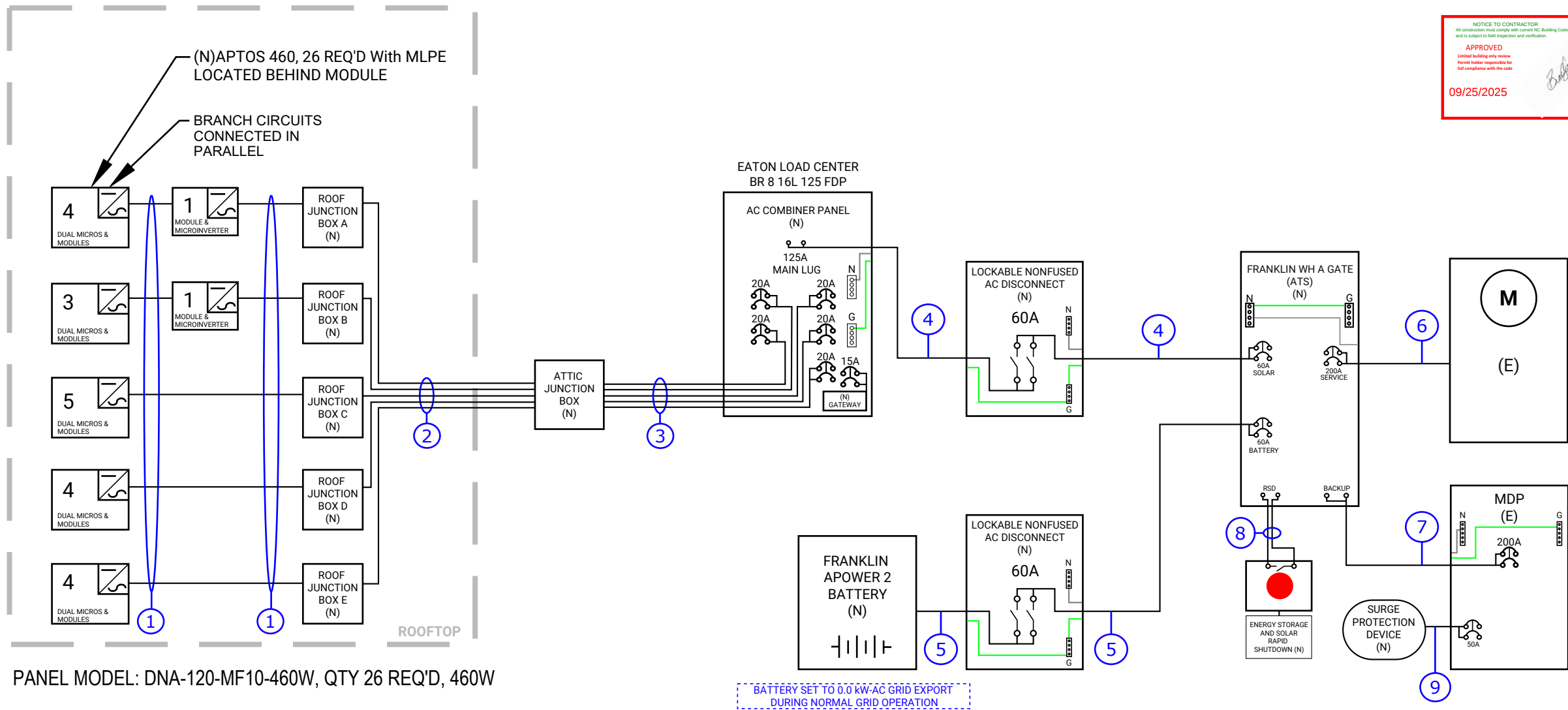




CAPE FEAR SOLAR SYSTEMS

910 S. 2nd St.
Wilmington, NC 28401
910-409-5533



GC LIC. NO. : 65677
ELEC. LIC. NO. : U-33321

11.96 kW DC PV SYSTEM

NAURINE SOLAR PROJECT

696 Thomas Gage Dr, Fuquay-Varina, NC 27526

LINE DIAGRAM

PANEL MODEL: DNA-120-MF10-460W, QTY 26 REQ'D, 460W

INVERTER TYPE: APTOS MAC-800, QTY 14 REQ'D, 766W, 240V

INVERTER TYPE: APTOS MAC-400, QTY 2 REQ'D, 382W, 240V

10.724 kW-AC/ 11.960 kW-DC

WIRING SCHEDULE

TAG	CONDUIT SIZE	CABLE TYPE	CONDUCTOR	NEUTRAL	GROUND	NOTES
1	NONE	12/2 Trunk Cable	12 AWG CU	NONE	6 AWG Bare CU	Mfg.supplied cabling within array
2	NONE	12/2 NM-B	12 AWG CU	NONE	12 AWG	Roof J Boxes to Attic J Box
3	3/4" PVC or EQUIV	N/A	10 AWG CU THWN-2	NONE	10 AWG CU THWN-2	Attic J Box to AC Combiner
4	1" PVC or EQUIV	N/A	6 AWG CU THWN-2	6 AWG CU THWN-2	10 AWG CU THWN-2	AC Combiner to Disconnect to ATS
5	1" PVC or EQUIV	N/A	6 AWG CU THWN-2	6 AWG CU THWN-2	10 AWG CU THWN-2	Battery to Disconnect to ATS
6	2" PVC or LFNC	N/A	4/0 AWG AL THWN-2	4/0 AWG AL THWN-2	NEUTRAL BOND	Meter to ATS
7	2" PVC or LFNC	N/A	4/0 AWG AL THWN-2	4/0 AWG AL THWN-2	6 AWG CU THWN-2	ATS to MDP
8	1/2" PVC or EQUIV	18/2 CL3R	18 AWG CU	NONE	NONE	Low Voltage Rapid Shutdown Circuit
9	NONE	N/A	12 AWG CU THWN-2	12 AWG CU THWN-2	12 AWG CU THWN-2	MDP to Surge Protection Device

INVERTER AMPERAGE:

DUAL MICROS	SINGLE MICROS	CIRCUIT AMPERAGE
3.19	1.59	
4	1	15.95
3	1	11.9625
5		19.9375
4		15.95
4		15.95

TOTAL AMPERAGE

55.82

LEGEND

(N) NEW
(E) EXISTING
(O) NEW BY OTHERS
— NEUTRAL
— GROUND

PV LEAD	ELECTRICIAN

SITE FLOOD PLANE:
ZONE X; BFE: N/A

(INVERTER OUTPUT) X (1.25) = BRANCH CIRCUIT AMPERAGE

REVISION LIST

#	REV. DATE	DESC.

DATE: August 19, 2025

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Sheet No.

E-01

GENERAL ELECTRICAL NOTES

- 1. Equipment shall be new unless otherwise noted.
- 2. Equipment shall be listed unless otherwise noted.
- 3. Equipment shall be installed providing adequate working space in compliance with NEC.
- 4. Copper conductors shall be used and shall have insulation rating 600v, 90°C unless otherwise noted.
- 5. Conductors shall be sized in accordance with the NEC and ampacity shall be derated for temperature increase, conduit fill & voltage drop.
- 6. All conductors shall be installed in approved conduits. Conduits shall be adequately supported in accordance with the NEC.
- 7. AC Disconnect is optional, however it may be required by the utility.
- 8. Exposed non-current carrying metal parts shall be grounded in accordance with the NEC.
- 9. All work shall comply with the NEC and all applicable local electrical code requirements.
- 10. Contractor will provide labeling in accordance with the NEC, Article 110, 225, 690, and 705.

PV SYSTEM DISCONNECT/ COMBINER BOX
BREAKER PANELS

⚠

WARNING

⚡

TURN OFF PHOTOVOLTAIC
AC DISCONNECT PRIOR TO
WORKING INSIDE PANEL

PHOTOVOLTAIC SYSTEM

⚠

AC DISCONNECT

⚡

OPERATING VOLTAGE240VVOLTS

OPERATING CURRENT44.66AMPS

RAPID SHUTDOWN
PV ARRAY

NEC 110.27(C) & OSHA 1910.145(f)(7)

SERVICE DISCONNECT

MAIN PHOTOVOLTAIC SYSTEM
DISCONNECT

NEC 690.13(B)

SOLAR PV SYSTEM EQUIPPED
WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN
SWITCH TO THE
"OFF" POSITION TO SHUT
DOWN PV SYSTEM AND
REDUCE SHOCK HAZARD IN
THE ARRAY.

SOLAR ELECTRIC
PV PANELS

IFC 605.11.3(1) & NEC 690.12(D)

NET METER w/ BATTERY

⚠

WARNING

⚠

THREE POWER SOURCES

SOURCES: UTILITY GRID, BATTERY AND
PV SOLAR ELECTRIC SYSTEM

NEC 705.30(C) and NEC 690.59

ENERGY STORAGE SYSTEMS

BATTERY
DISCONNECT

NEC 706.7(E)(2)

CAUTION

POWER TO THIS BUILDING IS SUPPLIED FROM THE FOLLOWING
SOURCES WITH DISCONNECTS LOCATED AS SHOWN:

SERVICE DISCONNECT
(EXTERIOR)

PV SYSTEM DISCONNECT
(EXTERIOR)

ESS DISCONNECT
(EXTERIOR)

METER (EXTERIOR)



11.96 kW DC PV SYSTEM
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27526

STICKERS

REVISION LIST ⚠

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E-02