



11.96 kW DC PV SYSTEM
NAURINE SOLAR PROJECT
696 Thomas Gage Dr, Fuquay-Varina, NC
27526

LINE DIAGRAM

REVISION LIST

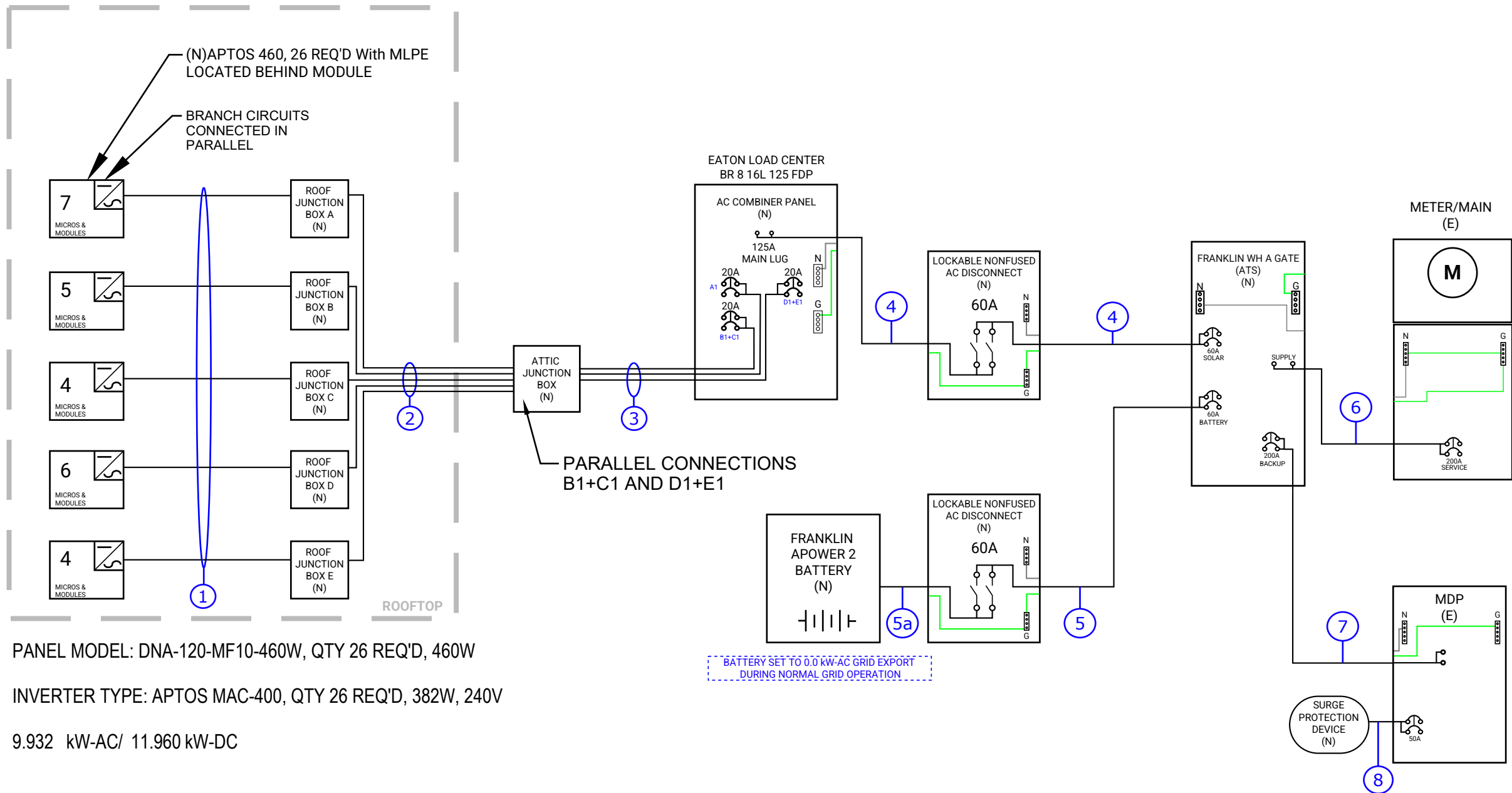
#	REV. DATE	REV. BY
1	10/8/25	JAX

DATE: October 8, 2025

DRAWN BY: SAM

Sheet No.

E-01



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

INVERTER TYPE: APTOS MAC-400, QTY 26 REQ'D, 382W, 240V

9.932 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 Disconnect to ATS
5a	NONE	#6 CU SER	6 AWG CU	6 AWG CU	6 AWG CU	Battery to Disconnect
6	2" PVC or LFNC	N/A	4/0 AWG AL THWN-2	4/0 AWG AL THWN-2	6 AWG CU THWN-2	Meter/Main to ATS
7	2" PVC or LFNC	4/0 AL SER	4/0 AWG AL	4/0 AWG AL	2/0 AWG AL	ATS to MDP
8	NONE	MFG. SUPPLIED WIRING	12 AWG CU	12 AWG CU	12 AWG CU	MDP to Surge Protection Device

INVERTER
AMPERAGE:

CIRCUIT SIZES	CIRCUIT AMPERAGE
7	13.91
5	9.9
4	7.95
6	11.925
4	7.95

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

TOTAL
AMPERAGE

51.68

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

PV LEAD ELECTRICIAN

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

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

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WARNING

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TURN OFF PHOTOVOLTAIC
AC DISCONNECT PRIOR TO
WORKING INSIDE PANEL

⚠

**PHOTOVOLTAIC SYSTEM
AC DISCONNECT**

⚡

OPERATING VOLTAGE 240V VOLTS
OPERATING CURRENT 44.66 AMPS

**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

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WARNING

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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)

**CAPE FEAR
SOLAR SYSTEMS**

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

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

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STICKERS

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E-02