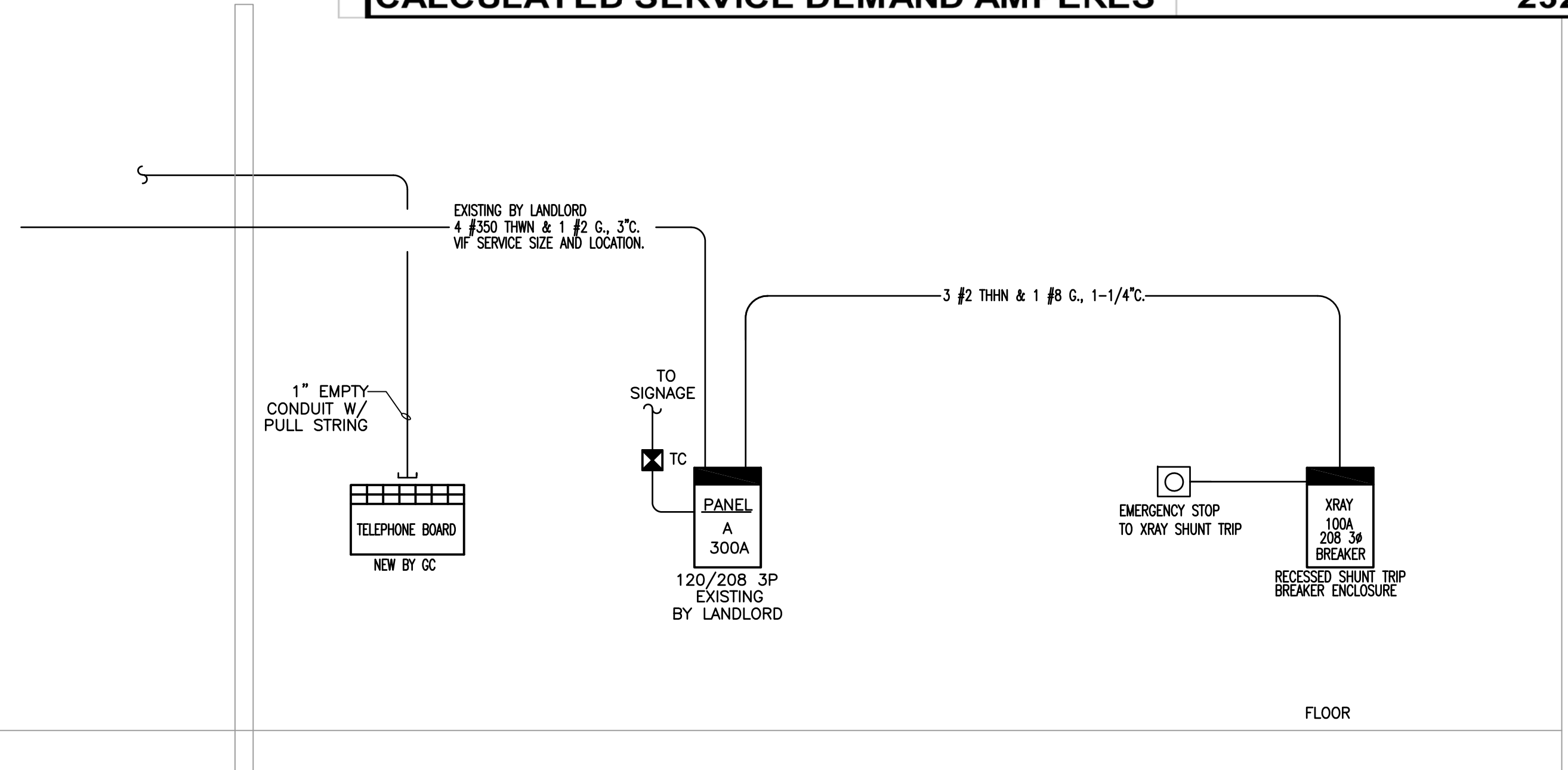


# GENERAL NOTES

- ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE LOCAL AND STATE CODES.
- ALL MATERIAL, EQUIPMENT AND APPLIANCES SHALL BE NEW AND SHALL CONFORM TO THE STANDARDS OF THE UNDERWRITER'S LABORATORIES, INC. AND THE NATIONAL MANUFACTURER'S ASSOCIATION.
- ALL ELECTRICAL PERMITS AND INSPECTION FEES SHALL BE OBTAINED AND PAID FOR BY THE ELECTRICAL CONTRACTOR.
- ELECTRICAL CONTRACT DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF ELECTRICAL EQUIPMENT. DO NOT SCALE ELECTRICAL PLANS. OBTAIN ALL DIMENSIONS FROM THE ARCHITECT'S DIMENSIONED DRAWINGS AND FIELD MEASUREMENTS. THE CONTRACTOR SHALL REVIEW ARCHITECTURAL PLANS FOR DOOR SWINGS AND BUILT-IN EQUIPMENT; CONDITIONS INDICATED ON THOSE PLANS SHALL GOVERN FOR THIS WORK.
- VERIFY ALL REQUIREMENTS AND COORDINATE EXACT LOCATION OF ELECTRICAL SERVICE WITH LOCAL POWER COMPANY PRIOR TO PROJECT START. NOTIFY ENGINEER OF ANY CHANGES.
- ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR ONE YEAR EFFECTIVE FROM DATE THE DATE OF SUBSTANTIAL COMPLETION.
- A COMPLETE GROUNDING SYSTEM SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH ARTICLE 250 OF THE NEC, AND AS SHOWN ON THE DRAWINGS.
- ALL CUTTING PATCHING REQUIRED FOR INSTALLATION OF ELECTRICAL EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. DO NOT CUT ANY MATERIAL THAT WILL WEAKEN THE STRUCTURE WITHOUT WRITTEN PERMISSION OF THE ARCHITECT. PATCHING SHALL BE ACCOMPLISHED TO MATCH ADJACENT SURFACES IN EVERY RESPECT. ENGAGE ORIGINAL INSTALLER FOR CUTTING/PATCHING OF ROOFS.
- PROVIDE A TYPED DIRECTORY IN ALL PANELBOARDS CLEARLY DESCRIBING THE LOCATION AND TYPE OF LOAD SERVED FOR ALL CIRCUITS.
- PROVIDE ENGRAVED PHENOLIC NAMEPLATES FOR ALL PANELBOARDS AND DISCONNECT SWITCHES, WHITE LETTERS ON BLACK BACKGROUND. NAMEPLATE SHALL CONTAIN EQUIPMENT DESIGNATION, VOLTAGE, FEEDER SOURCE & DATE.
- PROVIDE "FLASH HAZARD" LABELS FOR ALL PANELBOARDS IN ACCORDANCE WITH NEC REQUIREMENTS.
- ALL TERMINALS/LUGS SHALL BE 60 DEGREES/75 DEGREE RATED.
- FUSES 0-600 AMPS SHALL BE UL CLASS "RK-5" LOW PEAK DUAL ELEMENTS TIME DELAY WITH 200,000 AMPERE INTERRUPTING RATING AS MANUFACTURED BY BUSSMAN UNLESS NOTED OTHERWISE.
- ALL WATER HEATERS SHALL HAVE DISCONNECT SIZED PER 422.22(E)(3).
- ELECTRICAL CONTRACTOR SHALL MAKE ALL FINAL ELECTRICAL CONNECTIONS TO EQUIPMENT REGARDLESS OF WHO SUPPLIES THE EQUIPMENT. THIS INCLUDES ALL HVAC, PLUMBING AND OWNER FURNISHED EQUIPMENT CONNECTIONS OF 120V OR HIGHER.
- RACEWAYS SHALL BE INSTALLED CONCEALED IN NEW WALL CONSTRUCTION, ABOVE CEILINGS, BELOW FLOOR AND IN OTHER CAVITIES TO THE GREATEST EXTENT POSSIBLE. WHERE EXPOSED RACEWAYS MUST BE USED, LAYOUT RACEWAYS TO MINIMIZE THE NUMBER OF VERTICAL RUNS.
- ALL EXPOSED RACEWAYS SHALL BE RUN PARALLEL TO THE BUILDING SURFACES AND SHALL BE PAINTED AS DIRECTED BY THE ARCHITECT. NO EXPOSED CONDUIT SHALL BE ALLOWED IN FINISHED SPACES EXCEPT AS PERMITTED BY THE OWNER OR ARCHITECT. EXPOSED RACEWAY IN FINISHED SPACES SHALL BE WIREMOLD TYPE.
- BEFORE COMMENCING WITH ANY ROUGH-IN, COORDINATE THE EXACT LOCATION AND MOUNTING HEIGHT OF ALL WALL MOUNTED DEVICES WITH THE ARCHITECTURAL INTERIOR ELEVATIONS, CASEWORK, SHOP DRAWINGS, AND EXISTING CONDITIONS. IF ANY DISCREPANCIES ARE DISCOVERED, NOTIFY THE ARCHITECT FOR FURTHER DIRECTION. MINOR ADJUSTMENTS IN DEVICE LOCATION, 5"-0" IN ANY DIRECTION SHALL BE DONE AT NO ADDITIONAL COST TO THE CONTRACT.
- ALL WIRING SHALL BE INSTALLED IN IMC, RMC, EMT OR TYPE AC FLEXIBLE CABLE. RMC CONDUIT (PVC) SHALL ONLY BE USED UNDERGROUND AND OUTDOORS, WHERE NOT SUBJECT TO PHYSICAL DAMAGE. MINIMUM SIZE CONDUIT SHALL BE 1/2". AC FLEXIBLE CABLE SHALL BE USED ONLY IN AREAS PERMITTED BY CODE.
- ALL FLEX SHALL BE LIQUID TIGHT FLEXIBLE METAL.
- PROVIDE A PULL WIRE OR FISH TAPE IN ALL EMPTY CONDUITS. PROVIDE A BLANK COVER PLATE OVER ALL UNUSED BOXES INCLUDING DATA/COMM BOXES.
- WHERE A SINGLE HOMERUN IS SHOWN THE CIRCUIT SHALL BE INSTALLED IN A DEDICATED CONDUIT, DO NOT COMBINE WITH OTHER CIRCUITS. WHERE A CIRCUIT HOMERUN IS NOT SHOWN THE CONTRACTOR SHALL COMBINE CIRCUITS, WHERE A CIRCUIT HOMERUN IS NOT SHOWN THE CONTRACTOR SHALL COMBINE CIRCUITS AS FOLLOWS AND IN ACCORDANCE WITH THE NEC. A MAXIMUM OF THREE 20A, 1POLE BRANCH CIRCUITS MAY BE COMBINED IN A COMMON HOMERUN SHARING A COMMON NEUTRAL OR WITH SEPARATE NEUTRALS, FOR A TOTAL OF SIX CURRENT CARRYING CONDUCTORS. ALL BRANCH CIRCUITS LARGER THAN 20A, SHALL BE SEPARATE HOMERUN TO PANEL.
- CONDUCTORS SHALL BE COPPER, RATED AT NO LESS THE 600 VOLTS. MINIMUM SIZE SHALL BE NO. 12 AWG UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL WIRE #8 AWG AND LARGER SHALL BE STRANDED, #10 THRU #12 AWG CONDUCTORS SHALL BE SOLID, ALL INSULATION TYPES SHALL BE THWN OR THHN.
- 20A/120V BRANCH CIRCUITS EXCEEDING 100' IN LENGTH FROM PANEL TO FARTHEST DEVICE SHALL USE NO. 10 CONDUCTORS AND 3/4" C.
- FOR EVERY WORKING DEVICE MARK THE BRANCH CIRCUIT TO WHICH IT IS CONNECTED ON THE BACK OF EACH DEVICE PLATE, USING AN INDELIBLE MARKER PEN.
- WHITE DEVICES AND PLATES.
- EXACT LOCATION OF ALL FLOOR-MOUNTED OUTLETS SHALL BE COORDINATED WITH THE ARCHITECT BEFORE ROUGH-IN.
- TWO OR MORE ADJACENT POWER OR COMMUNICATION RECEPTACLES SHALL BE GANGED WITH A COMMON FACE PLATE - IF THEY CAN NOT BE GANGED THEY SHALL BE INSTALLED WITH A MINIMUM DISTANCE BETWEEN UNITS.
- WALL RECEPTACLES SHOWN BACK TO BACK MAY BE OFFSET BUT SHALL BE INSTALLED DIRECTLY ADJACENT TO ONE ANOTHER.
- LIGHT SWITCHES SHALL BE NO MORE THAN 6" FROM EDGE OF DOOR FRAME.
- WHERE PENETRATIONS ARE MADE THROUGH A REQUIRED FIRE-RESISTIVE WALL, OR PARTITION FOR THE PURPOSE OF RUNNING RACEWAY CARRYING ELECTRICAL, TELEPHONE, TELEVISION, OR LOCAL COMMUNICATION AND/OR SIGNALING CIRCUITS, THE OPENING AROUND THE RACEWAY SHALL BE FIRE STOPPED PER THE STATE BUILDING CODE. COORDINATION WITH THE GENERAL CONTRACTOR SHALL BE MAINTAINED TO INSURE THAT THIS FIRE STOPPING IS ACCOMPLISHED. USE APPROVED ASSEMBLIES SUCH AS THE FOLLOWING:
  - CONDUIT PENETRATIONS OF 1,2,3, & 4 HOUR GYP BOARD WALLS - U.L.#W1001
  - CONDUIT PENETRATIONS OF 2,3, & 4 HOUR CONCRETE OR BLOCK WALLS - U.L.#CAJ1001
  - CONDUIT PENETRATIONS OD 2,3,& 4 HOUR CONCRETE FLOORS - U.L.#CAJ1001
  - CONDUIT PENETRATIONS OF 1 HOUR GYP BOARD CEILING ASSEMBLY L526
  - MULTI CONDUIT PENETRATIONS OF 2,3,& 4 HOUR CONCRETE OR BLOCK WALL OR FLOOR - CAJ1042
- IN REQUIRED FIRE RATED WALLS AND PARTITIONS, OPENINGS FOR INSTALLATION OF OF BOXES THAT ARE GREATER THAN 16 SQUARE INCHES SHALL BE PROTECTED AS REQUIRED BY U.L. COORDINATE CLOSELY WITH THE GENERAL CONTRACTOR TO INSURE THAT THE INTEGRITY OF THE U.L. RATING IS MAINTAINED.
- OUTLET BOXES FOR DEVICES MOUNTED ON OPPOSITE SIDES OF FIRE RATED PARTITIONS SHALL NOT BE MOUNTED IN THE SAME WALL CAVITY. SEPARATED WALL PENETRATIONS BY MOUNTING ON OPPOSITE SIDES OF WALL STUDS OR OTHER VERTICAL STRUCTURAL MEMBERS IN THE WALL.
- (SEISMIC REQUIREMENTS) ELECTRICAL EQUIPMENT SHALL MEET THE REQUIREMENTS OF SECTION 1621 OF THE 2002 IBC.
- ELECTRICAL CONTRACTOR SHALL VERIFY THAT ALL AREAS IN WHICH FOOD IS PREPARED, OR IN WHICH UTENSILS ARE WASHED, SHALL BE PROVIDED WITH AT LEAST SOFC OF LIGHT ON FOOD PREPARATION WORK LEVELS AND AT UTENSILS WASHING WORK LEVELS. AT LEAST 10FC OF LIGHT AT 30 INCHES ABOVE THE FLOOR SHALL BE PROVIDED IN ALL OTHER WORK AREAS, INCLUDING STORAGE ROOMS AND WALK-IN UNITS. LIGHT BULBS IN FOOD PREPARATION, STORAGE, AND DISPLAY AREAS SHALL BE SHATTERPROOF OR SHIELDED SO AS TO PROTECT AGAINST BREAKAGE BY A SHIELD SURROUNDING AND EXTENDING BEYOND THE BUILD, LEAVING ONLY THE FACE OF THE BULB EXPOSED.

ELECTRICAL PANEL SCHEDULE A																
NEW FLUSH MOUNTED NEMA 1				300 AMP MAIN BREAKER			120 / 208 / 3Ø / 4WIRE		22,000 AIC (VIF)							
CIRCUIT BREAKER	TYPE	WIRE AND CONDUIT	LOAD SERVED	CIRCUIT NUMBER	LOAD WATTS			CIRCUIT NUMBER	LOAD SERVED	WIRE AND CONDUIT	TYPE	CIRCUIT BREAKER				
					ØA	ØB	ØC									
20A / 1P	TC	2#12 THWN & 1# 12 G, 3/4" C.	EXTERIOR SIGN	1	1200											
20A / 1P		2#12 THWN & 1# 12 G, 3/4" C.	LIGHTING	3	1440	1440		2	LOBBY RECEPTACLES	2#12 THWN & 1# 12 G, 3/4" C.		20A / 1P				
20A / 1P		2#12 THWN & 1# 12 G, 3/4" C.	LIGHTING	5		720	1223	4	RECEPTION RECEPTACLES	2#12 THWN & 1# 12 G, 3/4" C.	IG	20A / 1P				
20A / 1P		2#12 THWN & 1# 12 G, 3/4" C.	LIGHTING	7	1328		900	6	RECEPTION RECEPTACLES	2#12 THWN & 1# 12 G, 3/4" C.	IG	20A / 1P				
20A / 1P	IG	2#12 THWN & 1# 12 G, 3/4" C.	LIGHTING	9	1080	1013		8	TRIAGE RECEPTACLES	2#12 THWN & 1# 12 G, 3/4" C.		20A / 1P				
			SPACE	11		900	0	10	OFFICE RECEPTACLES	2#12 THWN & 1# 12 G, 3/4" C.	IG	20A / 1P				
20A / 1P		2#12 THWN & 1# 12 G, 3/4" C.	WATER PUMP	13	360		1800	12	EXAM RECEPTACLES	2#12 THWN & 1# 12 G, 3/4" C.		20A / 1P				
			SPACE	15	900	0		14	OFFICE RECEPTACLES	2#12 THWN & 1# 12 G, 3/4" C.	IG	20A / 1P				
			SPACE	17		720	0	16	PHONE BOARD	2#12 THWN & 1# 12 G, 3/4" C.		20A / 1P				
			SPACE	19	0		1080	18	CONVENIENCE RECEPTACLES	2#12 THWN & 1# 12 G, 3/4" C.		20A / 1P				
			SPACE	21	540	0		20	LOUNGE RECEPTACLES	2#12 THWN & 1# 12 G, 3/4" C.		20A / 1P				
20A				23		1080	1500	22	MICROWAVE	2#12 THWN & 1# 12 G, 3/4" C.		20A / 1P				
	HACR	4#12 THWN & 1# 12 G, 3/4" C.	WATER HEATER	25	1500		1080	24	COFFEE	2#12 THWN & 1# 12 G, 3/4" C.	LOD IG	20A / 1P				
	3P			27	720	1500		26	NURSES STATION RECEPTACLES	2#12 THWN & 1# 12 G, 3/4" C.		20A / 1P				
30A				29		1800	3468	28	EXAM RECEPTACLES	2#12 THWN & 1# 12 G, 3/4" C.		20A / 1P				
	HACR	4#8 THWN & 1# 8 G, 3/4" C.	RTU-1	31	3468		900	30	XRAY STATION RECEPTACLES	2#12 THWN & 1# 12 G, 3/4" C.		20A / 1P				
	3P			33	360	3468		32	RX RECEPTACLES	2#12 THWN & 1# 12 G, 3/4" C.		20A / 1P				
30A				35		1080	3468	34	LAB RECEPTACLES							
	HACR	4#8 THWN & 1# 8 G, 3/4" C.	RTU-2	37	3468		1080	36	LAB RECEPTACLES	2#12 THWN & 1# 12 G, 3/4" C.		20A / 1P				
	3P			39	9600	3468		38				100A				
20A / 1P		2#12 THWN & 1# 12 G, 3/4" C.	RTU RECEPTACLES	41		9600	360	40	XRAY MACHINE PANEL	4#2 THWN & 1# 8 G, 1-1/4" C.	HACR					
						9600		42				3P				
					<b>TOTALS</b>			<b>25964</b>	<b>26789</b>	<b>26459</b>						
PROVIDE WITH GROUND BUS																
LOD CIRCUIT BREAKER LOCK ON DEVICE											TOTAL CONNECTED LOAD WATTS		79212			
IG ISOLATED GROUND											TOTAL LOAD KVA / AMPS		79.2	220.0		

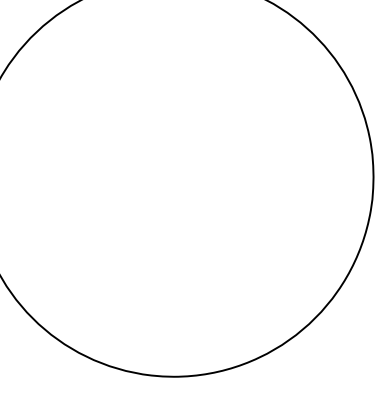
CODE LOAD ANALYSIS PER N.E.C.			
CODE LOAD ANALYSIS PANEL A			
LOAD DESCRIPTION	CONNECTED KVA	DEMAND FACTOR	KVA DEMAND
LIGHTING - EXTERIOR	0	125%	0
LIGHTING - INTERIOR	5004	125%	6255
SIGNAGE	1200	125%	1500
RECEPTACLES	10000	FIRST 10 KW 100%	10000
	8900	REMAINDER @ 50%	4450
KITCHEN EQUIPMENT	0	65%	0
WATER HEATING	4500	125%	5625
HVAC EQUIPMENT	20808	100%	20808
		LGT MOTOR @25%	750
XRAY	28800	125%	36000
<b>TOTALS</b>	<b>79212</b>		<b>83528</b>
<b>CALCULATED SERVICE DEMAND AMPERES</b>			<b>232 amps</b>



ISSUED / REVISIONS:

Phone: (603) 366-2886  
 Fax: (603) 366-5100  
 E-Mail: erf@emrngineers.com  
 Web Address: emrngineers.com  
 PO Box 213 (Melloni)  
 410 HWY 30 W  
 Amherst, VT 04402

CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BID AND REPORT ANY DISCREPANCIES BACK TO OWNER. G.C. SHALL COORDINATE ALL SUB CONTRACTORS AND ENSURE A COMPLETE AND PROFESSIONALLY FINISHED TENANT SPACE.



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CHECKED BY:	Staff
DRAWN BY:	Staff
DATE:	December 30, 2011
SCALE:	PER PLAN
PROJECT No.:	DE12 013 WSMA
SHEET TITLE	

**ELECTRICAL PANELS & ONE LINE DIAGRAM**

SHEET No. **2.03**

BIDDING QUESTIONS CONTACT 603-757-7486