

# THE UNIVERSITY OF SOUTH CAROLINA NERR EDUCATION AND TRAINING CENTER

## KIMBEL LODGE RENOVATIONS



APRIL 13, 2012  
CONSTRUCTION DOCUMENTS

### PROJECT LOCATION

The Belle W. Baruch Foundation  
Hobcaw Barony Kimbel Lodge  
22 Hobcaw Road  
Georgetown, SC 29440  
Tel: (843) 546-4623

### ARCHITECTURAL

LS3P ASSOCIATES, LTD.  
701-A Lady Street  
Columbia, SC 29201  
Tel: (803) 765-2418  
PROJECT NO.: 2402-062141

### ELECTRICAL

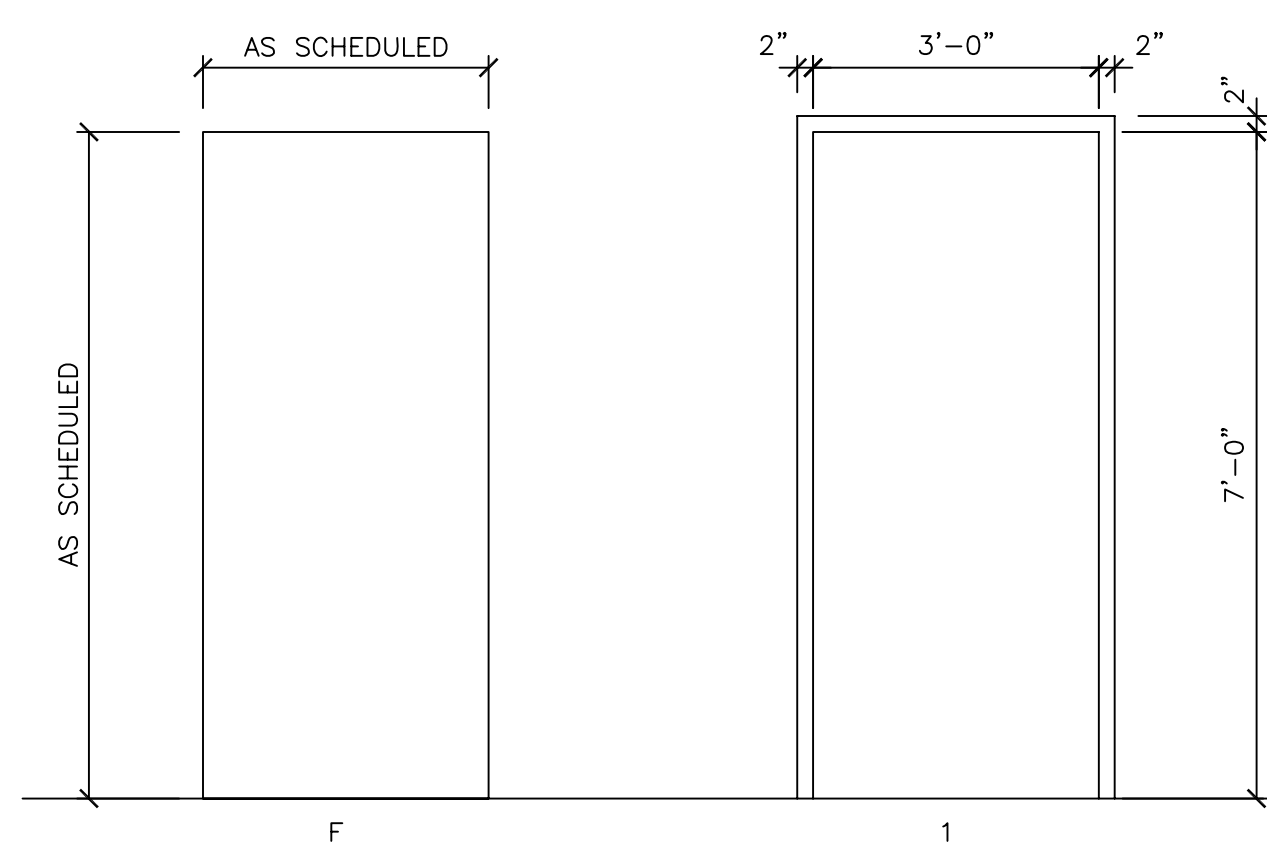
RMF Engineering  
474 Wando Park Blvd., Suite 100  
Mount Pleasant, SC 29464  
Tel: (843) 577-4444

### MECH./PLUMBING

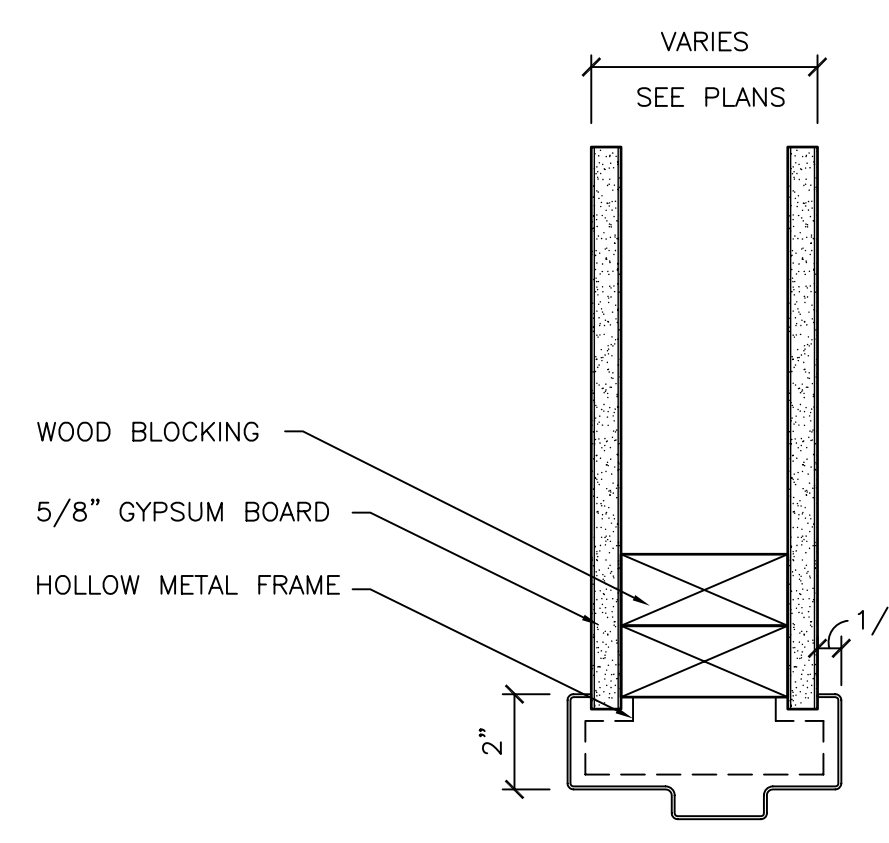
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### SHEET INDEX

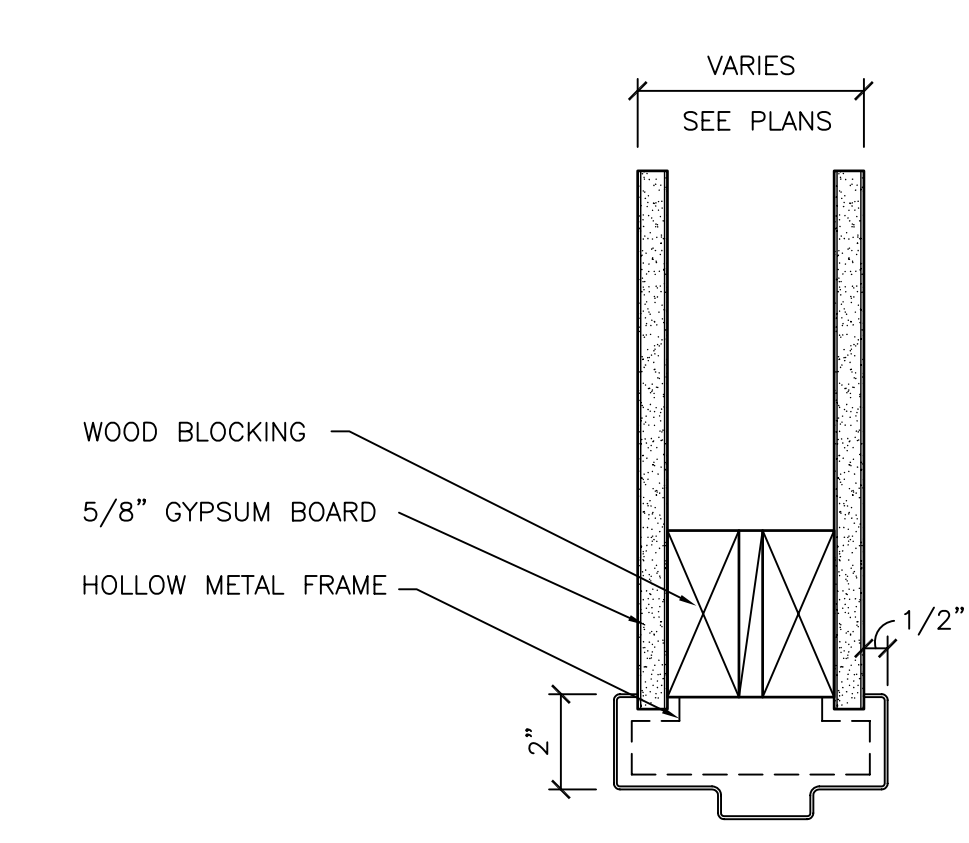
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E-000 ELECTRICAL LEGEND & ABBREVIATIONS  
E-101 ELECTRICAL FIRST FLOOR PLAN  
E-701 ELECTRICAL SPECIFICATIONS



**D4 DOOR - FRAME TYPES**  
1/2" = 1'-0"



**E2 INTERIOR HOLLOW METAL JAMB**  
3" = 1'-0"

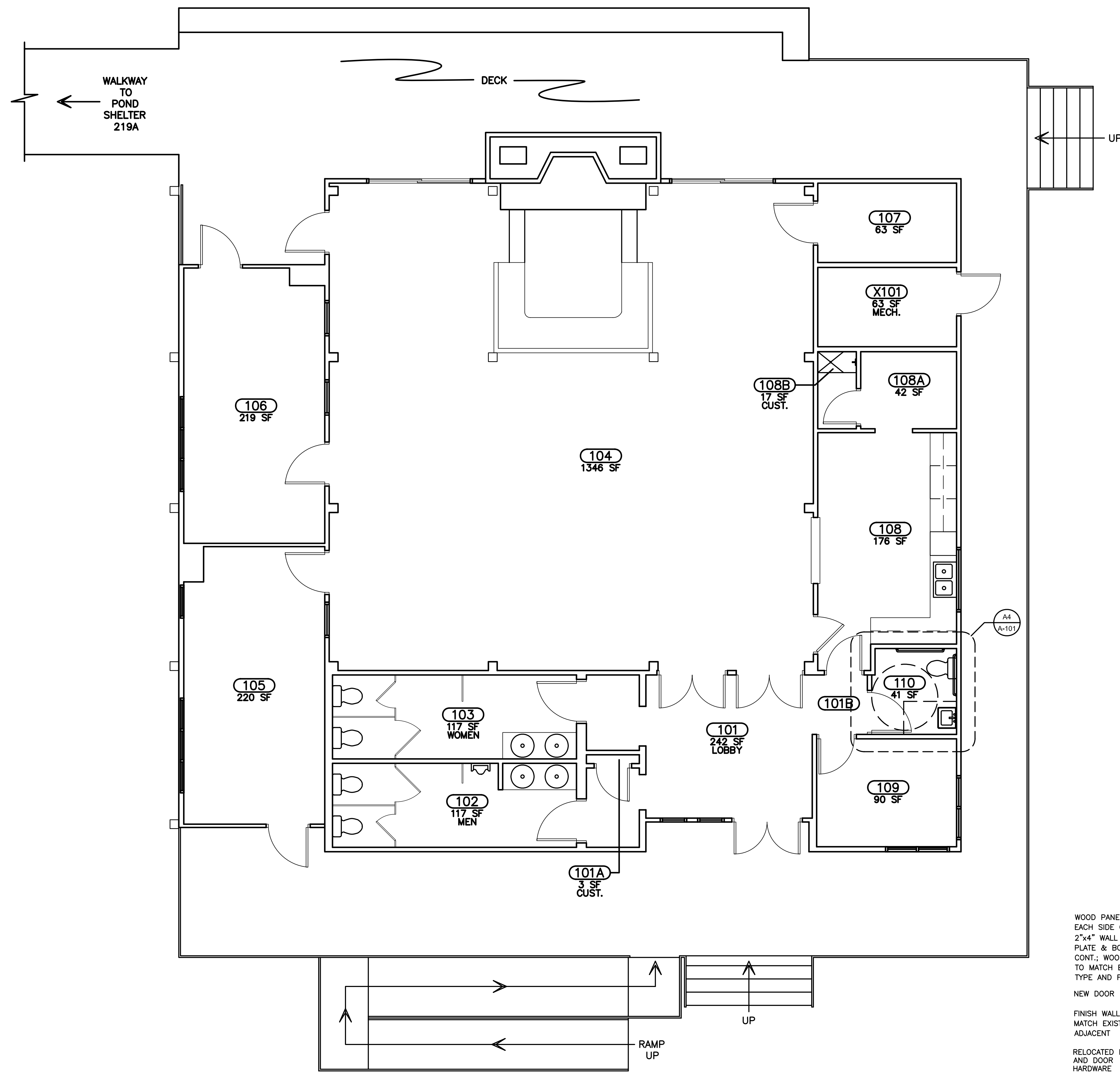


**E3 INTERIOR HM HEAD DTL.**  
3" = 1'-0"

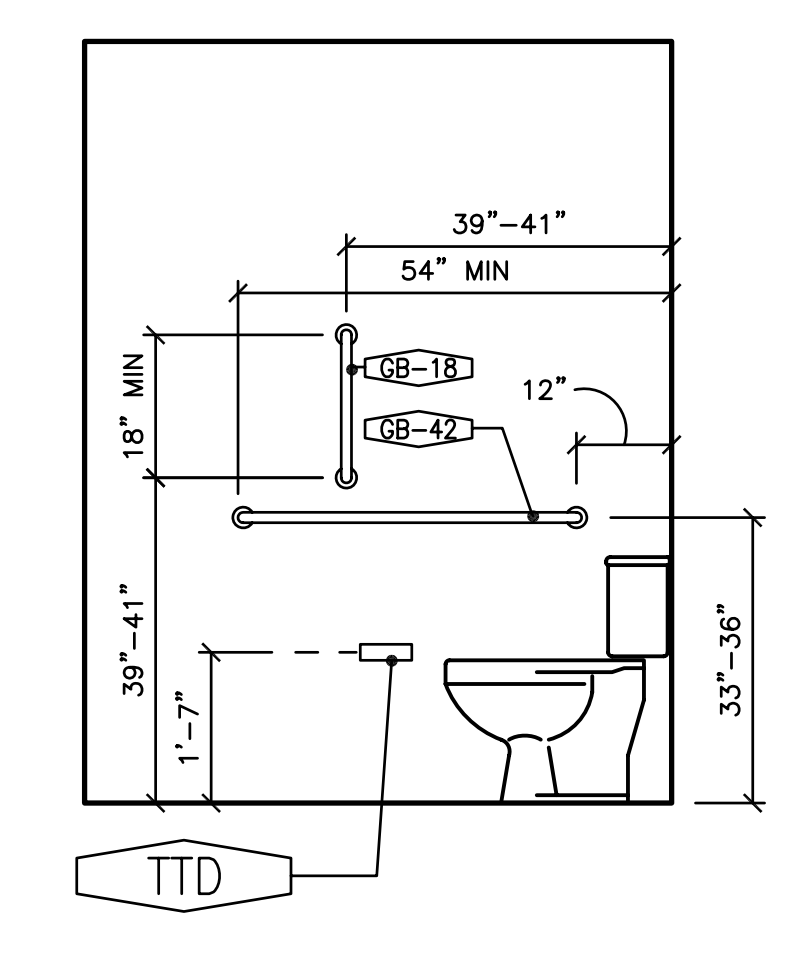
DOOR SCHEDULE													
DOOR NUMBER	FRAME					DOOR					REMARKS		
	MATL	TYPE	HEAD	JAMB	SILL	FINISH	MATL	TYPE	FINISH	SIZE		HWDR	LABEL
FIRST FLOOR													
110	WD	1	E3/A101	E2/A101	-	PAINT	WD	F	STAIN	3'-0" x 7'-0"	15	-	SIGNAGE TYPE A REQUIRED

TOILET ACCESSORIES SCHEDULE	
MARK	DESCRIPTION
SD	LIQUID SOAP DISPENSER (OWNER-FURNISHED/CONTRACTOR-INSTALLED)
GB18	18" GRAB BAR
GB36	36" GRAB BAR
GB42	42" GRAB BAR
MF	GLASS MIRROR UNIT
PTD	PAPER TOWEL DISPENSER (OWNER-FURNISHED/CONTRACTOR-INSTALLED)
TID	TOILET TISSUE DISPENSER (OWNER-FURNISHED/CONTRACTOR-INSTALLED)

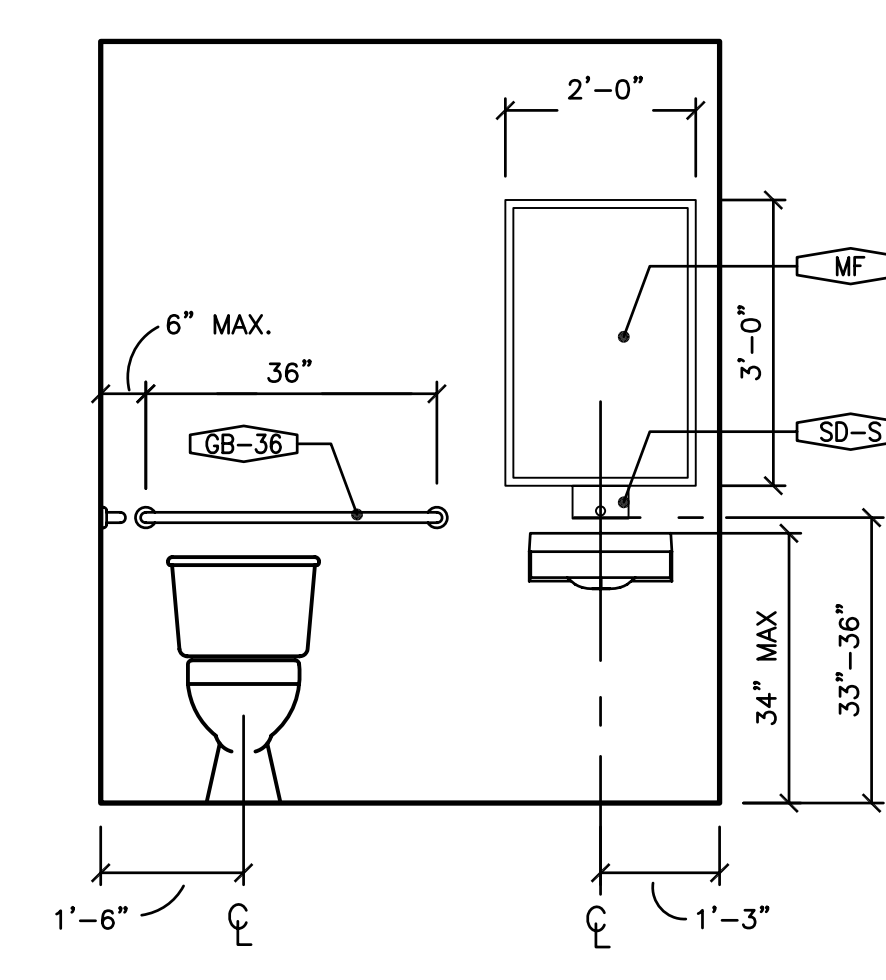
Hw 15			
QTY	DESCRIPTION	MANUFACTURER	MC
3	Hinges	TA2714	US26D MC
1	Privacy Set	ML2060 LWA	630 CR
1	Door Closer	7500	689 NDC
1	Kick Plate	KP50 8" x 2" LDW	US32D MC
1	Wall Stop	WS02	US32D MC
1	Door Silencers	S1M	MC



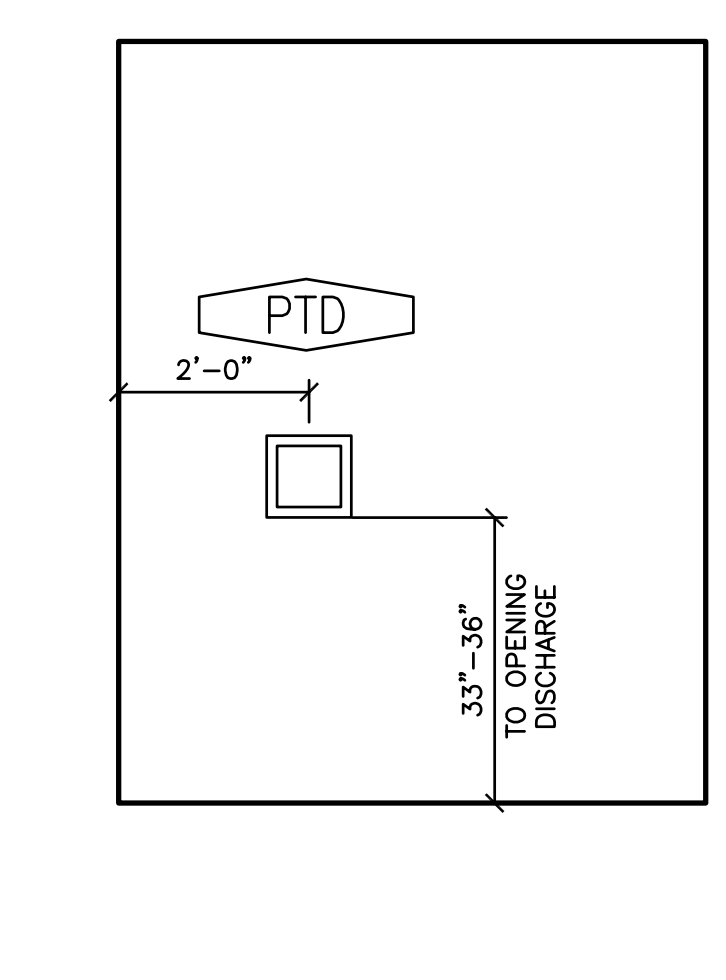
**A1 1ST FLOOR-ENTRY**  
1/8" = 1'-0"



**B4 ELEVATIONS**  
1/2" = 1'-0"



**B5 ELEVATIONS**  
1/2" = 1'-0"

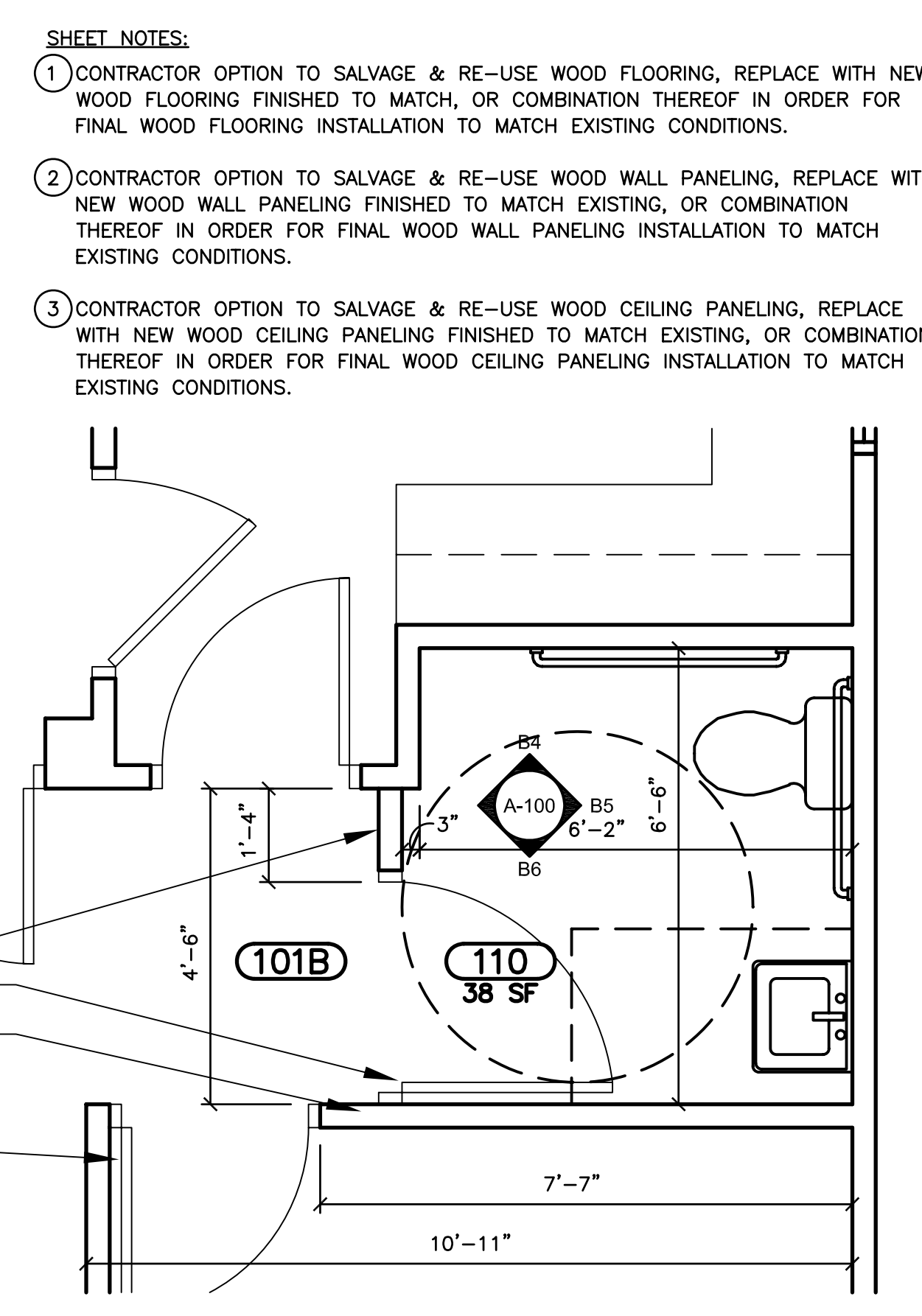


**B6 ELEVATIONS**  
1/2" = 1'-0"

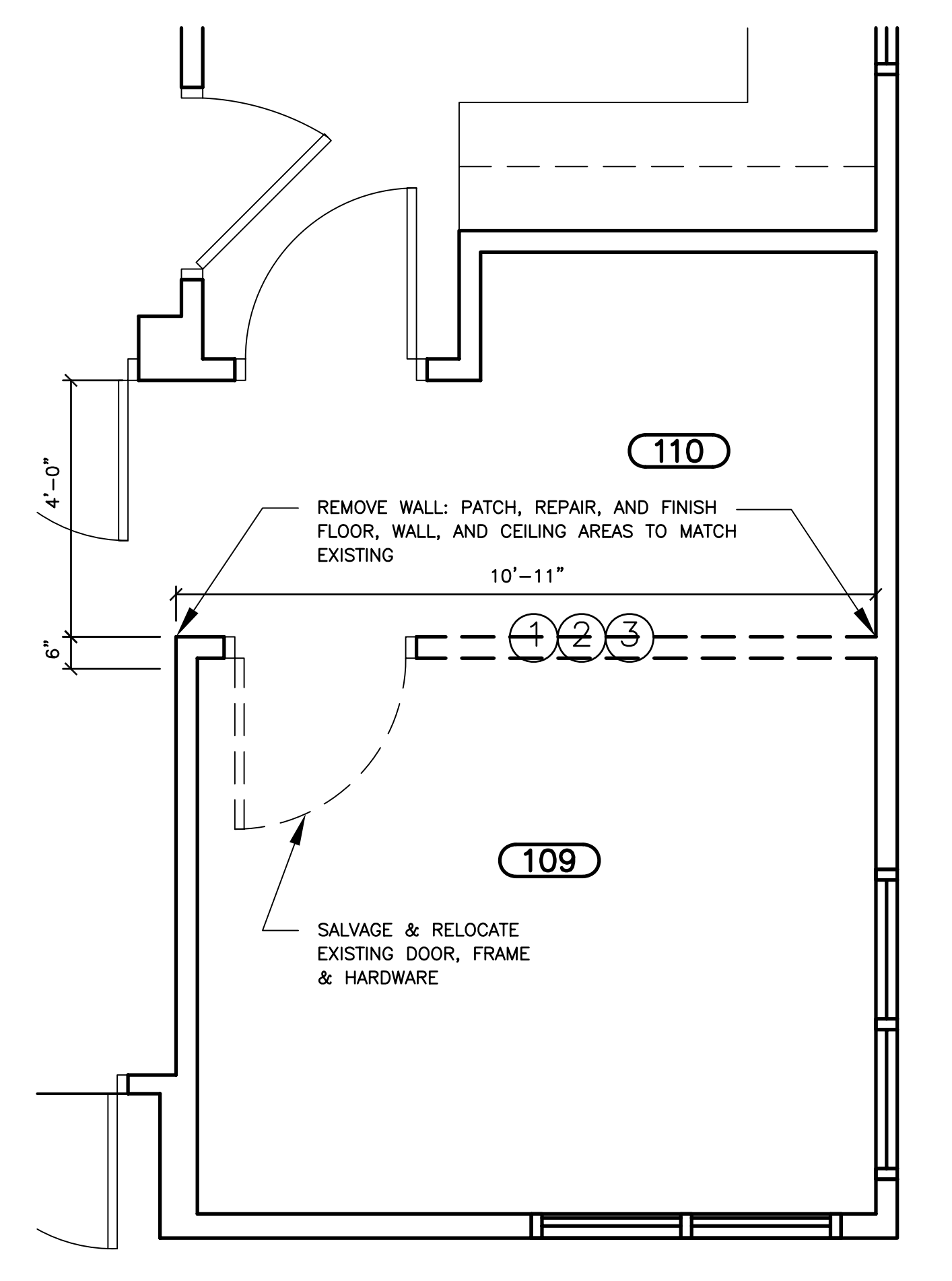
- GENERAL NOTES:**
- CONTRACTOR TO VERIFY DIMENSIONS AND EXISTING CONDITIONS IN THE FIELD.
  - CONTRACTOR TO PROTECT EXISTING AREAS OUTSIDE OF THE WORK AREA FROM DAMAGE AND BE RESPONSIBLE FOR REPAIRING DAMAGE TO EXISTING AREAS, IF ANY SHALL OCCUR AS A RESULT OF THE CONTRACTOR.
  - REMOVE AND RE-INSTALL, OR REPLACE WITH NEW AS CONTRACTOR OPTION, THE WOOD WALL PANELING IN THE PROPOSED TOILET ROOM, AND OTHER AREAS AS APPLICABLE, IN ORDER TO INSTALL BLOCKING IN THE WALL FOR ATTACHMENT OF WALL-MOUNTED TOILET ROOM ACCESSORIES, FIXTURES, OR AS REQUIRED FOR THE EXECUTION OF THE WORK.
  - WHERE CEILING AND/OR WALLS ARE REQUIRED TO BE ACCESSED PER THE MECHANICAL, ELECTRICAL, AND PLUMBING SCOPE OF WORK, CONTRACTOR IS TO PATCH, REPAIR, AND FINISH SUCH ACCESS OPENINGS TO THE ORIGINAL CONDITIONS OF THE EXISTING ADJACENT.
  - WHERE EXISTING LIGHT FIXTURES ARE INDICATED TO BE REPLACED WITH NEW FIXTURES, CONTRACTOR TO DELIVER EXISTING LIGHT FIXTURES TO OWNER.

ROOM FINISH SCHEDULE									
NO.	ROOM NAME	FLOOR MATERIAL	BASE	NORTH WALLS	SOUTH WALLS	EAST WALLS	WEST WALLS	CEILING	NOTES
101	LOBBY	-	WD2	-	-	-	-	PT1	Wood base at desk wall only
101B	LOBBY NICHE	WD1	WD2	PT1	PT1	PT1	-	PT1	
109	OFFICE	WD1	WD2	PT1	PT1	PT1	PT1	PT1	
110	TOILET	WD1	WD2	PT1	PT1	PT1	PT1	PT1	

- ROOM FINISH LEGEND:**
- WD1 WOOD FLOORING - stain new wood flooring to match existing wood floor finish
  - WD2 WOOD BASE - paint existing & new wood base to match existing wood base and door frames
  - PT1 PAINT - paint wood panels to match existing wood wall (or ceiling) panels



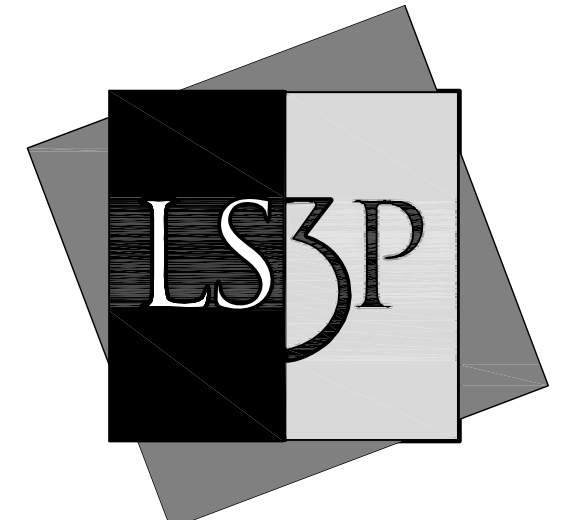
**A4 ENLARGED REST ROOM PLAN**  
1/2" = 1'-0"



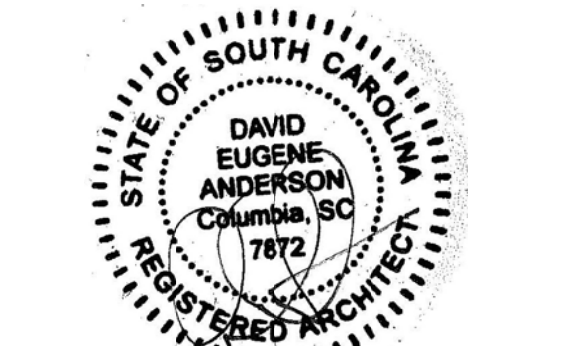
**A6 DEMOLITION PLAN**  
1/2" = 1'-0"

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**BELLE W. BARUCH FOUNDATION and THE UNIVERSITY OF SOUTH CAROLINA**

**KIMBEL LODGE RENOVATIONS**



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701-A LADY STREET, COLUMBIA SC 29201  
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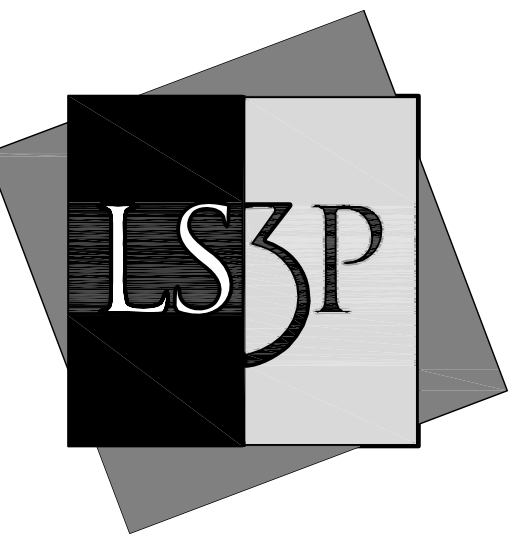
REVISIONS		
No.	Description	Date

**PROJECT:** 2402-06244  
**DATE:** APRIL 13, 2012  
**DRAWN BY:** JN  
**CHECKED BY:** RD

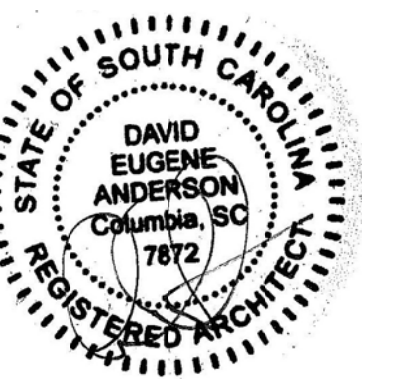
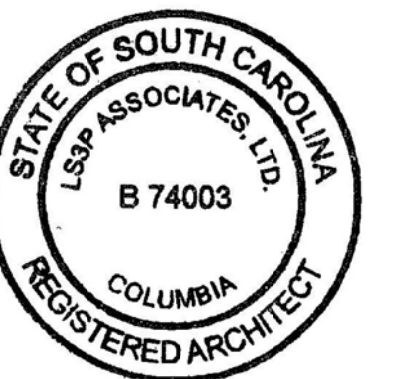
**FIRST FLOOR PLAN & ELEVATIONS**

**A-101**

SOLUTIONS THROUGH LISTENING  
SERVICE BY DESIGN  
CONSTRUCTION DOCUMENTS



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No.	Description	Date

PROJECT: 2402-06241  
DATE: APRIL 13, 2012  
DRAWN BY: JN  
CHECKED BY: RD

SIGNAGE  
TYPES

A-102



D6 SIGNAGE TYPE 'A'

## MECHANICAL LEGEND

DUCTWORK SYMBOLS	
SYMBOL	DESCRIPTION
	AIR FLOW
	EXHAUST AIR GRILLE
	ROUND DUCT RISER (SMALLER THAN 12")

EQUIPMENT DESIGNATIONS	
SYMBOL	DESCRIPTION
	TOILET EXHAUST FAN DESIGNATION

## MECHANICAL ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
CFM	CUBIC FEET PER MINUTE
CO	CLEANOUT
CW	COLD WATER, CITY WATER
DN	DOWN
EA	EXHAUST AIR
ESP	EXTERNAL STATIC PRESSURE
EX	EXISTING
FF	FINISHED FLOOR
HB	HOSE BIBB
HP	HORSEPOWER
HW	HOT WATER
HWR	HOT WATER RECIRCULATION
LBS	POUNDS
RPM	REVOLUTIONS PER MINUTE
SP	STATIC PRESSURE
TYP	TYPICAL
WH	WALL HYDRANT

## PLUMBING LEGEND

PIPING SYMBOLS	
SYMBOL	DESCRIPTION
	DOMESTIC COLD WATER (POTABLE)
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RECIRCULATION
	SANITARY IN CRAWLSPACE
	SANITARY BELOW GRADE
	VENT

COMPONENTS AND SPECIALTIES	
SYMBOL	DESCRIPTION
	CLEAN OUT (WALL/PIPE)
	COLD WATER INTERIOR HOSE BIBB
	EXTERIOR WALL HYDRANT (FREEZE PROOF)
	WATER METER

RISER DIAGRAM COMPONENTS AND SPECIALTIES	
SYMBOL	DESCRIPTION
	SHOCK ARRESTER
	VENT THROUGH ROOF
	TRAP ARM
	URINAL/WATER CLOSET (FLOOR MOUNTED)
	WALL/PIPE CLEANOUT

EQUIPMENT DESIGNATIONS	
DESIGNATION	DESCRIPTION
	PLUMBING FIXTURE DESIGNATION

## 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)
	CENTRIC REDUCER

LINETYPE SYMBOLS	
DESIGNATION	DESCRIPTION
	EXISTING WORK
	NEW WORK

REFERENCE SYMBOLS	
DESIGNATION	DESCRIPTION
	POINT OF CONNECTION TO EXISTING

## GENERAL NOTES

- 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.
- 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 SATISFACTION OF THE ARCHITECT ALL EXISTING WORK DAMAGED IN THE PERFORMANCE OF DEMOLITION AND/OR NEW WORK.
- 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 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 THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED BY THE CONTRACTOR FROM THE PREMISES.
- 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.
- 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.
- 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 CONTRACT COST.
- 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.
- IN GENERAL ALL PIPING, EQUIPMENT, DUCTWORK, AND MATERIALS SHOWN "LIGHT" IS EXISTING TO REMAIN. ALL PIPING, CONDUITS, EQUIPMENT, DUCTWORK, AND MATERIALS SHOWN "HEAVY AND DASHED" IS EXISTING AND SHALL BE DEMOLISHED.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SOUTH CAROLINA CODES AND THE STATE FIRE MARSHALL'S REQUIREMENTS.
- THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL OTHER TRADES/SUBCONTRACTORS INCLUDING BUT NOT LIMITED TO AUTOMATIC TEMPERATURE CONTROLS, ELECTRICAL, AND GENERAL TRADES.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL EGRESS CORRIDORS DURING CONSTRUCTION.
- 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.
- 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.
- 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.

## FAN SCHEDULE

DESIG	SERVICE	TYPE	CFM	SP INCH H <sub>2</sub> O	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	-

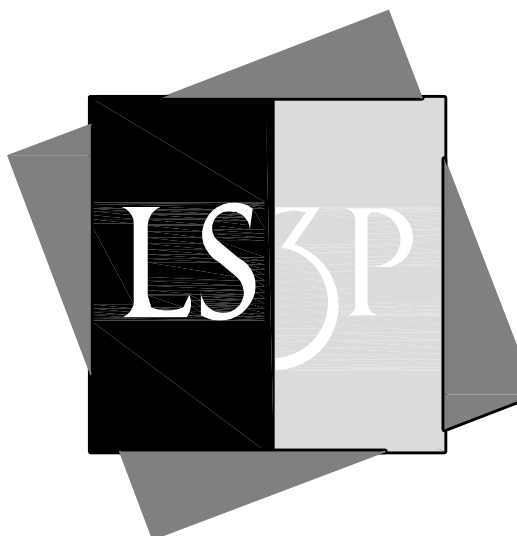
## PLUMBING FIXTURE SCHEDULE

No.	FIXTURE	ROUGH-IN CONNECTION				FIXTURE UNITS			REMARKS
		CW	HW	SAN	VENT	CW	HW	SAN	
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

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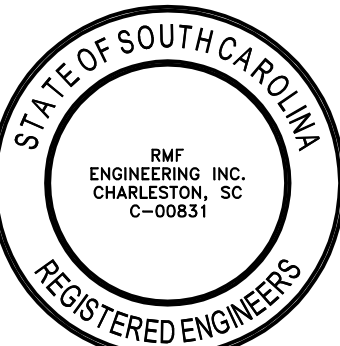
KIMBEL LODGE RENOVATIONS



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RMF ENGINEERING INC.  
194 SEVEN FARMS DRIVE, SUITE G  
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RMF PROJECT #312022.A0



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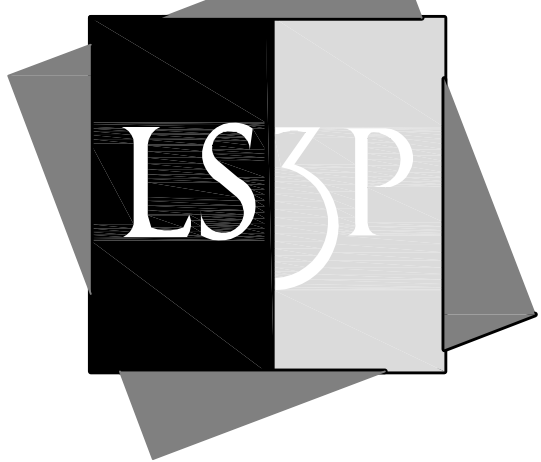
No.	Description	Date

PROJECT: 2402-062141  
DATE: 04/13/2012  
DRAWN BY: CSL  
CHECKED BY: CRB

MECHANICAL AND PLUMBING ABBREVIATIONS, LEGENDS AND SCHEDULES

MP-000

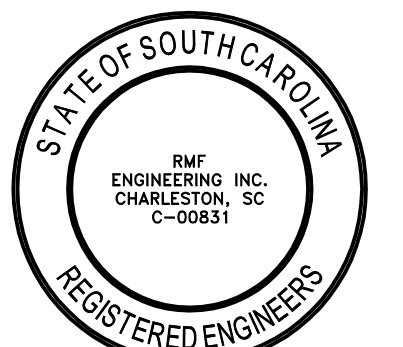
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PROJECT: 2402-062141  
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MECHANICAL, SANITARY AND VENT FIRST FLOOR PLAN

MP-101

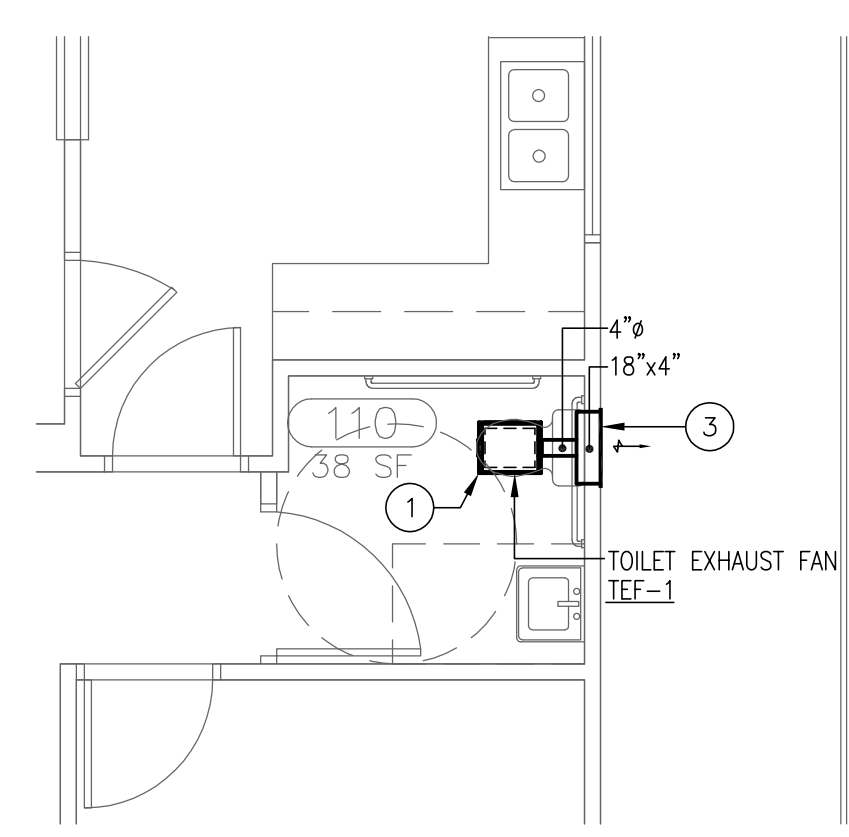
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GENERAL NOTES:

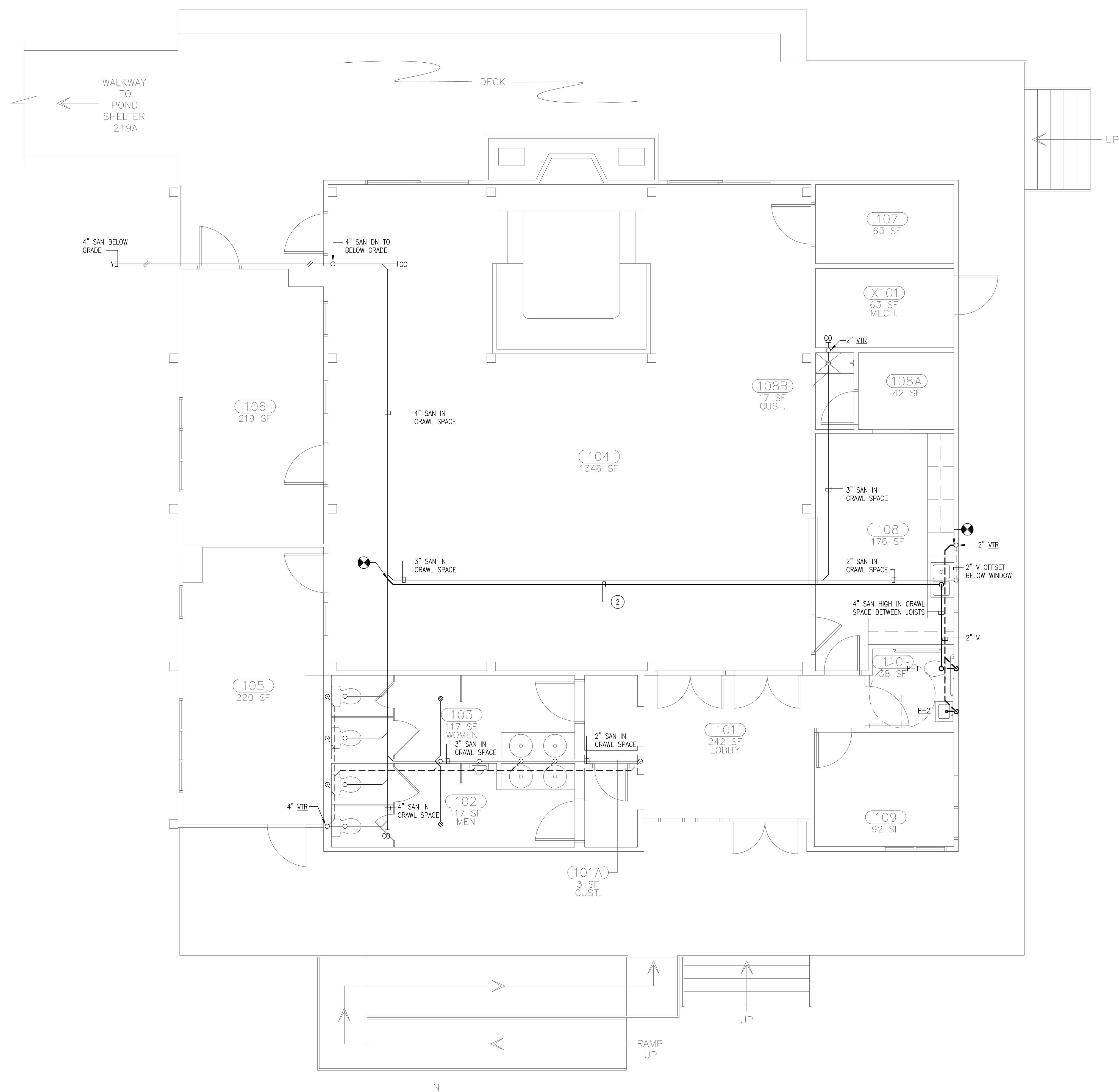
- TOILET EXHAUST FAN TEF-1 SHALL BE EQUAL TO LOREN COOK 100 SERIES CEILING FAN WITH ALUMINUM GRILLE.
- WATER CLOSET (P=1) SHALL BE EQUAL TO AMERICAN STANDARD CADET FLOWISE 2467.100 PRESSURE-ASSISTED, HIGH EFFICIENCY, LOW CONSUMPTION AT 1.1 GALLONS PER FLUSH, ADA COMPLIANT. THE SEAT SHALL BE EQUAL TO 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).
- 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 B95-3170N2FCGP. 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 CHROME 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 1-100TJKNF 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.
- 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.

DRAWING NOTES:

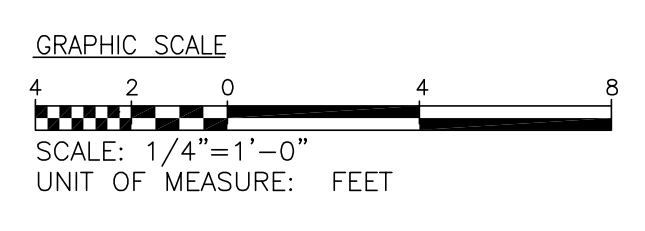
- EXHAUST FAN SHALL BE TIED TO LIGHT SWITCH TO TURN FAN ON. REFER TO ELECTRICAL DRAWINGS FOR SWITCH CONNECTION. EXHAUST DUCT FROM FAN SHALL BE PROVIDED WITH AN ALUMINUM BACKDRAFT DAMPER.
- SANITARY PIPING SHALL BE SUPPORTED FROM STRUCTURE BENEATH THE BUILDING. SUPPORTS SHALL BE GALVANIZED FOR EXTERIOR LOCATIONS.
- 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 GRILLE.

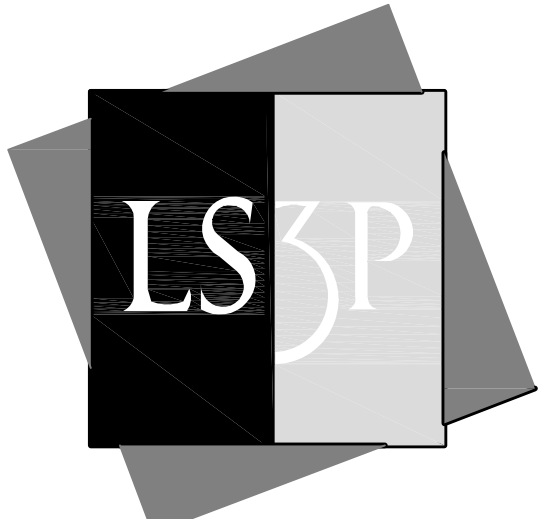


PART PLAN - MECHANICAL  
SCALE: 1/4"=1'-0"



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

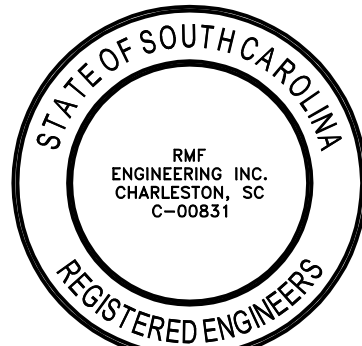




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RMF ENGINEERING, INC.  
194 SEVEN FARMS DRIVE, SUITE G  
CHARLESTON, SC 29492  
RMF PROJECT #312022.A0



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REVISIONS:

No.	Description	Date

PROJECT: 2402-062141  
DATE: 04/13/2012  
DRAWN BY: CSL  
CHECKED BY: CRB

DOMESTIC WATER FIRST FLOOR PLAN

MP-201

SOLUTIONS THROUGH LISTENING  
SERVICE BY DESIGN

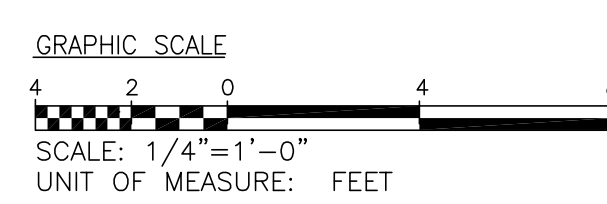
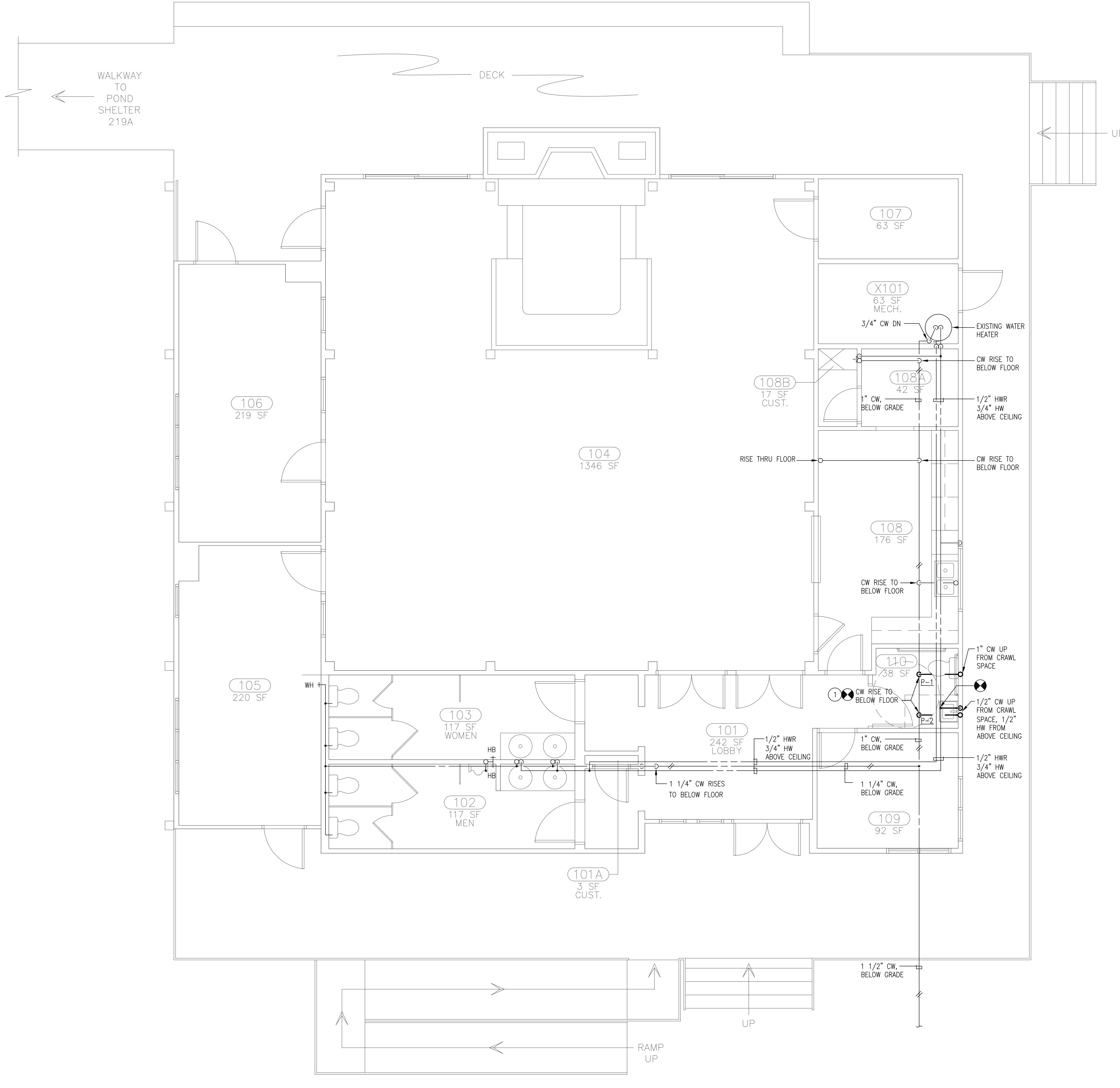
GENERAL NOTES:

- PIPING MATERIAL:  
DOMESTIC COLD AND HOT WATER - SEAMLESS COPPER WATER TUBE, ASTM B88, TYPE L, HARD  
PIPING FITTINGS:  
DOMESTIC COLD AND HOT WATER - WROUGHT COPPER SOLDER JOINT FITTINGS, 150 POUND ANSI B16.22  
PIPING JOINTS:  
DOMESTIC COLD AND HOT WATER - SOLDERED: ASTM B32 TIN-ANTIMONY 95-5.  
VALVES SHALL BE PROVIDED WHERE INDICATED ON THE DRAWINGS AND AS HEREIN SPECIFIED. INSTALL SHUT-OFF VALVES IN PIPING WHERE SHOWN AND TO ISOLATE ALL ITEMS OF EQUIPMENT AND BRANCH LINES AT MAINS.  
PIPING INSULATION:  
AFTER THE NECESSARY TESTS HAVE BEEN CONDUCTED TO PROVE THE WATER SYSTEMS TIGHT, ALL PIPING, SHALL BE THOROUGHLY CLEANED AND THEN COVERED. INSULATION MATERIALS SHALL BE THE PRODUCT OF ARMACELL OR EQUAL. PROVIDE CONTINUOUS INSULATION AND JACKETING WHEN PASSING THRU INTERIOR WALL, FLOOR, AND CEILING CONSTRUCTION.  
DOMESTIC WATER PIPING (HOT AND COLD) - TYPE I, 1/2" THICK.

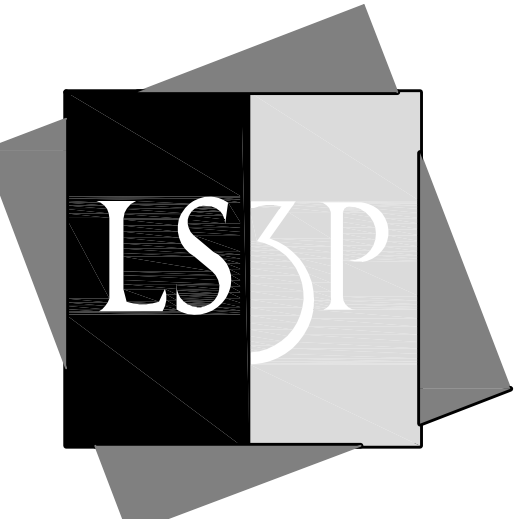
DRAWING NOTES:

- COLD DOMESTIC WATER PIPING SHALL BE SUPPORTED FROM STRUCTURE BENEATH THE BUILDING. SUPPORTS SHALL BE GALVANIZED FOR EXTERIOR LOCATIONS.

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REVISIONS:

No.	Description	Date

PROJECT: 2402-062141  
DATE: 04/13/2012  
DRAWN BY: PAM  
CHECKED BY: BAC

ELECTRICAL FIRST FLOOR PLAN

E-101

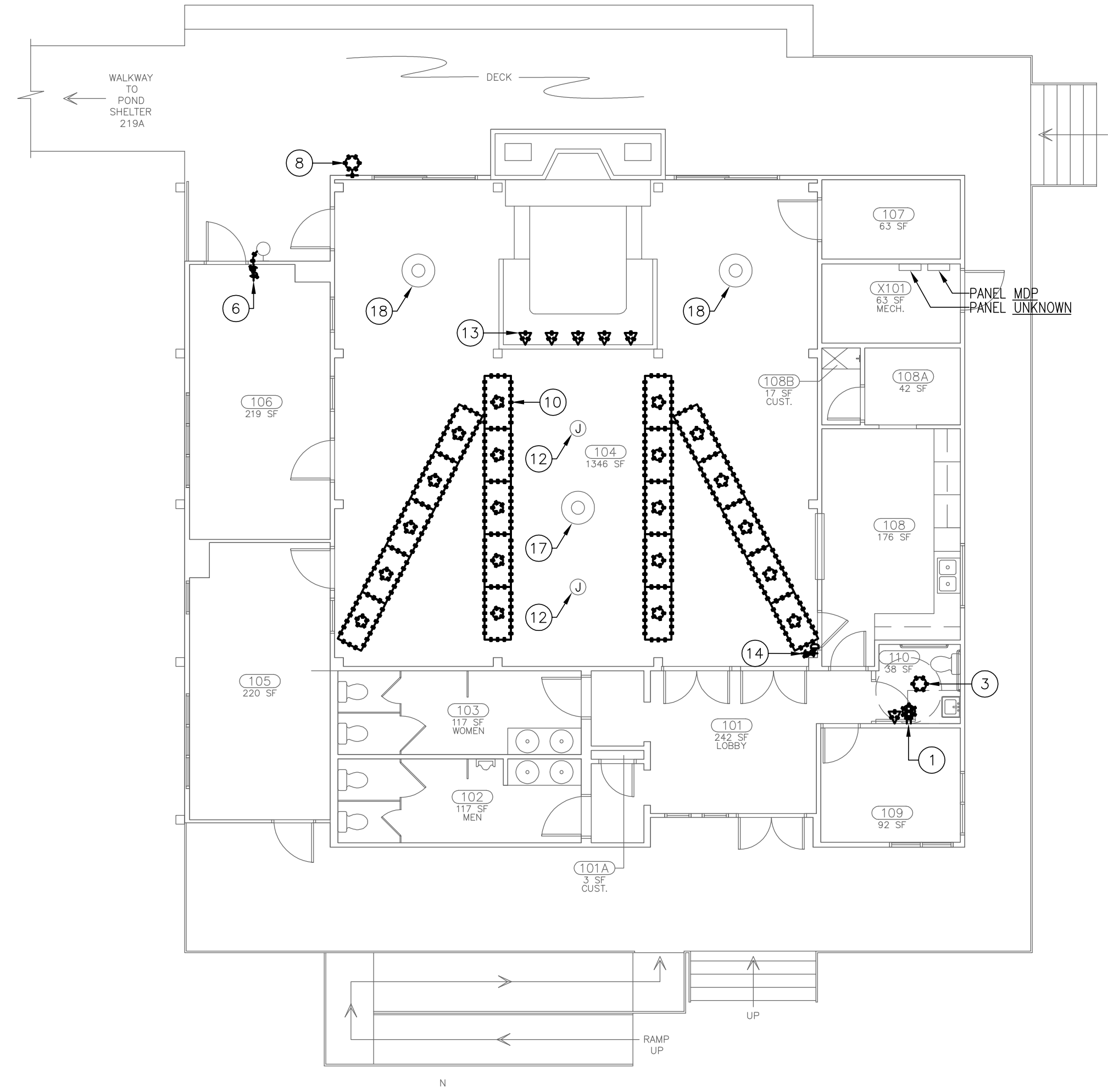
SOLUTIONS THROUGH LISTENING  
SERVICE BY DESIGN

DEMOLITION NOTES:

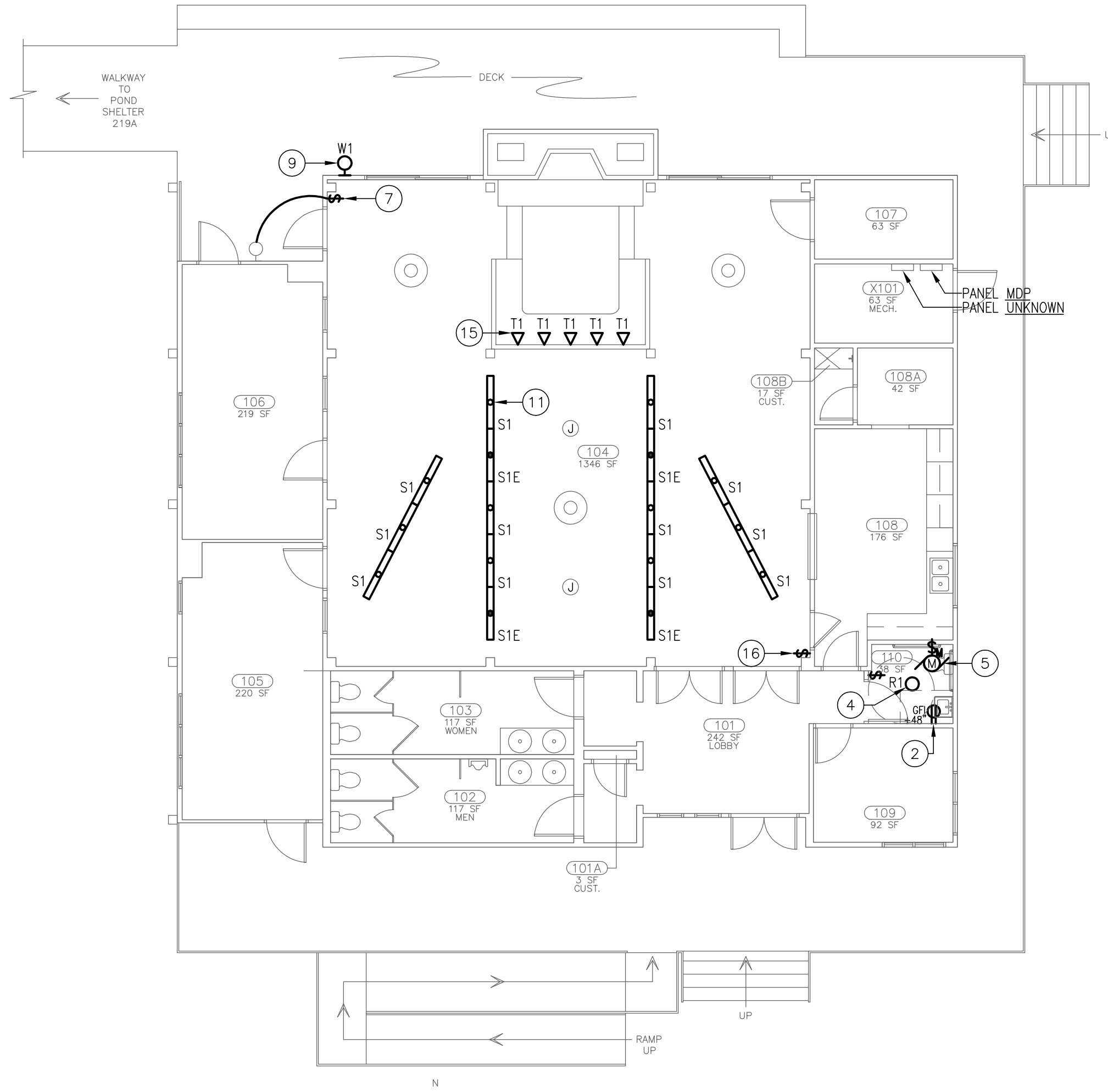
- EXISTING CONDITIONS SUCH AS LIGHTING, RECEPTACLES, ETC. WERE OBTAINED FROM AVAILABLE RECORD DRAWINGS AND FIELD SURVEYS AND ARE NOT WARRANTED TO BE COMPLETE OR CORRECT. CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL ELECTRICAL ITEMS IN THE FIELD PRIOR TO THE START OF ANY WORK.
- SHOULD THE CONTRACTOR 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.
- 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.
- 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.
- 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.
- EXISTING SMOKE DETECTORS AND DUCT SMOKE DETECTORS SHALL BE TEMPORARILY DISCONNECTED DURING DEMOLITION AND OTHER DUST PRODUCING ACTIVITIES. COORDINATE THE TEMPORARY DISCONNECTION WITH FACILITIES.
- 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:

- DUPLEX RECEPTACLE TO BE REMOVED. EXISTING CIRCUIT TO BE REUSED. EXTEND EXISTING CIRCUIT TO NEW GFI RECEPTACLE LOCATION.
- CONNECT TO EXISTING RECEPTACLE CIRCUIT ALREADY IN AREA.
- EXISTING 120V RECESSED DOWN LIGHTING FIXTURE TO BE REMOVED. EXISTING 120V CIRCUIT TO REMAIN AND BE REUSED.
- CONNECT TO EXISTING 120V LIGHTING CIRCUIT ALREADY IN AREA.
- CONNECT TOILET EXHAUST FAN IEF-1 TO 120V LIGHTING CIRCUIT ALREADY IN AREA. FAN AND LIGHTING SHALL TURN ON/OFF VIA THE LIGHTING SWITCH IN THE ROOM.
- EXISTING LIGHT SWITCH TO BE RELOCATED. EXTEND EXISTING CONDUIT AND WIRE TO NEW LOCATION. SEE THIS DRAWING FOR NEW LOCATION.
- RELOCATED LIGHT SWITCH.
- EXISTING WALL MOUNTED LIGHTING FIXTURE TO BE REMOVED. EXISTING 120V LIGHTING CIRCUIT TO REMAIN.
- WALL MOUNTED LIGHTING FIXTURE TO BE CONNECTED TO EXISTING 120V LIGHTING CIRCUIT ALREADY IN AREA.
- 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.
- CONNECT FIXTURE S1 TO EXISTING 120V LIGHTING CIRCUIT ALREADY IN AREA. TYPICAL.
- EXISTING CEILING FAN CONNECTION. CONTRACTOR SHALL REPAIR ELECTRICAL CONNECTIONS FOR CEILING FAN TO MAKE FAN OPERATIONAL.
- 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.
- CONNECT FIXTURE T1 TO EXISTING 120V TRACK LIGHTING CIRCUIT ALREADY IN AREA. TYPICAL.
- PROVIDE TOGGLE TYPE LIGHT SWITCH IN EXISTING BACKBOX AND CONNECT TO EXISTING LIGHTING CIRCUIT.
- "WAGON WHEEL" LIGHTING FIXTURE WITH 10 LAMPS TO BE CLEANED AND RELAMPED.
- "WAGON WHEEL" LIGHTING FIXTURE WITH 6 LAMPS TO BE CLEANED AND RELAMPED.

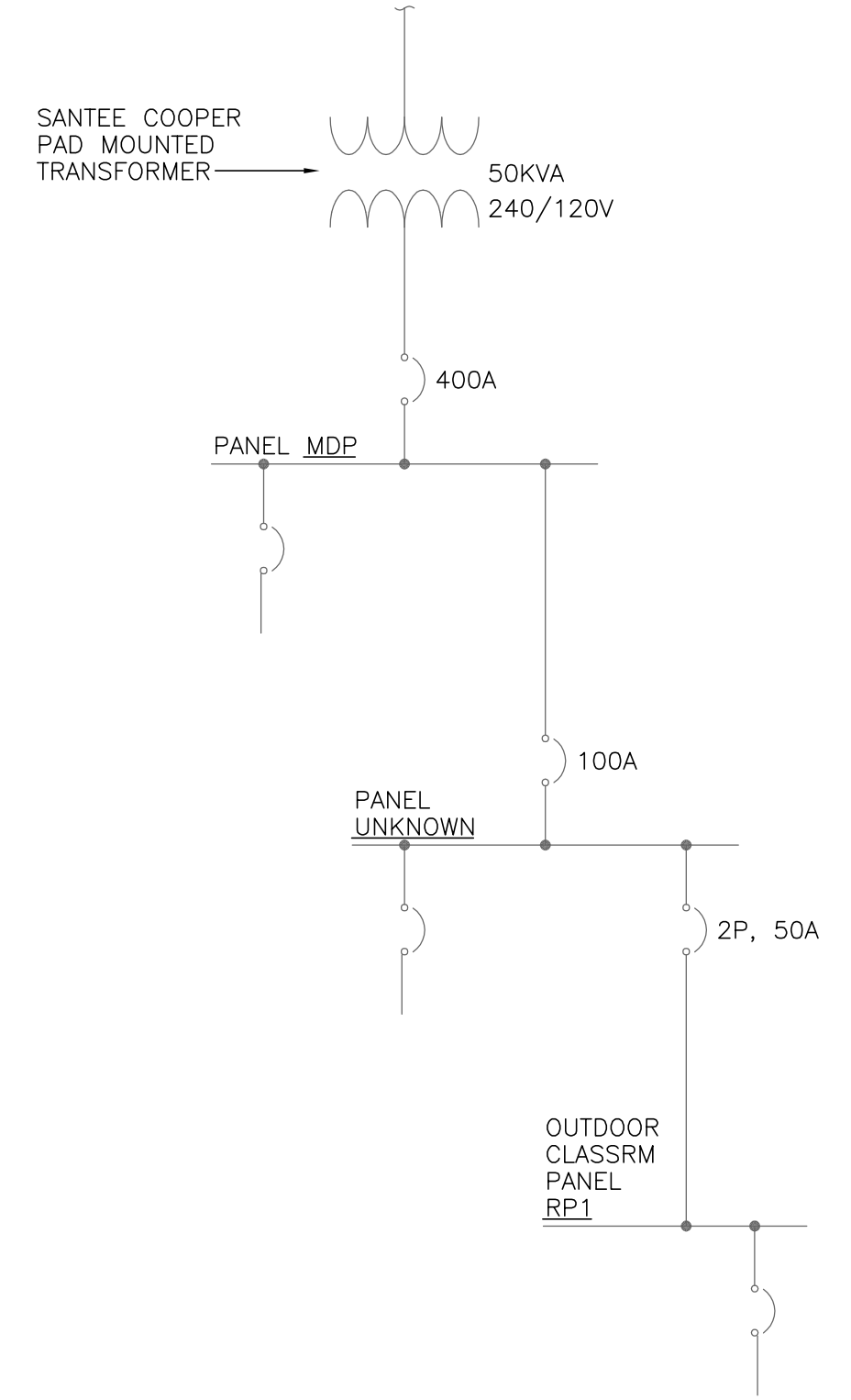


ELECTRICAL FLOOR PLAN - DEMOLITION  
SCALE: 1/8"=1'-0"

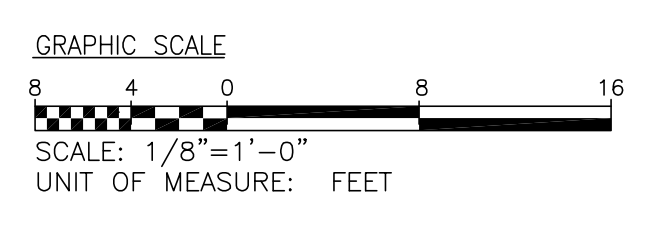


ELECTRICAL FLOOR PLAN - NEW WORK  
SCALE: 1/8"=1'-0"

KIMBEL LODGE LIGHTING FIXTURE SCHEDULE														
FIXTURE TYPE	DESCRIPTION	LOUVER/ LENS	LAMPS			BALLAST		VOLTAGE	INPUT WATTAGE	MOUNTING	REMARKS	MANUFACTURER	FIXTURE TYPE	
			TYPE	WATTAGE	QTY.	COLOR TEMP.	TYPE							QTY.
R1	6" DIAMETER RECESSED OPEN DOWNLIGHT	-	CFL	26	1	3500°K	ELECTRONIC	1	MULTI	28	RECESSED	-	GOTHAM #AF-1/26TRT-6AR-MVOLT WILLIAMS #F460-126T-CS-EB1-LUV PRESCLUTE #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 #MLHAS-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 #MLHAS-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 #5636-60	W1



ELECTRICAL SINGLE LINE DIAGRAM  
SCALE: NONE





## 260500 COMMON WORK RESULTS FOR ELECTRICAL

- 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.
- THOROUGHLY EXAMINE THE ARCHITECTURAL, STRUCTURAL AND MECHANICAL DRAWINGS PRIOR TO COMMENCEMENT OF ANY WORK. COORDINATE WORK WITH ALL OTHER TRADES.
- ALL ELECTRICAL EQUIPMENT SHALL BE NEW, OF FIRST QUALITY, AND SHALL BE FURNISHED, DELIVERED, ERECTED, CONNECTED, AND FINISHED IN EVERY DETAIL.
- THE WORK INCLUDES: A SYSTEM OF INTERIOR WIRING, LIGHTING FIXTURES, LAMPS AND CONNECTION TO EQUIPMENT PROVIDED UNDER OTHER SECTIONS OF THE SPECIFICATION.
- CONTRACTOR SHALL PROVIDE TEMPORARY LIGHTING AND POWER AS REQUIRED DURING CONSTRUCTION.
- 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 PROVIDED.
- 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.
- 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.
- 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.
- 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.
- 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.

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 BREAKER TIME-CURRENT CURVE.  
ONE (1) COPY OF EACH OPERATION DESCRIPTION.
- PRIOR TO ACCEPTANCE OF THE FINISHED PROJECT THE CONTRACTOR 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 BREAKER TIME-CURRENT CURVE.  
ONE (1) COPY OF EACH OPERATION DESCRIPTION.
- 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 TRIPPLICATE. THIS CERTIFICATE SHALL BE SUBMITTED PRIOR TO REQUEST FOR FINAL PAYMENT. THE CONTRACTOR SHALL PAY ALL FEES REQUIRED FOR INSPECTION.
- 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.
- USE NEMA TYPE 1 GENERAL PURPOSE ENCLOSURES FOR ALL INDOOR EQUIPMENT, NEMA 3R FOR OUTDOOR EQUIPMENT UNLESS OTHERWISE NOTED.
- 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.
- 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 SPECIFICATIONS THEY SHALL BE SPECIFICALLY NOTED. OBTAIN APPROVAL BEFORE THE FOLLOWING APPARATUS INVOLVED IS ORDERED, BUILT, OR INSTALLED: WIRING DEVICES AND PLATES, AND LIGHTING FIXTURES.
- 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.
- ALL CONDUITS PASSING THROUGH FIRE RATED, FIRE RESISTANT OR FIRE STOPPED WALLS, CEILING OR FLOORS SHALL BE SEALED WITH FOAM TYPE FIRE RESISTANT SEALANT.

## TESTS:

- CONTRACTOR SHALL PROVIDE TESTING FOR THE EQUIPMENT AND BRANCH CIRCUITS, AND SUCH OTHER TESTS AS ARE DESCRIBED IN OTHER SECTIONS OF THIS SPECIFICATION.
- 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 SPECIFIED RESULTS.
- ALL TESTS SHALL BE CONDUCTED BEFORE ANY EQUIPMENT IS CONNECTED THAT WOULD BE SUBJECT TO DAMAGE FROM THE TEST.
- 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.
- 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.
- 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 SPECIFIED.

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

## 260519 LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

- 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 RECEPTABLES, 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 GLAD (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.
- 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  
GRO - GREEN
- GREEN COLORED INSULATED EQUIPMENT GROUND CONDUCTOR SHALL BE PROVIDED FOR ALL FEEDERS AND FOR ALL BRANCH CIRCUITS.
- FOR WIRE IDENTIFICATION, USE BRADY "QUICK-TAGS" 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.
- 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.
- RUN ALL GROUNDING CONDUCTORS IN RACEWAYS.
- NO MORE THAN 3 PHASE WIRES IN ANY BRANCH CIRCUIT CONDUIT.

## 260526 GROUNDING AND BONDING FOR ELECTRICAL SYSTEM

- 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:

- 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.
- PROVIDE TRAPEZE TYPE CONDUIT HANGERS EVERY EIGHT (8) FEET FOR STRAIGHT RUNS AND WITHIN THREE (3) FEET OF EACH TERMINATION.
- ELECTRICAL METALLIC TUBING SHALL BE AS MANUFACTURED BY ALLIED CONDUIT OR APPROVED EQUAL. ALL CONDUIT FITTINGS SHALL BE STEEL COMPRESSION FITTINGS.
- 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 (MG).
- 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.
- 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.
- 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.
- MAINTAIN SIX (6) INCH MINIMUM CLEARANCE BETWEEN ALL RACEWAY AND PARALLEL RUNS OF WATER PIPES.
- USE OZ/GEDNEY COMPANY TYPE B INSULATING BUSHINGS ON ALL RACEWAY FREE ENDS AND ENTERING PANELS, PULL BOXES, DISCONNECTS, ETC.
- VERTICAL ELBOWS STUBBED OUT OF FLOORS OR EQUIPMENT PADS SHALL BE IMC OR RGS CONDUIT.

### OUTLET BOXES:

- 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.
- PROVIDE BOX COVERS TO FIT OUTLET BOX INSTALLED OF THE REQUIRED DEPTH SO THAT THE EDGE OF THE RING IS FLUSH WITH THE FINISHED PLASTER, MASONRY, ACOUSTICAL MATERIAL, OR OTHER FINISH.
- 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.
- 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 FSW-62 BOX.
- PROVIDE CONDULET TYPE CAST DEVICE BOXES FOR ISOLATED EQUIPMENT IN THE KITCHEN AND AS OTHERWISE REQUIRED. PROVIDE KINDORF SUPPORTS AS REQUIRED BY CODE. CAST BOXES SHALL BE MADE OF FERALLOY 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.
- PROVIDE FLOOR BOXES AS INDICATED ON DRAWINGS. PROVIDE AMERICAN ELECTRIC STEEL CITY BOX NO. 68-8 OR APPROVED EQUAL. PROVIDE POLISHED BRASS COVERPLATE NO. P60-CACP FOR A FLUSH SERVICE.
- BOXES INSTALLED FLUSH IN WALLS SHALL BE SUPPORTED RIGIDELY ON TWO (2) SIDES.

## 260548 VIBRATION AND SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS

- 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

- STANDARDS COMPLIANCE: COMPLY WITH REQUIREMENTS OF APPLICABLE 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.
- ALL WALL SWITCHES SHALL BE TOGGLE, QUIET TYPE, FULLY ENCLOSED IN COMPOSITION CASE, 20 AMPERES, 120/277 VOLT RATING AS MANUFACTURED BY HUBBELL, PASS AND SEYMOUR, ARROW-HART, LEVITON OR APPROVAL EQUAL. RECEPTABLES SHALL BE SINGLE OR DUPLEX AS INDICATED ON DRAWINGS.
- ALL RECEPTABLES 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, LEVITON OR APPROVED EQUAL. RECEPTABLES SHALL BE SINGLE OR DUPLEX AS INDICATED ON DRAWINGS.
- SWITCHES AND RECEPTABLES SHALL BE GRAY IN COLOR FOR 120 VOLT.
- SWITCH AND RECEPTACLE COVER PLATES SHALL BE STAINLESS STEEL.
- PROVIDE MULTI-GANG SWITCH COVERPLATES WHERE TWO (2) OR MORE SWITCHES OR RECEPTABLES 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.
- PROVIDE MINIMUM #12 AWG GREEN INSULATED GROUND WIRE FROM DEVICE GROUND LUG TO DEVICE BOX GROUND LUG.

## 265100 INTERIOR LIGHTING

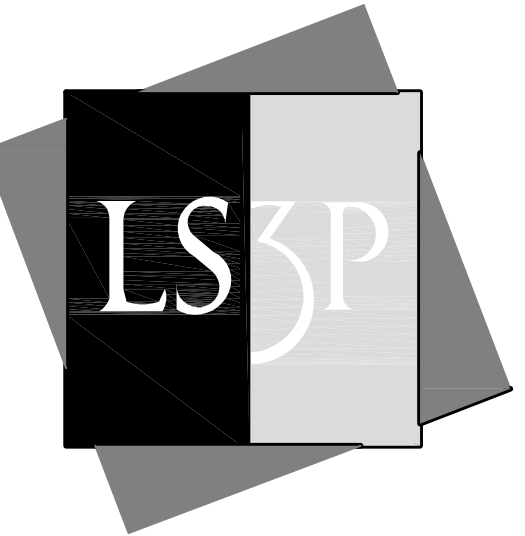
- REGARDLESS OF CATALOG NUMBER IN LIGHTING FIXTURE SCHEDULE, EVERY FIXTURE SHALL BE OF THE TYPE FOR THE CEILING CONSTRUCTION IN WHICH IT IS TO BE INSTALLED AND MOUNTING CONDITIONS. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE THIS WITH THE CEILING CONTRACTOR.
- BEFORE ANY OF THE 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.
- UPON COMPLETION OF THE INSTALLATION, ALL LIGHTING FIXTURES SHALL BE CLEANED TO THE SATISFACTION OF THE ARCHITECT. SEE SCHEDULE OF FIXTURES ON THE DRAWINGS.
- 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 SUBSTITUTIONS. 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.
- FLOURESCENT LAMPS SHALL BE ENERGY SAVING TYPE WARM WHITE SP35 SPX35 COLOR AS MANUFACTURED BY GENERAL ELECTRIC, SYLVANIA, OR PHILLIPS.
- FLOURESCENT LAMPS 2', 3', OR 4' SHALL BE T8 DIAMETER.
- FIXTURES SHALL BE AS INDICATED ON THE SCHEDULE OF FIXTURES AND INDICATE THE QUALITY OF EQUIPMENT THAT IS TO BE PROVIDED.
- ALL LENSES FOR FLOURESCENT FIXTURES SHALL BE 100% ACRYLIC WITH A MINIMUM OF 0.125 LENS OVERALL THICKNESS.
- ALL FIXTURES SHALL BE COMPLETELY WIRED AT THE FACTORY.
- 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.

- 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.
- 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 CONTRACTOR.
- 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 CONTRACTOR.
- 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-THREADED, 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.
- 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.
- 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.
- LUMINAIRE ASSEMBLIES, INCLUDING BALLASTS, SHALL BE REASONABLY DEVOID OF OBJECTIONAL "HUM", IN THE NORMAL AMBIENT NOISE OF THE APPLICATION, AS JUDGED BY THE ENGINEER. FLOURESCENT BALLASTS SHALL HAVE A CLASS A SOUND RATING.
- FLOURESCENT BALLASTS SHALL BE ENERGY SAVING INSTANT START ELECTRONIC TYPE AS MANUFACTURED BY ADVANCE MARK V, OR APPROVED EQUAL BY MOTOROLA MXRN-18-11L 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.
- FLOURESCENT 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.
- A UL LISTING LABEL BE PROVIDED FOR EACH FIXTURE TYPE, AND THE APPROPRIATE LABEL OR LABELS SHALL BE AFFIXED TO EACH FIXTURE IN A POSITION CONCEALING IT FROM NORMAL VIEW.
- UL LABELS SHALL NOT BE INSTALLED ON REFLECTORS.

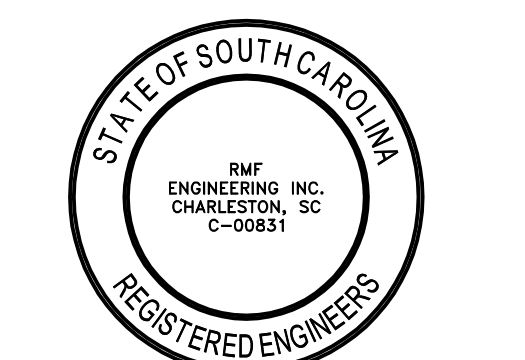
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### REVISIONS:

No.	Description	Date
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PROJECT: 2402-062141  
DATE: 04/13/2012  
DRAWN BY: PAM  
CHECKED BY: BAC

ELECTRICAL  
SPECIFICATIONS

E-701

SOLUTIONS THROUGH LISTENING  
SERVICE BY DESIGN