALLY CLOSED	⊕ ₃	HEATER CONNECTION - NUMBER INDICATES KILOWATTS (3KW)		⊗	CEILING MOUNT EXIT SIGN — CEILING OR PENDANT MOUNTED (SHADED PORTION INDICATES FACE)	
N.C. START	NORMALLY CLOSED	⊕ Œħ	HEATER FAN — CEILING MOUNTED ENCLOSED CIRCUIT BREAKER		<u> </u>	PORTION INDICATES FACE) EXIT SIGN — WALL MOUNTED — END, BACK	
o o STOP	NORMALLY OPEN MOMENTARY CONTACT PUSH BUTTON WITH NAMEPLATE AS INDICATED ON DIAGRAM	<u>□</u> ¬	NON-FUSED DISCONNECT SWITCH, 30A, 3P (UNLESS OTHERWISE NOTED)		181	EXIT SIGN WITH DIRECTIONAL ARROWS	
STOP LO EMERG. STOP	NORMALLY CLOSED MOMENTARY CONTACT PUSH BUTTON WITH NAMEPLATE AS INDICATED ON DIAGRAM	(40A)	FUSED DISCONNECT SWITCH - FUSE SIZE		D+ D+D	POLE MOUNTED LIGHTING FIXTURE — SINGLE, DOUBLE HEAD	
	NORMALLY CLOSED MAINTAINED CONTACT PUSH BUTTON WITH MUSHROOM BUTTON	MS	AS INDICATED (40A) MAGNETIC MOTOR STARTER		¤	POLE MOUNTED LIGHTING FIXTURE— SINGLE, POLE TOP	
OFF ON	TWO POSITION MAINTAINED CONTACT SELECTOR SWITCH WITH	FVNR	COMBINATION MAGNETIC MOTOR STARTER. ABBREVIATION INDICATES TYPE: FVNR, FVR, RVAT, 2S1W, 2S2W, SST		——	LIGHTING POLE (SPORTS)	
<u>ala</u>	NAMEPLATE AS INDICATED ON DIAGRAMS	VFC -	VARIABLE FREQUENCY CONTROLLER W/FUSED DISCONNECT SWITCH				
LOCAL OFF REMOTE	THREE POSITION MAINTAINED CONTACT SELECTOR SWITCH WITH NAMEPLATE AS INDICATED ON THE CONTROL DIAGRAMS.	6	MOTOR - NUMERALS (IF SHOWN) INDICATE HP				
00X	X = CLOSED O = OPEN	\$ \$ _м	GENERATOR — NUMERALS (IF SHOWN) INDICATE KW MANUAL MOTOR STARTER WITH THERMAL OVERLOADS				
${}^{\circ}\!T$	NORMALLY CLOSED PRESSURE SWITCH — OPENS ON RISING PRESSURE	CP	CONTROL PANEL - TYPE AS INDICATED				
\mathcal{Z}_{\circ}	NORMALLY OPEN PRESSURE SWITCH — CLOSES ON RISING PRESSURE	РВ	MOMENTARY CONTACT START-STOP PUSH BUTTON STATION				
°F°	NORMALLY CLOSED TEMPERATURE SWITCH — OPENS ON RISING TEMPERATURE	PBM	MAINTAINED CONTACT START—STOP PUSHBUTTON STATION				
%	NORMALLY OPEN TEMPERATURE SWITCH — CLOSES ON RISING TEMPERATURE	ES	MAINTAINED CONTACT EMERGENCY STOP PUSHBUTTON STATION				
${\mathbb T}$	NORMALLY CLOSED FLOW SWITCH — OPENS ON RISING FLOW		PANELBOARD DISTRIBUTION PANELBOARD				
$\overset{\circ}{\blacktriangleright}$	NORMALLY OPEN FLOW SWITCH - CLOSES ON RISING FLOW	T	TRANSFORMER				
7	NORMALLY CLOSED LEVEL SWITCH — OPENS ON RISING LEVEL	─ •	RACEWAY "UP" OR "TOWARDS" RACEWAY "DOWN" OR "AWAY"				
~	NORMALLY OPEN LEVEL SWITCH — CLOSES ON RISING LEVEL		CIRCUIT CONCEALED IN WALLS OR CEILING SPACE. CONDUCTORS SHALL BE MINIMUM 2#12 AWG AND				
~ 0	NORMALLY CLOSED LIMIT SWITCH (HELD OPEN)		1#12 AWG GROUND IN 3/4" CONDUIT, (UNLESS OTHERWISE NOTED)				
0-0	NORMALLY CLOSED LIMIT SWITCH		RACEWAY CONCEALED IN SLAB OR BELOW GRADE. BRANCH CIRCUIT HOMERUN TO PANELBOARD.				
0.0	NORMALLY OPEN LIMIT SWITCH		QUANTITY OF CIRCUITS INDICATED BY ARROWS (). NUMBER OF CONDUCTORS SHALL BE MINIMUM 4#12				
~	NORMALLY OPEN LIMIT SWITCH (HELD CLOSED)		AWG AND 1#12 AWG GROUND IN 3/4" CONDUIT," (UNLESS OTHERWISE NOTED)				
	RELAY OR CONTACTOR COIL WITH TAG NUMBER AS SHOWN NORMALLY OPEN RELAY CONTACT		RACEWAY RUN EXPOSED. CONDUCTORS SHALL BE MINIMUM 2#12 AWG AND 1#12 AWG IN 3/4" CONDUIT (LINIESS OTHERWISE NOTED)				
⊶ ├ ०	NORMALLY OPEN RELAY CONTACT NORMALLY CLOSED RELAY CONTACT	×	CONDUIT, (UNLËSS OTHERWISE NOTED) BUS DUCT OR CABLE TRAY UP OR TOWARDS				
	ON-DELAY OR OFF-DELAY RELAY	<u> </u>	BUS DUCT OR CABLE TRAY DOWN OR AWAY				
7	ON-DELAY RELAY NORMALLY CLOSED TIMED OPENING	<u> </u>	BUS DUCT, TYPE & SIZE AS INDICATED				
$\hat{\gamma}$	CONTACT ON-DELAY RELAY NORMALLY OPEN TIMED CLOSING CONTACT		TELEPHONE AND POWER POLE ASSEMBLY CONCRETE ENCASED DUCTBANK BELOW GRADE				
↑ ~~	OFF-DELAY NORMALLY CLOSED CONTACT (OPENS WHEN	—— W ——	SURFACE MOUNTED RACEWAY ASSEMBLY WITH REMOVABLE COVER				
V	ENERGIZED, TIMED CLOSING AFTER DE—ENÈRGIZING)		MULTI OUTLET ASSEMBLY — DARK SQUARES INDICATE PREWIRED RECEPTACLE LOCATIONS. SIZE AS INDICATED.				
$\overset{\sim}{\downarrow}$	OFF—DELAY NORMALLY OPEN CONTACT (OPENS WHEN ENERGIZED, TIMED OPENING AFTER DE—ENERGIZING)	<u> </u>	MULTI-OUTLET ASSEMBLY WITH RECEPTACLES LOCATED WHERE INDICATED				
<u></u>	LATCHING RELAY L = LATCH COIL	∇ Φ Φ ∇	2 CELL MULTI-OUTLET ASSEMBLY WITH COMMUNICATION DEVICES AND RECEPTACLES				
	U = UNLATCH COIL	∇	LOCATED WHERE INDICATED				
0	FIELD WIRING TERMINAL	<u> </u>	MULTI-OUTLET ASSEMBLY WITH COMMUNICATION OUTLETS LOCATED WHERE INDICATED				
	WIRING INSIDE ENCLOSURE FIELD WIRING		FLEXIBLE CONDUIT CABLE TRAY				
 · 	FIELD WIRING	0	GROUND ROD				
		X -GG	LIGHTNING PROTECTION AIR TERMINAL GROUND WIRE CONNECTION				
		—G—G—G— ●—— I•	GROUND WIRE LIGHTNING PROTECTION DOWN LEAD				
		Ø	UTILITY POLE				

SPECIAL SYSTEMS SYMBOLS **DESCRIPTIONS** <u>MH (UON)</u> <u>SYMBOL</u> HORN TYPE SPEAKER GENERAL NOTE 5 FIRE ALARM FLASHING STROBE LIGHT — WALL MOUNTED GENERAL NOTE 5 GENERAL NOTE 5 FIRE ALARM HORN COMBINATION FIRE ALARM HORN AND FLASHING STROBE GENERAL NOTE 5 MAGNETIC DOOR HOLDER FIRE ALARM ANNUNCIATOR PANEL FIRE ALARM CONTROL PANEL RESCUE ASSISTANCE MASTER CONTROL PANEL 48" TOD FIRE ALARM TRANSPONDER 48" TOD RESCUE ASSISTANCE REMOTE STATION DIGITAL ALARM COMMUNICATOR TRANSMITTER DOOR SOLENOID, ELECTRIC STRIKE — LOCKING DEVICE CONNECTION POINT FIRE ALARM PULL STATION 48" TOD HEAT DETECTOR SMOKE DETECTOR (PHOTOELECTRIC), AB INDICATES AUDIBLE BASE, E INDICATES ELEVATOR CONTROLS SMOKE DETECTOR (IONIZATION) DUCT SMOKE 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 FIRE ALARM LINEAR BEAM SMOKE DETECTOR TRANSMITTER & RECEIVER FIREMAN'S TELEPHONE JACK 48" TOD 36" CTR MONITOR SYSTEM JB CEILING SPEAKER, F — FIRE ALARM **AMPLIFIER** 48" TOD KEYPAD 48" TOD CARD READER DOOR ALARM CONTACT 18" CTR TELEPHONE OUTLET 48" TOD TELEPHONE OUTLET, WALL MOUNTED TELEPHONE OUTLET, FLOOR MOUNTED DATA/TELEPHONE OUTLET, UNSHADED AREA = DATA, SHADED AREA = VOICE, NUMERALS INDICATE QUANTITY 18" CTR OF WIRED JACKS DATA/TELEPHONE OUTLET, FLOOR MOUNTED, UNSHADED AREA = DATA, SHADED AREA = VOICE, NUMERALS INDICATE QUANTITY OF WIRED JACKS DATA OUTLET, FLOOR MOUNTED 48" TOD TELEPHONE OUTLET - EMERGENCY

ELECTRICAL DRAWING **PRESENTATION**

18" CTR

GRD

HOA

ΚV

GROUND

HEATER

HERTZ

HORSEPOWER

HIGH VOLTAGE

JUNCTION BOX

KILOVOLTS

ISOLATED GROUND

KCMIL - THOUSAND CIRCULAR MILS

KILOVOLT AMPERES

<u>GENERAL NOTES:</u>

RISER DIAGRAMS.

BOXES SHALL BE CONCEALED.

1. THIS IS A STANDARD SYMBOL LIST, SOME SYMBOLS MAY NOT APPEAR ON THE ACCOMPANYING DRAWINGS.

2. REFER TO SPECIFICATIONS FOR DETAILED REQUIREMENTS.

DEVICE SHALL BE MOUNTED A MINIMUM OF 80" AFF TO BOTTOM OF DEVICE LENS AND BELOW THE FINISHED CEILING OF NOT LESS THAN 6".

6. UNLESS OTHERWISE NOTED ALL INTERIOR CONDUITS AND

3. PLAN & SECTION SYMBOLS MAY ALSO BE USED ON

4. ON SINGLE LINE DIAGRAMS FOR 3 PHASE SYSTEMS, DEVICE QUANTITY = 3 UNLESS OTHERWISE NOTED.

GALVANIZED RIGID STEEL

HAND-OFF-AUTOMATIC

HIGH INTENSITY DISCHARGE

- HIGH PRESSURE SODIUM

DATA OUTLET

TELEVISION ANTENNA OUTLET

TELEVISION SYSTEM SPLITTER - 2 WAY, 4 WAY DATA/TELEPHONE OUTLET, CEILING MOUNTED

ROUGH IN JUNCTION BOX FOR CCTV CAMERA

DESCRIPTIONS <u>SYMBOL</u> REVISION NUMBER 2 DRAWING NOTE NUMBER 2 EQUIPMENT TAG NUMBER — REFER TO EQUIPMENT SCHEDULE SECTION/ELEVATION IDENTIFICATION PART PLAN AND DETAIL IDENTIFICATION EXISTING LINE TYPE NEW ELECTRICAL WORK LINE TYPE

FOUIPMENT DESIGNATIONS

DEMOLITION LINE TYPE ON DEMOLITION DRAWINGS

····· FUTURE ELECTRICAL WORK LINE TYPE

LQUII	MENT DESIGNATION
DESIGNATION	DESCRIPTIONS
SWGR	SWITCHGEAR
SWBD	SWITCHBOARD
PNL	PANELBOARD
MCC	MOTOR CONTROL CENTER
XFMR	TRANSFORMER

CIRCUIT DESIGNATIONS

CINCOII	<u>DESIGNATION</u>
<u>LIGHTING</u>	A # a
FIXTURE TYPE	
*CIRCUIT DESIGNATION —	
SWITCH DESIGNATION -	
<u>POWER</u>	# •

*CIRCUIT DESIGNATION ——— * SEE NOTES FOR PANEL DESIGNATIONS FOR EACH AREA.

A A A A D		AMPERE	10.415		IVII OVOLT, AMBEREO, REACTIVE
A, AMP AC		AMPERE ALTERNATING CURRENT	KVAR KW		KILOVOLT AMPERES REACTIVE KILOWATTS
A/C		AIR CONDITIONING	KWH		KILOWATT HOUR
AFF		ABOVE FINISHED FLOOR			LIGHTNING ARRESTOR
AFG		ABOVE FINAL GRADE	LC		LIGHTING CONTACTOR
AHU		AIR HANDLING UNIT	LTG		LIGHTING
AIC			LTNG		LIGHTNING
ALT		ALTERNATE	LP		LIGHTING PANEL
ANN		ANNUNCIATOR	LRA		LOCKED ROTOR AMPERES
APPROX		APPROXIMATELY	MATV		MASTER ANTENNA TELEVISION
ARCH		ARCHITECT	MCB		MAIN CIRCUIT BREAKER
ATC	_	AUTOMATIC TEMPERATURE	MCC	_	MOTOR CONTROL CENTER
		CONTROL	MEH	_	METAL HALIDE
ATS	_	AUTOMATIC TRANSFER SWITCH	МН	_	MANHOLE, MOUNTING HEIGHT
AWG	_	AMERICAN WIRE GAUGE	MLO	_	MAIN LUGS ONLY
BAS	_	BUILDING AUTOMATION SYSTEM	MSP	_	MOTOR STARTER PANEL
BFC		BELOW FINISHED CEILING	MTD	_	MOUNTED
BFG		BELOW FINISHED GRADE	MV		MERCURY VAPOR
BLDG		BUILDING	NC		NORMALLY CLOSED
BOD		BOTTOM OF DEVICE	NEC		NATIONAL ELECTRICAL CODE
C, CND		CONDUIT	NFSS		NON-FUSED SAFETY SWITCH
CATV		CABLE TELEVISION	NO		NUMBER, NORMALLY OPEN
CB		CIRCUIT BREAKER	0C		ON CENTER OWNER FURNISHED
CCTV		CLOSED CIRCUIT TELEVISION	OFCI	_	CONTRACTOR INSTALLED
CKT		CIRCUIT	OFOI	_	OWNER FURNISHED
CL CLG		CURRENT LIMITING	01 01		OWNER INSTALLED
CONN		CEILING CONNECT	ОН	_	OVERHEAD
CPT	_	CONTROL POWER TRANSFORMER			PHASE
CT	_	CURRENT TRANSFORMER	P		POLE
CTR		CENTER	PB	_	PUSHBUTTON
CU,CO	_	COPPER	PF	_	POWER FACTOR
CX DC		CONNECT TO EXISTING DIRECT CURRENT	PFCC	-	POWER FACTOR CORRECTION CAPACITOR
		DISCONNECT	PL		PILOT LIGHT
		DOWN			PROGRAMMABLE LIGHTING CONTI
		DISTRIBUTION PANEL			PANEL
		DOUBLE POLE SINGLE THROW			POWER PANEL
		DOUBLE POLE DOUBLE THROW			PAIR
		DOUBLE THROW			POTENTIAL TRANSFORMER
		DRAWING			POLYVINYL CHLORIDE
E, EMERG	_	EMERGENCY	Рр	_	PUMP
EA	_	EACH	QTY	_	QUANTITY
EC	_	EMPTY CONDUIT	RCS	_	REMOTE CONTROL SWITCH
EF	_	EXHAUST FAN	REC, RECPT	_	RECEPTACLE
EH	_	ELECTRIC HEATER	REQ'D	_	REQUIRED
		ELECTRIC			RADIO FREQUENCY INTERFERENCE
		ELEVATION			RIGID GALVANIZED STEEL
ETR		EXISTING TO REMAIN			RUNNING LOAD AMPERES
EX		EXISTING	RM		ROOM
		EXPOSED			REDUCED VOLTAGE AUTO TRANSFORM
EWC		ELECTRIC WATER COOLER			REMOVE EXISTING
FR FA		FRAME FIRE ALARM			SURGE CAPACITOR SECONDARY
FAAP		FIRE ALARM ANNUNCIATOR PANEL			SOLID NEUTRAL
FACP		FIRE ALARM CONTROL PANEL	•		SURGE PROTECTION
FBO		FURNISHED BY OTHERS			SINGLE POLE DOUBLE THROW
FC		FAN COIL	SS		SAFETY SWITCH
FDR		FEEDER			SOLID STATE
FLA		FULL LOAD AMPERES			SINGLE THROW
FLR		FLOOR			SWITCH
FU		FUSED AND FUSIBLE	SWBD		SWITCHBOARD
FUSS		FUSED SAFETY SWITCH	TBR	_	TO BE REMOVED
FVR		FULL VOLTAGE REVERSING	TC		TIME CLOCK
FVNR	_	FULL VOLTAGE NON-REVERSING	TEL, TELE	_	TELEPHONE
GEN	_	GENERATOR, GENERAL	TOD	_	TOP OF DEVICE
GFI	_	GROUND FAULT INTERRUPTER	TRANS/XFMR	_	TRANSFORMER
GFR	_	GROUND FAULT RELAY	TH	_	TUNGSTEN HALOGEN
GRD			TTB		TELEPHONE TERMINAL BOARD

TTB

TW

TYPICAL UNDERGROUND UH – UNIT HEATER UON — UNLESS OTHERWISE NOTED VOLTS VFC — VARIABLE FREQUENCY CONTROLLER

TELEPHONE TERMINAL BOARD

TWISTED

WATTS, WIRE

2S1W - 2 SPEED SINGLE WINDING

2S2W - 2 SPEED DOUBLE WINDING

WITH

WP - WEATHER-PROOF

XP - EXPLOSION PROOF



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RMF ENGINEERING, INC.

194 SEVEN FARMS DRIVE, SUITE G

CHARLESTON, SC 29492

RMF PROJECT #:312022.A0

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RENOVATIONS

THE UNIVERSITY OF

BARUCH

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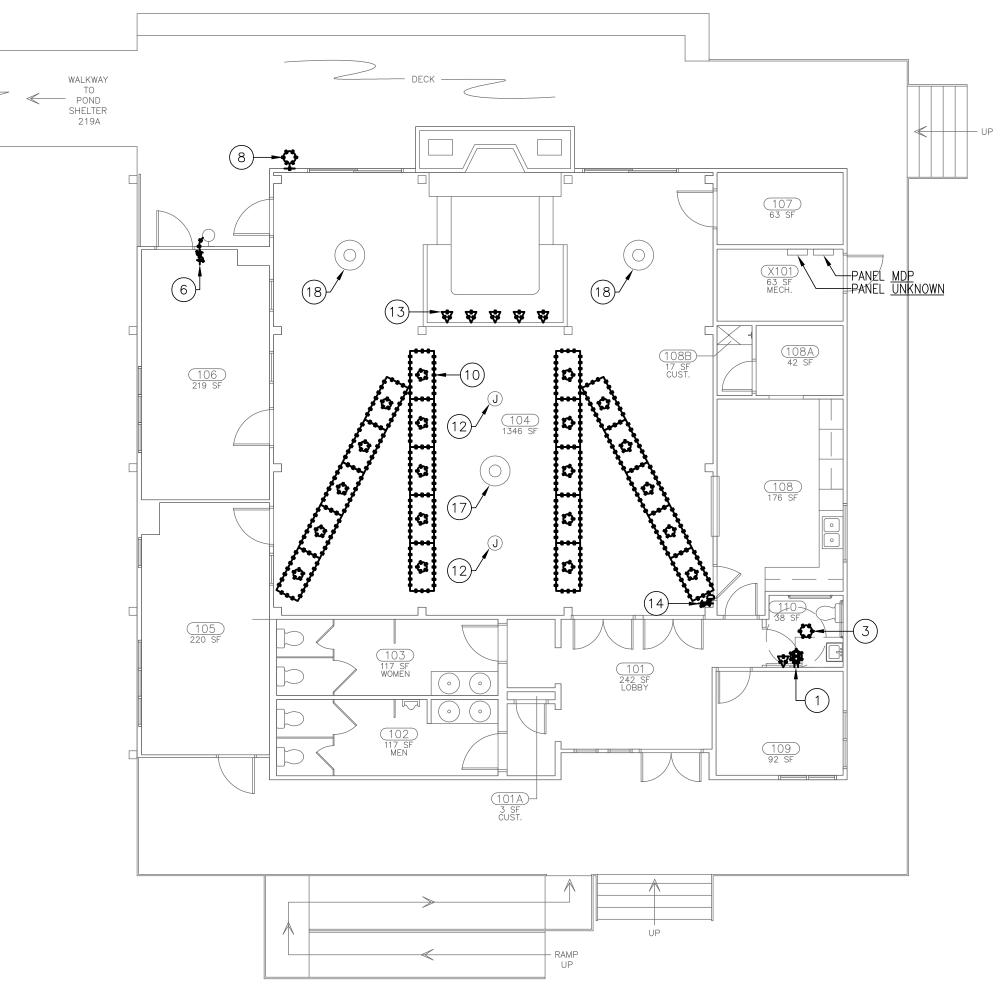
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ELECTRICAL LEGEND AND ABBREVIATIONS

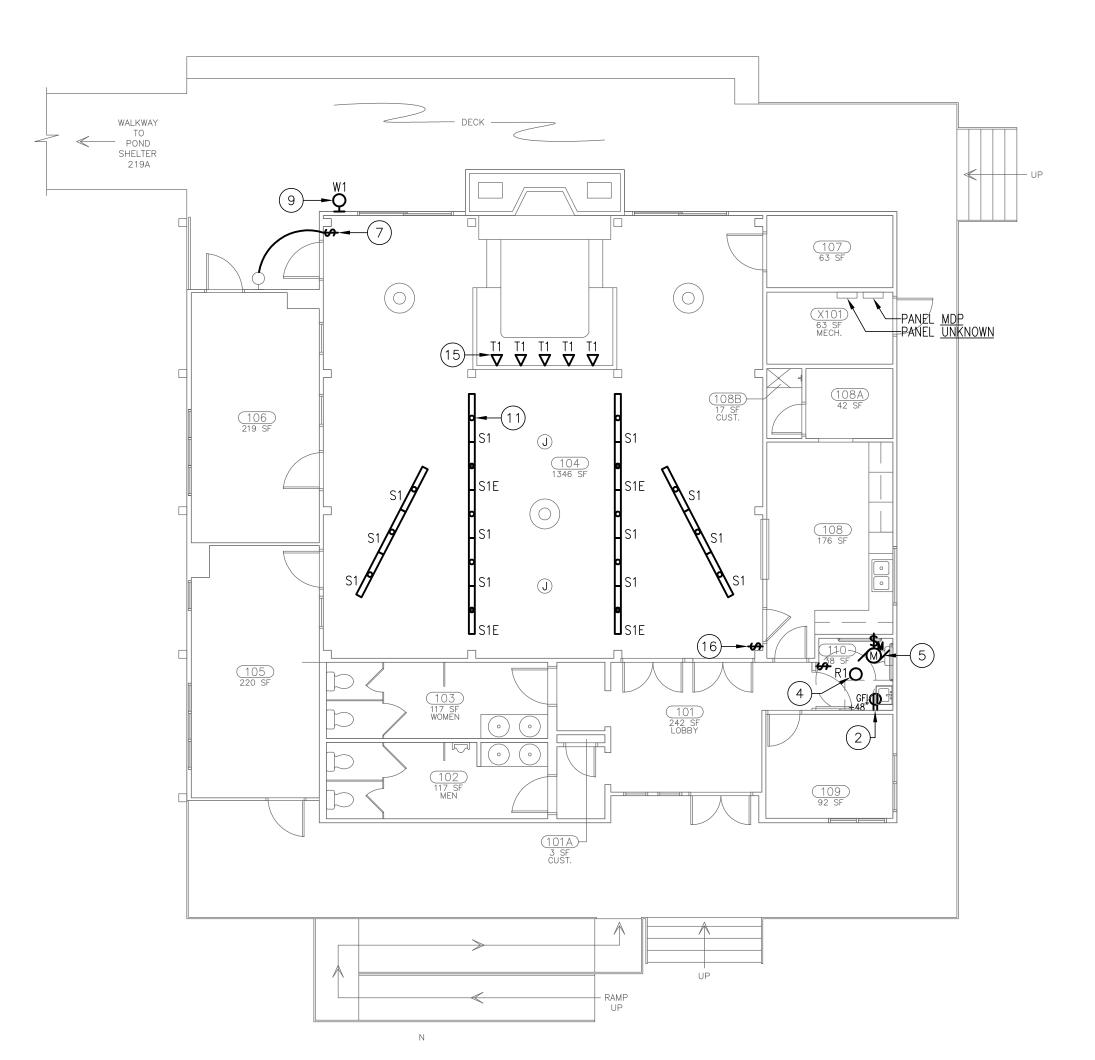
SERVICE BY DESIGN CONSTRUCTION DOCUMENTS

SOLUTIONS THROUGH LISTENING



ELECTRICAL FLOOR PLAN - DEMOLITION

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



<u>ELECTRICAL FLOOR PLAN - NEW WORK</u> SCALE: 1/8"=1'-0"

						KIMBEL L	LODGE LIGH	TING F	IXTURE	SCHE	ULE			
FIXTURE	FIXTURE DESCRIPTION	LOUVER/ LENS		LAMPS			BALLAST		VOLTAGE	`_ INPUT	r MOLINITING	REMARKS	MANUFACTURER	FIXTURE
TYPE	BESCINI HOIV		TYPE	WATTAGE	QTY.	COLOR TEMP.	TYPE	QTY.		- WATTAG	INPUT WATTAGE MOUNTING	TALIWI TATA	MANOT ACTORER	TYPE
R1	6" DIAMETER RECESSED OPEN DOWNLIGHT	_	CFL	26	1	3500°K	ELECTRONIC	1	MULTI	28	RECESSED	_	GOTHAM #AF-1/26TRT-6AR-MVOLT WILLIAMS #PH60-126T-CS-EB1-UNV PRESCOLITE #LF6CFH1-26-EB-6CFH1-WT	R1
S1	4' SURFACE LINEAR FLUORESCENT	ACRYLIC	T5	28	2	3500°K	ELECTRONIC	1	MULTI	60	SURFACE	PROVIDE MATTE BLACK FINISH.	KENALL #MLHA5-48-F-MB-CP-2-28-IS-1-DV	S1
S1E	4' SURFACE LINEAR FLUORESCENT	ACRYLIC	T5	29	3	3500°K	3500°K	3500°K	MULTI	61	SURFACE	SAME AS FIXTURE S1 ABOVE BUT WITH INTEGRAL EMERGENCY BATTERY PACK.	KENALL #MLHA5-48-F-MB-CP-2-28-IS-1-DV-PEL	S1E
T1	TRACK LIGHTING FIXTURE	-	LED	29	1	3500°K	3500°K	3500°K	120V	29	SURFACE	MOUNT TO EXISTING BACKBOX.	INTENSE LIGHTING #MB1200-35-B-FL50	T1
W1	WALL MOUNTED LIGHTING FIXTURE	-	INC	100	1	_	_	_	120	100	SURFACE	MATCH EXISTING MOUNTING HEIGHT.	PROGRESS LIGHTING #P5636-60	W1

DEMOLITION NOTES:

- 1. EXISTING CONDITIONS SUCH AS LIGHTING, RECEPTACLES, ETC. WERE OBTAINED FROM AVAILABLE RECORD DRAWINGS AND FIELD SURVEYS AND ARE NOT WARRANTED TO BE COMPLETE OR CORRECT. CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL ELECTRICAL ITEMS IN THE FIELD PRIOR TO THE START OF ANY WORK.
- 2. SHOULD THE CONTRACTOR ENCOUNTER ANY MAJOR ELECTRICAL ITEMS, I.E. PANELS, FEEDERS, JUNCTION BOXES ETC. WHICH ARE NOT ADDRESSED ON THE DRAWINGS, HE SHALL BRING THEM TO THE ATTENTION OF THE ENGINEER. THE ENGINEER WILL REVIEW THE ITEM IN QUESTION AND GIVE THE NECESSARY DIRECTION.
- 3. THE OWNER SHALL BE GIVEN A FIRST RIGHT OF REFUSAL FOR ALL ELECTRICAL EQUIPMENT WHICH IS TO BE REMOVED. ALL ELECTRICAL EQUIPMENT WHICH IS DESIRED BY THE OWNER SHALL BE STORED ON THE SITE WHERE DIRECTED BY THE OWNER. THE CONTRACTOR SHALL PROMPTLY DISPOSE OF ALL ELECTRICAL ITEMS WHICH ARE REMOVED AND THE OWNER DOES NOT WANT TO KEEP.
- 4. IN GENERAL, ALL EXISTING ELECTRICAL DEVICES, LIGHTING FIXTURES, PANELS, CONDUITS, WIRING, JUNCTION BOXES, ETC. SHALL BE REMOVED IN THEIR ENTIRETY. THESE ITEMS ARE INDICATED WITH HEAVY DASHED LINES. ITEMS THAT ARE EXISTING TO REMAIN ARE INDICATED WITH A LIGHT CONTINUOUS LINE.
- 5. ALL BRANCH CIRCUIT AND TELEPHONE WIRING WHICH MUST BE IN SERVICE AND WHICH IS DISCONNECTED AS A RESULT OF THE DEMOLITION WORK SHALL BE PROPERLY RECONNECTED.
- 6. EXISTING SMOKE DETECTORS AND DUCT SMOKE DETECTORS SHALL BE TEMPORARILY DISCONNECTED DURING DEMOLITION AND OTHER DUST PRODUCING ACTIVITIES. COORDINATE THE TEMPORARY DISCONNECTION WITH FACILITIES.
- 7. WHERE EXISTING DEVICES REMAIN IN WALLS WHICH RECEIVE A NEW FINISH, CONTRACTOR SHALL PROVIDE ALL NECESSARY OUTLET BOX EXTENSIONS, PLASTER RINGS, ETC. SO THAT DEVICES INSTALLED IN THE SAME MANNER AS EXISTING (I.E. FLUSH CONCEALED, ETC.).

DRAWING NOTES:

(1) DUPLEX RECEPTACLE TO BE REMOVED. EXISTING CIRCUIT TO BE REUSED. EXTEND EXISTING CIRCUIT TO NEW GFI RECEPTACLE LOCATION.

(2) CONNECT TO EXISTING RECEPTACLE CIRCUIT ALREADY IN AREA. (3) EXISTING 120V RECESSSED DOWN LIGHTING FIXTURE TO BE REMOVED.

EXISTING 120V CIRCUIT TO REMAIN AND BE REUSED. (4) CONNECT TO EXISTING 120V LIGHTING CIRCUIT ALREADY IN AREA. (5) CONNECT TOILET EXHAUST FAN $\overline{16}-1$ TO 120V LIGHTING CIRCUIT

ALREADY IN AREA. FAN AND LIGHTING SHALL TURN ON/OFF VIA THE LIGHTING SWITCH IN THE ROOM. (6) EXISTING LIGHT SWITCH TO BE RELOCATED. EXTEND EXISTING CONDUIT AND WIRE TO NEW LOCATION. SEE THIS DRAWING FOR NEW LOCATION.

(7) RELOCATED LIGHT SWITCH. 8 EXISTING WALL MOUNTED LIGHTING FIXTURE TO BE REMOVED. EXISTING 120V LIGHTING CIRCUIT TO REMAIN.

(9) WALL MOUNTED LIGHTING FIXTURE TO BE CONNECTED TO EXISTING 120V LIGHTING CIRCUIT ALREADY IN AREA.

(10) EXISTING 2x4 LIGHTING FIXTURE TO BE REMOVED AND TURNED OVER TO OWNER. EXISTING 120V LIGHTING CIRCUIT TO REMAIN AND BE REUSED. SEE THIS DRAWING FOR NEW WORK INFORMATION, TYPICAL.

11) CONNECT FIXTURE S1 TO EXISTING 120V LIGHTING CIRCUIT ALREADY IN AREA, TYPICAL.

(12) EXISTING CEILING FAN CONNECTION. CONTRACTOR SHALL REPAIR ELECTRICAL CONNECTIONS FOR CEILING FAN TO MAKE FAN OPERATIONAL.

13) TRACK LIGHTING FIXTURE TO BE REMOVED. EXISTING CIRCUIT TO REMAIN AND BE REUSED. SEE THIS DRAWING FOR NEW WORK INFORMATION, TYPICAL.

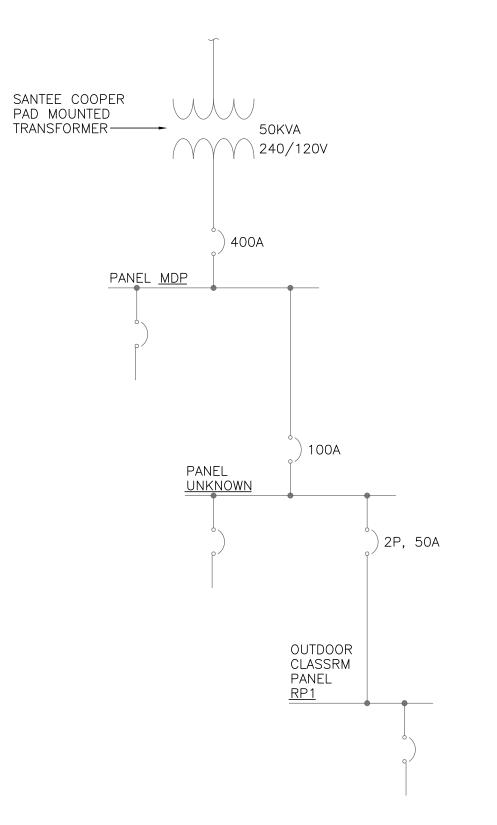
EXISTING TRACK LIGHTING DIMMER SWITCH TO BE REMOVED. EXISTING BACKBOX, CONDUIT AND WIRE TO REMAIN AND BE REUSED. SEE THIS DRAWING FOR NEW WORK INFORMATION.

(15) CONNECT FIXTURE T1 TO EXISTING 120V TRACK LIGHTING CIRCUIT ALREADY IN AREA, TYPICAL.

(16) PROVIDE TOGGLE TYPE LIGHT SWITCH IN EXISTING BACKBOX AND CONNECT TO EXISTING LIGHTING CIRCUIT.

(17) "WAGON WHEEL" LIGHTING FIXTURE WITH 10 LAMPS TO BE CLEANED

AND RELAMPED. (18) "WAGON WHEEL" LIGHTING FIXTURE WITH 6 LAMPS TO BE CLEANED AND



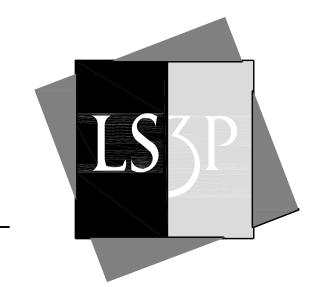
ELECTRICAL SINGLE LINE DIAGRAM SCALE: NONE

> GRAPHIC SCALE SCALE: 1/8"=1'-0" UNIT OF MEASURE: FEET

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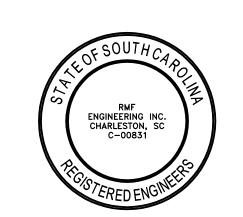
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No. Description

PROJECT: 2402-062141 DRAWN BY: PAM CHECKED BY: BAC

ELECTRICAL FIRST FLOOR **PLAN**

SOLUTIONS THROUGH LISTENING SERVICE BY DESIGN

260500 COMMON WORK RESULTS FOR ELECTRICAL

- 1. ALL WORK SHALL BE MANUFACTURED, TESTED AND INSTALLED IN ACCORDANCE WITH THE 2008 NATIONAL ELECTRICAL CODE (NEC) AND ALL APPLICABLE LOCAL CODES. IN ADDITION, ALL WORK SHALL BE IN ACCORDANCE WITH AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM), AMERICAN WITH DISABILITIES ACT (ADA), 2009 INTERNATIONAL BUILDING CODE (IBC), ILLUMINATING ENGINEERING SOCIETY (IES), NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATES (NEMA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE) AND UNDERWRITERS LABORATORY, INC. (UL). THE CONTRACTOR SHALL FURNISH A FIRE UNDERWRITERS CERTIFICATE OF INSPECTION COVERING THE WORK INSTALLED UNDER THIS SPECIFICATION. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND CERTIFICATES.
- 2. THOROUGHLY EXAMINE THE ARCHITECTURAL, STRUCTURAL AND MECHANICAL DRAWINGS PRIOR TO COMMENCEMENT OF ANY WORK. COORDINATE WORK WITH ALL OTHER TRADES.
- 3. ALL ELECTRICAL EQUIPMENT SHALL BE NEW, OF FIRST QUALITY, AND SHALL BE
- FURNISHED, DELIVERED, ERECTED, CONNECTED, AND FINISHED IN EVERY DETAIL.

 4. THE WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING COMPLETE ITEMS OR SYSTEMS: A SYSTEM OF INTERIOR WIRING, LIGHTING FIXTURES, LAMPS AND CONNECTION TO EQUIPMENT PROVIDED UNDER OTHER SECTIONS OF THE
- 5. CONTRACTOR SHALL PROVIDE TEMPORARY LIGHTING AND POWER AS REQUIRED DURING CONSTRUCTION.
- 6. ALL MATERIALS REQUIRED FOR THE WORK SHALL BE NEW, OF FIRST QUALITY, AND SHALL BE FURNISHED, DELIVERED, ERECTED, CONNECTED AND FINISHED IN EVERY DETAIL, AND SHALL BE SO SELECTED AND ARRANGED AS TO FIT PROPERLY INTO BUILDING SPACES. WHERE NO SPECIFIC KIND OR QUALITY OF MATERIAL IS GIVEN, A FIRST—CLASS STANDARD ARTICLE AS APPROVED BY THE ENGINEER SHALL BE
- 7. THESE PLANS AND SPECIFICATIONS ARE INTENDED TO PROVIDE A BROAD OUTLINE OF THE WORK AND EQUIPMENT REQUIRED, BUT ARE NOT INTENDED TO INCLUDE ALL THE DETAILS OF CONSTRUCTION.
- 8. ALTHOUGH THE LOCATION OF EQUIPMENT MAY BE SHOWN ON THE ELECTRICAL PLANS IN A CERTAIN PLACE, THE CONSTRUCTION OF THE BUILDING, MAY DISCLOSE THE FACT THAT THE LOCATION FOR THIS ELECTRICAL WORK DOES NOT MAKE ITS POSITION EASILY AND QUICKLY ACCESSIBLE. IN SUCH CASES, THE CONTRACTOR SHALL CALL ATTENTION TO THIS FACT BEFORE INSTALLING HIS WORK FOR ACTION BY THE ARCHITECT AND SHALL BE GUIDED BY HIS WRITTEN INSTRUCTIONS.
- 9. IT SHALL BE NOTED THAT A REASONABLE SHIFTING IN LOCATION OF OUTLETS (BEFORE INSTALLATION) WILL BE EXPECTED AND THIS WORK SHALL BE DONE AT NO INCREASED COSTS TO THE OWNER. CONTRACTOR SHALL VERIFY DOOR SWINGS PRIOR TO ROUGHING—IN LIGHT SWITCHES.
- 10. THE CONTRACTOR SHALL VERIFY THE SERVICE REQUIREMENTS OF ALL PIECES OF EQUIPMENT BEFORE MAKING FINAL PROVISIONS. SHOP DRAWINGS SHALL BE AVAILABLE FOR CHECKING BEFORE INSTALLATION.
- 11. THE CONTRACTOR SHALL MAINTAIN A SET OF WHITE PRINTS THROUGHOUT THE WORK UPON WHICH HE SHALL CAREFULLY RECORD THE ACTUAL LOCATIONS INCLUDING DIMENSIONS TO LOCATE WHEN DIFFERENT FROM CONTRACT DRAWINGS, EACH PIECE OF ELECTRICAL EQUIPMENT, CONTROL DEVICES, SWITCHES, OUTLETS, WIRES, CABLES, CONDUITS, ETC. UPON COMPLETION OF THE WORK, HE SHALL DELIVER THIS SET OF PRINTS TO THE ARCHITECT. THE ARCHITECT RESERVES THE RIGHT TO WITHHOLD FINAL PAYMENTS UNTIL RECORD "AS—BUILT" DRAWINGS ARE RECEIVED.
- 12. PRIOR TO ACCEPTANCE OF THE FINISHED PROJECT THE CONTARCTOR SHALL PROVIDE TO THE ARCHITECT THREE (3) COPIES OF AN ELECTRICAL SYSTEMS MAINTENANCE MANUAL. EACH COPY SHALL BE BOUND IN A DURABLE, HARDBACK BINDER WITH DATA SHEETS INDIVIDUALLY PUNCHED OR PERFORATED AND ENTERED. DATA SHEETS SHALL BE GROUPED, AND SECTION DIVIDERS SHALL BE PROVIDED AT THE CONTRACTOR'S OPTION, THE MANUAL MAY CONTAIN HEAVY MANILA TIE—FLAP ENVELOPES, PUNCHED AND BOUND IN WITH DATA SHEETS INSERTED IN THE ENVELOPE TO IDENTIFY ITS CONTENTS. THE MANUAL SHALL HAVE AN IDENTIFYING LABEL ON THE FRONT COVER AND SHALL INCLUDE THE FOLLOWING.
 - ONE (1) ACCEPTED COPY OF THE MATERIALS LIST.
 ONE (1) ACCEPTED COPY OF EACH SHOP DRAWING.
 - ONE (1) COMPLETE COPY OF EACH PANELBOARD DIRECTORY.

 EACH DIRECTORY SHALL BE A SEPARATE SHEET.

 ONE (1) COPY OF EACH CIRCUIT PREAKER TIME CURRENT CURVE.
 - ONE (1) COPY OF EACH CIRCUIT BREAKER TIME-CURRENT CURVE. ONE (1) COPY OF EACH OPERATION DESCRIPTION.
- 13. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR INSPECTION FOR THE PROJECT. UPON COMPLETION OF THE WORK, A FINAL INSPECTION CERTIFICATE SHALL BE SUBMITTED TO THE ARCHITECT IN TRIPLICATE. THIS CERTIFICATE SHALL BE SUBMITTED PRIOR TO REQUEST FOR FINAL PAYMENT. THE CONTRACTOR SHALL PAY ALL FEES REQUIRED FOR INSPECTION.
- 14. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO BID DATE TO EXAMINE THE CONDITIONS UNDER WHICH HIS WORK IS TO BE PERFORMED. NO EXTRAS SHALL BE ALLOWED FOR FAILURE TO NOTE EXISTING CONDITIONS.
- 15. USE NEMA TYPE 1 GENERAL PURPOSE ENCLOSURES FOR ALL INDOOR EQUIPMENT, NEMA 3R FOR OUTDOOR EQUIPMENT UNLESS OTHERWISE NOTED.
- 16. PROVIDE ENGRAVED PLASTIC PHENOLIC LAMINATED NAMEPLATES FOR EACH PANELBOARD, CONTROLLER AND DISCONNECT. ENGRAVED NAMEPLATES SHALL BE PROVIDED WITH 1/4" HIGH VERTICAL BLACK LETTERS ON A WHITE BACKGROUND. NAMEPLATES SHALL BE SECURED BY MEANS OF STAINLESS STEEL METAL SCREWS.
- 17. SUBMIT DRAWINGS AND DATA SHEETS OF THE FOLLOWING APPARATUS GIVING FULL INFORMATION AS TO DIMENSIONS, MATERIALS, FITNESS AND OTHER PERTINENT FACTS SPECIFIC TO THIS PROJECT. WHERE OPTIONAL EQUIPMENT, FUNCTIONS OR ITEMS ARE REQUIRED TO MEET THESE SPECIFICATION THEY SHALL BE SPECIFICALLY NOTED. OBTAIN APPROVAL BEFORE THE FOLLOWING APPARATUS INVOLVED IS ORDERED, BUILT, OR INSTALLED: WIRING DEVICES AND PLATES, AND LIGHTING FIXTURES.
- 18. COORDINATE THE WORK TO MINIMIZE PENETRATION OF WATERPROOF CONSTRUCTION, INCLUDING ROOFS, EXTERIOR WALLS, ETC. WHERE SUCH PENETRATIONS ARE NECESSARY PROVIDE ALL NECESSARY SLEEVES, SHIELDS, FLASHING, FITTINGS AND CAULKING TO MAKE PENETRATION ABSOLUTELY WATERTIGHT.
- 19. ALL CONDUITS PASSING THROUGH FIRE RATED, FIRE RESISTANT OR FIRE STOPPED WALLS, CEILINGS OR FLOORS SHALL BE SEALED WITH FOAM TYPE FIRE RESISTANT SEALANT.

TECT

SPECIFIED RESULTS.

- 1. CONTRACTOR SHALL PROVIDE TESTING FOR THE EQUIPMENT AND BRANCH CIRCUITS, AND SUCH OTHER TESTS AS ARE DESCRIBED IN OTHER SECTIONS OF THIS SPECIFICATION.
- 2. THE CONTRACTOR SHALL FURNISH ALL LABOR, SPECIALTIES, INSTRUMENTS, EQUIPMENT, ETC., REQUIRED FOR THE TESTS, AND SHALL PAY ANY OTHER EXPENSES INCURRED, INCLUDING NECESSARY CHANGES TO THE SYSTEMS AS REQUIRED TO PRODUCE THE
- 3. ALL TESTS SHALL BE CONDUCTED BEFORE ANY EQUIPMENT IS CONNECTED THAT WOULD BE SUBJECT TO DAMAGE FROM THE TEST.
- 4. THE CONTRACTOR SHALL NOTIFY ALL PARTIES WHOSE PRESENCE IS NECESSARY FOR THE TEST; AND IN ALL CASES, THE ARCHITECT SHALL BE NOTIFIED AT LEAST ONE (1) DAY PRIOR TO THE ACTUAL TEST.
- 5. RESULTS OF THE TESTS SHALL SHOW THAT THE FEEDERS, EQUIPMENT AND WIRING SHALL MEET THE REQUIREMENTS OF THIS SPECIFICATION. SHOULD ANY OF THE ABOVE TESTS INDICATE DEFECTS IN MATERIALS OR WORKMANSHIP, THE FAULTY INSTALLATION SHALL BE REPAIRED OR REPLACED AT ONCE AND THE NECESSARY PORTIONS OF THE TESTS RECONDUCTED TO THE APPROVAL OF THE ARCHITECT.
- 6. THE TESTS SHALL DEMONSTRATE TO THE SATISFACTION OF THE ENGINEER THE FOLLOWING:
 - THAT ALL LIGHTING, POWER, AND CONTROL CIRCUITS ARE CONTINUOUS AND FREE OF SHORT CIRCUITS.
 - THAT ALL CIRCUITS ARE FREE FROM UNSPECIFIED GROUNDS, AND GROUNDED WHERE
- THAT THE RESISTANCE TO GROUND ON ALL NON-GROUNDED CIRCUITS IS AT LEAST ONE (1) MEGOHM.
- THAT ALL CIRCUITS ARE PROPERLY CONNECTED IN ACCORDANCE WITH THE APPLICABLE WIRING DIAGRAMS.

 THAT ALL CIRCUITS ARE OPERABLE, WHICH DEMONSTRATION SHALL INCLUDE FUNCTIONING

OF EACH CONTROL NOT LESS THAN TEN (10) TIMES AND CONTINUOUS OPERATION OF

260519 LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

EACH LIGHTING AND POWER CIRCUIT FOR NOT LESS THAN 1/2 HOUR.

- 1. ALL WIRING SHALL BE SINGLE CONDUCTOR ANNEALED COPPER WITH TYPE THHN/THWN, INSULATION UNLESS OTHERWISE NOTED OR HEREINAFTER SPECIFIED. WIRING SHALL BE RATED 600 VOLTS, AND SHALL COMPLY WITH FEDERAL SPECIFICATION J-C-30. BRANCH CIRCUIT WIRING, NO. 10 AND SMALLER, CONNECTED TO INTERIOR RECEPTACLES, LIGHTING FIXTURES, AND SWITCHES SHALL BE SOLID CONDUCTOR AND MAY BE TYPE THHN/THWN. ALL WIRING NO. 8 AWG AND LARGER SHALL BE STRANDED. WHERE ALLOWED BY THE LOCAL CODES METAL CLAD (M.C.) CABLE MAY BE UTILIZED WHERE SPECIFIED HEREINAFTER UNDER WIRING METHODS.
- MINIMUM SIZE OF BRANCH CIRCUIT WIRING IS NO. 12 AWG. MINIMUM SIZE OF NORMAL BRANCH CIRCUIT WIRE IS NO. 10 AWG WHERE USED FOR 120 VOLT BRANCH CIRCUIT HOMERUNS SEVENTY—FIVE (75) FEET AND LONGER.
- 3. ALL PHASE CONDUCTORS SHALL BE FACTORY COLOR CODED TAPE OR COLOR CODED "SLIPPERS", APPLIED AT EACH SPLICE AND TERMINATION IN ACCORDANCE WITH THE FOLLOWING SCHEDULES:
- 208/120V. SYSTEMS PHASE — COLOR
- A BLACK B — RED C — BLUE
- N WHITE GRD — GREEN
- 4. GREEN COLORED INSULATED EQUIPMENT GROUND CONDUCTOR SHALL BE PROVIDED FOR ALL FEEDERS AND FOR ALL BRANCH CIRCUITS.
- 5. FOR WIRE IDENTIFICATION, USE BRADY "QUICK-LABELS" ON ALL CONDUCTORS AT THE TERMINATION OF THE RUN AND IN ALL OUTLETS. CODING SCHEME IS THE RESPONSIBILITY OF THE CONTRACTOR, BUT IS GENERALLY TO FOLLOW THE TERMINAL NUMBERING SCHEME OF THE PANELBOARD. ARRANGE THIS CODING SCHEME SO AS TO PROVIDE QUICK AND EASY IDENTIFICATION OF THE CONDUCTORS. IDENTIFY EACH FEEDER CONDUCTOR IN PULL AND JUNCTION BOXES WITH A STAMPED FIBRE TAG.
- 6. INSTALL ALL WIRING IN EMT RACEWAY, EXCEPT WHERE OTHERWISE SPECIFIED. M.C. CABLE MAY BE UTILIZED, WHERE ALLOWED BY THE LOCAL CODE, FOR BRANCH CIRCUIT WIRING ONLY.
- 7. RUN ALL GROUNDING CONDUCTORS IN RACEWAYS.
- 8. NO MORE THAN 3 PHASE WIRES IN ANY BRANCH CIRCUIT CONDUIT.

260526 GROUNDING AND BONDING FOR ELECTRICAL SYSTEM

1. THE LOW VOLTAGE DISTRIBUTION SYSTEM SHALL BE PROVIDED WITH A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR FOR EACH SINGLE OR THREE—PHASE FEEDER OR BRANCH CIRCUIT. THE REQUIRED GROUNDING CONDUCTOR SHALL BE INSTALLED IN THE COMMON RACEWAY WITH THE RELATED PHASE AND/OR NEUTRAL CONDUCTORS. WHEN THE RACEWAY FOR BRANCH CIRCUITS IS EMT OR METAL SURFACE RACEWAY, A GROUND WIRE SHALL BE INSTALLED IN THE RACEWAY. FLEXIBLE METALLIC CONDUIT EQUIPMENT CONNECTIONS UTILIZED IN CONJUNCTION WITH THE ABOVE SHALL BE PROVIDED WITH SUITABLE GREEN INSULATED GROUNDING CONDUCTORS CONNECTED TO APPROVED GROUNDING TERMINALS AT EACH END OF THE FLEXIBLE CONDUIT.

260533 RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

RACEWAYS:

RGS CONDUIT.

- 1. ALL RACEWAYS RUN IN CEILING OR WALL SPACE AND EXPOSED ON INTERIOR WALLS SHALL BE EMT. ALL CIRCUIT RACEWAYS SHALL BE CONCEALED WHERE POSSIBLE AND A MINIMUM SIZE OF 3/4" UNLESS OTHERWISE NOTED. ALL RACEWAYS RUN IN SLAB OR EXPOSED ON EXTERIOR WALLS SHALL BE RIGID STEEL OR IMC. ALL EMERGENCY POWER WIRING SHALL BE INSTALLED IN CONDUIT.
- 2. PROVIDE TRAPEZE TYPE CONDUIT HANGERS EVERY EIGHT (8) FEET FOR STRAIGHT RUNS AND WITHIN THREE (3) FEET OF EACH TERMINATION.
- 3. ELECTRICAL METALLIC TUBING SHALL BE AS MANUFACTURED BY ALLIED CONDUIT OR APPROVED EQUAL. ALL CONDUIT FITTINGS SHALL BE STEEL COMPRESSION FITTINGS.
- 4. RIGID GALVANIZED STEEL CONDUIT SHALL BE THREADED, GALVANIZED OR SHERARDIZED INSIDE AND OUT, AS MANUFACTURED BY ALLIED, TRIANGLE, WESTERN OR WHEATLAND. CONTRACTOR MAY USE INTERMEDIATE GRADE CONDUIT (IMC).
- 5. CONNECTIONS TO VIBRATING EQUIPMENT AND TO LIGHTING FIXTURES SHALL BE MADE WITH FLEXIBLE CONDUIT, GALVANIZED TYPE AS MANUFACTURED BY NATIONAL-FLEX STEEL OR APPROVED EQUAL.
- 6. CONNECTIONS TO EQUIPMENT OR MOTORS LOCATED OUTDOORS SHALL BE MADE WITH LIQUID TIGHT SEAL—TITE CONDUIT WITH COMPRESSION TYPE FITTINGS, AS MANUFACTURED BY CROUSE HIND SERIES LA.
- 7. CONDUIT IN DIRECT CONTACT WITH EARTH OR IN CORROSIVE ATMOSPHERE SHALL BE POLYVINYL CHLORIDE CONDUIT. POLYVINYL CHLORIDE CONDUIT SHALL BE SCHEDULE 40 AS MANUFACTURED BY CARLON OR APPROVED EQUAL.
- 8. MAINTAIN SIX (6) INCH MINIMUM CLEARANCE BETWEEN ALL RACEWAY AND PARALLEL RUNS OF WATER PIPES.
- 10. VERTICAL ELBOWS STUBBED OUT OF FLOORS OR EQUIPMENT PADS SHALL BE IMC OR
- 9. USE OZ/GEDNEY COMPANY TYPE B INSULATING BUSHINGS ON ALL RACEWAY FREE ENDS AND ENTERING PANELS, PULL BOXES, DISCONNECTS, ETC.

OUTLET BOXES:

- 1. AT ALL OUTLETS OF WHATEVER KIND, FOR ALL SYSTEMS, PROVIDE A SUITABLE BOX SPECIALLY DESIGNED TO RECEIVE THE TYPE OF FIXTURE OR DEVICE TO BE MOUNTED THEREON. PROVIDE FIXTURE OUTLET BOXES WITH SUITABLE FIXTURE SUPPORTS OF SIZE AND KIND REQUIRED FOR THE FIXTURE TO BE HUNG.
- 2. PROVIDE BOX COVERS TO FIT OUTLET BOX INSTALLED OF THE REQUIRED DEPTH SO THAT THE EDGE OF THE RING IS FLUSHED WITH THE FINISHED PLASTER, MASONRY, ACOUSTICAL MATERIAL, OR OTHER FINISH.
- 3. PROVIDE JUNCTION OR PULL BOXES WHERE EVER INDICATED OR WHERE REQUIRED TO FACILITATE WIRE PULLING OR CONNECTION. FABRICATE BOXES WITH TWELVE (12) GAUGE MINIMUM GALVANIZED STEEL AND EQUIP WITH SCREW COVER. SIZE BOX PER NEC. LABEL ALL CIRCUITS INSIDE BOX AND ON EXTERIOR OF COVER WITH ONE (1) INCH HIGH STENCILED LETTERS.
- 4. PROVIDE SINGLE GANG FS TYPE DEVICE BOX WITH WATERPROOF RECEPTACLE COVER. DEVICE BOX SHALL BE CAST COPPER FREE ALUMINUM WITH DIE CAST ALUMINUM COVERPLATE WITH SCREW SIMPLEX RECEPTACLE COVER. PROVIDE RUSSELLSTOLL TYPE FSWS—62 BOX.
- 5. PROVIDE CONDULET TYPE CAST DEVICE BOXES FOR ISOLATED EQUIPMENT IN THE KITCHEN AND AS OTHER WISE REQUIRED. PROVIDE KINDORF SUPPORTS AS REQUIRED BY CODE. CAST BOXES SHALL BE MADE OF FERALOY OR COPPER FREE ALUMINUM. CAST BOXES SHALL HAVE THREADED HUBS SUITABLE FOR 3/4" IMC OR RGS CONDUIT. CAST DEVICE BOXES SHALL BE CROUSE—HINDS CATALOG NO. FDD2, TWO GANG CATALOG NO. FDS222.
- 6. PROVIDE FLOOR BOXES AS INDICATED ON DRAWINGS. PROVIDE AMERICAN ELECTRIC STEEL CITY BOX NO. 68-D OR APPROVED EQUAL. PROVIDE POLISHED BRASS COVERPLATE NO. P60-CACP FOR A FLUSH SERVICE.
- 7. BOXES INSTALLED FLUSH IN WALLS SHALL BE SUPPORTED RIGIDELY ON TWO (2) SIDES.

260548 VIBRATION AND SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS

1. PROVIDE SEISMIC SUPPORTS AND ANCHORS FOR ELECTRICAL EQUIPMENT, AND SEISMIC BRACING FOR RACEWAY SYSTEMS IN COMPLIANCE WITH THE INTERNATIONAL BUILDING CODE 2009.

262726 WIRING DEVICES

LOCAL CODES, NEC, UL, NEMA, AND IEEE STANDARDS PERTAINING TO WIRING DEVICES. PROVIDE WIRING DEVICES WHICH ARE U.L. LISTED AND LABELED. PROVIDED DEVICE PLATES WHICH ARE U.L. LISTED.

2. ALL WALL SWITCHES SHALL BE TOGGLE, QUIET TYPE, FULLY ENCLOSED IN

1. STANDARDS COMPLIANCE: COMPLY WITH REQUIREMENTS OF APPLICABLE

BY HUBBELL, PASS AND SEYMOUR, ARROW—HART, LEVITON OR APPROVAL EQUAL.

3. ALL RECEPTACLES SHALL BE 20 AMPERES, 120 VOLT, HEAVY DUTY, GROUNDING TYPE, BACK AND SIDE WIRED FULLY ENCLOSED IN COMPOSITION CASE AS MANUFACTURED BY HUBBELL, PASS AND SEYMOUR, ARROW—HART,

COMPOSITION CASE, 20 AMPERES 120/277 VOLT RATING AS MANUFACTURED

DUPLEX AS INDICATED ON DRAWINGS.

4. SWITCHES AND RECEPTACLES SHALL BE GRAY IN COLOR FOR 120 VOLT.

LEVITON OR APPROVED EQUAL. RECEPTACLES SHALL BE SINGLE OR

- 5. SWITCH AND RECEPTACLE COVER PLATES SHALL BE STAINLESS STEEL.
- 6. PROVIDE MULTI-GANG SWITCH COVERPLATES WHERE TWO (2) OR MORE SWITCHES OR RECEPTACLES ARE INDICATED ADJACENT ON THE DRAWINGS. WHERE DIMMER SWITCHES ARE SHOWN ADJACENT TO TOGGLE SWITCHES THEY SHALL HAVE SEPARATE COVERPLATES. WHERE TWO (2) OR MORE DIMMERS ARE INDICATED TOGETHER THEY SHALL HAVE A COMMON COVERPLATE. DIMMER COVERPLATES SHALL BE AS MANUFACTURED BY THE DIMMER MANUFACTURER TO MATCH THE STYLE OF DIMMERS.
- 7. PROVIDE MINIMUM #12 AWG GREEN INSULATED GROUND WIRE FROM DEVICE GROUND LUG TO DEVICE BOX GROUND LUG.

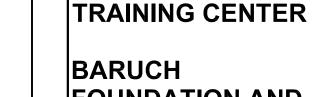
265100 INTERIOR LIGHTING

- 1. REGARDLESS OF CATALOG NUMBER IN LIGHTING FIXTURE SCHEDULE, EVERY FIXTURE SHALL BE OF THE TYPE FOR THE CEILING CONSTRUCTION IN WHICH IT IS TO BE INSTALLED AND MOUNTING CONDITIONS. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE THIS WITH THE CEILING CONTRACTOR.
- 2. BEFORE ANY OF THE FIXTURES ARE FABRICATED, COMPLETE SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL. WHEN REQUESTED BY THE ARCHITECT COMPLETE SAMPLES OF ANY OR ALL FIXTURES SPECIFIED SHALL BE SUBMITTED.
- 3. UPON COMPLETION OF THE INSTALLATION, ALL LIGHTING FIXTURES SHALL BE CLEANED TO THE SATISFACTION OF THE ARCHITECT. SEE SCHEDULE OF FIXTURES ON THE DRAWINGS.
- 4. THE LIGHTING DESIGN WAS BASED ON THE LIGHTING FIXTURE TYPE AND MANUFACTURERS AS SPECIFIED. ONLY THOSE FIXTURES SPECIFIED ARE APPROVED FOR INSTALLATION. IF THE CONTRACTOR ELECTS TO SUBSTITUTE AN ALTERNATIVE FIXTURE HE SHALL SUBMIT IN DETAIL COMPLETE CATALOG INFORMATION ON THE PROPOSED SUBSTITUTION AS WELL AS THE SPECIFIED FIXTURE AND PROVIDE LIGHTING CALCULATIONS OF AREAS AFFECTED BY THE PROPOSED SUBSTITUTION SHALL BE IN ALL DETAILS COMPLETELY EQUAL TO OR BETTER THAN THE SPECIFIED FIXTURE. IF REQUESTED BY THE ENGINEER THE CONTRACTOR SHALL PROVIDE AT NO COST A SAMPLE OF EACH PROPOSED SUBSTITUTION AND EACH SPECIFIED FIXTURE FOR EVALUATION.
- 5. FLUORESCENT LAMPS SHALL BE ENERGY SAVING TYPE WARM WHITE SP35 SPX35 COLOR AS MANUFACTURED BY GENERAL ELECTRIC, SYLVANIA, OR PHILLIPS.
- 6. FLUORESCENT LAMPS 2', 3', OR 4' SHALL BE T8 DIAMETER.
- 7. FIXTURES SHALL BE AS INDICATED ON THE SCHEDULE OF FIXTURES AND INDICATE THE QUALITY OF EQUIPMENT THAT IS TO BE PROVIDED.
- 8. ALL LENSES FOR FLUORESCENT FIXTURES SHALL BE 100% ACRYLIC WITH A MINIMUM OF 0.125 LENS OVERALL THICKNESS.
- 9. ALL FIXTURES SHALL BE COMPLETELY WIRED AT THE FACTORY.
- 10. EACH RECESSED AND SEMI-RECESSED FIXTURE SHALL BE FINISHED WITH A MOUNTING FRAME OR RING COMPATIBLE WITH THE CEILING IN WHICH THEY ARE TO BE INSTALLED. THE FRAMES AND RINGS SHALL BE ONE (1) PIECE OR CONSTRUCTED WITH ELECTRICALLY—WELDED BUTT JOINTS, AND OF SUFFICIENT SIZE AND STRENGTH TO SUSTAIN THE WEIGHT OF THE FIXTURE.

- 11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE CERTAIN THAT ALL RECESSED FIXTURES HAVE TRIMS AND MOUNTING COMPONENTS COMPATIBLE WITH THE CEILING IN WHICH THEY ARE TO BE INSTALLED. SHOP DRAWINGS SHALL CLEARLY INDICATE THE COMPATIBILITY OF THE FIXTURE TO THE CEILING. LIGHTING FIXTURES SHALL MAINTAIN THE FIRE RATING OF THE CEILING.
- 12. LIGHT LEAKS BETWEEN CEILING TRIMS OF RECESSED LIGHTING EQUIPMENT AND THE CEILING WILL NOT BE TOLERATED. YOKES, BRACKETS AND SUPPLEMENTARY SUPPORTING MEMBERS NEEDED TO MOUNTING LIGHTING FIXTURES TO TWO (2) INCH CARRIER CHANNELS OR OTHER SUITABLE CEILING MEMBERS SHALL BE FURNISHED AND INSTALLED BY THE
- 13. YOKES, BRACKETS AND SUPPLEMENTARY SUPPORTING MEMBERS NEEDED TO MOUNTING LIGHTING FIXTURES TO TWO (2) INCH CARRIER CHANNELS OR OTHER SUITABLE CEILING MEMBERS SHALL BE FURNISHED AN INSTALLED BY THE CONTRACTOR.
- 14. RECESSED LIGHTING FIXTURES OF A DIMENSION TWENTY-FOUR (24) INCHES OR LONGER SHALL BE SUPPORTED ON TWO (2) DIAGONAL CORNERS INDEPENDENT OF CEILING CONSTRUCTION. RODS SHALL BE ALL-THREAD, MINIMUM OF 3/8" DIA. GALVANIZED CARBON STEEL WIRE SHALL BE A MINIMUM OF #12 GAUGE. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY CHANNELS, SUPPORT WIRES OR RODS, ETC. TO PROVIDE A STRUCTURALLY SOUND SYSTEM.
- 15. REFLECTORS, REFLECTOR CONES AND VISIBLE TRIM OF ALL LIGHTING FIXTURES SHALL NOT BE INSTALLED UNTIL COMPLETION OF PLASTERING, CEILING TILE WORK, PAINTING AND GENERAL CLEANUP. THEY SHALL BE CAREFULLY HANDLED TO AVOID SCRATCHING OR FINGERPRINTING AND SHALL BE, AT THE TIME OF ACCEPTANCE BY THE OWNER, COMPLETELY CLEAN. ALL ALZAK PARABOLIC CONES SHALL BE GUARANTEED AGAINST DISCOLORATION FOR A MINIMUM OF TWO (2) YEARS, AND, IN THE EVENT OF PREMATURE DISCOLORATION, SHALL BE REPLACED BY THE MANUFACTURER, INCLUDING BOTH MATERIALS AND THE COST OF LABOR.
- 16. ALL BALLASTS SHALL BE COVERED BY A FIVE (5) YEAR WARRANTY AGAINST DEFECTS. WARRANTY SHALL INCLUDE PAYMENT FOR NORMAL LABOR COSTS AND REPLACEMENT OF IN WARRANTY BALLASTS.
- 17. LUMINAIRE ASSEMBLIES, INCLUDING BALLASTS, SHALL BE REASONABLY DEVOID OF OBJECTIONAL "HUM", IN THE NORMAL AMBIENT NOISE OF THE APPLICATION, AS JUDGED BY THE ENGINEER. FLUORESCENT BALLASTS SHALL HAVE A CLASS A SOUND RATING.
- 18. FLUORESCENT BALLASTS SHALL BE ENERGY SAVING INSTANT START ELECTRONIC TYPE AS MANUFACTURED BY ADVANCE MARK V, OR APPROVED EQUAL BY MOTOROLA MXRN-T8-1LL OR MAGNETEK TRIAD HP SERIES. ELECTRONIC BALLASTS SHALL HAVE A TOTAL HARMONIC DISTORTION (THD) RATING LESS THAN 10%. ELECTRONIC BALLASTS SHALL MEET THE FEDERAL COMMUNICATIONS COMMISSION (FCC) STANDARDS SPECIFIED IN PART 18 OF THE FCC RULES CONCERNING INDUSTRIAL, SCIENTIFIC, AND MEDICAL EQUIPMENT.
- 19. FLUORESCENT BALLASTS SHALL MEET THE REQUIREMENTS OF SECTION 410—73 (E) OF THE NATIONAL ELECTRICAL CODE. THE CONTRACTOR AND HIS SUPPLYING LIGHTING FIXTURE MANUFACTURER SHALL BE RESPONSIBLE FOR THE PROPER SELECTION OF BALLASTS FOR OPERATION IN THEIR ENVIRONMENT. BALLASTS SHALL HAVE ETL AND CBM CERTIFICATION LABELS AND SHALL BE HIGH POWER FACTOR TYPE OF 90% OR GREATER.
- APPROPRIATE LABEL OR LABELS SHALL BE AFFIXED TO EACH FIXTURE IN A POSITION CONCEALING IT FROM NORMAL VIEW.

20. A UL LISTING SHALL BE PROVIDED FOR EACH FIXTURE TYPE, AND THE

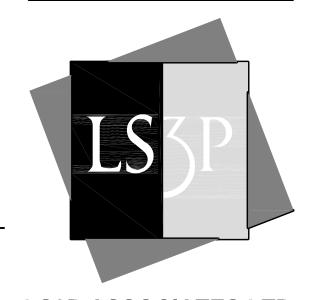
21. UL LABELS SHALL NOT BE INSTALLED ON REFLECTORS.



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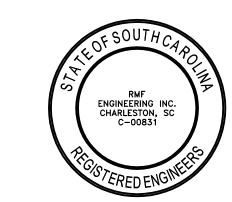
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No. Description Date

PROJECT: 2402-062

DATE: 04/13/20

DRAWN BY: PAM

CHECKED BY: BAC

ELECTRICAL SPECIFICATIONS

L-/01

SERVICE BY DESIGN

SOLUTIONS THROUGH LISTENING