ABBR	DESCRIPTION
(E)	EXISTING
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
BMS	BUILDING MANAGMENT SYSTEM
BOD	BASIS OF DESIGN
CFM	CUBIC FEET PER MINUTE
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CO	CLEANOUT
DB	DECIBELS
DDC	DIRECT DIGITAL CONTROLS
DIA	DIAMETER
EA	EXHAUST AIR
EF	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
FD	FIRE DAMPER
FPM	FEET PER MINUTE
FT	FEET
GPM	GALLONS PER MINUTE
HD	HUB DRAIN
HP	HORSEPOWER
IN	INCHES
LAT	LEAVING AIR TEMPERATURE
MBH	THOUSANDS OF BTU'S PER HOUR
NC	NOISE CRITERIA
NG	NATURAL GAS PIPING
OA	OUTSIDE AIR
RA	RETURN AIR
REFR	REFRIGERANT
RH	RELATIVE HUMIDITY
RPM	ROTATIONS PER MINUTE
RTU	ROOF TOP UNIT
TYP	TYPICAL
UH	UNIT HEATER
VFD	VARIABLE FREQUENCY DRIVE
W/	WITH
°F	DEGREES FAHRENHEIT

	HVAC SYMBO	OL LEGE	ND
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
$\begin{pmatrix} X \\ Y \end{pmatrix}$	AIR TERMINAL TAG, X=TYPE MARK, Y=CFM		COMPONENT TO BE DEMOLISHED
\boxtimes	SUPPLY DIFFUSER (CEILING MOUNTED)	X"x Y"	DUCTWORK (X" = WIDTH, Y" = HEIGHT)
	RETURN GRILLE (CEILING MOUNTED)	I KK	TURNING VANES
	EXHAUST GRILLE (CEILING MOUNTED)	+++++	PREINSULATED FLEXIBLE DUCT
1	SIDEWALL REGISTER / GRILLE	티타	FLEXIBLE DUCT CONNECTION
T	THERMOSTAT	•	CONNECTION TO EXISTING SYSTEM
SD	DUCT MOUNTED SMOKE DETECTOR (BY E.C.)	—M	MOTORIZED DAMPER
 	EQUIPMENT CLEARANCE	 	MANUAL DAMPER
FD	FIRE DAMPER		

MECHANI	MECHANICAL CODES AND STANDARDS (WITH ALL SOUTH CAROLINA MODIFICATIONS)				
CODE	DESCRIPTION				
IBC (2021)	INTERNATIONAL BUILDING CODE				
IECC (2009)	INTERNATIONAL ENERGY CONSERVATION CODE				
IMC (2021)	INTERNATIONAL MECHANICAL CODE				
NFPA 90A (2021)	STANDARD FOR THE INSTALLATION AIR-CONDITIONING & VENTILATING SYSTEMS				
SMACNA (2005)	HVAC DUCT CONSTRUCTION STANDARDS MANUAL, THIRD EDITION				

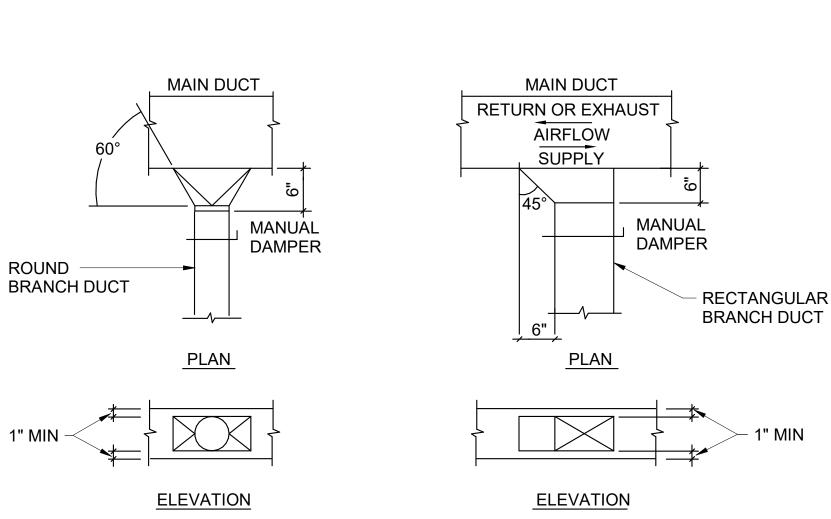
MOUNTING PAGE OF						
TAG	MOUNTING TYPE	NECK SIZE	FACE SIZE	DESCRIPTION	BASIS OF DESIGN	MODEL
21	SURFACE	6"x6"	12"x12"	LOUVERED FACE EXHAUST GRILLE	PRICE	635
22	SURFACE	6"x6"	8"x8"	LOUVERED FACE EXHAUST GRILLE	PRICE	635
23	LAY-IN	8"Ø	24"x24"	EGG CRATE RETURN GRILLE	PRICE	80
24	LAY-IN	N/A	24"x24"	EGG CRATE RETURN GRILLE	PRICE	80
Α	SURFACE	6"Ø	12"x12"	PLAQUE FACE SUPPLY DIFFUSER	PRICE	ASPD
В	LAY-IN	8"Ø	24"x24"	PLAQUE FACE SUPPLY DIFFUSER	PRICE	ASPD

1. ALL AIR DISTRIBUTION DEVICES SHALL BE ALUMINUM CONSTRUCTION WITH BAKED ENAMEL WHITE FINISH. COORDINATE LOCATIONS WITH LIGHT FIXTURES AND THE ARCHITECTURAL REFLECTED CEILING

PROVIDE ALL LAY-IN PLENUM RETURN GRILLES WITH CANOPY SILENCERS. BASIS OF DESIGN: PRICE

GENERAL HVAC NOTES

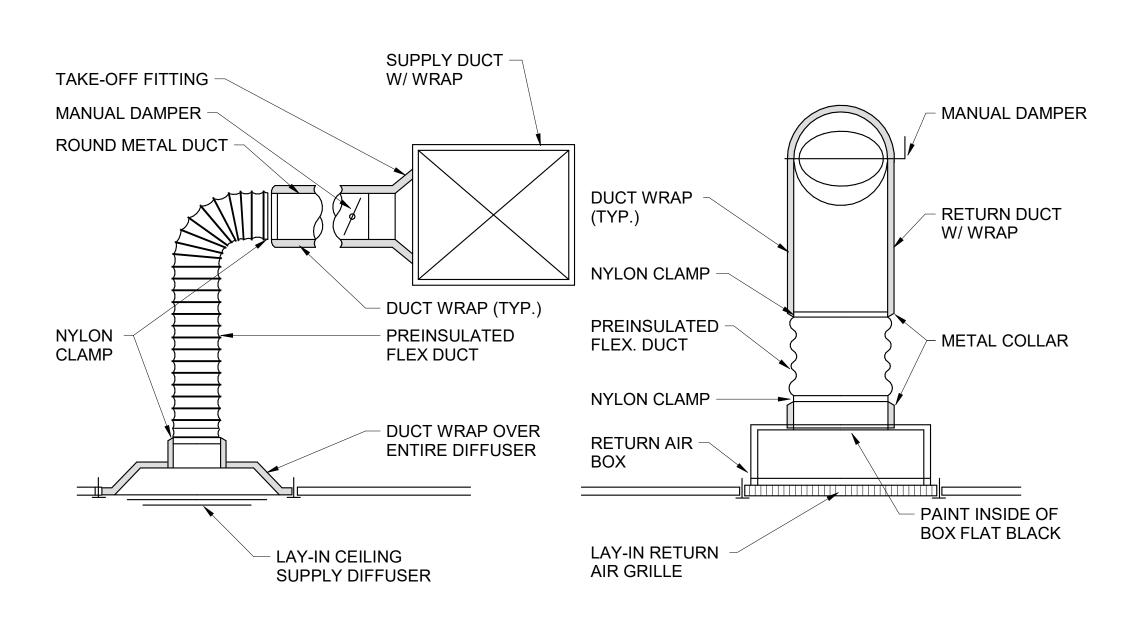
- 1. THE DRAWINGS SHOW THE GENERAL ARRANGEMENT AND LOCATION OF EQUIPMENT, DUCTWORK, PIPING, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL INSTALLATION W/ THE STRUCTURE AND OTHER TRADES AND SHALL PROVIDE ADDITIONAL OFFSETS AND FITTINGS AS NECESSARY.
- THE HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS SHALL COMPLY WITH THE CODES LISTED ON THIS SHEET AS WELL AS ALL LOCAL CODE OFFICIAL REQUIREMENTS. IN THE EVENT OF A CONFLICT BETWEEN CODES, THE MOST STRINGENT SHALL ALWAYS GOVERN.
- DUCT DIMENSIONS ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS.
- 4. THE CONTRACTOR SHALL CHECK AND VERIFY ALL CLEARANCES PRIOR TO FABRICATION OF DUCTWORK. WHERE CONDITIONS REQUIRE A CHANGE IN DUCT OR PIPE ROUTING, NOTIFY THE ARCHITECT FOR AN ACCEPTABLE ALTERNATIVE METHOD. AVOID ROUTING DUCTWORK DIRECTLY OVER LIGHT FIXTURES, DIFFUSERS, AND OTHER CEILING MTD. DEVICES. LOCATE ALL MECHANICAL EQUIPMENT SO THAT FILTERS AND COMPONENTS REQUIRING ACCESS (SERVICE AND MAINTENANCE) ARE FULLY ACCESSIBLE.
- 5. PROVIDE CURVED RADIUS ELBOW AT FIRST SUPPLY & RETURN FITTING FOR ALL HVAC UNITS. PROVIDE TURNING VANES IN ALL 90 DEGREE ELBOWS IN ALL RECTANGULAR SUPPLY/RETURN/EXHAUST DUCT SYSTEMS. ANY OFFSETS REQUIRED IN DUCT SYSTEMS SHALL BE INSTALLED PER SMACNA 2005 3RD EDITION MANUAL. SHARP ANGLED TRANSITIONS OR OFFSETS 'WILL NOT BE ALLOWED'. PROVIDE DUCT ACCESS DOORS AS REQUIRED.
- 6. INSTALL ALL DUCT MOUNTED DEVICES (DAMPERS, ACCESS DOORS, ETC.) AND PIPING SPECIALTIES IN EASILY ACCESSIBLE LOCATIONS. ADVISE THE ARCHITECT IN ADVANCE OF INSTALLATION IF ACCESS WILL BE HINDERED SO AN ALTERNATE LOCATION CAN BE SELECTED.
- 7. ALL DUCT TAKE-OFFS SHALL BE INSTALLED AS SHOWN BY DETAILS ON THE PLANS WITH A MANUAL BALANCING DAMPER AT EVERY TAKE-OFF. WHERE DUCT RUN-OUT SIZE IS NOT SHOWN PROVIDE DUCT SAME SIZE AS GRILLE NECK SIZE. PRE-INSULATED FLEXIBLE DUCT MAY BE USED FOR FINAL CONNECTION TO SUPPLY GRILLES (MAX. LENGTH 5').
- THE CONTRACTOR SHALL FIRESTOP ALL PENETRATIONS OF FIRE RATED WALLS/FLOORS/CEILINGS BY DUCTWORK PIPING, ETC., WITH U.L. LISTED FIRE STOPPING MATERIAL TO
- MAINTAIN FIRE RATING OF THE BARRIER.
- BALANCE ALL AIR DISTRIBUTION DEVICES, EXHAUST FANS, AND OUTSIDE AIR QUANTITIES AS SCHEDULED OR SHOWN ON THE DRAWINGS. PROVIDE MARKERS AT ALL DAMPER LOCATIONS SHOWING FULL OPEN/CLOSED POSITIONS AND DAMPER SETTING FOR REQUIRED AIRFLOW. PROVIDE FINAL TEST AND BALANCE REPORT ALONG W/ SCHEMATIC DRAWINGS SHOWING DIFFUSER LOCATION W/ DESIGN AND ACTUAL CFM. THE DIFFUSER TAGS ON THE DRAWINGS SHALL CORRESPOND TO THE DIFFUSER TAGS ON THE REPORT THIS REPORT SHALL BE SUBMITTED BEFORE THE FINAL INSPECTION IS PERFORMED. SEE SPECIFICATIONS FOR FURTHER INFORMATION.
- 10. WHERE "APPROXIMATELY" IS USED TO DEFINE INSTALLATION LOCATIONS, CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES TO VERIFY THERE ARE NO CONFLICTS PRIOR TO INSTALLATION AT DIMENSION LISTED.



NOTES:

- 1. CONTRACTOR MAY SUBSTITUTE FLEXMASTER CB-D, STO, OR STOC FOR INDICATED TAKE-OFF.
- 2. CONTRACTOR MAY SUBSTITUTE CROWN 716 FOR INDICATED TAKE-OFF.
- 3. FITTINGS 716, STO, AND STOC SHALL BE SCREWED TO THE TRUNK DUCT AND SEALED WITH MASTIC. MASTIC TAPE IS NOT ACCEPTABLE, SEE SPECIFICATIONS.





- 1. INSTALL NYLON CLAMPS ON INNER FLEX DUCT LINER AND OUTER JACKET. TAPE ENDS OF PREINSULATED FLEX. DUCT AT THE DIFFUSER AND THE BRANCH DUCT CONNECTION.
- 2. RETURN AIR BOX SHALL BE MINIMUM 12" HIGH. RETURN DUCT MAY TAP INTO THE SIDE OF THE BOX A MINIMUM OF 6" ABOVE GRILLE.
- 3. PROVIDE YOUNG REGULATOR REMOTE DAMPER CONTROLLER FOR EACH DIFFUSER AND GRILLE LOCATED IN AREAS WITH INACCESSIBLE CEILINGS. LOCATE CONTROLLER IN A CONCEALED, ACCESSIBLE LOCATION.
- 2 TYPICAL DIFFUSER/GRILLE INSTALLATION DETAIL

M001 SCALE: NOT TO SCALE

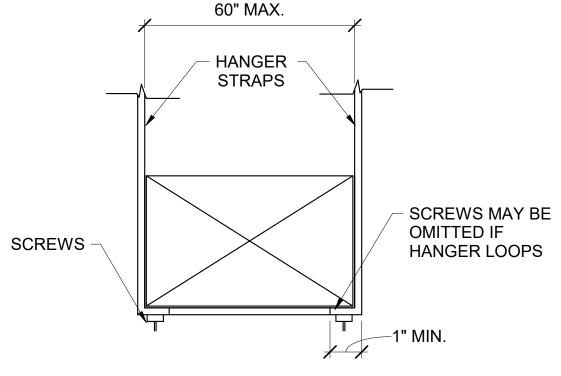
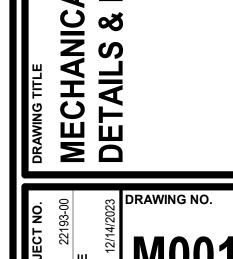


		TABLE 4-	1 RECT	ANGUI	_AR DUCT HAI	NGERS MINIM	UM SIZE		
MAXIMUM HALF OF	PAIR AT 10	FT. SPACING	PAIR AT 8 F		R AT 8 FT. SPACING F		PAIR AT 5 FT. SPACING		T. SPACING
DUCT PERIMETER	STRAP	WIRE/ROD	STF	RAP	WIRE/ROD	STRAP	WIRE/ROD	STRAP	WIRE/ROD
P/2= 30"	1" X 22 GA.	10 GA. (.135")	1" X 2	22 GA.	10 GA. (.135")	1" X 22 GA.	12 GA. (.106")	1" X 22 GA.	12 GA. (.106"
P/2= 72"	1" X 18 GA.	3/8"	1" X 2	20 GA.	1/4"	1" X 22 GA.	1/4"	1" X 22 GA.	1/4"
P/2= 96"	1" X 16 GA.	3/8"	1" X 1	8 GA.	3/8"	1" X 20 GA.	3/8"	1" X 22 GA.	1/4"
P/2= 120"	1-1/2"X16GA.	1/2"	1" X 1	6 GA.	3/8"	1" X 18 GA.	3/8"	1" X 20 GA.	1/4"
P/2= 168"	1-1/2"X16GA.	1/2"	1-1/2"	X16GA.	1/2"	1" X 16 GA.	3/8"	1" X 18 GA.	3/8"
P/2= 192"	NOT GIVEN	1/2"	1-1/2"	X16GA.	1/2"	1" X 16 GA.	3/8"	1" X 16 GA.	3/8"
P/2=193" UP					S	SPECIAL ANAL	YSIS REQUIR	ED	•
	RAPS ARE LA								
	USE THESE MINIMUM FASTENERS 1" X 18,20,22 GA TWO #10 OR				STRAP WIRE OR ROD (DIA.)			.)	
ONE 1/4" BOLT			1" X 22 GA 260 LBS. 1/4"-270 LBS.						
1" X 16 GA TWO 1/4" DIA.				1" X 20 GA 320 LBS. 3/8"-680 LBS.					
	1-1/2" X 16 GATWO 3/8" DIA. PLACE FASTENERS IN				1" X 18 GA 4: 1" X 16 GA 7			!"-1250 LBS. "-2000 LBS.	
	IOT SIDE BY S	SIDE.			/2 " X 16 GA /			i -2000 LBS. i"-3000 LBS.	

1 SUPPORT DETAIL M001 SCALE: NOT TO SCALE





CONSULTING **ENGINEERS**

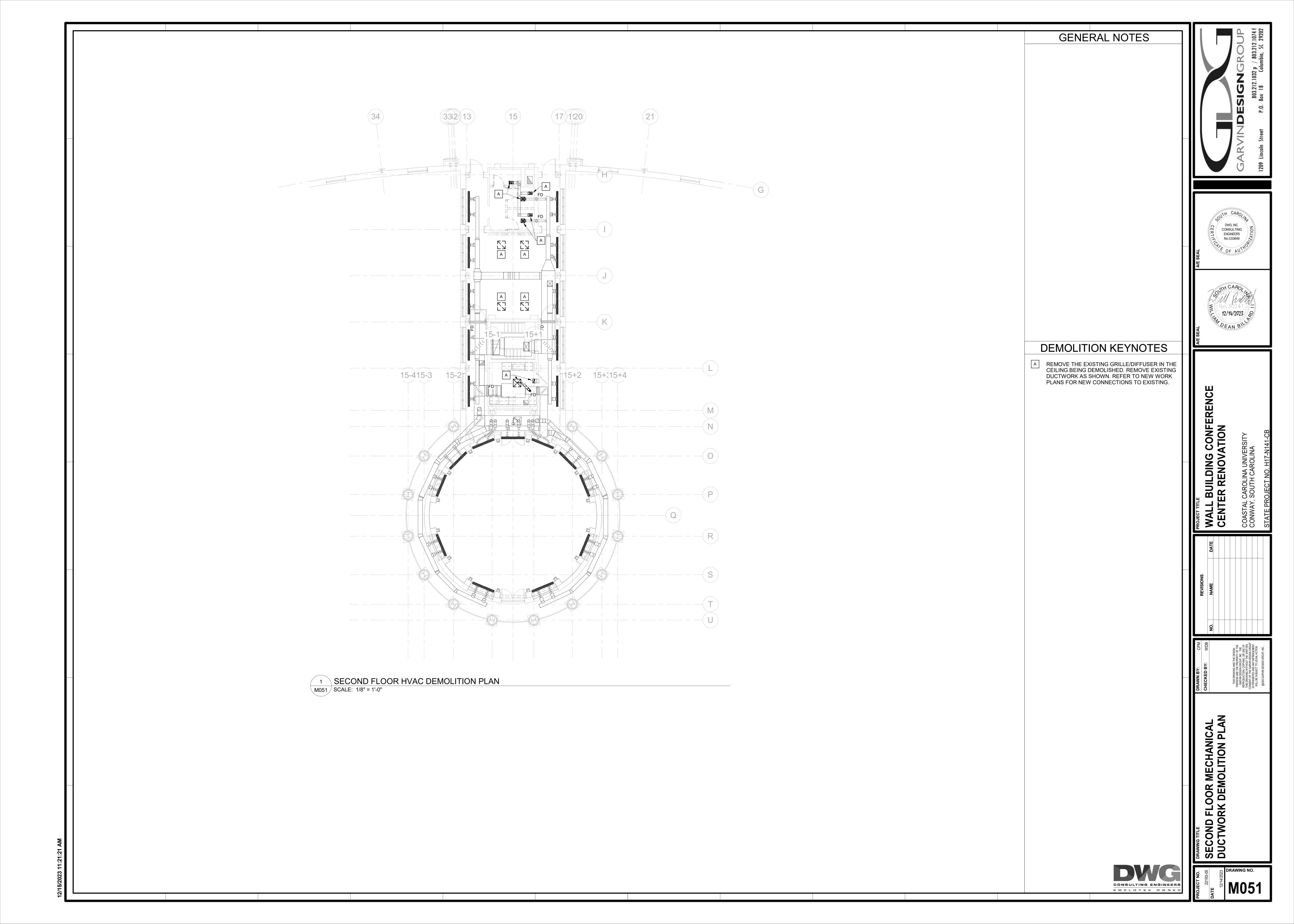
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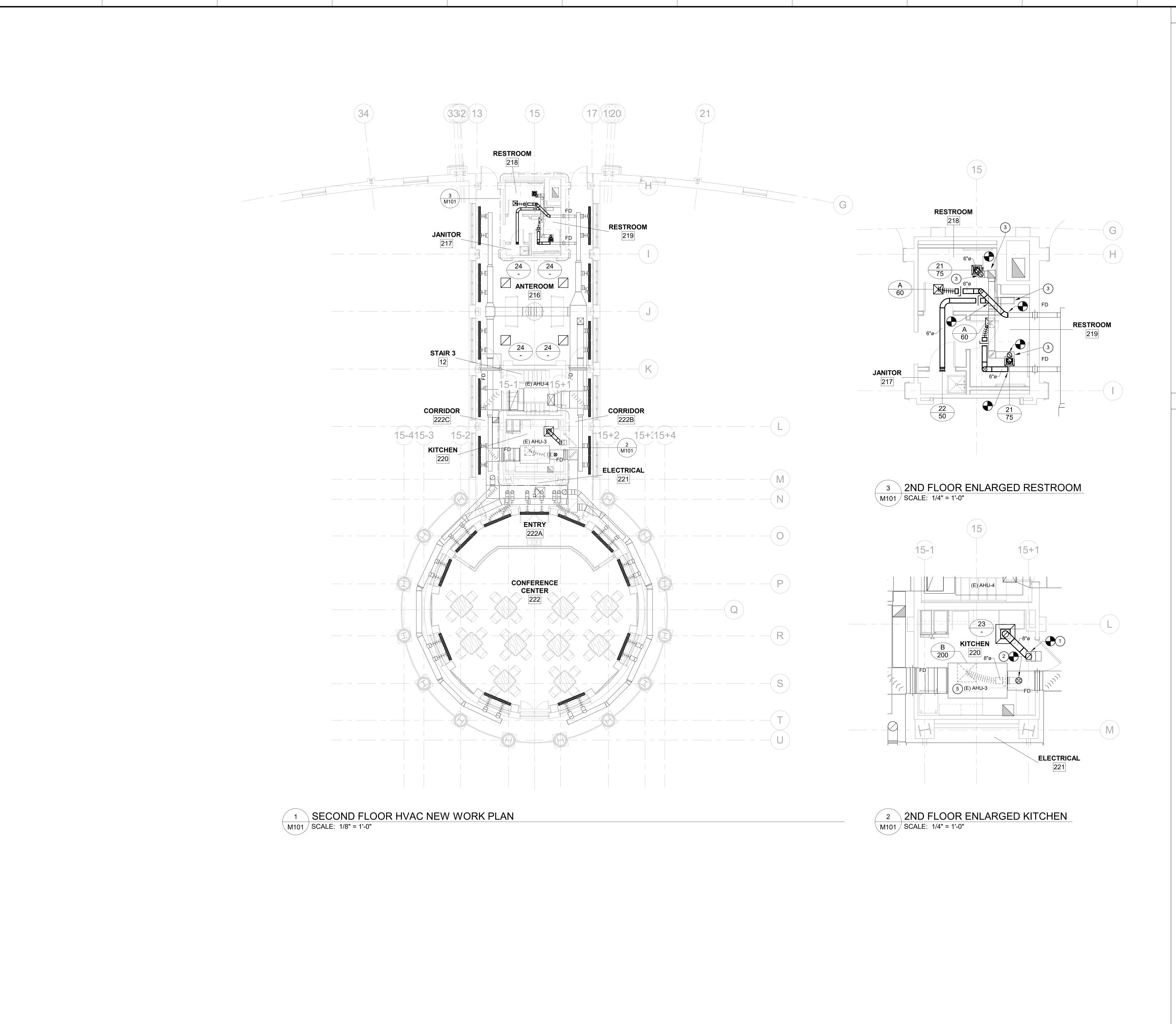
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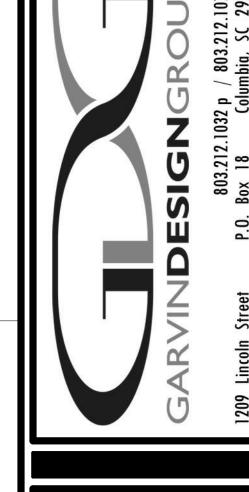
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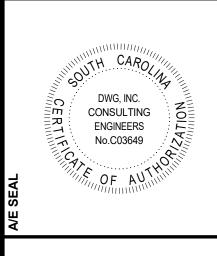
NOTE GEND





- PROVIDE ALL NEW DUCT RUNOUTS WITH NEW MANUAL BALANCING DAMPERS. THE TAB CONTRACTOR SHALL BE RESPONSIBLE FOR BALANCING THE SYSTEMS TO MEET THE DESIGN AIR CAPACITY.
 PROVIDE ALL LAY-IN PLENUM RETURN GRILLES WITH CANOPY SILENCERS. BASIS OF DESIGN: PRICE RAC.







RENOVATION KEYNOTES

- 1 CONNECT THE NEW DUCT ABOVE THE LAY IN CEILING.
- CONNECT THE NEW DUCT IN THE MEZZANINE AREA TO THE EXISTING TAP. DUCT SHALL BE UPSIZED FROM 6"Ø TO 8"Ø.
- 3 CAP THE END OF THE EXHAUST DUCT IN THIS LOCATION.
- RE-BALANCE THE EXISTING ROOF EXHAUST FAN IF NEEDED TO MEET THE EXHAUST AIRFLOWS INDICATED.
- MAINTAIN ACCESS AND CLEARANCE TO THE EXISTING UNIT ABOVE THE CEILING.

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WALL BUILDING CO

SECOND FLOOR MECHANICAL DUCTWORK PLAN

PLUMBING SYSTEMS SEISMIC AND WIND REQUIREMENTS

PER IBC-2021/ASCE 7-16

- A. PER THE 2021 INTERNATIONAL BUILDING CODE, MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT AND COMPONENTS, INCLUDING THEIR SUPPORTS AND ATTACHMENTS, SHALL BE
- DESIGNED FOR SEISMIC FORCES IN ACCORDANCE WITH CHAPTER 13 OF ASCE 7-16

 B. EXTERIOR EQUIPMENT (INCLUDING ROOF CURBS, RAILS, SUPPORTS) EXPOSED TO WIND SHALL BE DESIGNED AND INSTALLED TO RESIST THE WIND PRESSURES DETERMINED IN ACCORDANCE WITH CHAPTER 26 TO 29 OF ASCE 7-16.
- C. WHERE DESIGN FOR SEISMIC AND WIND LOADS IS REQUIRED, THE MORE DEMANDING FORCE MUST BE USED.
 D. REFERENCE THE STRUCTURAL DRAWINGS FOR SITE SPECIFIC INFORMATION ON SEISMIC DESIGN
- CATEGORY, WIND SPEEDS, ETC.

 E. USE THE TABLE BELOW TO DETERMINE SEISMIC RESTRAINT REQUIREMENTS FOR EACH COMPONENT.
- F. FOR ALL COMPONENTS REQUIRING SEISMIC RESTRAINT, THE COMPONENT SUPPORTS AND ATTACHMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL REGISTERED IN THE
- STATE THE JOB IS LOCATED. SUBMITTALS MUST INCLUDE STAMPED AND SIGNED DRAWINGS AND CALCULATIONS.

 G. WHERE SEISMIC RESTRAINT IS REQUIRED, HOUSEKEEPING PADS NEEDED FOR THE INSTALLATION OF

EQUIPMENT UNDER THIS CONTRACT MUST BE DESIGNED BY THE SEISMIC ENGINEER. DO NOT POUR

ANY HOUSEKEEPING PADS PRIOR TO THE RECEIPT OF THE APPROVED SEISMIC SUBMITTAL.

SEISMIC RESTRAINTS FOR DUCTWORK, PIPING, CONDUIT, CABLE TRAYS AND BUS DUCT MUST BE SHOWN ON LAYOUT DRAWINGS SHOWING SPECIFIC RESTRAINT LOCATIONS ALONG WITH ACCOMPANYING DETAILS AND CALCULATIONS.

PLUMBING COMPONENT IMPORTANCE FACTOR (Ip) DESIGNATION

Ip = 1.0	lp = 1.5

• ALL PLUMBING COMPONENTS EXCEPT AS LISTED UNDER Ip = 1.5 • NATURAL GAS PIPING & APPURTENANCES

SEISMIC DESIGN CATEGORIES D,E,F

	COMPONENT IMPORTANCE FACTOR (Ip)						
	1.0		1.5				
COMPONENT IDENTIFICATION	SEISMIC RESTRAINT REQUIREMENT	NOTES	SEISMIC RESTRAINT REQUIREMENT	NOTE			
ROOF MOUNTED	RESTRAIN ALL	1	RESTRAIN ALL	-			
FLOOR MOUNTED	RESTRAIN ALL	1, 2	RESTRAIN ALL	-			
WALL MOUNTED	RESTRAIN ALL	1, 2	RESTRAIN ALL	-			
COMPONENT SUPPORTS	RESTRAIN ALL	1	RESTRAIN ALL	-			
SUSPENDED EQUIPMENT	RESTRAIN ALL	3	RESTRAIN ALL	3			
SUSPENDED DUCTILE PIPING (STEEL, ALUMINUM, COPPER, ETC.)	>3"	4	>1"	4			
SUSPENDED NON DUCTILE PIPING (CAST IRON, PLASTIC, CERAMIC)	RESTRAIN ALL	4	RESTRAIN ALL	4			
SUSPENDED PIPE ON TRAPEZE	RESTRAIN IF ANY PIPE ON TRAPEZE > 3" RESTRAIN IF TOTAL WEIGHT OF PIPES ON TRAPEZE > 10	4	RESTRAIN IF ANY PIPE ON TRAPEZE > 1" RESTRAIN IF TOTAL WEIGHT OF PIPES ON TRAPEZE > 10	4			
COMPONENT CERTIFICATION (SEE NOTE 6)	NOT REQUIRED	5	REQUIRED	5			

NOTES:

- 1. EQUIPMENT 20 LBS. OR LESS IS EXEMPT IF THE COMPONENT IS POSITIVELY ATTACHED TO THE STRUCTURE AND FLEXIBLE CONNECTIONS ARE PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.
- 2. RESTRAINTS ARE NOT REQUIRED IF THE COMPONENT WEIGHS 400 LBS. OR LESS, IS MOUNTED WITH THE CENTER OF MASS LOCATED AT 4 FT. OR LESS ABOVE A FLOOR, IS POSITIVELY ATTACHED TO THE STRUCTURE AND HAS FLEXIBLE CONNECTIONS BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.
- FLEXIBLE CONNECTIONS REQUIRED FOR PIPE CONNECTIONS ONLY.
- 4. RESTRAINT IS NOT REQUIRED IF THE PIPING / DUCTWORK IS SUPPORTED BY HANGERS AND EACH HANGER IN THE PIPING RUN IS 12 IN. OR LESS IN LENGTH FROM THE TOP OF THE PIPE TO THE SUPPORTING STRUCTURE. WHERE PIPES ARE SUPPORTED ON A TRAPEZE, THE TRAPEZE SHALL BE SUPPORTED BY HANGERS HAVING A LENGTH OF 12 IN. OR LESS. WHERE ROD HANGERS ARE USED, THEY SHALL BE EQUIPPED WITH SWIVELS, EYE NUTS OR OTHER DEVICES TO PREVENT BENDING IN THE ROD.
- 5. ALL DUCTWORK, REGARDLESS OF SIZE, DESIGNED TO CARRY TOXIC, HIGHLY TOXIC, OR EXPLOSIVE
- GASES OR USED FOR SMOKE CONTROL MUST BE RESTRAINED.

 COMPONENT CERTIFICATION MUST BE SUPPLIED BY THE EQUIPMENT MANUFACTURER AT TIME OF SUBMITTAL FOR REVIEW BY ENGINEER OF RECORD.

GENERAL PLUMBING NOTES

- PROVIDE ALL MATERIALS AND LABOR NECESSARY FOR A COMPLETE PLUMBING SYSTEM.
 DO NOT SCALE DRAWINGS. OBTAIN ROUGH-IN DIMENSIONS FROM ARCHITECTURAL DRAWINGS
- OR FROM MANUFACTURERS PRINTED INSTRUCTIONS AND RECOMMENDATIONS ONLY.

 COORDINATE PLUMBING SYSTEMS WITH ALL TRADES TO AVOID CONFLICTS PRIOR TO INSTALLATION OF PLUMBING COMPONENTS.
- 4. OBTAIN ALL PERMITS AND INSPECTIONS FROM AUTHORITY HAVING JURISDICTION. THIS INCLUDES ALL FEES THAT MAY BE REQUIRED.
- ALL FEES THAT MAY BE REQUIRED.

 5. PROVIDE OWNER WITH CERTIFICATES OF FINAL INSPECTION FROM AUTHORITY HAVING
- JURISDICTION.

 6. WHENEVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN FURNISH AND INSTALL COMPLETE AND READY FOR USE
- AND READY FOR USE.
 7. UNLESS OTHERWISE SHOWN OR NOTED, ALL PIPING SHALL BE RUN CONCEALED IN WALLS,
- CHASES AND/OR ABOVE CEILINGS.

 8. ALL SUSPENDED PIPING SHALL BE SUPPORTED FROM BUILDING STRUCTURAL MEMBERS. IN NO
- CASE SHALL PIPING BE SUSPENDED FROM FLOOR OR ROOF DECK.

 9. WHERE PIPES PENETRATE FIRE RATED ASSEMBLIES, SEAL OPENING AROUND PIPES WITH U.L.
- LISTED FIRE STOPPING MATERIAL TO MAINTAIN THE FIRE RATING OF THE ASSEMBLY.

 10. PROVIDE INSULATION FOR PIPING COLLECTING CONDENSATE DRAIN.
- 11. PROVIDE HANGERS AND SUPPORTS WITHIN 12" OF EACH HORIZONTAL ELBOW FOR SANITARY AND VENT PIPING..
 12. ALL CONNECTIONS TO, OR SHUTDOWN OF, EXISTING SYSTEMS SHALL BE COORDINATED WITH
- THE OWNER TO PROVIDE MINIMAL INTERFERENCE WITH THEIR OPERATIONS AND DOWNTIME OF THE SYSTEM.

 3. AREAS OF WORK EXIST FOR THE PROJECT WHICH WERE NOT ACCESSIBLE OR PROVIDED LIMITED ACCESS DURING DESIGN. AS SUCH, CONTRACTOR SHALL VERIFY ALL UTILITIES IN AREA OF WORK
- INCLUDING LOCATION AND INVERT ELEVATION BEFORE DEMOLITION OF ANY SERVICE. ANY PIPING NOT SHOWN SHALL BE IDENTIFIED AND THE ARCHITECT AND ENGINEER SHALL BE NOTIFIED AS SOON AS POSSIBLE. NO PIPING REWORK SHALL BE COMENCED WITHOUT COORDINATION OF BOTH ARCHITECT AND ENGINEER.
- 4. IN AREAS WHERE THE EXISTING CEILINGS ARE NOT SLATED TO BE REPLACED, THE CONTRACTOR SHALL WORK THROUGH THE EXISTING CEILING (SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR AREA OF WORK). THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY DAMAGED TILE OR GRID THAT IS A RESULT OF THEIR WORK.
- 15. UNLESS OTHERWISE NOTED, WHERE EXISTING PIPING MUST BE DEMOLISHED, REMOVE ALL PIPING BACK TO THE MAIN AND CAP WITHIN ONE AND A HALF PIPE DIAMETERS NOT TO EXCEED 3 INCHES. DO NOT ABANDON DEAD LEG PIPING IN DOMESTIC WATER SYSTEMS.
- 16. PROVIDE A TEMPERATURE LIMITING DEVICE CONFORMING TO ASSE 1070 AT EACH LAVATORY, HAND WASHING SINK, OR ANY FIXTURE WITH A SENSOR FAUCET TO DELIVER 105°F WATER, UNLESS OTHERWISE NOTED. PROVIDE WATTS LFUSG-B FOR INDIVIDUAL LAVATORIES OR WATTS LFMMV FOR GROUPS OF LAVATORIES, OR APPROVED EQUALS.

PLUMBING CODES AND STANDARDS (WITH ALL SOUTH CAROLINA MODIFICATIONS)

	WIODIFICATIONS)				
	CODE	DESCRIPTION			
	IBC (2021)	INTERNATIONAL BUILDING CODE			
I	IECC (2009)	INTERNATIONAL ENERGY CONSERVATION CODE			
Ī	IPC (2021)	INTERNATIONAL PLUMBING CODE			

PL	UMBING ABBREVIATIONS
ABBR	DESCRIPTION
A/C	ABOVE CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BFP	BACKFLOW PREVENTER
BTU	BRITISH THERMAL UNIT
BV	ISOLATION VALVE
BWV	BACKWATER VALVE
С	DOMESTIC COLD WATER SUPPLY
CFM	CUBIC FEET PER MINUTE
CO2	CARBON DIOXIDE GAS
CV	CONCENTRIC VENT
DS	DRY TYPE FIRE SPRINKLER PIPING
F/A	FROM ABOVE
FCO	FLOOR CLEANOUT
FPM	FFET PER MINUTE
FS	WET TYPE FIRE SPRINKLER PIPING
FT	FEET
G	GREASE/KITCHEN WASTE
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
H	DOMESTIC HOT WATER SUPPLY
HA	HAMMER ARRESTOR
HB	HOSE BIBB
HCP HR	HOT WATER RECIRCULATING PUMP DOMESTIC HOT WATER RETURN
HVAC	HVAC MAKEUP WATER
I-A	INSTRUMENT AIR
IN	INCHES
IN WG	INCHES WATER GUAGE
MA	MEDICAL AIR
N	NITROGEN GAS
N20	NITROUS OXIDE GAS
NG	NATURAL GAS
0	OXYGEN GAS
OF	SECONDARY STORM
OFO	OVERFLOW OUTLET
Р	PROPANE
PC	PLUMBING CONTRACTOR
S	SANITARY/WASTE PIPING
ST	STORM
Т	TEMPERED WATER SUPPLY
TP	TRAP PRIMER
TR	TEMPERED WATER RETURN
U/G	UNDERGROUND
V	VENT PIPING
1 \/^~	\

			PLUMBING	SYMB	OL LEGEND			
S	SYMBOL	DESCRIPTION	V	SYMBOL	DESCRIPTION			
	BFP	BACKFLOW F	PREVENTER	O BWV	BACKWATER VALVE			
		FLOW CONTE	ROL	\bowtie	CONTROL VALVE			
-		PRESSURE F	REDUCING VALVE		BALANCING VALVE			
		SWING CHEC	CK VALVE	101	ISOLATION VALVE			
	⋈	PLUG VALVE			SOLENOID VALVE			
	0	PIPE UP		<u> </u>	PIPE DOWN			
	Н	PIPE REDUC	ER	‡+	PIPE STRAIGHT TEE			
		PIPE TEE DOWN		O- FCO	FLOOR CLEANOUT			
	—	HOSE BIBB - INTERIOR, EXTERIOR		FD	FLOOR DRAIN WITH FLOOR SLOPED TO DRAIN			
	O VTR VENT THRU ROOF			TRAP PRIMER				
	PLUMBING PIPING LEGEND							
			SANITARY AND WAS	TE PIPING				
			VENT PIPING					
			DOMESTIC COLD WATER PIPING					
			DOMESTIC HOT/TEMI	PERED WA	TER PIPING			
			DOMESTIC HOT/TEMI	PERED WA	TER RETURN PIPING			
			NATURAL GAS PIPINO	G				
			STORM PIPING					
			SECONDARY STORM	PIPING				

HAMMER ARRESTOR SCHEDULE						
UNIT I.D.	PDI UNIT	FIXTURE UNIT	MANUFACTURER			
НА	Α	1-11	JOSAM 75000 OR EQUIVALENT ZURN, SMITH			
НА	В	12-32	JOSAM 75000 OR EQUIVALENT ZURN, SMITH			
НА	С	33-60	JOSAM 75000 OR EQUIVALENT ZURN, SMITH			
НА	D	61-113	JOSAM 75000 OR EQUIVALENT ZURN, SMITH			
НА	Е	114-154	JOSAM 75000 OR EQUIVALENT ZURN, SMITH			

		PLUMBING FIXTURE SCHEDULE						
MARK	FIXTURE TYPE	FIXTURE DESCRIPTION	HOT WATER	COLD WATER WASTE	VENT	MANUFACTURER	MODEL	COMMENTS
FD	FLOOR DRAIN	CAST IRON, BOTTOM OR SIDE OUT, DRAIN WITH 7 INCH ADJUSTABLE NICKLE BRONZE STRAINER HEAD. PROVIDE COLOR AND ROUND/SQUARE SHAPE TO MATCH ARCHITECTS FINAL FINISHES. PROVIDE WITH TRAP PRIMER CONNECTION.	-	1/2" 3"	2"	J.R. SMITH	2000 SERIES	
P-1	FLOOR MOUNTED WATER CLOSET	SLOAN MODEL WETS 2020.1301-1.28 ROYAL (17" RIM HEIGHT), ADA COMPLIANT ROYAL HARD-WIRED INFRARED SENSOR FOR AUTOMATIC NO HANDS OPERATION, INFRARED SENSOR WITH MULTIPLE FOCUSED SENSING FIELDS FOR HIGH AND LOW TARGET DETECTION, LATCHING SOLENOID OPERATOR, COURTESY FLUSH OVERRIDE BUTTON, SYNTHETIC RUBBER DIAPHRAGM, 1" IPS ANGLE STOP, VANDAL-RESISTANT STOP CAP, ADJUSTABLE TAILPIECE, SPUD COUPLING AND FLANGE FOR 1-1/2" SPUD, FLOOR MOUNTED, VITREOUS CHINA, ELONGATED BOWL, 17" HEIGHT, 1-1/2" TOP SPUD INLET, 2" TRAPWAY DIAMETER, INTEGRAL FLUSHING RIM, SIPHON JET FLUSH, 1.28 GALLONS PER FLUSH. PROVIDE WITH CAST IRON TOILET FLANGE. SPECIFY THAT PLASTIC AND OFFSET CLOSET FLANGES ARE NOT ACCEPTABLE. PROVIDE APPROVED EQUAL BY THE FOLLOWING: MOEN, AMERICAN STANDARD, KOHLER, CRANE, TOTO, OR ELJER. PROVIDE WHITE, PLASTIC OPEN-FRONT EXTRA HEAVY-DUTY SEAT, CENTOCO MODEL 1500 STSCSS, OR APPROVED EQUAL	-	1-1/4" 3"	2"	SLOAN	WETS 2020.1301	
P-2	WALL-MOUNTED LAVATORY	SLOAN MODEL SS-3065, WHITE VITREOUS CHINA, WALL HUNG, SINGLE HOLE, OVERFLOW, NOMINAL 21"X18" OVERALL DIMENSIONS, WITH SLOAN LINO EAF-200-P ISM, HARD-WIRED, SENSOR ACTIVATED, ELECTRONIC, CHROME PLATED CONSTRUCTED METAL, HAND WASHING FAUCET WITH INTEGRAL SPOUT MIXER, MODULAR ONE-PIECE CONSTRUCTION WITH ALL CONCEALED COMPONENTS ABOVE DECK, DOUBLE INFRARED SENSORS WITH AUTOMATIC SETTING FEATURE, AUTOMATIC SELF-ADAPTING SENSOR TECHNOLOGY, SOLAR POWERED, MAGNETIC SOLENOID VALVE, WATER SUPPLY CONNECTION WITH FLEXIBLE HIGH-PRESSURE HOSE AND STRAINER, AND 6 VDC HARD-WIRED TRANSFORMER POWER SOURCE. PROVIDE APPROVED EQUAL BY AMERICAN STANDARD, KOHLER, OR ELJER. PROVIDE GRID STRAINER, AND P-TRAPS, SUPPLIES, STOPS, AND ESCUTCHEONS BY EBC, MCGUIRE, DEARBORN, OR BRASSCRAFT. PROVIDE TRAP COVERS BY TRUBRO OR APPROVED EQUAL. PROVIDE CARRIER BY JR SMITH, JOSAM, OR ZURN.	1/2"	1/2" 1-1/4"	1-1/4"	SLOAN	SS-3065	
P-3	MOP SINK 24X24	PROVIDE A 24"X24" MOLDED STONE MOP BASIN WITH 10" HIGH SIDES AND AN INTEGRAL 3" CHROME PLATED DRAIN WITH A SEAL FOR CONNECTION TO THE WASTE PIPING. THE MOP BASIN SHALL BE FITTED WITH STAINLESS STEEL BUMPER GUARDS, A CHROME-PLATED, SOLID BRASS FAUCET WITH VACUUM BREAKER AND HOSE BRACKET. THE MOP BASIN SHALL BE WHITE DRIFT IN COLOR AND THE FAUCET SHALL BE MOUNTED 36" ABOVE THE FINISHED FLOOR. THE MOP BASIN SHALL BE A FIAT MODEL NO. MSB-2424 WITH 1239BB BUMPERGUARDS. FLAT 1453 BB STAINLESS STEEL GRID STRAINER. FIAT 832-AA HOSE AND BRACKET. PROVIDE CHICAGO FAUCETS 897-CCP FAUCET WITH BUCKET HOOK, BACKFLOW PREVENTER, INTEGRAL CHECK VALVES, SHUT-OFF VALVES ON HW AND CW. OTHER ACCEPTABLE MANUFACTURERS SHALL BE THE MOP SINK SHALL BE ACORN, AND FOR THE FAUCET, T&S BRASS & BRONZE.	3/4"	3/4" 3"	1-1/2"	FIAT	MSB-2424	
P-4	KITCHEN SINK	MOEN MODEL GS182114Q 33"X22" 18 GAUGE, TYPE 304 STAINLESS STEEL SINK, WITH FULLY COATED UNDERSIDE INSULATED FOR SOUND AND TO REDUCE CONDENSATION, AND CRUMB CUP DRAINS. DEPTH SHALL BE MANUFACTURER'S STANDARD DEPTH UNLESS SINK IS REQUIRED TO BE ADA FRONT APPROACH IN WHICH CASE THE SINK DEPTH SHALL BE COORDINATED WITH THE CASEWORK DIMENSIONS. PROVIDE WITH DECK-MOUNTED 8" CENTERS GOOSENECK SPOUT SWING FAUCET OR SWING PULL-OUT KITCHEN SPRAY FAUCET. STANDARD DEPTH, NON-ADA FRONT APPROACH SINKS SHALL BE PROVIDED WITH ½ HP OR GREATER DISPOSAL, BASIS OF DESIGN INSINKERATOR BADGER 5 OR EQUAL. BASIN MANUFACTURER SHALL BE ELKAY, FRANKE/KINDRED, OR JUST MANUFACTURING. FAUCET MANUFACTURER SHALL BE CHICAGO FAUCETS, T&S BRASS, MOEN, KOHLER, ZURN, AMERICAN STANDARD.	1/2"	1/2" 1-1/4"	1-1/4"	MOEN	GS182114Q / 87233	

VAC VACUUM

VTR VENT THRU ROOF

WCO WALL CLEANOUT
WH WATER HEATER

WAGD WASTE ANESTHETIC GAS DISPOSAL

IOTES:

2. PROVIDE WITH AQUASTAT AND TIME.

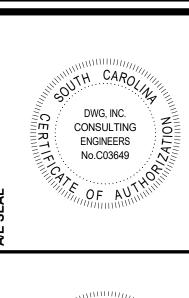
1. PROVIDE ANGLE STOP VALVES, SUPPLY TUBING, P-TRAPS ESCUTCHEON PLATES, STRAINERS, ETC., FOR COMPLETE INSTALLATION. BASIS OF DESIGN SHALL BE HEAVY - GAUGE, CHROME PLATED CONSTRUCTION.
2. ALL SUPPLY AND WASTE LINES SHALL BE CONCEALED IN ADJACENT WALL, FLOOR AND CEILING, UNLESS OTHERWISE NOTED.
3. PLUMBING CONTRACTOR SHALL SUBMIT ALL PLUMBING FIXTURE AND COLOR SECLECTIONS TO ARCHITECT TO OBTAIN FINAL APPROVAL.

MARK		IPUT RECOVERY @ PACITY 100°F (GPH)	FUEL	MANUFACTURER	MODEL	COMMENTS
EWH-7	19	7	Electric Water Heater - Simultaneous Operation	BRADFORD WHITE	M-1-20U6SS-1NCW	
EWH-8	19	7	Electric Water Heater - Simultaneous Operation	BRADFORD WHITE	M-1-20U6SS-1NCW	

CONSULTING ENGINEERS

GARVINDESIGNGRG

803.212.1032 p / 803.

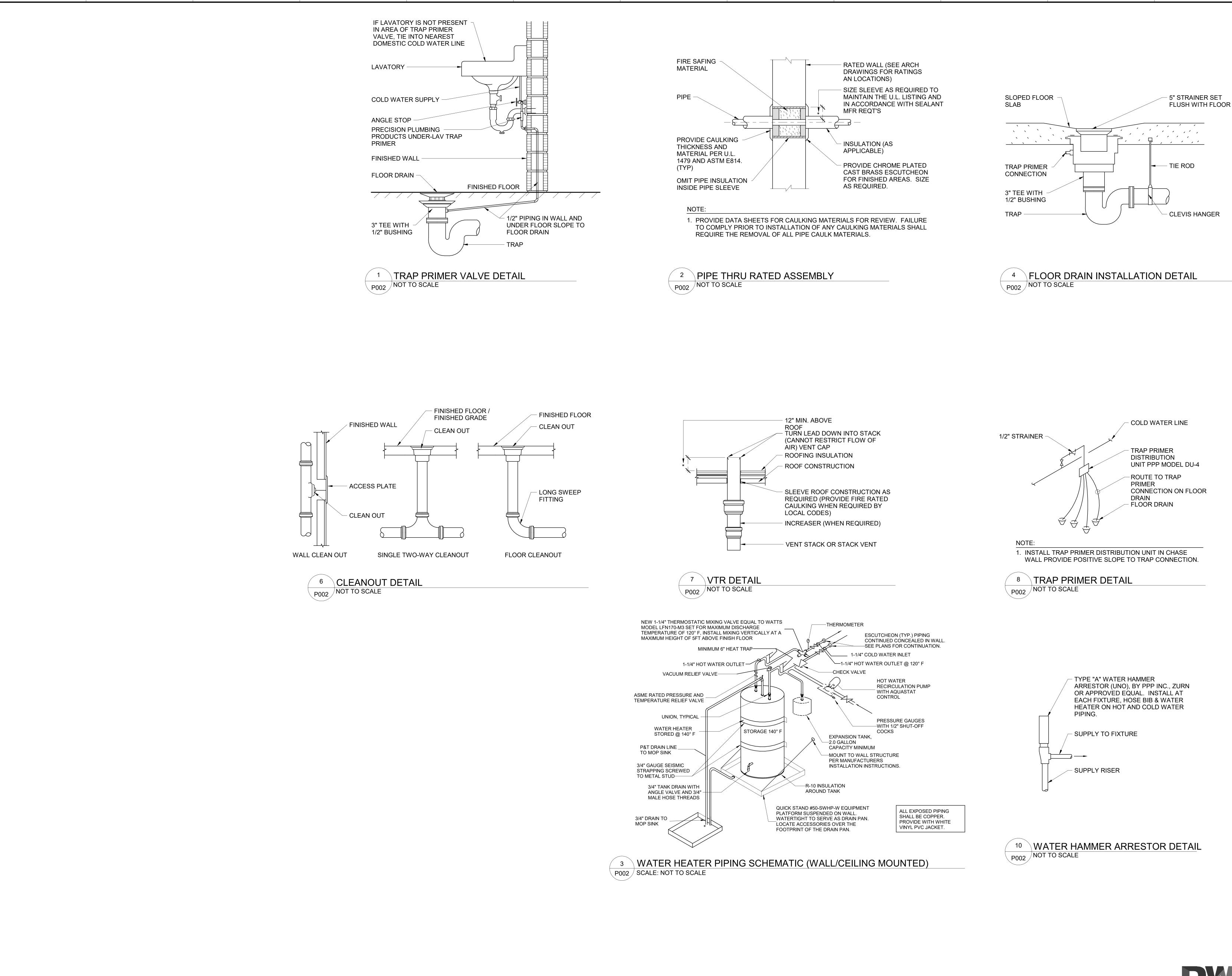




VALL BUILDING CONFERENCE
ENTER RENOVATION
DASTAL CAROLINA UNIVERSITY

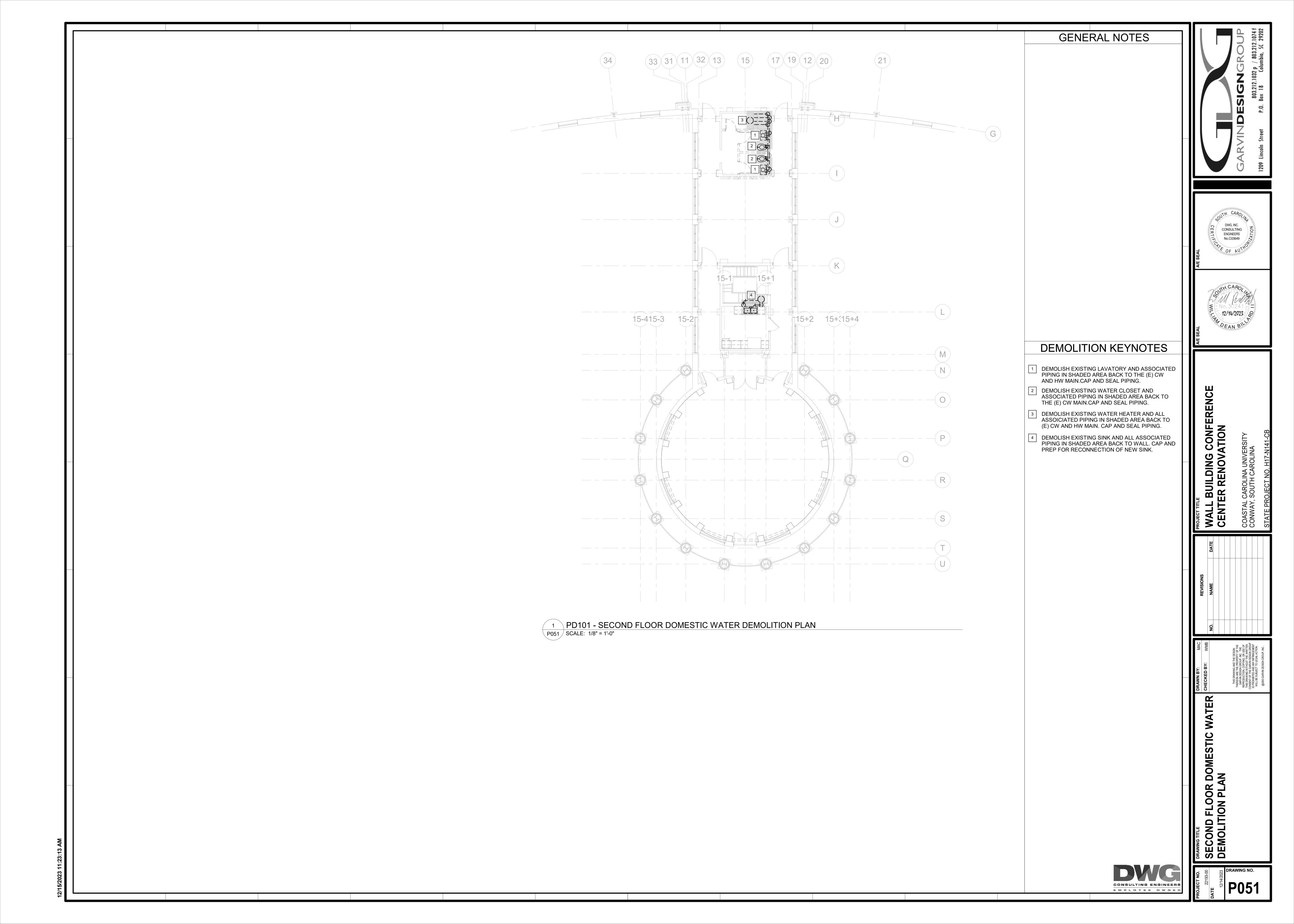
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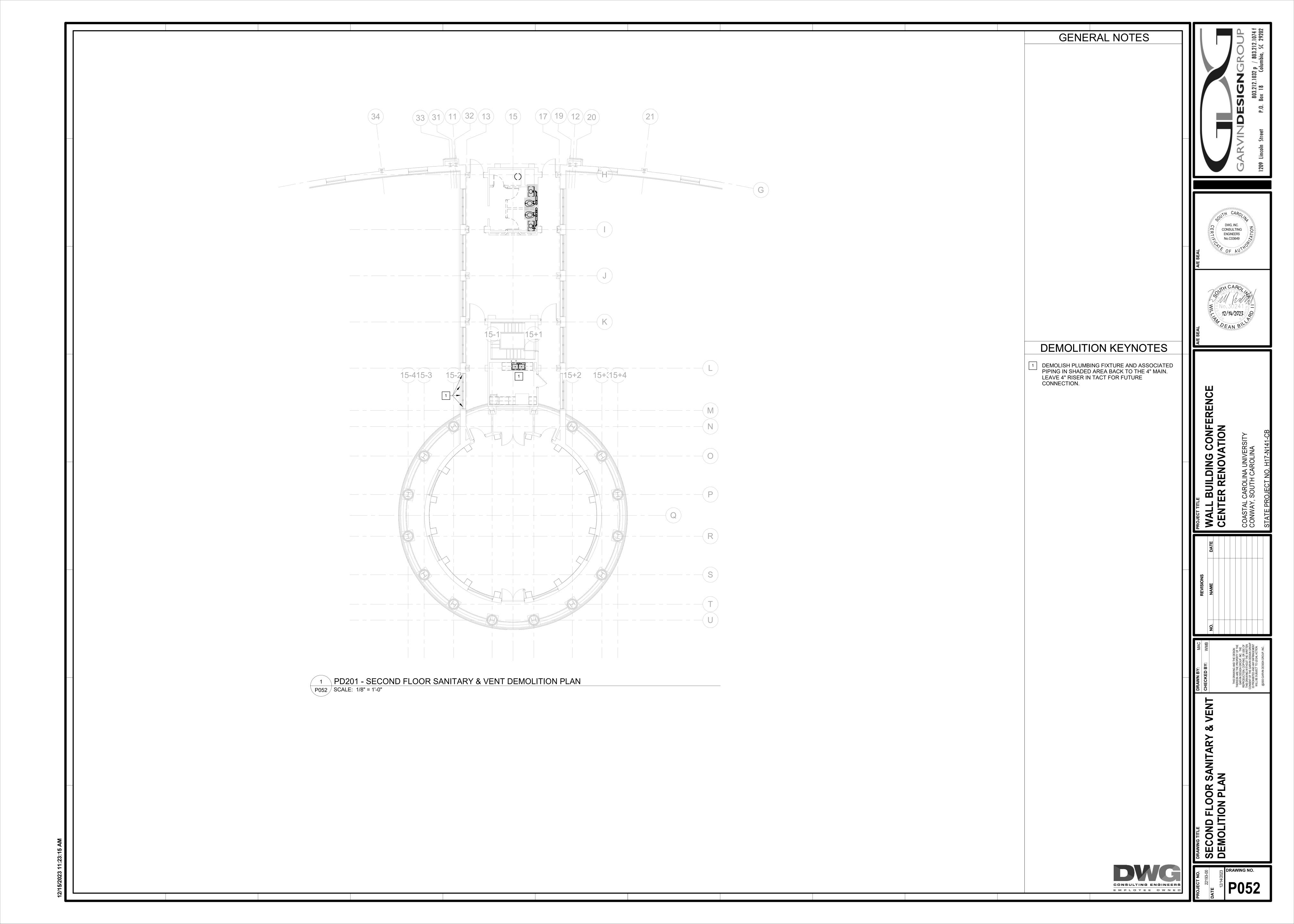
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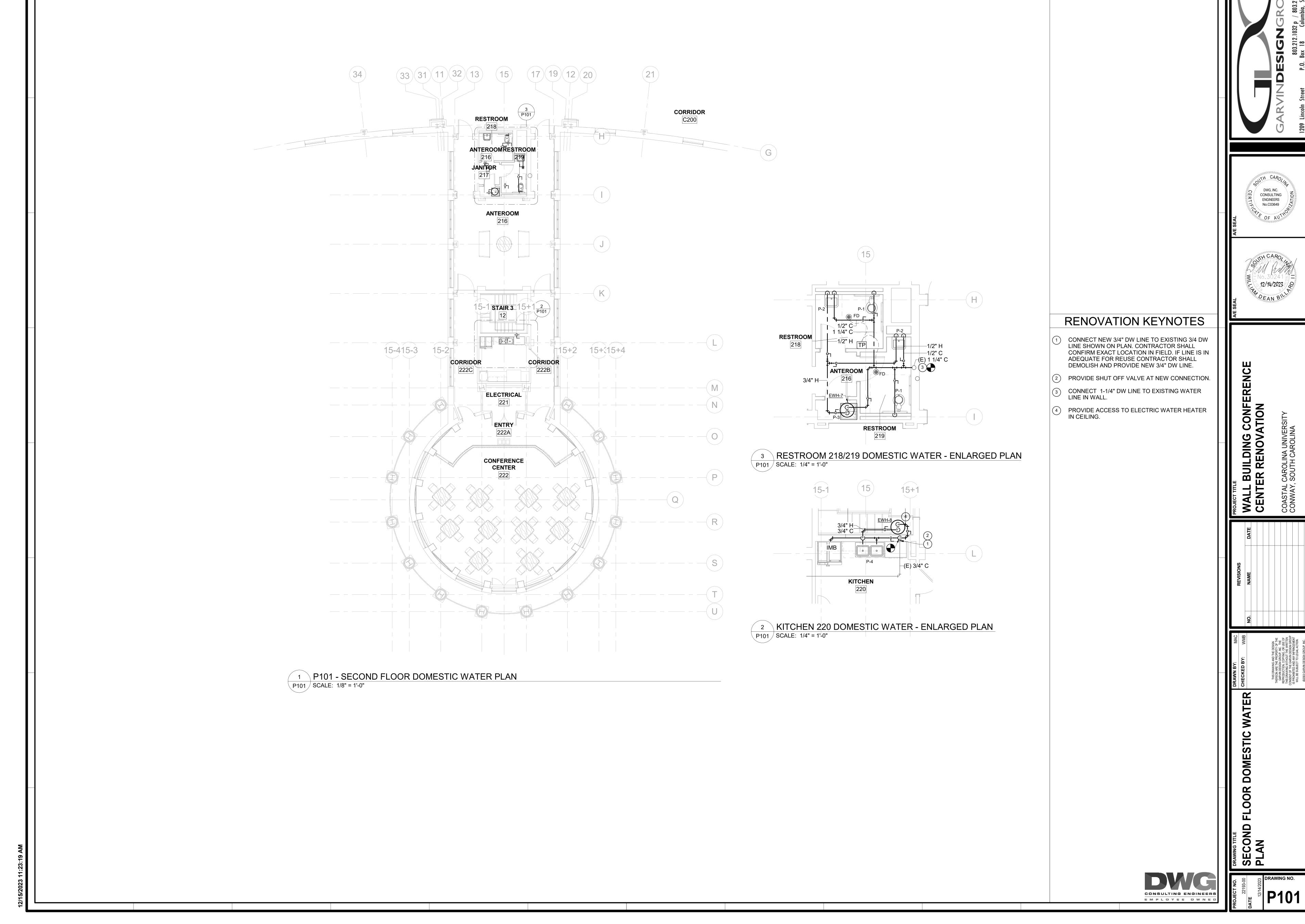


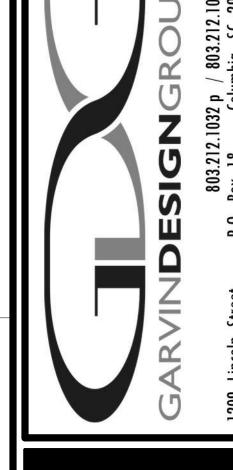
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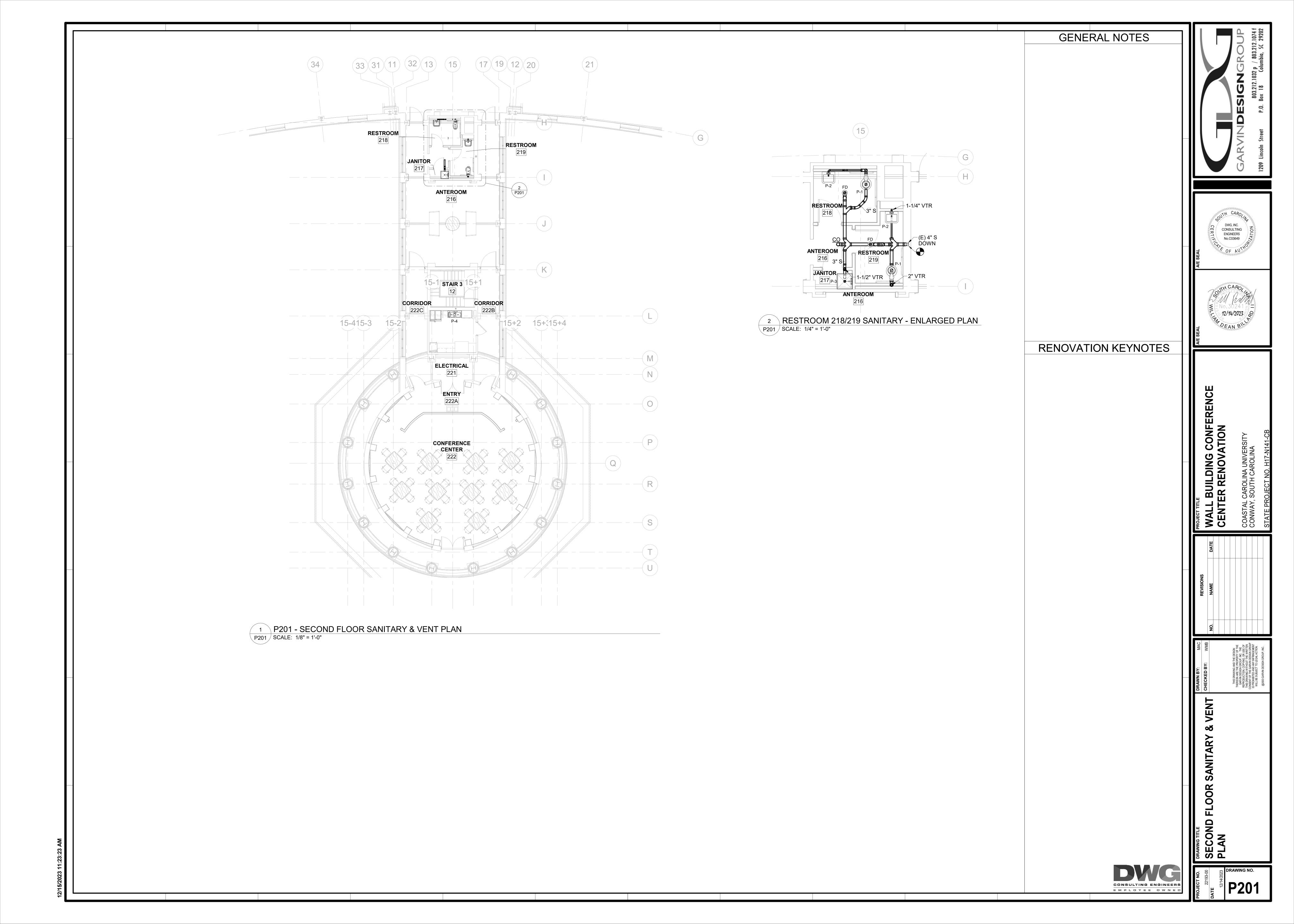












ELECTRICAL SYSTEMS SEISMIC REQUIREMENTS

PER IBC-2021/ASCE 7-16

- PER THE 2021 INTERNATIONAL BUILDING CODE, MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT AND COMPONENTS, INCLUDING THEIR SUPPORTS AND ATTACHMENTS, SHALL BE DESIGNED FOR SEISMIC FORCES IN ACCORDANCE WITH CHAPTER 13 OF ASCE 7-16.
- B. EXTERIOR EQUIPMENT (INCLUDING ROOF CURBS, RAILS, SUPPORTS) EXPOSED TO WIND SHALL BE DESIGNED AND INSTALLED TO RESIST THE WIND PRESSURES DETERMINED IN ACCORDANCE WITH CHAPTER 26 TO 29 OF ASCE 7-16.
- C. WHERE DESIGN FOR SEISMIC AND WIND LOADS IS REQUIRED, THE MORE DEMANDING FORCE MUST BE USED.
- D. REFERENCE THE STRUCTURAL DRAWINGS FOR SITE SPECIFIC INFORMATION ON SEISMIC DESIGN CATEGORY, WIND SPEEDS, ETC.
- E. USE THE TABLE BELOW TO DETERMINE SEISMIC RESTRAINT REQUIREMENTS FOR EACH COMPONENT
- FOR ALL COMPONENTS REQUIRING SEISMIC RESTRAINT, THE COMPONENT SUPPORTS AND ATTACHMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL REGISTERED IN THE STATE THE JOB IS LOCATED. SUBMITTALS MUST INCLUDE STAMPED AND SIGNED DRAWINGS AND CALCULATIONS.
- WHERE SEISMIC RESTRAINT IS REQUIRED, HOUSEKEEPING PADS NEEDED FOR THE INSTALLATION OF EQUIPMENT UNDER THIS CONTRACT MUST BE DESIGNED BY THE SEISMIC ENGINEER. DO NOT POUR ANY HOUSEKEEPING PADS PRIOR TO THE RECEIPT OF THE APPROVED SEISMIC SUBMITTAL
- SEISMIC RESTRAINTS FOR DUCTWORK, PIPING, CONDUIT, CABLE TRAYS AND BUS DUCT MUST BE SHOWN ON LAYOUT DRAWINGS. SHOWING SPECIFIC RESTRAINT LOCATIONS ALONG WITH ACCOMPANYING DETAILS AND CALCULATIONS.

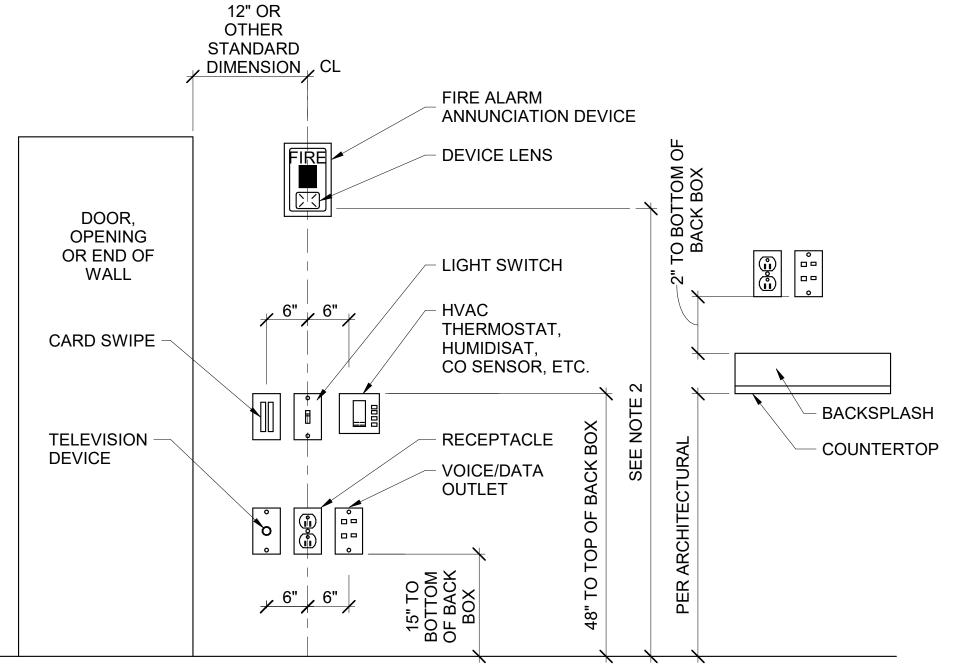
ELECTRICAL COMPONENT IMPORTANCE FACTOR (Ip) DESIGNATION

Ip = 1.0		lp = 1.5	
ALL ASSOCIATED ELECTRICAL WORK UNLESS NOTED OTHERWISE	• EMERGENCY LIGHTS	• EXIT LIGHTS	• FIRE ALARM

SEISMIC DESIGN CATEGORIES D,E,F

	COMPONENT IMPORTANCE FACTOR (Ip)						
	1.0		1.5				
COMPONENT IDENTIFICATION	SEISMIC RESTRAINT REQUIREMENT	NOTES	SEISMIC RESTRAINT REQUIREMENT	NOTES			
ROOF MOUNTED	RESTRAIN ALL	1	RESTRAIN ALL	-			
FLOOR MOUNTED	RESTRAIN ALL	1,2	RESTRAIN ALL	-			
WALL MOUNTED	RESTRAIN ALL	1,2	RESTRAIN ALL	-			
COMPONENT SUPPORTS	RESTRAIN ALL	1	RESTRAIN ALL	-			
SUSPENDED EQUIPMENT	RESTRAIN ALL	1	RESTRAIN ALL	-			
SINGLE CONDUIT	RESTRAIN IF ≥ 2.5"	3	RESTRAIN IF ≥ 2.5"	3			
CABLE TRAY/BUS DUCT TRAPEZED CONDUIT	DO NOT DELETE ON TRAPEZE ≥2.5". RESTRAIN IF TOTAL WEIGHT OF SUSPENDED COMPONENT > 10 LBS/FT	3	RESTRAIN IF ANY CONDUIT ON TRAPEZE > 2.5". RESTRAIN IF TOTAL WEIGHT OF SUSPENDED COMPONENT > 10 LBS/FT	3			
COMPONENT CERTIFICATION	NOT REQUIRED	-	REQUIRED	5			
PENDANT, LAY-IN AND CAN LIGHTS	REQUIRED	4	REQUIRED	4			

- . EQUIPMENT 20 LBS. OR LESS IS EXEMPT IF THE COMPONENT IS POSITIVELY ATTACHED TO THE STRUCTURE AND FLEXIBLE CONNECTIONS ARE PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK. PIPING AND CONDUIT
- RESTRAINTS ARE NOT REQUIRED IF THE COMPONENT WEIGHS 400 LBS. OR LESS, IS MOUNTED WITH THE CENTER MASS AT 4' OR LESS ABOVE A FLOOR, IS POSITIVELY ATTACHED TO THE STRUCTURE, AND HAS FLEXIBLE CONNECTIONS BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING AND CONDUIT.
- RESTRAINT IS NOT REQUIRED IF THE CONDUIT IS SUPPORTED BY HANGERS AND EACH HANGER IN THE RUN IS 12" IN. OR LESS IN LENGTH FROM THE TOP OF THE PIPE TO THE SUPPORTING STRUCTURE. WHERE PIPES ARE SUPPORTED ON A TRAPEZE, THE TRAPEZE SHALL BE SUPPORTED BY HANGERS HAVING A LENGTH OF 12" IN. OR LESS. WHERE ROD HANGERS ARE USED, THEY SHALL BE EQUIPPED WITH SWIVELS, EYE NUTS OR OTHER DEVICES TO PREVENT BENDING IN THE ROD
- $^{4\cdot}$ THE RESTRAINT OF PENDANT, LAY-IN AND CAN LIGHTS IS ADDRESSED IN ASTM C636 AND E580.
- . COMPONENT CERTIFICATION MUST BE SUPPLIED BY THE EQUIPMENT MANUFACTURER AT TIME OF SUBMITTAL FOR REVIEW BY ENGINEER OF RECORD.



DEVICES SHOWN WITHIN 48" OF EACH OTHER ON ALL ELECTRICAL PLANS SHALL BE ALIGNED PER THIS DETAIL. IF DEVICES ARE SHOWN IN MIDDLE OF WALL, THEN CENTER DEVICES ON WALL.

NOTE 2:

MOUNT 80" ABOVE FINISHED FLOOR WHERE POSSIBLE. WHERE CEILING HEIGHTS DO NOT ALLOW THIS HEIGHT, MOUNT 6" BELOW CEILING. WHERE OBSTRUCTIONS DO NOT ALLOW THIS HEIGHT, MOUNT 80" TO 96" ABOVE FINISHED FLOOR. ALL MOUNTING HEIGHTS FOR NOTIFICATION DEVICES SHALL BE MEASURED TO THE BOTTOM OF THE LENS.



GENERAL ELECTRICAL NOTES

BRANCH CIRCUIT WIRING FOR 20A CIRCUITS SHALL BE SIZED PER WIRE SIZING CHART. WHERE CONDUCTOR AND RACEWAY SIZE ARE SHOWN AT HOMERUN, SUCH SIZE SHALL BE USED FOR THE ENTIRE CIRCUIT. EXCEPTION: FINAL CONNECTION TO DEVICES IN OUTLET BOXES IS NOT REQUIRED TO BE LARGER

PRIOR TO ROUGH-IN, COORDINATE THE LOCATION AND MOUNTING HEIGHT OF ALL WALL MOUNTED DEVICES WITH THE ARCHITECTURAL INTERIOR ELEVATIONS AND MILLWORK SHOP DRAWINGS. IN THE EVENT OF A CONFLICT, NOTIFY THE ARCHITECT. MINOR ADJUSTMENTS IN DEVICE LOCATION, SUCH AS 5'-0" IN ANY DIRECTION, SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER. UNDERCABINET LIGHT FIXTURES, RECEPTACLES AND OTHER DEVICES TO BE MOUNTED INSIDE CABINETS SHALL BE REVIEWED WITH THE ARCHITECT PRIOR TO ROUGH IN TO CONFIRM THE EXACT LOCATION OF FIXTURES AND DEVICES. COORDINATE THE LOCATION OF POKE-THRUS WITH THE ARCHITECT PRIOR TO ROUGH IN. ALL POKE-THRUS SHALL BE INSTALLED TO MAINTAIN THE FIRE RATING OF THE FLOOR. COORDINATE CORE DRILLING HOLES IN FLOOR WITH STRUCTURAL ENGINEER.

OUTLET BOXES FOR SWITCHES, RECEPTACLES, ETC. MOUNTED ON OPPOSITE SIDES OF PARTITIONS SHALL NOT BE MOUNTED IN THE SAME WALL CAVITY. SEPARATE WALL PENETRATIONS BY MOUNTING ON OPPOSITE SIDES OF WALL STUDS OR OTHER VERTICAL STRUCTURAL MEMBERS IN THE WALL. WHERE OUTLET BOXES ARE INSTALLED IN A FIRE-RATED PARTITION, INSTALLATION SHALL COMPLY WITH INTERNATIONAL BUILDING CODE 714.4.2.

RACEWAYS SHALL BE INSTALLED CONCEALED IN NEW WALL CONSTRUCTION, ABOVE CEILINGS, BELOW FLOOR AND IN OTHER CAVITIES TO THE GREATEST EXTENT POSSIBLE. EXPOSED RACEWAYS MAY BE USED IN UNFINISHED SPACES. WHERE EXPLICITLY NOTED ON PLANS AND WHERE APPROVED BY THE ARCHITECT AND ENGINEER. LAY OUT EXPOSED RACEWAYS TO MINIMIZE THE NUMBER OF VERTICAL

BRANCH CIRCUITS ROUTING SHALL COMPLY WITH DETAILS ON DRAWINGS AND SHALL BE COORDINATED WITH THE WORK OF OTHER TRADES BEFORE AND DURING CONSTRUCTION. WHERE LIGHT SWITCH AND ABOVE COUNTER RECEPTACLES ARE INDICATED TO BE MOUNTED ADJACENT TO EACH OTHER. THE DEVICES SHALL BE MOUNTED IN THE SAME BOX UNDER A COMMON DEVICE PLATE. IN THE CASE WHERE THE DEVICE VOLTAGES ARE DIFFERENT, PROVIDE A PERMANENT VOLTAGE BARRIER

IN THE BOX PER NEC 404.8.B. A FIRESTOP SYSTEM SHALL BE USED TO SEAL ALL PENETRATIONS OF ELECTRICAL CONDUITS AND CABLES THROUGH FIRE-RATED PARTITIONS. THE FIRESTOP SYSTEM SHALL CONSIST OF A FIRE-RATED CAULK TYPE SUBSTANCE AND HIGH TEMPERATURE FIBER INSULATION BY STI OR APPROVED EQUAL. ONLY METAL CONDUIT SHALL BE USED TO PENETRATE FIRE-RATED PARTITIONS. SEE ARCHITECTURAL

DRAWINGS FOR ALL LOCATIONS OF FIRE-RATED WALLS. THE USE OF MC CABLE IS ALLOWED ABOVE ACCESSIBLE CEILINGS AND IN STUD CONSTRUCTION ONLY. HOMERUNS TO PANEL SHALL BE WIRE IN RACEWAY ONLY, MC CABLE IS NOT ACCEPTABLE FOR HOMERUNS. MC CABLE IS ONLY ACCEPTABLE FOR 20A BRANCH CIRCUITS.

10. PROVIDE A LISTED EXPANSION/DEFLECTION FITTING FOR ALL CONDUIT CROSSING EXPANSION JOINTS PER NEC 300.4.H. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF EXPANSION JOINTS. 11. WHEREVER THE WORD "PROVIDE" IS USED ON THE ELECTRICAL DRAWINGS, IT SHALL BE INFERRED TO MEAN "FURNISH AND INSTALL", UNLESS NOTED OTHERWISE.

12. THE ARRANGEMENT, GROUPING, AND ROUTING OF BRANCH CIRCUITS SHALL BE PROVIDED AT THE CONTRACTOR'S DISCRETION IN ACCORDANCE WITH GENERALLY ACCEPTED PRACTICE FOR ELECTRICAL WORK, THE NATIONAL ELECTRICAL CODE REQUIREMENTS, LOCAL ORDINANCES, AND THE FOLLOWING: 1 A COMMON NEUTRAL MAY BE INSTALLED IN A HOMERUN FOR 2 OR 3 BRANCH CIRCUITS ONLY IF A MEANS TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE POINT OF ORIGIN IS PROVIDED PER NEC 210.4.B. 2 - MULTIPLE SINGLE-POLE BRANCH CIRCUITS (UP TO 3 HOTS, 3 NEUTRALS AND 1 GROUND) RATED FOR 30A OR LESS MAY BE PULLED INTO A SINGLE RACEWAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING THE RACEWAYS AND DE-RATING CONDUCTORS PER NEC 310.15. 3 - A GROUND CONDUCTOR SHALL BE PROVIDED IN ALL RACEWAYS UNLESS NOTED OTHERWISE.

GENERAL POWER NOTES

PROVIDE NEMA CONFIGURATION RECEPTACLES TO MATCH PLUGS ON EQUIPMENT FURNISHED.

GENERAL LIGHTING NOTES

SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR THE EXACT LOCATION OF ALL CEILING MOUNTED LIGHTING FIXTURES. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING DETAILS OF LIGHT FIXTURE TO ACOUSTICAL CEILING SYSTEM AND STRUCTURE EXACT LOCATIONS OF LIGHTING FIXTURES IN MECHANICAL SPACES SHALL BE DETERMINED IN THE FIELD. DO NOT SUPPORT FIXTURES FROM DUCT OR PIPING. PROVIDE CHAIN OR TRAPEZE-TYPE HANGERS WHERE

FIXTURES CANNOT BE MOUNTED DIRECTLY TO CEILING. LIGHTING FIXTURE CATALOG NUMBERS ARE INDICATIVE OF THE STYLE OF FIXTURE REQUIRED CONTRACTOR SHALL PROVIDE FIXTURES WITH THE PROPER TRIM, VOLTAGE AND OPTIONS NECESSARY

FOR INSTALLATION. DOUBLE-FACED EXIT FIXTURES SHALL BE OF THE SAME MANUFACTURER AND SERIES AS THE SINGLE-

FACED EXIT FIXTURES. REGARDLESS OF CATALOG NUMBER INDICATED IN SCHEDULE, PROVIDE BATTERY BACK-UP FOR ALL FIXTURES INDICATED ON THE DRAWINGS TO BE EMERGENCY TYPE

REGARDLESS OF HOW NOTED ON PLANS, ALL EMERGENCY LIGHTING FIXTURES INDICATED IN PRIVATE SPACES SHALL BE WIRED SO AS TO BE SWITCHED "ON/OFF" WITHOUT OPERATING THE [EMERGENCY BATTERY BACK-UP] [LIGHTING INVERTER]. ALL EMERGENCY LIGHTING FIXTURES INDICATED IN PUBLIC SPACES OR MEANS OF EGRESS (CORRIDORS, LOBBIES, BATHROOMS, AUDITORIUMS, STAIRWELLS, ETC.) SHALL BE WIRED AHEAD OF LOCAL SWITCH AS A NIGHT LIGHT AND SHALL NOT BE SWITCHED. [EMERGENCY BATTERY BACK-UP] [LIGHTING INVERTER] SHALL NOT BE ACTIVATED UNLESS A LOSS OF NORMAL BUILDING POWER OCCURS.

REGARDLESS OF CATALOG NUMBER INDICATED IN SCHEDULE, ALL EXIT SIGNS SHALL BE PROVIDED WITH BATTERY BACK-UP, SHALL BE WIRED AHEAD OF LOCAL SWITCH AND SHALL NOT BE SWITCHED.

GENERAL LOW VOLTAGE NOTES

CCU GENERAL NOTE - LOW VOLTAGE INSTALLATION WILL BE PROVIDED BY OTHERS AND HAS BEEN INCLUDED ON DRAWINGS FOR REFERENCE AND COORDINATION PURPOSES. BOXES, CONDUIT AND RECEPTACLES FOR IT EQUIPMENT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR EXTEND A 1" CONDUIT WITH PULL WIRE FROM EACH COMMUNICATION OUTLET TO ABOVE THE LAY-IN CEILING. TURN CONDUIT 12" INTO CEILING CAVITY A MINIMUM OF 6" ABOVE THE CEILING AND TERMINATE

WITH AN INSULATED THROAT BUSHING. PROVIDE SLEEVES SIZED FOR 40% EXPANSION THROUGH CORRIDOR WALLS

ALL COMMUNICATION DROPS SHALL BE UNSPLICED HOME RUNS FROM DEVICE PLATE TO THE COMMUNICATION RACK LOCATION. PROVIDE 10 FEET OF COILED CABLE AT RACK LOCATION FOR

OWNER'S USE. SUPPORT CABLES WITH J-HOOKS. J-HOOKS SHALL BE PROVIDED AT INTERVALS LESS THAN 5 FEET. PROVIDE METAL SLEEVES FOR ALL WALL PENETRATIONS. DO NOT SUPPORT CABLES FROM STRUCTURE. SEAL ALL FIRE RATED WALL PENETRATIONS, REFER TO ARCHITECTURAL SPECIFICATIONS AND DRAWINGS FOR LOCATIONS AND REQUIREMENTS.

ALL COMMUNICATION CABLING SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AND EIA/TIA **STANDARDS**

CABLE SHALL BE CONCEALED IN ALL FINISHED AREAS AND ROUTED PARALLEL OR PERPENDICULAR TO THE BUILDING STRUCTURE

GENERAL EXISTING CONDITION NOTES

AREAS OF WORK EXIST FOR THIS PROJECT WHICH WERE NOT ACCESSIBLE OR HAD LIMITED ACCESS DURING DESIGN. AS SUCH, CONTRACTOR SHALL VERIFY ALL UTILITIES IN AREA OF WORK BEFORE DEMOLITION OF ANY SERVICE. ANY ELECTRICAL COMPONENTS NOT SHOWN SHALL BE IDENTIFIED AND THE ARCHITECT AND ENGINEER SHALL BE NOTIFIED AS SOON AS POSSIBLE. NO ELECTRICAL REWORK SHALL BE COMMENCED WITHOUT COORDINATION OF BOTH ARCHITECT AND ENGINEER. WHERE INFORMATION SHOWN ON THESE DRAWINGS CONFLICTS WITH VERIFIED FIELD CONDITIONS, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER.

IN AREAS WHERE THE EXISTING CEILINGS ARE NOT SLATED TO BE REPLACED, THE CONTRACTOR SHALL WORK THROUGH THE EXISTING CEILINGS (SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR AREA OF WORK). THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY DAMAGED TILE OR GRID THAT IS A RESULT OF THEIR WORK. ALL WORK PERFORMED ABOVE EXISTING CEILINGS SHALL BE PERFORMED AFTER HOURS AND SCHEDULED WITH THE OWNER IN ADVANCE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A FIRESTOP SYSTEM IN ALL PENETRATIONS OF FIRE-RATED FLOORS AND WALLS CREATED BY THE REMOVAL OF EXISTING ELECTRICAL CONDUIT OR CABLES, AS WELL AS THOSE CREATED BY NEWLY INSTALLED CONDUITS AND SLEEVES.

SUPPORT ALL EXISTING CONDUITS AND JUNCTION BOXES ABOVE THE CEILING IN THE CONSTRUCTION AREA PER NEC.

GENERAL DEMOLITION NOTES

ALL ELECTRICAL EQUIPMENT TO BE REMOVED SHALL REMAIN THE PROPERTY OF THE OWNER. THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIALS UNTIL RELEASED BY THE OWNER'S PROJECT MANAGER. MATERIALS THAT THE OWNER'S PROJECT MANAGER CHOOSES TO RETAIN SHALL BE DELIVERED BY THE CONTRACTOR TO A LOCATION DESIGNATED BY THE PROJECT MANAGER. ALL OTHER MATERIALS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR.

		LIGHTING SYM	BOL L	EGEND
SYMBOL	DESCRIPTION		SYMBOL	DESCRIPTION
0	LIGHT FIXTURE (TY	PICAL ALL DIMENSIONS)	\$	LIGHT SWITCH, SINGLE POLE
	LIGHT FIXTURE (SHEMERGENCY, TYPI	HADING INDICATES CAL ALL LIGHTING SYMBOLS)	\$ ^X	LIGHT SWITCH, "X" INDICATES SWITCH TYP
\circ	LIGHT FIXTURE (TY	PICAL ALL DIMENSIONS)	\$ª	LIGHT SWITCH, LOWERCASE LETTER INDICATES SWITCHLEG
	LIGHT FIXTURE (TY	PICAL ALL DIMENSIONS)	(OS)	OCCUPANCY SENSOR (CEILING MOUNTED)
÷Ά	WALL MOUNTED LI	GHT FIXTURE	፟	EXIT SIGN, SINGLE SIDED (ARROWS INDICATE CHEVRON DIRECTION)
$\nabla\nabla\nabla$	TRACK LIGHTING		S	EXIT SIGN, DOUBLE SIDED (ARROWS INDICATE CHEVRON DIRECTION)
	POWER A	ND TELECOMMUNIC	ATION	S SYMBOL LEGEND
SYMBOL	DESCRIPTION		SYMBOL	DESCRIPTION
- V	DUDLEX RECEPTAC	<u></u>		4 DDOD COMMUNICATION OUTLIT

	POWER AND TELECOMMUNICA	ATION	S SYMBOL LEGEND
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
Фх	DUPLEX RECEPTACLE "X" INDICATES RECEPTACLE TYPE	•	1-DROP COMMUNICATION OUTLET BLUE CABLE
♠ ×	GFCI DUPLEX RECEPTACLE "X" INDICATES RECEPTACLE TYPE	∇	2-DROP COMMUNICATION OUTLET BLUE CABLES
⊕×	QUADRUPLEX RECEPTACLE "X" INDICATES RECEPTACLE TYPE	lacksquare	4-DROP COMMUNICATION OUTLET BLUE CABLES
⊕ X	GFCI QUADRUPLEX RECEPTACLE "X" INDICATES RECEPTACLE TYPE	TV	TELEVISION OUTLET (WALL MOUNTED) PROVIDE 3 DATA DROP, 1 HDMI, AND 1 A/V.
Фх	JUNCTION BOX (WALL MOUNTED) "X" INDICATES JUNCTION BOX TYPE	WF	Wi-Fi ACCESS POINT (CEILING MOUNTED) 2 GREEN DATA CABLES
\$ ^X	CONTROL SWITCH, "X" INDICATES SWITCH TYPE	M	METER
	DISCONNECT SWITCH (FUSIBLE OR NON-FUSIBLE)		PANELBOARD - BRANCH, SURFACE MOUNTED
	PANELBOARD - DISTRIBUTION, SURFACE MOUNTED		PANELBOARD - BRANCH, FLUSH MOUNTED
	PANELBOARD - DISTRIBUTION, FLUSH MOUNTED	\boxtimes	TRANSFORMER

	SYSTEMS SYMB	OL LE	GEND
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
SD	SMOKE DETECTOR (CEILING MOUNTED)		FIRE ALARM STROBE NOTIFICATION APPLIANCE (CEILING MOUNTED)
X	CONTROL PANEL, "X" INDICATES TYPE	Œ	FIRE ALARM HORN/STROBE NOTIFICATION APPLIANCE (CEILING MOUNTED)
C	SECURITY CAMERA (WALL MOUNTED) 1 YELLOW DATA CABLE		
El	ECTRICAL ABBREVIATIONS	V	VIRE SIZING CHART

DISTANCE, 120V

WIRE SIZING CHART

20 AMP BRANCH CIRCUITS

MINIMUM WIRE SIZE

1			
AFF	ABOVE FINISHED FLOOR	0 - 90 FEET	#12 AWG
AFG	ABOVE FINISHED GRADE	90 - 230 FEET	#10 AWG
BFC	BELOW FINISHED CEILING	90 - 230 FEET	#10 AVVG
BFG	BELOW FINISHED GRADE	230 - 446 FEET	#8 AWG
BOD	BOTTOM OF DEVICE	DISTANCE, 277V	MINIMUM WIRE SIZE
cd	CANDELA		#40 ANNO
CLG	CEILING	0 - 209 FEET	#12 AWG
EF	EXHAUST FAN	209 - 533 FEET	#10 AWG
FACP	FIRE ALARM CONTROL PANEL	533 - 1033 FEET	#8 AWG
GFCI	GROUND-FAULT CIRCUIT-INTERRUPTING	10001221	1,107,1110
GFI	GROUND-FAULT INTERRUPTING	LINE	LEGEND
J-BOX	JUNCTION BOX		
KW	KILOWATTS	SYMBOL	DESCRIPTION
LCS	LIGHTING CONTROL SYSTEM		EXISTING TO REMAIN
NEC	NATIONAL ELECTRICAL CODE		
NFDS	NON-FUSED DISCONNECT SWITCH		NEW CONSTRUCTION
UNO	UNLESS NOTED OTHERWISE		
W/	WITH		DEMOLISH
WH	WATER HEATER		
XFMR	TRANSFORMER		
LIGHT SWITCH	DESCRIPTION		
3	THREE WAY		
4	FOUR WAY		
D	DIMMER		
LV	LOW VOLTAGE (CONNECT TO LCS)		
OD	COMBINATION OCCUPANCY SENSOR / DIMMER		
	0.0011041101/0511000	I	

DESCRIPTION

EXISTING

ABOVE FINISHED CEILING

OCCUPANCY SENSOR

GARBAGE DISPOSAL

AUTOMATIC FAUCET

AUTOMATIC FLUSH

EXHAUST FAN

MICROWAVE

REFRIGERATOR

MOUNT ABOVE COUNTER

FIRE ALARM CONTROL PANEL

LIGHTING CONTROL PANEL

DESCRIPTION

DESCRIPTION

DESCRIPTION

VACANCY SENSOR

VS

RECEPTACLE

GD

CONTROL

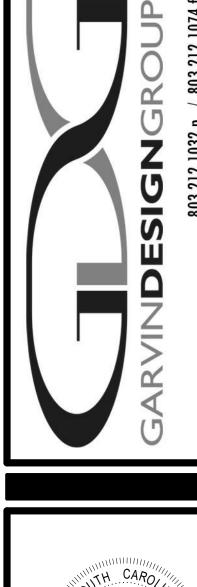
PANELS FACP

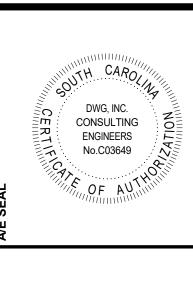
LCP

JUNCTION

BOX/SWITCH

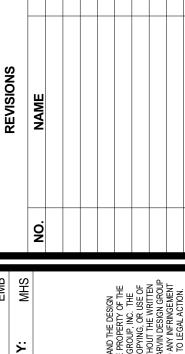
MS	MOTORIZ	ED SHADE	
		ODES AND STANDARD CAROLINA MODIFICAT	
CODE		DESCRIPTION	
IBC (202	21)	INTERNATIONAL BUILDING CODE	
IECC (20	09)	INTERNATIONAL ENERGY CONSE	RVATION CODE
IFC (202	21)	INTERNATIONAL FIRE CODE	
NFPA 70 (2	2020)	NATIONAL ELECTRICAL CODE	
NFPA 72 (2	2019)	NATIONAL FIRE ALARM AND SIGN	IALING CODE







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CONSULTING ENGINEERS

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			LIGHT FIXTURE SC	HEDU	LE					
	FIX	TURE SPECIFICATIONS			LAMPING	1	ELEC	TRICAL		
				LAMP	TOTAL	COLOR	LOAD			
TYPE	FIXTURE DESCRIPTION	MANUFACTURER	CAT.#	TYPE	LUMENS	TEMP.	(VA)	VOLTS	FIXTURE MOUNTING	NOTES
A2	2'x2' TROFFER	LITHONIA	2VTL2-40L-ADP-EZ1-LP835	LED	4,000	3500 K	33	120 V	GRID	
C8	8' DIRECT/INDIRECT GOLD METALLIC RING LIGHT	LIGHTING ELEMENTS	RNGP2P08-LPF055-LPG275-CR80-CTA35-CTB35-UDO-V 1-DA01-DB00-SS2-FA25-CF25-APOO-CS1	LED	13,000	3500 K	184	120 V	PENDANT MOUNTED 12' 6" AFF	
C10	10' DIRECT/INDIRECT GOLD METALLIC RING LIGHT	LIGHTING ELEMENTS	RNGP2P09-LPF110-LPG005-CR80-CTA35-CTB35-UDO-V 1-DA01-DB00-SS2-FA25-CF25-APOO-E1-CS1	LED	32,000	3500 K	454	120 V	PENDANT MOUNTED 21' 4" AFF	
D1	4" DOWNLIGHT	LITHONIA	LDN4-35-15-LO4-AR-LSS-MVOLT-EZ10	LED	1,512	3500 K	18	120 V	CEILING/GRID	
D1E	4" DOWNLIGHT WITH BATTERY BACKUP	LITHONIA	LDN4-35-15-LO4-AR-LSS-MVOLT-EZ10-EL	LED	1,512	3500 K	18	120 V	CEILING/GRID	
EM1	EM BATTERY LIGHT FIXTURE	LITHONIA	ELM4L	LED	-	-	3	120 V	WALL AT 8'	
M1	UP COVE LIGHTING	LUMENWERX	ALC-APO-LED-80-950-35-5-UNV-D1-1-COVH-W	LED	3800	3500K	30	120 V	SURFACE MOUNTED IN COVE	
Х3	EDGELIT EXIT SIGN	LITHONIA	EDG-1-R-EL	LED	-	_	4	120 V	WALL DIRECTLY OVER DOOR HEADER	

LIGHT FIXTURE SCHEDULE NOTES:

1. COLUMBIA, JUNO, GOTHAM ARE ACCEPTABLE ALTERNATES.

LIGHT FIXTURE PLAN KEY

SHADING INDICATES EMERGENCY FIXTURE SUPPLIED WITH EMERGENCY BATTERY BACKUP.



A1 = UPPERCASE LETTER / NUMBER INDICATE FIXTURE TYPE d = LOWERCASE LETTER INDICATES SWITCH IDENTIFICATION A:2 = DESIGNATES PANEL NAME: CIRCUIT NUMBER

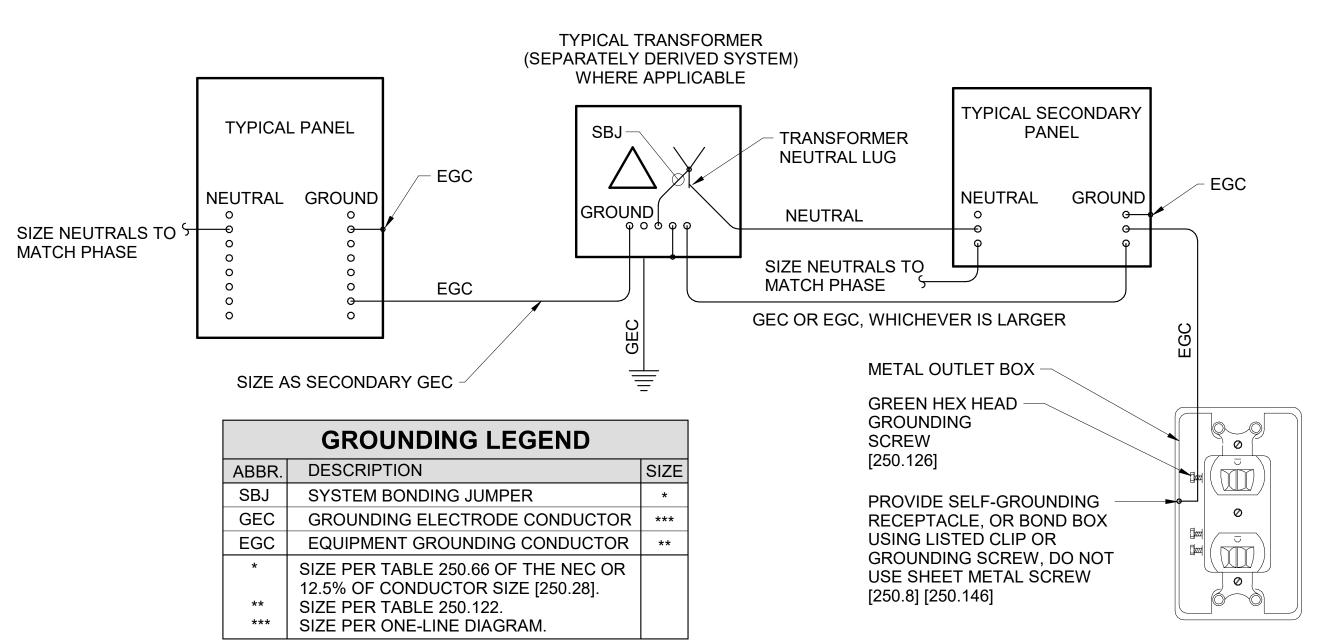
ALL EMERGENCY FIXTURES INDICATED ON PLANCONTAIN EMERGENCY BATTERY BACKUP. ALL EMERGENCY BACKUP FIXTURES REQUIRE AN EXTRA CONSTANT POWER CONDUCTOR TO BE CONNECTED TO THE EMERGENCY BACKUP FOR CHARGING. THIS CONDUCTOR MUST NOT BE CONTROLLED BY ANY LIGHTING SYSTEM OR HAVE POWER INTERRUPTED AT ANY TIME.

CON	IDUIT COI	LOR SCHEDULE
HVAC CONTROLS		SILVER
COMMUNICATION S	SYSTEM	BLACK
FIRE ALARM SYSTI	EM	RED
CABLE	JACKET (COLOR SCHEDULE
DATA/VOIP	CAT 6	BLUE

	PANEL NAME: 2L4 LOCATION: ELE SUPPLY FROM: MOUNTING: SUF	CTRICAL 22	21	ENC	VOLTS: 120/208 W PHASES: 3 WIRES: 4 CLOSURE: TYPE 1	/ye	ľ	MAINS	RATING: RATING: 150 A IS TYPE: MAIN CIRCUIT BREAKER	
KT O.	CIRCUIT DESIGNATION	TRIP	POLES	Α	В	С	POLES	TRIP	CIRCUIT DESIGNATION	CKT NO.
1	(E) REC RM 216 DOOR HLDR	20 A	1	0 VA / 1900 VA			1	20 A	KITCH- HOT FOOD HOLDING CABINET	2 🕶
3	(E) LTS RM 216	20 A	1		0 VA / 1900 VA		1	20 A	KITCH- HOT FOOD HOLDING CABINET	4 🕶
;	CONF RM RECEPTACLES	20 A	1			360 VA / 180 VA	1	20 A	IT RACKING	6
'	(E) KITCHEN DISPOSAL	20 A	1	0 VA / 0 VA			1	20 A	(E) RECS RM 221	8
	(E) KITCHEN RECEPTACLE	20 A	1		0 VA / 360 VA		1	20 A	CONF RM RECEPTACLES	10-
1	(E) KITCHEN RECEPTACLE	20 A	1			0 VA / 0 VA	1	20 A	(E) KITCHEN RECEPTACLE 220	12
3	(E) KITCHEN RECEPTACLE	20 A	1	0 VA / 0 VA			1	20 A	(E) KITCHEN RECEPTACLE 220	14
5	(E) RECS RM 212	20 A	1		0 VA / 0 VA		1	20 A	(E) KITCHEN RECEPTACLE 220	16
7	(E) \\\\TD E \\ TE D	20. 4	0			0 VA / 0 VA	1	20 A	(E) KITCHEN RECEPTACLE 220	18
9	(E) WTR HEATER	20 A	2	0 VA / 1260 VA			1	20 A	CONF RM RECEPTACLES	20-
1					0 VA / 0 VA		1	20 A	(E) KITCHEN EXHAUST	22
3	(E) DIMMING CONTACTOR	50 A	3			0 VA / 0 VA	0	50 A	(E) DANCE	24
5				0 VA / 0 VA			2	50 A	(E) RANGE	26
7					0 VA / 700 VA		1	20 A	MOTORIZED SHADES IN CONF RM	28~
9	(E) DIMMING CONTACTOR	50 A	3			0 VA / 0 VA	1		(E) PREPARED SPACE	30
1				0 VA / 0 VA			1		(E) PREPARED SPACE	32
3	(E) PREPARED SPACE		1		0 VA / 0 VA		1		(E) PREPARED SPACE	34
5	(E) PREPARED SPACE		1			0 VA / 0 VA	1		(E) PREPARED SPACE	36
1	ТО	TAL PHASE	LOAD:	3160 VA	2960	540				
	TOTAL	PHASE CU	RRENT:	29 A	28 A	5 A				
					PANEL TOTALS		<u> </u>			

PANEL SCHEDULE NOTES:

- PROVIDE NEW GE 20A-1P GFCI BREAKER.
- 2. PROVIDE NEW GE 20A-1P BREAKER.
- 3. UTILIZE EXISTING BREAKER.



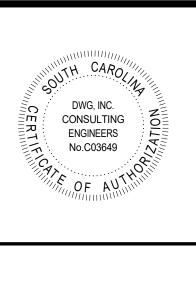
GROUNDING NOTES:

- NUMBERS IN BRACKETS REFER TO SPECIFIC SECTIONS OF THE NATIONAL ELECTRICAL CODE.
- 2. ALL UNDERGROUND OR OTHERWISE INACCESSIBLE GROUND CONNECTIONS AND SPLICES SHALL BE EXOTHERMICALLY WELDED
- GROUND ELECTRODE FOR SEPARATELY DERIVED SYSTEMS SHALL BE THE NEAREST METAL WATER PIPE OR STRUCTURAL METAL. IF EITHER IS NOT AVAILABLE, PROVIDE GROUNDING CONDUCTOR BACK TO MAIN GROUND BUS AT SERVICE ENTRANCE.
- PROVIDE A GROUND WIRE IN ALL CONDUITS.
- EARTH SHALL NOT BE USED AS THE SOLE GROUND RETURN PATH FOR ANY EQUIPMENT POWERED UNDER THIS PROJECT. OTHERWISE OVERCURRENT PROTECTION MIGHT NOT WORK, OR IT MIGHT CAUSE POWER QUALITY PROBLEMS.
- NO ALUMINUM SHALL BE USED FOR GROUNDING WORK WITHOUT THE SPECIFIC WRITTEN PERMISSION OF THE ENGINEER. EXCEPTION: ALUMINUM BUILDING STRUCTURAL MATERIALS SHALL BE BONDED WITH LISTED ALUMINUM EQUIPMENT WITH
- ALUMINUM TO COPPER CONNECTORS FOR ROUTING COPPER EGC'S. ALL METAL ENCLOSURES AND RACEWAYS SHALL BE BONDED TO GROUND [250.86]. FOR CIRCUITS OVER 250V PROVIDE BOND PER
- [250.97], STANDARD LOCKNUTS ARE NOT ACCEPTABLE. PROVIDE EGC CONNECTED TO ANY JUNCTION BOX WHERE SPLICE IS MADE [250.148].

PROVIDE BOND TO EXPOSED METAL ON ALL MOTORS, PUMPS, AND LIGHTING FIXTURES PER [250.112].

GROUNDING DETAIL E010 NOT TO SCALE

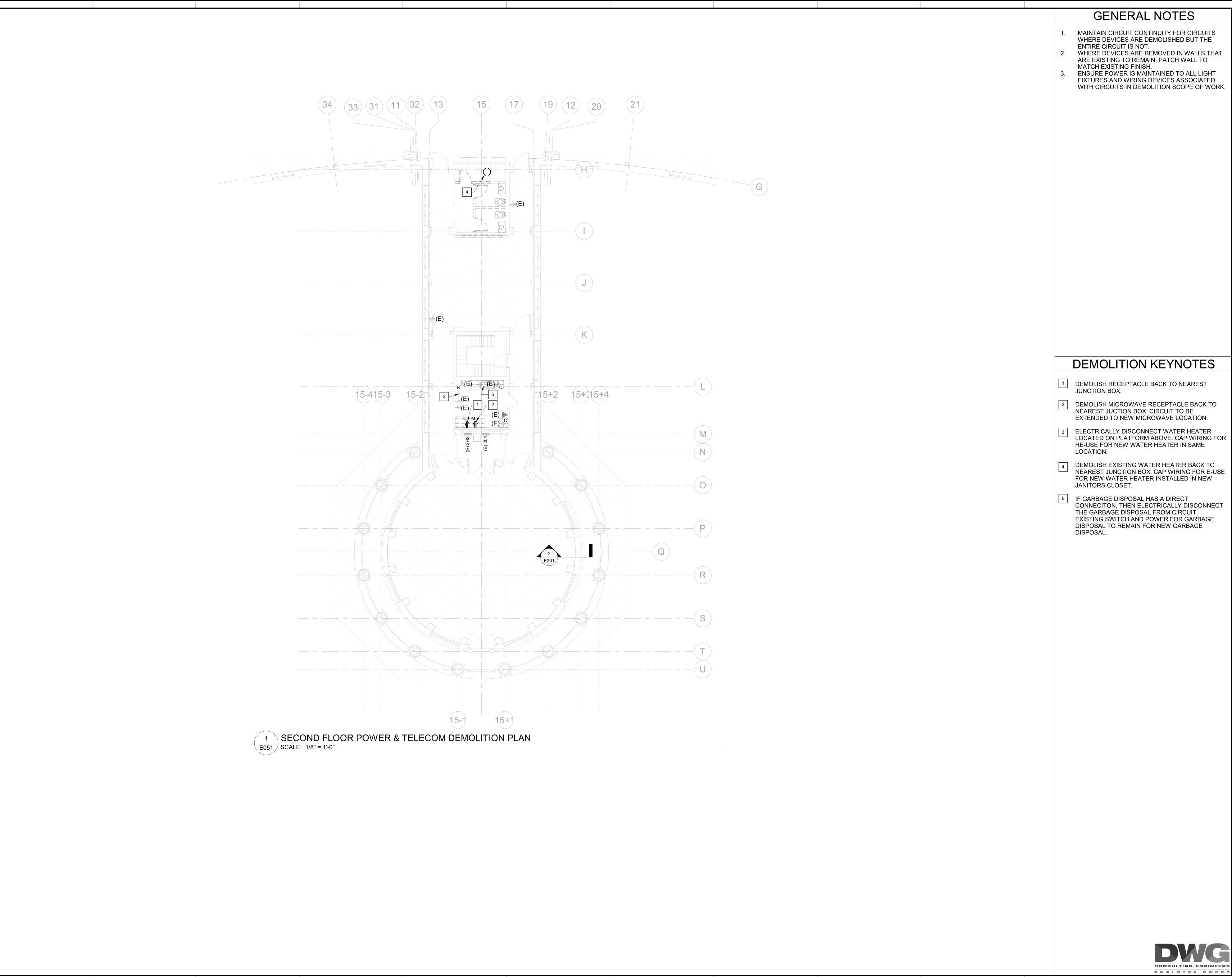






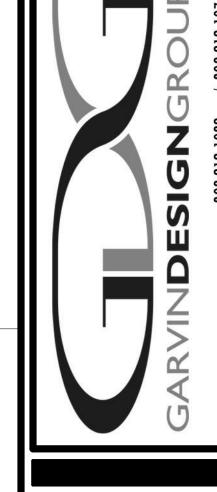
WALL BUILDING CONFI CENTER RENOVATION

CONSULTING ENGINEERS





- MAINTAIN CIRCUIT CONTINUITY FOR CIRCUITS WHERE DEVICES ARE DEMOLISHED BUT THE ENTIRE CIRCUIT IS NOT.
- 2. WHERE DEVICES ARE REMOVED IN WALLS THAT ARE EXISTING TO REMAIN, PATCH WALL TO
- ENSURE POWER IS MAINTAINED TO ALL LIGHT FIXTURES AND WIRING DEVICES ASSOCIATED WITH CIRCUITS IN DEMOLITION SCOPE OF WORK



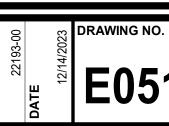


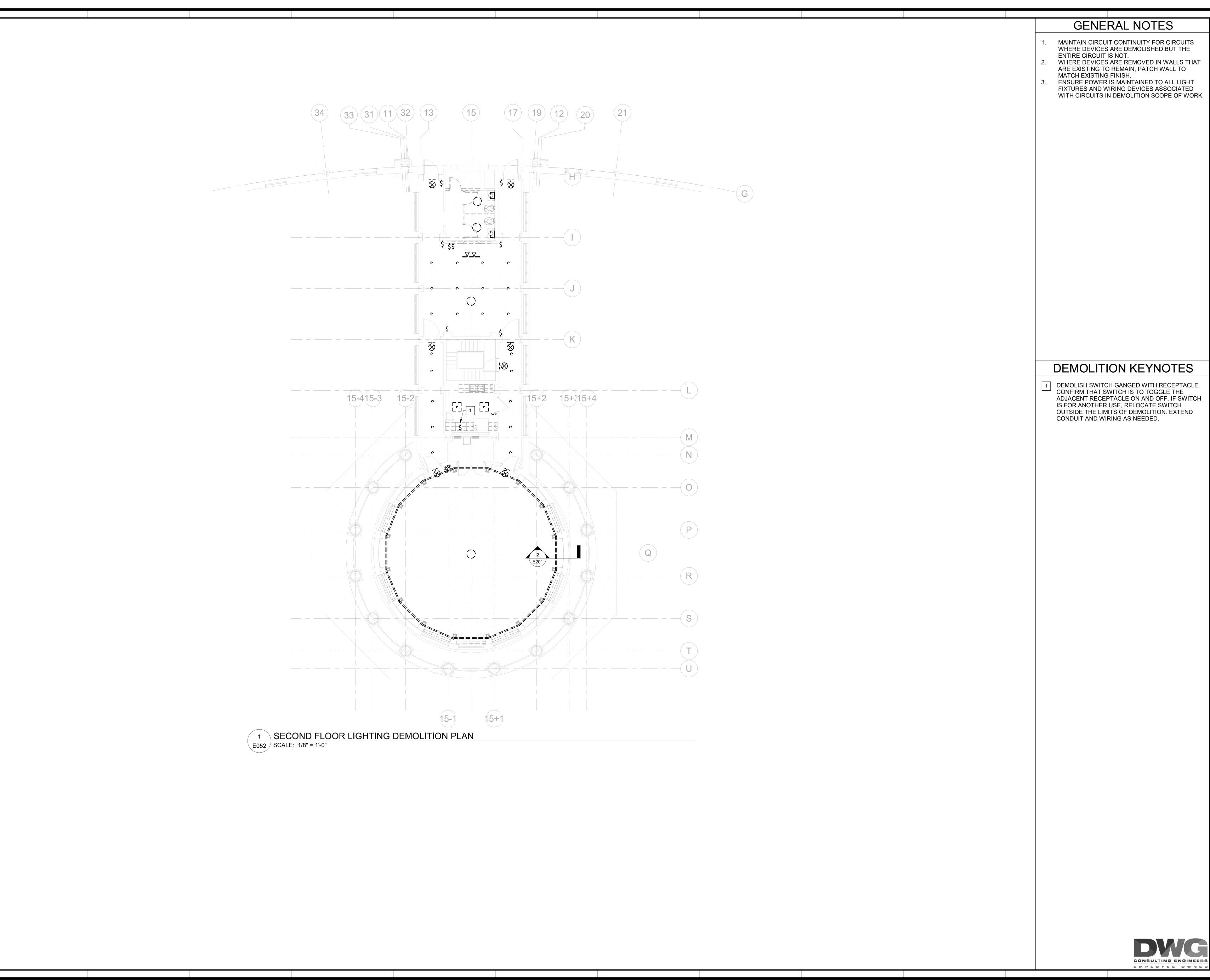


DEMOLITION KEYNOTES

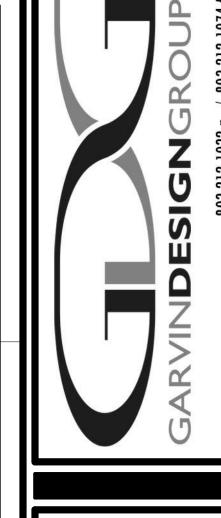
- 1 DEMOLISH RECEPTACLE BACK TO NEAREST
- DEMOLISH MICROWAVE RECEPTACLE BACK TO NEAREST JUCTION BOX. CIRCUIT TO BE EXTENDED TO NEW MICROWAVE LOCATION.
- ELECTRICALLY DISCONNECT WATER HEATER LOCATED ON PLATFORM ABOVE. CAP WIRING FOR RE-USE FOR NEW WATER HEATER IN SAME
- DEMOLISH EXISTING WATER HEATER BACK TO NEAREST JUNCTION BOX. CAP WIRING FOR E-USE FOR NEW WATER HEATER INSTALLED IN NEW JANITORS CLOSET.
- IF GARBAGE DISPOSAL HAS A DIRECT CONNECTON, THEN ELECTRICALLY DISCONNECT EXISTING SWITCH AND POWER FOR GARBAGE DISPOSAL TO REMAIN FOR NEW GARBAGE DISPOSAL.

SECOND FLOOR POWER &
TELECOM DEMOLITION PLAN





- MAINTAIN CIRCUIT CONTINUITY FOR CIRCUITS WHERE DEVICES ARE DEMOLISHED BUT THE ENTIRE CIRCUIT IS NOT.
- 2. WHERE DEVICES ARE REMOVED IN WALLS THAT ARE EXISTING TO REMAIN, PATCH WALL TO
- 3. ENSURE POWER IS MAINTAINED TO ALL LIGHT FIXTURES AND WIRING DEVICES ASSOCIATED WITH CIRCUITS IN DEMOLITION SCOPE OF WORK.





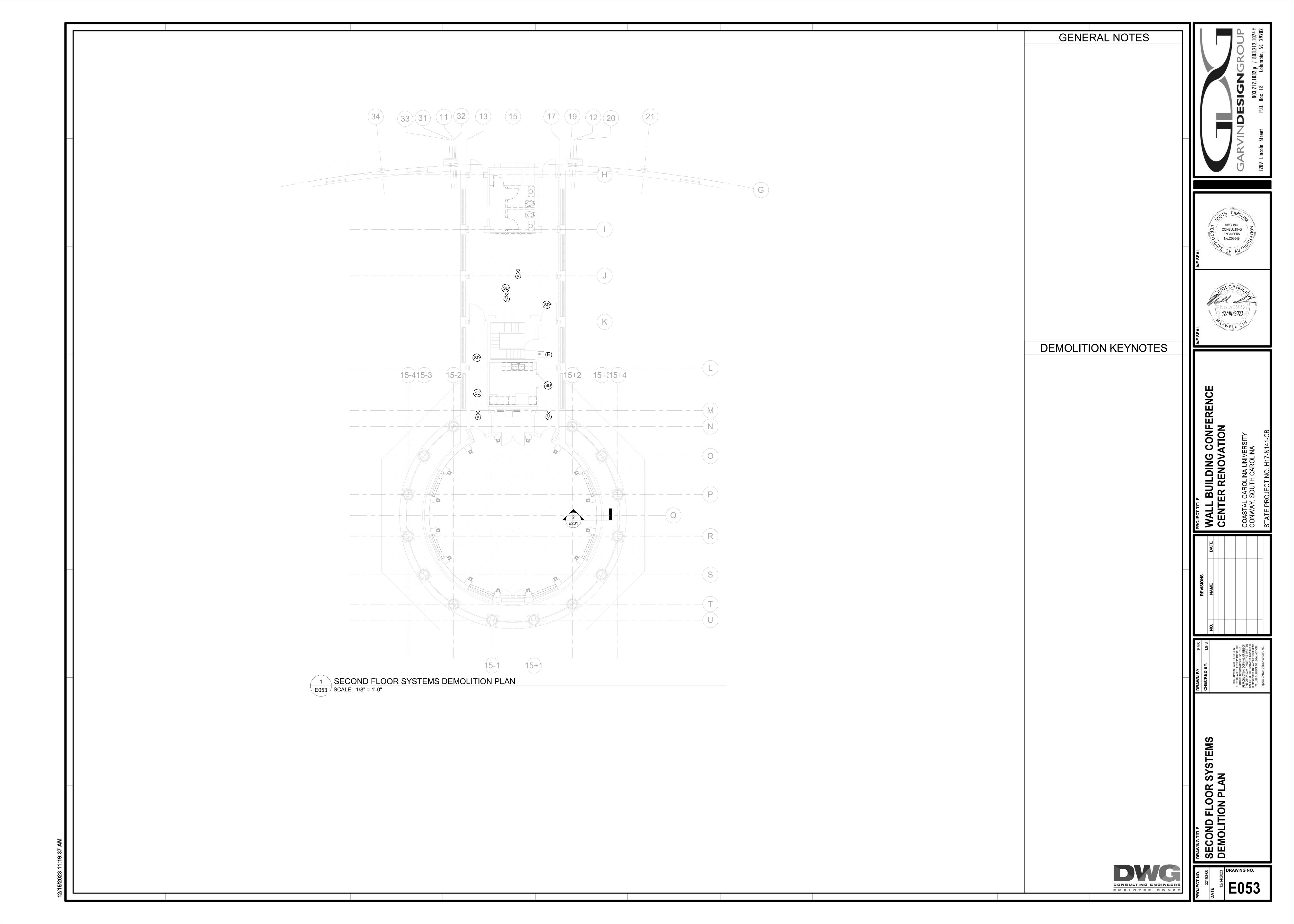


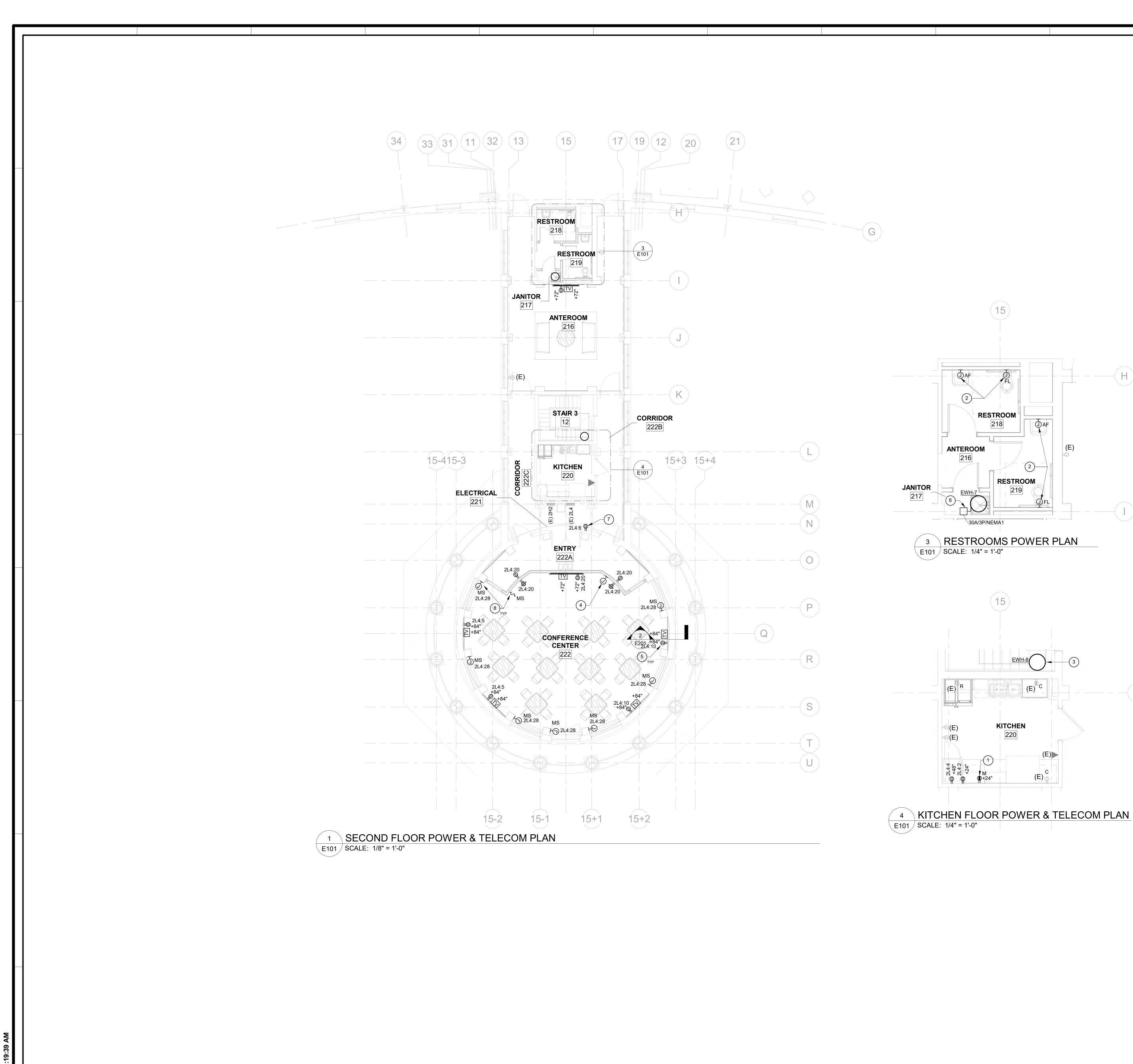
DEMOLITION KEYNOTES

1 DEMOLISH SWITCH GANGED WITH RECEPTACLE. CONFIRM THAT SWITCH IS TO TOGGLE THE ADJACENT RECEPTACLE ON AND OFF. IF SWITCH IS FOR ANOTHER USE, RELOCATE SWITCH OUTSIDE THE LIMITS OF DEMOLITION. EXTEND CONDUIT AND WIRING AS NEEDED.

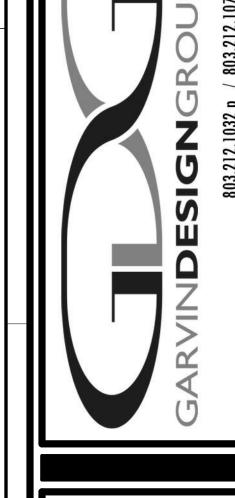
SECOND FLOOR LIGHTING
DEMOLITION PLAN

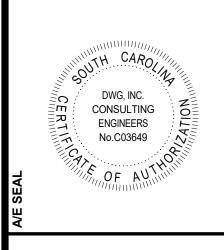






LOW VOLTAGE INSTALLATION WILL BE PROVIDED BY OTHERS AND HAS BEEN INCLUDED ON DRAWINGS FOR REFERENCE AND COORDINATION PURPOSES. BOXES, CONDUIT AND RECEPTACLES FOR IT EQUIPMENT SHALL BE THE RESPONSIBILIT OF THIS CONTRACTOR. COORDINATE ALL FINAL ROUGH-IN LOCATIONS AND REQURIEMENTS WITH LOW VOLTAGE CONSULTANT.







RENOVATION KEYNOTES

- 1 LOCATE MICROWAVE RECEPTACLE WITHIN CABINET SO THAT IT IS READILY ACCESSIBLE. FISH MICROWAVE PLUG AND CORD THROUGH TO CABINET AREA. COORDINATE EXACT RECEPTACLE LOCATION WITH MILLWORK DRAWINGS.

- PROVIDE 12"X12" MEDIA BOX FOR PRESENTER CONNECTION AND ENDPOINT CONNECITON FOR EVERY TV IN THE SPACE. COORDINATE WITH OWNER THE FINAL LOCATION OF THE PRESENTER CONNECTION POINT, AND
- 5) FOR ALL EXISTING WALL TV MOUNTING, RE-USE EXISTING BLOCKING FOR MOUNTING AND TIE TV CIRCUIT TO NEAREST RECEPTACLE IN THE
 - HEATER. PROVIDE NEW DISCONENCT. EXTEND WIRING PERVIOUSLY SERVING THE DEMOLISHED WATER HEATER WITH 2 # 10 & 1 # 10 GROUND IN A 3/4" CONDUIT.
- DUPLEX IS FOR A/V EQUIPMENT. COORDINATE WITH A/V VENDOR.
- 8 PROVIDE FINAL CONNECITON TO MOTORIZED SHADE. PROVIDE SINGLE ROCKER SWITCH TO MANUALLY CONTROL THE SHADES. MOUNT CONNECITON POINT OUT OF SIGHT AT 14' AFF. COORDINATE EXACT LOCATION WITH SHADE INSTALLER.

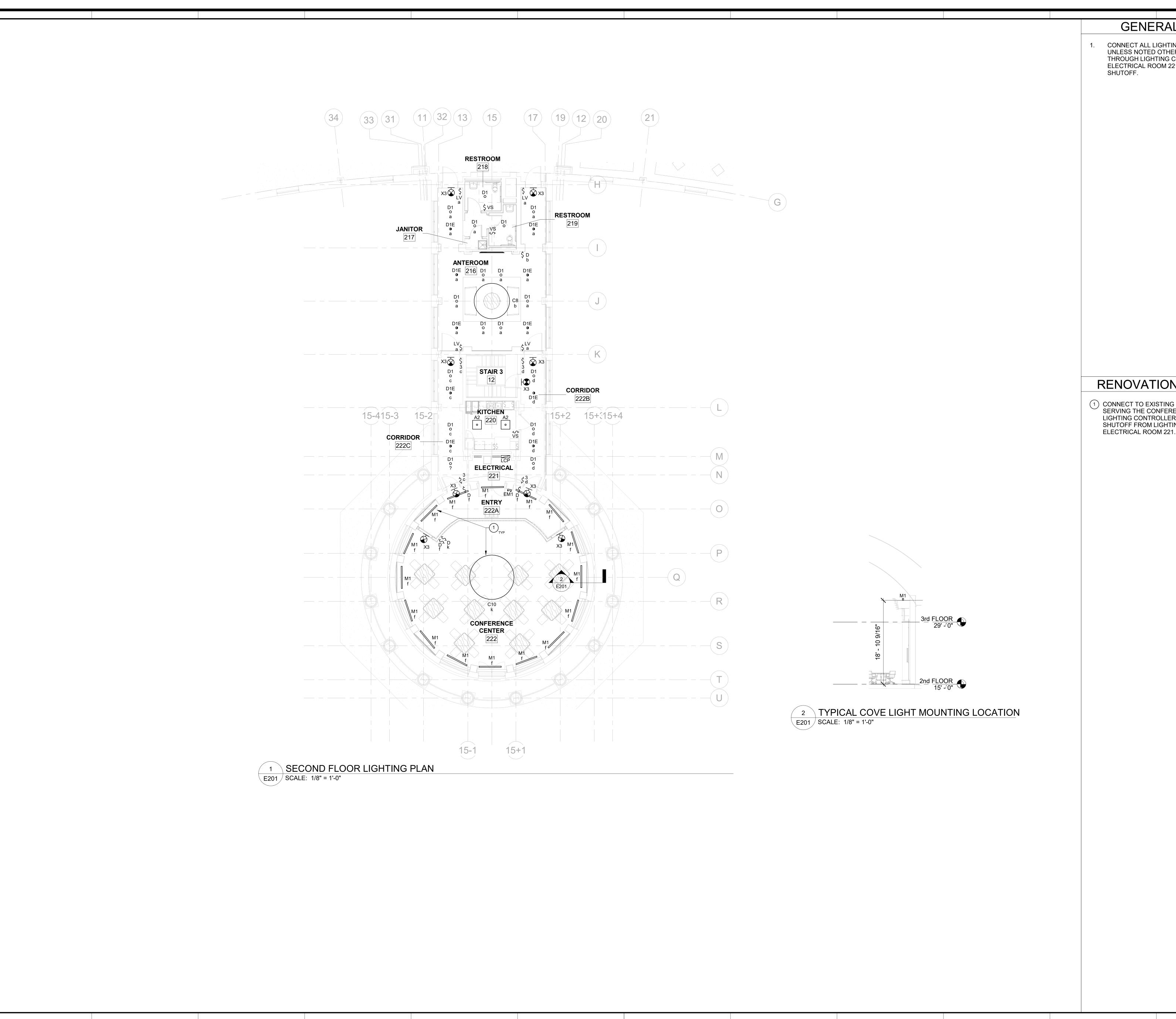
ANTEROOM

RESTROOM

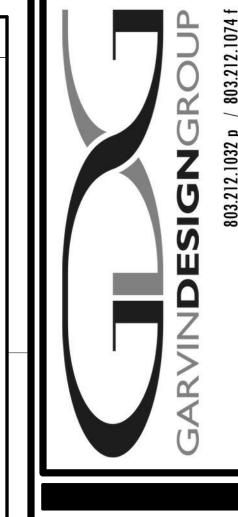
KITCHEN

220

- 2 PROVIDE 120/24V VAC TRANSFORMER FOR AUTOMATIC TOILETS & FAUCETS. LOCATE IN ACCESSIBLE LOCATION. WIRE TO AUTOMATIC TOILETS AND FAUCETS.
- PROVIDE FINAL CONNECTION TO NEW WATER HEATER. UTILIZE EXISTING DISCONNECT AND CIRCUIT SERVING THE DEMOLISHED WATER HEATER IN THE SAME LOCATION.
- COORDINATE REQUIREMENTS WITH DATA&VIDEO CONSULTANT.
- VACINITY. DEMOLISH AS LITTLE AS POSSIBLE FOR CONDUIT ROUTING. 6 PROVIDE FINAL CONNECTION TO NEW WATER



CONNECT ALL LIGHTING TO CIRCUIT 2H2-1 UNLESS NOTED OTHERWISE. ROUTE CIRCUIT THROUGH LIGHTING CONRTOL PANEL IN ELECTRICAL ROOM 221 FOR AUTOMATIC SHUTOFF.







RENOVATION KEYNOTES

1 CONNECT TO EXISTING LIGHTING CIRCUIT SERVING THE CONFERENCE ROOM. EXISTING LIGHTING CONTROLLER HAS AUTOMATIC SHUTOFF FROM LIGHTING CONTROL PANEL IN

