ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	SURFACE MOUNTED PANELBOARD
	BRANCH CIRCUIT POWER WIRING
LP 13 11	BRANCH CIRCUIT HOME RUN (ARROW INDICATES CIRCUIT NUMBER)
	MOTOR
	EMERGENCY BOILER SHUTOFF SWITCH
	FIRE ALARM SPEAKER/STROBE INDICATING UNIT WALL MOUNT U.O.N. 80"AFF

ELECTRICAL ABBREVIATIONS

ABBREVIATIONS	DESCRIPTION
A	AMPERES
AC	ALTERNATING CURRENT (60 HZ)
A/C	AIR CONDITIONER
ADA	AMERICANS WITH DISABILITIES ACT
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BF	BALLAST FACTOR
BR	BRANCH
C	CONDUIT
CB	CIRCUIT BREAKER
CIR	CIRCUIT
CT	CURRENT TRANSFORMER
CU	COPPER
D	DISHWASHER
DISC	DISCONNECT
DW	DISHWASHER
DWG	DRAWING
DWU	DISTILLED WATER UNIT
E	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EQUIP	EQUIPMENT
EX/ETR	EXISTING EQUIPMENT TO REMAIN
FDR	FEEDER
FL	FLOOR
FT	FEET
GFCI/GFI	GROUND-FAULT CIRCUIT-INTERRUPTER
GFE	GROUND-FAULT CIRCUIT EQUIPMENT BREAKER
GFP	GROUND-FAULT PROTECTION
GRD	GROUND
H	HEAT DETECTOR
HD	HAND-HOLE
HP	HORSEPOWER
IG	INSULATED GROUND
IM	ICE MAKER
IMP	IMPEDANCE
IN	INCHES
J	JUNCTION
KA	KILO AMPERE
Kcmils	THOUSAND CIRCULAR MILLS
KV	KILOVOLT
KVA	KILO VOLT-AMPERE
KW	KILOWATT
lm	LUMENS
LP	LIGHTING PANELBOARD
LTG	LIGHTING
M	METER
MC	MOTOR CONTROLLER
MCB	MAIN CIRCUIT BREAKER
MCC/MCB	MOLDED CASE CIRCUIT BREAKER
MCS	MOTOR-CIRCUIT SWITCH
MDP	MAIN DISTRIBUTION PANELBOARD
MH	MANHOLE
MLO	MAIN LUG ONLY
MW	MICROWAVE OVEN
N/A	NOT APPLICABLE
NEC	NATIONAL ELECTRIC CODE
NECA	NATIONAL ELECTRICAL CONTRACTORS ASSOC.
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
NEUT	NEUTRAL
NF	NONFUSED
NIC	NOT IN CONTRACT
NL	NEW DEVICE TO REPLACE EXISTING IN SAME LOCATION
N.T.S.	NOT TO SCALE
OC	OVERCURRENT
P	POLE
PA	PUBLIC ADDRESS
PB	PULL BOX
PC	PHOTO CELL
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PWR	POWER
R	REMAIN
RECPT	RECEPTACLE
RM	ROOM
RNC	RIGID NONMETALLIC CONDUIT
REF	REFRIGERATOR
RSC	RIGID STEEL CONDUIT
RT	RAINTIGHT
S	SMOKE DETECTOR
SC	SERVICE CONDUCTORS
SCHD	SCHEDULE
SCR	SHORT-CIRCUIT RATING
SD	SERVICE DROP
SE	SERVICE EQUIPMENT
SEC	SECONDARY
ST	STUNT TRIP
SURF	SURFACE
SV	SOLENOID VALVE
SW	SWITCH
SYM	SYMMETRICAL
SYMB	SYMBOL
TC	TIME CONTROLLER
TEL	TELEPHONE
TV	TELEVISION
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITER'S LABORATORY
U.O.N.	UNLESS OTHERWISE NOTED
UTIL	UTILITY
UVR	UNDER VOLTAGE RELEASE
V	VOLTS
VA	VOLT-AMPERES
W	WATTS
WG	WIRE GUARD
WP	WEATHERPROOF
Wt	WEIGHT IN POUNDS
WT	WATERTIGHT
X	REMOVE
XFMR	TRANSFORMER
%	PERCENT
#	NUMBER
'	FEET
"	INCHES

ELECTRICAL GENERAL NOTES

1. UNLESS OTHERWISE INDICATED, FURNISH AND INSTALL A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM INCLUDING ALL NECESSARY MATERIAL, LABOR, AND EQUIPMENT.
2. ELECTRICAL PLANS AND DETAILS SHOW THE GENERAL LOCATION AND ARRANGEMENT OF THE ELECTRICAL SYSTEM. THEY ARE DIAGRAMMATIC AND DO NOT SHOW ALL CONDUIT BODIES, CONNECTORS, BENDS, FITTINGS, HANGERS, AND ADDITIONAL PULL AND JUNCTION BOXES WHICH THE CONTRACTOR MUST PROVIDE TO COMPLETE THE ELECTRICAL SYSTEM.
3. ALL EQUIPMENT AND MATERIAL SHALL BE LABELED AND LISTED, AND INSTALLED IN ACCORDANCE WITH THEIR LISTING.
4. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND ARRANGE FOR ALL REQUIRED INSPECTIONS IN ACCORDANCE WITH STATE GOVERNING AUTHORITIES.
5. ALL WORK SHALL BE DONE WITH LICENSED WORKMEN IN ACCORDANCE WITH STATE GOVERNING AUTHORITIES.
6. THE DEFINITION OF ELECTRICAL TERMS USED SHALL BE AS DEFINED IN THE 2005 EDITION OF THE NATIONAL ELECTRIC CODE (NEC).
7. THE TERM "INDICATED" SHALL MEAN "AS SHOWN ON CONTRACT DOCUMENTS (SPECIFICATIONS, DRAWINGS, AND RELATED ATTACHMENTS)".
8. THE TERM "SIZE" SHALL MEAN ONE OR MORE OF THE FOLLOWING: "LENGTH, CURRENT AND VOLTAGE RATING, NUMBER OF POLES, NEMA SIZE, AND OTHER SIMILAR ELECTRICAL CHARACTERISTICS".
9. THE TERM "SPACE" ON PANELBOARD AND SWITCHBOARD SCHEDULES SHALL MEAN "PROVIDE SPACE TO INSTALL THE NUMBER OF POLES AND SIZE OF THE PROTECTIVE DEVICE INDICATED WITH ALL THE NECESSARY BUS AND FITTINGS TO INSTALL THE DEVICE AT SOME FUTURE DATE."
10. ELECTRICAL PLANS AND DETAILS DO NOT SHOW ALL INTERFERENCE'S AND CONDITIONS, VISIBLE AND/OR HIDDEN, THAT MAY EXIST; THUS REQUIRING THE CONTRACTOR TO INSPECT AND SURVEY THE SPACE BEFORE PERFORMING THE WORK.
11. COORDINATE ELECTRICAL WORK WITH OWNER.
12. COORDINATE ELECTRICAL WORK WITH OTHER DIVISIONS OF THIS PROJECT.
13. BEFORE SELECTING MATERIAL AND EQUIPMENT, AND PROCEEDING WITH WORK, INSPECT AREAS WHERE MATERIAL AND EQUIPMENT ARE TO BE INSTALLED TO INSURE SUITABILITY, AND CHECK NEEDED SPACE FOR PLACEMENT, CLEARANCES AND INTERCONNECTIONS.
14. BEFORE CUTTING OR DRILLING INTO BUILDING ELEMENTS INSPECT AND LAYOUT WORK TO AVOID DAMAGING STRUCTURAL ELEMENTS AND BUILDING UTILITIES.
15. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC) ANSI/NFPA 70 2005 EDITION.
16. TYPICAL MOUNTING HEIGHTS OF DEVICES SHALL COMPLY NECA 1-2006.
17. ALL WIRING AND CABLING BEING RUN IN PLENUM SHALL BE PLENUM RATED.
18. ELECTRICAL CONTRACTOR SHALL SEAL ALL ELECTRICAL PENETRATIONS THROUGH FIRE AND SMOKE RATED PARTITIONS WITH FIRE RATED MATERIAL EQUAL TO DOW CORNING SILICONE RTV FOAM AS A MINIMUM. MATERIAL SELECTION SHALL BE BASED ON RATING OF PARTITION PENETRATED.
19. ALL ELECTRICAL DEVICES ALONG A COMMON WALL SHALL BE INSTALLED IN SEPARATE STUD CAVITIES. NO BACK TO BACK INSTALLATIONS, FOR SOUND ATTENUATION PURPOSES AND/OR FIRE RATING PURPOSES. IF WITHIN SAME CAVITY OR WITHIN 24" FURNISH AND INSTALL FIRE RATED PUTTY PACK ON RECEPTACLES.
20. FURNISH AND INSTALL MEANS OF DISCONNECTION FOR ALL MOTORIZED EQUIPMENT AND APPLIANCES IN ACCORDANCE WITH NEC, SECTIONS 422-III AND 430-IX.

MOTOR CIRCUIT SCHEDULE

EQUIPMENT	SOURCE PANEL	OCP DEVICE	BRANCH CIRCUIT	DISC SW	STARTER	LOAD			REMARKS
						HP/KW	PH	VOLT	
B-1	SEE PLANS	EXISTING	2#12,#12G,3/4"C	N/A	N/A	15A	1	120	1,2,3,4,5,6
B-2	SEE PLANS	EXISTING	2#12,#12G,3/4"C	N/A	N/A	15A	1	120	1,2,3,4,5,6
P-1	13,15,BRP1	15A-2P	2#12,#12G,3/4"C	DIV. 23	DIV. 23	0.75	1	208	1,2,3,4,5,6
P-2	17,19,BRP1	15A-2P	2#12,#12G,3/4"C	DIV. 23	DIV. 23	0.75	1	208	1,2,3,4,5,6
P-3	8,10,BRP1	20A-2P	2#12,#12G,3/4"C	DIV. 23	VFD	2.0	1	208	1,2,3,4,5,6
P-4	12,14,BRP1	20A-2P	2#12,#12G,3/4"C	DIV. 23	VFD	2.0	1	208	1,2,3,4,5,6
P-5	16,18,BRP1	15A-2P	2#12,#12G,3/4"C	DIV. 23	DIV. 23	0.5	1	208	1,2,3,4,5,6

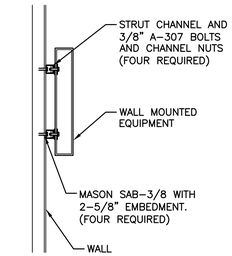
NOTES:

1. REFER TO SPECIFICATIONS FOR STANDARD FEATURES. DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE.
2. ABBREVIATIONS:
   VFD - VARIABLE FREQUENCY DRIVE PROVIDED BY DIV. 23
   DIV. 23 - EQUIPMENT PROVIDED BY DIV. 23 CONTRACTOR
3. OVERCURRENT PROTECTIVE DEVICE SHALL BE MOLDED CASE CIRCUIT BREAKER UNLESS NOTED WITH AN 'F' FOR FUSE.
4. STARTERS SHALL BE SQUARE D CLASS 8536 OR APPROVED EQUAL.
5. REFER TO ELECTRICAL AND MECHANICAL PLANS FOR EQUIPMENT LOCATIONS. STARTERS AND DISCONNECTS BY DIV 26 UON.

PANELBOARD "BRP1"

CLASS: (•) Lighting ( ) Distribution
BUS SIZE 225A
VOLTAGE CLASS: 208Y/120V, 3 Ø ,4W
SCR (SERIES RATED) 65KAIC
S/E RATING NO
MOUNTING SURFACE
CB TYPE 100A
FEEDER ENTRANCE
LOCATION

BREAKER #	BREAKER A	BREAKER P	DESCRIPTION	LOAD	PHASE LOAD - KVA A	PHASE LOAD - KVA B	PHASE LOAD - KVA C	LOAD	DESCRIPTION	BREAKER A	BREAKER P	BREAKER #
1	20	1	EXISTING 20A TANDEM		-				EXISTING 20A TANDEM	20	1	2
3	20	1	EXISTING 20A TANDEM			-			EX.20A TANDEM (B-1)	20	1	4
5	20	2	EXISTING 20A-2P BREAKER				-		EX.20A TANDEM (B-2)	20	1	6
7			"		1.37			1.37	P-3	20	2	8
9	20	2	EXISTING 20A-2P BREAKER			1.37		1.37	"			10
11			"				1.37	1.37	P-4	20	2	12
13	15	2	P-1	0.79	2.16			1.37	"			14
15			"	0.79		1.35		0.56	P-5	15	2	16
17	15	2	P-2	0.79			1.35	0.56	"			18
19			"	0.79	0.79				SPARE	20	1	20
21	20	1	SPARE			-			SPARE	20	1	22
23	20	1	SPARE				-		SPARE	20	1	24
TOTAL LOAD PER PHASE:					4.3	2.7	2.7					
TOTAL LOAD ON PANEL:					9.77		KVA					

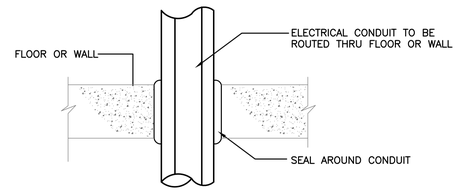


ELEVATION

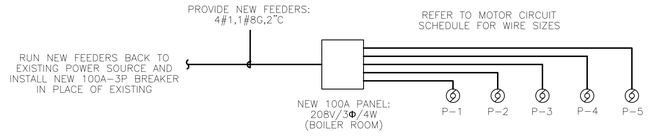
NOTES:

1. IF HOLLOW BLOCK WALL, ATTACH STRUT CHANNEL AT (3) LOCATIONS (TOP AND BOTTOM) USING 6-3/8" TOGGLE BOLTS.
2. IF SHEETROCK WALL. ATTACH STRUT CHANNEL TO (3) STUDS OF SHEETROCK WALL (TOP AND BOTTOM) USING 6-3/8" TOGGLE BOLTS.
3. IF CONCRETE WALL, ATTACH STRUT CHANNEL WITH 4-MASON SAS-3/8 ANCHORS WITH 2 1/8" EMBEDMENT.

1 TYPICAL PANELBOARD ATTACHED TO FILLED BLOCK WALL
NOT TO SCALE



2 TYPICAL NON-FIRE RATED CONDUIT PENETRATION THROUGH FLOOR OR WALL
NOT TO SCALE



3 ELECTRICAL ONE-LINE RISER DIAGRAM
NOTE TO SCALE

NOTES:

REVISIONS

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GUILFORD TOWN HALL
BOILER REPLACEMENT

31 PARK STREET
GUILFORD, CT

DTC PROJECT NUMBER: 12441

SCALE: NONE | DRAWN BY: WPK
DATE: 6-14-2013 | CHECKED BY: SGG

SHEET:
ELECTRICAL NOTES, ABBREVIATIONS, SYMBOLS, DETAILS, AND SCHEDULES

E-001