

TOWN OF FRANKLIN
INSPECTION DEPARTMENT
Building Inspection – Division of Wires – Division of Gas
Division of Plumbing
MUNICIPAL BUILDING – 355 East Central Street
Franklin, Massachusetts 02038

Lloyd (Gus) Brown
Building Commissioner

Telephone: 508-520-4926
FAX: 508-520-4906

ZONING REVIEW

APPLICANT: Delvin Contracting and Maintenance

LOCATION: 50 Constitution Boulevard

ZONING DISTRICT: Industrial

TYPE OF PROJECT: Construction of Steel Canopy Structures to Support Solar PV Modules

DATE: 03/26/2025 DENY

VARIANCE

ZONING BY LAW SECTIONS: 185-19 E. (3)

REASON FOR DENIAL: Applicant is seeking to construct steel canopy structures to support solar PV modules that are 22'-9 ⁵/₈" in height at the higher end where 15' is required. The building permit is denied without a variance from the ZBA.

APPEAL OF DENIAL OPTIONS:

ZONING BOARD OF APPEALS

APPLICANT SIGNATURE _____ **DATE**

ZONING OFFICIAL SIGNATURE LAB _____ **DATE** 03/26/2025

TOWN OF FRANKLIN
ZONING BOARD OF APPEALS

Municipal Building
355 East Central Street
Franklin, MA 02038
508-520-4926

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TOWN OF FRANKLIN

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TOWN OF FRANKLIN
TOWN CLERK

2025 APR -8 P 12:46

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ZBA APPLICATION FORM
GENERAL INFORMATION

ZONING BOARD OF APPEALS

The undersigned hereby petitions the Zoning Board of Appeals for the following:

Special Permit: _____ Variance: _____ Appeal: _____

PETITIONER: Devlin Contracting and Maintenance

PETITIONER'S ADDRESS: 2 Keith Way, Hingham, MA 02043 PHONE: 781-812-0240

LOCATION OF PROPERTY: 50 Constitution Boulevard, Franklin, MA

TYPE OF OCCUPANCY: Commercial ZONING DISTRICT: _____

ASSESSORS MAP & PARCEL: _____

REASON FOR PETITION:

- | | |
|--|--|
| <input type="checkbox"/> Additions | <input type="checkbox"/> New Structure |
| <input type="checkbox"/> Change in Use/Occupancy | <input type="checkbox"/> Parking |
| <input type="checkbox"/> Conversion to Addi'l Dwelling Unit's | <input type="checkbox"/> Sign |
| <input type="checkbox"/> Dormer | <input type="checkbox"/> Subdivision |
| <input checked="" type="checkbox"/> Other: <u>PV on Carport/Canopy</u> | |

DESCRIPTION OF PETITIONER'S PROPOSAL:

Roof-mount solar array on carport/canopy

SECTIONS OF ZONING ORDINANCE CITED:

Article _____ Section _____
Article _____ Section _____
Article _____ Section _____

Applicants for a **Variance** must complete Pages 1-5
Applicants for a **Special Permit** must complete Pages 1-4 and 6
Applicants for an **Appeal** to the ZBA pursuant to Zoning Bylaw section 185-45 (D) must attach a statement concerning the reasons for the appeal

Original Signature(s): 
(Petitioner(s)/Owner)
Matthew Devlin

(Print Name)
Address: 2 Keith Way, Hingham, MA 02043

Tel. No.: 781-812-0240

E-Mail Address: karen.robicheau@devlininc.com

Date: 3/28/2025

TOWN OF FRANKLIN
ZONING BOARD OF APPEALS

Municipal Building
355 East Central Street
Franklin, MA 02038
508-520-4926

ZBA APPLICATION FORM - OWNERSHIP INFORMATION

To be completed by OWNER, signed and returned to the Secretary of the Zoning Board of Appeals.

I/We EMC Corporation
(OWNER)

Address: 176 South Street Hopkinton, MA

State that I/We own the property located at 50 Constitution Boulevard, Franklin, MA
which is the subject of this zoning application.

The record title of this property is in the name of EMC Corporation

*Pursuant to a deed of duly recorded in the date 9/23/1997, Norfolk
County Registry of Deeds at Book 12002, Page 222; or
Dedham Registry District of Land Court, Certificate No. _____
Book _____ Page _____.

 Agent

SIGNATURE BY LAND OWNER OR
AUTHORIZED TRUSTEE, OFFICER OR AGENT*


Matthew Devlin - AGENT

**TOWN OF FRANKLIN
ZONING BOARD OF APPEALS**

Municipal Building
355 East Central Street
Franklin, MA 02038
508-520-4926

ZBA APPLICATION FORM

DIMENSIONAL INFORMATION

APPLICANT: Devlin Contracting and Maintenance PRESENT USE/OCCUPANCY: Industrial

LOCATION: 50 Constitution Boulevard, Franklin, MA ZONE: Industrial

PHONE: 781-812-0240 REQUESTED USE/OCCUPANCY: No Change Requested

	<u>EXISTING CONDITIONS</u>	<u>REQUESTED CONDITIONS</u>	<u>ORDINANCE REQUIREMENTS¹</u>	
<u>Lot Area:</u>	<u>1,712,039 SF</u>	<u>No Change</u>	<u>40,000 SF</u>	<u>(min.)</u>
<u>Continuous Frontage:</u>	<u>3041 feet</u>	<u>No Change</u>	<u>175 feet</u>	<u>(min.)</u>
<u>Size of Lot:</u>	<u>Width</u>	<u>157.5</u>	<u>No Change</u>	<u>N/A</u> (min.)
	<u>Depth</u>	<u>200</u>	<u>No Change</u>	<u>>200 feet</u> (min)
<u>Setbacks in Feet:</u>	<u>Front</u>	<u>186.1 feet</u>	<u>No Change</u>	<u>175 feet</u> (min.)
	<u>Rear</u>	<u>272 feet</u>	<u>No Change</u>	<u>30 feet</u> (min.)
	<u>Left Side</u>	<u>262.2 feet</u>	<u>No Change</u>	<u>30 feet</u> (min.)
	<u>Right Side</u>	<u>890 feet</u>	<u>203.8</u>	<u>30 feet</u> (min.)
<u>Building Height:</u>	<u>Stories</u>	<u>3</u>	<u>No Change</u>	<u>3</u> (max.)
	<u>Feet</u>	<u></u>	<u>No Change</u>	<u></u> (max.)
<u>NO. of Dwelling Units:</u>	<u>n/a</u>	<u>No Change</u>	<u></u>	<u>(max.)</u>
<u>NO. of Parking Spaces:</u>	<u></u>	<u>No Change</u>	<u></u>	<u>(min./max)</u>

Describe where applicable, other occupancies on same lot, the size of adjacent buildings on same lot, and type of construction proposed, e.g.; wood frame, concrete, brick, steel, etc.

Canopy location/placement attached.

Construction of steel canopy carport structures to support solar PV modules located over existing parking.

SEE FRANKLIN ZONING BYLAW ARTICLE 185, ATTACHMENT 9.

**TOWN OF FRANKLIN
ZONING BOARD OF APPEALS**

Municipal Building
355 East Central Street
Franklin, MA 02038
508-520-4926

ZBA APPLICATION FORM

SUPPORTING STATEMENT FOR A VARIANCE

EACH OF THE FOLLOWING REQUIREMENTS FOR A VARIANCE MUST BE ESTABLISHED AND SET FORTH IN COMPLETE DETAIL BY THE APPLICANT IN ACCORDANCE WITH ZONING BYLAW SECTION 185-45 (D) (2) (G) AND MGL 40A, SECTION 10:

- A) A Literal enforcement of the provisions of this Zoning bylaw would involve a substantial hardship, financial or otherwise, to the petitioner or appellant for the following reasons:

The applicant is seeking a variance per Section 185-19(E)3 of the Town of Franklin Zoning Bylaw. A literal enforcement of the 15-foot height restriction would create a substantial hardship for the petitioner by preventing the proposed solar canopy carport system from achieving its intended functionality and energy production goals while providing adequate access for emergency vehicles. To ensure safe clearance for fire and emergency apparatus sufficient clearance would not be feasible under the 15-foot height restriction when accounting for necessary structural support, purlins, panels and tilt angle.

- B) The hardship is owing to the following circumstances relating to the soil conditions, shape or topography of such land or structures and especially affecting such land or structures but not affecting generally the zoning district in which it is located for the following reasons:

The hardship is due to the unique conditions of the site, including the need to accommodate existing parking layouts and maintain adequate clearance for emergency vehicles. The proposed solar canopy must be elevated to a height that allows for safe vehicle circulation, including fire and safety apparatus as detailed above. The subject property is located within an Industrial Park (Industrial zoning district) and does not abut residential properties. The project is proposed to be located over previously disturbed area (parking lot) and no tree clearing is proposed.

- C) Desirable relief may be granted without either:

- 1) Substantial detriment to the public good for the following reasons:

Granting the requested height variance will not cause substantial detriment to the public good, as the proposed solar canopy carport system is designed to enhance sustainability, provide weather protection for parked vehicles while allowing for adequate access in case of an emergency within an industrial zoning district. The increased height ensures proper clearance for emergency vehicles, improving public safety without negatively impacting neighboring properties. Per the zoning bylaw, the proposed solar canopy carport system meets the building height requirement for the Industrial District

- 2) Nullifying or substantially derogating from the intent or purpose of this Zoning Bylaw for the following reasons:

Granting this variance does not substantially derogate from the intent of the Town of Franklin's Zoning Bylaw, which aims to promote public safety, welfare, and sustainable development. The proposed solar canopy supports these goals by ensuring proper emergency vehicle clearance, enhancing renewable energy generation, and reducing environmental impact. The increased height is a functional necessity to provide safe access, and aligns with the bylaw's purpose of fostering responsible growth while maintaining public safety and sustainable development

If you have any questions as to whether you can establish all of the applicable legal requirements, you should consult with your own attorney.



**ZBA APPLICATION FORM
SUPPORTING STATEMENT FOR A SPECIAL PERMIT**

Please describe in complete detail how you meet each of the following criteria in accordance with Zoning Bylaw Section 185-45(D)(2)(a) referring to the property and proposed changes or uses which are requested in your application. Attach sheets with additional information for special permits for which additional criteria must be met under the Zoning Bylaw.

185-45(D)(2)(A) **BOARD OF APPEALS:** TO HEAR AND DECIDE APPLICATIONS FOR SPECIAL PERMITS UPON WHICH THE BOARD IS EMPOWERED TO ACT UNDER THIS CHAPTER. SPECIAL PERMITS SHALL BE GRANTED BY THE BOARD OF APPEALS ONLY UPON ITS WRITTEN DETERMINATION THAT THE PROPOSED USE WILL NOT HAVE ADVERSE EFFECTS WHICH OVERBALANCE ITS BENEFICIAL EFFECTS ON EITHER THE NEIGHBORHOOD OR THE TOWN, IN VIEW OF THE PARTICULAR CHARACTERISTICS OF THE SITE AND OF THE PROPOSAL IN RELATION TO THAT SITE. THIS DETERMINATION SHALL BE IN ADDITION TO THE FOLLOWING SPECIFIC FINDINGS:

- (1) Proposed project addresses or is consistent with neighborhood or Town need.
- (2) Vehicular traffic flow, access and parking and pedestrian safety are properly addressed.
- (3) Public roadways, drainage, utilities and other infrastructure are adequate or will be upgraded to accommodate development.
- (4) Neighborhood character and social structure will not be negatively impacted.
- (5) Project will not destroy or cause substantial damage to any environmentally significant natural resource, habitat, or feature or, if it will, proposed mitigation, remediation, replication, or compensatory measures are adequate.
- (6) Number, height, bulk, location and siting of building(s) and structure(s) will not result in abutting properties being deprived of light or fresh air circulation or being exposed to flooding or subjected to excessive noise, odor, light, vibrations, or airborne particulates.
- (7) Water consumption and sewer use, taking into consideration current and projected future local water supply and demand and wastewater treatment capacity, will not be excessive.

Locus Deed

QUITCLAIM DEED

Valerie A. Colbert, Trustee of Franklin Industrial Park Trust under Declaration of Trust dated October 1, 1981 and recorded with the Norfolk County Registry of Deeds (the "Registry") at Book 5961, Page 619 as amended by First Amendment dated August 4, 1987 recorded in said Registry in Book 7689, Page 134, and by Second Amendment dated January 31, 1994, recorded in said Registry in Book 10390, Page 244 (the "Grantor"), in consideration of Three Million Two Hundred Forty-Two Thousand Four Hundred Ninety-Eight Dollars (\$3,242,498.00), grants to EMC Corporation, a Massachusetts corporation, whose address is 171 South Street, Hopkinton, Massachusetts, (the "Grantee"), with Quitclaim Covenants, approximately 39.302 acres of land on Constitution Boulevard in the Franklin Industrial Park, Franklin, Norfolk County, Massachusetts, shown as Lot A-14 on a plan of land dated November 11, 1992, entitled "Plan of Land off Constitution Boulevard, Franklin Industrial Park, Franklin, Massachusetts (Norfolk County)", prepared by Civil Designs, Inc. of Boston, Massachusetts (the "1992 Plan"), which Plan is recorded as Plan No. 529 of 1993 in Plan Book 415.

Subject to, and with the benefit of, appurtenant easements for drainage purposes in the following areas on Lot A-14 shown on the 1992 Plan, in common with all others now or hereafter entitled thereto:

- (i) "40' Wide Drain Easement" along the southerly boundary of Lot A-14 as shown on the 1992 Plan (and designated on said Plan, together with the items referred to in Subparagraphs (ii) and (iii) hereof, as "Exist. Drain Easements");
- (ii) The irregular area along the southwesterly boundary of Lot A-14 as shown on the 1992 Plan, which connects with the easement area referred to in Subparagraph (i) hereof; and
- (iii) The "40' Wide Drain Easement" along the westerly boundary of Lot A-14 as shown on the 1992 Plan.

Together with the benefit of appurtenant easements for drainage purposes in the following areas west and south of Constitution Boulevard as shown by a plan dated August 24, 1989, revised through August 29, 1989, entitled "Plan of Land Owned by Copley-Franklin Industrial Park Trust" prepared by said Civil Designs, Inc., which is recorded with said Deeds as Plan No. 855B of 1989 in Plan Book 385 (the "1989 Plan"), in common with all others now or hereafter entitled thereto:

- a) At a location west of the "40' Wide Drain Easement" on Lot A-14 referred to in subparagraph (iii) of the preceding paragraph hereof, an area shown on the 1989 Plan as "20' Wide Drain Easement Not Previously Recorded";
- b) Then the irregular area west thereof shown as "Drain Easement" on the 1989 Plan (sometimes referred to as "Pond No. 2");
- c) Then the area south thereof shown as "40' Wide Drain Easement" on the 1989 Plan;
- d) Then the area south and east thereof shown as "Drain Easement" on the 1989 Plan (sometimes referred to as "Pond No. 3");
- e) Then the area south thereof labeled "30' Wide" on the 1989 Plan, which connects with a water course shown on said Plan (sometimes referred to as "Dix Brook"); and
- f) At a location south of the "40' Wide Drain Easement" and the irregular area on Lot A-14 referred to in subparagraphs (i) and (ii) of the preceding paragraph, an area shown on the 1989 Plan as "30' Wide Drain Easement," and
- g) Then southwest of Liberty Way (a public street) the northerly portion of an area shown as "30' Wide Utility Easement B-19" on the 1989 Plan, which area connects with Pond No. 3 and the 30' Wide area referred to in subparagraphs (d) and (e) of this paragraph.

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 NORFOLK COUNTY
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RECORDED
 NORFOLK COUNTY REGISTRY OF DEEDS
 DEOHAM, MA

CERTIFY



BARRY T. [Name]

Also subject to, and with the benefit of, an appurtenant underground easement for sewerage purposes, in common with all others now or hereafter admitted thereto, in the area shown on the 1992 Plan as "New 30' Wide Sewer Easement A14 A" I A L

C O P Y

C O P Y

As shown by the 1992 Plan, Lot A-14 is also subject to a certain easement area in the southeast corner thereof designated "Exist. Utility Easement" (the "Utility Easement") a portion of which is located on Lot A-14 and on certain abutting lots to the east thereof (the "Abutting Lots"). The Utility Easement was created in a deed dated February 22, 1988 of one of the Abutting Lots from Grantor's predecessor in title to Michael L. Knight and Rona B. Knight, Trustees of The Ravan Realty Trust which deed is recorded with said Registry in Book 7890 Page 652 (the "Knight Deed") and also granted in common to the grantees of the remaining Abutting Lots, to wit, Robert J. Bubencik, Trustee of Aerie Realty Trust as to Lot A-2 (by deed dated February 2, 1988 recorded in Book 7881, Page 677) and Paula S. LaRosa and others, Trustees of Second Copley-Franklin Trust as to Lot A-3 (by deed dated December 7, 1987 recorded in Book 7830, Page 16) (hereinafter collectively referred to, together with additional deeds to others of land in Franklin Industrial Park whereunder like easement rights were granted, as the "Additional Deeds"), whereunder the Grantor reserved to itself, its successors and assigns and others, the right and easement to construct, install, operate, maintain, repair, replace and use, water, sewer, electric, telephone, gas and other utilities in, upon, over, under and across the Utility Easement. The Grantor hereby acknowledges, confirms and grants to Grantee, the right to use the Utility Easement for all purposes which are not inconsistent with the easement originally reserved in the Knight Deed and the Additional Deeds as aforesaid and not inconsistent with the rights granted to the Town of Franklin in a deed dated January 1, 1990 recorded in Book 8554, Page 555 (whereunder the Utility Easement is referred to in Paragraph (8) of Exhibit "A"), provided, however, that: (a) Grantee shall not have the right to tap into or connect with existing sewerage pipes within said area (or any replacement thereof), and (b) Grantee shall not have the right to tap into or connect with existing storm drainage pipes located within said area (or any replacement thereof), except for the purpose of drawing water therefrom for use on Grantee's remaining premises, provided that the same can be accomplished without interfering with the use of said drainage pipes by others, the foregoing activity to be at Grantee's sole risk and expense in any event. Grantor further agrees that it shall not, without the prior written consent of Grantee hereunder, exercise its right to relocate drainage and utility areas as reserved in Paragraph 1 on page 2 of the Knight Deed (and similarly in the Additional Deeds), to the extent that any such areas are located on Lot A-14.

Reference is further made to those Protective Covenants dated as of May 1, 1987, which are recorded with said Registry at Book 7689, Page 385, as amended by a First Declaration of Amendment dated December 1, 1992, recorded with said Deeds in Book 9702, Page 603, as affected by a Confirmatory First Declaration of Amendment as to Protective Covenants dated as of December 12, 1994 recorded with said Deeds in Book 10798, Page 479 and as amended by a Second Declaration of Amendment dated March 29, 1995, recorded with said Deeds in Book 10848, Page 251. The Grantor hereby waives and amends the following Sections of the Protective Covenants with respect to Lot A-14:

- (A) Article II B (1) so as to provide that no more than forty (40%) percent of Lot A-14 may be covered with buildings and other structures, excluding, however, parking structures (which may exceed said 40% coverage), and excluding in any event, parking lots, loading areas, walkways and other surface improvements.
- (B) Article III G-5 so as to provide that the time for Grantor to approve the initial Site Plan (as defined thereunder) will be ten business days, and so as to provide that any change or addition to a plan will be approved in 5-business days; and further to provide that the Grantor will have the right to extend the approval time for only up to 5-business days (and not 30 days) if the volume or complexity of a plan reasonably requires such an

extension (provided also that written notice of such extension is given during the initial approval period); and

O F F I C I A L O F F I C I A L

(C) All Sections of said Protective Covenants relating to construction methods and materials for building on Lot A-14, provided that Grantee, its successors or assigns, use construction methods and materials already existing on other sites in the Franklin Industrial Park, (as defined in the Protective Covenants), excluding from the foregoing, however (i) any construction on the site at 857 Union Street, Franklin, Massachusetts conveyed to Multi-Fasteners, Inc. by deed dated June 14, 1988, recorded with the Registry in Book 1999 Page 100, and (ii) the provisions of Article II (C) (2) of said Protective Covenants, as amended.

WITNESS my hand and seal this 22nd day of September, 1997.

Valerie A. Colbert Trustee
Valerie A. Colbert, as Trustee of Franklin Industrial Park Trust, and not individually

STATE OF MASSACHUSETTS

COUNTY OF SUFFOLK

September 22, 1997

Then personally appeared the above-named Valerie A. Colbert, Trustee as aforesaid, and acknowledged the foregoing instrument to be her free act and deed and the free act and deed of Franklin Industrial Park Trust, before me.

Neil M. Glavin

Notary Public
My commission expires: *May, 1999*

RECORDS REG 17
NORFOLK
0923/97
CANCELED
TAX 14785.00
CHCK 14785.00
4888A017 14:08
EXCISE TAX
SEP 23 1997

The existing Abutters List Report for this project, issued on 1/30/25 is attached.

Also attached is a complete Abutters List Request Form if needed.

Town of Franklin – Board of Assessors

355 East Central Street

Franklin, MA 02038

Tel # 508-520-4920

Fax # 508-520-4923

Abutters List Request Form

Please Note: A \$25.00 fee per list is required to process your request. Payment is due at the time of submission of this form. Please allow 10 days from the date of both payment and submission of the form for the Assessors office to complete processing your request. (Revised 1-1-22)

Date of Request 03 / 28 / 25

Assessors Parcel ID # (12 digits) 319 - 015 - 000 - 000

Property Street Address 50 Constitution Boulevard, Franklin, MA

Distance Required From Parcel # listed above (Circle One): 500 300 100
(Note: if a distance is not circled, we cannot process your request)

Property Owner EMC Corporation

Property Owner's Mailing Address 171 South Street

Town/City Hopkinton State MA Zip Code 01748

Property Owner's Telephone # 508-435-1000 - _____

Requestor's Name (if different from Owner) Devlin Contracting and Maintenance

Requestor's Address 2 Keith Way, Hingham, MA 02043

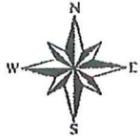
Requestor's Telephone # 781-812-0240 - _____

Office Use Only: Date Fee Paid / / Paid in Cash \$.

Paid by Check \$ Check # Town Receipt #

Please Circle One:

Administration Conservation Planning Zoning Board of Appeals



50 CONSTITUTION BLVD - 300' ABUTTERS

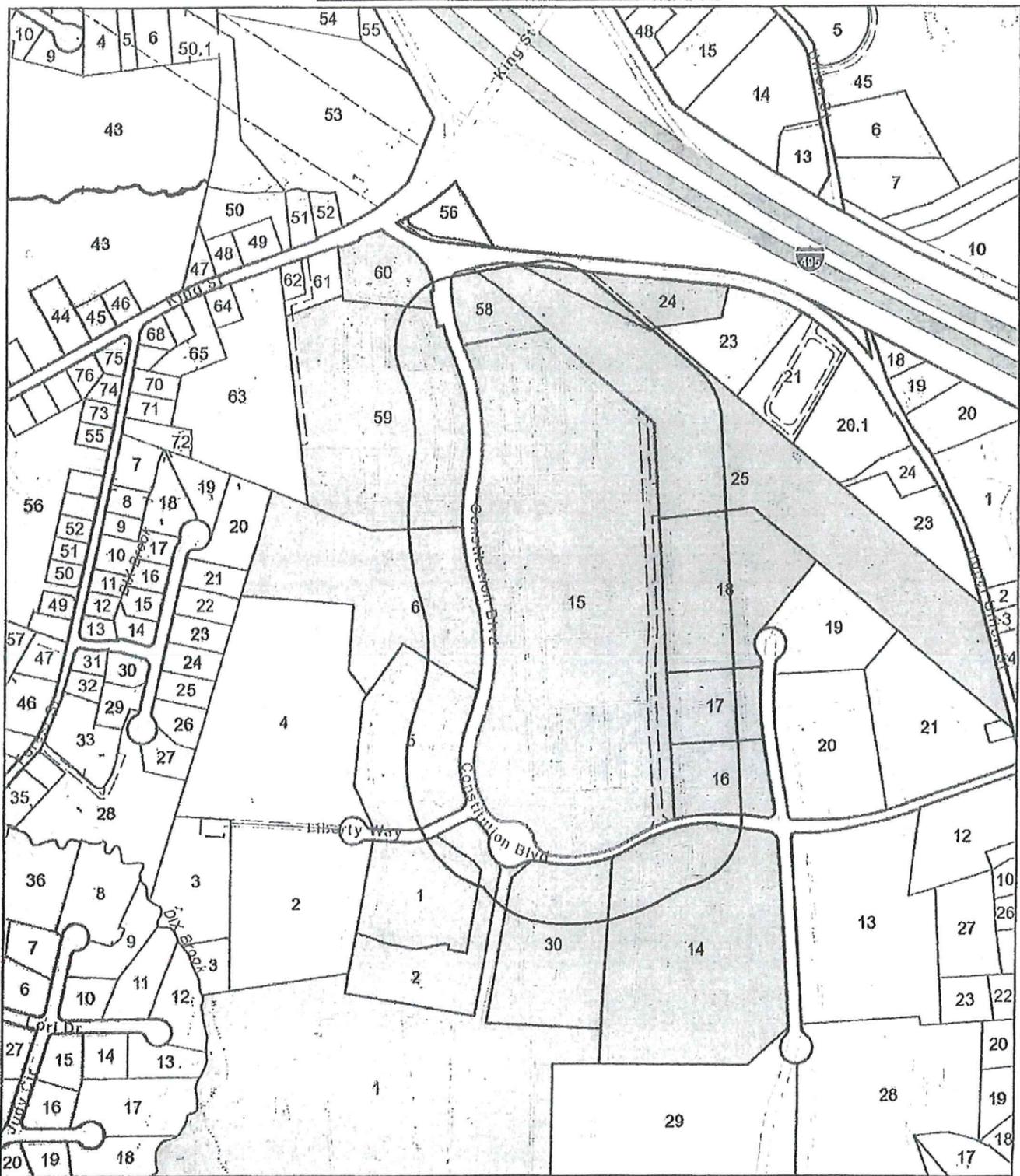
Town of Franklin, MA

1 Inch = 600 Feet



www.cai-tech.com

January 30, 2025



This information is believed to be correct but is subject to change and is not warranted.



300 feet Abutters List Report

Franklin, MA
January 30, 2025

Subject Property:

Parcel Number: 319-015-000
CAMA Number: 319-015-000-000
Property Address: 50 CONSTITUTION BLVD

Mailing Address: EMC CORPORATION C/O EMC CORP -
REAL ESTATE DEP
171 SOUTH ST
HOPKINTON, MA 01748

Abutters:

Parcel Number: 313-058-000
CAMA Number: 313-058-000-000
Property Address: 2 CONSTITUTION BLVD

Mailing Address: BRIGHT HORIZONS CHILDRENS CENT
2 WELLS AVENUE
NEWTON, MA 02459

Parcel Number: 313-059-000
CAMA Number: 313-059-000-000
Property Address: 65 CONSTITUTION BLVD

Mailing Address: NBPIV CONSTITUTION II LLC C/O
NORTHBRIDGE PARTNERS LLC
401 EDGEWATER PLACE SUITE 265
WAKEFIELD, MA 01880

Parcel Number: 313-060-000
CAMA Number: 313-060-000-000
Property Address: 600 KING ST

Mailing Address: FRANKLIN TOWN OF
355 EAST CENTRAL STREET
FRANKLIN, MA 02038

Parcel Number: 314-024-000
CAMA Number: 314-024-000-000
Property Address: 801 UPPER UNION ST

Mailing Address: CANESI WILLIAM & THOMAS TRS
CANESI BROTHERS TRUST
801 UPPER UNION ST
FRANKLIN, MA 02038

Parcel Number: 314-025-000
CAMA Number: 314-025-000-000
Property Address: UPPER UNION ST

Mailing Address: NEW ENGLAND POWER CO PROPERTY
TAX DEPT
40 SYLVAN RD
WALTHAM, MA 02451-2286

Parcel Number: 319-014-000
CAMA Number: 319-014-000-000
Property Address: 125 CONSTITUTION BLVD

Mailing Address: MARDINI FRANKLIN LLC
3641 INTERCHANGE RD
COLUMBUS, OH 43204

Parcel Number: 319-015-000
CAMA Number: 319-015-000-000
Property Address: 50 CONSTITUTION BLVD

Mailing Address: EMC CORPORATION C/O EMC CORP -
REAL ESTATE DEP
171 SOUTH ST
HOPKINTON, MA 01748

Parcel Number: 319-016-000
CAMA Number: 319-016-000-000
Property Address: 120 CONSTITUTION BLVD

Mailing Address: LRF2 BOS CONSTITUTION BLVD LLC
C/O LONGPOINT PROPERTY GRP LLC
13218 WEST BROWARD BLVD
PLANTATION, FL 33325

Parcel Number: 319-017-000
CAMA Number: 319-017-000-000
Property Address: 10 DISCOVERY WAY

Mailing Address: AERIE REALTY LLC
10 DISCOVERY WAY
FRANKLIN, MA 02038

Parcel Number: 319-018-000
CAMA Number: 319-018-000-000
Property Address: 20 DISCOVERY WAY

Mailing Address: MORGAN GRAINGER LP
20 DISCOVERY WAY
FRANKLIN, MA 02038



This information is believed to be correct but is subject to change and is not warranted.



300 feet Abutters List Report

Franklin, MA
January 30, 2025

Parcel Number: 320-001-000
CAMA Number: 320-001-000-000
Property Address: 10 LIBERTY WAY

Mailing Address: LRF2 BOS LIBERTY WAY LLC C/O
LONGPOINT REALTY PARTNERS
13218 WEST BROWARD BOULEVARD
PLANTATION, FL 33325

Parcel Number: 320-005-000
CAMA Number: 320-005-000-000
Property Address: 101 CONSTITUTION BLVD

Mailing Address: 101 CONSTITUTION BLVD LLC C/O
KEYPOINT PARTNERS LLC
ONE VAN DE GRAAFF DRIVE - SUITE
402
BURLINGTON, MA 01803

Parcel Number: 320-006-000
CAMA Number: 320-006-000-000
Property Address: 77 CONSTITUTION BLVD

Mailing Address: IRON MOUNTAIN INFO MANAGEMENT
1101 ENTERPRISE DRIVE
ROYERSFORD, PA 19468

Parcel Number: 329-001-000
CAMA Number: 329-001-000-000
Property Address: 109 CONSTITUTION BLVD

Mailing Address: TEACHERS INSURANCE ANNUITY C/O
NEVEEN
PO BOX 30428
CHARLOTTE, NC 28230

Parcel Number: 329-002-000
CAMA Number: 329-002-000-000
Property Address: 105 CONSTITUTION BLVD

Mailing Address: APG FRANKLIN LLC C/O AVENTINE
PROPERTY GROUP IN
111 SOUTH WACKER DR SUITE 3350
CHICAGO, IL 60606

Parcel Number: 330-030-000
CAMA Number: 330-030-000-000
Property Address: 115 CONSTITUTION BLVD

Mailing Address: SCHWARZKOPF TECHNOLOGIES LLC
C/O PLANSEE
115 CONSTITUTION BLVD
FRANKLIN, MA 02038

Kevin W. Doyle, 1-30-25



www.cal-tech.com

This information is believed to be correct but is subject to change and is not warranted.

101 CONSTITUTION BLVD LLC
C/O KEYPOINT PARTNERS LLC
ONE VAN DE GRAAFF DRIVE -
SUITE 402
BURLINGTON, MA 01803

MARDINI FRANKLIN LLC
3641 INTERCHANGE RD
COLUMBUS, OH 43204

AERIE REALTY LLC
10 DISCOVERY WAY
FRANKLIN, MA 02038

MORGAN GRAINGER LP
20 DISCOVERY WAY
FRANKLIN, MA 02038

APG FRANKLIN LLC
C/O AVENTINE PROPERTY GRO
111 SOUTH WACKER DR SUITE
3350
CHICAGO, IL 60606

NBPIV CONSTITUTION II LLC
C/O NORTHBRIDGE PARTNERS
401 EDGEWATER PLACE SUITE 265
WAKEFIELD, MA 01880

BRIGHT HORIZONS CHILDRENS
2 WELLS AVENUE
NEWTON, MA 02459

NEW ENGLAND POWER CO
PROPERTY TAX DEPT
40 SYLVAN RD
WALTHAM, MA 02451-2286

CANESI WILLIAM & THOMAS T
CANESI BROTHERS TRUST
801 UPPER UNION ST
FRANKLIN, MA 02038

SCHWARZKOPF TECHNOLOGIES
C/O PLANSEE
115 CONSTITUTION BLVD
FRANKLIN, MA 02038

EMC CORPORATION
C/O EMC CORP - REAL ESTAT
171 SOUTH ST
HOPKINTON, MA 01748

TEACHERS INSURANCE ANNUIT
C/O NEVEEN
PO BOX 30428
CHARLOTTE, NC 28230

FRANKLIN TOWN OF
355 EAST CENTRAL STREET
FRANKLIN, MA 02038

IRON MOUNTAIN INFO MANAGE
1101 ENTERPRISE DRIVE
ROYERSFORD, PA 19468

LRF2 BOS CONSTITUTION BLV
C/O LONGPOINT PROPERTY GR
13218 WEST BROWARD BLVD
PLANTATION, FL 33325

LRF2 BOS LIBERTY WAY LLC
C/O LONGPOINT REALTY PART
13218 WEST BROWARD
BOULEVARD
PLANTATION, FL 33325

SOLAR CANOPY

FOR
Sunnova Energy

AT
Dell Campus
50 Constitution Blvd,
Franklin, MA 02038



6715 STEGER DRIVE
CINCINNATI, OH 45237
513.242.2051
FAX: 513.242.0816

PROFESSIONAL SEAL

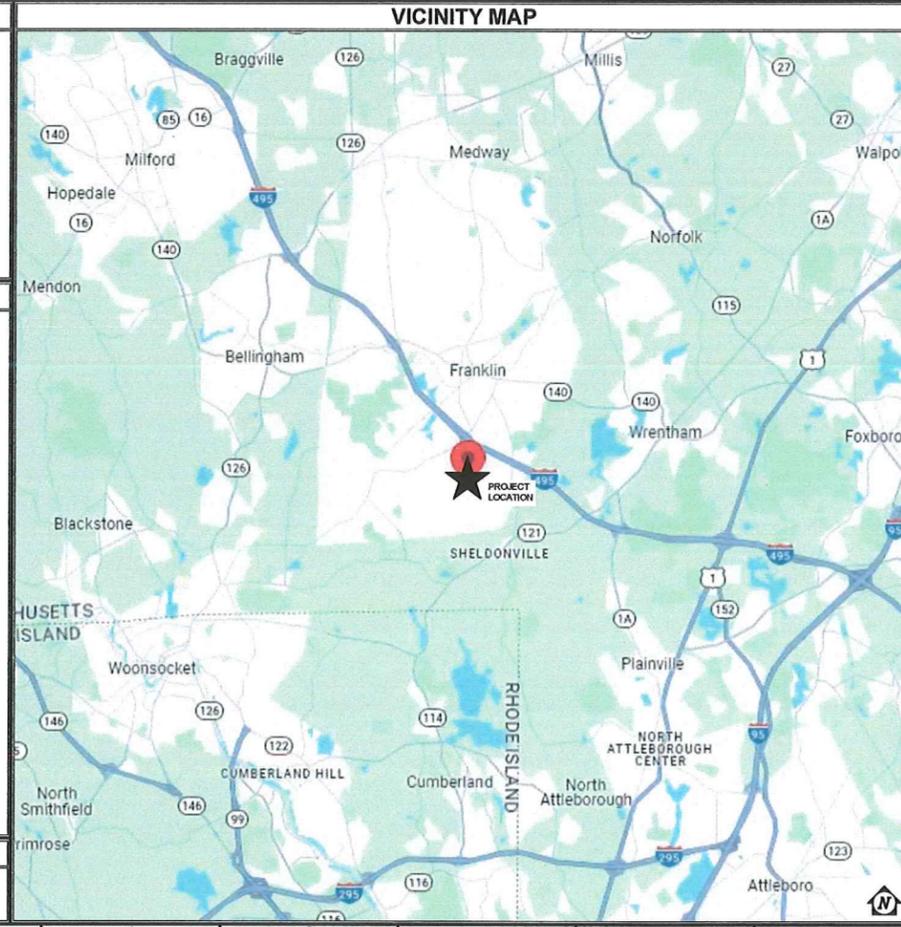
ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY



SOLAR CANOPY
FOR
Sunnova Energy

SYMBOLS LEGEND

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



DRAWING INDEX

SHT. No.	SHEET DESCRIPTION	REL. No.	SHT. No.	SHEET DESCRIPTION	REL. No.
SC001	COVER SHEET	3			
SC002	GENERAL NOTES AND MODULE SPECIFICATION SHEETS	3			
SC003	SITE PLAN	3			
SC101	FOUNDATION AND COLUMN PLAN	3			
SC102	FOUNDATION AND COLUMN PLAN	3			
SC103	COMPONENT PLAN	3			
SC104	COMPONENT PLAN	3			
SC201	CANOPY SECTION	3			
SC401	FOUNDATION AND BASE PLATE DETAILS	3			
SC501	COMPONENT DETAILS	3			

GOVERNING CODE

Massachusetts Building Code, 9th Edition
CONSTRUCTION TYPE: IB
RISK CATEGORY: II

DESIGN LOADS:

- DEAD LOADS
 - STRUCTURE: 5.0 PSF
 - GLAZING: 3.0 PSF
 - Z = 8.0 PSF
- ROOF LIVE LOAD = 12 PSF
- SNOW LOAD:
 - P_s = 40 PSF (GROUND SNOW)
 - P_r = 20.0 PSF (ROOF SNOW)
 - C_s = 1.0
 - C_e = 1.2
 - I_s = 1.00
- WIND LOAD (MAIN WIND FORCE RESISTING SYSTEM)
 - V_w = 120 MPH
 - V_w = 100 MPH
 - L = 1.00
 - EXPOSURE: B
- SEISMIC LOADS (PARALLEL AND PERPENDICULAR TO CANOPY FRAMES)
 - S_s = 0.153
 - S_i = 0.064
 - S_m = 0.159
 - S_u = 0.064
 - I_s = 1.00
 - SITE CLASS: C
 - SEISMIC DESIGN CATEGORY: A
 - SEISMIC FORCE RESISTING SYSTEM = CANTILEVERED COLUMN SYSTEMS DETAILED TO CONFORM TO THE REQUIREMENTS FOR ORDINARY STEEL MOMENT FRAMES (CANT. COL.)
 - DESIGN BASE SHEAR: V = 1365 PSF
 - C_v = 0.127
 - R = 1.25
 - EQUIVALENT LATERAL FORCE ANALYSIS

RESPONSIBILITY SCHEDULE

ITEM DESCRIPTION	NA	TERRASMART		CUSTOMER		REMARKS
		FURN.	INST.	FURN.	INST.	
GEOTECHNICAL REPORT						
SITE SURVEY						EXISTING CONDITIONS - TOPO & LOCATE COLUMNS
CONSTRUCTION SURVEY						VERIFY COLUMN LOCATIONS
CORROSION ANALYSIS						
LOCATE SUBSURFACE UTILITIES/STRUCTURES						PRIVATE UTILITY LOCATE
SITE GRADING						
SPOILS REMOVAL						
FENCING						
TEMPORARY ELECTRIC						
PORTABLE TOILET						
MATERIAL UNLOADING						
MATERIAL STAGING						
DUMPSTER/REFUSE REMOVAL						
FOUNDATIONS						FOUNDATION ENGINEERING BY TERRASMART
ANCHOR BOLTS						
PV MODULES						
PV MODULE MOUNTING HEW						
PV MODULE RAIL						
PV MODULE GROUNDING HEW						
WIRE MANAGEMENT						
CANOPY GROUNDING						
SITE CLEANUP						
SPECIAL INSPECTIONS						
FOUNDATION GROUNDING						
RAISED PERS						OPTIONAL ADD-ONS
DECKING						
GUTTERS & DOWNSPOUTS						
SNOW GUARDS						
FASQ/PLUMBING ENCLOSURE						

SOLAR CANOPY SYSTEM SPECIFICATIONS

PV MODULE TYPE	TRINA SOLAR VERTEX	ACTIVE PV MODULES	2268
MODULE MODEL #	TS1-DE21G20	SPARE PV MODULES	N/A
ARRAY TYPE	FIXED TILT	TOTAL PV MODULES	2268
ARRAY TILT	7 DEGREES	TOTAL WATTS	15 #WDC

RELEASE RECORD

NO.	DATE	DESCRIPTION
3	06/28/24	STAMPED
2	06/28/24	50% REVIEW
1	02/21/24	50% REVIEW
		MARK DATE DESCRIPTION

PROJECT INFORMATION

TITLE & ADDRESS:
Dell Campus
50 Constitution Blvd,
Franklin, MA 02038

TERRASMART PROJECT No.:
2370049

DRAWN BY: NCE
REVIEWED BY: MS

SHEET TITLE:
COVER SHEET

SHEET No.:
SC001

RECEIVED
OWN OF FRANKLIN
APR 08 2025

ZONING BOARD OF APPEALS

GENERAL NOTES

CONSTRUCTION AND SAFETY:

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE APPLICABLE CONSTRUCTION CODE AND THE PROJECT SPECIFICATIONS.
- ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION SELECTED BY CONTRACTOR.
- 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.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDITIONS OF THE JOB SITE EXCLUDING SAFETY OF PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK.
- 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:

- THIS SUBMITTAL/CONSTRUCTION SET WAS PRODUCED FROM DOCUMENTS RECEIVED FROM CUSTOMER ON 2/24/24. TERRASMART, INC. IS NOT RESPONSIBLE FOR DISCREPANCIES FROM ACTUAL FIELD DIMENSIONS.
- THIS TERRASMART, INC. CONSTRUCTION SET IS DERIVED FROM PV MODULE DATA SHEETS PROVIDED BY THE CUSTOMER. CUSTOMER IS RESPONSIBLE FOR VERIFYING THAT THE PV MODULES (DELIVERED TO SITE WITH DATA SHEETS) PROVIDED TO TERRASMART, INC. TERRASMART, INC. 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 TERRASMART, INC. AS REQUIRED BY OWNER/CUSTOMER AND/OR AUTHORITY HAVING JURISDICTION. MINIMUM INSPECTION SHALL INCLUDE THE FOLLOWING NOTES AND TABLE:

- ALL SPECIAL INSPECTIONS 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.
- FAILURE TO NOTIFY THE SPECIAL INSPECTOR MAY RESULT IN OWNER/CUSTOMER HAVING TO REMOVE WORK FOR THE PURPOSE OF INSPECTION AT THE OWNER/CUSTOMER'S EXPENSE.
- PREMATURE NOTIFICATION FOR INSPECTION WILL RESULT IN AN ADDITIONAL INSPECTION WITH ALL EXPENSES AND FEES PAID BY THE OWNER/CUSTOMER.
- SPECIAL INSPECTIONS 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 RETRY OF COMPLETED WORK AND ADDITIONAL WORK TO CORRECT DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.

IBC TABLE 1705

STRUCTURAL STEEL/ALUMINUM FABRICATION	CONTINUOUS	PERIODIC
MATERIAL IDENTIFICATION		X
HIGH STRENGTH BOLTS - MATERIAL IDENTIFICATION OF BOLTS, NUTS AND WASHERS		X
WELD FILLER MATERIALS - IDENTIFICATION AND CONFIRMATION OF COMPLIANCE WITH DESIGN DOCUMENTS		X
STRUCTURAL STEEL/ALUMINUM ERECTION		X
MATERIAL IDENTIFICATION		X
INSTALLATION OF HIGH STRENGTH BOLTS		X
WELDED CONNECTIONS		X
MEMBER SIZES AND PLACEMENT		X
GENERAL CONFORMANCE WITH DESIGN DOCUMENTS		X
CONCRETE CONSTRUCTION		X
MATERIAL IDENTIFICATION		X
MAX 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
FOUNDATIONS		X
SIZE AND LOCATION OF FOUNDATION EXCAVATIONS		X
PLACEMENT OF REINFORCING STEEL AS REQUIRED		X

STRUCTURAL STEEL:

- ALL STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST VERSION OF AISC MANUAL OF STEEL CONSTRUCTION. LIGHT GAUGE COLD-FORMED SECTIONS SHALL CONFORM TO LATEST VERSION OF AISI SPECIFICATIONS FOR COLD-FORMED STEEL STRUCTURAL MEMBERS.
- MATERIALS:**
 - A. ROLLED SHAPES: ASTM A500 OR A572 GRADE 50, F_y = 50 KSI MINIMUM
 - B. PLATES: ASTM A572 GRADE 50, F_y = 50 KSI MINIMUM
 - C. TUBULAR SHAPES: ASTM A500 GRADE C, F_y = 50 KSI MINIMUM
 - D. FIELD BOLTS (TYP. U-BOLT): SAE J429 GRADE 5 AND/OR ASTM A325
 - E. SCREWS: #12 TENS - GALVANIZED
 - F. COLD-FORMED LIGHT GAUGE: ASTM A653
 - G. ANCHOR BOLTS: ASTM A193 B7 OR ASTM F1554 GRADE 105
 - H. STAINLESS STEEL: TYPE 304 MINIMUM
- TEXT SCREWS ARE TO BE INSTALLED USING A 2000 RPM MAX. NON-IMPACTING VARIABLE SPEED DRILL WITH CLUTCH OUT.
- 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 HAN USING A NORMAL SPEED WRENCH OR A FEW IMPACTS OF AN IMPACT WRENCH. THE "SNUG TIGHT" CONDITION WILL ENSURE THE PILES OF CONNECTED MATERIAL ARE IN FIRM CONTACT.
- ALL PV MODULE MOUNTING HARDWARE SHALL BE INSTALLED AND TORQUED PER PV MODULE MANUFACTURER'S RECOMMENDATIONS. CONNECTIONS USING WEEB BONDING WASHERS SHALL BE PER TERRASMART, INC. INSTALLATION GUIDE - MINIMUM OF 12 FT LBS FOR 5/16" MOUNTING HARDWARE AND 8 FT LBS FOR 1/4" MOUNTING HARDWARE.
- 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.
- GALVANIZING SPECIFICATIONS - GALVANIZING SHALL BE PER CONTRACT DOCUMENTS**
 - A. HOT DIPPED GALVANIZING SHALL BE PER ASTM A102.
 - B. PRE-GALVANIZED MATERIALS SHALL COMPLY WITH ASTM A653 - G90 MINIMUM.
 - C. ALL STRUCTURAL HARDWARE (ON PV MODULE MOUNTING HARDWARE) SHALL BE GALVANIZED.
 - D. FIELD APPLIED GALVANIZING REPAIR COMPOUND (ZINC GALVULITE LIQUID OR EQUIVALENT) PER ASTM A760.

MISCELLANEOUS FASTENERS:

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

WORK BY OTHERS:

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

FOUNDATIONS/CONCRETE:

- THE FOUNDATION DESIGN IS BASED ON GEOTECHNICAL REPORT PREPARED BY: McPhail Associates, LLC DATED 02/15/2024. BEARING CAPACITY OF SOIL AT PER TIP: 6000 psf.
- 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.
- INSTALLER/CONTRACTOR SHALL COORDINATE PLACEMENT OF FOUNDATIONS AND/OR ANCHOR BOLTS PER DESIGN DRAWINGS AND/OR MANUFACTURER'S SPECIFICATIONS.
- TERRASMART, INC. DESIGNS FOUNDATIONS BASED ON SOIL PROPERTIES OBTAINED IN CERTIFIED GEOTECHNICAL REPORTS. ALL DESIGN ASSUMES UNDISTURBED SOIL CONDITIONS. ADD DO NOT TAKE INTO ACCOUNT TRENCHING NEAR FOUNDATIONS. FOR CASES WHERE TRENCHING FOR ELECTRICAL WORK IS AT OR NEAR A FOUNDATION, TERRASMART, INC. RECOMMENDS A MINIMUM OF 3' CLEAR FROM THE EDGE OF THE TRENCH TO THE EDGE OF THE FOUNDATION FOR "NORMAL GOOD SOIL CONDITIONS". IN CASES OF "POOR SOIL" CONDITIONS, TERRASMART, INC. RECOMMENDS A MINIMUM CLEAR DISTANCE EQUAL TO OR GREATER THAN THE DEPTH OF THE FOUNDATION. IF IN DOUBT OF SOIL CONDITIONS, TERRASMART, INC. RECOMMENDS CONSULTING A QUALIFIED GEOTECHNICAL ENGINEER TO ASSESS SOIL CONDITIONS AT THE SITE.
- NOTE: TRENCHING/EXCAVATION WITHIN 2' OF ANY FOUNDATION REQUIRES REPLACING THE ORIGINAL SOIL AND COMPACTING TO 95% STANDARD PROCTOR DENSITY. FOR FURTHER CLARIFICATION ON COMPACTOR REQUIREMENTS, TERRASMART, INC. RECOMMENDS CONSULTING A QUALIFIED GEOTECHNICAL ENGINEER.
- ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST VERSION OF ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
- CONCRETE MIX DESIGNS MUST HAVE ENGINEER OF RECORD APPROVAL PRIOR TO COMMENCEMENT OF ANY CONCRETE WORK.
- REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 BILLET STEEL.
- MINIMUM CONCRETE COVER TO REINFORCING STEEL SHALL BE AS FOLLOWS: CONCRETE CAST AGAINST EARTH = 3.0".
- CONCRETE STRENGTH: 5000 PSI AT 28 DAYS MINIMUM (WITH 4" SLUMP).
- REINFORCEMENT DETAILS PER ACI 318 AND IBC.
- BASE PLATE GROUT: NON-SHRINK, MINIMUM 10000 PSI STRENGTH.
- NOMINAL AGGREGATE SIZE: 3/4".
- ALTERING OR SUBSTITUTING OF REINFORCEMENT MUST HAVE ENGINEER OF RECORD APPROVAL.
- PLACEMENT OF CONDUIT MUST HAVE ENGINEER OF RECORD APPROVAL.

PV MODULE SPECIFICATION SHEETS



665W
MAXIMUM POWER OUTPUT

0~+5W
POSITIVE POWER TOLERANCE

21.4%
MAXIMUM EFFICIENCY

PRODUCT: V1M-6652C-10
POWER RANGE: 640-650W

High customer value

- Lower LCOE (Levelized Cost of Energy), reduced BOS (Balance of System) cost, shorter payback time
- Lowest guaranteed first year of annual degradation
- Designed for compatibility with existing mainstream system components

High power up to 665W

- Up to 21.4% module efficiency with high density interconnect technology
- Multi-barrier technology for better light trapping effect, lower series resistance and improved current collection

High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load

High energy yield

- Excellent IAM (Incident Angle Modifier) and low irradiation performance, validated by 3rd party certifications
- The unique design provides optimized energy production under lower shading conditions
- Lower temperature coefficient (-0.34%) and operating temperature
- Up to 25% additional power gain from back side depending on albedo

Trina Solar's Vertex Bifacial Dual Glass Performance Warranty

Comprehensive Products and System Certificates



Trina Solar

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Trina Solar's Vertex Bifacial Dual Glass Performance Warranty

Comprehensive Products and System Certificates

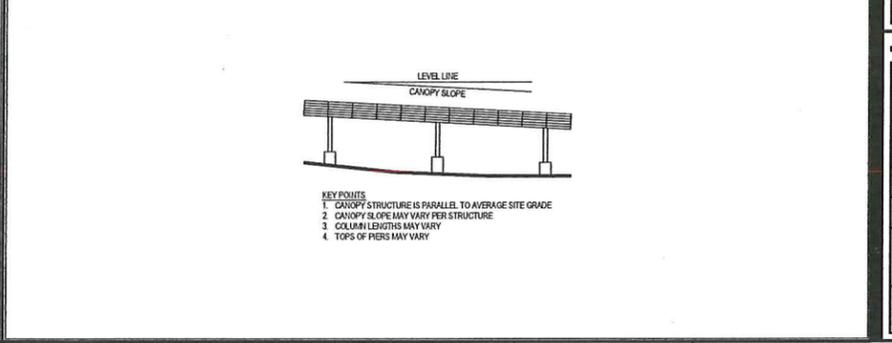


Trina Solar

FINISH SCHEDULE

ITEM DESCRIPTION	ISA	HDC	POWDER COAT	PAINT	PREGALV	STAINLESS STEEL	ALUMINUM	PVC	REMARKS
COLUMN ASSEMBLIES									
TOP BEAM/TRUSS ASSEMBLIES									
KNEE BRACE & BRACKETS									
PURLIN BRACKETS									
PURLINS									
DECKING									
GUTTERS									
DOWNSPOUTS									
FACE/PURLIN ENCLOSURE									
SNOW GUARDS									
RAILS									
ANGLE BRACKETS									
STRUCTURAL HARDWARE									
MODULE HARDWARE & CLIPS									

CANOPY TOPOGRAPHIC RELATIONSHIP



PROFESSIONAL SEAL

ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY



SOLAR CANOPY FOR Sunnova Energy

RELEASE RECORD

NO.	DATE	REVISION	DESCRIPTION
3	06/28/24	STAMPED	
2	06/26/24	50% REVIEW	
1	02/12/24	50% REVIEW	

PROJECT INFORMATION

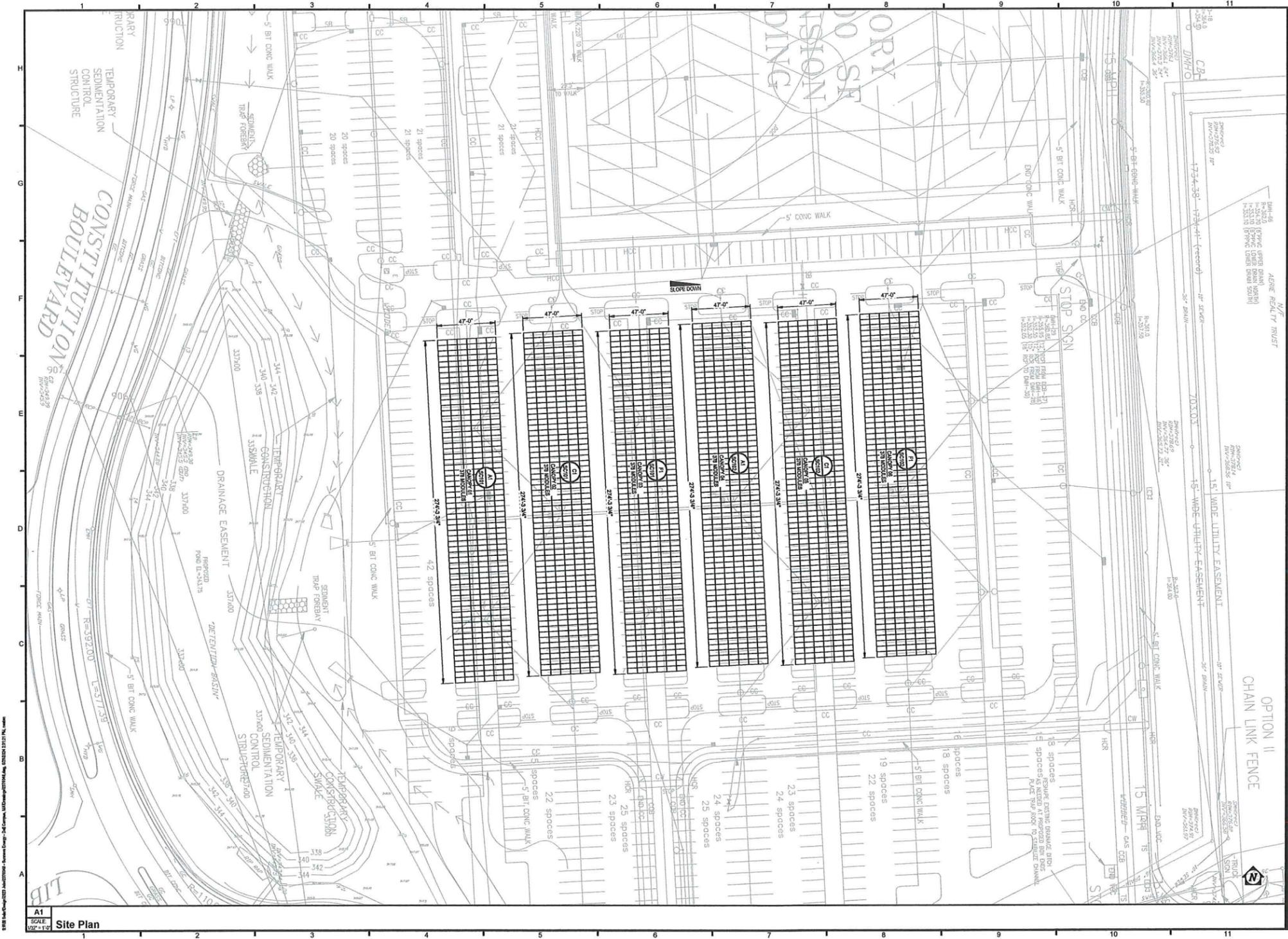
TITLE & ADDRESS
Dell Campus
50 Constitution Blvd,
Franklin, MA 02038

TERRASMART PROJECT No.:
2370049

DRAWN BY: NCE
REVIEWED BY: MS

SHEET TITLE:
GENERAL NOTES
AND MODULE
SPECIFICATION SHEETS

SHEET No.:
SC002



A1
 SCALE
 1/8" = 1'-0"
Site Plan



SOLAR CANOPY
 FOR
Sunnova Energy

RELEASE RECORD

MARK	DATE	DESCRIPTION
3	06/28/24	STAMPED
2	06/28/24	50% REVIEW
1	02/12/24	50% REVIEW

PROJECT INFORMATION

TITLE & ADDRESS:
Dell Campus

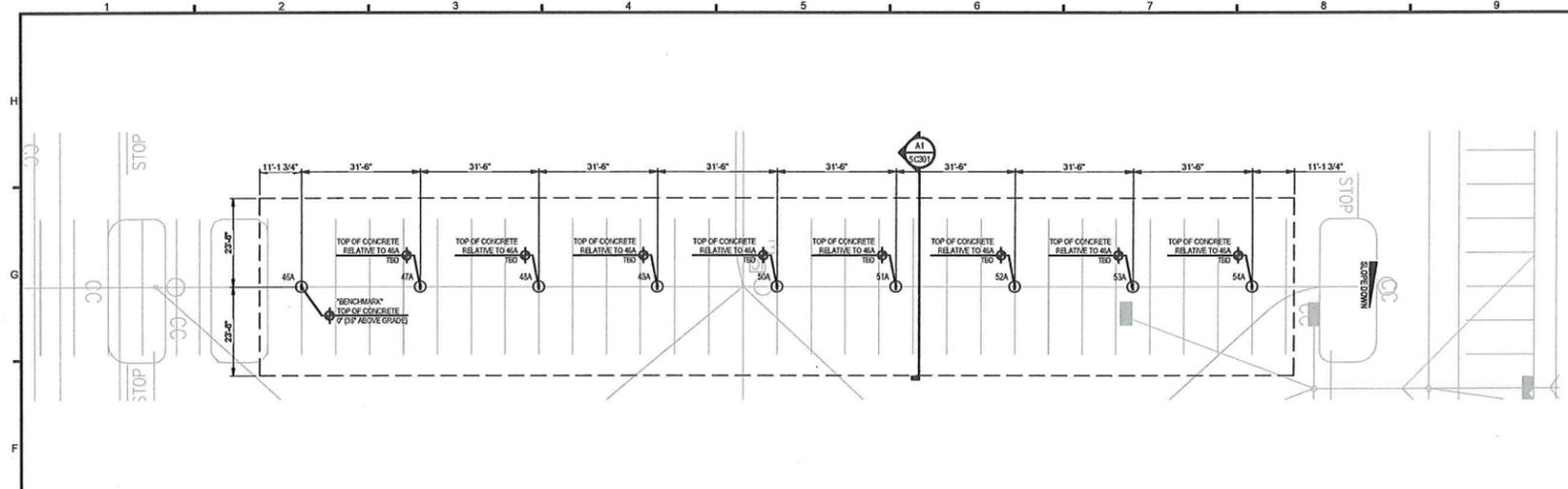
80 Constitution Blvd,
 Franklin, MA 02038

TERRASMART PROJECT No.:
 2370049

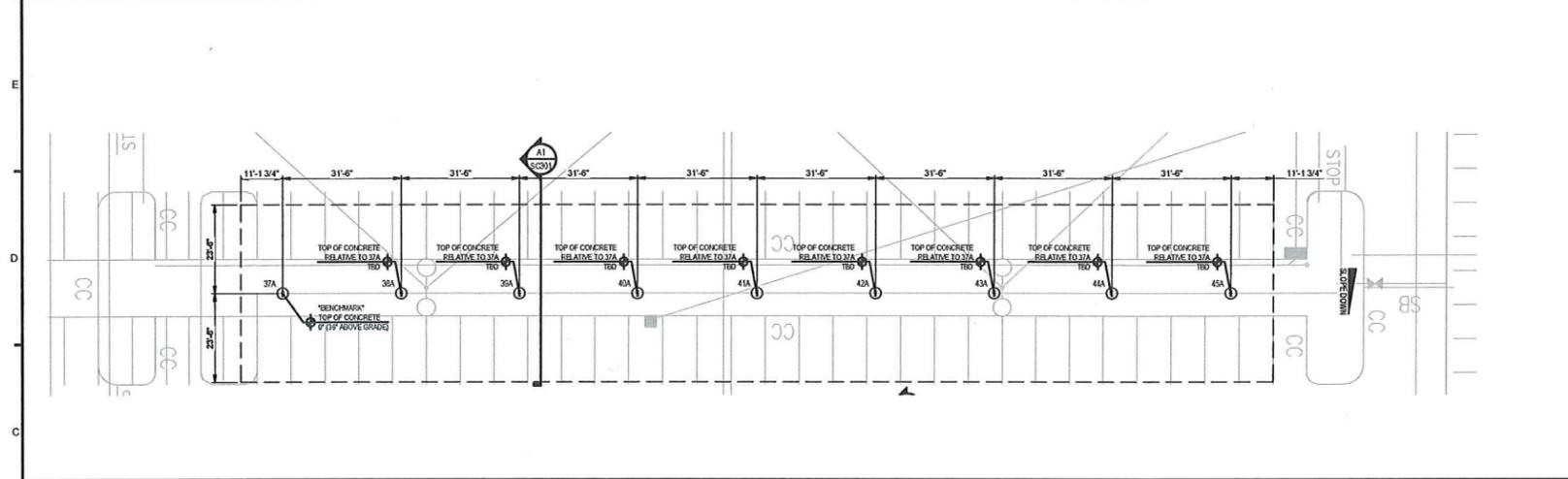
DRAWN BY: NCE
 REVIEWED BY: MS

SHEET TITLE:
SITE PLAN

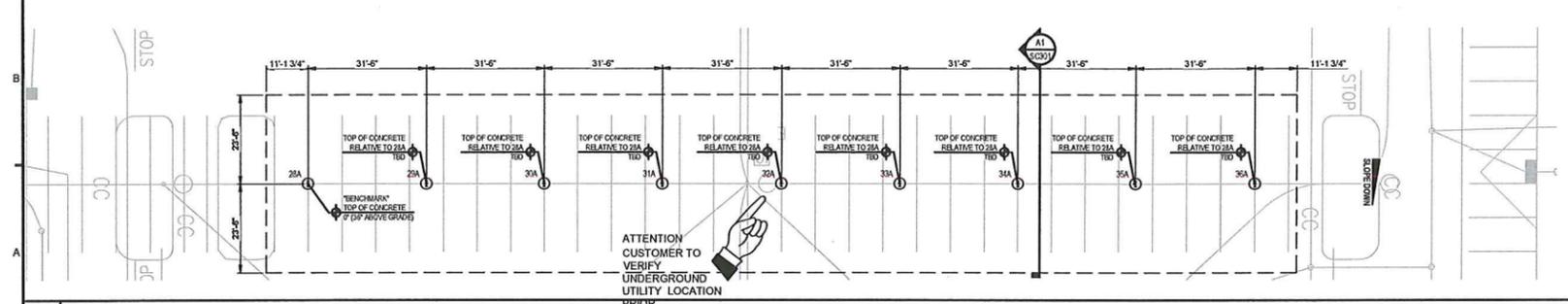
SHEET No.:
SC003



F1 CANOPY 06
 SCALE: 1/8" = 1'-0"
Foundation & Column Plan



C1 CANOPY 05
 SCALE: 1/8" = 1'-0"
Foundation & Column Plan



A1 CANOPY 04
 SCALE: 1/8" = 1'-0"
Foundation & Column Plan

COLUMN SCHEDULE				
MARK	FRONT TYPE	DESCRIPTION	LENGTH	LEVELING MUT
28	A	W21 x 62 COLUMN	13'-6"	T.B.D.
29	A	W21 x 62 COLUMN	13'-6"	T.B.D.
30	A	W21 x 62 COLUMN	13'-6"	T.B.D.
31	A	W21 x 62 COLUMN	13'-6"	T.B.D.
32	A	W21 x 62 COLUMN	13'-6"	T.B.D.
33	A	W21 x 62 COLUMN	13'-6"	T.B.D.
34	A	W21 x 62 COLUMN	13'-6"	T.B.D.
35	A	W21 x 62 COLUMN	13'-6"	T.B.D.
36	A	W21 x 62 COLUMN	13'-6"	T.B.D.
37	A	W21 x 62 COLUMN	13'-6"	T.B.D.
38	A	W21 x 62 COLUMN	13'-6"	T.B.D.
39	A	W21 x 62 COLUMN	13'-6"	T.B.D.
40	A	W21 x 62 COLUMN	13'-6"	T.B.D.
41	A	W21 x 62 COLUMN	13'-6"	T.B.D.
42	A	W21 x 62 COLUMN	13'-6"	T.B.D.
43	A	W21 x 62 COLUMN	13'-6"	T.B.D.
44	A	W21 x 62 COLUMN	13'-6"	T.B.D.
45	A	W21 x 62 COLUMN	13'-6"	T.B.D.
46	A	W21 x 62 COLUMN	13'-6"	T.B.D.
47	A	W21 x 62 COLUMN	13'-6"	T.B.D.
48	A	W21 x 62 COLUMN	13'-6"	T.B.D.
49	A	W21 x 62 COLUMN	13'-6"	T.B.D.
50	A	W21 x 62 COLUMN	13'-6"	T.B.D.
51	A	W21 x 62 COLUMN	13'-6"	T.B.D.
52	A	W21 x 62 COLUMN	13'-6"	T.B.D.
53	A	W21 x 62 COLUMN	13'-6"	T.B.D.
54	A	W21 x 62 COLUMN	13'-6"	T.B.D.

COLUMN SETTING NOTES:
 1. ALL COLUMN CROSSSECTIONS SHOWN ARE 4" TO 4" 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 SC4011 FOR ADDITIONAL FOUNDATION INFORMATION.
 6. 'LENGTH' REFERS TO THE CUT LENGTH OF THE COLUMN ON ITS LONGEST FACE.
 7. COLUMN LENGTHS PRELIMINARY. FINAL COLUMN LENGTHS WILL BE DETAILED IN SHOP DRAWINGS.
PIER NOTES:
 1. IF 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 SC4011 FOR FOUNDATION & LEVELING MUT DETAILS.
 4. REFER TO SHEET SC4011 FOR LEVELING MUT ADJUSTMENT DETAIL.



terrasmart
 6715 STEEER DRIVE
 CUNNINGHAM, OH 45237
 513.242.2051
 FAX: 513.242.0816

PROFESSIONAL SEAL



SOLAR CANOPY
 FOR
 Sunnova Energy

RELEASE RECORD

NO.	DATE	DESCRIPTION
3	06/28/24	STAMPED
2	06/28/24	50% REVIEW
1	02/12/24	50% REVIEW

PROJECT INFORMATION

TITLE & ADDRESS:
Dell Campus

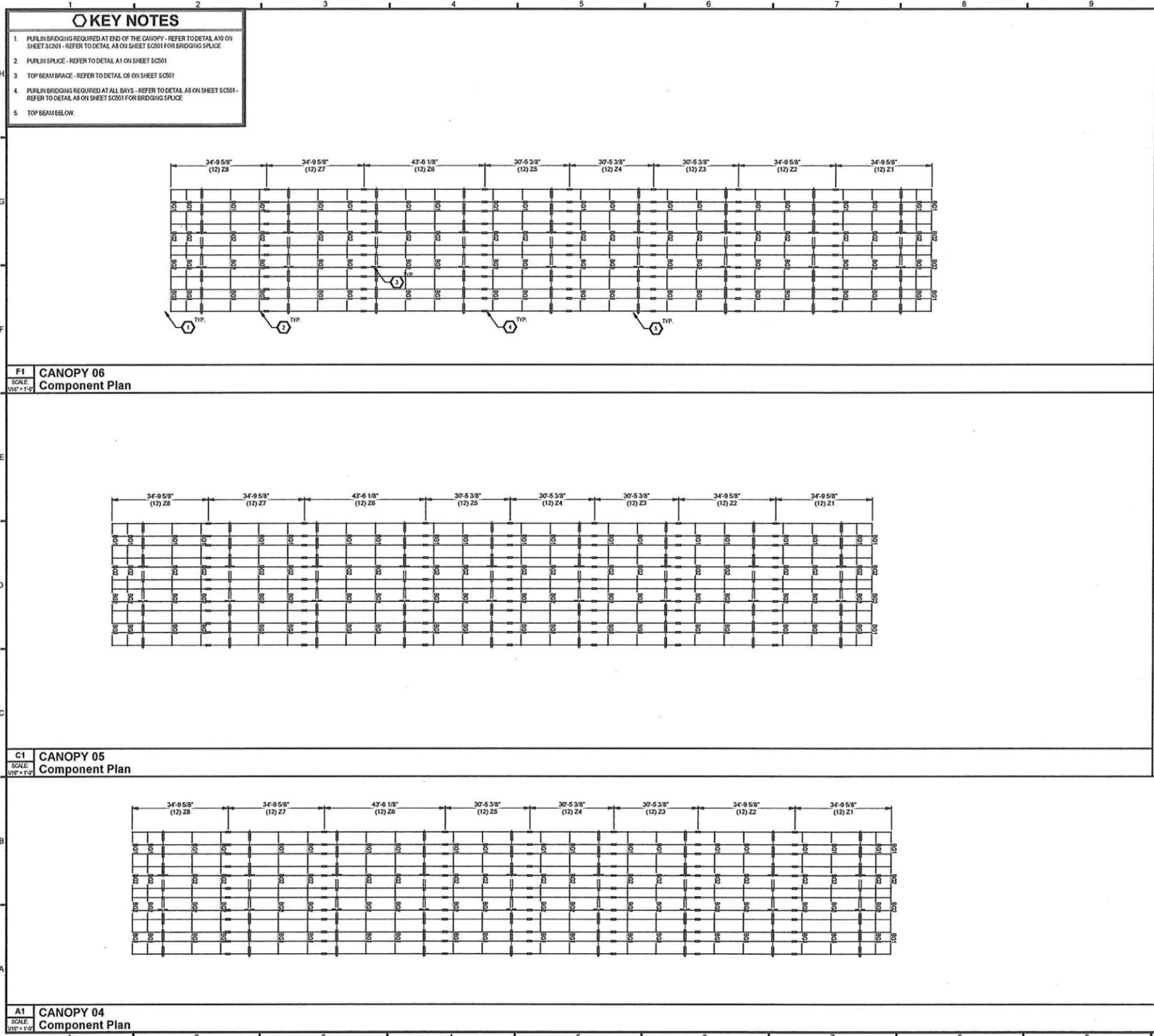
50 Constitution Blvd,
 Franklin, MA 02038

TERRASMARK PROJECT No.:
 2370049

DRAWN BY: NCE
 REVIEWED BY: MS

SHEET TITLE:
FOUNDATION AND COLUMN PLAN

SHEET No.:
SC102



- KEY NOTES**
- PURLIN BRIDGING REQUIRED AT END OF THE CANOPY - REFER TO DETAIL A10 ON SHEET SC01 - REFER TO DETAIL A3 ON SHEET SC01 FOR BRIDGING SPLICE
 - PURLIN SPLICE - REFER TO DETAIL A1 ON SHEET SC01
 - TOP BEAM BRACE - REFER TO DETAIL C6 ON SHEET SC01
 - PURLIN BRIDGING REQUIRED AT ALL BAYS - REFER TO DETAIL A5 ON SHEET SC01 - REFER TO DETAIL A3 ON SHEET SC01 FOR BRIDGING SPLICE
 - TOP BEAM BROW.

**F1 CANOPY 06
Component Plan**
SCALE: 1/8" = 1'-0"

**C1 CANOPY 05
Component Plan**
SCALE: 1/8" = 1'-0"

**A1 CANOPY 04
Component Plan**
SCALE: 1/8" = 1'-0"

COMPONENT SCHEDULE

MARK	DESCRIPTION	LENGTH	QTY.
TB1	W24 x 68	43'-0"	9
Z1	13 25 10 Ga. GALVANIZED ZEE	34'-9 5/8"	12
Z2	13 25 10 Ga. GALVANIZED ZEE	34'-9 5/8"	12
Z3	13 25 10 Ga. GALVANIZED ZEE	30'-5 3/8"	12
Z4	13 25 10 Ga. GALVANIZED ZEE	30'-5 3/8"	12
Z5	13 25 10 Ga. GALVANIZED ZEE	30'-5 3/8"	12
Z6S	13 25 10 Ga. GALVANIZED ZEE - STARTER	43'-6 1/8"	12
Z7	13 25 10 Ga. GALVANIZED ZEE	34'-9 5/8"	12
Z8	13 25 10 Ga. GALVANIZED ZEE	34'-9 5/8"	12
BA1	12 Ga. FORMED ANGLE	12'-0"	40
BA2	12 Ga. FORMED ANGLE	10'-2 5/8"	40

COMPONENT SETTING NOTES

- ALL COMPONENT DIMENSIONS SHOWN ARE END TO END.
- LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.
- REFERENCE SHEET SC01 FOR ADDITIONAL COMPONENT CONNECTION INFORMATION.
- PURLIN MARKS ENDING WITH 'S' REFER TO STARTER PURLINS AND ARE INTENDED TO BE INSTALLED FIRST WITHIN THAT CANOPY.
- ERECT TOP BEAM WITH PIECE MARK ORIENTED TO MATCH LOCATION SHOWN ON PLAN.

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SOLAR CANOPY FOR Sunnova Energy

RELEASE RECORD

NO.	DATE	DESCRIPTION
3	06/28/24	STAMPED
2	06/28/24	50% REVIEW

PROJECT INFORMATION

TITLE & ADDRESS:
Dell Campus
50 Constitution Blvd,
Franklin, MA 02038

TERRASMART PROJECT No.:
2370049

DRAWN BY: NCE
REVIEWED BY: MS

SHEET TITLE:
COMPONENT PLAN

SHEET No.:
SC104

