

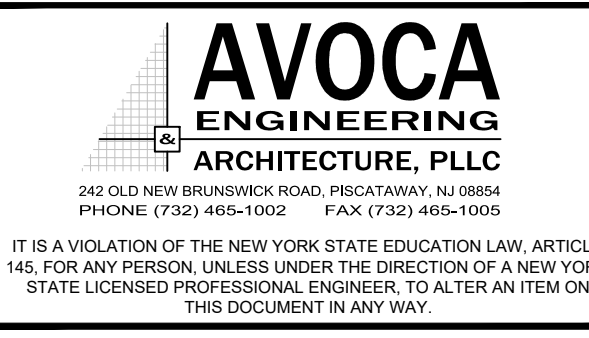
PROJECT SPECIFICATIONS DESIGN SUMMARY	
AC SYSTEM SIZE AT POI (MW)	125.000
AC INVERTER NAMEPLATE (MW)	136.800
POWER FACTOR	0.95 LEADING TO 0.95 LAGGING
DC SYSTEM SIZE (MW)	153.057
DC/AC RATIO AT POI	1.224
MV TRANSFORMER & INVERTER	(16) SUNGROW SG3150U-MV (24) SUNGROW SG3600UD-MV
RACKING SYSTEM	NEXTRACKER SINGLE-AXIS TRACKER (SAT) TERRASMART FIXED TILT (FT) RACKING
STRING SIZE AND VOLTAGE	SAT: 27 MODS PER STRING, 1500 VDC FT: 26 MODS PER STRING, 1500 VDC
PV MODULE	BYD MLTK-36 540
PV MODULE RATING	540 W
QUANTITY OF PV MODULES BY RACKING SYSTEM AND FOUNDATION TYPES	BALLASTED FT: 35,698 DRIVEN FT: 4,524 DRIVEN SAT: 243,216 TOTAL: 283,438
TOTAL STRING COUNT	10,555
RACK CONFIGURATION	SAT, 1 IN PORTRAIT FIXED TILT, 2 IN PORTRAIT
TILT (°)	± 60° (SAT) 20° (FIXED TILT)
AZIMUTH (°)	180°
GCR (%)	41.52% (SAT) 44.70% (FIXED TILT)
PITCH	18.00 FT (SAT) 31.62 FT (FIXED TILT)
CLEAR ROW SPACING	10.53 FT (SAT) 17.49 FT (FIXED TILT)
LATITUDE (°)	43.3525680
LONGITUDE (°)	-78.6014000
UTILITY	NYSEG
CODE CYCLE	NEC 2017

NOTES:

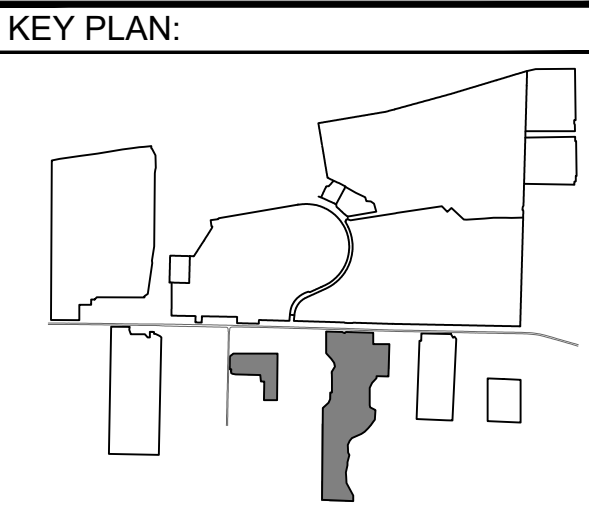
- NOTE THAT THE CIVIL DESIGNS AS SHOWN ON THE PV-E PLANS ARE FOR REFERENCE ONLY. ALL FINAL CIVIL DESIGNS, CONFIGURATIONS, AND SPECIFICATIONS ARE TO BE FOUND IN THE CIVIL PLANS.
- THERE ARE NO PROPOSED SPLICE VAULTS (19 NYCRR §900-2.6(f)(1)(i)(c)) ON THIS PROJECT. ALL MV SPLICES ARE TO BE ABOVE GRADE IN SECTIONALIZER OR SIMILAR JUNCTION CABINETS. SEE DETAIL 1 ON PV-E.06.01.

INVERTER INFORMATION									
INVERTER NUMBER	INVERTER TYPE	INVERTER DETAIL SHEET	FOUNDATION TYPE	FOUNDATION DETAIL SHEET	DC/AC RATIO	DC [kW]	MODULE QUANTITY PER RACK TYPE		
							BALLASTED FT	DRIVEN FT	DRIVEN SAT
A3-INV1	SG3150U-MV	PV-E.05.01	POSTS/PIERS	PV-E.05.02	1.055	3,324.24	0	0	6,156
A4-INV1	SG3150U-MV	PV-E.05.01	POSTS/PIERS	PV-E.05.02	1.176	3,703.32	0	0	6,858
A4-INV2	SG3150U-MV	PV-E.05.01	POSTS/PIERS	PV-E.05.02	1.176	3,703.32	0	0	6,858
A4-INV3	SG3150U-MV	PV-E.05.01	POSTS/PIERS	PV-E.05.02	1.176	3,703.32	0	0	6,858
A4-INV4	SG3150U-MV	PV-E.05.01	POSTS/PIERS	PV-E.05.02	1.176	3,703.32	0	0	6,858

LEGEND			
—	PROPERTY LINE	~~~~~	EXISTING TREE LINE
- - - - -	BUILDING SETBACK (94-C)	~~~~~	EXISTING BRUSH LINE
- - - - -	EXISTING RIGHT OF WAY	- - - - -	EXISTING EASEMENTS
- - - - -	EXISTING GRAVEL DRIVE	~~~~~	PROPOSED TREE LINE
- - - - -	EXISTING FENCE LINE	~~~~~	PROPOSED BRUSH LINE
▨	DELINEATED WETLANDS (NO JURISDICTION)	○—○	PROPOSED CHAIN LINK FENCE
▨	DELINEATED WETLANDS (USACE)	- + - + -	PROPOSED AGRICULTURAL FENCE
▨	DELINEATED WETLANDS (STATE)	—	PROPOSED ACCESS ROAD
- - - - -	DELINEATED DRAINAGE FEATURE	▨	PROPOSED GRASSED FILTER STRIP
- - - - -	100 FT DELINEATED WETLAND BUFFER	▨	PROPOSED VEGETATIVE SCREENING
- - - - -	50 FT STREAM BUFFER FROM TOP OF BANK	▨	TEMPORARY LAYDOWN/ PARKING AREA
- - - - -	EXISTING DRAINAGE DITCH		
- - - - -	EXISTING WATER EDGE		
- - - - -	APPROXIMATE TOP OF STREAM BANK		
- - - - -	EXISTING RAILROAD		



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REVISIONS:		
NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

ENLARGED ELECTRICAL PLAN
- AREAS 3 AND 4

ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

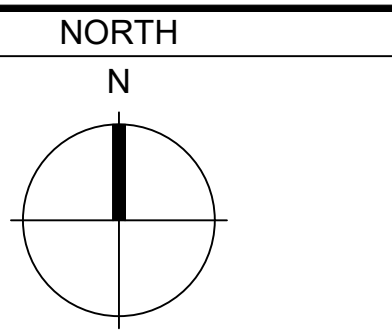
PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

SHEET NO:	PV-E.01.04	REV:	1
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PLOTTED: 08/05/2022 10:58 AM FILE: PV-E.01.04 GENERAL SITE COVERED.DWG

1 ENLARGED ELECTRICAL PLAN - AREAS 3 AND 4
SCALE: 1" = 200'



NOTES:
 1. NOTE THAT THE CIVIL DESIGNS AS SHOWN ON THE PV-E PLANS ARE FOR REFERENCE ONLY. ALL FINAL CIVIL DESIGNS, CONFIGURATIONS, AND SPECIFICATIONS ARE TO BE FOUND IN THE CIVIL PLANS.
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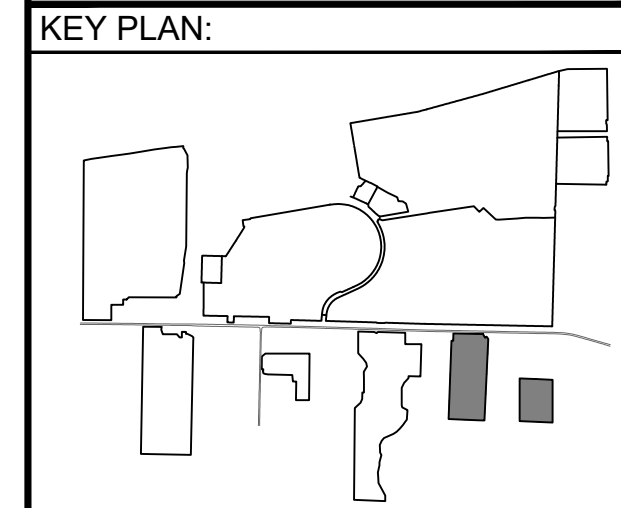
PROJECT SPECIFICATIONS DESIGN SUMMARY	
AC SYSTEM SIZE AT POI (MW)	125.000
AC INVERTER NAMEPLATE (MW)	136.800
POWER FACTOR	0.95 LEADING TO 0.95 LAGGING
DC SYSTEM SIZE (MW)	153.057
DC/AC RATIO AT POI	1.224
MV TRANSFORMER & INVERTER	(16) SUNGROW SG3150U-MV (24) SUNGROW SG3600UD-MV
RACKING SYSTEM	NEXTRACKER SINGLE-AXIS TRACKER (SAT) TERRASMART FIXED TILT (FT) RACKING
STRING SIZE AND VOLTAGE	SAT: 27 MODS PER STRING, 1500 VDC FT: 26 MODS PER STRING, 1500 VDC
PV MODULE	BYD MLTK-36 540
PV MODULE RATING	540 W
QUANTITY OF PV MODULES BY RACKING SYSTEM AND FOUNDATION TYPES	BALLASTED FT: 35,698 DRIVEN FT: 4,524 DRIVEN SAT: 243,216 TOTAL: 283,438
TOTAL STRING COUNT	10,555
RACK CONFIGURATION	SAT, 1 IN PORTRAIT FIXED TILT, 2 IN PORTRAIT
TILT (°)	± 60° (SAT) 20° (FIXED TILT)
AZIMUTH (°)	180°
GCR (%)	41.52% (SAT) 44.70% (FIXED TILT)
PITCH	18.00 FT (SAT) 31.62 FT (FIXED TILT)
CLEAR ROW SPACING	10.53 FT (SAT) 17.49 FT (FIXED TILT)
LATITUDE (°)	43.3525680
LONGITUDE (°)	-78.6014000
UTILITY	NYSEG
CODE CYCLE	NEC 2017

aes
 AES CLEAN ENERGY DEVELOPMENT, LLC
 292 MADISON AVENUE, 15TH FLOOR
 NEW YORK, NY 10017

TETRA TECH

AVOCA
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REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:
SOMERSET SOLAR PROJECT

PROJECT LOCATION:
 LAKE ROAD
 SOMERSET, NY

SHEET TITLE & DESCRIPTION:
 ENLARGED ELECTRICAL PLAN - AREAS 5 AND 6

ISSUED FOR 94-C PERMIT ONLY
 NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

SHEET NO:	PV-E.01.05	REV:	1
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INVERTER INFORMATION									
INVERTER NUMBER	INVERTER TYPE	INVERTER DETAIL SHEET	FOUNDATION TYPE	FOUNDATION DETAIL SHEET	DC/AC RATIO	DC [kW]	MODULE QUANTITY PER RACK TYPE		
							BALLASTED FT	DRIVEN FT	DRIVEN SAT
A5-INV1	SG3600UD-MV	PV-E.05.04	POSTS/PIERS	PV-E.05.05	1.073	3,863.70	0	0	7,155
A5-INV2	SG3600UD-MV	PV-E.05.04	POSTS/PIERS	PV-E.05.05	1.077	3,878.28	0	0	7,182
A6-INV1	SG3600UD-MV	PV-E.05.04	POSTS/PIERS	PV-E.05.05	1.122	4,038.66	0	0	7,479

LEGEND

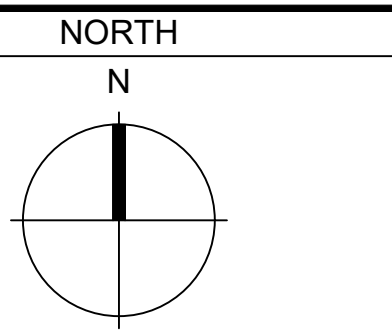
—	PROPERTY LINE	~~~~~	EXISTING TREE LINE
- - -	BUILDING SETBACK (94-C)	~~~~~	EXISTING BRUSH LINE
- - -	EXISTING RIGHT OF WAY	- - -	EXISTING EASEMENTS
- - -	EXISTING GRAVEL DRIVE	~~~~~	PROPOSED TREE LINE
- - -	EXISTING FENCE LINE	~~~~~	PROPOSED BRUSH LINE
▨	DELINEATED WETLANDS (NO JURISDICTION)	○—○	PROPOSED CHAIN LINK FENCE
▨	DELINEATED WETLANDS (USACE)	- + - + -	PROPOSED AGRICULTURAL FENCE
▨	DELINEATED WETLANDS (STATE)	—	PROPOSED ACCESS ROAD
- - -	DELINEATED DRAINAGE FEATURE	▨	PROPOSED GRASSED FILTER STRIP
- - -	100 FT DELINEATED WETLAND BUFFER	▨	PROPOSED VEGETATIVE SCREENING
- - -	50 FT STREAM BUFFER FROM TOP OF BANK	▨	TEMPORARY LAYDOWN/ PARKING AREA
- - -	EXISTING DRAINAGE DITCH		
- - -	EXISTING WATER EDGE		
- - -	APPROXIMATE TOP OF STREAM BANK		
- - -	EXISTING RAILROAD		

PLOTTED: 08/05/2023 10:58 AM FILE: PV-E.01.05 GENERAL SITE COVERED.DWG

1 ENLARGED ELECTRICAL PLAN - AREAS 5 AND 6

0 200' 400'

SCALE: 1" = 200'



NOTES:
 1. NOTE THAT THE CIVIL DESIGNS AS SHOWN ON THE PV-E PLANS ARE FOR REFERENCE ONLY. ALL FINAL CIVIL DESIGNS, CONFIGURATIONS, AND SPECIFICATIONS ARE TO BE FOUND IN THE CIVIL PLANS.
 2. THERE ARE NO PROPOSED SPLICE VAULTS (19 NYCRR §900-2.6(f)(1)(i)(c)) ON THIS PROJECT. ALL MV SPLICES ARE TO BE ABOVE GRADE IN SECTIONALIZER OR SIMILAR JUNCTION CABINETS. SEE DETAIL 1 ON PV-E.06.01.

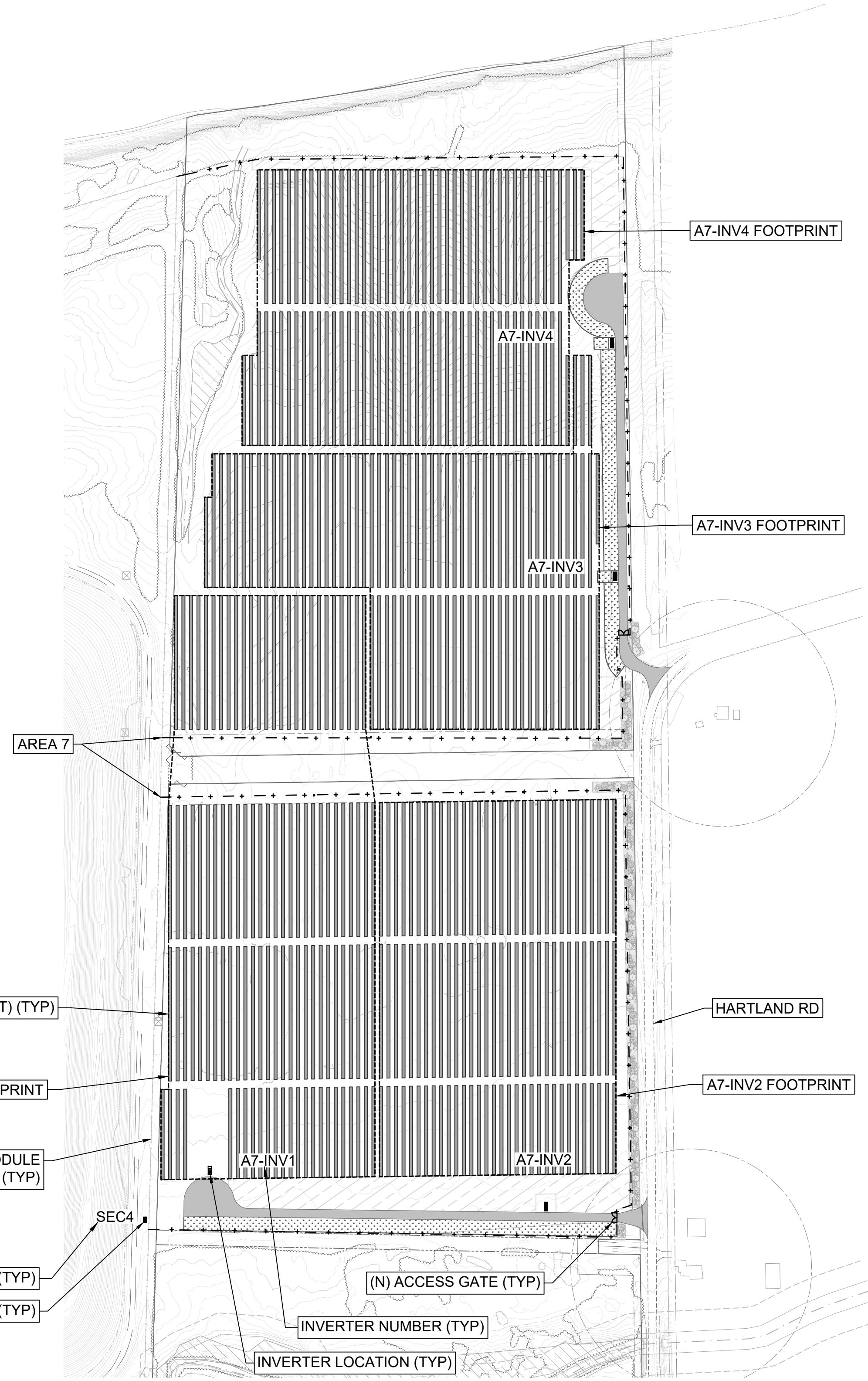
PROJECT SPECIFICATIONS DESIGN SUMMARY	
AC SYSTEM SIZE AT POI (MW)	125.000
AC INVERTER NAMEPLATE (MW)	136.800
POWER FACTOR	0.95 LEADING TO 0.95 LAGGING
DC SYSTEM SIZE (MW)	153.057
DC/AC RATIO AT POI	1.224
MV TRANSFORMER & INVERTER	(16) SUNGROW SG3150U-MV (24) SUNGROW SG3600UD-MV
RACKING SYSTEM	NEXTRACKER SINGLE-AXIS TRACKER (SAT) TERRASMART FIXED TILT (FT) RACKING
STRING SIZE AND VOLTAGE	SAT: 27 MODS PER STRING, 1500 VDC FT: 26 MODS PER STRING, 1500 VDC
PV MODULE	BYD MLTK-36 540
PV MODULE RATING	540 W
QUANTITY OF PV MODULES BY RACKING SYSTEM AND FOUNDATION TYPES	BALLASTED FT: 35,698 DRIVEN FT: 4,524 DRIVEN SAT: 243,216 TOTAL: 283,438
TOTAL STRING COUNT	10,555
RACK CONFIGURATION	SAT, 1 IN PORTRAIT FIXED TILT, 2 IN PORTRAIT
TILT (°)	± 60° (SAT) 20° (FIXED TILT)
AZIMUTH (°)	180°
GCR (%)	41.52% (SAT) 44.70% (FIXED TILT)
PITCH	18.00 FT (SAT) 31.62 FT (FIXED TILT)
CLEAR ROW SPACING	10.53 FT (SAT) 17.49 FT (FIXED TILT)
LATITUDE (°)	43.3525680
LONGITUDE (°)	-78.6014000
UTILITY	NYSEG
CODE CYCLE	NEC 2017

aes
 AES CLEAN ENERGY DEVELOPMENT, LLC
 292 MADISON AVENUE, 15TH FLOOR
 NEW YORK, NY 10017

TETRA TECH

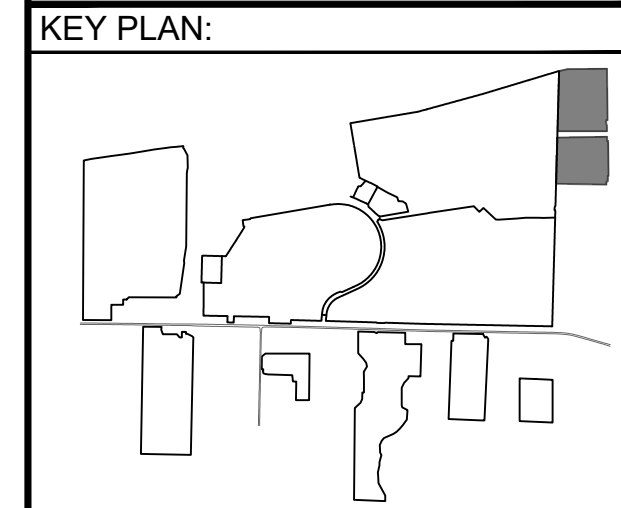
AVOCA ENGINEERING ARCHITECTURE, PLLC
 342 OLD NEW BRUNSWICK ROAD, PRINCETON, NJ 08504
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INVERTER INFORMATION									
INVERTER NUMBER	INVERTER TYPE	INVERTER DETAIL SHEET	FOUNDATION TYPE	FOUNDATION DETAIL SHEET	DC/AC RATIO	DC [kW]	MODULE QUANTITY PER RACK TYPE		
							BALLASTED FT	DRIVEN FT	DRIVEN SAT
A7-INV1	SG3600UD-MV	PV-E.05.04	POSTS/PIERS	PV-E.05.05	1.191	4,286.52	0	0	7,938
A7-INV2	SG3150U-MV	PV-E.05.01	POSTS/PIERS	PV-E.05.02	1.185	3,732.48	0	0	6,912
A7-INV3	SG3150U-MV	PV-E.05.01	POSTS/PIERS	PV-E.05.02	1.185	3,732.48	0	0	6,912
A7-INV4	SG3150U-MV	PV-E.05.01	POSTS/PIERS	PV-E.05.02	1.190	3,747.06	0	0	6,939

LEGEND			
—	PROPERTY LINE	~~~~~	EXISTING TREE LINE
- - - - -	BUILDING SETBACK (94-C)	~~~~~	EXISTING BRUSH LINE
- - - - -	EXISTING RIGHT OF WAY	- - - - -	EXISTING EASEMENTS
- - - - -	EXISTING GRAVEL DRIVE	~~~~~	PROPOSED TREE LINE
- - - - -	EXISTING FENCE LINE	~~~~~	PROPOSED BRUSH LINE
▨	DELINEATED WETLANDS (NO JURISDICTION)	—○—○—	PROPOSED CHAIN LINK FENCE
▨	DELINEATED WETLANDS (USACE)	- + - + -	PROPOSED AGRICULTURAL FENCE
▨	DELINEATED WETLANDS (STATE)	—	PROPOSED ACCESS ROAD
- - - - -	DELINEATED DRAINAGE FEATURE	PROPOSED GRASSED FILTER STRIP
- - - - -	100 FT DELINEATED WETLAND BUFFER	PROPOSED VEGETATIVE SCREENING
- - - - -	50 FT STREAM BUFFER FROM TOP OF BANK	▨	TEMPORARY LAYDOWN/ PARKING AREA
- - - - -	EXISTING DRAINAGE DITCH		
- - - - -	EXISTING WATER EDGE		
- - - - -	APPROXIMATE TOP OF STREAM BANK		
- - - - -	EXISTING RAILROAD		



REVISIONS:		
NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:
SOMERSET SOLAR PROJECT

PROJECT LOCATION:
 LAKE ROAD
 SOMERSET, NY

SHEET TITLE & DESCRIPTION:
 ENLARGED ELECTRICAL PLAN - AREA 7

ISSUED FOR 94-C PERMIT ONLY
 NOT FOR CONSTRUCTION

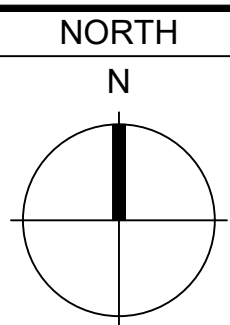
PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

SHEET NO:	PV-E.01.06	REV:	1
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1
 ENLARGED ELECTRICAL PLAN - AREA 7
 0 200' 400'
 SCALE: 1" = 200'

PLOTTED: 08/05/2022 10:58 AM
 FILE: PV-E.01.06.GENERAL SITE COVERED.DWG



NOTES:
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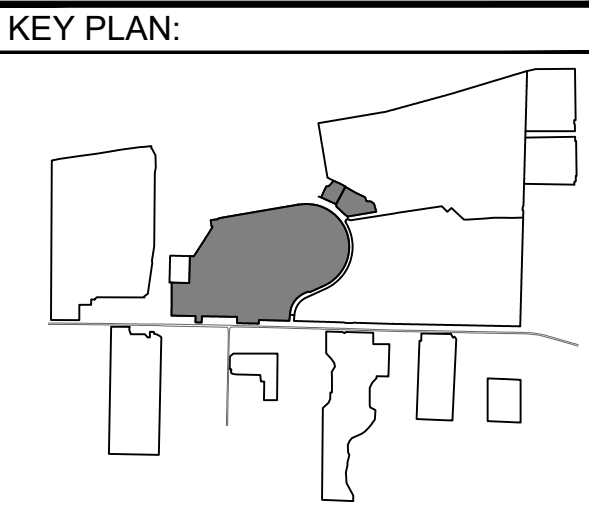
PROJECT SPECIFICATIONS DESIGN SUMMARY	
AC SYSTEM SIZE AT POI (MW)	125.000
AC INVERTER NAMEPLATE (MW)	136.800
POWER FACTOR	0.95 LEADING TO 0.95 LAGGING
DC SYSTEM SIZE (MW)	153.057
DC/AC RATIO AT POI	1.224
MV TRANSFORMER & INVERTER	(16) SUNGROW SG3150U-MV (24) SUNGROW SG3600UD-MV
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CLEAR ROW SPACING	10.53 FT (SAT) 17.49 FT (FIXED TILT)
LATITUDE (°)	43.3525680
LONGITUDE (°)	-78.6014000
UTILITY	NYSEG
CODE CYCLE	NEC 2017

aes
 AES CLEAN ENERGY DEVELOPMENT, LLC
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 NEW YORK, NY 10017

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0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:
SOMERSET SOLAR PROJECT

PROJECT LOCATION:
 LAKE ROAD
 SOMERSET, NY

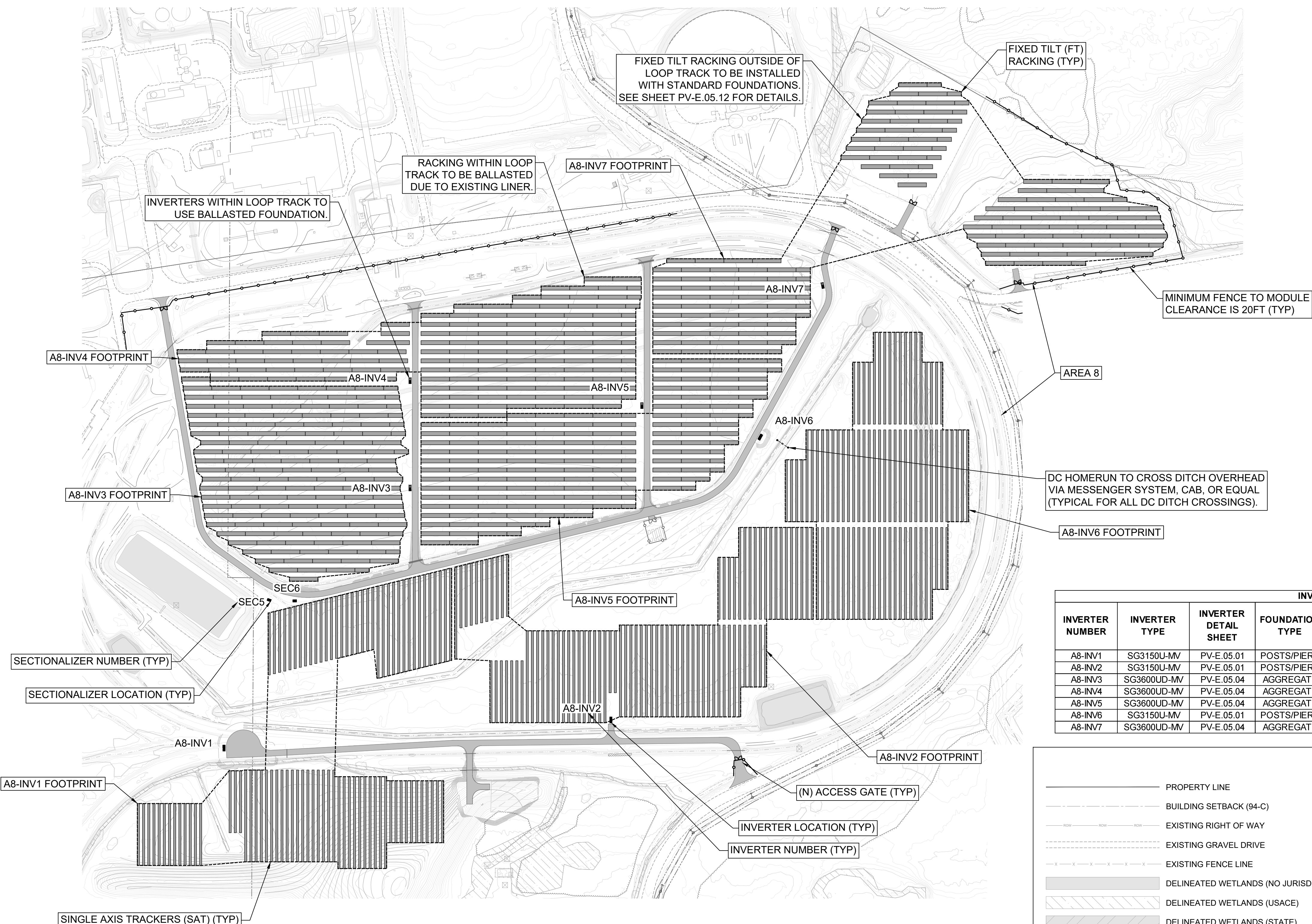
SHEET TITLE & DESCRIPTION:
 ENLARGED ELECTRICAL PLAN - AREA 8

ISSUED FOR 94-C PERMIT ONLY
 NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

SHEET NO:	PV-E.01.07	REV:	1
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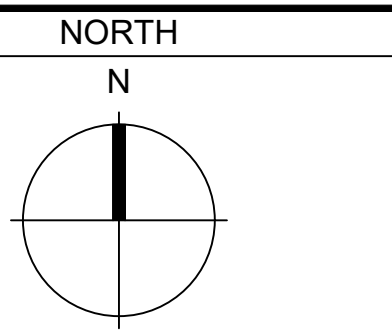
INVERTER INFORMATION									
INVERTER NUMBER	INVERTER TYPE	INVERTER DETAIL SHEET	FOUNDATION TYPE	FOUNDATION DETAIL SHEET	DC/AC RATIO	DC [KW]	MODULE QUANTITY PER RACK TYPE		
							BALLASTED FT	DRIVEN FT	DRIVEN SAT
A8-INV1	SG3150U-MV	PV-E.05.01	POSTS/PIERS	PV-E.05.02	1.041	3,280.50	0	0	6,075
A8-INV2	SG3150U-MV	PV-E.05.01	POSTS/PIERS	PV-E.05.02	1.037	3,265.92	0	0	6,048
A8-INV3	SG3600UD-MV	PV-E.05.04	AGGREGATE	PV-E.05.06	1.123	4,043.52	7,488	0	0
A8-INV4	SG3600UD-MV	PV-E.05.04	AGGREGATE	PV-E.05.06	1.119	4,029.48	7,462	0	0
A8-INV5	SG3600UD-MV	PV-E.05.04	AGGREGATE	PV-E.05.06	1.119	4,029.48	7,462	0	0
A8-INV6	SG3150U-MV	PV-E.05.01	POSTS/PIERS	PV-E.05.02	1.041	3,280.50	0	0	6,075
A8-INV7	SG3600UD-MV	PV-E.05.04	AGGREGATE	PV-E.05.06	1.119	4,029.48	2,938	4,524	0

LEGEND

—	PROPERTY LINE	~~~~~	EXISTING TREE LINE
- - -	BUILDING SETBACK (94-C)	~~~~~	EXISTING BRUSH LINE
- - -	EXISTING RIGHT OF WAY	~~~~~	EXISTING EASEMENTS
- - -	EXISTING GRAVEL DRIVE	~~~~~	PROPOSED TREE LINE
- - -	EXISTING FENCE LINE	~~~~~	PROPOSED BRUSH LINE
▨	DELINEATED WETLANDS (NO JURISDICTION)	○—○	PROPOSED CHAIN LINK FENCE
▨	DELINEATED WETLANDS (USACE)	- + - + -	PROPOSED AGRICULTURAL FENCE
▨	DELINEATED WETLANDS (STATE)	—	PROPOSED ACCESS ROAD
- - -	DELINEATED DRAINAGE FEATURE	▨	PROPOSED GRASSED FILTER STRIP
- - -	100 FT DELINEATED WETLAND BUFFER	▨	PROPOSED VEGETATIVE SCREENING
- - -	50 FT STREAM BUFFER FROM TOP OF BANK	▨	TEMPORARY LAYDOWN/ PARKING AREA
- - -	EXISTING DRAINAGE DITCH		
- - -	EXISTING WATER EDGE		
- - -	APPROXIMATE TOP OF STREAM BANK		
- - -	EXISTING RAILROAD		

1
 ENLARGED ELECTRICAL PLAN - AREA 8
 0 200' 400'
 SCALE: 1" = 200'

PLOTTED: 08/05/2022 10:54 AM
 FILE: PV-E.01.GENERAL SITE COVERED.DWG



NOTES:
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 2. THERE ARE NO PROPOSED SPLICE VAULTS (19 NYCRR §900-2.6(f)(1)(i)(c)) ON THIS PROJECT. ALL MV SPLICES ARE TO BE ABOVE GRADE IN SECTIONALIZER OR SIMILAR JUNCTION CABINETS. SEE DETAIL 1 ON PV-E.06.01.

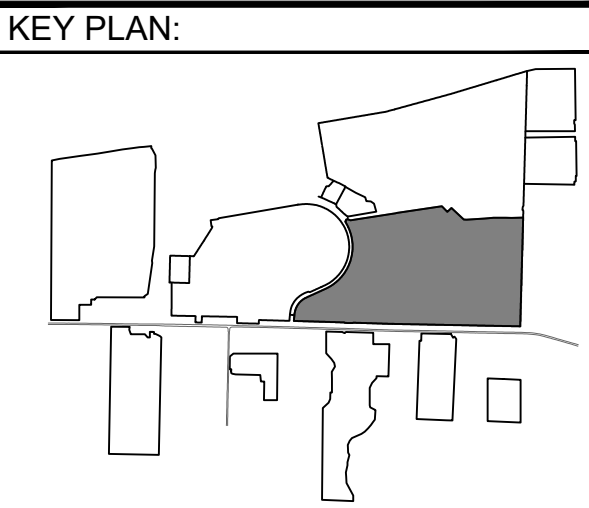
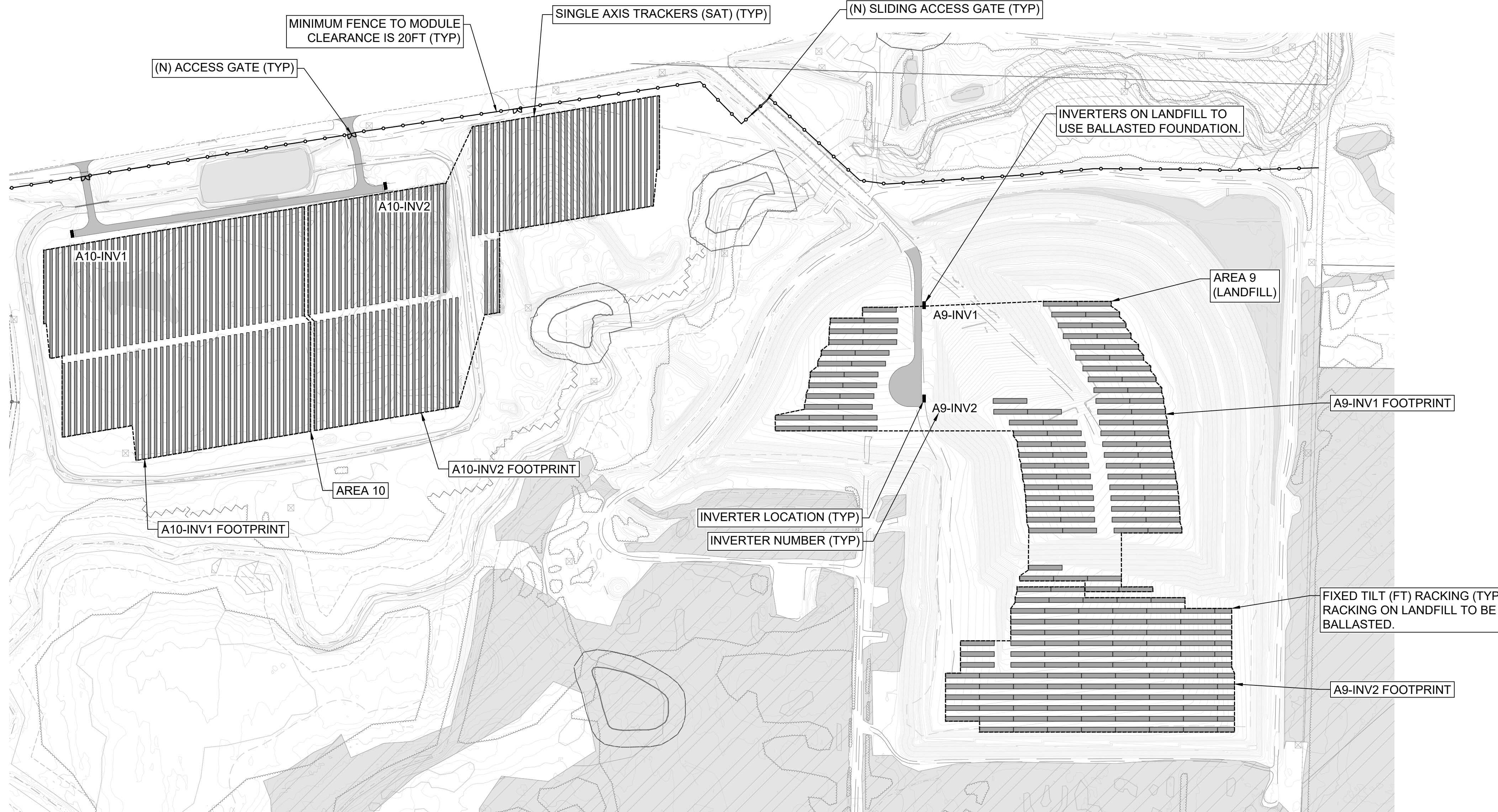
PROJECT SPECIFICATIONS DESIGN SUMMARY	
AC SYSTEM SIZE AT POI (MW)	125.000
AC INVERTER NAMEPLATE (MW)	136.800
POWER FACTOR	0.95 LEADING TO 0.95 LAGGING
DC SYSTEM SIZE (MW)	153.057
DC/AC RATIO AT POI	1.224
MV TRANSFORMER & INVERTER	(16) SUNGROW SG3150U-MV (24) SUNGROW SG3600UD-MV
RACKING SYSTEM	NEXTRACKER SINGLE-AXIS TRACKER (SAT) TERRASMART FIXED TILT (FT) RACKING
STRING SIZE AND VOLTAGE	SAT: 27 MODS PER STRING, 1500 VDC FT: 26 MODS PER STRING, 1500 VDC
PV MODULE	BYD MLTK-36 540
PV MODULE RATING	540 W
QUANTITY OF PV MODULES BY RACKING SYSTEM AND FOUNDATION TYPES	BALLASTED FT: 35,698 DRIVEN FT: 4,524 DRIVEN SAT: 243,216 TOTAL: 283,438
TOTAL STRING COUNT	10,555
RACK CONFIGURATION	SAT, 1 IN PORTRAIT FIXED TILT, 2 IN PORTRAIT
TILT (°)	± 60° (SAT) 20° (FIXED TILT)
AZIMUTH (°)	180°
GCR (%)	41.52% (SAT) 44.70% (FIXED TILT)
PITCH	18.00 FT (SAT) 31.62 FT (FIXED TILT)
CLEAR ROW SPACING	10.53 FT (SAT) 17.49 FT (FIXED TILT)
LATITUDE (°)	43.3525680
LONGITUDE (°)	-78.6014000
UTILITY	NYSEC
CODE CYCLE	NEC 2017

aes
 AES CLEAN ENERGY DEVELOPMENT, LLC
 292 MADISON AVENUE, 15TH FLOOR
 NEW YORK, NY 10017

TETRA TECH

AVOCA
 ENGINEERING
 ARCHITECTURE, PLLC
 242 OLD NEW BRUNSWICK ROAD, PRINCETON, NJ 08504
 PHONE (732) 465-1002 FAX (732) 465-1005

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REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:
 SOMERSET SOLAR PROJECT

PROJECT LOCATION:
 LAKE ROAD
 SOMERSET, NY

SHEET TITLE & DESCRIPTION:
 ENLARGED ELECTRICAL PLAN - AREAS 9 AND 10

ISSUED FOR 94-C PERMIT ONLY
 NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

SHEET NO:	PV-E.01.08	REV:	1
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INVERTER NUMBER	INVERTER TYPE	INVERTER DETAIL SHEET	FOUNDATION TYPE	FOUNDATION DETAIL SHEET	DC/AC RATIO	DC [kW]	MODULE QUANTITY PER RACK TYPE		
							BALLASTED FT	DRIVEN FT	DRIVEN SAT
							A9-INV1	SG3150U-MV	PV-E.05.01
A9-INV2	SG3150U-MV	PV-E.05.01	AGGREGATE	PV-E.05.03	0.883	2,779.92	5,148	0	0
A10-INV1	SG3150U-MV	PV-E.05.01	POSTS/PIERS	PV-E.05.02	1.106	3,484.62	0	0	6,453
A10-INV2	SG3150U-MV	PV-E.05.01	POSTS/PIERS	PV-E.05.02	1.106	3,484.62	0	0	6,453

LEGEND

—	PROPERTY LINE	~~~~~	EXISTING TREE LINE
- - -	BUILDING SETBACK (94-C)	~~~~~	EXISTING BRUSH LINE
- - -	EXISTING RIGHT OF WAY	- - -	EXISTING EASEMENTS
- - -	EXISTING GRAVEL DRIVE	~~~~~	PROPOSED TREE LINE
- - -	EXISTING FENCE LINE	~~~~~	PROPOSED BRUSH LINE
▨	DELINEATED WETLANDS (NO JURISDICTION)	—○—	PROPOSED CHAIN LINK FENCE
▨	DELINEATED WETLANDS (USACE)	- + - + -	PROPOSED AGRICULTURAL FENCE
▨	DELINEATED WETLANDS (STATE)	—	PROPOSED ACCESS ROAD
- - -	DELINEATED DRAINAGE FEATURE	—	PROPOSED GRASSSED FILTER STRIP
- - -	100 FT DELINEATED WETLAND BUFFER	—	PROPOSED VEGETATIVE SCREENING
- - -	50 FT STREAM BUFFER FROM TOP OF BANK	▨	TEMPORARY LAYDOWN/ PARKING AREA
- - -	EXISTING DRAINAGE DITCH		
- - -	EXISTING WATER EDGE		
- - -	APPROXIMATE TOP OF STREAM BANK		
- - -	EXISTING RAILROAD		

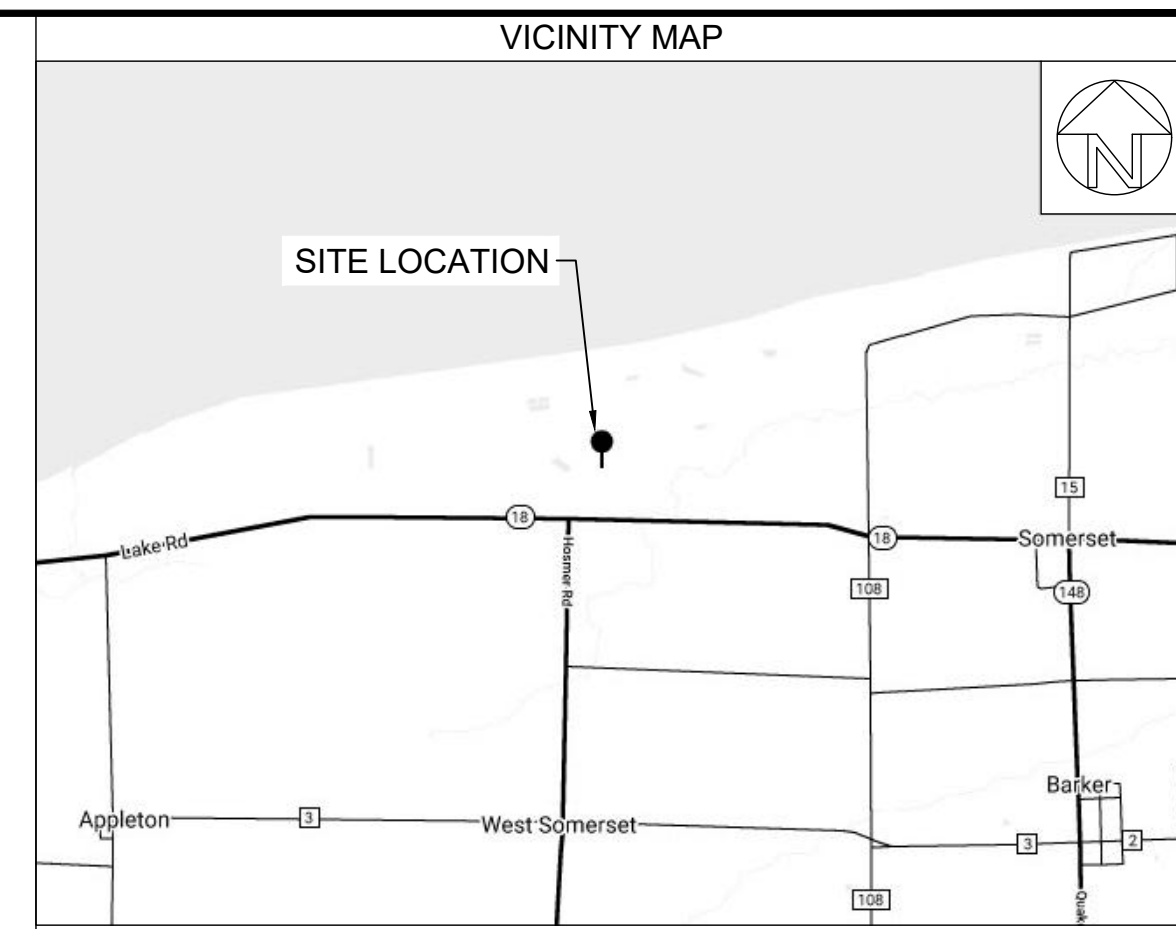
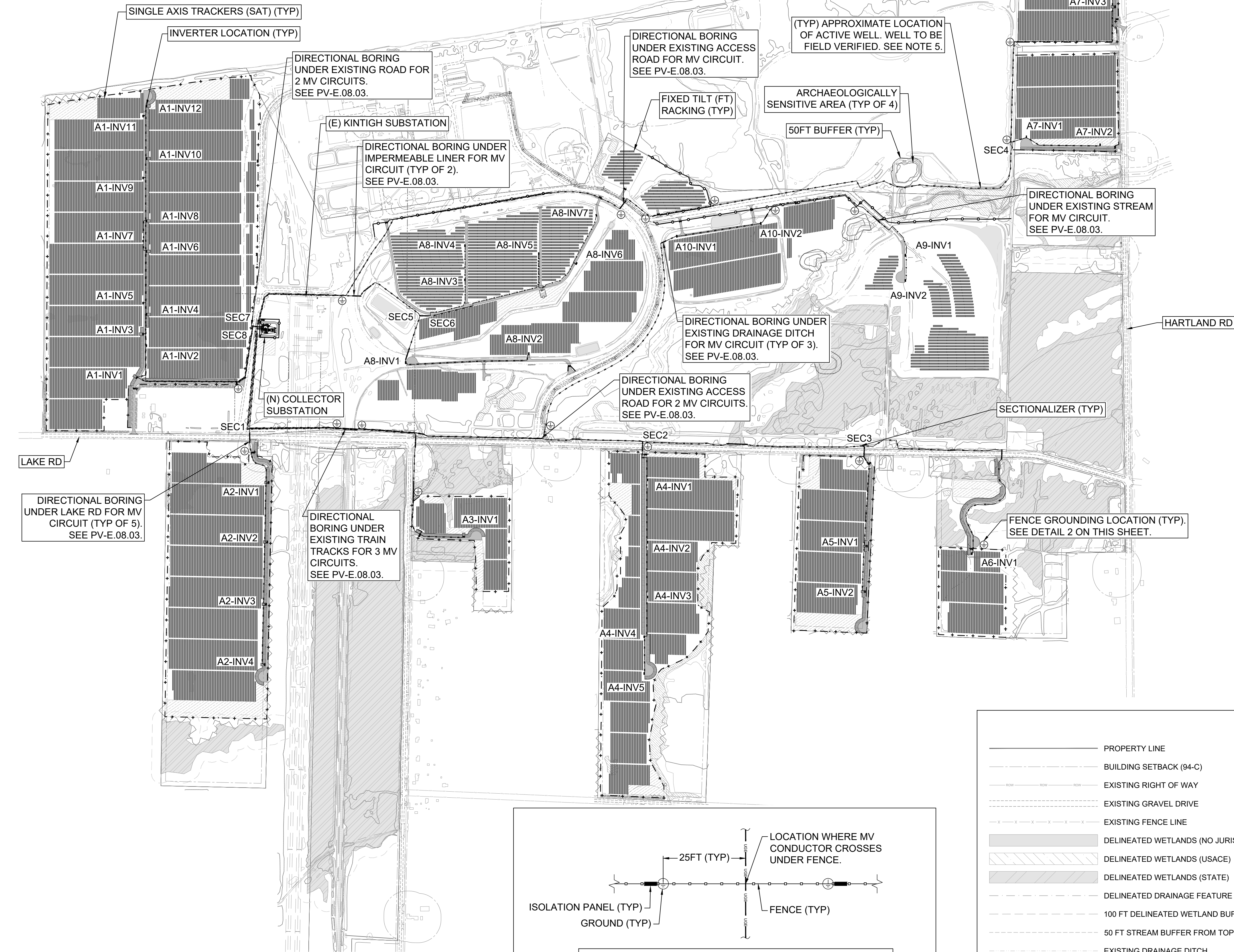
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1 ENLARGED ELECTRICAL PLAN - AREAS 9 AND 10

0 200' 400'

SCALE: 1" = 200'

- NOTES:**
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 - THERE ARE NO PROPOSED SPLICE VAULTS (19 NYCRR §900-2.6(f)(1)(i)(c)) ON THIS PROJECT. ALL MV SPLICES ARE TO BE ABOVE GRADE IN SECTIONALIZER OR SIMILAR JUNCTION CABINETS. SEE DETAIL 1 ON PV-E.06.01.
 - FIBER OPTIC CABLE TO BE ROUTED WITH MV CIRCUITS.
 - THE METHOD OF INSTALLING THE UNDERGROUND 34.5KV MV COLLECTION CIRCUITS SHALL CONSIST OF THE OPEN TRENCH METHOD, CABLE PLOW METHOD, AND DIRECTIONAL BORING. THE SELECTED METHOD SHALL MINIMIZE SPLICES. COORDINATE METHOD OF INSTALLATION WITH OWNER'S ENGINEER.
 - ALL BURIED CONDUITS AND CABLE ROUTING SHALL BE ADJUSTED TO AVOID ALL MONITORING WELLS.



SCALE 1" = 5000'

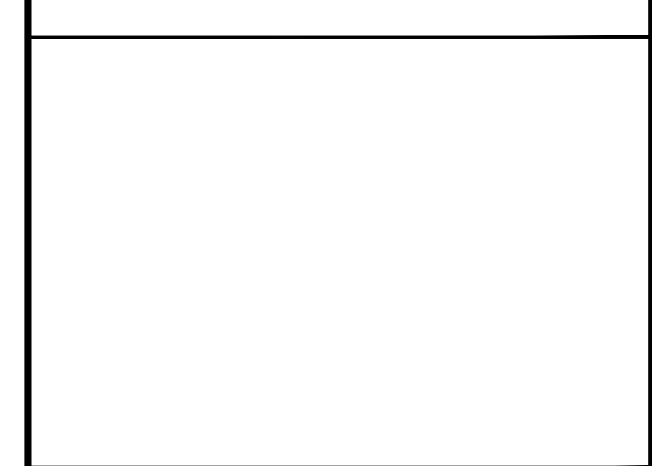
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DC/AC RATIO AT POI	1.224
MV TRANSFORMER & INVERTER	(16) SUNGROW SG3150U-MV (24) SUNGROW SG3600UD-MV
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TOTAL STRING COUNT	10,555
RACK CONFIGURATION	SAT, 1 IN PORTRAIT FIXED TILT, 2 IN PORTRAIT
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AZIMUTH (°)	180°
GCR (%)	41.52% (SAT) 44.70% (FIXED TILT)
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CLEAR ROW SPACING	10.53 FT (SAT) 17.49 FT (FIXED TILT)
LATITUDE (°)	43.3525680
LONGITUDE (°)	-78.6014000
UTILITY	NYSEG
CODE CYCLE	NEC 2017

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PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

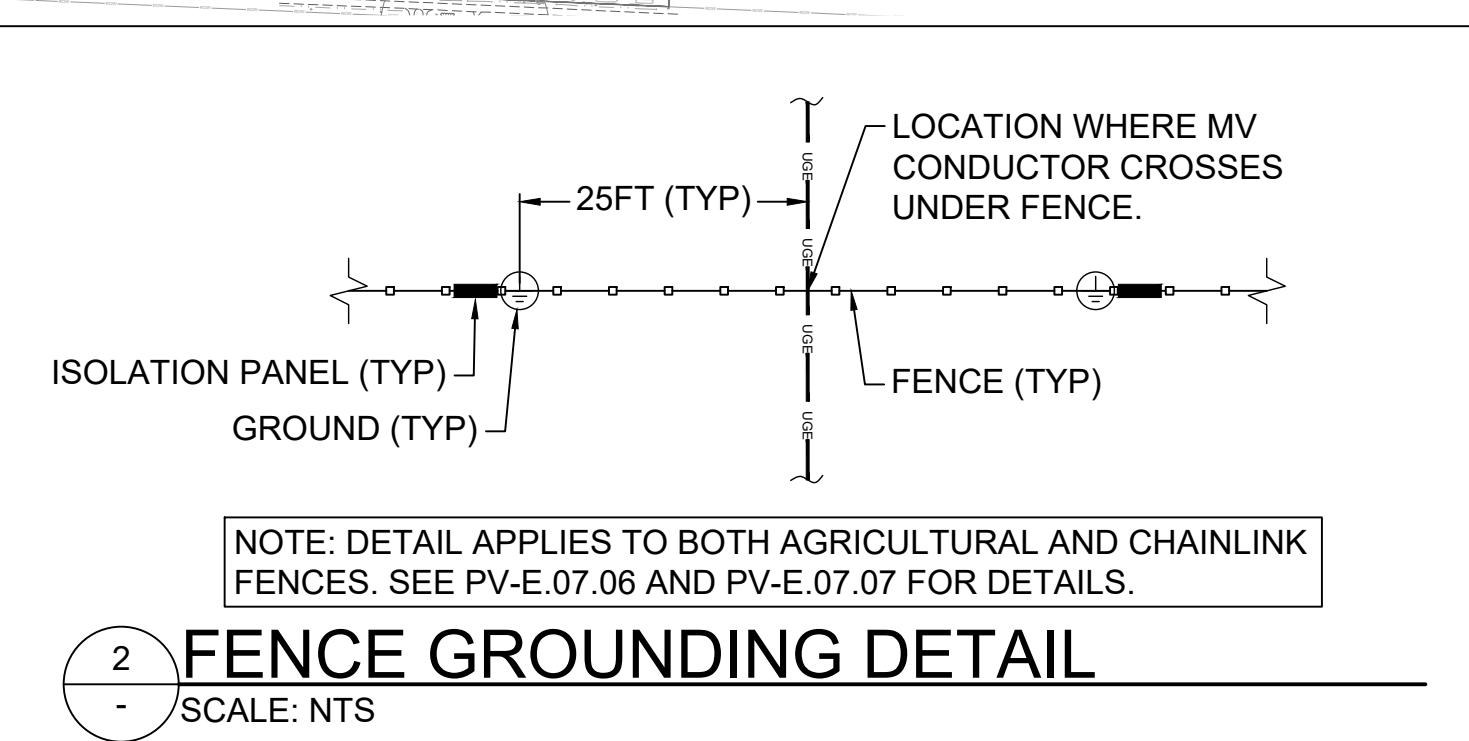
SHEET TITLE & DESCRIPTION:

34.5KV MV SITE PLAN

ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

SHEET NO:	PV-E.01.09	REV:	1
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LEGEND

—	PROPERTY LINE	~~~~~	EXISTING TREE LINE
- - -	BUILDING SETBACK (94-C)	~~~~~	EXISTING BRUSH LINE
- - -	EXISTING RIGHT OF WAY	- - -	EXISTING EASEMENTS
- - -	EXISTING GRAVEL DRIVE	~~~~~	PROPOSED TREE LINE
- - -	EXISTING FENCE LINE	~~~~~	PROPOSED BRUSH LINE
▨	DELINEATED WETLANDS (NO JURISDICTION)	○-○-○	PROPOSED CHAIN LINK FENCE
▨	DELINEATED WETLANDS (USACE)	- + - + -	PROPOSED AGRICULTURAL FENCE
▨	DELINEATED WETLANDS (STATE)	—	PROPOSED ACCESS ROAD
- - -	DELINEATED DRAINAGE FEATURE	▨	PROPOSED GRASSED FILTER STRIP
- - -	100 FT DELINEATED WETLAND BUFFER	▨	PROPOSED VEGETATIVE SCREENING
- - -	50 FT STREAM BUFFER FROM TOP OF BANK	— AC — AC — AC — AC —	TEMPORARY LAYDOWN/ PARKING AREA
- - -	EXISTING DRAINAGE DITCH	— UGE — UGE — UGE — UGE —	MV CIRCUIT ON SLEEPER (SEE PV-E.08.02)
- - -	EXISTING WATER EDGE		UNDERGROUND MV CIRCUIT (SEE PV-E.08.01)
- - -	APPROXIMATE TOP OF STREAM BANK		
- - -	EXISTING RAILROAD		

PLOTTED: 08/05/2022 10:48 AM
FILE: PV-E.01.09 34.5KV MV SITE PLAN.DWG

1 34.5KV MV SITE PLAN
SCALE: 1" = 600'

AES Tibbets 22/23A V2/01/01

MV CIRCUIT NO. 1						
FROM	TO	CABLE IDENTIFIER	NOMINAL OPERATING VOLTAGE (KV)	CABLE SIZE (AWG/KCMIL)	CABLE LENGTH (FT)	CABLE LENGTH + 10% BUFFER (FT)
A1-INV8	A1-INV7	MV-1-08	34.5	4/0 AWG	153	168
A1-INV7	A1-INV6	MV-1-07	34.5	4/0 AWG	427	470
A1-INV6	A1-INV5	MV-1-06	34.5	4/0 AWG	87	96
A1-INV5	A1-INV4	MV-1-05	34.5	500 KCMIL	406	447
A1-INV4	A1-INV3	MV-1-04	34.5	500 KCMIL	423	465
A1-INV3	A1-INV2	MV-1-03	34.5	500 KCMIL	265	292
A1-INV2	A1-INV1	MV-1-02	34.5	1000 KCMIL	427	470
A1-INV1	SS	MV-1-01	34.5	1000 KCMIL	1832	2015

MV CIRCUIT NO. 2						
FROM	TO	CABLE IDENTIFIER	NOMINAL OPERATING VOLTAGE (KV)	CABLE SIZE (AWG/KCMIL)	CABLE LENGTH (FT)	CABLE LENGTH + 10% BUFFER (FT)
A1-INV12	A1-INV11	MV-2-05	34.5	4/0 AWG	135	149
A1-INV11	A1-INV10	MV-2-04	34.5	4/0 AWG	381	419
A1-INV10	A1-INV9	MV-2-03	34.5	4/0 AWG	156	172
A1-INV9	SEC7	MV-2-02	34.5	500 KCMIL	4138	4552
A7-INV2	A7-INV1	MV-2-08	34.5	4/0 AWG	830	913
A7-INV1	SEC4	MV-2-07	34.5	4/0 AWG	218	240
A7-INV4	A7-INV3	MV-2-10	34.5	4/0 AWG	594	653
A7-INV3	SEC4	MV-2-09	34.5	4/0 AWG	2620	2882
SEC4	SEC7	MV-2-06	34.5	500 KCMIL	9606	10567
SEC7	SS	MV-2-01	34.5	1000 KCMIL	7	8

MV CIRCUIT NO. 3						
FROM	TO	CABLE IDENTIFIER	NOMINAL OPERATING VOLTAGE (KV)	CABLE SIZE (AWG/KCMIL)	CABLE LENGTH (FT)	CABLE LENGTH + 10% BUFFER (FT)
A4-INV5	A4-INV4	MV-3-06	34.5	4/0 AWG	406	447
A4-INV4	A4-INV3	MV-3-05	34.5	4/0 AWG	464	510
A4-INV3	A4-INV2	MV-3-04	34.5	4/0 AWG	603	663
A4-INV2	A4-INV1	MV-3-03	34.5	500 KCMIL	684	752
A4-INV1	SEC-2	MV-3-02	34.5	500 KCMIL	495	545
A5-INV2	A5-INV1	MV-3-09	34.5	4/0 AWG	542	596
A5-INV1	SEC3	MV-3-08	34.5	4/0 AWG	1156	1272
A6-INV1	SEC3	MV-3-10	34.5	4/0 AWG	3125	3438
SEC3	SEC2	MV-3-07	34.5	4/0 AWG	2411	2652
SEC2	SS	MV-3-01	34.5	1000 KCMIL	5387	5926

MV CIRCUIT NO. 4						
FROM	TO	CABLE IDENTIFIER	NOMINAL OPERATING VOLTAGE (KV)	CABLE SIZE (AWG/KCMIL)	CABLE LENGTH (FT)	CABLE LENGTH + 10% BUFFER (FT)
A2-INV4	A2-INV3	MV-4-06	34.5	4/0 AWG	692	761
A2-INV3	A2-INV2	MV-4-05	34.5	4/0 AWG	716	788
A2-INV2	A2-INV1	MV-4-04	34.5	4/0 AWG	688	757
A2-INV1	SEC1	MV-4-03	34.5	500 KCMIL	715	787
A3-INV1	SEC1	MV-4-07	34.5	4/0 AWG	3447	3792
SEC1	SEC8	MV-4-02	34.5	500 KCMIL	1065	1172
A9-INV2	A9-INV1	MV-4-11	34.5	4/0 AWG	281	309
A9-INV1	A10-INV2	MV-4-10	34.5	4/0 AWG	2081	2289
A10-INV2	A10-INV1	MV-4-09	34.5	4/0 AWG	928	1021
A10-INV1	SEC8	MV-4-08	34.5	500 KCMIL	7214	7935
SEC8	SS	MV-4-01	34.5	1000 KCMIL	47	52

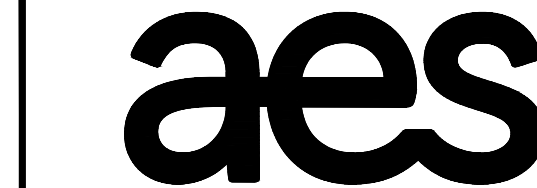
MV CIRCUIT NO. 5						
FROM	TO	CABLE IDENTIFIER	NOMINAL OPERATING VOLTAGE (KV)	CABLE SIZE (AWG/KCMIL)	CABLE LENGTH (FT)	CABLE LENGTH + 10% BUFFER (FT)
A8-INV7	A8-INV6	MV-5-09	34.5	4/0 AWG	565	622
A8-INV6	A8-INV5	MV-5-08	34.5	4/0 AWG	864	950
A8-INV5	A8-SEC6	MV-5-07	34.5	4/0 AWG	1611	1772
A8-INV4	A8-INV3	MV-5-06	34.5	4/0 AWG	376	414
A8-INV3	SEC6	MV-5-05	34.5	4/0 AWG	702	772
SEC6	SEC5	MV-5-04	34.5	500 KCMIL	77	85
A8-INV2	A8-INV1	MV-5-03	34.5	4/0 AWG	1412	1553
A8-INV1	SEC5	MV-5-02	34.5	4/0 AWG	529	582
SEC5	SS	MV-5-01	34.5	1000 KCMIL	2250	2475

NOTES

- ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.
- ALL MV CABLES ARE 1 ALUMINUM CONDUCTOR, 35KV, 100% INSULATED, EPR, URD TYPE WITH COPPER CONCENTRIC NEUTRAL, 105°C CONTINUOUS.
- FOR MV CABLE SIZING INFORMATION REFER TO 705-2161940300-REP-E0010 - "34.5KV AC CABLE AMPACITY STUDY SOMERSET SOLAR FACILITY".
- CONTRACTOR TO DETERMINE FINAL CABLE LENGTH PRIOR TO PROCUREMENT NECESSARY TO SUPPORT TERMINATIONS AND CABLE INSTALLATIONS. NO CONTINGENCY OR SPARE LENGTH IS PROVIDED.

REFERENCE DRAWINGS

- PV-E.01.01 - AC COLLECTOR SYSTEM OVERALL ELECTRICAL PLAN
- PV-E.02.01 - AC COLLECTOR SYSTEM ONE-LINE DIAGRAM
- PV-E.08.01 - AC COLLECTOR SYSTEM MV CABLE TRENCH CROSS SECTION DETAILS
- PV-E.08.02 - AC COLLECTOR SYSTEM MV CABLE TYPICAL INSTALLATION DETAILS



AES CLEAN ENERGY DEVELOPMENT, LLC
292 MADISON AVENUE, 15TH FLOOR,
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KEY PLAN:

REVISIONS:

NO	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

34.5KV AC COLLECTION SYSTEM

AC CABLE SCHEDULE INVERTERS TO SUBSTATION

PROJ NUM:	SU20.0012
DES:	SAHARNAZ BODAGHI
DWN:	SAHARNAZ BODAGHI
CHK:	JON LEMON, P.E
APV:	JON LEMON, P.E
DATE:	11/29/2022
SCALE:	

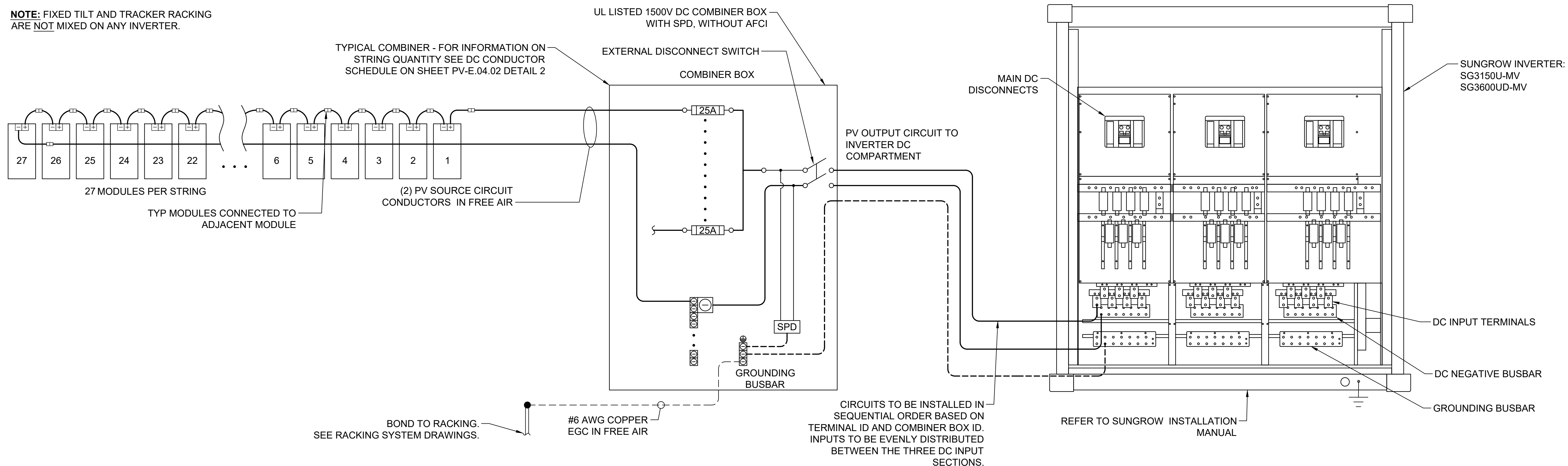
N.T.S

SHEET NO:	PV-E.02.02	REV:	1
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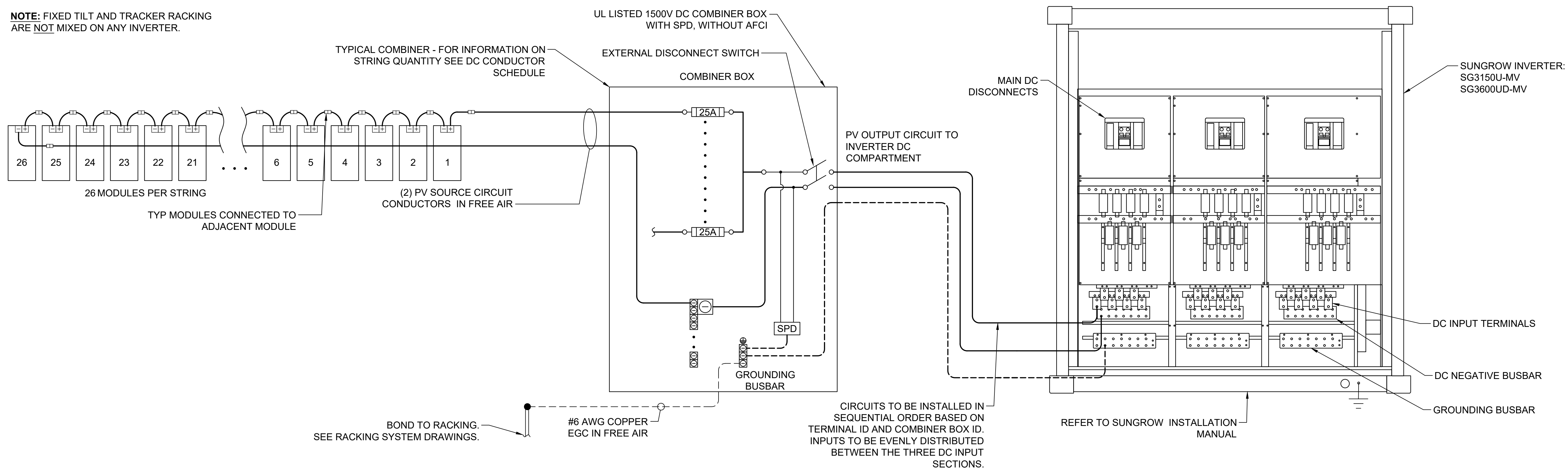
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NOTE: FIXED TILT AND TRACKER RACKING ARE NOT MIXED ON ANY INVERTER.



1 DC ONE LINE DIAGRAM FOR INVERTERS FED BY SINGLE-AXIS TRACKER RACKING
SCALE: NTS

NOTE: FIXED TILT AND TRACKER RACKING ARE NOT MIXED ON ANY INVERTER.



2 DC ONE LINE DIAGRAM FOR INVERTERS FED BY FIXED TILT RACKING
SCALE: NTS

KEY PLAN:

REVISIONS:

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DC ONE LINE
DIAGRAM

ISSUED FOR 94-C PERMIT ONLY
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DES: CB

DWN: CB

CHK: KL

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DATE: 08/05/2022

SCALE AT 22" x 34"

AS SHOWN

SHEET NO: PV-E.03.01

REV: 1

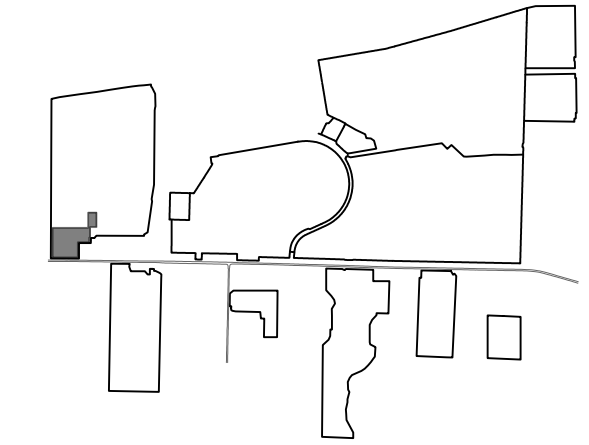
LEGEND

- PROPERTY LINE
- - - BUILDING SETBACK (94-C)
- - - EXISTING RIGHT OF WAY
- - - EXISTING GRAVEL DRIVE
- - - EXISTING FENCE LINE
- ▨ DELINEATED WETLANDS (NO JURISDICTION)
- ▨ DELINEATED WETLANDS (USACE)
- ▨ DELINEATED WETLANDS (STATE)
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- - - 100 FT DELINEATED WETLAND BUFFER
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- + - + PROPOSED AGRICULTURAL FENCE
- ▬ PROPOSED ACCESS ROAD
- ▨ PROPOSED GRASSED FILTER STRIP
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- ▨ TEMPORARY LAYDOWN/ PARKING AREA

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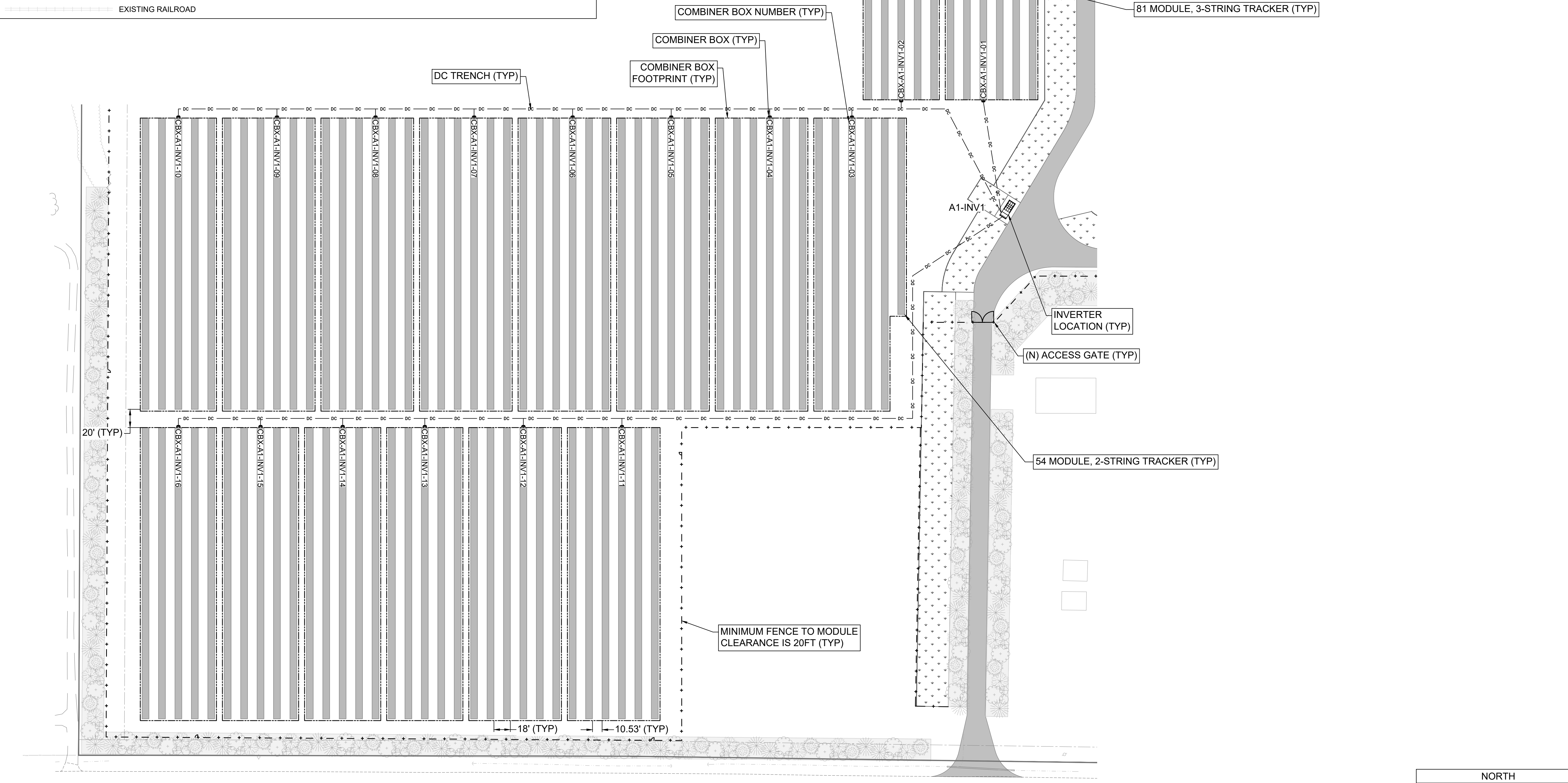
SHEET TITLE & DESCRIPTION:

DC COMBINER LAYOUT
 - REPRESENTATIVE

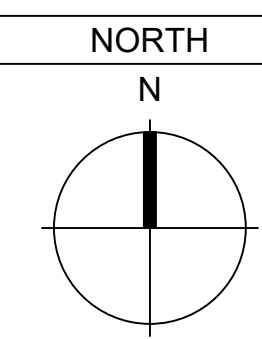
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CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	AS SHOWN

SHEET NO:	PV-E.04.01	REV:	1
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1 DC COMBINER LAYOUT - REPRESENTATIVE
 SCALE: 1" = 60'



PLOTTED: 08/05/2023 1:05 PM FILE: PV-E.04.01 DC COMBINER LAYOUT.DWG

DC SOURCE CIRCUIT SCHEDULE

WIRE, FUSE, AND CONDUIT SIZE

CIRCUIT ID	MODULE	CIRCUIT LENGTH (FT)	NUMBER OF STRINGS	MODULES PER STRING	NUMBER OF MODULES	MAX POWER POINT VOLTAGE	VOLTAGE AT ASHRAE MIN TEMP	MAX POWER POINT CURRENT	MAX SHORT CIRCUIT CURRENT	MAX NO. OF CURRENT CARRYING CONDUCTORS IN RACEWAY	TERMINAL RATING (°C)	WIRE RATING (°C)	NO OF PARALLEL SETS (POS/NEG)	NEC 690.8(A)(1)(1) PV OUTPUT MAXIMUM CIRCUIT CURRENT (Isc x 1.25)	NEC 690.9(A) NEC 690.9(B)(1) AMPERAGE WIRE & FUSE SIZING (Isc x 1.56)	CONDUIT FILL DERATE FACTOR	TEMP. CORRECTION FACTOR	MAX. CURRENT / CONDITIONS OF USE (A)	VOLTAGE DROP (%)	% FILL	OCPD (A)	WIRE SIZE AND QTY (PER PARALLEL SET/CONDUIT)	MIN. BARE CU EGC SIZE (PER CONDUIT)	CALCULATED CONDUIT MN SIZE (INCHES)
SINGLE STRING FOR FT (TYP)	BYD MLTK-36 540	182	1	26	26	1093.3	1438.9	12.84	13.53	2	90	90	1	16.91	21.0	1.00	0.96	18	0.53%	N/A	25	(2) #10 CU PV WIRE	(1) #6	DC-A, SEE TABLE BELOW
SINGLE STRING FOR SAT (TYP)	BYD MLTK-36 540	182	1	27	27	1135.35	1494.2	12.84	13.53	2	90	90	1	16.91	21.0	1.00	0.96	18	0.51%	N/A	25	(2) #10 CU PV WIRE	(1) #6	

TYPICALS	WIRES	MIN. SIZE CONDUIT
DC-A	(2) CU #10 PV-WIRE (1) CU #6 BARE	1 in.
DC-B	(4) CU #10 PV-WIRE (1) CU #6 BARE	1-1/4 in.
DC-C	(6) CU #10 PV-WIRE (1) CU #6 BARE	1-1/2 in.
DC-D	(8) CU #10 PV-WIRE (1) CU #6 BARE	2 in.

GENERAL NOTES:
 1. COMBINER BOX QUANTITY, SIZES, AND CONDUCTOR LENGTHS ARE INTENDED TO BE REPRESENTATIVE OF THE SITE. DC CONDUCTORS SHALL BE DIRECTLY BURIED EXCEPT IN AREA 9 AND WHERE INDICATED IN AREA 8.

1 SOURCE CIRCUIT CONDUCTOR AND CONDUIT SCHEDULE

SCALE: NTS

DESIGN CRITERIA			
ASHRAE MIN TEMP (°C)	-19.5	ASHRAE MAX TEMP. (°C)	31.1

MODULE SUMMARY																
MODEL NUMBER	BYD MLTK-36 540	POWER @ STC (W)	540	MODULES PER STRING	27	Voc (V)	49.72	Vmp (V)	42.05	Isc (A)	13.53	Imp (A)	12.84	Voc T corr	-0.254	%°C

EQUIPMENT SUMMARY						
#	MANUFACTURER & MODEL	MAX POWER (kWac)	MODULE COUNT	SYSTEM SIZE (kWdc)	DC:AC	STRINGS
1	SUNGROW SG3600UD-MV	3,600	7,263	3,922.02	1.089	269

DC CONDUCTOR & CONDUIT SCHEDULE - 1500V

INVERTER	COMBINER BOX #	MODULE	# OF STRINGS	# OF MODULES	Vmp (Vdc)	Imp (A)	Voc (Vdc) AT ASHRAE MIN TEMP	Isc (A)	NEC 690.8(A)(1)(1)	NEC 690.9(A) NEC 690.9(B)(1)	FUSE SIZE (A) AT INVERTER	COMBINER BOX SIZE (A)	DC WIRE SIZE, TYPE & QUANTITY - COMBINER BOX TO DC DISCONNECT					TOTAL DC VOLTAGE DROP (%)	
									PV OUTPUT MAXIMUM CIRCUIT CURRENT (Isc x 1.25)	AMPERAGE WIRE & FUSE SIZING (Isc x 1.56)			2 CURRENT CARRYING CONDUCTORS (2kV PV WIRE)	EQUIPMENT GROUNDING CONDUCTOR (CU)	PARALLEL SETS	CONDUIT(S) SIZE, QUANTITY, & TYPE *	LENGTH (FT.)		VOLTAGE DROP (%)
A1-INV1	INV1-CBX-01	BYD MLTK-36 540	18	486	1135.35	231.12	1494.20	243.54	304.43	381	400	400	600 KCML AL	#3 AWG	1	DIRECT BURY	154	0.22%	0.73%
	INV1-CBX-02	BYD MLTK-36 540	15	405	1135.35	192.60	1494.20	202.95	253.69	317	400	400	600 KCML AL	#3 AWG	1	DIRECT BURY	221	0.28%	0.78%
	INV1-CBX-03	BYD MLTK-36 540	17	459	1135.35	218.28	1494.20	230.01	287.51	359	400	400	600 KCML AL	#3 AWG	1	DIRECT BURY	279	0.38%	0.89%
	INV1-CBX-04	BYD MLTK-36 540	18	486	1135.35	231.12	1494.20	243.54	304.43	381	400	400	600 KCML AL	#3 AWG	1	DIRECT BURY	375	0.54%	1.05%
	INV1-CBX-05	BYD MLTK-36 540	18	486	1135.35	231.12	1494.20	243.54	304.43	381	400	400	600 KCML AL	#3 AWG	1	DIRECT BURY	491	0.71%	1.22%
	INV1-CBX-06	BYD MLTK-36 540	18	486	1135.35	231.12	1494.20	243.54	304.43	381	400	400	600 KCML AL	#3 AWG	1	DIRECT BURY	606	0.87%	1.38%
	INV1-CBX-07	BYD MLTK-36 540	18	486	1135.35	231.12	1494.20	243.54	304.43	381	400	400	600 KCML AL	#3 AWG	1	DIRECT BURY	722	1.04%	1.55%
	INV1-CBX-08	BYD MLTK-36 540	18	486	1135.35	231.12	1494.20	243.54	304.43	381	400	400	600 KCML AL	#3 AWG	1	DIRECT BURY	837	1.20%	1.72%
	INV1-CBX-09	BYD MLTK-36 540	18	486	1135.35	231.12	1494.20	243.54	304.43	381	400	400	600 KCML AL	#3 AWG	1	DIRECT BURY	953	1.37%	1.88%
	INV1-CBX-10	BYD MLTK-36 540	15	405	1135.35	192.60	1494.20	202.95	253.69	317	400	400	600 KCML AL	#3 AWG	1	DIRECT BURY	1068	1.28%	1.79%
	INV1-CBX-11	BYD MLTK-36 540	18	486	1135.35	231.12	1494.20	243.54	304.43	381	400	400	600 KCML AL	#3 AWG	1	DIRECT BURY	665	0.96%	1.47%
	INV1-CBX-12	BYD MLTK-36 540	18	486	1135.35	231.12	1494.20	243.54	304.43	381	400	400	600 KCML AL	#3 AWG	1	DIRECT BURY	780	1.12%	1.63%
	INV1-CBX-13	BYD MLTK-36 540	15	405	1135.35	192.60	1494.20	202.95	253.69	317	400	400	600 KCML AL	#3 AWG	1	DIRECT BURY	896	1.07%	1.59%
	INV1-CBX-14	BYD MLTK-36 540	15	405	1135.35	192.60	1494.20	202.95	253.69	317	400	400	600 KCML AL	#3 AWG	1	DIRECT BURY	992	1.19%	1.70%
	INV1-CBX-15	BYD MLTK-36 540	15	405	1135.35	192.60	1494.20	202.95	253.69	317	400	400	600 KCML AL	#3 AWG	1	DIRECT BURY	1088	1.30%	1.82%
	INV1-CBX-16	BYD MLTK-36 540	15	405	1135.35	192.60	1494.20	202.95	253.69	317	400	400	600 KCML AL	#3 AWG	1	DIRECT BURY	1185	1.42%	1.93%
TOTAL			269	7,263														WEIGHTED-AVERAGE CBX VOLTAGE DROP	0.93%
													AVERAGE STRING TO CBX VOLTAGE DROP		0.51%				
													TOTAL DC VOLTAGE DROP		1.44%				

* USE (1) 3" PVC SCH 40 PER CBX OUTPUT CIRCUIT AS SHOWN FOR INTERNAL ROAD CROSSINGS.
 USE (1) 3" PVC SCH 80 PER CBX OUTPUT CIRCUIT AS SHOWN FOR STUB-UPS.
 SEE DETAIL 5 / PV-E.05.13 FOR DETAILS.

2 DC CONDUCTOR SCHEDULE - REPRESENTATIVE

SCALE: NTS

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
 SOMERSET, NY

SHEET TITLE & DESCRIPTION:

DC CONDUCTOR SCHEDULE
 - REPRESENTATIVE

ISSUED FOR 94-C PERMIT ONLY
 NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

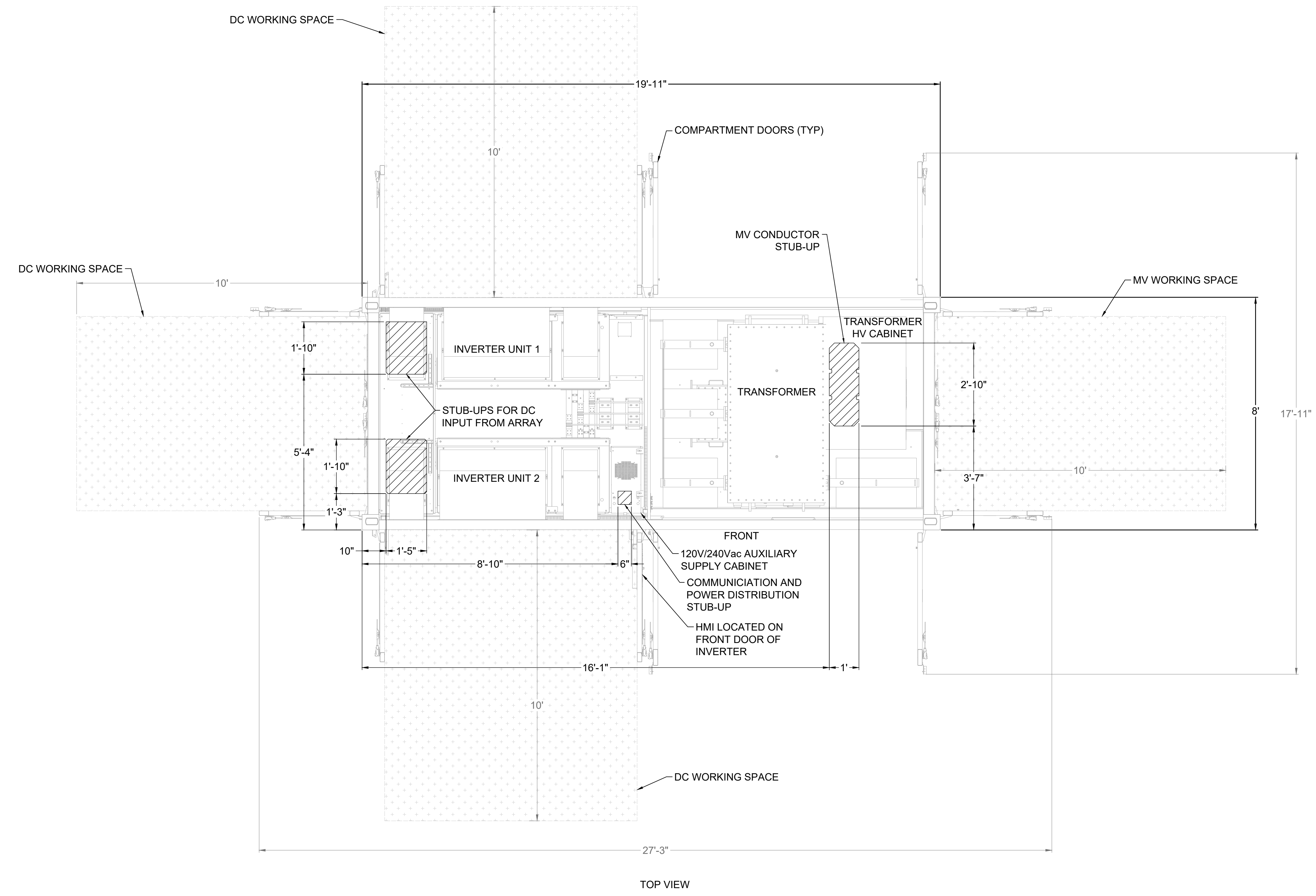
SHEET NO:	PV-E.04.02	REV:	1
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NOTE: WIRE LENGTHS PROVIDED ARE NOT TO BE USED FOR WIRE TAKEOFFS AND ARE ONLY USED FOR CALCULATION OF VOLTAGE DROP.

NOTES:

1. FIELD VERIFY ALL EQUIPMENT CONDUIT ENTRY AREAS.
2. EQUIPMENT DIMENSIONS AND CONDUIT WINDOWS ARE ESTIMATED. SEE MANUFACTURER RECORD DRAWINGS AND/OR MANUALS PRIOR TO CONSTRUCTION.
3. ALL EQUIPMENT MOUNTED TO PAD PER MANUFACTURER'S INSTRUCTION.
4. WORKING CLEARANCES SHALL BE IN ACCORDANCE WITH NEC ARTICLE 110 PART III AND MANUFACTURER'S REQUIREMENTS.
5. CONDUIT BOX OUTS SHALL BE FILLED WITH POLYWATER INSTAGROUT SEALANT (OAE) TO BLOCK MOISTURE WHILE ALLOWING THE CONDUIT TO REMAIN INDEPENDENT OF THE ENCLOSURE.

NOTE: SEE SHEETS PV-E.05.02 AND PV-E.05.03 FOR FOUNDATION DETAILS.



KEY:

CONDUIT STUB-UP AREAS

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

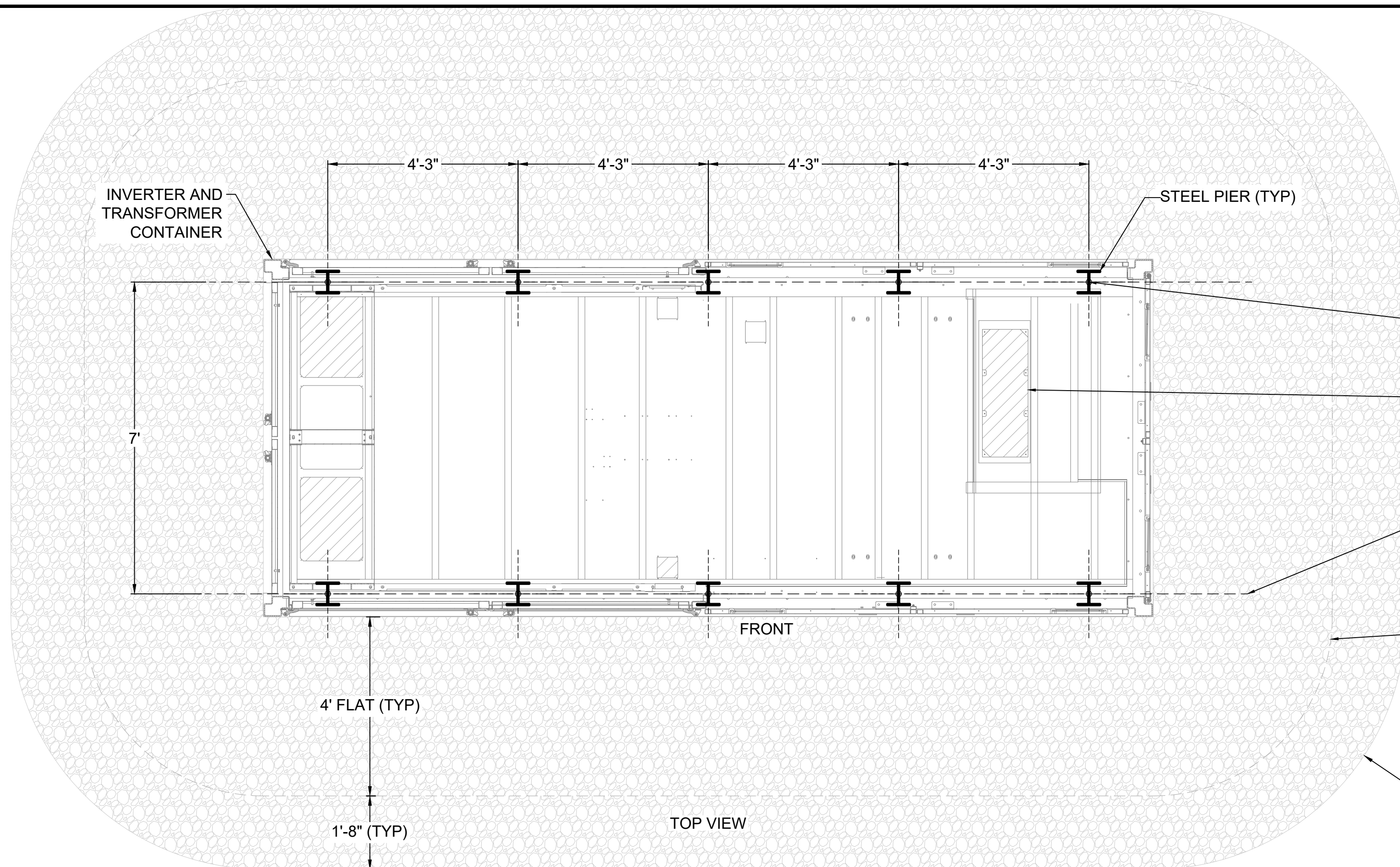
INVERTER PLAN VIEW -
SG3150U-MV

ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

SHEET NO:	PV-E.05.01	REV:	1
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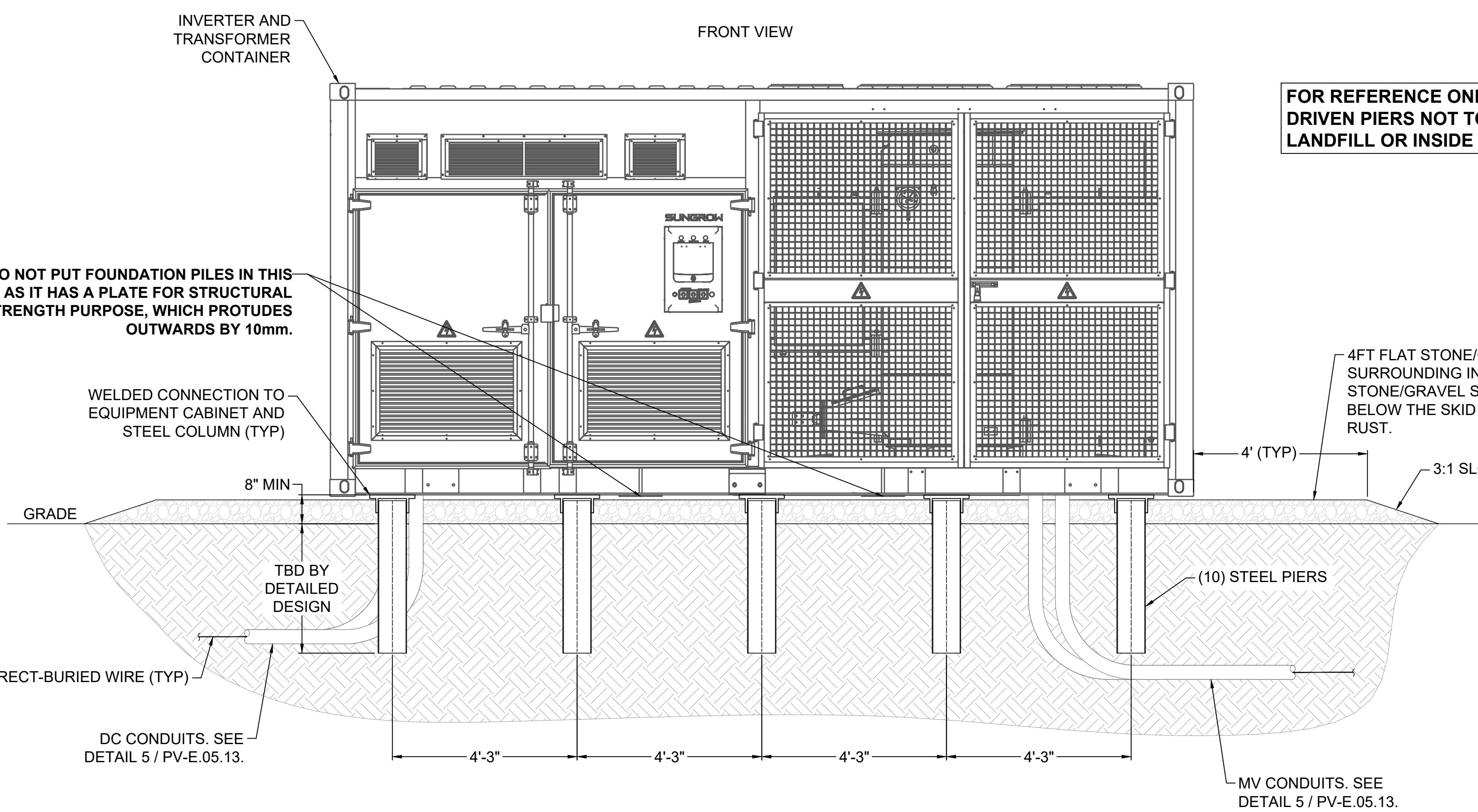
1 SUNGROW SG3150U-MV FOUNDATION WITH PIERS
SCALE: NTS

NOTES:

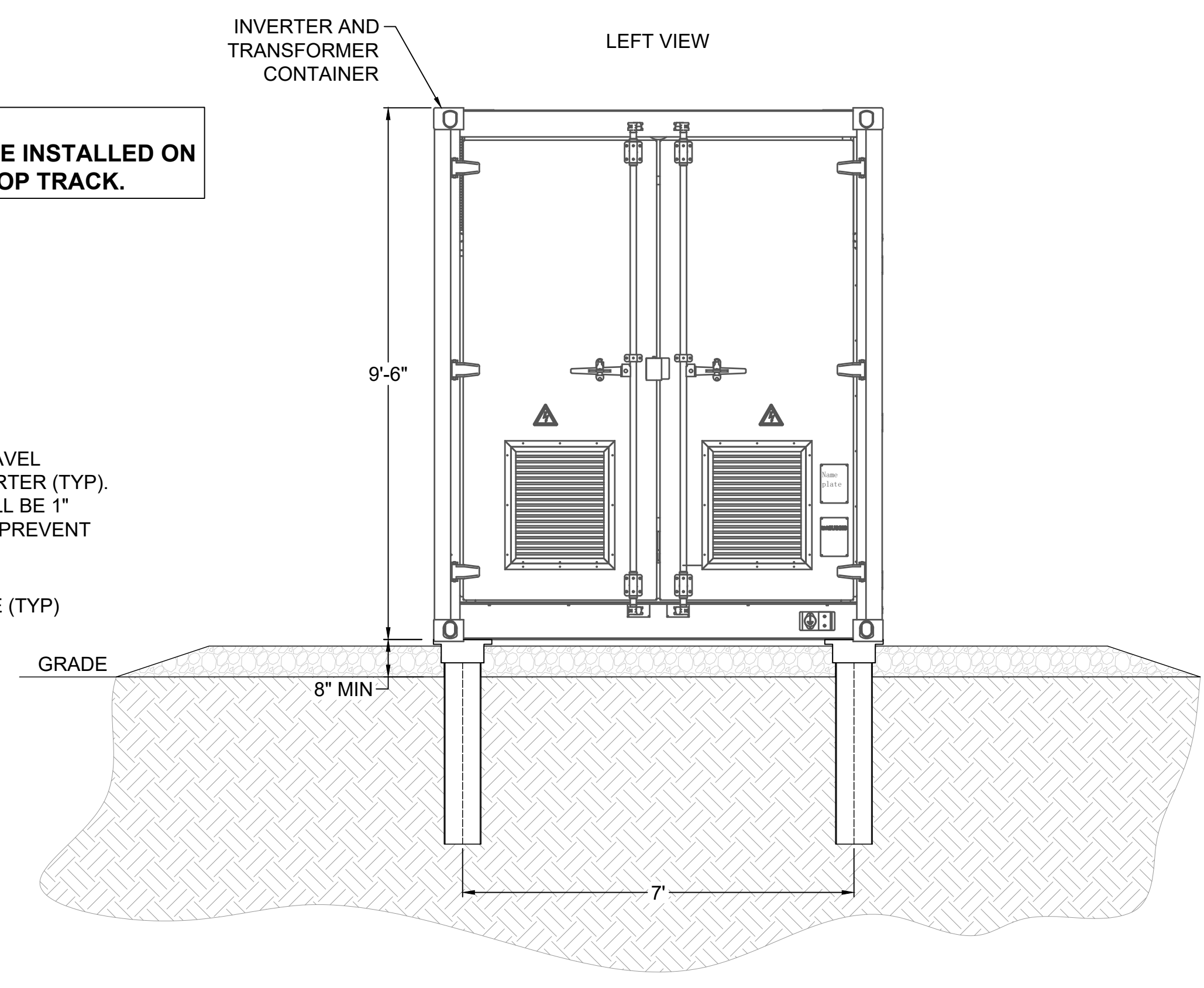
1. THE FOUNDATION DIMENSIONS MUST MEET THE REQUIREMENTS OF THE BEARING CAPACITY OF THE BEARING STRATUM. THE DEPTH OF THE FOUNDATION MUST REACH THE BEARING STRATUM WITH THE SUFFICIENT BEARING CAPACITY.
2. THE LOCATIONS AND SIZES OF THE CABLE ENTRIES MUST BE TAKEN INTO ACCOUNT FOR THE FINAL FOUNDATION DESIGN.
3. SEE STRUCTURAL DRAWINGS IN PV-C.10 SERIES FOR MATERIAL (CONCRETE AND STEEL) SPECIFICATIONS AND GENERAL NOTES.
4. PROVIDE 5FT FLAT CLEAR WORKING SPACE IN FRONT OF MV CABLE SECTION. SEE FINAL INVERTER MANUFACTURER DRAWINGS FOR LOCATION AND ACCESS.

KEY:

CONDUIT STUB-UP AREAS



FOR REFERENCE ONLY.
DRIVEN PIERS NOT TO BE INSTALLED ON
LANDFILL OR INSIDE LOOP TRACK.



2 SUNGROW SG3150U-MV FOUNDATION WITH PIERS ELEVATION VIEW
SCALE: NTS

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

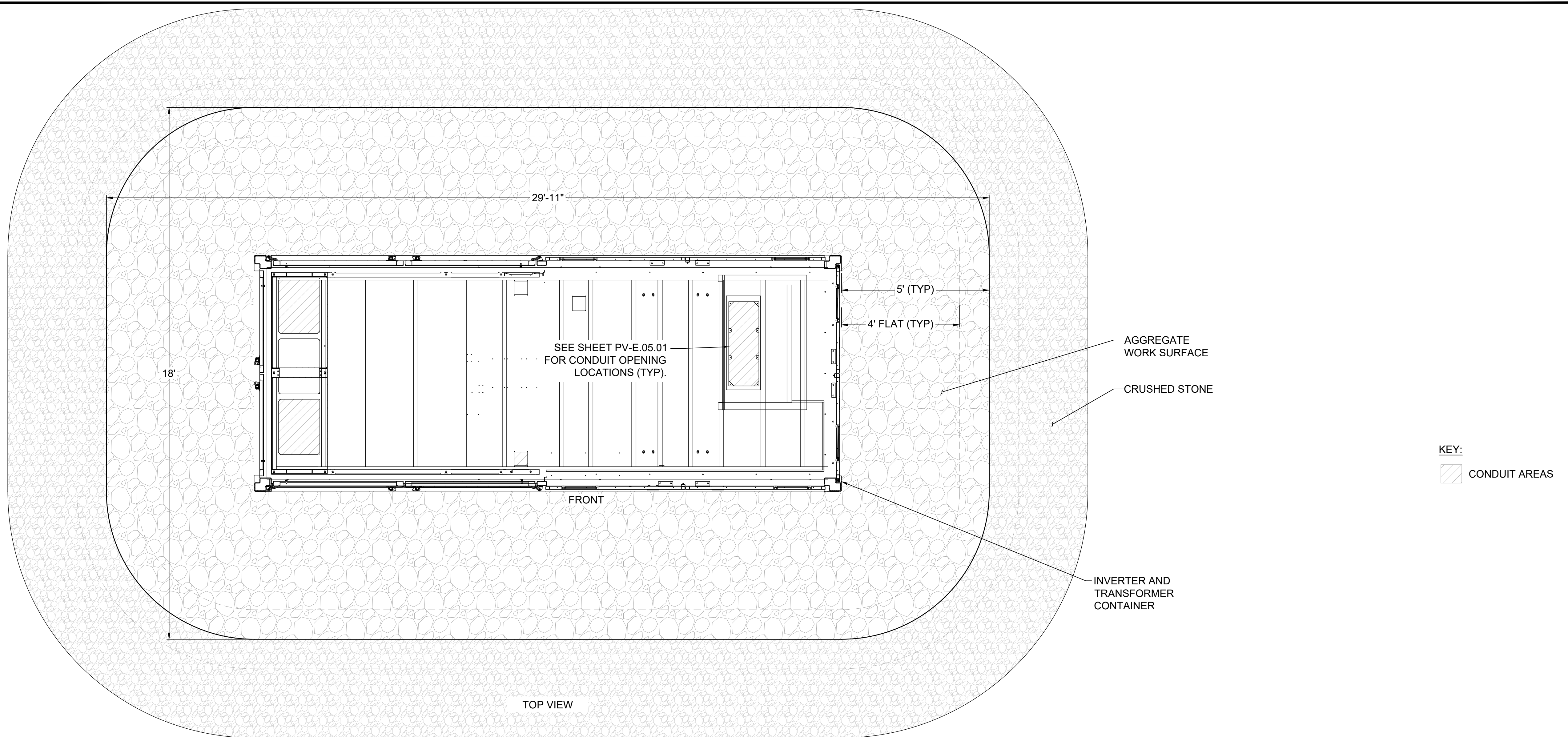
FOUNDATION DETAILS -
SG3150U-MV - 1 OF 2

ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

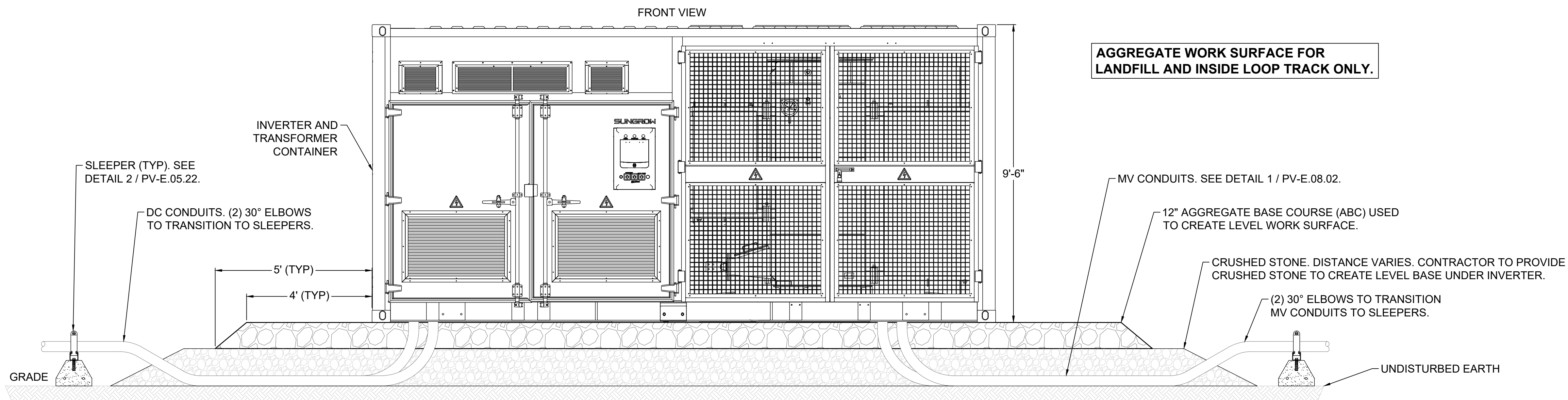
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DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

SHEET NO:	PV-E.05.02	REV:	1
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1 SUNGROW SG3150U-MV WITH AGGREGATE FOUNDATION
SCALE: NTS



2 SUNGROW SG3150U-MV WITH AGGREGATE FOUNDATION
SCALE: NTS

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

FOUNDATION DETAILS -
SG3150U-MV - 2 OF 2

ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

SHEET NO:	PV-E.05.03	REV:	1
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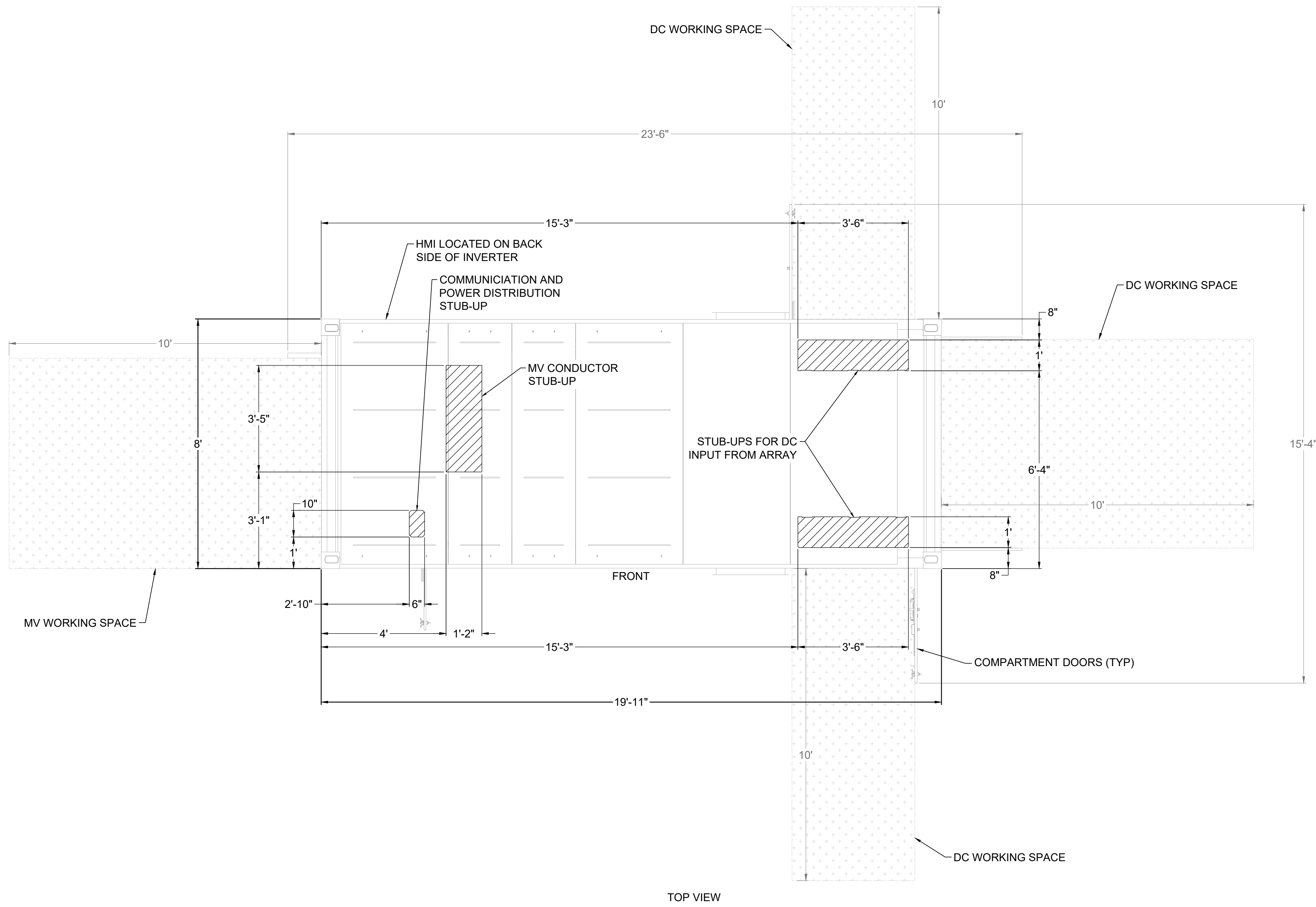
NOTES:

1. FIELD VERIFY ALL EQUIPMENT CONDUIT ENTRY AREAS.
2. EQUIPMENT DIMENSIONS AND CONDUIT WINDOWS ARE ESTIMATED. SEE MANUFACTURER RECORD DRAWINGS AND/OR MANUALS PRIOR TO CONSTRUCTION.
3. ALL EQUIPMENT MOUNTED TO PAD PER MANUFACTURER'S INSTRUCTION.
4. WORKING CLEARANCES SHALL BE IN ACCORDANCE WITH NEC ARTICLE 110 PART III AND MANUFACTURER'S REQUIREMENTS.
5. CONDUIT BOX OUTS SHALL BE FILLED WITH POLYWATER INSTAGROUT SEALANT (OAE) TO BLOCK MOISTURE WHILE ALLOWING THE CONDUIT TO REMAIN INDEPENDENT OF THE ENCLOSURE.

KEY:

 CONDUIT STUB-UP AREAS

NOTE: SEE SHEETS PV-E.05.05 AND PV-E.05.06 FOR FOUNDATION DETAILS.



TOP VIEW

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

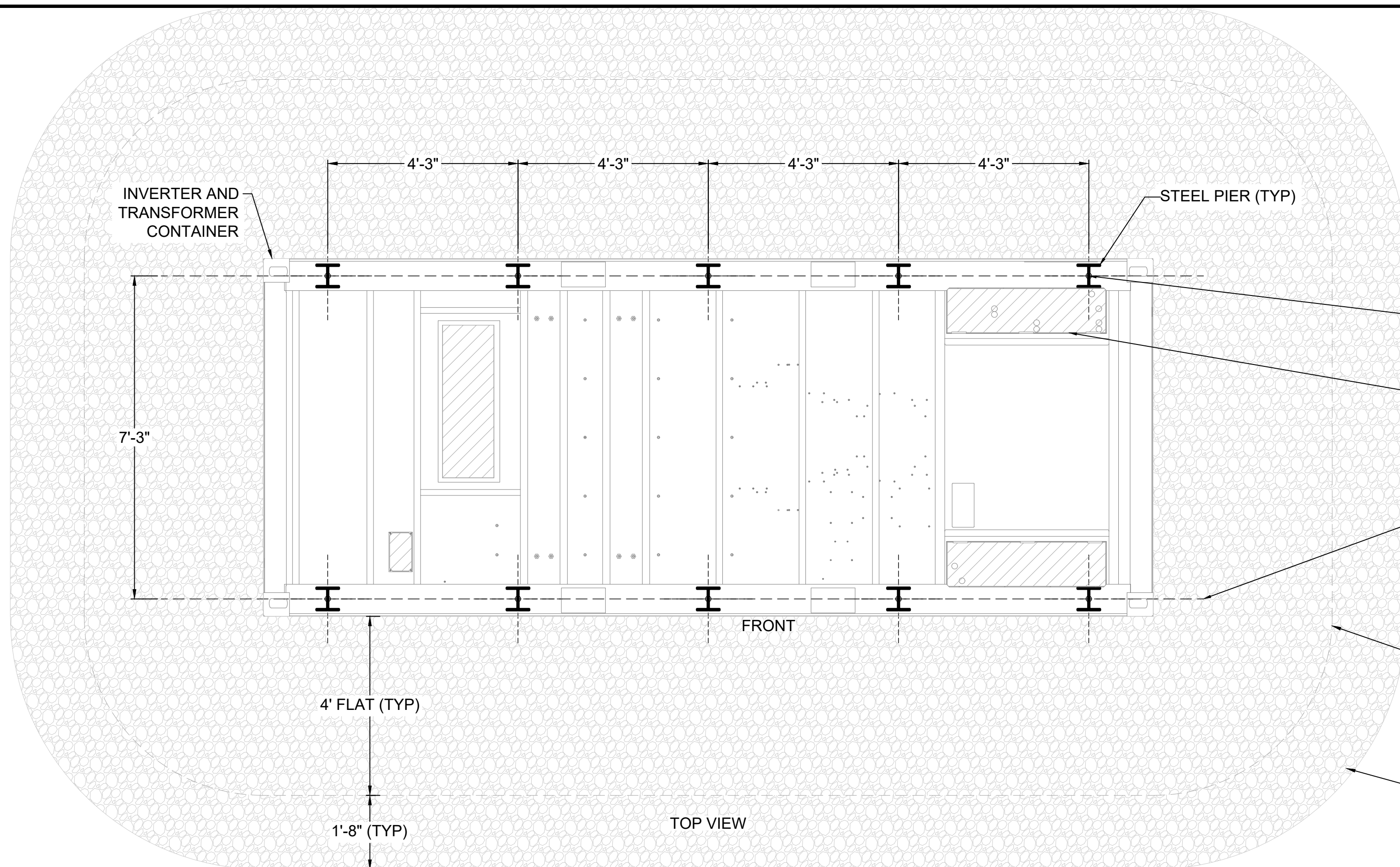
INVERTER PLAN VIEW
- SG3600UD-MV

ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

SHEET NO:	PV-E.05.04	REV:	1
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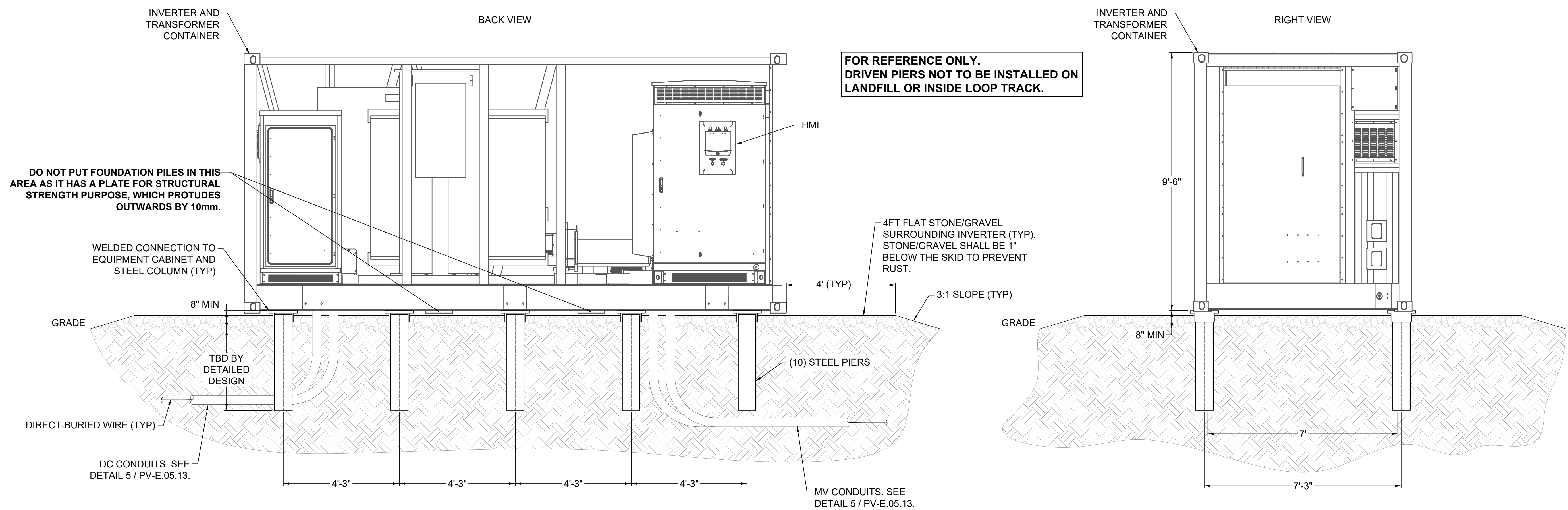
NOTES:

1. THE FOUNDATION DIMENSIONS MUST MEET THE REQUIREMENTS OF THE BEARING CAPACITY OF THE BEARING STRATUM. THE DEPTH OF THE FOUNDATION MUST REACH THE BEARING STRATUM WITH THE SUFFICIENT BEARING CAPACITY.
2. THE LOCATIONS AND SIZES OF THE CABLE ENTRIES MUST BE TAKEN INTO ACCOUNT FOR THE FINAL FOUNDATION DESIGN.
3. SEE STRUCTURAL DRAWINGS IN PV-C.10 SERIES FOR MATERIAL (CONCRETE AND STEEL) SPECIFICATIONS AND GENERAL NOTES.
4. PROVIDE 5FT FLAT CLEAR WORKING SPACE IN FRONT OF MV CABLE SECTION. SEE FINAL INVERTER MANUFACTURER DRAWINGS FOR LOCATION AND ACCESS.

KEY:



1 SUNGROW SG3600UD-MV FOUNDATION WITH PIERS
SCALE: NTS



2 SUNGROW SG3600UD-MV FOUNDATION WITH PIERS ELEVATION VIEW
SCALE: NTS

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

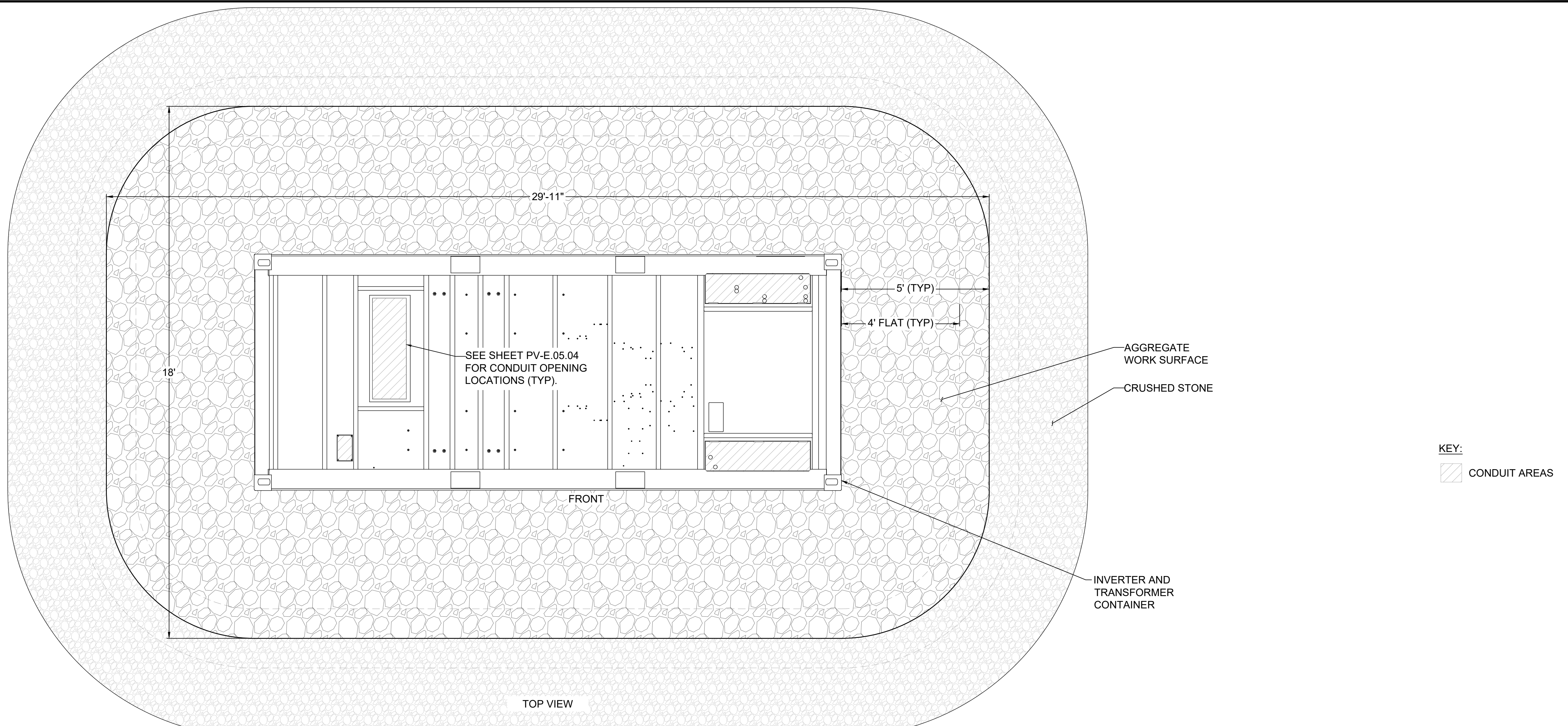
FOUNDATION DETAILS -
SG3600UD-MV - 1 OF 2

ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

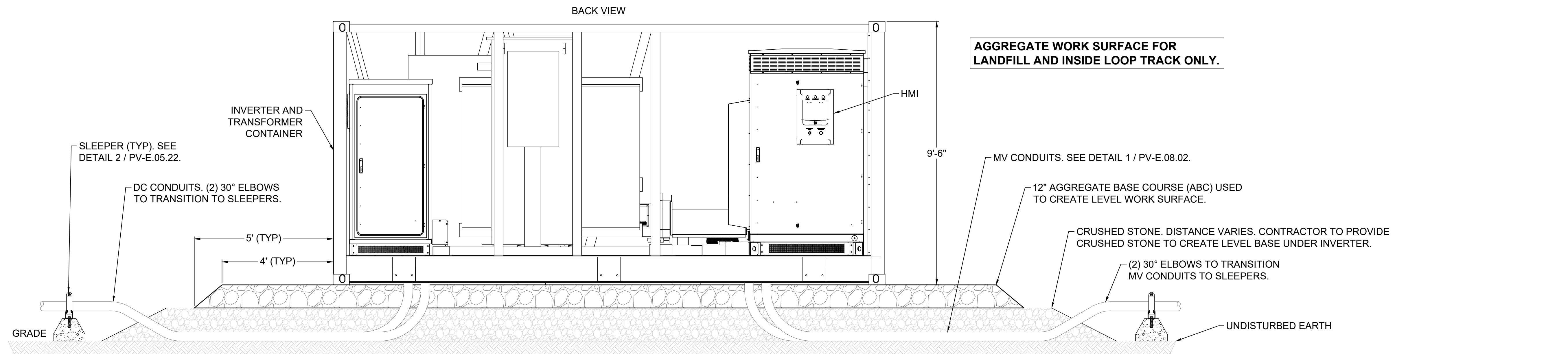
AS SHOWN

SHEET NO:	PV-E.05.05	REV:	1
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TOP VIEW

1 SUNGROW SG3600UD-MV WITH AGGREGATE FOUNDATION
SCALE: NTS



BACK VIEW

2 SUNGROW SG3600UD-MV WITH AGGREGATE FOUNDATION
SCALE: NTS

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

FOUNDATION DETAILS -
SG3600UD-MV - 2 OF 2

ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

SHEET NO:	PV-E.05.06	REV:	1
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KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

CONDUIT MANAGEMENT -
STANDARD 1 OF 3

ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

PROJ NUM: SU20.0012

DES: CB

DWN: CB

CHK: KL

APV: KL

DATE: 08/05/2022

SCALE AT 22" x 34":

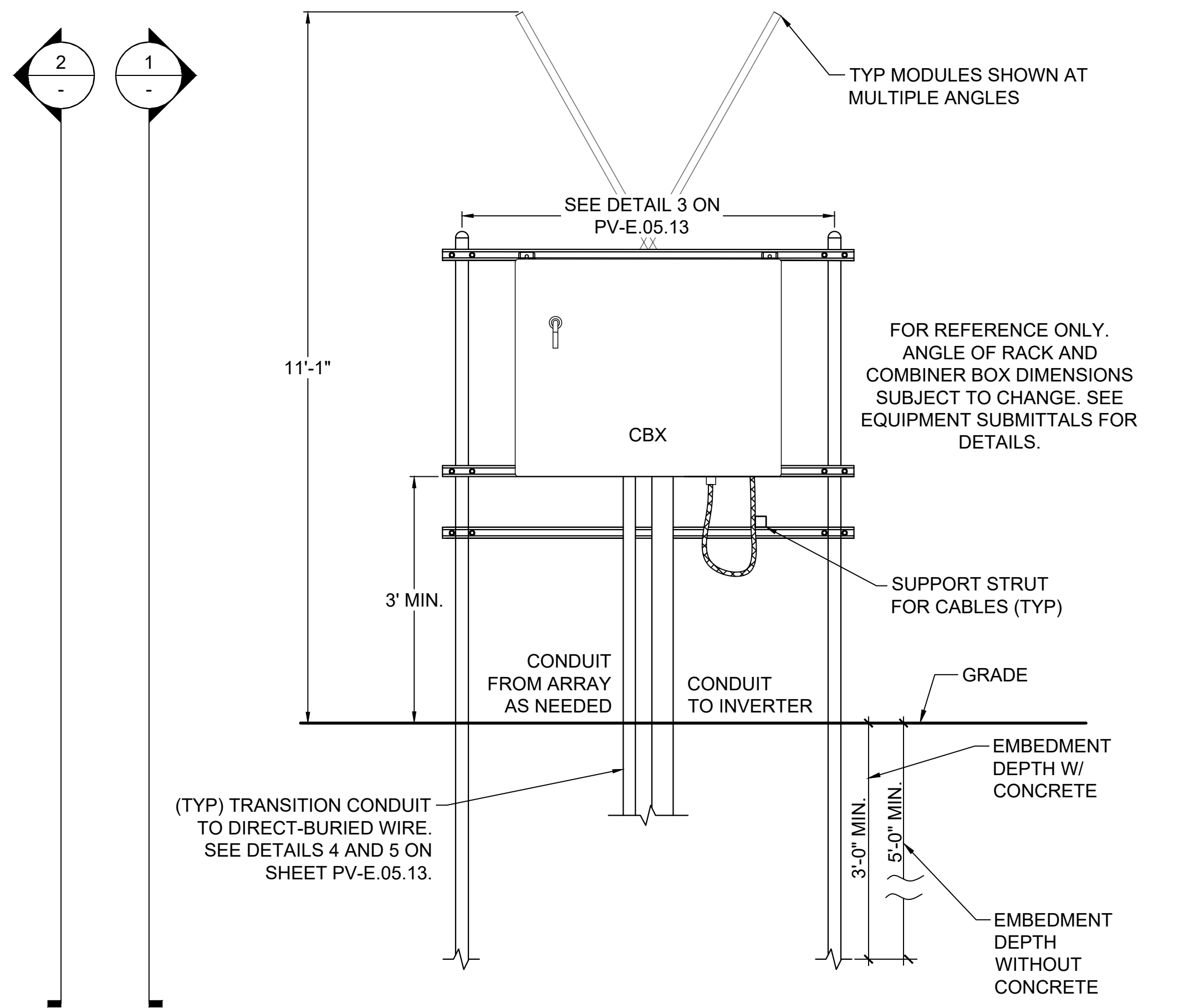
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SHEET NO: PV-E.05.11

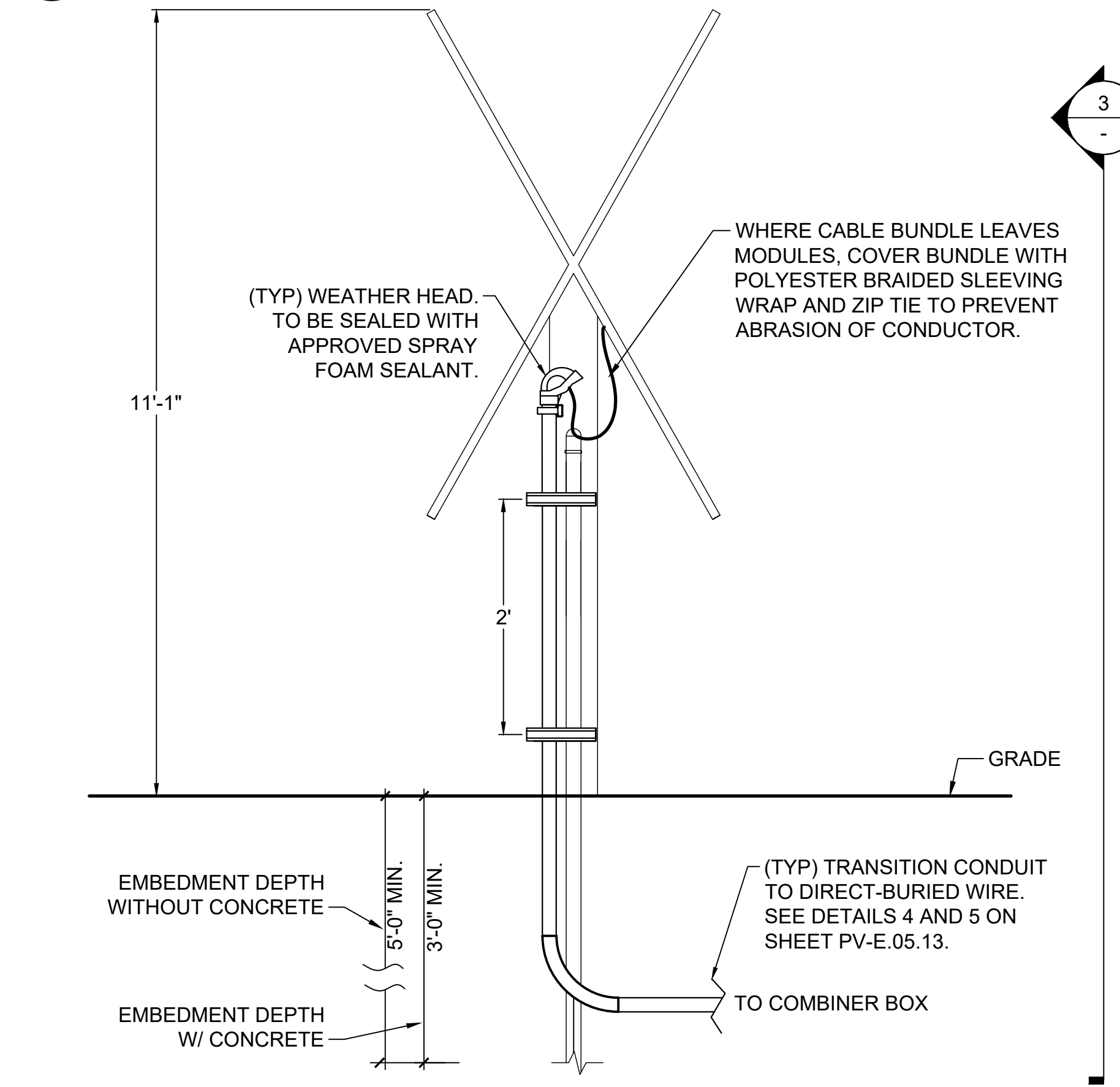
REV: 1

- GENERAL NOTES:**
- CANTILEVER STYLE TRACKER RACKING SHOWN. DISTANCE FROM RACKING SYSTEM POST LOCATION TO EDGE OF MODULE WILL VARY BASED ON RACKING STRUCTURAL CONFIGURATION. SEE RACKING STRUCTURAL DRAWINGS FOR FINAL DISTANCES.
 - CONDUIT OPENINGS SHALL BE SEALED PER SPECIFICATION NOTE 5.2.27 ON PV-E.00.01.
 - SEE STRUCTURAL DRAWINGS IN PV-C.10 SERIES FOR MATERIAL (CONCRETE, STEEL, ANCHORAGE, ETC.) SPECIFICATIONS AND GENERAL NOTES.

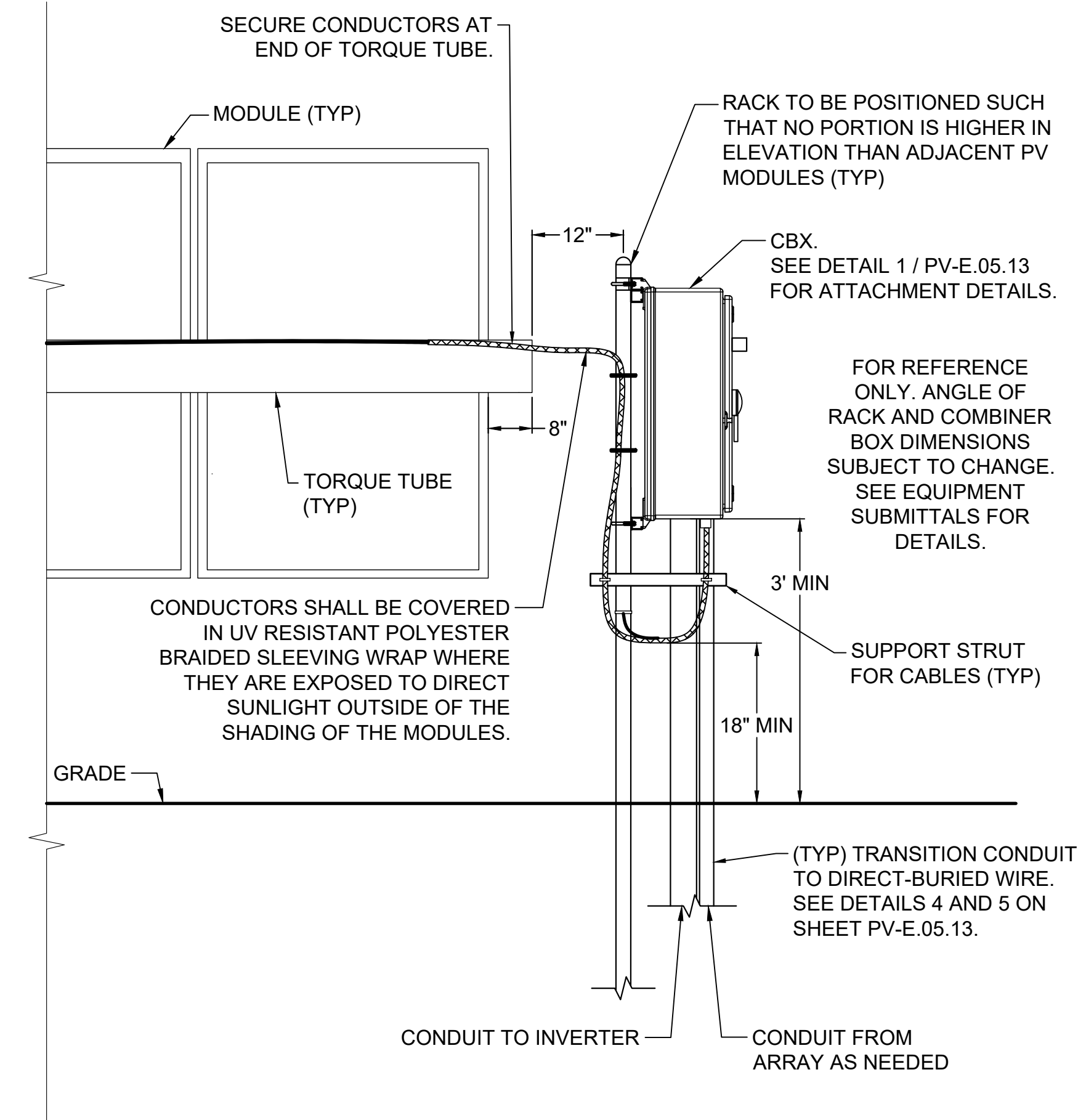
- WIRE MANAGEMENT REQUIREMENTS:**
- CONTRACTOR SHALL INSTALL WIRE LOOM FOR TRANSITIONS ON PIERS AND TRANSITION ACROSS TORQUE TUBES BETWEEN MOTORS AND DRIVES. CONTRACTOR SHALL NOT USE TIE WRAPS FOR SUCH APPLICATION.
 - CONTRACTOR SHALL PROTECT ANY OPEN WIRE THAT IS EXPOSED TO DIRECT SUNLIGHT FOR A LENGTH OVER 6" FROM THE SUN BY USING WIRE LOOM OR OTHER FORM OF APPROVED WIRE COVER. CONTRACTOR SHALL SHIELD ALL MC CONNECTORS FROM DIRECT EXPOSURE TO SUNLIGHT AND WEATHER (I.E., MUST BE COMPLETELY UNDER MODULE).
 - EACH USE OF A TIE WRAP, OTHER THAN SPECIFIED, MUST BE APPROVED BY OWNER. CONTRACTOR SHALL NOT USE TIE WRAPS WHEN TRANSITIONING ACROSS LARGE GAPS OR MOTOR GAPS. CONTRACTOR SHALL ADHERE TO THE FOLLOWING SPECIFICATIONS WHEN USING TIE WRAPS:
 - CONTRACTOR MAY USE TIE WRAPS TO BUNDLE WIRES TOGETHER, BUT NOT AS THE SUPPORT METHOD TO STRUCTURE OR MODULE.
 - WHEN USING TIE WRAPS, CONTRACTOR SHALL AVOID PINCHING WIRE INSULATION, AND ENSURE THAT THE TIE WRAP IS PULLED TO A REASONABLE TIGHTNESS.
 - ALL TIE WRAPS USED BY CONTRACTOR SHALL HAVE A MINIMUM WIDTH OF 0.185 INCHES.
 - CONTRACTOR SHALL ONLY USE HEAT STABILIZED/ULTRAVIOLET RESISTANT TIE WRAPS.
 - WIRE TRANSITIONS. CONTRACTOR SHALL ADHERE TO THE FOLLOWING SPECIFICATIONS REGARDING WIRE TRANSITIONS:
 - TRANSITION OF WIRES FROM ONE SURFACE TO THE OTHER OVER THE EDGE OF RACKING OR TRAY SHALL BE PROPERLY PROTECTED FROM CHAFING AND DAMAGE BY PROVIDING PROTECTIVE COVER FOR WIRE AT THESE LOCATIONS.
 - ALL WIRES TRANSITIONING FROM TRAY TO UNDERGROUND SHALL BE PROPERLY PROTECTED FROM DAMAGE AND CONTACT FROM LAWN/VEGETATION MAINTENANCE EQUIPMENT.
 - ALL TRANSITION OF WIRES FROM ONE ELEVATION TO ANOTHER SHALL HAVE PROPER WATERFALLS INSTALLED WITH PROTECTION OF WIRE FROM ANY SHARP EDGES.
 - EDGE GUARD NEED TO BE EMPLOYED TO PROTECT WIRE FROM SHARP EDGES AND SHOULD HAVE METAL ADHESION PROPERTIES (NOT GLUE) AND BE UV RATED TO ENSURE LONGEVITY.



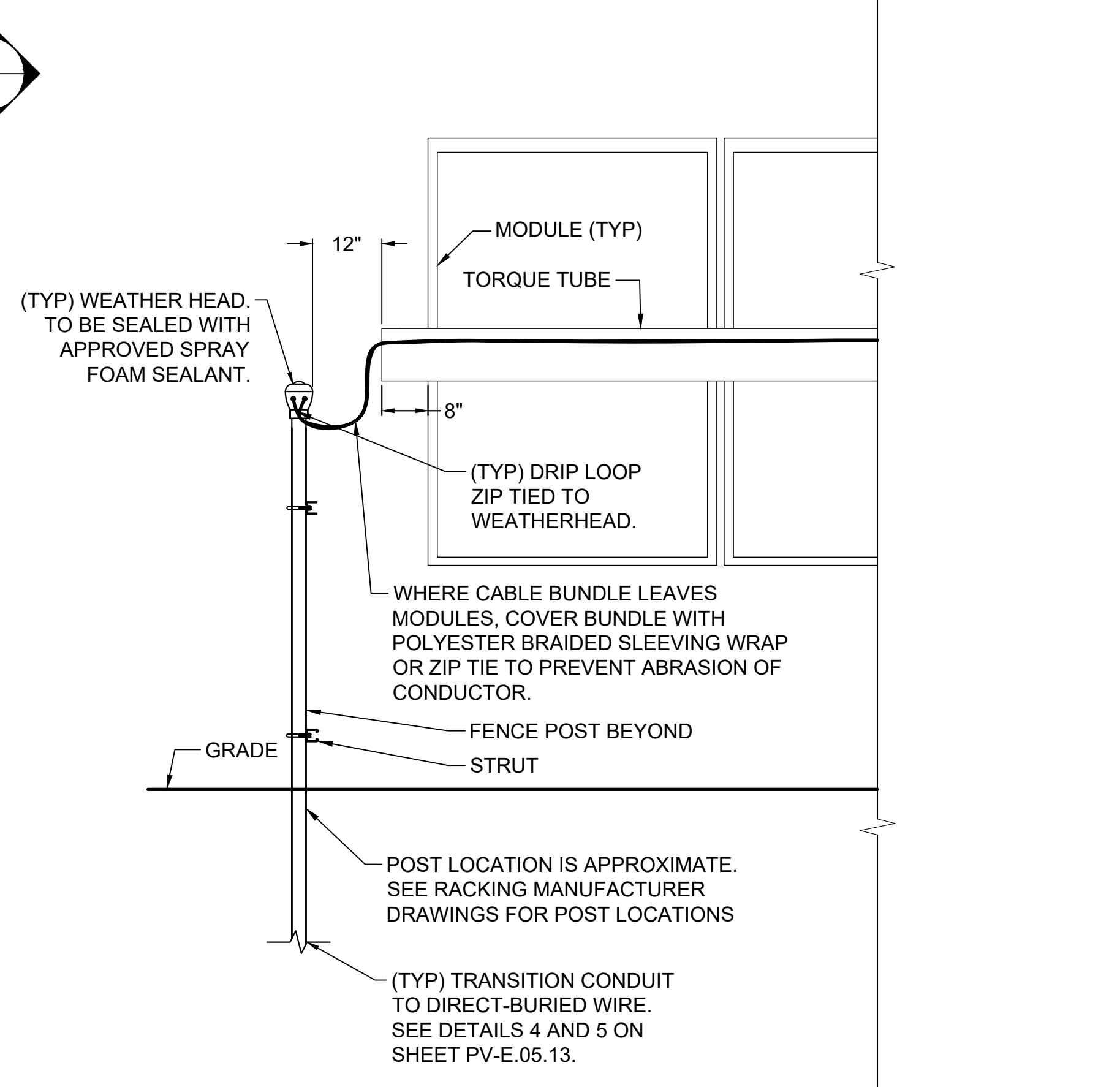
2 COMBINER BOX FRONT ELEVATION - TRACKERS
SCALE: NTS



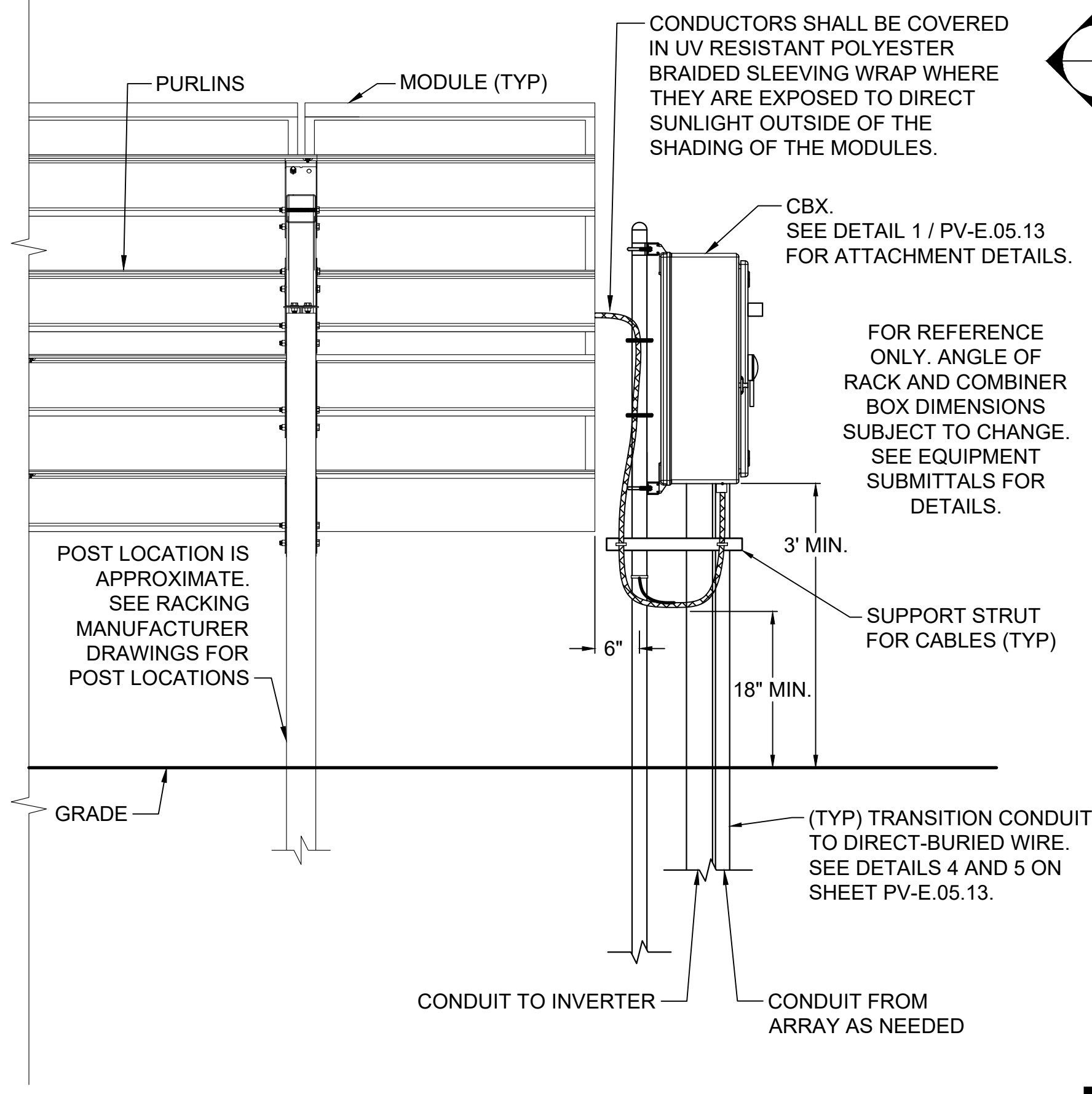
4 WEATHER HEAD - FRONT ELEVATION - TRACKERS
SCALE: NTS



1 COMBINER BOX SIDE ELEVATION - TRACKERS
SCALE: NTS

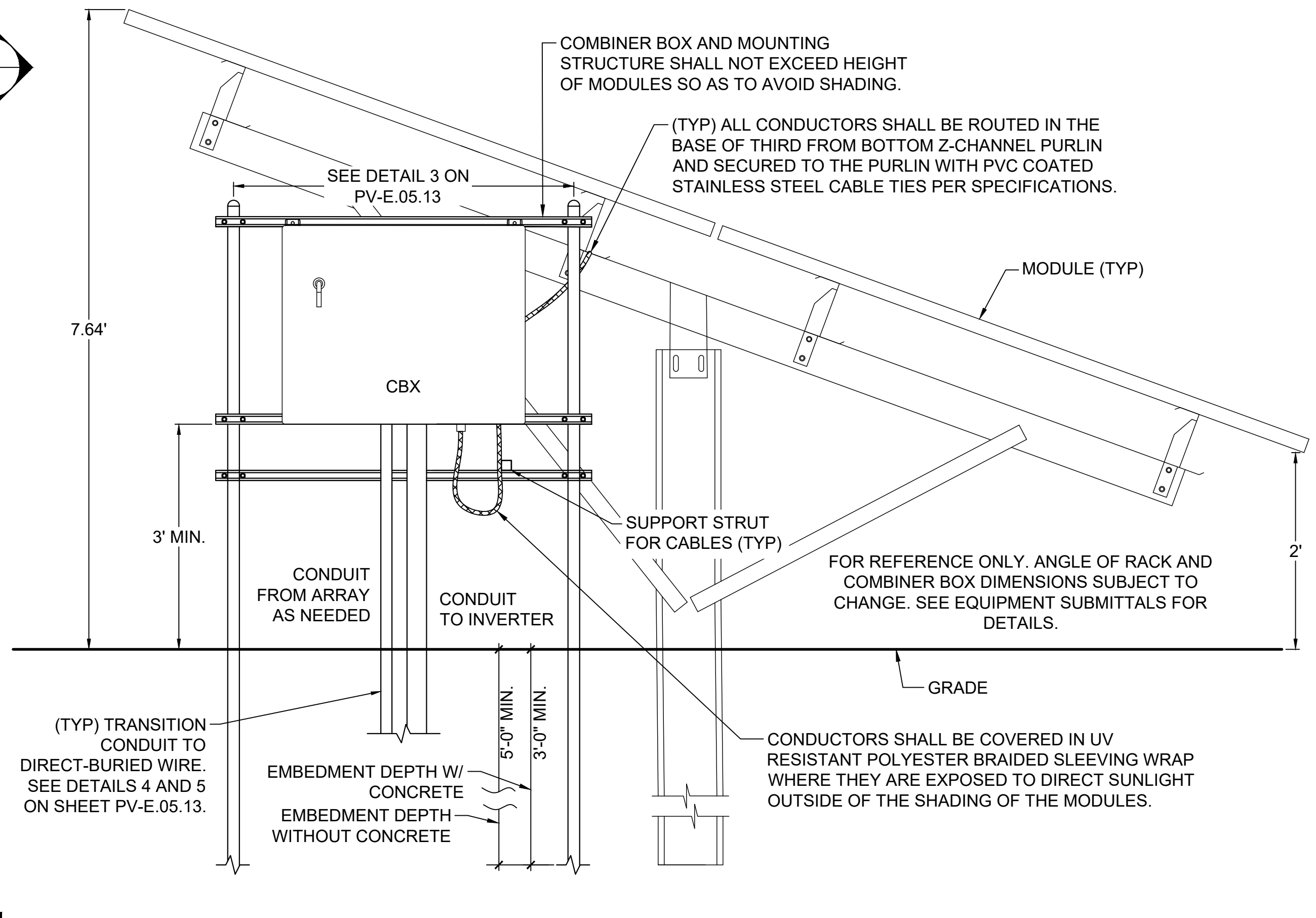


3 WEATHER HEAD SIDE ELEVATION - TRACKERS
SCALE: NTS



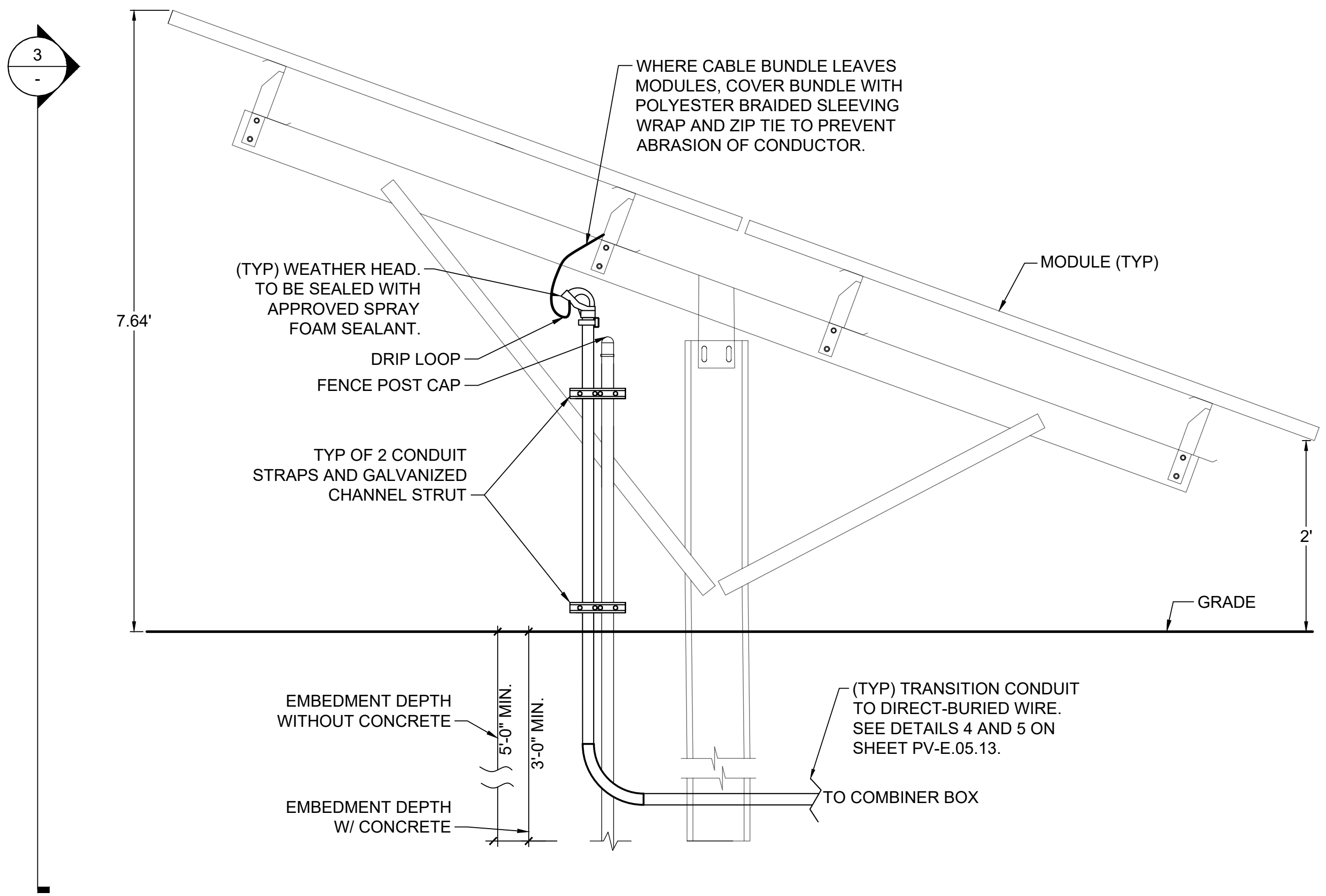
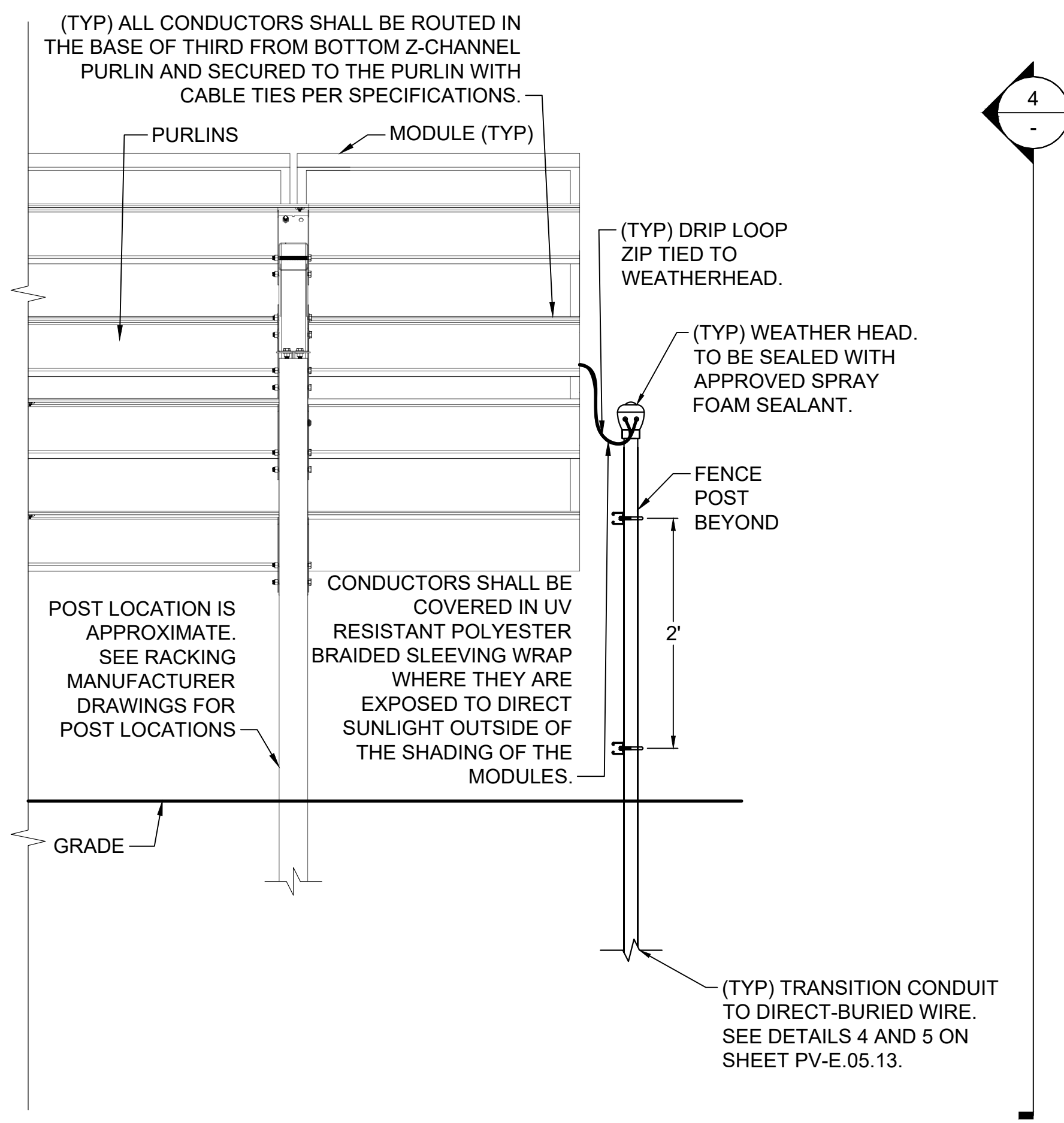
- GENERAL NOTES:**
1. THE DETAILS SHOWN ON THIS SHEET ARE ONLY APPLICABLE TO THE FIXED TILT RACKING LOCATED IN AREA 8 OUTSIDE OF THE LOOP TRACK.
 2. CONDUIT OPENINGS SHALL BE SEALED PER SPECIFICATION NOTE 5.2.27 ON PV-E.00.01.
 3. SEE STRUCTURAL DRAWINGS IN PV-C.10 SERIES FOR MATERIAL (CONCRETE, STEEL, ANCHORAGE, ETC.) SPECIFICATIONS AND GENERAL NOTES.

- WIRE MANAGEMENT REQUIREMENTS:**
1. SEE WIRE MANAGEMENT REQUIREMENTS ON PV-E.05.11.



1 COMBINER BOX SIDE ELEVATION - FIXED TILT (A8-INV7 NORTHEAST ONLY)
SCALE: NTS

2 COMBINER BOX FRONT ELEVATION - FIXED TILT (A8-INV7 NORTHEAST ONLY)
SCALE: NTS



3 WEATHER HEAD SIDE ELEVATION - FIXED TILT (A8-INV7 NORTHEAST ONLY)
SCALE: NTS

4 WEATHER HEAD - FRONT ELEVATION - FIXED TILT (A8-INV7 NORTHEAST ONLY)
SCALE: NTS

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

**LAKE ROAD
SOMERSET, NY**

SHEET TITLE & DESCRIPTION:

**CONDUIT MANAGEMENT -
STANDARD 2 OF 3**

**ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION**

PROJ NUM: SU20.0012

DES: CB

DWN: CB

CHK: KL

APV: KL

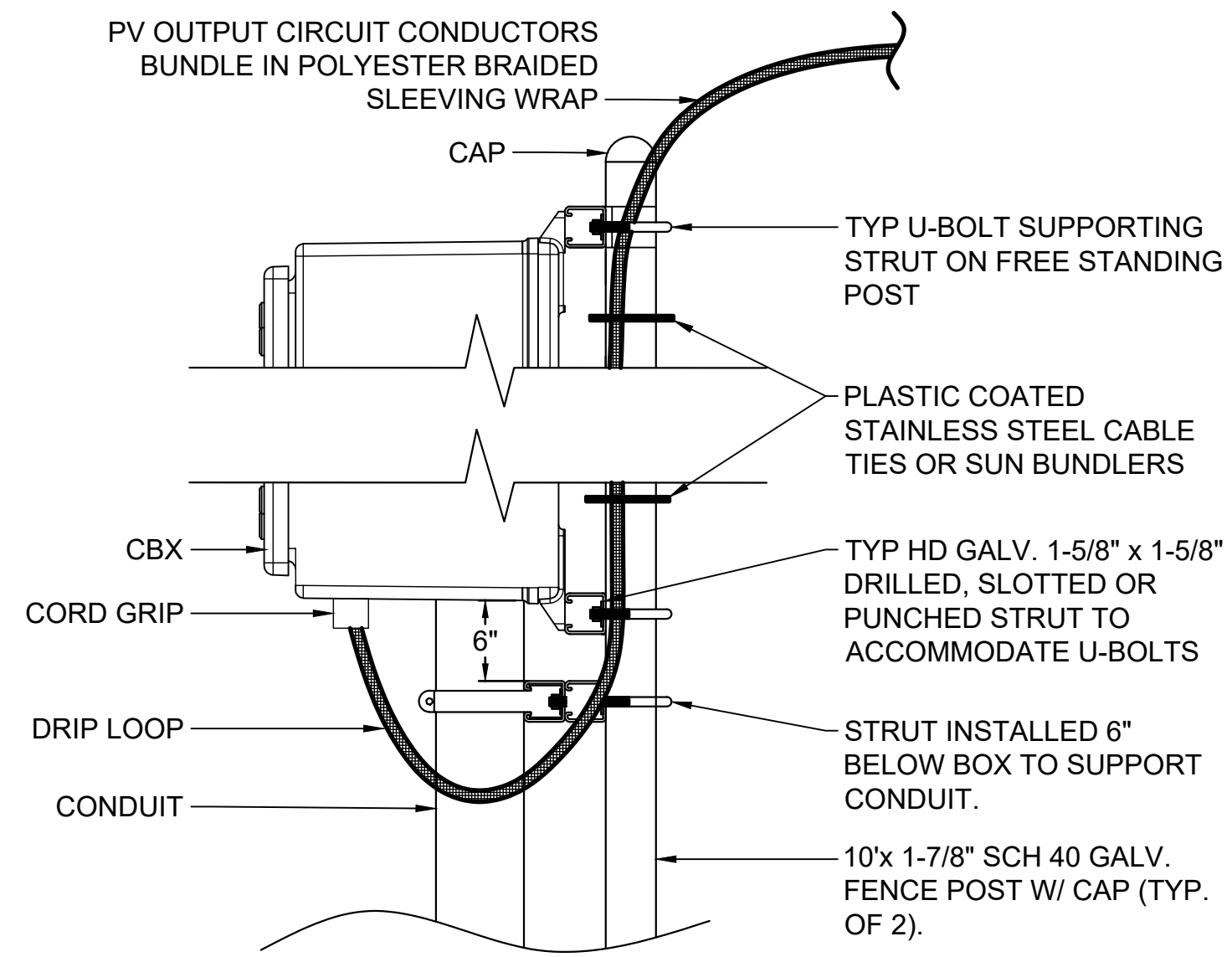
DATE: 08/05/2022

SCALE AT 22" x 34":

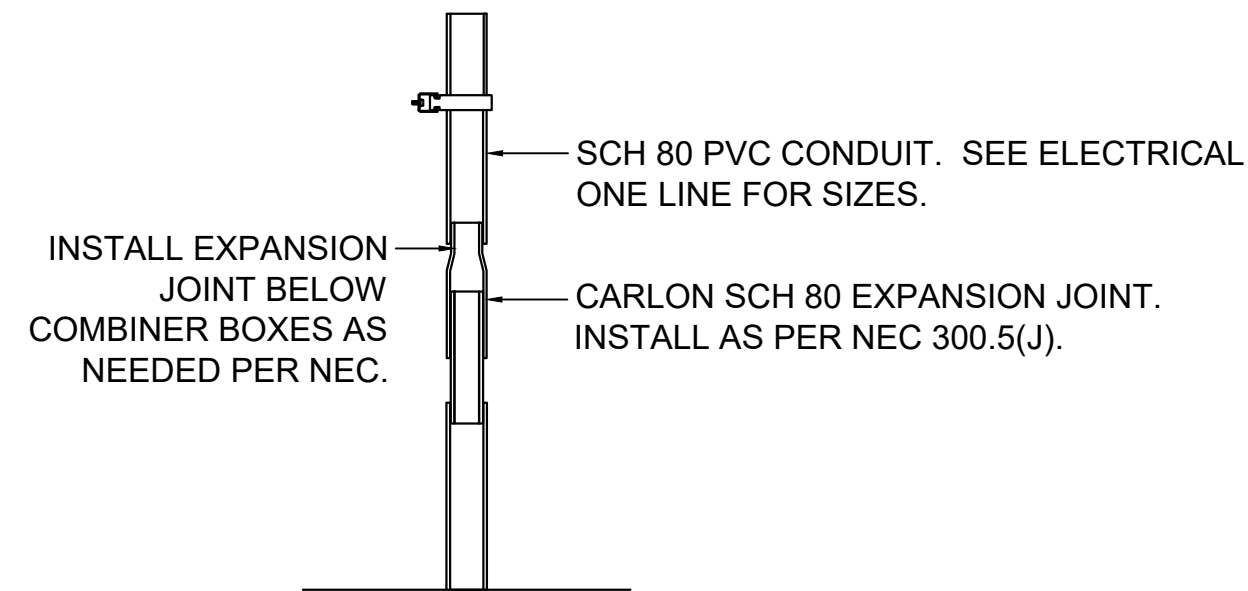
AS SHOWN

SHEET NO: PV-E.05.12

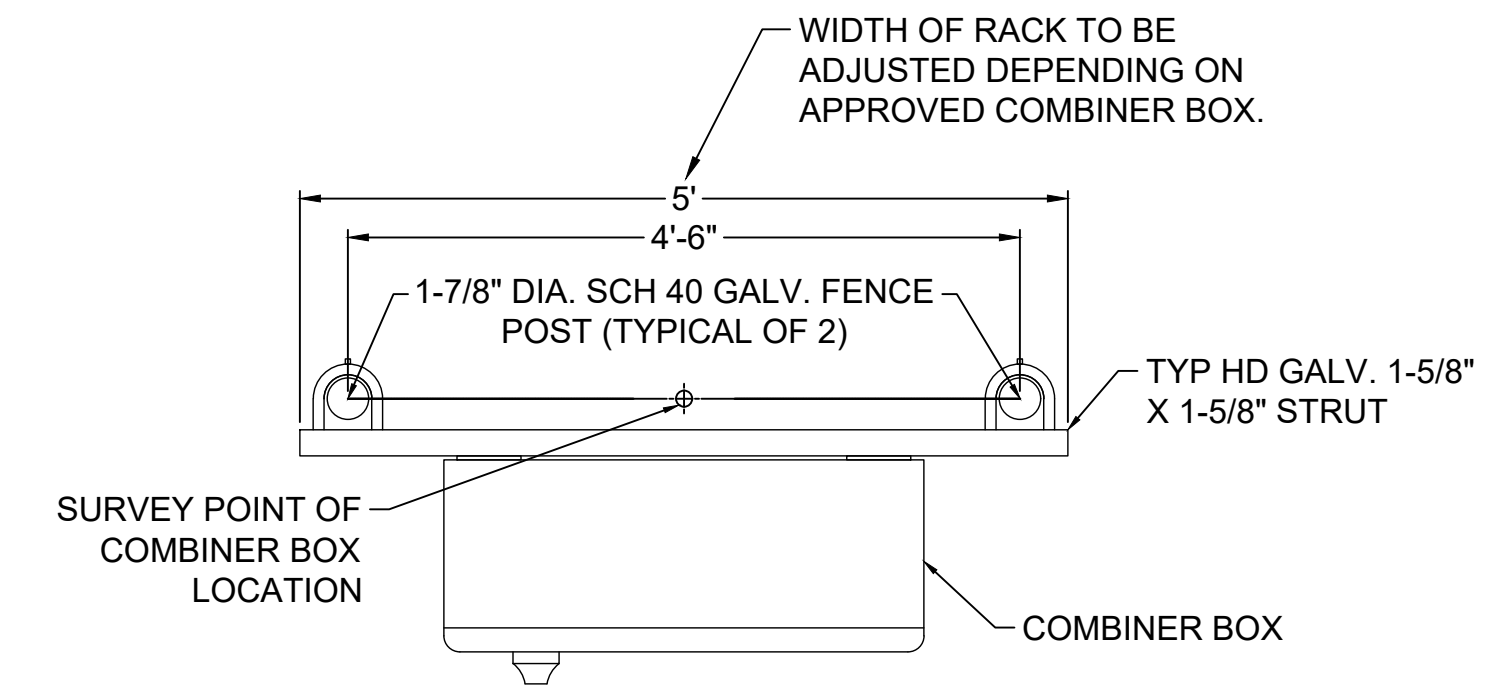
REV: 1



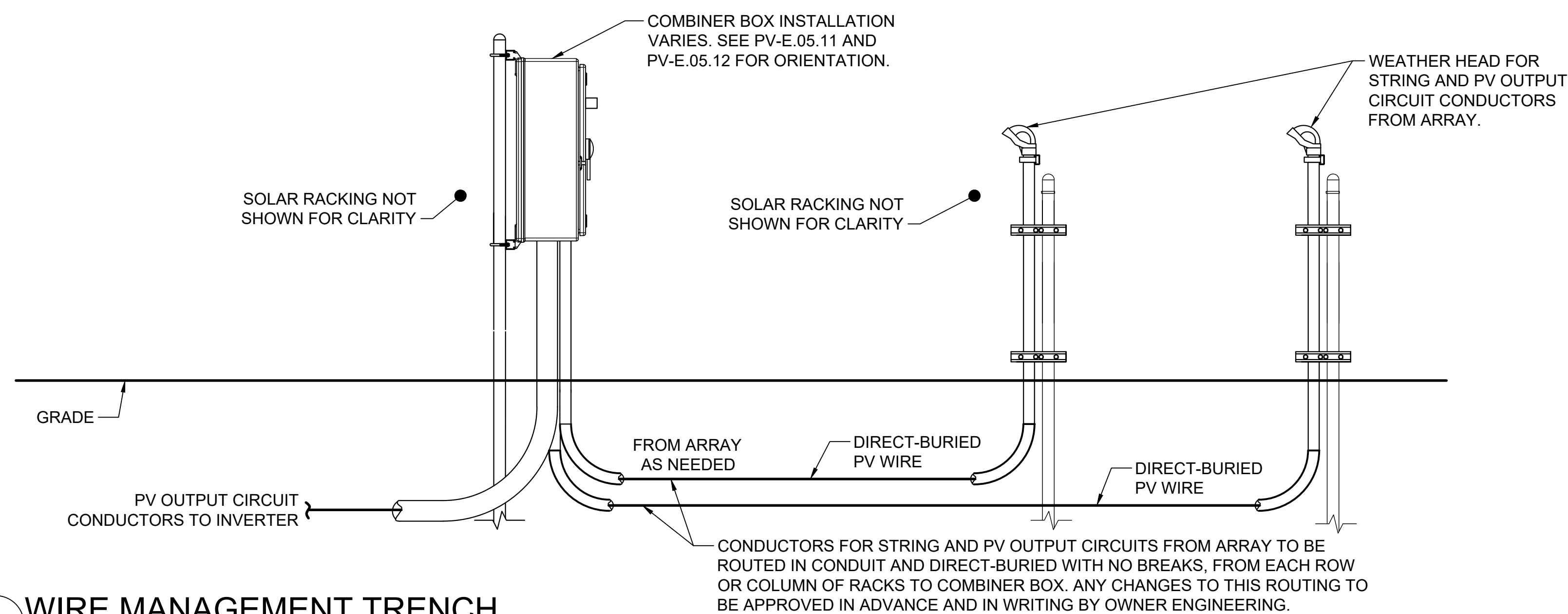
1 COMBINER BOX ATTACHMENT DETAIL - ELEVATION
SCALE: NTS



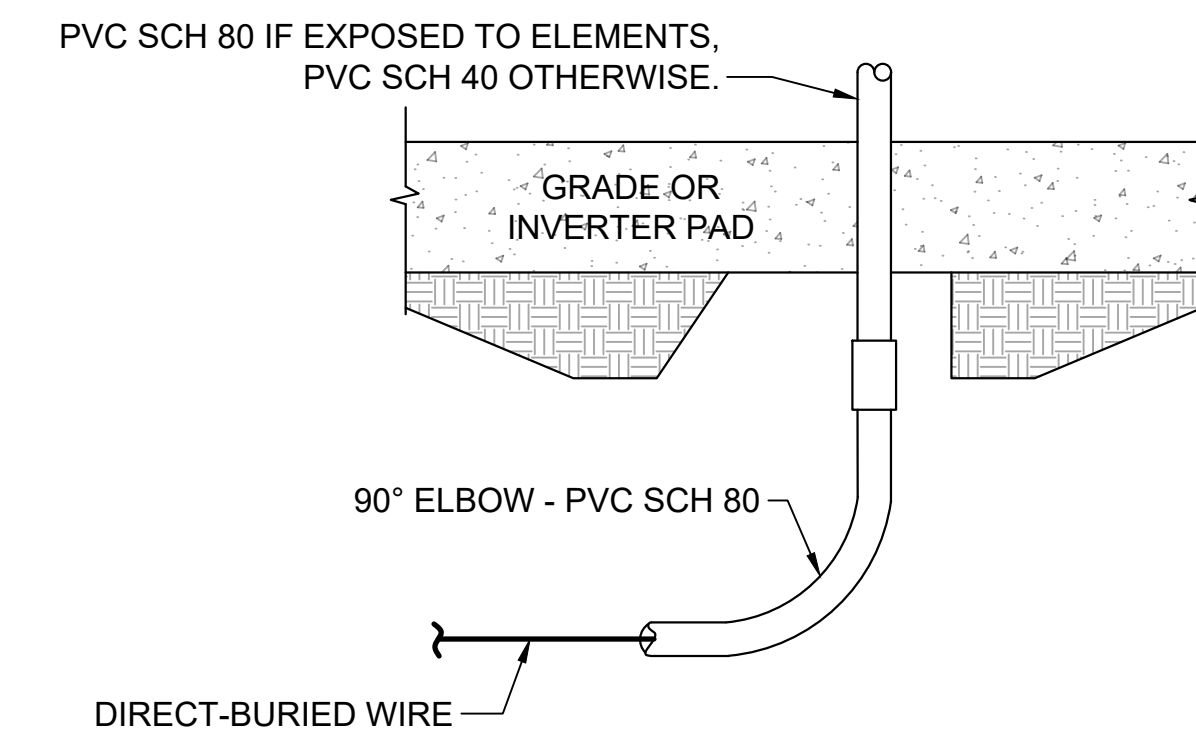
2 CONDUIT EXPANSION
SCALE: NTS



3 COMBINER BOX TOP VIEW
SCALE: NTS



4 WIRE MANAGEMENT TRENCH
SCALE: NTS



- NOTES:**
- SEE GENERAL NOTES FOR CONDUIT MATERIAL.
 - INITIALLY INSTALL COUPLING AND CAP TO PREVENT DAMAGE TO STUB-UP UNTIL EQUIPMENT IS SET.
 - INSTALL CONDUIT BUSHING BEFORE PULLING CONDUCTORS TO AVOID DAMAGE TO CONDUCTORS AND CABLES.

5 UNDERGROUND CONDUIT TRANSITION DETAIL
SCALE: NTS

GENERAL NOTES:
1. SEE STRUCTURAL DRAWINGS IN PV-C.10 SERIES FOR MATERIAL (CONCRETE, STEEL, ANCHORAGE, ETC.) SPECIFICATIONS AND GENERAL NOTES.

WIRE MANAGEMENT REQUIREMENTS:
1. SEE WIRE MANAGEMENT REQUIREMENTS ON PV-E.05.11.

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KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

CONDUIT MANAGEMENT -
STANDARD 3 OF 3

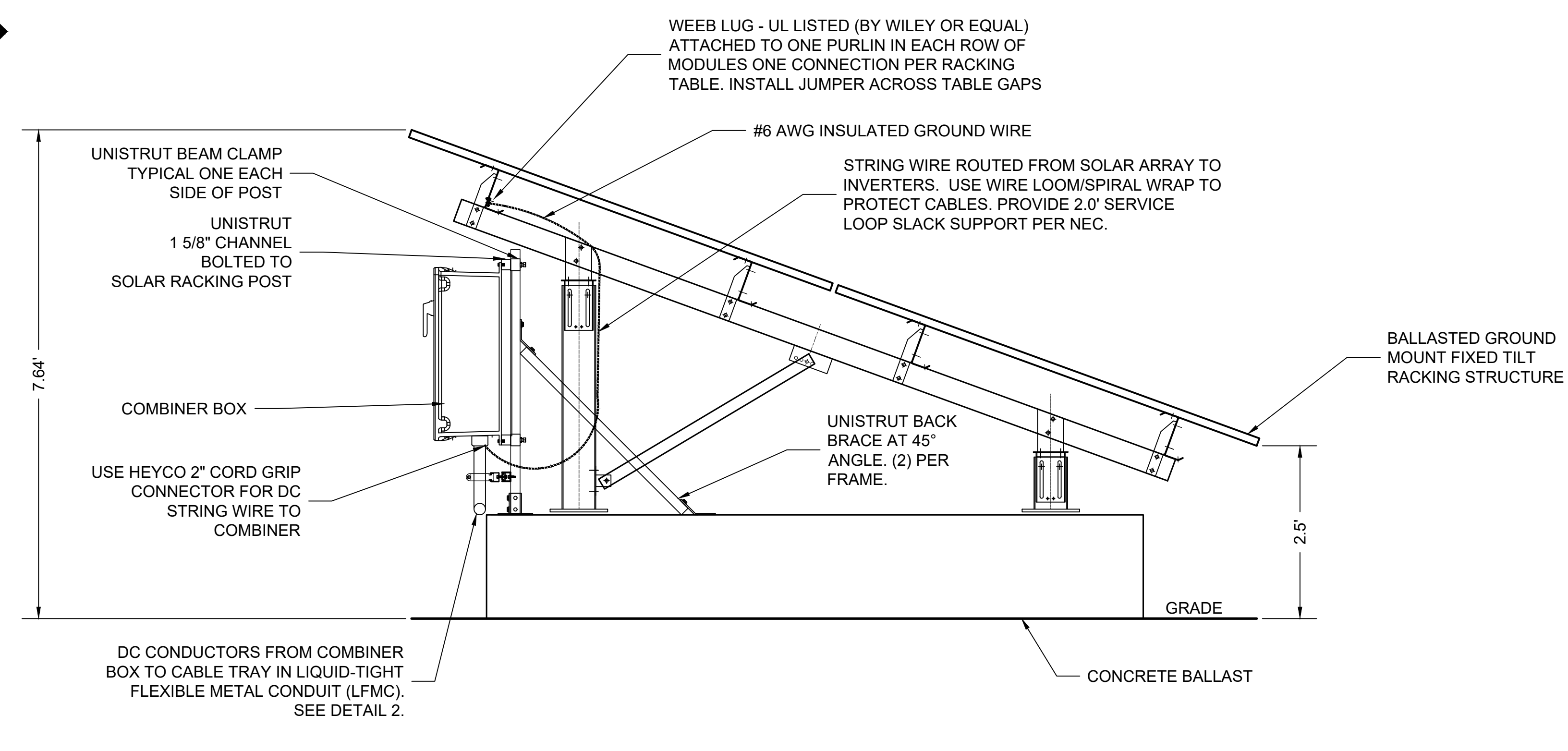
ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

SHEET NO:	PV-E.05.13	REV:	1
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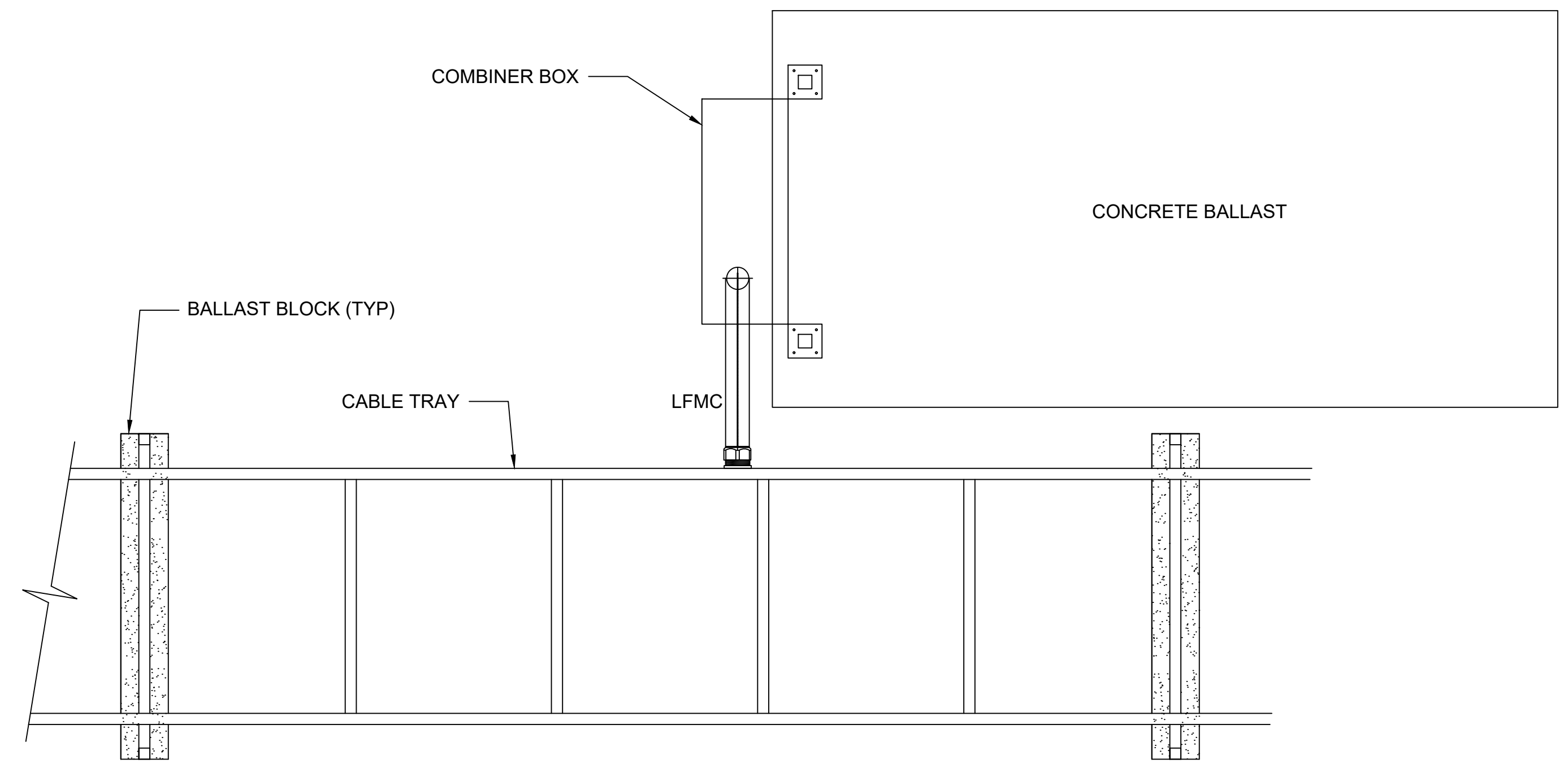
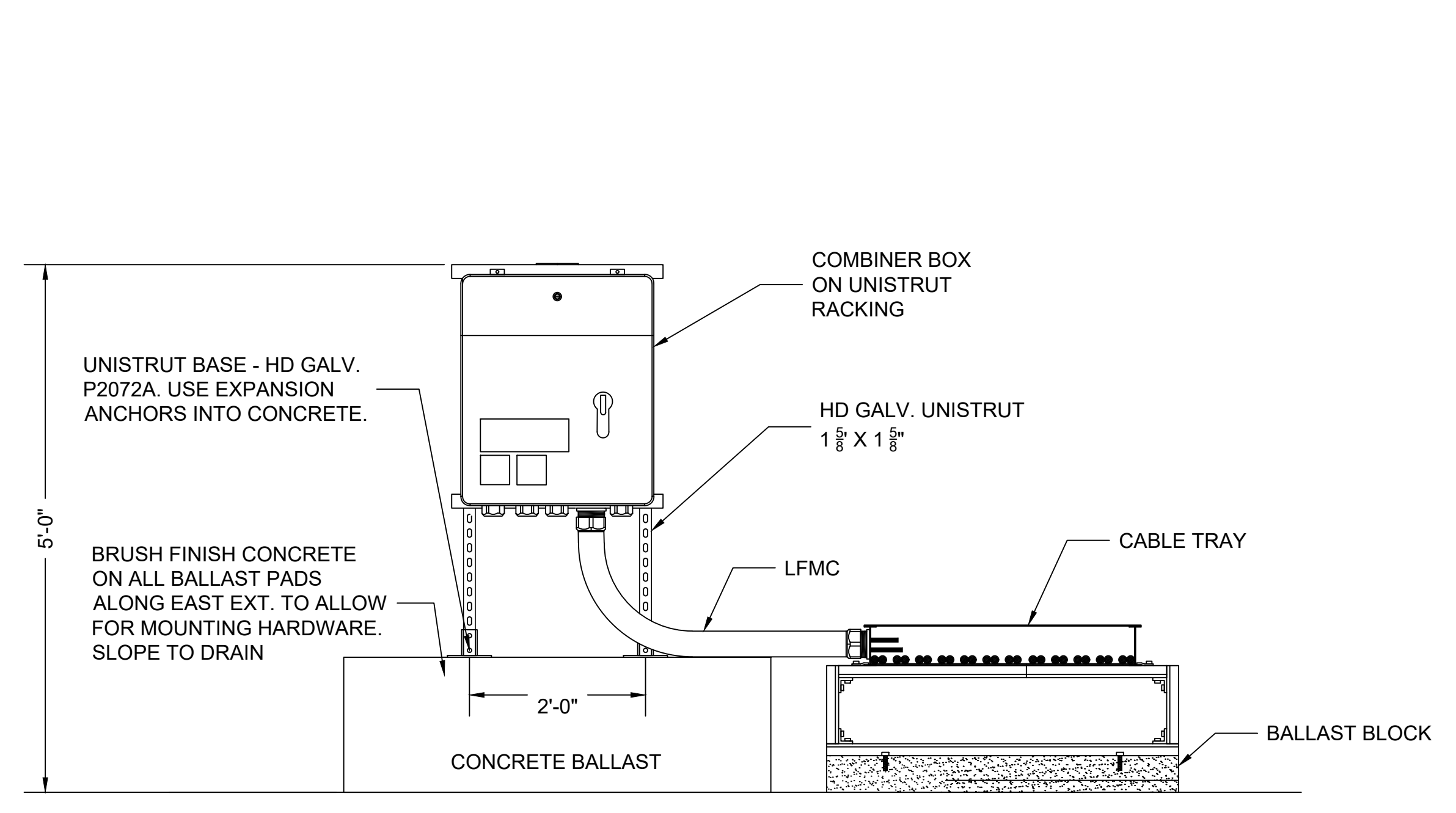
2
-



GENERAL NOTES:
 1. SEE STRUCTURAL DRAWINGS IN PV-C.10 SERIES FOR MATERIAL (CONCRETE, STEEL, ANCHORAGE, ETC.) SPECIFICATIONS AND GENERAL NOTES.

WIRE MANAGEMENT REQUIREMENTS:
 1. SEE WIRE MANAGEMENT REQUIREMENTS ON PV-E.05.11.

1
-
COMBINER BOX / CABLE TRAY INSTALLATION
 SCALE: NTS



2
-
COMBINER BOX / CABLE TRAY INSTALLATION ELEVATION
 SCALE: NTS

3
-
COMBINER BOX / CABLE TRAY INSTALLATION
 SCALE: NTS

aes
 AES CLEAN ENERGY DEVELOPMENT, LLC
 292 MADISON AVENUE, 15TH FLOOR
 NEW YORK, NY 10017

TETRA TECH

AVOCA
 ENGINEERING
 ARCHITECTURE, PLLC
 342 OLD NEW BRUNSWICK ROAD, FREDONIA, NJ 08054
 PHONE (732) 465-1002 FAX (732) 465-1005

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KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:
 SOMERSET SOLAR PROJECT

PROJECT LOCATION:
 LAKE ROAD
 SOMERSET, NY

SHEET TITLE & DESCRIPTION:
 CONDUIT MANAGEMENT - BALLASTED 1 OF 2

ISSUED FOR 94-C PERMIT ONLY
 NOT FOR CONSTRUCTION

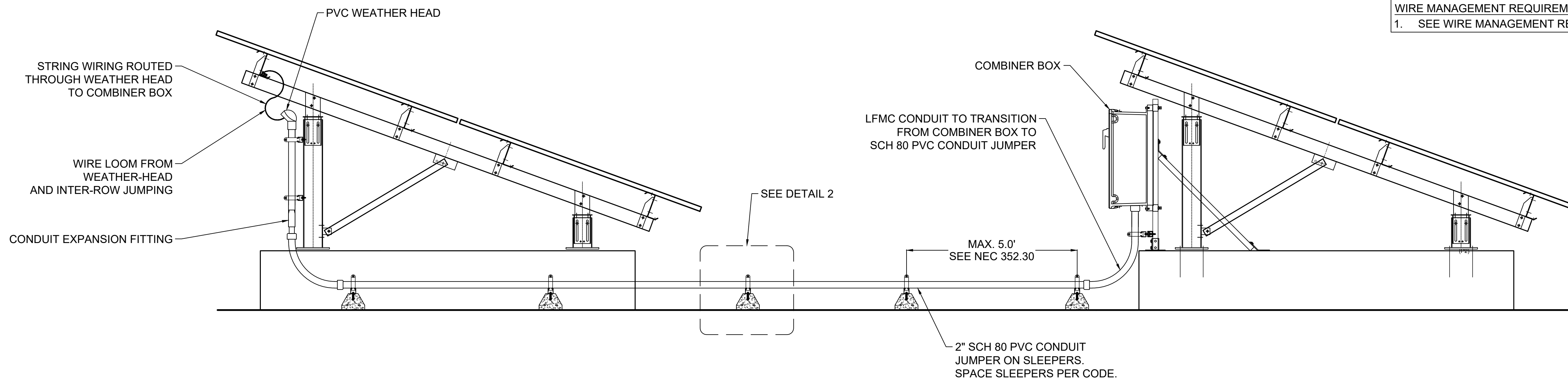
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 DES: CB
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 CHK: KL
 APV: KL
 DATE: 08/05/2022
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SHEET NO: PV-E.05.21 REV: 1

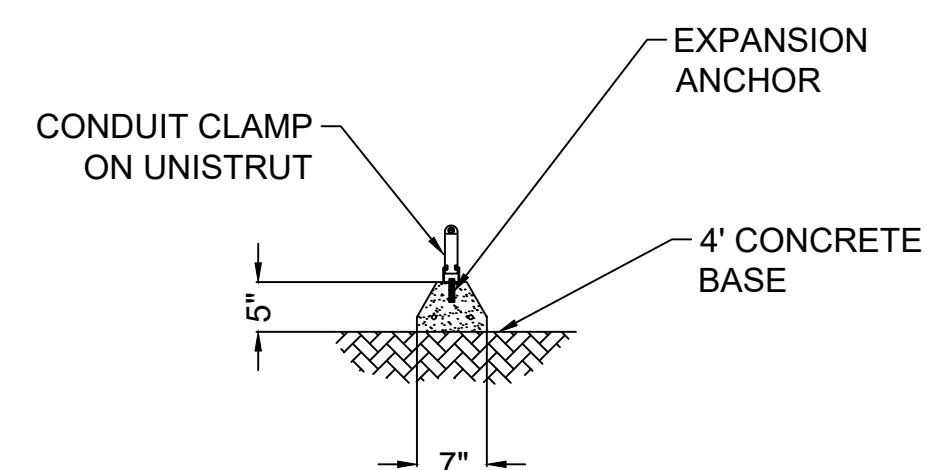
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GENERAL NOTES:
1. SEE STRUCTURAL DRAWINGS IN PV-C.10 SERIES FOR MATERIAL (CONCRETE, STEEL, ANCHORAGE, ETC.) SPECIFICATIONS AND GENERAL NOTES.

WIRE MANAGEMENT REQUIREMENTS:
1. SEE WIRE MANAGEMENT REQUIREMENTS ON PV-E.05.11.



1 INTER-ROW CONDUIT JUMPER - BALLASTED
SCALE: NTS



2 CONCRETE BASE DETAIL
SCALE: NTS

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

CONDUIT MANAGEMENT -
BALLASTED 2 OF 2

ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

PROJ NUM: SU20.0012

DES: CB

DWN: CB

CHK: KL

APV: KL

DATE: 08/05/2022

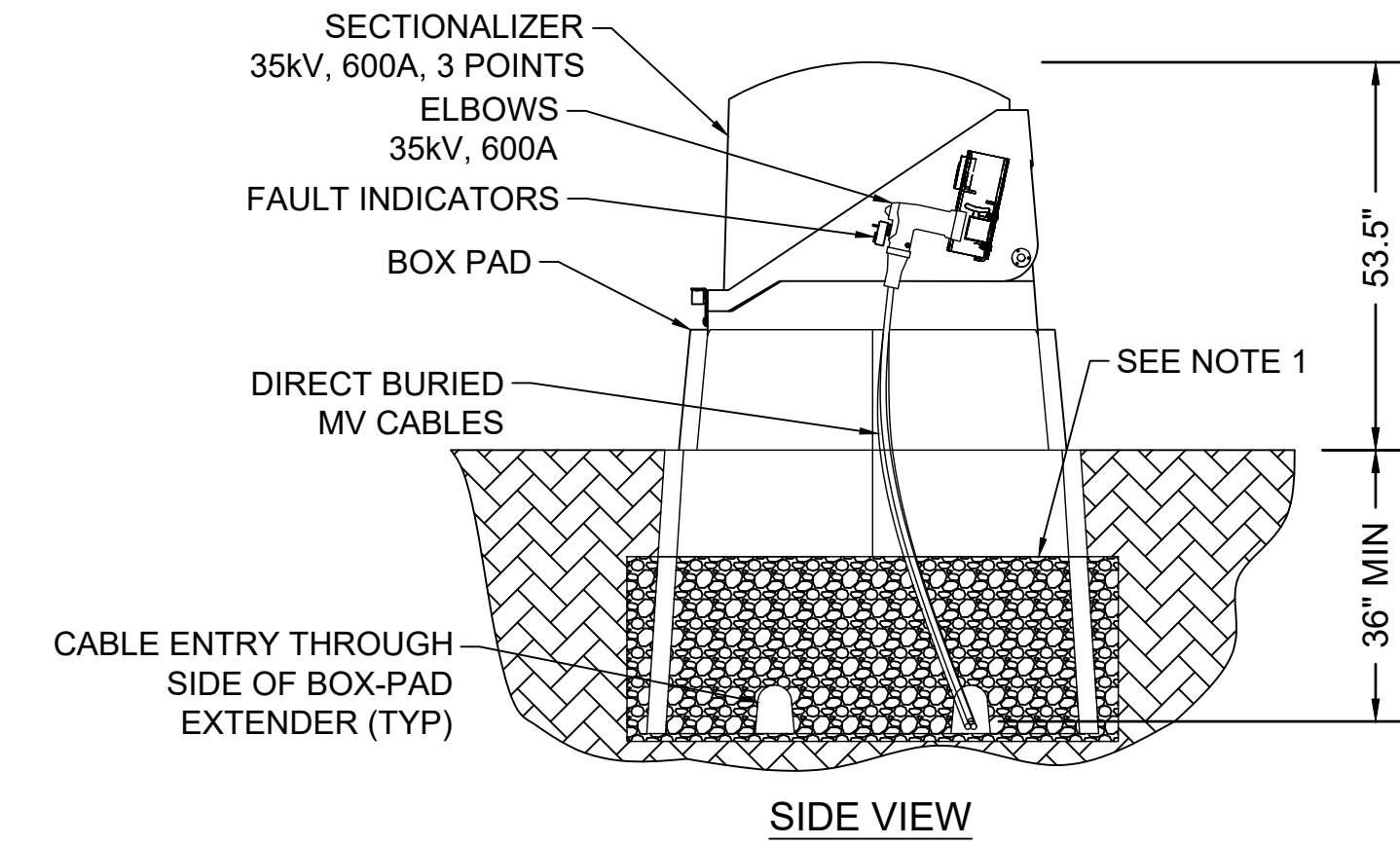
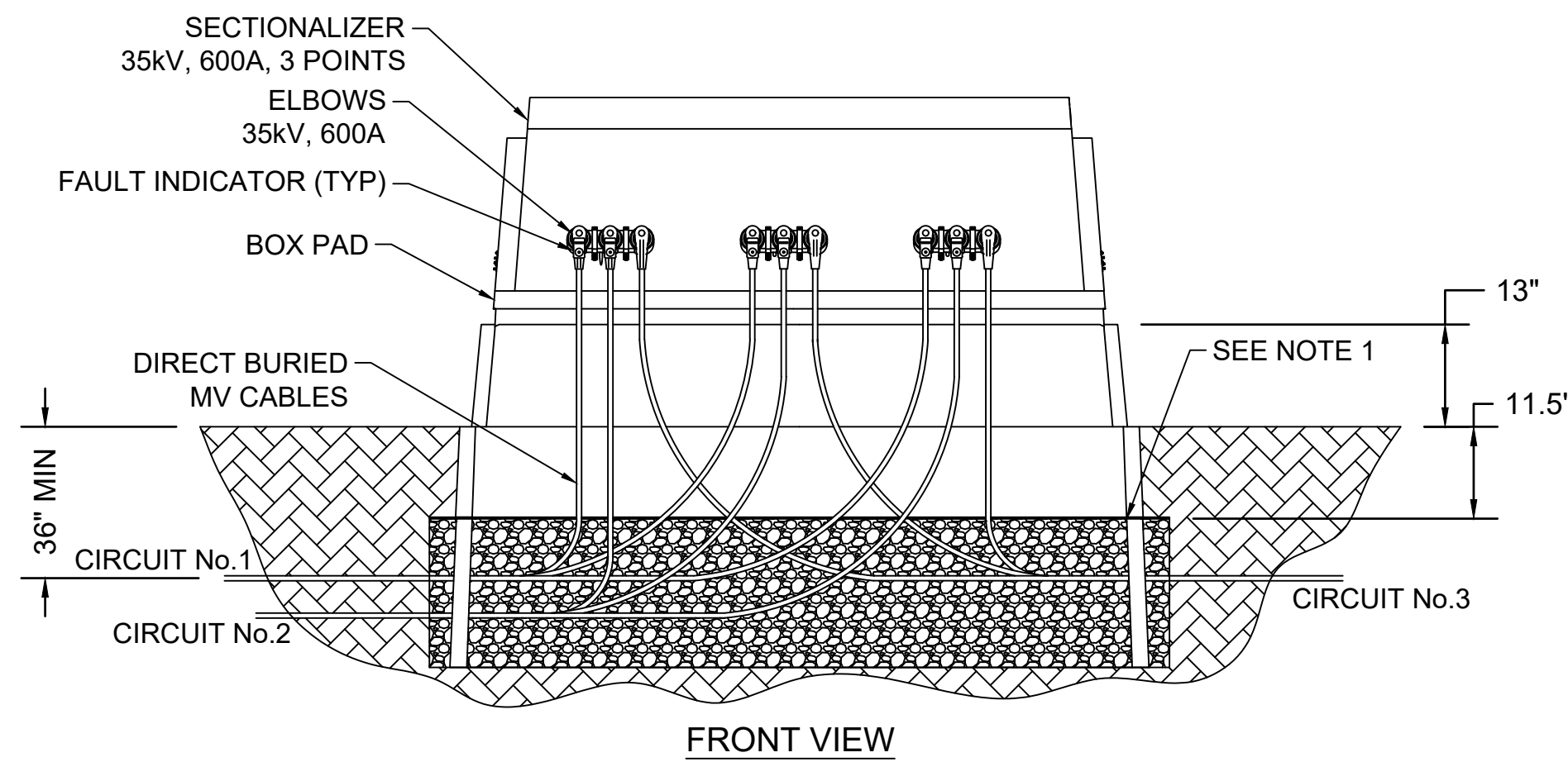
SCALE AT 22" x 34":

AS SHOWN

SHEET NO: PV-E.05.22

REV: 1

GENERAL NOTES:
1. THERE ARE NO PROPOSED SPLICE VAULTS (19 NYCRR §900-2.6(f)(1)(i)(c)) ON THIS PROJECT. ALL MV SPLICES ARE TO BE ABOVE GRADE IN SECTIONALIZER OR SIMILAR JUNCTION CABINETS. SEE DETAIL 1 ON THIS SHEET.



- NOTES:**
1. INSTALL A MINIMUM OF 6" PEA GRAVEL COMPACTED AND LEVELED AT THE BOTTOM OF THE EXCAVATION.
 2. NOT USED.
 3. SECURELY FASTEN THE BOX BEFORE BACKFILLING TO PREVENT DISTORTION OF THE SIDEWALLS.
 4. BACKFILL EVENLY AROUND THE BOX WITH CLEAN, DRY EARTH AND MECHANICALLY TAMP THE EARTH IN INDIVIDUALLY COMPACTED LAYERS NOT IN EXCESS OF 6"
 5. MV CABLES MINIMUM RADIUS NOT LESS THAN 12 TIMES THE OVERALL DIAMETER.

1 SECTIONALIZER INSTALLATION
SCALE: NTS

KEY PLAN:

REVISIONS:

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PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

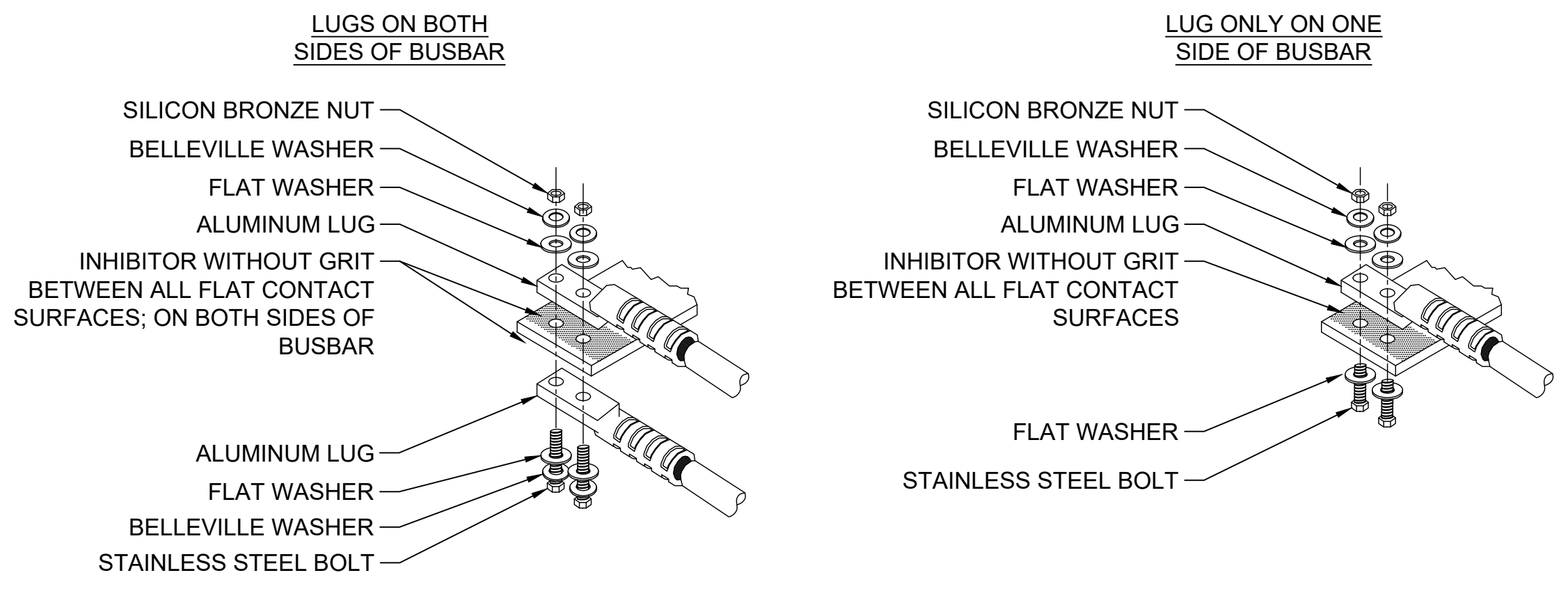
MV EQUIPMENT DETAILS - STANDARD

ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

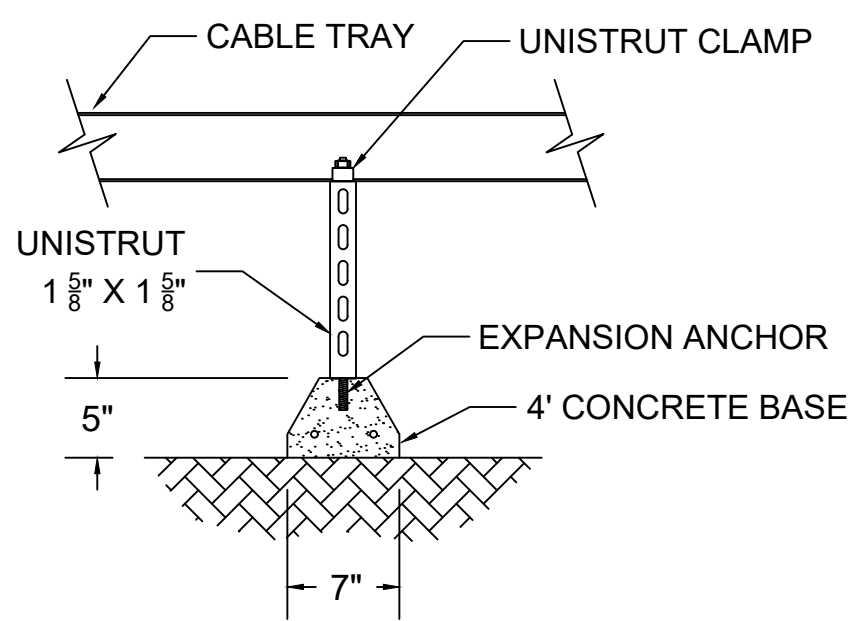
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SHEET NO:	PV-E.06.01	REV:	1
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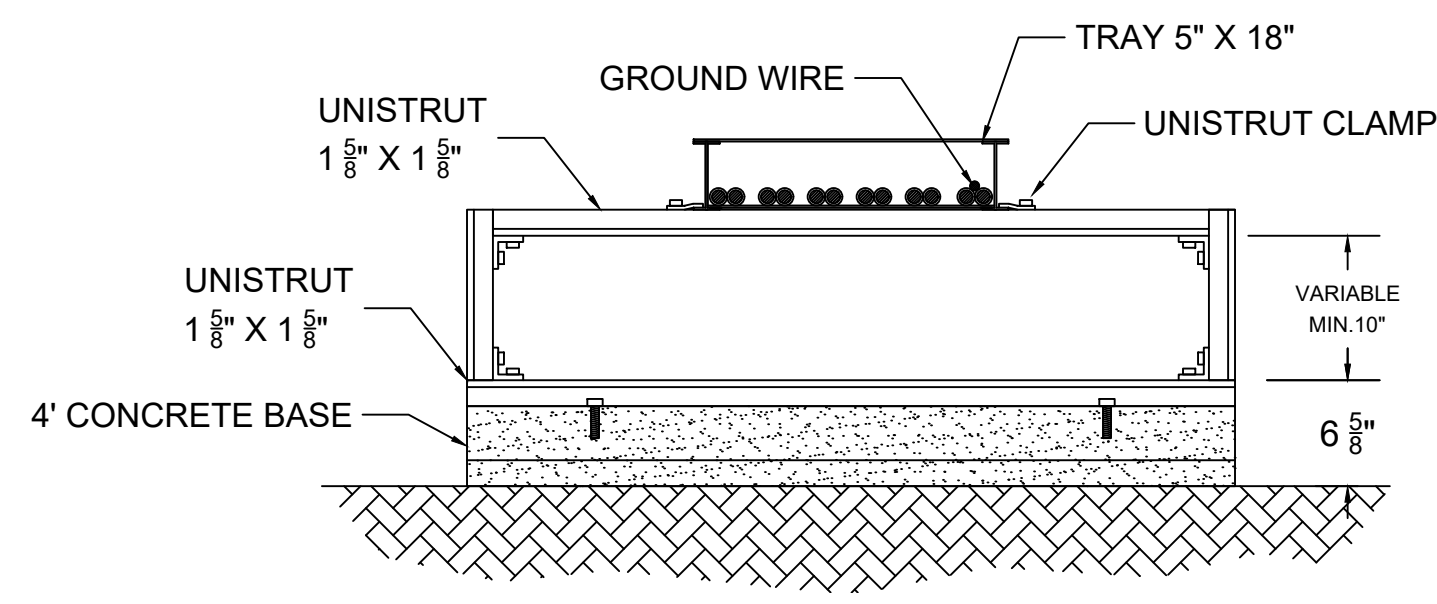


- NOTES:**
1. FLAT WASHER SHALL HAVE LARGER DIAMETER THAN BELLEVILLE WASHER
 2. BOLT SHALL BE LONG ENOUGH TO ACHIEVE FULL THREAD ENGAGEMENT OF NUT WITH ENTIRE STACK SHOWN.
 3. BOLT DIAMETER SHALL MATCH LUG AND BUSBAR HOLE DIAMETER.
 4. IF EQUIPMENT MANUFACTURER INSTALLATION INSTRUCTIONS CONFLICT WITH THIS DETAIL, MANUFACTURER INSTRUCTIONS SHALL BE FOLLOWED.
 5. NUMBER OF CRIMPS SHOWN IS DIAGRAMMATIC AND MAY VARY DEPENDING ON LUG AND CONDUCTOR SIZE.
 6. INHIBITOR USED MUST BE RATED FOR THE EQUIPMENT VOLTAGE, LUG MATERIAL, AND BUSBAR MATERIAL. SUBMIT PROPOSED MATERIAL FOR APPROVAL TO ENGINEERING.

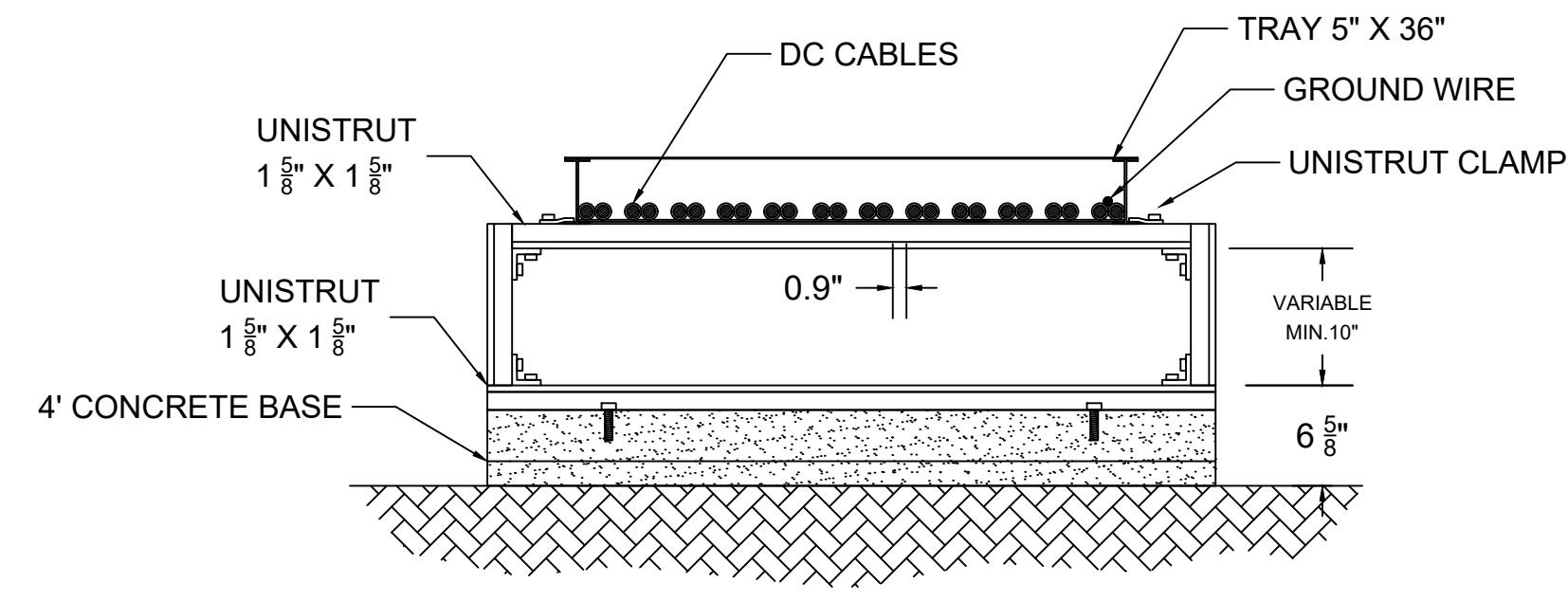
2 LUG ATTACHMENT DETAIL
SCALE: NTS



1 CONCRETE BASE DETAIL LATERAL VIEW
SCALE: NTS

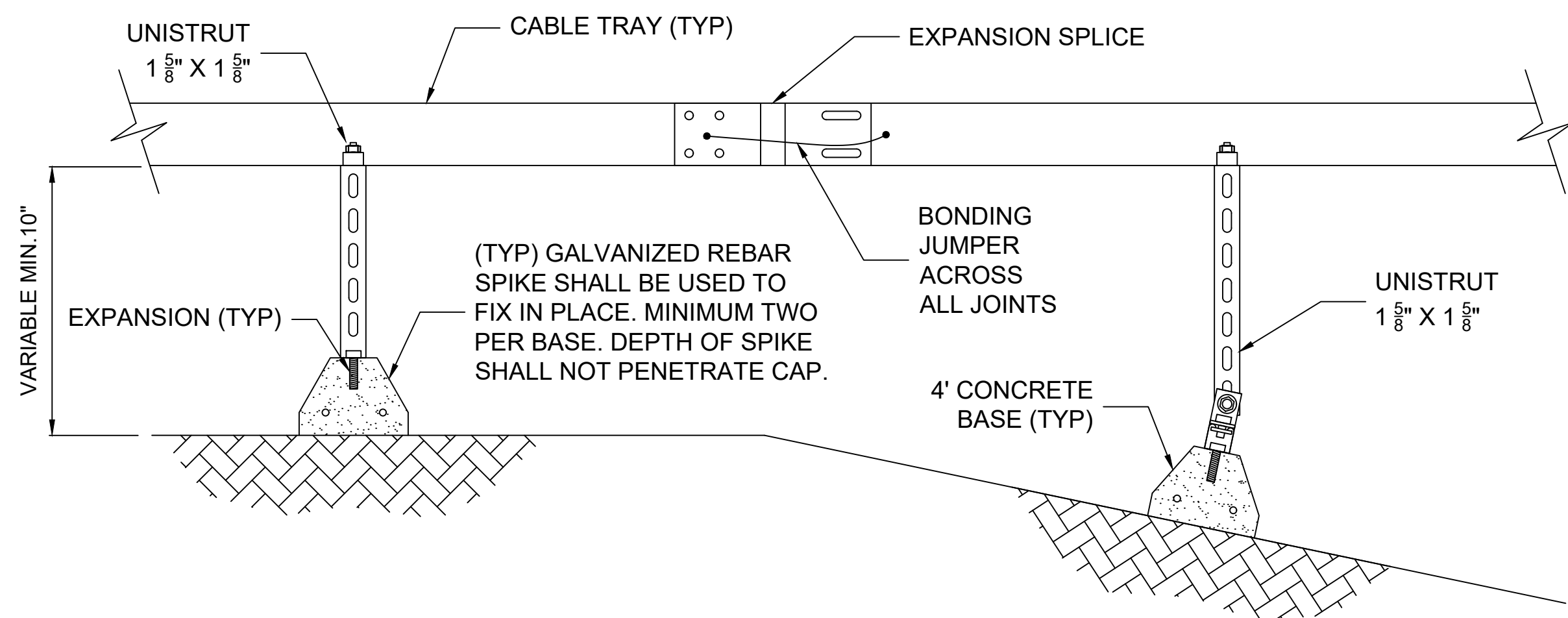


2 18" TRAY INSTALLATION
SCALE: NTS

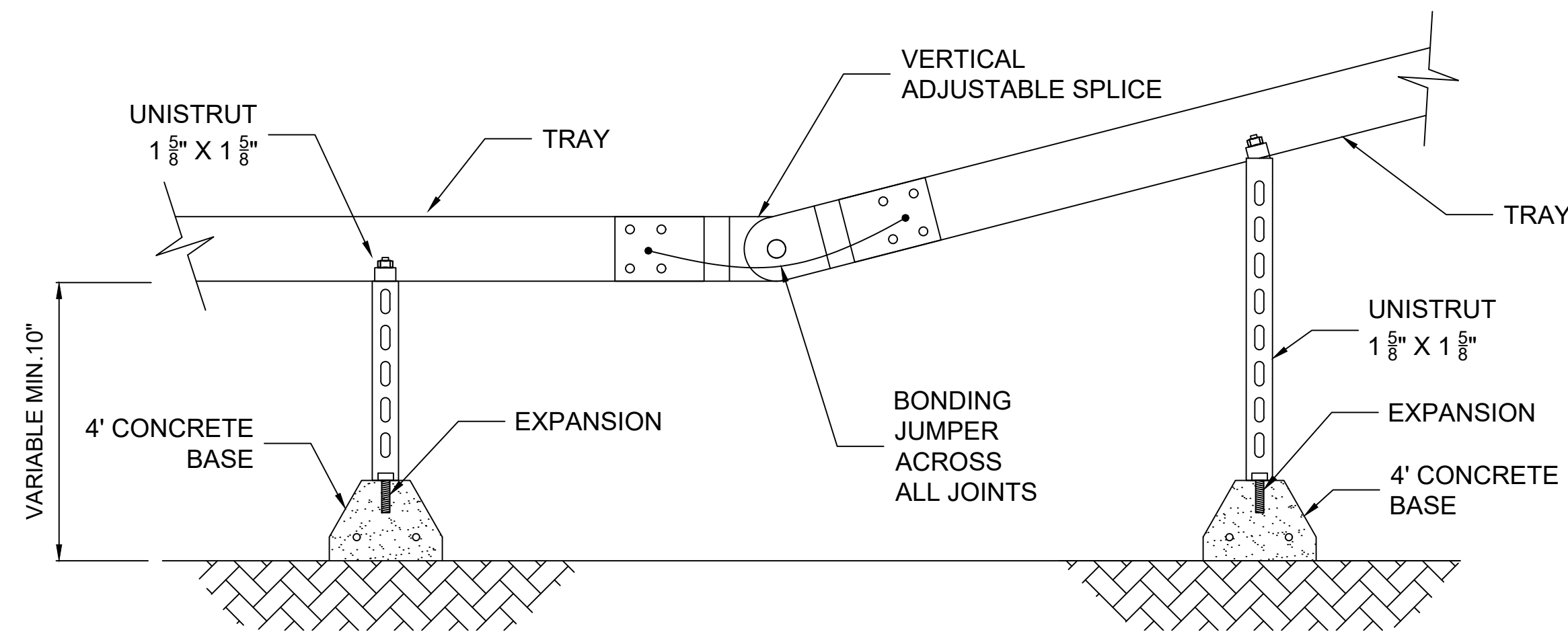


3 36" TRAY INSTALLATION
SCALE: NTS

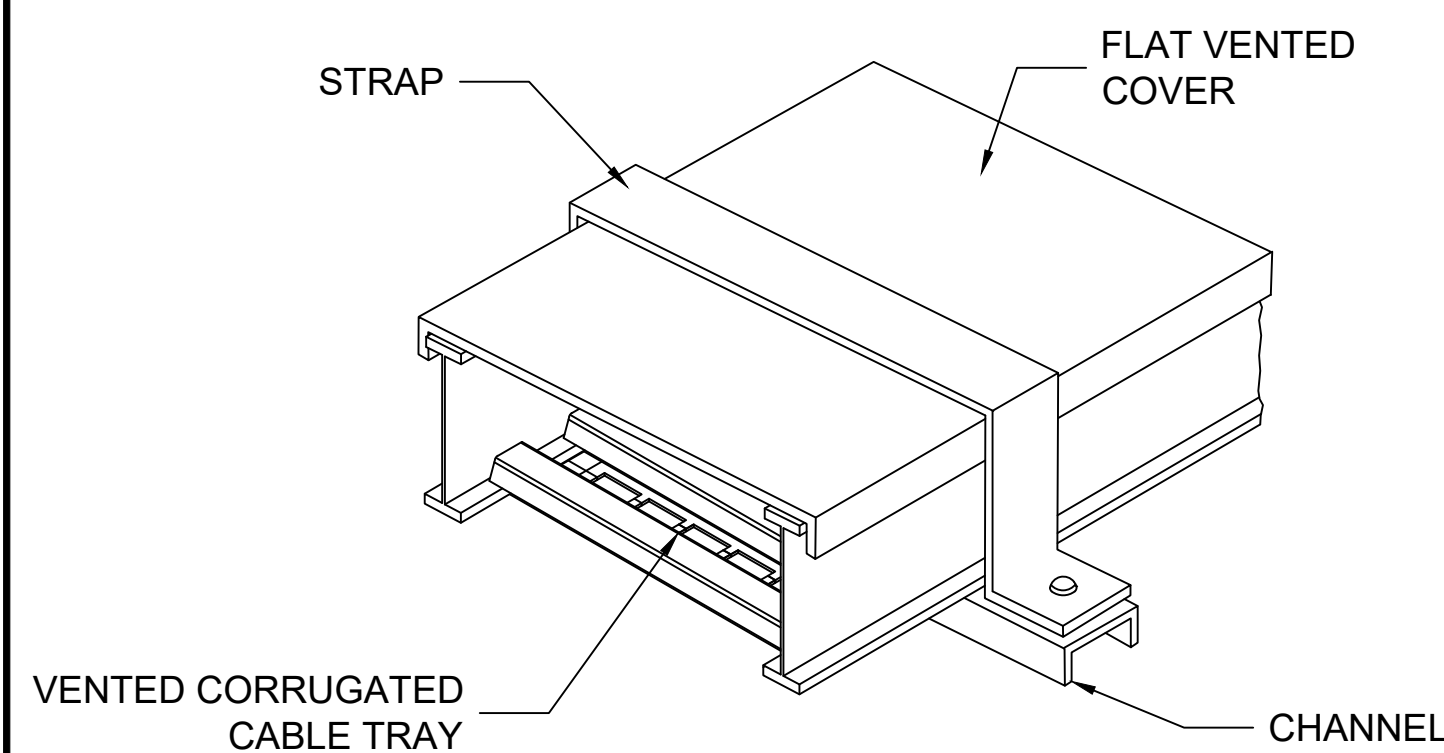
GENERAL NOTES:
1. SEE STRUCTURAL DRAWINGS IN PV-C.10 SERIES FOR MATERIAL (CONCRETE, STEEL, ANCHORAGE, ETC.) SPECIFICATIONS AND GENERAL NOTES.



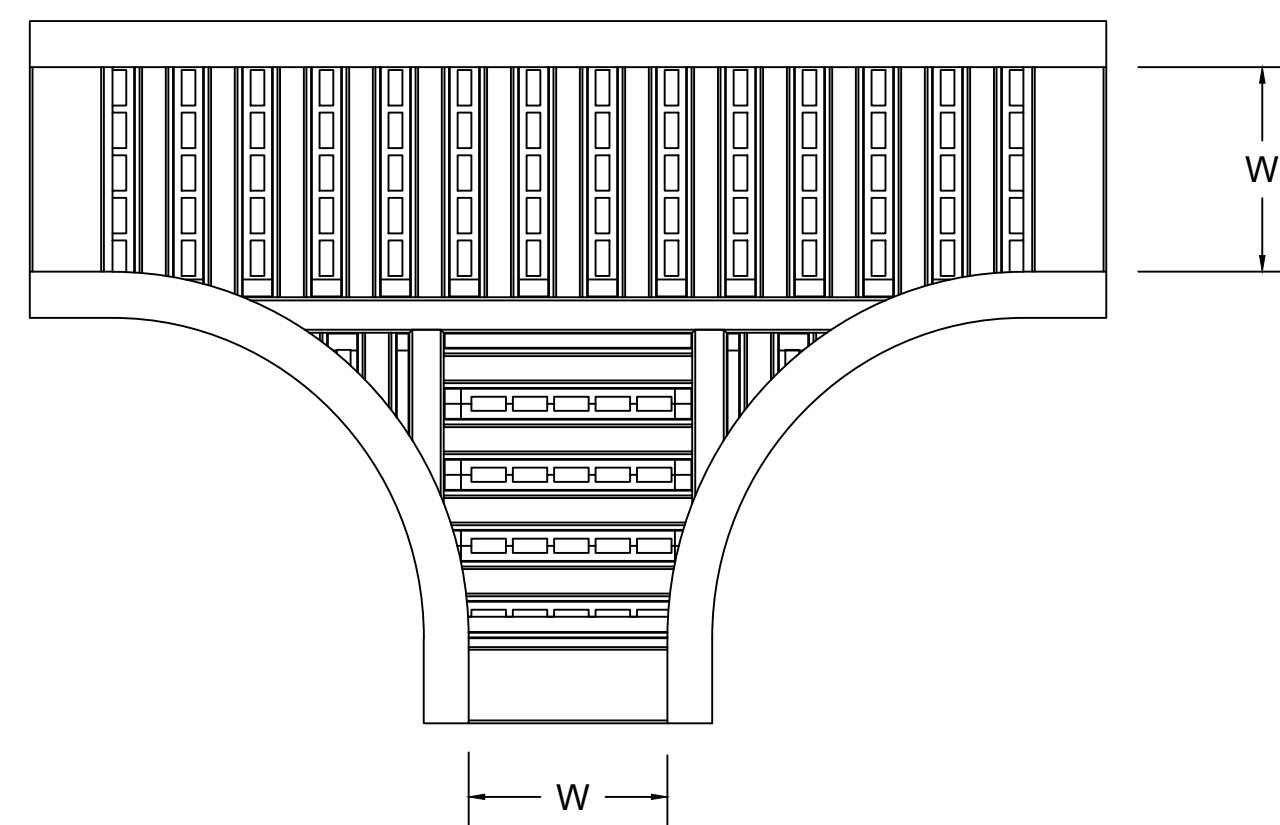
4 STRAIGHT JOINT LATERAL VIEW
SCALE: NTS



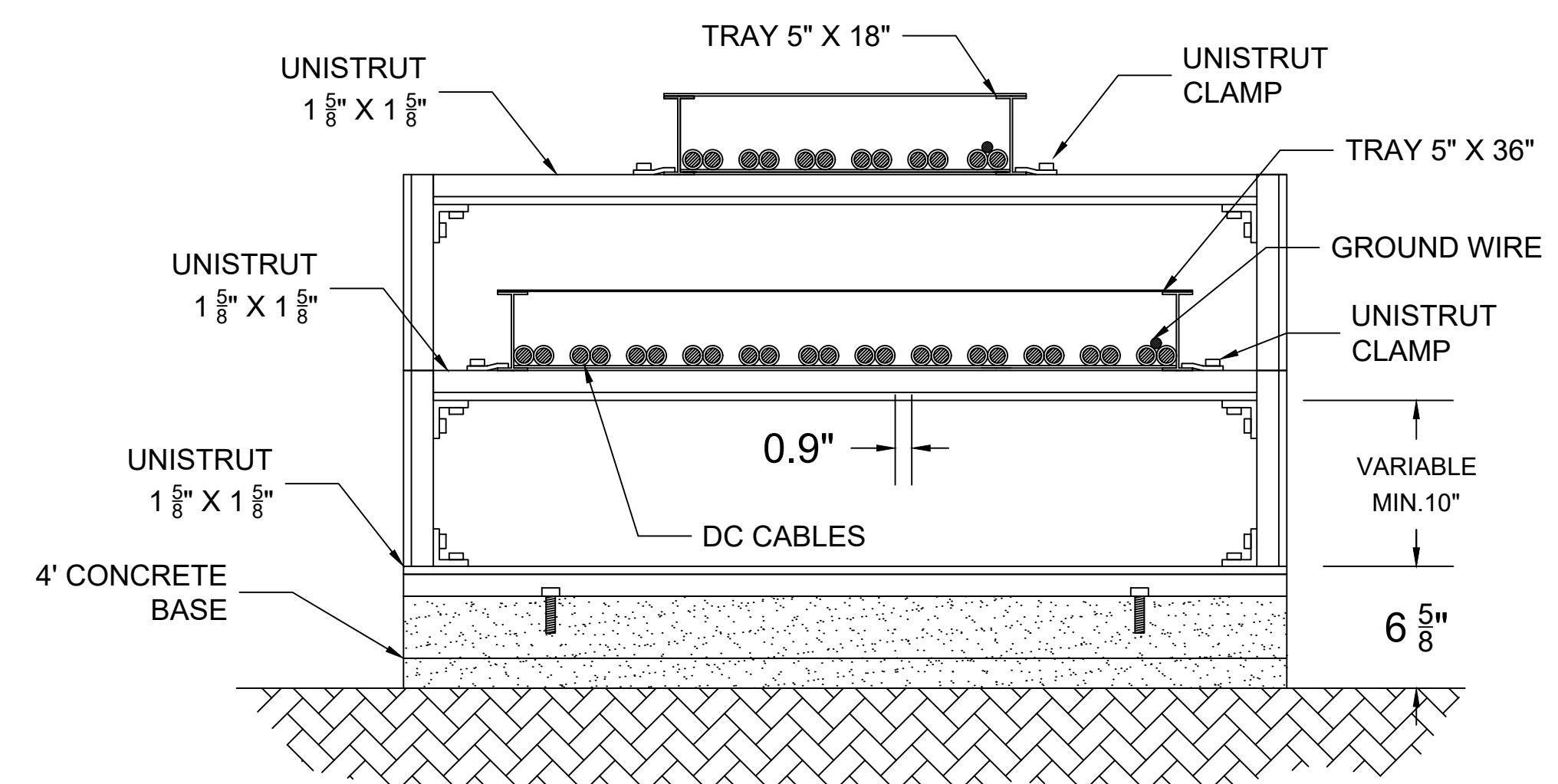
5 ANGLE JOINT LATERAL VIEW
SCALE: NTS



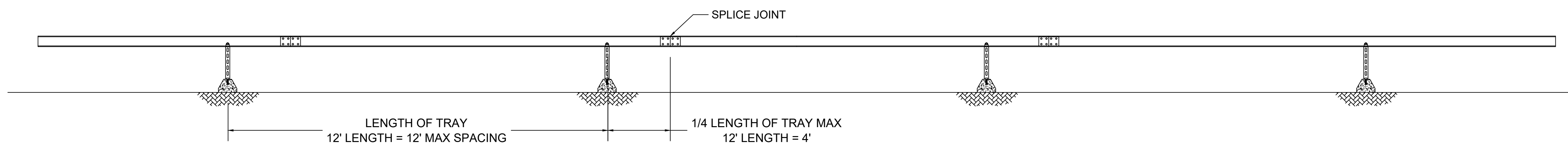
6 FLAT COVER INSTALLATION
SCALE: NTS



7 HORIZONTAL STANDARD TEE-TRAY
SCALE: NTS



8 36" TRAY WITH 18" TRAY
SCALE: NTS



NOTE: SUPPORT SPACING PER "CABLE TRAY INSTALLATION GUIDELINE". NEMA STANDARDS PUBLICATION VE 2-2013. 3.4.1 STRAIGHT SECTION POSITION. IN ADDITION, PLACE SUPPORTS DIRECTLY BELOW HORIZONTAL ELBOWS AND TEES. SEE 3.5.5.2. ALL TRAY INSTALLATION SHALL BE INSTALLED IN ACCORDANCE WITH THE NEMA "CABLE TRAY INSTALLATION GUIDELINE"..

9 TRAY SUPPORT DETAILS
SCALE: NTS

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

LV EQUIPMENT DETAILS -
BALLASTED

ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

PROJ NUM: SU20.0012

DES: CB

DWN: CB

CHK: KL

APV: KL

DATE: 08/05/2022

SCALE AT 22" x 34":

AS SHOWN

SHEET NO: PV-E.06.11

REV: 1

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
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PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

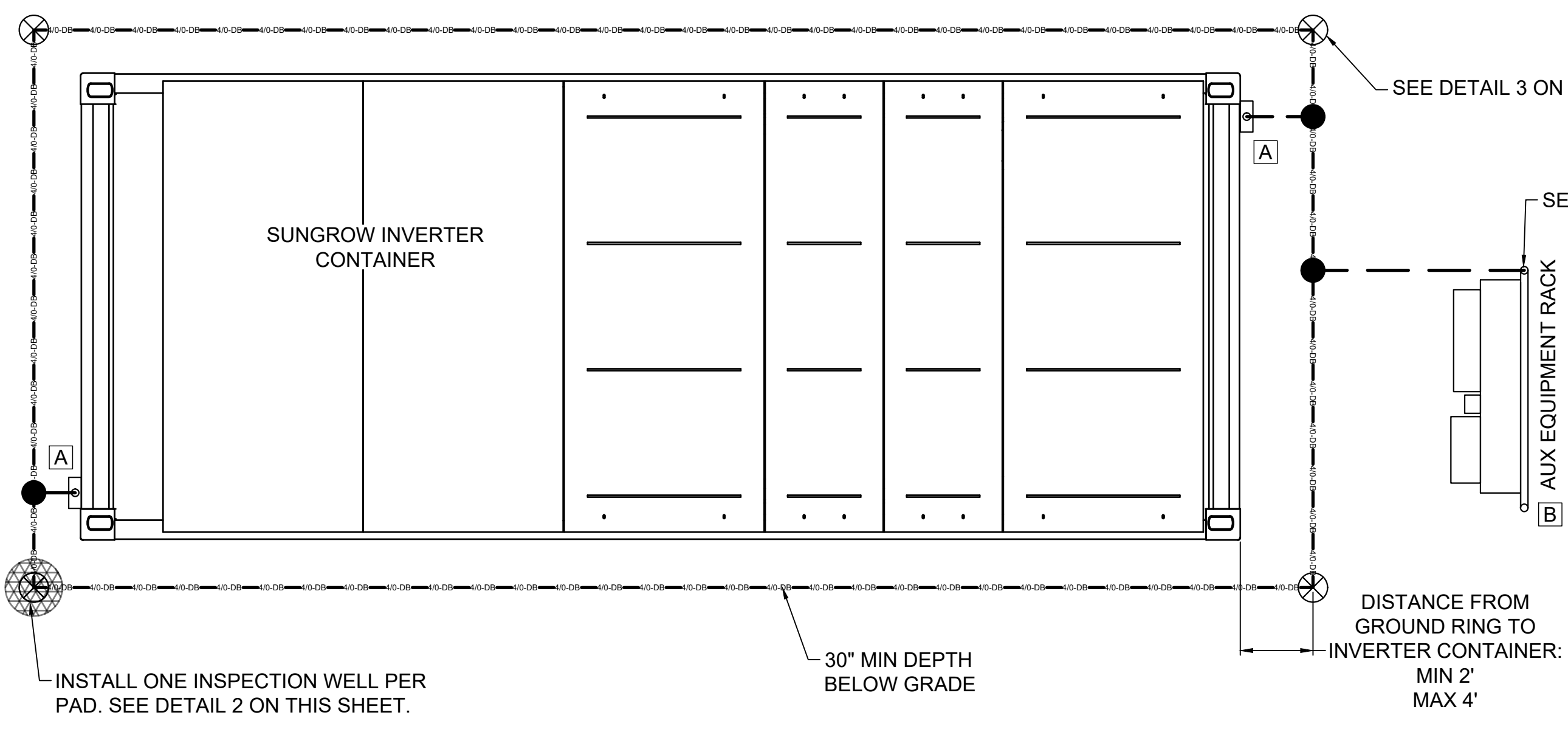
**INVERTER CONTAINER
GROUNDING DETAILS**

ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

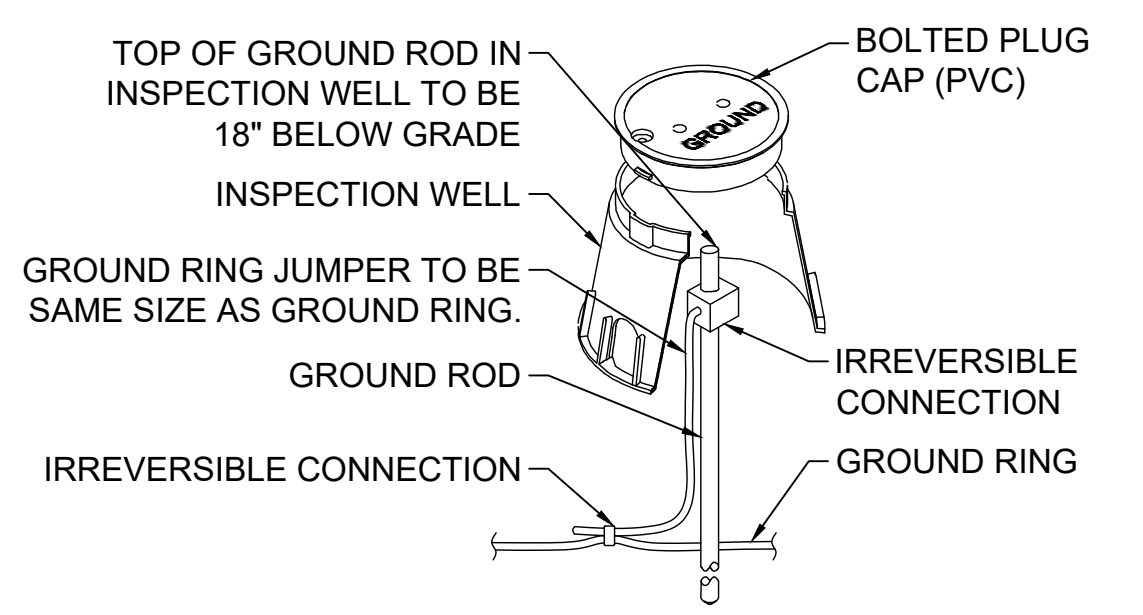
PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

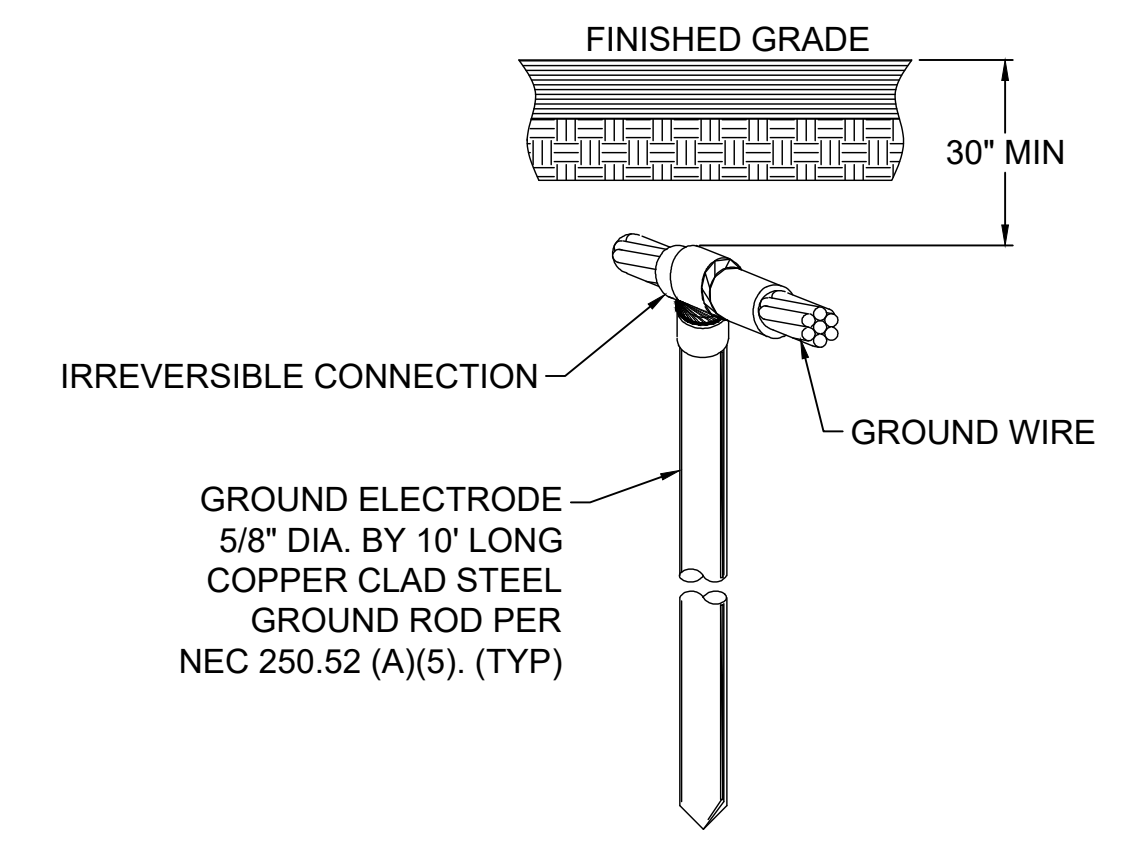
SHEET NO:	PV-E.07.01	REV:	1
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1 INVERTER CONTAINER GROUNDING - STANDARD (POSTS/PIERS FOUNDATION)
SCALE: NTS



2 INSPECTION WELL - STANDARD
SCALE: NTS



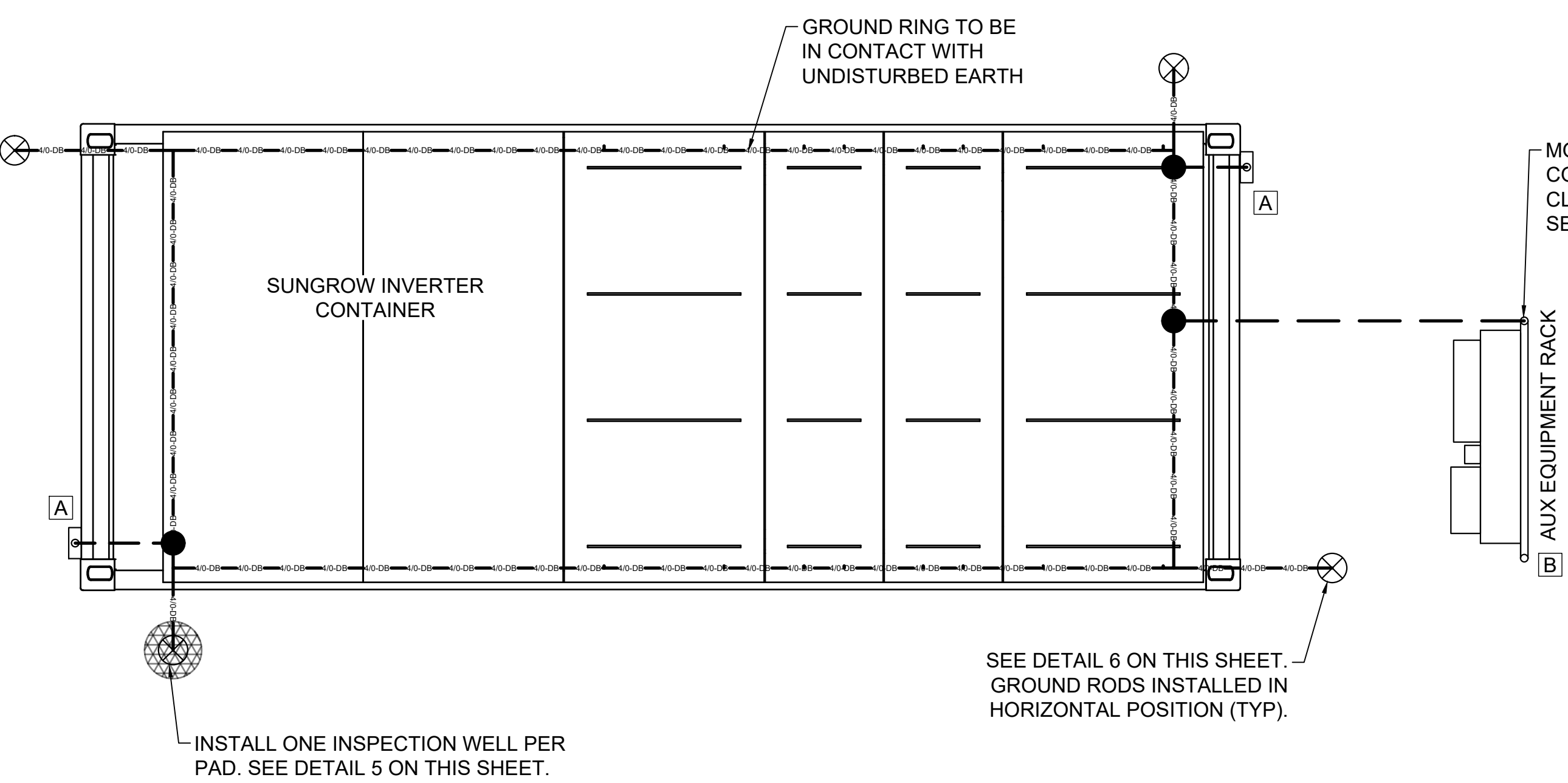
3 GROUND ROD - STANDARD
SCALE: NTS

- INVERTER CONTAINER GROUNDING GENERAL NOTES (BOTH STANDARD AND BALLASTED):**
- ALL DIRECT CONNECTIONS TO GROUND RING (GR) SHALL BE IRREVERSIBLY CRIMPED. GROUNDING DEVICES SHALL BE SUBMITTED FOR APPROVAL. GR TO BE BONDED TO GROUND ROD USING IRREVERSIBLY CRIMPED CONNECTION.
 - PAD LAYOUT SHOWN IS REPRESENTATIVE; REFER TO PV-E.05.01 AND PV-E.05.04 FOR ACTUAL EQUIPMENT ORIENTATION AND DIMENSIONS.
 - CONCENTRIC NEUTRALS AND LIGHTNING ARRESTERS TO BE INDIVIDUALLY BONDED TO GROUND LOOP VIA IRREVERSIBLE CRIMP.
 - LEAVE MINIMUM 10' OF SLACK ABOVE GRADE ON ALL GR BONDING JUMPERS PRIOR TO PLACING EQUIPMENT. ONCE EQUIPMENT IS INSTALLED, THEY MAY BE CUT TO LENGTH.

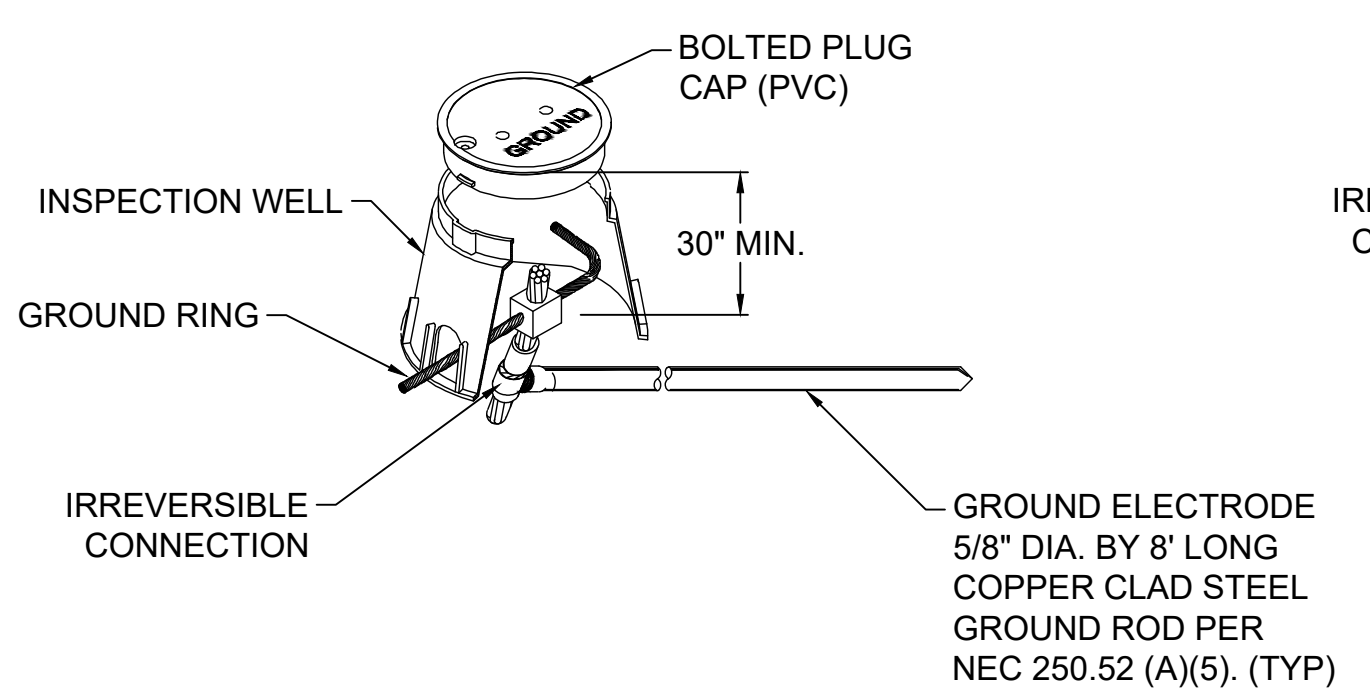
- INVERTER CONTAINER GROUNDING KEYED NOTES (BOTH STANDARD AND BALLASTED):**
- INVERTER CONTAINER GROUND PAD GROUND JUMPER TO GR.
 - GR JUMPER FROM FENCE POST GROUNDING CONNECTOR ON AUXILIARY EQUIPMENT RACK POST TO GR. SEE AUXILIARY EQUIPMENT RACK GROUNDING DETAILS ON PV-E.07.02.

LEGEND

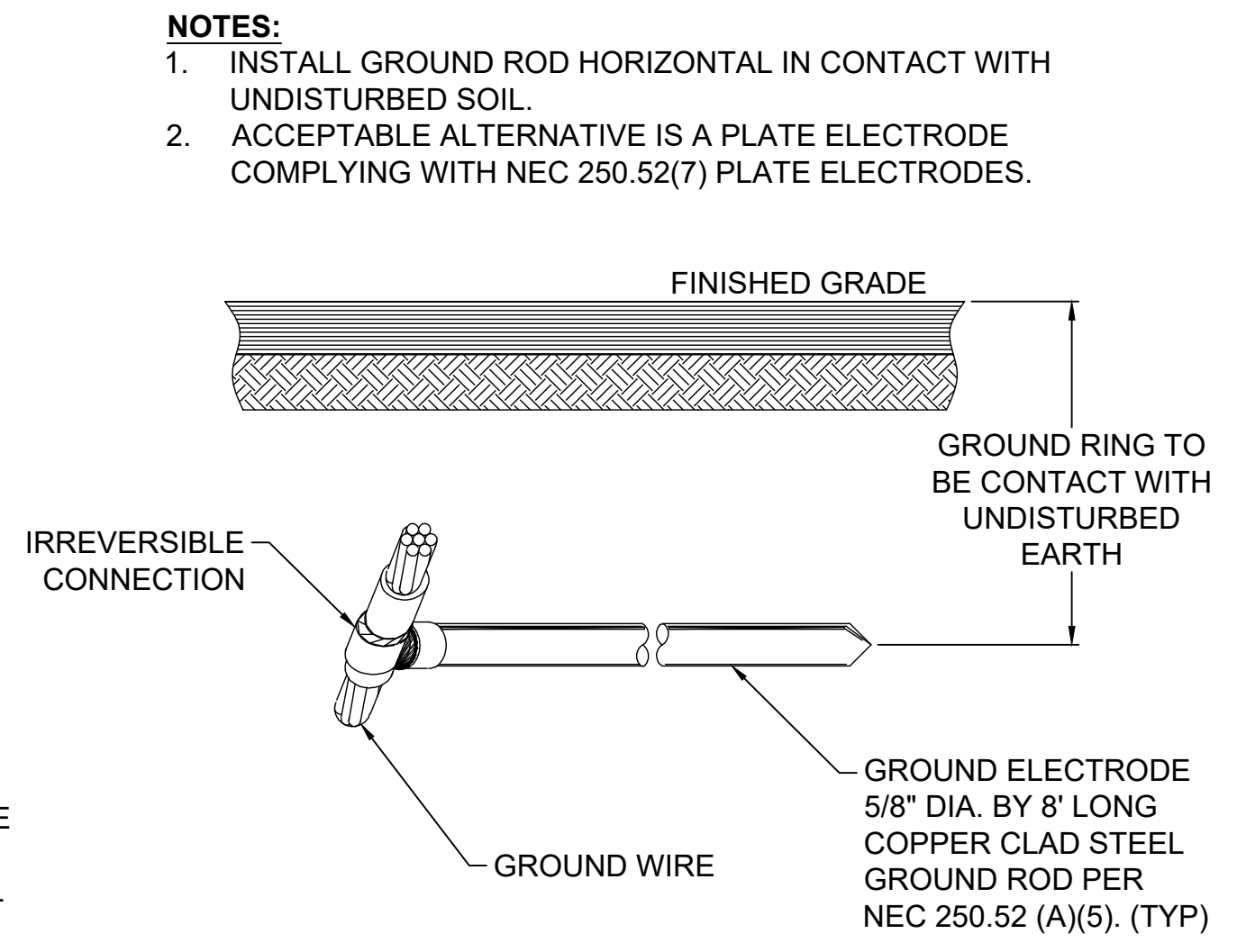
-----	500 KCMIL CU BARE, SOFT DRAWN, 1-1/2" CONDUIT
-----	4/0 CU BARE, SOFT DRAWN, 1" CONDUIT
-----	4/0 CU BARE, SOFT DRAWN, DIRECT BURY
-----	4/0 CU BARE, SOFT DRAWN, EXPOSED
-----	#4 AWG CU BARE, 1" CONDUIT
-----	#2 AWG CU BARE
○	COMPRESSION LUG
⊗	SPLIT BOLT
⊗	GROUND ROD
●	IRREVERSIBLE CONNECTION
■	IRREVERSIBLE CONNECTION TO REBAR
⊠	KEYED NOTE



4 INVERTER CONTAINER GROUNDING - BALLASTED (AGGREGATE FOUNDATION)
SCALE: NTS



5 INSPECTION WELL - BALLASTED
SCALE: NTS



6 GROUND ROD - BALLASTED
SCALE: NTS

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

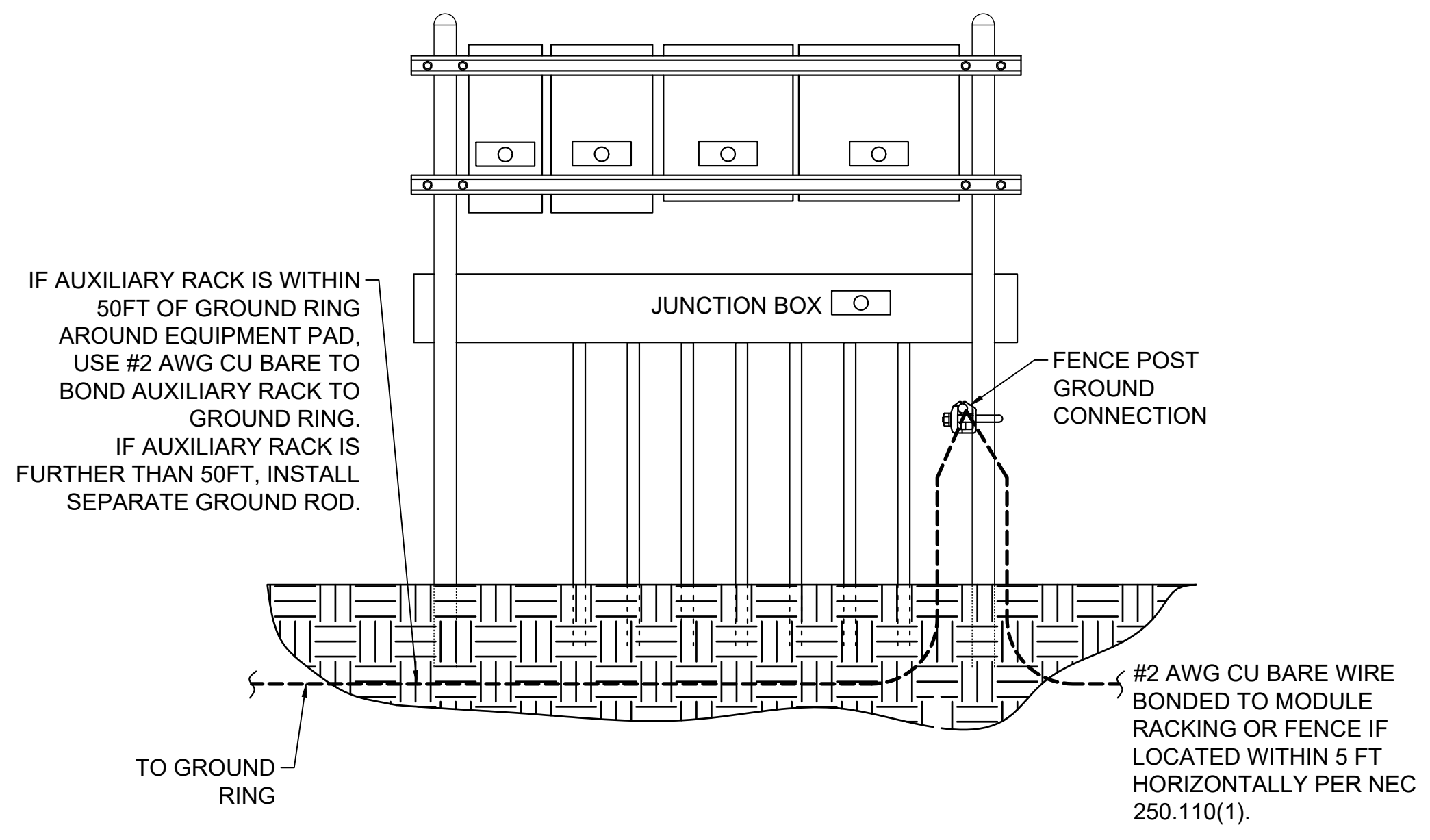
GENERAL GROUNDING DETAILS

ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

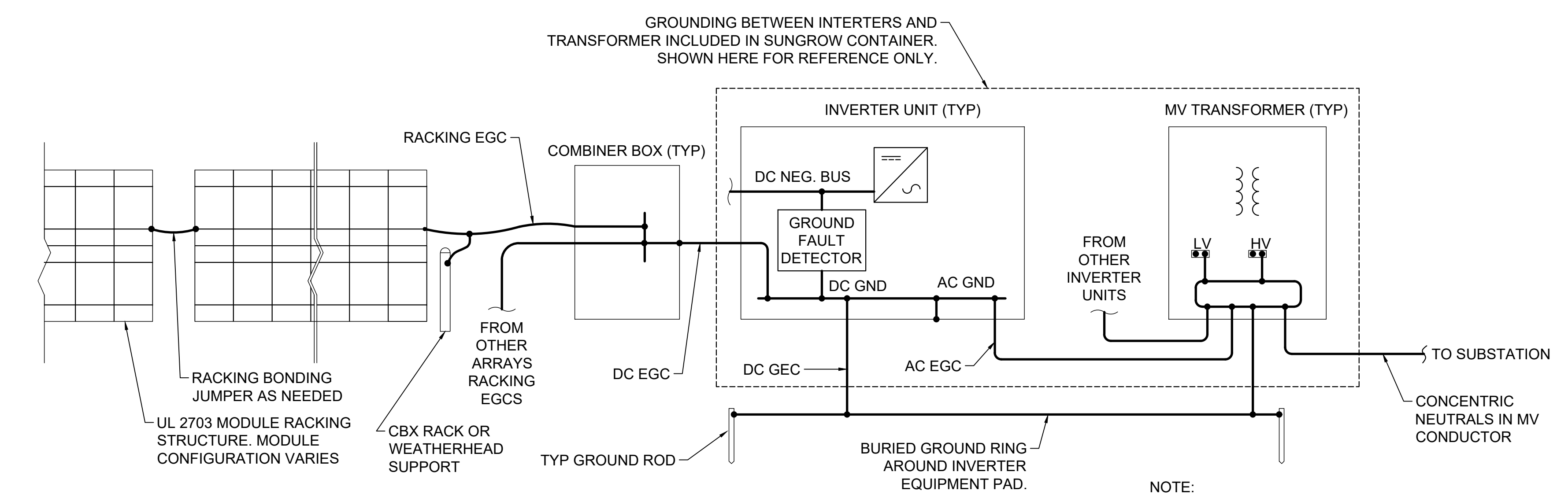
SHEET NO:	REV:
PV-E.07.02	1



AUXILIARY EQUIPMENT RACK GROUNDING NOTES:

- GROUND AUXILIARY EQUIPMENT RACK POST USING LISTED FENCE POST GROUND CONNECTOR. ENSURE EACH ENCLOSURE OR CABINET IS BONDED TO GROUND, EITHER INTERNALLY OR WITH ADDITIONAL EGC THAT SHALL BE NO SMALLER THAN AWG #4 BARE.

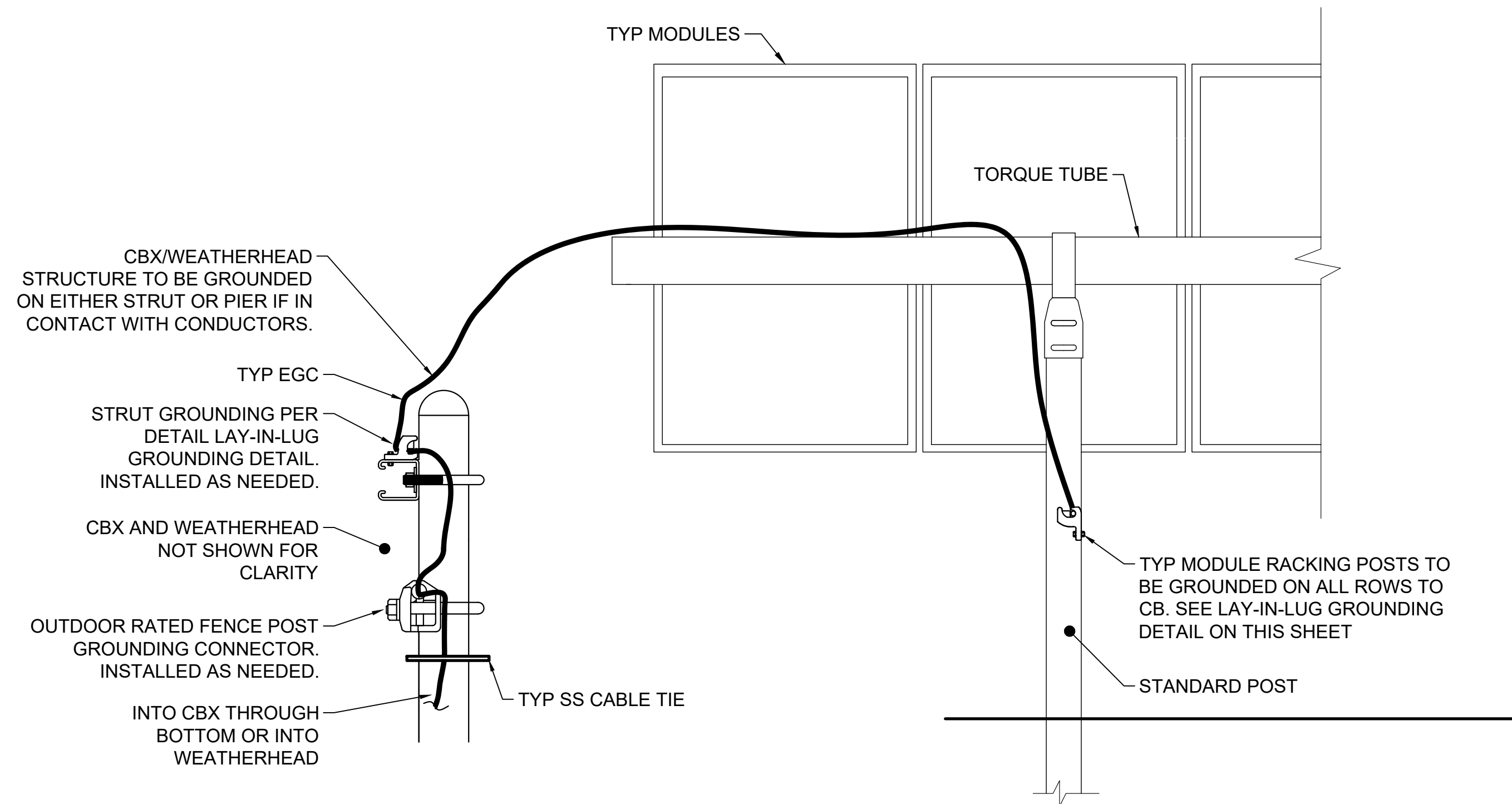
1 AUXILIARY RACK GROUNDING - STANDARD
SCALE: NTS



- NOTE:
- CURRENT CARRYING CONDUCTORS NOT SHOWN FOR CLARITY.
 - SEE PV-E.04.02 FOR GEC/EGC WIRE SIZES.
 - SEE PV-E.07.01 FOR GROUNDING ELECTRODE CONFIGURATIONS FOR BALLASTED AND NON-BALLASTED INSTALLATIONS.

2 OVERALL GROUNDING LAYOUT
SCALE: NTS

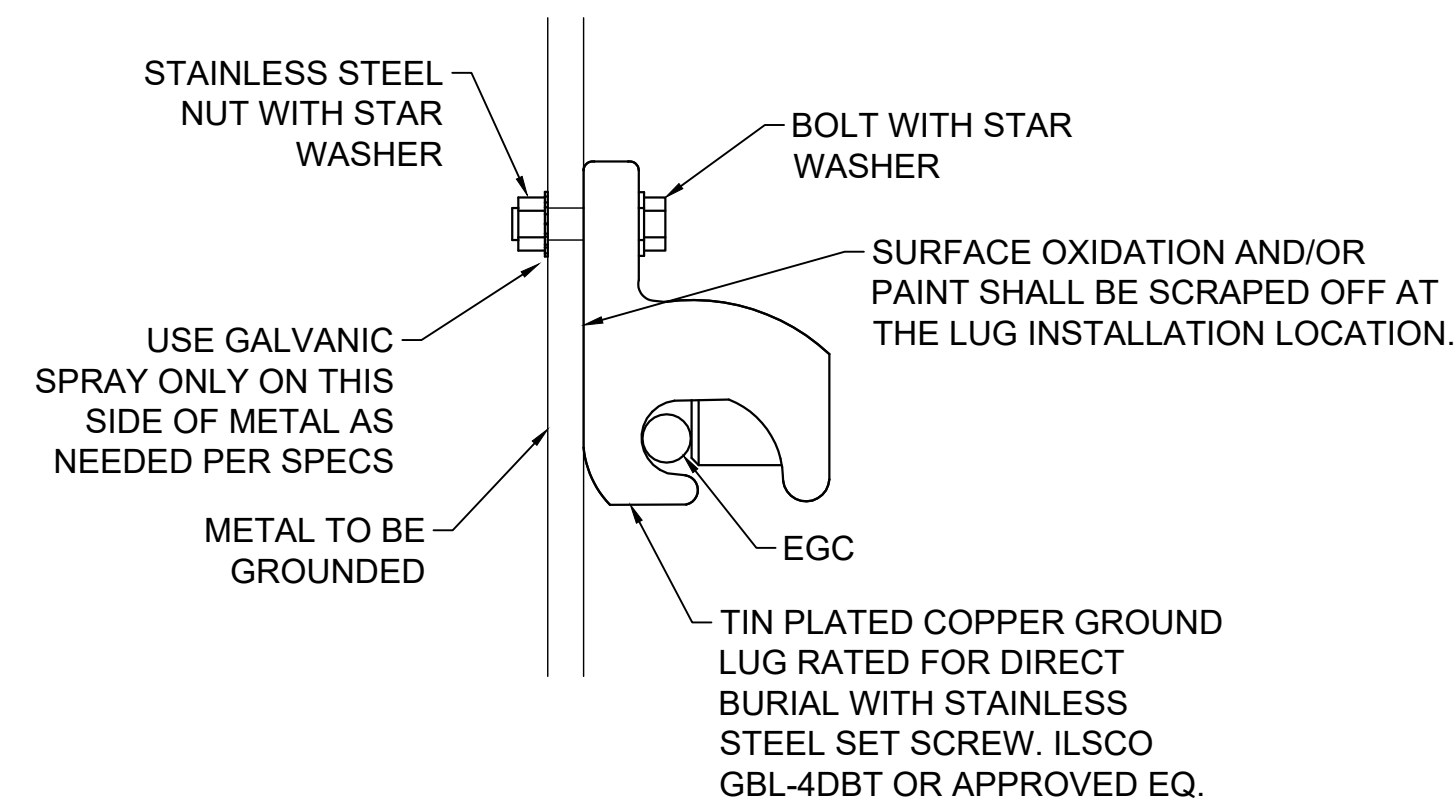
NOTE: CANTILEVER STYLE RACKING SHOWN. DISTANCE FROM RACKING SYSTEM POST LOCATION TO EDGE OF MODULE WILL VARY BASED ON RACKING STRUCTURAL CONFIGURATION. SEE RACKING STRUCTURAL DRAWINGS FOR FINAL DISTANCES.



GENERAL GROUNDING NOTES

1. GROUNDING BUSHINGS SHALL BE USED ON CONDUIT TERMINATIONS IN CABINET, BOX, OR AUXILIARY GUTTER AND SHALL BE SUITABLE FOR BONDING TO GROUND IN ACCORDANCE WITH NEC 250.92.
2. METALLIC CONDUITS, ENCLOSURES, AND CONNECTORS SHALL BE INSTALLED SO THAT THE CONDUIT BONDING PATH INTEGRITY IS MAINTAINED.
3. RACKING GROUNDING AND BONDING SHALL BE INSTALLED BY E.C.

1 CBX/WEATHERHEAD STRUCTURE AND RACK GROUNDING
SCALE: NTS



2 LAY-IN-LUG GROUNDING
SCALE: NTS

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

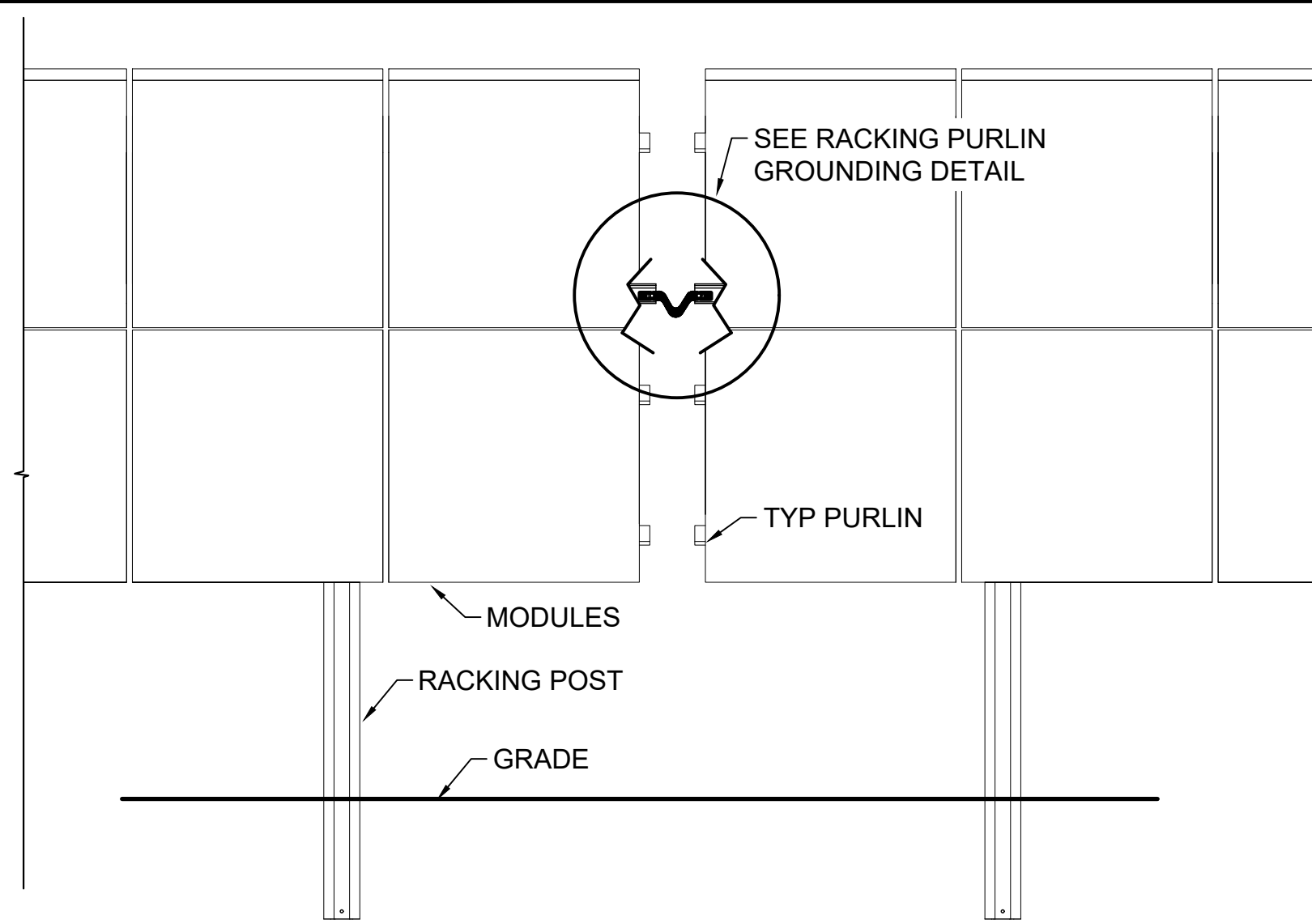
STRUCTURE GROUNDING
- TRACKER

ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

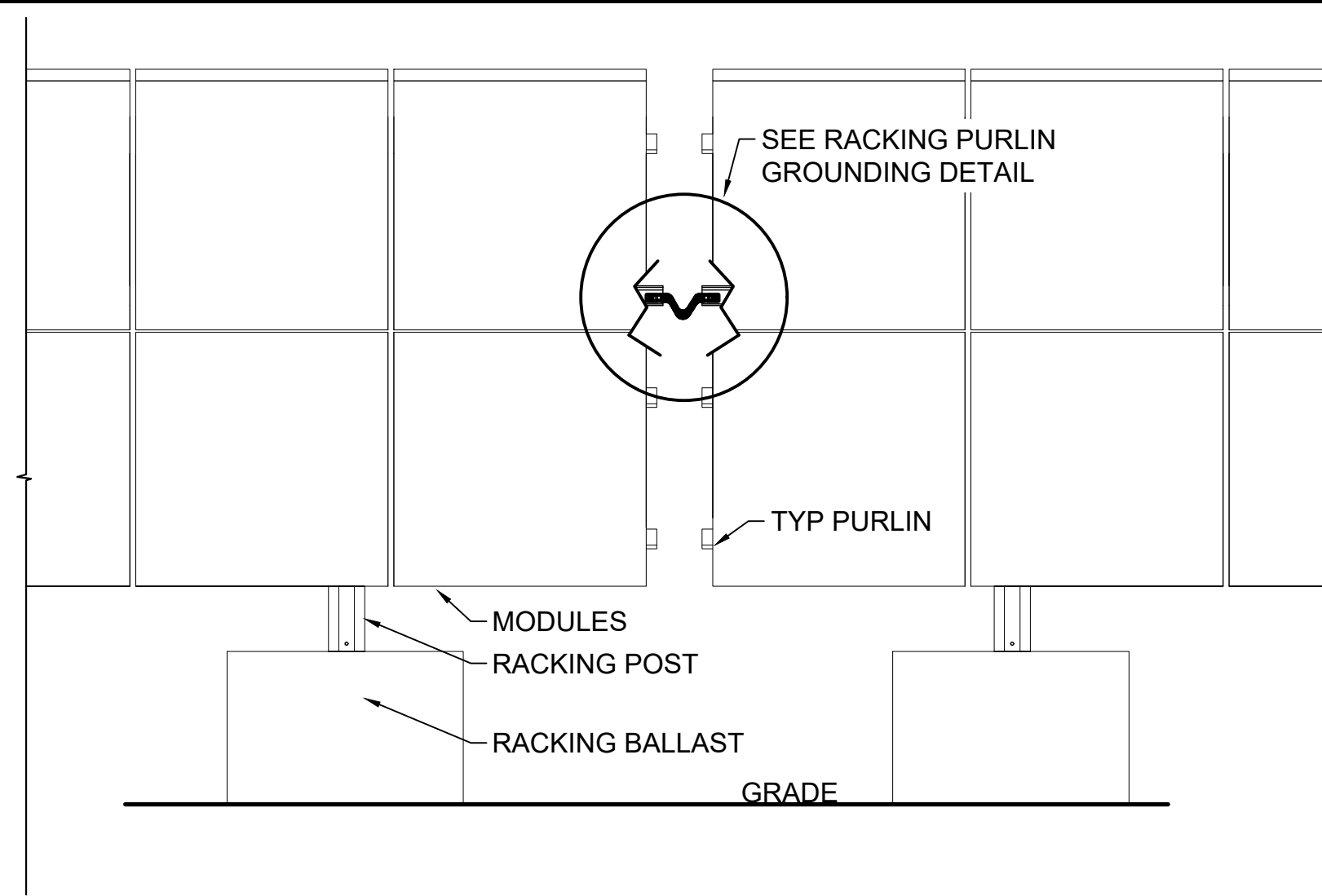
PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

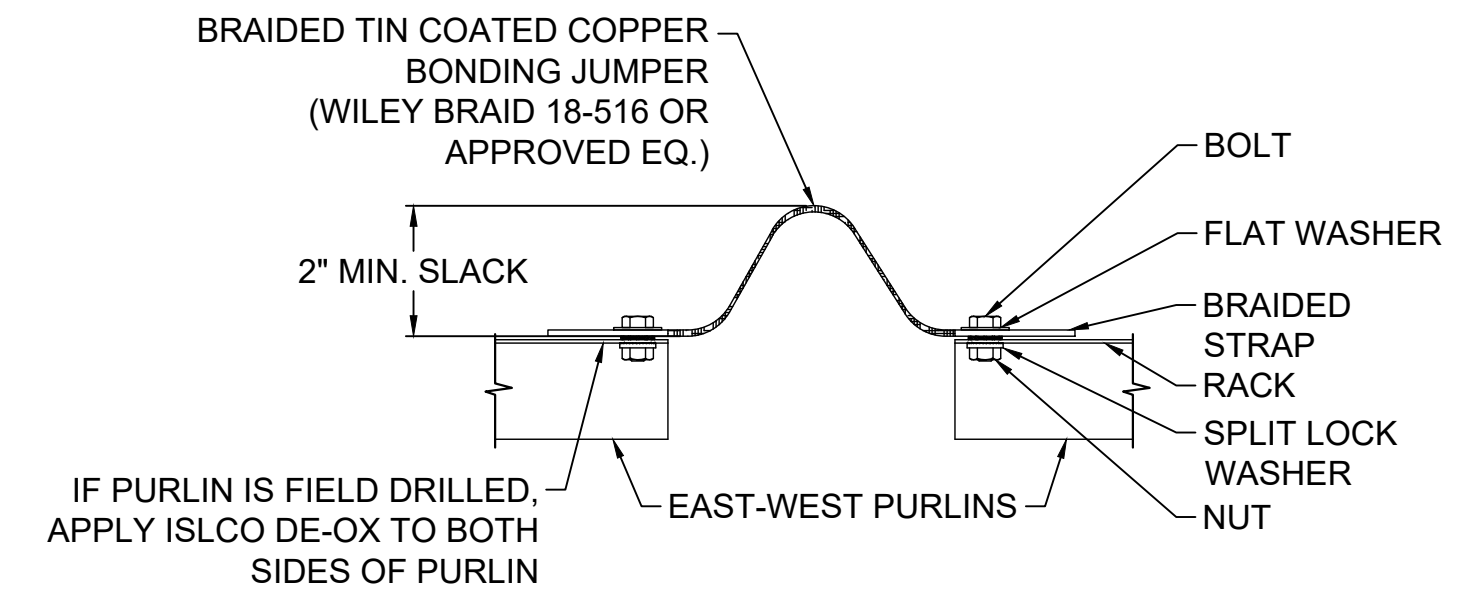
SHEET NO:	PV-E.07.03	REV:	1
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NOTE:
BONDING JUMPER TO BE INSTALLED BETWEEN EVERY RACKING SECTION ON BOTTOM PURLIN IF RACK IS NOT CONTINUOUS.



NOTE:
BONDING JUMPER TO BE INSTALLED BETWEEN EVERY RACKING SECTION ON BOTTOM PURLIN IF RACK IS NOT CONTINUOUS.



2 RACKING PURLIN GROUNDING DETAIL
SCALE: NTS

NOTES

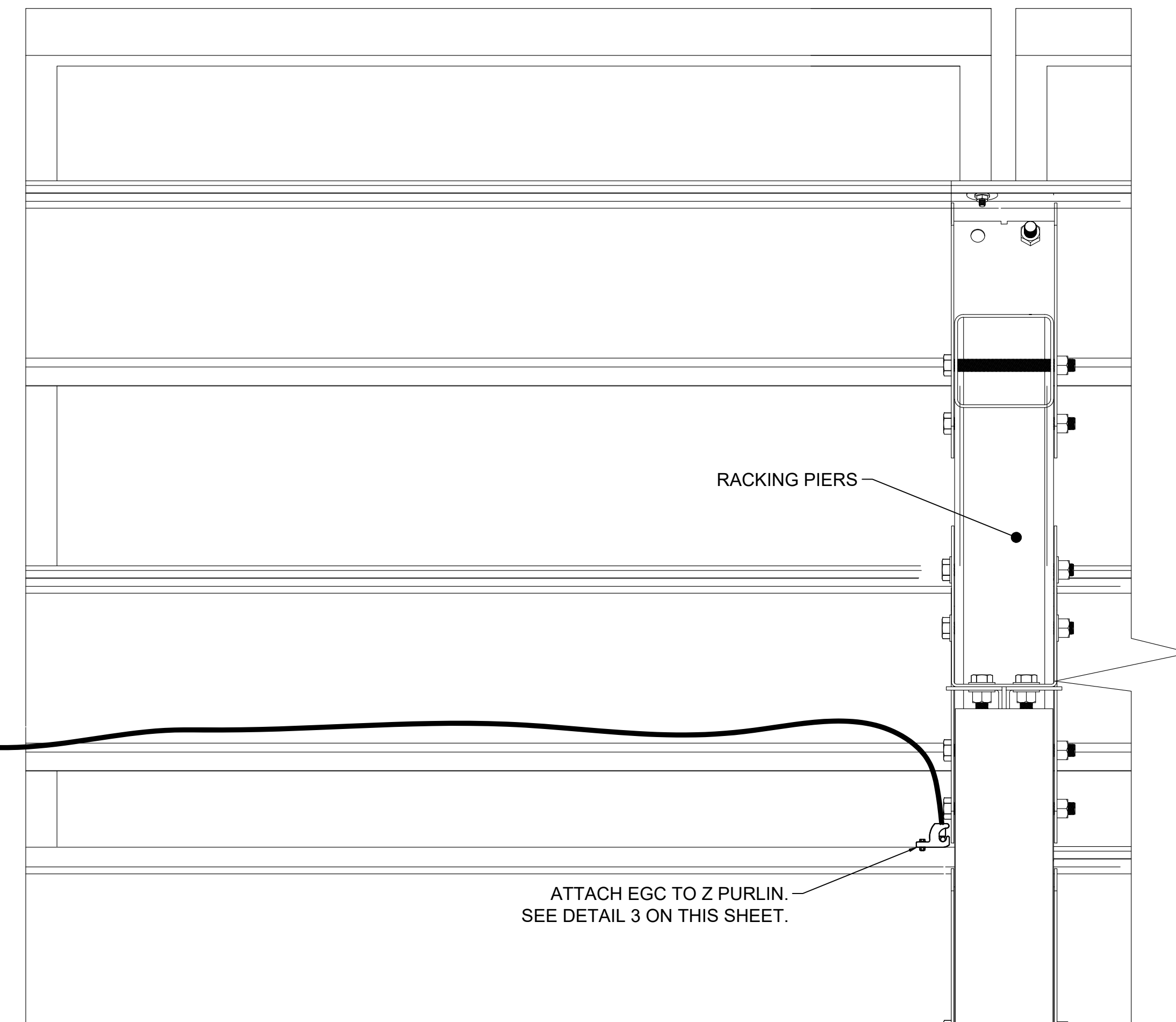
1. ALL HARDWARE SHALL BE STAINLESS STEEL.
2. EGC SHALL BE #6 BARE SOLID CU, UON.
3. SHALL BE USED FOR EXTERIOR BONDING TO RACKING.
4. ILSCO DE-OX (OR APPROVED EQ) APPLIED TO BOTH SIDES PRIOR TO LUG AND HARDWARE INSTALLATION.

1A FIXED TILT RACK GROUNDING - STANDARD
SCALE: NTS

1B FIXED TILT RACK GROUNDING - BALLASTED
SCALE: NTS

GENERAL GROUNDING NOTES

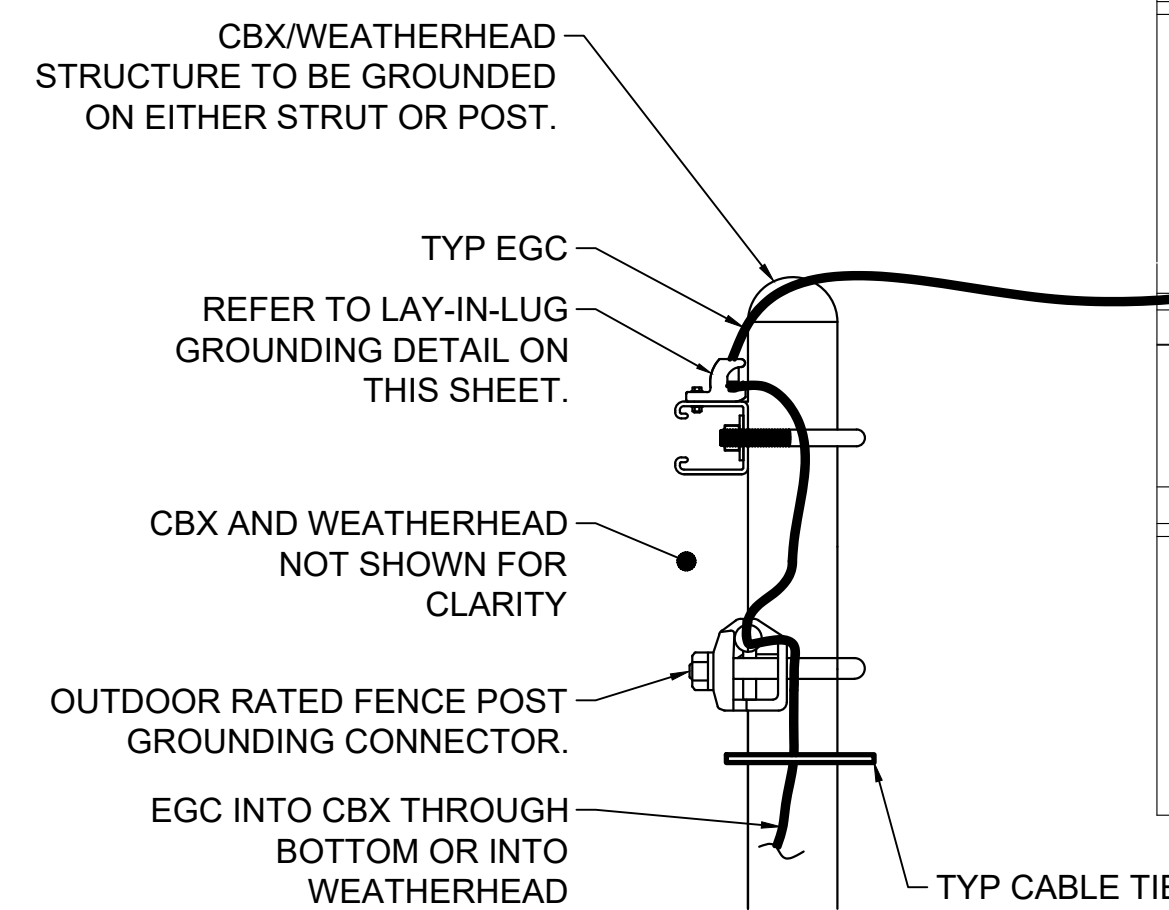
1. GROUNDING BUSHINGS SHALL BE USED ON CONDUIT TERMINATIONS IN CABINET, BOX, OR AUXILIARY GUTTER AND SHALL BE SUITABLE FOR BONDING TO GROUND IN ACCORDANCE WITH NEC 250.92.
2. METALLIC CONDUITS, ENCLOSURES, AND CONNECTORS SHALL BE INSTALLED SO THAT THE CONDUIT BONDING PATH INTEGRITY IS MAINTAINED.
3. RACKING GROUNDING AND BONDING SHALL BE INSTALLED BY E.C.



3 LAY-IN-LUG GROUNDING DETAIL
SCALE: NTS

NOTES

1. ALL HARDWARE SHALL BE STAINLESS STEEL.
2. EGC SHALL BE #6 BARE SOLID CU, UON.
3. SHALL BE USED FOR EXTERIOR BONDING TO RACKING.
4. ILSCO DE-OX (OR APPROVED EQ) APPLIED TO BOTH SIDES PRIOR TO LUG AND HARDWARE INSTALLATION.



4 CBX/WEATHERHEAD STRUCTURE GROUNDING
SCALE: NTS

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

STRUCTURE GROUNDING - FIXED TILT

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NOT FOR CONSTRUCTION

PROJ NUM: SU20.0012

DES: CB

DWN: CB

CHK: KL

APV: KL

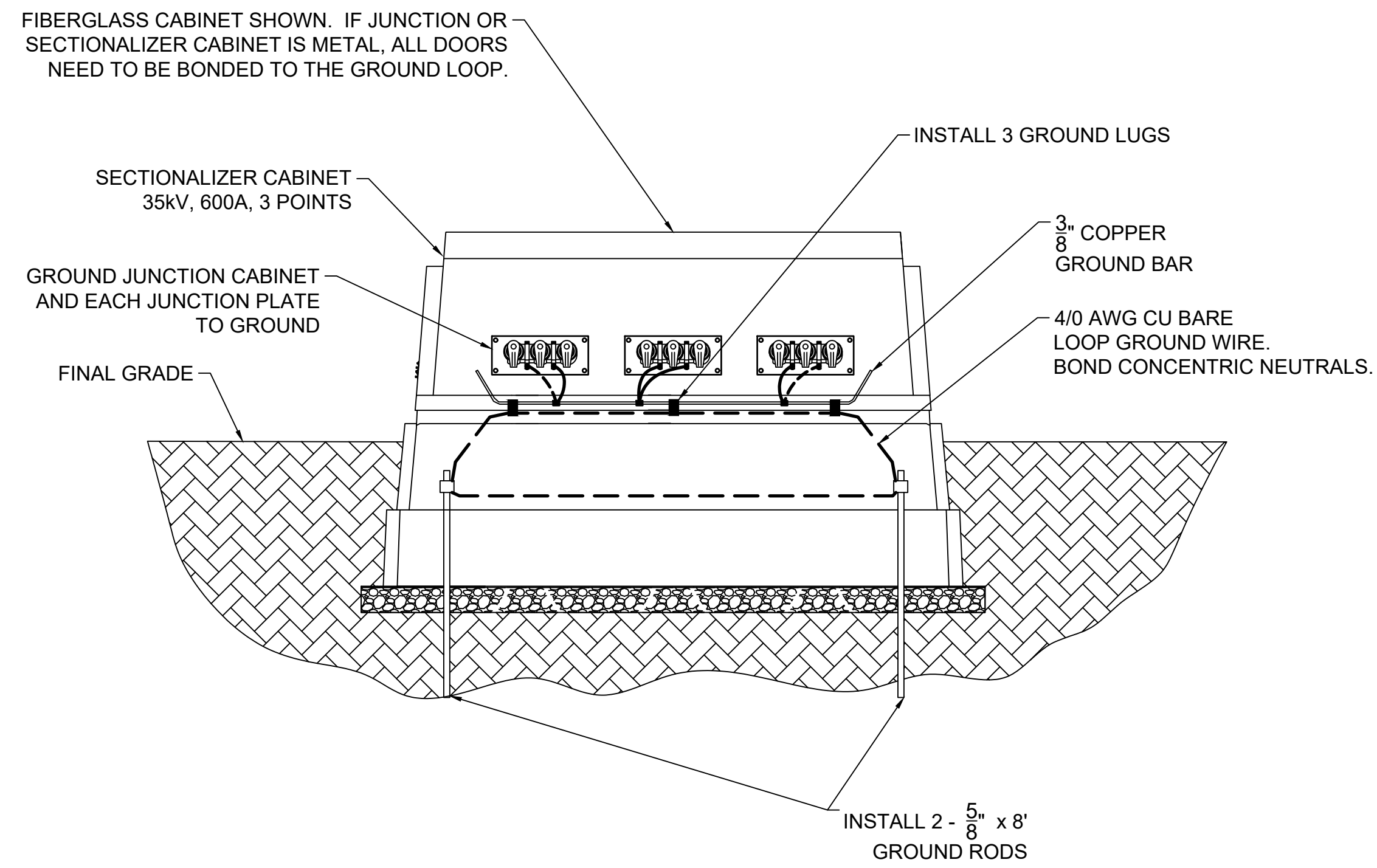
DATE: 08/05/2022

SCALE AT 22" x 34"

AS SHOWN

SHEET NO: PV-E.07.04

REV: 1



1 SECTIONALIZER CABINET GROUNDING
SCALE: NTS

PLOTTED: 08/05/2022 1:07 PM
FILE: PV-E.07.05 GROUNDING DETAILS.DWG

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

MV EQUIPMENT
GROUNDING

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PROJ NUM: SU20.0012

DES: CB

DWN: CB

CHK: KL

APV: KL

DATE: 08/05/2022

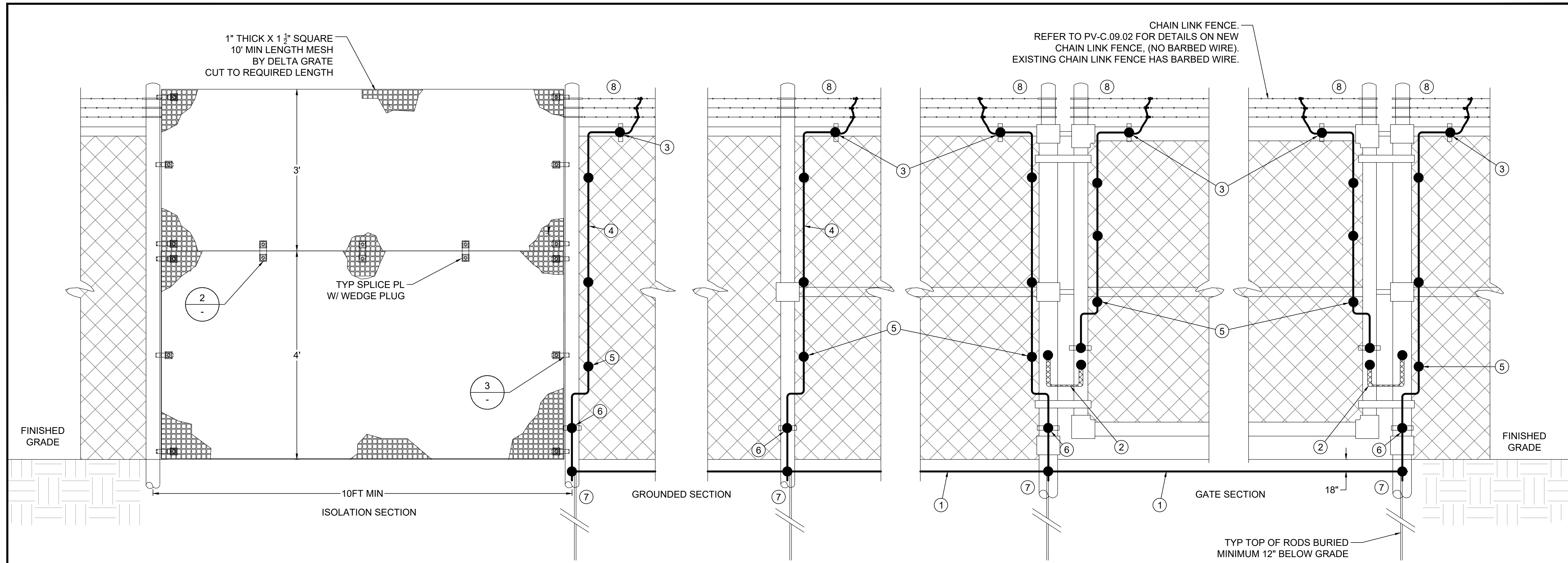
SCALE AT 22" x 34":

AS SHOWN

SHEET NO: PV-E.07.05

REV: 1

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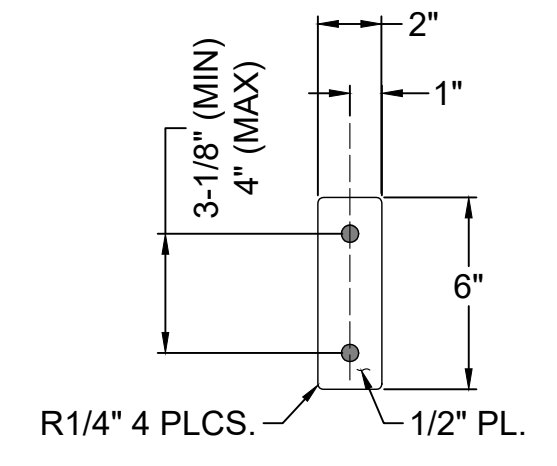
1 CHAIN LINK FENCE GROUNDING AND ISOLATION
SCALE: NTS

KEYED NOTES

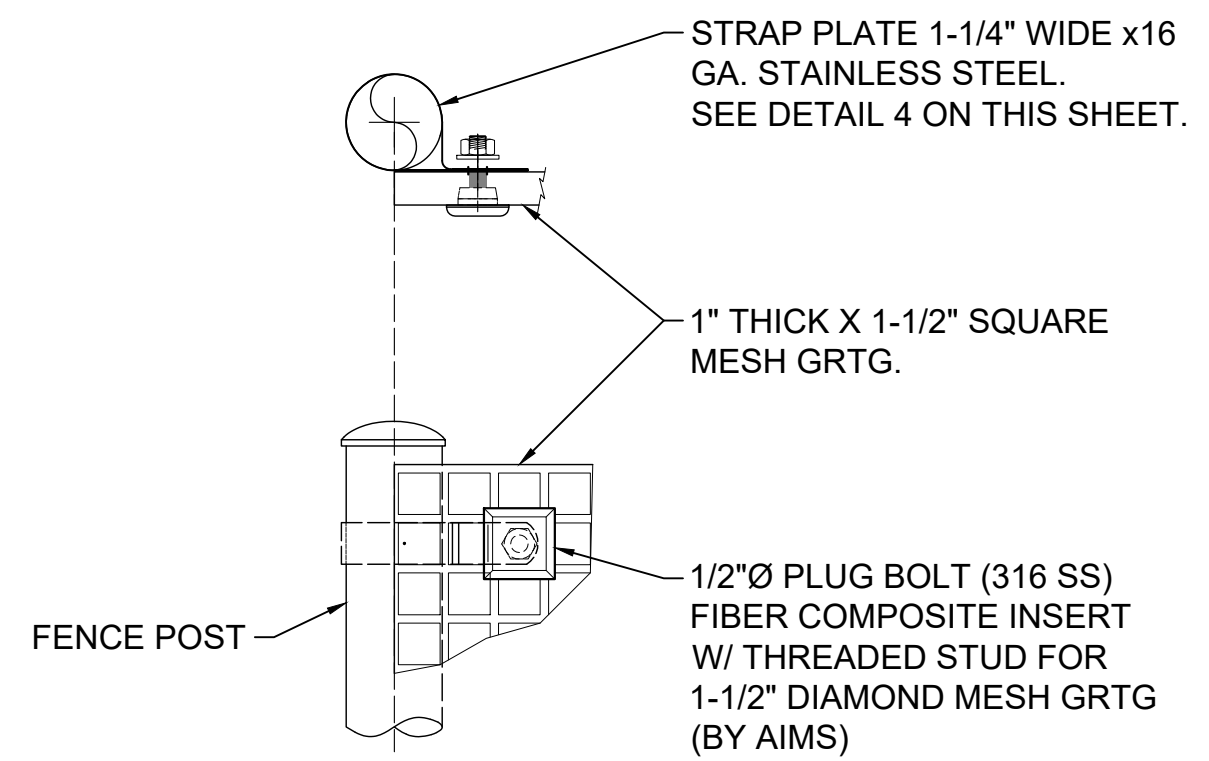
1. GATES AND GROUND RODS SHALL BE BONDED TOGETHER WITH #2 BARE COPPER.
2. FLEXIBLE GROUND WITH COMPRESSION LUGS TO PIPE CLAMPS, FENCE GATE ASSEMBLY AS MANUFACTURED BY HARGER, OR EQUAL. BRAID WITH COMPATIBLE PIPE CLAMPS BY BURNDY ALSO ACCEPTABLE.
3. PROVIDE POST CLAMP TO TOP RAIL.
4. #6 BARE COPPER WIRE, TYPICAL UNLESS NOTED OTHERWISE.
5. PROVIDE FENCE FABRICS GROUNDING CLAMPS SUCH AS MODEL "FGC" AS MANUFACTURED BY HARGER, OR EQUAL.
6. PROVIDE FENCE POST CLAMP BY ERICO, HARGER, OR EQUAL.
7. GROUND ROD BONDED TO BARE COPPER WITH EXOTHERMIC WELD OR IRREVERSIBLE CRIMP STYLE.
8. PROVIDE BRONZE SPLIT BOLT CONNECTIONS TO BARBED WIRE.

GENERAL NOTES

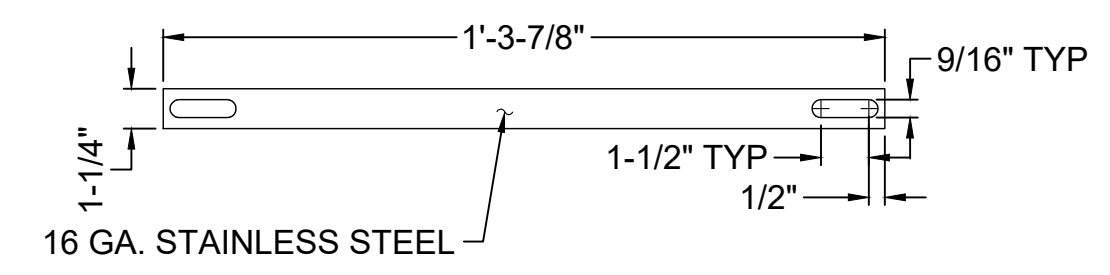
1. IF BARBED WIRE STRANDS ARE USED ABOVE THE FENCE FABRIC, THE BARBED WIRE STRANDS SHALL BE BONDED TO THE GROUNDING CONDUCTOR, JUMPER OR FENCE.
2. EXPOSED FENCE GEC'S AND CLAMPS SHALL BE INSTALLED WITHIN FENCE PERIMETER.
3. FENCES SHALL BE GROUNDED AT EACH SIDE OF A GATE OR OPENING. GROUND ALL GATE POSTS.
4. RODS AND GEC SHALL BE BURIED 24" OUTSIDE FENCE PERIMETER.



2 SPLICE PL. DETAIL
SCALE: NTS



3 AIMS "PLUG BOLT W/ STRAP PLATE" ASSEMBLY
SCALE: NTS



4 STRAP PL. DETAIL
SCALE: NTS

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

CHAIN LINK FENCE
GROUNDING DETAILS

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PROJ NUM: SU20.0012

DES: CB

DWN: CB

CHK: KL

APV: KL

DATE: 08/05/2022

SCALE AT 22" x 34"

AS SHOWN

SHEET NO: PV-E.07.06

REV: 1

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

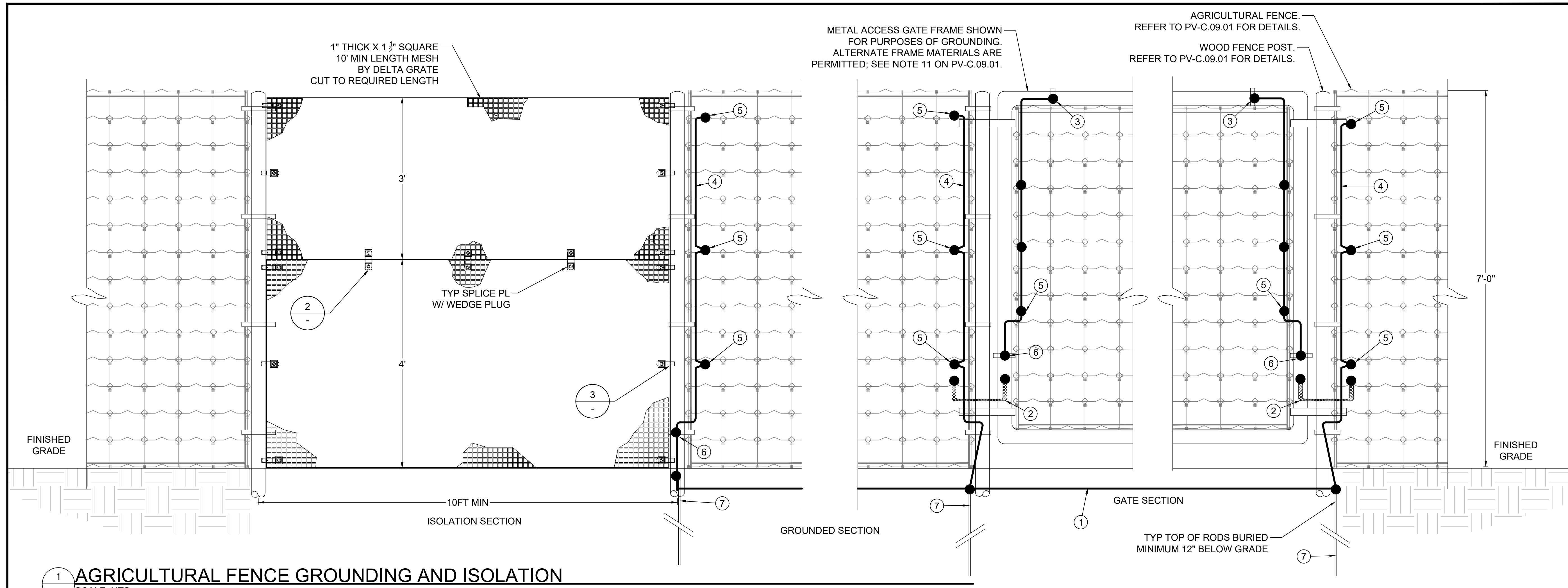
AGRICULTURAL FENCE
GROUNDING DETAILS

ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

SHEET NO:	PV-E.07.07	REV:	1
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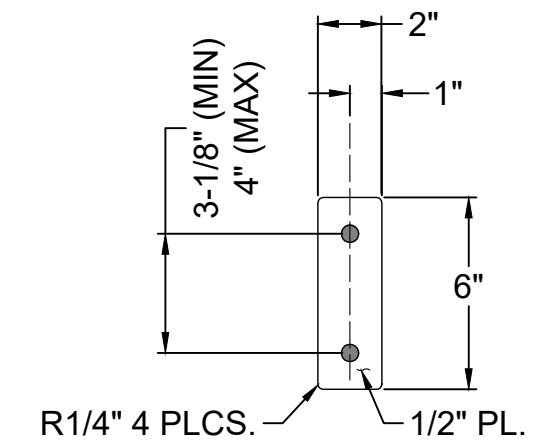
1 AGRICULTURAL FENCE GROUNDING AND ISOLATION
SCALE: NTS

KEYED NOTES

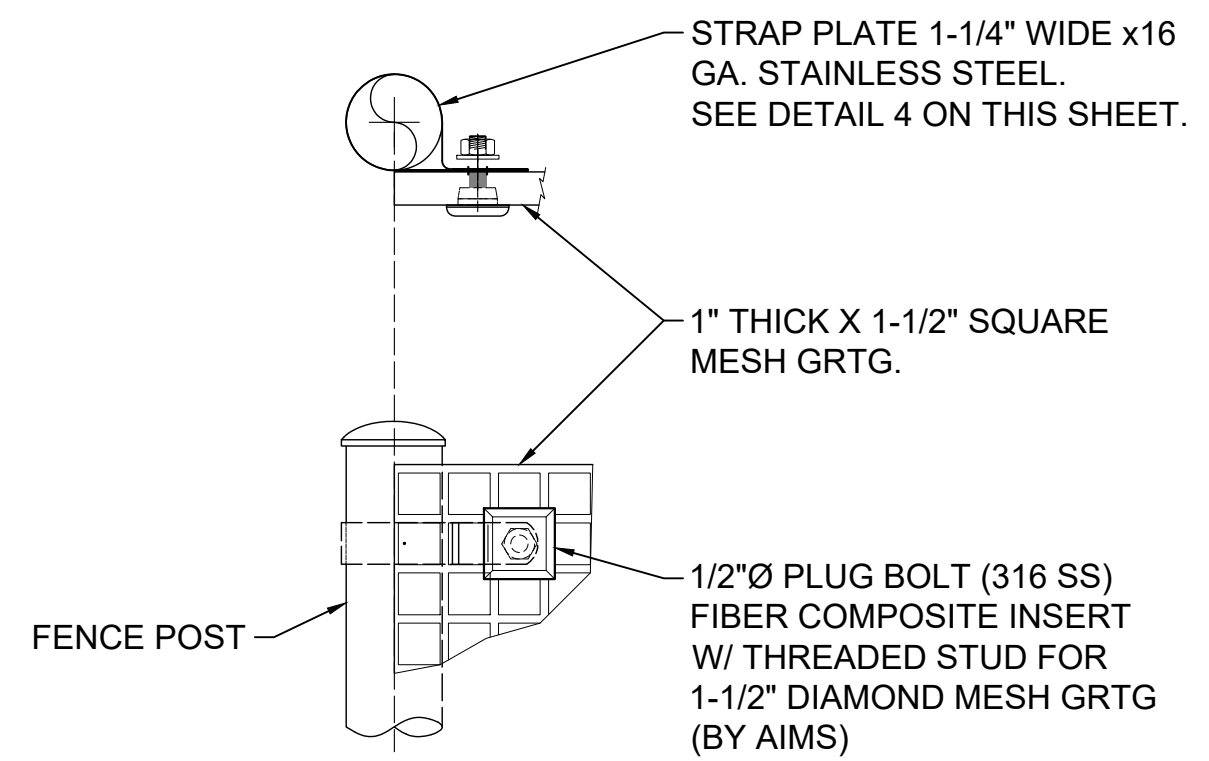
- GATES AND GROUND RODS SHALL BE BONDED TOGETHER WITH #2 BARE COPPER.
- FLEXIBLE GROUND WITH COMPRESSION LUGS TO PIPE CLAMPS, FENCE GATE ASSEMBLY AS MANUFACTURED BY HARGER, OR EQUAL. BRAID WITH COMPATIBLE PIPE CLAMPS BY BURNDY ALSO ACCEPTABLE.
- PROVIDE POST CLAMP TO TOP RAIL.
- #6 BARE COPPER WIRE, TYPICAL UNLESS NOTED OTHERWISE.
- PROVIDE FENCE FABRICS GROUNDING CLAMPS SUCH AS MODEL "FGC" AS MANUFACTURED BY HARGER, OR EQUAL.
- PROVIDE FENCE POST CLAMP BY ERICO, HARGER, OR EQUAL.
- GROUND ROD BONDED TO BARE COPPER WITH EXOTHERMIC WELD OR IRREVERSIBLE CRIMP STYLE.
- PROVIDE BRONZE SPLIT BOLT CONNECTIONS TO BARBED WIRE.

GENERAL NOTES

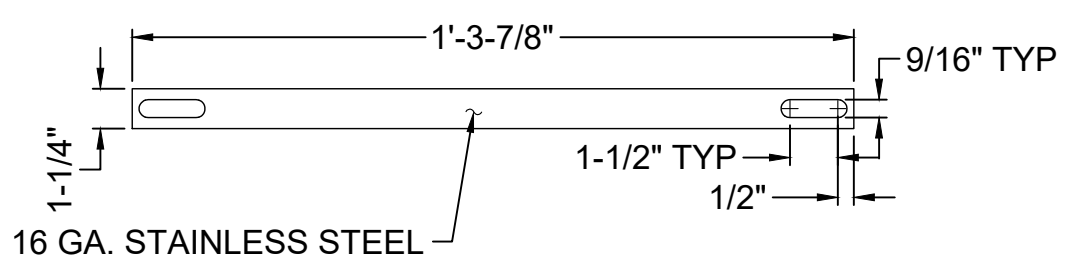
- IF BARBED WIRE STRANDS ARE USED ABOVE THE FENCE FABRIC, THE BARBED WIRE STRANDS SHALL BE BONDED TO THE GROUNDING CONDUCTOR, JUMPER OR FENCE.
- EXPOSED FENCE GEC'S AND CLAMPS SHALL BE INSTALLED WITHIN FENCE PERIMETER.
- FENCES SHALL BE GROUNDING AT EACH SIDE OF A GATE OR OPENING. GROUND ALL GATE POSTS.
- RODS AND GEC SHALL BE BURIED 24" OUTSIDE FENCE PERIMETER.



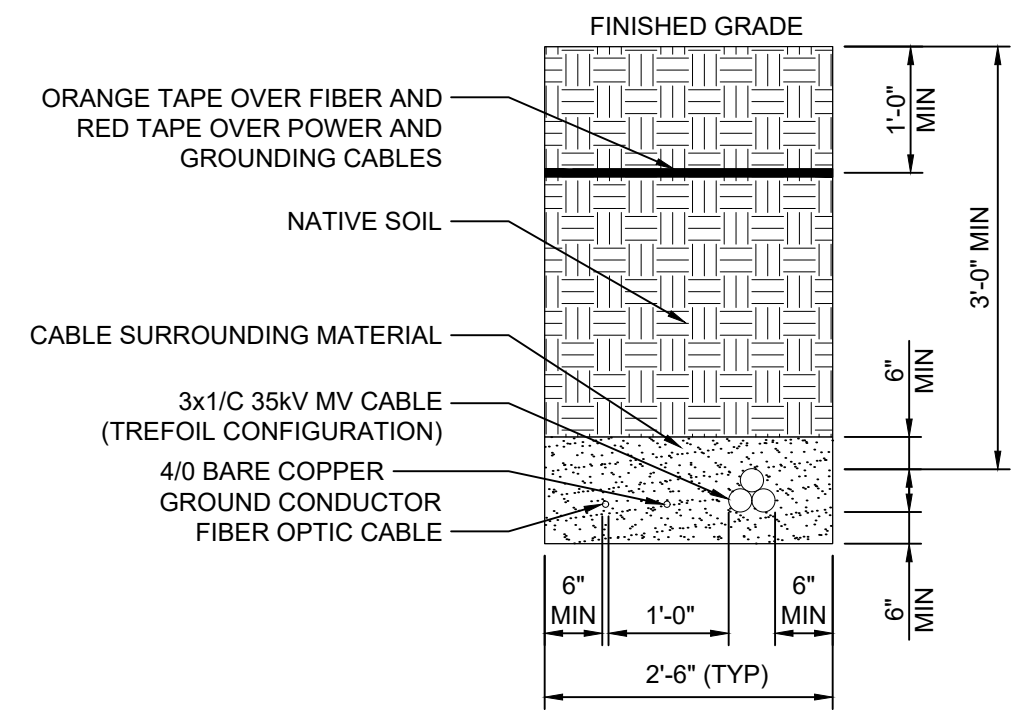
2 SPLICE PL. DETAIL
SCALE: NTS



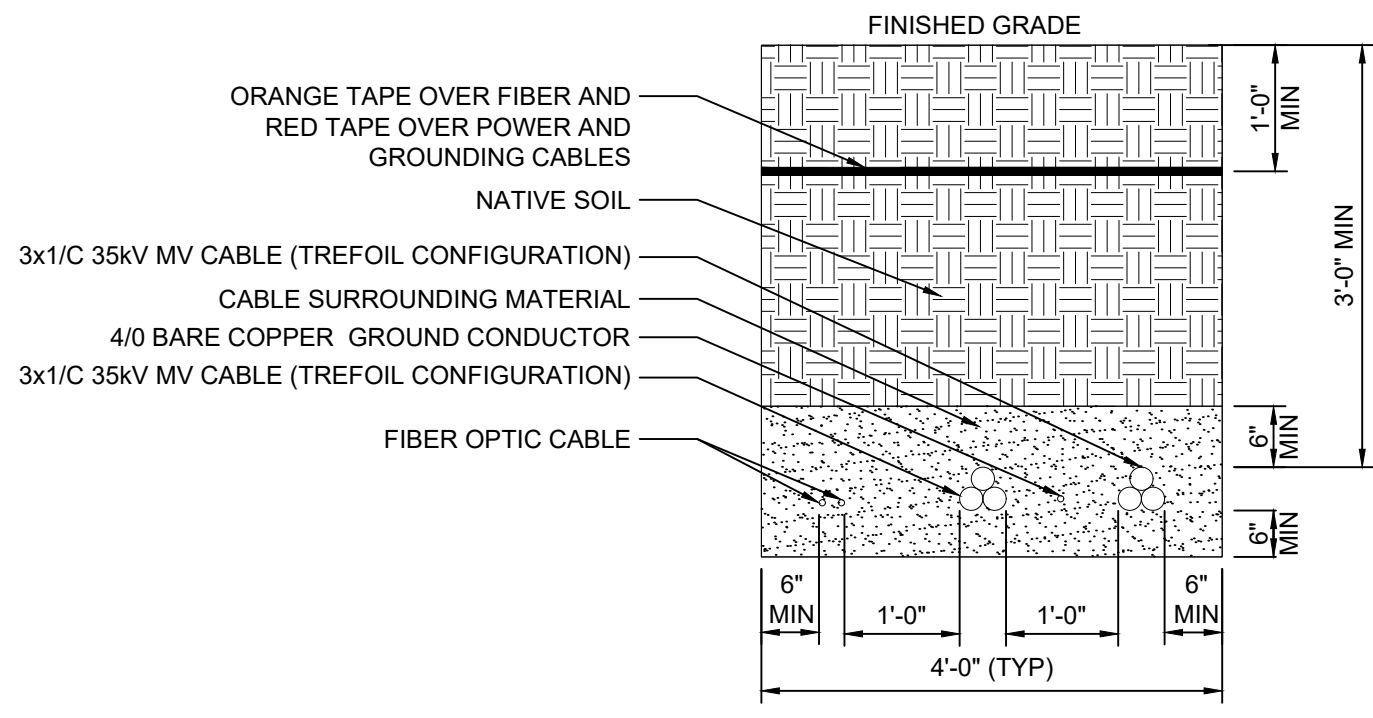
3 AIMS "PLUG BOLT W/ STRAP PLATE" ASSEMBLY
SCALE: NTS



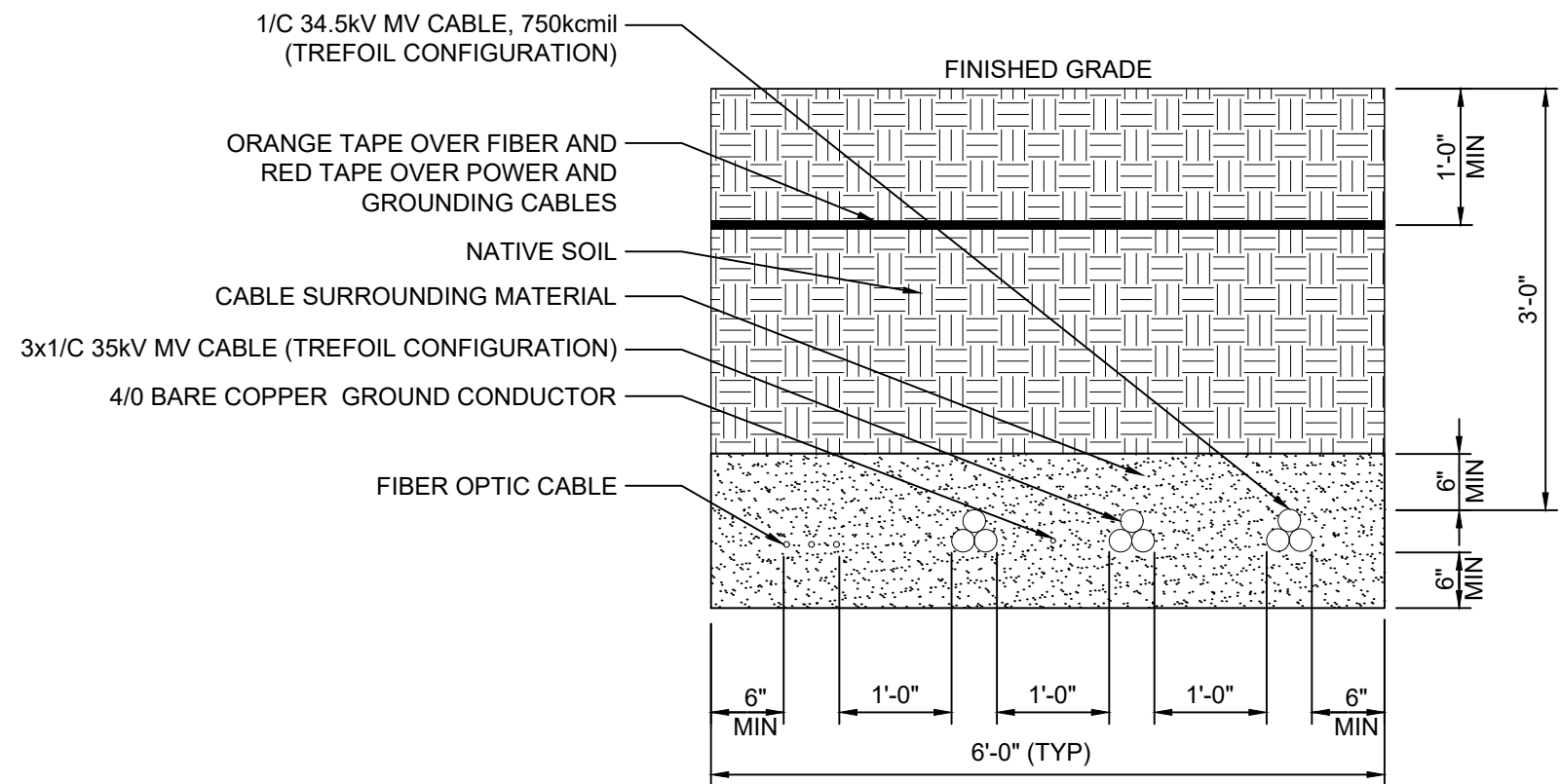
4 STRAP PL. DETAIL
SCALE: NTS



1 TYPICAL TRENCH SECTION FOR ONE FEEDER
SCALE = NTS



2 TYPICAL TRENCH SECTION FOR TWO FEEDERS
SCALE = NTS



3 TYPICAL TRENCH SECTION FOR THREE FEEDERS
SCALE = NTS

NOTES

1. THIS IS A PRELIMINARY TRENCH LAYOUT.
2. ALL DIMENSIONS ARE IN FEET, AND INCHES UNLESS NOTED OTHERWISE.
3. REFER TO LAYOUT DRAWINGS FOR NUMBER AND SIZE OF CABLES PER TRENCH.
4. ELECTRICAL TRENCH BACKFILL SHALL BE NATIVE SOIL AND SHALL MEET NFFPA 70 300.5(F) WHEN SURROUNDING CABLES.
5. TRENCH COMPACTION SHALL BE A MINIMUM OF 85% ASTM (VERIFIED BY MODIFIED PROCTOR TEST) EXCEPT FOR UNDER ROADS. BACKFILL SHALL BE CLEAR OF ORGANIC MATERIAL, DEBRIS AND ROCKS OVER 3/4" IN ANY ONE DIMENSION FOR THE FIRST COMPACTED FOOT.
6. REFER TO PV-C.00.04 TRENCHING NOTES.

REFERENCE DRAWINGS

PV-E.01.01 - AC COLLECTOR SYSTEM OVERALL ELECTRICAL PLAN



AES CLEAN ENERGY DEVELOPMENT, LLC
292 MADISON AVENUE, 15TH FLOOR,
NEW YORK, NY 10017



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KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

34.5kV AC COLLECTION SYSTEM

MV TRENCH DETAILS

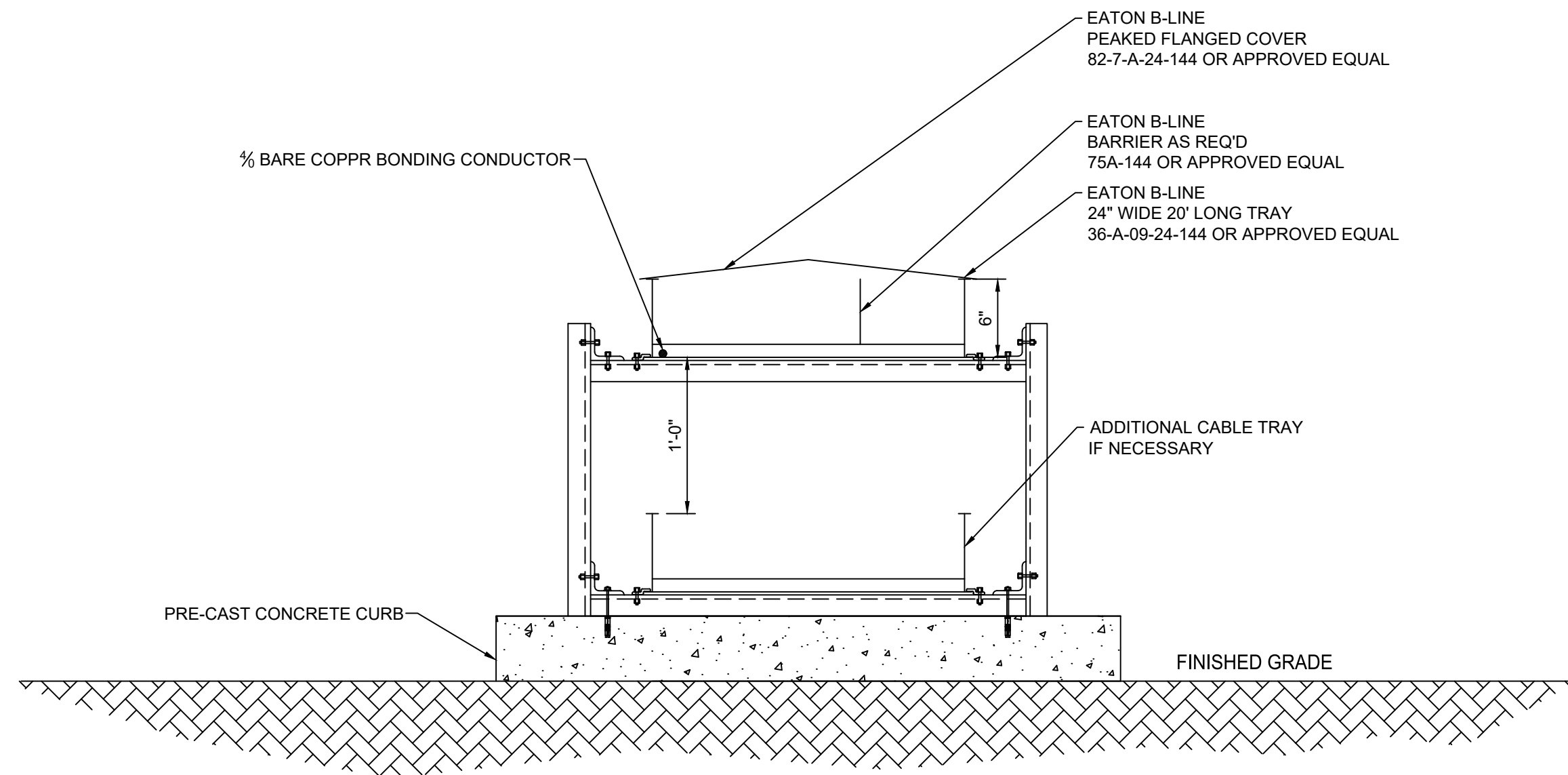
PROJ NUM:	SU20.0012
DES:	MIKE MAILLE
DWN:	MIKE MAILLE
CHK:	JON LEMON, P.E.
APV:	JON LEMON, P.E.
DATE:	11/29/2022
SCALE:	

N.T.S

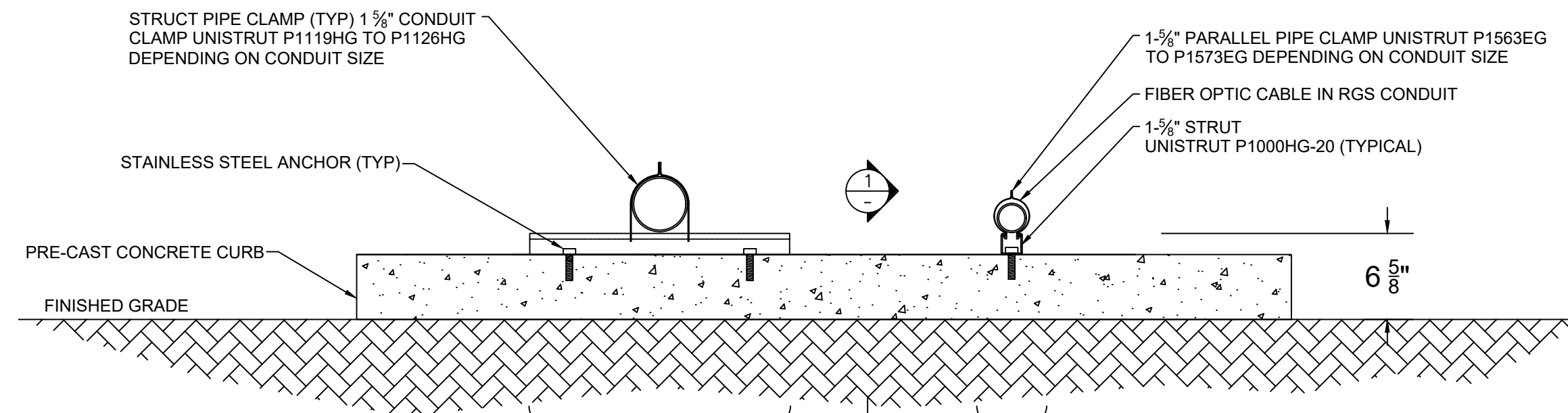
ISSUED FOR 94-C PERMIT ONLY
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SHEET NO:	PV-E.08.01	REV:	1
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AES Trench 2504-V10101



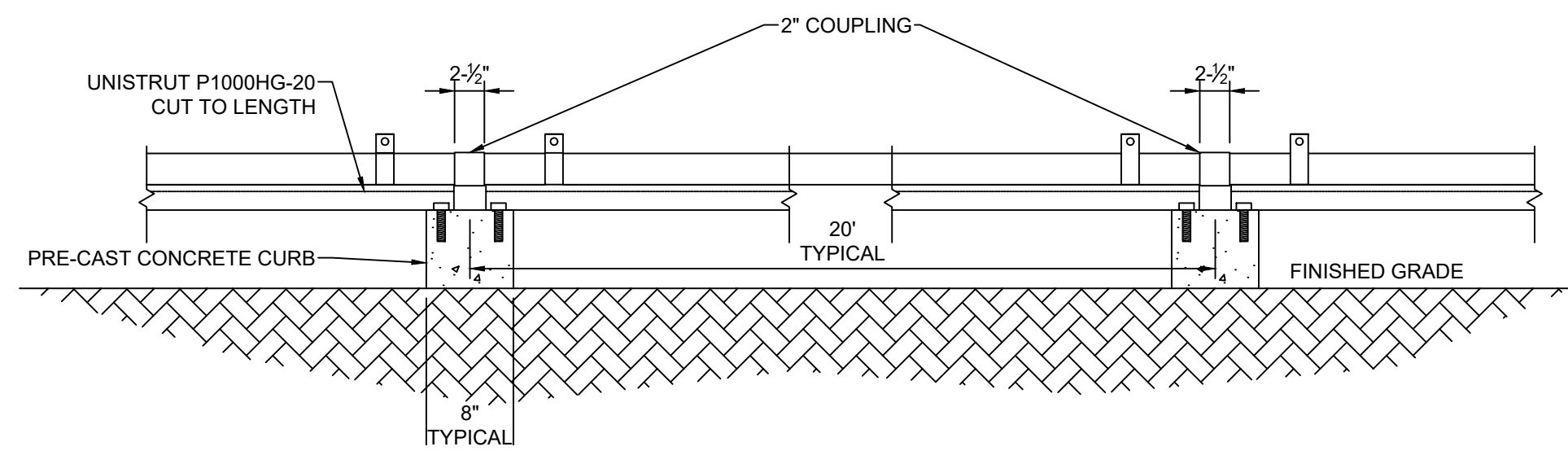
TYPICAL CABLE TRAY SLEEPER DETAIL FOR 20' SPANS



TYPICAL CONDUIT SLEEPER DETAIL

NOTES FOR THIS DETAIL:

- ALL RIGID STEEL CONDUIT AND FITTINGS SHALL BE HOT DIPPED GALVANIZED. ALL CLAMPS, STRUTS SHALL BE HDG WHERE HDG IS UNAVAILABLE, THEN ELECTRO GALVANIZED SHALL BE USED INSTEAD.
- A 1/2 BARE COPPER BONDING CONDUCTOR SHALL BE USED WITHIN EACH POWER CONDUIT AS SHORT CIRCUIT LEVEL IS HIGH RMC CAN BE USED AS EQUIPMENT GROUNDING CONDUCTOR IF APPROVED BY OWNERS ENGINEER.
- CONDUIT SHALL BE SUPPORT AS PER NEC 344.20(B).



1 TYPICAL HDG RMC (RIGID METAL CONDUIT) SUPPORT 20' SLEEPERS
SCALE = NTS

NOTES	
1.	ALL DIMENSIONS ARE IN FEET, AND INCHES UNLESS NOTED OTHERWISE.
2.	CABLE TRAY WIDTH AND QUANTITY TO BE DETERMINED AT A LATER TIME.
REFERENCE DRAWINGS	
PV-E.01.01	- AC COLLECTOR SYSTEM OVERALL ELECTRICAL PLAN
PV-E.02.01	- AC COLLECTOR SYSTEM ONE-LINE DIAGRAM
CL-E.00.01	- AC COLLECTOR SYSTEM FIBRE OPTIC ONE LINE DIAGRAM
PV-E.08.01	- AC COLLECTOR SYSTEM MV CABLE TRENCH CROSS-SECTION DETAILS



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KEY PLAN:

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0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

34.5kV AC COLLECTION SYSTEM

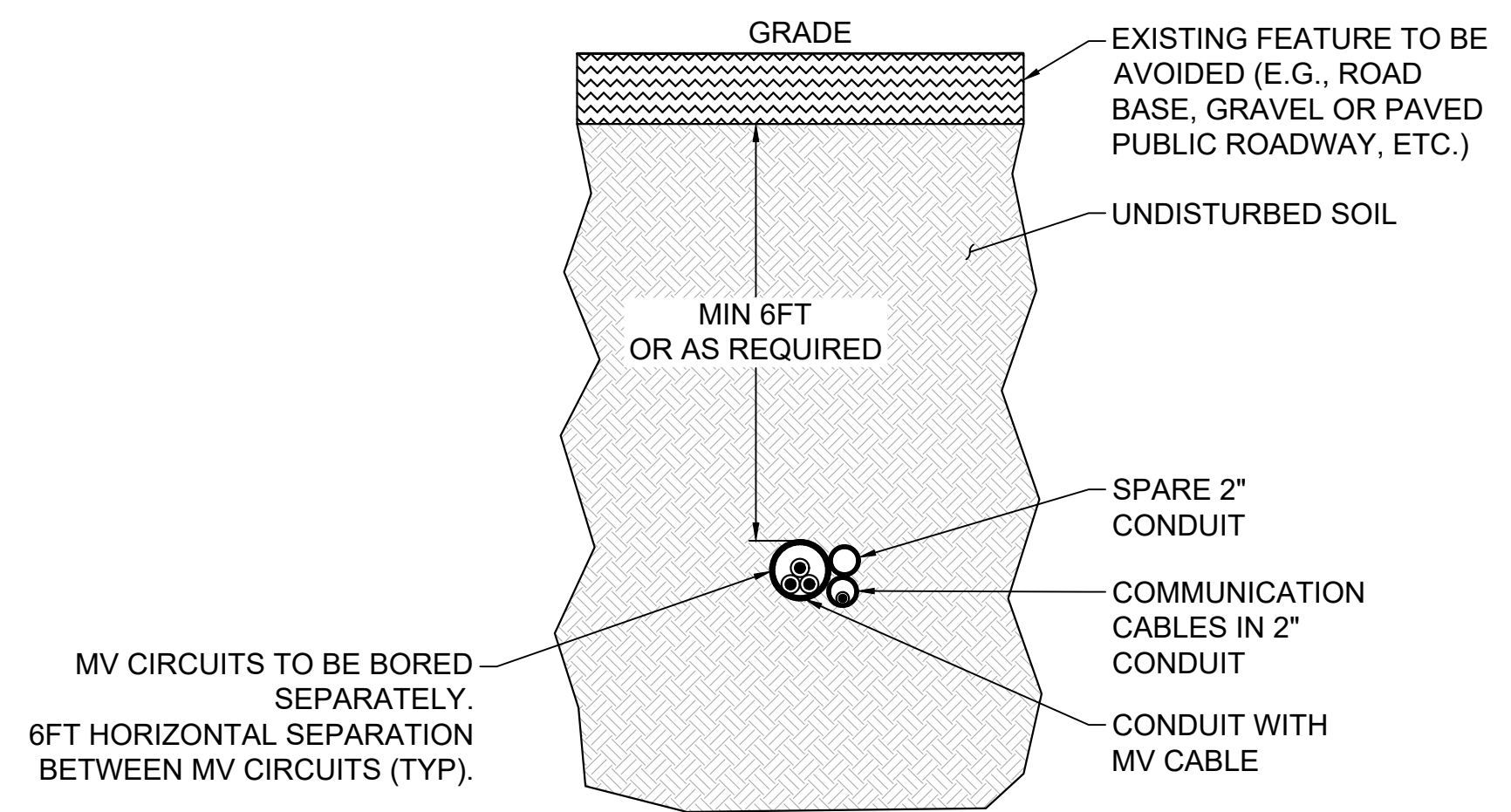
CABLING TYPICAL
INSTALLATION DETAILS

PROJ NUM:	SU20.0012
DES:	SAAD HARIS
DWN:	SAAD HARIS
CHK:	JON LEMON, P.E
APV:	JON LEMON, P.E
DATE:	11/29/2022
SCALE:	

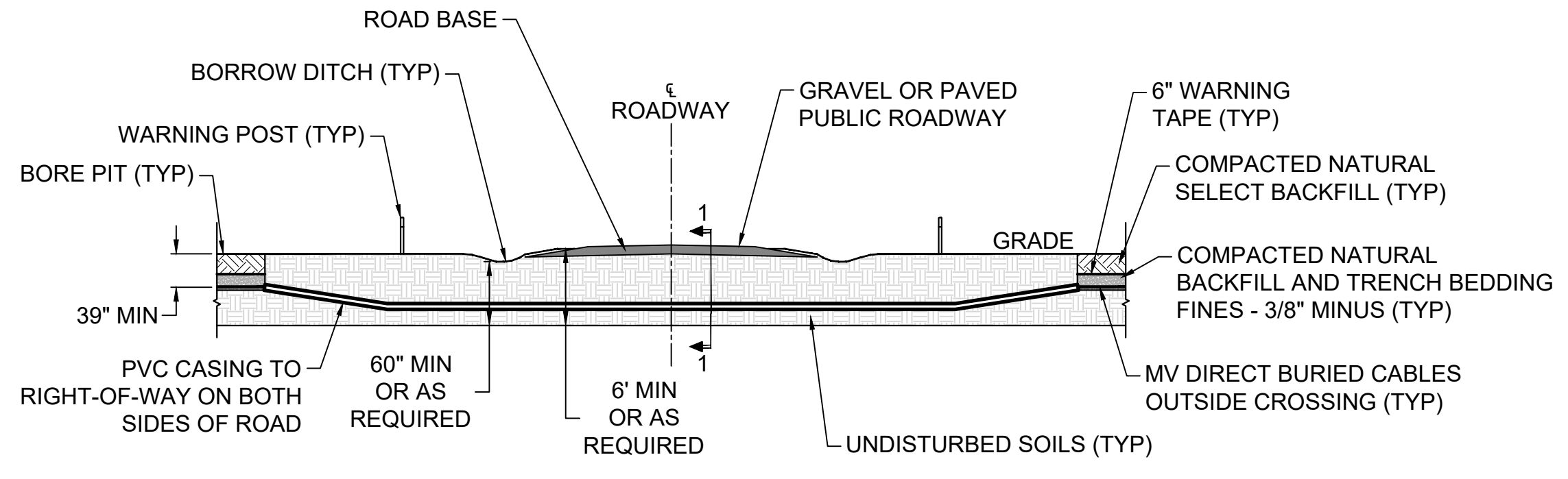
SHEET NO:	PV-E.08.02	REV:	1
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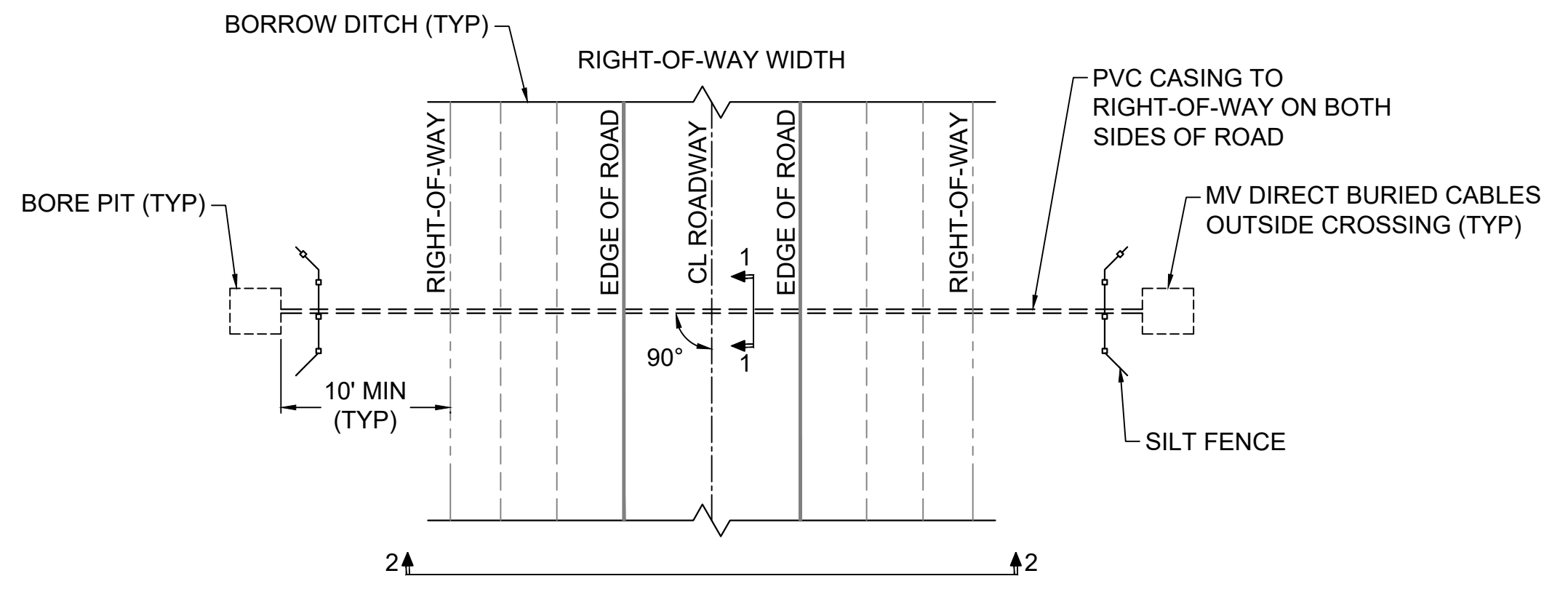
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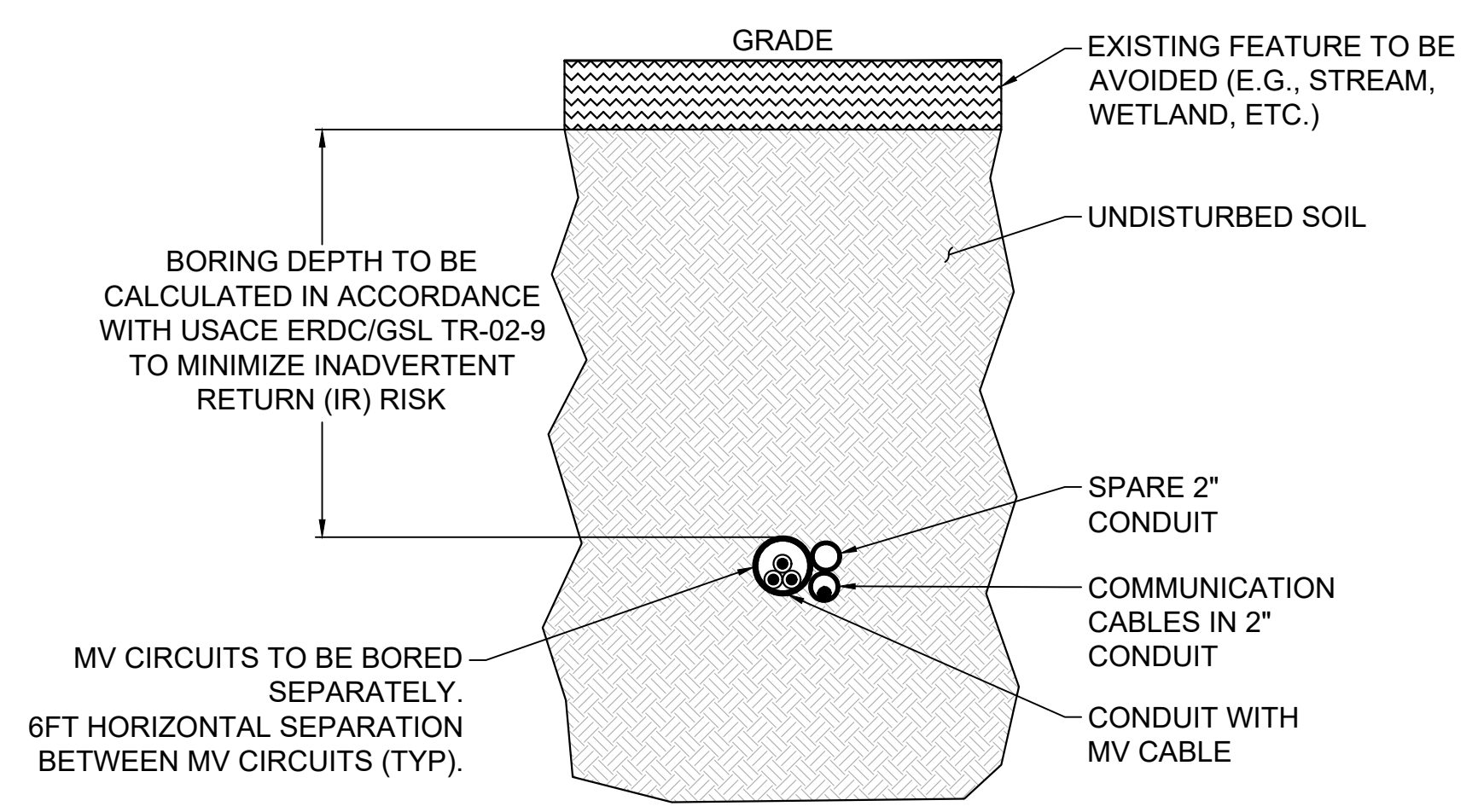
1 MV DIRECTIONAL BORE UNDER ROAD - TRENCH
SCALE: NTS



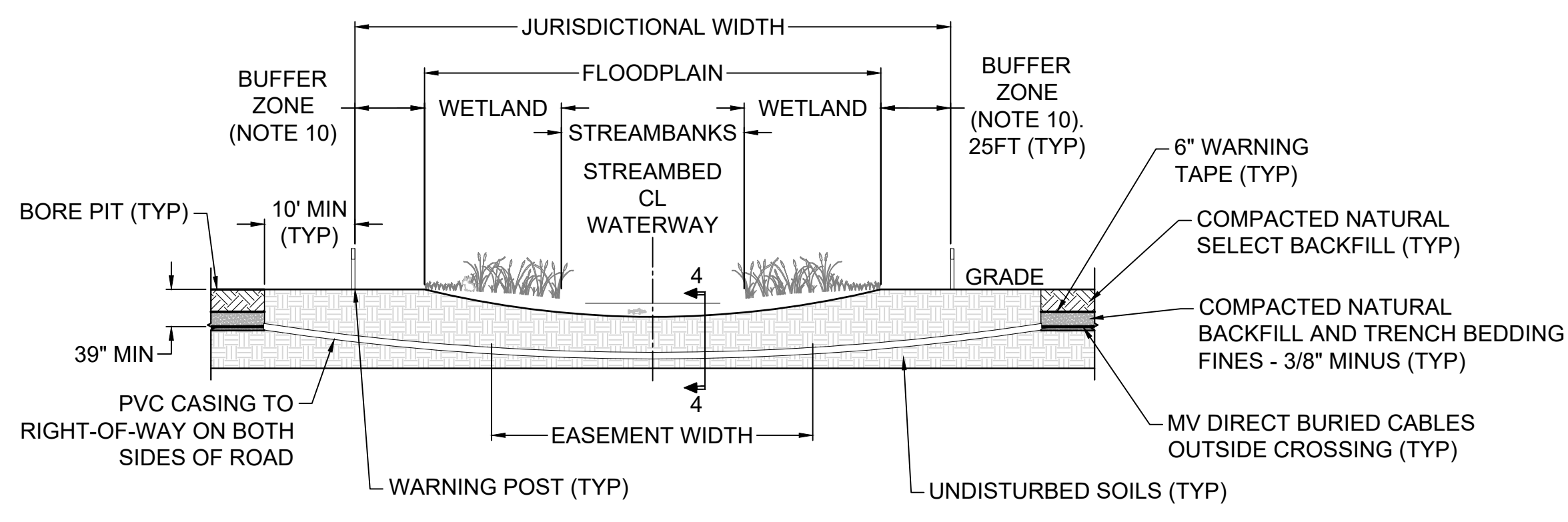
2 MV DIRECTIONAL BORE UNDER ROAD - SIDE VIEW
SCALE: NTS



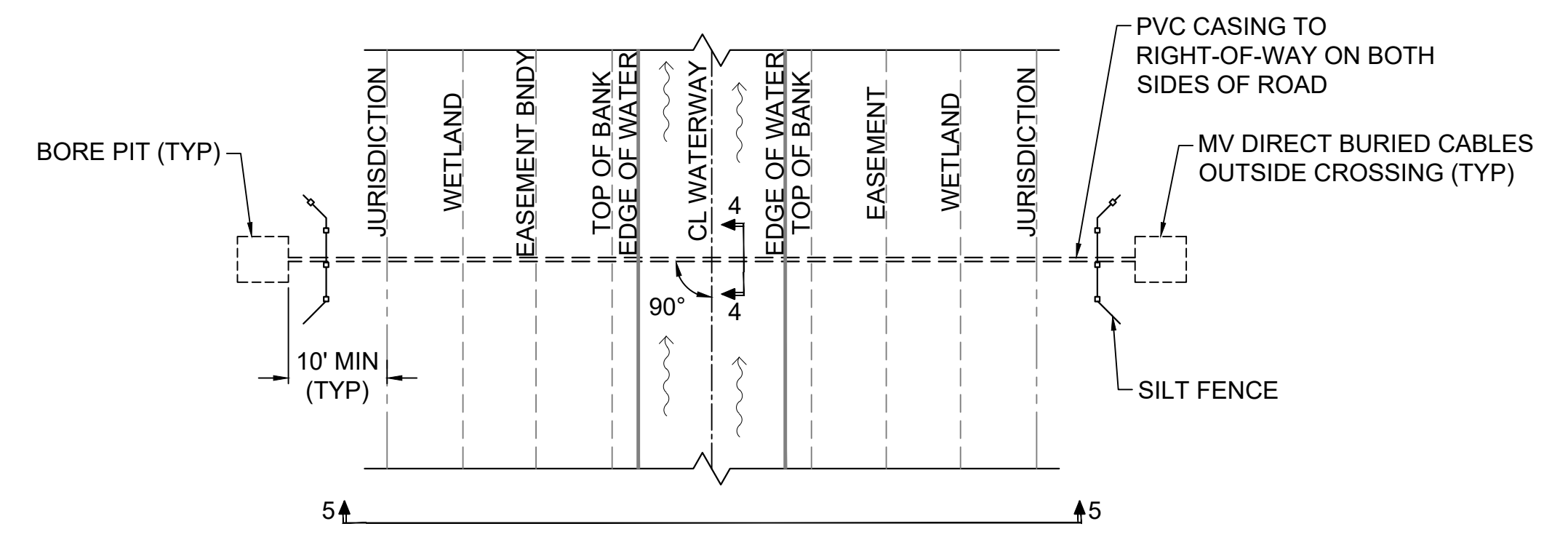
3 MV DIRECTIONAL BORE UNDER ROAD - TOP VIEW
SCALE: NTS



4 MV DIRECTIONAL BORE UNDER WATERWAY - TRENCH
SCALE: NTS



5 MV DIRECTIONAL BORE UNDER WATERWAY - SIDE VIEW
SCALE: NTS



6 MV DIRECTIONAL BORE UNDER WATERWAY - TOP VIEW
SCALE: NTS

- GENERAL NOTES**
- ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE INDICATED.
 - MAINTAIN 60" MIN. TRAINING RADIUS OF CABLES.
 - CONTRACTOR SHALL ACHIEVE 95% OF ITS MODIFIED PROCTOR DENSITY (IN ACCORDANCE WITH ASTM D1557) OF SELECT NATIVE BACKFILLS THROUGH MECHANICAL MEANS. COMPACT IN LIFTS AS NECESSARY TO ACHIEVE COMPLETED TRENCH WITH REASONABLE EXPECTED FUTURE SETTLEMENT. ALL EXCAVATED MATERIAL REMOVED FROM TRENCH SHALL BE REPLACED IN TRENCH TO PREVENT ANY RUTTING DUE TO EROSION BY WIND OR WATER. SEE GEOTECHNICAL REPORT FOR MORE INFORMATION.
 - OBSERVE ALL REQUIREMENTS OF THE SPECIFICATION AND PERMITTING AUTHORITIES IN EXCAVATION AND RESTORATION.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR EXISTING UTILITY LOCATES PRIOR TO CONSTRUCTION.
 - CONTRACTOR TO REMOVE, STOCKPILE AND REPLACE TOP SOIL EXCAVATED FROM TRENCH. DO NOT MIX WITH SUB-SOILS.
 - FOR ALL CONDUCTOR CABLE SIZES, SEE CABLE AMPACITY STUDY.
 - BORE PITS TO BE A MINIMUM 10FT OUTSIDE RIGHT OF WAY, BOTH SIDES.
 - CONTRACTOR TO DETERMINE EXACT BORING LENGTHS IN THE FIELD.
 - A SETBACK DISTANCE OF 25FT WILL BE TYPICALLY APPLIED IN DESIGNING HDDs FOR THE FACILITY. HOWEVER THIS GENERAL SETBACK MAY BE MODIFIED, AS NECESSARY AND IN CONSULTATION WITH THE ENVIRONMENTAL MONITOR AND APPLICABLE STAKEHOLDERS, BASED ON SITE SPECIFIC CONDITIONS OBSERVED DURING CONSTRUCTION OF THE FACILITY.

KEY PLAN:

REVISIONS:

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PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

TYPICAL
DIRECTIONAL BORE
(HDD) DETAILS

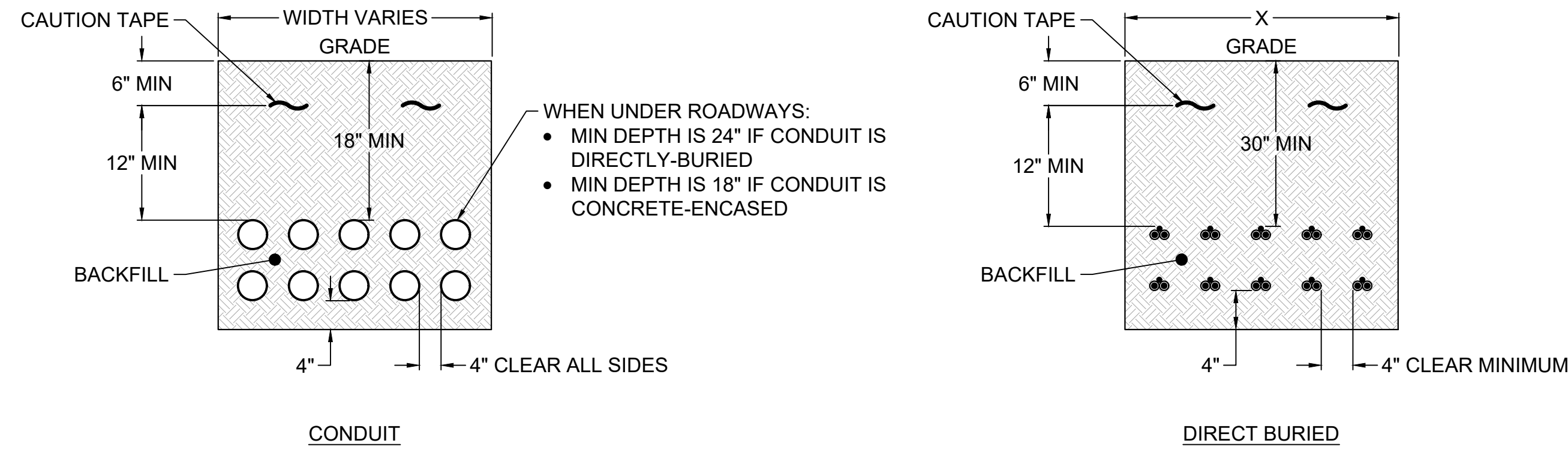
ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

SHEET NO:	PV-E.08.03	REV:	1
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IMPORTED BACKFILL WILL BE REQUIRED. SEE NOTE 2.



1 DC CABLE TRENCH DETAILS

SCALE: NTS

NOTES

1. ALL TRENCHES SHALL BE ROUTED AS DEPICTED AND SHALL NOT PASS UNDERNEATH THE SOLAR ARRAY, EXCEPT BETWEEN ROWS.
2. TRENCH BACKFILL MATERIAL SHOULD BE FREE OF ORGANIC MATERIAL AND PARTICLES LARGER THAN 1/2". BACKFILL SHOULD HAVE THERMAL CHARACTERISTIC $RHO \leq 250^{\circ}C\text{-cm/W}$ (OR LESS) AT 0% MOISTURE. BACKFILL SHALL BE COMPACTED IN 8" LOOSE LIFTS AND COMPACTED TO AT LEAST 95% OF ITS MODIFIED PROCTOR DENSITY IN ACCORDANCE WITH ASTM D1557. SEE GEOTECHNICAL REPORT FOR MORE INFORMATION.
3. "SELECT BACKFILL" SHALL MEET THE REQUIREMENTS ABOVE AND PASS THROUGH A 3/8" SIEVE AND CONTAIN NO SHARP OR FOREIGN OBJECTS.
4. METALLIC ELBOWS MUST BE GROUNDED IF INSTALLED LESS THAN 18" BELOW GRADE.
5. CAUTION TAPE SHALL BE DETECTABLE POLYETHYLENE PLASTIC WITH METAL CORE AND THE WORDS "CAUTION, BURIED ELECTRIC LINE BELOW." SETON OR APPROVED EQUAL.
6. ALL CONDUIT BELOW ROADWAY SHALL BE MINIMUM 24" PER NEC. CONTRACTOR TO WORK WITH LOCAL D.O.T. TO DETERMINE LOCAL AHJ MINIMUM DEPTH.
7. ALL MEDIUM VOLTAGE BEND RADII TO BE 36" MINIMUM.
8. MV TRENCHES MAY CONTAIN ADDITIONAL MONITORING CABLES/CONDUITS.
9. CONTRACTOR SHALL PERFORM A DC HIPOT TEST AFTER CABLES ARE TERMINATED ON SITE. VOLTAGE APPLIED AND DURATION OF THE TEST SHALL BE IN ACCORDANCE WITH THE CABLE MANUFACTURER'S FIELD HIPOT TEST RECOMMENDATIONS. TEST RESULTS FOR EACH CABLE SHALL BE SUBMITTED TO OWNER ENGINEERING FOR APPROVAL.

PLOTTED: 08/05/2022 10:04 AM FILE: PV-E-08.04 TRENCH DETAILS.DWG

KEY PLAN:

REVISIONS:

NO.	DATE	DESCRIPTION
0	03/08/2023	ISSUED FOR 94-C PERMIT
1	08/11/2023	RE-ISSUED FOR 94-C PERMIT

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

LV TRENCH
DETAILS

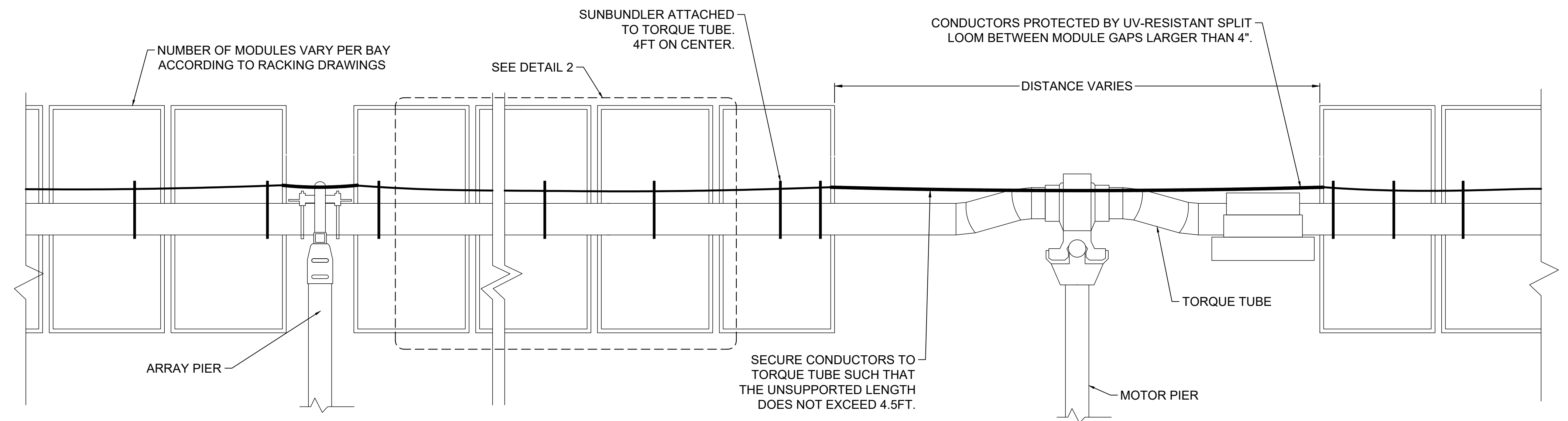
ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022

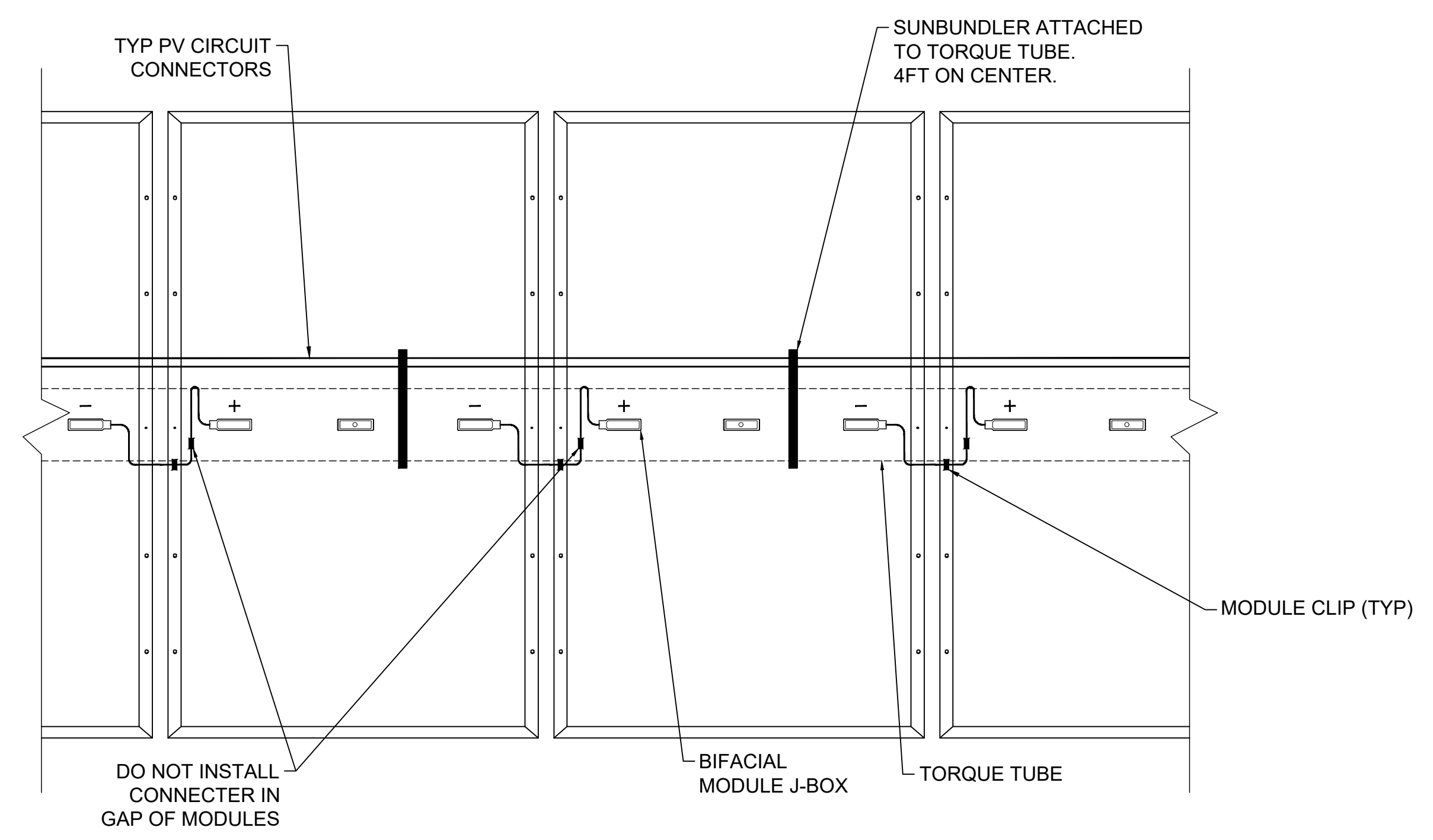
SCALE AT 22" x 34":

AS SHOWN

SHEET NO:	PV-E.08.04	REV:	1
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1 PV OUTPUT CIRCUIT CONDUCTOR WIRE MANAGEMENT - TRACKERS
SCALE: NTS



2 BACK OF MODULE WIRE MANAGEMENT - TRACKERS
SCALE: NTS

- WIRE MANAGEMENT REQUIREMENTS:**
- CONTRACTOR SHALL INSTALL WIRE LOOM FOR TRANSITIONS ON PIERS AND TRANSITION ACROSS TORQUE TUBES BETWEEN MOTORS AND DRIVES. CONTRACTOR SHALL NOT USE TIE WRAPS FOR SUCH APPLICATION.
 - CONTRACTOR SHALL PROTECT ANY OPEN WIRE THAT IS EXPOSED TO DIRECT SUNLIGHT FOR A LENGTH OVER 6" FROM THE SUN BY USING WIRE LOOM OR OTHER FORM OF APPROVED WIRE COVER. CONTRACTOR SHALL SHIELD ALL MC CONNECTORS FROM DIRECT EXPOSURE TO SUNLIGHT AND WEATHER (I.E., MUST BE COMPLETELY UNDER MODULE).
 - EACH USE OF A TIE WRAP, OTHER THAN SPECIFIED, MUST BE APPROVED BY OWNER. CONTRACTOR SHALL NOT USE TIE WRAPS WHEN TRANSITIONING ACROSS LARGE GAPS OR MOTOR GAPS. CONTRACTOR SHALL ADHERE TO THE FOLLOWING SPECIFICATIONS WHEN USING TIE WRAPS:
 - CONTRACTOR MAY USE TIE WRAPS TO BUNDLE WIRES TOGETHER, BUT NOT AS THE SUPPORT METHOD TO STRUCTURE OR MODULE.
 - WHEN USING TIE WRAPS, CONTRACTOR SHALL AVOID PINCHING WIRE INSULATION, AND ENSURE THAT THE TIE WRAP IS PULLED TO A REASONABLE TIGHTNESS.
 - ALL TIE WRAPS USED BY CONTRACTOR SHALL HAVE A MINIMUM WIDTH OF 0.185 INCHES.
 - CONTRACTOR SHALL ONLY USE HEAT STABILIZED/ULTRAVIOLET RESISTANT TIE WRAPS.
 - WIRE TRANSITIONS. CONTRACTOR SHALL ADHERE TO THE FOLLOWING SPECIFICATIONS REGARDING WIRE TRANSITIONS:
 - TRANSITION OF WIRES FROM ONE SURFACE TO THE OTHER OVER THE EDGE OF RACKING OR TRAY SHALL BE PROPERLY PROTECTED FROM CHAFING AND DAMAGE BY PROVIDING PROTECTIVE COVER FOR WIRE AT THESE LOCATIONS.
 - ALL WIRES TRANSITIONING FROM TRAY TO UNDERGROUND SHALL BE PROPERLY PROTECTED FROM DAMAGE AND CONTACT FROM LAWN/VEGETATION MAINTENANCE EQUIPMENT.
 - ALL TRANSITION OF WIRES FROM ONE ELEVATION TO ANOTHER SHALL HAVE PROPER WATERFALLS INSTALLED WITH PROTECTION OF WIRE FROM ANY SHARP EDGES.
 - EDGE GUARD NEED TO BE EMPLOYED TO PROTECT WIRE FROM SHARP EDGES AND SHOULD HAVE METAL ADHESION PROPERTIES (NOT GLUE) AND BE UV RATED TO ENSURE LONGEVITY.

KEY PLAN:

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PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

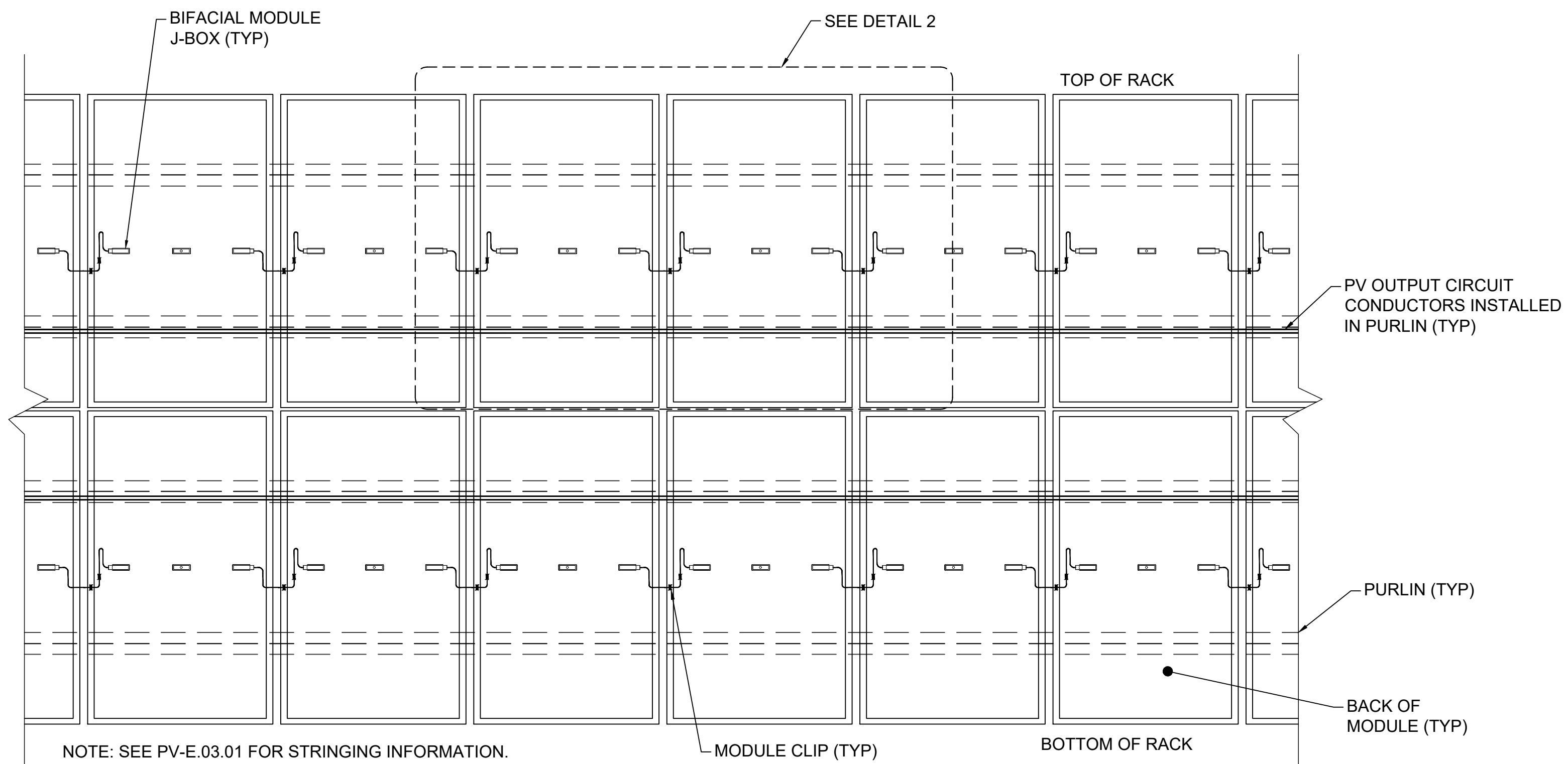
WIRE DETAILS - TRACKERS

ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

SHEET NO:	PV-E.09.01	REV:	1
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WIRE MANAGEMENT REQUIREMENTS:
 1. SEE WIRE MANAGEMENT REQUIREMENTS ON PV-E.09.01.



IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145, FOR ANY PERSON, UNLESS UNDER THE DIRECTION OF A NEW YORK STATE LICENSED PROFESSIONAL ENGINEER, TO ALTER AN ITEM ON THIS DOCUMENT IN ANY WAY.

KEY PLAN:

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PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

WIRE DETAILS -
FIXED TILT

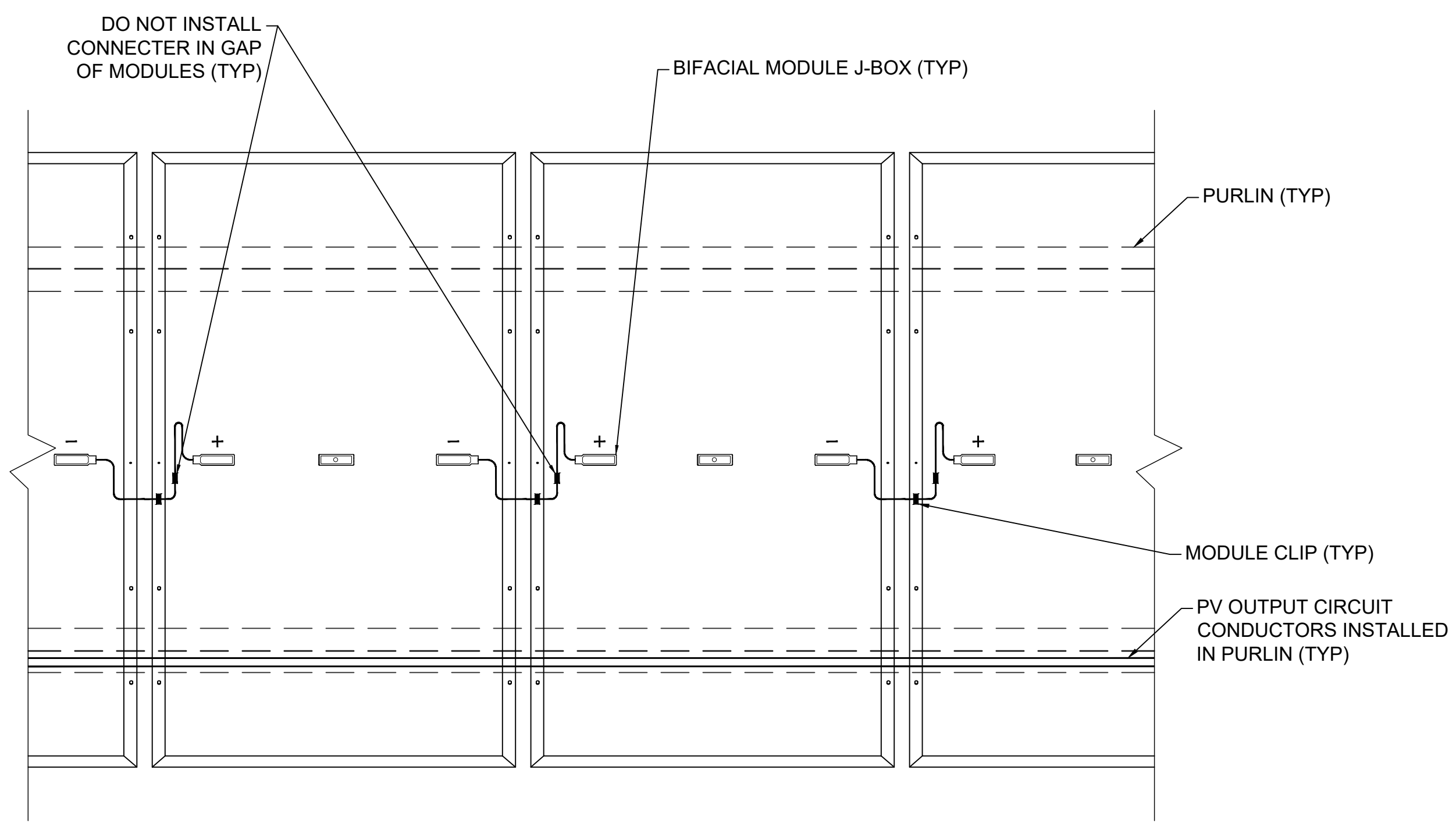
ISSUED FOR 94-C PERMIT ONLY
NOT FOR CONSTRUCTION

PROJ NUM:	SU20.0012
DES:	CB
DWN:	CB
CHK:	KL
APV:	KL
DATE:	08/05/2022
SCALE AT 22" x 34":	

AS SHOWN

SHEET NO:	PV-E.09.02	REV:	1
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1 PV OUTPUT CIRCUIT CONDUCTOR WIRE MANAGEMENT - FIXED TILT
 SCALE: NTS



2 BACK OF MODULE WIRE MANAGEMENT - FIXED TILT
 SCALE: NTS