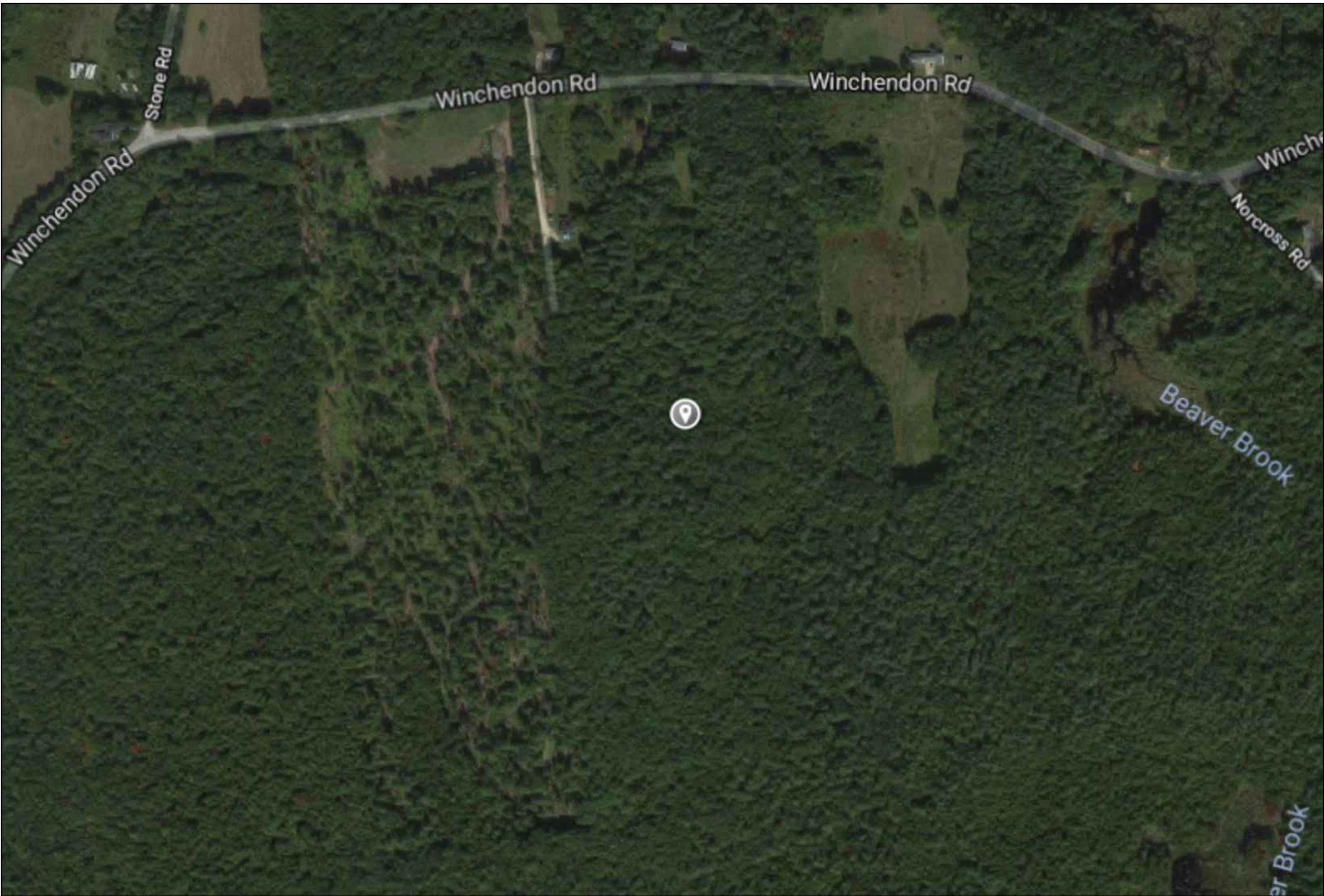
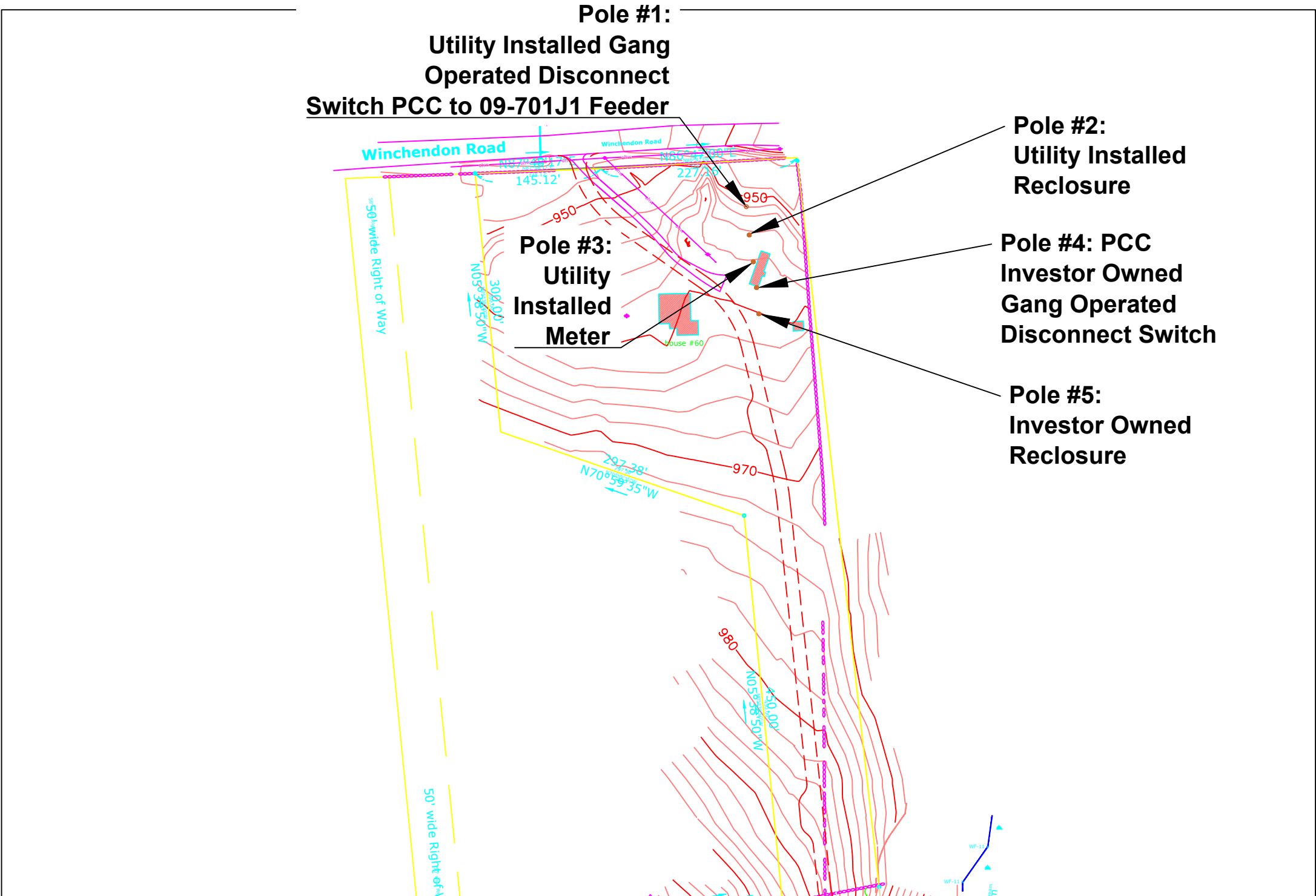
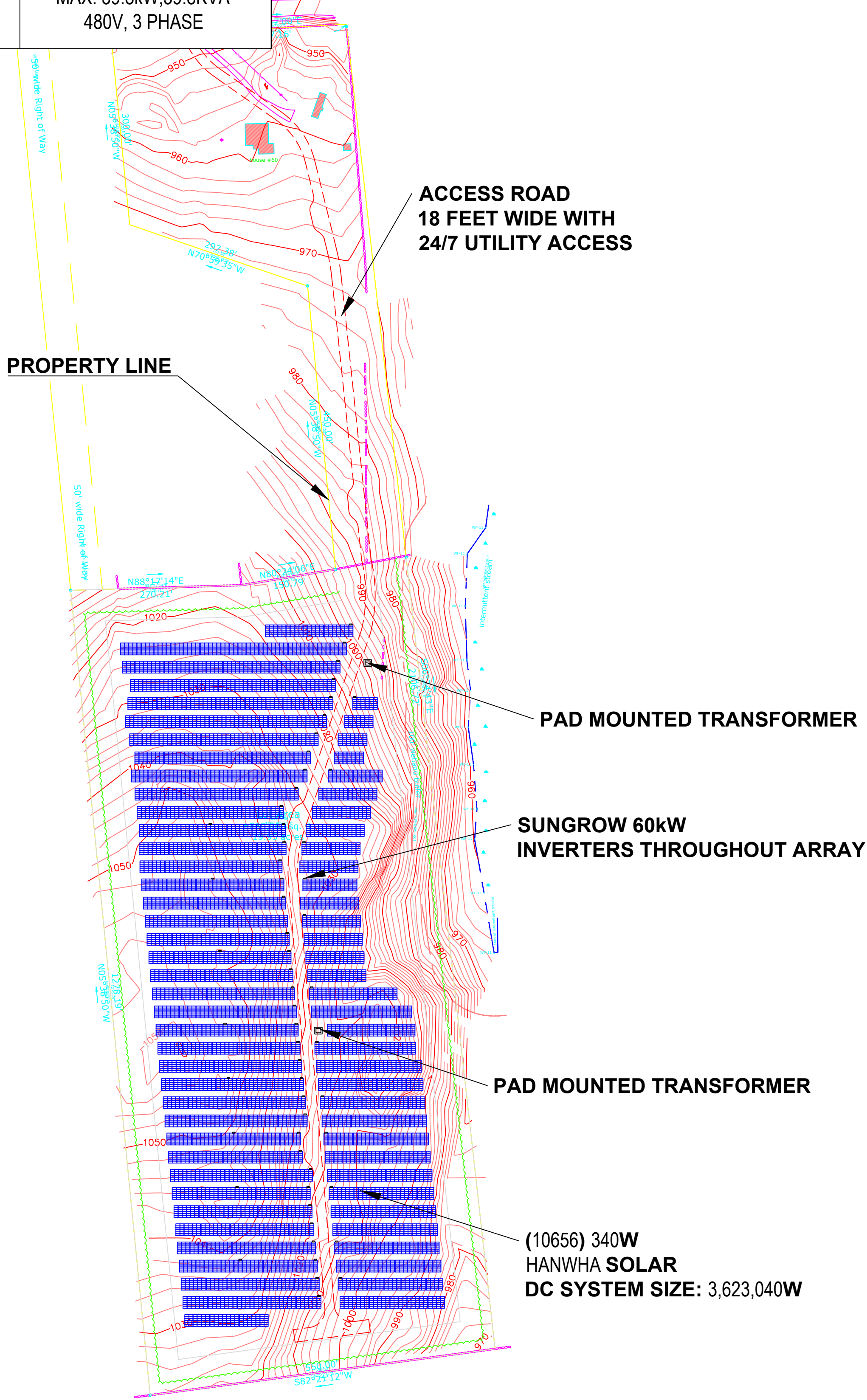


SYSTEM SIZE (DC)	3,623.04kW
SYSTEM SIZE (AC)	NOMINAL: 2496kW,2496KVA MAX: 2499.8kW,2499.8KVA
AZIMUTH	-135 TO 135 DEGREES
TILT	0 to 60 DEGREES
MODULES	(10656) HANWHA 340W
INVERTERS	(41) SUNGROW 60KU-M (1) SUNGROW 36KU
INVERTER OUTPUT	NOMINAL: 60kW,60KVA MAX: 60kW,60KVA NOMINAL: 36kW,36KVA MAX: 39.8kW,39.8KVA 480V, 3 PHASE



THIS DRAWING ILLUSTRATES THE WORK TO BE DONE. THE ENGINEER IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK, OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THIS DRAWING EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL DETERMINE ALL CONDITIONS AT THE SITE AND SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGEMENT OF THESE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.



No.	PRINT ISSUE	DATE
1	ISSUED FOR REVIEW	10/17/17
2	ISSUED FOR REVIEW	12/10/17
3	ISSUED FOR REVIEW	2/8/18
4	ISSUED FOR REVIEW	3/11/18
5	ISSUED FOR REVIEW	5/14/18

CODE	REVISION DESCRIPTION	DATE

USE AND INTERPRETATION OF THIS DRAWING.

1. GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ARE PART OF THE CONTRACT DOCUMENTS AND DESCRIBE USE AND INTENT OF THE DRAWING. THE CONTRACT DOCUMENTS INCLUDE NOT ONLY THE DRAWINGS, BUT ALSO THE OWNER-CONTRACTOR AGREEMENT, CONDITIONS OF THE CONTRACT, THE SPECIFICATIONS, ADDENDA, AND MODIFICATIONS ISSUED AFTER EXECUTION OF THE CONTRACT. THESE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ANY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL. WORK NOT COMPLETELY DELINEATED HEREON SHALL BE CONSTRUCTED OF THE SAME MATERIALS AND DETAILED SIMILARLY AS WORK SHOWN MORE COMPLETELY ELSEWHERE IN THE CONTRACT DOCUMENTS.
2. BY USE OF THE DRAWINGS FOR CONSTRUCTION OF THE PROJECT, THE OWNER REPRESENTS THAT HE HAS REVIEWED AND APPROVED THE DRAWINGS. THE CONTRACTOR REPRESENTS THAT HE HAS VISITED THE SITE, FAMILIARIZED HIMSELF WITH THE LOCAL CONDITIONS, VERIFIED FIELD DIMENSIONS AND CORRELATED HIS OBSERVATIONS WITH THE DIMENSIONS AND CORRELATED HIS OBSERVATIONS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
3. AS INSTRUMENTS OF SERVICE, ALL DRAWINGS, SPECIFICATIONS, CADD DISKS OR OTHER ELECTRONIC MEDIA AND COPIES THEREOF FURNISHED BY THE ENGINEER ARE HIS PROPERTY. THEY ARE TO BE USED ONLY FOR THIS PROJECT AND ARE NOT TO BE USED ON ANY OTHER PROJECT. CHANGES TO THE DRAWINGS MAY ONLY BE MADE BY THE ENGINEER.
4. THIS DRAWING ILLUSTRATES THE WORK TO BE DONE. THE ENGINEER IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK, OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THIS DRAWING EXPRESSED OR IMPLIED ALL CONDITIONS AT THE SITE AND SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGEMENT OF THESE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

PROJECT TITLE:

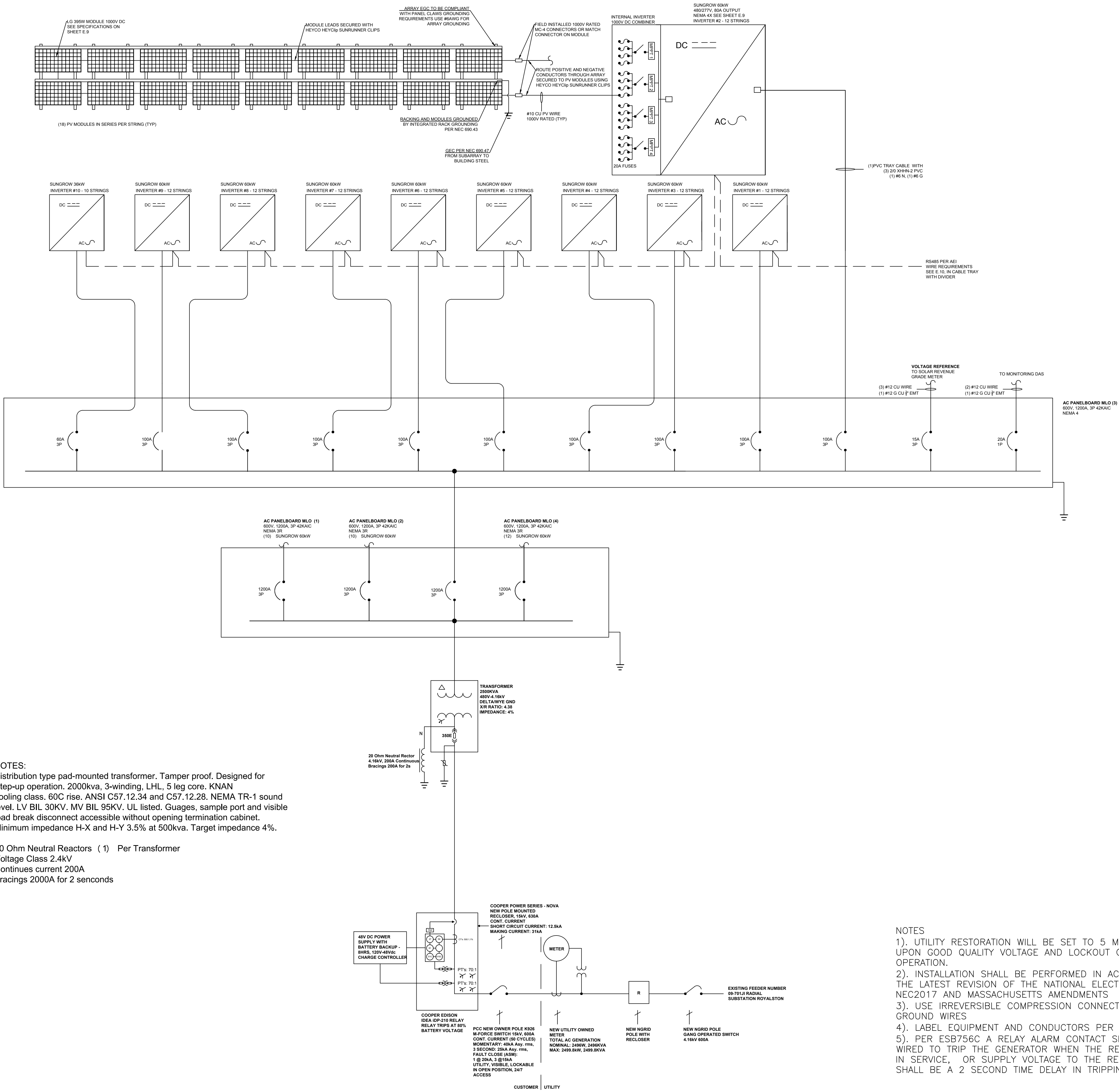
INFINITI - ROYALSTON
60 WINCHENDON RD
ROYALSTON, MA 01368

DRAWING TITLE:

SITE PLAN

CLIENT: GENRENEW	-
BUILDING OWNER: ATLANTIC TRAILER	-
TENANT: ATLANTIC TRAILER	-
ARCHITECT:	-
PROJECT NO:	17-100
CONTRACT DATE:	09/05/2017
DESIGNED BY:	LC
DRAWN BY:	LC
CHECKED BY:	AL
APPROVED BY:	AL
DRAWING SCALE:	1/128" = 1'-0"
DRAWING NO:	

ANDREW LEONE
Professional Engineer



NOTES:
Distribution type pad-mounted transformer. Tamper proof. Designed for Step-up operation. 2000kva, 3-winding, LHL, 5 leg core. KNAN cooling class. 60C rise. ANSI C57.12.34 and C57.12.28. NEMA TR-1 sound level. LV BIL 30KV. MV BIL 95KV. UL listed. Guages, sample port and visible load break disconnect accessible without opening termination cabinet. Minimum impedance H-X and H-Y 3.5% at 500kva. Target impedance 4%.

20 Ohm Neutral Reactors (1) Per Transformer
Voltage Class 2.4kV
Continues current 200A
Bracings 2000A for 2 seconds

NOTES
1). UTILITY RESTORATION WILL BE SET TO 5 MINUTE DELAY UPON GOOD QUALITY VOLTAGE AND LOCKOUT ON OVERCURRENT OPERATION.
2). INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION OF THE NATIONAL ELECTRIC CODE NEC2017 AND MASSACHUSETTS AMENDMENTS
3). USE IRREVERSIBLE COMPRESSION CONNECTORS TO BOND GROUND WIRES
4). LABEL EQUIPMENT AND CONDUCTORS PER NEC REQUIREMENTS
5). PER ESB756C A RELAY ALARM CONTACT SHALL BE INCLUDED WIRED TO TRIP THE GENERATOR WHEN THE RELAY FAILS, IS NOT IN SERVICE, OR SUPPLY VOLTAGE TO THE RELAY IS LOST. THERE SHALL BE A 2 SECOND TIME DELAY IN TRIPPING ANSI 62

THIS DRAWING ILLUSTRATES THE WORK TO BE DONE. THE ENGINEER IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK, OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THIS DRAWING EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL DETERMINE ALL CONDITIONS AT THE SITE AND SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGEMENT OF THESE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

SYSTEM SIZE (DC)	3,623.04kW
SYSTEM SIZE (AC)	NOMINAL: 2496kW,2496KVA MAX: 2499.8kW,2499.8KVA
AZIMUTH	-135 TO 135 DEGREES
TILT	0 to 60 DEGREES
MODULES	(10656) HANWHA 340W
INVERTERS	(41) SUNGROW 60KU-M (1) SUNGROW 36KU
INVERTER OUTPUT	NOMINAL: 60kW,60KVA MAX: 60kW,60KVA NOMINAL: 36kW,36KVA MAX: 39.8kW,39.8KVA 480V, 3 PHASE

SUNGROW SG 36KU	
INVERTER SPECIFICATIONS	
RATED AC OUTPUT POWER	36000 W
NOMINAL AC OUTPUT VOLTAGE	480/277 V
MAX AC OUTPUT CURRENT	48 A
INVERTER PROTECTIVE SETTINGS	
PARAMETERS	SET POINT
AC FREQUENCY RANGE	57 - 63 Hz
AC VOLTAGE RANGE	422 - 528 V
POWER FACTOR	>0.99
OVERFREQUENCY TRIP TIME	0.16 S
UNDERFREQUENCY TRIP TIME	0.16 S
OVERVOLTAGE TRIP TIME (FAST)	0.16 S
OVERVOLTAGE TRIP TIME (SLOW)	1.0 S
UNDERVOLTAGE TRIP TIME (FAST)	0.16 S
UNDERVOLTAGE TRIP TIME (SLOW)	2.0 S

SUNGROW SG 60KU-M	
INVERTER SPECIFICATIONS	
RATED AC OUTPUT POWER	60000 W
NOMINAL AC OUTPUT VOLTAGE	480/277 V
MAX AC OUTPUT CURRENT	80 A
INVERTER PROTECTIVE SETTINGS	
PARAMETERS	SET POINT
AC FREQUENCY RANGE	55 - 65 Hz
AC VOLTAGE RANGE	422 - 528 V
POWER FACTOR	>0.99
OVERFREQUENCY TRIP TIME	0.16 S
UNDERFREQUENCY TRIP TIME	0.16 S
OVERVOLTAGE TRIP TIME (FAST)	0.16 S
OVERVOLTAGE TRIP TIME (SLOW)	1.0 S
UNDERVOLTAGE TRIP TIME (FAST)	0.16 S
UNDERVOLTAGE TRIP TIME (SLOW)	2.0 S

PROTECTIVE RELAY PROPOSED SETTINGS		
27-1	3.81kV	0.1 SEC
27-2	6.478	1.9 SEC
51N	470A	0.9 SEC
51-phase	164A	2.2 SEC U.S. TCC U4
59-1	8.383kV	0.6 SEC
59-2	9.145kV	0.1 SEC
81U-1	57	0.1 SEC
81U-2	58.5	100 SEC
81O	60.5	0.1SEC
51C-ph	20A 91V	2.0 U.S. TCC U4
51C/N	16A	0.5 U4, V=80%



No.	PRINT ISSUE	DATE
1	ISSUED FOR REVIEW	10/17/17
2	ISSUED FOR REVIEW	12/10/17
3	ISSUED FOR REVIEW	2/8/18
4	ISSUED FOR REVIEW	3/11/18
5	ISSUED FOR REVIEW	5/14/18

CODE	REVISION DESCRIPTION	DATE

USE AND INTERPRETATION OF THIS DRAWING.
1. GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ARE PART OF THE CONTRACT DOCUMENTS AND DESCRIBE USE AND INTENT OF THE DRAWING. THE CONTRACT DOCUMENTS INCLUDE NOT ONLY THE DRAWINGS, BUT ALSO THE OWNER-CONTRACTOR AGREEMENT, CONDITIONS OF THE CONTRACT, THE SPECIFICATIONS, ADDENDA, AND MODIFICATIONS ISSUED AFTER EXECUTION OF THE CONTRACT. THESE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ANY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL. WORK NOT COMPLETELY DELINEATED HEREON SHALL BE CONSTRUCTED OF THE SAME MATERIALS AND DETAILED SIMILARLY AS WORK SHOWN MORE COMPLETELY ELSEWHERE IN THE CONTRACT DOCUMENTS.
2. BY USE OF THE DRAWINGS FOR CONSTRUCTION OF THE PROJECT, THE OWNER REPRESENTS THAT HE HAS REVIEWED AND APPROVED THE DRAWINGS. THE CONTRACTOR REPRESENTS THAT HE HAS VISITED THE SITE, FAMILIARIZED HIMSELF WITH THE LOCAL CONDITIONS, VERIFIED FIELD DIMENSIONS AND CORRELATED HIS OBSERVATIONS WITH THE DIMENSIONS AND CORRELATED HIS OBSERVATIONS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
3. AS INSTRUMENTS OF SERVICE, ALL DRAWINGS, SPECIFICATIONS, CADD, DISKS OR OTHER ELECTRONIC MEDIA AND COPIES THEREOF FURNISHED BY THE ENGINEER ARE HIS PROPERTY. THEY ARE TO BE USED ONLY FOR THIS PROJECT AND ARE NOT TO BE USED ON ANY OTHER PROJECT. CHANGES TO THE DRAWINGS MAY ONLY BE MADE BY THE ENGINEER.
4. THIS DRAWING ILLUSTRATES THE WORK TO BE DONE. THE ENGINEER IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK, OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THIS DRAWING EXPRESSED OR IMPLIED ALL CONDITIONS AT THE SITE AND SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGEMENT OF THESE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

PROJECT TITLE:
INFINITI - ROYALSTON
60 WINCHENDON RD
ROYALSTON, MA 01368

DRAWING TITLE:
SINGLE LINE DIAGRAM

CLIENT: GENRENEW	-
BUILDING OWNER: ATLANTIC TRAILER	-
TENANT: ATLANTIC TRAILER	-
ARCHITECT:	-
PROJECT NO:	17-100
CONTRACT DATE:	09/05/2017
DESIGNED BY:	LC
DRAWN BY:	LC
CHECKED BY:	AL
APPROVED BY:	AL
DRAWING SCALE:	
DRAWING NO:	



ANDREW LEONE
Professional Engineer