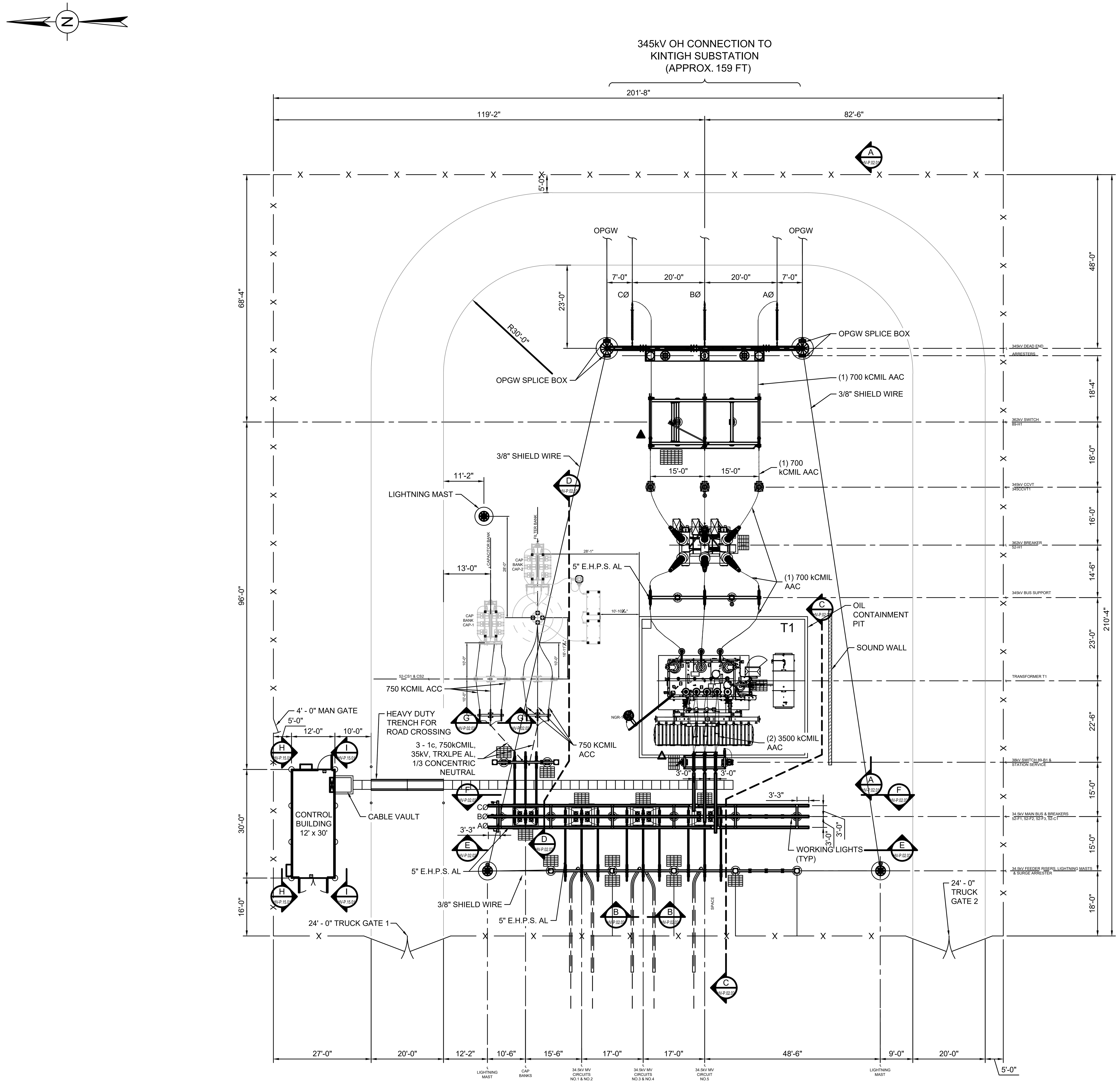
Attachment 9:
Facility Substation Drawings



NOTES

1. TUBULAR BUS SHALL BE EXTRUDED, SEAMLESS BUS PIPE MADE OF 6063-T6 ALLOY, SCHEDULE 40.
2. PHASING ARRANGEMENT TO BE CONFIRMED BASED ON THE TRANSMISSION LINE DESIGN.
3. LEVELING NUTS SHALL BE USED ON ALL STEEL STRUCTURES.
4. EQUIPMENT SHALL BE MOUNTED DIRECTLY ON PADS.
5. EQUIPMENT RATINGS SUBJECT TO CHANGE BASED ON STUDIES RESULTS.
6. DESIGN IS PRELIMINARY AND SHALL BE FINALIZED AT DETAILED DESIGN PHASE.

LEGEND

- LIGHT (STRUCTURE)
- SWITCH OPERATOR - MOTOR
- SWITCH OPERATOR - WORM GEAR
- FENCE
- 4'-0" x 6'-0" SWITCH GROUNDING MAT
- BURIED CABLE

MINIMUM CLEARANCE REQUIREMENT

345kV MINIMUM CLEARANCE (1300kV BIL):
LIVE PARTS: Ø-G=106"
Ø-Ø=119"
TO GRADE: 18'-0" (BUS)
30'-0" (DRIVEWAY)
34.5kV MINIMUM CLEARANCE (200kV BIL):
LIVE PARTS: Ø-G=13"
Ø-Ø=18"
TO GRADE: 10'-0" (BUS)
22'-0" (DRIVEWAY)

DRAWING NUMBER	DRAWING DESCRIPTION
HV-E.02.01	345/34.5kV SUBSTATION SWITCHING ONE-LINE DIAGRAM
HV-P.08.01	345/34.5kV SUBSTATION GROUNDING PLAN
HV-P.14.01	345/34.5kV SUBSTATION CONTROL BUILDING LAYOUT
HV-P.02.01	345/34.5kV SUBSTATION 345kV ELEVATION VIEW
HV-P.02.02	345/34.5kV SUBSTATION 34.5kV ELEVATION VIEW
HV-P.15.01	345/34.5kV SUBSTATION CONTROL BUILDING ELEVATION

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NOT FOR CONSTRUCTION

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

TETRA TECH

KEY PLAN:

REVISIONS:

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

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD, SOMERSET NY

SHEET TITLE & DESCRIPTION:

345/34.5kV SUBSTATION

GENERAL PLAN

PROJ NUM:	SU20.0012
DES:	MIKE MAILLE
DWN:	MIKE MAILLE/KRINA GANDHI
CHK:	AZIN SHAHAB
APV:	ZHONG BING SHEN, P.E.
DATE:	02/17/2023

SCALE AT 22" x 34":
0 8' 16' 24' 32'
1/16" = 1'-0"

SHEET NO: HV-P.01.01
REV: 0

NOTES

1. THIS IS A PRELIMINARY ELEVATION VIEW AND IS FOR PERMITTING PURPOSES ONLY.
2. DESIGN IS PRELIMINARY AND SHALL BE FINALIZED AT DETAILED DESIGN PHASE.
3. REFER TO DETAIL 7 ON SHEET C.10.05

LEGEND

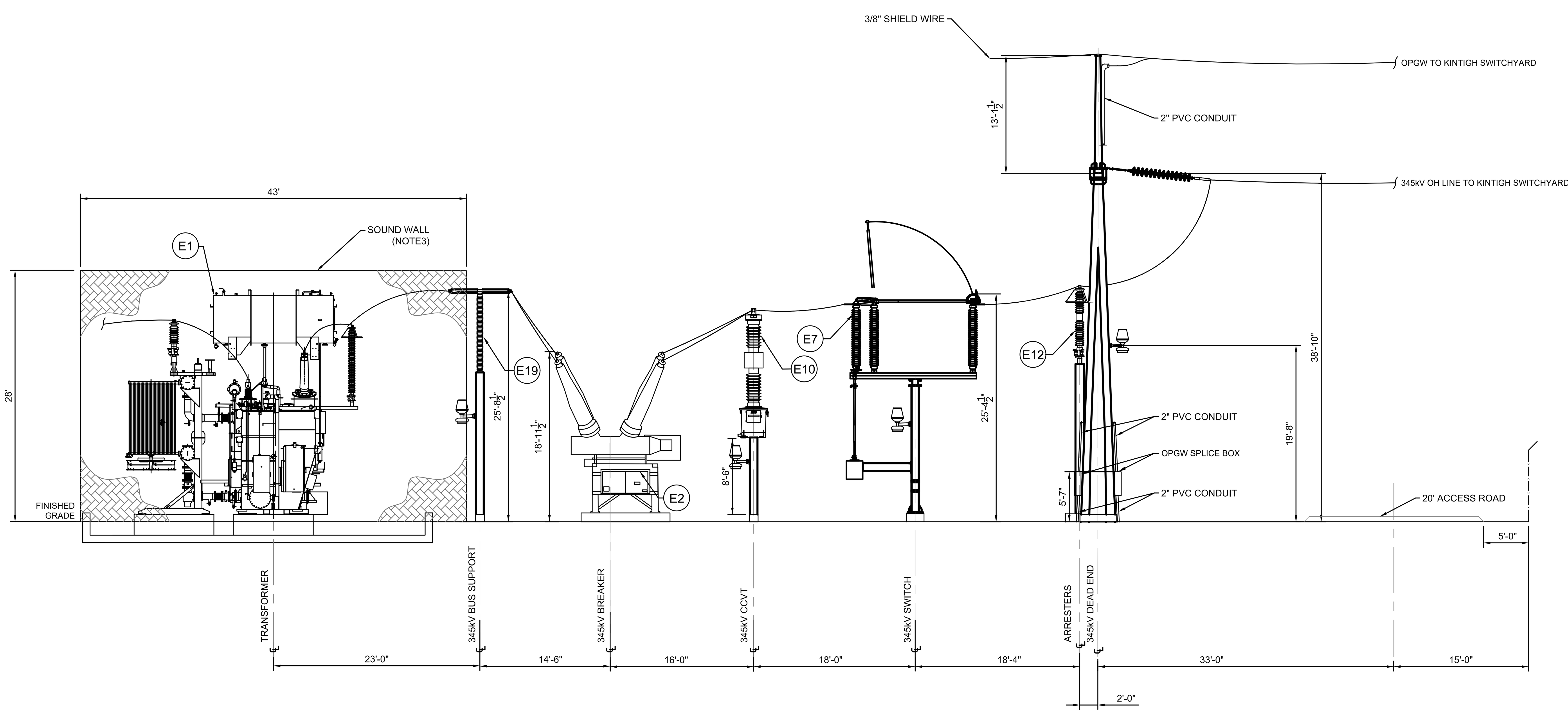
LIGHT (MAST/DEADEND)

MATERIAL ITEM OR SUB ITEM NUMBER

MINIMUM CLEARANCE REQUIREMENT

345kV MINIMUM CLEARANCE (1300kV BIL):
LIVE PARTS: Ø-G=106"
Ø-Ø=119"
TO GRADE: 18'-0" (BUS)
30'-0" (DRIVEWAY)
34.5kV MINIMUM CLEARANCE (200kV BIL):
LIVE PARTS: Ø-G=13"
Ø-Ø=18"
TO GRADE: 10'-0" (BUS)
22'-0" (DRIVEWAY)

DRAWING NUMBER	DRAWING DESCRIPTION
C.10.05	SOUND WALL DETALS
HV-P.01.01	345/34.5kV SUBSTATION GENERAL ARRANGEMENT
HV-P.08.01	345/34.5kV SUBSTATION GROUNDING PLAN
HV-P.14.01	345/34.5kV SUBSTATION CONTROL BUILDING LAYOUT
HV-E.02.01	345/34.5kV SUBSTATION SWITCHING ONE-LINE DIAGRAM
HV-P.02.02	345/34.5kV SUBSTATION 34.5kV ELEVATION VIEW



SECTION A HV-P.01.01

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KEY PLAN:

REVISIONS:

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PROJECT TITLE:
SOMERSET SOLAR PROJECT

PROJECT LOCATION:
LAKE ROAD, SOMERSET NY

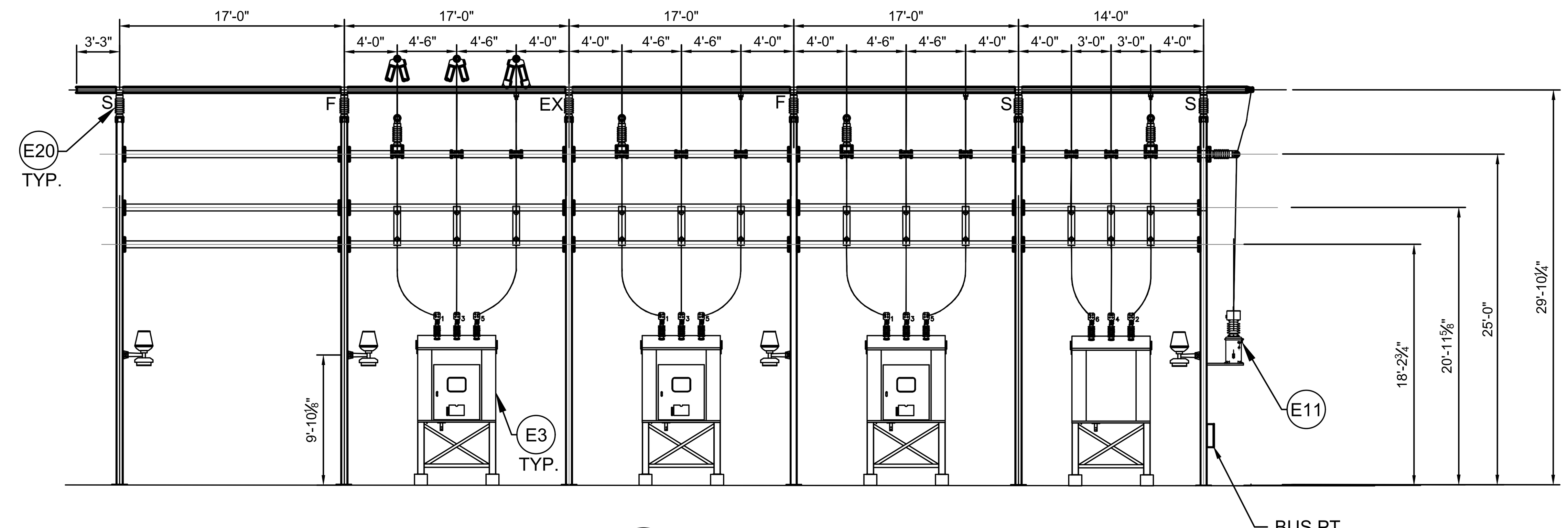
SHEET TITLE & DESCRIPTION:
345/34.5kV SUBSTATION

345kV ELEVATION VIEW

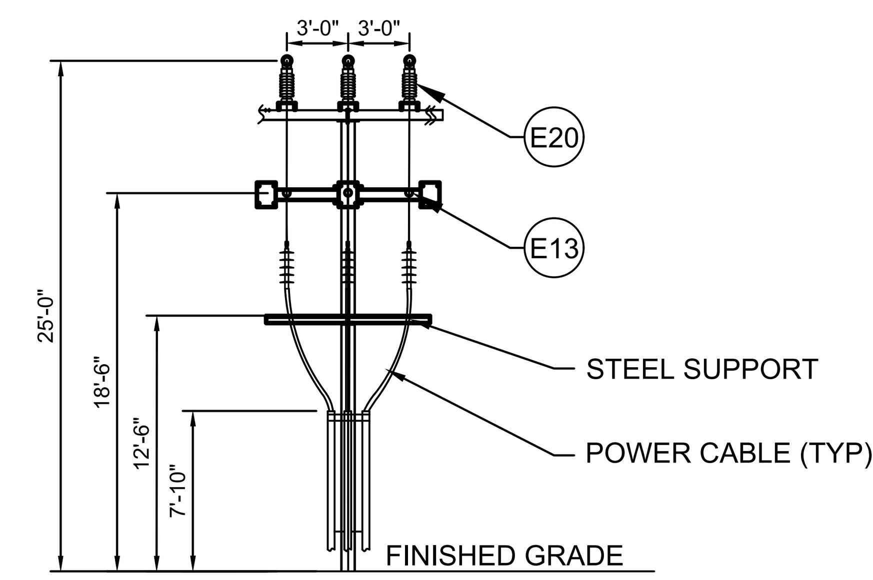
PROJ NUM:	SU20.0012
DES:	MIKE MAILLE
DWN:	MIKE MAILLE/KRINA GANDHI
CHK:	AZIN SHAHAB
APV:	ZHONG BING SHEN, P.E.
DATE:	02/17/2023

SCALE AT 22" x 34":
0 8' 16' 24' 32'
1/16" = 1'-0"

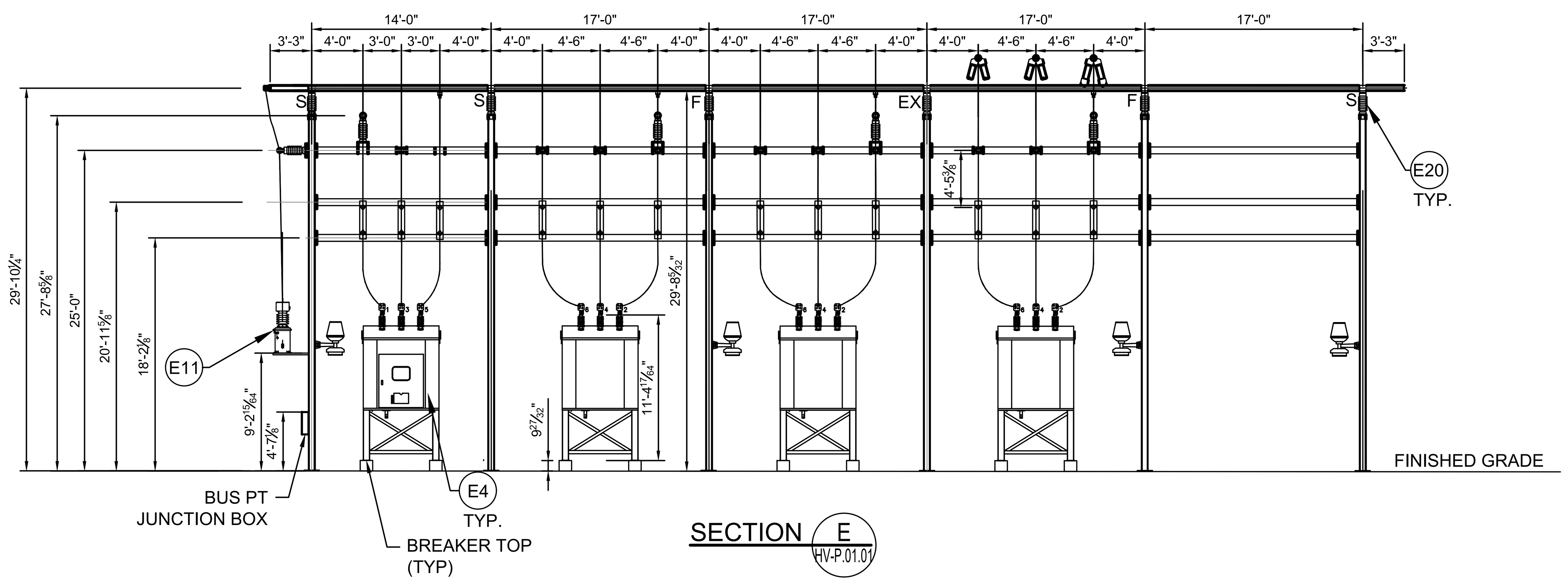
SHEET NO: HV-P.02.01
REV: 0



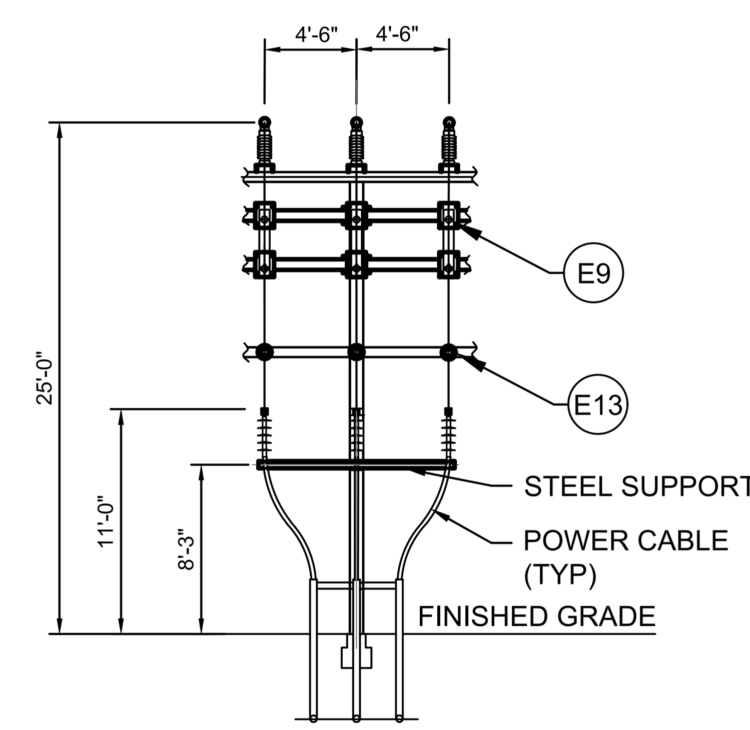
SECTION F
HV-P.01.01



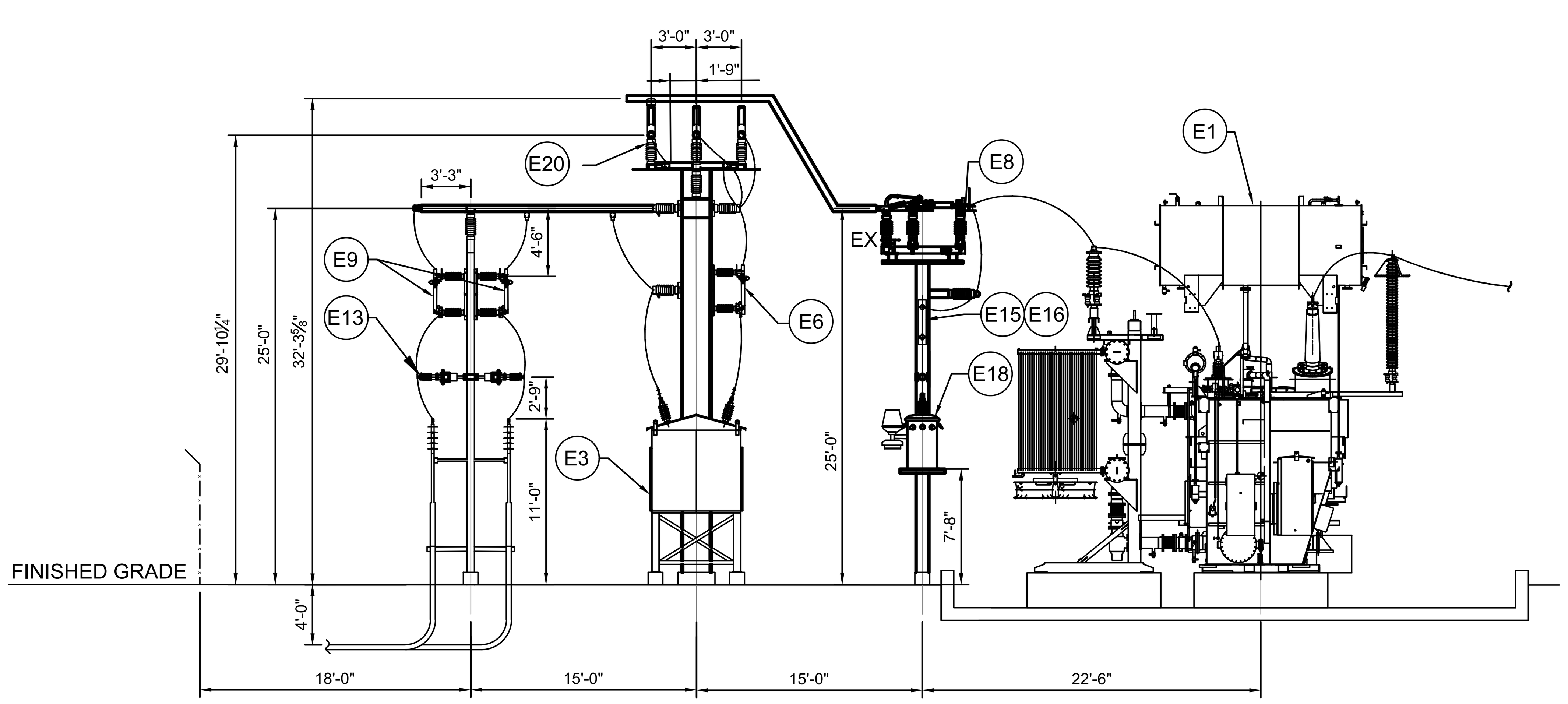
SECTION G
HV-P.01.01



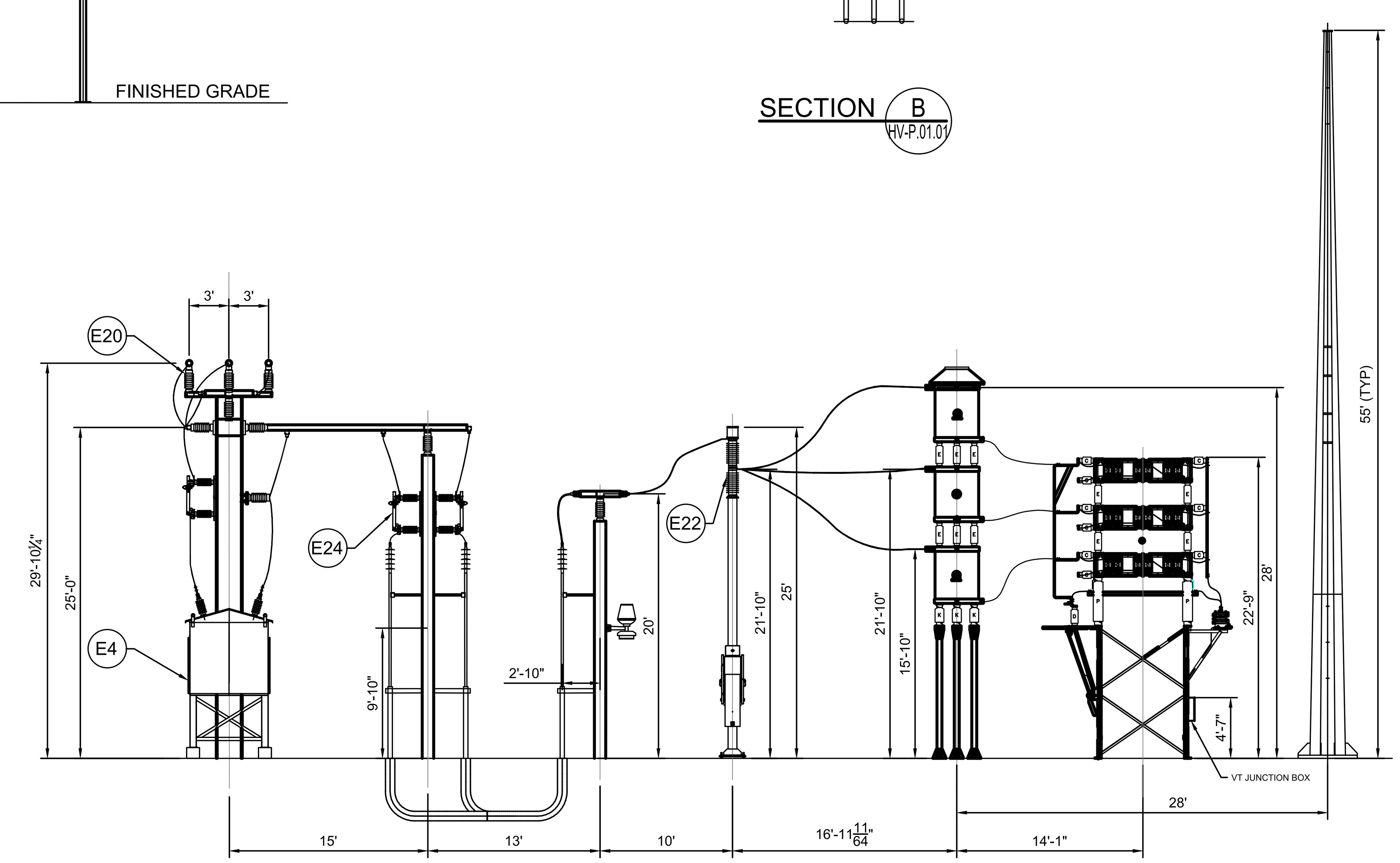
SECTION E
HV-P.01.01



SECTION B
HV-P.01.01



SECTION C
HV-P.01.01



SECTION D
HV-P.01.01

NOTES

1. THIS IS A PRELIMINARY ELEVATION VIEW AND IS FOR PERMITTING PURPOSES ONLY.
2. DESIGN IS PRELIMINARY AND SHALL BE FINALIZED AT DETAILED DESIGN PHASE.

LEGEND

LIGHT (MAST/DEADEND)
FENCE
BURIED CABLE
(XX) MATERIAL ITEM OR SUB ITEM NUMBER

MINIMUM CLEARANCE REQUIREMENT

345kV MINIMUM CLEARANCE (1300kV BIL):
LIVE PARTS: Ø-G=106"
Ø-Ø=119"
TO GRADE: 18'-0" (BUS)
30'-0" (DRIVEWAY)
34.5kV MINIMUM CLEARANCE (200kV BIL):
LIVE PARTS: Ø-G=13"
Ø-Ø=18"
TO GRADE: 10'-0" (BUS)
22'-0" (DRIVEWAY)

DRAWING NUMBER	DRAWING DESCRIPTION
HV-P.01.01	345/34.5kV SUBSTATION GENERAL ARRANGEMENT
HV-P.08.01	345/34.5kV SUBSTATION GROUNDING PLAN
HV-P.14.01	345/34.5kV SUBSTATION CONTROL BUILDING LAYOUT
HV-P.02.01	345/34.5kV SUBSTATION 345kV ELEVATION VIEW
HV-E.02.01	345/34.5kV SUBSTATION SWITCHING ONE-LINE DIAGRAM

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

TETRA TECH

KEY PLAN:

REVISIONS:

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

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD, SOMERSET NY

SHEET TITLE & DESCRIPTION:

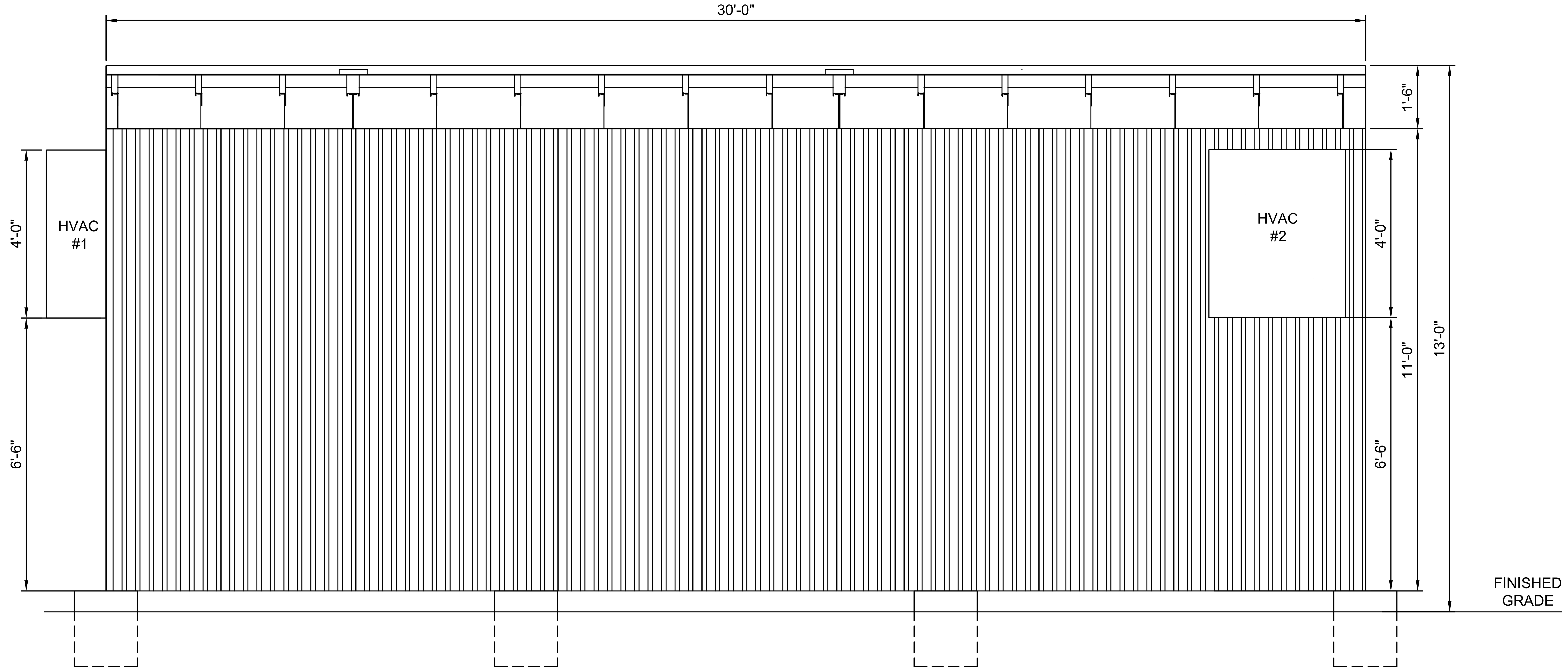
345/34.5kV SUBSTATION

34.5kV ELEVATION VIEW

PROJ NUM:	SU20.0012
DES:	MIKE MAILLE
DWN:	MIKE MAILLE/KRINA GANDHI
CHK:	AZIN SHAHAB
APV:	ZHONG BING SHEN, P.E.
DATE:	02/17/2023

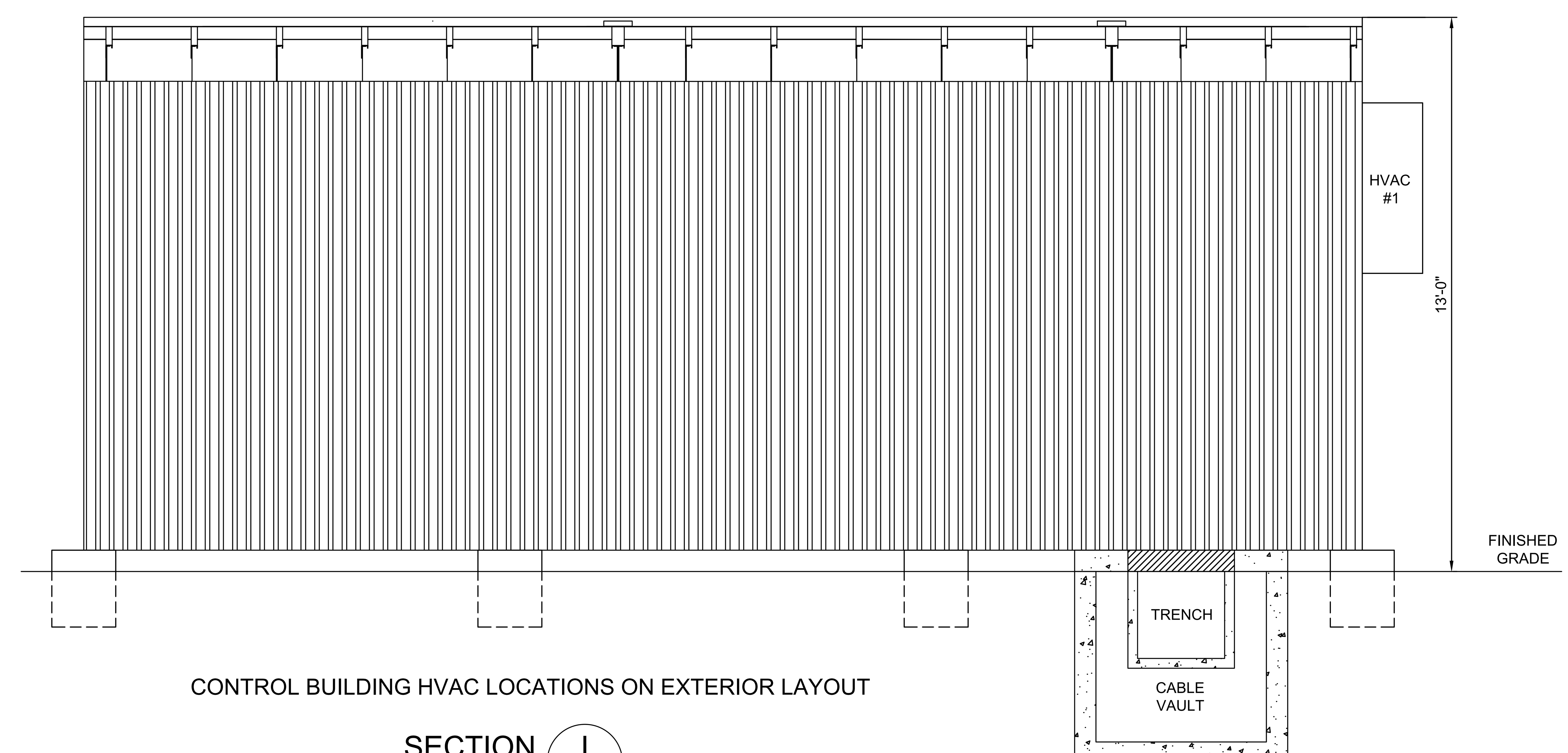
SCALE AT 22" x 34":
0 8' 16' 24' 32'
1/16" = 1'-0"

SHEET NO:	REV:
HV-P.02.02	0



CONTROL BUILDING HVAC LOCATIONS ON EXTERIOR LAYOUT

SECTION H
1/2" = 1'-0"
HV-P.01.01



CONTROL BUILDING HVAC LOCATIONS ON EXTERIOR LAYOUT

SECTION I
1/2" = 1'-0"
HV-P.01.01

NOTES

1. THIS IS A PRELIMINARY CONTROL BUILDING EXTERIOR LAYOUT WITH THE INTENSION OF SHOWING HVAC LOCATIONS, AND IS FOR PERMITTING PURPOSES ONLY.
2. DESIGN IS PRELIMINARY AND SHALL BE FINALIZED AT DETAILED DESIGN PHASE.
3. CONTROL BUILDING COLOR IS GRAY, MATERIAL IS CORRUGATED STEEL.

DRAWING NUMBER	DRAWING DESCRIPTION
HV-P.01.01	345/34.5kV SUBSTATION GENERAL PLAN
HV-P.02.01	345/34.5kV SUBSTATION 345kV ELEVATION VIEW
HV-P.02.02	345/34.5kV SUBSTATION 34.5kV ELEVATION VIEW
HV-P.08.01	345/34.5kV SUBSTATION GROUNDING PLAN
HV-P.14.01	345/34.5kV SUBSTATION CONTROL BUILDING LAYOUT
HV-E.02.01	345/34.5kV SUBSTATION SWITCHING ONE-LINE DIAGRAM

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292 MADISON AVENUE, 15TH FLOOR
NEW YORK, NY 10017

TETRA TECH

KEY PLAN:

REVISIONS:

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

PROJECT TITLE:
SOMERSET SOLAR PROJECT

PROJECT LOCATION:
LAKE ROAD, SOMERSET NY

SHEET TITLE & DESCRIPTION:
345/34.5kV SUBSTATION

CONTROL BUILDING ELEVATION

PROJ NUM:	SU20.0012
DES:	KRINA GANDHI
DWN:	KRINA GANDHI
CHK:	AZIN SHAHAB
APV:	ZHONG BING SHEN, P.E.
DATE:	02/17/2023

SCALE AT 22" x 34":
0 1' 2' 3' 4'
1/2" = 1'-0"

SHEET NO: HV-P.15.01
REV: 0

NOTES

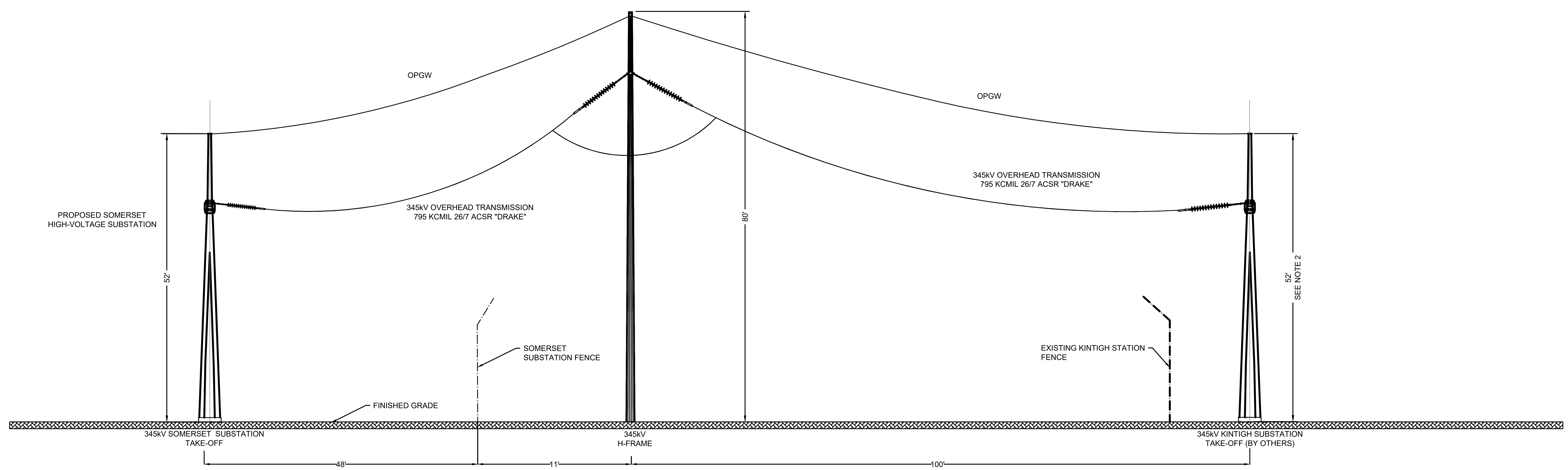
1. DESIGN IS PRELIMINARY.
2. HEIGHT OF PROPOSED TAKE-OFF ASSUMED TO BE SAME AS COLLECTOR SYSTEM TAKE-OFF.
3. PER ASSUMPTIONS LOG (REVIEWED BY AES), KINTIGH STATION WILL BE EXPANDED TO ACCOMODATE GEN-TIE INTERCONNECTION. PROPOSED FENCELINE LOCATION IS ASSUMED TO BE 17'-0" FROM THE TRANSMISSION LINE STRUCTURE H-FRAME.
4. GEN-TIE SCOPE LINE OF DEMARACTION IS THE DEADEND CABLE CONNECTIONS ON COLLECTOR SIDE OF STRUCTURE. JUMPERS AND CONNECTION TO KINITGH STATION ARE BY OTHERS.
5. DIMENSIONS ARE APPROXIMATE.

REFERENCE DRAWINGS

HV-P.02.01 - 345/34.5kV SUBSTATION 345kV ELEVATION VIEW

TL-P.00.01 - 345kV GEN-TIE TRANSMISSION LINE ROUTE MAP

TL-P.02.01 - 345kV GEN-TIE TRANSMISSION LINE WOOD H-FRAME FRAMING



SECTION A
NTS TL-P.01.01

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292 MADISON AVENUE, 15TH FLOOR,
NEW YORK, NY 10017

TETRA TECH

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:

REVISIONS:

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

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

345kV GEN-TIE TRANSMISSION LINE

ELEVATION VIEW

PROJ NUM:	SU20.0012
DES:	HAMDI GATO
DWN:	HAMDI GATO
CHK:	JON LEMON, P.E.
APV:	JON LEMON, P.E.
DATE:	07/22/2022
SCALE:	N.T.S
SHEET NO:	TL-P.01.01
REV:	0

ISSUED FOR 94-C PERMIT ONLY
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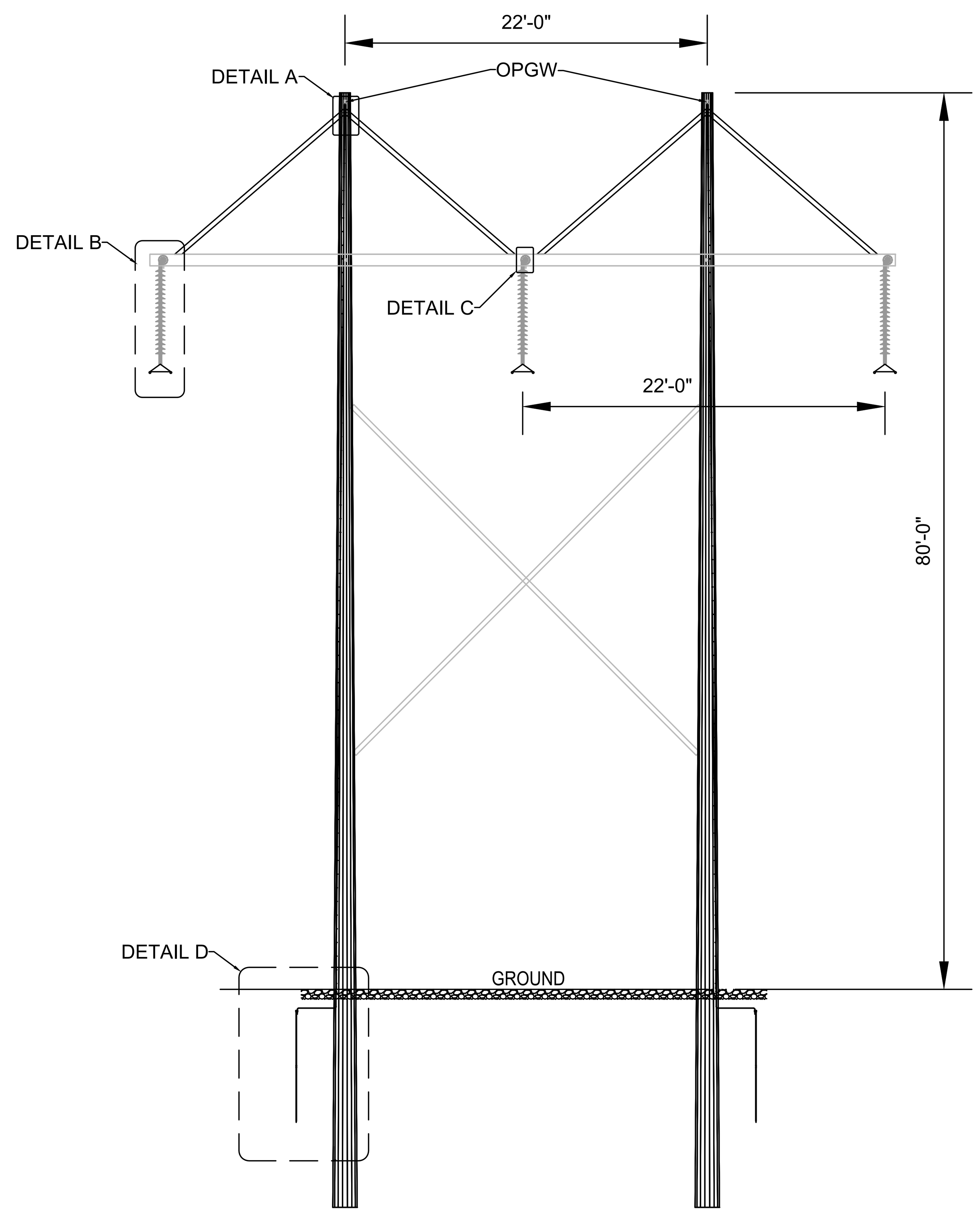
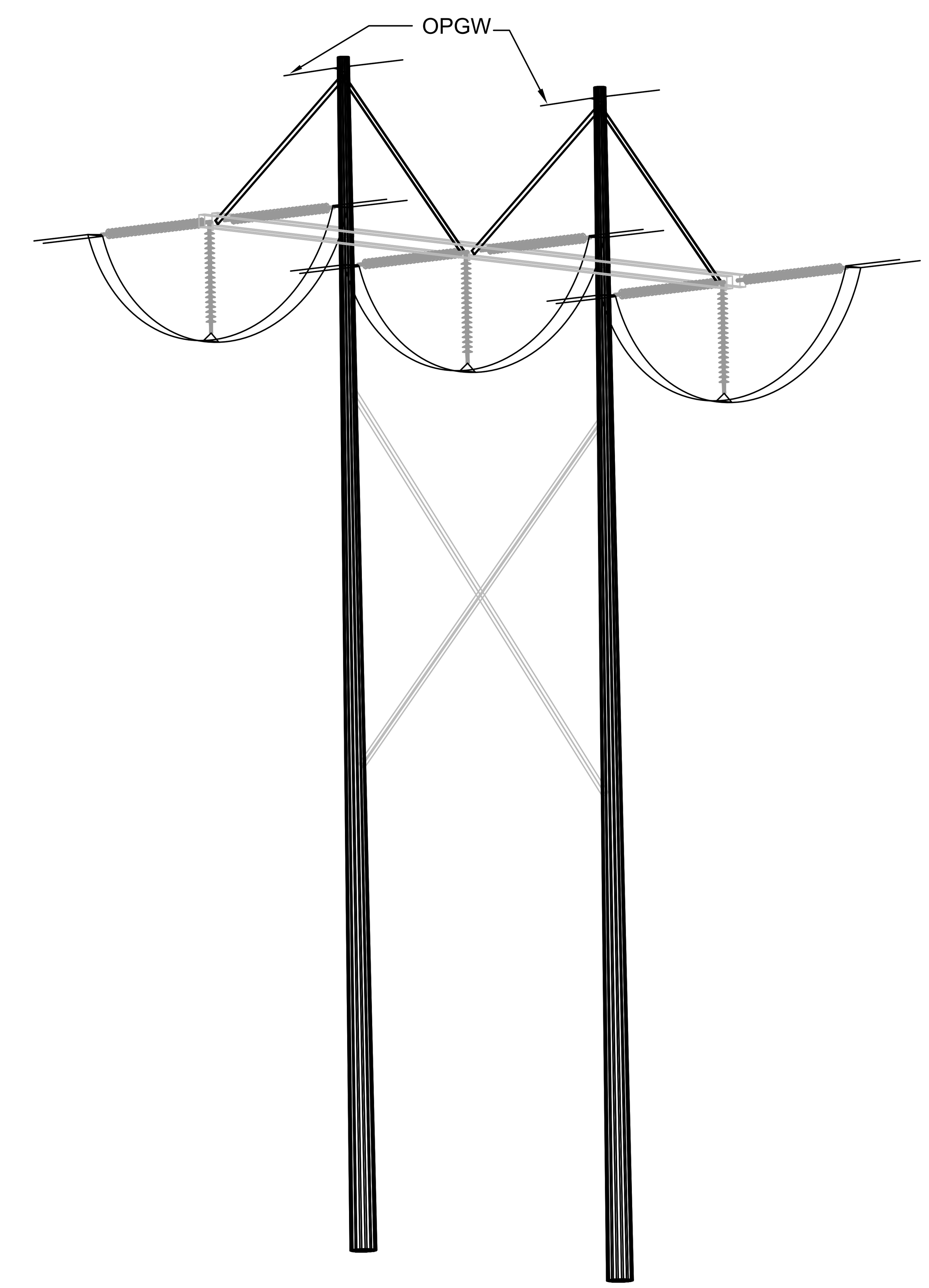
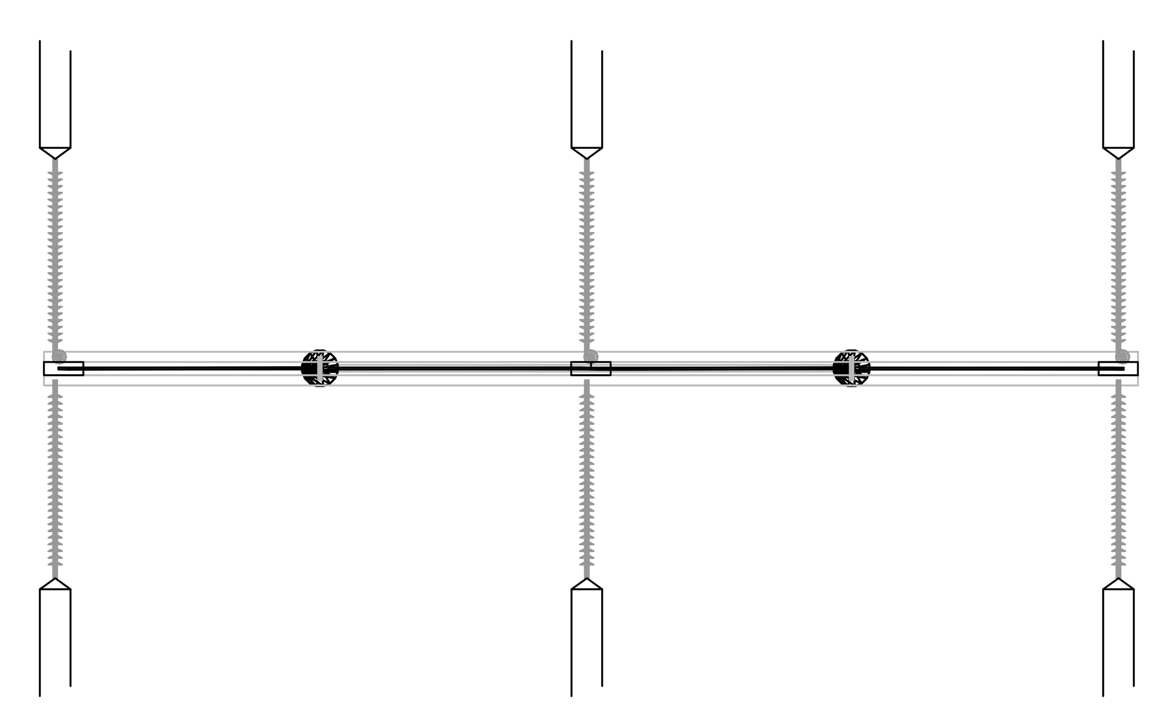


ELEVATION VIEW
1:8



ISOMETRIC VIEW
1:8



PLAN VIEW
1:8

NOTES

1. DESIGN IS PRELIMINARY.
2. CONDUCTOR SIZE SELECTED IS ACSR 795kcmil DRAKE.
3. SFPOC/SFSJ-J-13587 IS SELECTED FOR OPGW.
4. TYPICAL EMBEDMENT IS 10% POLE LENGTH + 2 FT.

REFERENCE DRAWINGS

TL-P.00.01 - 345kV GEN-TIE TRANSMISSION LINE ROUTE MAP

TL-P.01.01 - 345kV GEN-TIE TRANSMISSION LINE ELEVATION VIEW

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TETRA TECH

KEY PLAN:

REVISIONS:

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

PROJECT TITLE:

SOMERSET SOLAR PROJECT

PROJECT LOCATION:

LAKE ROAD
SOMERSET, NY

SHEET TITLE & DESCRIPTION:

345kV GEN-TIE TRANSMISSION LINE

WOOD H-FRAME FRAMING DRAWING

PROJ NUM:	SU20.0012
DES:	HAMDI GATO
DWN:	HAMDI GATO
CHK:	JON LEMON, P.E.
APV:	JON LEMON, P.E.
DATE:	07/22/2022
SCALE:	N.T.S
SHEET NO:	TL-P.02.01-SHEET 1OF3
REV:	0