

Menu Save Reset Cancel Help

Record Detail * (This section is required.)

Permit Type Building/Residential/Misc/Solar Panel Permit Number B25002920 Opened Date 07/24/2025
Description of Work SFD/ INSTALL (65) GROUND MOUNTED SOLAR PANELS ON THE REAR OF THE PROPERTY, SYSTEM SIZE 29.90KW**SUBJECT TO FIELD INSPECTION**

Approved 8/11/25
- H.O.

[check spelling](#)

Online BP.
g 7/31/25

Address * (This section is required.)

Search Reset Clear Get Parcel & Owner
Street # 5612 Street Name FOXVIEW Street Type CT
Unit Type Unit # X Coordinate -76.95665 Y Coordinate 39.2234
City CLARKSVILLE State MD Zip Code 21029 Primary Yes

Parcel * (This section is required.)

Search Reset Clear Get Address & Owner
GIS ID * Parcel 879633 Parcel Area 383 Land Value 3 Improved Value 296200 Exemption Value 1208100 Plan Area 911900 RURAL
Legal Description IMPSLOT 3 3.0000 A[]5612 FOXVIEW COURT[]FOXVIEW MANOR

[check spelling](#)

Block 3 Census Tract 605101 Council Dist 5 Inspection Dist Supervisor Dist Map # DAP Zone
Plan Area State Tax Id 1405410967 Subdivision Name FOXVIEW MANOR
Section Area Tax Map 28
Grid Zoning District RC-DEO ADC Map 4933-G5
SDP No. Final Plan No. WP File No.
Record Plat No. 8589 WS Contract No. FDP No. Primary Yes
Owner Occupied Year Built 1995 Historic District
Historic District Registry No. Stat Area 5-02A Flood Plain
Building No

Owner * (This section is required.)

Search Reset Clear
Name * CARDK
Address Line 1 5612 FOXVIEW COURT
Address Line 2
Address Line 3
Mail City CLARKSVILLE
Mail State MD
Mail Zip Code 21029
Phone 240-338-1463
Primary Yes
E-mail

Cell Number Fax Number

Professionals * (This section is required.)

License # *
08050030991
License Type *
MHIC Co
Primary
Yes
Business Name
FUSION SOLAR SERVICES LLC
First Name
JOSEPH
Middle Name
Last Name
RICE
Address Line 1
3600 COMMERCE DRIVE SUITE 601
Address Line 2
City
HALETHORPE
State
MD
ZIP Code
21227
Phone 1
4439550779
Phone 2
Fax
E-mail
JRICE@FUSIONSS.NET

Applicant * (This section is required.)

Search As Owner As Lic. Prof As Contact

Type *
Applicant
Relationship
Applicant
Primary
Yes
First Name
JOSEPH
MI
Last Name
RICE
Full Name
JOSEPH RICE
Organization Name
FUSION SOLAR SERVICES LLC
Street Address
3600 COMMERCE DRIVE SUITE 601
Address Line 2
City
HALETHORPE
State
MD
Zip Code
21227
Phone
4439550779
Cell
Fax
E-mail *
permits@fusionss.net

Addtl Info

Est Construction Cost *
88000
Housing Units *
0
Number of Buildings *
0
Public Owned
No
Construction Type
--Select--

RESIDENTIAL SOLAR PANEL INFO

SOLAR PANEL INFORMATION

Capital Project-No Fee Type of Installation * Number of Panels * Water Supply * Sewage Disposal * Expiration Date
☐ Yes ☒ No Solar Collector - Ground Mount 65 (Number) Private Private 1/27/2026
Existing Use * Sprinkler System *
SFD ☒ Yes ☐ No

PAYMENT INFORMATION

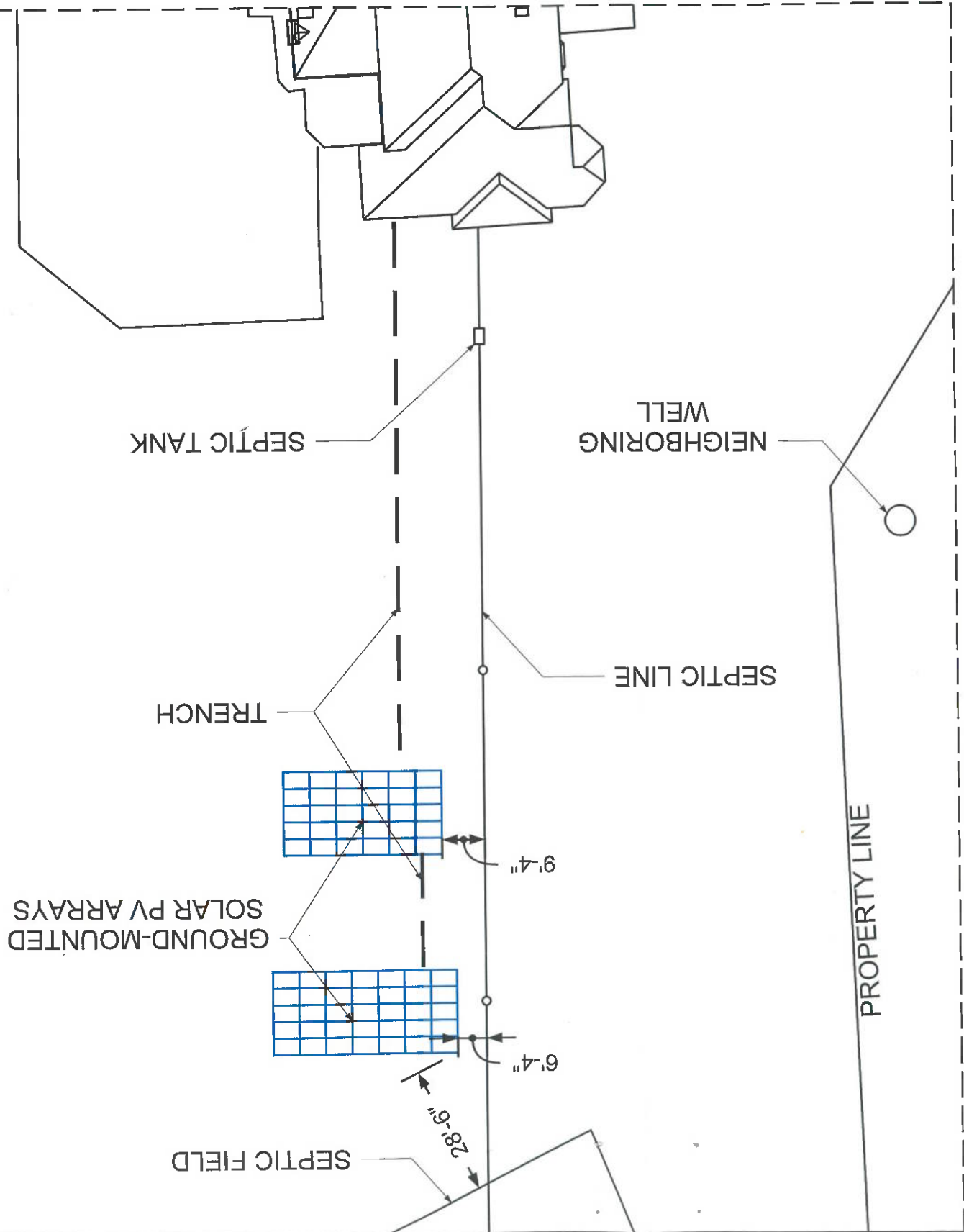
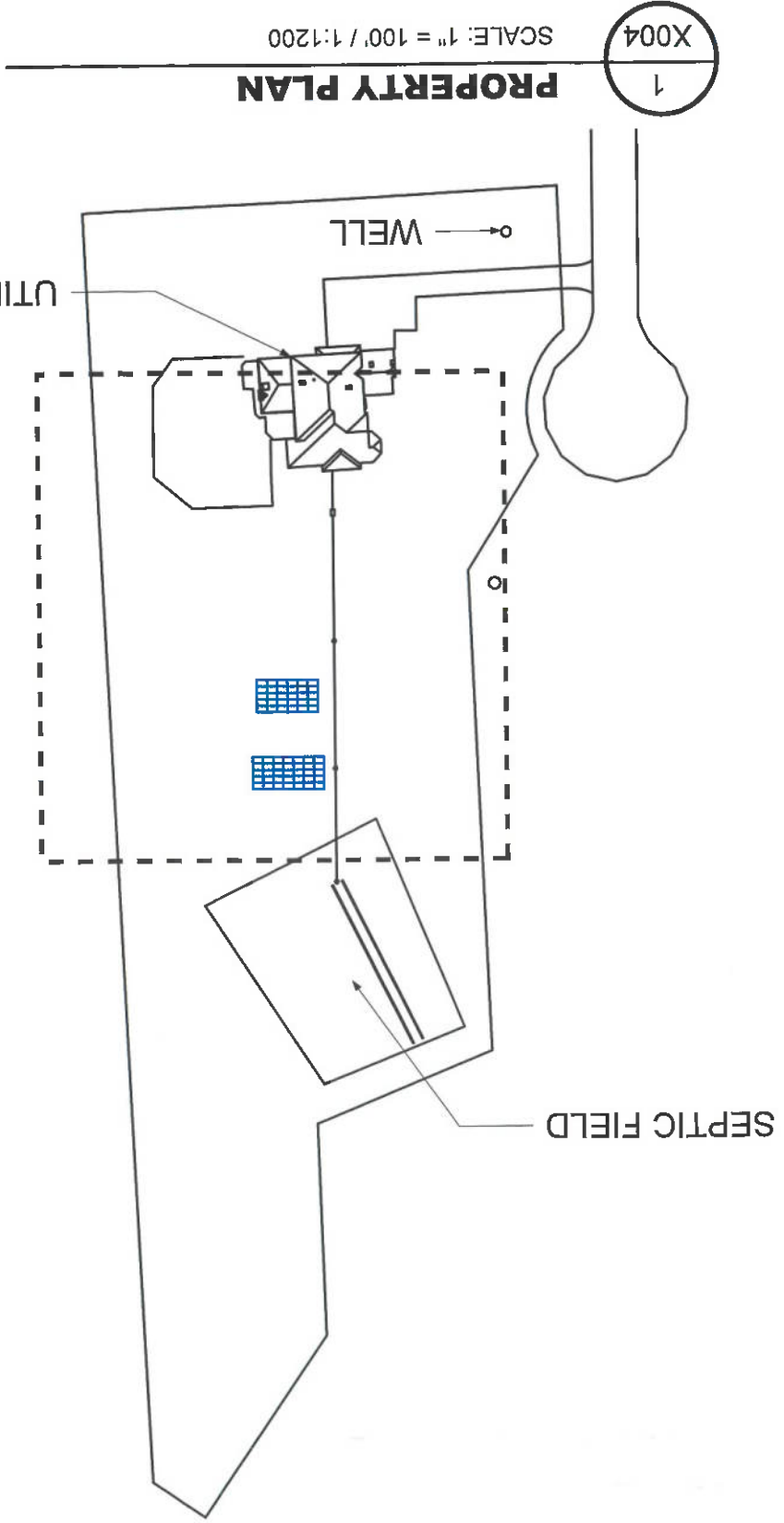
Related Records

Showing 1-2 of 2

Permit Number	Record Type Alias	Status	Number	Street Name	Opened Date	Description
B25002920	Residential Solar Panels	Review In Process	5612	FOXVIEW	07/24/2025	SFD/ INSTALL (65) GROUND MOUNTED SOLAR F
E25004111	Residential Electrical Addition Alteration Permit	Issued	5612	FOXVIEW	07/24/2025	INSTALL (65) GROUND MOUNTED SOLAR PANEL

Submit Cancel

.



825002920 (ground mounted solar panels)
 Approved site plan
 8/11/25 - H.O.

FOR PERMITTING USE ONLY

PROJECT ADDRESS:
 5612 FOXVIEW COURT
 CLARKSVILLE, MD 21029

CONTRACTOR INFO:

NUNO CARDOSO
 5612 FOXVIEW COURT
 CLARKSVILLE, MD 21029

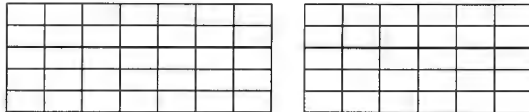
LUMINA
 3600 COMMERCE DR
 SUITE 601
 BALTIMORE, MD 21227
 (443) 955-0779

LICENSE NUMBER: MHIC-30991

REV DATE
 IFC 08/06/2025

SITE PLAN

X004



PANEL LAYOUT
N.T.S.

5Lx7C SUB-ARRAY DESIGN DATA

QTY OF MODULES/SUB-ARRAY	35
QTY OF SUB-ARRAYS	1
PANEL COLUMNS/SUB-ARRAY	7
QTY OF PANEL ROWS	5
PANEL ORIENTATION	LANDSCAPE
PANEL COLUMN SPACING	3/4"
PANEL ROW SPACING	3/4"
PANEL MODEL	REC450AA PURE-6X
PANEL SIZE	47.44" x 68"
PANEL POWER RATING	460 WATTS
SUB ARRAY POWER RATING	16.1 kW
TOTAL POWER RATING	29.9 kW
QTY NAIL PER PANEL	2

5Lx6C SUB-ARRAY DESIGN DATA

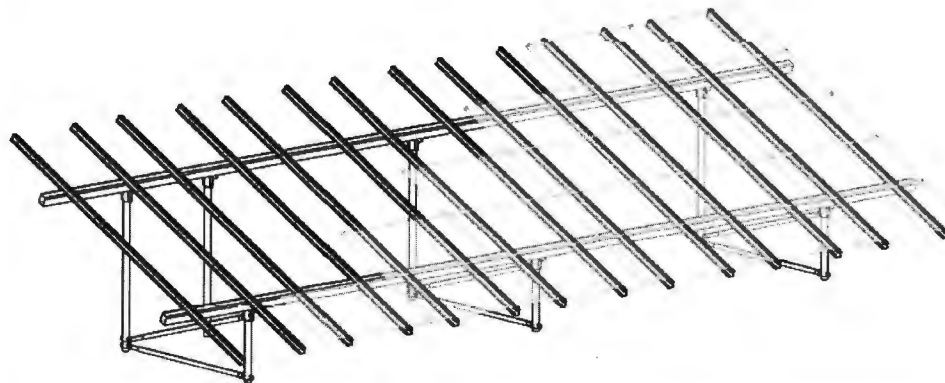
QTY OF MODULES/SUB-ARRAY	30
QTY OF SUB-ARRAYS	1
PANEL COLUMNS/SUB-ARRAY	6
QTY OF PANEL ROWS	5
PANEL ORIENTATION	LANDSCAPE
PANEL COLUMN SPACING	3/4"
PANEL ROW SPACING	3/4"
PANEL MODEL	REC450AA PURE-6X
PANEL SIZE	47.44" x 68"
PANEL POWER RATING	460 WATTS
SUB ARRAY POWER RATING	13.8 kW
TOTAL POWER RATING	29.9 kW
QTY NAIL PER PANEL	2

SITE DESIGN CONDITIONS

BASIC WIND SPEED: (RISK CATEGORY I)	115 MPH	MAXIMUM PILE AXIAL BEARING	8,610 LBS
BASIC WIND SPEED: (RISK CATEGORY II)	N/A	MAXIMUM PILE UPLIFT	4,325 LBS
EXPOSURE CATEGORY:	C	MAXIMUM LATERAL RESISTANCE	2,775 LBS
GROUND SNOW LOAD:	40 PSF	TOP RAIL MAXIMUM LOADING	122.8 PLF
FLAT ROOF SNOW LOAD:	N/A	GROUND SCREW DEPTH	60" MIN
SITE CONTOUR:	<5 DEG SLOPE		

ALL DESIGN WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY BUILDING CODE INCLUDING, BUT NOT LIMITED TO, THE 2021 INTERNATIONAL BUILDING CODE WITH AMENDMENTS PER SECTION 3.101.

NET DESIGN PRESSURES WERE CALCULATED IN ACCORDANCE WITH ASCE 7-16 SECTION 27.3.2, "OPEN BUILDINGS WITH MONOSLOPE, PITCHED, OR TROUGHED ROOFS". ALL LOAD CASES WERE EVALUATED IN DETERMINING THE LIMITING DESIGN CONDITIONS. THE DATA TABLE ABOVE PROVIDES THE RESULTS FOR THE LIMITING LOAD CASE. MAXIMUM PILE REACTION FORCES REPRESENT THE HIGHEST LOAD CONDITION APPLIED TO ANY PILE IN THE STRUCTURE. ALL PILES IN THE STRUCTURE ARE DESIGNED TO MEET THE MAXIMUM LOAD CONDITIONS.



ISOMETRIC VIEW
N.T.S.

NOTE: PANEL PLACEMENT IS FOR ILLUSTRATIVE PURPOSES ONLY

1. (1)

1. (1) ADDITIONAL NORTH GROUND SCREW IS TO BE INSTALLED PER FIELD DIRECTION. THE GROUND SCREW IS TO SUPPORT EQUIPMENT MOUNTING NEEDS. IT IS NOT REQUIRED FOR NORTH BEAM SUPPORT

DATE	REVISION	DESIGNED BY	REVIEW BY
07/17/2025	ORIGINAL	JB	JD

S-1

Solar Foundations[®] USA

1142 River Road, New Castle, DE 19720
PH: (855) 738-7200 FAX: (866) 644-5665

LUMINA SOLAR

PROJECT:
CARDOSO, NUNO
5612 FOXVIEW CT
CLARKSVILLE, MD 21029

James C Douglas
Digitally signed by
James C Douglas
Date: 2025.07.17
15:42:14 -0400



FOR PERMITTING USE ONLY

WORKSITE ADDRESS:

NUNO CARDOSO

5612 FOXVIEW COURT,
CLARKSVILLE, MD, 21029

CONTRACTOR INFO:



LUMINA
3600 COMMERCE DR
SUITE 601
BALTIMORE, MD 21227
(443) 955-0779

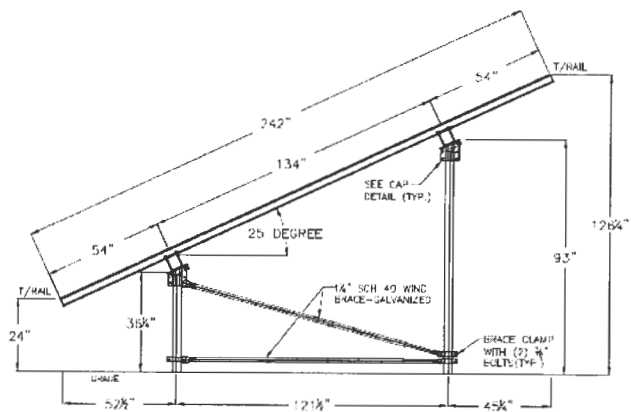
LICENSE NUMBER:

MHIC-30991

REV	DATE
IFC	07-18

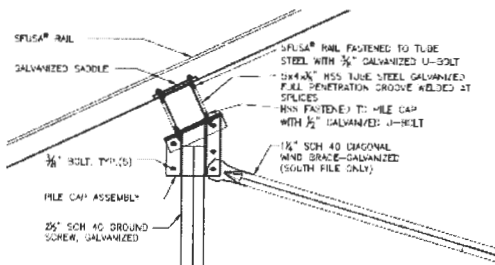
**LOAD CALCS &
ASSEMBLY
DETAILS**

S001



EAST ELEVATION
N.T.S.

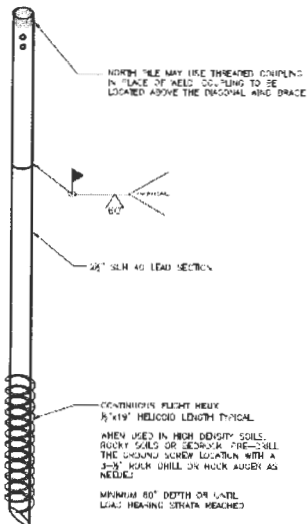
NOTE:
1. ARRAY HEIGHT DIMENSIONS ASSUME LEVEL GRADE



CAP DETAIL
N.T.S.

SPECIFICATION REQUIREMENT NOTES:

1. SPULSA® ALUMINUM RAILS SHALL CONFORM TO ASTM B221.
2. STRUCTURAL STEEL TUBING SHALL BE ASTM A500 HIGH YIELD (SU 40).
3. STEEL PILE FOR PILES SHALL CONFORM TO ASTM A500 GRADE C.
4. STEEL PILE EXTENSIONS SHALL BE ASTM A500 GRADE B.
5. STEEL PILE FOR DIAGONAL BRACING SHALL BE ASTM A500 GRADE A.
6. FABRICATED STEEL PLATE FOR PILE LAP ASSEMBLIES, BRACING CLAMPS, ETC. SHALL BE ASTM A36 OR A1011.
7. STEEL BOLTS SHALL CONFORM TO ONE A325 GRADE 8 OR BETTER.
8. STEEL U-BOLTS SHALL CONFORM TO ASTM 1018.
9. U.S. FLAT STEEL WASHERS SHALL CONFORM TO ASTM F304 AND NUTS FLAT STEEL CONNECTORS SHALL CONFORM TO ASTM A553 GRADE 4.
10. ALL FIELD WELDING SHALL CONFORM TO AWS D1.1/D1.1M - STRUCTURAL WELDING CODE REQUIREMENTS.
11. ALL STEEL SHALL BE HOT-DIP GALVANIZED PER ASTM A123 ON A153 AFTER ALL FABRICATION HAS BEEN COMPLETED.



GROUND SCREW DETAIL
N.T.S.

INSTALLATION REQUIREMENT NOTES:

1. THE MINIMUM AVERAGE INSTALLATION TORQUE REQUIRED TO OBTAIN THE REQUIRED INDICATED CAPACITY AND THE MINIMUM INSTALLATION DEPTH SHOWN ON THE PLANS SHALL BE SATISFIED PRIOR TO TOWERING. IF THE GROUND SCREW INSTALLATION TORQUE SHALL BE AN AVERAGE OF THE INSTALLATION TORQUES INDICATED DURING THE LAST ONE FOOT OF INSTALLATION.
2. THE TORSIONAL STRENGTH RATING OF THE GROUND SCREW SHALL NOT BE EXCEEDED DURING THE INSTALLATION. IF THE TORSIONAL STRENGTH LIMIT OF THE GROUND SCREW HAS BEEN REACHED, BUT THE SCREW HAS NOT REACHED THE TARGET DEPTH, PERFORM THE FOLLOWING:
 - a. REVIEW DEVELOPED TORQUE AND GROUND SCREW DEPTH WITH ENGINEER OF RECORD TO DETERMINE IF ACCEPTABLE FOR THIS INSTALLATION BASED ON MINIMUM AVERAGE DEPTH REQUIREMENT.
 - b. FOR INSTALLATION INTO HIGHLY COMPACTED SOIL, CROWN SHALL PRE-DRILL THE GROUND SCREW LOCATION WITH A 3/4" CARBIDE TIPPED ROCK AUGER TO FULL GROUND SCREW DEPTH PRIOR TO INSTALLATION OF THE GROUND SCREW.
 - c. FOR INSTALLATION INTO SOLID ROCK, CROWN SHALL PRE-DRILL THE GROUND SCREW LOCATION WITH A 3/4" CARBIDE TIPPED ROCK AUGER. DEPTH OF DRILLED HOLE INTO THE ROCK SHALL BE A MINIMUM OF 30" TO ALLOW THE GROUND SCREW TO BE INSTALLED A MINIMUM OF 24" INTO THE ROCK FOR FULL FLIGHT ENGAGEMENT.
3. IF THE TARGET DEPTH IS ACHIEVED, BUT THE TORSIONAL REQUIREMENT HAS NOT BEEN MET THE INSTALLER PERFORM ONE OF THE FOLLOWING:
 - a. INSTALL THE GROUND SCREW DEEPER TO OBTAIN THE REQUIRED CAPACITY.
 - b. REMOVE THE GROUND SCREW AND INSTALL AN APPROVED SINGLE FLIGHT PILE WITH A LARGER DIAMETER HELICAL FLANGE OR ONE WITH A LARGER HELICAL FLUTES.
 - c. REDUCE THE LEAD ON THE INDIVIDUAL GROUND SCREWS BY PROVIDING ADDITIONAL GROUND SCREWS AT A REDUCED SPACING. CONTACT ENGINEER OF RECORD FOR DETERMINATION OF MAXIMUM PILE SPACING BASED UPON DEVELOPMENT REQUIRED.

James C Douglas
Digitally signed by James C Douglas
Date: 2025.07.17 15:42:40 -0400



PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 40021. EX-BOTHAM DATE: 12/15/21

DATE	REVISION	DESIGNED BY	REVIEW BY
07/17/2025	ORIGINAL	JD	JD

S-2

Solar Foundations' USA
1142 River Road, New Castle, DE 19726
PH: (855) 746-7222 FAX: (855) 746-7223
LUMINA SOLAR
-PROJECT-
CARDOSO, NUNO
3612 FOXVIEW CT
CLARKSVILLE, MD 21029

FOR PERMITTING USE ONLY

WORKSITE ADDRESS:

NUNO CARDOSO

5612 FOXVIEW COURT,
CLARKSVILLE, MD, 21029

CONTRACTOR INFO:



LUMINA
3600 COMMERCE DR
SUITE 601
BALTIMORE, MD 21227
(443) 955-0779

LICENSE NUMBER:

MHIC-30991

REV	DATE
IFC	07-18

LOAD CALCS & ASSEMBLY DETAILS

S002

Solar Foundations
USA



LUMINA SOLAR
PROJECT -
CARDOSO, NUNO
5612 FOXVIEW CT
CLARKSVILLE, MD 21029

James C
Douglas

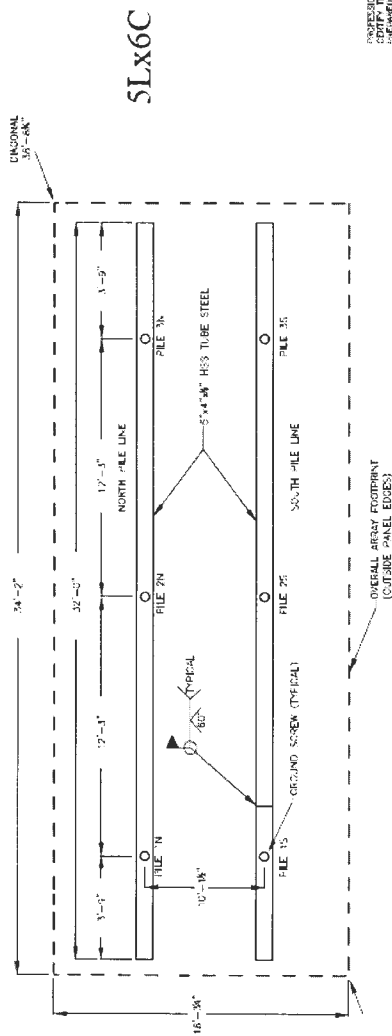
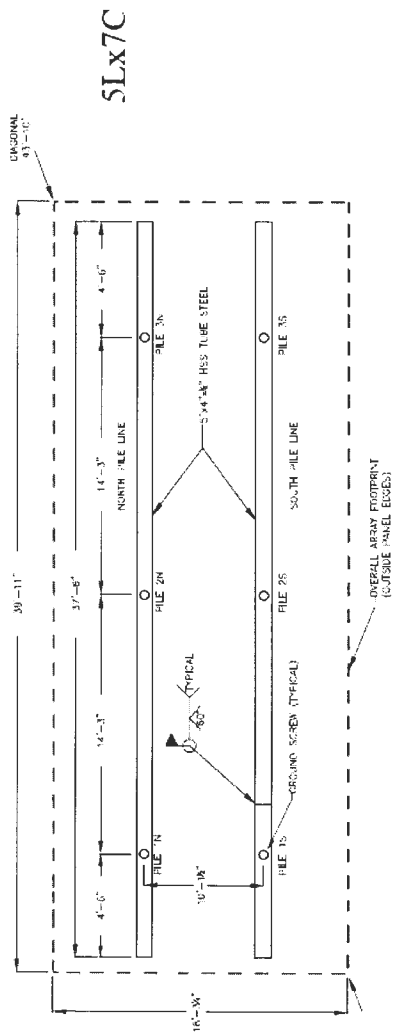
Digitally signed by
James C Douglas
Date: 2025.07.17
15:43:03 -0400

STATE OF MARYLAND
JAMES C. DOUGLAS
No. 4006
PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATE NO. 4006, I HEREBY
CERTIFY THAT THESE DOCUMENTS WERE
PREPARED AND SIGNED BY ME AND THAT
I AM A LICENSED PROFESSIONAL ENGINEER
WHOEXERCISES THE LAND OF THE STATE
EXPIRATION DATE 3/31/27

DATE	REVISION
07/17/2025	ORIGINAL

S-3



PILE PLAN LAYOUT
NTS

FOR PERMITTING USE ONLY

WORKSITE ADDRESS:
NUNO CARDOSO
5612 FOXVIEW COURT,
CLARKSVILLE, MD, 21029

CONTRACTOR INFO:

LUMINA
3600 COMMERCE DR
SUITE 601
BALTIMORE, MD 21227
(443) 955-0779

LICENSE NUMBER:
MHIC-30991

REV	DATE
IFC	07-18

LOAD CALC &
ASSEMBLY
DETAILS

S003

CONDUCTOR AND CONDUIT SCHEDULE

TAG	WIRE SIZE (AWG)	GROUND SIZE (AWG)	WIRE TYPE	DESCRIPTION	CONDUIT SIZE (in)	CONDUIT TYPE	LENGTH (ft)
SEU	#4/0	N/A	SEU	AI (2) PHASE CONDUCTORS & (1) NEUTRAL	N/A	N/A	5'
A	#12	#6	Q-Cable	Cu (2) PHASE CONDUCTORS & (1) BARE COPPER IN FREE AIR	N/A	N/A	77' MAX
B	#10	#8	THHN/THWN	Cu (6) PHASE CONDUCTORS & (1) GROUND	0.75	EMT	15
C	#1-0	#6	THHN/THWN	Cu (2) PHASE CONDUCTORS & (1) NEUTRAL & (1) GROUND	1.5	FMC	15
D	#1-0	#6	THHN/THWN	Cu (2) PHASE CONDUCTORS & (1) NEUTRAL & (1) GROUND	1.5	LFMC	5
E	#1-0	#6	THHN/THWN	Cu (2) PHASE CONDUCTORS & (1) NEUTRAL & (1) GROUND	1.5	LFMC	10
F	#10	#8	THHN/THWN	Cu (8) PHASE CONDUCTORS & (1) GROUND	0.75	EMT	15
G	#4-0	#1-0	XHHW-2	AI (2) PHASE CONDUCTORS & (1) NEUTRAL & (1) GROUND	2	Sch40PVC	150
H	#4	#8	THHN/THWN	Cu (2) PHASE CONDUCTORS & (1) NEUTRAL & (1) GROUND	1.25	Sch40PVC	25
I	#4-0	#1-0	XHHW-2	AI (2) PHASE CONDUCTORS & (1) NEUTRAL & (1) GROUND	2	FMC	65
J	#4	#8	THHN/THWN	Cu (2) PHASE CONDUCTORS & (1) NEUTRAL & (1) GROUND	1	FMC	10

EQUIPMENT SCHEDULE

TAG	EQUIPMENT DETAILS	MOUNTING LOCATION
T1	200 AMP SQUARE D HOM MAIN SERVICE PANEL WITH 200 AMP MAIN BREAKER (400 AMP SERVICE)	FLUSH MOUNTED ON WALL OPPOSITE UTILITY METER
1	225A MAIN LUG COMBINER (MODEL #HOM4080L225PGC) WITH CIRCUITS AS LISTED IN SCHEDULE	MOUNTED AT ARRAY A
2	SERVICE RATED 200A NON-FUSED DISCO (MODEL #D224NRB)	MOUNTED ADJACENT TO UTILITY METER
3	200A MBE (MODEL #QGM2E220NRB) WITH 2-POLE, 150 AMP BREAKER	MOUNTED ADJACENT TO MAIN SERVICE PANEL
4	SERVICE RATED 200A NON-FUSED DISCO (MODEL #D224NRB)	MOUNTED AT ARRAY A
5	SERVICE RATED 100A NON-FUSED DISCO (MODEL #DU323RB)	MOUNTED AT ARRAY B
6	100A MAIN LUG COMBINER (MODEL #QO816L100RB) WITH CIRCUITS AS LISTED IN SCHEDULE	MOUNTED AT ARRAY B
7	70A SOLAR PV BACKFED BREAKER	INSTALLED INSIDE MAIN PV COMBINER PANEL

FOR PERMITTING USE

WORKSITE ADDRESS:

NUNO CARDOSO
5612 FOXVIEW COURT,
CLARKSVILLE, MD, 21029

CONTRACTOR INFO:


LUMINA
3600 COMMERCE DR
SUITE 601
BALTIMORE, MD 21227
(443) 955-0779

LICENSE NUMBER:

MHIC-30991

REV	DATE
IFC	07-18

3-LINE
DIAGRAM

E001

CIRCUIT SCHEDULE

CIRCUIT	INVERTER COUNT	AMPERAGE CALCULATION	BREAKER SIZE
ENVOY BREAKER: 15 AMP (EB1)			
#1	10	$10 \times 1.58 \times 125\% = 19.75 \text{ A}$	20 AMP (CB1)
#2	10	$10 \times 1.58 \times 125\% = 19.75 \text{ A}$	20 AMP (CB2)
#3	10	$10 \times 1.58 \times 125\% = 19.75 \text{ A}$	20 AMP (CB3)
#4	9	$9 \times 1.58 \times 125\% = 17.78 \text{ A}$	20 AMP (CB4)
#5	9	$9 \times 1.58 \times 125\% = 17.78 \text{ A}$	20 AMP (CB5)
#6	9	$9 \times 1.58 \times 125\% = 17.78 \text{ A}$	20 AMP (CB6)
#7	8	$8 \times 1.58 \times 125\% = 15.8 \text{ A}$	20 AMP (CB7)

Enphase IQ6X RATINGS

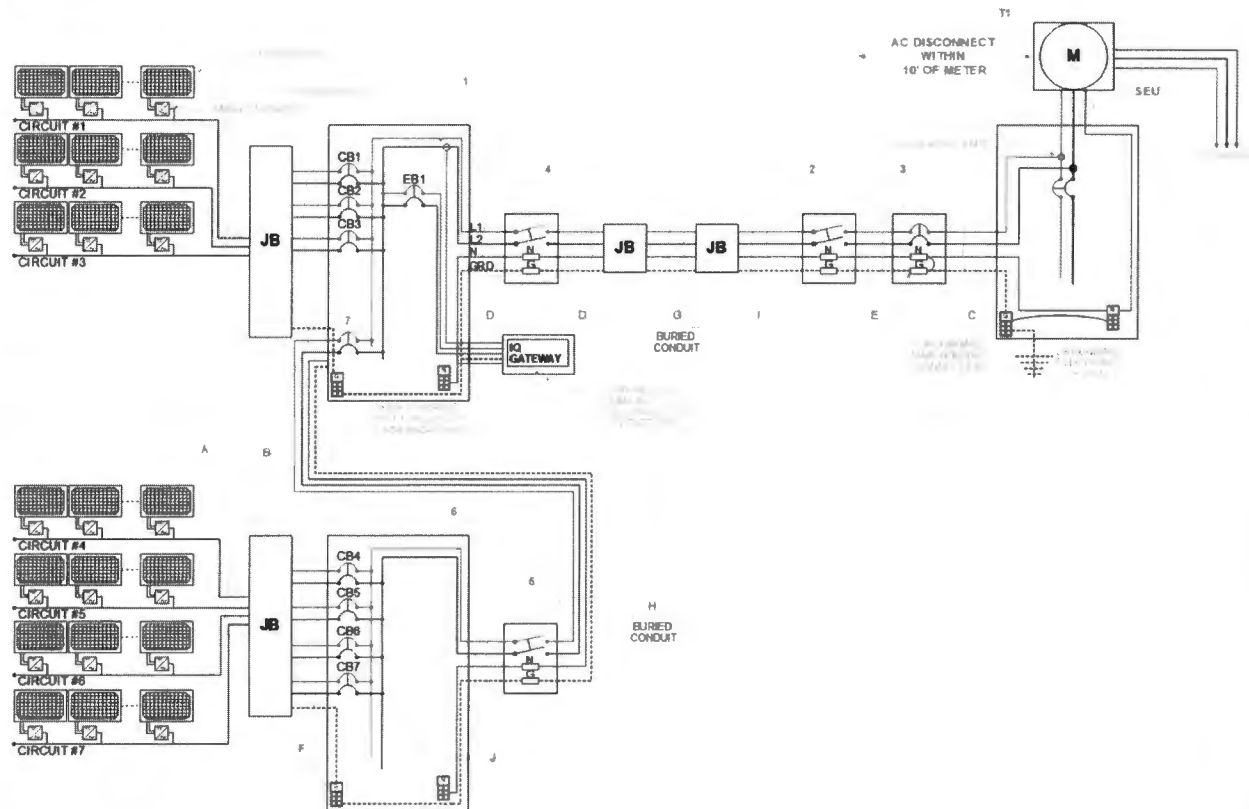
I _{max} (ac):	1.58 A
V _{max} (dc):	79.5 V
P _{max} :	380 W
P _{peak} (ac):	384 W

REC460AA PURE-RX RATING

I _{sc} (dc):	8.88 A	400 AMP 120/240V SERVICE
V _{oc} (dc):	65.8 V	UTILITY METER #156321975
P _{max} :	460 W	DC SYSTEM SIZE: 29.9 kW (124.59A)
OCPD:	25 A	AC SYSTEM SIZE: 24.7 kW (102.92A)

NOTES

- 1) WHEN THE AC UTILITY SOURCE IS REMOVED FROM THE INVERTER OUTPUT CIRCUITS VIA ANY MEANS, THIS EQUIPMENT PERFORMS THE RAPID SHUTDOWN FUNCTION PER 690.12
- 2) ARRAY BONDED WITH #6 BARE Cu
- 3) TWO UNGROUNDED CONDUCTORS PER CIRCUIT OF INVERTERS (TYP)
- 4) ALL CONDUIT SIZING WILL BE IN ACCORDANCE TO THE NEC, CHAPTER 9
- 5) PVC OR LFMC MAY BE USED INSTEAD OF EMT CONDUIT
- 6) THE AC DISCONNECT IS LOCKABLE, TAGGABLE, 24/7 UTILITY ACCESSIBLE, LOAD BREAK CAPABLE, AND HAS VISIBLE BREAK.
- 7) SMART INVERTER COMPLIANT



CALCULATION FOR PV BREAKER

SYSTEM CURRENT (Amps)	1.58	X	65	=	102.70
DESIGN CURRENT (Amps)	102.70	X	125%	=	128.38
BUSBAR RATING (120% RULE)	200	X	120%	=	240
EXISTING MAIN BREAKER				=	200
MAX SOLAR BREAKER (Amps)	240	-	200	=	40

ARRAY TO COMBINER

Conductor Type	THHN/THWN
Conductor Material	COPPER
Largest Circuit Amperage	15.8
Qty. of Current-Carrying Conductors	6
Load Duty Multiplier	1.25
Ambient Temp Derate Factor	0.94
Qty. of Conductors Derate Factor	0.80
Minimum Required Terminal Ampacity	19.75
Minimum Required Conductor Ampacity	22
Selected Conductor Size (AWG)	10
Selected Conductor Ampacity	30
Ohms/MilFt	1.240
Length of Run (ft)	15
Voltage Drop	0.59
Percent Voltage Drop	0.25%

ARRAY TO COMBINER

Conductor Type	THHN/THWN
Conductor Material	COPPER
Largest Circuit Amperage	14.22
Qty. of Current-Carrying Conductors	8
Load Duty Multiplier	1.25
Ambient Temp Derate Factor	0.94
Qty. of Conductors Derate Factor	0.70
Minimum Required Terminal Ampacity	17.78
Minimum Required Conductor Ampacity	22
Selected Conductor Size (AWG)	10
Selected Conductor Ampacity	30
Ohms/MilFt	1.240
Length of Run (ft)	15
Voltage Drop	0.53
Percent Voltage Drop	0.22%

INTERCONNECTION (LINE SIDE TAP)

Conductor Type	THHN/THWN
Conductor Material	COPPER
Largest Circuit Amperage	102.70
Qty. of Current-Carrying Conductors	3
Load Duty Multiplier	1.25
Ambient Temp Derate Factor	1.00
Qty. of Conductors Derate Factor	1.00
Minimum Required Terminal Ampacity	128.38
Minimum Required Conductor Ampacity	129
Selected Conductor Size (AWG)	1-0
Selected Conductor Ampacity	150
Ohms/MilFt	0.122
Length of Run (ft)	15
Voltage Drop	0.376
Percent Voltage Drop	0.16%

TRENCH

Conductor Type	XHHW-2
Conductor Material	ALUMINUM
Largest Circuit Amperage	102.7
Qty. of Current-Carrying Conductors	3
Load Duty Multiplier	1.25
Ambient Temp Derate Factor	1.00
Qty. of Conductors Derate Factor	1.00
Minimum Required Terminal Ampacity	128.38
Minimum Required Conductor Ampacity	129
Selected Conductor Size (AWG)	4-0
Selected Conductor Ampacity	180
Ohms/MilFt	0.100
Length of Run (ft)	150
Voltage Drop	3.08
Percent Voltage Drop	1.30%

TRENCH

Conductor Type	THHN/THWN
Conductor Material	COPPER
Largest Circuit Amperage	55.3
Qty. of Current-Carrying Conductors	3
Load Duty Multiplier	1.25
Ambient Temp Derate Factor	1.00
Qty. of Conductors Derate Factor	1.00
Minimum Required Terminal Ampacity	69.13
Minimum Required Conductor Ampacity	70
Selected Conductor Size (AWG)	4
Selected Conductor Ampacity	85
Ohms/MilFt	0.308
Length of Run (ft)	25
Voltage Drop	0.85
Percent Voltage Drop	0.36%

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LICENSE NUMBER:

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WIRE CALCS

E002

NOTES

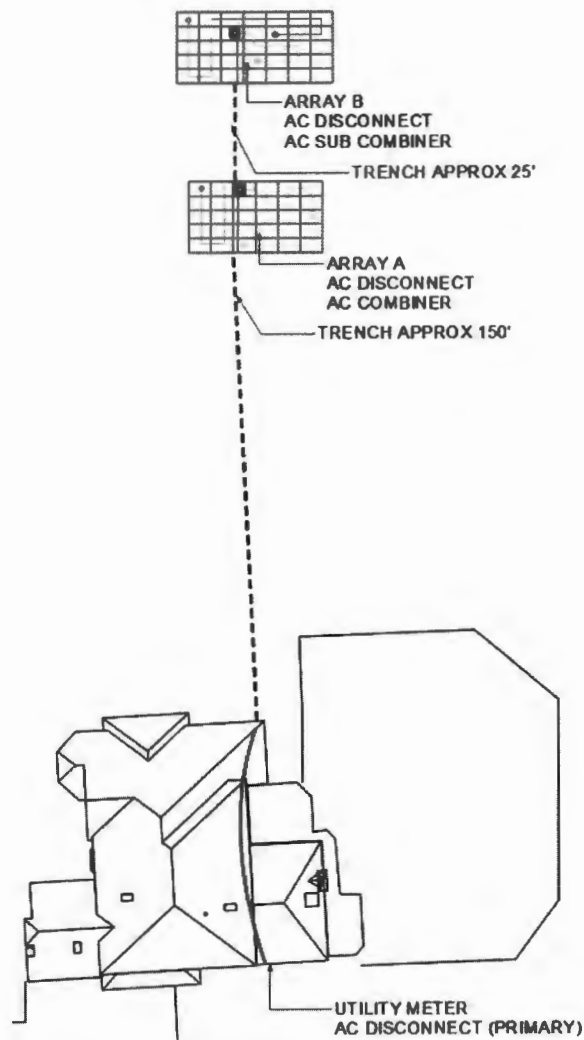
1) 1) ALL CONDUCTORS SHALL BE COPPER, RATED FOR 75°C AND WET ENVIRONMENT, UNLESS OTHERWISE NOTED.

3) MODULE GROUNDING CLIPS TO BE INSTALLED BETWEEN MODULE FRAME AND MODULE SUPPORT RAIL, PER MANUFACTURER'S INSTRUCTION.

2) ALL WIRE TERMINATIONS SHALL BE APPROPRIATELY LABELED AND READILY VISIBLE.

DESIGN VARIABLES

Ambient Indoor Temp (°C)	26-30
Ambient Outdoor Temp (°F)	94
Outdoor Temp Adder (°F)	N/A
Adjusted Outdoor Temp (°F)	94
Terminal Temp Rating (°C)	75



FOR PERMITTING USE ONLY

WORKSITE ADDRESS:

NUNO CARDOSO

5612 FOXVIEW COURT,
CLARKSVILLE, MD, 21029

CONTRACTOR INFO:



LUMINA
3600 COMMERCE DR
SUITE 601
BALTIMORE, MD 21227
(443) 955-0779

LICENSE NUMBER:

MHIC-30991

REV	DATE
IFC	07-18

CIRCUIT &
CONDUIT MAP

E003

Color	Circuit	Mod. Count
	#1	10
	#2	10
	#3	10
	#4	9
	#5	9
	#6	9
	#7	8

LEGEND

	JUNCTION BOX
	SOLADECK
	END CAP
	EXTERIOR CONDUIT
	ATTIC CONDUIT
	INTERIOR CONDUIT
	CIRCUIT GUARDS
	TRUNK CABLE

NOTES

CRITTER GUARDS ARE NOT A COMPONENT OF THIS INSTALLATION.

SOLAR MODULE: REC460AA PURE-RX

INVERTER: IQ8X-80-M-US

DC SYSTEM SIZE: 29.9 kW

AC SYSTEM SIZE: 24.7 kW

Solar Module Ratings
REC460AA PURE-RX
Length: 68 in
Width: 47.4 in
Thickness: 1.2 in
Weight: 50 lbs
Imp: 8.38 A
Vmp: 54.9 V
Voc: 65.8 V
Isc: 8.88 A
OCPD: 25 A
Pmax: 460 W
Vmax: 1000 V
Temp. Coefficient: -0.24 %Voc/°C
Square Footage: 22.38 sq.ft.

Inverter Ratings
IQ8X-80-M-US
Max # Per String: 10
Imax (ac): 1.58 A
Vmax (dc): 79.5 V
Pmax: 380 W
Nom. AC Voltage: 240 V
OCPD: 20 A
Weight: 2.4 lbs
Imax (Input): 16 A
Pmax (dc) Input: 540 V
Ppeak (AC): 384 W

1 **WARNING: PHOTOVOLTAIC POWER SOURCE**

2 **PHOTOVOLTAIC DC DISCONNECT**

3 **PHOTOVOLTAIC AC DISCONNECT**

4 **PHOTOVOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN**

5 **RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM**

6 **INTERACTIVE PHOTOVOLTAIC SYSTEM CONNECTED**

7 **WARNING**
DUAL POWER SOURCE. SECOND SOURCE IS PHOTOVOLTAIC SYSTEM.

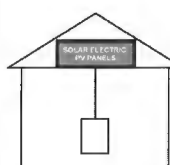
8 **WARNING**
INVERTER OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE.

9 **WARNING**
ELECTRICAL SHOCK HAZARD

DO NOT TOUCH TERMINALS! TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION!

10 **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 ARRAY.



11 **SOLAR PV SYSTEM DISCONNECT**
RATED AC OUTPUT CURRENT: 102.70 A
NOM. OPERATING AC VOLTAGE: 240 V

12 **WARNING**
ELECTRICAL SHOCK HAZARD

IF GROUND FAULT IS INDICATED, NORMALLY GROUNDED CONDUCTORS MAY BE UNGROUNDED AND ENERGIZED.

FOR PERMITTING USE ONLY

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EQUIP.
RATINGS &
SIGNAGE

E004

NOTES

- 1) Label to be installed at exposed raceways, cabletrays, and other wiring methods; spaced at maximum 10ft sections or where separated by enclosures, walls, partitions, ceilings, or floors.
2) Label to be installed at each DC disconnecting means.
3) Label to be installed at each AC disconnecting means.
4) Label to be installed at Rapid Shutdown Switch (RSD).
5) Label to be installed on, or no more than 3ft from, the RSD.
- 6) Label to be installed at utility meter.
7) Label to be installed on exterior of main electrical panel.
8) Label to be applied to the distribution equipment.
9) Label to be applied at each disconnect means for the PV equipment.
10) Label to be installed on, or no more than 3ft from, the service disco.
11) Label to be installed at an accessible location at the disco means.
- 12) Label to be applied at each disconnect means for the PV equipment.
13) All plaques and labels shall have a red background (or as shown here)
14) All lettering shall be white & have a minimum height of 3/8" (or as shown here)
15) Font shall be arial (or similar) and all lettering shall be capitalized.
16) All plaques and labels shall be of a material suitable for the environment installed

PRODUCT	QTY
Modules & Inverters	
REC460AA PURE-RX	65
IQ8X-80-M-US	65
Rails	
SEE SOLAR FOUNDATIONS CONTRACT	N/A
Racking, Attachments & Related Items	
Enphase Terminator Cap	7
Enphase Seal Cap	2
Enphase IQ Trunk Cable, Landscape	67

Combiners, Disconnects, Enclosures	
5x5x2 PVC Junction Box	2
225A Main Lug Combiner (Model #HOM4080L225PGC)	1
Service Rated 200A Non-Fused Disco (Model #D224NRB)	1
200A MBE (Model #QOM2E2200NRB)	1
Service Rated 200A Non-Fused Disco (Model #D224NRB)	1
Service Rated 100A Non-Fused Disco (Model #DU323RB)	1
100A Main Lug Combiner (Model #QO816L100RB)	1
Enclosure For Envoy (Model #IPE 278308 (JBX12124))	1
Miscellaneous & Manual Additions	
[Envoy] ENV-IQ-AM1-240	1
Cell Kit	1
Lumina Salesperson Yard Sign	2
Junction Box	

PRODUCT	QTY
Breakers, Fuses, Taps	
2 pole, 20 Amp Breaker (For Combiner; check 3-line for type)	7
4/0-10 Insulating Taps	2
2-POLE, 150 AMP BREAKER	1
2-POLE, 70A, HOM Circuit Breaker	1
2 pole, 15 amp breaker (For Envoy)	1

CONDUCTOR SCHEDULE

SIZE (AWG)	THWN-2				XHHW-2			
	RED (FT)	BLACK (FT)	WHITE (FT)	GREEN (FT)	RED (FT)	BLACK (FT)	WHITE (FT)	GREEN (FT)
10	30	30	30					
8				65				
6				20				
4	35	35	35					
1-0	20	20	20					215
4-0					215	215	215	
#6 Bare Copper Ground					10 FT			
#18 AWG Cu, 7 Strand (CT Wiring)					NONE			

Please note that duplicate
line items are not a mistake

FOR PERMITTING USE ONLY

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SOLAR BOM

X001

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REV	DATE
IFC	07-18

SERVICE BOM

X002

NOTE: CONSUMPTION CTs WILL NOT BE INSTALLED



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(443) 955-0779

LICENSE NUMBER:

MHIC-30991

REV	DATE
IFC	07-18

PROJECT
NOTES

X003

SOLAR PV SYSTEM: 29.9 kWp

CARDOSO RESIDENCE

5612 FOXVIEW COURT, CLARKSVILLE, MD, 21029

PROJECT INFORMATION

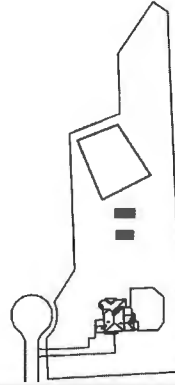
OWNER: NUNO CARDOSO
ADDRESS: 5612 FOXVIEW COURT,
CLARKSVILLE, MD, 21029

AHJ: HOWARD COUNTY (MD)

ADDRESS: 3430 COURT HOUSE DRIVE,
ELLCOTT CITY, MD, 21043

ZONING: RESIDENTIAL
OCCUPANCY: SINGLE-FAMILY DWELLING (R-3)
BUILDING CODE: IBC 2021
ELECTRICAL CODE: NEC 2023
ASCE VERSION: ASCE 7-16
SNOW LOAD: 40 PSF
WIND SPEED: 115 MPH
WIND EXPOSURE: B

DC RATING: 29.9 kW
AC RATING: 24.7 kW
RACKING: SOLAR FOUNDATIONS
MODULE: (65) REC460AA PURE-RX
INVERTER: (65) IQ8X-80-M-US



PROJECT SCOPE

THIS PROJECT INVOLVES THE INSTALLATION OF (65) REC460AA PURE-RX SOLAR MODULES. THE SOLAR MODULES WILL BE RACKED USING A PRE-ENGINEERED RACKING SYSTEM. THE RACKED MODULES WILL BE ELECTRICALLY CONNECTED TO (65) IQ8X-80-M-US DC TO AC POWER INVERTERS, AND INTERCONNECTED TO THE LOCAL UTILITY USING MEANS AND METHODS CONSISTENT WITH THE RULES ENFORCED BY THE LOCAL UTILITY AND PERMITTING JURISDICTION.

INDEX OF PAGES

Z001 COVER PAGE
A00(##) ATTACHMENT & SITE PLANS
S00(##) ASSEMBLY & LOAD CALCS
E001 3-LINE DIAGRAM
E002 WIRE CALCS
E003 CIRCUIT & CONDUIT MAP
E004 EQUIPMENT RATINGS & SIGNAGE
X00(##) BOM, NOTES, MISCELLANEOUS

FOR PERMITTING USE ONLY

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(443) 955-0779

LICENSE NUMBER:

MHIC-30991

REV DATE

IFC 07-18

COVER

Z001

GENERAL NOTES

1) THIS PHOTOVOLTAIC (PV) SYSTEM SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE (NEC) ARTICLE 690, ALL MANUFACTURERS'S LISTING AND INSTALLATION INSTRUCTIONS, AND THE RELEVANT CODES AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION (AHJ).

2) ALL SIGNAGE TO BE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE AND AS REQUIRED BY THE NEC AND AHJ.

3) PV SYSTEM CIRCUITS INSTALLED ON OR IN BUILDINGS SHALL INCLUDE A RAPID SHUTDOWN FUNCTION TO REDUCE SHOCK HAZARD FOR EMERGENCY RESPONDERS

4) THIS SYSTEM IS A UTILITY INTERACTIVE SYSTEM, AND THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE.

FOR ENGINEERING USE ONLY

Oswald Jr, Woodin

From: Oswald Jr, Woodin
Sent: Friday, August 1, 2025 8:53 AM
To: permits@fusionss.net
Cc: jrice@fusionss.net
Subject: B25002920_5612 Foxview Court_Site plan revision comments
Attachments: A41016_05-410967_5612_FOXVIEW_COURT.pdf

Hello Mr. Rice,

Please revise the building permit site plan (BP# B25002920) to an engineer scale (1:30, 1:40, 1:50, 1:60) and show the septic tank, the well and the SHC connection meeting a 5 foot setback to the proposed solar panels. The as-built drawing on page #2 of the septic record (see attached) shows the locations of these components. A site visit may be required for this. Once the revision has been uploaded to the permit system, please let me know.

Should you have any questions, please don't hesitate to ask.

Regards,

Hank

Hank Oswald
Licensed Environmental Health Specialist
Bureau of Environmental Health
Howard County Health Department
8930 Stanford Blvd. Columbia, MD 21045
(410) 313 - 1786
www.hchealth.org

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05-410967

PERMIT

SEWAGE DISPOSAL SYSTEM

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

HOWARD COUNTY HEALTH DEPARTMENT

BUREAU OF ENVIRONMENTAL HEALTH

~~XXXXXXXX~~ 313-2640

INDEXED

DATE SYSTEM APPROVED 9-8-94

INSPECTOR Allen

Fogle's Septic Clean, Inc.

IS PERMITTED TO INSTALL X ALTER

ADDRESS 558 Obrecht Road, Sykesville, Maryland 21784 PHONE 795-5674

SUBDIVISION Foxview Manor LOT 3 ROAD 5612 Foxview Court

PROPERTY OWNER Robert S. & Julia G. White

ADDRESS _____

SEPTIC TANK CAPACITY 1250 GALLONS

NUMBER OF BEDROOMS 4

210 SQUARE FEET PER BEDROOM

LINEAR FEET OF TRENCH REQUIRED 210

TRENCHES - Trench to be 2 feet wide. Inlet 4 feet below original grade. Bottom maximum depth 8 feet below original grade. Effective area begins at 4 feet below original grade. 4 feet of stone below distribution pipe.

LOCATION - Beginning at the intersection of the front lot line (267.7') and the left lot line (109.11') when viewing the lot from Foxview Court, place the distribution box 100 feet down the front lot line (267.7') and 70 feet off that same lot line. Run the trenches on contour toward the back lot lot line (109.11') when viewing the lot from Foxview Court.

NOTES - No trench to exceed 100 feet in length. Provide 6" - 8" diameter cleanout and cap to grade or above on septic tank. OK 5/24/94 DKS

PLANS APPROVED BY Jane Nadeau/Amy McMillen DATE 11/2/94 032894

COVER NO WORK UNTIL INSPECTED AND APPROVED

NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM

NOTE: CLEANOUT REQUIRED EVERY 70 FEET OF SEWER LINE AND/OR AT 90° SWEEPS IN LINES FROM HOUSE TO DRAIN FIELDS, 90° ELBOWS NOT ACCEPTABLE.

NOTE: ALL PARTS OF SEPTIC SYSTEMS (I.E. TANK, DISTRIBUTION BOX TRENCHES) TO BE 100 FEET FROM WELL (UNLESS OTHERWISE SPECIFICALLY AUTHORIZED)

NOTE: IF DEEP TRENCH(ES) ARE USED CALL FOR INSPECTION BEFORE AND AFTER PLACING GRAVEL IN TRENCH(ES)

NOTE: NO DRY WELL SHALL EXCEED 15 FOOT IN DIAMETER NO ABSORPTION TRENCH TO EXCEED 100 FEET IN LENGTH

NOTE: ALL PIPE FROM HOUSE TO SEPTIC TANK MUST BE CAST IRON OR SCHEDULE 35/40 PVC OR ABS

PERMIT VOID AFTER TWO YEARS

NOTE: INSTALL STAND PIPE ON SEPTIC TANK AND DRY WELL STAND PIPES MUST BE 6 INCHES IN DIAMETER CAST IRON. CONCRETE OR TERRA COTTA OR PVA OR ABS ACCEPTED. IF TOP OF SEPTIC TANK IS DEEPER THAN 3 FEET, MANHOLE TO GRADE REQUIRED.

NOTE: DISTRIBUTION BOXES MUST HAVE BAFFLES

***INSTALLER IS RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT**

HD-260(6-90)

*CALL 461-8833 FOR INSPECTION OF SEPTIC SYSTEM.

BLDG. PERMIT SIGNED

COPIES RETURNED 3-26-97

Serial # BOM 16923
Interior Attenuator

BUILDING PERMIT SIGNED

AND RETURNED 4/18/02

DATE 032894

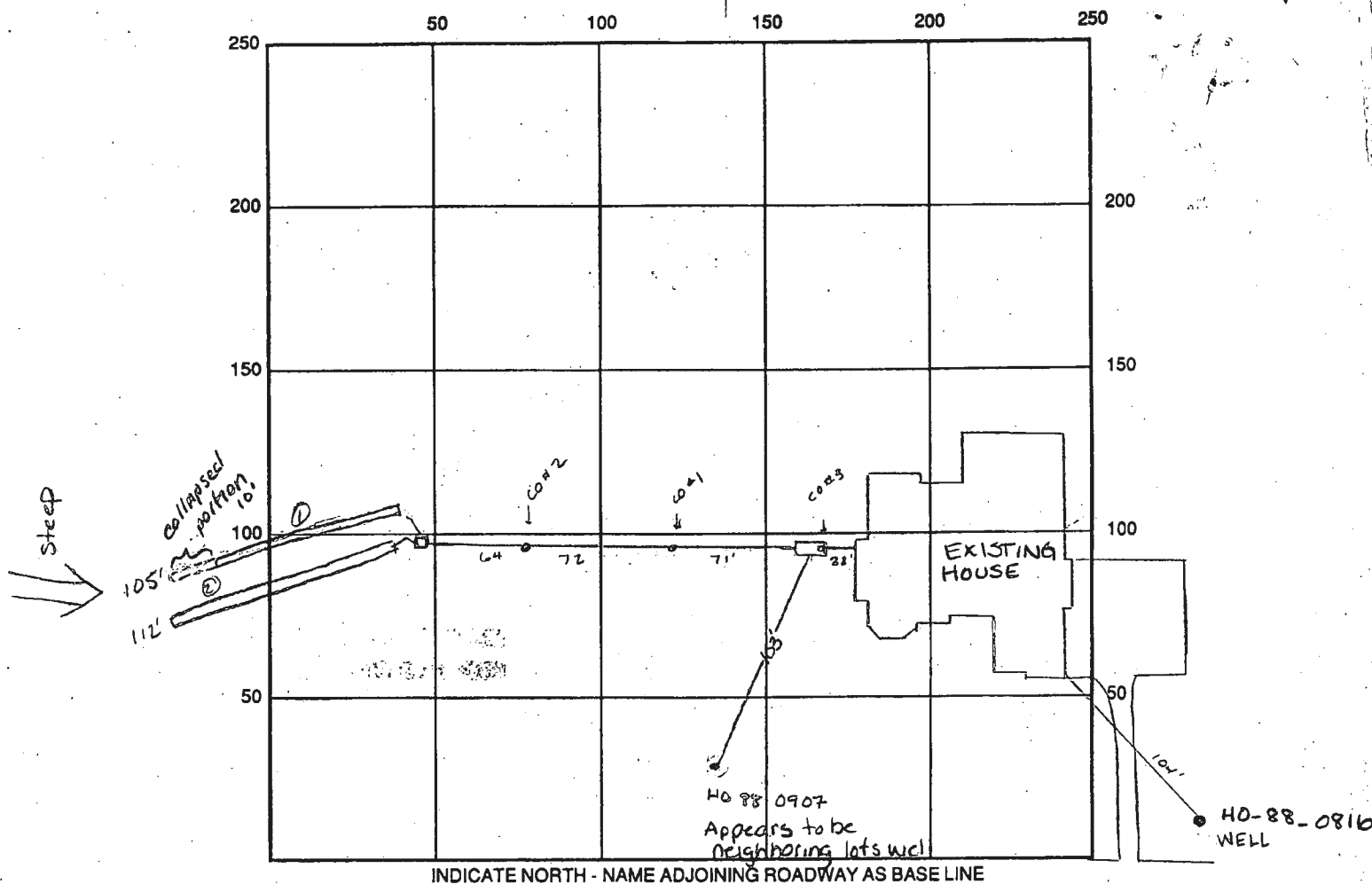
BUD135578 IL POOL

BLDG. PERMIT SIGNED

NAME RELINQUISHED 6-18-97

Serial # B7106590 - dub.

4/8/16



SEPTIC TANK LEVEL OK 1250 gal CLEANOUTS #1, #2, #3 OK

DISTRIBUTION BOX LEVEL OK baffle is in

DRAIN FIELD/TITLE DEPTH 8' FT. TRENCH WIDTH 2' FT. INLET DEPTH 4' FT.

EFFECTIVE GRAVEL DEPTH 4' FT. TOTAL LENGTH 217 linear feet

NUMBER OF TRENCHES 2 ONE SIDEWALL/BOTTOM AREA 868 SQ. FT.

DRYWALL INSIDE DIAMETER FT. EFFECTIVE DEPTH BELOW INLET FT.

ABSORBENT AREA SQ. FT.

REMARKS: 9-8-94 House connection made Hole #1 collapsed at end - since
trenches too long - they don't have to use it. OK to fill trenches w/ stone Arm
OK to cover all work final. Arm

DATE SYSTEM APPROVED 9-8-94 INSPECTOR Amy M. Miller

SEWAGE SYSTEM DATA
 INV. @ HOUSE 420.0

SEPTIC TANK

BR. GRADE	429.8
FIN. GRADE	429.6
INV. IN	429.6
INV. OUT	429.3

DISTRIBUTION BOX

EX. GRADE	428.6
FIN. GRADE	428.6
INV. IN	428.3
INV. OUT	428.3

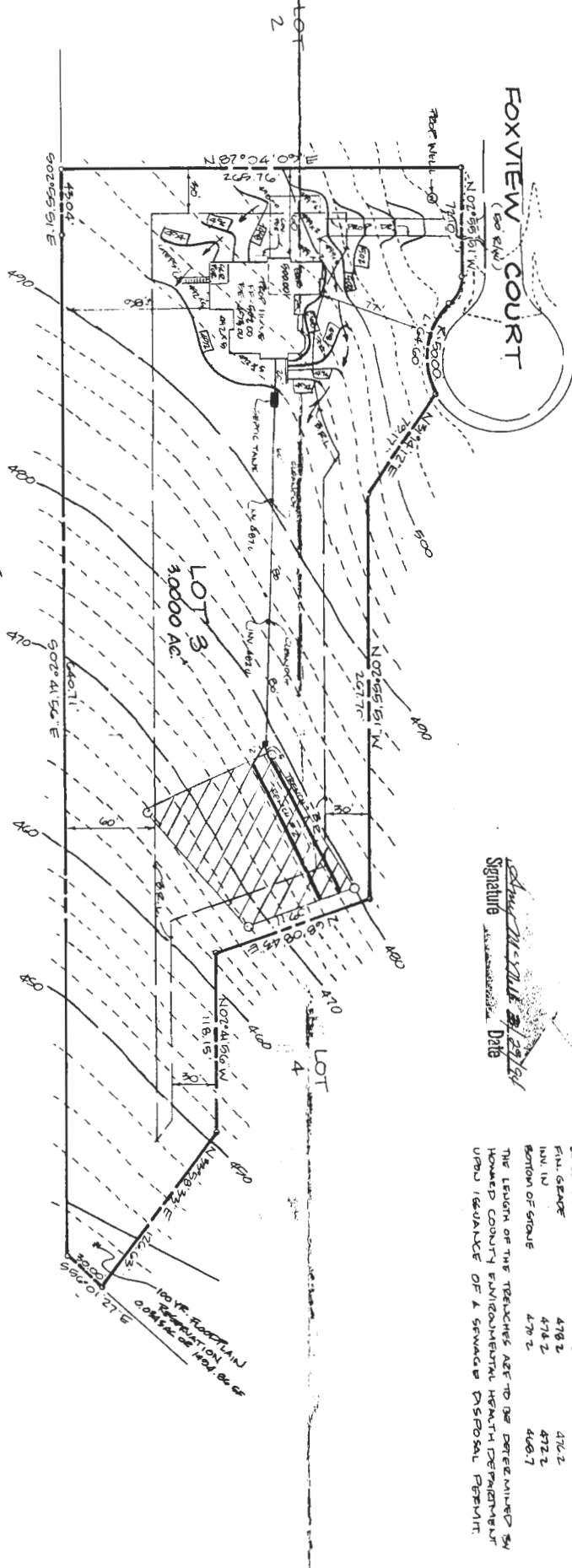
TRENCHES

#	1	2
EX. GRADE	428.2	427.2
FIN. GRADE	428.2	427.2
INV. IN	428.2	427.2
INV. OUT	428.2	428.7

THE LENGTH OF THE TRENCHES ARE TO BE DETERMINED BY HOWARD COUNTY ENVIRONMENTAL HEALTH DEPARTMENT UPON REQUEST OF A SEWER DISPOSAL PERMIT.

Approved Septic System Plan
 Howard County Health Department

Signature *[Signature]* Date *11/29/04*



195
 3432

NOTES:

1. TOPOGRAPHY AROUND HERRON IS FROM HOWARD COUNTY 1:2500 SCALE PHOTOAERIALS AND SHOULD BE FIELD-VERIFIED PRIOR TO CONSTRUCTION. SEPTIC SYSTEM DETAILS VERTICAL IF TOPOGRAPHY AROUND HERRON IS FOUND TO BE INADEQUATE, CHANGES TO FLOOR ELEVATIONS, LOT GRADINGS, SEPTIC SYSTEM DETAILINGS MAY BE REQUIRED.
2. SEWAGE SERVICE TO EASEMENT LEVEL IS AVAILABLE.
3. TOTAL DISTURBED AREA = 18,750 sq ft

FOXVIEW MANOR
 SITE PLAN
 LOT 3

CHANABERGER & LANE
 8726 TOWN & COUNTRY BLVD
 SUITE 104
 ELLICOTT CITY, MD 21043
 410.461-9563

DATE: 11/29/04
 SCALE: 1"=50'
 DRAWN BY: J. B. BROWN
 CHECKED BY: J. B. BROWN
 DATE: 11/29/04