



**BROOKLYN SOLAR CANOPY CO.**

**A-FRAME CANOPY**  
**216”(18’) TRUSS LENGTH**  
**24 PANELS (3x7 PANELS)**

BUILDING CODES:

1. ASCE/SEI 7-10, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
2. 2022 NEW YORK CITY BUILDING CODE
3. 2015 INTERNATIONAL BUILDING CODE, BY INTERNATIONAL CODE COUNCIL, INC.
4. 2015 INTERNATIONAL RESIDENTIAL CODE, BY INTERNATIONAL CODE COUNCIL, INC.
5. ALUMINUM DESIGN MANUAL 2015, BY THE ALUMINUM ASSOCIATION, INC.

DESIGN CRITERIA:

RISK CATEGORY..... II  
 WIND SPEED.....117MPH  
 EXPOSURE CATEGORY.....B  
 GROUND SNOW LOAD.....25PSF

SHEET LIST		
SHEET NUMBER	SHEET NAME	BSCC DESIGN PLAN SET
PV-001	COVER SHEET	×
PV-002	GENERAL NOTES	
PV-100	COLUMN & TRUSS PLAN	×
PV-101	RAIL PLAN	×
PV-102	PV ARRAY PLAN	×
PV-103	FOUNDATION PLAN	×
PV-200	SECTION	×



NOT FOR CONSTRUCTION



BARUN CORP

ENGINEERING STAMP

BROOKLYN SOLAR CANOPY CO. A-FRAME

COVER SHEET

REV	DESCRIPTION	DATE



DRAWING SCALE WHEN SHOWN AS ONE INCH

SHEET NUMBER

PV-001

**STRUCTURAL NOTES**

**DESIGN SCOPE:**

THE ADDITION OF AN ALUMINUM CANOPY STRUCTURE THAT SUPPORTS PHOTOVOLTAIC MODULES TO EITHER AN EXISTING ROOFTOP OR AT GRADE.

**GENERAL NOTES:**

- 1.) THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS BEFORE STARTING WORK AND SHALL NOTIFY STRUCTURAL ENGINEERS (BARUN CORP) OF ANY DISCREPANCIES. ALL MATERIAL AND WORK SHALL CONFORM TO THE REQUIREMENTS OF THE 2015 IBC.
- 2.) NEITHER THE OWNER NOR BARUN CORP. WILL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL DESIGN, CONSTRUCT, AND MAINTAIN ALL SAFETY DEVICES INCLUDING SHORING AND BRACING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATED METHODS, PROCEDURES OR SEQUENCE OF CONSTRUCTION. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO MAINTAIN AND INSURE THE INTEGRITY OF THE STRUCTURE DURING CONSTRUCTION. IF A LAWSUIT IS FILED BY ONE OF THE CONTRACTORS OR SUBCONTRACTORS EMPLOYEES, OR ANY ONE ELSE, THE CONTRACTOR WILL INDEMNIFY, DEFEND AND HOLD THE OWNER AND BARUN CORP HARMLESS OF ANY AND ALL SUCH CLAIMS.
- 3.) NO PIPES, DUCTS, SLEEVES, CHASE ETC., SHALL BE PLACED IN PIERS, FOOTINGS, ETC., UNLESS SPECIFICALLY SHOWN OR NOTED. NOR SHALL ANY STRUCTURAL MEMBERS BE CUT FOR PIPES, DUCTS, ETC., UNLESS SPECIFICALLY SHOWN. OBTAIN PRIOR WRITTEN APPROVAL FOR INSTALLATION OF ANY ADDITIONAL PIPES, DUCTS, ETC.
- 4.) NO STRUCTURAL MEMBERS, RAILS OR FRAMING MEMBERS SHALL BE CUT, NOTCHED OR OTHER-WISE PENETRATED UNLESS SPECIFICALLY STATED ON THE CONTRACT DRAWINGS, IN THE BROOKLYN SOLAR INSTALLATION INSTRUCTIONS, OR AS APPROVED BY THE ENGINEER OF RECORD.

**STRUCTURAL ALUMINUM:**

- 1.) DESIGN, FABRICATION AND ERECTION SHALL CONFORM TO THE SPECIFICATIONS AND STANDARDS OF THE ALUMINUM ASSOCIATION, ALUMINUM DESIGN MANUAL 2015, SPECIFICATION FOR ALUMINUM STRUCTURES; AND THE AMERICAN WELDING SOCIETY D1.2/D1.2M STRUCTURAL WELDING CODE - ALUMINUM, AND A5.10/A5.10M SPECIFICATION FOR BARE ALUMINUM AND ALUMINUM-ALLOY WELDING ELECTRODES AND RODS.
- 2.) ALL STRUCTURAL ALUMINUM SHALL BE ERECTED PLUMB AND TRUE TO LINE. TEMPORARY BRACING SHALL BE INSTALLED AND SHALL BE LEFT IN PLACE UNTIL OTHER MEANS ARE PROVIDED TO ADEQUATELY BRACE THE STRUCTURE.
- 3.) SUBMIT ALUMINUM SHOP DRAWINGS TO BARUN CORP FOR REVIEW PRIOR TO FABRICATION.
- 4.) STRUCTURAL ALUMINUM GRADES:
  - a.) EXTRUSIONS .....ASTM B221 (6061 T-6, Fy = 35 KSI)
  - b.) SHEET, PLATE, & BAR .....ASTM B209 (6061 T-6, Fy = 35 KSI)
- MATERIAL
  - c.) STAINLESS STEEL BOLTS & NUTS ..BOLT: ASTM F593 GROUP 1A/2A
  - d.) NUT: ASTM F594 GROUP 1 HEX
- 5.) ALL BOLTS SHALL BE MACHINE BOLTS UNLESS NOTED OTHERWISE.
- 6.) ALL CONNECTIONS NOT SHOWN SHALL CONFORM TO THE ALUMINUM ASSOCIATION "ALUMINUM DESIGN MANUAL", 2015 EDITION.
- 7.) PLACE NON-FERROUS, NON-SHRINK GROUT (BURKE OR APPROVED EQUAL) UNDER ALL BASE PLATES BEFORE ADDING VERTICAL LOAD.
- 8.) WELDING PROCEDURES, ELECTRODES AND WELDER QUALIFICATIONS SHALL CONFORM TO THE "CODE FOR WELDING IN BUILDING CONSTRUCTION", AMERICAN WELDING SOCIETY, AND THE ALUMINUM ASSOCIATION "ALUMINUM DESIGN MANUAL", 2015 EDITION. E70 ELECTRODES SHALL BE USED UNLESS NOTED OTHERWISE. ALL WELDERS SHALL HAVE EVIDENCE OF PASSING THE AWS STANDARD QUALIFICATION TESTS. ALL GROOVE OR BUTT WELDS SHALL BE COMPLETE PENETRATION WELDS. ALL EXPOSED BUTT WELDS SHALL BE GROUND SMOOTH.

**SECTION PROPERTIES:**

COMPONENT  
BROOKLYN SOLAR RAIL: A6061 - T6

**REINFORCED CONCRETE:**

- 1.) CEMENT SHALL CONFORM TO ASTM C-150, TYPE II.
- 2.) AGGREGATES SHALL CONFORM TO ASTM C-33 FOR NORMAL WEIGHT CONCRETE AND ASTM C-330 FOR LIGHT

**WEIGHT CONCRETE:**

- 3.) ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS AND OTHER INSERTS SHALL BE SECURED IN POSITION AND INSPECTED BY THE LOCAL BUILDING DEPARTMENT INSPECTOR PRIOR TO THE POURING OF ANY CONCRETE.
- 4.) CONCRETE SHALL MEET THE FOLLOWING DESIGN CRITERIA:  
MIN. COMPRESSIVE STRENGTH OF CONCRETE = 4,000PSI

**FOUNDATIONS:**

FOUNDATION DESIGN CRITERIA:  
 ALLOWABLE BEARING PRESSURE = 2000 PSF  
 ALLOWABLE LATERAL BEARING PRESSURE = 150 PCF  
 ALLOWABLE SKIN FRICTION RESISTANCE = 100 PCF  
 FOUNDATION MUST BE MINIMUM 12" BELOW FROST DEPTH.  
 ANCHOR BOLTS: KWIK BOLT TZ2 - GS 3/8 (2 1/2) HNOM3  
 HILTI KB-TZ2 STUD ANCHOR WITH 3 IN EMBEDMENT, 3/8 (2 1/2) HNOM3, CARBON STEEL, INSTALLATION PER ESR-4266



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GENERAL NOTES

REV	DESCRIPTION	DATE

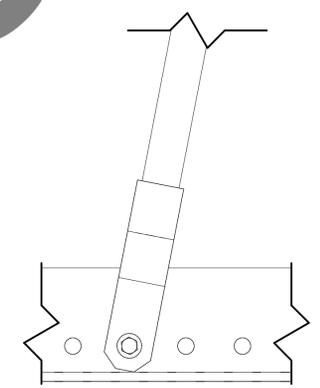
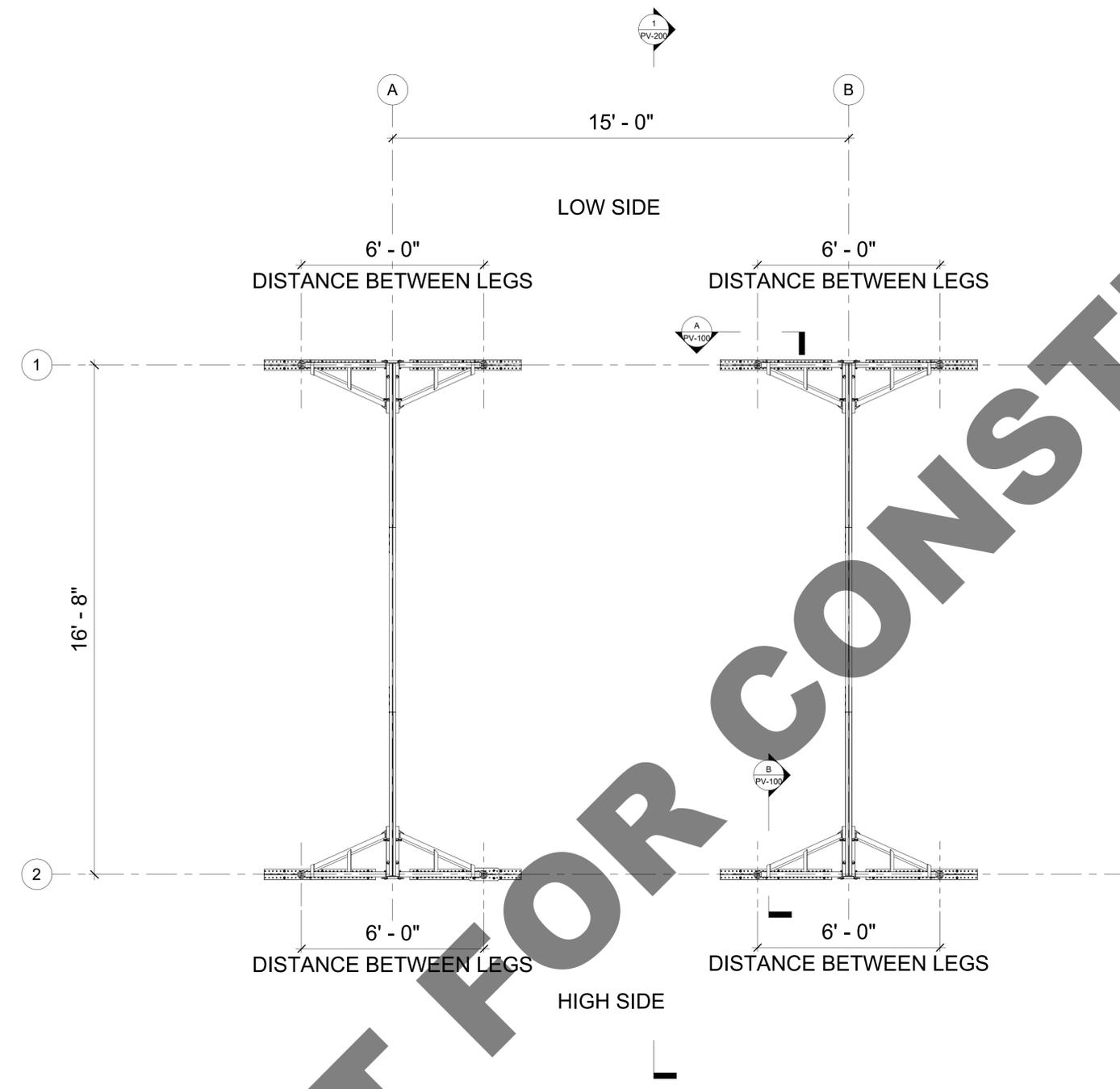


SHEET NUMBER

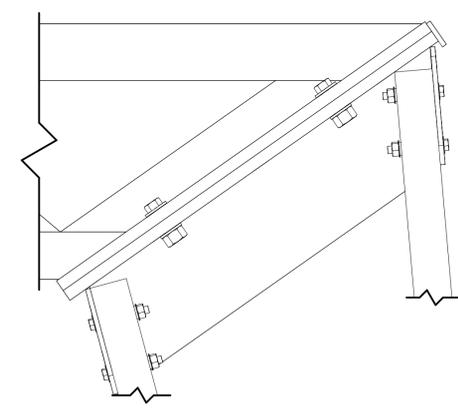
PV-002

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE

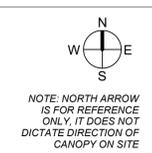


A COLUMN TO FOOTING ATTCHMENT DETAIL - SECTION (SIDE)  
 3" = 1'-0"



B TRUSS TO COLUMN ATTCHMENT DETAIL - SECTION (SIDE)  
 3" = 1'-0"

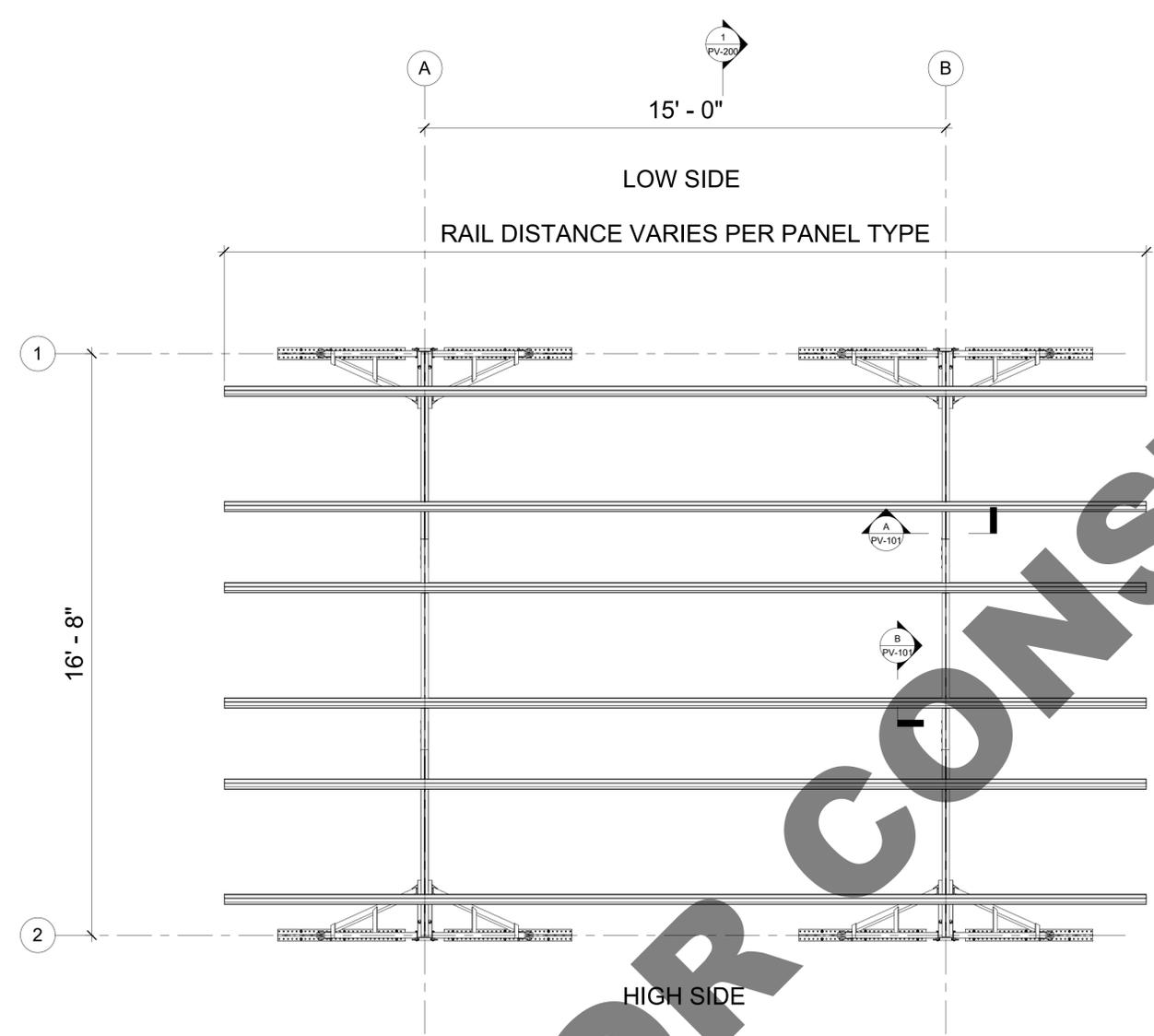
1 COLUMN & TRUSS PLAN  
 1/2" = 1'-0"



NOT FOR CONSTRUCTION

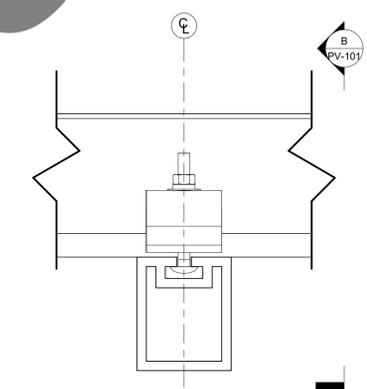
REV	DESCRIPTION	DATE

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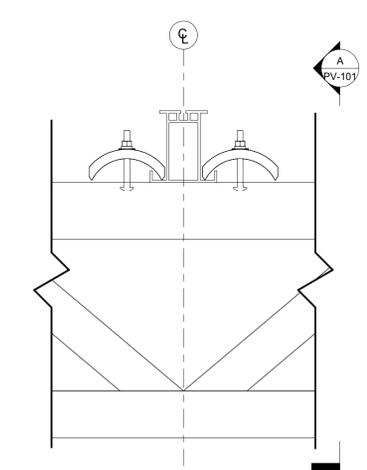


① RAIL PLAN  
 1/2" = 1'-0"

Ⓐ PV MODULE RAIL ATTCHMENT DETAIL - SECTION (FRONT)1  
 6" = 1'-0"



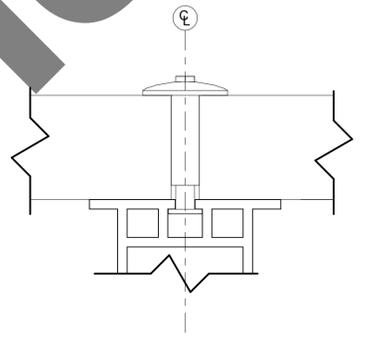
Ⓑ PV MODULE RAIL ATTCHMENT DETAIL - SECTION (SIDE)1  
 3" = 1'-0"



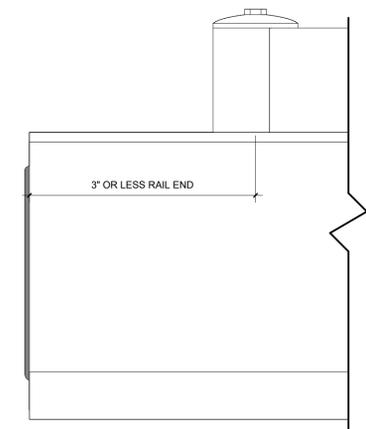
NOTE: NORTH ARROW IS FOR REFERENCE ONLY. IT DOES NOT DICTATE DIRECTION OF CANOPY ON SITE

NOT FOR CONSTRUCTION

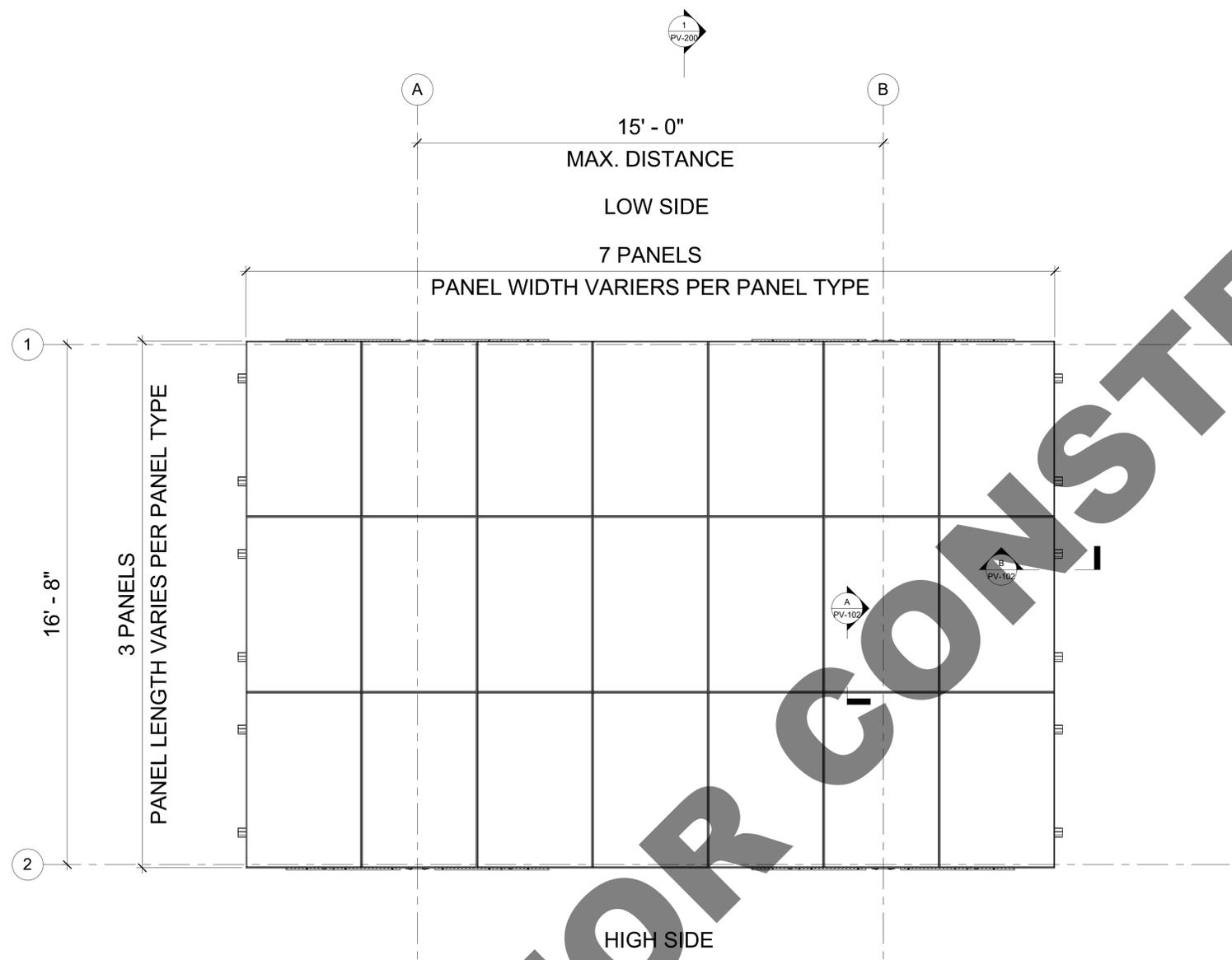
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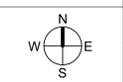
**A** PV MODULE TO RAIL ATTACHMENT DETAIL - SECTION (FRONT)  
 12" = 1'-0"



**B** PV MODULES TO RAIL ATTACHMENT END DETAIL - SECTION (SIDE)  
 12" = 1'-0"



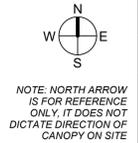
**1** PV ARRAY PLAN  
 1/2" = 1'-0"



NOTE: NORTH ARROW IS FOR REFERENCE ONLY. IT DOES NOT DICTATE DIRECTION OF CANOPY ON SITE

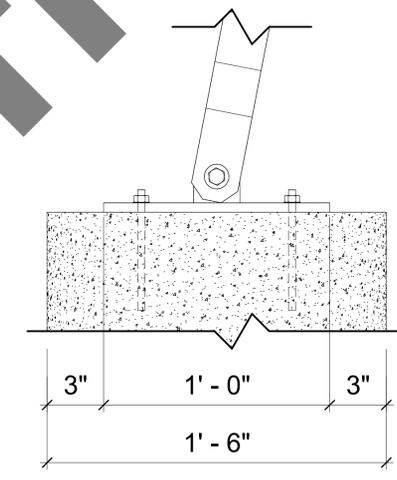
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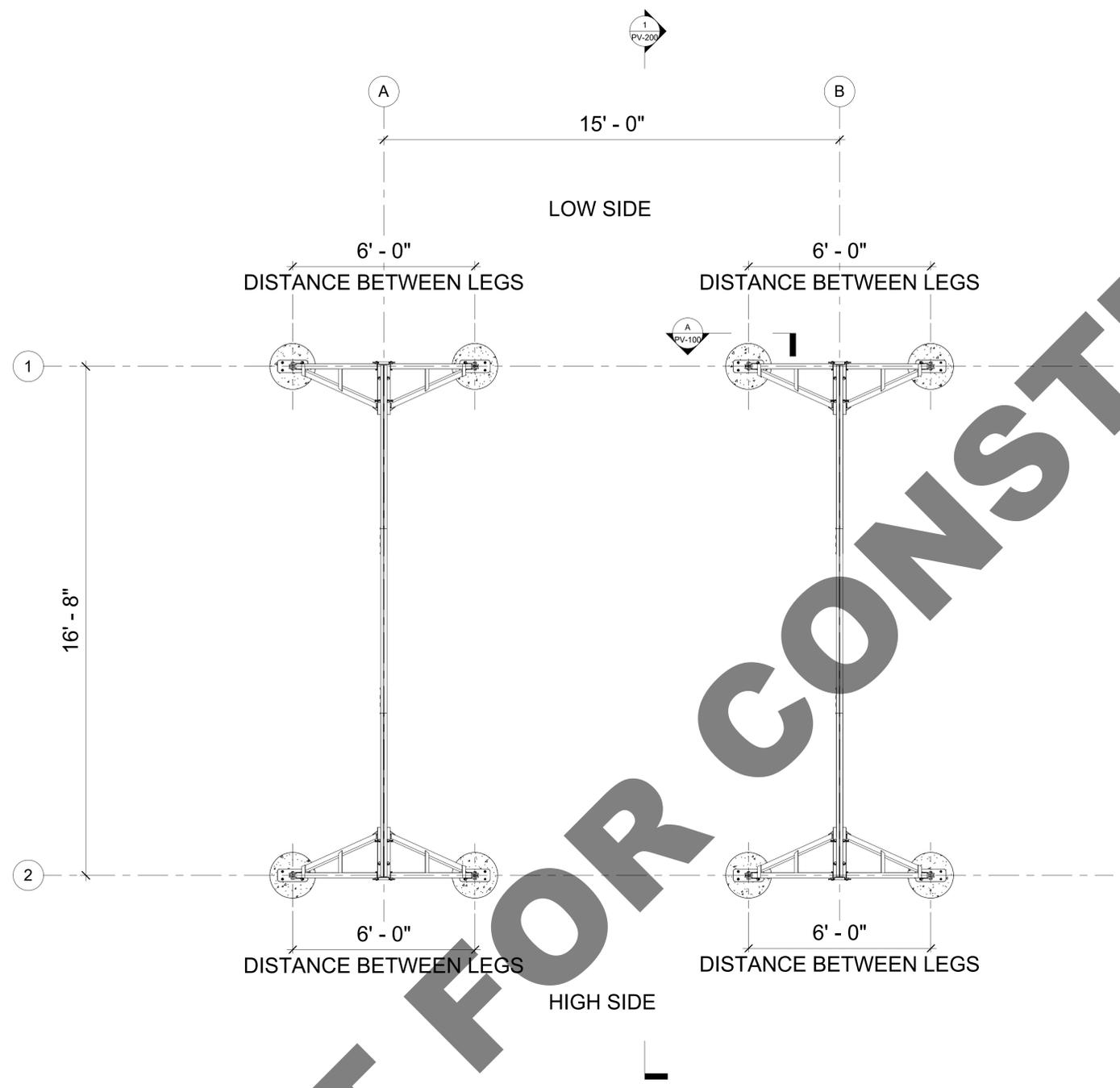


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SHEET NUMBER  
**PV-103**



A PLATE BASE ATTACHMENT DETAIL - SECTION (SIDE)  
 3" = 1'-0"

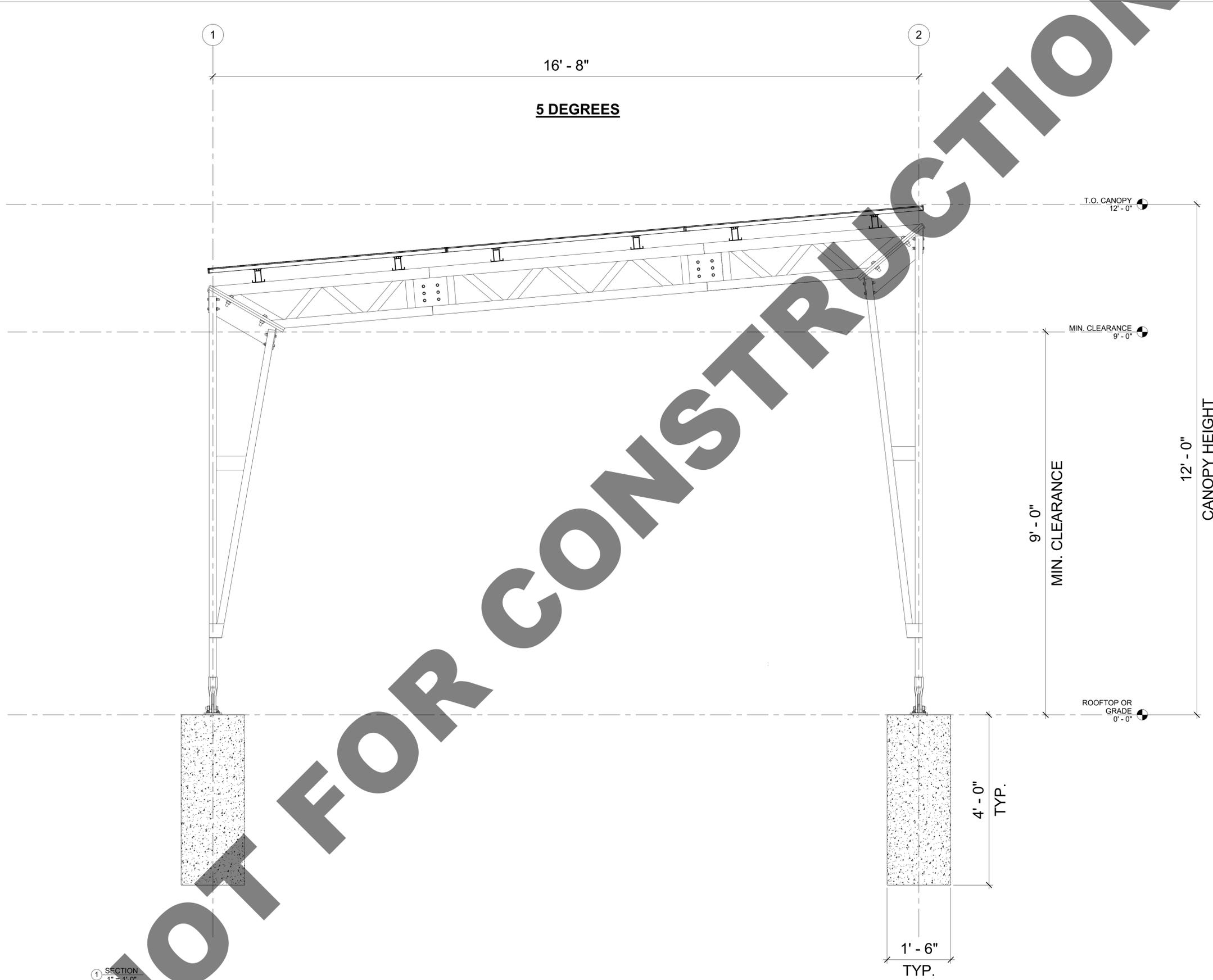


1 FOUNDATION PLAN  
 1/2" = 1'-0"

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SAMPLE PLAN SET

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SECTION

REV	DESCRIPTION	DATE

DRAWING SCALE WHEN BAR IS ONE INCH

SHEET NUMBER

PV-200