DC FEEDER SCHEDULE - PCS 101

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	101-01	LBD-101-01	9	155.61	200	1	AL 350MCM	CU #2	650	1	AL 350MCM	CU #2	499.55	TR101-01-01	5	1090.7	17.29	86.45	110	1	AL #4/0	97.85	81.05	0.6%	0.4%	0.1%	0.50%	1.7%
														TR101-01-02	4	1090.7	17.29	69.16	90	1	AL #4/0	123.6	64.84	0.6%	0.4%	0.1%	0.50%	1.7%
1	101-02	LBD-101-02	16	276.64	400	1	AL 750MCM	CU #2	650	1	AL 750MCM	CU #2	412	TR101-02-01	5	1090.7	17.29	86.45	110	1	AL #4/0	272.95	81.05	0.3%	0.2%	0.4%	0.50%	1.4%
														TR101-02-02	5	1090.7	17.29	86.45	110	1	AL #4/0	247.2	81.05	0.3%	0.2%	0.4%	0.50%	1.3%
														TR101-02-03	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.3%	0.2%	0.4%	0.50%	1.3%
1	101-03	LBD-101-03	16	276.64	400	1	AL 750MCM	CU #2	650	1	AL 750MCM	CU #2	257.5	TR101-03-01	8	1090.7	17.29	138.32	175	1	AL #4/0	350.2	129.68	0.4%	0.2%	0.8%	0.50%	1.9%
														TR101-03-02	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.4%	0.2%	0.8%	0.50%	1.9%
1	101-04	LBD-101-04	18	311.22	400	1	AL 750MCM	CU #2	650	1	AL 750MCM	CU #2	159.65	TR101-04-01	9	1090.7	17.29	155.61	200	1	AL #4/0	448.05	145.89	0.5%	0.1%	1.2%	0.50%	2.3%
														TR101-04-02	9	1090.7	17.29	155.61	200	1	AL #4/0	422.3	145.89	0.5%	0.1%	1.1%	0.50%	2.2%
1	101-05	LBD-101-05	18	311.22	400	1	AL 750MCM	CU #2	650	1	AL 750MCM	CU #2	103	TR101-05-01	9	1090.7	17.29	155.61	200	1	AL #4/0	448.05	145.89	0.5%	0.1%	1.2%	0.50%	2.3%
														TR101-05-02	9	1090.7	17.29	155.61	200	1	AL #4/0	422.3	145.89	0.5%	0.1%	1.1%	0.50%	2.2%
1	101-06	LBD-101-06	13	224.77	315	1	AL 750MCM	CU #2	650	1	AL 750MCM	CU #2	20.6	TR101-06-01	6	1090.7	17.29	103.74	150	1	AL #4/0	272.95	97.26	0.3%	0.0%	0.5%	0.50%	1.3%
														TR101-06-02	7	1090.7	17.29	121.03	175	1	AL #4/0	144.2	113.47	0.3%	0.0%	0.3%	0.50%	1.1%
1	101-07	LBD-101-07	17	293.93	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	20.6	TR101-07-01	8	1090.7	17.29	138.32	175	1	AL #4/0	350.2	129.68	0.0%	0.0%	0.8%	0.50%	1.4%
														TR101-07-02	9	1090.7	17.29	155.61	200	1	AL #4/0	422.3	145.89	0.0%	0.0%	1.1%	0.50%	1.7%
2	101-08	LBD-101-08	9	155.61	200	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	36.05	TR101-08-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	422.3	145.89	0.1%	0.1%	1.1%	0.50%	1.8%
2	101-09	LBD-101-09	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	20.6	TR101-09-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.0%	1.3%	0.50%	1.9%
2	101-10	LBD-101-10	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR101-10-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.1%	1.3%	0.50%	2.0%
2	101-11	LBD-101-11	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	77.25	TR101-11-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.1%	1.3%	0.50%	2.0%
2	101-12	LBD-101-12	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	103	TR101-12-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.2%	1.3%	0.50%	2.1%
2	101-13	LBD-101-13	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	133.9	TR101-13-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.2%	1.3%	0.50%	2.1%
2	101-14	LBD-101-14	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	159.65	TR101-14-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.3%	1.3%	0.50%	2.2%
2	101-15	LBD-101-15	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	190.55	TR101-15-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.3%	1.3%	0.50%	2.2%
2	101-16	LBD-101-16	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	216.3	TR101-16-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.4%	1.3%	0.50%	2.3%
2	101-17	LBD-101-17	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	247.2	TR101-17-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.4%	1.3%	0.50%	2.3%

DC FEEDER SCHEDULE - PCS 102

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	102-01	LBD-102-01	15	259.35	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	412	TR102-01-01	5	1090.7	17.29	86.45	110	1	AL #4/0	272.95	81.05	0.0%	0.2%	0.4%	0.50%	1.1%
														TR102-01-02	5	1090.7	17.29	86.45	110	1	AL #4/0	247.2	81.05	0.0%	0.2%	0.4%	0.50%	1.1%
														TR102-01-03	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.2%	0.3%	0.50%	1.0%
1	102-02	LBD-102-02	15	259.35	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	329.6	TR102-02-01	5	1090.7	17.29	86.45	110	1	AL #4/0	272.95	81.05	0.0%	0.1%	0.4%	0.50%	1.1%
														TR102-02-02	5	1090.7	17.29	86.45	110	1	AL #4/0	247.2	81.05	0.0%	0.1%	0.4%	0.50%	1.0%
														TR102-02-03	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.1%	0.3%	0.50%	1.0%
1	102-03	LBD-102-03	15	259.35	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	247.2	TR102-03-01	5	1090.7	17.29	86.45	110	1	AL #4/0	272.95	81.05	0.0%	0.1%	0.4%	0.50%	1.0%
														TR102-03-02	5	1090.7	17.29	86.45	110	1	AL #4/0	247.2	81.05	0.0%	0.1%	0.4%	0.50%	1.0%
														TR102-03-03	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.1%	0.3%	0.50%	1.0%
1	102-04	LBD-102-04	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	190.55	TR102-04-01	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.1%	0.2%	0.4%	0.50%	1.2%
														TR102-04-02	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.1%	0.2%	0.4%	0.50%	1.2%
1	102-05	LBD-102-05	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	133.9	TR102-05-01	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.1%	0.1%	0.4%	0.50%	1.2%
														TR102-05-02	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.1%	0.1%	0.4%	0.50%	1.1%
1	102-06	LBD-102-06	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	77.25	TR102-06-01	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.1%	0.1%	0.4%	0.50%	1.1%
														TR102-06-02	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.1%	0.1%	0.4%	0.50%	1.0%
1	102-07	LBD-102-07	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	20.6	TR102-07-01	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.1%	0.0%	0.4%	0.50%	1.0%
														TR102-07-02	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.1%	0.0%	0.4%	0.50%	1.0%
1	102-08	LBD-102-08	15	259.35	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	20.6	TR102-08-01	5	1090.7	17.29	86.45	110	1	AL #4/0	247.2	81.05	0.0%	0.0%	0.4%	0.50%	0.9%
														TR102-08-02	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.0%	0.3%	0.50%	0.9%
														TR102-08-03	5	1090.7	17.29	86.45	110	1	AL #4/0	247.2	81.05	0.0%	0.0%	0.4%	0.50%	0.9%
2	102-09	LBD-102-09	18	311.22	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	20.6	TR102-09-01	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.0%	0.0%	0.4%	0.50%	0.9%
														TR102-09-02	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.0%	0.0%	0.4%	0.50%	1.0%
														TR102-09-03	6	1090.7	17.29	103.74	150	1	AL #4/0	272.95	97.26	0.0%	0.0%	0.5%	0.50%	1.0%
2	102-10	LBD-102-10	18	311.22	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	103	TR102-10-01	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.0%	0.1%	0.4%	0.50%	1.0%
														TR102-10-02	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.0%	0.0%	0.4%	0.50%	1.0%
														TR102-10-03	6	1090.7	17.29	103.74	150	1	AL #4/0	272.95	97.26	0.0%	0.1%	0.5%	0.50%	1.1%
2	102-11	LBD-102-11	18	311.22	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	190.55	TR102-11-01	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.0%	0.1%	0.4%	0.50%	1.0%
														TR102-11-02	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.0%	0.1%	0.4%	0.50%	1.0%
														TR102-11-03	6	1090.7	17.29	103.74	150	1	AL #4/0	272.95	97.26	0.0%	0.1%	0.5%	0.50%	1.1%
2	102-12	LBD-102-12	18	311.22	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	272.95	TR102-12-01	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.0%	0.1%	0.4%	0.50%	1.1%
														TR102-12-02	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.0%	0.1%	0.4%	0.50%	1.1%
														TR102-12-03	6	1090.7	17.29	103.74	150	1	AL #4/0	272.95	97.26	0.0%	0.1%	0.5%	0.50%	1.2%
2	102-13	LBD-102-13	18	311.22	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	355.35	TR102-13-01	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.0%	0.2%	0.4%	0.50%	1.1%
														TR102-13-02	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.0%	0.1%	0.4%	0.50%	1.1%
														TR102-13-03	6	1090.7	17.29	103.74	150	1	AL #4/0	272.95	97.26	0.0%	0.2%	0.5%	0.50%	1.2%
2	102-14	LBD-102-14	18	311.22	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	442.9	TR102-14-01	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.0%	0.2%	0.4%	0.50%	1.1%
														TR102-14-02	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.0%	0.2%	0.4%	0.50%	1.1%
														TR102-14-03	6	1090.7	17.29	103.74	150	1	AL #4/0	272.95	97.26	0.0%	0.2%	0.5%	0.50%	1.2%
2	102-15	LBD-102-15	18	311.22	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	525.3	TR102-15-01	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.0%	0.3%	0.4%	0.50%	1.2%
														TR102-15-02	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.0%	0.2%	0.4%	0.50%	1.2%
														TR102-15-03	6	1090.7	17.29	103.74	150	1	AL #4/0	272.95	97.26	0.0%	0.3%	0.5%	0.50%	1.3%

DRAWING NOTES:

1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DRAWING TITLE

SCHEDULES & CALCULATIONS
PCS-101 THRU 102

DATE	REVISION DESCRIPTION	PM	ENG	CHK
03/26/2024	90% DESIGN DEVELOPMENT	RK	GP	EL
01/25/2024	60% DESIGN DEVELOPMENT	RK	GP	EL
01/10/2024	60% MV DESIGN	RK	GP	EL
10/18/2023	30% DESIGN – REV 2	RK	GP	EL

PUREPOWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWER.COM
ERIC J. LOOS
MD LICENSE No. 41148

ENGINEER

VANGUARD ENERGY PARTNERS
1 COMMERCE STREET
BRANCHBURG, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

EPC

PAGE SIZE 36" x 24"

PROJECT # 06271

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAAE HT72-18X-550
MODULE QUANTITY: 326,430
ORIENTATION: 25° TILT, 180° AZI

PROJECT 179.5 MW SOLAR GROUND MOUNT SYSTEM AT
CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

DRAWING # E3.510

PLOT DATE: 3/26/2024 9:33 PM

RULER IN INCHES:

DC FEEDER SCHEDULE - PCS 103

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	103-01	LBD-103-01	10	172.9	250	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	329.6	TR103-01-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.6%	1.3%	0.50%	2.5%
1	103-02	LBD-103-02	18	311.22	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	278.1	TR103-02-01	9	1090.7	17.29	155.61	200	1	AL #4/0	448.05	145.89	0.0%	0.2%	1.2%	0.50%	2.0%
														TR103-02-02	9	1090.7	17.29	155.61	200	1	AL #4/0	422.3	145.89	0.0%	0.2%	1.1%	0.50%	1.9%
1	103-03	LBD-103-03	18	311.22	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	216.3	TR103-03-01	9	1090.7	17.29	155.61	200	1	AL #4/0	448.05	145.89	0.0%	0.2%	1.2%	0.50%	1.9%
														TR103-03-02	9	1090.7	17.29	155.61	200	1	AL #4/0	422.3	145.89	0.0%	0.2%	1.1%	0.50%	1.8%
1	103-04	LBD-103-04	16	276.64	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	164.8	TR103-04-01	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.0%	0.1%	0.8%	0.50%	1.5%
														TR103-04-02	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.0%	0.1%	0.8%	0.50%	1.4%
1	103-05	LBD-103-05	16	276.64	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	108.15	TR103-05-01	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.0%	0.1%	0.8%	0.50%	1.4%
														TR103-05-02	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.0%	0.1%	0.8%	0.50%	1.4%
1	103-06	LBD-103-06	14	242.06	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	51.5	TR103-06-01	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.0%	0.7%	0.50%	1.3%
														TR103-06-02	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.0%	0.7%	0.50%	1.2%
1	103-07	LBD-103-07	13	224.77	315	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	20.6	TR103-07-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.0%	0.7%	0.50%	1.2%
														TR103-07-02	6	1090.7	17.29	103.74	150	1	AL #4/0	288.4	97.26	0.0%	0.0%	0.5%	0.50%	1.1%
2	103-08	LBD-103-08	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	20.6	TR103-08-01	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.0%	0.0%	0.4%	0.50%	1.0%
														TR103-08-02	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.0%	0.0%	0.4%	0.50%	1.0%
2	103-09	LBD-103-09	14	242.06	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	20.6	TR103-09-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.0%	0.7%	0.50%	1.2%
														TR103-09-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.0%	0.7%	0.50%	1.3%
2	103-10	LBD-103-10	14	242.06	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	77.25	TR103-10-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.0%	0.7%	0.50%	1.2%
														TR103-10-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.0%	0.7%	0.50%	1.3%
2	103-11	LBD-103-11	14	242.06	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	133.9	TR103-11-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.1%	0.7%	0.50%	1.3%
														TR103-11-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.1%	0.7%	0.50%	1.3%
2	103-12	LBD-103-12	14	242.06	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	190.55	TR103-12-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.1%	0.7%	0.50%	1.3%
														TR103-12-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.1%	0.7%	0.50%	1.4%
2	103-13	LBD-103-13	14	242.06	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	242.05	TR103-13-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.1%	0.7%	0.50%	1.3%
														TR103-13-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.1%	0.7%	0.50%	1.4%
2	103-14	LBD-103-14	14	242.06	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	298.7	TR103-14-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.2%	0.7%	0.50%	1.4%
														TR103-14-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.2%	0.7%	0.50%	1.4%
2	103-15	LBD-103-15	7	121.03	175	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	355.35	TR103-15-01	7	1090.7	17.29	121.03	N/A	1	AL #4/0	319.3	113.47	0.1%	0.4%	0.7%	0.50%	1.7%

DC FEEDER SCHEDULE - PCS 104

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	104-01	LBD-104-01	15	259.35	400	1	AL 750MCM	CU #2	35	1	AL 750MCM	CU #2	226.6	TR104-01-01	8	1090.7	17.29	138.32	175	1	AL #4/0	303.85	129.68	0.0%	0.2%	0.7%	0.50%	1.4%
														TR104-01-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.2%	0.7%	0.50%	1.4%
1	104-02	LBD-104-02	9	155.61	200	1	AL 350MCM	CU #2	35	1	AL 350MCM	CU #2	185.4	TR104-02-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	422.3	145.89	0.1%	0.3%	1.1%	0.50%	2.0%
1	104-03	LBD-104-03	10	172.9	250	1	AL 350MCM	CU #2	35	1	AL 350MCM	CU #2	159.65	TR104-03-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.3%	1.3%	0.50%	2.1%
1	104-04	LBD-104-04	11	190.19	250	1	AL 350MCM	CU #2	35	1	AL 350MCM	CU #2	128.75	TR104-04-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.3%	1.7%	0.50%	2.5%
1	104-05	LBD-104-05	12	207.48	315	1	AL 350MCM	CU #2	35	1	AL 350MCM	CU #2	103	TR104-05-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.2%	1.9%	0.50%	2.7%
1	104-06	LBD-104-06	13	224.77	315	1	AL 750MCM	CU #2	35	1	AL 750MCM	CU #2	72.1	TR104-06-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.0%	0.1%	1.5%	0.50%	2.1%
1	104-07	LBD-104-07	14	242.06	400	1	AL 750MCM	CU #2	35	1	AL 750MCM	CU #2	46.35	TR104-07-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.0%	0.1%	1.6%	0.50%	2.2%
1	104-08	LBD-104-08	15	259.35	400	1	AL 750MCM	CU #2	35	1	AL 750MCM	CU #2	20.6	TR104-08-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.0%	0.0%	1.9%	0.50%	2.5%
1	104-09	LBD-104-09	16	276.64	400	1	AL 750MCM	CU #2	35	1	AL 750MCM	CU #2	20.6	TR104-09-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.0%	0.0%	2.1%	0.50%	2.6%
1	104-10	LBD-104-10	17	293.93	400	1	AL 750MCM	CU #2	35	1	AL 750MCM	CU #2	51.5	TR104-10-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.0%	0.1%	1.8%	0.50%	2.4%
1	104-11	LBD-104-11	18	311.22	400	1	AL 750MCM	CU #2	35	1	AL 750MCM	CU #2	77.25	TR104-11-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.5%
1	104-12	LBD-104-12	12	207.48	315	1	AL 350MCM	CU #2	35	1	AL 350MCM	CU #2	123.6	TR104-12-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	535.6	194.52	0.1%	0.3%	1.9%	0.50%	2.8%
2	104-13	LBD-104-13	11	190.19	250	1	AL 350MCM	CU #2	35	1	AL 350MCM	CU #2	123.6	TR104-13-01	11	1090.7	17.29	190.19	N/A	1	AL 350MCM	1143.3	178.31	0.1%	0.2%	2.3%	0.50%	3.1%
2	104-14	LBD-104-14	10	172.9	250	1	AL 350MCM	CU #2	35	1	AL 350MCM	CU #2	334.75	TR104-14-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	437.75	162.1	0.1%	0.6%	1.3%	0.50%	2.5%
2	104-15	LBD-104-15	9	155.61	200	1	AL 350MCM	CU #2	35	1	AL 350MCM	CU #2	334.75	TR104-15-01	9	1090.7	17.29	155.61	N/A	1	AL 350MCM	937.3	145.89	0.1%	0.5%	1.5%	0.50%	2.6%
2	104-16	LBD-104-16	16	276.64	400	1	AL 750MCM	CU #2	35	1	AL 750MCM	CU #2	520.15	TR104-16-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.0%	0.7%	2.1%	0.50%	3.3%
2	104-17	LBD-104-17	18	311.22	400	1	AL 750MCM	CU #2	35	1	AL 750MCM	CU #2	545.9	TR104-17-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.8%	1.9%	0.50%	3.2%
2	104-18	LBD-104-18	18	311.22	400	1	AL 750MCM	CU #2	35	1	AL 750MCM	CU #2	576.8	TR104-18-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.9%	1.9%	0.50%	3.3%
2	104-19	LBD-104-19	18	311.22	400	1	AL 750MCM	CU #2	35	1	AL 750MCM	CU #2	602.55	TR104-19-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.9%	1.9%	0.50%	3.3%
2	104-20	LBD-104-20	18	311.22	400	1	AL 750MCM	CU #2	35	1	AL 750MCM	CU #2	628.3	TR104-20-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.9%	1.9%	0.50%	3.4%

DC FEEDER SCHEDULE - PCS 105

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	105-01	LBD-105-01	10	172.9	250	1	AL 350MCM	CU #2	55	1	AL 350MCM	CU #2	262.65	TR105-01-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	927	162.1	0.1%	0.5%	1.7%	0.50%	2.7%
1	105-02	LBD-105-02	10	172.9	250	1	AL 350MCM	CU #2	55	1	AL 350MCM	CU #2	262.65	TR105-02-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.5%	1.2%	0.50%	2.3%
1	105-03	LBD-105-03	10	172.9	250	1	AL 350MCM	CU #2	55	1	AL 350MCM	CU #2	144.2	TR105-03-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1024.85	162.1	0.1%	0.3%	1.8%	0.50%	2.7%
1	105-04	LBD-105-04	12	207.48	315	1	AL 350MCM	CU #2	55	1	AL 350MCM	CU #2	144.2	TR105-04-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.3%	1.9%	0.50%	2.8%
1	105-05	LBD-105-05	10	172.9	250	1	AL 350MCM	CU #2	55	1	AL 350MCM	CU #2	118.45	TR105-05-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1024.85	162.1	0.1%	0.2%	1.8%	0.50%	2.7%
1	105-06	LBD-105-06	12	207.48	315	1	AL 350MCM	CU #2	55	1	AL 350MCM	CU #2	118.45	TR105-06-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.3%	1.9%	0.50%	2.7%
1	105-07	LBD-105-07	10	172.9	250	1	AL 350MCM	CU #2	55	1	AL 350MCM	CU #2	87.55	TR105-07-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1024.85	162.1	0.1%	0.2%	1.8%	0.50%	2.6%
1	105-08	LBD-105-08	12	207.48	315	1	AL 350MCM	CU #2	55	1	AL 350MCM	CU #2	87.55	TR105-08-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.2%	1.9%	0.50%	2.7%
1	105-09	LBD-105-09	10	172.9	250	1	AL 350MCM	CU #2	55	1	AL 350MCM	CU #2	61.8	TR105-09-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1024.85	162.1	0.1%	0.1%	1.8%	0.50%	2.6%
1	105-10	LBD-105-10	12	207.48	315	1	AL 350MCM	CU #2	55	1	AL 350MCM	CU #2	61.8	TR105-10-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.6%
1	105-11	LBD-105-11	10	172.9	250	1	AL 350MCM	CU #2	55	1	AL 350MCM	CU #2	30.9	TR105-11-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1024.85	162.1	0.1%	0.1%	1.8%	0.50%	2.5%
1	105-12	LBD-105-12	12	207.48	315	1	AL 350MCM	CU #2	55	1	AL 350MCM	CU #2	30.9	TR105-12-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.5%
2	105-13	LBD-105-13	10	172.9	250	1	AL 350MCM	CU #2	55	1	AL 350MCM	CU #2	20.6	TR105-13-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1024.85	162.1	0.1%	0.0%	1.8%	0.50%	2.5%
2	105-14	LBD-105-14	12	207.48	315	1	AL 350MCM	CU #2	55	1	AL 350MCM	CU #2	20.6	TR105-14-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.0%	1.9%	0.50%	2.5%
2	105-15	LBD-105-15	14	242.06	400	1	AL 750MCM	CU #2	710	1	AL 750MCM	CU #2	20.6	TR105-15-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.4%	0.0%	0.7%	0.50%	1.6%
														TR105-15-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.4%	0.0%	0.7%	0.50%	1.6%
2	105-16	LBD-105-16	16	276.64	400	1	AL 750MCM	CU #2	710	1	AL 750MCM	CU #2	77.25	TR105-16-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.4%	0.0%	0.7%	0.50%	1.6%
														TR105-16-02	9	1090.7	17.29	155.61	200	1	AL #4/0	448.05	145.89	0.4%	0.0%	1.2%	0.50%	2.2%
2	105-17	LBD-105-17	18	311.22	400	1	AL 750MCM	CU #2	710	1	AL 750MCM	CU #2	133.9	TR105-17-01	9	1090.7	17.29	155.61	200	1	AL #4/0	422.3	145.89	0.5%	0.1%	1.1%	0.50%	2.3%
														TR105-17-02	9	1090.7	17.29	155.61	200	1	AL #4/0	448.05	145.89	0.5%	0.1%	1.2%	0.50%	2.3%
2	105-18	LBD-105-18	18	311.22	400	1	AL 750MCM	CU #2	710	1	AL 750MCM	CU #2	190.55	TR105-18-01	9	1090.7	17.29	155.61	200	1	AL #4/0	422.3	145.89	0.5%	0.1%	1.1%	0.50%	2.3%
														TR105-18-02	9	1090.7	17.29	155.61	200	1	AL #4/0	448.05	145.89	0.5%	0.1%	1.2%	0.50%	2.4%
2	105-19	LBD-105-19	12	207.48	315	1	AL 350MCM	CU #2	710	1	AL 350MCM	CU #2	242.05	TR105-19-01	12	1090.7	17.29	207.48	N/A	1	AL 500MCM	520.15	194.52	1.5%	0.5%	0.8%	0.50%	3.3%
2	105-20	LBD-105-20	12	207.48	315	1	AL 350MCM	CU #2	710	1	AL 350MCM	CU #2	272.95	TR105-20-01	12	1090.7	17.29	207.48	N/A	1	AL 500MCM	520.15	194.52	1.5%	0.6%	0.8%	0.50%	3.4%
2	105-21	LBD-105-21	12	207.48	315	1	AL 350MCM	CU #2	710	1	AL 350MCM	CU #2	298.7	TR105-21-01	12	1090.7	17.29	207.48	N/A	1	AL 500MCM	520.15	194.52	1.5%	0.6%	0.8%	0.50%	3.5%

DRAWING NOTES:
1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DRAWING TITLE
SCHEDULES & CALCULATIONS
PCS-103 THRU 105

DRAWING #
E3.511

DATE	REVISION DESCRIPTION	PM	ENG	CHK
03/26/2024	90% DESIGN DEVELOPMENT	RK	GP	EL
01/25/2024	60% DESIGN DEVELOPMENT	RK	GP	EL
01/10/2024	60% MV DESIGN	RK	GP	EL
10/18/2023	30% DESIGN – REV 2	RK	GP	EL

ENGINEER: PUREPOWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWER.COM
ERIC LOOS
MD LICENSE No. 41148

EPC: VANGUARD ENERGY PARTNERS
1 COMMERCE STREET
BRANCHBURG, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

PAGE SIZE: 36" x 24"
PROJECT #: 06271

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAAE HT72-18X-550
MODULE QUANTITY: 326,430
ORIENTATION: 25° TILT, 180° AZI

PROJECT: 179.5 MW SOLAR GROUND MOUNT SYSTEM AT
CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

PLOT DATE: 3/26/2024 9:33 PM

PLOT DATE: 3/26/2024 9:33 PM

DC FEEDER SCHEDULE - PCS 106

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	106-01	LBD-106-01	12	207.48	315	1	AL 350MCM	CU #2	160	1	AL 350MCM	CU #2	705.55	TR106-01-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	520.15	194.52	0.3%	1.5%	1.1%	0.50%	3.5%
1	106-02	LBD-106-02	12	207.48	315	1	AL 350MCM	CU #2	160	1	AL 350MCM	CU #2	674.65	TR106-02-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	520.15	194.52	0.3%	1.5%	1.1%	0.50%	3.4%
1	106-03	LBD-106-03	12	207.48	315	1	AL 350MCM	CU #2	160	1	AL 350MCM	CU #2	648.9	TR106-03-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	520.15	194.52	0.3%	1.4%	1.1%	0.50%	3.4%
1	106-04	LBD-106-04	12	207.48	315	1	AL 350MCM	CU #2	160	1	AL 350MCM	CU #2	618	TR106-04-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	520.15	194.52	0.3%	1.3%	1.1%	0.50%	3.3%
1	106-05	LBD-106-05	12	207.48	315	1	AL 350MCM	CU #2	160	1	AL 350MCM	CU #2	592.25	TR106-05-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	520.15	194.52	0.3%	1.3%	1.1%	0.50%	3.2%
1	106-06	LBD-106-06	16	276.64	400	1	AL 750MCM	CU #2	135	1	AL 750MCM	CU #2	561.35	TR106-06-01	8	1090.7	17.29	138.32	175	1	AL #4/0	175.1	129.68	0.1%	0.4%	0.4%	0.50%	1.4%
														TR106-06-02	4	1090.7	17.29	69.16	90	1	AL #4/0	144.2	64.84	0.1%	0.4%	0.2%	0.50%	1.1%
														TR106-06-03	4	1090.7	17.29	69.16	90	1	AL #4/0	118.45	64.84	0.1%	0.4%	0.1%	0.50%	1.1%
1	106-07	LBD-106-07	12	207.48	315	1	AL 350MCM	CU #2	135	1	AL 350MCM	CU #2	478.95	TR106-07-01	4	1090.7	17.29	69.16	90	1	AL #4/0	175.1	64.84	0.1%	0.3%	0.2%	0.50%	1.1%
														TR106-07-02	4	1090.7	17.29	69.16	90	1	AL #4/0	144.2	64.84	0.1%	0.3%	0.2%	0.50%	1.1%
														TR106-07-03	4	1090.7	17.29	69.16	90	1	AL #4/0	118.45	64.84	0.1%	0.3%	0.1%	0.50%	1.1%
1	106-08	LBD-106-08	12	207.48	315	1	AL 350MCM	CU #2	135	1	AL 350MCM	CU #2	422.3	TR106-08-01	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.1%	0.5%	0.4%	0.50%	1.5%
														TR106-08-02	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.1%	0.3%	0.4%	0.50%	1.3%
1	106-09	LBD-106-09	18	311.22	400	1	AL 750MCM	CU #2	135	1	AL 750MCM	CU #2	365.65	TR106-09-01	9	1090.7	17.29	155.61	200	1	AL #4/0	448.05	145.89	0.1%	0.3%	1.2%	0.50%	2.1%
														TR106-09-02	9	1090.7	17.29	155.61	200	1	AL #4/0	422.3	145.89	0.1%	0.3%	1.1%	0.50%	2.0%
1	106-10	LBD-106-10	18	311.22	400	1	AL 750MCM	CU #2	135	1	AL 750MCM	CU #2	309	TR106-10-01	9	1090.7	17.29	155.61	200	1	AL #4/0	448.05	145.89	0.1%	0.2%	1.2%	0.50%	2.0%
														TR106-10-02	9	1090.7	17.29	155.61	200	1	AL #4/0	422.3	145.89	0.1%	0.2%	1.1%	0.50%	2.0%
2	106-11	LBD-106-11	10	172.9	250	1	AL 350MCM	CU #2	135	1	AL 350MCM	CU #2	283.25	TR106-11-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.2%	0.5%	1.2%	0.50%	2.5%
2	106-12	LBD-106-12	10	172.9	250	1	AL 350MCM	CU #2	135	1	AL 350MCM	CU #2	252.35	TR106-12-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.2%	0.5%	1.2%	0.50%	2.4%
2	106-13	LBD-106-13	10	172.9	250	1	AL 350MCM	CU #2	135	1	AL 350MCM	CU #2	226.6	TR106-13-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.2%	0.4%	1.2%	0.50%	2.4%
2	106-14	LBD-106-14	10	172.9	250	1	AL 350MCM	CU #2	135	1	AL 350MCM	CU #2	200.85	TR106-14-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.2%	0.4%	1.2%	0.50%	2.3%
2	106-15	LBD-106-15	11	190.19	250	1	AL 350MCM	CU #2	135	1	AL 350MCM	CU #2	169.95	TR106-15-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	417.15	178.31	0.3%	0.3%	1.4%	0.50%	2.5%
2	106-16	LBD-106-16	10	172.9	250	1	AL 350MCM	CU #2	135	1	AL 350MCM	CU #2	103	TR106-16-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.2%	0.2%	1.2%	0.50%	2.2%
2	106-17	LBD-106-17	11	190.19	250	1	AL 350MCM	CU #2	135	1	AL 350MCM	CU #2	77.25	TR106-17-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.3%	0.2%	1.7%	0.50%	2.6%
2	106-18	LBD-106-18	11	190.19	250	1	AL 350MCM	CU #2	135	1	AL 350MCM	CU #2	46.35	TR106-18-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.3%	0.1%	1.7%	0.50%	2.6%
2	106-19	LBD-106-19	12	207.48	315	1	AL 350MCM	CU #2	135	1	AL 350MCM	CU #2	20.6	TR106-19-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.3%	0.0%	1.9%	0.50%	2.7%
2	106-20	LBD-106-20	14	242.06	400	1	AL 750MCM	CU #2	135	1	AL 750MCM	CU #2	30.9	TR106-20-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.1%	0.0%	0.7%	0.50%	1.3%
														TR106-20-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.1%	0.0%	0.7%	0.50%	1.3%
2	106-21	LBD-106-21	13	224.77	315	1	AL 750MCM	CU #2	135	1	AL 750MCM	CU #2	51.5	TR106-21-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.1%	0.0%	0.7%	0.50%	1.3%
														TR106-21-02	6	1090.7	17.29	103.74	150	1	AL #4/0	278.1	97.26	0.1%	0.0%	0.5%	0.50%	1.1%

DC FEEDER SCHEDULE - PCS 107

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	107-01	LBD-107-01	12	207.48	315	1	AL 350MCM	CU #2	70	1	AL 350MCM	CU #2	10.3	TR107-01-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.2%	0.0%	1.9%	0.50%	2.5%
1	107-02	LBD-107-02	11	190.19	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	36.05	TR107-02-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.1%	1.7%	0.50%	2.4%
1	107-03	LBD-107-03	11	190.19	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	20.6	TR107-03-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.0%	1.7%	0.50%	2.3%
1	107-04	LBD-107-04	11	190.19	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	46.35	TR107-04-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.1%	1.7%	0.50%	2.4%
1	107-05	LBD-107-05	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	20.6	TR107-05-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.0%	1.9%	0.50%	2.5%
1	107-06	LBD-107-06	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR107-06-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.6%
1	107-07	LBD-107-07	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	77.25	TR107-07-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.2%	1.9%	0.50%	2.7%
1	107-08	LBD-107-08	13	224.77	315	1	AL 750MCM	CU #2	240	1	AL 750MCM	CU #2	20.6	TR107-08-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.3%	0.0%	1.5%	0.50%	2.2%
1	107-09	LBD-107-09	13	224.77	315	1	AL 750MCM	CU #2	240	1	AL 750MCM	CU #2	46.35	TR107-09-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.3%	0.1%	1.5%	0.50%	2.3%
1	107-10	LBD-107-10	13	224.77	315	1	AL 750MCM	CU #2	240	1	AL 750MCM	CU #2	77.25	TR107-10-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.3%	0.1%	1.5%	0.50%	2.3%
1	107-11	LBD-107-11	13	224.77	315	1	AL 750MCM	CU #2	240	1	AL 750MCM	CU #2	103	TR107-11-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.3%	0.1%	1.5%	0.50%	2.3%
2	107-12	LBD-107-12	13	224.77	315	1	AL 750MCM	CU #2	240	1	AL 750MCM	CU #2	133.9	TR107-12-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.3%	0.1%	1.5%	0.50%	2.4%
2	107-13	LBD-107-13	13	224.77	315	1	AL 750MCM	CU #2	240	1	AL 750MCM	CU #2	159.65	TR107-13-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.3%	0.2%	1.5%	0.50%	2.4%
2	107-14	LBD-107-14	13	224.77	315	1	AL 750MCM	CU #2	240	1	AL 750MCM	CU #2	190.55	TR107-14-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.3%	0.2%	1.5%	0.50%	2.4%
2	107-15	LBD-107-15	13	224.77	315	1	AL 750MCM	CU #2	240	1	AL 750MCM	CU #2	216.3	TR107-15-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.3%	0.2%	1.5%	0.50%	2.5%
2	107-16	LBD-107-16	14	242.06	400	1	AL 750MCM	CU #2	240	1	AL 750MCM	CU #2	242.05	TR107-16-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.3%	0.3%	1.6%	0.50%	2.6%
2	107-17	LBD-107-17	14	242.06	400	1	AL 750MCM	CU #2	240	1	AL 750MCM	CU #2	272.95	TR107-17-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.3%	0.3%	1.6%	0.50%	2.7%
2	107-18	LBD-107-18	14	242.06	400	1	AL 750MCM	CU #2	240	1	AL 750MCM	CU #2	298.7	TR107-18-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.3%	0.4%	1.6%	0.50%	2.7%
2	107-19	LBD-107-19	14	242.06	400	1	AL 750MCM	CU #2	240	1	AL 750MCM	CU #2	329.6	TR107-19-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.3%	0.4%	1.6%	0.50%	2.7%
2	107-20	LBD-107-20	13	224.77	315	1	AL 750MCM	CU #2	240	1	AL 750MCM	CU #2	375.95	TR107-20-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	638.6	210.73	0.3%	0.4%	1.5%	0.50%	2.7%
2	107-21	LBD-107-21	15	259.35	400	1	AL 750MCM	CU #2	240	1	AL 750MCM	CU #2	813.7	TR107-21-01	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.1%	0.3%	0.3%	0.50%	1.3%
														TR107-21-02	5	1090.7	17.29	86.45	110	1	AL #4/0	247.2	81.05	0.3%	0.4%	0.4%	0.50%	1.5%
														TR107-21-03	5	1090.7	17.29	86.45	110	1	AL #4/0	272.95	81.05	0.1%	0.3%	0.4%	0.50%	1.3%
2	107-22	LBD-107-22	10	172.9	250	1	AL 350MCM	CU #2	240	1	AL 350MCM	CU #2	896.1	TR107-22-01	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.2%	0.8%	0.3%	0.50%	1.8%
														TR107-22-02	5	1090.7	17.29	86.45	110	1	AL #4/0	247.2	81.05	0.2%	0.8%	0.4%	0.50%	1.9%

DC FEEDER SCHEDULE - PCS 108

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	108-01	LBD-108-01	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR108-01-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.1%	1.6%	0.50%	2.2%
1	108-02	LBD-108-02	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	20.6	TR108-02-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
1	108-03	LBD-108-03	12	207.48	315	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	36.05	TR108-03-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.5%
1	108-04	LBD-108-04	12	207.48	315	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	20.6	TR108-04-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.0%	1.9%	0.50%	2.5%
1	108-05	LBD-108-05	11	190.19	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	46.35	TR108-05-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.1%	1.7%	0.50%	2.4%
1	108-06	LBD-108-06	17	293.93	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	118.45	TR108-06-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.2%	1.8%	0.50%	2.5%
1	108-07	LBD-108-07	17	293.93	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	92.7	TR108-07-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.5%
1	108-08	LBD-108-08	17	293.93	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	61.8	TR108-08-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.5%
1	108-09	LBD-108-09	17	293.93	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	36.05	TR108-09-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.4%
1	108-10	LBD-108-10	17	293.93	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	20.6	TR108-10-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.0%	1.8%	0.50%	2.4%
2	108-11	LBD-108-11	17	293.93	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	36.05	TR108-11-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.4%
2	108-12	LBD-108-12	16	276.64	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	61.8	TR108-12-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.1%	2.1%	0.50%	2.8%
2	108-13	LBD-108-13	16	276.64	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	92.7	TR108-13-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.1%	2.1%	0.50%	2.8%
2	108-14	LBD-108-14	16	276.64	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	118.45	TR108-14-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.2%	2.1%	0.50%	2.8%
2	108-15	LBD-108-15	16	276.64	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	149.35	TR108-15-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.2%	2.1%	0.50%	2.9%
2	108-16	LBD-108-16	16	276.64	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	175.1	TR108-16-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.2%	2.1%	0.50%	2.9%
2	108-17	LBD-108-17	16	276.64	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	200.85	TR108-17-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.3%	2.1%	0.50%	2.9%
2	108-18	LBD-108-18	16	276.64	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	231.75	TR108-18-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.3%	2.1%	0.50%	3.0%
2	108-19	LBD-108-19	14	242.06	400	1	AL 750MCM	CU #2	480	1	AL 750MCM	CU #2	247.2	TR108-19-01	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.3%	0.2%	0.8%	0.50%	1.7%
														TR108-19-02	6	1090.7	17.29	103.74	150	1	AL #4/0	329.6	97.26	0.3%	0.2%	0.6%	0.50%	1.6%

RULER IN INCHES:

DRAWING NOTES:

1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DATE	REVISION DESCRIPTION	PM	ENG	CHK
03/26/2024	90% DESIGN DEVELOPMENT	RK	GP	EL
01/25/2024	60% DESIGN DEVELOPMENT	RK	GP	EL
01/10/2024	60% MV DESIGN	RK	GP	EL
10/18/2023	30% DESIGN - REV 2	RK	GP	EL

ENGINEER
PUREPOWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWER.COM
ERIC J. LOOS
MD LICENSE No. 41148

EPC
VANGUARD ENERGY PARTNERS, LLC
VANGUARD ENERGY PARTNERS
1 COMMERCE STREET
BRANCHBURG, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

PAGE SIZE 36" x 24"

PROJECT # 06271

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAAE HT72-18X-550
MODULE QUANTITY: 326,430
ORIENTATION: 25° TILT, 180° AZI

PROJECT 179.5 MW SOLAR GROUND MOUNT SYSTEM AT CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

DRAWING TITLE
SCHEDULES & CALCULATIONS PCS-106 THRU 108

DRAWING # E3.512

DC FEEDER SCHEDULE - PCS 109

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	109-01	LBD-109-01	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	77.25	TR109-01-01	9	1090.7	17.29	155.61	200	1	AL #4/0	448.05	145.89	0.0%	0.1%	1.2%	0.50%	1.8%
														TR109-01-02	9	1090.7	17.29	155.61	200	1	AL #4/0	422.3	145.89	0.0%	0.1%	1.1%	0.50%	1.7%
1	109-02	LBD-109-02	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR109-02-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	448.05	162.1	0.1%	0.1%	1.3%	0.50%	2.0%
1	109-03	LBD-109-03	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	20.6	TR109-03-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.0%	1.7%	0.50%	2.4%
1	109-04	LBD-109-04	11	190.19	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	36.05	TR109-04-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.1%	1.7%	0.50%	2.4%
1	109-05	LBD-109-05	11	190.19	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	20.6	TR109-05-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.0%	1.7%	0.50%	2.3%
1	109-06	LBD-109-06	12	207.48	315	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	46.35	TR109-06-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.6%
1	109-07	LBD-109-07	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	20.6	TR109-07-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
1	109-08	LBD-109-08	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR109-08-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.1%	1.6%	0.50%	2.2%
1	109-09	LBD-109-09	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	77.25	TR109-09-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.1%	1.6%	0.50%	2.2%
1	109-10	LBD-109-10	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR109-10-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.1%	1.6%	0.50%	2.3%
1	109-11	LBD-109-11	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	149.35	TR109-11-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.2%	1.9%	0.50%	2.7%
2	109-12	LBD-109-12	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	118.45	TR109-12-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.2%	1.9%	0.50%	2.7%
2	109-13	LBD-109-13	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	92.7	TR109-13-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.6%
2	109-14	LBD-109-14	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	61.8	TR109-14-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.6%
2	109-15	LBD-109-15	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	36.05	TR109-15-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.5%
2	109-16	LBD-109-16	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	20.6	TR109-16-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.0%	1.9%	0.50%	2.5%
2	109-17	LBD-109-17	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	36.05	TR109-17-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.5%
2	109-18	LBD-109-18	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	61.8	TR109-18-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.6%
2	109-19	LBD-109-19	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	92.7	TR109-19-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.6%
2	109-20	LBD-109-20	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	118.45	TR109-20-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.2%	1.9%	0.50%	2.7%

DC FEEDER SCHEDULE - PCS 110

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	110-01	LBD-110-01	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	20.6	TR110-01-01	4	1090.7	17.29	69.16	90	1	AL #4/0	175.1	64.84	0.0%	0.0%	0.2%	0.50%	0.8%
														TR110-01-02	4	1090.7	17.29	69.16	90	1	AL #4/0	144.2	64.84	0.0%	0.0%	0.2%	0.50%	0.7%
														TR110-01-03	4	1090.7	17.29	69.16	90	1	AL #4/0	118.45	64.84	0.0%	0.0%	0.1%	0.50%	0.7%
1	110-02	LBD-110-02	14	242.06	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	20.6	TR110-02-01	4	1090.7	17.29	69.16	90	1	AL #4/0	144.2	64.84	0.0%	0.0%	0.2%	0.50%	0.7%
														TR110-02-02	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.0%	0.3%	0.50%	0.8%
														TR110-02-03	5	1090.7	17.29	86.45	110	1	AL #4/0	247.2	81.05	0.0%	0.0%	0.4%	0.50%	0.9%
1	110-03	LBD-110-03	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	20.6	TR110-03-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.0%	0.7%	0.50%	1.2%
														TR110-03-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.0%	0.7%	0.50%	1.3%
1	110-04	LBD-110-04	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	77.25	TR110-04-01	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.0%	0.1%	0.8%	0.50%	1.4%
														TR110-04-02	9	1090.7	17.29	155.61	200	1	AL #4/0	448.05	145.89	0.0%	0.1%	1.2%	0.50%	1.8%
1	110-05	LBD-110-05	16	276.64	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	231.75	TR110-05-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.3%	2.1%	0.50%	3.0%
1	110-06	LBD-110-06	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	200.85	TR110-06-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.3%	1.9%	0.50%	2.8%
1	110-07	LBD-110-07	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	175.1	TR110-07-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.3%	1.9%	0.50%	2.7%
1	110-08	LBD-110-08	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	149.35	TR110-08-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.2%	1.9%	0.50%	2.7%
1	110-09	LBD-110-09	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	118.45	TR110-09-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.2%	1.9%	0.50%	2.7%
1	110-10	LBD-110-10	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	92.7	TR110-10-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.6%
2	110-11	LBD-110-11	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	61.8	TR110-11-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.6%
2	110-12	LBD-110-12	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	36.05	TR110-12-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.5%
2	110-13	LBD-110-13	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	20.6	TR110-13-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.0%	1.9%	0.50%	2.5%
2	110-14	LBD-110-14	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	36.05	TR110-14-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.5%
2	110-15	LBD-110-15	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	61.8	TR110-15-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.6%
2	110-16	LBD-110-16	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	92.7	TR110-16-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.6%
2	110-17	LBD-110-17	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	118.45	TR110-17-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.2%	1.9%	0.50%	2.7%
2	110-18	LBD-110-18	18	311.22	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	149.35	TR110-18-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.2%	1.9%	0.50%	2.7%

DC FEEDER SCHEDULE - PCS 111

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	111-01	LBD-111-01	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR111-01-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.1%	2.1%	0.50%	2.8%
1	111-02	LBD-111-02	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	77.25	TR111-02-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.5%
1	111-03	LBD-111-03	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR111-03-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.4%
1	111-04	LBD-111-04	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	20.6	TR111-04-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.0%	1.8%	0.50%	2.4%
1	111-05	LBD-111-05	16	276.64	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	36.05	TR111-05-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.0%	2.1%	0.50%	2.7%
1	111-06	LBD-111-06	16	276.64	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	20.6	TR111-06-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.0%	2.1%	0.50%	2.7%
1	111-07	LBD-111-07	16	276.64	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	46.35	TR111-07-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.1%	2.1%	0.50%	2.7%
1	111-08	LBD-111-08	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	20.6	TR111-08-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.0%	1.8%	0.50%	2.4%
1	111-09	LBD-111-09	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR111-09-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.4%
1	111-10	LBD-111-10	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	77.25	TR111-10-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.5%
2	111-11	LBD-111-11	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR111-11-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.5%
2	111-12	LBD-111-12	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	463.5	TR111-12-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	432.6	162.1	0.1%	0.8%	1.3%	0.50%	2.7%
2	111-13	LBD-111-13	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	509.85	TR111-13-01	9	1090.7	17.29	155.61	200	1	AL #4/0	442.9	145.89	0.0%	0.4%	1.2%	0.50%	2.1%
														TR111-13-02	8	1090.7	17.29	138.32	175	1	AL #4/0	401.7	129.68	0.0%	0.4%	1.0%	0.50%	1.9%
2	111-14	LBD-111-14	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	602.55	TR111-14-01	7	1090.7	17.29	121.03	175	1	AL #4/0	370.8	113.47	0.0%	0.4%	0.8%	0.50%	1.7%
														TR111-14-02	7	1090.7	17.29	121.03	175	1	AL #4/0	381.1	113.47	0.0%	0.4%	0.8%	0.50%	1.7%
2	111-15	LBD-111-15	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	700.4	TR111-15-01	6	1090.7	17.29	103.74	150	1	AL #4/0	242.05	97.26	0.0%	0.4%	0.4%	0.50%	1.3%
														TR111-15-02	5	1090.7	17.29	86.45	110	1	AL #4/0	309	81.05	0.0%	0.4%	0.5%	0.50%	1.3%
														TR111-15-03	5	1090.7	17.29	86.45	110	1	AL #4/0	334.75	81.05	0.0%	0.4%	0.5%	0.50%	1.4%
2	111-16	LBD-111-16	16	276.64	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	77.25	TR111-16-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.1%	2.1%	0.50%	2.8%
2	111-17	LBD-111-17	16	276.64	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	46.35	TR111-17-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.1%	2.1%	0.50%	2.7%
2	111-18	LBD-111-18	16	276.64	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	20.6	TR111-18-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.0%	2.1%	0.50%	2.7%
2	111-19	LBD-111-19	16	276.64	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	36.05	TR111-19-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.0%	2.1%	0.50%	2.7%

DRAWING NOTES:
1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DRAWING TITLE
SCHEDULES & CALCULATIONS PCS-109 THRU 111

DRAWING #
E3.513

DATE	REVISION DESCRIPTION	PM	ENG	CHK
03/26/2024	90% DESIGN DEVELOPMENT	RK	GP	EL
01/25/2024	60% DESIGN DEVELOPMENT	RK	GP	EL
01/10/2024	60% MV DESIGN	RK	GP	EL
10/18/2023	30% DESIGN – REV 2	RK	GP	EL

ENGINEER
PUREPOWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWER.COM
ERIC J. LOOS
MD LICENSE No. 41148

EPC
VANGUARD ENERGY PARTNERS, LLC
VANGUARD ENERGY PARTNERS
1 COMMERCE STREET
BRANCHBURG, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

PAGE SIZE 36" x 24"
PROJECT # 06271

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAAE HT72-18X-550
MODULE QUANTITY: 326,430
ORIENTATION: 25° TILT, 180° AZI

PROJECT 179.5 MW SOLAR GROUND MOUNT SYSTEM AT
CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

PLOT DATE: 3/26/2024 9:33 PM

RULER IN INCHES:

DC FEEDER SCHEDULE - PCS 112

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS				
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	112-01	LBD-112-01	14	242.06	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	20.6	TR112-01-01	8	1090.7	17.29	138.32	175	1	AL #4/0	247.2	129.68	0.0%	0.0%	0.6%	0.50%	1.1%
														TR112-01-02	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.0%	0.0%	0.4%	0.50%	0.9%
1	112-02	LBD-112-02	16	276.64	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	36.05	TR112-02-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.0%	0.7%	0.50%	1.2%
														TR112-02-02	9	1090.7	17.29	155.61	200	1	AL #4/0	499.55	145.89	0.0%	0.0%	1.3%	0.50%	1.9%
1	112-03	LBD-112-03	10	172.9	250	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	51.5	TR112-03-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.1%	1.3%	0.50%	2.0%
1	112-04	LBD-112-04	11	190.19	250	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	77.25	TR112-04-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	525.3	178.31	0.1%	0.2%	1.7%	0.50%	2.5%
1	112-05	LBD-112-05	13	224.77	315	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	108.15	TR112-05-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	628.3	210.73	0.1%	0.1%	1.5%	0.50%	2.2%
1	112-06	LBD-112-06	14	242.06	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	133.9	TR112-06-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	628.3	226.94	0.1%	0.2%	1.6%	0.50%	2.3%
1	112-07	LBD-112-07	9	155.61	200	1	AL 350MCM	CU #2	70	1	AL 350MCM	CU #2	442.9	TR112-07-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	422.3	145.89	0.1%	0.7%	1.1%	0.50%	2.5%
1	112-08	LBD-112-08	12	207.48	315	1	AL 350MCM	CU #2	70	1	AL 350MCM	CU #2	257.5	TR112-08-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	551.05	194.52	0.2%	0.6%	2.0%	0.50%	3.2%
1	112-09	LBD-112-09	14	242.06	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	175.1	TR112-09-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.2%	1.6%	0.50%	2.4%
1	112-10	LBD-112-10	14	242.06	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	149.35	TR112-10-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.2%	1.6%	0.50%	2.3%
1	112-11	LBD-112-11	14	242.06	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	118.45	TR112-11-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.1%	1.6%	0.50%	2.3%
1	112-12	LBD-112-12	14	242.06	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	92.7	TR112-12-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.1%	1.6%	0.50%	2.3%
2	112-13	LBD-112-13	14	242.06	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	61.8	TR112-13-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.1%	1.6%	0.50%	2.2%
2	112-14	LBD-112-14	14	242.06	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	36.05	TR112-14-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
2	112-15	LBD-112-15	14	242.06	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	20.6	TR112-15-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
2	112-16	LBD-112-16	14	242.06	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	36.05	TR112-16-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
2	112-17	LBD-112-17	14	242.06	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	61.8	TR112-17-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.1%	1.6%	0.50%	2.2%
2	112-18	LBD-112-18	14	242.06	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	92.7	TR112-18-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.1%	1.6%	0.50%	2.3%
2	112-19	LBD-112-19	14	242.06	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	118.45	TR112-19-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.1%	1.6%	0.50%	2.3%
2	112-20	LBD-112-20	14	242.06	400	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	149.35	TR112-20-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.2%	1.6%	0.50%	2.3%
2	112-21	LBD-112-21	13	224.77	315	1	AL 750MCM	CU #2	70	1	AL 750MCM	CU #2	175.1	TR112-21-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.1%	0.2%	1.5%	0.50%	2.2%
2	112-22	LBD-112-22	10	172.9	250	1	AL 350MCM	CU #2	70	1	AL 350MCM	CU #2	206	TR112-22-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.4%	1.3%	0.50%	2.3%
2	112-23	LBD-112-23	10	172.9	250	1	AL 350MCM	CU #2	70	1	AL 350MCM	CU #2	231.75	TR112-23-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.4%	1.3%	0.50%	2.3%
2	112-24	LBD-112-24	10	172.9	250	1	AL 350MCM	CU #2	70	1	AL 350MCM	CU #2	257.5	TR112-24-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.5%	1.3%	0.50%	2.3%

DRAWING NOTES:
1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DRAWING TITLE: SCHEDULES & CALCULATIONS PCS-112

DRAWING # E3.514

	DATE	REVISION DESCRIPTION	PM	ENG	CHK
4	03/28/2024	90% DESIGN DEVELOPMENT	RK	GP	EL
3	01/25/2024	60% DESIGN DEVELOPMENT	RK	GP	EL
2	01/10/2024	60% NV DESIGN	RK	GP	EL
1	10/18/2023	30% DESIGN – REV 2	RK	GP	EL

PURE POWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ 07030
WWW.PUREPOWER.COM
(201) 793-0005
MD LICENSE No. 41148

ENGINEER

EPC: VANGUARD ENERGY PARTNERS
1 COMMERCE STREET
BRANCHBURG, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

PAGE SIZE: 36" x 24"
PROJECT #: 04271

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAAE HJT72-18X-550
MODULE QUANTITY: 326,470
ORIENTATION: 25° TILT, 180° AZI

PROJECT: 179.5 MW SOLAR GROUND MOUNT SYSTEM AT CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

PLOT DATE: 3/28/2024 9:33 PM

RULER IN INCHES: 0 1/8 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

DC FEEDER SCHEDULE - PCS 201

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	201-01	LBD-201-01	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	242.05	TR201-01-01	4	1090.7	17.29	69.16	90	1	AL #4/0	175.1	64.84	0.0%	0.2%	0.2%	0.50%	0.9%
														TR201-01-02	4	1090.7	17.29	69.16	90	1	AL #4/0	144.2	64.84	0.0%	0.2%	0.2%	0.50%	0.9%
														TR201-01-03	4	1090.7	17.29	69.16	90	1	AL #4/0	118.45	64.84	0.0%	0.2%	0.1%	0.50%	0.9%
1	201-02	LBD-201-02	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	190.55	TR201-02-01	9	1090.7	17.29	155.61	200	1	AL #4/0	448.05	145.89	0.0%	0.1%	1.2%	0.50%	1.9%
														TR201-02-02	9	1090.7	17.29	155.61	200	1	AL #4/0	422.3	145.89	0.0%	0.1%	1.1%	0.50%	1.8%
1	201-03	LBD-201-03	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	159.65	TR201-03-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.3%	1.3%	0.50%	2.2%
1	201-04	LBD-201-04	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	133.9	TR201-04-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.2%	1.3%	0.50%	2.1%
1	201-05	LBD-201-05	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	103	TR201-05-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.2%	1.3%	0.50%	2.1%
1	201-06	LBD-201-06	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	77.25	TR201-06-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.1%	1.3%	0.50%	2.0%
1	201-07	LBD-201-07	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR201-07-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.1%	1.3%	0.50%	2.0%
1	201-08	LBD-201-08	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	20.6	TR201-08-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	525.3	178.31	0.1%	0.0%	1.7%	0.50%	2.4%
1	201-09	LBD-201-09	10	172.9	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	36.05	TR201-09-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.1%	1.3%	0.50%	1.9%
2	201-10	LBD-201-10	15	259.35	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	20.6	TR201-10-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.0%	1.9%	0.50%	2.5%
2	201-11	LBD-201-11	15	259.35	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	46.35	TR201-11-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.6%
2	201-12	LBD-201-12	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	20.6	TR201-12-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.0%	2.1%	0.50%	2.7%
2	201-13	LBD-201-13	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR201-13-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.1%	2.1%	0.50%	2.7%
2	201-14	LBD-201-14	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	77.25	TR201-14-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.1%	2.1%	0.50%	2.8%
2	201-15	LBD-201-15	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR201-15-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.1%	2.1%	0.50%	2.8%
2	201-16	LBD-201-16	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	133.9	TR201-16-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.2%	2.1%	0.50%	2.8%

DC FEEDER SCHEDULE - PCS 202

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	202-01	LBD-202-01	18	311.22	400	1	AL 750MCM	CU #2	1010	1	AL 750MCM	CU #2	10.3	TR202-01-01	7	1090.7	17.29	121.03	175	1	AL #4/0	159.65	113.47	0.6%	0.0%	0.3%	0.50%	1.4%
														TR202-01-02	6	1090.7	17.29	103.74	150	1	AL #4/0	92.7	97.26	0.6%	0.0%	0.2%	0.50%	1.3%
														TR202-01-03	5	1090.7	17.29	86.45	110	1	AL #4/0	46.35	81.05	0.6%	0.0%	0.1%	0.50%	1.2%
1	202-02	LBD-202-02	18	311.22	400	1	AL 750MCM	CU #2	1010	1	AL 750MCM	CU #2	10.3	TR202-02-01	7	1090.7	17.29	121.03	175	1	AL #4/0	72.1	113.47	0.6%	0.0%	0.2%	0.50%	1.2%
														TR202-02-02	6	1090.7	17.29	103.74	150	1	AL #4/0	128.75	97.26	0.6%	0.0%	0.2%	0.50%	1.3%
														TR202-02-03	5	1090.7	17.29	86.45	110	1	AL #4/0	185.4	81.05	0.6%	0.0%	0.3%	0.50%	1.4%
1	202-03	LBD-202-03	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	216.3	TR202-03-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	525.3	194.52	0.1%	0.5%	1.9%	0.50%	3.0%
1	202-04	LBD-202-04	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	190.55	TR202-04-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	525.3	194.52	0.1%	0.4%	1.9%	0.50%	2.9%
1	202-05	LBD-202-05	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	159.65	TR202-05-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	525.3	194.52	0.1%	0.3%	1.9%	0.50%	2.8%
1	202-06	LBD-202-06	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	133.9	TR202-06-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	525.3	194.52	0.1%	0.3%	1.9%	0.50%	2.8%
1	202-07	LBD-202-07	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	103	TR202-07-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	525.3	194.52	0.1%	0.2%	1.9%	0.50%	2.7%
1	202-08	LBD-202-08	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	77.25	TR202-08-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	525.3	194.52	0.1%	0.2%	1.9%	0.50%	2.7%
2	202-09	LBD-202-09	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	46.35	TR202-09-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	525.3	194.52	0.1%	0.1%	1.9%	0.50%	2.6%
2	202-10	LBD-202-10	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	20.6	TR202-10-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	525.3	194.52	0.1%	0.0%	1.9%	0.50%	2.5%
2	202-11	LBD-202-11	11	190.19	250	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	10.3	TR202-11-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	525.3	178.31	0.1%	0.0%	1.7%	0.50%	2.4%
2	202-12	LBD-202-12	17	293.93	400	1	AL 750MCM	CU #2	110	1	AL 750MCM	CU #2	30.9	TR202-12-01	9	1090.7	17.29	155.61	200	1	AL #4/0	422.3	145.89	0.1%	0.0%	1.1%	0.50%	1.7%
														TR202-12-02	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.1%	0.0%	0.8%	0.50%	1.4%
2	202-13	LBD-202-13	18	311.22	400	1	AL 750MCM	CU #2	110	1	AL 750MCM	CU #2	51.5	TR202-13-01	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.1%	0.0%	0.4%	0.50%	1.0%
														TR202-13-02	6	1090.7	17.29	103.74	150	1	AL #4/0	242.05	97.26	0.1%	0.0%	0.4%	0.50%	1.0%
														TR202-13-03	6	1090.7	17.29	103.74	150	1	AL #4/0	267.8	97.26	0.1%	0.0%	0.5%	0.50%	1.1%
2	202-14	LBD-202-14	17	293.93	400	1	AL 750MCM	CU #2	185	1	AL 750MCM	CU #2	30.9	TR202-14-01	9	1090.7	17.29	155.61	200	1	AL #4/0	422.3	145.89	0.1%	0.0%	1.1%	0.50%	1.8%
														TR202-14-02	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.1%	0.0%	0.8%	0.50%	1.4%
2	202-15	LBD-202-15	14	242.06	400	1	AL 750MCM	CU #2	185	1	AL 750MCM	CU #2	51.5	TR202-15-01	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.1%	0.0%	0.8%	0.50%	1.4%
														TR202-15-02	6	1090.7	17.29	103.74	150	1	AL #4/0	288.4	97.26	0.1%	0.0%	0.5%	0.50%	1.2%
2	202-16	LBD-202-16	12	207.48	315	1	AL 350MCM	CU #2	185	1	AL 350MCM	CU #2	149.35	TR202-16-01	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.2%	0.2%	0.4%	0.50%	1.2%
														TR202-16-02	6	1090.7	17.29	103.74	150	1	AL #4/0	242.05	97.26	0.2%	0.2%	0.4%	0.50%	1.3%

DC FEEDER SCHEDULE - PCS 203

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	203-01	LBD-203-01	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	133.9	TR203-01-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.2%	2.1%	0.50%	2.8%
1	203-02	LBD-203-02	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR203-02-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.2%	1.9%	0.50%	2.6%
1	203-03	LBD-203-03	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	77.25	TR203-03-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	921.85	162.1	0.1%	0.1%	1.7%	0.50%	2.4%
1	203-04	LBD-203-04	9	155.61	200	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR203-04-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	520.15	145.89	0.1%	0.1%	1.4%	0.50%	2.1%
1	203-05	LBD-203-05	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR203-05-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.6%
1	203-06	LBD-203-06	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR203-06-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1024.85	162.1	0.1%	0.1%	1.8%	0.50%	2.5%
1	203-07	LBD-203-07	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	20.6	TR203-07-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.0%	1.9%	0.50%	2.5%
1	203-08	LBD-203-08	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	20.6	TR203-08-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1024.85	162.1	0.1%	0.0%	1.8%	0.50%	2.5%
1	203-09	LBD-203-09	10	172.9	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	36.05	TR203-09-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.1%	1.2%	0.50%	1.9%
1	203-10	LBD-203-10	11	190.19	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	36.05	TR203-10-01	11	1090.7	17.29	190.19	N/A	1	AL 350MCM	1024.85	178.31	0.1%	0.1%	2.0%	0.50%	2.7%
1	203-11	LBD-203-11	10	172.9	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	20.6	TR203-11-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.0%	1.2%	0.50%	1.9%
1	203-12	LBD-203-12	11	190.19	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	20.6	TR203-12-01	11	1090.7	17.29	190.19	N/A	1	AL 350MCM	1024.85	178.31	0.1%	0.0%	2.0%	0.50%	2.7%
2	203-13	LBD-203-13	10	172.9	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	46.35	TR203-13-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.1%	1.2%	0.50%	1.9%
2	203-14	LBD-203-14	11	190.19	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	46.35	TR203-14-01	11	1090.7	17.29	190.19	N/A	1	AL 350MCM	1024.85	178.31	0.1%	0.1%	2.0%	0.50%	2.7%
2	203-15	LBD-203-15	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	20.6	TR203-15-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.0%	1.9%	0.50%	2.5%
2	203-16	LBD-203-16	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	20.6	TR203-16-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1024.85	162.1	0.1%	0.0%	1.8%	0.50%	2.5%
2	203-17	LBD-203-17	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR203-17-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.6%
2	203-18	LBD-203-18	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR203-18-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1024.85	162.1	0.1%	0.1%	1.8%	0.50%	2.5%
2	203-19	LBD-203-19	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	77.25	TR203-19-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.2%	1.9%	0.50%	2.7%
2	203-20	LBD-203-20	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	77.25	TR203-20-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1024.85	162.1	0.1%	0.1%	1.8%	0.50%	2.6%
2	203-21	LBD-203-21	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	103	TR203-21-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.2%	1.9%	0.50%	2.7%
2	203-22	LBD-203-22	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	103	TR203-22-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1024.85	162.1	0.1%	0.2%	1.8%	0.50%	2.6%
2	203-23	LBD-203-23	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	133.9	TR203-23-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.3%	1.9%	0.50%	2.8%
2	203-24	LBD-203-24	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	133.9	TR203-24-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1024.85	162.1	0.1%	0.2%	1.8%	0.50%	2.7%

DRAWING NOTES:
1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DRAWING TITLE
SCHEDULES & CALCULATIONS
PCS-201 THRU 203

DRAWING #
E3.515

DATE	REVISION DESCRIPTION	PM	ENG	CHK
03/26/2024	90% DESIGN DEVELOPMENT	RK	GP	EL
01/25/2024	60% DESIGN DEVELOPMENT	RK	GP	EL
01/10/2024	60% NV DESIGN	RK	GP	EL
10/18/2023	30% DESIGN - REV 2	RK	GP	EL

PURE POWER
PURE POWER ENGINEERING, INC.
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWERENG.COM
MD LICENSE No. 41148

ENGINEER
VANGUARD ENERGY PARTNERS
1 COMMERCE STREET
BRIGANTINE, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

EPC
VANGUARD ENERGY CONSTRUCTION, LLC

PAGE SIZE: 36" x 24"
PROJECT #: 062771

PROJECT: 179.5 MW SOLAR GROUND MOUNT SYSTEM AT CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAAE HJT72-18X-550
MODULE QUANTITY: 326,430
ORIENTATION: 25° TILT, 180° AZI

RULER IN INCHES:

PLOT DATE: 3/26/2024 9:34 PM

DC FEEDER SCHEDULE - PCS 204

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	204-01	LBD-204-01	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	721	TR204-01-01	7	1090.7	17.29	121.03	175	1	AL #4/0	175.1	113.47	0.0%	0.4%	0.4%	0.50%	1.3%
														TR204-01-02	5	1090.7	17.29	86.45	110	1	AL #4/0	247.2	81.05	0.0%	0.4%	0.4%	0.50%	1.3%
														TR204-01-03	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.0%	0.4%	0.4%	0.50%	1.3%
1	204-02	LBD-204-02	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	721	TR204-02-01	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.0%	0.4%	0.4%	0.50%	1.3%
														TR204-02-02	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.4%	0.7%	0.50%	1.6%
1	204-03	LBD-204-03	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	721	TR204-03-01	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.4%	0.7%	0.50%	1.7%
														TR204-03-02	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.4%	0.7%	0.50%	1.6%
1	204-04	LBD-204-04	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	190.55	TR204-04-01	8	1090.7	17.29	138.32	175	1	AL #4/0	211.15	129.68	0.0%	0.1%	0.5%	0.50%	1.2%
														TR204-04-02	5	1090.7	17.29	86.45	110	1	AL #4/0	247.2	81.05	0.0%	0.1%	0.4%	0.50%	1.0%
														TR204-04-03	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.1%	0.3%	0.50%	1.0%
1	204-05	LBD-204-05	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR204-05-01	6	1090.7	17.29	103.74	150	1	AL #4/0	272.95	97.26	0.0%	0.1%	0.5%	0.50%	1.1%
														TR204-05-02	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.0%	0.1%	0.4%	0.50%	1.0%
														TR204-05-03	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.0%	0.1%	0.4%	0.50%	1.0%
1	204-06	LBD-204-06	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	77.25	TR204-06-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.5%
1	204-07	LBD-204-07	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR204-07-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.4%
1	204-08	LBD-204-08	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	20.6	TR204-08-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.0%	1.8%	0.50%	2.4%
1	204-09	LBD-204-09	16	276.64	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	36.05	TR204-09-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.0%	2.1%	0.50%	2.7%
2	204-10	LBD-204-10	16	276.64	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	20.6	TR204-10-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.0%	2.1%	0.50%	2.7%
2	204-11	LBD-204-11	16	276.64	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	46.35	TR204-11-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.1%	2.1%	0.50%	2.7%
2	204-12	LBD-204-12	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	20.6	TR204-12-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.0%	1.8%	0.50%	2.4%
2	204-13	LBD-204-13	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR204-13-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.4%
2	204-14	LBD-204-14	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	77.25	TR204-14-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.5%
2	204-15	LBD-204-15	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR204-15-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.5%
2	204-16	LBD-204-16	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	133.9	TR204-16-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.2%	1.8%	0.50%	2.5%
2	204-17	LBD-204-17	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	159.65	TR204-17-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.2%	1.8%	0.50%	2.6%

DC FEEDER SCHEDULE - PCS 205

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	205-01	LBD-205-01	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	741.6	TR205-01-01	5	1090.7	17.29	86.45	110	1	AL #4/0	334.75	81.05	0.0%	0.3%	0.5%	0.50%	1.3%
														TR205-01-02	8	1090.7	17.29	138.32	175	1	AL #4/0	334.75	129.68	0.0%	0.3%	0.8%	0.50%	1.6%
1	205-02	LBD-205-02	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	695.25	TR205-02-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	1.3%	1.3%	0.50%	3.1%
1	205-03	LBD-205-03	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	664.35	TR205-03-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	1.2%	1.3%	0.50%	3.1%
1	205-04	LBD-205-04	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	597.4	TR205-04-01	11	1090.7	17.29	190.19	N/A	1	AL 350MCM	520.15	178.31	0.1%	1.2%	1.0%	0.50%	2.8%
1	205-05	LBD-205-05	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	566.5	TR205-05-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	1.1%	1.7%	0.50%	3.4%
1	205-06	LBD-205-06	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	180.25	TR205-06-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	834.3	291.78	0.1%	0.3%	1.9%	0.50%	2.8%
1	205-07	LBD-205-07	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	133.9	TR205-07-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.2%	1.8%	0.50%	2.5%
1	205-08	LBD-205-08	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR205-08-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.5%
1	205-09	LBD-205-09	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	77.25	TR205-09-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.6%
1	205-10	LBD-205-10	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR205-10-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.6%
1	205-11	LBD-205-11	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	20.6	TR205-11-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.0%	1.9%	0.50%	2.6%
1	205-12	LBD-205-12	12	207.48	315	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	36.05	TR205-12-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.5%
2	205-13	LBD-205-13	12	207.48	315	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	20.6	TR205-13-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.0%	1.9%	0.50%	2.5%
2	205-14	LBD-205-14	12	207.48	315	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	46.35	TR205-14-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.6%
2	205-15	LBD-205-15	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	20.6	TR205-15-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.0%	1.2%	0.50%	1.9%
2	205-16	LBD-205-16	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR205-16-01	9	1090.7	17.29	155.61	200	1	AL #4/0	417.15	145.89	0.0%	0.0%	1.1%	0.50%	1.7%
														TR205-16-02	9	1090.7	17.29	155.61	200	1	AL #4/0	448.05	145.89	0.0%	0.0%	1.2%	0.50%	1.8%
2	205-17	LBD-205-17	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR205-17-01	9	1090.7	17.29	155.61	200	1	AL #4/0	417.15	145.89	0.0%	0.1%	1.1%	0.50%	1.7%
														TR205-17-02	9	1090.7	17.29	155.61	200	1	AL #4/0	448.05	145.89	0.0%	0.1%	1.2%	0.50%	1.8%
2	205-18	LBD-205-18	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	159.65	TR205-18-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.3%	1.2%	0.50%	2.1%
2	205-19	LBD-205-19	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	190.55	TR205-19-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.4%	1.7%	0.50%	2.7%
2	205-20	LBD-205-20	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	216.3	TR205-20-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.3%	1.6%	0.50%	2.4%
2	205-21	LBD-205-21	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	242.05	TR205-21-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.3%	2.1%	0.50%	3.0%

DC FEEDER SCHEDULE - PCS 206

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	206-01	LBD-206-01	15	259.35	400	1	AL 750MCM	CU #2	205	1	AL 750MCM	CU #2	103	TR206-01-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.3%	0.1%	1.9%	0.50%	2.8%
1	206-02	LBD-206-02	15	259.35	400	1	AL 750MCM	CU #2	205	1	AL 750MCM	CU #2	77.25	TR206-02-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.3%	0.1%	1.9%	0.50%	2.8%
1	206-03	LBD-206-03	15	259.35	400	1	AL 750MCM	CU #2	205	1	AL 750MCM	CU #2	46.35	TR206-03-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.3%	0.1%	1.9%	0.50%	2.8%
1	206-04	LBD-206-04	15	259.35	400	1	AL 750MCM	CU #2	205	1	AL 750MCM	CU #2	20.6	TR206-04-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.3%	0.0%	1.9%	0.50%	2.7%
1	206-05	LBD-206-05	15	259.35	400	1	AL 750MCM	CU #2	75	1	AL 750MCM	CU #2	103	TR206-05-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.7%
1	206-06	LBD-206-06	15	259.35	400	1	AL 750MCM	CU #2	75	1	AL 750MCM	CU #2	77.25	TR206-06-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.6%
1	206-07	LBD-206-07	11	190.19	250	1	AL 350MCM	CU #2	75	1	AL 350MCM	CU #2	46.35	TR206-07-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.1%	1.7%	0.50%	2.4%
1	206-08	LBD-206-08	11	190.19	250	1	AL 350MCM	CU #2	75	1	AL 350MCM	CU #2	20.6	TR206-08-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.0%	1.7%	0.50%	2.4%
1	206-09	LBD-206-09	12	207.48	315	1	AL 350MCM	CU #2	70	1	AL 350MCM	CU #2	77.25	TR206-09-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.2%	0.2%	1.9%	0.50%	2.7%
1	206-10	LBD-206-10	10	172.9	250	1	AL 350MCM	CU #2	70	1	AL 350MCM	CU #2	77.25	TR206-10-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1019.7	162.1	0.1%	0.1%	1.8%	0.50%	2.6%
1	206-11	LBD-206-11	12	207.48	315	1	AL 350MCM	CU #2	70	1	AL 350MCM	CU #2	46.35	TR206-11-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.2%	0.1%	1.9%	0.50%	2.6%
2	206-12	LBD-206-12	10	172.9	250	1	AL 350MCM	CU #2	70	1	AL 350MCM	CU #2	46.35	TR206-12-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1019.7	162.1	0.1%	0.1%	1.8%	0.50%	2.5%
2	206-13	LBD-206-13	12	207.48	315	1	AL 350MCM	CU #2	70	1	AL 350MCM	CU #2	20.6	TR206-13-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.2%	0.0%	1.9%	0.50%	2.6%
2	206-14	LBD-206-14	10	172.9	250	1	AL 350MCM	CU #2	70	1	AL 350MCM	CU #2	20.6	TR206-14-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1019.7	162.1	0.1%	0.0%	1.8%	0.50%	2.5%
2	206-15	LBD-206-15	10	172.9	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	36.05	TR206-15-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.1%	1.3%	0.50%	1.9%
2	206-16	LBD-206-16	11	190.19	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	36.05	TR206-16-01	11	1090.7	17.29	190.19	N/A	1	AL 350MCM	1019.7	178.31	0.1%	0.1%	2.0%	0.50%	2.7%
2	206-17	LBD-206-17	10	172.9	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	20.6	TR206-17-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.0%	1.3%	0.50%	1.9%
2	206-18	LBD-206-18	9	155.61	200	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	20.6	TR206-18-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	921.85	145.89	0.1%	0.0%	2.5%	0.50%	3.1%
2	206-19	LBD-206-19	17	293.93	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	46.35	TR206-19-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.4%
2	206-20	LBD-206-20	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	20.6	TR206-20-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.0%	1.9%	0.50%	2.5%
2	206-21	LBD-206-21	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR206-21-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.5%
2	206-22	LBD-206-22	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	77.25	TR206-22-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.6%

DRAWING NOTES:
1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DATE	REVISION DESCRIPTION	PM	ENG	CHK
03/28/2024	30% DESIGN DEVELOPMENT	RK	GP	EL
01/25/2024	60% DESIGN DEVELOPMENT	RK	GP	EL
01/10/2024	60% NV DESIGN	RK	GP	EL
10/18/2023	30% DESIGN – REV 2	RK	GP	EL

PURE POWER ENGINEERING
PURE POWER ENGINEERING, NJ
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWER.COM
(908) 905-0005
MD LICENSE No. 41148

ENGINEER
VANGUARD ENERGY PARTNERS
1 COMMERCE STREET
BRIDGEBURG, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

EPC
YANGUARD

PAGE SIZE: 36" x 24"
PROJECT #: 06271

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAE HJT72-18X-550
MODULE QUANTITY: 326
ORIENTATION: 25° TILT, 180° AZI

PROJECT: 179.5 MW SOLAR GROUND MOUNT SYSTEM AT CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

DRAWING TITLE: SCHEDULES & CALCULATIONS PCS–204 THRU 206

DRAWING #: E3.516

PLOT DATE: 3/28/2024 8:34 PM

RULER IN INCHES: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

DC FEEDER SCHEDULE - PCS 207

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	207-01	LBD-207-01	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	216.3	TR207-01-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.4%	1.7%	0.50%	2.8%
1	207-02	LBD-207-02	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	190.55	TR207-02-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.4%	1.7%	0.50%	2.7%
1	207-03	LBD-207-03	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	159.65	TR207-03-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.3%	1.7%	0.50%	2.6%
1	207-04	LBD-207-04	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	133.9	TR207-04-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.1%	0.1%	1.5%	0.50%	2.2%
1	207-05	LBD-207-05	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR207-05-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.1%	0.1%	1.5%	0.50%	2.1%
1	207-06	LBD-207-06	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	77.25	TR207-06-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.1%	0.1%	1.5%	0.50%	2.1%
1	207-07	LBD-207-07	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR207-07-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.1%	0.1%	1.5%	0.50%	2.1%
1	207-08	LBD-207-08	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	20.6	TR207-08-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.0%	1.9%	0.50%	2.5%
1	207-09	LBD-207-09	11	190.19	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	36.05	TR207-09-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.1%	1.7%	0.50%	2.4%
1	207-10	LBD-207-10	11	190.19	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	20.6	TR207-10-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.0%	1.7%	0.50%	2.3%
1	207-11	LBD-207-11	11	190.19	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	46.35	TR207-11-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.1%	1.7%	0.50%	2.4%
1	207-12	LBD-207-12	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	20.6	TR207-12-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.0%	1.9%	0.50%	2.5%
2	207-13	LBD-207-13	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR207-13-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.6%
2	207-14	LBD-207-14	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	77.25	TR207-14-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.2%	1.9%	0.50%	2.7%
2	207-15	LBD-207-15	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	103	TR207-15-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.2%	1.9%	0.50%	2.7%
2	207-16	LBD-207-16	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	133.9	TR207-16-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.3%	1.7%	0.50%	2.6%
2	207-17	LBD-207-17	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	159.65	TR207-17-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.3%	1.2%	0.50%	2.1%
2	207-18	LBD-207-18	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	190.55	TR207-18-01	10	1090.7	17.29	172.9	250	1	AL #4/0	417.15	162.1	0.1%	0.2%	1.2%	0.50%	2.0%
														TR207-18-02	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.1%	0.2%	0.8%	0.50%	1.5%
2	207-19	LBD-207-19	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	247.2	TR207-19-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.1%	0.7%	0.50%	1.3%
														TR207-19-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.1%	0.7%	0.50%	1.4%
2	207-20	LBD-207-20	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	298.7	TR207-20-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.2%	0.7%	0.50%	1.4%
														TR207-20-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.2%	0.7%	0.50%	1.4%
2	207-21	LBD-207-21	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	355.35	TR207-21-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.2%	0.7%	0.50%	1.4%
														TR207-21-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.2%	0.7%	0.50%	1.5%
2	207-22	LBD-207-22	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	412	TR207-22-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.2%	0.7%	0.50%	1.4%
														TR207-22-02	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.0%	0.2%	0.4%	0.50%	1.2%

DC FEEDER SCHEDULE - PCS 208

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	208-01	LBD-208-01	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	272.95	TR208-01-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.4%	2.1%	0.50%	3.0%
1	208-02	LBD-208-02	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	242.05	TR208-02-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.3%	2.1%	0.50%	3.0%
1	208-03	LBD-208-03	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	216.3	TR208-03-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.3%	1.9%	0.50%	2.8%
1	208-04	LBD-208-04	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	190.55	TR208-04-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.2%	1.6%	0.50%	2.4%
1	208-05	LBD-208-05	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	159.65	TR208-05-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.3%	1.9%	0.50%	2.8%
1	208-06	LBD-208-06	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	133.9	TR208-06-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.3%	1.9%	0.50%	2.8%
1	208-07	LBD-208-07	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	103	TR208-07-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.2%	1.9%	0.50%	2.7%
1	208-08	LBD-208-08	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	77.25	TR208-08-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.2%	1.9%	0.50%	2.7%
1	208-09	LBD-208-09	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR208-09-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.6%
1	208-10	LBD-208-10	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	20.6	TR208-10-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
1	208-11	LBD-208-11	13	224.77	315	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	36.05	TR208-11-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.1%	0.0%	1.5%	0.50%	2.1%
1	208-12	LBD-208-12	14	242.06	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	20.6	TR208-12-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
2	208-13	LBD-208-13	14	242.06	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	46.35	TR208-13-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.1%	1.6%	0.50%	2.2%
2	208-14	LBD-208-14	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	20.6	TR208-14-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.0%	1.9%	0.50%	2.6%
2	208-15	LBD-208-15	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR208-15-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.6%
2	208-16	LBD-208-16	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	77.25	TR208-16-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.6%
2	208-17	LBD-208-17	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR208-17-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.7%
2	208-18	LBD-208-18	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	133.9	TR208-18-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.2%	1.9%	0.50%	2.7%
2	208-19	LBD-208-19	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	159.65	TR208-19-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.2%	1.9%	0.50%	2.7%
2	208-20	LBD-208-20	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	190.55	TR208-20-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.2%	1.9%	0.50%	2.8%

DC FEEDER SCHEDULE - PCS 209

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	209-01	LBD-209-01	18	311.22	400	1	AL 750MCM	CU #2	150	1	AL 750MCM	CU #2	72.1	TR209-01-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.2%	0.1%	1.9%	0.50%	2.7%
1	209-02	LBD-209-02	18	311.22	400	1	AL 750MCM	CU #2	150	1	AL 750MCM	CU #2	46.35	TR209-02-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.2%	0.1%	1.9%	0.50%	2.7%
1	209-03	LBD-209-03	18	311.22	400	1	AL 750MCM	CU #2	150	1	AL 750MCM	CU #2	20.6	TR209-03-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.2%	0.0%	1.9%	0.50%	2.6%
1	209-04	LBD-209-04	14	242.06	400	1	AL 750MCM	CU #2	225	1	AL 750MCM	CU #2	56.65	TR209-04-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.3%	0.1%	1.6%	0.50%	2.4%
1	209-05	LBD-209-05	15	259.35	400	1	AL 750MCM	CU #2	225	1	AL 750MCM	CU #2	25.75	TR209-05-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.3%	0.0%	1.9%	0.50%	2.8%
1	209-06	LBD-209-06	15	259.35	400	1	AL 750MCM	CU #2	225	1	AL 750MCM	CU #2	25.75	TR209-06-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.3%	0.0%	1.9%	0.50%	2.8%
1	209-07	LBD-209-07	15	259.35	400	1	AL 750MCM	CU #2	225	1	AL 750MCM	CU #2	56.65	TR209-07-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.3%	0.1%	1.9%	0.50%	2.8%
1	209-08	LBD-209-08	15	259.35	400	1	AL 750MCM	CU #2	225	1	AL 750MCM	CU #2	82.4	TR209-08-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.3%	0.1%	1.9%	0.50%	2.8%
1	209-09	LBD-209-09	17	293.93	400	1	AL 750MCM	CU #2	225	1	AL 750MCM	CU #2	113.3	TR209-09-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.3%	0.2%	1.8%	0.50%	2.7%
2	209-10	LBD-209-10	10	172.9	250	1	AL 350MCM	CU #2	225	1	AL 350MCM	CU #2	298.7	TR209-10-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	432.6	162.1	0.4%	0.5%	1.3%	0.50%	2.7%
2	209-11	LBD-209-11	10	172.9	250	1	AL 350MCM	CU #2	225	1	AL 350MCM	CU #2	298.7	TR209-11-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	937.3	162.1	0.4%	0.5%	1.7%	0.50%	3.1%
2	209-12	LBD-209-12	10	172.9	250	1	AL 350MCM	CU #2	225	1	AL 350MCM	CU #2	345.05	TR209-12-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.4%	0.6%	1.2%	0.50%	2.8%
2	209-13	LBD-209-13	11	190.19	250	1	AL 350MCM	CU #2	225	1	AL 350MCM	CU #2	345.05	TR209-13-01	11	1090.7	17.29	190.19	N/A	1	AL 500MCM	1024.85	178.31	0.4%	0.7%	1.4%	0.50%	3.0%
2	209-14	LBD-209-14	12	207.48	315	1	AL 350MCM	CU #2	225	1	AL 350MCM	CU #2	375.95	TR209-14-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	520.15	194.52	0.5%	0.8%	1.1%	0.50%	2.9%
2	209-15	LBD-209-15	11	190.19	250	1	AL 350MCM	CU #2	225	1	AL 350MCM	CU #2	375.95	TR209-15-01	11	1090.7	17.29	190.19	N/A	1	AL 500MCM	1122.7	178.31	0.4%	0.7%	1.6%	0.50%	3.2%
2	209-16	LBD-209-16	12	207.48	315	1	AL 350MCM	CU #2	225	1	AL 350MCM	CU #2	401.7	TR209-16-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	520.15	194.52	0.5%	0.9%	1.1%	0.50%	3.0%
2	209-17	LBD-209-17	11	190.19	250	1	AL 350MCM	CU #2	225	1	AL 350MCM	CU #2	401.7	TR209-17-01	11	1090.7	17.29	190.19	N/A	1	AL 500MCM	1122.7	178.31	0.4%	0.8%	1.6%	0.50%	3.3%
2	209-18	LBD-209-18	12	207.48	315	1	AL 350MCM	CU #2	225	1	AL 350MCM	CU #2	432.6	TR209-18-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	520.15	194.52	0.5%	0.9%	1.1%	0.50%	3.0%
2	209-19	LBD-209-19	11	190.19	250	1	AL 350MCM	CU #2	225	1	AL 350MCM	CU #2	432.6	TR209-19-01	11	1090.7	17.29	190.19	N/A	1	AL 500MCM	1122.7	178.31	0.4%	0.9%	1.6%	0.50%	3.4%
2	209-20	LBD-209-20	10	172.9	250	1	AL 350MCM	CU #2	225	1	AL 350MCM	CU #2	458.35	TR209-20-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.4%	0.8%	1.2%	0.50%	3.0%

DRAWING NOTES:
1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DATE	REVISION DESCRIPTION	PM	ENG
03/28/2024	90% DESIGN DEVELOPMENT	RK	GP
01/25/2024	60% DESIGN DEVELOPMENT	RK	GP
01/10/2024	60% NV DESIGN	RK	GP
10/18/2023	30% DESIGN – REV 2	RK	GP

PURE POWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ
WWW.PURE-POWER.COM
MD LICENSE No. 41148

ENGINEER

VANGUARD ENERGY PARTNERS, LLC
1 COMMERCE STREET
BRIDGEBURG, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

EPC

YANGUARD

PAGE SIZE: 36" x 24"

PROJECT #: 062771

PROJECT: 179.5 MW SOLAR GROUND MOUNT SYSTEM AT CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAE HJT72-18X-550
MODULE QUANTITY: 326,538
ORIENTATION: 25° TILT, 180° AZI

DRAWING TITLE: SCHEDULES & CALCULATIONS PCS-207 THRU 209

DRAWING #: E3.517

PLOT DATE: 3/28/2024 8:34 PM

RULER IN INCHES:

PLOT DATE: 3/26/2024 9:34 PM

DC FEEDER SCHEDULE - PCS 210

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	210-01	LBD-210-01	13	224.77	315	1	AL 750MCM	CU #2	55	1	AL 350MCM	CU #2	551.05	TR210-01-01	4	1090.7	17.29	69.16	90	1	AL #4/0	175.1	64.84	0.0%	0.4%	0.2%	0.50%	1.1%
														TR210-01-02	4	1090.7	17.29	69.16	90	1	AL #4/0	144.2	64.84	0.0%	0.4%	0.2%	0.50%	1.1%
														TR210-01-03	5	1090.7	17.29	86.45	110	1	AL #4/0	118.45	81.05	0.0%	0.4%	0.2%	0.50%	1.1%
1	210-02	LBD-210-02	14	242.06	400	1	AL 750MCM	CU #2	55	1	AL 350MCM	CU #2	484.1	TR210-02-01	7	1090.7	17.29	121.03	175	1	AL #4/0	350.2	113.47	0.0%	0.6%	0.7%	0.50%	1.9%
														TR210-02-02	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.6%	0.7%	0.50%	1.8%
1	210-03	LBD-210-03	14	242.06	400	1	AL 750MCM	CU #2	55	1	AL 350MCM	CU #2	401.7	TR210-03-01	7	1090.7	17.29	121.03	175	1	AL #4/0	355.35	113.47	0.0%	0.5%	0.7%	0.50%	1.8%
														TR210-03-02	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.5%	0.7%	0.50%	1.7%
1	210-04	LBD-210-04	14	242.06	400	1	AL 750MCM	CU #2	55	1	AL 350MCM	CU #2	339.9	TR210-04-01	7	1090.7	17.29	121.03	175	1	AL #4/0	355.35	113.47	0.0%	0.4%	0.7%	0.50%	1.7%
														TR210-04-02	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.4%	0.7%	0.50%	1.6%
1	210-05	LBD-210-05	14	242.06	400	1	AL 750MCM	CU #2	55	1	AL 350MCM	CU #2	272.95	TR210-05-01	7	1090.7	17.29	121.03	175	1	AL #4/0	355.35	113.47	0.0%	0.3%	0.7%	0.50%	1.6%
														TR210-05-02	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.3%	0.7%	0.50%	1.5%
1	210-06	LBD-210-06	14	242.06	400	1	AL 750MCM	CU #2	55	1	AL 350MCM	CU #2	211.15	TR210-06-01	7	1090.7	17.29	121.03	175	1	AL #4/0	355.35	113.47	0.0%	0.3%	0.7%	0.50%	1.5%
														TR210-06-02	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.3%	0.7%	0.50%	1.5%
1	210-07	LBD-210-07	14	242.06	400	1	AL 750MCM	CU #2	55	1	AL 350MCM	CU #2	149.35	TR210-07-01	7	1090.7	17.29	121.03	175	1	AL #4/0	355.35	113.47	0.0%	0.2%	0.7%	0.50%	1.5%
														TR210-07-02	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.2%	0.7%	0.50%	1.4%
1	210-08	LBD-210-08	14	242.06	400	1	AL 750MCM	CU #2	55	1	AL 350MCM	CU #2	82.4	TR210-08-01	7	1090.7	17.29	121.03	175	1	AL #4/0	355.35	113.47	0.0%	0.1%	0.7%	0.50%	1.4%
														TR210-08-02	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.1%	0.7%	0.50%	1.3%
1	210-09	LBD-210-09	14	242.06	400	1	AL 750MCM	CU #2	55	1	AL 350MCM	CU #2	20.6	TR210-09-01	7	1090.7	17.29	121.03	175	1	AL #4/0	355.35	113.47	0.0%	0.0%	0.7%	0.50%	1.3%
														TR210-09-02	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.0%	0.7%	0.50%	1.2%
1	210-10	LBD-210-10	12	207.48	315	1	AL 350MCM	CU #2	50	1	AL #4/0	CU #2	15.45	TR210-10-01	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.1%	0.0%	0.4%	0.50%	1.0%
														TR210-10-02	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.1%	0.0%	0.4%	0.50%	1.0%
2	210-11	LBD-210-11	16	276.64	400	1	AL 750MCM	CU #2	100	1	AL 350MCM	CU #2	20.6	TR210-11-01	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.1%	0.0%	0.8%	0.50%	1.4%
														TR210-11-02	8	1090.7	17.29	138.32	175	1	AL #4/0	355.35	129.68	0.1%	0.0%	0.8%	0.50%	1.4%
2	210-12	LBD-210-12	16	276.64	400	1	AL 750MCM	CU #2	100	1	AL 350MCM	CU #2	82.4	TR210-12-01	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.1%	0.1%	0.8%	0.50%	1.4%
														TR210-12-02	8	1090.7	17.29	138.32	175	1	AL #4/0	355.35	129.68	0.1%	0.1%	0.8%	0.50%	1.5%
2	210-13	LBD-210-13	18	311.22	400	1	AL 750MCM	CU #2	100	1	AL 500MCM	CU #2	149.35	TR210-13-01	9	1090.7	17.29	155.61	200	1	AL #4/0	422.3	145.89	0.1%	0.2%	1.1%	0.50%	1.9%
														TR210-13-02	9	1090.7	17.29	155.61	200	1	AL #4/0	453.2	145.89	0.1%	0.2%	1.2%	0.50%	2.0%
2	210-14	LBD-210-14	9	155.61	200	1	AL 350MCM	CU #2	100	1	AL #4/0	CU #2	211.15	TR210-14-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	422.3	145.89	0.2%	0.6%	1.1%	0.50%	2.4%
2	210-15	LBD-210-15	10	172.9	250	1	AL 350MCM	CU #2	100	1	AL #4/0	CU #2	242.05	TR210-15-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.2%	0.7%	1.3%	0.50%	2.7%
2	210-16	LBD-210-16	10	172.9	250	1	AL 350MCM	CU #2	100	1	AL #4/0	CU #2	272.95	TR210-16-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.2%	0.8%	1.3%	0.50%	2.7%
2	210-17	LBD-210-17	10	172.9	250	1	AL 350MCM	CU #2	100	1	AL #4/0	CU #2	309	TR210-17-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.2%	0.9%	1.3%	0.50%	2.9%
2	210-18	LBD-210-18	10	172.9	250	1	AL 350MCM	CU #2	100	1	AL #4/0	CU #2	339.9	TR210-18-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.2%	1.0%	1.3%	0.50%	2.9%
2	210-19	LBD-210-19	18	311.22	400	1	AL 750MCM	CU #2	100	1	AL 500MCM	CU #2	370.8	TR210-19-01	9	1090.7	17.29	155.61	200	1	AL #4/0	422.3	145.89	0.1%	0.4%	1.1%	0.50%	2.1%
														TR210-19-02	9	1090.7	17.29	155.61	200	1	AL #4/0	453.2	145.89	0.1%	0.4%	1.2%	0.50%	2.2%
2	210-20	LBD-210-20	15	259.35	400	1	AL 750MCM	CU #2	100	1	AL 350MCM	CU #2	432.6	TR210-20-01	9	1090.7	17.29	155.61	200	1	AL #4/0	422.3	145.89	0.1%	0.7%	1.1%	0.50%	2.4%
														TR210-20-02	6	1090.7	17.29	103.74	150	1	AL #4/0	242.05	97.26	0.1%	0.7%	0.4%	0.50%	1.7%

DC FEEDER SCHEDULE - PCS 211

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	211-01	LBD-211-01	18	311.22	400	1	AL 750MCM	CU #2	55	1	AL 500MCM	CU #2	618	TR211-01-01	6	1090.7	17.29	103.74	150	1	AL #4/0	283.25	97.26	0.0%	0.5%	0.5%	0.50%	1.5%
														TR211-01-02	6	1090.7	17.29	103.74	150	1	AL #4/0	252.35	97.26	0.0%	0.5%	0.5%	0.50%	1.4%
														TR211-01-03	6	1090.7	17.29	103.74	150	1	AL #4/0	221.45	97.26	0.0%	0.5%	0.4%	0.50%	1.4%
1	211-02	LBD-211-02	18	311.22	400	1	AL 750MCM	CU #2	55	1	AL 500MCM	CU #2	525.3	TR211-02-01	6	1090.7	17.29	103.74	150	1	AL #4/0	283.25	97.26	0.0%	0.4%	0.5%	0.50%	1.4%
														TR211-02-02	6	1090.7	17.29	103.74	150	1	AL #4/0	252.35	97.26	0.0%	0.4%	0.5%	0.50%	1.4%
														TR211-02-03	6	1090.7	17.29	103.74	150	1	AL #4/0	221.45	97.26	0.0%	0.4%	0.4%	0.50%	1.3%
1	211-03	LBD-211-03	18	311.22	400	1	AL 750MCM	CU #2	55	1	AL 500MCM	CU #2	427.45	TR211-03-01	6	1090.7	17.29	103.74	150	1	AL #4/0	283.25	97.26	0.0%	0.3%	0.5%	0.50%	1.4%
														TR211-03-02	6	1090.7	17.29	103.74	150	1	AL #4/0	252.35	97.26	0.0%	0.3%	0.5%	0.50%	1.3%
														TR211-03-03	6	1090.7	17.29	103.74	150	1	AL #4/0	221.45	97.26	0.0%	0.3%	0.4%	0.50%	1.2%
1	211-04	LBD-211-04	15	259.35	400	1	AL 750MCM	CU #2	55	1	AL 350MCM	CU #2	329.6	TR211-04-01	6	1090.7	17.29	103.74	150	1	AL #4/0	288.4	97.26	0.0%	0.4%	0.5%	0.50%	1.4%
														TR211-04-02	5	1090.7	17.29	86.45	110	1	AL #4/0	257.5	81.05	0.0%	0.4%	0.4%	0.50%	1.3%
														TR211-04-03	4	1090.7	17.29	69.16	90	1	AL #4/0	123.6	64.84	0.0%	0.4%	0.1%	0.50%	1.0%
1	211-05	LBD-211-05	13	224.77	315	1	AL 750MCM	CU #2	55	1	AL 350MCM	CU #2	175.1	TR211-05-01	7	1090.7	17.29	121.03	175	1	AL #4/0	236.9	113.47	0.0%	0.2%	0.5%	0.50%	1.2%
														TR211-05-02	6	1090.7	17.29	103.74	150	1	AL #4/0	164.8	97.26	0.0%	0.2%	0.3%	0.50%	1.0%
1	211-06	LBD-211-06	13	224.77	315	1	AL 750MCM	CU #2	55	1	AL 350MCM	CU #2	20.6	TR211-06-01	7	1090.7	17.29	121.03	175	1	AL #4/0	236.9	113.47	0.0%	0.0%	0.5%	0.50%	1.1%
														TR211-06-02	6	1090.7	17.29	103.74	150	1	AL #4/0	61.8	97.26	0.0%	0.0%	0.1%	0.50%	0.7%
1	211-07	LBD-211-07	17	293.93	400	1	AL 750MCM	CU #2	340	1	AL 500MCM	CU #2	20.6	TR211-07-01	5	1090.7	17.29	86.45	110	1	AL #4/0	92.7	81.05	0.1%	0.0%	0.1%	0.50%	0.8%
														TR211-07-02	6	1090.7	17.29	103.74	150	1	AL #4/0	113.3	97.26	0.1%	0.0%	0.2%	0.50%	0.9%
														TR211-07-03	6	1090.7	17.29	103.74	150	1	AL #4/0	206	97.26	0.1%	0.0%	0.4%	0.50%	1.0%
1	211-08	LBD-211-08	18	311.22	400	1	AL 750MCM	CU #2	340	1	AL 500MCM	CU #2	267.8	TR211-08-01	6	1090.7	17.29	103.74	150	1	AL #4/0	46.35	97.26	0.2%	0.2%	0.1%	0.50%	1.0%
														TR211-08-02	6	1090.7	17.29	103.74	150	1	AL #4/0	108.15	97.26	0.1%	0.0%	0.2%	0.50%	0.8%
														TR211-08-03	6	1090.7	17.29	103.74	150	1	AL #4/0	195.7	97.26	0.2%	0.2%	0.3%	0.50%	1.2%
2	211-09	LBD-211-09	18	311.22	400	1	AL 750MCM	CU #2	340	1	AL 500MCM	CU #2	494.4	TR211-09-01	4	1090.7	17.29	69.16	90	1	AL #4/0	133.9	64.84	0.1%	0.2%	0.2%	0.50%	1.0%
														TR211-09-02	5	1090.7	17.29	86.45	110	1	AL #4/0	278.1	81.05	0.2%	0.2%	0.4%	0.50%	1.3%
														TR211-09-03	9	1090.7	17.29	155.61	200	1	AL #4/0	216.3	145.89	0.1%	0.2%	0.6%	0.50%	1.4%
2	211-10	LBD-211-10	15	259.35	400	1	AL 750MCM	CU #2	130	1	AL 350MCM	CU #2	20.6	TR211-10-01	9	1090.7	17.29	155.61	200	1	AL #4/0	97.85	145.89	0.1%	0.0%	0.3%	0.50%	0.9%
														TR211-10-02	6	1090.7	17.29	103.74	150	1	AL #4/0	190.55	97.26	0.1%	0.2%	0.3%	0.50%	1.2%
2	211-11	LBD-211-11	16	276.64	400	1	AL 750MCM	CU #2	130	1	AL 350MCM	CU #2	231.75	TR211-11-01	7	1090.7	17.29	121.03	175	1	AL #4/0	169.95	113.47	0.1%	0.3%	0.4%	0.50%	1.2%
														TR211-11-02	4	1090.7	17.29	69.16	90	1	AL #4/0	216.3	64.84	0.1%	0.3%	0.3%	0.50%	1.1%
														TR211-11-03	5	1090.7	17.29	86.45	110	1	AL #4/0	360.5	81.05	0.1%	0.3%	0.5%	0.50%	1.4%
2	211-12	LBD-211-12	17	293.93	400	1	AL 750MCM	CU #2	130	1	AL 500MCM	CU #2	406.85	TR211-12-01	5	1090.7	17.29	86.45	110	1	AL #4/0	226.6	81.05	0.1%	0.3%	0.3%	0.50%	1.1%
														TR211-12-02	6	1090.7	17.29	103.74	150	1	AL #4/0	272.95	97.26	0.1%	0.3%	0.5%	0.50%	1.3%
														TR211-12-03	6	1090.7	17.29	103.74	150	1	AL #4/0	314.15	97.26	0.1%	0.3%	0.6%	0.50%	1.4%
2	211-13	LBD-211-13	17	293.93	400	1	AL 750MCM	CU #2	130	1	AL 500MCM	CU #2	545.9	TR211-13-01	6	1090.7	17.29	103.74	150	1	AL #4/0	226.6	97.26	0.1%	0.4%	0.4%	0.50%	1.4%
														TR211-13-02	6	1090.7	17.29	103.74	150	1	AL #4/0	272.95	97.26	0.1%	0.3%	0.5%	0.50%	1.3%
														TR211-13-03	5	1090.7	17.29	86.45	110	1	AL #4/0	314.15	81.05	0.1%	0.4%	0.5%	0.50%	1.4%
2	211-14	LBD-211-14	17	293.93	400	1	AL 750MCM	CU #2	130	1	AL 500MCM	CU #2	674.65	TR211-14-01	5	1090.7	17.29	86.45	110	1	AL #4/0	226.6	81.05	0.1%	0.4%	0.3%	0.50%	1.3%
														TR211-14-02	6	1090.7	17.29	103.74	150	1	AL #4/0	272.95	97.26	0.1%	0.4%	0.5%	0.50%	1.5%
														TR211-14-03	6	1090.7	17.29	103.74	150	1	AL #4/0	314.15	97.26	0.1%	0.4%	0.6%	0.50%	1.5%
2	211-15	LBD-211-15	18	311.22	400	1	AL 750MCM	CU #2	130	1	AL 500MCM	CU #2	808.55	TR211-15-01	6	1090.7	17.29	103.74	150	1	AL #4/0	226.6	97.26	0.1%	0.6%	0.4%	0.50%	1.6%
														TR211-15-02	6	1090.7	17.29	103.74	150	1	AL #4/0	272.95	97.26	0.1%	0.4%	0.5%	0.50%	1.5%
														TR211-15-03	6	1090.7	17.29	103.74	150	1	AL #4/0	288.4	97.26	0.1%	0.6%	0.5%	0.50%	1.7%
2	211-16	LBD-211-16	14	242.06	400	1	AL 750MCM	CU #2	130	1	AL 350MCM	CU #2	911.55	TR211-16-01	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.1%	1.0%	0.4%	0.50%	1.9%
														TR211-16-02	8	1090.7	17.29	138.32	175	1	AL #4/0	257.5	129.68	0.1%	0.6%	0.6%	0.50%	1.8%

DRAWING NOTES:
1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DRAWING TITLE
SCHEDULES & CALCULATIONS
PCS-210 THRU 211

DATE	REVISION DESCRIPTION	PM	ENG	CHK
03/26/2024	90% DESIGN DEVELOPMENT	RK	GP	EL
01/25/2024	60% DESIGN DEVELOPMENT	RK	GP	EL
01/10/2024	60% MV DESIGN	RK	GP	EL
10/18/2023	30% DESIGN – REV 2	RK	GP	EL

PUREPOWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWER.COM
ERIC J. LOOS
MD LICENSE No. 41148

ENGINEER

VANGUARD ENERGY PARTNERS
1 COMMERCE STREET
BRANCHBURG, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

EPC
VANGUARD ENERGY PARTNERS, LLC

PAGE SIZE 36" x 24"
PROJECT # 06271

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAAE HT72-18X-550
MODULE QUANTITY: 326,430
ORIENTATION: 25° TILT, 180° AZI

PROJECT 179.5 MW SOLAR GROUND MOUNT SYSTEM AT
CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

DRAWING #
E3.518

RULER IN INCHES:

DC FEEDER SCHEDULE - PCS 301

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	301-01	LBD-301-01	18	311.22	400	1	AL 750MCM	CU #2	370	1	AL 750MCM	CU #2	103	TR301-01-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.6%	0.2%	1.9%	0.50%	3.1%
1	301-02	LBD-301-02	18	311.22	400	1	AL 750MCM	CU #2	370	1	AL 750MCM	CU #2	77.25	TR301-02-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.6%	0.1%	1.9%	0.50%	3.0%
1	301-03	LBD-301-03	18	311.22	400	1	AL 750MCM	CU #2	370	1	AL 750MCM	CU #2	46.35	TR301-03-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.6%	0.1%	1.9%	0.50%	3.0%
1	301-04	LBD-301-04	18	311.22	400	1	AL 750MCM	CU #2	370	1	AL 750MCM	CU #2	20.6	TR301-04-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.6%	0.0%	1.9%	0.50%	3.0%
1	301-05	LBD-301-05	12	207.48	315	1	AL 350MCM	CU #2	70	1	AL 350MCM	CU #2	10.3	TR301-05-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.2%	0.0%	1.9%	0.50%	2.5%
1	301-06	LBD-301-06	11	190.19	250	1	AL 350MCM	CU #2	70	1	AL 350MCM	CU #2	10.3	TR301-06-01	11	1090.7	17.29	190.19	N/A	1	AL 350MCM	1122.7	178.31	0.1%	0.0%	2.2%	0.50%	2.9%
1	301-07	LBD-301-07	10	172.9	250	1	AL 350MCM	CU #2	105	1	AL 350MCM	CU #2	20.6	TR301-07-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.2%	0.0%	1.2%	0.50%	2.0%
1	301-08	LBD-301-08	12	207.48	315	1	AL 350MCM	CU #2	105	1	AL 350MCM	CU #2	20.6	TR301-08-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1024.85	194.52	0.2%	0.0%	2.2%	0.50%	3.0%
1	301-09	LBD-301-09	10	172.9	250	1	AL 350MCM	CU #2	105	1	AL 350MCM	CU #2	46.35	TR301-09-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.2%	0.1%	1.2%	0.50%	2.0%
1	301-10	LBD-301-10	12	207.48	315	1	AL 350MCM	CU #2	105	1	AL 350MCM	CU #2	46.35	TR301-10-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1024.85	194.52	0.2%	0.1%	2.2%	0.50%	3.0%
1	301-11	LBD-301-11	18	311.22	400	1	AL 750MCM	CU #2	610	1	AL 750MCM	CU #2	20.6	TR301-11-01	4	1090.7	17.29	69.16	90	1	AL #4/0	180.25	64.84	0.2%	0.0%	0.2%	0.50%	0.9%
														TR301-11-02	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.2%	0.0%	0.7%	0.50%	1.4%
														TR301-11-03	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.2%	0.0%	0.7%	0.50%	1.4%
1	301-12	LBD-301-12	9	155.61	200	1	AL 350MCM	CU #2	610	1	AL 350MCM	CU #2	77.25	TR301-12-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	417.15	145.89	1.0%	0.1%	1.1%	0.50%	2.7%
2	301-13	LBD-301-13	10	172.9	250	1	AL 350MCM	CU #2	610	1	AL 350MCM	CU #2	108.15	TR301-13-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	1.1%	0.2%	1.2%	0.50%	3.0%
2	301-14	LBD-301-14	10	172.9	250	1	AL 350MCM	CU #2	610	1	AL 350MCM	CU #2	133.9	TR301-14-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	1.1%	0.2%	1.2%	0.50%	3.1%
2	301-15	LBD-301-15	13	224.77	315	1	AL 750MCM	CU #2	610	1	AL 750MCM	CU #2	164.8	TR301-15-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.7%	0.2%	1.4%	0.50%	2.8%
2	301-16	LBD-301-16	13	224.77	315	1	AL 750MCM	CU #2	610	1	AL 750MCM	CU #2	190.55	TR301-16-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.7%	0.2%	1.4%	0.50%	2.8%
2	301-17	LBD-301-17	14	242.06	400	1	AL 750MCM	CU #2	610	1	AL 750MCM	CU #2	216.3	TR301-17-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.7%	0.3%	1.6%	0.50%	3.0%
2	301-18	LBD-301-18	15	259.35	400	1	AL 750MCM	CU #2	610	1	AL 750MCM	CU #2	247.2	TR301-18-01	15	1090.7	17.29	259.35	N/A	1	AL 500MCM	721	243.15	0.8%	0.3%	1.4%	0.50%	2.9%
2	301-19	LBD-301-19	15	259.35	400	1	AL 750MCM	CU #2	610	1	AL 750MCM	CU #2	272.95	TR301-19-01	15	1090.7	17.29	259.35	N/A	1	AL 500MCM	721	243.15	0.8%	0.3%	1.4%	0.50%	3.0%
2	301-20	LBD-301-20	9	155.61	200	1	AL 350MCM	CU #2	610	1	AL 350MCM	CU #2	602.55	TR301-20-01	9	1090.7	17.29	155.61	N/A	1	AL 350MCM	422.3	145.89	1.0%	1.0%	0.7%	0.50%	3.1%

DC FEEDER SCHEDULE - PCS 302

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	302-01	LBD-302-01	12	207.48	315	1	AL 350MCM	CU #2	145	1	AL 350MCM	CU #2	77.25	TR302-01-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1024.85	194.52	0.3%	0.2%	2.2%	0.50%	3.2%
1	302-02	LBD-302-02	10	172.9	250	1	AL 350MCM	CU #2	145	1	AL 350MCM	CU #2	77.25	TR302-02-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.3%	0.1%	1.2%	0.50%	2.1%
1	302-03	LBD-302-03	9	155.61	200	1	AL 350MCM	CU #2	145	1	AL 350MCM	CU #2	51.5	TR302-03-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	921.85	145.89	0.2%	0.1%	2.5%	0.50%	3.3%
1	302-04	LBD-302-04	10	172.9	250	1	AL 350MCM	CU #2	145	1	AL 350MCM	CU #2	51.5	TR302-04-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.3%	0.1%	1.2%	0.50%	2.1%
1	302-05	LBD-302-05	9	155.61	200	1	AL 350MCM	CU #2	145	1	AL 350MCM	CU #2	20.6	TR302-05-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	921.85	145.89	0.2%	0.0%	2.5%	0.50%	3.2%
1	302-06	LBD-302-06	10	172.9	250	1	AL 350MCM	CU #2	145	1	AL 350MCM	CU #2	20.6	TR302-06-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.3%	0.0%	1.2%	0.50%	2.0%
1	302-07	LBD-302-07	18	311.22	400	1	AL 750MCM	CU #2	145	1	AL 750MCM	CU #2	30.9	TR302-07-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.2%	0.0%	1.9%	0.50%	2.6%
1	302-08	LBD-302-08	17	293.93	400	1	AL 750MCM	CU #2	145	1	AL 750MCM	CU #2	56.65	TR302-08-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.2%	0.1%	1.8%	0.50%	2.6%
1	302-09	LBD-302-09	15	259.35	400	1	AL 750MCM	CU #2	145	1	AL 750MCM	CU #2	87.55	TR302-09-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.2%	0.1%	1.9%	0.50%	2.7%
1	302-10	LBD-302-10	12	207.48	315	1	AL 350MCM	CU #2	145	1	AL 350MCM	CU #2	113.3	TR302-10-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.3%	0.2%	1.9%	0.50%	2.9%
1	302-11	LBD-302-11	14	242.06	400	1	AL 750MCM	CU #2	145	1	AL 750MCM	CU #2	144.2	TR302-11-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.1%	0.1%	0.7%	0.50%	1.3%
														TR302-11-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.1%	0.1%	0.7%	0.50%	1.4%
2	302-12	LBD-302-12	13	224.77	315	1	AL 750MCM	CU #2	145	1	AL 750MCM	CU #2	200.85	TR302-12-01	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.1%	0.1%	0.4%	0.50%	1.1%
														TR302-12-02	7	1090.7	17.29	121.03	175	1	AL #4/0	180.25	113.47	0.1%	0.1%	0.4%	0.50%	1.0%
2	302-13	LBD-302-13	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	77.25	TR302-13-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.1%	1.3%	0.50%	2.0%
2	302-14	LBD-302-14	9	155.61	200	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	77.25	TR302-14-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	921.85	145.89	0.1%	0.1%	2.5%	0.50%	3.2%
2	302-15	LBD-302-15	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR302-15-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.1%	1.3%	0.50%	2.0%
2	302-16	LBD-302-16	9	155.61	200	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR302-16-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	921.85	145.89	0.1%	0.1%	2.5%	0.50%	3.1%
2	302-17	LBD-302-17	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	20.6	TR302-17-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	422.3	162.1	0.1%	0.0%	1.3%	0.50%	1.9%
2	302-18	LBD-302-18	9	155.61	200	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	20.6	TR302-18-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	921.85	145.89	0.1%	0.0%	2.5%	0.50%	3.1%
2	302-19	LBD-302-19	18	311.22	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	36.05	TR302-19-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.5%
2	302-20	LBD-302-20	18	311.22	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	20.6	TR302-20-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.0%	1.9%	0.50%	2.5%
2	302-21	LBD-302-21	18	311.22	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	46.35	TR302-21-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.5%
2	302-22	LBD-302-22	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	20.6	TR302-22-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.0%	1.9%	0.50%	2.5%

DC FEEDER SCHEDULE - PCS 303

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	303-01	LBD-303-01	17	293.93	400	1	AL 750MCM	CU #2	125	1	AL 750MCM	CU #2	190.55	TR303-01-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.2%	0.3%	1.8%	0.50%	2.7%
1	303-02	LBD-303-02	17	293.93	400	1	AL 750MCM	CU #2	125	1	AL 750MCM	CU #2	159.65	TR303-02-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.2%	0.2%	1.8%	0.50%	2.7%
1	303-03	LBD-303-03	16	276.64	400	1	AL 750MCM	CU #2	125	1	AL 750MCM	CU #2	133.9	TR303-03-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.2%	0.2%	2.1%	0.50%	2.9%
1	303-04	LBD-303-04	16	276.64	400	1	AL 750MCM	CU #2	125	1	AL 750MCM	CU #2	103	TR303-04-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.2%	0.1%	2.1%	0.50%	2.9%
1	303-05	LBD-303-05	16	276.64	400	1	AL 750MCM	CU #2	125	1	AL 750MCM	CU #2	77.25	TR303-05-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.2%	0.1%	2.1%	0.50%	2.8%
1	303-06	LBD-303-06	16	276.64	400	1	AL 750MCM	CU #2	125	1	AL 750MCM	CU #2	46.35	TR303-06-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.2%	0.1%	2.1%	0.50%	2.8%
1	303-07	LBD-303-07	15	259.35	400	1	AL 750MCM	CU #2	125	1	AL 750MCM	CU #2	20.6	TR303-07-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.2%	0.0%	1.9%	0.50%	2.6%
1	303-08	LBD-303-08	13	224.77	315	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	46.35	TR303-08-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.1%	0.1%	1.5%	0.50%	2.1%
1	303-09	LBD-303-09	13	224.77	315	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	20.6	TR303-09-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.1%	0.0%	1.5%	0.50%	2.0%
2	303-10	LBD-303-10	12	207.48	315	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	36.05	TR303-10-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.5%
2	303-11	LBD-303-11	12	207.48	315	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	66.95	TR303-11-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.6%
2	303-12	LBD-303-12	12	207.48	315	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	92.7	TR303-12-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.2%	1.9%	0.50%	2.7%
2	303-13	LBD-303-13	12	207.48	315	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	123.6	TR303-13-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.3%	1.9%	0.50%	2.7%
2	303-14	LBD-303-14	11	190.19	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	149.35	TR303-14-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.3%	1.7%	0.50%	2.6%
2	303-15	LBD-303-15	11	190.19	250	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	175.1	TR303-15-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.3%	1.7%	0.50%	2.6%
2	303-16	LBD-303-16	18	311.22	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	206	TR303-16-01	9	1090.7	17.29	155.61	200	1	AL #4/0	520.15	145.89	0.0%	0.2%	1.4%	0.50%	2.1%
														TR303-16-02	9	1090.7	17.29	155.61	200	1	AL #4/0	535.6	145.89	0.0%	0.2%	1.4%	0.50%	2.1%
2	303-17	LBD-303-17	16	276.64	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	309	TR303-17-01	9	1090.7	17.29	155.61	200	1	AL #4/0	437.75	145.89	0.0%	0.2%	1.2%	0.50%	1.9%
														TR303-17-02	7	1090.7	17.29	121.03	175	1	AL #4/0	442.9	113.47	0.0%	0.2%	0.9%	0.50%	1.7%
2	303-18	LBD-303-18	18	311.22	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	427.45	TR303-18-01	6	1090.7	17.29	103.74	150	1	AL #4/0	334.75	97.26	0.0%	0.2%	0.6%	0.50%	1.3%
														TR303-18-02	6	1090.7	17.29	103.74	150	1	AL #4/0	345.05	97.26	0.0%	0.2%	0.6%	0.50%	1.4%
														TR303-18-03	6	1090.7	17.29	103.74	150	1	AL #4/0	350.2	97.26	0.0%	0.2%	0.6%	0.50%	1.4%
2	303-19	LBD-303-19	9	155.61	200	1	AL 350MCM	CU #2	50	1	AL 350MCM	CU #2	602.55	TR303-19-01	5	1090.7	17.29	86.45	110	1	AL #4/0	231.75	81.05	0.0%	0.5%	0.3%	0.50%	1.4%
														TR303-19-02	4	1090.7	17.29	69.16	90	1	AL #4/0	190.55	64.84	0.0%	0.2%	0.2%	0.50%	1.0%

DRAWING NOTES:
1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DATE	REVISION DESCRIPTION	PM	ENG	CHK
03/28/2024	30% DESIGN DEVELOPMENT	RK	GP	EL
01/25/2024	60% DESIGN DEVELOPMENT	RK	GP	EL
01/10/2024	60% NV DESIGN	RK	GP	EL
10/18/2023	30% DESIGN – REV 2	RK	GP	EL

PURE POWER ENGINEERING
PURE POWER ENGINEERING, NJ
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWER.COM
NJ LICENSE No. 41148

ENGINEER
VANGUARD ENERGY PARTNERS
1 COMMERCE STREET
BROAD HOLLOW, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

EPC
YANGUARD

PAGE SIZE: 36" x 24"
PROJECT #: 062771

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAAE H172-18X-550
RACKING: NEXTRACKER
ORIENTATION: 25° TILT, 180° AZI

PROJECT: 179.5 MW SOLAR GROUND MOUNT SYSTEM AT CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

DRAWING TITLE
SCHEDULES & CALCULATIONS
PCS-301 THRU 303

DRAWING #
E3.519

PLOT DATE: 3/28/2024 8:34 PM

RULER IN INCHES: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

DC FEEDER SCHEDULE - PCS 304

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	304-01	LBD-304-01	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	159.65	TR304-01-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.2%	1.9%	0.50%	2.7%
1	304-02	LBD-304-02	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	133.9	TR304-02-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.2%	1.9%	0.50%	2.7%
1	304-03	LBD-304-03	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR304-03-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.2%	1.9%	0.50%	2.6%
1	304-04	LBD-304-04	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	77.25	TR304-04-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.6%
1	304-05	LBD-304-05	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR304-05-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.5%
1	304-06	LBD-304-06	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	20.6	TR304-06-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.0%	1.9%	0.50%	2.5%
1	304-07	LBD-304-07	17	293.93	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	36.05	TR304-07-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.4%
1	304-08	LBD-304-08	17	293.93	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	20.6	TR304-08-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.0%	1.8%	0.50%	2.4%
2	304-09	LBD-304-09	17	293.93	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	46.35	TR304-09-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.4%
2	304-10	LBD-304-10	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	20.6	TR304-10-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.0%	1.9%	0.50%	2.5%
2	304-11	LBD-304-11	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR304-11-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.5%
2	304-12	LBD-304-12	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	77.25	TR304-12-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.6%
2	304-13	LBD-304-13	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR304-13-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.2%	1.9%	0.50%	2.6%
2	304-14	LBD-304-14	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	133.9	TR304-14-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.2%	1.9%	0.50%	2.7%
2	304-15	LBD-304-15	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	159.65	TR304-15-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.2%	1.9%	0.50%	2.7%

DC FEEDER SCHEDULE - PCS 305

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	305-01	LBD-305-01	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	581.95	TR305-01-01	7	1090.7	17.29	121.03	175	1	AL #4/0	103	113.47	0.0%	0.3%	0.2%	0.50%	1.1%
														TR305-01-02	7	1090.7	17.29	121.03	175	1	AL #4/0	118.45	113.47	0.0%	0.3%	0.2%	0.50%	1.1%
1	305-02	LBD-305-02	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	499.55	TR305-02-01	4	1090.7	17.29	69.16	90	1	AL #4/0	175.1	64.84	0.0%	0.2%	0.2%	0.50%	0.9%
														TR305-02-02	4	1090.7	17.29	69.16	90	1	AL #4/0	144.2	64.84	0.0%	0.2%	0.2%	0.50%	0.9%
														TR305-02-03	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.2%	0.3%	0.50%	1.0%
1	305-03	LBD-305-03	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	412	TR305-03-01	5	1090.7	17.29	86.45	110	1	AL #4/0	272.95	81.05	0.0%	0.2%	0.4%	0.50%	1.1%
														TR305-03-02	5	1090.7	17.29	86.45	110	1	AL #4/0	247.2	81.05	0.0%	0.2%	0.4%	0.50%	1.1%
														TR305-03-03	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.2%	0.3%	0.50%	1.0%
1	305-04	LBD-305-04	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	329.6	TR305-04-01	6	1090.7	17.29	103.74	150	1	AL #4/0	272.95	97.26	0.0%	0.2%	0.5%	0.50%	1.2%
														TR305-04-02	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.0%	0.2%	0.4%	0.50%	1.1%
														TR305-04-03	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.0%	0.2%	0.4%	0.50%	1.1%
1	305-05	LBD-305-05	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	242.05	TR305-05-01	6	1090.7	17.29	103.74	150	1	AL #4/0	272.95	97.26	0.0%	0.1%	0.5%	0.50%	1.1%
														TR305-05-02	5	1090.7	17.29	86.45	110	1	AL #4/0	247.2	81.05	0.0%	0.1%	0.4%	0.50%	1.0%
														TR305-05-03	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.1%	0.3%	0.50%	1.0%
1	305-06	LBD-305-06	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	159.65	TR305-06-01	5	1090.7	17.29	86.45	110	1	AL #4/0	272.95	81.05	0.0%	0.1%	0.4%	0.50%	1.0%
														TR305-06-02	5	1090.7	17.29	86.45	110	1	AL #4/0	247.2	81.05	0.0%	0.1%	0.4%	0.50%	1.0%
														TR305-06-03	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.1%	0.3%	0.50%	0.9%
1	305-07	LBD-305-07	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	77.25	TR305-07-01	6	1090.7	17.29	103.74	150	1	AL #4/0	272.95	97.26	0.0%	0.0%	0.5%	0.50%	1.1%
														TR305-07-02	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.0%	0.0%	0.4%	0.50%	1.0%
														TR305-07-03	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.0%	0.0%	0.4%	0.50%	1.0%
1	305-08	LBD-305-08	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	20.6	TR305-08-01	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.0%	0.7%	0.50%	1.3%
														TR305-08-02	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.0%	0.7%	0.50%	1.2%
1	305-09	LBD-305-09	14	242.06	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	36.05	TR305-09-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.0%	0.7%	0.50%	1.2%
														TR305-09-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.0%	0.7%	0.50%	1.3%
2	305-10	LBD-305-10	17	293.93	400	1	AL 750MCM	CU #2	50	1	AL 750MCM	CU #2	46.35	TR305-10-01	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.0%	0.0%	0.8%	0.50%	1.3%
														TR305-10-02	9	1090.7	17.29	155.61	200	1	AL #4/0	489.25	145.89	0.0%	0.0%	1.3%	0.50%	1.9%
2	305-11	LBD-305-11	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	51.5	TR305-11-01	9	1090.7	17.29	155.61	200	1	AL #4/0	417.15	145.89	0.0%	0.0%	1.1%	0.50%	1.7%
														TR305-11-02	9	1090.7	17.29	155.61	200	1	AL #4/0	442.9	145.89	0.0%	0.0%	1.2%	0.50%	1.8%
2	305-12	LBD-305-12	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	108.15	TR305-12-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.2%	1.7%	0.50%	2.5%
2	305-13	LBD-305-13	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	133.9	TR305-13-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.3%	1.9%	0.50%	2.8%
2	305-14	LBD-305-14	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	164.8	TR305-14-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	623.15	210.73	0.1%	0.2%	1.5%	0.50%	2.2%
2	305-15	LBD-305-15	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	190.55	TR305-15-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	623.15	226.94	0.1%	0.2%	1.6%	0.50%	2.4%
2	305-16	LBD-305-16	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	216.3	TR305-16-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.3%	2.1%	0.50%	3.0%
2	305-17	LBD-305-17	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	247.2	TR305-17-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.3%	2.1%	0.50%	3.0%
2	305-18	LBD-305-18	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	272.95	TR305-18-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.4%	2.1%	0.50%	3.0%

DC FEEDER SCHEDULE - PCS 306

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	306-01	LBD-306-01	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	442.9	TR306-01-01	6	1090.7	17.29	103.74	150	1	AL #4/0	72.1	97.26	0.1%	0.5%	0.1%	0.50%	1.2%
														TR306-01-02	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.1%	0.5%	0.4%	0.50%	1.4%
1	306-02	LBD-306-02	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	386.25	TR306-02-01	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.1%	0.4%	0.4%	0.50%	1.4%
														TR306-02-02	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.1%	0.4%	0.4%	0.50%	1.4%
1	306-03	LBD-306-03	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	329.6	TR306-03-01	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.0%	0.2%	0.4%	0.50%	1.1%
														TR306-03-02	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.2%	0.7%	0.50%	1.4%
1	306-04	LBD-306-04	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	272.95	TR306-04-01	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.2%	0.7%	0.50%	1.4%
														TR306-04-02	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.2%	0.7%	0.50%	1.4%
1	306-05	LBD-306-05	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	216.3	TR306-05-01	9	1090.7	17.29	155.61	200	1	AL #4/0	442.9	145.89	0.0%	0.2%	1.2%	0.50%	1.9%
														TR306-05-02	9	1090.7	17.29	155.61	200	1	AL #4/0	417.15	145.89	0.0%	0.2%	1.1%	0.50%	1.8%
1	306-06	LBD-306-06	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR306-06-01	6	1090.7	17.29	103.74	150	1	AL #4/0	154.5	97.26	0.0%	0.0%	0.3%	0.50%	0.8%
														TR306-06-02	6	1090.7	17.29	103.74	150	1	AL #4/0	103	97.26	0.0%	0.0%	0.2%	0.50%	0.7%
														TR306-06-03	6	1090.7	17.29	103.74	150	1	AL #4/0	46.35	97.26	0.0%	0.0%	0.1%	0.50%	0.6%
1	306-07	LBD-306-07	18	311.22	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	242.05	TR306-07-01	6	1090.7	17.29	103.74	150	1	AL #4/0	267.8	97.26	0.0%	0.1%	0.5%	0.50%	1.1%
														TR306-07-02	6	1090.7	17.29	103.74	150	1	AL #4/0	180.25	97.26	0.0%	0.1%	0.3%	0.50%	1.0%
														TR306-07-03	6	1090.7	17.29	103.74	150	1	AL #4/0	231.75	97.26	0.0%	0.1%	0.4%	0.50%	1.1%
1	306-08	LBD-306-08	11	190.19	250	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	195.7	TR306-08-01	3	1090.7	17.29	51.87	70	1	AL #4/0	46.35	48.63	0.0%	0.1%	0.0%	0.50%	0.7%
														TR306-08-02	8	1090.7	17.29	138.32	175	1	AL #4/0	334.75	129.68	0.0%	0.1%	0.8%	0.50%	1.4%
1	306-09	LBD-306-09	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	36.05	TR306-09-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.5%
1	306-10	LBD-306-10	13	224.77	315	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	15.45	TR306-10-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.0%	0.0%	1.4%	0.50%	2.0%
2	306-11	LBD-306-11	13	224.77	315	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	46.35	TR306-11-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.0%	0.1%	1.4%	0.50%	2.0%
2	306-12	LBD-306-12	16	276.64	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	20.6	TR306-12-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.0%	2.1%	0.50%	2.7%
2	306-13	LBD-306-13	16	276.64	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	46.35	TR306-13-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.1%	2.1%	0.50%	2.7%
2	306-14	LBD-306-14	16	276.64	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	72.1	TR306-14-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.1%	2.1%	0.50%	2.8%
2	306-15	LBD-306-15	17	293.93	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	103	TR306-15-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.5%
2	306-16	LBD-306-16	17	293.93	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	128.75	TR306-16-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.2%	1.8%	0.50%	2.5%
2	306-17	LBD-306-17	17	293.93	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	159.65	TR306-17-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.2%	1.8%	0.50%	2.6%
2	306-18	LBD-306-18	17	293.93	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	185.4	TR306-18-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.3%	1.8%	0.50%	2.6%

DRAWING NOTES:
1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DRAWING TITLE
SCHEDULES & CALCULATIONS
PCS-304 THRU 306

DRAWING #
E3.520

PROJECT: 179.5 MW SOLAR GROUND MOUNT SYSTEM AT CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAIE HT72-18X-550
MODULE QUANTITY: 326,248
ORIENTATION: 25° TILT, 180° AZI

PAGE SIZE: 36" x 24"
PROJECT #: 062771

EPC: YANGUARD ENERGY SOLUTIONS, LLC

ENGINEER:
VANGUARD ENERGY DEVELOPMENT, PLLC
1 COMMERCE STREET
BROADHEBURG, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

PURE POWER ENGINEERING, LLC
111 RIVER STREET, HOBOKEN, NJ 07030
WWW.PUREPOWERENG.COM
MD LICENSE No. 41148

DATE	REVISION DESCRIPTION	PM	ENG	CHK
03/28/2024	90% DESIGN DEVELOPMENT	RK	GP	EL
01/25/2024	60% DESIGN DEVELOPMENT	RK	GP	EL
01/10/2024	60% NV DESIGN	RK	GP	EL
10/18/2023	30% DESIGN - REV 2	RK	GP	EL

PLOT DATE: 3/28/2024 9:34 PM

RULER IN INCHES:

DC FEEDER SCHEDULE - PCS 307

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS				
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	307-01	LBD-307-01	9	155.61	200	1	AL 350MCM	CU #2	430	1	AL 350MCM	CU #2	267.8	TR307-01-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	417.15	145.89	0.7%	0.4%	1.1%	0.50%	2.7%
1	307-02	LBD-307-02	17	293.93	400	1	AL 750MCM	CU #2	430	1	AL 750MCM	CU #2	169.95	TR307-02-01	9	1090.7	17.29	155.61	200	1	AL #4/0	478.95	145.89	0.3%	0.1%	1.3%	0.50%	2.2%
														TR307-02-02	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.3%	0.1%	0.8%	0.50%	1.7%
1	307-03	LBD-307-03	16	276.64	400	1	AL 750MCM	CU #2	430	1	AL 750MCM	CU #2	118.45	TR307-03-01	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.3%	0.1%	0.8%	0.50%	1.7%
														TR307-03-02	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.3%	0.1%	0.8%	0.50%	1.6%
1	307-04	LBD-307-04	15	259.35	400	1	AL 750MCM	CU #2	430	1	AL 750MCM	CU #2	15.45	TR307-04-01	8	1090.7	17.29	138.32	175	1	AL #4/0	381.1	129.68	0.3%	0.0%	0.9%	0.50%	1.7%
														TR307-04-02	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.3%	0.0%	0.7%	0.50%	1.5%
1	307-05	LBD-307-05	17	293.93	400	1	AL 750MCM	CU #2	30	1	AL 750MCM	CU #2	15.45	TR307-05-01	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.0%	0.3%	0.50%	0.8%
														TR307-05-02	5	1090.7	17.29	86.45	110	1	AL #4/0	247.2	81.05	0.0%	0.0%	0.4%	0.50%	0.9%
														TR307-05-03	7	1090.7	17.29	121.03	175	1	AL #4/0	453.2	113.47	0.0%	0.0%	0.9%	0.50%	1.5%
1	307-06	LBD-307-06	9	155.61	200	1	AL 350MCM	CU #2	30	1	AL 350MCM	CU #2	190.55	TR307-06-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	417.15	145.89	0.0%	0.3%	1.1%	0.50%	2.0%
1	307-07	LBD-307-07	10	172.9	250	1	AL 350MCM	CU #2	30	1	AL 350MCM	CU #2	221.45	TR307-07-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.4%	1.2%	0.50%	2.2%
1	307-08	LBD-307-08	10	172.9	250	1	AL 350MCM	CU #2	30	1	AL 350MCM	CU #2	247.2	TR307-08-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.4%	1.2%	0.50%	2.2%
1	307-09	LBD-307-09	10	172.9	250	1	AL 350MCM	CU #2	30	1	AL 350MCM	CU #2	278.1	TR307-09-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.5%	1.2%	0.50%	2.3%
1	307-10	LBD-307-10	11	190.19	250	1	AL 350MCM	CU #2	30	1	AL 350MCM	CU #2	303.85	TR307-10-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.6%	1.7%	0.50%	2.9%
1	307-11	LBD-307-11	11	190.19	250	1	AL 350MCM	CU #2	30	1	AL 350MCM	CU #2	329.6	TR307-11-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.7%	1.7%	0.50%	2.9%
1	307-12	LBD-307-12	11	190.19	250	1	AL 350MCM	CU #2	30	1	AL 350MCM	CU #2	360.5	TR307-12-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.7%	1.7%	0.50%	3.0%
2	307-13	LBD-307-13	11	190.19	250	1	AL 350MCM	CU #2	30	1	AL 350MCM	CU #2	386.25	TR307-13-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.8%	1.7%	0.50%	3.0%
2	307-14	LBD-307-14	11	190.19	250	1	AL 350MCM	CU #2	30	1	AL 350MCM	CU #2	417.15	TR307-14-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.8%	1.7%	0.50%	3.1%
2	307-15	LBD-307-15	11	190.19	250	1	AL 350MCM	CU #2	30	1	AL 350MCM	CU #2	442.9	TR307-15-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	520.15	178.31	0.1%	0.9%	1.7%	0.50%	3.1%
2	307-16	LBD-307-16	10	172.9	250	1	AL 350MCM	CU #2	30	1	AL 350MCM	CU #2	478.95	TR307-16-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	448.05	162.1	0.1%	0.9%	1.3%	0.50%	2.7%
2	307-17	LBD-307-17	11	190.19	250	1	AL 350MCM	CU #2	30	1	AL 350MCM	CU #2	515	TR307-17-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	525.3	178.31	0.1%	1.0%	1.7%	0.50%	3.3%
2	307-18	LBD-307-18	18	311.22	400	1	AL 750MCM	CU #2	30	1	AL 750MCM	CU #2	633.45	TR307-18-01	9	1090.7	17.29	155.61	200	1	AL #4/0	417.15	145.89	0.0%	0.5%	1.1%	0.50%	2.1%
														TR307-18-02	9	1090.7	17.29	155.61	200	1	AL #4/0	442.9	145.89	0.0%	0.5%	1.2%	0.50%	2.2%
2	307-19	LBD-307-19	18	311.22	400	1	AL 750MCM	CU #2	30	1	AL 750MCM	CU #2	695.25	TR307-19-01	9	1090.7	17.29	155.61	200	1	AL #4/0	417.15	145.89	0.0%	0.5%	1.1%	0.50%	2.2%
														TR307-19-02	9	1090.7	17.29	155.61	200	1	AL #4/0	442.9	145.89	0.0%	0.5%	1.2%	0.50%	2.2%
2	307-20	LBD-307-20	16	276.64	400	1	AL 750MCM	CU #2	30	1	AL 750MCM	CU #2	751.9	TR307-20-01	8	1090.7	17.29	138.32	175	1	AL #4/0	350.2	129.68	0.0%	0.5%	0.8%	0.50%	1.9%
														TR307-20-02	8	1090.7	17.29	138.32	175	1	AL #4/0	350.2	129.68	0.0%	0.5%	0.8%	0.50%	1.9%
2	307-21	LBD-307-21	14	242.06	400	1	AL 750MCM	CU #2	30	1	AL 750MCM	CU #2	824	TR307-21-01	7	1090.7	17.29	121.03	175	1	AL #4/0	360.5	113.47	0.0%	0.5%	0.8%	0.50%	1.8%
														TR307-21-02	7	1090.7	17.29	121.03	175	1	AL #4/0	370.8	113.47	0.0%	0.5%	0.8%	0.50%	1.8%
2	307-22	LBD-307-22	7	121.03	175	1	AL 350MCM	CU #2	30	1	AL 350MCM	CU #2	896.1	TR307-22-01	7	1090.7	17.29	121.03	N/A	1	AL #4/0	319.3	113.47	0.0%	1.1%	0.7%	0.50%	2.3%

DC FEEDER SCHEDULE - PCS 308

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS				
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	308-01	LBD-308-01	15	259.35	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	381.1	TR308-01-01	6	1090.7	17.29	103.74	150	1	AL #4/0	154.5	97.26	0.0%	0.2%	0.3%	0.50%	1.0%
														TR308-01-02	6	1090.7	17.29	103.74	150	1	AL #4/0	72.1	97.26	0.0%	0.2%	0.1%	0.50%	0.9%
														TR308-01-03	3	1090.7	17.29	51.87	70	1	AL #4/0	15.45	48.63	0.0%	0.2%	0.0%	0.50%	0.7%
1	308-02	LBD-308-02	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	298.7	TR308-02-01	4	1090.7	17.29	69.16	90	1	AL #4/0	169.95	64.84	0.0%	0.2%	0.2%	0.50%	1.0%
														TR308-02-02	4	1090.7	17.29	69.16	90	1	AL #4/0	144.2	64.84	0.0%	0.2%	0.2%	0.50%	0.9%
														TR308-02-03	4	1090.7	17.29	69.16	90	1	AL #4/0	113.3	64.84	0.0%	0.2%	0.1%	0.50%	0.9%
1	308-03	LBD-308-03	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	216.3	TR308-03-01	4	1090.7	17.29	69.16	90	1	AL #4/0	169.95	64.84	0.0%	0.2%	0.2%	0.50%	0.9%
														TR308-03-02	4	1090.7	17.29	69.16	90	1	AL #4/0	144.2	64.84	0.0%	0.2%	0.2%	0.50%	0.9%
														TR308-03-03	4	1090.7	17.29	69.16	90	1	AL #4/0	113.3	64.84	0.0%	0.2%	0.1%	0.50%	0.8%
1	308-04	LBD-308-04	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	133.9	TR308-04-01	4	1090.7	17.29	69.16	90	1	AL #4/0	169.95	64.84	0.0%	0.1%	0.2%	0.50%	0.8%
														TR308-04-02	4	1090.7	17.29	69.16	90	1	AL #4/0	144.2	64.84	0.0%	0.1%	0.2%	0.50%	0.8%
														TR308-04-03	4	1090.7	17.29	69.16	90	1	AL #4/0	113.3	64.84	0.0%	0.1%	0.1%	0.50%	0.8%
1	308-05	LBD-308-05	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	46.35	TR308-05-01	4	1090.7	17.29	69.16	90	1	AL #4/0	169.95	64.84	0.0%	0.0%	0.2%	0.50%	0.8%
														TR308-05-02	4	1090.7	17.29	69.16	90	1	AL #4/0	144.2	64.84	0.0%	0.0%	0.2%	0.50%	0.7%
														TR308-05-03	4	1090.7	17.29	69.16	90	1	AL #4/0	113.3	64.84	0.0%	0.0%	0.1%	0.50%	0.7%
1	308-06	LBD-308-06	17	293.93	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	15.45	TR308-06-01	4	1090.7	17.29	69.16	90	1	AL #4/0	113.3	64.84	0.0%	0.0%	0.1%	0.50%	0.7%
														TR308-06-02	6	1090.7	17.29	103.74	150	1	AL #4/0	103	97.26	0.0%	0.0%	0.2%	0.50%	0.7%
														TR308-06-03	7	1090.7	17.29	121.03	175	1	AL #4/0	206	113.47	0.0%	0.0%	0.4%	0.50%	1.0%
1	308-07	LBD-308-07	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	46.35	TR308-07-01	4	1090.7	17.29	69.16	90	1	AL #4/0	113.3	64.84	0.0%	0.0%	0.1%	0.50%	0.7%
														TR308-07-02	4	1090.7	17.29	69.16	90	1	AL #4/0	144.2	64.84	0.0%	0.0%	0.2%	0.50%	0.7%
														TR308-07-03	4	1090.7	17.29	69.16	90	1	AL #4/0	169.95	64.84	0.0%	0.0%	0.2%	0.50%	0.8%
1	308-08	LBD-308-08	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	128.75	TR308-08-01	4	1090.7	17.29	69.16	90	1	AL #4/0	113.3	64.84	0.0%	0.1%	0.1%	0.50%	0.8%
														TR308-08-02	4	1090.7	17.29	69.16	90	1	AL #4/0	144.2	64.84	0.0%	0.0%	0.2%	0.50%	0.7%
														TR308-08-03	4	1090.7	17.29	69.16	90	1	AL #4/0	169.95	64.84	0.0%	0.1%	0.2%	0.50%	0.8%
1	308-09	LBD-308-09	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	216.3	TR308-09-01	4	1090.7	17.29	69.16	90	1	AL #4/0	113.3	64.84	0.0%	0.2%	0.1%	0.50%	0.8%
														TR308-09-02	4	1090.7	17.29	69.16	90	1	AL #4/0	144.2	64.84	0.0%	0.1%	0.2%	0.50%	0.8%
														TR308-09-03	4	1090.7	17.29	69.16	90	1	AL #4/0	169.95	64.84	0.0%	0.2%	0.2%	0.50%	0.9%
1	308-10	LBD-308-10	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	298.7	TR308-10-01	4	1090.7	17.29	69.16	90	1	AL #4/0	113.3	64.84	0.0%	0.2%	0.1%	0.50%	0.9%
														TR308-10-02	4	1090.7	17.29	69.16	90	1	AL #4/0	144.2	64.84	0.0%	0.2%	0.2%	0.50%	0.9%
														TR308-10-03	4	1090.7	17.29	69.16	90	1	AL #4/0	169.95	64.84	0.0%	0.2%	0.2%	0.50%	1.0%
1	308-11	LBD-308-11	13	224.77	315	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	381.1	TR308-11-01	4	1090.7	17.29	69.16	90	1	AL #4/0	113.3	64.84	0.0%	0.1%	0.1%	0.50%	0.8%
														TR308-11-02	4	1090.7	17.29	69.16	90	1	AL #4/0	144.2	64.84	0.0%	0.2%	0.2%	0.50%	0.9%
														TR308-11-03	5	1090.7	17.29	86.45	110	1	AL #4/0	169.95	81.05	0.0%	0.1%	0.3%	0.50%	0.9%
1	308-12	LBD-308-12	15	259.35	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	484.1	TR308-12-01	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.2%	0.3%	0.50%	1.0%
														TR308-12-02	5	1090.7	17.29	86.45	110	1	AL #4/0	242.05	81.05	0.0%	0.1%	0.4%	0.50%	1.0%
														TR308-12-03	5	1090.7	17.29	86.45	110	1	AL #4/0	272.95	81.05	0.0%	0.2%	0.4%	0.50%	1.1%
2	308-13	LBD-308-13	15	259.35	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	571.65	TR308-13-01	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.2%	0.3%	0.50%	1.1%
														TR308-13-02	5	1090.7	17.29	86.45	110	1	AL #4/0	242.05	81.05	0.0%	0.2%	0.4%	0.50%	1.1%
														TR308-13-03	5	1090.7	17.29	86.45	110	1	AL #4/0	272.95	81.05	0.0%	0.2%	0.4%	0.50%	1.2%
2	308-14	LBD-308-14	16	276.64	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	654.05	TR308-14-01	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.3%	0.3%	0.50%	1.1%
														TR308-14-02	5	1090.7	17.29	86.45	110	1	AL #4/0	242.05	81.05	0.0%	0.2%	0.4%	0.50%	1.1%
														TR308-14-03	6	1090.7	17.29	103.74	150	1	AL #4/0	272.95	97.26	0.0%	0.3%	0.5%	0.50%	1.3%
2	308-15	LBD-308-15	17	293.93	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	736.45	TR308-15-01	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.0%	0.4%	0.4%	0.50%	1.3%
														TR308-15-02	6	1090.7	17.29	103.74	150	1	AL #4/0	242.05	97.26	0.0%	0.3%	0.4%	0.50%	1.2%
														TR308-15-03	5	1090.7	17.29	86.45	110	1	AL #4/0	314.15	81.05	0.0%	0.4%	0.5%	0.50%	1.4%
2	308-16	LBD-308-16	15	259.35	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	865.2	TR308-16-01	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.4%	0.3%	0.50%	1.2%
														TR308-16-02	5	1090.7	17.29	86.45	110	1	AL #4/0	242.05	81.05	0.0%	0.4%	0.4%	0.50%	1.3%
														TR308-16-03	5	1090.7	17.29	86.45	110	1	AL #4/0	272.95	81.05	0.0%	0.4%	0.4%	0.50%	1.3%
2	308-17	LBD-308-17	15	259.35	400	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	947.6	TR308-17-01	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.4%	0.3%	0.50%	1.2%
														TR308-17-02	5	1090.7	17.29	86.45	110	1	AL #4/0	242.05	81.05	0.0%	0.4%	0.4%	0.50%	1.2%
														TR308-17-03	5	1090.7	17.29	86.45	110	1	AL #4/0	272.95	81.05	0.0%	0.4%	0.4%	0.50%	1.3%

DRAWING NOTES:
1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DRAWING TITLE: SCHEDULES & CALCULATIONS PCS-307 THRU 308

DRAWING #: E3.521

	DATE	REVISION DESCRIPTION	PM	ENG
5	03/28/2024	90% DESIGN DEVELOPMENT	RK	GP
4	01/25/2024	60% DESIGN DEVELOPMENT	RK	GP
3	01/10/2024	60% NV DESIGN	RK	GP
2	10/18/2023	30% DESIGN - REV 2	RK	GP

PURE POWER ENGINEERS
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWER.COM
(201) 205-0006
NJ LICENSE No. 41148

ENGINEER
VANGUARD ENERGY PARTNERS
1 COMMERCE STREET
BROAD HILLBURG, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

EPC
VANGUARD ENERGY PARTNERS, LLC

PAGE SIZE: 36" x 24"
PROJECT #: 06271

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAAE H172-18X-550
MODULE QUANTITY: 326,430
ORIENTATION: 25° TILT, 180° AZI

PROJECT: 179.5 MW SOLAR GROUND MOUNT SYSTEM AT CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

PLOT DATE: 3/28/2024 9:34 PM

RULER IN INCHES: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

DC FEEDER SCHEDULE - PCS 309

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS				
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	309-01	LBD-309-01	14	242.06	400	1	AL 750MCM	CU #2	150	1	AL 750MCM	CU #2	587.1	TR309-01-01	4	1090.7	17.29	69.16	90	1	AL #4/0	200.85	64.84	0.1%	0.2%	0.2%	0.50%	1.0%
														TR309-01-02	4	1090.7	17.29	69.16	90	1	AL #4/0	185.4	64.84	0.1%	0.2%	0.2%	0.50%	1.0%
														TR309-01-03	6	1090.7	17.29	103.74	150	1	AL #4/0	221.45	97.26	0.1%	0.2%	0.4%	0.50%	1.1%
1	309-02	LBD-309-02	14	242.06	400	1	AL 750MCM	CU #2	150	1	AL 750MCM	CU #2	515	TR309-02-01	6	1090.7	17.29	103.74	150	1	AL #4/0	288.4	97.26	0.1%	0.3%	0.5%	0.50%	1.3%
														TR309-02-02	8	1090.7	17.29	138.32	175	1	AL #4/0	324.45	129.68	0.1%	0.3%	0.8%	0.50%	1.6%
1	309-03	LBD-309-03	18	311.22	400	1	AL 750MCM	CU #2	150	1	AL 750MCM	CU #2	442.9	TR309-03-01	9	1090.7	17.29	155.61	200	1	AL #4/0	478.95	145.89	0.1%	0.3%	1.3%	0.50%	2.2%
														TR309-03-02	9	1090.7	17.29	155.61	200	1	AL #4/0	463.5	145.89	0.1%	0.3%	1.2%	0.50%	2.2%
1	309-04	LBD-309-04	10	172.9	250	1	AL 350MCM	CU #2	150	1	AL 350MCM	CU #2	412	TR309-04-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	432.6	162.1	0.3%	0.7%	1.3%	0.50%	2.8%
1	309-05	LBD-309-05	12	207.48	315	1	AL 350MCM	CU #2	150	1	AL 350MCM	CU #2	375.95	TR309-05-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	556.2	194.52	0.3%	0.8%	1.2%	0.50%	2.8%
1	309-06	LBD-309-06	13	224.77	315	1	AL 750MCM	CU #2	150	1	AL 750MCM	CU #2	345.05	TR309-06-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.2%	0.4%	1.4%	0.50%	2.5%
1	309-07	LBD-309-07	13	224.77	315	1	AL 750MCM	CU #2	150	1	AL 750MCM	CU #2	314.15	TR309-07-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.2%	0.3%	1.4%	0.50%	2.5%
1	309-08	LBD-309-08	13	224.77	315	1	AL 750MCM	CU #2	150	1	AL 750MCM	CU #2	283.25	TR309-08-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.2%	0.3%	1.4%	0.50%	2.4%
1	309-09	LBD-309-09	14	242.06	400	1	AL 750MCM	CU #2	150	1	AL 750MCM	CU #2	257.5	TR309-09-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.2%	0.3%	1.6%	0.50%	2.5%
1	309-10	LBD-309-10	14	242.06	400	1	AL 750MCM	CU #2	150	1	AL 750MCM	CU #2	231.75	TR309-10-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.2%	0.3%	1.6%	0.50%	2.5%
1	309-11	LBD-309-11	14	242.06	400	1	AL 750MCM	CU #2	150	1	AL 750MCM	CU #2	200.85	TR309-11-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.2%	0.2%	1.6%	0.50%	2.5%
1	309-12	LBD-309-12	10	172.9	250	1	AL 350MCM	CU #2	150	1	AL 350MCM	CU #2	25.75	TR309-12-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	432.6	162.1	0.3%	0.0%	1.3%	0.50%	2.1%
2	309-13	LBD-309-13	9	155.61	200	1	AL 350MCM	CU #2	150	1	AL 350MCM	CU #2	87.55	TR309-13-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	432.6	145.89	0.2%	0.1%	1.2%	0.50%	2.0%
2	309-14	LBD-309-14	12	207.48	315	1	AL 350MCM	CU #2	150	1	AL 350MCM	CU #2	175.1	TR309-14-01	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.2%	0.2%	0.7%	0.50%	1.6%
														TR309-14-02	5	1090.7	17.29	86.45	110	1	AL #4/0	350.2	81.05	0.2%	0.2%	0.5%	0.50%	1.4%
2	309-15	LBD-309-15	12	207.48	315	1	AL 350MCM	CU #2	35	1	AL 350MCM	CU #2	20.6	TR309-15-01	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.0%	0.3%	0.50%	0.9%
														TR309-15-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.0%	0.7%	0.50%	1.3%
2	309-16	LBD-309-16	17	293.93	400	1	AL 750MCM	CU #2	35	1	AL 750MCM	CU #2	77.25	TR309-16-01	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.0%	0.1%	0.8%	0.50%	1.3%
														TR309-16-02	9	1090.7	17.29	155.61	200	1	AL #4/0	448.05	145.89	0.0%	0.1%	1.2%	0.50%	1.8%
2	309-17	LBD-309-17	10	172.9	250	1	AL 350MCM	CU #2	35	1	AL 350MCM	CU #2	128.75	TR309-17-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.2%	1.2%	0.50%	2.0%
2	309-18	LBD-309-18	10	172.9	250	1	AL 350MCM	CU #2	35	1	AL 350MCM	CU #2	159.65	TR309-18-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.3%	1.2%	0.50%	2.1%
2	309-19	LBD-309-19	10	172.9	250	1	AL 350MCM	CU #2	35	1	AL 350MCM	CU #2	185.4	TR309-19-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.3%	1.2%	0.50%	2.1%
2	309-20	LBD-309-20	10	172.9	250	1	AL 350MCM	CU #2	35	1	AL 350MCM	CU #2	216.3	TR309-20-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.4%	1.2%	0.50%	2.2%
2	309-21	LBD-309-21	18	311.22	400	1	AL 750MCM	CU #2	35	1	AL 750MCM	CU #2	242.05	TR309-21-01	9	1090.7	17.29	155.61	200	1	AL #4/0	417.15	145.89	0.0%	0.2%	1.1%	0.50%	1.8%
														TR309-21-02	9	1090.7	17.29	155.61	200	1	AL #4/0	442.9	145.89	0.0%	0.2%	1.2%	0.50%	1.9%

DRAWING NOTES:
1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DRAWING TITLE
SCHEDULES & CALCULATIONS
PCS-309

DRAWING #
E3.522

	REVISION DESCRIPTION	DATE	DWN	CHK
1	30% DESIGN DEVELOPMENT	03/28/2024	RK	GP
2	60% DESIGN DEVELOPMENT	01/25/2024	RK	GP
3	60% NV DESIGN	01/10/2024	RK	GP
4	30% DESIGN - REV 2	10/18/2023	RK	GP

PURE POWER
PURE POWER ENGINEERING, LLC
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWER.COM
(908) 905-0005
MD LICENSE No. 41148

ENGINEER

EPC
YANGUARD ENERGY PARTNERS
1 COMMERCE STREET
BRANCHBURG, NJ 08876
WWW.YANGUARDENERGYPARTNERS.COM

PAGE SIZE: 36" x 24"
PROJECT #: 04271

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAAE 6(172-)BX-550
MODULE QUANTITY: 326,471
ORIENTATION: 25° TILT, 180° AZI

PROJECT: 179.5 MW SOLAR GROUND MOUNT SYSTEM AT CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

RULER IN INCHES:

PLOT DATE: 3/28/2024 9:34 PM

DC FEEDER SCHEDULE - PCS 401

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	401-01	LBD-401-01	12	207.48	315	1	AL 350MCM	CU #2	860	1	AL 350MCM	CU #2	267.8	TR401-01-01	6	1090.7	17.29	103.74	150	1	AL #4/0	247.2	97.26	0.9%	0.3%	0.4%	0.50%	2.2%
														TR401-01-02	6	1090.7	17.29	103.74	150	1	AL #4/0	221.45	97.26	0.9%	0.3%	0.4%	0.50%	2.1%
1	401-02	LBD-401-02	10	172.9	250	1	AL 350MCM	CU #2	860	1	AL 350MCM	CU #2	242.05	TR401-02-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	417.15	162.1	1.5%	0.4%	0.8%	0.50%	3.2%
1	401-03	LBD-401-03	10	172.9	250	1	AL 350MCM	CU #2	860	1	AL 350MCM	CU #2	216.3	TR401-03-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	417.15	162.1	1.5%	0.4%	0.8%	0.50%	3.2%
1	401-04	LBD-401-04	11	190.19	250	1	AL 350MCM	CU #2	860	1	AL 350MCM	CU #2	185.4	TR401-04-01	11	1090.7	17.29	190.19	N/A	1	AL 500MCM	515	178.31	1.7%	0.4%	0.7%	0.50%	3.3%
1	401-05	LBD-401-05	11	190.19	250	1	AL 350MCM	CU #2	860	1	AL 350MCM	CU #2	159.65	TR401-05-01	11	1090.7	17.29	190.19	N/A	1	AL 500MCM	515	178.31	1.7%	0.3%	0.7%	0.50%	3.2%
1	401-06	LBD-401-06	12	207.48	315	1	AL 350MCM	CU #2	860	1	AL 350MCM	CU #2	128.75	TR401-06-01	12	1090.7	17.29	207.48	N/A	1	AL 500MCM	515	194.52	1.9%	0.3%	0.8%	0.50%	3.4%
1	401-07	LBD-401-07	12	207.48	315	1	AL 350MCM	CU #2	860	1	AL 350MCM	CU #2	103	TR401-07-01	12	1090.7	17.29	207.48	N/A	1	AL 500MCM	515	194.52	1.9%	0.2%	0.8%	0.50%	3.4%
1	401-08	LBD-401-08	12	207.48	315	1	AL 350MCM	CU #2	860	1	AL 350MCM	CU #2	72.1	TR401-08-01	12	1090.7	17.29	207.48	N/A	1	AL 500MCM	515	194.52	1.9%	0.2%	0.8%	0.50%	3.3%
1	401-09	LBD-401-09	18	311.22	400	1	AL 750MCM	CU #2	860	1	AL 750MCM	CU #2	15.45	TR401-09-01	10	1090.7	17.29	172.9	250	1	AL #4/0	442.9	162.1	0.7%	0.0%	1.3%	0.50%	2.6%
														TR401-09-02	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.7%	0.0%	0.8%	0.50%	2.0%
1	401-10	LBD-401-10	13	224.77	315	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	123.6	TR401-10-01	4	1090.7	17.29	69.16	90	1	AL #4/0	221.45	64.84	0.0%	0.0%	0.3%	0.50%	0.8%
														TR401-10-02	4	1090.7	17.29	69.16	90	1	AL #4/0	185.4	64.84	0.0%	0.0%	0.2%	0.50%	0.8%
														TR401-10-03	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.0%	0.3%	0.50%	0.9%
2	401-11	LBD-401-11	13	224.77	315	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	51.5	TR401-11-01	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.0%	0.0%	0.4%	0.50%	0.9%
														TR401-11-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.0%	0.7%	0.50%	1.3%
2	401-12	LBD-401-12	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	36.05	TR401-12-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1122.7	194.52	0.1%	0.1%	2.4%	0.50%	3.1%
2	401-13	LBD-401-13	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	36.05	TR401-13-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.5%
2	401-14	LBD-401-14	13	224.77	315	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	15.45	TR401-14-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	1225.7	210.73	0.1%	0.0%	2.9%	0.50%	3.4%
2	401-15	LBD-401-15	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	15.45	TR401-15-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.0%	1.9%	0.50%	2.5%
2	401-16	LBD-401-16	13	224.77	315	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	41.2	TR401-16-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1225.7	210.73	0.1%	0.0%	2.0%	0.50%	2.6%
2	401-17	LBD-401-17	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	41.2	TR401-17-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.6%
2	401-18	LBD-401-18	13	224.77	315	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	66.95	TR401-18-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1225.7	210.73	0.1%	0.1%	2.0%	0.50%	2.6%
2	401-19	LBD-401-19	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	66.95	TR401-19-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.6%
2	401-20	LBD-401-20	13	224.77	315	1	AL 750MCM	CU #2	60	1	AL 750MCM	CU #2	92.7	TR401-20-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1225.7	210.73	0.1%	0.1%	2.0%	0.50%	2.7%
2	401-21	LBD-401-21	12	207.48	315	1	AL 350MCM	CU #2	60	1	AL 350MCM	CU #2	92.7	TR401-21-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.2%	1.9%	0.50%	2.7%

DC FEEDER SCHEDULE - PCS 402

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	402-01	LBD-402-01	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR402-01-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1225.7	210.73	0.1%	0.1%	2.0%	0.50%	2.6%
1	402-02	LBD-402-02	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR402-02-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	520.15	194.52	0.1%	0.1%	1.9%	0.50%	2.6%
1	402-03	LBD-402-03	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR402-03-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.0%	2.2%	0.50%	2.8%
1	402-04	LBD-402-04	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR402-04-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
1	402-05	LBD-402-05	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	46.35	TR402-05-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1225.7	194.52	0.1%	0.1%	2.6%	0.50%	3.3%
1	402-06	LBD-402-06	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	46.35	TR402-06-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.0%	0.1%	1.6%	0.50%	2.2%
1	402-07	LBD-402-07	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	15.45	TR402-07-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1225.7	194.52	0.1%	0.0%	2.6%	0.50%	3.3%
1	402-08	LBD-402-08	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	15.45	TR402-08-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.0%	0.0%	1.6%	0.50%	2.1%
1	402-09	LBD-402-09	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR402-09-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1225.7	194.52	0.1%	0.1%	2.6%	0.50%	3.3%
2	402-10	LBD-402-10	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR402-10-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.0%	0.0%	1.6%	0.50%	2.2%
2	402-11	LBD-402-11	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR402-11-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.0%	2.2%	0.50%	2.8%
2	402-12	LBD-402-12	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR402-12-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
2	402-13	LBD-402-13	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR402-13-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.0%	2.2%	0.50%	2.8%
2	402-14	LBD-402-14	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR402-14-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
2	402-15	LBD-402-15	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR402-15-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.1%	2.2%	0.50%	2.8%
2	402-16	LBD-402-16	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR402-16-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.1%	1.6%	0.50%	2.2%
2	402-17	LBD-402-17	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR402-17-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.1%	2.2%	0.50%	2.9%
2	402-18	LBD-402-18	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR402-18-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.1%	1.6%	0.50%	2.3%

DC FEEDER SCHEDULE - PCS 403

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	403-01	LBD-403-01	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR403-01-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.1%	2.2%	0.50%	2.8%
1	403-02	LBD-403-02	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR403-02-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.1%	1.6%	0.50%	2.2%
1	403-03	LBD-403-03	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR403-03-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1225.7	194.52	0.1%	0.0%	2.6%	0.50%	3.3%
1	403-04	LBD-403-04	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR403-04-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
1	403-05	LBD-403-05	13	224.77	315	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR403-05-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1225.7	210.73	0.0%	0.0%	2.0%	0.50%	2.6%
1	403-06	LBD-403-06	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR403-06-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.1%	1.8%	0.50%	2.5%
1	403-07	LBD-403-07	13	224.77	315	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	15.45	TR403-07-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	1225.7	210.73	0.0%	0.0%	2.9%	0.50%	3.4%
1	403-08	LBD-403-08	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	15.45	TR403-08-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.0%	1.8%	0.50%	2.5%
1	403-09	LBD-403-09	13	224.77	315	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR403-09-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1225.7	210.73	0.0%	0.0%	2.0%	0.50%	2.6%
2	403-10	LBD-403-10	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR403-10-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.1%	1.8%	0.50%	2.5%
2	403-11	LBD-403-11	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR403-11-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1225.7	210.73	0.1%	0.0%	2.0%	0.50%	2.6%
2	403-12	LBD-403-12	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR403-12-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.0%	1.8%	0.50%	2.5%
2	403-13	LBD-403-13	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR403-13-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1122.7	194.52	0.1%	0.1%	2.4%	0.50%	3.2%
2	403-14	LBD-403-14	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR403-14-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.1%	1.8%	0.50%	2.6%
2	403-15	LBD-403-15	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR403-15-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.6%
2	403-16	LBD-403-16	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR403-16-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.2%	1.9%	0.50%	2.6%
2	403-17	LBD-403-17	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	128.75	TR403-17-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.2%	1.8%	0.50%	2.5%

DRAWING NOTES:
1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DRAWING TITLE
SCHEDULES & CALCULATIONS
PCS-401 THRU 403

DRAWING #
E3.523

DATE	REVISION DESCRIPTION	PM	ENG	CHK
03/26/2024	90% DESIGN DEVELOPMENT	RK	GP	EL
01/25/2024	60% DESIGN DEVELOPMENT	RK	GP	EL
01/10/2024	60% MV DESIGN	RK	GP	EL
10/18/2023	30% DESIGN – REV 2	RK	GP	EL

ENGINEER
PUREPOWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWER.COM
ERIC J. LOOS
MD LICENSE No. 41148

EPC
VANGUARD ENERGY PARTNERS, LLC
VANGUARD ENERGY PARTNERS
1 COMMERCE STREET
BRANCHBURG, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

PAGE SIZE 36" x 24"
PROJECT # 06271

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAAE HT72-18X-550
MODULE QUANTITY: 326,430
ORIENTATION: 25° TILT, 180° AZI

PROJECT 179.5 MW SOLAR GROUND MOUNT SYSTEM AT
CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

RULER IN INCHES:

DC FEEDER SCHEDULE - PCS 404

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	404-01	LBD-404-01	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	159.65	TR404-01-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.2%	1.8%	0.50%	2.6%
1	404-02	LBD-404-02	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	133.9	TR404-02-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.2%	1.8%	0.50%	2.5%
1	404-03	LBD-404-03	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR404-03-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.1%	2.1%	0.50%	2.8%
1	404-04	LBD-404-04	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR404-04-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.1%	2.1%	0.50%	2.8%
1	404-05	LBD-404-05	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR404-05-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.1%	2.1%	0.50%	2.7%
1	404-06	LBD-404-06	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR404-06-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.0%	1.9%	0.50%	2.5%
1	404-07	LBD-404-07	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR404-07-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.0%	0.0%	1.6%	0.50%	2.2%
1	404-08	LBD-404-08	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	15.45	TR404-08-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.0%	0.0%	1.6%	0.50%	2.1%
2	404-09	LBD-404-09	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR404-09-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.0%	0.0%	1.6%	0.50%	2.2%
2	404-10	LBD-404-10	12	207.48	315	1	AL 350MCM	CU #2	145	1	AL 350MCM	CU #2	15.45	TR404-10-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.3%	0.0%	1.8%	0.50%	2.7%
2	404-11	LBD-404-11	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR404-11-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
2	404-12	LBD-404-12	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR404-12-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.1%	1.6%	0.50%	2.2%
2	404-13	LBD-404-13	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR404-13-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.1%	1.6%	0.50%	2.2%
2	404-14	LBD-404-14	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR404-14-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.1%	1.6%	0.50%	2.3%
2	404-15	LBD-404-15	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	133.9	TR404-15-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.1%	1.4%	0.50%	2.2%
2	404-16	LBD-404-16	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	159.65	TR404-16-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.2%	1.4%	0.50%	2.2%
2	404-17	LBD-404-17	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	185.4	TR404-17-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.2%	1.4%	0.50%	2.2%

DC FEEDER SCHEDULE - PCS 405

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	405-01	LBD-405-01	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	185.4	TR405-01-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.4%	1.8%	0.50%	2.9%
1	405-02	LBD-405-02	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	159.65	TR405-02-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.3%	1.8%	0.50%	2.8%
1	405-03	LBD-405-03	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	133.9	TR405-03-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.3%	1.8%	0.50%	2.8%
1	405-04	LBD-405-04	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	103	TR405-04-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.2%	1.8%	0.50%	2.7%
1	405-05	LBD-405-05	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	72.1	TR405-05-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.2%	1.8%	0.50%	2.6%
1	405-06	LBD-405-06	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR405-06-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.1%	1.8%	0.50%	2.6%
1	405-07	LBD-405-07	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR405-07-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.0%	1.8%	0.50%	2.5%
1	405-08	LBD-405-08	11	190.19	250	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	46.35	TR405-08-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	515	178.31	0.1%	0.1%	1.7%	0.50%	2.4%
1	405-09	LBD-405-09	11	190.19	250	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	15.45	TR405-09-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	515	178.31	0.1%	0.0%	1.7%	0.50%	2.3%
1	405-10	LBD-405-10	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	46.35	TR405-10-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.1%	1.8%	0.50%	2.5%
2	405-11	LBD-405-11	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR405-11-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.0%	1.4%	0.50%	2.0%
2	405-12	LBD-405-12	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR405-12-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.1%	1.4%	0.50%	2.1%
2	405-13	LBD-405-13	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR405-13-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.1%	1.4%	0.50%	2.1%
2	405-14	LBD-405-14	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR405-14-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.1%	1.4%	0.50%	2.1%
2	405-15	LBD-405-15	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	133.9	TR405-15-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.1%	1.4%	0.50%	2.2%
2	405-16	LBD-405-16	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	159.65	TR405-16-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.2%	1.4%	0.50%	2.2%
2	405-17	LBD-405-17	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	185.4	TR405-17-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.2%	1.4%	0.50%	2.2%
2	405-18	LBD-405-18	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	216.3	TR405-18-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.2%	1.4%	0.50%	2.3%
2	405-19	LBD-405-19	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	242.05	TR405-19-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.5%	1.8%	0.50%	3.0%

DC FEEDER SCHEDULE - PCS 406

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	406-01	LBD-406-01	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	329.6	TR406-01-01	9	1090.7	17.29	155.61	200	1	AL #4/0	442.9	145.89	0.0%	0.2%	1.2%	0.50%	2.0%
														TR406-01-02	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.0%	0.2%	0.8%	0.50%	1.6%
1	406-02	LBD-406-02	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	267.8	TR406-02-01	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.0%	0.2%	0.8%	0.50%	1.5%
														TR406-02-02	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.0%	0.2%	0.8%	0.50%	1.5%
1	406-03	LBD-406-03	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	159.65	TR406-03-01	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.0%	0.1%	0.8%	0.50%	1.5%
														TR406-03-02	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.0%	0.1%	0.8%	0.50%	1.4%
1	406-04	LBD-406-04	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR406-04-01	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.0%	0.1%	0.8%	0.50%	1.4%
														TR406-04-02	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.0%	0.1%	0.8%	0.50%	1.4%
1	406-05	LBD-406-05	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR406-05-01	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.0%	0.0%	0.8%	0.50%	1.4%
														TR406-05-02	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.0%	0.0%	0.8%	0.50%	1.3%
1	406-06	LBD-406-06	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR406-06-01	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.0%	0.0%	0.8%	0.50%	1.4%
														TR406-06-02	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.0%	0.0%	0.8%	0.50%	1.3%
1	406-07	LBD-406-07	15	259.35	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR406-07-01	8	1090.7	17.29	138.32	175	1	AL #4/0	370.8	129.68	0.0%	0.0%	0.9%	0.50%	1.4%
														TR406-07-02	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.0%	0.7%	0.50%	1.2%
2	406-08	LBD-406-08	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	15.45	TR406-08-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.0%	0.7%	0.50%	1.2%
														TR406-08-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.0%	0.7%	0.50%	1.3%
2	406-09	LBD-406-09	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR406-09-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.0%	1.8%	0.50%	2.5%
2	406-10	LBD-406-10	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR406-10-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.1%	1.8%	0.50%	2.6%
2	406-11	LBD-406-11	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR406-11-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.1%	1.4%	0.50%	2.1%
2	406-12	LBD-406-12	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR406-12-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.1%	1.4%	0.50%	2.1%
2	406-13	LBD-406-13	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	133.9	TR406-13-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.2%	1.6%	0.50%	2.3%
2	406-14	LBD-406-14	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	159.65	TR406-14-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.2%	1.6%	0.50%	2.3%
2	406-15	LBD-406-15	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	185.4	TR406-15-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.2%	1.9%	0.50%	2.8%
2	406-16	LBD-406-16	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	216.3	TR406-16-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.3%	1.9%	0.50%	2.8%

DRAWING NOTES:
1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DRAWING TITLE
SCHEDULES & CALCULATIONS
PCS-404 THRU 406

DRAWING #
E3.524

PROJECT 179.5 MW SOLAR GROUND MOUNT SYSTEM AT
CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAAE HT72-18X-550
MODULE QUANTITY: 326,430
ORIENTATION: 25° TILT, 180° AZI

PAGE SIZE 36" x 24"
PROJECT # 06271

EPC
VANGUARD ENERGY PARTNERS, LLC
VANGUARD ENERGY PARTNERS
1 COMMERCE STREET
BRANCHBURG, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

ENGINEER
PUREPOWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWER.COM
ERIC J. LOOS
MD LICENSE No. 41148

DATE	REVISION DESCRIPTION	PM	ENG	CHK
03/26/2024	90% DESIGN DEVELOPMENT	RK	GP	EL
01/25/2024	60% DESIGN DEVELOPMENT	RK	GP	EL
01/10/2024	60% MV DESIGN	RK	GP	EL
10/18/2023	30% DESIGN – REV 2	RK	GP	EL

PLOT DATE: 3/26/2024 9:34 PM

RULER IN INCHES:

DC FEEDER SCHEDULE - PCS 407

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	407-01	LBD-407-01	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	185.4	TR407-01-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.2%	1.9%	0.50%	2.8%
1	407-02	LBD-407-02	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	159.65	TR407-02-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.2%	1.9%	0.50%	2.7%
1	407-03	LBD-407-03	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	133.9	TR407-03-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.2%	1.9%	0.50%	2.7%
1	407-04	LBD-407-04	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR407-04-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.7%
1	407-05	LBD-407-05	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR407-05-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.6%
1	407-06	LBD-407-06	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	46.35	TR407-06-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.6%
1	407-07	LBD-407-07	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR407-07-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.0%	1.9%	0.50%	2.5%
1	407-08	LBD-407-08	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR407-08-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.0%	0.0%	1.6%	0.50%	2.2%
2	407-09	LBD-407-09	13	224.77	315	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	15.45	TR407-09-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.0%	0.0%	1.4%	0.50%	2.0%
2	407-10	LBD-407-10	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR407-10-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.1%	1.8%	0.50%	2.5%
2	407-11	LBD-407-11	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR407-11-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.0%	1.8%	0.50%	2.5%
2	407-12	LBD-407-12	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR407-12-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	515	178.31	0.1%	0.1%	1.7%	0.50%	2.4%
2	407-13	LBD-407-13	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	72.1	TR407-13-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	515	178.31	0.1%	0.1%	1.7%	0.50%	2.5%
2	407-14	LBD-407-14	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	103	TR407-14-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.2%	1.2%	0.50%	2.0%
2	407-15	LBD-407-15	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	133.9	TR407-15-01	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.0%	0.1%	0.8%	0.50%	1.4%
														TR407-15-02	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.0%	0.1%	0.8%	0.50%	1.5%
2	407-16	LBD-407-16	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	185.4	TR407-16-01	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.0%	0.1%	0.8%	0.50%	1.4%
														TR407-16-02	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.0%	0.1%	0.8%	0.50%	1.5%
2	407-17	LBD-407-17	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	242.05	TR407-17-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.1%	0.7%	0.50%	1.3%
														TR407-17-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.1%	0.7%	0.50%	1.4%

DC FEEDER SCHEDULE - PCS 408

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	408-01	LBD-408-01	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	329.6	TR408-01-01	6	1090.7	17.29	103.74	150	1	AL #4/0	128.75	97.26	0.0%	0.2%	0.2%	0.50%	0.9%
														TR408-01-02	7	1090.7	17.29	121.03	175	1	AL #4/0	164.8	113.47	0.0%	0.2%	0.3%	0.50%	1.0%
														TR408-01-03	4	1090.7	17.29	69.16	90	1	AL #4/0	113.3	64.84	0.0%	0.2%	0.1%	0.50%	0.8%
1	408-02	LBD-408-02	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	242.05	TR408-02-01	5	1090.7	17.29	86.45	110	1	AL #4/0	267.8	81.05	0.0%	0.1%	0.4%	0.50%	1.0%
														TR408-02-02	5	1090.7	17.29	86.45	110	1	AL #4/0	247.2	81.05	0.0%	0.1%	0.4%	0.50%	1.0%
														TR408-02-03	5	1090.7	17.29	86.45	110	1	AL #4/0	216.3	81.05	0.0%	0.1%	0.3%	0.50%	1.0%
1	408-03	LBD-408-03	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	185.4	TR408-03-01	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.0%	0.1%	0.8%	0.50%	1.5%
														TR408-03-02	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.0%	0.1%	0.8%	0.50%	1.4%
1	408-04	LBD-408-04	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	128.75	TR408-04-01	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.0%	0.1%	0.8%	0.50%	1.5%
														TR408-04-02	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.0%	0.1%	0.8%	0.50%	1.4%
1	408-05	LBD-408-05	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR408-05-01	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.0%	0.0%	0.8%	0.50%	1.4%
														TR408-05-02	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.0%	0.0%	0.8%	0.50%	1.4%
1	408-06	LBD-408-06	16	276.64	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR408-06-01	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.0%	0.0%	0.8%	0.50%	1.4%
														TR408-06-02	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.0%	0.0%	0.8%	0.50%	1.3%
1	408-07	LBD-408-07	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR408-07-01	7	1090.7	17.29	121.03	175	1	AL #4/0	319.3	113.47	0.0%	0.0%	0.7%	0.50%	1.2%
														TR408-07-02	7	1090.7	17.29	121.03	175	1	AL #4/0	345.05	113.47	0.0%	0.0%	0.7%	0.50%	1.3%
2	408-08	LBD-408-08	9	155.61	200	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR408-08-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	417.15	145.89	0.1%	0.1%	1.1%	0.50%	1.7%
2	408-09	LBD-408-09	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR408-09-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.0%	1.2%	0.50%	1.9%
2	408-10	LBD-408-10	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	46.35	TR408-10-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.1%	1.2%	0.50%	1.9%
2	408-11	LBD-408-11	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR408-11-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.1%	1.4%	0.50%	2.1%
2	408-12	LBD-408-12	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR408-12-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.1%	1.4%	0.50%	2.1%
2	408-13	LBD-408-13	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	133.9	TR408-13-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.1%	1.4%	0.50%	2.2%
2	408-14	LBD-408-14	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	159.65	TR408-14-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.2%	1.4%	0.50%	2.2%
2	408-15	LBD-408-15	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	185.4	TR408-15-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.2%	1.4%	0.50%	2.2%
2	408-16	LBD-408-16	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	216.3	TR408-16-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.2%	1.4%	0.50%	2.3%
2	408-17	LBD-408-17	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	242.05	TR408-17-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.3%	1.8%	0.50%	2.7%

DC FEEDER SCHEDULE - PCS 409

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	409-01	LBD-409-01	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR409-01-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.5%
1	409-02	LBD-409-02	18	311.22	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR409-02-01	18	1090.7	17.29	311.22	N/A	1	AL 500MCM	824	291.78	0.1%	0.1%	1.9%	0.50%	2.6%
1	409-03	LBD-409-03	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	41.2	TR409-03-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.1%	1.2%	0.50%	1.9%
1	409-04	LBD-409-04	9	155.61	200	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	41.2	TR409-04-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	927	145.89	0.1%	0.1%	2.5%	0.50%	3.2%
1	409-05	LBD-409-05	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR409-05-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.0%	1.2%	0.50%	1.9%
1	409-06	LBD-409-06	9	155.61	200	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR409-06-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	927	145.89	0.1%	0.0%	2.5%	0.50%	3.1%
1	409-07	LBD-409-07	10	172.9	250	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR409-07-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.1%	1.2%	0.50%	1.9%
1	409-08	LBD-409-08	9	155.61	200	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR409-08-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	927	145.89	0.1%	0.1%	2.5%	0.50%	3.1%
1	409-09	LBD-409-09	10	172.9	250	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	15.45	TR409-09-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.0%	1.2%	0.50%	1.8%
1	409-10	LBD-409-10	9	155.61	200	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	15.45	TR409-10-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	927	145.89	0.1%	0.0%	2.5%	0.50%	3.1%
2	409-11	LBD-409-11	10	172.9	250	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR409-11-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.1%	1.2%	0.50%	1.9%
2	409-12	LBD-409-12	10	172.9	250	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR409-12-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	927	162.1	0.1%	0.1%	2.8%	0.50%	3.4%
2	409-13	LBD-409-13	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR409-13-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.0%	1.8%	0.50%	2.5%
2	409-14	LBD-409-14	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR409-14-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1030	162.1	0.1%	0.0%	1.9%	0.50%	2.5%
2	409-15	LBD-409-15	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	41.2	TR409-15-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.1%	1.8%	0.50%	2.6%
2	409-16	LBD-409-16	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	41.2	TR409-16-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1030	162.1	0.1%	0.1%	1.9%	0.50%	2.5%
2	409-17	LBD-409-17	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	72.1	TR409-17-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.2%	1.8%	0.50%	2.6%
2	409-18	LBD-409-18	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	72.1	TR409-18-01	11	1090.7	17.29	190.19	N/A	1	AL 350MCM	1122.7	178.31	0.1%	0.1%	2.2%	0.50%	3.0%
2	409-19	LBD-409-19	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	103	TR409-19-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.2%	1.8%	0.50%	2.7%
2	409-20	LBD-409-20	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	103	TR409-20-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1122.7	194.52	0.1%	0.2%	2.4%	0.50%	3.3%

DRAWING NOTES:
1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DATE	REVISION DESCRIPTION	PM	ENG	CHK
03/26/2024	90% DESIGN DEVELOPMENT	RK	GP	EL
01/25/2024	60% DESIGN DEVELOPMENT	RK	GP	EL
01/10/2024	60% MV DESIGN	RK	GP	EL
10/18/2023	30% DESIGN – REV 2	RK	GP	EL

ENGINEER
PUREPOWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWER.COM
ERIC J. LOOS
MD LICENSE No. 41148

EPC
VANGUARD ENERGY PARTNERS, LLC
VANGUARD ENERGY PARTNERS
1 COMMERCE STREET
BRANCHBURG, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

PAGE SIZE: 36" x 24"
PROJECT #: 06271

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAAE HT72-18X-550
MODULE QUANTITY: 326,430
ORIENTATION: 25° TILT, 180° AZI

PROJECT: 179.5 MW SOLAR GROUND MOUNT SYSTEM AT CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

DRAWING TITLE: SCHEDULES & CALCULATIONS PCS-407 THRU 409

DRAWING #: E3.525

PLOT DATE: 3/26/2024 9:34 PM

RULER IN INCHES:

DC FEEDER SCHEDULE - PCS 410

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	410-01	LBD-410-01	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	72.1	TR410-01-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	515	194.52	0.1%	0.2%	1.8%	0.50%	2.6%
1	410-02	LBD-410-02	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR410-02-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1225.7	210.73	0.1%	0.1%	2.0%	0.50%	2.7%
1	410-03	LBD-410-03	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR410-03-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
1	410-04	LBD-410-04	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	41.2	TR410-04-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1225.7	194.52	0.1%	0.1%	2.6%	0.50%	3.4%
1	410-05	LBD-410-05	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR410-05-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
1	410-06	LBD-410-06	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR410-06-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1225.7	194.52	0.1%	0.0%	2.6%	0.50%	3.3%
1	410-07	LBD-410-07	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR410-07-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.1%	1.8%	0.50%	2.5%
1	410-08	LBD-410-08	13	224.77	315	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR410-08-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1225.7	210.73	0.0%	0.0%	2.0%	0.50%	2.6%
1	410-09	LBD-410-09	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	15.45	TR410-09-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.0%	1.8%	0.50%	2.5%
2	410-10	LBD-410-10	13	224.77	315	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	15.45	TR410-10-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	1225.7	210.73	0.0%	0.0%	2.9%	0.50%	3.4%
2	410-11	LBD-410-11	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR410-11-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	515	226.94	0.0%	0.0%	1.3%	0.50%	1.9%
2	410-12	LBD-410-12	12	207.48	315	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR410-12-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1225.7	194.52	0.1%	0.1%	2.6%	0.50%	3.3%
2	410-13	LBD-410-13	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR410-13-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
2	410-14	LBD-410-14	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR410-14-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.0%	2.2%	0.50%	2.8%
2	410-15	LBD-410-15	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR410-15-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
2	410-16	LBD-410-16	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR410-16-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.0%	2.2%	0.50%	2.8%
2	410-17	LBD-410-17	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR410-17-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.1%	1.6%	0.50%	2.2%
2	410-18	LBD-410-18	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR410-18-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.1%	2.2%	0.50%	2.8%

DC FEEDER SCHEDULE - PCS 411

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	411-01	LBD-411-01	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR411-01-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.1%	1.6%	0.50%	2.2%
1	411-02	LBD-411-02	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR411-02-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.1%	2.2%	0.50%	2.8%
1	411-03	LBD-411-03	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR411-03-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
1	411-04	LBD-411-04	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR411-04-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.0%	2.2%	0.50%	2.8%
1	411-05	LBD-411-05	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR411-05-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
1	411-06	LBD-411-06	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR411-06-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.0%	2.2%	0.50%	2.8%
1	411-07	LBD-411-07	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR411-07-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.0%	0.0%	1.6%	0.50%	2.2%
1	411-08	LBD-411-08	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR411-08-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1225.7	194.52	0.1%	0.1%	2.6%	0.50%	3.3%
1	411-09	LBD-411-09	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	15.45	TR411-09-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.0%	0.0%	1.6%	0.50%	2.1%
2	411-10	LBD-411-10	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	15.45	TR411-10-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1225.7	194.52	0.1%	0.0%	2.6%	0.50%	3.3%
2	411-11	LBD-411-11	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR411-11-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.0%	0.0%	1.6%	0.50%	2.2%
2	411-12	LBD-411-12	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR411-12-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1225.7	194.52	0.1%	0.1%	2.6%	0.50%	3.3%
2	411-13	LBD-411-13	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR411-13-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
2	411-14	LBD-411-14	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR411-14-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.0%	2.2%	0.50%	2.8%
2	411-15	LBD-411-15	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR411-15-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
2	411-16	LBD-411-16	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR411-16-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.0%	2.2%	0.50%	2.8%
2	411-17	LBD-411-17	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR411-17-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.1%	1.6%	0.50%	2.2%
2	411-18	LBD-411-18	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR411-18-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.1%	2.2%	0.50%	2.8%

DC FEEDER SCHEDULE - PCS 412

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	412-01	LBD-412-01	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR412-01-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.1%	1.6%	0.50%	2.2%
1	412-02	LBD-412-02	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR412-02-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.1%	2.2%	0.50%	2.8%
1	412-03	LBD-412-03	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR412-03-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
1	412-04	LBD-412-04	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR412-04-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.0%	2.2%	0.50%	2.8%
1	412-05	LBD-412-05	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR412-05-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
1	412-06	LBD-412-06	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR412-06-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.0%	2.2%	0.50%	2.8%
1	412-07	LBD-412-07	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR412-07-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.0%	0.0%	1.6%	0.50%	2.2%
1	412-08	LBD-412-08	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR412-08-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1225.7	194.52	0.1%	0.1%	2.6%	0.50%	3.3%
1	412-09	LBD-412-09	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	15.45	TR412-09-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.0%	0.0%	1.6%	0.50%	2.1%
2	412-10	LBD-412-10	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	15.45	TR412-10-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1225.7	194.52	0.1%	0.0%	2.6%	0.50%	3.3%
2	412-11	LBD-412-11	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR412-11-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.0%	0.0%	1.6%	0.50%	2.2%
2	412-12	LBD-412-12	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR412-12-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1225.7	194.52	0.1%	0.1%	2.6%	0.50%	3.3%
2	412-13	LBD-412-13	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR412-13-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
2	412-14	LBD-412-14	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR412-14-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.0%	2.2%	0.50%	2.8%
2	412-15	LBD-412-15	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR412-15-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
2	412-16	LBD-412-16	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR412-16-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.0%	2.2%	0.50%	2.8%
2	412-17	LBD-412-17	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR412-17-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.1%	1.6%	0.50%	2.2%
2	412-18	LBD-412-18	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR412-18-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1328.7	210.73	0.1%	0.1%	2.2%	0.50%	2.8%

DRAWING NOTES:
1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DRAWING TITLE
SCHEDULES & CALCULATIONS PCS-410 THRU 412

DRAWING #
E3.526

DATE	REVISION DESCRIPTION	PM	ENG
03/28/2024	30% DESIGN DEVELOPMENT	RK	GP
01/25/2024	60% DESIGN DEVELOPMENT	RK	GP
01/10/2024	60% MV DESIGN	RK	GP
10/18/2023	30% DESIGN – REV 2	RK	GP

PURE POWER ENGINEERING LLC
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWERENG.COM
MD LICENSE No. 41148

ENGINEER

VANGUARD ENERGY PARTNERS
1 COMMERCE STREET
BRANCHBURG, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

EPC

YANGUARD

PROJECT # 062711

PAGE SIZE 36" x 24"

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAAE (HT72-18X-550
MODULE QUANTITY: 326,484
ORIENTATION: 25° TILT, 180° AZI

PROJECT: 179.5 MW SOLAR GROUND MOUNT SYSTEM AT CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

PLOT DATE: 3/28/2024 9:34 PM

RULER IN INCHES: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

DC FEEDER SCHEDULE - PCS 413

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS				
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	413-01	LBD-413-01	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR413-01-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.1%	1.6%	0.50%	2.2%
1	413-02	LBD-413-02	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	72.1	TR413-02-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1225.7	194.52	0.1%	0.2%	2.6%	0.50%	3.4%
1	413-03	LBD-413-03	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR413-03-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
1	413-04	LBD-413-04	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	41.2	TR413-04-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1225.7	194.52	0.1%	0.1%	2.6%	0.50%	3.4%
1	413-05	LBD-413-05	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR413-05-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.0%	1.6%	0.50%	2.2%
1	413-06	LBD-413-06	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR413-06-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1225.7	194.52	0.1%	0.0%	2.6%	0.50%	3.3%
1	413-07	LBD-413-07	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR413-07-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.1%	1.8%	0.50%	2.5%
1	413-08	LBD-413-08	13	224.77	315	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR413-08-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1225.7	210.73	0.0%	0.0%	2.0%	0.50%	2.6%
1	413-09	LBD-413-09	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	15.45	TR413-09-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.0%	1.8%	0.50%	2.5%
2	413-10	LBD-413-10	13	224.77	315	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	15.45	TR413-10-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	1225.7	210.73	0.0%	0.0%	2.9%	0.50%	3.4%
2	413-11	LBD-413-11	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR413-11-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.1%	1.8%	0.50%	2.5%
2	413-12	LBD-413-12	12	207.48	315	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR413-12-01	12	1090.7	17.29	207.48	N/A	1	AL 350MCM	1122.7	194.52	0.1%	0.1%	2.4%	0.50%	3.1%
2	413-13	LBD-413-13	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR413-13-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.0%	1.8%	0.50%	2.5%
2	413-14	LBD-413-14	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR413-14-01	13	1090.7	17.29	224.77	N/A	1	AL 500MCM	1225.7	210.73	0.1%	0.0%	2.0%	0.50%	2.6%
2	413-15	LBD-413-15	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	41.2	TR413-15-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.1%	1.8%	0.50%	2.6%
2	413-16	LBD-413-16	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	41.2	TR413-16-01	11	1090.7	17.29	190.19	N/A	1	AL 350MCM	1122.7	178.31	0.1%	0.1%	2.2%	0.50%	2.9%
2	413-17	LBD-413-17	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	72.1	TR413-17-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.2%	1.8%	0.50%	2.6%
2	413-18	LBD-413-18	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	72.1	TR413-18-01	11	1090.7	17.29	190.19	N/A	1	AL 350MCM	1122.7	178.31	0.1%	0.1%	2.2%	0.50%	3.0%

DC FEEDER SCHEDULE - PCS 414

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS				
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	414-01	LBD-414-01	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	72.1	TR414-01-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.2%	1.8%	0.50%	2.6%
1	414-02	LBD-414-02	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	72.1	TR414-02-01	11	1090.7	17.29	190.19	N/A	1	AL 350MCM	1122.7	178.31	0.1%	0.1%	2.2%	0.50%	3.0%
1	414-03	LBD-414-03	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	41.2	TR414-03-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.1%	1.8%	0.50%	2.6%
1	414-04	LBD-414-04	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	41.2	TR414-04-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1030	162.1	0.1%	0.1%	1.9%	0.50%	2.5%
1	414-05	LBD-414-05	12	207.48	315	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR414-05-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.0%	1.8%	0.50%	2.5%
1	414-06	LBD-414-06	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR414-06-01	10	1090.7	17.29	172.9	N/A	1	AL 350MCM	1030	162.1	0.1%	0.0%	1.9%	0.50%	2.5%
1	414-07	LBD-414-07	10	172.9	250	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR414-07-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.1%	1.2%	0.50%	1.9%
1	414-08	LBD-414-08	10	172.9	250	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR414-08-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	927	162.1	0.1%	0.1%	2.8%	0.50%	3.4%
1	414-09	LBD-414-09	10	172.9	250	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	15.45	TR414-09-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.0%	1.2%	0.50%	1.8%
1	414-10	LBD-414-10	10	172.9	250	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	15.45	TR414-10-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	927	162.1	0.1%	0.0%	2.8%	0.50%	3.4%
1	414-11	LBD-414-11	10	172.9	250	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR414-11-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.1%	1.2%	0.50%	1.9%
2	414-12	LBD-414-12	10	172.9	250	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR414-12-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	927	162.1	0.1%	0.1%	2.8%	0.50%	3.4%
2	414-13	LBD-414-13	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR414-13-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.0%	1.2%	0.50%	1.9%
2	414-14	LBD-414-14	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR414-14-01	11	1090.7	17.29	190.19	N/A	1	AL 350MCM	1030	178.31	0.1%	0.0%	2.0%	0.50%	2.7%
2	414-15	LBD-414-15	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	41.2	TR414-15-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.1%	1.2%	0.50%	1.9%
2	414-16	LBD-414-16	11	190.19	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	41.2	TR414-16-01	11	1090.7	17.29	190.19	N/A	1	AL 350MCM	1030	178.31	0.1%	0.1%	2.0%	0.50%	2.7%
2	414-17	LBD-414-17	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	72.1	TR414-17-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.1%	1.2%	0.50%	2.0%
2	414-18	LBD-414-18	9	155.61	200	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	72.1	TR414-18-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	927	145.89	0.1%	0.1%	2.5%	0.50%	3.2%
2	414-19	LBD-414-19	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	103	TR414-19-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.2%	1.2%	0.50%	2.0%
2	414-20	LBD-414-20	9	155.61	200	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	103	TR414-20-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	927	145.89	0.1%	0.2%	2.5%	0.50%	3.3%
2	414-21	LBD-414-21	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	133.9	TR414-21-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.2%	1.2%	0.50%	2.1%
2	414-22	LBD-414-22	9	155.61	200	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	133.9	TR414-22-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	927	145.89	0.1%	0.2%	2.5%	0.50%	3.3%
2	414-23	LBD-414-23	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	159.65	TR414-23-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.3%	1.2%	0.50%	2.1%
2	414-24	LBD-414-24	9	155.61	200	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	159.65	TR414-24-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	927	145.89	0.1%	0.3%	2.5%	0.50%	3.3%

DC FEEDER SCHEDULE - PCS 415

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS				
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	415-01	LBD-415-01	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	103	TR415-01-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.2%	1.2%	0.50%	2.0%
1	415-02	LBD-415-02	9	155.61	200	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	103	TR415-02-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	927	145.89	0.1%	0.2%	2.5%	0.50%	3.3%
1	415-03	LBD-415-03	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	72.1	TR415-03-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.1%	1.2%	0.50%	2.0%
1	415-04	LBD-415-04	9	155.61	200	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	72.1	TR415-04-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	927	145.89	0.1%	0.1%	2.5%	0.50%	3.2%
1	415-05	LBD-415-05	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	41.2	TR415-05-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.1%	1.2%	0.50%	1.9%
1	415-06	LBD-415-06	9	155.61	200	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	41.2	TR415-06-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	927	145.89	0.1%	0.1%	2.5%	0.50%	3.2%
1	415-07	LBD-415-07	10	172.9	250	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR415-07-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.1%	0.0%	1.2%	0.50%	1.9%
1	415-08	LBD-415-08	9	155.61	200	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR415-08-01	9	1090.7	17.29	155.61	N/A	1	AL #4/0	927	145.89	0.1%	0.0%	2.5%	0.50%	3.1%
1	415-09	LBD-415-09	17	293.93	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR415-09-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.4%
1	415-10	LBD-415-10	16	276.64	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	15.45	TR415-10-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.0%	2.1%	0.50%	2.6%
2	415-11	LBD-415-11	16	276.64	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR415-11-01	16	1090.7	17.29	276.64	N/A	1	AL 350MCM	721	259.36	0.1%	0.1%	2.1%	0.50%	2.7%
2	415-12	LBD-415-12	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR415-12-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.0%	1.8%	0.50%	2.4%
2	415-13	LBD-415-13	17	293.93	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR415-13-01	17	1090.7	17.29	293.93	N/A	1	AL 500MCM	824	275.57	0.1%	0.1%	1.8%	0.50%	2.4%
2	415-14	LBD-415-14	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR415-14-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.6%
2	415-15	LBD-415-15	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR415-15-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.7%
2	415-16	LBD-415-16	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	128.75	TR415-16-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.2%	1.9%	0.50%	2.7%
2	415-17	LBD-415-17	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	159.65	TR415-17-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.2%	1.9%	0.50%	2.7%
2	415-18	LBD-415-18	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	185.4	TR415-18-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.2%	1.9%	0.50%	2.8%

DRAWING NOTES:
1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DRAWING TITLE
SCHEDULES & CALCULATIONS
PCS-413 THRU 415

DRAWING #
E3.527

DATE	REVISION DESCRIPTION	PM	ENG
03/28/2024	90% DESIGN DEVELOPMENT	RK	GP
01/25/2024	60% DESIGN DEVELOPMENT	RK	GP
01/10/2024	60% NV DESIGN	RK	GP
10/18/2023	30% DESIGN - REV 2	RK	GP

PURE POWER SOLUTIONS
111 RIVER STREET, HOBOKEN, NJ
WWW.PURE-POWER.COM
MD LICENSE No. 41148

ENGINEER
VANGUARD ENERGY DEVELOPMENT
1 COMMERCE STREET
BRANCHBURG, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

EPC
YANGUARD

PROJECT
179.5 MW SOLAR GROUND MOUNT SYSTEM AT
CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAAE HJT72-18X-550
RACKING TYPE: NEXTRACKER NX HORIZON
ORIENTATION: 25° TILT, 180° AZI

PAGE SIZE
36" x 24"

PROJECT #
062771

PLOT DATE: 3/28/2024 9:34 PM

RULER IN INCHES: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

DC FEEDER SCHEDULE - PCS 416

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	416-01	LBD-416-01	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	159.65	TR416-01-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.2%	1.9%	0.50%	2.7%
1	416-02	LBD-416-02	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	128.75	TR416-02-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.7%
1	416-03	LBD-416-03	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR416-03-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.7%
1	416-04	LBD-416-04	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR416-04-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.6%
1	416-05	LBD-416-05	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR416-05-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.6%
1	416-06	LBD-416-06	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR416-06-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.0%	1.9%	0.50%	2.5%
1	416-07	LBD-416-07	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR416-07-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.0%	0.0%	1.6%	0.50%	2.2%
1	416-08	LBD-416-08	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	15.45	TR416-08-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.0%	0.0%	1.6%	0.50%	2.1%
2	416-09	LBD-416-09	14	242.06	400	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	41.2	TR416-09-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.0%	0.0%	1.6%	0.50%	2.2%
2	416-10	LBD-416-10	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	15.45	TR416-10-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.0%	1.9%	0.50%	2.5%
2	416-11	LBD-416-11	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	41.2	TR416-11-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.6%
2	416-12	LBD-416-12	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	72.1	TR416-12-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.6%
2	416-13	LBD-416-13	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	103	TR416-13-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.1%	1.9%	0.50%	2.7%
2	416-14	LBD-416-14	15	259.35	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	128.75	TR416-14-01	15	1090.7	17.29	259.35	N/A	1	AL 350MCM	721	243.15	0.1%	0.2%	1.9%	0.50%	2.7%
2	416-15	LBD-416-15	14	242.06	400	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	159.65	TR416-15-01	14	1090.7	17.29	242.06	N/A	1	AL 350MCM	618	226.94	0.1%	0.2%	1.6%	0.50%	2.3%
2	416-16	LBD-416-16	13	224.77	315	1	AL 750MCM	CU #2	65	1	AL 750MCM	CU #2	185.4	TR416-16-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	618	210.73	0.1%	0.2%	1.4%	0.50%	2.2%

DC FEEDER SCHEDULE - PCS 417

OVERALL OUTPUT CIRCUIT PARAMETERS						FEEDER UNDERGROUND				FEEDER ON MESSENGER WIRE				OVERALL TRUNK CIRCUIT PARAMETERS						TRUNK ON RACKING			VOLTAGE DROP CALCS					
INVERTER INPUT	FEEDER ID	LBD NUMBER	QTY OF STRINGS	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	LENGTH [FT]	TRUNK NUMBER	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT, SIMULATED [A]	FEEDER MAXIMUM CURRENT [A]	OCPD SIZE [A]	CONDUCTORS PER POLE	CONDUCTOR SIZE	LENGTH [FT]	FEEDER OPERATING CURRENT (STRING Imp) [A]	SEGMENT VOLTAGE DROP - FEEDER UNDERGROUND	SEGMENT VOLTAGE DROP - FEEDER MESSENGER	SEGMENT VOLTAGE DROP - TRUNK	SEGMENT VOLTAGE DROP (STRING TO TRUNK)	TOTAL VOLTAGE DROP
1	417-01	LBD-417-01	12	207.48	N/A	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	185.4	TR417-01-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.4%	1.8%	0.50%	2.9%
1	417-02	LBD-417-02	12	207.48	N/A	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	159.65	TR417-02-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.3%	1.8%	0.50%	2.8%
1	417-03	LBD-417-03	12	207.48	N/A	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	128.75	TR417-03-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.3%	1.8%	0.50%	2.8%
1	417-04	LBD-417-04	12	207.48	N/A	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	103	TR417-04-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.2%	1.8%	0.50%	2.7%
1	417-05	LBD-417-05	12	207.48	N/A	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	72.1	TR417-05-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.2%	1.8%	0.50%	2.6%
1	417-06	LBD-417-06	12	207.48	N/A	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	41.2	TR417-06-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.1%	1.8%	0.50%	2.6%
1	417-07	LBD-417-07	12	207.48	N/A	1	AL 350MCM	CU #2	65	1	AL 350MCM	CU #2	15.45	TR417-07-01	12	1090.7	17.29	207.48	N/A	1	AL #4/0	515	194.52	0.1%	0.0%	1.8%	0.50%	2.5%
1	417-08	LBD-417-08	11	190.19	N/A	1	AL 350MCM	CU #2	40	1	AL 350MCM	CU #2	41.2	TR417-08-01	11	1090.7	17.29	190.19	N/A	1	AL #4/0	515	178.31	0.1%	0.1%	1.7%	0.50%	2.3%
1	417-09	LBD-417-09	13	224.77	N/A	1	AL 750MCM	CU #2	40	1	AL 750MCM	CU #2	15.45	TR417-09-01	13	1090.7	17.29	224.77	N/A	1	AL 350MCM	515	210.73	0.0%	0.0%	1.2%	0.50%	1.8%
1	417-10	LBD-417-10	16	276.64	400	1	AL 750MCM	CU #2	165	1	AL 750MCM	CU #2	133.9	TR417-10-01	4	1090.7	17.29	69.16	90	1	AL #4/0	370.8	64.84	0.1%	0.0%	0.4%	0.50%	1.0%
														TR417-10-02	4	1090.7	17.29	69.16	90	1	AL #4/0	345.05	64.84	0.1%	0.0%	0.4%	0.50%	1.0%
														TR417-10-03	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.1%	0.0%	0.8%	0.50%	1.4%
2	417-11	LBD-417-11	10	172.9	N/A	1	AL 350MCM	CU #2	165	1	AL 350MCM	CU #2	15.45	TR417-11-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.3%	0.0%	1.2%	0.50%	2.1%
2	417-12	LBD-417-12	10	172.9	N/A	1	AL 350MCM	CU #2	165	1	AL 350MCM	CU #2	41.2	TR417-12-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.3%	0.1%	1.2%	0.50%	2.1%
2	417-13	LBD-417-13	10	172.9	N/A	1	AL 350MCM	CU #2	165	1	AL 350MCM	CU #2	72.1	TR417-13-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.3%	0.1%	1.2%	0.50%	2.2%
2	417-14	LBD-417-14	10	172.9	N/A	1	AL 350MCM	CU #2	165	1	AL 350MCM	CU #2	103	TR417-14-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.3%	0.2%	1.2%	0.50%	2.2%
2	417-15	LBD-417-15	10	172.9	N/A	1	AL 350MCM	CU #2	165	1	AL 350MCM	CU #2	128.75	TR417-15-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.3%	0.2%	1.2%	0.50%	2.3%
2	417-16	LBD-417-16	10	172.9	N/A	1	AL 350MCM	CU #2	165	1	AL 350MCM	CU #2	159.65	TR417-16-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.3%	0.3%	1.2%	0.50%	2.3%
2	417-17	LBD-417-17	10	172.9	N/A	1	AL 350MCM	CU #2	165	1	AL 350MCM	CU #2	185.4	TR417-17-01	10	1090.7	17.29	172.9	N/A	1	AL #4/0	417.15	162.1	0.3%	0.3%	1.2%	0.50%	2.4%
2	417-18	LBD-417-18	16	276.64	400	1	AL 750MCM	CU #2	165	1	AL 750MCM	CU #2	216.3	TR417-18-01	8	1090.7	17.29	138.32	175	1	AL #4/0	319.3	129.68	0.1%	0.1%	0.8%	0.50%	1.5%
														TR417-18-02	8	1090.7	17.29	138.32	175	1	AL #4/0	345.05	129.68	0.1%	0.1%	0.8%	0.50%	1.6%
2	417-19	LBD-417-19	12	207.48	315	1	AL 350MCM	CU #2	165	1	AL 350MCM	CU #2	365.65	TR417-19-01	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.2%	0.4%	0.4%	0.50%	1.5%
														TR417-19-02	6	1090.7	17.29	103.74	150	1	AL #4/0	242.05	97.26	0.2%	0.4%	0.4%	0.50%	1.5%
2	417-20	LBD-417-20	12	207.48	315	1	AL 350MCM	CU #2	165	1	AL 350MCM	CU #2	422.3	TR417-20-01	6	1090.7	17.29	103.74	150	1	AL #4/0	216.3	97.26	0.2%	0.5%	0.4%	0.50%	1.5%
														TR417-20-02	6	1090.7	17.29	103.74	150	1	AL #4/0	242.05	97.26	0.2%	0.5%	0.4%	0.50%	1.6%

DRAWING NOTES:
1. DISTANCES ARE ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DRAWING TITLE
SCHEDULES & CALCULATIONS
PCS-416 THRU 417

DRAWING #
E3.528

	DATE	REVISION DESCRIPTION	PM	ENG
4	03/28/2024	30% DESIGN DEVELOPMENT	RK	GP
3	01/25/2024	60% DESIGN DEVELOPMENT	RK	GP
2	01/10/2024	60% NV DESIGN	RK	GP
1	10/18/2023	30% DESIGN - REV 2	RK	GP

PURE POWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWERENG.COM
MD LICENSE No. 41148

ENGINEER

VANGUARD ENERGY PARTNERS
1 COMMERCE STREET
BROADHEBURG, NJ 08876
WWW.VANGUARDENERGYPARTNERS.COM

EPC
VANGUARD ENERGY PARTNERS, LLC

PAGE SIZE
36" x 24"

PROJECT #
042771

DC SYSTEM SIZE: 179,536.50 kW
AC SYSTEM SIZE: 176,400.00 kW
MODULE TYPE: HT-SAAE HT72-18X-550
MODULE QUANTITY: 326,470
ORIENTATION: 25° TILT, 180° AZI

PROJECT 179.5 MW SOLAR GROUND MOUNT SYSTEM AT
CPV BACKBONE
1429 SHARPLESS MINE ROAD
GARRETT COUNTY, MARYLAND 21561

PLOT DATE: 3/28/2024 9:34 PM

RULER IN INCHES: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18