

# SOLAR CANOPY

FOR  
**CONTI**

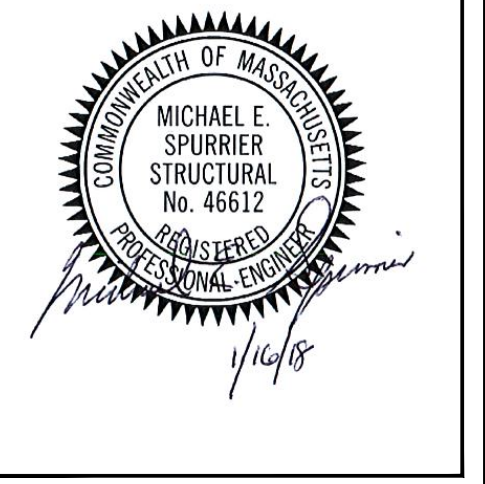
AT  
**WESTWOOD  
1 NSTAR WAY  
WESTWOOD, MA 02090**



**RBI SOLAR**  
Total Solar Service: Design • Fabrication  
Installation • Parts • Repair Service  
5513 VINE STREET  
CINCINNATI, OH 45217  
513.242.2051  
FAX: 513.242.0816

PROFESSIONAL SEAL



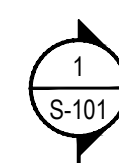
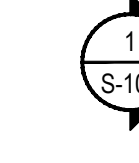
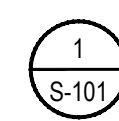


ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY



MICHAEL E. SPURRER  
STRUCTURAL  
No. 46512  
PROFESSIONAL ENGINEER

**SOLAR CANOPY FOR CONTI**

## SYMBOLS LEGEND

	NORTH ARROW		DATUM LOCATION ELEVATION
	SECTION ID SHEET NUMBER		ELEVATION ELEVATION ID SHEET NUMBER
	DETAIL ID SHEET NUMBER		CANOPY SLOPE SINGLE SLOPE
			CANOPY SLOPE INVERTED

## GOVERNING CODE

MA STATE BUILDING CODE, 9th EDITION

**CONSTRUCTION TYPE:** IIB

**RISK CATEGORY:** II

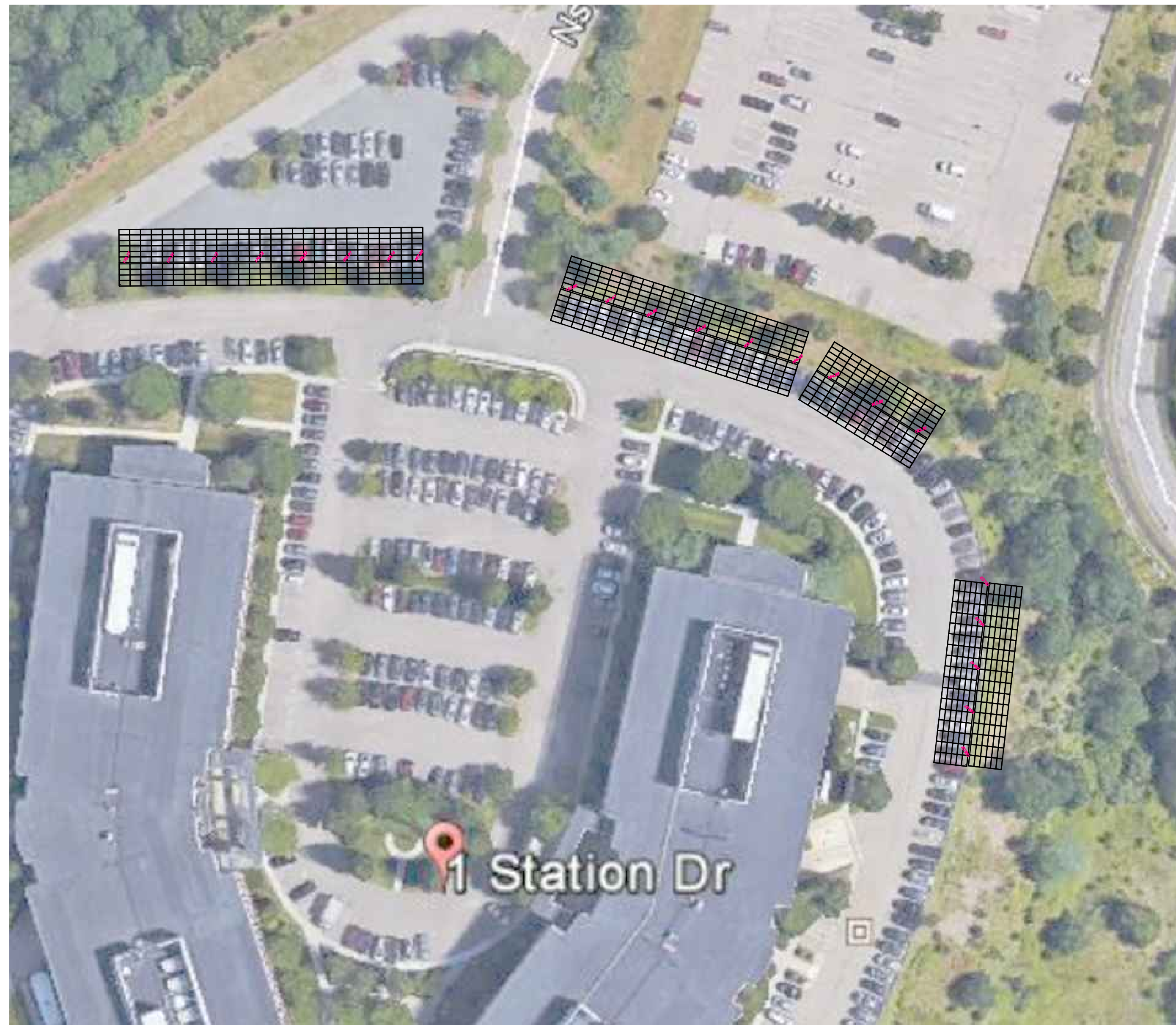
**DESIGN LOADS:**


- DEAD LOADS:
  - STRUCTURE: 5.0 PSF
  - GLAZING: 3.0 PSF
  - $\Sigma = 8.0$  PSF
- ROOF LIVE LOAD = 10 PSF
- SNOW LOAD:
  - $P_g = 40$  PSF (GROUND SNOW)
  - $P_f = 35$  PSF (ROOF SNOW)
  - $C_d = 0.9$
  - $C_e = 1.2$
  - $I_s = 1.00$
- WIND LOAD: (MAIN WIND FORCE RESISTING SYSTEM)
  - $V = 129$  MPH
  - EXPOSURE: II
- SEISMIC: (LOADS PARALLEL TO CANOPY FRAMES)
  - $S_s = 0.195$
  - $S_d = 0.066$
  - $S_{ps} = 0.209$
  - $S_{pi} = 0.106$
  - $I_m = 1.00$
  - SITE CLASS: D
  - SEISMIC DESIGN CATEGORY: B
  - SEISMIC FORCE RESISTING SYSTEM = CANTILEVERED COLUMN SYSTEM
  - DESIGN BASE SHEAR:  $V = 2.505$
  - $C_s = 0.167$
  - $R = 1.25$
  - EQUIVALENT LATERAL FORCE ANALYSIS
- SEISMIC: (LOADS PERPENDICULAR TO CANOPY FRAMES)
  - $S_s = 0.195$
  - $S_d = 0.066$
  - $S_{ps} = 0.209$
  - $S_{pi} = 0.106$
  - $I_m = 1.00$
  - SITE CLASS: D
  - SEISMIC DESIGN CATEGORY: B
  - SEISMIC FORCE RESISTING SYSTEM = CANTILEVERED COLUMN SYSTEM
  - DESIGN BASE SHEAR:  $V = 2.505$
  - $C_s = 0.167$
  - $R = 1.25$
  - EQUIVALENT LATERAL FORCE ANALYSIS

## SOLAR CANOPY SYSTEM SPECIFICATIONS

PV MODULE TYPE	: LG NEON 2, 72 CELL	ACTIVE PV MODULES	: 892
MODULE MODEL #	: LG400N2W-A5	INACTIVE PV MODULES	: 12
ARRAY TYPE	: INVERTED - SINGLE SLOPE	TOTAL PV MODULES	: 904
ARRAY TILT	: 1 & 7 Deg.	TOTAL WATTS	: 356,800 kW DC

## SITE PLAN OVERLAY



 NOTE: GOOGLE EARTH® IMAGE IS FOR REFERENCE ONLY.

## DRAWING INDEX

DWG NO.	DRAWING DESCRIPTION	DWG NO.	DRAWING DESCRIPTION
G-001	COVER SHEET		
G-002	GENERAL NOTES MODULE SPECIFICATION SHEETS		
S-101	SITE PLAN		
S-102	FOUNDATION & COLUMN PLAN CANOPY 1 & 2		
S-103	COMPONENT PLAN CANOPY 1 & 2		
S-104	FOUNDATION & COLUMN PLAN CANOPY 3 & 4		
S-105	COMPONENT PLAN CANOPY 3 & 4		
S-301	INVERTED - 6H CANOPY SECTION		
S-302	INVERTED - 5H CANOPY SECTION		
S-401	FOUNDATION DETAILS		
S-501	COMPONENT DETAILS		
S-502	FRAMING/DECKING DETAILS		
S-503	GUTTER, DOWNSPOUT TRIM DETAILS		
S-504	RAIL DETAILS		

## RESPONSIBILITY SCHEDULE

ITEM DESCRIPTION	RBI SOLAR		CUSTOMER		REMARKS
	N/A	FURN. INST.	FURN.	INST.	
GEOTECHNICAL REPORT					
SITE SURVEY		●			EXISTING CONDITIONS
CONSTRUCTION SURVEY				●	VERIFY COLUMN LOCATIONS
CORROSION ANALYSIS	●				
LOCATE SUBSURFACE UTILITIES/STRUCTURES		●		●	
SITE GRADING	●				
SPOILS REMOVAL				●	
FENCING				●	
TEMPORARY ELECTRIC				●	
PORTABLE TOILET				●	
MATERIAL UNLOADING				●	
MATERIAL STAGING				●	
DUMPSTER/REFUSE REMOVAL				●	
BOLLARDS	●				
CONCRETE PIERS W/ANCHORS				●	
DECKING		●		●	
GUTTERS & DOWNSPOUTS		●		●	
SNOW GUARDS		●		●	
PV MODULES				●	
PV MODULE MOUNTING HDW		●		●	
PV MODULE GROUNDING HDW		●		●	
WIRE MANAGEMENT				●	
CANOPY GROUNDING				●	
SITE CLEAN-UP				●	
INSPECTIONS				●	
FOUNDATION GROUNDING				●	

## RELEASE RECORD

MARK	DATE	DESCRIPTION
	01/16/18	STAMPED SET

## PROJECT INFORMATION

TITLE & ADDRESS:  
**CONTI**  
**WESTWOOD**  
**1 NSTAR WAY**  
**WESTWOOD, MA 02090**

RBI SOLAR PROJECT No.:  
177042

DRAWN BY: KW      REVIEWED BY: BF

SHEET TITLE:  
COVER SHEET

SHEET No.:  
**G-001**

USER: RWOLF PLOTTED: 1/16/2018 - 1:20 PM S:\RBI\SolarDesign\017\_10en177042 - Conti-EverSource-Westwood-MA\Drawings\177042.dwg LAYOUT: G-001

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# GENERAL NOTES

**CONSTRUCTION AND SAFETY:**

1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE APPLICABLE CONSTRUCTION CODE AND THE PROJECT SPECIFICATIONS.
2. ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION SELECTED BY CONTRACTOR.
3. CONTRACTOR SHALL FIELD MEASURE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. ANY UNEXPECTED CONDITIONS OR DISCREPANCIES WITH THE DESIGN DOCUMENTS SHALL BE REPORTED TO THE ENGINEER PRIOR TO INSTALLATION OR ERECTION OF MATERIALS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK.
5. NO PERSONNEL SHALL STEP OR STAND ON PV MODULES (SOLAR PANELS) AT ANY TIME. CANOPY STRUCTURE AND PV MODULES ARE NOT DESIGNED FOR LIVE LOADS AND MAY VOID WARRANTY.

**MISCELLANEOUS:**

1. THIS SUBMITTAL/CONSTRUCTION SET WAS PRODUCED FROM DOCUMENTS RECEIVED FROM CUSTOMER ON 06/07/2017. RBI SOLAR IS NOT RESPONSIBLE FOR DISCREPANCIES FROM ACTUAL FIELD DIMENSIONS.
2. THIS RBI SOLAR CONSTRUCTION SET IS DESIGNED FROM PV MODULE DATA SHEET(S) PROVIDED BY THE CUSTOMER. CUSTOMER IS RESPONSIBLE FOR VERIFYING THAT THE PV MODULE(S) DELIVERED TO SITE MATCH DATA SHEET(S) PROVIDED TO RBI SOLAR. RBI SOLAR IS NOT RESPONSIBLE FOR PV MODULE DIMENSIONAL DISCREPANCIES DUE TO FURNISHED PV MODULES NOT MATCHING CUSTOMER FURNISHED PV MODULE DATA SHEETS.

**SPECIAL FIELD INSPECTIONS:**

SPECIAL INSPECTION NOT REQUIRED BY RBI SOLAR. AS REQUIRED BY OWNER/CUSTOMER AND/OR AUTHORITY HAVING JURISDICTION, MINIMUM INSPECTION SHALL INCLUDE THE FOLLOWING NOTES AND TABLE:

1. ALL SPECIAL INSPECTORS SHALL BE RETAINED BY OWNER/CUSTOMER. THE EXTENT OF THE INSPECTION SHALL COMPLY WITH THE CONTRACT DOCUMENTS, THE BUILDING CODE REQUIREMENTS, AND LOCAL JURISDICTION. IT IS THE OWNER/CUSTOMER'S RESPONSIBILITY TO GIVE PROPER NOTIFICATION TO THE SPECIAL INSPECTOR AND PROCEED WITH THE WORK ONLY AFTER THE SPECIAL INSPECTOR'S APPROVAL.
2. FAILURE TO NOTIFY THE SPECIAL INSPECTOR MAY RESULT IN OWNER/CUSTOMER HAVING TO REMOVE WORK FOR THE PURPOSE OF INSPECTION AT THE OWNER'S/CUSTOMER'S EXPENSE.
3. PREMATURE NOTIFICATION FOR INSPECTION WILL RESULT IN AN ADDITIONAL INSPECTION WITH ALL EXPENSES AND FEES PAID BY THE OWNER/CUSTOMER.
4. SPECIAL INSPECTORS SHALL KEEP RECORDS OF ALL INSPECTIONS. RECORDS SHALL BE FURNISHED TO THE OWNER, ENGINEER OF RECORD, AND LOCAL JURISDICTION AS REQUIRED. ANY AND ALL DISCREPANCIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR. CORRECTIONS SHALL BE MADE AND A FINAL REPORT OF INSPECTIONS SHALL BE PROVIDED NOTING COMPLETION OF INSPECTIONS AND CORRECTIONS OF DISCREPANCIES. FAILURE TO CORRECT DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER OF RECORD AND THE LOCAL JURISDICTION AND MAY RESULT IN REMOVAL OF COMPLETED WORK AND ADDITIONAL WORK TO CORRECT DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.

STRUCTURAL STEEL/ALUMINUM FABRICATION	CONTINUOUS	PERIODIC
<b>MATERIAL IDENTIFICATION</b>		X
HIGH STRENGTH BOLTS - MATERIAL IDENTIFICATION OF BOLTS, NUTS AND WASHERS		X
WELD FILLER MATERIALS - IDENTIFICATION AND CONFIRMATION OF COMPLIANCE WITH DESIGN DOCUMENTS		X
<b>STRUCTURAL STEEL/ALUMINUM ERECTION</b>		
MATERIAL IDENTIFICATION		X
INSTALLATION OF HIGH STRENGTH BOLTS		X
WELDED CONNECTIONS		X
MEMBER SIZES AND PLACEMENT		X
GENERAL CONFORMANCE WITH DESIGN DOCUMENTS		X
<b>CONCRETE CONSTRUCTION</b>		
MATERIAL IDENTIFICATION		X
MIX DESIGN VERIFICATION		X
SIZE AND PLACEMENT OF REINFORCING STEEL		X
PLACEMENT OF CONCRETE USING PROPER TECHNIQUES		X
CONCRETE SAMPLES FOR SLUMP, AIR CONTENT, TEMPERATURE, STRENGTH TESTS, ETC. IN ACCORDANCE WITH ACI 318		X
PROPER MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X
<b>FOUNDATIONS</b>		
SIZE AND LOCATION OF FOUNDATION EXCAVATIONS		X
PLACEMENT OF REINFORCING STEEL AS REQUIRED		X

**STRUCTURAL STEEL:**

1. ALL STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST VERSION OF AISC "MANUAL OF STEEL CONSTRUCTION." LIGHT GAGE COLD-FORMED SECTIONS SHALL CONFORM TO LATEST VERSION OF AISI SPECIFICATIONS FOR COLD-FORMED STEEL STRUCTURAL MEMBERS.
2. MATERIALS:
 

A. ROLLED SHAPES:	ASTM A992 OR A572 GRADE 50, F <sub>y</sub> = 50 KSI MINIMUM
B. PLATES:	ASTM A572 GRADE 50
C. TUBULAR SHAPES:	ASTM A500 GRADE C, F <sub>y</sub> = 50 KSI MINIMUM
D. FIELD BOLTS (TYP. U.N.O.):	SAE J429 GRADE 5 AND/OR ASTM A325
E. SCREWS:	#12 TEK'S - GALVANIZED
F. COLD-FORMED/LIGHT GAGE:	ASTM A653
G. ANCHOR RODS	ASTM A193 B7 OR ASTM F1554 GRADE 105
3. TEK SCREWS ARE TO BE INSTALLED USING A 2500 RPM MAX. NON-IMPACTING VARIABLE SPEED DRILL WITH CLUTCH OUT.
4. FIELD CONNECTIONS SHALL BE BOLTED EXCEPT WHERE WELDED CONNECTIONS ARE INDICATED ON THE STRUCTURAL DRAWINGS. ALL BOLTED CONNECTIONS SHALL BE INSTALLED TO THE "SNUG TIGHT" CONDITION DEFINED AS THE FULL EFFORT OF A MAN USING A NORMAL SPUD WRENCH OR A FEW IMPACTS OF AN IMPACT WRENCH. THE "SNUG TIGHT" CONDITION WILL ENSURE THE PLIES OF CONNECTED MATERIAL ARE IN FIRM CONTACT.
5. ALL PV MODULE MOUNTING HARDWARE SHALL BE INSTALLED AND TORQUED PER PV MODULE MANUFACTURER'S RECOMMENDATIONS. CONNECTIONS USING WEBB BONDING WASHERS SHALL BE PER RBI INSTALLATION MANUAL - MINIMUM OF 12 FT-LBS FOR 5/16" MOUNTING HARDWARE AND 6 FT-LBS FOR 1/4" MOUNTING HARDWARE.
6. ALL WELDING OF STEEL SHALL BE DONE IN ACCORDANCE WITH THE LATEST VERSION OF THE AMERICAN WELD SOCIETY'S SPECIFICATIONS - AWS D1.1. ELECTRODES SHALL BE E70 SERIES UNLESS NOTED OTHERWISE.
7. GALVANIZING SPECIFICATIONS - GALVANIZING SHALL BE PER CONTRACT DOCUMENTS
 

A. HOT-DIPPED GALVANIZING SHALL BE PER ASTM A123.
B. PRE-GALVANIZED MATERIALS SHALL COMPLY WITH ASTM A653 - G140 MINIMUM.
C. ALL STRUCTURAL HARDWARE (NOT PV MODULE MOUNTING HARDWARE) SHALL BE GALVANIZED.

**MISCELLANEOUS FASTENERS:**

1. ALL BOLTS SHALL BE THE TYPE AND SIZE INDICATED ON DRAWINGS.
2. ALL HARDWARE USED FOR MOUNTING PV MODULES SHALL BE STAINLESS STEEL UNLESS NOTED OTHERWISE.

**WORK BY OTHERS:**

1. ALL SHADING ANALYSIS AND/OR PRODUCTION ANALYSIS SHALL BE PERFORMED AND VERIFIED BY OTHERS. RBI SOLAR IS NOT RESPONSIBLE FOR PV SYSTEM DESIGN AS IT PERTAINS TO ELECTRICAL OR PV SYSTEM PRODUCTION.
2. ITEMS AS DESIGNATED IN RESPONSIBILITY SCHEDULE ON SHEET G-001.

**FOUNDATIONS/CONCRETE:**

1. THE FOUNDATION DESIGN IS BASED ON GEOTECHNICAL REPORT PREPARED BY: TERRACON 05-19-2017; (REPORT # J2175054). BEARING CAPACITY OF SOIL AT PIER TIP: 3000 psf
2. FOR VERTICAL LOADING, THE FOUNDATION DEPTHS SHOWN IN THE SCHEDULES ARE DESIGNED BASED ON EITHER END BEARING OR SKIN FRICTION, WHERE SKIN FRICTION HAS BEEN BASED ON IBC 1810.3.3.1.4 (i.e., SKIN FRICTION BASED ON 1/6 THE VALUE OF END BEARING, AND END BEARING AND SKIN FRICTION NOT BEING COMBINED).
3. VARIATIONS IN SOIL CONDITIONS SHALL BE REPORTED TO GEOTECHNICAL ENGINEER AND ENGINEER OF RECORD RESPONSIBLE FOR FOUNDATION DESIGN PRIOR TO INSTALLATION OF ANY FOUNDATION MATERIALS.
4. INSTALLER/CONTRACTOR SHALL COORDINATE PLACEMENT OF FOUNDATIONS AND/OR ANCHOR BOLTS PER DESIGN DRAWINGS AND/OR MANUFACTURER'S SPECIFICATIONS.
5. RBI SOLAR, INC. DESIGNS FOUNDATIONS BASED ON SOIL PROPERTIES OUTLINED IN CERTIFIED GEOTECHNICAL REPORTS. ALL DESIGNS ASSUME UNDISTURBED SOIL CONDITIONS, AND DO NOT TAKE INTO ACCOUNT TRENCHING NEAR FOUNDATIONS. FOR CASES WHERE TRENCHING FOR ELECTRICAL WORK IS AT OR NEAR A FOUNDATION, RBI SOLAR RECOMMENDS A MINIMUM OF 3'-0" CLEAR FROM THE EDGE OF THE TRENCH TO THE EDGE OF THE FOUNDATION FOR "NORMAL GOOD SOIL CONDITIONS." IN CASES OF "POOR SOIL" CONDITIONS, RBI SOLAR RECOMMENDS A MINIMUM CLEAR DISTANCE EQUAL TO OR GREATER THAN THE DEPTH OF THE FOUNDATION. IF IN DOUBT OF SOIL CONDITIONS, RBI SOLAR RECOMMENDS CONSULTING A QUALIFIED GEOTECHNICAL ENGINEER TO ASSESS SOIL CONDITIONS AT THE SITE.  
  
*NOTE: TRENCHING/EXCAVATION WITHIN 3'-0" OF ANY FOUNDATION REQUIRES REPLACING THE ORIGINAL SOIL AND COMPACTION TO 95% STANDARD PROCTOR DENSITY. FOR FURTHER CLARIFICATION ON COMPACTION REQUIREMENTS, RBI SOLAR RECOMMENDS CONSULTING A QUALIFIED GEOTECHNICAL ENGINEER.*
6. ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST VERSION OF ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".
7. CONCRETE MIX DESIGNS MUST HAVE ENGINEER OF RECORD APPROVAL PRIOR TO COMMENCEMENT OF ANY CONCRETE WORK.
8. REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 BILLET STEEL.
9. MINIMUM CONCRETE COVER TO REINFORCING STEEL SHALL BE AS FOLLOWS: CONCRETE CAST AGAINST EARTH = 3.0".
10. CONCRETE STRENGTH: 4000 PSI AT 28 DAYS MINIMUM (WITH +/-4" SLUMP).
11. REINFORCEMENT DETAILS PER ACI 318 AND IBC.
12. BASE PLATE "A" GROUT: NON-SHRINK, MINIMUM 8,000 PSI STRENGTH.
13. BASE PLATE "B" GROUT: NON-SHRINK, MINIMUM 10,000 PSI STRENGTH.
14. NOMINAL AGGREGATE SIZE: 3/4".
15. ALTERING OR SUBSTITUTING OF REINFORCEMENT MUST HAVE ENGINEER OF RECORD APPROVAL.
16. PLACEMENT OF CONDUIT MUST HAVE ENGINEER OF RECORD APPROVAL.




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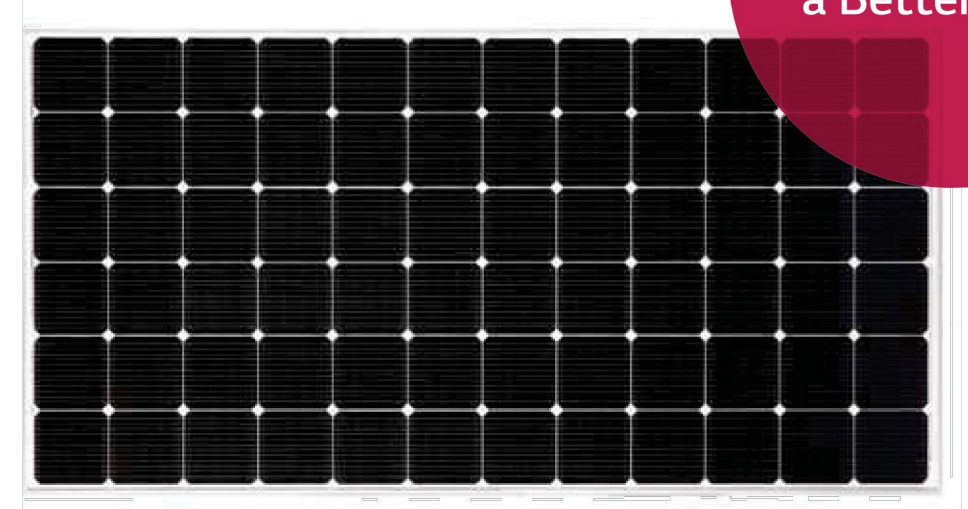
SEAL OF THE PROFESSIONAL ENGINEER  
MICHAEL E. SPURRIER  
STRUCTURAL  
No. 48512  
Ohio State Board of Professional Engineers  
Exp. 12/31/2018

**SOLAR CANOPY FOR CONTI**

## PV MODULE SPECIFICATION SHEETS



**Innovation for a Better Life**



**72 cell**

**LG NeON<sup>2</sup> 72cell** LG400NZW-A5

LG's new module, LG NeON<sup>2</sup>, adopts Cello technology. Cello technology replaces 3 busbars with 12 thin wires to enhance power output and reliability. LG NeON<sup>2</sup> demonstrates LG's efforts to increase customer's value beyond efficiency. It features enhanced warranty, durability, performance under real environment, and aesthetic design suitable for roofs.

**Enhanced Performance Warranty**  
LG NeON<sup>2</sup> has an enhanced performance warranty. The annual degradation has fallen from -0.6%/yr to -0.55%/yr. Even after 25 years, the cell guarantees 1.2% more output than the previous LG NeON<sup>2</sup> modules.


**Aesthetic Roof**  
LG NeON<sup>2</sup> has been designed with aesthetics in mind; thinner wires that appear all black at a distance. The product may help increase the value of a property with its modern design.

**Better Performance on a Sunny Day**  
LG NeON<sup>2</sup> now performs better on sunny days thanks to its improved temperature coefficient.

**High Power Output**  
Compared with previous models, the LG NeON<sup>2</sup> has been designed to significantly enhance its output efficiency, thereby making it efficient even in limited space.

**Outstanding Durability**  
With its newly reinforced frame design, LG has extended the warranty of the LG NeON<sup>2</sup> for an additional 2 years. Additionally, LG NeON<sup>2</sup> can endure a front load up to 5400 Pa, and a rear load up to 4300 Pa.

**Double-Sided Cell Structure**  
The rear of the cell used in LG NeON<sup>2</sup> will contribute to generation, just like the front; the light beam reflected from the rear of the module is rebroadcast to generate a great amount of additional power.



About LG Electronics  
LG Electronics is a global player who has been committed to expanding its operations with the solar market. The company first embarked on a solar energy source research program in 1983, supported by LG Group's vast experience in the semi-conductor, LCD, chemistry, and materials industries. In 2010, LG Solar successfully released its first Mono P+ series to the market, which is now available in 32 countries. The LG NeON<sup>2</sup> (previously known as Mono X NeON) and the LG NeON<sup>2</sup> won the "Innovator Award" in 2013 and 2015, which demonstrates LG Solar's bold, innovations and commitment to the industry.

**LG NeON<sup>2</sup> 72cell** LG400NZW-A5

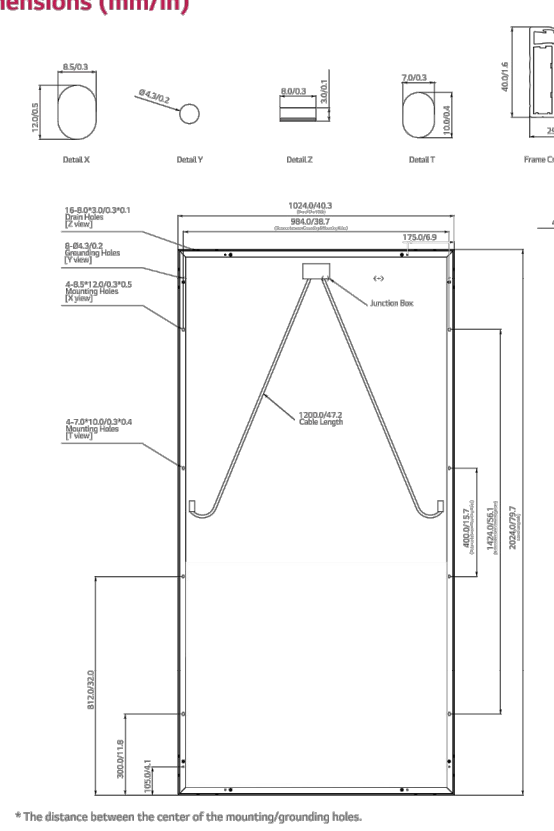
**Mechanical Properties**

Cells	6 x 12
Cell Vendor	LG
Cell Type	Monocrystalline / N-type
Cell Dimensions	161.7 x 161.7 mm / 6 inches
# of Busbar	12 (Multi Wire Busbar)
Dimensions (L x W x H)	2024 x 1028 x 40 mm 79.69 x 40.31 x 1.57 inch
Front Load	5400Pa
Rear Load	4300Pa
Weight	21.7 kg
Connector Type	MCA
Junction Box	IP68 with 3 Bypass Diodes
Cables	1200 mm x 2 ea
Glass	High Transmission Tempered Glass
Frame	Anodized Aluminium

**Electrical Properties (STC \*)**

Module	400W
Maximum Power (P <sub>max</sub> )	400
MPP Voltage (V <sub>mpp</sub> )	40.6
MPP Current (I <sub>mpp</sub> )	9.86
Open Circuit Voltage (V <sub>oc</sub> )	49.3
Short Circuit Current (I <sub>sc</sub> )	10.47
Module Efficiency	19.3
Operating Temperature	-40 ~ +90
Maximum System Voltage	1500 (UL)
Maximum Series Fuse Rating	20
Power Tolerance (P <sub>0</sub> )	0 ~ +3

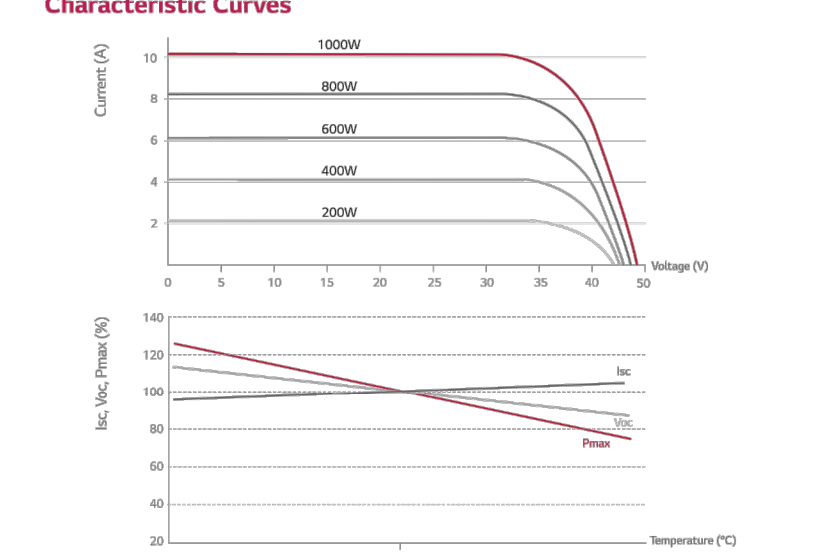
**Dimensions (mm/in)**



**Temperature Characteristics**

NOCT	45 ± 3 °C
P <sub>mppt</sub>	-0.36%/°C
V <sub>oc</sub>	-0.26%/°C
I <sub>sc</sub>	0.02 %/°C

**Characteristic Curves**



**Certifications and Warranty**

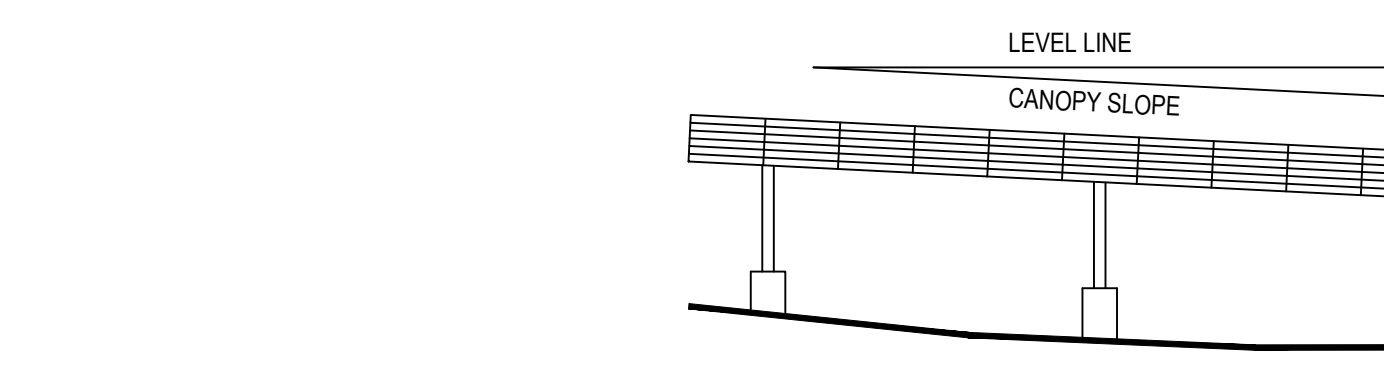
Certifications	IEC 61215, IEC 61730-1/-2 UL 1703 IEC 61701 (Salt mist corrosion test) IEC 62716 (Ammonia corrosion test)
Module Fire Performance (USA)	ISO 9801 Type 1
Fire Rating (CANADA)	Class C (ULC / ORD C1703)
Product Warranty	12 years
Output Warranty of P <sub>max</sub>	Linear warranty** ** 1) 1 year: 98%; 2) After 2nd year: 0.55% annual degradation; 3) 25 years: 94.8%

North America Solar Business Team  
LG Electronics U.S.A., Inc.  
1500 59th Ave. Englewood Cliffs, NJ 07632  
Contact: lg.solar@lg.com  
www.lgsolar.com

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01/01/2017

ITEM DESCRIPTION	N/A	HDG	POWDER COAT	PAINT	PREGALV	STAINLESS STEEL	ALUMINUM	PVC	REMARKS
COLUMN ASSEMBLIES			●						POWDER COAT PAINT SPECIFICATION: 9018
TOP BEAM/TRUSS ASSEMBLIES			●						POWDER COAT PAINT SPECIFICATION: 9018
KNEE BRACE & BRACKETS	●								
PURLIN BRACKETS		●							
PURLINS					●				
DECKING					●				
GUITTERS					●				
DOWNSPOUTS								●	
PURLIN ENCLOSURE	●								
SNOW GUARDS							●		
RAILS							●		
TUBE BRACING	●								
ANGLE BRACING					●				
STRUCTURAL HARDWARE			●						
MODULE HARDWARE & CLIPS						●	●		

## CANOPY TOPOGRAPHIC RELATIONSHIP



LEVEL LINE  
CANOPY SLOPE

KEY POINTS:  
1. CANOPY STRUCTURE IS PARALLEL TO AVERAGE SITE GRADE  
2. CANOPY SLOPE MAY VARY PER STRUCTURE  
3. COLUMN LENGTHS MAY VARY  
4. TOPS OF PIERS MAY VARY

**AVERAGE SLOPE**

**RELEASE RECORD**

DATE	DESCRIPTION

01/16/18 STAMPED SET

**PROJECT INFORMATION**

**TITLE & ADDRESS:**  
**CONTI**  
**WESTWOOD**  
**1 NSTAR WAY**  
**WESTWOOD, MA 02090**

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RBI SOLAR PROJECT No.:  
177042

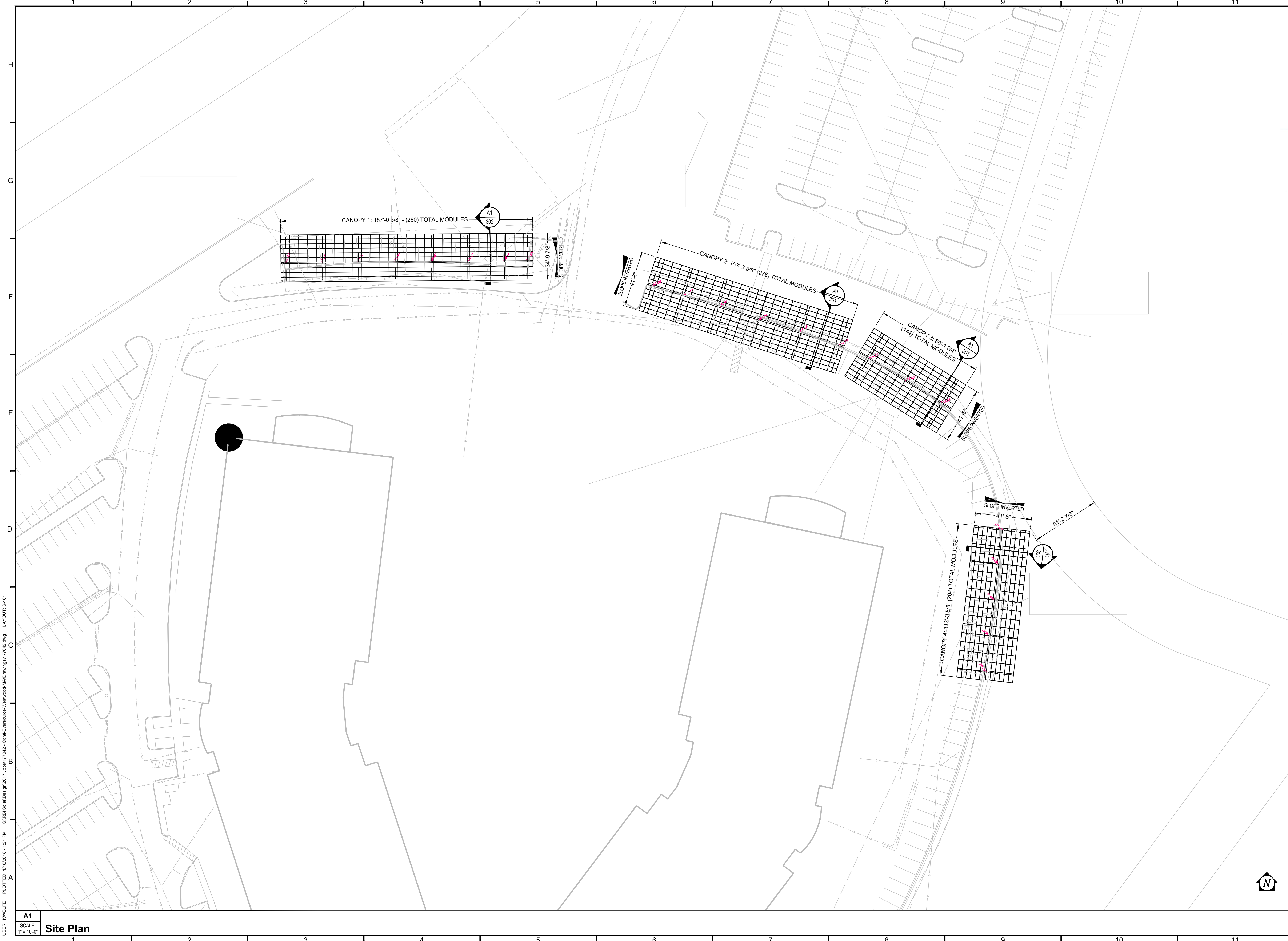
<b>DRAWN BY:</b> KW	<b>REVIEWED BY:</b> BF
------------------------	---------------------------

**SHEET TITLE:**  
GENERAL NOTES  
MODULE SPECIFICATION SHEETS

**SHEET No.:**  
**G-002**

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USER: KWOLF PLOTTED: 1/16/2018 1:21 PM S:\RBI Solar\Design\2017 Jobs\177042 - Conti-Everhouse-Westwood-MA\Drawings\177042.dwg LAYOUT: G-002



USER: KWOLF PLOTTED: 1/16/2018 - 1:21 PM S:\RBI Solar\Design\2017 Jobs\177042 - Conti-Everance-Westwood-MA\Drawings\177042.dwg LAYOUT: S-101

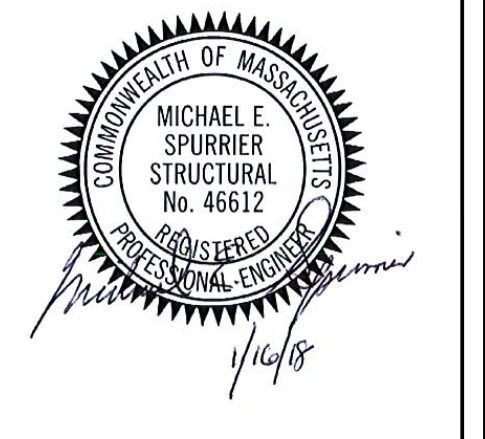
**A1**  
SCALE:  
1" = 10'-0"

**Site Plan**

5113 VINE STREET  
CINCINNATI, OH 45217  
513.242.2051  
FAX: 513.242.0816

**PROFESSIONAL SEAL**

ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY



# SOLAR CANOPY FOR CONTI

**RELEASE RECORD**

MARK	DATE	DESCRIPTION

01/16/18 STAMPED SET

**PROJECT INFORMATION**

<b>TITLE &amp; ADDRESS:</b> <b>CONTI</b> <b>WESTWOOD</b> 1 N STAR WAY WESTWOOD, MA 02090	
RBI SOLAR PROJECT No.: 177042	
DRAWN BY: KW	REVIEWED BY: BF
SHEET TITLE: SITE PLAN	
SHEET No.: <b>S-101</b>	

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COLUMN SCHEDULE - CANOPY 1			
MARK	FNDN. TYPE	DESCRIPTION	LENGTH
1	B	W16 x 67 - WELDED COLUMN ASSEMBLY	164"
2	B	W16 x 67 - WELDED COLUMN ASSEMBLY	169"
3	B	W16 x 67 - WELDED COLUMN ASSEMBLY	173"
4	B	W16 x 67 - WELDED COLUMN ASSEMBLY	172"
5	B	W16 x 67 - WELDED COLUMN ASSEMBLY	177"
6	B	W16 x 67 - WELDED COLUMN ASSEMBLY	182"
7	B	W16 x 67 - WELDED COLUMN ASSEMBLY	186"
8	B	W16 x 67 - WELDED COLUMN ASSEMBLY	186"

**COLUMN SETTING NOTES:**  
 1. ALL COLUMN DIMENSIONS SHOWN ARE  $\epsilon$  TO  $\epsilon$  OF COLUMN.  
 2. LOCATION OF UNDERGROUND UTILITIES SHALL BE VERIFIED PRIOR TO COMMENCEMENT OF CONSTRUCTION.  
 3. DIMENSIONS SHOWN ON PLAN SHALL BE VERIFIED IN THE FIELD.  
 4. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.  
 5. REFERENCE SHEET S-401 FOR ADDITIONAL FOUNDATION INFORMATION.  
 6. "LENGTH" REFERS TO THE CUT LENGTH OF THE COLUMN ON ITS LONGEST FACE.

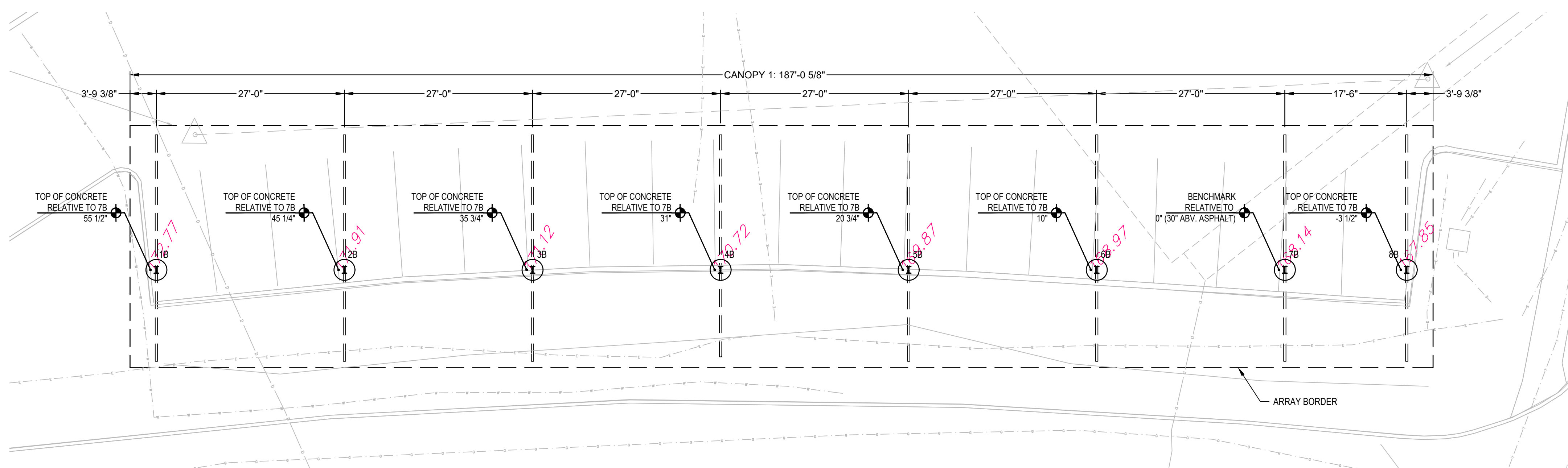
**PIER NOTES:**  
 1. 0' ELEVATION AT THE BENCHMARK PIER IS FOR REFERENCE ONLY AND IS NOT RELATED TO SEA LEVEL.  
 2. TOP OF CONCRETE ELEVATION OF PIER IS IN RELATION TO CORRESPONDING BENCHMARK PIER.  
 3. REFER TO SHEET S-401 FOR FOUNDATION DETAILS.  
 4. REFER TO SHEET S-401 FOR LEVELING NUT ADJUSTMENT DETAIL.

COLUMN SCHEDULE - CANOPY 2			
MARK	FNDN. TYPE	DESCRIPTION	LENGTH
9	A	W18 x 60 - WELDED COLUMN ASSEMBLY	182"
10	A	W18 x 60 - WELDED COLUMN ASSEMBLY	181"
11	A	W18 x 60 - WELDED COLUMN ASSEMBLY	182"
12	A	W18 x 60 - WELDED COLUMN ASSEMBLY	183"
13	A	W18 x 60 - WELDED COLUMN ASSEMBLY	185"
14	A	W18 x 60 - WELDED COLUMN ASSEMBLY	186"

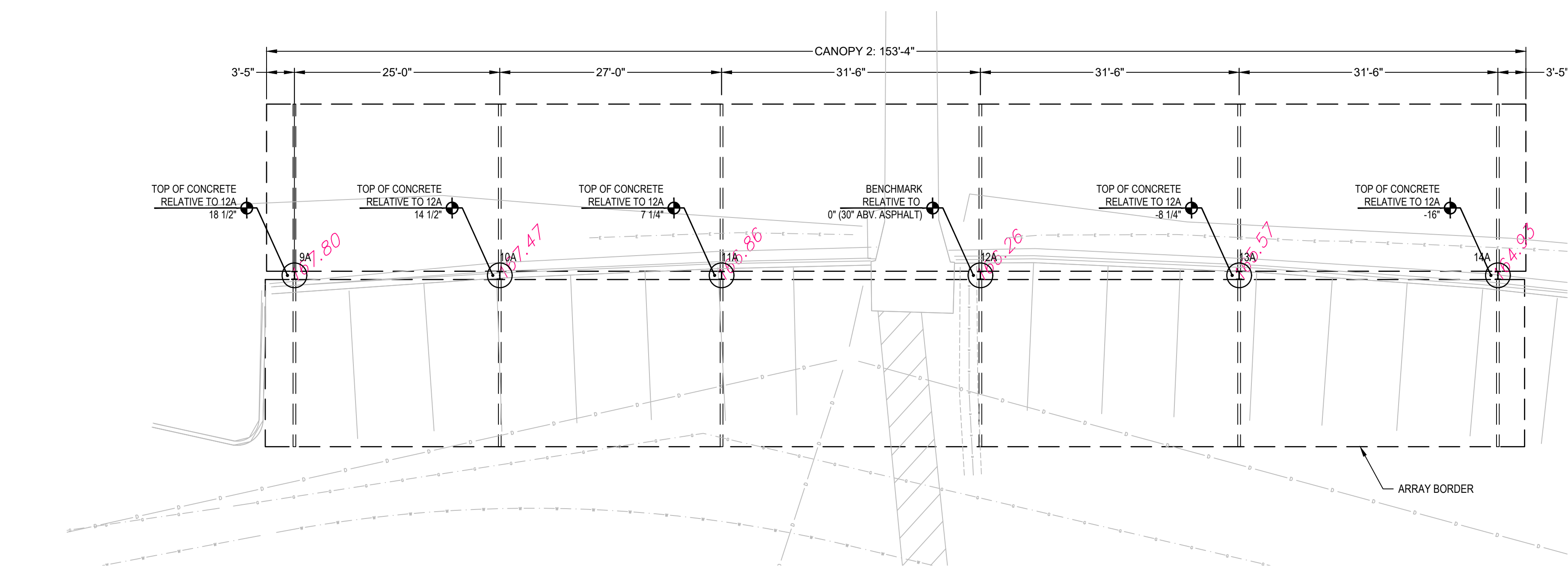
**RBI SOLAR**  
 Total Solar Service: Design • Fabrication  
 Installation • Parts • Repair Service  
 5513 VINE STREET  
 CINCINNATI, OH 45217  
 513.242.2051  
 FAX: 513.242.0816

PROFESSIONAL SEAL

ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY



**D1 Canopy 1 Foundation Plan**  
 SCALE: 1"=10'-0"



**A1 Canopy 2 Foundation Plan**  
 SCALE: 1"=10'-0"

**SOLAR CANOPY FOR CONTI**

RELEASE RECORD

MARK	DATE	DESCRIPTION

PROJECT INFORMATION

TITLE & ADDRESS:  
**CONTI**  
 WESTWOOD  
 1 NSTAR WAY  
 WESTWOOD, MA 02090

RBI SOLAR PROJECT No.:  
 177042

DRAWN BY: KW	REVIEWED BY: BF
-----------------	--------------------

SHEET TITLE:  
 FOUNDATION &  
 COLUMN PLAN  
 CANOPY 1 & 2

SHEET No.:  
**S-102**

1 2

### TOP TRUSS SCHEDULE

MARK	DESCRIPTION	LENGTH	QTY
TR1	TRUSS ASSEMBLY - HIGH SIDE	N/A	14
TR3	TRUSS ASSEMBLY - LOW SIDE	N/A	14

H  
TOP BEAM SETTING NOTES:  
1. ALL TOP BEAM DIMENSION SHOWN ARE END TO END.  
2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.  
3. REFERENCE SHEET S-502 FOR ADDITIONAL TOP BEAM CONNECTION INFORMATION.

3

### PURLIN SCHEDULE

MARK	DESCRIPTION	LENGTH	QTY
Z1	12" 10 GA. GALVANIZED Z	27'-6 5/8"	6
Z2	12" 10 GA. GALVANIZED Z	26'-11 1/2"	86
Z3S	12" 10 GA. GALVANIZED Z - STARTER	25'-2 3/8"	6
Z4	12" 10 GA. GALVANIZED Z	25'-5 3/4"	8
Z5S	12" 10 GA. GALVANIZED Z - STARTER	27'-6 5/8"	8
Z6	12" 10 GA. GALVANIZED Z	25'-3 3/4"	8
Z7	12" 10 GA. GALVANIZED Z	31'-5 3/4"	32
Z82	12" 10 GA. GALVANIZED Z	38'-8"	8
Z9	12" 10 GA. GALVANIZED Z	31'-7 3/4"	8
Z10S	12" 10 GA. GALVANIZED Z - STARTER	32'-3 3/4"	8

G  
PURLIN SETTING NOTES:  
1. ALL PURLIN DIMENSIONS SHOWN ARE END TO END.  
2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.  
3. REFERENCE SHEET S-502 FOR ADDITIONAL PURLIN CONNECTION INFORMATION.  
4. PURLIN LABELS ENDING WITH "S" REFER TO STARTER PURLINS AND ARE INTENDED TO BE INSTALLED FIRST WITHIN THAT CANOPY.

4 5

### BRIDGING SCHEDULE

MARK	DESCRIPTION	LENGTH	QTY
BG1	12GA. FORMED ANGLE	TBD	54
BG2	12GA. FORMED ANGLE		39
BG3	12GA. FORMED ANGLE		16

6  
BRIDGING SETTING NOTES:  
1. ALL BRIDGING DIMENSION SHOWN ARE END TO END.  
2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.  
3. REFERENCE SHEET S-502 FOR ADDITIONAL BRIDGING CONNECTION INFORMATION.

8 9 10 11

### KEY NOTES

- PURLIN BRIDGING REQUIRED AT BOTH ENDS OF THE CANOPY REFER TO DETAIL A10 ON SHEET S-501
- PURLIN BRIDGING REQUIRED AT 1/2 POINTS ALL SAYS REFER TO DETAIL A6 ON SHEET S-501
- BRIDGING SPLICE AS SHOWN REFER TO DETAIL A8 ON SHEET S-501
- PURLIN SPLICE REFER TO DETAIL A1 ON SHEET S-501
- DECKING REFER TO DETAILS ON SHEET S-502
- GUTTER / DOWNSPOUT REFER TO DETAILS ON SHEET S-503
- RENUSOL RAIL REFER TO DETAILS ON SHEET S-504
- STEEL TRUSS ASSEMBLY, TR1 (HIGH SIDE), TR2 (LOW SIDE) STEEL TOP BEAM, TB1

**RBI SOLAR**  
Total Solar Service: Design \* Fabrication  
Installation \* Parts \* Repair Service

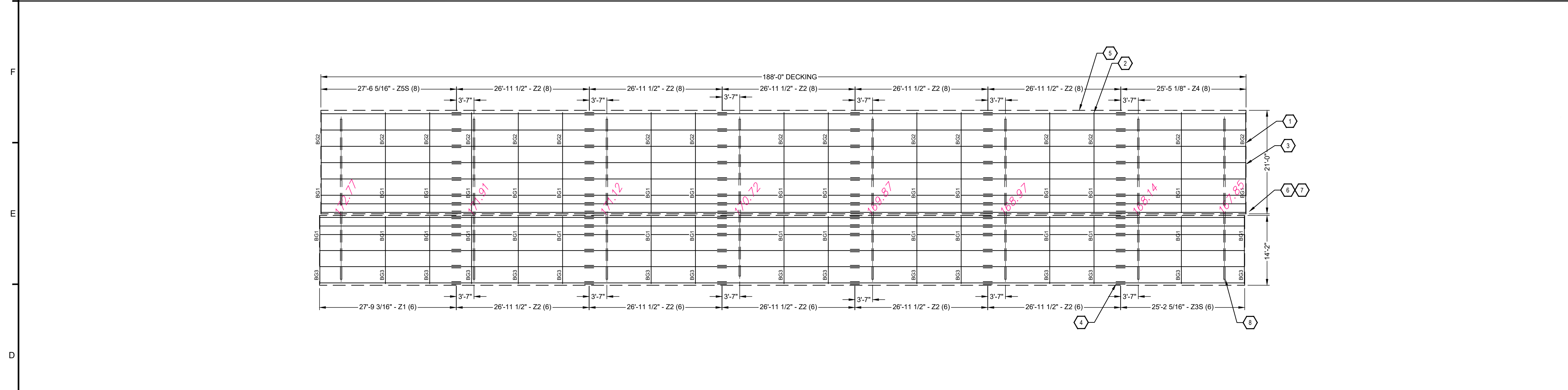
5513 VINE STREET  
CINCINNATI, OH 45217  
513.242.2051  
FAX: 513.242.0816

**PROFESSIONAL SEAL**

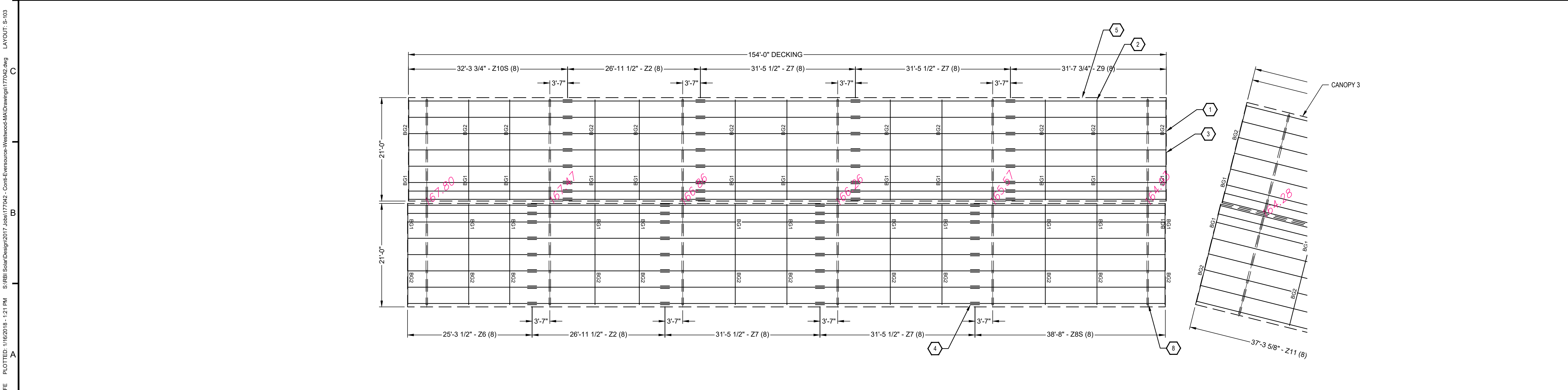
ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY

**MICHAEL E. SPURRIER**  
STRUCTURAL  
No. 46512  
PROFESSIONAL ENGINEER

1/16/18



D1 **Canopy 1 Component Plan**  
SCALE: 1"=10'-0"



A1 **Canopy 2 Component Plan**  
SCALE: 1"=10'-0"

### SOLAR CANOPY FOR CONTI

**RELEASE RECORD**

MARK	DATE	DESCRIPTION

01/16/18 STAMPED SET

**PROJECT INFORMATION**

TITLE & ADDRESS:  
**CONTI**  
**WESTWOOD**  
1 N STAR WAY  
WESTWOOD, MA 02090

RBI SOLAR PROJECT No.: 177042

DRAWN BY: KW  
REVIEWED BY: BF

SHEET TITLE:  
**COMPONENT PLAN CANOPY 1 & 2**

SHEET No.: **S-103**

USER: NVOOLFE PLOTTED: 1/16/2018 - 1:21 PM S:\RBI Solar\Design\2017 Jobs\177042 - Conti-Everstone-Westwood-MA\Drawings\177042.dwg LAYOUT: S-103

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COLUMN SCHEDULE - CANOPY 3				
MARK	FNDN. TYPE	DESCRIPTION	LENGTH	LEVELING NUT
15	A	W18 x 60 - WELDED COLUMN ASSEMBLY	175"	
16	A	W18 x 60 - WELDED COLUMN ASSEMBLY	181"	
17	A	W18 x 60 - WELDED COLUMN ASSEMBLY	186"	

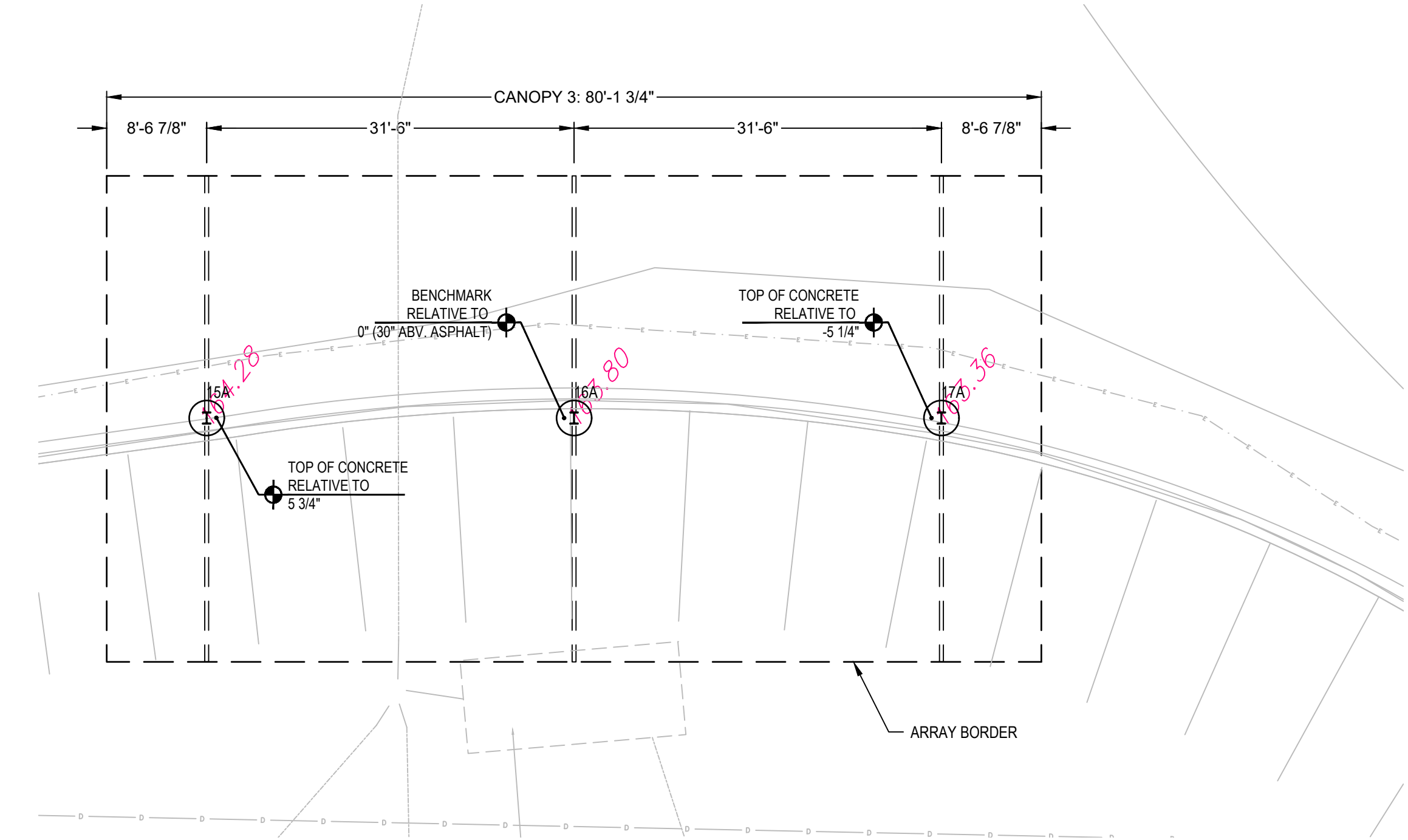
**COLUMN SETTING NOTES:**

- ALL COLUMN DIMENSIONS SHOWN ARE  $\epsilon$  TO  $\epsilon$  OF COLUMN.
- LOCATION OF UNDERGROUND UTILITIES SHALL BE VERIFIED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- DIMENSIONS SHOWN ON PLAN SHALL BE VERIFIED IN THE FIELD.
- LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.
- REFERENCE SHEET S-401 FOR ADDITIONAL FOUNDATION INFORMATION.
- "LENGTH" REFERS TO THE CUT LENGTH OF THE COLUMN ON ITS LONGEST FACE.

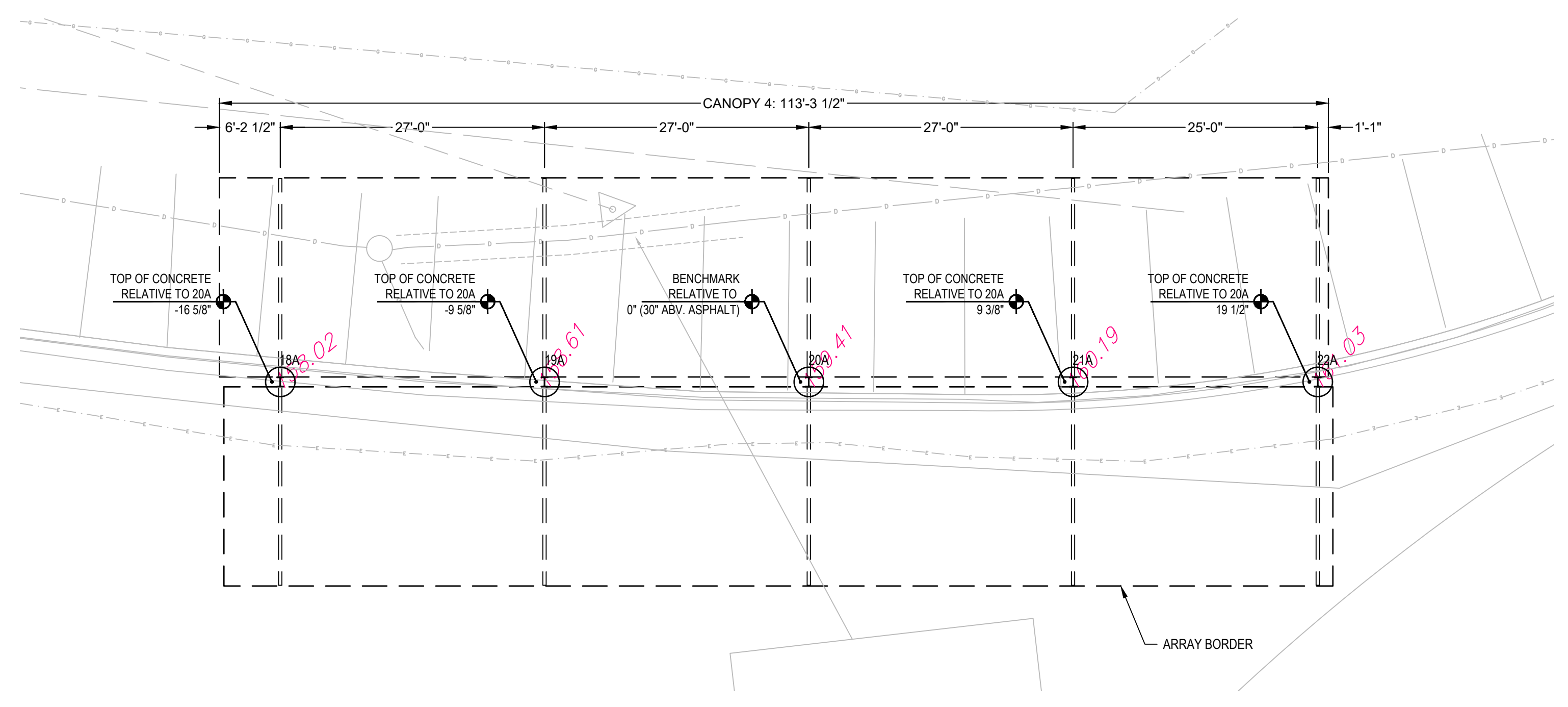
**PIER NOTES:**

- 0' ELEVATION AT THE BENCHMARK PIER IS FOR REFERENCE ONLY AND IS NOT RELATED TO SEA LEVEL.
- TOP OF CONCRETE ELEVATION OF PIER IS IN RELATION TO CORRESPONDING BENCHMARK PIER.
- REFER TO SHEET S-401 FOR FOUNDATION DETAILS.
- REFER TO SHEET S-401 FOR LEVELING NUT ADJUSTMENT DETAIL.

COLUMN SCHEDULE - CANOPY 4				
MARK	FNDN. TYPE	DESCRIPTION	LENGTH	LEVELING NUT
18	A	W18 x 60 - WELDED COLUMN ASSEMBLY	186"	
19	A	W18 x 60 - WELDED COLUMN ASSEMBLY	184"	
20	A	W18 x 60 - WELDED COLUMN ASSEMBLY	180"	
21	A	W18 x 60 - WELDED COLUMN ASSEMBLY	177"	
22	A	W18 x 60 - WELDED COLUMN ASSEMBLY	172"	



**D1 Canopy 3 Foundation Plan**  
SCALE: 1"=10'-0"



**A1 Canopy 4 Foundation Plan**  
SCALE: 1"=10'-0"

**RBI SOLAR**  
Total Solar Service: Design • Fabrication  
Installation • Parts • Repair Service  
5513 VINE STREET  
CINCINNATI, OH 45217  
513.242.2051  
FAX: 513.242.0816

PROFESSIONAL SEAL

ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY

**SOLAR CANOPY FOR CONTI**

RELEASE RECORD

MARK	DATE	DESCRIPTION
01/16/18		STAMPED SET

PROJECT INFORMATION

TITLE & ADDRESS:  
**CONTI**  
WESTWOOD  
1 N STAR WAY  
WESTWOOD, MA 02090

RBI SOLAR PROJECT No.:  
177042

DRAWN BY: KW      REVIEWED BY: BF

SHEET TITLE:  
FOUNDATION & COLUMN PLAN  
CANOPY 3 & 4

SHEET No.:  
**S-104**

USER: WWO/LFE PLOTTED: 1/16/2018 - 1:21 PM S:\RBI Solar\Design\2017 Jobs\177042 - Conti-Everounce-Westwood-MA\Drawings\177042.dwg LAYOUT: S-104

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TOP TRUSS SCHEDULE			
MARK	DESCRIPTION	LENGTH	QTY
TR1	TRUSS ASSEMBLY - HIGH SIDE	N/A	8
TR2	TRUSS ASSEMBLY - LOW SIDE	N/A	8

**H** TOP BEAM SETTING NOTES:  
 1. ALL TOP BEAM DIMENSIONS SHOWN ARE END TO END.  
 2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.  
 3. REFERENCE SHEET S-502 FOR ADDITIONAL TOP BEAM CONNECTION INFORMATION.

PURLIN SCHEDULE			
MARK	DESCRIPTION	LENGTH	QTY
Z11	12" 10 GA. GALVANIZED Z	37'-3 3/8"	8
Z12S	12" 10 GA. GALVANIZED Z - STARTER	43'-7 1/4"	8
Z13	12" 10 GA. GALVANIZED Z	37'-3 3/8"	8
Z14S	12" 10 GA. GALVANIZED Z - STARTER	43'-7 1/4"	8
Z15	12" 10 GA. GALVANIZED Z	29'-4 3/4"	8
Z2	12" 10 GA. GALVANIZED Z	26'-11 1/2"	32
Z16S	12" 10 GA. GALVANIZED Z - STARTER	30'-5 1/8"	8
Z17	12" 10 GA. GALVANIZED Z	22'-8 1/4"	8
Z18S	12" 10 GA. GALVANIZED Z - STARTER	37'-1 1/8"	8

**PURLIN SETTING NOTES:**  
 1. ALL PURLIN DIMENSIONS SHOWN ARE END TO END.  
 2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.  
 3. REFERENCE SHEET S-502 FOR ADDITIONAL PURLIN CONNECTION INFORMATION.  
 4. PURLIN LABELS ENDING WITH "S" REFER TO STARTER PURLINS AND ARE INTENDED TO BE INSTALLED FIRST WITHIN THAT CANOPY.

BRIDGING SCHEDULE			
MARK	DESCRIPTION	LENGTH	QTY
BG1	12GA. FORMED ANGLE	TBD	32
BG2	12GA. FORMED ANGLE		32

**BRIDGING SETTING NOTES:**  
 1. ALL BRIDGING DIMENSIONS SHOWN ARE END TO END.  
 2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.  
 3. REFERENCE SHEET S-502 FOR ADDITIONAL BRIDGING CONNECTION INFORMATION.

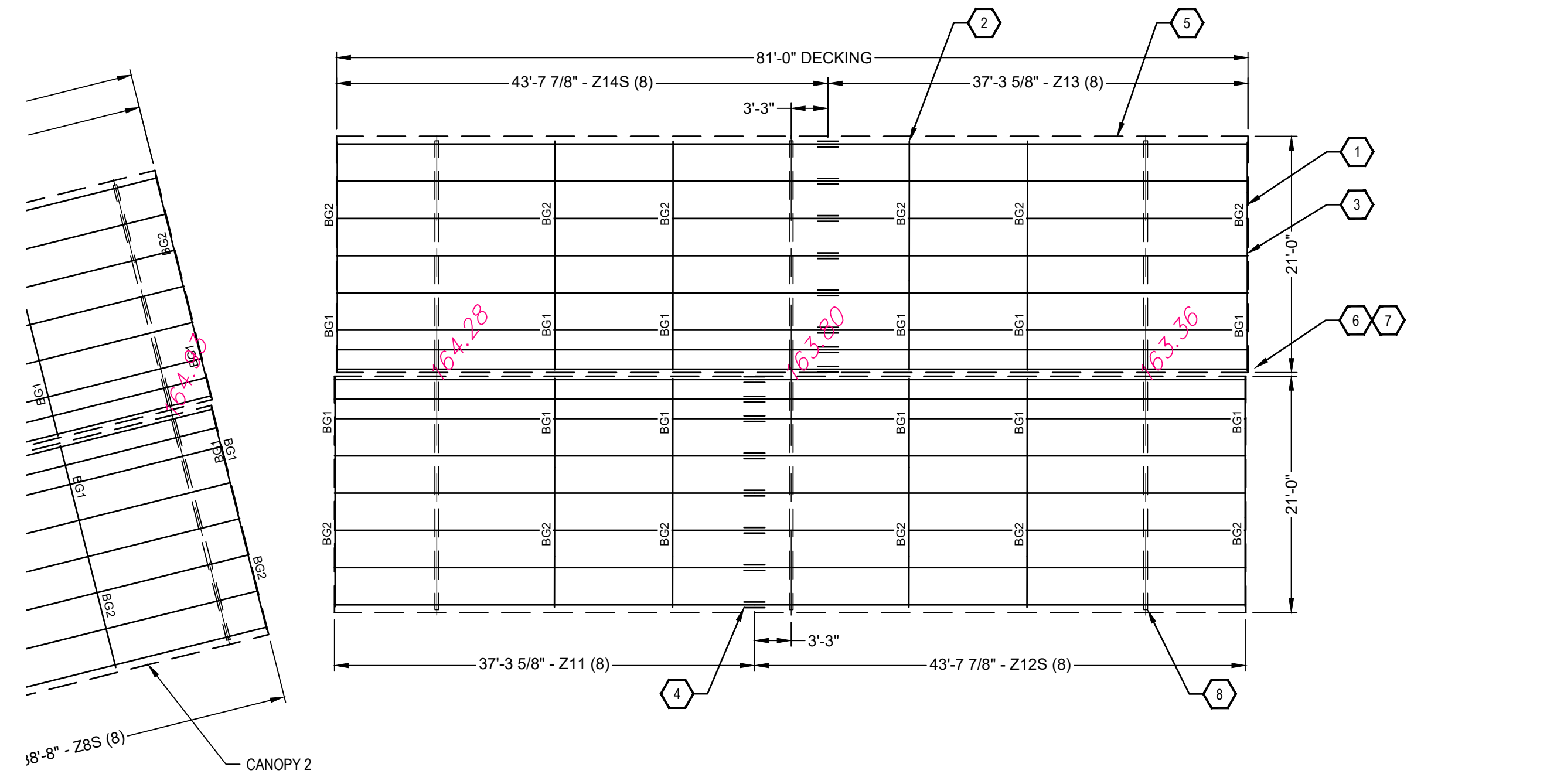
- ### KEY NOTES
- PURLIN BRIDGING REQUIRED AT BOTH ENDS OF THE CANOPY REFER TO DETAIL A10 ON SHEET S-501
  - PURLIN BRIDGING REQUIRED AT 1/4 POINTS ALL BAYS REFER TO DETAIL A6 ON SHEET S-501
  - BRIDGING SPLICE AS SHOWN REFER TO DETAIL A8 ON SHEET S-501
  - PURLIN SPLICE REFER TO DETAIL A1 ON SHEET S-501
  - DECKING REFER TO DETAILS ON SHEET S-502
  - GUTTER / DOWNSPOUT REFER TO DETAILS ON SHEET S-503
  - RENUSOL RAIL REFER TO DETAILS ON SHEET S-504
  - STEEL TRUSS ASSEMBLY, TR1 (HIGH SIDE, TR2 (LOW SIDE) STEEL TOP BEAM, TB1

Total Solar Service: Design • Fabrication  
 Installation • Parts • Repair Service

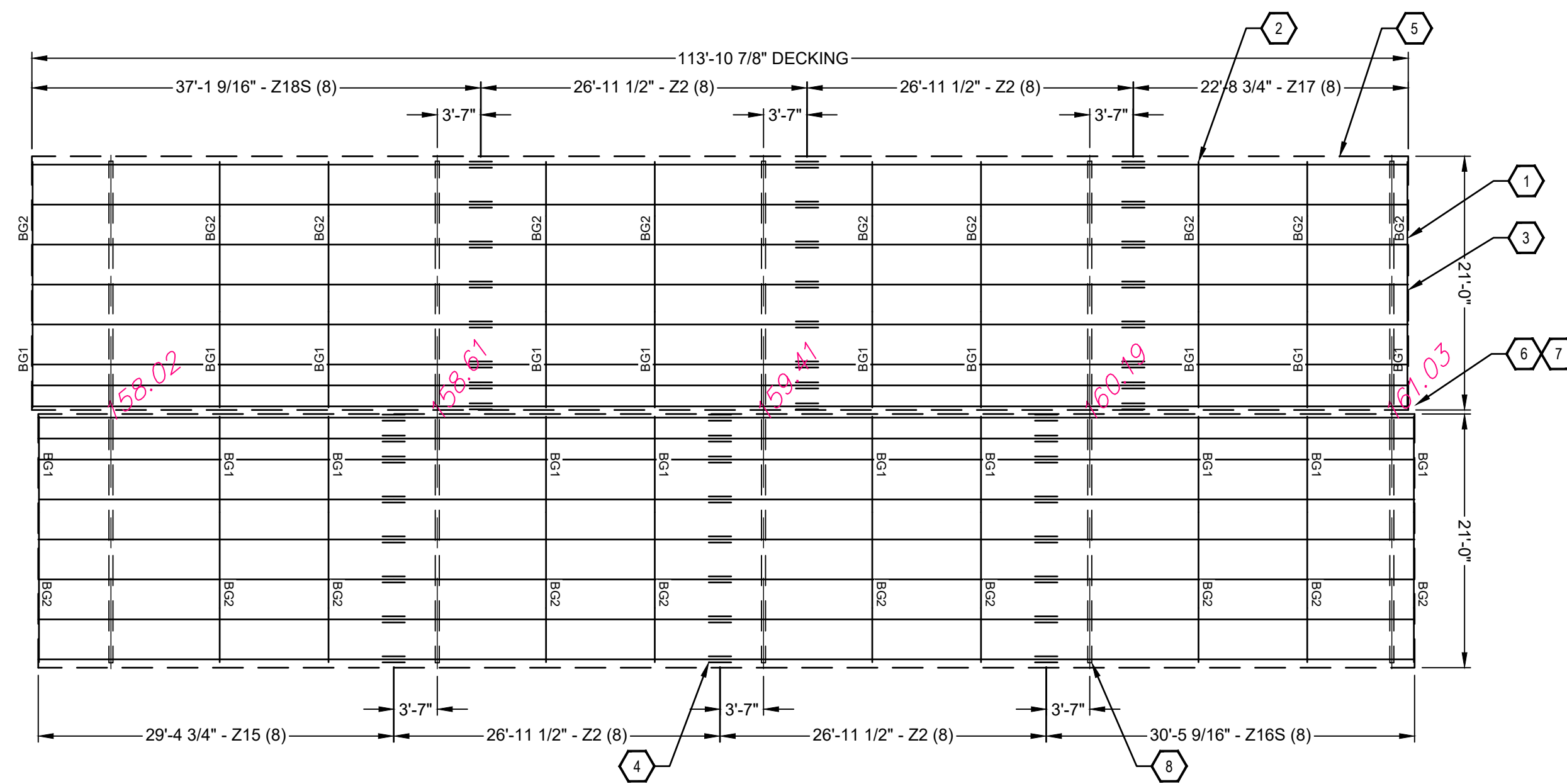
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 FAX: 513.242.0816

PROFESSIONAL SEAL

ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY



**D1** Canopy 3 Component Plan  
 SCALE: 1"=10'-0"



**A1** Canopy 4 Component Plan  
 SCALE: 1"=10'-0"

**SOLAR CANOPY FOR CONTI**

RELEASE RECORD

MARK	DATE	DESCRIPTION
	01/16/18	STAMPED SET

PROJECT INFORMATION

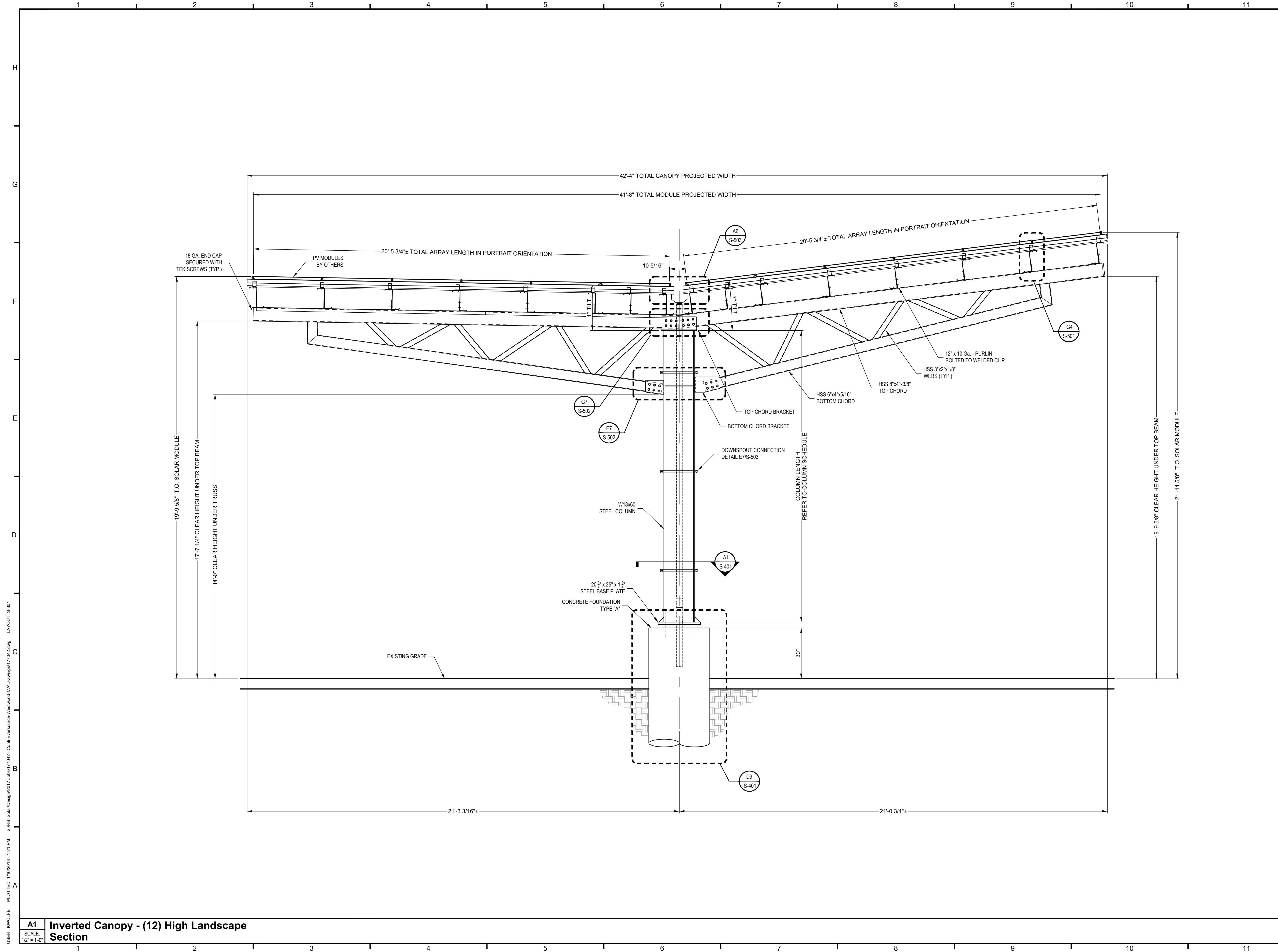
TITLE & ADDRESS:  
**CONTI**  
**WESTWOOD**  
 1 NSTAR WAY  
 WESTWOOD, MA 02090

RBI SOLAR PROJECT No.: 177042

DRAWN BY: KW	REVIEWED BY: BF
-----------------	--------------------

SHEET TITLE:  
**COMPONENT PLAN CANOPY 3 & 4**

SHEET No.: **S-105**



**SOLAR CANOPY**  
 FOR  
**CONTI**

RELEASE RECORD

MARK	DATE	DESCRIPTION
-	01/16/18	STAMPED SET

PROJECT INFORMATION

TITLE & ADDRESS:  
**CONTI**  
**WESTWOOD**  
 1 N STAR WAY  
 WESTWOOD, MA 02090

RBI SOLAR PROJECT No.:  
 177042

DRAWN BY: KW	REVIEWED BY: BF
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SHEET TITLE:  
 INVERTED - 6H  
 CANOPY SECTION

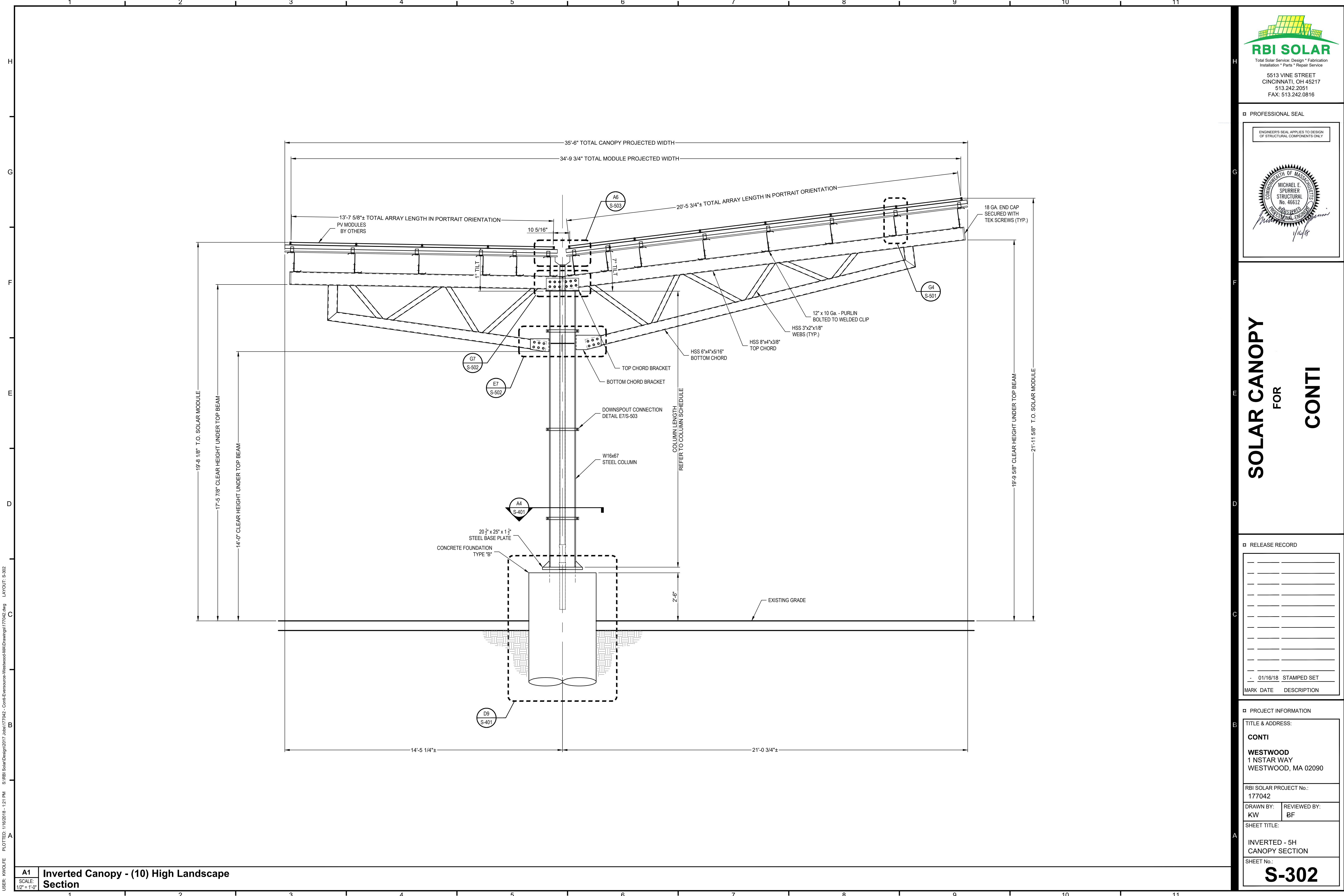
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USER: WWOULFE PLOTTED: 1/16/2018 - 1:21 PM S:\RBI SolarDesign\2017 Jobs\177042 - Conti-Eversource-Westwood-MA\Drawings\177042.dwg LAYOUT: S-301

**A1**  
 SCALE:  
 1/2" = 1'-0"  
**Inverted Canopy - (12) High Landscape Section**

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PROFESSIONAL SEAL

ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY

# SOLAR CANOPY FOR CONTI

RELEASE RECORD

MARK	DATE	DESCRIPTION
-	01/16/18	STAMPED SET

PROJECT INFORMATION

TITLE & ADDRESS:  
**CONTI**  
**WESTWOOD**  
 1 N STAR WAY  
 WESTWOOD, MA 02090

RBI SOLAR PROJECT No.:  
 177042

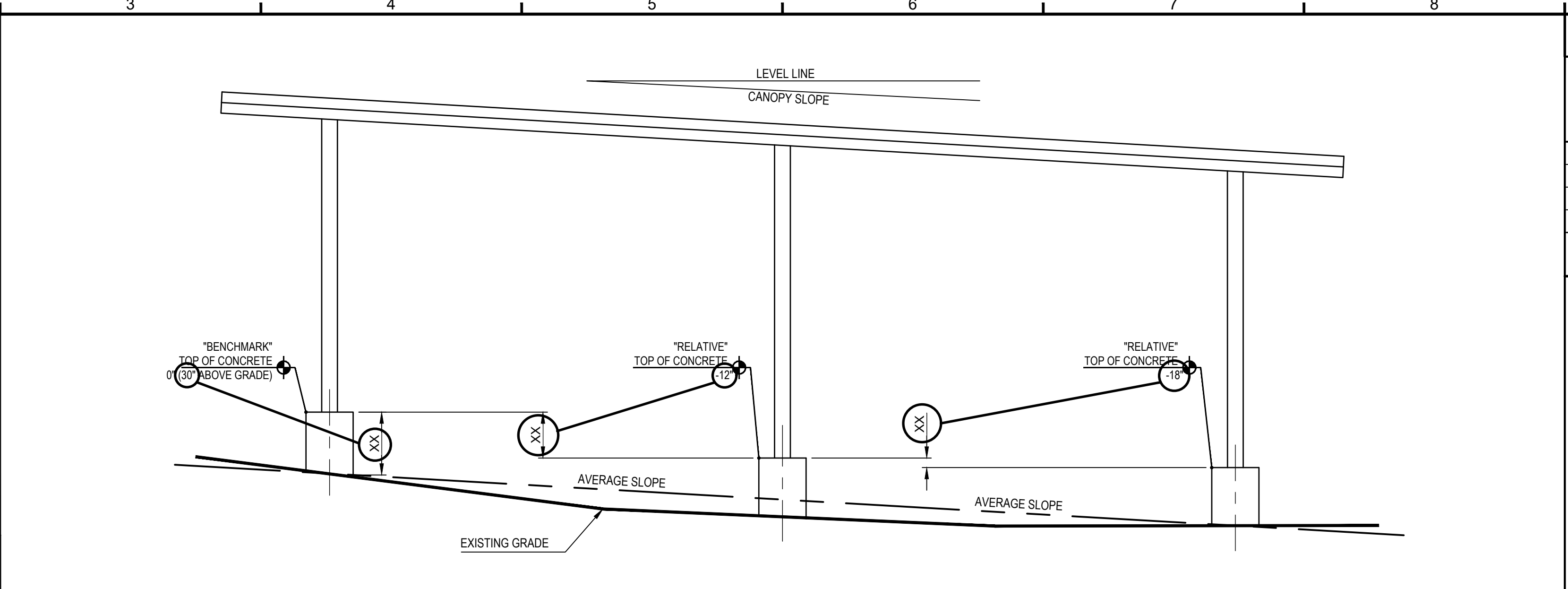
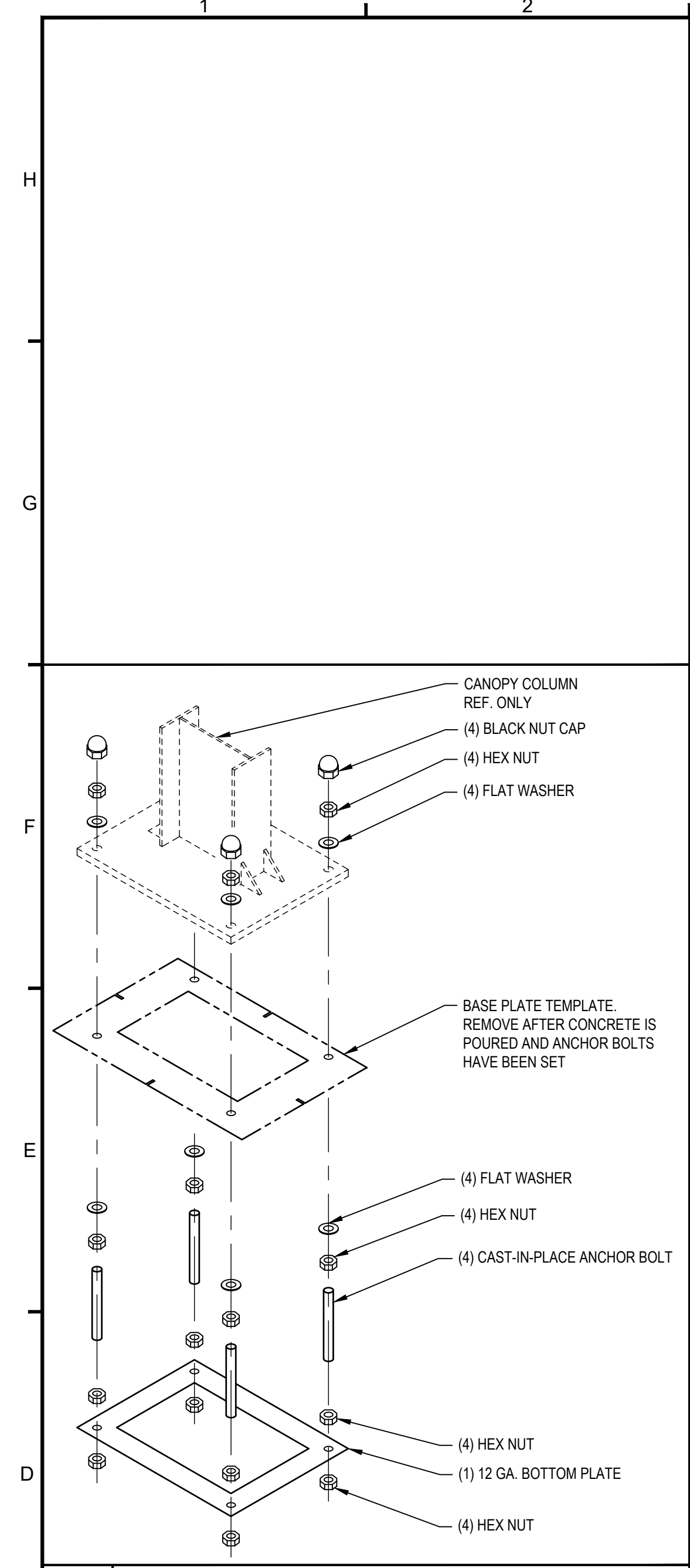
DRAWN BY: KW	REVIEWED BY: BF
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SHEET TITLE:  
 INVERTED - 5H  
 CANOPY SECTION

SHEET No.:  
**S-302**

USER: WJWOLF PLOTTED: 1/16/2018 - 1:21 PM S:\RBI Solar Design\2017 Jobs\177042 - Conti-Everstone-Westwood-MA\Drawings\177042.dwg LAYOUT: S-302

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**KEY POINTS**

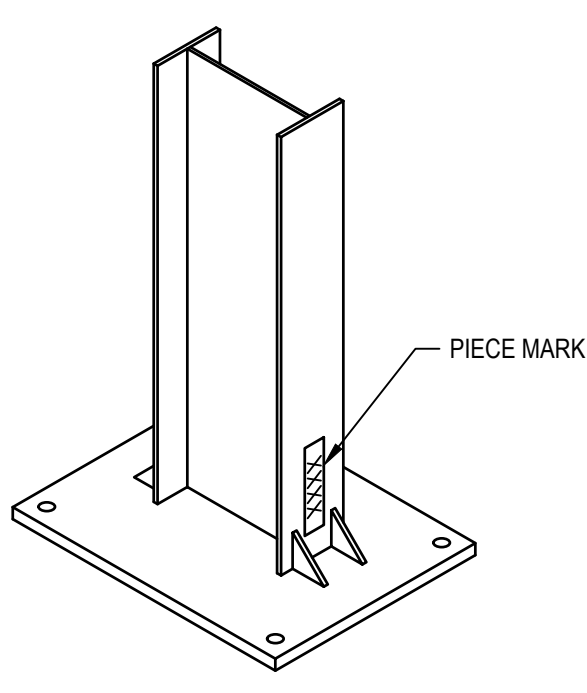
- CANOPY STRUCTURE IS PARALLEL TO AVERAGE SITE GRADE
- CANOPY SLOPE MAY VARY PER STRUCTURE
- COLUMN LENGTHS MAY VARY
- REFER TO FOUNDATION PLAN FOR ACTUAL "BENCHMARK" LOCATION AND ADDITIONAL FOUNDATION LOCATIONS
- HOLDING A "RELATIVE" FOUNDATION TOP OF CONCRETE IN RELATION TO THE "BENCHMARK" FOUNDATION TOP OF CONCRETE IS CRITICAL. FINISHED FOUNDATION HEIGHTS MAY ONLY VARY RELATIVE TO ADJACENT GRADE AND NOT THE "BENCHMARK" FOUNDATION
- COLUMN LENGTHS ARE CALCULATED USING THE INDIVIDUAL FOUNDATION "TOP OF CONCRETE" ELEVATIONS

**\*\*\*FOR REFERENCE ONLY\*\*\*  
SEE FOUNDATION PLAN FOR "BENCHMARK" LOCATION AND RELATIVE FOUNDATION HEIGHTS**

**F3 AVERAGE SLOPE LAYOUT KEY**  
SCALE: 1/2" = 1'-0"

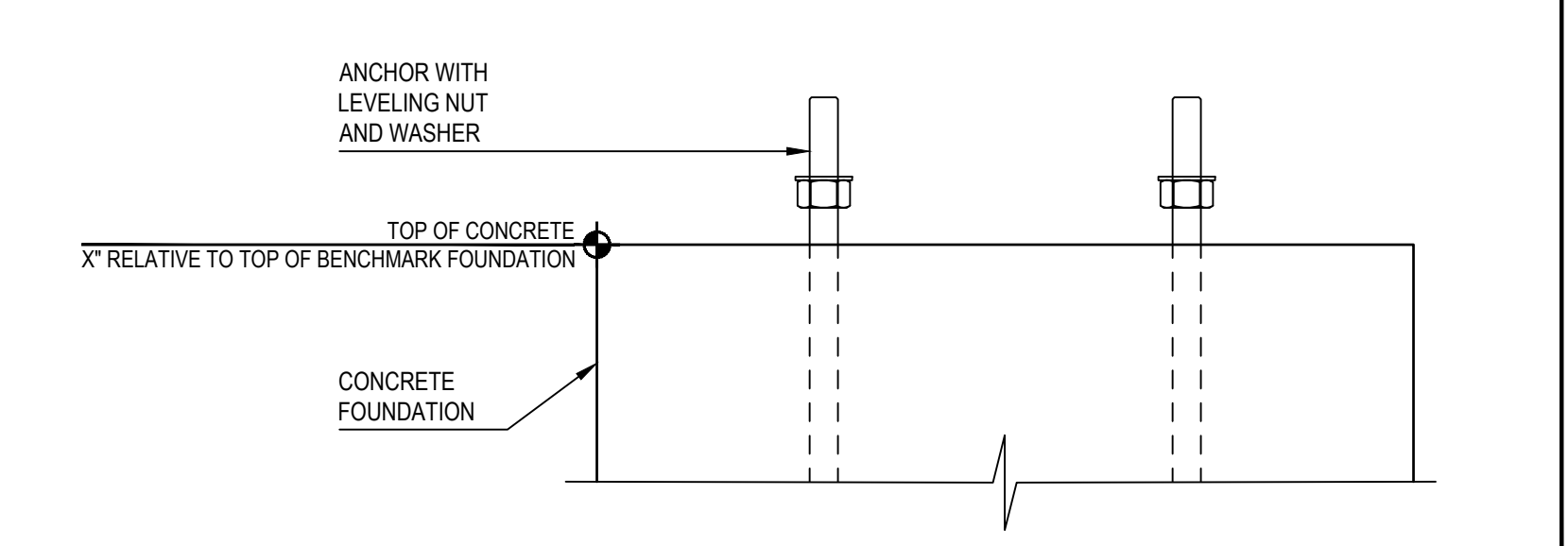
**NOTE:**

- REFER TO FOUNDATION PLAN FOR COLUMN PIECE MARK SCHEDULE.
- PIECE MARK LOCATED ON FACE OF EACH COLUMN
- DETAIL FOR REFERENCE ONLY. BASE PLATE AND COLUMN SHAPE WILL VARY PER PROJECT.



**NOTE:**

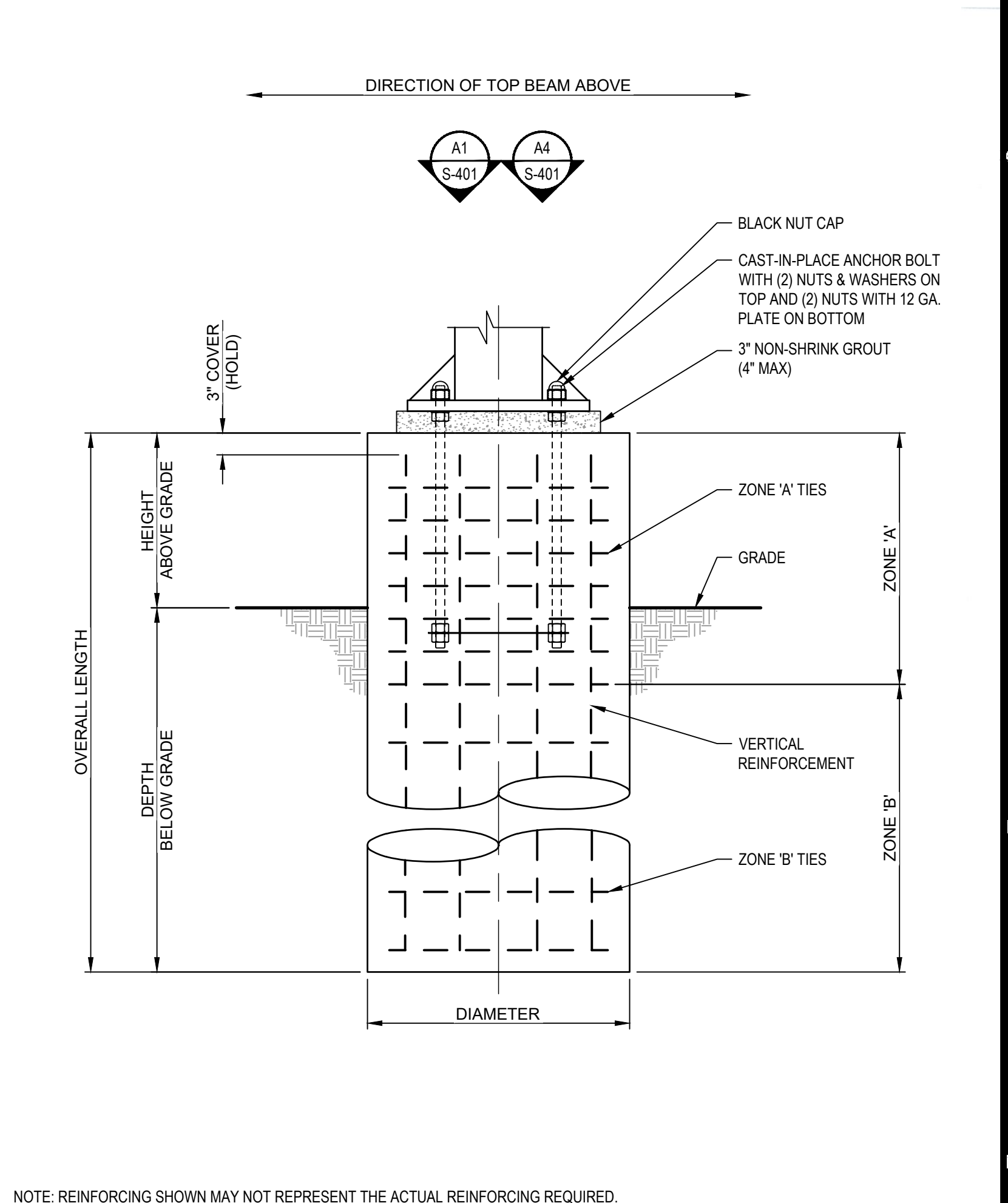
- REFER TO COLUMN SCHEDULE FOR FOUNDATION HEIGHTS AND LEVELING NUT HEIGHTS.
- FIELD VERIFY ALL FOUNDATION HEIGHTS.
- IF ACTUAL FOUNDATION HEIGHT IS DIFFERENT FROM DESIGNED VALUE WITHIN THIS CONSTRUCTION SET, THEN ADJUST LEVELING NUT HEIGHT AS REQUIRED TO MAKE UP DISCREPANCY IN FOUNDATION HEIGHT.
- LEVELING NUT HEIGHT NOT TO EXCEED 2 5/8". CONTACT AN RBI SOLAR REPRESENTATIVE FOR APPROVAL IF ADDITIONAL HEIGHT IS REQUIRED.



TYPE	SIZE				REINFORCEMENT		
	DIAMETER	HEIGHT ABOVE GRADE	DEPTH BELOW GRADE	APPROX. OVERALL LENGTH	VERTICAL REINFORCEMENT	ZONE 'A' REINFORCEMENT TIES	ZONE 'B' REINFORCEMENT TIES
A	36"	2'-6"	10'-0"	12'-6"	(12) #6 BARS	#5 BARS @ 5' O.C. FOR 36"	#5 BARS @ 10' O.C. FOR REMAINDER
B	42"	2'-6"	10'-6"	13'-0"	(16) #6 BARS	#5 BARS @ 4' O.C. FOR 36"	#5 BARS @ 10' O.C. FOR REMAINDER

**NOTE:**

- ALL REINFORCING TO HAVE 3" MINIMUM COVER
- REFERENCE THE FOUNDATION PLAN FOR DESIGNED HEIGHT ABOVE GRADE VALUES. SEE LEVELING NUT DETAIL FOR ADJUSTMENTS.



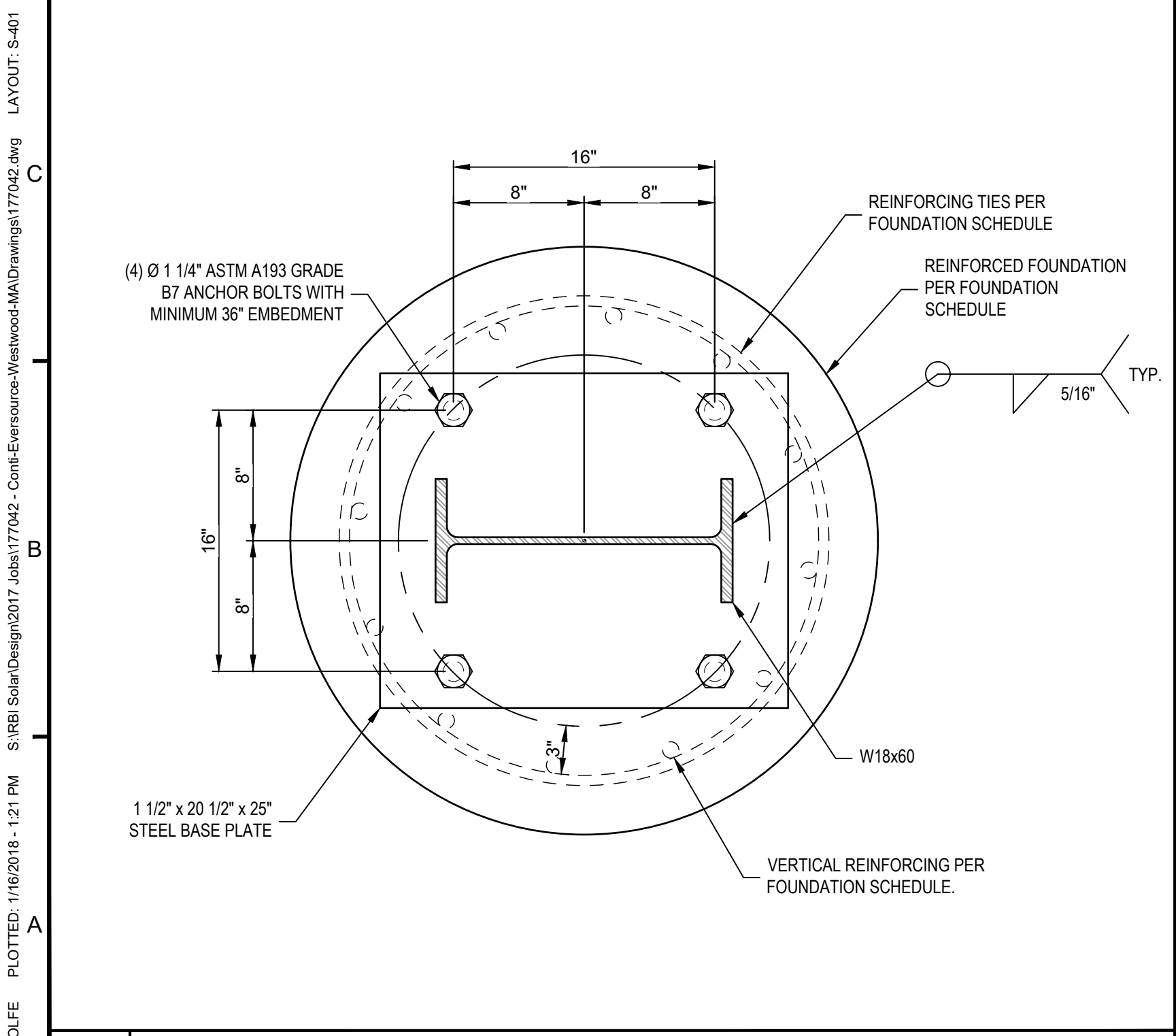
**NOTE:** REINFORCING SHOWN MAY NOT REPRESENT THE ACTUAL REINFORCING REQUIRED. SEE CONCRETE PIER SCHEDULE FOR REQUIRED REINFORCING AND DIMENSIONS. PROVIDE MINIMUM 3" COVER FOR ALL REINFORCEMENT.

**D1 Anchor Connection Exploded View**  
SCALE: 1/2" = 1'-0"

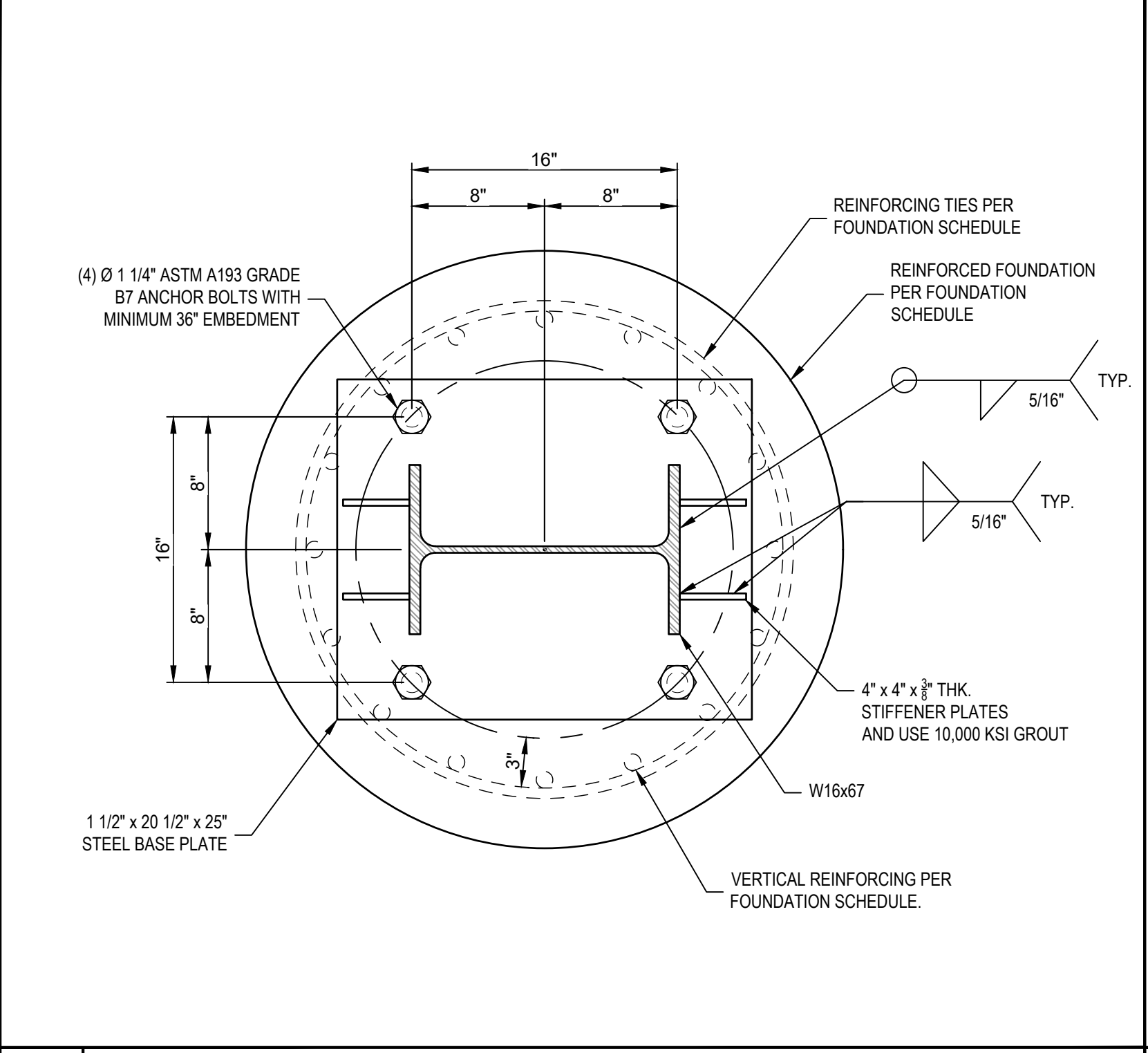
**D3 Column Piece Mark Detail**  
SCALE: 1/2" = 1'-0"

**D6 Leveling Nut Detail Side View**  
SCALE: 1/2" = 1'-0"

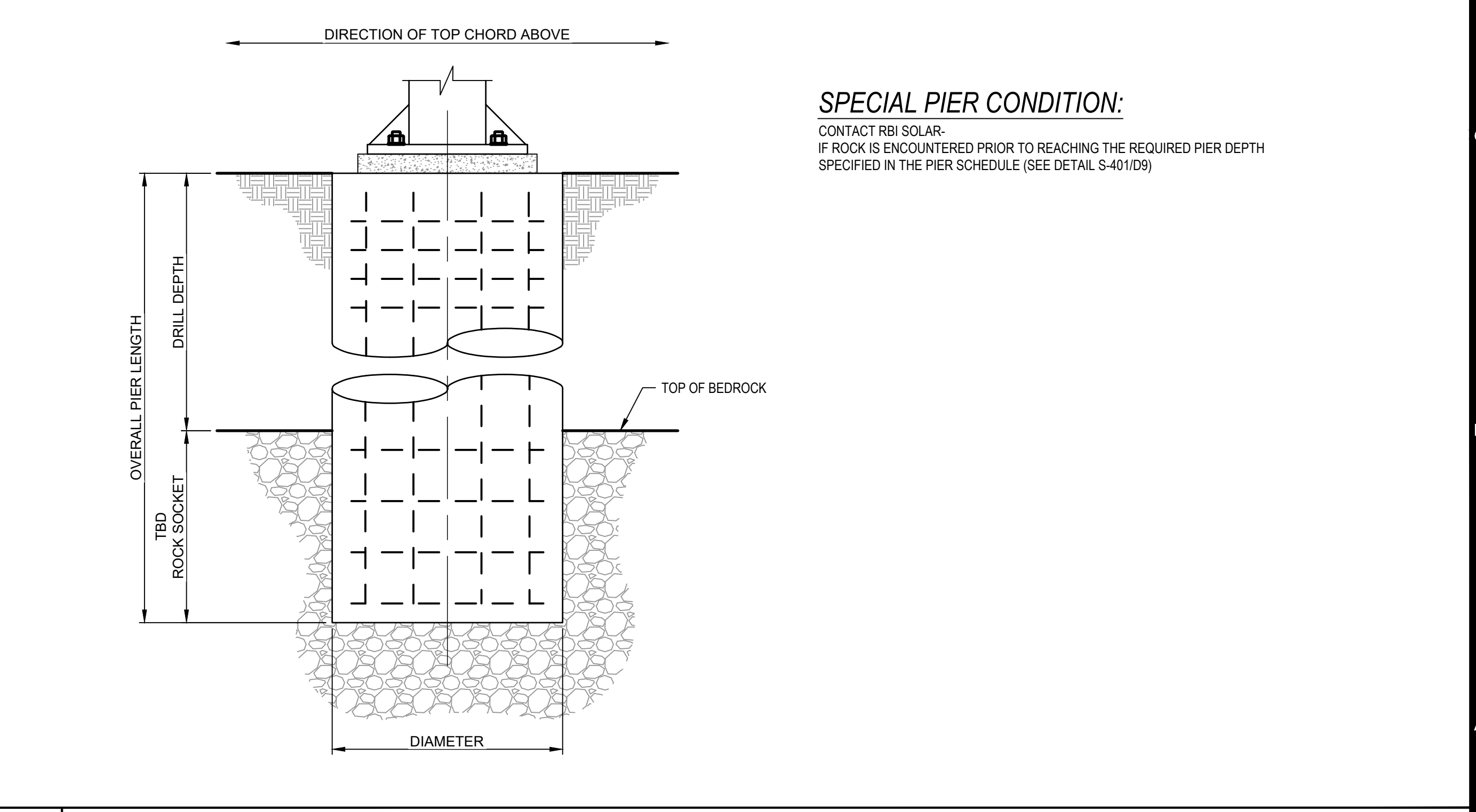
**D9 Typical Pier Side View**  
SCALE: 3/4" = 1'-0"



**A1 Base Plate - Type "A" - (12H) Inverted Detail**  
SCALE: 1/2" = 1'-0"



**A4 Base Plate - Type "B" - (10H) Inverted Detail**  
SCALE: 1/2" = 1'-0"



**A7 Special Pier Condition Side View**  
SCALE: 3/4" = 1'-0"

**SPECIAL PIER CONDITION:**  
CONTACT RBI SOLAR.  
IF ROCK IS ENCOUNTERED PRIOR TO REACHING THE REQUIRED PIER DEPTH SPECIFIED IN THE PIER SCHEDULE (SEE DETAIL S-401/D9)

PROFESSIONAL SEAL

**SOLAR CANOPY FOR CONTI**

RELEASE RECORD

MARK	DATE	DESCRIPTION
01/16/18		STAMPED SET

PROJECT INFORMATION

TITLE & ADDRESS:  
**CONTI**  
WESTWOOD  
1 N STAR WAY  
WESTWOOD, MA 02090

RBI SOLAR PROJECT No.:  
177042

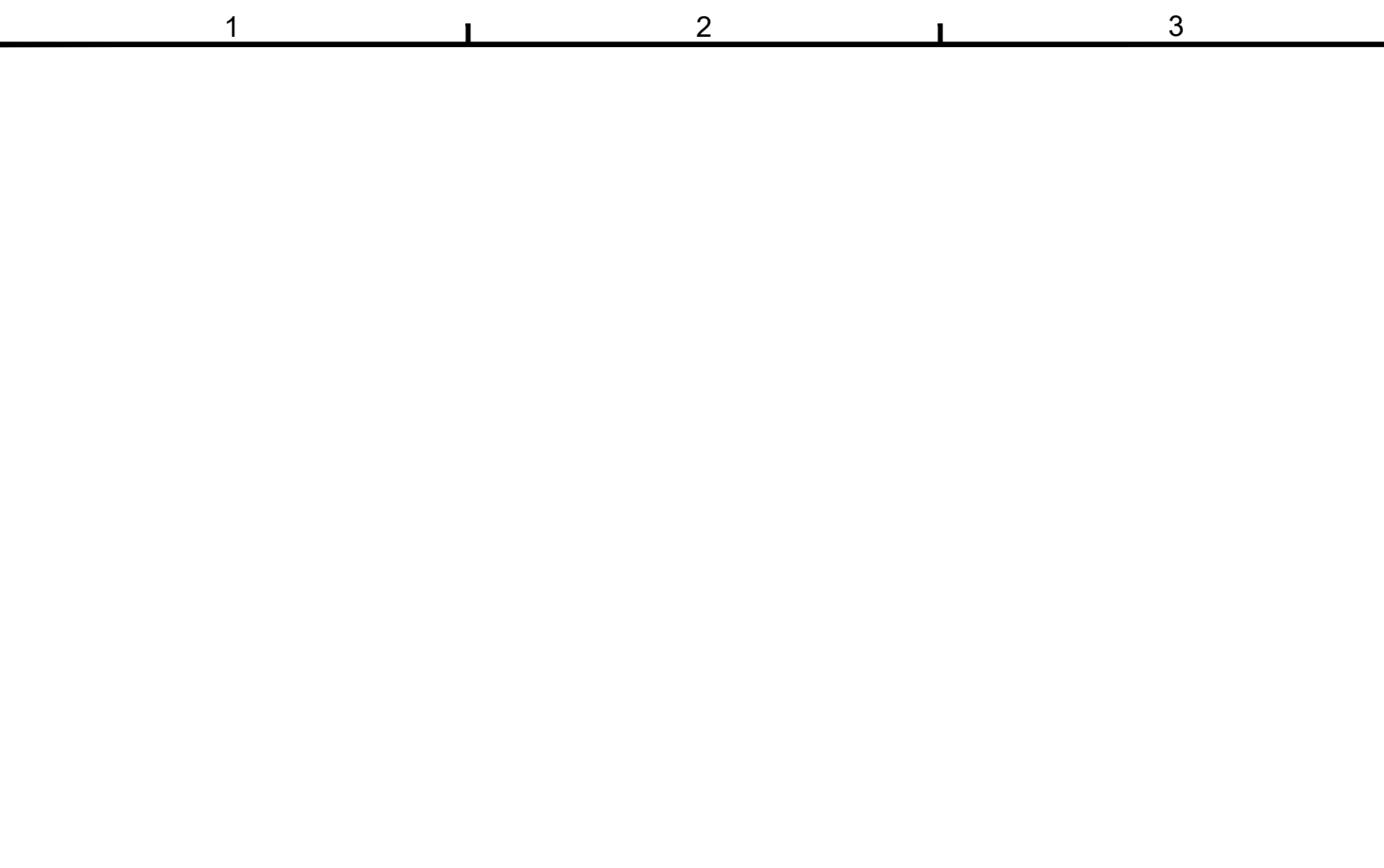
DRAWN BY: KW REVIEWED BY: BF

SHEET TITLE:  
FOUNDATION DETAILS

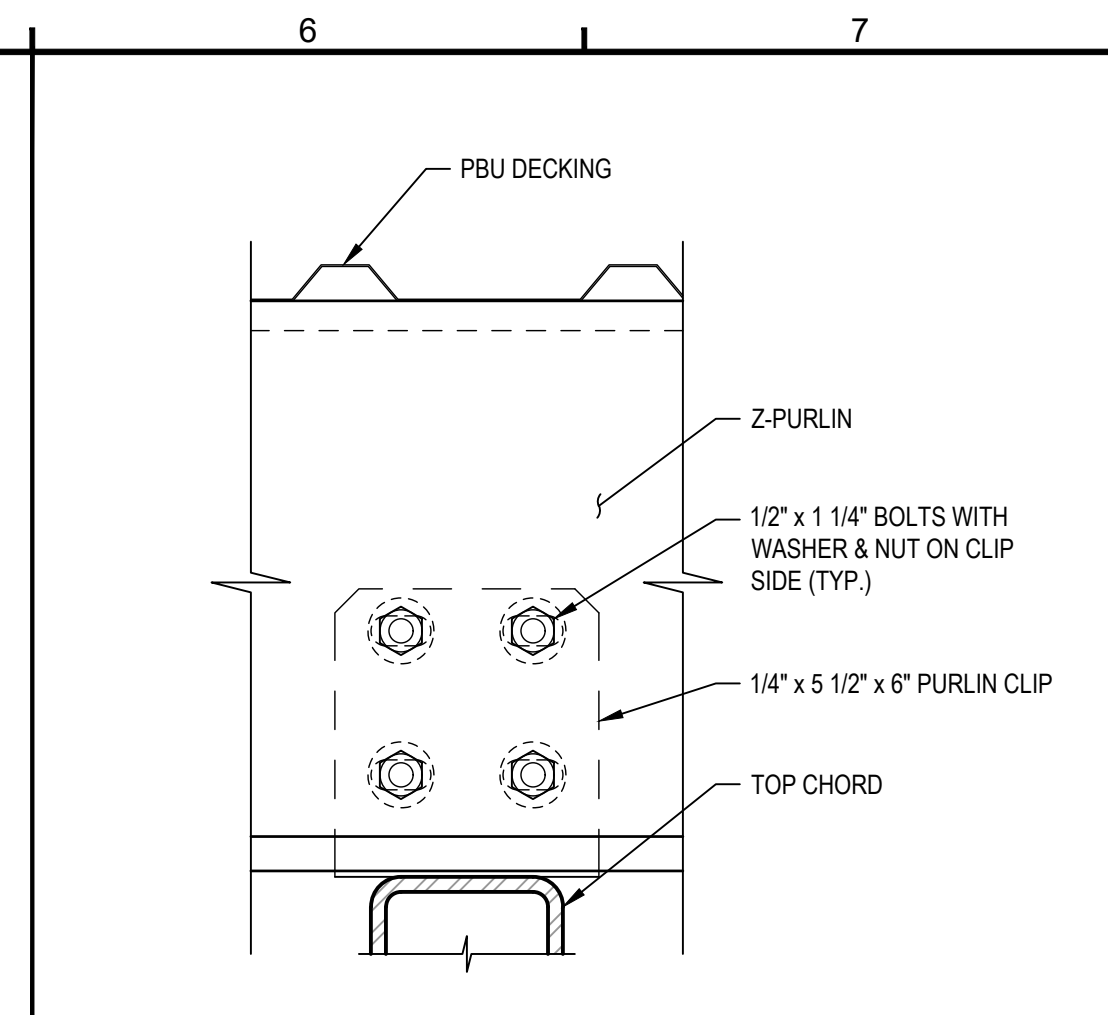
SHEET No.:  
**S-401**

USER: WJWOLFE PLOTTED: 1/16/2018 - 1:21 PM S:\RBI Solar\Design\2017 Jobs\177042 - Conti-Everhouse-Westwood-MA\Drawings\177042.dwg LAYOUT: S-401

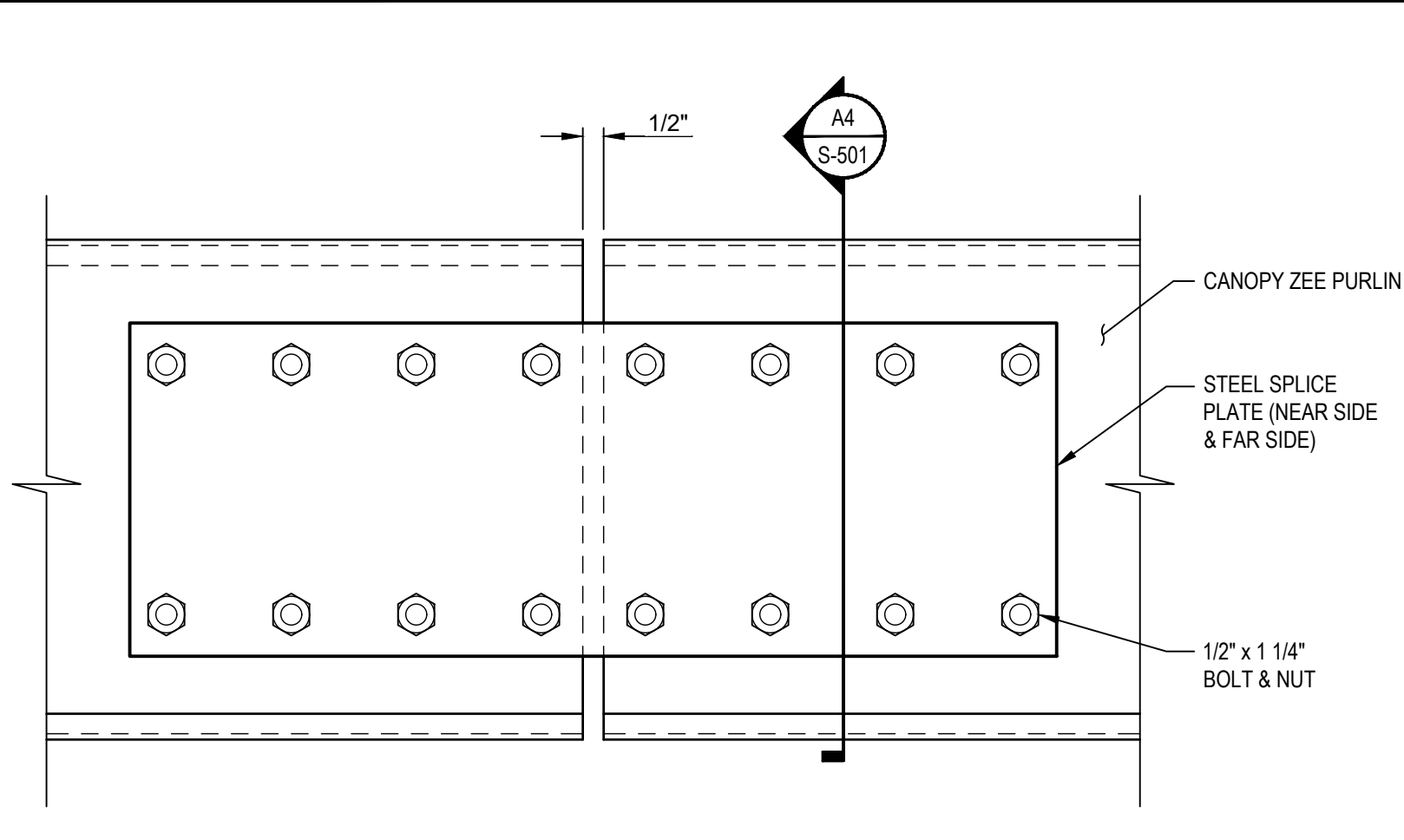
USER: WJW/LFE PLOTTED: 1/16/2018 - 1:21 PM S:\RBI Solar\Design\007 Jobs\177042 - ContI-EverSource-Westwood-MA\Drawings\177042.dwg LAYOUT: S-501



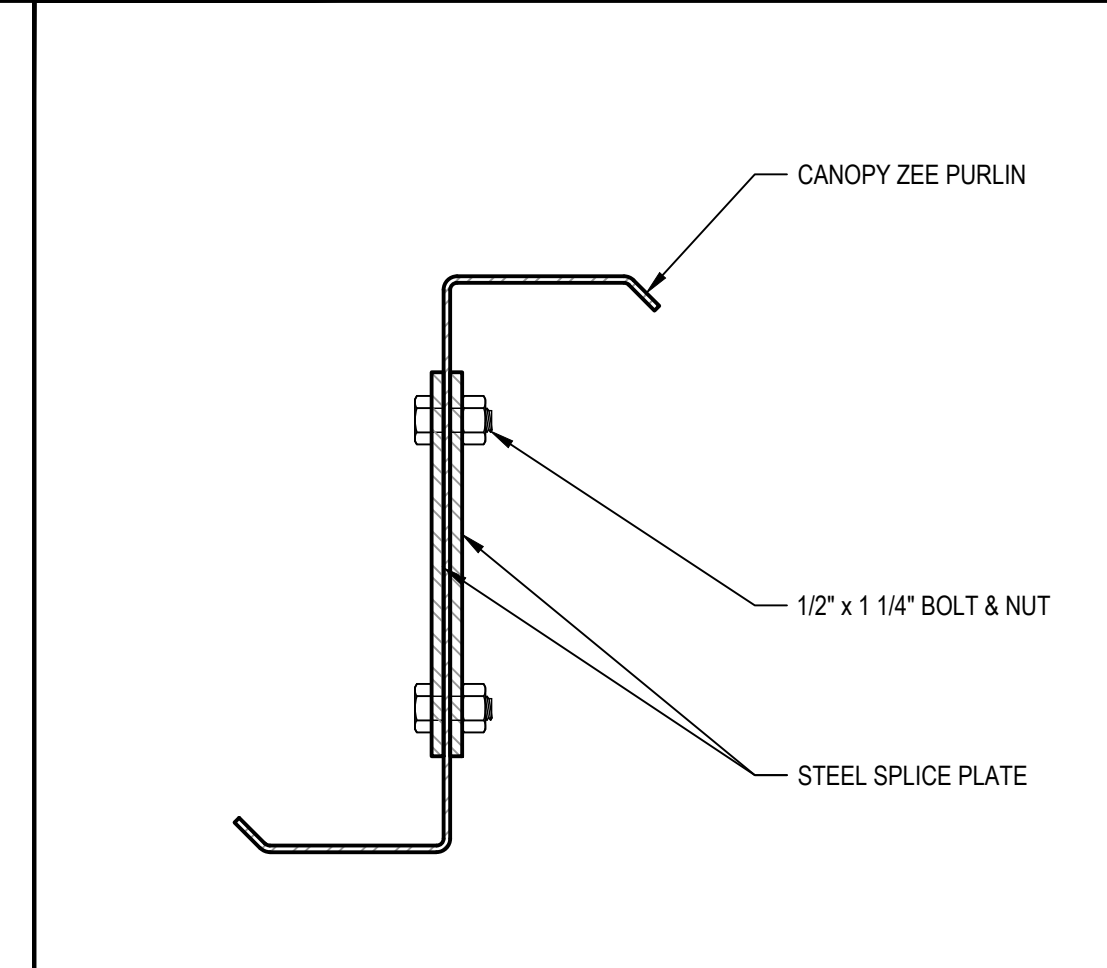
**G4**  
SCALE: 3" = 1'-0"  
**Truss Purlin Connection Transverse Section**



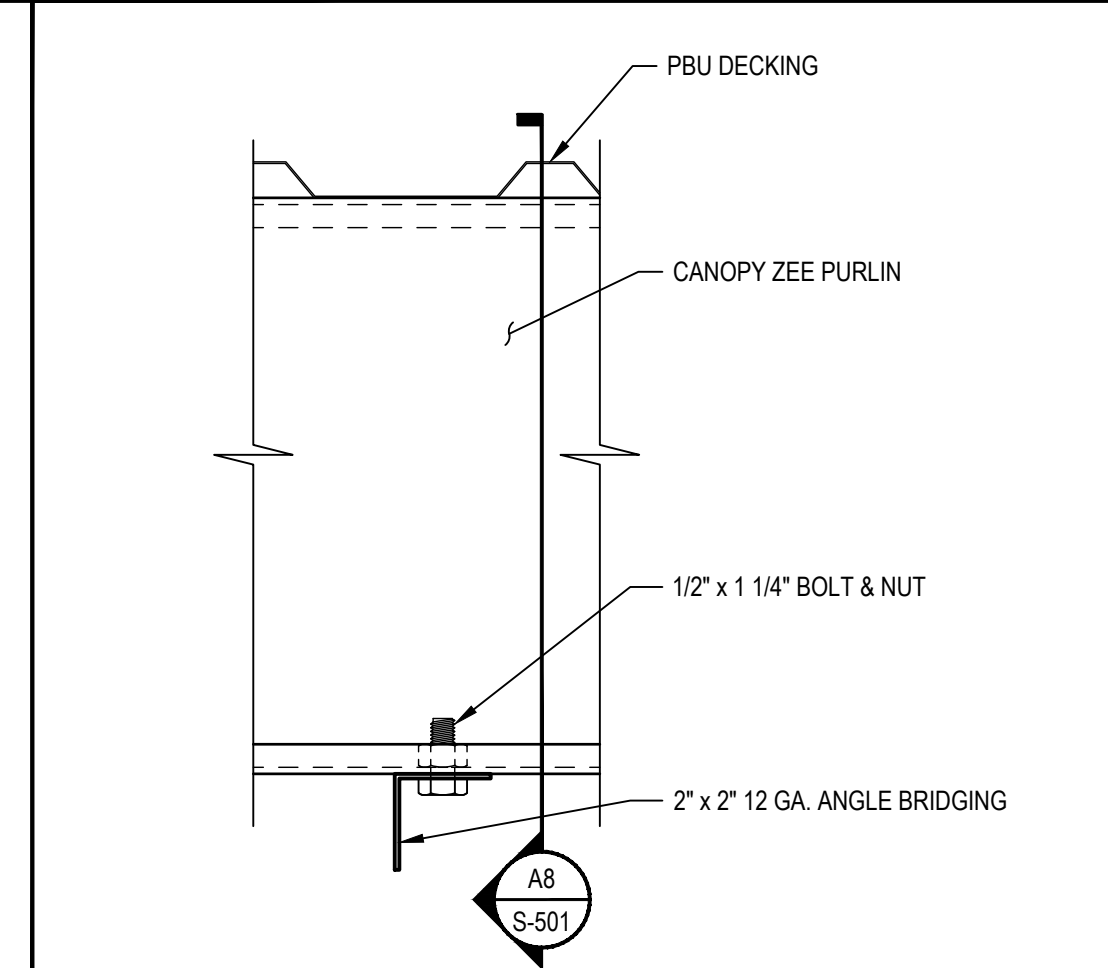
**G6**  
SCALE: 3" = 1'-0"  
**Truss Purlin Connection Longitudinal Section**



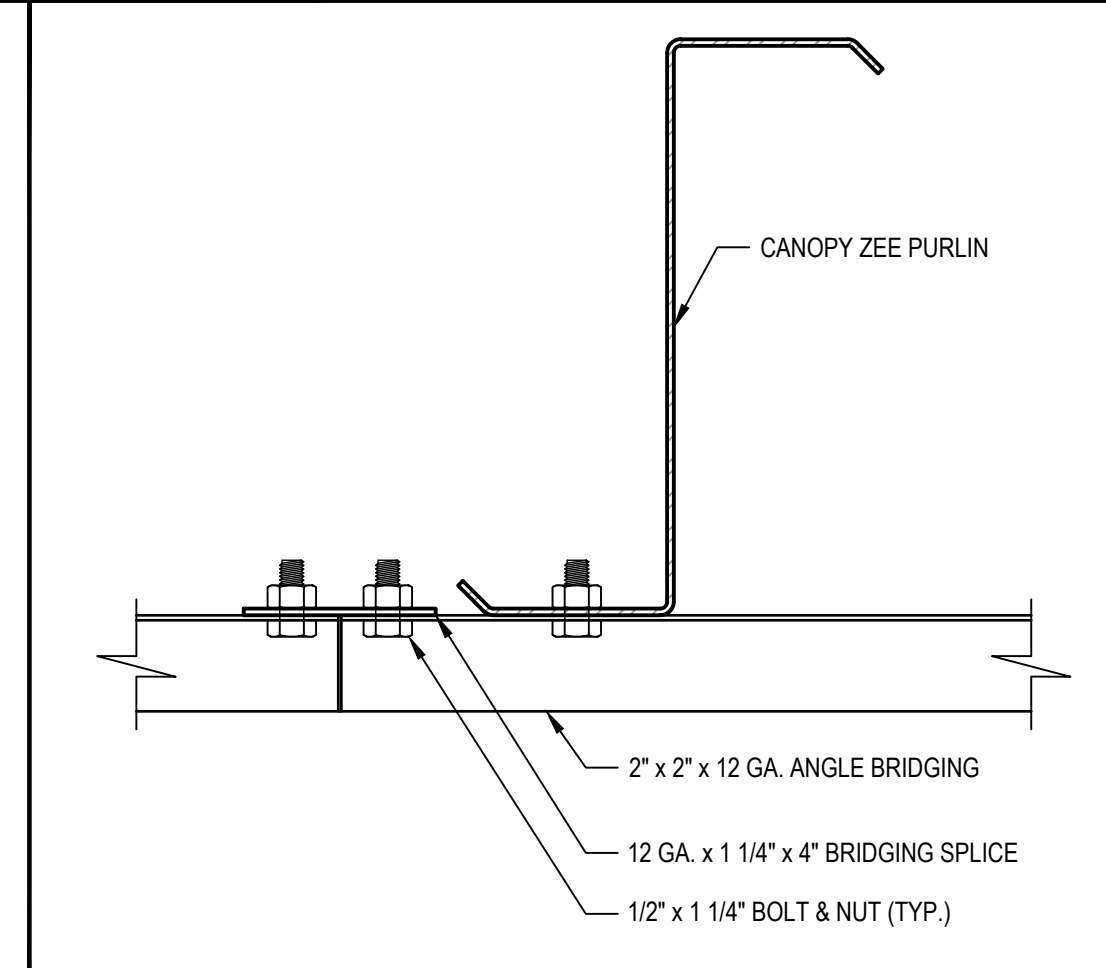
**A1**  
SCALE: 3" = 1'-0"  
**Canopy Zee Purlin Splice Connection**



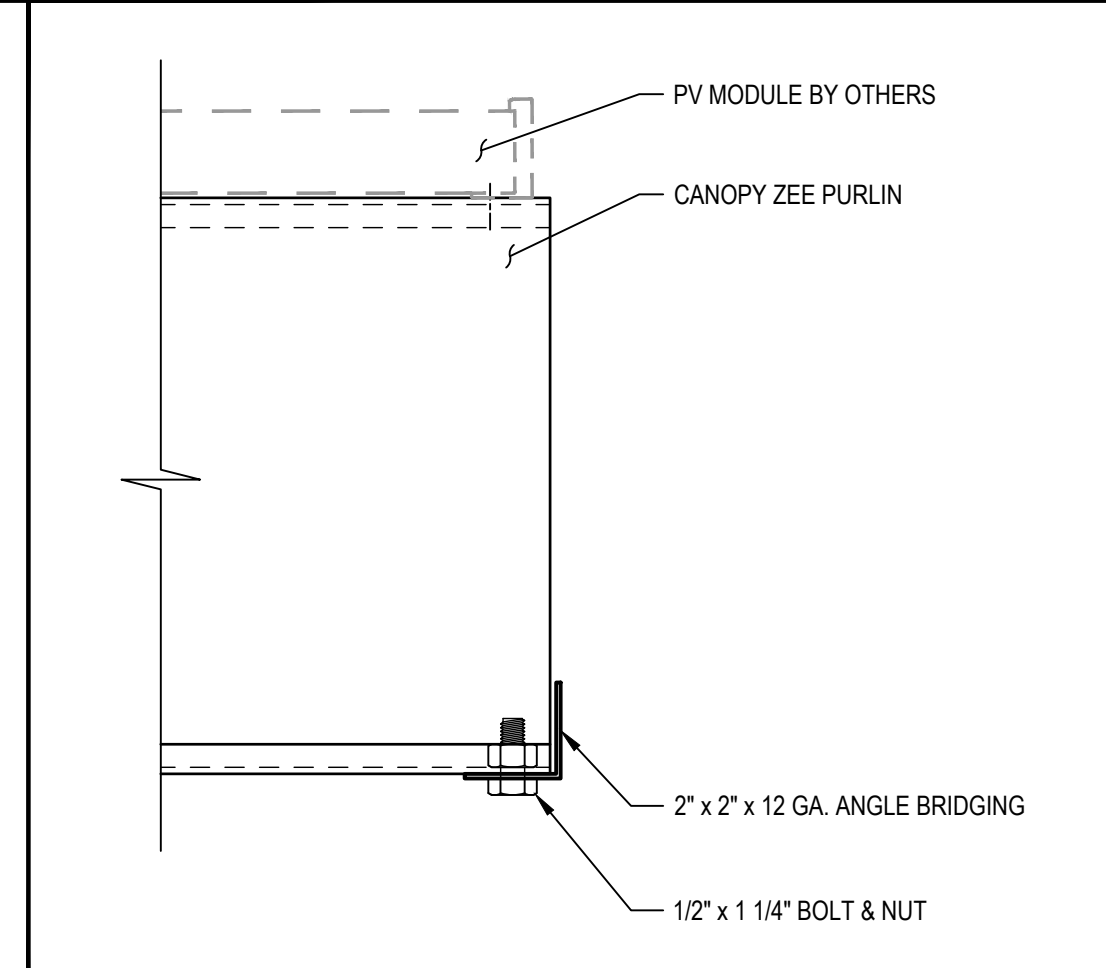
**A4**  
SCALE: 3" = 1'-0"  
**Canopy Zee Purlin Splice Connection**



**A6**  
SCALE: 3" = 1'-0"  
**Canopy Zee Purlin Bridging Intermediate Condition**



**A8**  
SCALE: 3" = 1'-0"  
**Canopy Zee Purlin Bridging Splice Connection**



**A10**  
SCALE: 3" = 1'-0"  
**Canopy Zee Purlin Bridging End Condition**

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MICHAEL E. SPURRIER  
STRUCTURAL  
No. 46512  
PROFESSIONAL SEAL  
STATE OF MASSACHUSETTS  
1/16/18

# SOLAR CANOPY FOR CONTI

RELEASE RECORD

MARK	DATE	DESCRIPTION
01/16/18		STAMPED SET

PROJECT INFORMATION

TITLE & ADDRESS:  
**CONTI**  
**WESTWOOD**  
1 N STAR WAY  
WESTWOOD, MA 02090

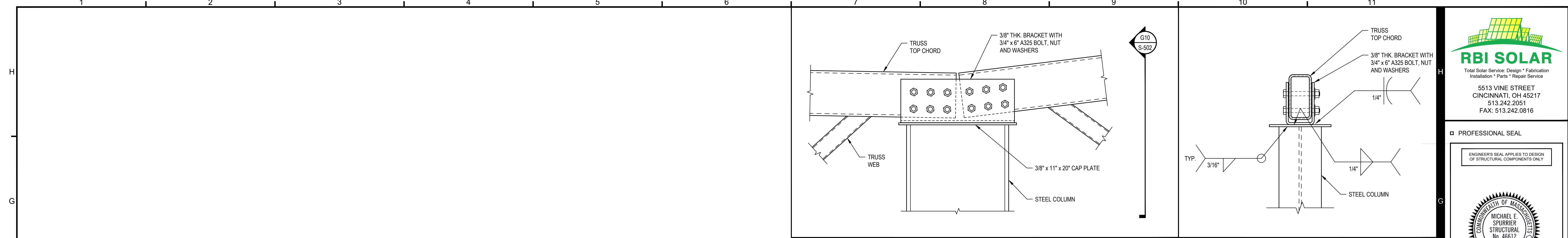
RBI SOLAR PROJECT No.:  
177042

DRAWN BY: KW REVIEWED BY: BF

SHEET TITLE:  
**COMPONENT DETAILS**

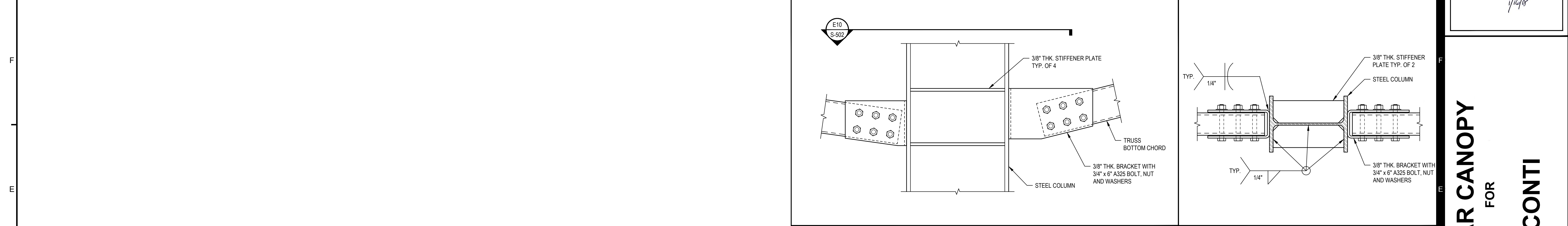
SHEET No.:  
**S-501**

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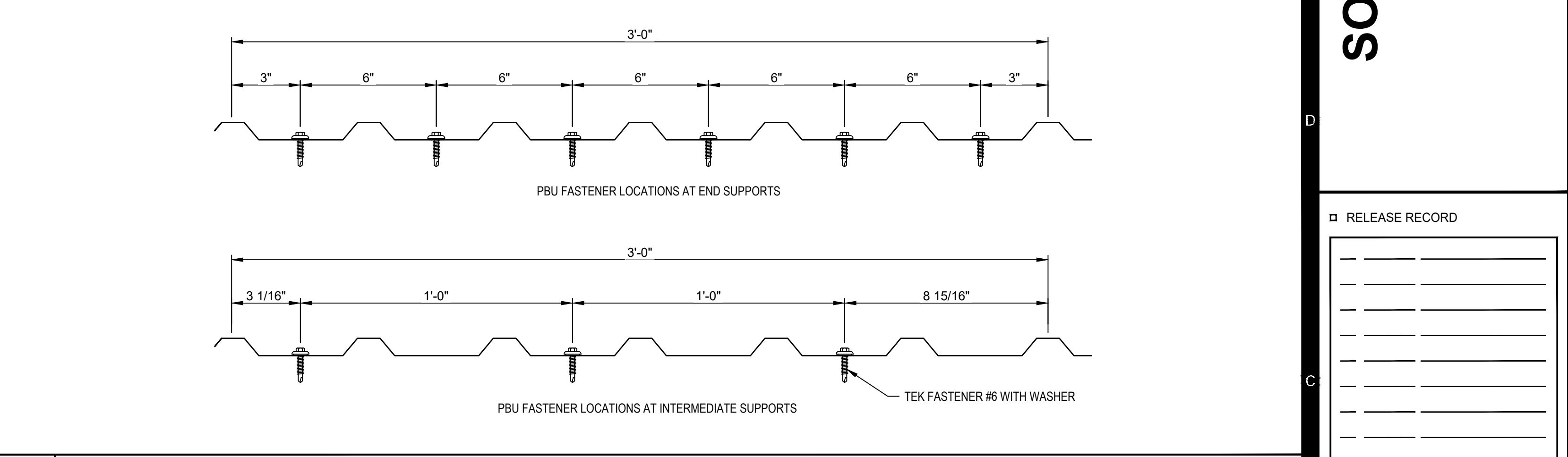
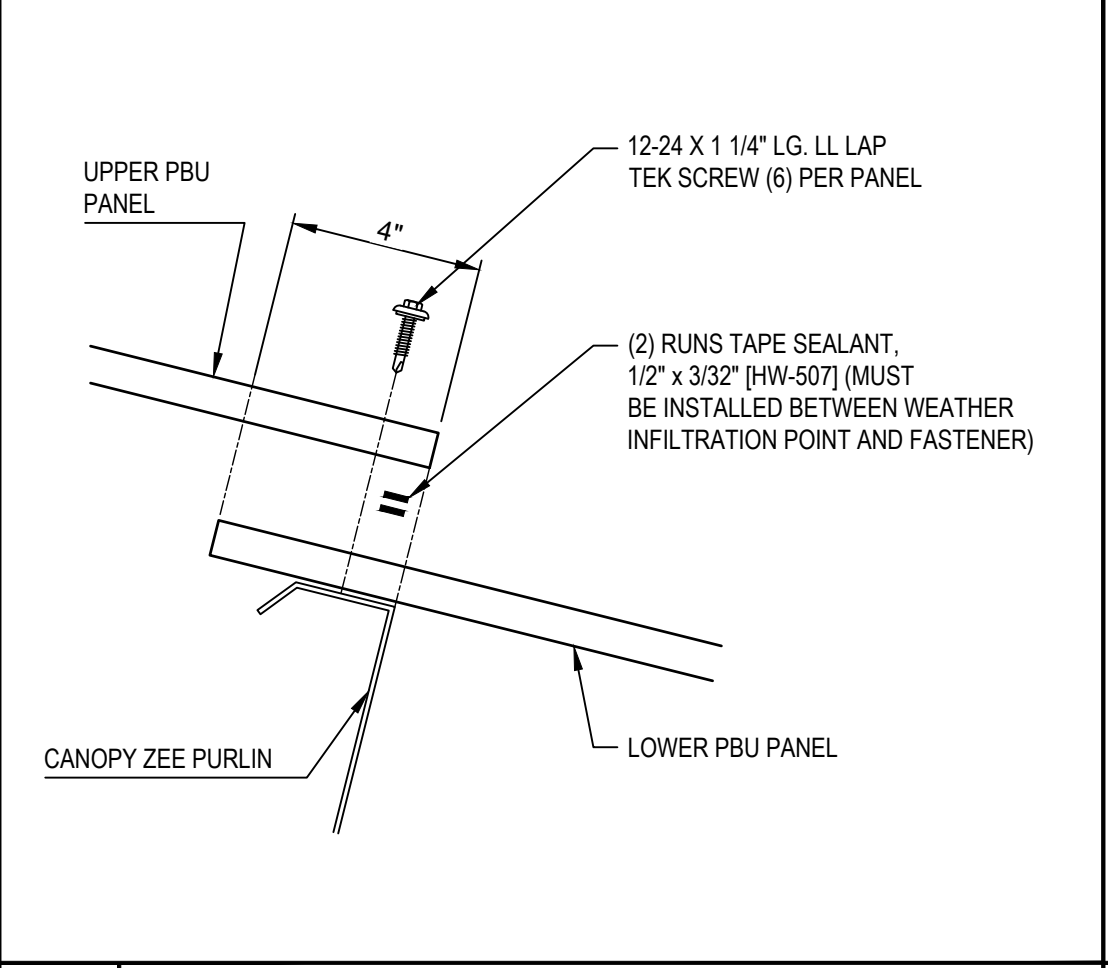
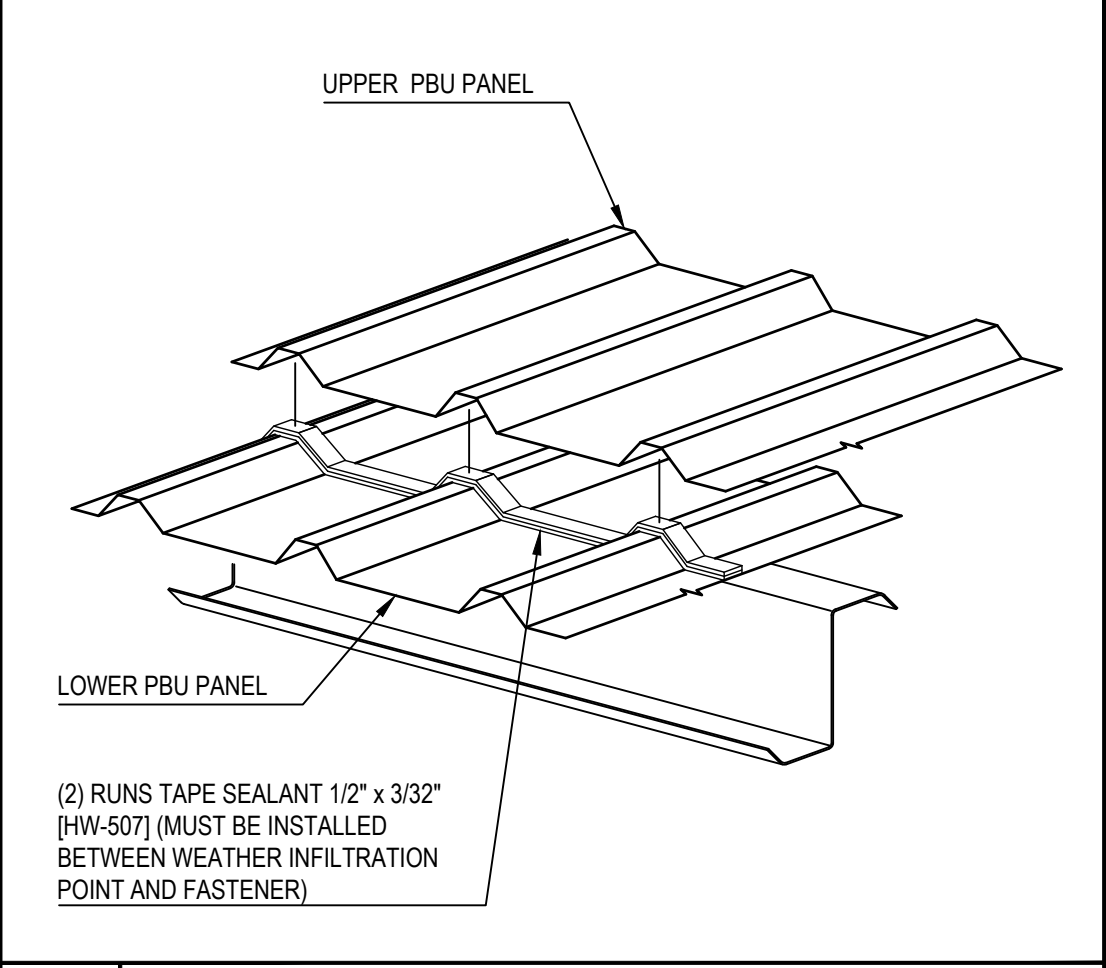
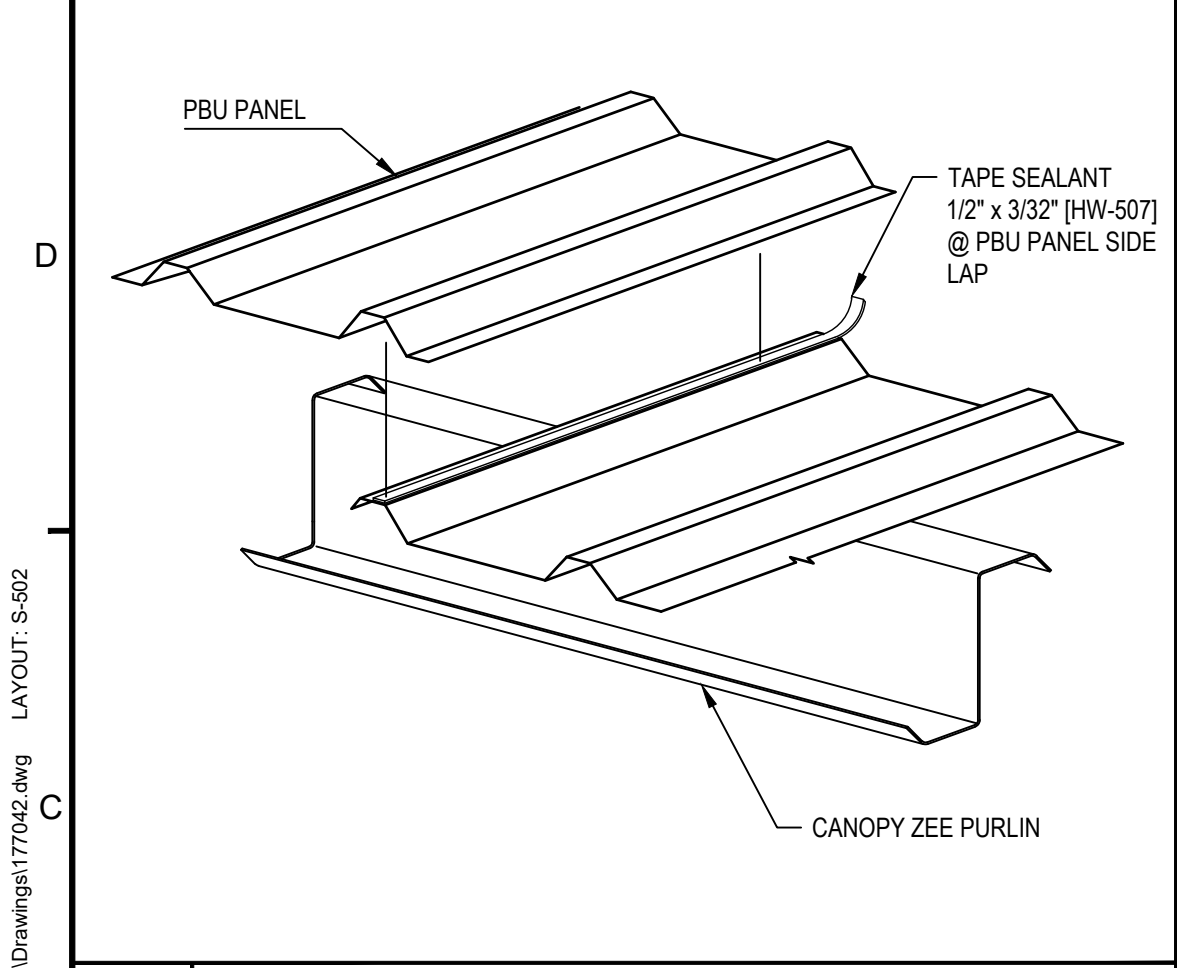
**G7 Top Chord Connection Longitudinal Section**  
SCALE: 1-1/2" = 1'-0"

**G10 Top Chord Connection Transverse Section**  
SCALE: 1-1/2" = 1'-0"



**E7 Bottom Chord Connection Longitudinal Section**  
SCALE: 1-1/2" = 1'-0"

**E10 Bottom Chord Connection Transverse Section**  
SCALE: 1-1/2" = 1'-0"

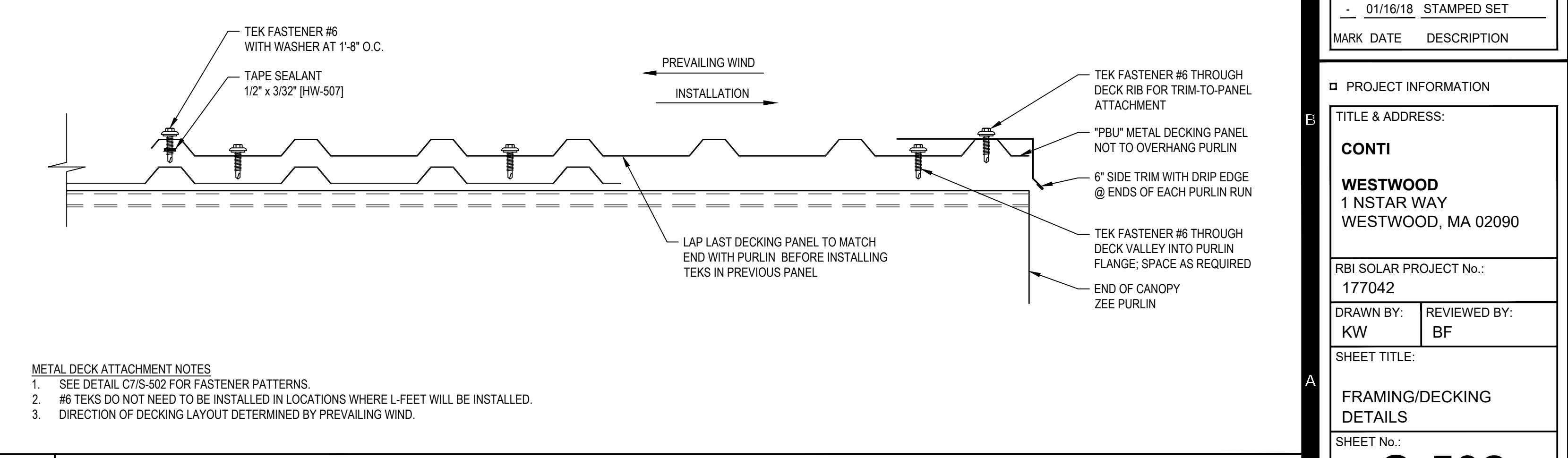
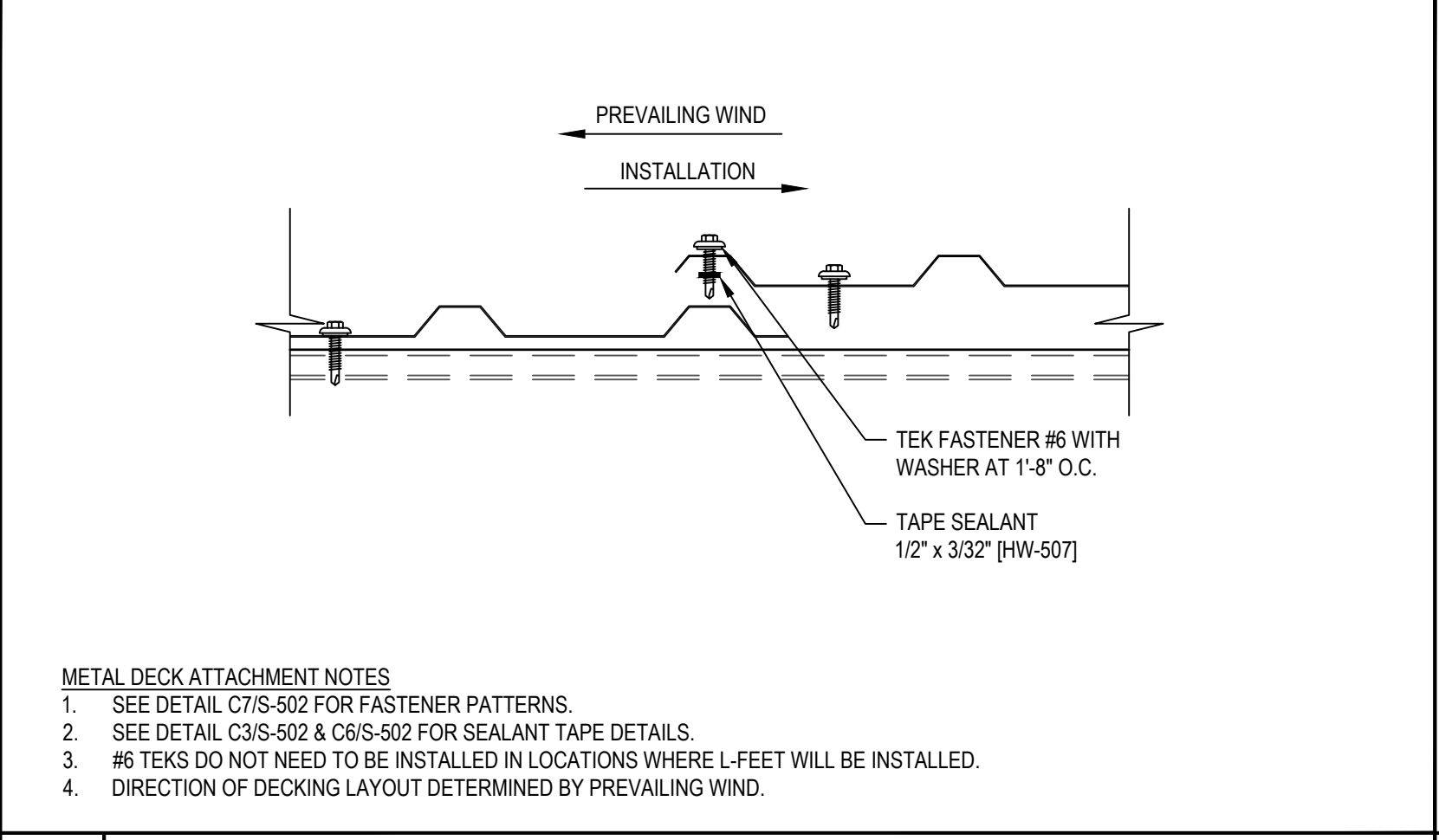
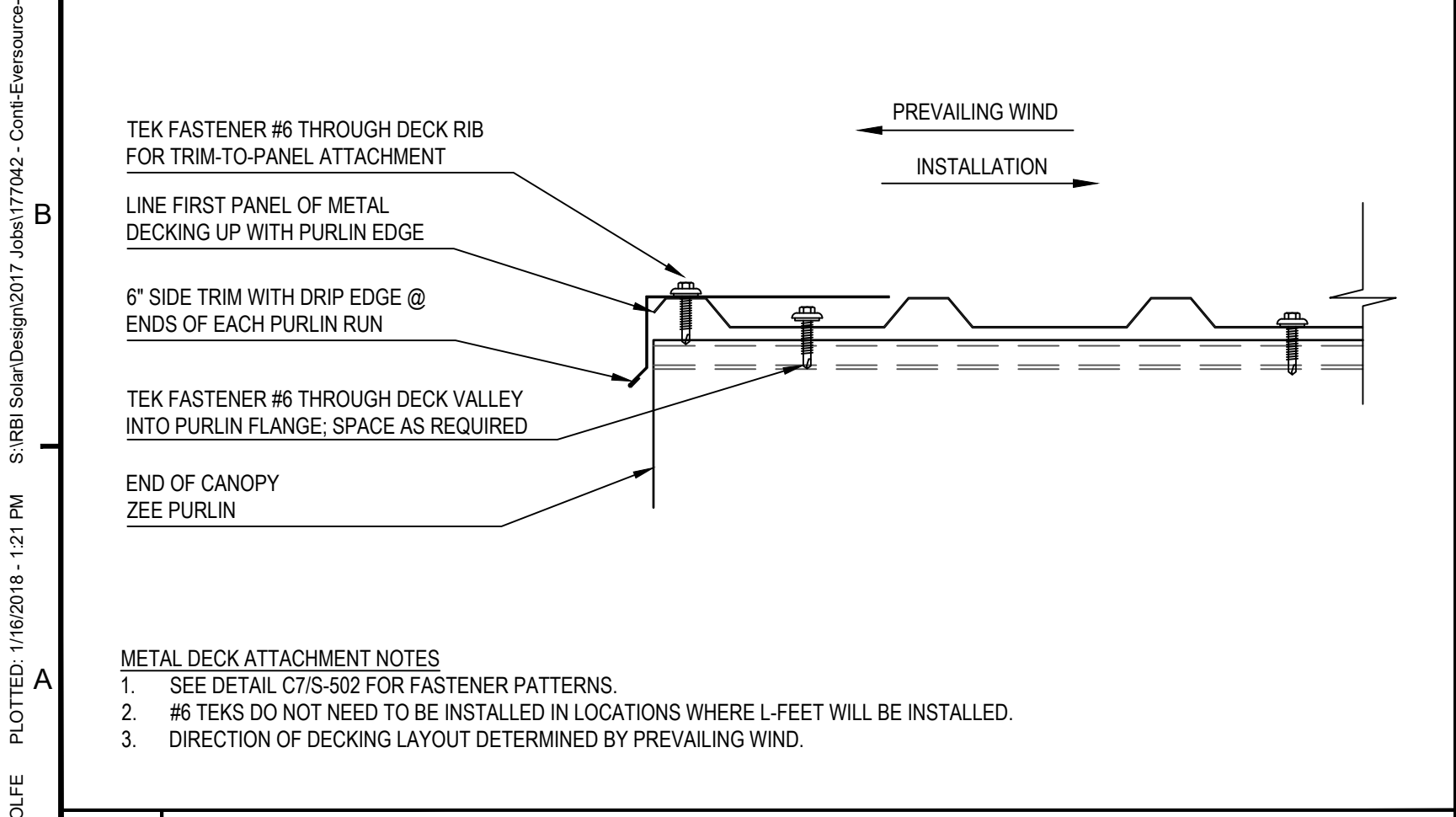


**C1 Side Lap Sealant Detail Decking Connection**  
SCALE: 3" = 1'-0"

**C3 EndLap Sealant Detail Decking Connection**  
SCALE: 3" = 1'-0"

**C5 Endlap Section Decking Connection**  
SCALE: 3" = 1'-0"

**C7 PBU Fastener Pattern Decking Connection**  
SCALE: 3" = 1'-0"



**A1 Start End Condition Decking Connection**  
SCALE: 3" = 1'-0"

**A4 Intermediate Panel Lap Decking Connection**  
SCALE: 3" = 1'-0"

**A7 Finish End Condition Decking Connection**  
SCALE: 3" = 1'-0"

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MICHAEL E. SPURRIER  
STRUCTURAL  
No. 46512  
PROFESSIONAL SEALING  
1/16/18

**SOLAR CANOPY FOR CONTI**

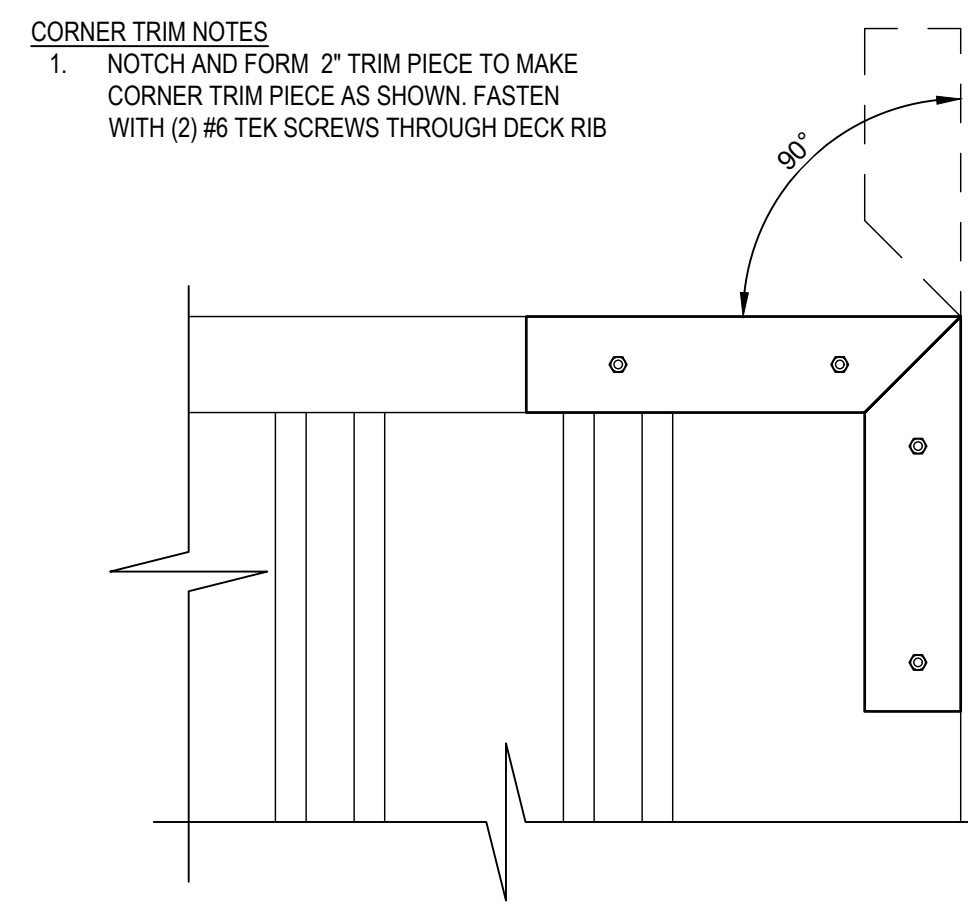
RELEASE RECORD

MARK	DATE	DESCRIPTION
01/16/18		STAMPED SET

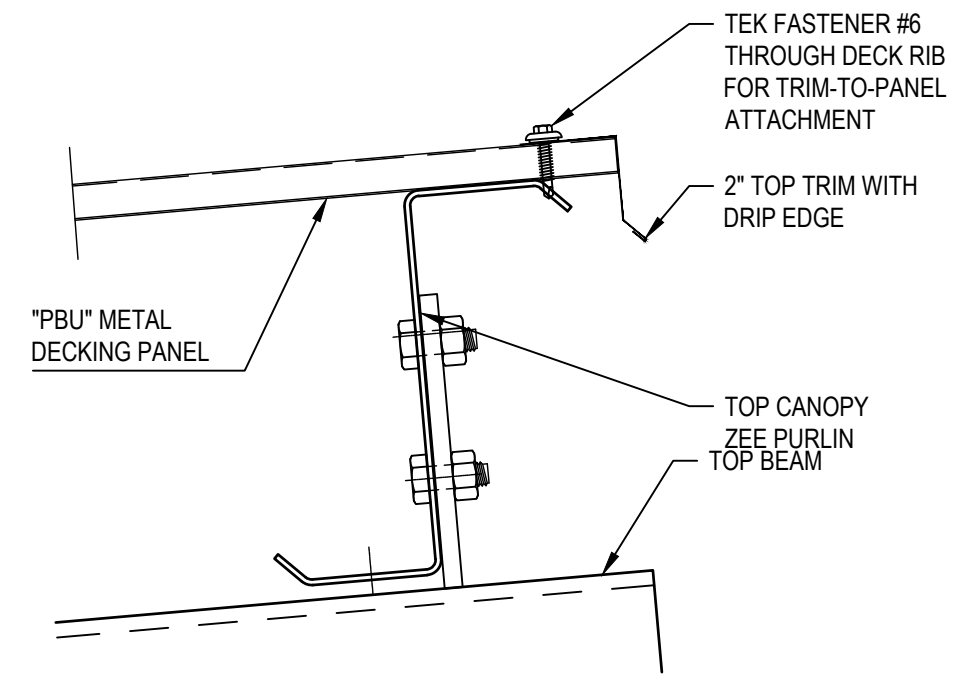
PROJECT INFORMATION  
TITLE & ADDRESS:  
**CONTI**  
WESTWOOD  
1 NSTAR WAY  
WESTWOOD, MA 02090  
RBI SOLAR PROJECT No.:  
177042  
DRAWN BY: KW REVIEWED BY: BF  
SHEET TITLE:  
FRAMING/DECKING DETAILS  
SHEET No.:  
**S-502**

USER: WWO/LE PLOTTED: 1/16/2018 - 1:21 PM S:\RBI\SolarDesign\2017 Jobs\177042 - Conti-EverSource-Westwood-MA\Drawings\177042.dwg LAYOUT: S-502

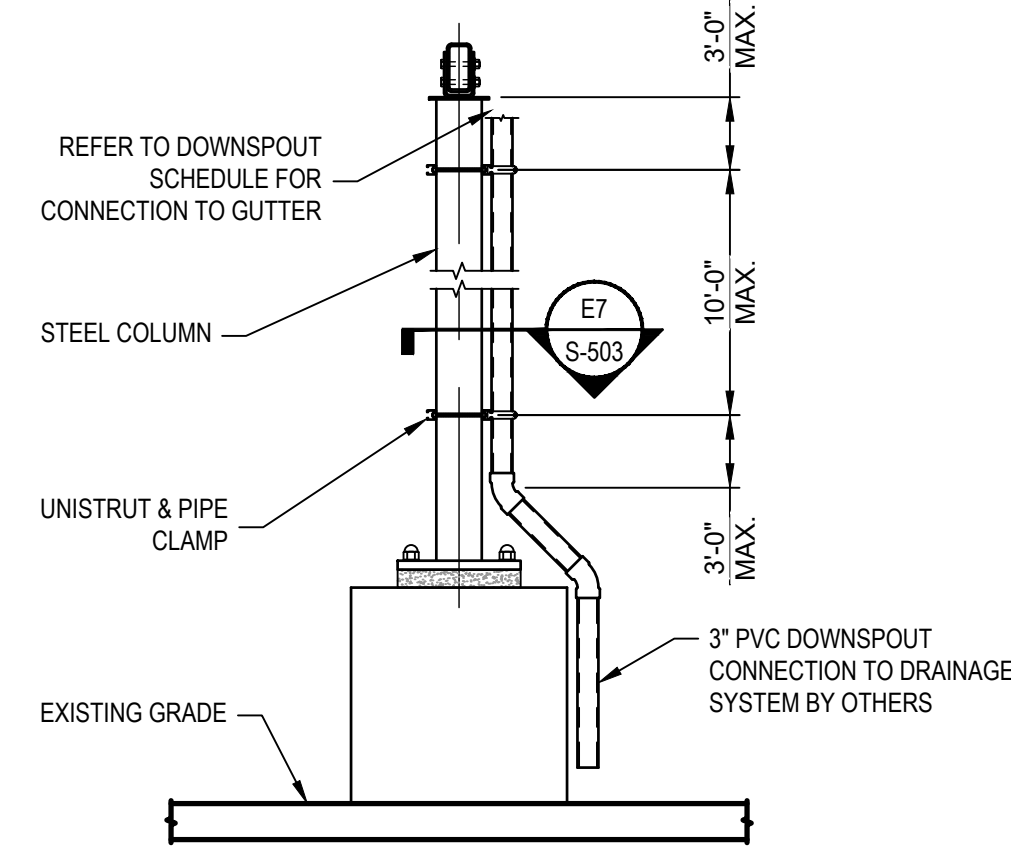
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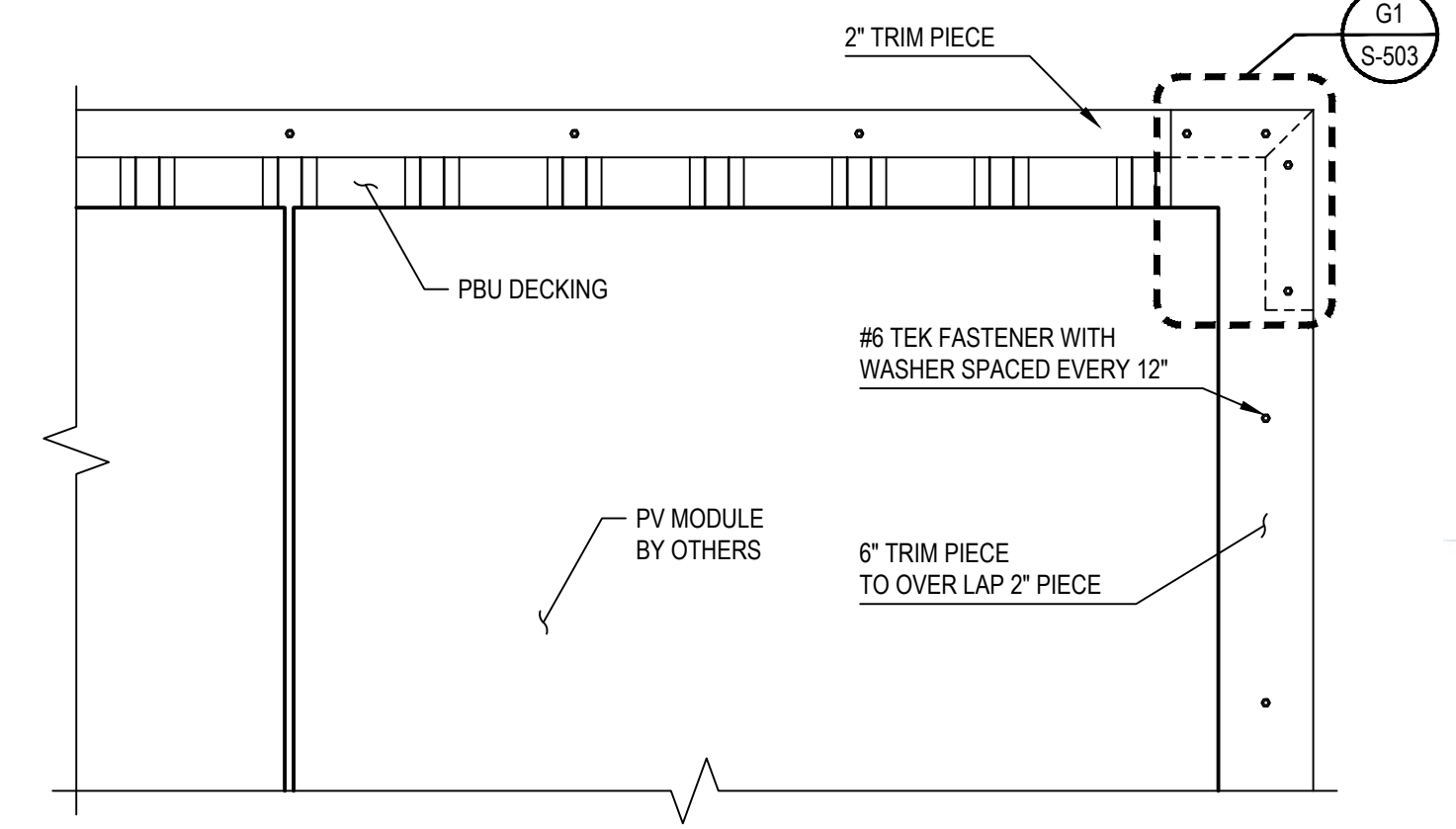
**G1**  
SCALE: 3" = 1'-0"  
**Corner Trim Decking Connection**



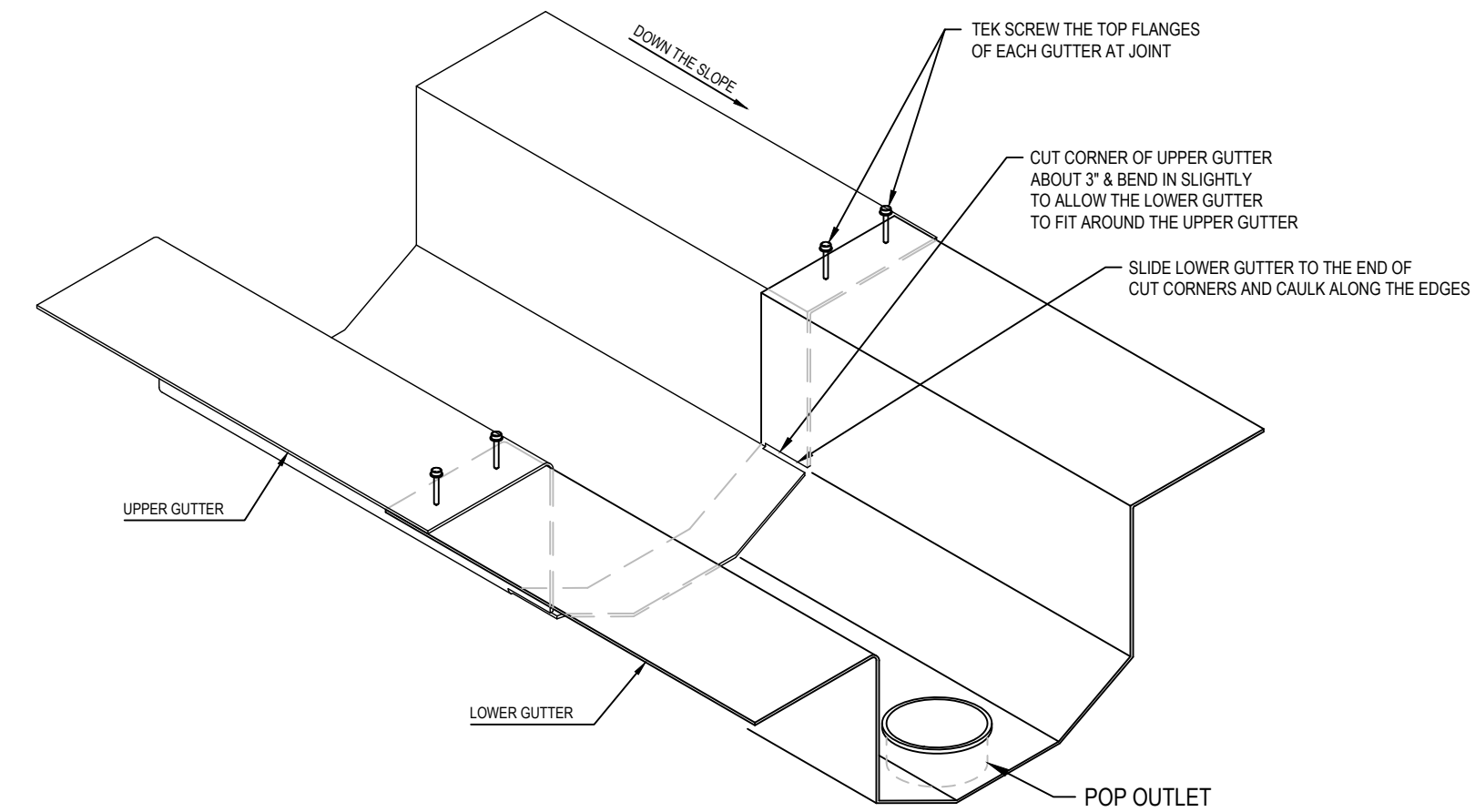
**G3**  
SCALE: 3" = 1'-0"  
**High Side Trim Condition Decking Connection**



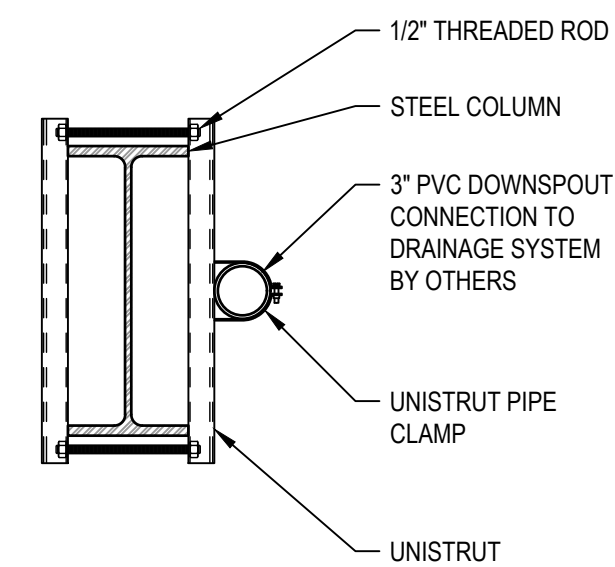
**G7**  
SCALE: 3/8" = 1'-0"  
**Downspout to Column Connection Detail**



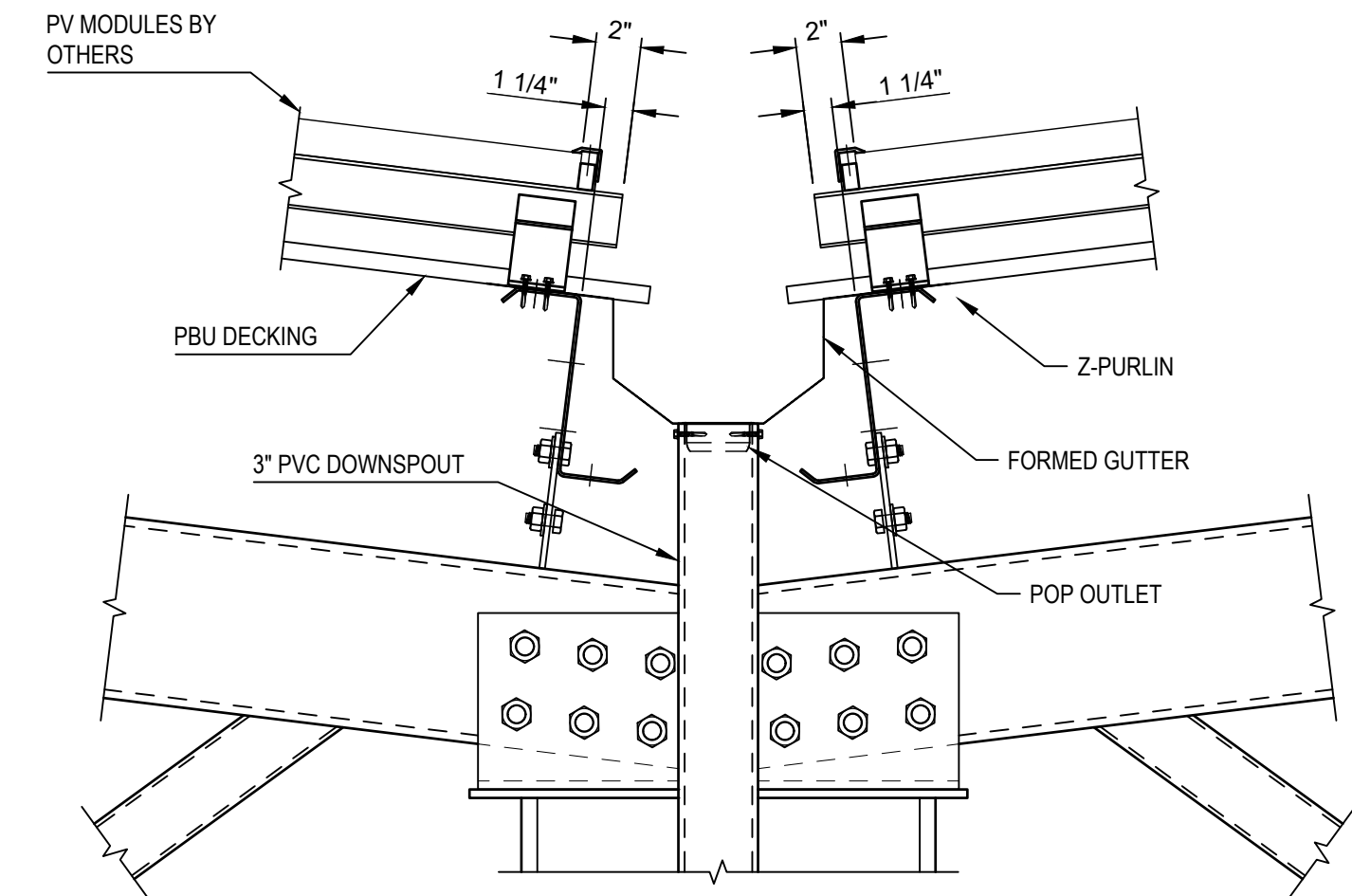
**G9**  
SCALE: 1-1/2" = 1'-0"  
**Decking Trim Connection Detail (High Eave)**



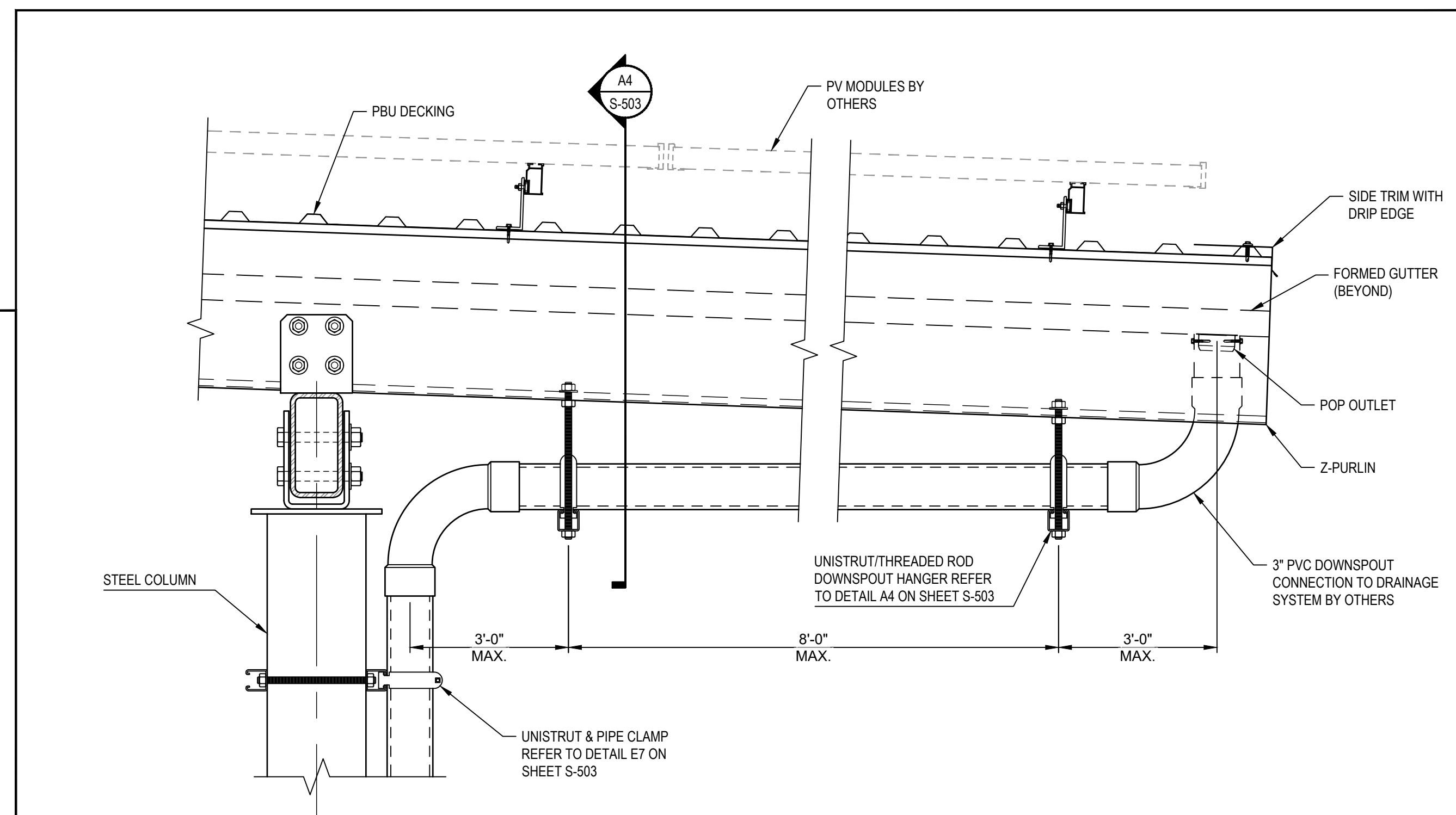
**E4**  
SCALE: 3" = 1'-0"  
**Gutter Splice Connection Detail**



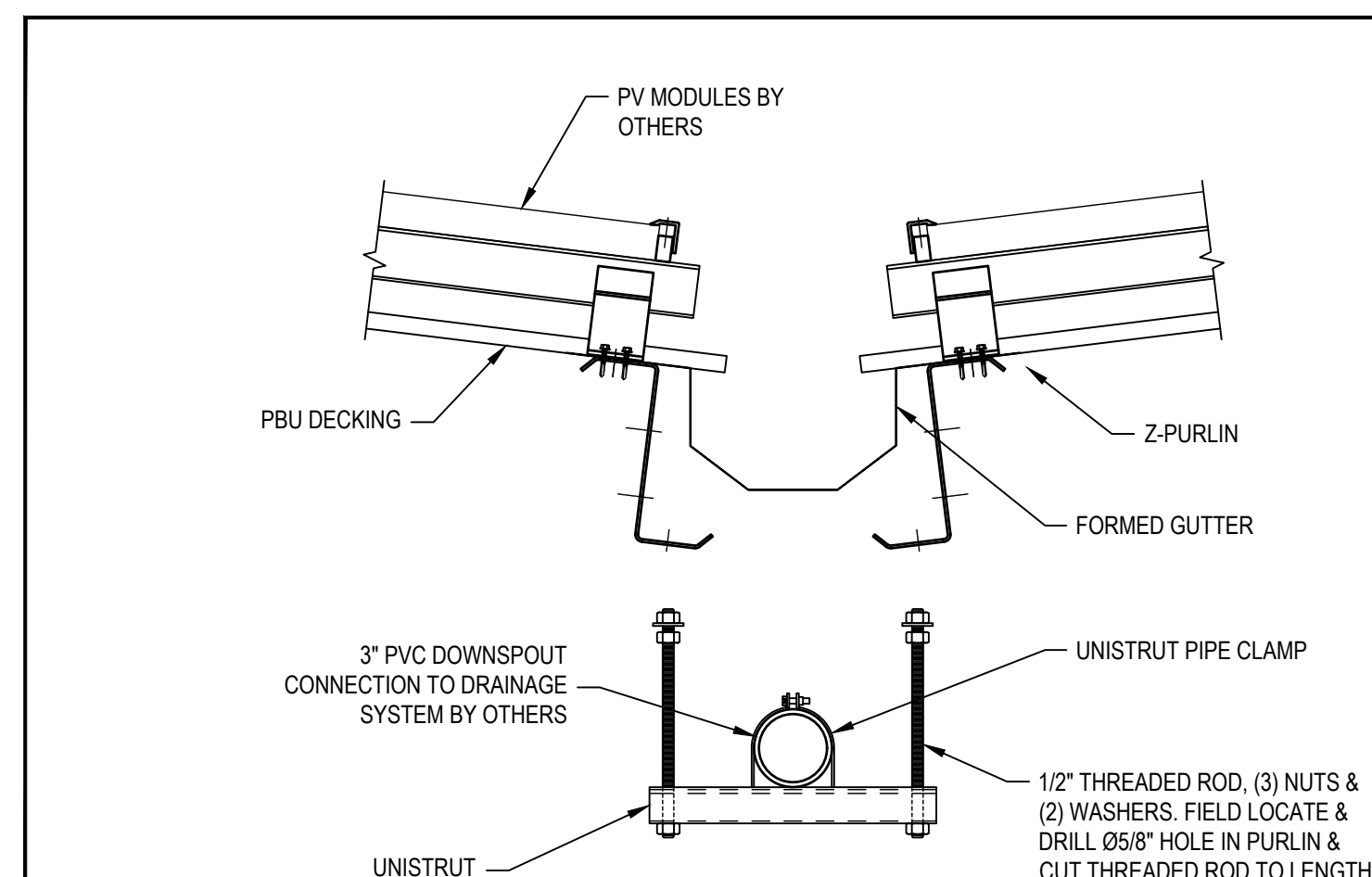
**E7**  
SCALE: 1" = 1'-0"  
**Downspout to Column Connection Detail**



**E9**  
SCALE: 1-1/2" = 1'-0"  
**Gutter Connection Detail**



**A7**  
SCALE: 1-1/2" = 1'-0"  
**Gutter At Low End Cantelever Connection Detail**



**A4**  
SCALE: 1-1/2" = 1'-0"  
**Downspout Hanger Connection Detail**

**DOWNSPOUT SCHEDULE**

COLUMN #	CONNECTION DETAIL
B2	E9/S-503
B3	E9/S-503
B4	E9/S-503
B4	E9/S-503
B5	E9/S-503
B6	E9/S-503
B7	E9/S-503
B8	A7/S-503
A10	E9/S-503
A11	E9/S-503
A12	E9/S-503
A13	E9/S-503
A14	E9/S-503
A15	E4/S-503
A16	E9/S-503
A17	A7/S-503
A19	E9/S-503
A20	E9/S-503
A21	E9/S-503
A22	E9/S-503

**DOWNSPOUT SETTING NOTES:**  
1. REFER TO DETAIL E5 ON SHEET S-503 FOR DOWNSPOUT TO COLUMN CONNECTION.  
2. CONNECTION TO DRAINAGE SYSTEM IS BY OTHERS.  
3. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.

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**SOLAR CANOPY FOR CONTI**

RELEASE RECORD

MARK	DATE	DESCRIPTION
01/16/18		STAMPED SET

PROJECT INFORMATION

TITLE & ADDRESS:  
**CONTI**  
**WESTWOOD**  
1 N STAR WAY  
WESTWOOD, MA 02090

RBI SOLAR PROJECT No.:  
177042

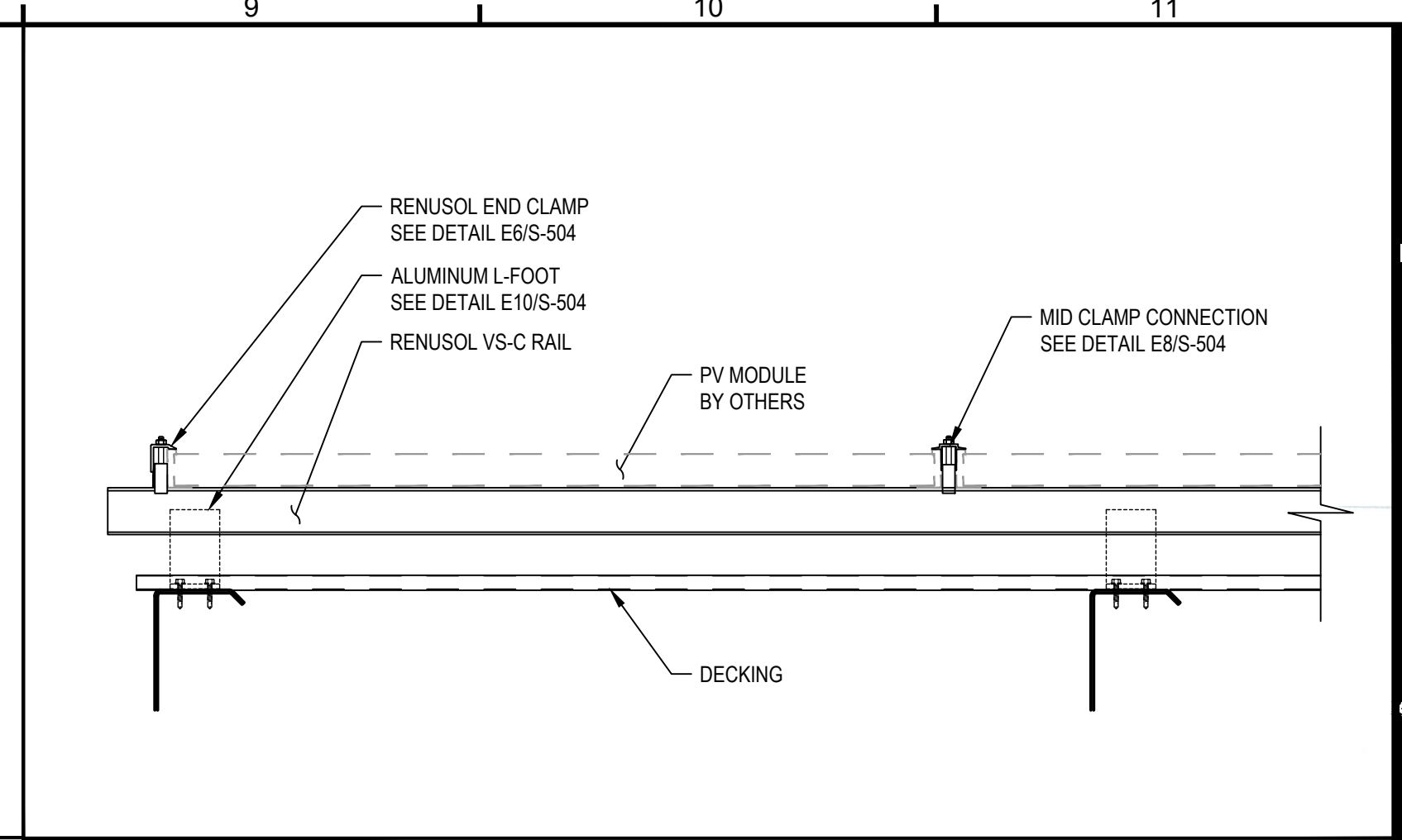
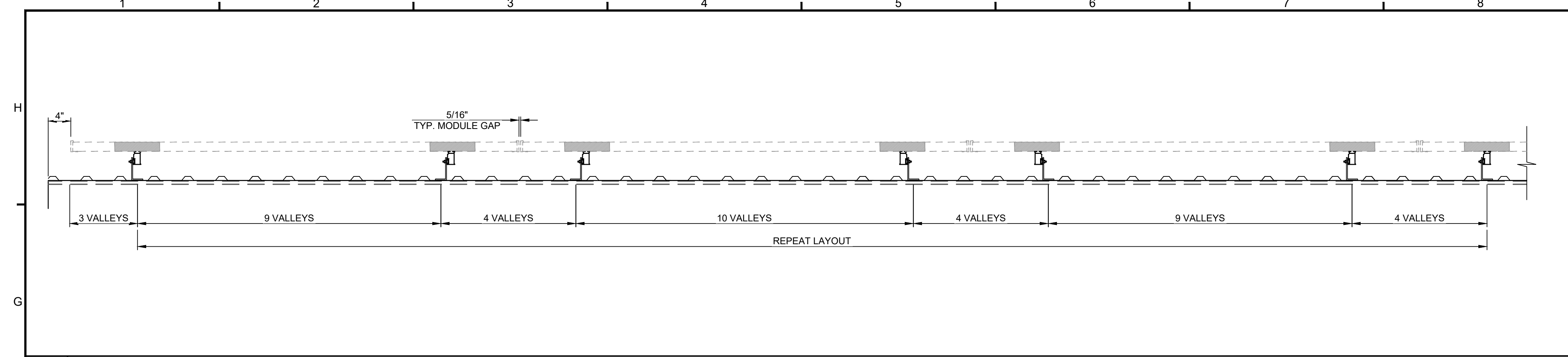
DRAWN BY: KW  
REVIEWED BY: BF

SHEET TITLE:  
**GUTTER, DOWNSPOUT TRIM DETAILS**

SHEET No.:  
**S-503**

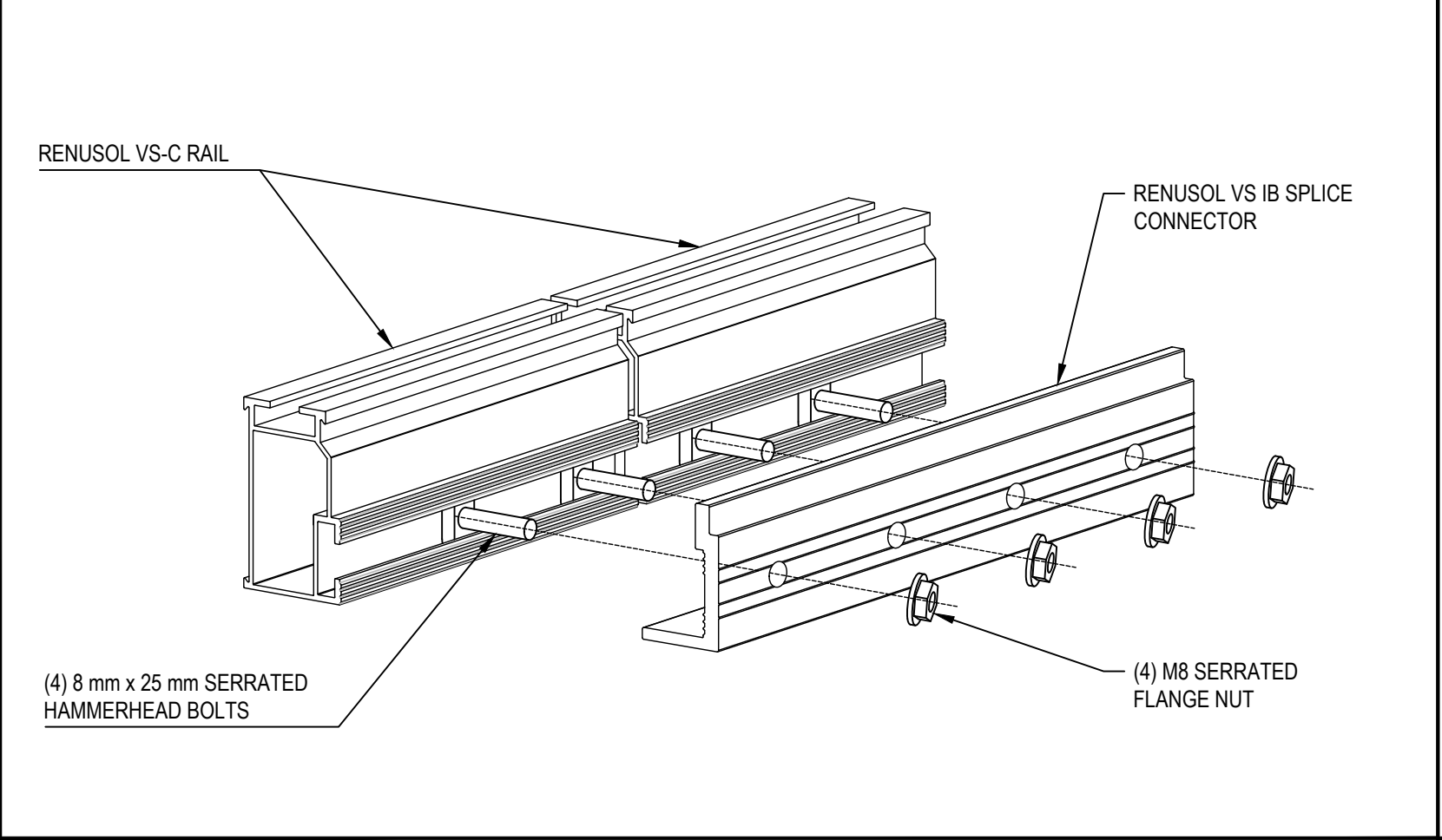
USER: KWOLFE PLOTTED: 1/16/2018 - 1:21 PM S:\RBI Solar\Design\2017 Jobs\177042 - Conti-EverSource-Westwood-MA\Drawings\177042.dwg LAYOUT: S-503

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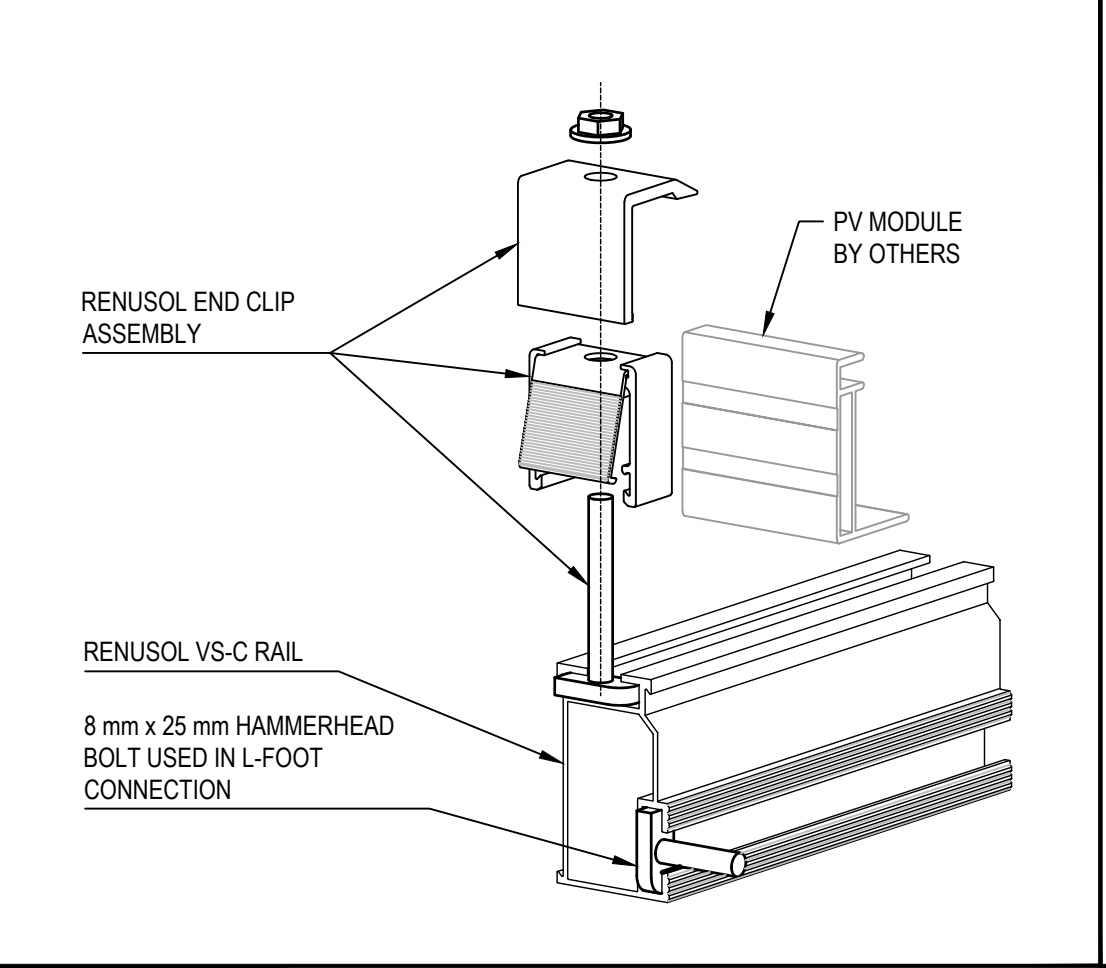


**G1 Landscape Orientation L-Foot Layout Detail**  
SCALE: 1" = 1'-0"

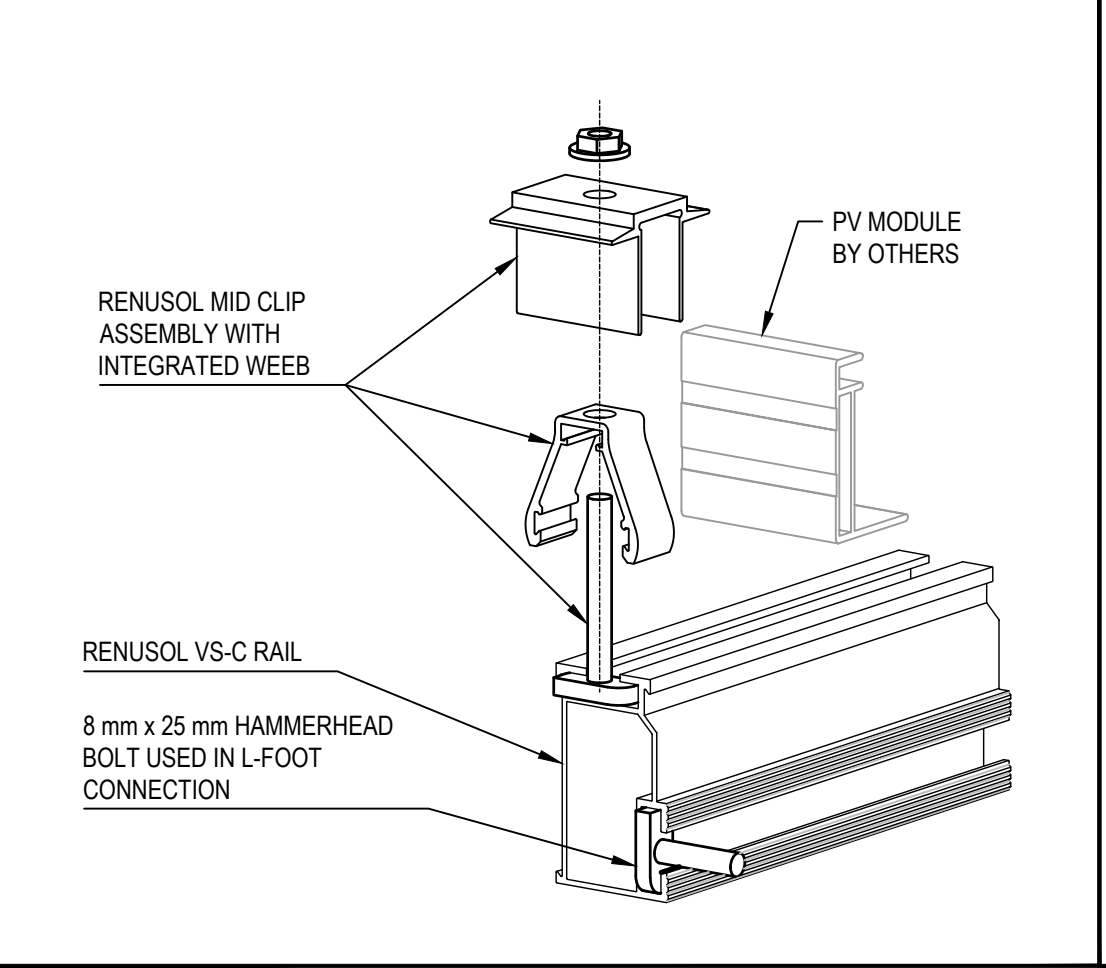
**G9 Landscape Orientation Module Connection Detail**  
SCALE: 1-1/2" = 1'-0"



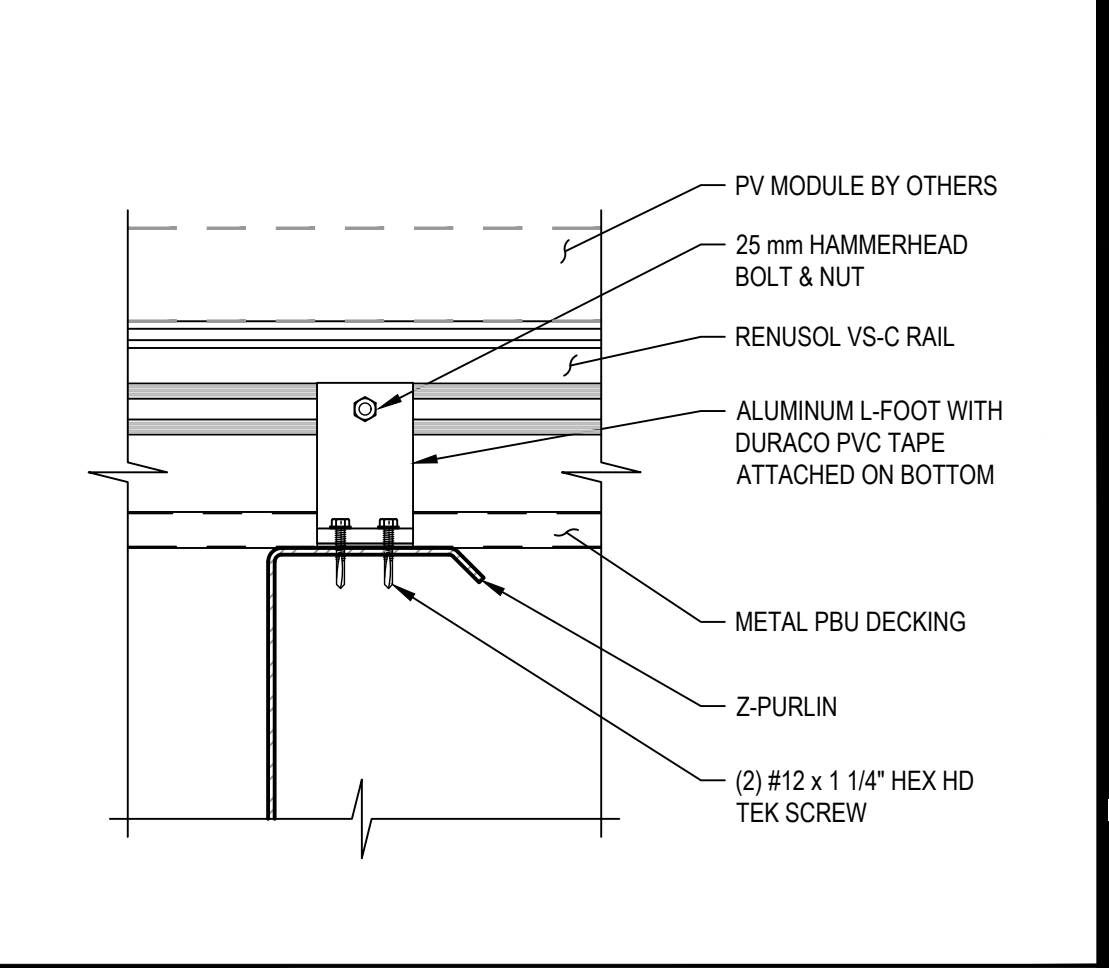
**E3 VS-C Rail Splice Connection with Integrated Bonding**  
SCALE: 6" = 1'-0"



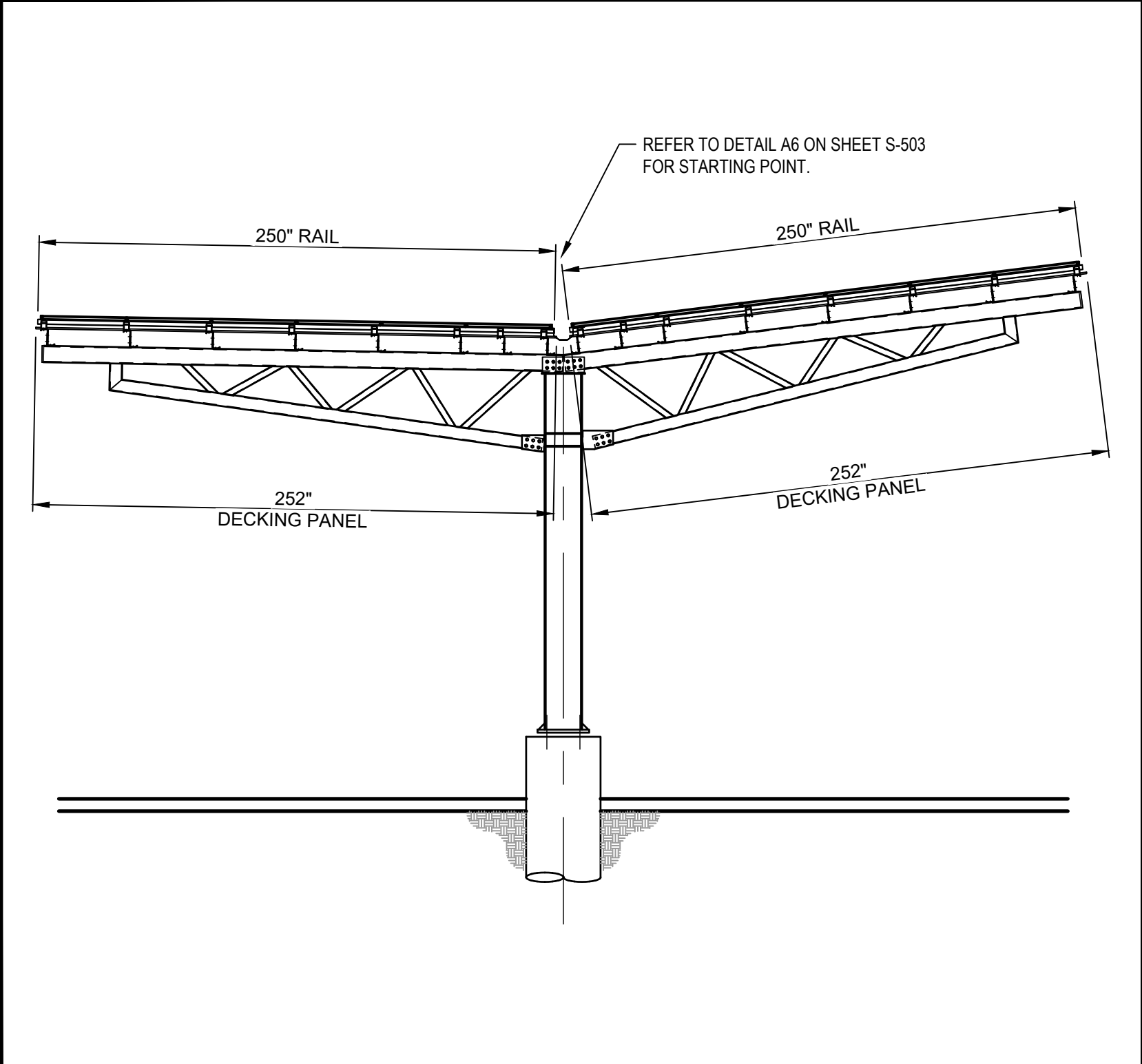
**E6 End Clamp Module to Rail Connection**  
SCALE: 6" = 1'-0"



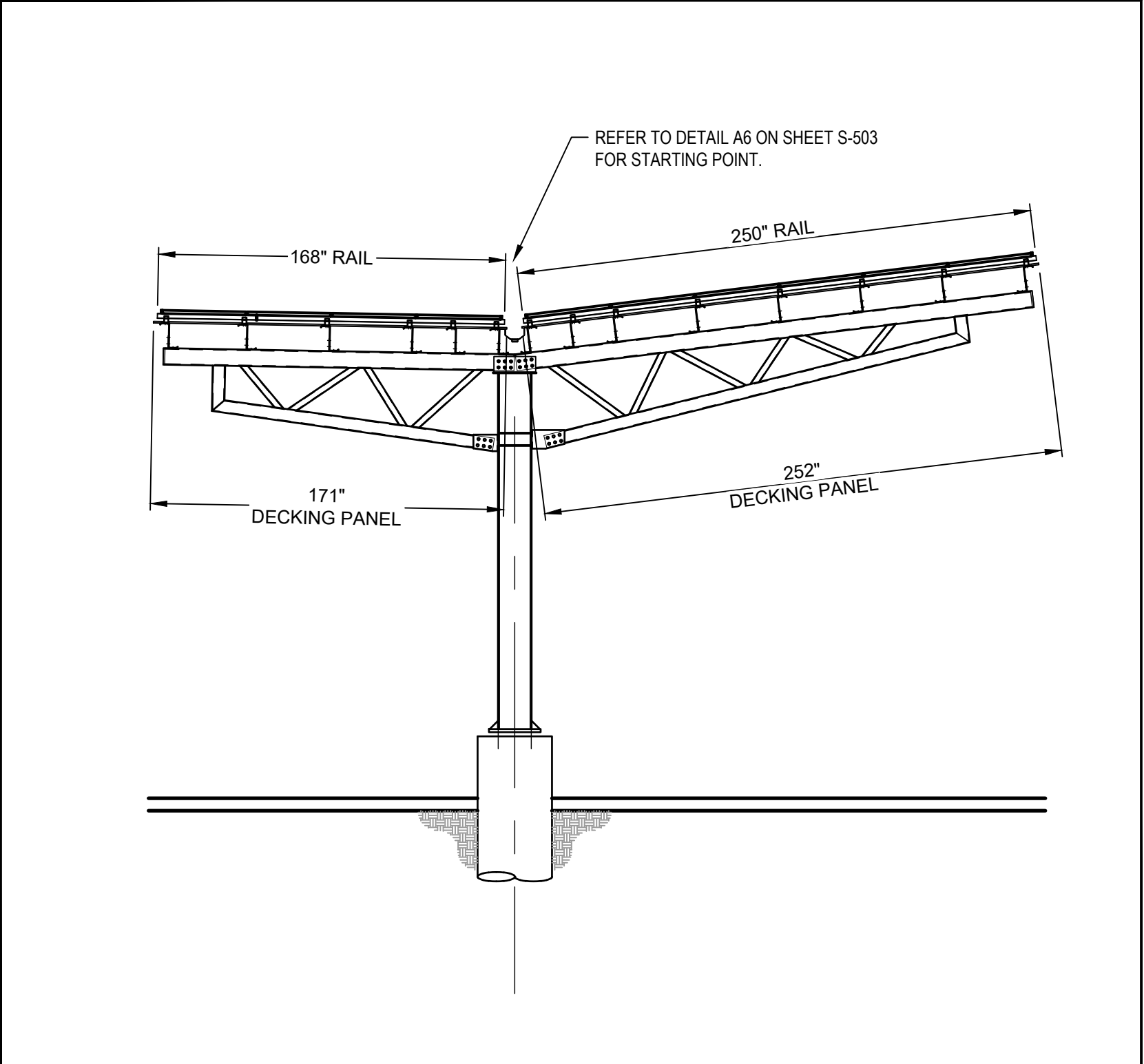
**E8 Intermediate Clamp Module to Rail Connection**  
SCALE: 6" = 1'-0"



**E10 Landscape Orientation Rensol/L-Foot Connection Detail**  
SCALE: 3" = 1'-0"



**A1 Canopy 2,3,4 Decking/Module Rail Layout**  
SCALE: 3/16" = 1'-0"



**A4 Canopy 1 Decking/Module Rail Layout**  
SCALE: 3/16" = 1'-0"

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STRUCTURAL  
No. 46512  
PROFESSIONAL SEALING  
1/16/18

**SOLAR CANOPY FOR CONTI**

RELEASE RECORD

MARK	DATE	DESCRIPTION
01/16/18		STAMPED SET

PROJECT INFORMATION

TITLE & ADDRESS:  
**CONTI**  
WESTWOOD  
1 N STAR WAY  
WESTWOOD, MA 02090

RBI SOLAR PROJECT No.:  
177042

DRAWN BY: KW REVIEWED BY: BF

SHEET TITLE:  
RAIL DETAILS

SHEET No.:  
**S-504**

USER: MWOLF PLOTTED: 1/16/2018 - 1:21 PM S:\RBI\SolarDesign\2017\_Jobs\177042 - Conti-EverSource-Westwood-MA\Drawings\177042.dwg LAYOUT: S-504

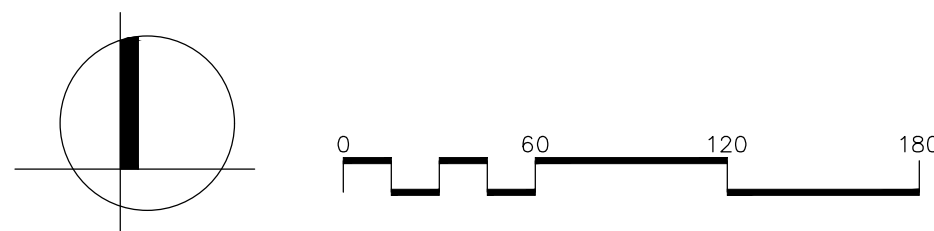
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**LEGEND**

- PROPERTY LINE
- PROPERTY SETBACK LINE
- X R&D EXISTING TREE, GRIND STUMP  
24" BELOW GRADE, TYP.
- EXISTING TREES TO REMAIN
- ⊗ EXISTING SHRUBS TO REMAIN

**TREE PLANTS TO BE REMOVED**

TOTAL NUMBER OF TREES TO BE REMOVED	13
TOTAL NUMBER OF SHRUBS TO BE REMOVED	7



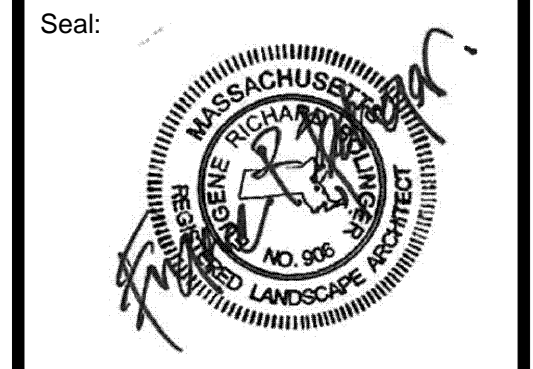
Project:  
EVERSOURCE, WESTWOOD  
  
WESTWOOD, MA

**Weston & Sampson**  
85 Devonshire Street,  
3rd Floor, Boston, MA 02109  
617.412.4480 800.SAMPSON  
www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description
1	04.19.18	SITE PLAN REVISIONS



Issued For:  
  
PERMIT

Scale: AS SHOWN  
Date: 04.19.2018  
Drawn By: FD  
Reviewed By: BR  
Approved By: CFR  
W&S Project No.:  
W&S File No.:

Drawing Title:  
  
**SITE PREPARATION &  
DEMOLITION PLAN**  
  
Sheet Number:  
  
**L1.00**

\\wsp02\loc\WSE\Projects\MA\Boston\DESIGN\SD\AR\WESTWOOD\Printing\Plan\CAD\11\_00-SP.dwg

**LEGEND**

--- PROPERTY LINE

PROPOSED TREES

EXISTING TREES TO REMAIN

**TREE PLANT SCHEDULE**

**EVERGREEN TREES**

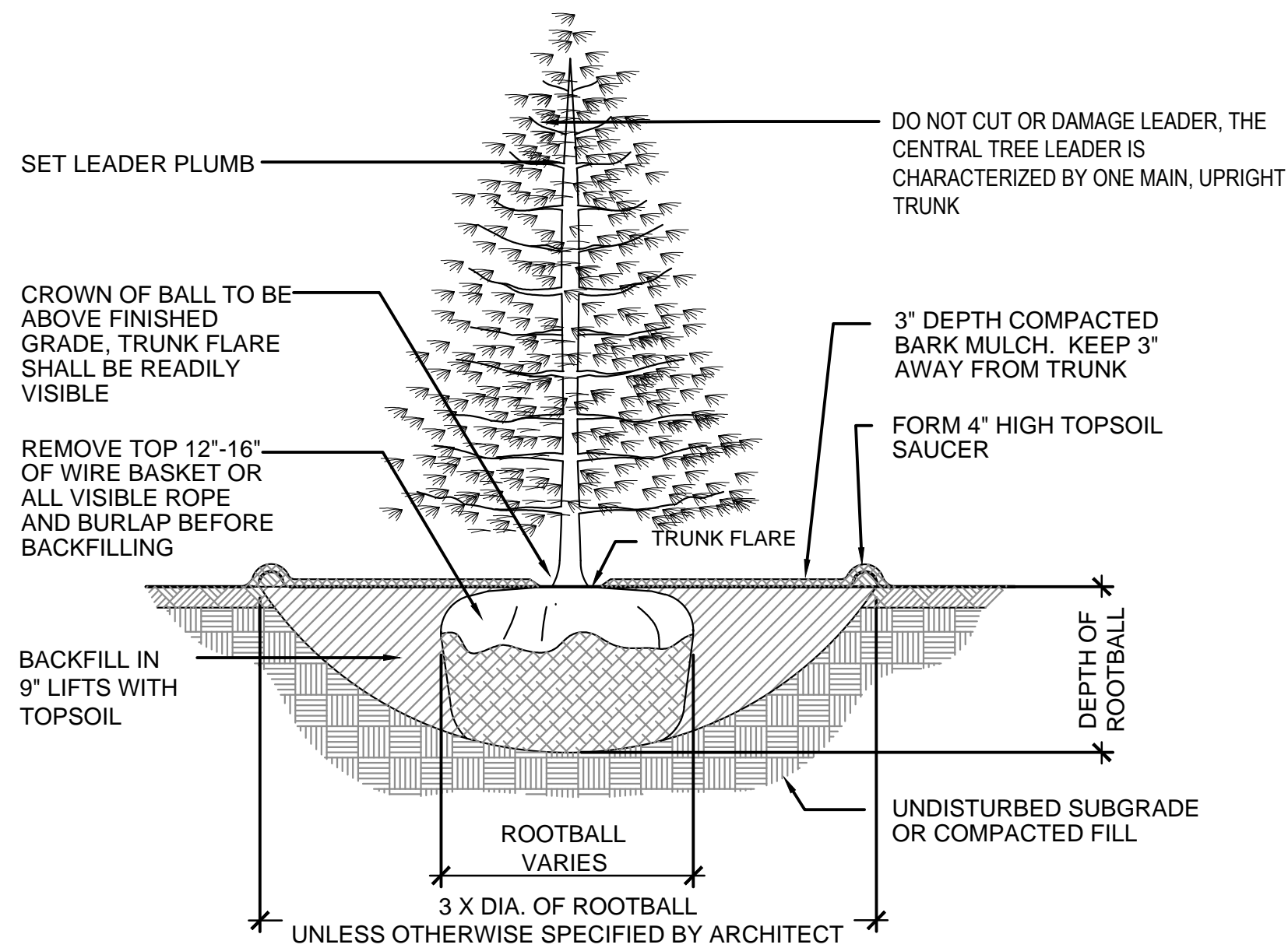
ABRV.	QTY	COMMON NAME	BOTANICAL NAME	SIZE
PM	29	DOUGLAS FIR	PSEUDOTSUGA MENZIESII	8' HEIGHT
PA	20	NORWAY SPRUCE	PICEA ABIES	8' HEIGHT
PP	12	BLUE SPRUCE	PICEA PUNGENS	8' HEIGHT
TG	11	GREEN GIANT ARBORVITAE	THUJA (STANDISH X PLICATA) 'GREEN GIANT'	8' HEIGHT

**EVERGREEN SHRUBS**

ABRV.	QTY	COMMON NAME	BOTANICAL NAME	SIZE
JB	8	CHINESE JUNIPER	JUNIPERUS CHINENSIS 'BLUE POINT'	#5
IG	12	INKBERRY	ILEX GLABRA	#5
BM	8	JAPANESE BOXWOOD	BUXUS MICROPHYLLA var. JAPONICA	#5

**TREE PLANT COUNT**

TOTAL NUMBER OF TREES TO BE ADDED	72
TOTAL NUMBER OF SHRUBS TO BE ADDED	28

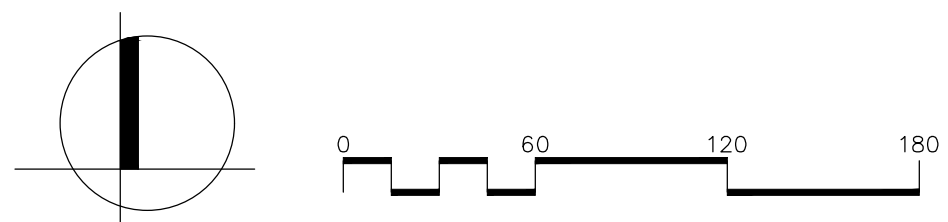


**NOTES:**

1. REMOVE AND SEPARATE TOPSOIL AND SUBSOIL FROM PLANTING HOLE FOR USE AS BACKFILL AS NOTED ABOVE.
2. IF ROOTBALL IS PACKAGED IN "PLASTIC BURLAP" OR TREATED BURLAP, REMOVE BURLAP COMPLETELY.
3. WATER THOROUGHLY AFTER INSTALLATION AT RATE OF 3-5 GALLONS/INCH CALIPER.

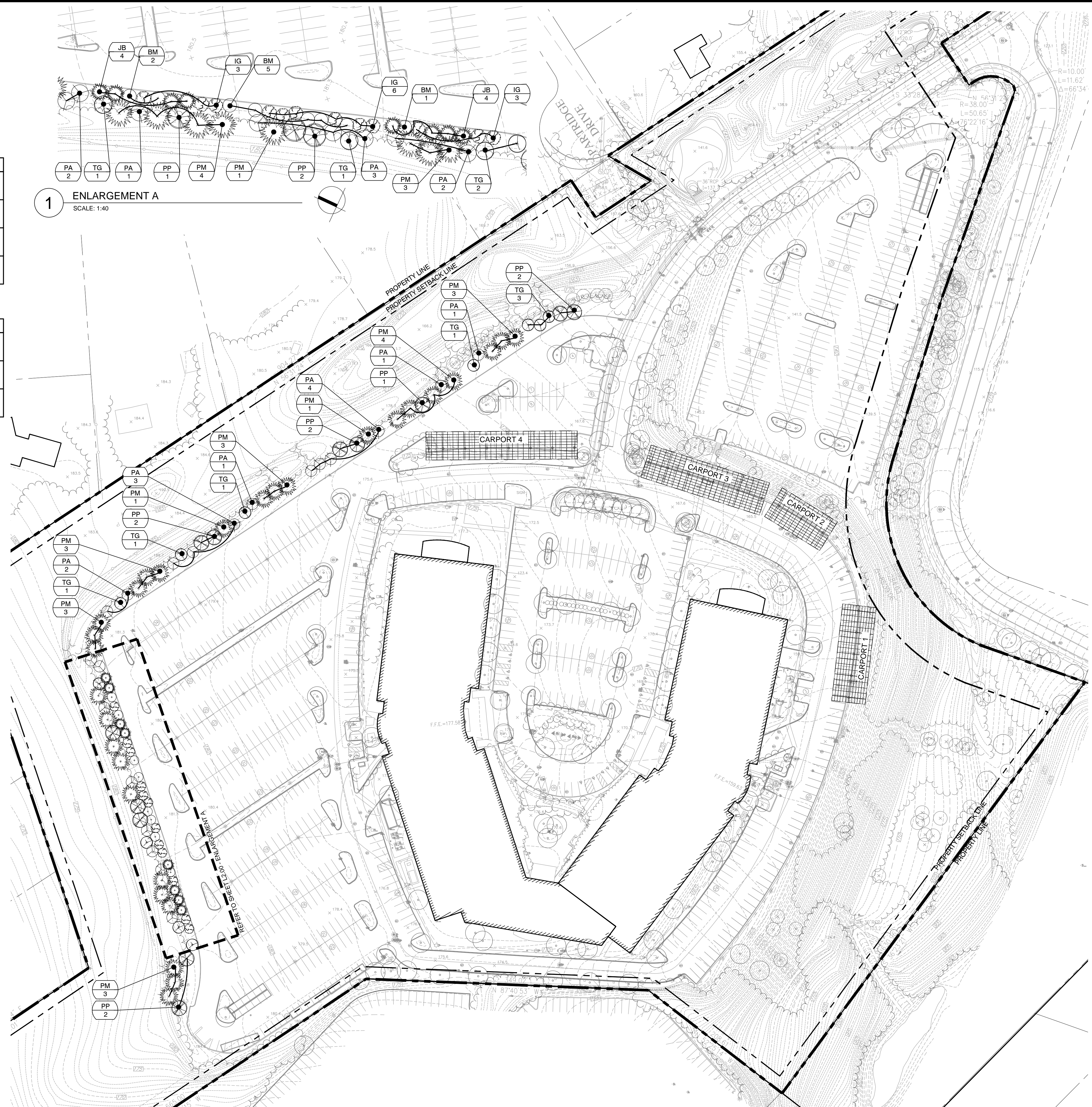
**2 TREE PLANTING AND STAKING - EVERGREEN**

SCALE: NTS



**1 ENLARGEMENT A**

SCALE: 1:40



Project:  
EVERSOURCE, WESTWOOD  
  
WESTWOOD, MA

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Consultants:

Revisions:

No.	Date	Description
1	04.19.18	SITE PLAN REVISIONS



Issued For:  
  
PERMIT

Scale: AS SHOWN  
Date: 04.19.2018  
Drawn By: FD  
Reviewed By: BR  
Approved By: CFR  
W&S Project No.:  
W&S File No.:

Drawing Title:  
**PLANTING PLAN**  
  
Sheet Number:  
**L2.00**