Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/15/17

SIEMENS #S5470B1200 54 SPACE PANEL

SIZE: 200 AMP SERIAL #: 11256

1	RESERVED FOR OPTIONAL MANUAL TRANSFER SWITCH	RESERVED FOR FUTURE SOLAR CONNECTIONS	2
3			4
5	RANGE-ELECTRIC 40A	WATER HEATER-ELECTRIC 25A	6
7	2-POLE	2-POLE	8
9	SMALL APPLIANCE 20A AFCI REFRIGERATOR	DRYER-ELECTRIC 30A	10
11	SMALL APPLIANCE 20A AFCI KITCHEN COUNTERTOP	2-POLE	12
13	SMALL APPLIANCE 20A AFCI KITCHEN COUNTERTOP	WASHER 20A AFCI/GFCI	14
15	DISHWASHER 20A AFCI/GFCI	GENERAL LIGHTING-OUTLETS 20A AFCI/GFCI LIVING ROOM	16
17	RANGEHOOD/MICROWAVE 20A AFCI/GFCI	GENERAL LIGHTING 15A AFCI BEDRM-1/BTH-2	18
19	GFI-OUTLET 20A BATH-1	GENERAL LIGHTING 15A AFCI BEDRM-1/SMOKE	20
21	HEAT-FAN-LIGHT 20A BATH-1	GENERAL LIGHTING 15A AFCI FLEXI/STAIRS	22
23	GFI-OUTLET 20A BATH-2	GENERAL LIGHTING 15A AFCI MUDRM	24
25	HEAT-FAN-LIGHT 20A BATH-2	GENERAL LIGHTING 15A AFCI BTH-1/MUDRM	26
27	ELECTRIC HEAT 20A MUDRM/BATH-1/KITCHEN	GENERAL LIGHTING 15A AFCI KITCHEN/LIVING	28
29	2-POLE	GENERAL LIGHTING 15A CRAWL SPACE	30
31	ELECTRIC HEAT 20A LIVING ROOM	RADON REDUCTION VENT 15A	32
33	2-POLE	SPRINKLER FLOW 20A	34
35	ELECTRIC HEAT 20A FLEXI/BATH-2	ELEVATOR 20A	36
37	2-POLE	2-POLE	38
39	ELECTRIC HEAT 20A BEDRM-1	-SPARE- -SPARE-	40
41	2-POLE	-SPARE- -SPARE-	42
43	-SPARE- -SPARE-	-SPARE- -SPARE-	44
45	-SPARE- -SPARE-	-SPARE- -SPARE-	46
47	-SPARE- -SPARE-	-SPARE- -SPARE-	48
49	-SPARE- -SPARE-	-SPARE- -SPARE-	50
51	-SPARE- -SPARE-	-SPARE- -SPARE-	52
53	-SPARE- -SPARE-	-SPARE- -SPARE-	54

AFCI=ARC FAULT CIRCUIT INTERRUPTER
GFCI=GROUND FAULT CIRCUIT INTERRUPTER

BREAKERS 1-4 ARE INTENTIONALLY LEFT SPARE FOR OPTIONAL EMERGENCY POWER MANUAL TRANSFER SWITCH.
PROVIDE 20% SPARE PANEL SPACE FOR GROWTH.

ELECTRICAL NOTES:
1. # = INTER-CONNECT @ BASEMENT BY BUILDER.

(4) 2-CONDUCTOR OR (3) 3-CONDUCTOR MAX. FILL PER DRILLED HOLE FOR 80% CIRCUIT RATING FACTOR.

CAUTION: POWER SMOKE/CO DETECTORS OFF NOTED CIRCUIT ONLY. FAILURE TO COMPLY MAY DISABLE INTER-CONNECT RESISTOR AND REQUIRE REPLACEMENT OF SMOKE/CO DETECTORS.

CIRCUIT LEGEND

EXAMPLE 1 2 3
1 A 1

1. CIRCUIT #
2. JUMPER
(A=BREAKER / B=B / C=C / ETC.)
3. WIRE SIZE
1- 12-2 / 2- 14-2 / 3- 14-3 / 4- 12-3

LOW VOLTAGE KEY

1-THERMOSTAT	(18/6)
2-BELL	(18/2)
3-CHIMES	(18/3)
4-HRV CONTROL	(18/6)

ELECTRICAL DRAWING LIST

E-1	LEED SHEET
E-2	FOUNDATION PLAN ELECTRICAL
E-3	FIRST FLOOR PLAN ELECTRICAL
E-4	SECOND FLOOR PLAN ELECTRICAL

ELECTRICAL SYMBOL LEGEND

DUPLEX RECEPTACLE
SWITCHED RECEPTACLE
GFI PROTECTED RECEPTACLE
DOUBLE DUPLEX RECEPTACLE
RANGE OR DRYER RECEPTACLE
FRIDGE RECEPTACLE
MULTI PORT
FAN
FAN AND LIGHT
FAN, LIGHT, AND HEAT
THERMOSTAT
DOOR BELL
SERVICE PANEL
EXTERIOR GFI PROTECTED RECEPTACLE
JUNCTION BOX
PULL WIRE- SPEAKER
LVST LOW VOLTAGE WIRING
AFCI ARC FAULT CIRCUIT INTERRUPTER
SWITCH
3-WAY SWITCH
4-WAY SWITCH
EMERGENCY SWITCH
LIGHT
BOX AND WIRE FOR FUTURE
BATH VANITY LIGHT BAR
RANGE HOOD
PHONE JACK
DUAL PHONE JACK
TV COAX
DUAL TV COAX
RECESSED TV JACK WITH RECEPTACLE
CENTRAL VAC
HAV-XX-X KICK SPACE HEATER
HOT WATER BASEBOARD
LF LINEAL FEET
PW PULL WIRE
RETURN GRILLE
SUPPLY GRILLE
BOX AND WIRE FOR FUTURE PADDLE FAN/LIGHT
JUNCTION POINT UP
JUNCTION POINT DN
MWJP MARRIAGE WALL JUNCTION POINT
SWJP STACK WALL JUNCTION POINT
AJP ATTIC JUNCTION POINT
PSD PHOTO-ELECTRIC SMOKE DETECTOR
ISD IONIZATION SMOKE DETECTOR
?? IONIZATION SMOKE DETECTOR/CO (ISD/CO) OR PHOTO-ELECTRIC SMOKE DETECTOR/CO (PSD/CO) OR PHOTO-ELECTRIC SMOKE DETECTOR/CO (PSD/CO-V) VOICE
CO CARBON MONOXIDE DETECTOR/ALARM
HD HEAT DETECTOR/ALARM
IC PULL WIRE- INTERCOM
VC PULL WIRE- VOLUME CONTROL
CIRCUIT NUMBER
FLOOD LIGHT

ELECTRICAL GENERAL NOTES

1. All notes containing the term "by the builder" are defining obligations, whether for material which is not supplied or installed by the company or for construction methodology/acceptable building practice for which the company accepts no responsibility and should be reviewed carefully by the builder and the local building inspector.
2. All work done on the line side of the main disconnect, the site interconnection of factory installed wiring at junction points and the site connection of circuit home runs, coiled at the marriage wall junction point (MWJP), to their respective breakers in the panel will be the responsibility of the builder and shall be done by licensed electricians. The number of home runs is determined by the panel location.
3. Wiring from the load side of the main disconnect to junctions points, boxes containing circuit ends of factory installed wiring or to be coiled at attic or underfloor locations for connection to site installed equipment and/or fixtures will be done by the company. Circuits, whose home runs will be site connected to the panel, will be installed by the company with the home runs coiled at the MWJP.
4. All basement circuits, materials and connections as well as the connection of coiled wires to site installed fixture(s) shall be the responsibility of the builder and shall be accomplished by licensed electricians in compliance with applicable electrical and building codes.
5. Capes, gambrels and colonials with unfinished 2nd floors shall have all fixtures, devices, material and connections above the second floor decking supplied by the builder and installed by licensed electricians in compliance with applicable codes.
6. Capes, gambrels and colonials with finished second floors (four unit modular houses) will have the site interconnection of factory installed wiring accomplished at the stack wall junction point (SWJP) from 1st floor to 2nd floor and at the attic junction point (AJP) from one second floor modular unit to the other.
7. The SWJP is accessible either through a ceiling access in a bathroom, closet or laundry alcove on the 1st floor or through a floor access panel on the 2nd floor. The AJP is accessible through either the attic access scuttle or through a ceiling access panel in the 2nd floor ceiling.
8. All (1st and 2nd floor) telephone and television jack wiring will follow standard direct or junction point routing to the panel.
9. All electrical work shall be done in compliance with state and local codes and the National Electrical Code (NEC) in effect at the time of construction.
10. An electrical contractor shall arrange and pay for all required permits and/or inspection materials.

Requirements For Installation Of Smoke Detectors/Alarms:
NFPA 72 National Fire Alarm Code &
International Residential Code (2009 Ed.) Sec. R314.1 through R314.4

1. No less than one (1) approved smoke detector shall be provided on the highest habitable level and on each floor, story or level below, including basements or cellars.
2. One (1) approved smoke detector shall be located inside of each separate sleeping area and inside all bedrooms.
3. All smoke detectors shall be wired to the same branch circuit. This circuit must also provide other electrical service to a habitable area.
4. Smoke detectors shall be wired into the supply circuit ahead of any switches.
5. All smoke detectors shall be interconnected to provide simultaneous warning.
6. Any smoke detector located within 20'-0" of a cooking appliance or within 3'-6" of a door to a bathroom containing a tub or shower shall be a photo electric type smoke detector.

Requirements For Installation Of Carbon Monoxide Detectors/Alarms

International Residential Code (2009 Ed.) Sec. R315.1 through R315.3.

1. Carbon monoxide alarm protection shall be located on each level of each dwelling unit including habitable portions of basements, cellars and attics, but not including crawlspaces.
2. When mounting carbon monoxide alarm protection on a level of a dwelling unit with a sleeping area, the alarm shall be installed in the immediate vicinity of the sleeping area, not to exceed 10 ft. as measured in any direction from any bedroom door.

ELECTRICAL SYSTEMS - National Electrical Code (NFPA 70) 2011 Edition

1. Material Approval: All electrical conductors & equipment shall be approved in accordance with NEC 110.2,3.
2. Wiring Classification: Type, size and temperature ampacity of conductors are in accordance with NEC 310, Table 310.15 (B)(16).
3. Wiring Protection: When non-metallic cables are subject to physical damage, they will be protected in accordance with NEC 300.4.
4. Wiring Support: Non-metallic sheath cable shall be supported in accordance with NEC 334.30.
5. Outlets: To be listed tamper-resistant outlets in accordance with NEC 406.12 (A-C) and laid out in accordance with NEC 210.52, A-1. Duelling Unit Receptacle Outlets.
6. Outlet Box Capacity: The maximum number of conductors & devices or fittings installed in an outlet box shall be determined by the box capacity, in accordance with NEC 314.16 & Tables 314.16 (A) & 314.16 (B).
7. Bath Outlets: To be protected with a GFI device in accordance with NEC 210.8, A, (1). Ground Fault Protection.
8. Kitchen Outlets: (Min. 2/20 Amp Circuits) When receptacles are installed to serve countertop areas, they shall be protected with GFI device in accordance with NEC 210.8, A, (6). Ground Fault Protection.
9. Wet bar, laundry, utility sink outlet(s): when recepacles are installed to service countertop areas, they shall be protected with a GFI device in accordance with NEC 210.8, A,(7) Ground Fault Protection.
10. Exterior Outlet: Two weather-resistant type outlets, one front and one rear, to be installed in accordance with NEC 406.9, Receptacles in damp or wet locations, and protected with a GFI device in accordance with NEC 210.52 E (1)-(3) Ground Fault Protection.
11. Arc Fault Circuit Interrupter: AFCI breakers to be installed in accordance with NEC 210.12, which requires "all 120v, 15 & 20 amp receptacle outlets in dwelling unit family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, or similar rooms or areas" to be protected by combination-type arc fault circuit interrupter breakers.
12. Lights: To be laid out in accordance with NEC 210.70; Lighting Outlets Required.
13. Fixture Locations: Lighting fixtures shall be located in accordance with NEC 410.10, 410.11, 410.12, 410.16 & 410.18.
14. Fixture Support: Lighting fixtures shall be supported in accordance with NEC 410.30 & 410.36.
15. Electric Baseboard: To be calculated per contract as required by layouts and windows. To be installed per manufacturer's recommendations, and spaced in the room so that no outlets are within 6" of the element of the baseboard units.
16. Appliance Installation: Electric appliances shall be installed in accordance with NEC Article 422.
17. Optional Whirlpool Tub: Shall always be a Hydromassage Bathtub unit in accordance with NEC Article 680.2, and shall comply with 680.70 thru 680.74.
18. Electrical Load Calculations: In accordance with NEC Article 220.
19. Electrical System Testing:
Wiring Integrity (Dielectric): NEC 110.7
GFI Performance Testing: NEC 230.95 (C)
Operation Test
Continuity Test
Polarity Test

T.R. ARNOLD & ASSOCIATES, INC. 4703 Chester Dr. Elkhart, IN 46516
State(s) MAINE
Accredited Evaluation and Inspection Agency
This document is certified as being in conformance with LISTED CODES
Aug 8, 2017
Approved By
Approval of this document does not authorize or approve any omission or deviation from the requirements of applicable State Laws.
TRA APPROVAL LIMITED TO FACTORY-BUILT MODULES ONLY.

NOTE: ANY & ALL Material shipped loose for site completion of the manufactured product is ULTIMATELY the SOLE RESPONSIBILITY OF THE BUILDER LISTED BELOW to install and stick.

Builder to check appropriate box, sign, date, and return to NEH. Plans not checked, signed and dated will be returned to Builder and subject to renewal item Production Scheduling.

PERMIT PLANS

I HAVE REVIEWED THESE PLANS FOR ACCURACY AND HEREBY AUTHORIZE N.E.H. TO DO THE
☐ THERE ARE NO CHANGES TO THIS PLAN, RELEASE THE JOB FOR PRODUCTION.
☐ REVISE THE PLANS AS NOTED AND RELEASE THESE PLANS FOR PRODUCTION.
☐ REVISE THESE PLANS AS NOTED AND SEND ME ANOTHER SET OF PERMIT PLANS TO RE

Signature NEW ENGLAND HOMES INDEPENDENT BUILDERS DULY AUTHORIZED AGENT PER CONTRACT AGREEMENT

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CMH, INC
Structure Model: COLONIAL
LEED SHEET

N.T.S.

Drawn:	JMB
Revisions:	
3/24/17	RTA
4/21/17	RTA
4/24/17	RTA
6/8/17	RTA
8/8/17	RTA
7/26/17	RTA

Job: 11256
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