

WINCHENDON SOLAR, LLC

SITE PLAN REVIEW APPLICATION
PROPOSED SOLAR PHOTOVOLTAIC
DEVELOPMENT
BALDWINVILLE ROAD, WINCHENDON, MA

APRIL 10, 2023





April 10, 2023

Town of Winchendon Planning Board
c/o Nicole Roberts, Land Use and Planning Coordinator
109 Front Street
Winchendon, MA 01475

**Subject: Site Plan Review Application
Proposed Solar Photovoltaic Development
Baldwinville Road, Winchendon, MA 01475**

Dear Members of the Planning Board:

On behalf of Winchendon Solar, LLC (Sunpin/Applicant), WSP USA Environment & Infrastructure, Inc. (WSP, formerly Wood Massachusetts, Inc.), is pleased to submit this Site Plan Review Application to the Town of Winchendon Planning Board for a proposed ground-mounted solar photovoltaic (PV) development (the Project) located on parcels 13-0-272, 13-0-273, and 13-0-274 on Baldwinville Road in Winchendon, Massachusetts (the Site).

A completed Application for Site Plan Approval is included in **Attachment A**, a completed Application for Low Impact Development (LID) Permit is included in **Attachment H**, and a project Impact Statement for the Project is included in **Attachment J**. The Site Plan application fee will accompany this application from the Applicant under separate cover.

Existing Site Information

The Site is identified as parcels 13-0-273 (43 acres), 13-0-274 (2.15 acres), and 13-0-272 (2 acres), totaling 47.1 acres. The Site is located within the Rural Residential (R80) Zoning District as shown on the Zoning Map included in **Attachment A**. At the time of the first submission of this application in 2018, the three parcels, as well as parcels 13-0-4 and 13-0-271, were combined as lots included within parcel 13-0-4, which totaled 51.1 acres. Those lots have since been made into individual parcels and parcel 13-0-4, located at 185 Baldwinville Rd., which was sold to a new owner.

The Project is located in a primarily wooded and logged portion of the property as shown on the United States Geological Survey (USGS) and aerial site location maps on the cover sheet of the Project Drawings included in **Attachment B**. The Project is considered a Ground-Mounted Solar Energy Collection System per the Town of Winchendon Zoning Bylaw (the Bylaws). Based on preliminary discussions and a Design Review meeting with Town Department representatives, it is anticipated that the Project will be allowable



in accordance with the Bylaws. Demonstration of compliance with the Bylaw is described in further detail below.

Proposed Project

The existing and proposed site plans are shown on the Project Drawings included in **Attachment B**. The proposed fenced area of the solar PV array occupies approximately 12.8 acres and consists of approximately 9,300 PV modules (555 watts each), which are mounted on a racking system which will be supported by ground-mounted posts that will be embedded into the existing ground surface. Depending on actual module wattage selected by the Applicant at the time of construction, the proposed output of the solar array may vary between 5.0 and 5.5 megawatts (MW) direct current (DC). The solar panel modules will extend approximately 9 feet above the existing ground surface at their maximum height. The array will be surrounded by a 7-foot-high chain link fence and locking gate for security and electrical code purposes. Access to the Project will come off of Baldwinville Road at the pre-existing logging road Site entrance. A 15-foot wide crushed stone access road will be constructed along the northern and southern sides of the array inside the fence line to accommodate maintenance vehicles. The array will be connected through a series of inverters, switchboards, transformers, and a battery energy storage system (BESS) mounted on two concrete pads located near the Site entrance. The purpose of the transformers are to step up the voltage to match and allow for interconnection with the existing Massachusetts Electric (National Grid) utility grid. Medium voltage power from the transformer will run in a subsurface medium voltage line (approximately 30 feet) to six proposed above-ground utility poles. The proposed poles will be located along the existing Site entrance and will connect to an existing pole on Baldwinville Road via overhead electric lines (approximately 100 feet) at the point of interconnection (POI).

In addition to the local Site Plan and LID Applications, additional permits to comply with state and federal laws are anticipated to be submitted separately to the appropriate agencies as detailed below:

Wetlands: A Notice of Intent (NOI) was filed with the Town of Winchendon Conservation Commission on July 2, 2019 in accordance with the Massachusetts Wetlands Protection Act (WPA) (MGL c. 131 s. 40), its implementing regulations (310 CMR 10.00). Field investigation for jurisdictional wetland resource areas was conducted in June 2018. Bordering Vegetated Wetlands (BVWs) and Isolated Vegetated Wetlands (IVWs) determined to be jurisdictional under the Massachusetts Wetlands Protection Act and Town of Winchendon Bylaw were delineated by a team of two WSP wetland ecologists. The Site was also inspected for the



presence of other resource areas and potential vernal pools. BVWs and IVWs were delineated in accordance with the Massachusetts Department of Environmental Protection Handbook “Delineating Bordering Vegetated Wetlands under the Massachusetts Wetlands Protection Act”. Filing of the NOI was necessary because work along the proposed access road is located within wetland resource areas and their buffer zones. Approval from the Conservation Commission was received in the form of an Order of Conditions dated March 9, 2020 and is included in **Attachment K**. Per discussions with the Conservation Agent, the Order of Conditions is valid through June 2024 due to the COVID-10 pandemic.

Stormwater: A Stormwater Management Report was prepared with the above-referenced NOI application and was reviewed by the Conservation Commission and their peer reviewer, Tighe & Bond. Infiltration areas are proposed to attenuate the minimal increase in stormwater flow from the proposed construction, which result in no increase in peak runoff flow rate or volume to the existing wetland areas. Additionally, erosion and sedimentation (E&S) controls will be installed between the work areas and the wetlands prior to the start of construction and maintained until the site has been vegetatively stabilized to minimize stormwater impacts to wetland areas. E&S controls and stormwater mitigation described in the NOI were prepared per the MassDEP Stormwater Management Standards and Winchendon LID Design Criteria. The NOI Stormwater Management Report includes supporting calculations, drawings, and an Operation and Maintenance Plan, and is provided in **Attachment H under separate cover**.

Construction General Permit (CGP) and Stormwater Pollution Prevention Plan (SWPPP): Under the Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES), projects that involve one or more acres of earth-disturbing activities require submittal of an electronic NOI to obtain coverage under the CGP. This permit will include the submittal of a SWPPP containing Best Management Practices (BMPs) including soil erosion and sedimentation controls, pollution prevention standards, inspection and corrective action requirements, and specifications for temporary and permanent stabilization. The SWPPP is provided **under separate cover**.

Massachusetts Historical Commission (MHC): A Project Notification Form (PNF) will be submitted to the MHC for compliance with the National Historic Preservation Act (NHPA). This application will include Applicant information, project description, land use and area of disturbance.



Rare Species Habitat Consultation: Based on a review of the list of federally-listed threatened and endangered species in Massachusetts provided on the U.S. Fish and Wildlife Service (USFWS) the only listed species potentially present at the Project Site is threatened Northern long-eared bat (NLEB) (*Myotis septentrionalis*), which is listed statewide. Although no known NLEB roost tree is located within 150 feet of the Site, a NLEB 4(d) Rule Streamlined Consultation Form will be submitted to USFWS at least 30 days prior to the start of construction because a federal approval is required (EPA NPDES CGP).

These Applications, Drawings, and supporting documentation were prepared in accordance with the Town of Winchendon Zoning Bylaws: Section 6.11 (Solar Energy Collection Systems) and Section 12 (Site Plan Review). An Impact Statement in accordance with Section 3.3.5 of the Rules and Regulations for the Review and Approval of Site Plan and Site Development in Winchendon is included in **Attachment J**. Information required in the Bylaws is included in the attached Drawings, supporting documentation, and narrative below (followed by WSP's comments in ***bold italics***).

Town of Winchendon Zoning Bylaws

SECTION 6.11 – SOLAR ENERGY COLLECTION SYSTEMS

6.11.1 The purpose of this bylaw is to promote the creation of solar energy collection systems to further the goal of making Winchendon a sustainable community as provided in section 1.1.1 of this bylaw. This section seeks to provide standards for the placement, design, construction, operation, monitoring, modification and removal of such installations that address public safety, minimize impacts on scenic, natural and historic resources and to provide adequate financial assurance for the eventual decommissioning of such installations.

The Applicant acknowledges the purpose of this bylaw.

6.11.2 Solar Energy Collection Systems are permitted as follows:

- a. Solar Energy Collection Systems which produce energy to be used exclusively on the premises and systems which generate electricity that is sold to the electric utility, provided the site is/will be a net purchaser of electricity, are permitted by right in all zones as an accessory use. This shall include recharging electric automobile batteries on site.

Not applicable.



b. Solar Energy Collection Systems which are mounted on buildings are allowed by right in all zones.

Not applicable.

c. Ground mounted Solar Energy Collection Systems are allowed by right in the R40, R80, C1, C2, and I zones but shall be subject to the site plan review requirements of article 12 and the requirements of section 6.11.5 through 6.11.18.

The Applicant understands the Project will be subject to the site plan review requirements since the Project is located in the R80 zone.

d. Other Solar Energy Collection Systems are allowed in all zoning districts by special permit issued by the Planning Board and the site plan review requirements of article 12 and the requirements of section 6.11.5 through 6.11.18.

Not applicable.

6.11.3 The construction or installation of any Solar Energy Collection System shall require a separate building permit.

The Applicant understands that a building permit shall be obtained following the Planning Board permitting process and prior to construction.

6.11.4 The construction and operation of all Solar Energy Collection Systems shall be consistent with all applicable local, state and federal requirements, including but not limited to all applicable safety, construction, electrical, and communications requirements. All buildings and fixtures forming part of the installation shall be constructed in accordance with the State Building Code.

The Applicant acknowledges this requirement.

a. Lots containing Solar Energy Collection Systems shall conform to the lot area and setback requirements for the zone in which it is located.

The Project conforms to the setback requirements for the R80 zone (40 feet front, 25-foot side, and 50-foot rear). Further, the Project provides additional setback to the southern property line (25 feet to the fence and 50 feet to the array) in order to provide additional buffer to the adjacent abutting residential property.

b. In those cases where a required wooded buffer would shade the collectors, the Planning Board may allow substitution of a fence and a grassed buffer.

Not applicable.



6.11.5 Sections 6.11.6 through 6.11.18 shall apply only to systems requiring site plan review under section 6.11.2 c and 6.11.2 d.

Acknowledged.

6.11.6 In addition to the other requirements for site plan review, each application shall include:

- a. One or three line electrical diagram (if electrical generation is proposed) detailing the solar installation, associated components, and electrical interconnection methods, with all National Electrical Code and National Electrical Safety Code compliant disconnects and over current devices;

A one line electrical diagram for the Project is included in Attachment C.

- b. Documentation of the major system components to be used, including the collector panels, mounting system, and appurtenant devices;

Documentation for the major system components are included in Attachment D.

- c. A statement bearing the seal of a licensed professional engineer stating the measured normal pre construction noise levels at points (generally 100 feet apart) along the property lines and the expected operational noise levels at the same locations. Particular attention shall be paid to property lines abutting developed sites. A properly calibrated sound level meter meeting ANSI class 2 standards shall be used for all measurements.

The Applicant is requesting a variance or other relief from this requirement. Based on previous project experience, noise from the facility is not anticipated to be audible at the surrounding property lines. Typical transformer and inverter installations produce a "low hum" of approximately 50 decibels, which can be compared to the noise emitted from a ceiling fan.

- d. Name, address, and contact information for proposed system installer;

Project Proponent/Applicant:

Winchendon Solar, LLC

4 Park Plaza, Suite 1250

Irvine, CA 92614

Project Manager: Sam Dionne; (603) 686-1750;

sdionne@sunpinsolar.us

- e. An operation and maintenance plan (see also Section 6.11.9);
The Operation and Maintenance Plan for the Project is included in Attachment E. The Stormwater O&M Plan is included in the LID Application in Attachment H.
- f. Proof of liability insurance; and
A certificate of liability insurance is included in Attachment F.
- g. Description of financial security that satisfies Section 6.11.18.
Financial documentation including a decommissioning cost estimate and sample performance bond are included in Attachment G.

6.11.7 If the area where the collector panels are installed is so designed that all stormwater will be returned to the soil within the area, the whole area will be considered as pervious area. Otherwise the actual ground area covered by collector panels will be considered impervious.

There are gaps between the solar PV modules which allow stormwater to pass through; therefore, all stormwater will be returned to the soil within the solar PV area.

6.11.8 A Low Impact Development Permit under article 31 of the general bylaws will be required for Solar Energy Collection Systems.

An Application for Low Impact Development (LID) Permit and supporting documentation are included in Attachment H.

6.11.9 Operation & Maintenance Plan: The project proponent shall submit a plan for the operation and maintenance of the installation, which shall include measures for maintaining safe access to the installation, storm water controls, as well as general procedures for operational maintenance of the installation.

The Operation and Maintenance Plan for the Project is included in Attachment E. The Stormwater O&M Plan is included in the LID Application in Attachment H.

6.11.10 Utility Notification: No installation proposed to generate electricity for use off site shall be approved until evidence has been given to the Planning Board that the utility company that operates the electrical grid where the installation is to be located has been informed of the solar installation owner or operator's intent to install an interconnected customer-owned generator.

The Applicant has applied for an interconnection agreement with Massachusetts Electric (National Grid) and the Project is currently under



study. The executed interconnection will be provided prior to obtaining a building permit and commencement of construction.

6.11.11 Appurtenant Structures: All appurtenant structures to installations; including but not limited to, equipment shelters, storage facilities, transformers, substations; pumps, and turbines shall be included in the required site plan review and shall be evaluated based on the criteria in section 12.6. Whenever reasonable, structures should be shaded from view by vegetation and/or joined or clustered to avoid adverse visual impacts.

The proposed equipment pads are located inside the fence line to avoid adverse visual impacts and for safety purposes.

6.11.12 Design Standards

Solar energy collections systems shall be surrounded by a chain link or similar fence adequate to prevent entry by unauthorized persons.

a. If the noise level measured at any property line of the system in normal operation is more than 10 db greater than the reported pre construction noise level at the same location, sound deadening measures may be required as a condition of allowing further operation of the system.

The Applicant acknowledges the noise requirements.

b. Each installation shall have a sign showing the name and address of the operator thereof and a telephone number where a responsible representative of the operator may be reached at any time.

The Applicant will comply with the signage requirements.

c. Reasonable efforts, as determined by the Planning Board, shall be made to place all utility connections from the installation underground, depending on appropriate soil conditions, shape, and topography of the site and any requirements of the utility provider. Electrical transformers for utility interconnections may be above ground if required by the utility provider.

The utility connection is proposed to be underground to the maximum extent possible before the required pole and overhead wire installations. The transformers are proposed to be above-ground.

6.11.13 Safety and Environmental Standards

a. Emergency Services: The system owner or operator shall provide a copy of the project summary, electrical schematic, and site plan to the local fire chief. Upon request the owner or operator shall cooperate with local emergency services in developing an



emergency response plan. All means of shutting down the system shall be clearly marked. The owner or operator shall identify a responsible person for public inquiries throughout the life of the installation. This contact information and telephone number shall also be provided to the local emergency dispatch center.

b. Solar Energy Collection System Conditions: The installation owner or operator shall maintain the facility in good condition. Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to the local Fire Chief and Emergency Medical Services. The owner or operator shall be responsible for the cost of maintaining the installation and any access road(s), unless accepted as a public way.

A copy of this Application will be submitted to the local fire chief and the Applicant will comply with any other emergency service and maintenance requirements.

6.11.14 Modifications

a. All material modifications to a Solar Energy Collection System installation made after approval of the site plan shall require a modification of the approval.

b. The Planning Board shall review each site plan at intervals of not less than five years and may, after public notice and hearing, modify the approved plan to insure the public safety and compliance with the town bylaws and regulations.

Any modifications following receipt of a building permit will be submitted for approval prior to installation.

6.11.15 Abandonment or Decommissioning Any installation which has reached the end of its useful life or has been abandoned as defined in section 6.11.17 of this bylaw shall be removed. The owner or operator shall physically remove the installation no more than 150 days after the date of discontinued operations. The owner or operator shall notify the Planning Board by certified mail of the proposed date of discontinued operations and plans for removal. Decommissioning shall consist of:

a. Physical removal of the solar collectors, appurtenant structures, equipment, security barriers and transmission lines from the site.

b. Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations.

The Decommissioning Plan for the Project is included in Attachment I and the Applicant will comply with the removal requirements.



6.11.16 Stabilization or revegetation of the site as necessary to minimize erosion. The Planning Board may allow the owner or operator to leave landscaping or designated below-grade foundations in order to minimize erosion and disruption to vegetation.

The Applicant acknowledges the stabilization requirements.

6.11.17 Abandonment: Absent notice of a proposed date of decommissioning or written notice of extenuating circumstances, the installation shall be considered abandoned when the system fails to operate for more than one year without the written consent of the Planning Board. If the owner or operator of the installation fails to remove the installation in accordance with the requirements of this section within 150 days of abandonment or the proposed date of decommissioning, the town may enter the property and physically remove the installation.

The Applicant will comply with the abandonment requirements.

6.11.18 Financial Surety: Operators of installations shall provide security, either escrow account, bond, or otherwise, to cover the cost of removal of the system in the event the town must remove it and remediate the landscape. The form and amount of the security shall be determined by the Planning Board, The amount of the security shall reasonably reflect the anticipated cost of such removal and remediation. If the Board and the operator disagree, it shall be determined by a disinterested and qualified independent engineer. Such surety will not be required for municipally- or state-owned facilities. The amount shall include a mechanism for calculating increased removal costs due to inflation.

A decommissioning cost estimate and sample performance bond are included in Attachment G.

Should you have any questions regarding this application, please do not hesitate to contact me at (978) 392-5341 or andrew.vardakis@wsp.com.

Yours sincerely,

WSP USA Associates Massachusetts, Inc.

Andrew P. Vardakis, P.E.
Vice President, Civil Engineer

Henry Brown
Civil Engineer



Attachments: A – Application for Site Plan Approval; Zoning Map;
Property Assessment Cards
B – Project Drawings
C – Electrical One-Line Diagram
D – Equipment Documentation
E – Operation and Maintenance Plan
F – Certificate of Liability Insurance
G – Financial Documentation
H – Application for Low Impact Development Permit
I – Decommissioning Plan
J – Impact Statement
K – Conservation Commission Order of Conditions

Bound Separately: Stormwater Management Report
Stormwater Pollution Prevention Plan (SWPPP)

cc: Sam Dionne – Winchendon Solar, LLC

APPENDIX

A

APPLICATION FOR
SITE PLAN

APPROVAL, ZONING
MAP, PROPERTY

ASSESSMENT CARDS

TOWN OF WINCHENDON



Planning Board

Telephone (978) 297-0085
Facsimile (978) 297-1616

109 Front Street
Winchendon, Massachusetts 01475-1758

Application for Site Plan Approval

Fee paid: Town of Winchendon \$ _____ Winchendon Courier \$ _____

Pursuant to the provisions of Massachusetts General Law Chapter 40, Section 57, the Town Bylaw, Licenses and Permits of Delinquent Taxpayers, Section 2 L 1: 'Any Board ... shall deny the application ... for any person, corporation, or business enterprise who has neglected or refused to pay any local taxes, fees, assessments, betterments, or any other municipal charge.' **Certification must be obtained from the Town Treasurer on this form before it is submitted to the Planning Board. The Town Treasurer has up to ten (10) days to complete certification.**
I hereby certify that no debt is owed to the Town by the applicant or the owner of record for a period of time greater than twelve (12) months.

_____ 3/28/2023
Town Treasurer _____ Date _____

PB # _____ Rec'd by Planning Board _____

APPLICANT name Winchendon Solar, LLC

Address 4 Park Plaza, Suite 1250; Irvine, CA 92614 Tel. # (617) 586-8468

LANDOWNER name Kevin A. Doyle

Address 6 Warner Lane #6, Westminster, MA 01473 Tel. # (978) 503-8766

LOCATION OF LAND Baldwinville Road - Parcels 13-0-272, 13-0-273, 13-0-274

TITLE OF PLAN Sunpin Solar Project

Property is to be used for Solar PV Development

under Article 3.2 of the Schedule of Use Regulations of the Town of Winchendon
Deed to the property, as recorded in the Worcester District Registry of Deeds
Book 47372 Page 168 and is shown on
Assessors Map 13 Parcel 272, 273, 274 Zoning R80
Lot size Parcel 272 (2 acres), Parcel 273 (43 acres), Parcel 274 (2.15 acres), 47.1 acres total.

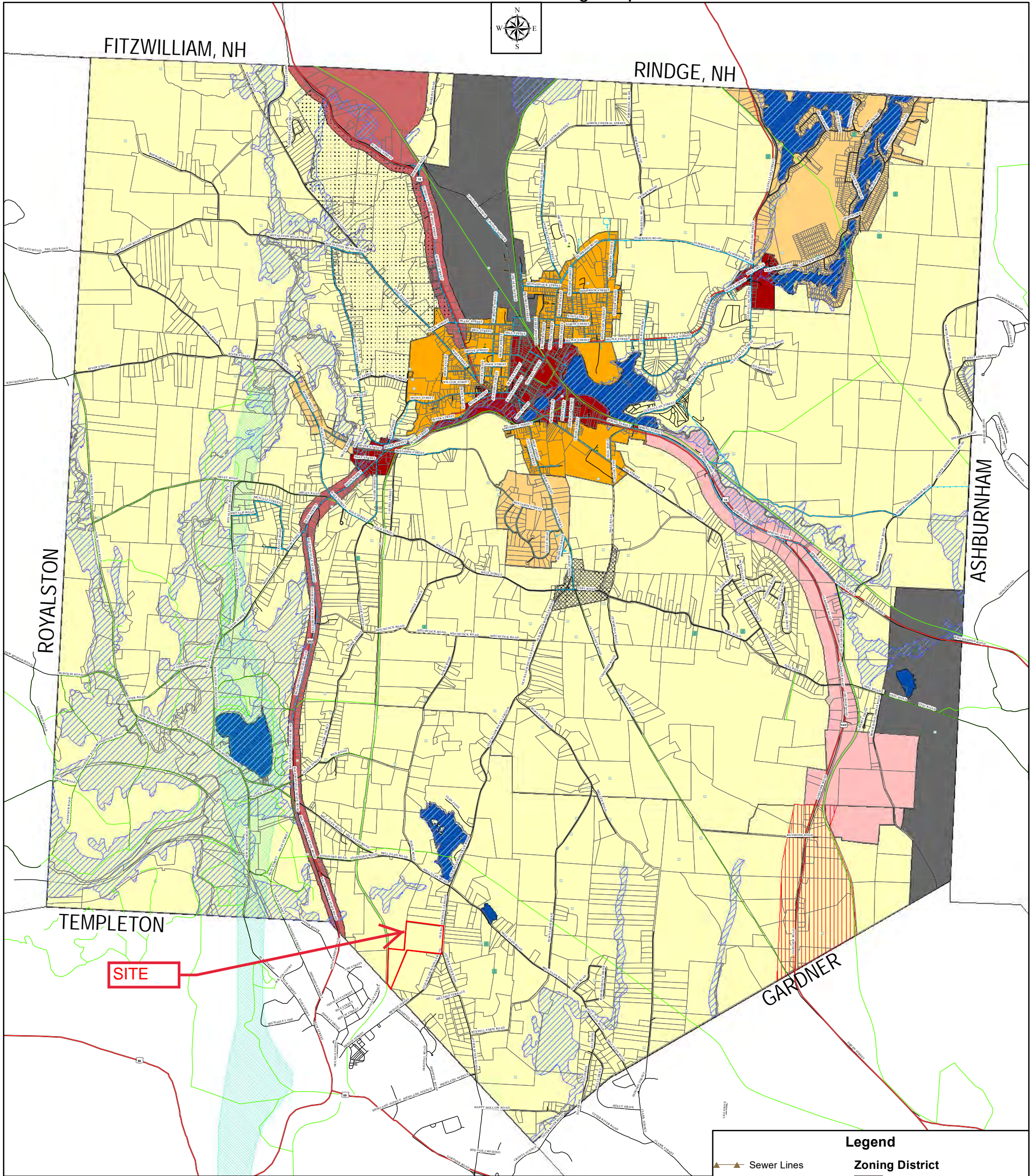
The undersigned hereby request approval of a site plan under Section 5.2 of the Winchendon Zoning Bylaws and further certify that all information provided in this application and site plan is true.

OWNER signature _____
DocuSigned by: Kevin A. Doyle

APPLICANT signature _____
DocuSigned by: _____

Original of this application must be submitted to the Town Clerk.

Winchendon Zoning Map



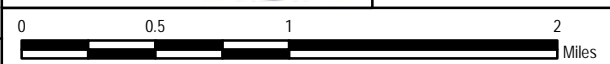
Legend	
	Sewer Lines
	Water Lines
	Highways
Roads and Streets	
	Maintained, Paved
	Maintained, Gravel
	Not Town Maintained
	Trail Inventory
	Schools
	Certified Vernal Pool
	Potential Vernal Pool
	Parcels
	Winchendon Boundary
	State Boundary
	C1- Large Scale Commercial
	C2- Neighborhood Commercial
	Planned Development
	Industrial
	Pond
	R80- Rural Residential
	R40- Suburban Residential
	R10- Neighborhood Residential
Zoning Overlays	
	Floodplain
	Golf Residential
	Gateway Overlay
	Historic
	Aquifer

Date of Adoption - November 2, 2009

Zoning information is valid for areas within the Town of Winchendon only.

DATA SOURCES : MassGIS, MHD, the Town of Winchendon and the MRPC. DISCLAIMER : The information depicted on this map is for planning purposes only. All data are representational and are not adequate for boundary definition, regulatory interpretation, or parcel-based analysis.

PREPARED BY:
 Montachusett Regional Planning Commission
 GIS Department, November 2009
 R1427 Water Street
 Fitchburg, MA 01420
 Phone: 978-345-7376
 E-mail: mrpc@mrpc.org



Assessment Field Card

Town of Winchendon, Massachusetts



Parcel Information	
NO PHOTO AVAILABLE	<p>Address: BALDWINVILLE RD Map-Lot: 13-0-272 Patriot Account #: 5516 Owner: DOYLE, KEVIN A. Co-Owner: Mailing Address: 6 WARNER LN WESTMINSTER, MA 01473</p>
Building Exterior Details	General Information
<p>Building Type: Year Built: Grade: Frame Type: Living Units: 1 Building Condition: Roof Cover: Roof Type: Exterior Wall Type: Pool: False</p>	<p>Total Acres: 2 Land Use Code: 6010 Neighborhood Code: R4 Owner Occupied: N Condo Name: Condo Unit: Zone: Utility Code 1: TYPI Utility Code 2: Utility Code 3:</p>
Building Area	Ownership History
<p>Gross Area: 0 sqft Finished Area: 0 sqft Basement Area: 0 sqft Garage Area: 0 sqft Detached Garage: sqft Basement Garage: sqft</p>	<p>Sale Date: 5/10/2011 Sale Price: \$ 0 Nal Description: Grantor (Seller): WRIGHTSON, HOLLY Book/Page:</p>
Building Interior	Assessed Value
<p>No. Total Rooms: 0 No. Bedrooms: 0 No. Full Baths: 0 No. Half Baths: 0 Bath Rating: No. Kitchens: 0 Kitchen Rating: Building Framing: Interior Wall Type: Fireplaces: 0 Solar Hot Water: False Central Vac: False Floor Type: Heat Type: Heat Fuel: Percent A/C:</p>	<p>Assessed Yard Value: \$ 0 Assessed Land Value: \$ 240 Assessed Bldg Value: \$0 Total Assessed Value: \$240</p>



www.cai-tech.com

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

NO SKETCH
AVAILABLE

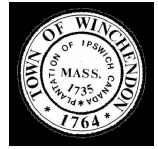


www.cai-tech.com

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

Assessment Field Card

Town of Winchendon, Massachusetts



Parcel Information	
NO PHOTO AVAILABLE	<p>Address: BALDWINVILLE RD Map-Lot: 13-0-273 Patriot Account #: 5514 Owner: DOYLE, KEVIN A. Co-Owner: Mailing Address: 6 WARNER LN WESTMINSTER, MA 01473</p>
Building Exterior Details	General Information
<p>Building Type: Year Built: Grade: Frame Type: Living Units: 1 Building Condition: Roof Cover: Roof Type: Exterior Wall Type: Pool: False</p>	<p>Total Acres: 43 Land Use Code: 6010 Neighborhood Code: R4 Owner Occupied: N Condo Name: Condo Unit: Zone: Utility Code 1: TYPI Utility Code 2: Utility Code 3:</p>
Building Area	Ownership History
<p>Gross Area: 0 sqft Finished Area: 0 sqft Basement Area: 0 sqft Garage Area: 0 sqft Detached Garage: sqft Basement Garage: sqft</p>	<p>Sale Date: 5/10/2011 Sale Price: \$ 0 Nal Description: Grantor (Seller): WRIGHTSON, HOLLY Book/Page:</p>
Building Interior	Assessed Value
<p>No. Total Rooms: 0 No. Bedrooms: 0 No. Full Baths: 0 No. Half Baths: 0 Bath Rating: No. Kitchens: 0 Kitchen Rating: Building Framing: Interior Wall Type: Fireplaces: 0 Solar Hot Water: False Central Vac: False Floor Type: Heat Type: Heat Fuel: Percent A/C:</p>	<p>Assessed Yard Value: \$ 0 Assessed Land Value: \$ 5160 Assessed Bldg Value: \$0 Total Assessed Value: \$5160</p>



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

NO SKETCH
AVAILABLE



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

Assessment Field Card

Town of Winchendon, Massachusetts



Parcel Information	
NO PHOTO AVAILABLE	<p>Address: BALDWINVILLE RD Map-Lot: 13-0-274 Patriot Account #: 5512 Owner: DOYLE, KEVIN A. Co-Owner: Mailing Address: 6 WARNER LN WESTMINSTER, MA 01473</p>
Building Exterior Details	General Information
<p>Building Type: Year Built: Grade: Frame Type: Living Units: 1 Building Condition: Roof Cover: Roof Type: Exterior Wall Type: Pool: False</p>	<p>Total Acres: 2.1491 Land Use Code: 6010 Neighborhood Code: R4 Owner Occupied: N Condo Name: Condo Unit: Zone: Utility Code 1: TYPI Utility Code 2: Utility Code 3:</p>
Building Area	Ownership History
<p>Gross Area: 0 sqft Finished Area: 0 sqft Basement Area: 0 sqft Garage Area: 0 sqft Detached Garage: sqft Basement Garage: sqft</p>	<p>Sale Date: 5/10/2011 Sale Price: \$ 0 Nal Description: Grantor (Seller): WRIGHTSON, HOLLY Book/Page:</p>
Building Interior	Assessed Value
<p>No. Total Rooms: 0 No. Bedrooms: 0 No. Full Baths: 0 No. Half Baths: 0 Bath Rating: No. Kitchens: 0 Kitchen Rating: Building Framing: Interior Wall Type: Fireplaces: 0 Solar Hot Water: False Central Vac: False Floor Type: Heat Type: Heat Fuel: Percent A/C:</p>	<p>Assessed Yard Value: \$ 0 Assessed Land Value: \$ 258 Assessed Bldg Value: \$0 Total Assessed Value: \$258</p>



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

NO SKETCH
AVAILABLE



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

APPENDIX

B

PROJECT DRAWINGS



PROPRIETARY INFORMATION: THIS DRAWING IS THE PROPERTY OF AMEC ENVIRONMENT & INFRASTRUCTURE AND IS NOT TO BE LOANED OR REPRODUCED IN ANY WAY WITHOUT THE PERMISSION OF AMEC ENVIRONMENT & INFRASTRUCTURE

SUNPIN ENERGY SERVICES, LLC

5.154 MW DC GROUND-MOUNT SOLAR PV DEVELOPMENT

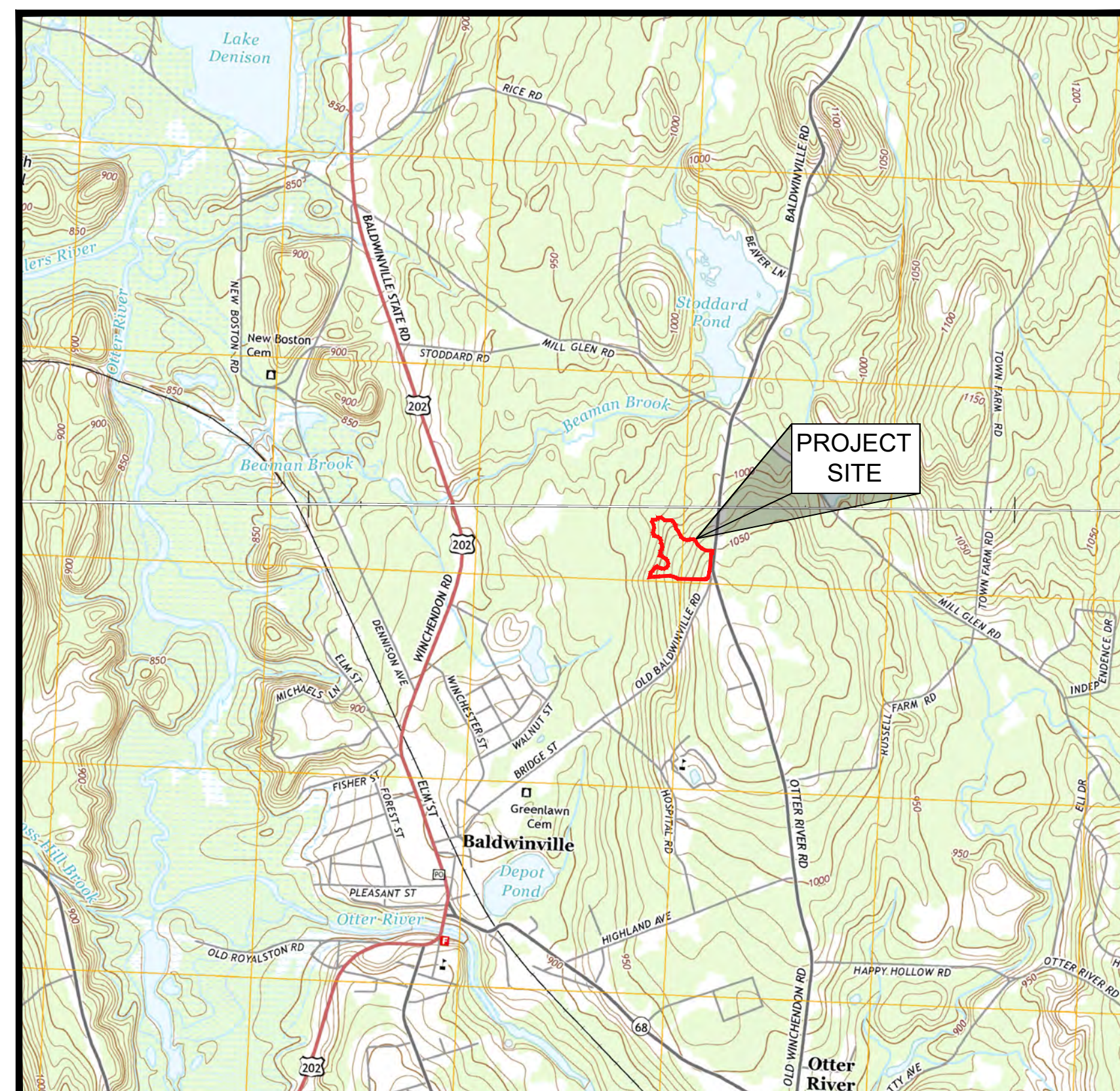
BALDWINVILLE ROAD - PARCELS 13-0-272, 273, & 274

WINCHENDON, MASSACHUSETTS

DECEMBER 17, 2018

LAST ISSUED APRIL 10, 2023

ISSUED FOR PERMITTING / NOT FOR CONSTRUCTION



LOCUS MAP
NOT TO SCALE



AERIAL IMAGE
NOT TO SCALE

DRAWING INDEX

SHEET NUMBER	DRAWING TITLE	DRAWING NUMBER
	COVER SHEET	
1	EXISTING CONDITIONS PLAN	V-101
2	PROPOSED SITE PLAN	C-101
3	PROPOSED SITE PLAN (SITE ENTRANCE)	C-102
4	PROPOSED UTILITY, GRADING, AND DRAINAGE PLAN	C-103
5	CONSTRUCTION, EROSION, AND SEDIMENTATION CONTROL DETAILS AND NOTES	C-501
6	CONSTRUCTION, EROSION, AND SEDIMENTATION CONTROL DETAILS	C-502

PROPERTY OWNER

KEVIN A. DOYLE
P.O. BOX 113
WINCHENDON, MASSACHUSETTS 01475

DEVELOPED BY

WINCHENDON SOLAR, LLC



Securing a brighter future through solar
4 PARK PLAZA, SUITE 1250
IRVINE, CALIFORNIA 92614

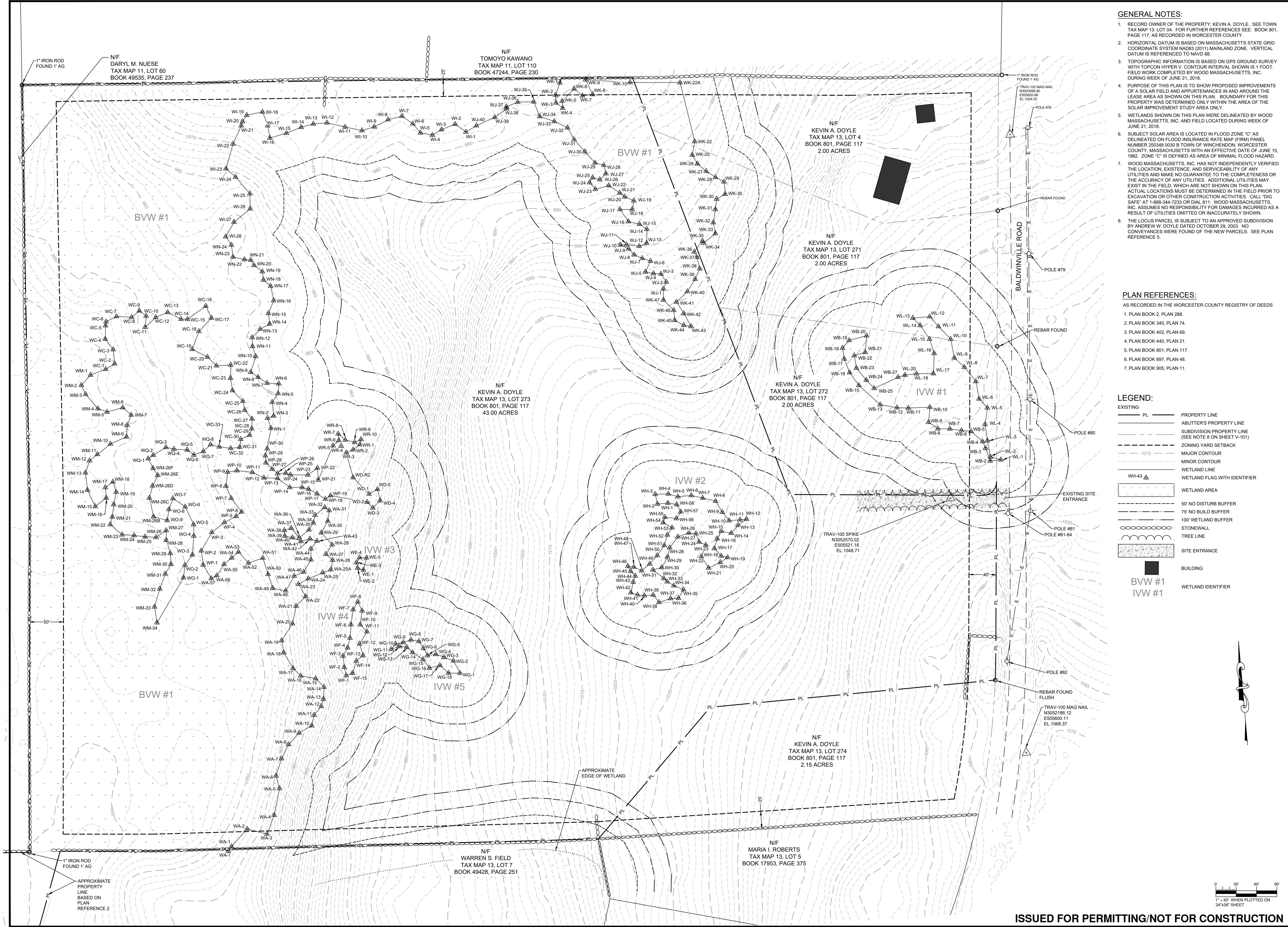
PREPARED BY



WSP USA ENVIRONMENT & INFRASTRUCTURE, INC.

100 APOLLO DRIVE, SUITE 302
CHELMSFORD, MASSACHUSETTS 01824

U:_CAD Projects\Sunpin\Winchendon - 36521801577.0 CAD\7.1 Design - Permitting\Sheets\0 - 3652180157 - Layout1 - Apr. 10, 2023 12:27pm - Henry Brown



GENERAL NOTES:

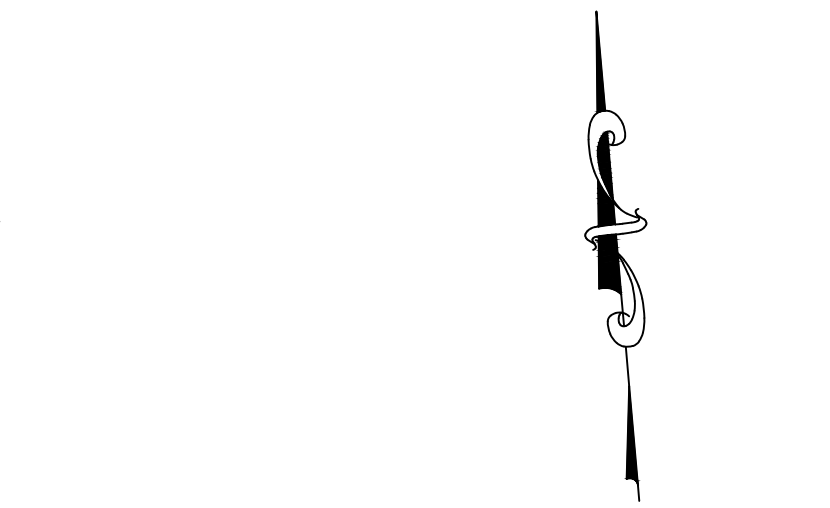
- RECORD OWNER OF THE PROPERTY: KEVIN A. DOYLE. SEE TOWN TAX MAP 13, LOT 04. FOR FURTHER REFERENCES SEE: BOOK 801, PAGE 117, AS RECORDED IN WORCESTER COUNTY.
- HORIZONTAL DATUM IS BASED ON MASSACHUSETTS STATE GRID COORDINATE SYSTEM NAD83 (2011) MAINLAND ZONE. VERTICAL DATUM IS REFERENCED TO NAVD 88.
- TOPOGRAPHIC INFORMATION IS BASED ON GPS GROUND SURVEY WITH TOPCON HYPER V. CONTOUR INTERVAL SHOWN IS 1 FOOT. FIELD WORK COMPLETED BY WOOD MASSACHUSETTS, INC. DURING WEEK OF JUNE 21, 2018.
- PURPOSE OF THIS PLAN IS TO SHOW PROPOSED IMPROVEMENTS OF A SOLAR FIELD AND APPURTENANCES IN AND AROUND THE LEASE AREA AS SHOWN ON THIS PLAN. BOUNDARY FOR THIS PROPERTY WAS DETERMINED ONLY WITHIN THE AREA OF THE SOLAR IMPROVEMENT STUDY AREA ONLY.
- WETLANDS SHOWN ON THIS PLAN WERE DELINEATED BY WOOD MASSACHUSETTS, INC. AND FIELD LOCATED DURING WEEK OF JUNE 21, 2018.
- SUBJECT SOLAR AREA IS LOCATED IN FLOOD ZONE "C" AS DELINEATED ON FLOOD INSURANCE RATE MAP (FIRM) PANEL NUMBER 250348 0030 B TOWN OF WINCHENDON, WORCESTER COUNTY, MASSACHUSETTS WITH AN EFFECTIVE DATE OF JUNE 15, 1982. ZONE "C" IS DEFINED AS AREA OF MINIMAL FLOOD HAZARD.
- WOOD MASSACHUSETTS, INC. HAS NOT INDEPENDENTLY VERIFIED THE LOCATION, EXISTENCE, AND SERVICEABILITY OF ANY UTILITIES AND MAKE NO GUARANTEE TO THE COMPLETENESS OR THE ACCURACY OF ANY UTILITIES. ADDITIONAL UTILITIES MAY EXIST IN THE FIELD, WHICH ARE NOT SHOWN ON THIS PLAN. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD PRIOR TO EXCAVATION OR OTHER CONSTRUCTION ACTIVITIES. CALL "DIG SAFE" AT 1-888-344-7233 OR DIAL 811. WOOD MASSACHUSETTS, INC. ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN.
- THE LOCUS PARCEL IS SUBJECT TO AN APPROVED SUBDIVISION BY ANDREW W. DOYLE DATED OCTOBER 28, 2003. NO CONVEYANCES WERE FOUND OF THE NEW PARCELS. SEE PLAN REFERENCE 5.

PLAN REFERENCES:
AS RECORDED IN THE WORCESTER COUNTY REGISTRY OF DEEDS

- PLAN BOOK 2, PLAN 288.
- PLAN BOOK 345, PLAN 74.
- PLAN BOOK 402, PLAN 69.
- PLAN BOOK 440, PLAN 21.
- PLAN BOOK 801, PLAN 117.
- PLAN BOOK 897, PLAN 48.
- PLAN BOOK 905, PLAN 11.

LEGEND:

EXISTING	PL	PROPERTY LINE
	---	ABUTTER'S PROPERTY LINE
	---	SUBDIVISION PROPERTY LINE (SEE NOTE 8 ON SHEET V-101)
	---	ZONING YARD SETBACK
	1015	MAJOR CONTOUR
	---	MINOR CONTOUR
	---	WETLAND LINE
	---	WETLAND FLAG WITH IDENTIFIER
	---	WETLAND AREA
	---	50' NO DISTURB BUFFER
	---	75' NO BUILD BUFFER
	---	100' WETLAND BUFFER
	---	STONEWALL
	---	TREE LINE
	---	SITE ENTRANCE
	---	BUILDING
	BVW #1	WETLAND IDENTIFIER
	IVW #1	WETLAND IDENTIFIER



ISSUED FOR PLANNING BOARD REVIEW	APV	APPROVED
04/10/2023	APV	
06/15/2021	APV	
01/28/2020	APV	
09/11/2019	APV	
08/12/2019	APV	
07/01/2019	APV	
02/04/2019	APV	
7	REVISION	DATE

WSP USA ENVIRONMENT & INFRASTRUCTURE, INC.
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WEB: WWW.WSP.COM

PROJECT: 5.154 MW DC GROUND-MOUNT SOLAR PV DEVELOPMENT
BALDWINVILLE RD
WINCHENDON, MASSACHUSETTS

TITLE: EXISTING CONDITIONS PLAN

CLIENT: WINCHENDON SOLAR, LLC

DESIGNED BY: APV
CHECKED BY: OAC
PROJECT NUMBER: 3652180157
DRAWING NUMBER: V-101
SHEET NUMBER: 1 OF 6

DESIGNED BY: DED
CHECKED BY: SCALE: AS SHOWN
PROJECT NUMBER: 3652180157
DRAWING NUMBER: V-101
SHEET NUMBER: 1 OF 6

ANDREW P. VARDAKIS
CIVIL ENGINEER
No. 52524
4/11/2023

DATE	REVISION	ISSUE / REVISION DESCRIPTION
04/10/2023	7	ISSUED FOR PLANNING BOARD REVIEW
06/15/2021	6	UPDATED PROPOSED CONDITIONS WITH NEW EQUIPMENT PADS
01/28/2020	5	ADDRESSED PEER REVIEW COMMENTS
09/11/2019	4	ISSUED FOR PERMITTING NOT FOR CONSTRUCTION
08/12/2019	3	ISSUED FOR PERMITTING NOT FOR CONSTRUCTION
07/01/2019	2	ISSUED FOR PERMITTING NOT FOR CONSTRUCTION
02/04/2019	1	REVISED PEER TOWN COMMENTS

PROJECT: 5.154 MW DC GROUND-MOUNT SOLAR PV DEVELOPMENT
 BALDWINVILLE RD
 WINCHENDON, MASSACHUSETTS

TITLE: PROPOSED SITE PLAN

CLIENT: WINCHENDON SOLAR, LLC

DESIGNED BY: APV
 CHECKED BY: OAC

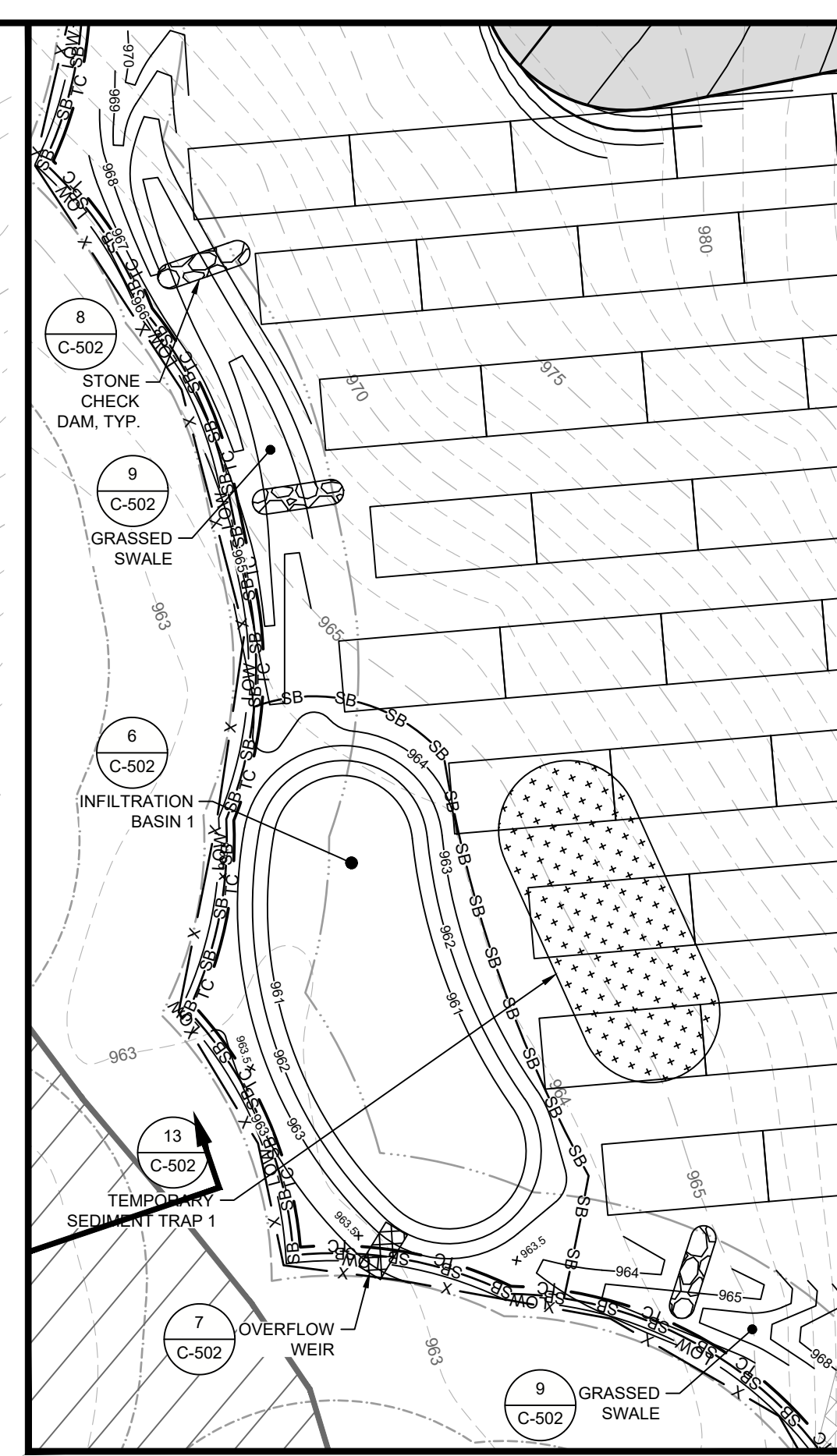
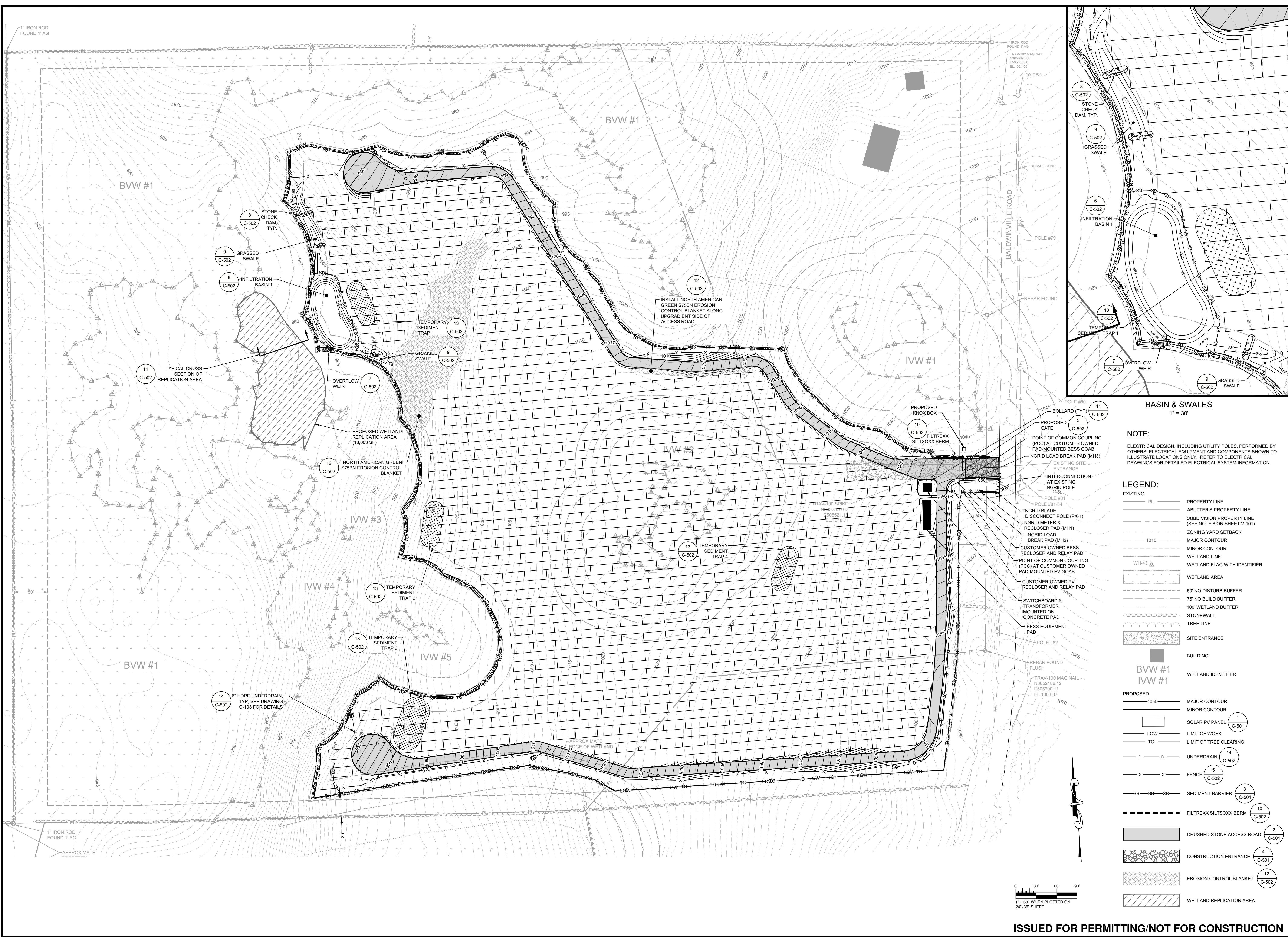
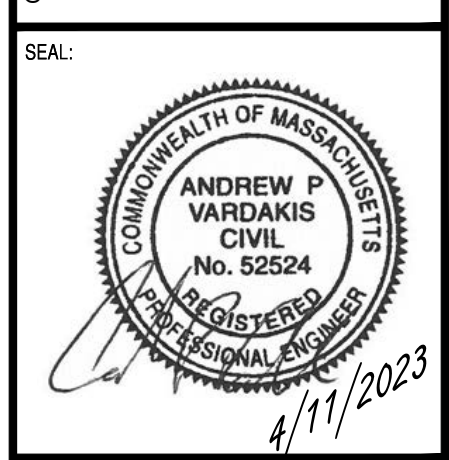
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 SCALE: AS SHOWN

PROJECT NUMBER: 3652180157
 DRAWING NUMBER: C-101
 SHEET NUMBER: 2 OF 6

DESIGNED BY: APV
 CHECKED BY: OAC

DRAWN BY: DEW
 SCALE: AS SHOWN

PROJECT NUMBER: 3652180157
 DRAWING NUMBER: C-101
 SHEET NUMBER: 2 OF 6



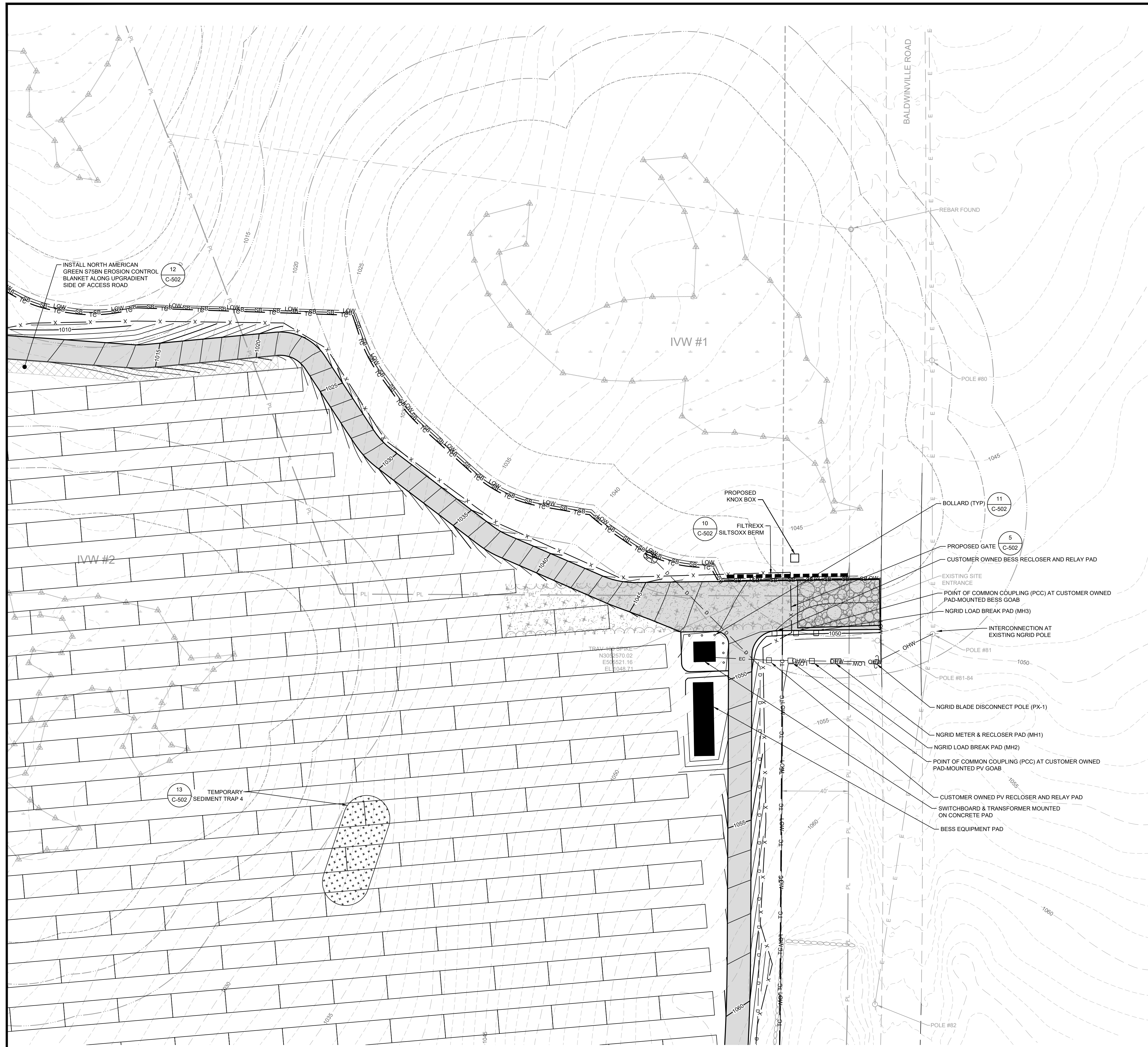
BASIN & SWALES
 1" = 30'

NOTE:
 ELECTRICAL DESIGN, INCLUDING UTILITY POLES, PERFORMED BY OTHERS. ELECTRICAL EQUIPMENT AND COMPONENTS SHOWN TO ILLUSTRATE LOCATIONS ONLY. REFER TO ELECTRICAL DRAWINGS FOR DETAILED ELECTRICAL SYSTEM INFORMATION.

LEGEND:

EXISTING	PL	PROPERTY LINE
	PL	ADJUTTER'S PROPERTY LINE
	PL	SUBDIVISION PROPERTY LINE (SEE NOTE 8 ON SHEET V-101)
	1015	MAJOR CONTOUR
	1015	MINOR CONTOUR
	WH-43	WETLAND LINE WITH IDENTIFIER
		WETLAND AREA
		50' NO DISTURB BUFFER
		75' NO BUILD BUFFER
		100' WETLAND BUFFER
		STONEWALL
		TREE LINE
		SITE ENTRANCE
		BUILDING
		WETLAND IDENTIFIER
PROPOSED	1050	MAJOR CONTOUR
		MINOR CONTOUR
		SOLAR PV PANEL
	LOW	LIMIT OF WORK
	TC	LIMIT OF TREE CLEARING
	D	UNDERDRAIN
	X	FENCE
	SB	SEDIMENT BARRIER
		FILTREXX SILT/SOXX BERM
		CRUSHED STONE ACCESS ROAD
		CONSTRUCTION ENTRANCE
		EROSION CONTROL BLANKET
		WETLAND REPLICATION AREA

ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION



LEGEND:

- EXISTING**
- PL ——— PROPERTY LINE
 - ABUTTER'S PROPERTY LINE
 - SUBDIVISION PROPERTY LINE (SEE NOTE 8 ON SHEET V-101)
 - ZONING YARD SETBACK
 - 1015 ——— MAJOR CONTOUR
 - MINOR CONTOUR
 - WETLAND LINE
 - WH-43 ▲ WETLAND FLAG WITH IDENTIFIER
 - WETLAND AREA
 - 50' NO DISTURB BUFFER
 - 75' NO BUILD BUFFER
 - 100' WETLAND BUFFER
 - STONEWALL
 - TREE LINE
 - SITE ENTRANCE
 - BUILDING
 - WETLAND IDENTIFIER
- PROPOSED**
- 1050 ——— MAJOR CONTOUR
 - MINOR CONTOUR
 - SOLAR PV PANEL (1 C-501)
 - LOW LIMIT OF WORK
 - TC ——— LIMIT OF TREE CLEARING
 - O — O — UNDERDRAIN (14 C-502)
 - X — X — FENCE (5 C-502)
 - SB — SB — SEDIMENT BARRIER (3 C-501)
 - — — — — FILTERREX SILT/SOXX BERM (10 C-502)
 - CRUSHED STONE ACCESS ROAD (2 C-501)
 - CONSTRUCTION ENTRANCE (4 C-501)
 - EROSION CONTROL BLANKET (12 C-502)
 - WETLAND REPLICATION AREA

NOTE:

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wsp
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DATE	REVISION	ISSUE / REVISION DESCRIPTION
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08/12/2019	3	ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION
07/01/2019	2	ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION
02/04/2019	1	ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION

PROJECT: 5.154 MW DC GROUND-MOUNT SOLAR PV DEVELOPMENT
 BALDWINVILLE RD
 WINCHENDON, MASSACHUSETTS

TITLE: PROPOSED SITE PLAN (SITE ENTRANCE)

CLIENT: WINCHENDON SOLAR, LLC

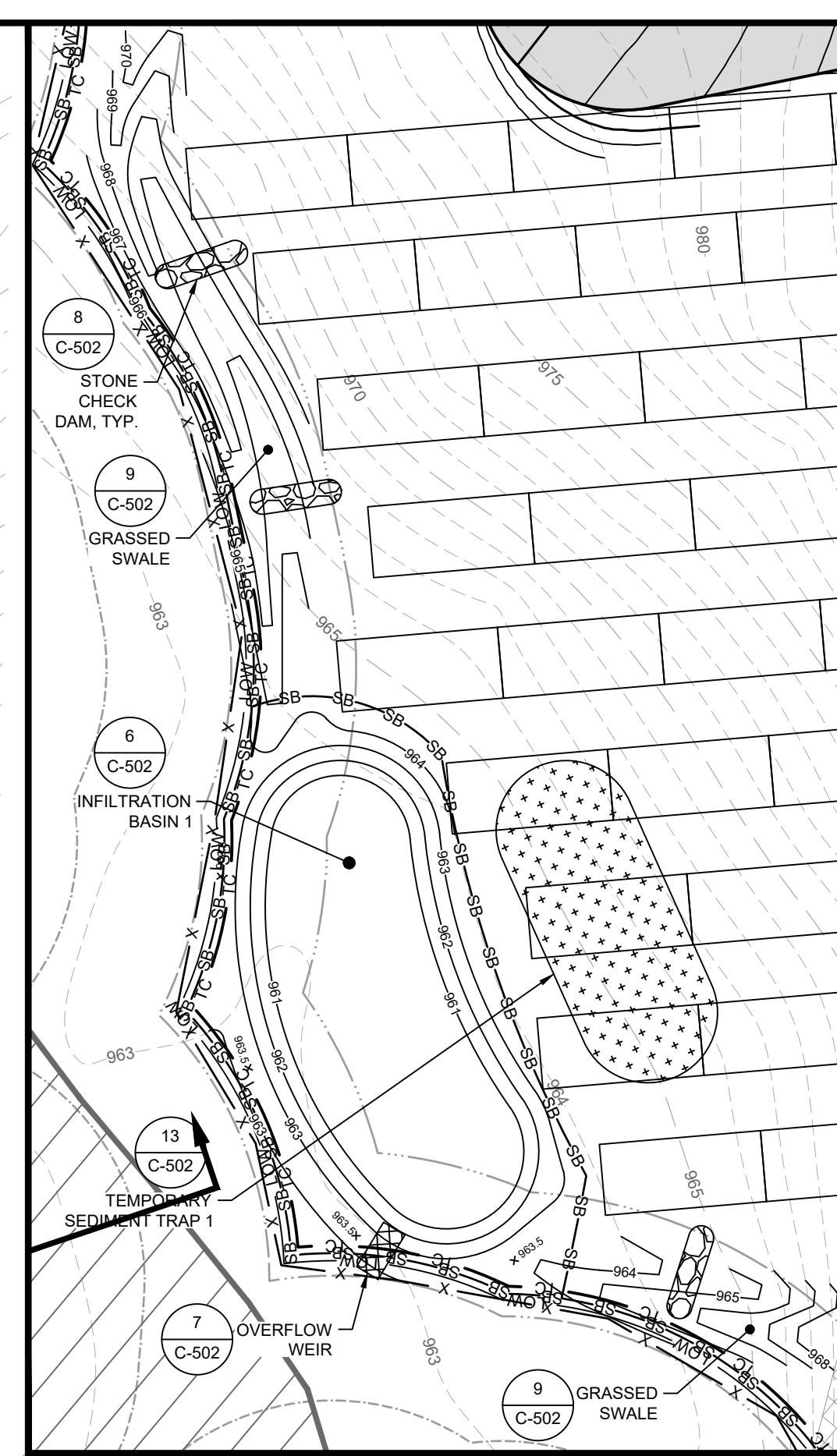
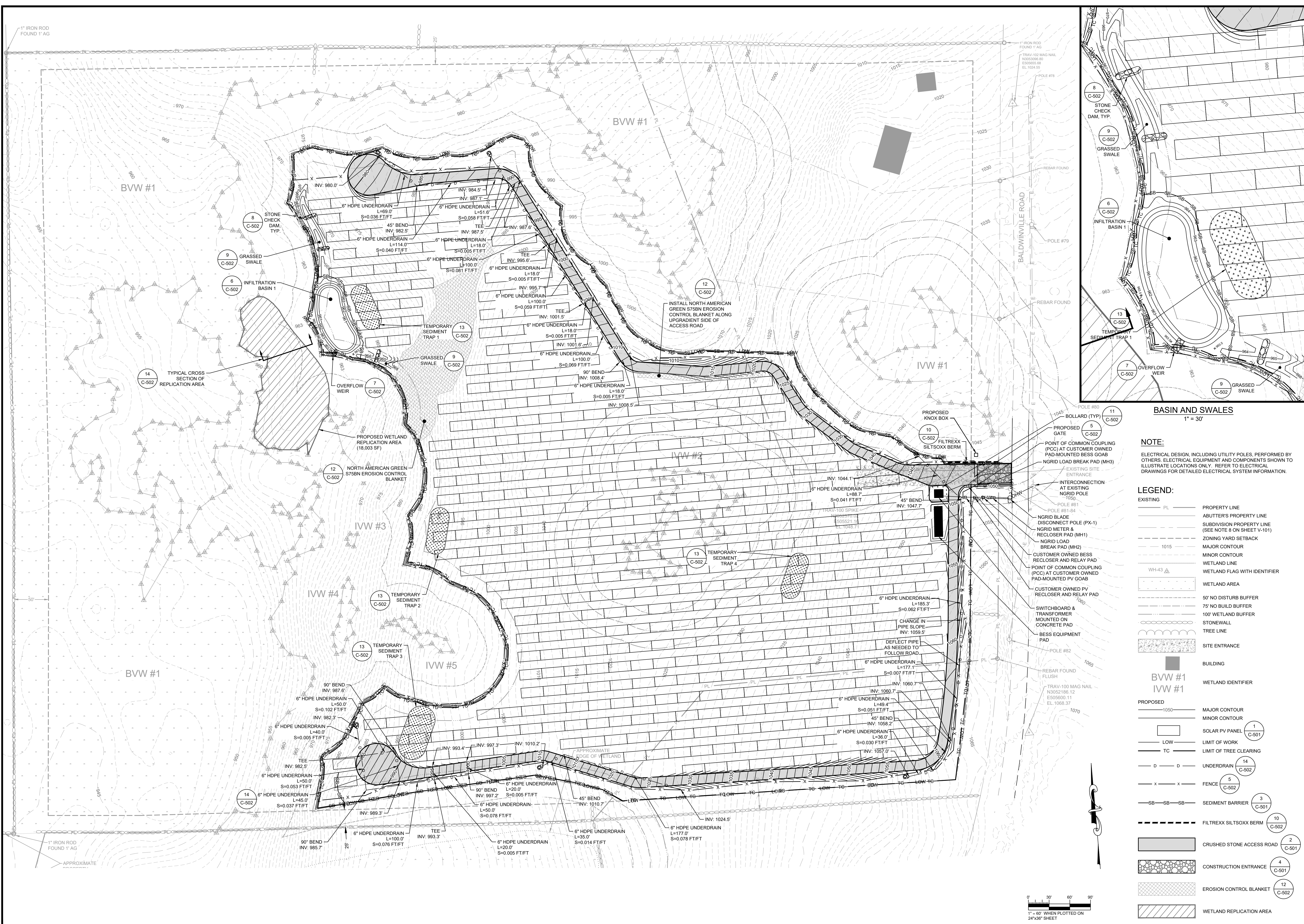
SUNPIN
 Securing a brighter future through solar

SEAL:

DESIGNED BY: APV	DRAWN BY: DED
CHECKED BY: OAC	SCALE: AS SHOWN
PROJECT NUMBER: 3652180157	
DRAWING NUMBER: C-102	
SHEET NUMBER: 3 OF 6	

ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION

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BASIN AND SWALES
 1" = 30'

NOTE:
 ELECTRICAL DESIGN, INCLUDING UTILITY POLES, PERFORMED BY OTHERS. ELECTRICAL EQUIPMENT AND COMPONENTS SHOWN TO ILLUSTRATE LOCATIONS ONLY. REFER TO ELECTRICAL DRAWINGS FOR DETAILED ELECTRICAL SYSTEM INFORMATION.

LEGEND:

EXISTING	PL	PROPERTY LINE
	ABUTTER'S PROPERTY LINE	
	SUBDIVISION PROPERTY LINE (SEE NOTE 8 ON SHEET V-101)	
	ZONING YARD SETBACK	
	MINOR CONTOUR	
	WETLAND LINE	
	WETLAND FLAG WITH IDENTIFIER	
	WETLAND AREA	
	50' NO DISTURB BUFFER	
	75' NO BUILD BUFFER	
	100' WETLAND BUFFER	
	STONEWALL	
	TREE LINE	
	SITE ENTRANCE	
	BUILDING	
	WETLAND IDENTIFIER	
PROPOSED	1050	MAJOR CONTOUR
		MINOR CONTOUR
		SOLAR PV PANEL (1 C-501)
	LOW	LIMIT OF WORK
	TC	LIMIT OF TREE CLEARING
	D	UNDERDRAIN (14 C-502)
	X	FENCE (5 C-502)
	SB-SB-SB	SEDIMENT BARRIER (3 C-501)
		FILTREXX SILT/SOXX BERM (10 C-502)
		CRUSHED STONE ACCESS ROAD (2 C-501)
		CONSTRUCTION ENTRANCE (4 C-501)
		EROSION CONTROL BLANKET (12 C-502)
		WETLAND REPLICATION AREA

DATE	REVISION	DESCRIPTION	ISSUED
04/10/2023	7	ISSUED FOR PLANNING BOARD REVIEW	APV
06/15/2021	6	UPDATED PROPOSED CONDITIONS WITH NEW EQUIPMENT PADS	HPB
01/28/2020	5	ADDRESSED PEER REVIEW COMMENTS	MPF
09/11/2019	4	ISSUED FOR PERMITTING NOT FOR CONSTRUCTION	MPF
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02/04/2019	1	REVISED PEET TOWN COMMENTS	MPF

PROJECT: 5.154 MW DC GROUND-MOUNT SOLAR PV DEVELOPMENT
 BALDWINVILLE RD
 WINCHENDON, MASSACHUSETTS

TITLE:
 PROPOSED UTILITY, GRADING, AND DRAINAGE PLAN

CLIENT:
 WINCHENDON SOLAR, LLC

DESIGNED BY:
 APV

CHECKED BY:
 OAC

PROJECT NUMBER:
 3652180157

DRAWING NUMBER:
C-103

SHEET NUMBER:
 4 OF 6

SEAL:

DESIGNED BY: APV
 DRAWN BY: DED

CHECKED BY: OAC
 SCALE: AS SHOWN

PROJECT NUMBER: 3652180157

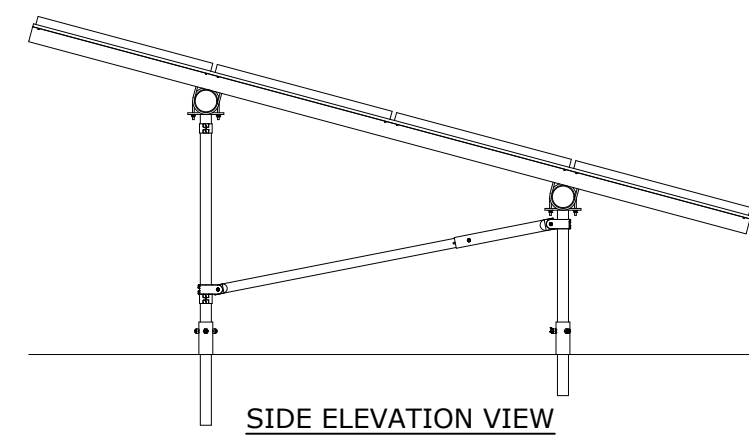
DRAWING NUMBER: **C-103**

SHEET NUMBER: 4 OF 6

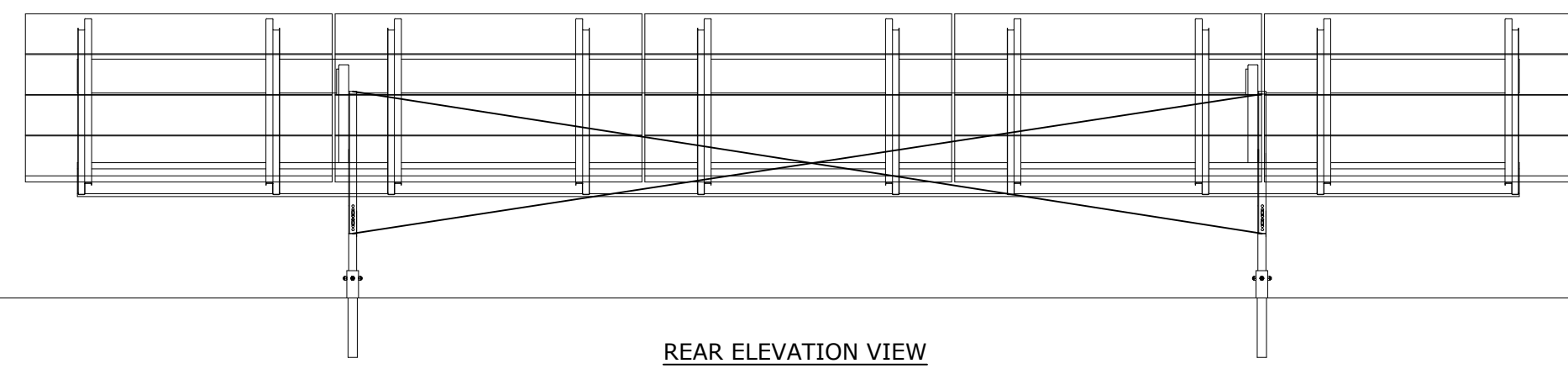
ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION

CONCEPTUAL CONSTRUCTION SEQUENCE

1. ESTABLISHMENT OF LIMITS OF WORK;
2. PLACEMENT OF EROSION CONTROLS;
3. CONSTRUCTION OF STORMWATER INFILTRATION BASIN;
4. CONSTRUCTION OF THE ACCESS ROADS;
5. TREE CUTTING AND TREE REMOVAL;
6. CONSTRUCTION OF THE SOLAR ARRAY AND APPURTENANT EQUIPMENT;
7. ERECTION OF THE PERIMETER SECURITY FENCE; AND
8. RESTORATION OF DISTURBED AREAS.



SOLAR PV ARRAY
NOT TO SCALE



NOTE:
1. DESIGN FOR FOUNDATIONS, RACKING, GROUND SCREWS, AND MODULES BY OTHERS. DETAILS SHOWN FOR ILLUSTRATION PURPOSES ONLY.

1

EROSION AND SEDIMENTATION CONTROL PLAN:

THIS PLAN HAS BEEN DEVELOPED TO PROVIDE A STRATEGY FOR CONTROLLING SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION OF THE PROPOSED PROJECT.

THIS PLAN IS BASED ON STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION IN DEVELOPING AREAS AS CONTAINED IN MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS, 2003.

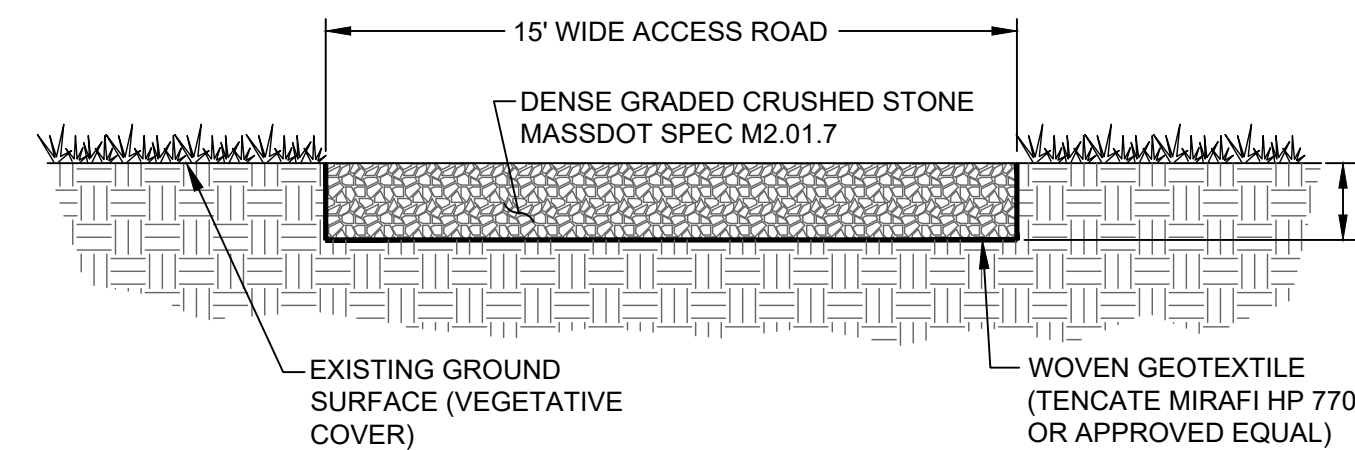
GENERAL EROSION AND SEDIMENTATION CONSTRUCTION DETAIL NOTES:

DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO SCHEDULE EARTHWORK OPERATIONS SUCH THAT THE AREA OF EXPOSED AND DISTURBED SOIL IS MINIMIZED. CONSTRUCTION SHALL BE PHASED TO MINIMIZE THE AREA OF DISTURBED SOIL THAT IS EXPOSED AT ANY ONE TIME. UPGRADIENT STORMWATER DIVERSION AND DISPERSION MEASURES SHALL BE INSTALLED WHERE APPROPRIATE. ALL CUT AND FILL SLOPES SHALL BE STABILIZED UPON COMPLETION. THE FOLLOWING MEASURES WILL BE UNDERTAKEN TO PROVIDE MAXIMUM PROTECTION TO THE SOIL, WATER, AND ADJUTING LANDS:

1. PRIOR TO GRUBBING OR ANY EARTH MOVING OPERATION, SEDIMENT BARRIERS, OR OTHER APPROPRIATE PERIMETER CONTROL BEST MANAGEMENT PRACTICES (BMPs) SHALL BE INSTALLED ACROSS THE SLOPE ON THE CONTOUR AT THE DOWNHILL LIMIT OF THE WORK AS PROTECTION AGAINST CONSTRUCTION RELATED EROSION. INSTALL ALL NECESSARY STORMWATER DIVERSIONS AND DISPERSION MEASURES.
2. PERMANENT SOIL STABILIZATION MEASURES FOR ALL SLOPES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN FOURTEEN CALENDAR DAYS AFTER FINAL GRADING HAS BEEN COMPLETED. WHEN IT IS NOT POSSIBLE OR PRACTICAL TO PERMANENTLY STABILIZE DISTURBED LAND, TEMPORARY EROSION CONTROL MEASURES SHALL BE IMPLEMENTED ON DISTURBED AREAS (INCLUDING STOCKPILES) WITHIN FOURTEEN CALENDAR DAYS OF EXPOSURE OF SOIL OR FORMATION OF PILES. UNLESS THESE AREAS ARE TO BE SUBSEQUENTLY SURFACED WITH PERMANENT STRUCTURES. ALL DISTURBED AREAS SHALL BE MULCHED FOR EROSION CONTROL UPON COMPLETION OF ROUGH GRADING.
3. ANY EXPOSED SLOPES 3:1 OR GREATER SHALL BE STABILIZED WITH EROSION CONTROL BLANKETS (ERONET C125 BY NORTH AMERICAN GREEN, OR APPROVED EQUAL) TO PREVENT EROSION DURING CONSTRUCTION AND TO FACILITATE REVEGETATION AFTER TOPSOILING AND SEEDING.
4. IF MATERIAL STOCKPILES ARE NEEDED, SEDIMENT BARRIER SHALL BE INSTALLED AT THE BASE OF STOCKPILES AT THE DOWNHILL LIMIT TO PROTECT AGAINST EROSION. STOCKPILES ANTICIPATED TO REMAIN FOR MORE THAN FOURTEEN CALENDAR DAYS SHALL BE STABILIZED BY SEEDING AND MULCHING UPON FORMATION OF THE PILES. UPGRADIENT OF THE STOCKPILES, STABILIZED DITCHES AND/OR BERMS SHALL BE CONSTRUCTED TO DIVERT STORMWATER RUNOFF AWAY FROM THE PILES.
5. INTERCEPTED SEDIMENT SHALL BE REMOVED WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SEDIMENT BARRIER, OR AS DIRECTED IN THE DRAWING DETAILS FOR OTHER BMPs, AND SHALL BE DEPOSITED IN AN AREA THAT SHALL NOT CONTRIBUTE TO SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED. ALL DAMAGED EROSION CONTROL DEVICES SHALL BE REPAIRED AND/OR REPLACED IMMEDIATELY. DEVICES NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION SHALL ALSO BE REPAIRED AND/OR REPLACED AS REQUIRED.
6. SOIL CUTTINGS GENERATED DURING THE DRILLING OF PILOT HOLES FOR GROUND SCREWS SHALL BE REMOVED AND COLLECTED. SOIL CUTTINGS MAY BE STOCKPILED TEMPORARILY, BUT ULTIMATELY SHALL BE DISPOSED AND SPREAD IN AN AREA THAT SHALL NOT CONTRIBUTE TO OFF-SITE SEDIMENTATION, AND PERMANENTLY STABILIZED.
7. ADDITIONAL EROSION CONTROL METHODS SHALL BE IMPLEMENTED IF CONSTRUCTION OCCURS AFTER DECEMBER 15TH. ALL DISTURBED AREAS SHALL BE MINIMIZED TO THE EXTENT POSSIBLE. PRIOR TO FREEZING, ADDITIONAL EROSION CONTROL DEVICES SHALL BE INSTALLED AS APPROPRIATE. INSPECTION OF THESE EROSION CONTROL ITEMS SHALL BE FREQUENT, WITH PARTICULAR ATTENTION PAID TO WEATHER PREDICTIONS TO ENSURE THAT THESE MEASURES ARE PROPERLY IN PLACE TO HANDLE LARGE QUANTITIES OF RUNOFF RESULTING FROM HEAVY RAINS OR EXCESSIVE THAWS.
8. GENERAL EROSION AND SEDIMENTATION CONTROL ACTIONS SHALL INCLUDE THE FOLLOWING:
 - MARK SOIL DISTURBANCE LIMITS
 - INSTALL SEDIMENT BARRIERS BEFORE DISTURBING ANY SOILS
 - DIVERT AND DISPERSE STORMWATER RUNOFF TO UNDISTURBED AREAS WHEREVER POSSIBLE
 - MULCH DISTURBED AREAS
 - PROTECT STEEP SLOPES
 - INSPECT AND REPAIR EROSION CONTROLS AND SEDIMENT BARRIERS

DUST CONTROL:

1. CONSTRUCTION ACTIVITIES SHALL BE SCHEDULED TO MINIMIZE THE AREA OF DISTURBED SOIL THAT IS EXPOSED AT ONE TIME.
2. DUST CONTROL SHALL BE USED ON CONSTRUCTION ROUTES AND OTHER DISTURBED AREAS SUBJECT TO SURFACE DUST MOVEMENT AND DUST BLOWING.
3. MAINTAIN DUST CONTROL MEASURES PROPERLY THROUGH DRY WEATHER PERIODS UNTIL ALL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
4. DUST CONTROL METHODS SHALL BE APPROVED BY THE ENGINEER AND MAY INCLUDE VEGETATIVE COVER, MULCH (INCLUDING GRAVEL MULCH), SPRAY-ON-ADHESIVE, CALCIUM CHLORIDE, SPRINKLING, STONE, AND BARRIERS.
5. VEGETATIVE COVER - FOR DISTURBED AREAS NOT SUBJECT TO TRAFFIC, VEGETATION PROVIDES THE MOST PRACTICAL METHOD OF DUST CONTROL.
6. MULCH (INCLUDING GRAVEL MULCH) - WHEN PROPERLY APPLIED, MULCH OFFERS A FAST, EFFECTIVE MEANS OF CONTROLLING DUST. SEE MANUFACTURER'S RECOMMENDATIONS OR THE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS FOR APPLICATION RATES.
7. SPRAY-ON ADHESIVE - LATEX EMULSIONS OR RESIN IN WATER CAN BE SPRAYED ONTO MINERAL SOIL TO PREVENT PARTICLES FROM BLOWING AWAY.
8. CALCIUM CHLORIDE - CALCIUM CHLORIDE MAY BE APPLIED BY MECHANICAL SPREADER AS LOOSE, DRY GRANULES OR FLAKES AT A RATE THAT KEEPS THE SURFACE MOIST BUT NOT SO HIGH AS TO CAUSE WATER POLLUTION OR PLANT DAMAGE.
9. SPRINKLING - EXPOSED SOILS MAY BE SPRINKLED UNTIL THE SURFACE IS WET. SPRINKLING IS ESPECIALLY EFFECTIVE FOR DUST CONTROL ON HAUL ROADS AND OTHER TRAFFIC ROUTES.
10. STONE - USED TO STABILIZE CONSTRUCTION ROADS; CAN ALSO BE EFFECTIVE FOR DUST CONTROL.
11. BARRIERS - A BOARD FENCE, WIND FENCE, SEDIMENT FENCE, OR SIMILAR BARRIER CAN CONTROL AIR CURRENTS AND BLOWING SOIL. ALL OF THESE FENCES ARE NORMALLY CONSTRUCTED OF WOOD AND THEY PREVENT EROSION BY OBSTRUCTING THE WIND NEAR THE GROUND AND PREVENTING THE SOIL FROM BLOWING OFFSITE.



- NOTES:**
1. ACCESS ROAD TO BE CONSTRUCTED OF A MINIMUM 12" OF DENSE GRADED CRUSHED STONE.
 2. WOVEN GEOTEXTILE TO BE PLACED BETWEEN THE GROUND SURFACE AND THE CRUSHED STONE.
 3. CRUSHED STONE SHALL BE COMPACTED TO A FIRM AND NON-YIELDING CONDITION.

CRUSHED STONE ACCESS ROAD

NOT TO SCALE

2

MONITORING PROGRAM:

1. EROSION AND SEDIMENTATION CONTROLS SHALL BE INSPECTED AT LEAST ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.25 INCHES OR GREATER. DAILY RAINFALL SHALL BE MONITORED AND RECORDED BY THE CONTRACTOR. ALL STRUCTURES DAMAGED BY CONSTRUCTION EQUIPMENT, VANDALS, OR THE ELEMENTS SHALL BE REPAIRED OR REPLACED IMMEDIATELY, PRIOR TO CONTINUING THE CONSTRUCTION.
2. FOLLOWING THE FINAL SEEDING, THE SITE SHALL BE INSPECTED IN ACCORDANCE WITH THE SCHEDULE OUTLINED IN #1 ABOVE, TO ENSURE THAT THE VEGETATION HAS BEEN ESTABLISHED (70% COVER ACHIEVED). IN THE EVENT OF ANY UNSATISFACTORY GROWTH, RESEEDING WILL BE CARRIED OUT, WITH FOLLOW-UP INSPECTION.
3. AFTER THE CONSTRUCTION INSPECTOR HAS DETERMINED THAT THE PROJECT AREA HAS BEEN PERMANENTLY STABILIZED (70% COVER HAS BEEN ACHIEVED OR NON-VEGETATED MEASURES HAVE BEEN IMPLEMENTED), THE CONTRACTOR SHALL REMOVE ALL SEDIMENT BARRIERS, TEMPORARY SEDIMENTATION CONTROL RISERS AND ANY OTHER TEMPORARY EROSION CONTROL MEASURES.

SEEDING AND REVEGETATION PLAN:

UPON COMPLETION OF SITE CONSTRUCTION, ALL AREAS PREVIOUSLY DISTURBED SHALL BE TREATED AS STATED BELOW. THESE AREAS WILL BE CLOSELY MONITORED BY THE CONTRACTOR UNTIL SUCH TIME AS A SATISFACTORY GROWTH OF VEGETATION IS ESTABLISHED. SATISFACTORY GROWTH SHALL MEAN A MINIMUM OF 70% OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH.

1. TOPSOIL WILL BE SPREAD OVER ALL DISTURBED AREAS TO BE REVEGETATED AND SHALL BE GRADED TO A UNIFORM DEPTH OF FOUR (4) TO SIX (6) INCHES.
2. APPLY SEED AS DIRECTED BELOW:

(APRIL 1ST THROUGH OCTOBER 1ST)

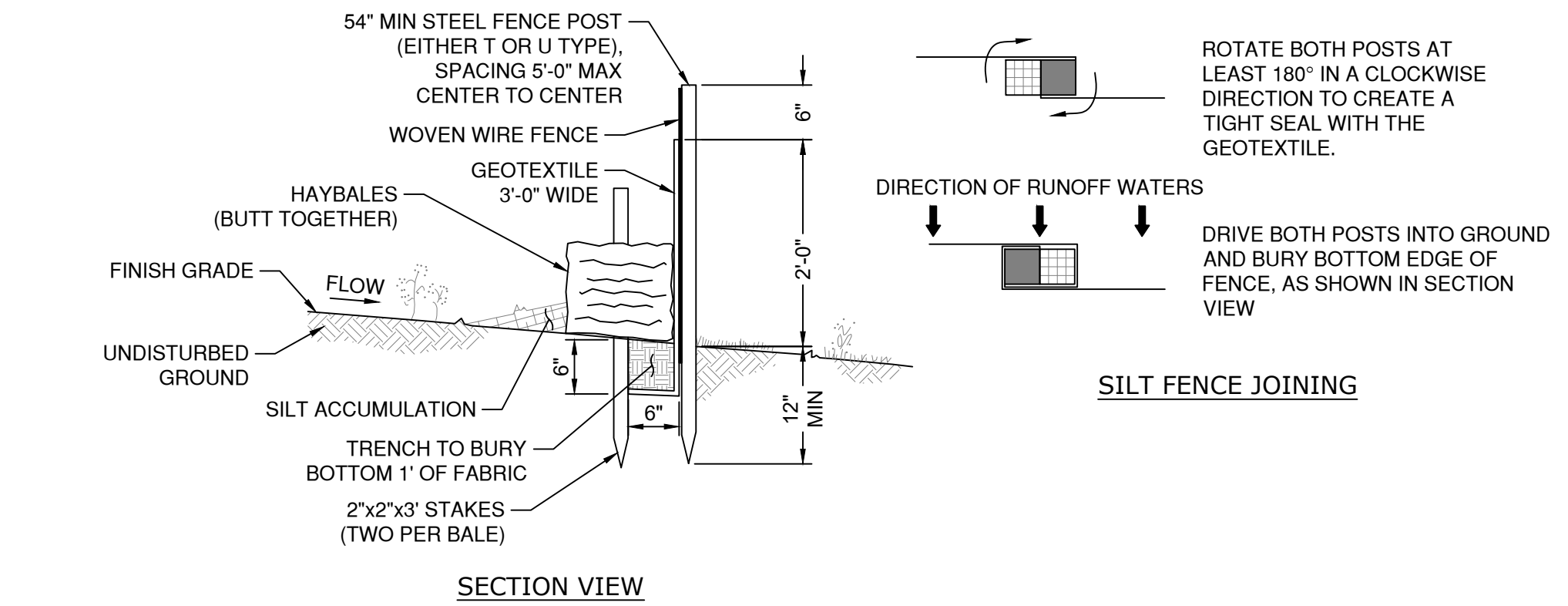
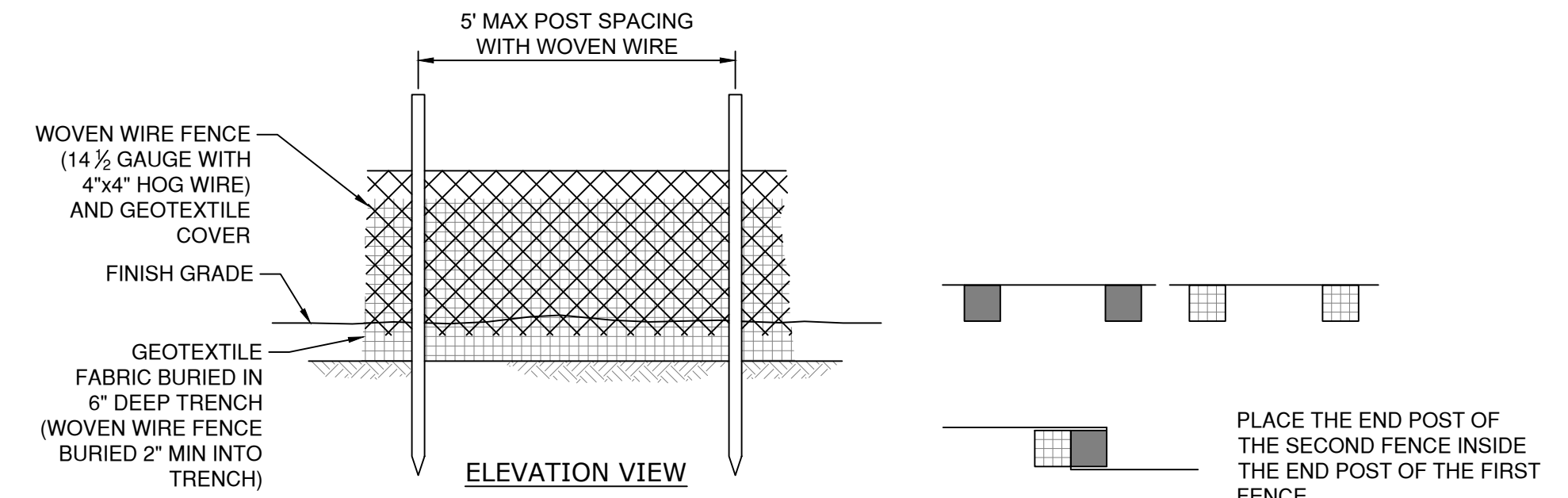
 - SEED DISTURBED AREAS AT THE RATE OF 10 LBS PER 1,000 SQ. FT. OF THE FOLLOWING MIXTURE (% BY WEIGHT):
 - 30% RED FESCUE
 - 30% CANADA BLUEGRASS
 - 30% PERENNIAL RYEGRASS
 - 10% RED TOP
 - APPLY WOOD FIBER MULCH AT A RATE OF 2,000 LBS PER ACRE FOR MAXIMUM MOISTURE RETENTION.

(NOVEMBER 1ST THROUGH DECEMBER 15TH)

 - SEED DISTURBED AREAS AT THE RATE OF 15 LBS PER 1,000 SQ. FT. OF THE FOLLOWING MIXTURE (% BY WEIGHT):
 - 30% RED FESCUE
 - 30% CANADA BLUEGRASS
 - 30% PERENNIAL RYEGRASS
 - 10% RED TOP
 - APPLY HAY MULCH AT THE RATE OF 100 LBS PER 1,000 SQ. FT.

(AFTER DECEMBER 15TH)

 - DO NOT SEED.
 - APPLY HAY MULCH AT THE RATE OF 100 LBS PER 1,000 SQ. FT.
3. FERTILIZER AND LIME SELECTIONS BASED ON SOIL TESTING IS RECOMMENDED. IN ABSENCE OF A SOIL TEST, APPLY LIME AT A RATE OF 2.5 TONS PER ACRE AND 10-20-20 FERTILIZER AT A RATE OF 500 POUNDS PER ACRE. 40% OF THE NITROGEN SHALL BE IN AN ORGANIC OR SLOW-RELEASED FORM. THE TARGET PH FOR LIMED SOIL IS 5.5 - 6.0. LIME AND FERTILIZER SHALL BE INCORPORATED INTO THE TOP 2-3 INCHES OF SOIL.
4. SEEDING METHODS MAY BE DRILL SEEDINGS, BROADCASTS AND ROLLED, CULTIPACKED, OR TRACKED WITH A SMALL TRACK PIECE OF CONSTRUCTION EQUIPMENT, OR HYDRO-SEEDING, WITH SUBSEQUENT TRACKING.
5. WATERING MAY BE REQUIRED DURING DRY PERIODS CONSULT SEED MANUFACTURER'S INSTRUCTIONS.
6. STEEP SLOPES (3:1 AND STEEPER) SHALL BE STABILIZED BY INSTALLING EROSION CONTROL BLANKET (ERONET C125 BY NORTH AMERICAN GREEN, OR APPROVED EQUAL)
7. INSPECT SEEDED AREAS FOR FAILURE AND MAKE NECESSARY REPAIRS AND RESEED IMMEDIATELY. CONDUCT A FOLLOW-UP SURVEY AFTER ONE YEAR AND RESEED WHERE NECESSARY.
8. IF THERE ARE AREAS WITH LESS THAN 40% COVER, REEVALUATE CHOICE OF PLANT MATERIALS AND QUANTITIES OF LIME AND FERTILIZER. IF THE SEASON PREVENTS RESEEDING, MULCH OR JUTE NETTING IS AN EFFECTIVE TEMPORARY COVER.
9. SEEDED AREAS SHOULD BE FERTILIZED DURING THE SECOND GROWING SEASON.
10. LIME AND FERTILIZER THEREAFTER AT PERIODIC INTERVALS, AS NEEDED.
11. ALL SEDIMENT CONTROL STRUCTURES LOCATED DOWN GRADIENT OF SOILS STABILIZED BY VEGETATIVE MEASURES SHALL REMAIN IN PLACE UNTIL VEGETATION IS ESTABLISHED. ESTABLISHED MEANS A MINIMUM OF 70% OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH.

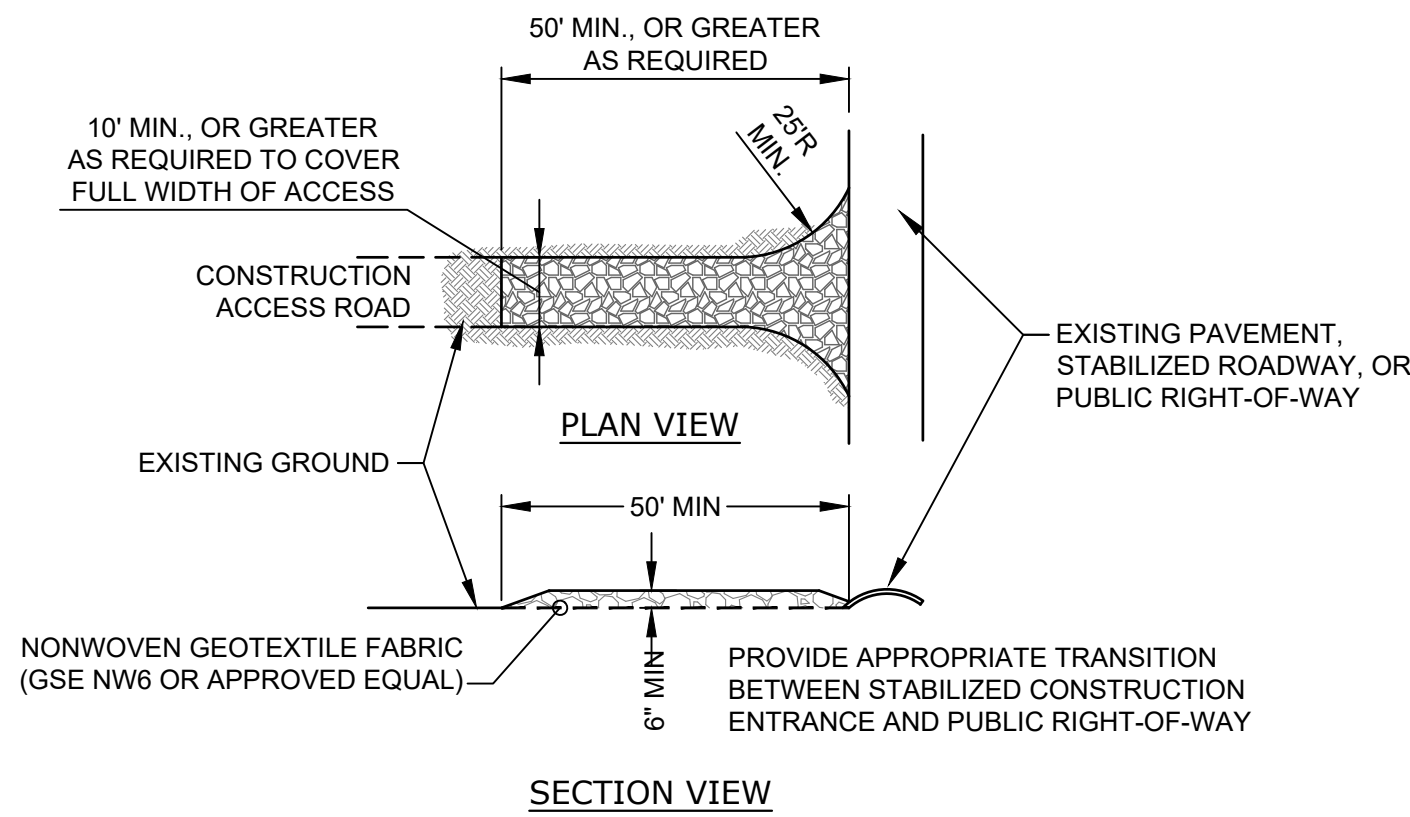


- NOTES:**
1. GEOTEXTILE TO BE FASTENED SECURELY TO FENCE POST BY USE OF WIRE TIES.
 2. GEOTEXTILE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
 3. BURY BOTTOM 1'-0" OF GEOTEXTILE IN TRENCH (6" DEEP x 6" WIDE) REPLACE SOIL AND TAMP IN PLACE.
 4. ENDS OF INDIVIDUAL ROLLS OF GEOTEXTILE SHALL BE SECURELY FASTENED TOGETHER AS SHOWN. FASTENERS SHALL BE PROVIDED AS SPECIFIED IN NOTE 1 ABOVE. SPLICING OF INDIVIDUAL ROLLS SHALL NOT OCCUR AT LOW POINTS.
 5. MAINTENANCE SHALL BE PERFORMED AS NOTED IN THE EROSION CONTROL PLAN. COLLECTED MATERIAL SHALL BE REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
 6. ALL SILT FENCE SHALL INCLUDE WOVEN WIRE FENCE SUPPORT UNLESS INDICATED OTHERWISE.

SEDIMENT BARRIER - DOUBLE STAKED HAY BALE WITH HOG WIRE BACKED SILT FENCE

NOT TO SCALE

3



- NOTES:**
1. STONE TO BE 1"-3" STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
 2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 50 FT.
 3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
 4. WIDTH - TEN (10) FT. MIN, BUT NOT LESS THAN THE FULL TRAVELED WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
 5. FILTER CLOTH - SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
 6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCE SHALL BE PIPED ACROSS OR BENEATH THE ENTRANCE.
 7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANUP OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
 8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. IF WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
 9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

4

wsp
WSP USA ENVIRONMENT & INFRASTRUCTURE, INC.
100 APOLLO DRIVE, SUITE 302
CHELMSFORD, MASSACHUSETTS 01824
TELEPHONE: (978) 692-9000
FAX: (978) 692-6633
WEB: WWW.WSP.COM

DATE	REVISION	ISSUE / REVISION DESCRIPTION
04/10/2023	7	ISSUED FOR PLANNING BOARD REVIEW
06/15/2021	6	UPDATED PROPOSED CONDITIONS WITH NEW EQUIPMENT PADS
01/28/2020	5	ADDRESSED PEER REVIEW COMMENTS
09/11/2019	4	ISSUED FOR PERMITTING NOT FOR CONSTRUCTION
08/12/2019	3	ISSUED FOR PERMITTING NOT FOR CONSTRUCTION
07/01/2019	2	ISSUED FOR PERMITTING NOT FOR CONSTRUCTION
02/04/2019	1	REVISED PEER TOWN COMMENTS

PROJECT: 5.154 MW DC GROUND-MOUNT SOLAR PV DEVELOPMENT
BALDWINVILLE RD
WINCHENDON, MASSACHUSETTS

TITLE: CONSTRUCTION, EROSION, AND SEDIMENTATION CONTROL DETAILS AND NOTES

CLIENT: WINCHENDON SOLAR, LLC

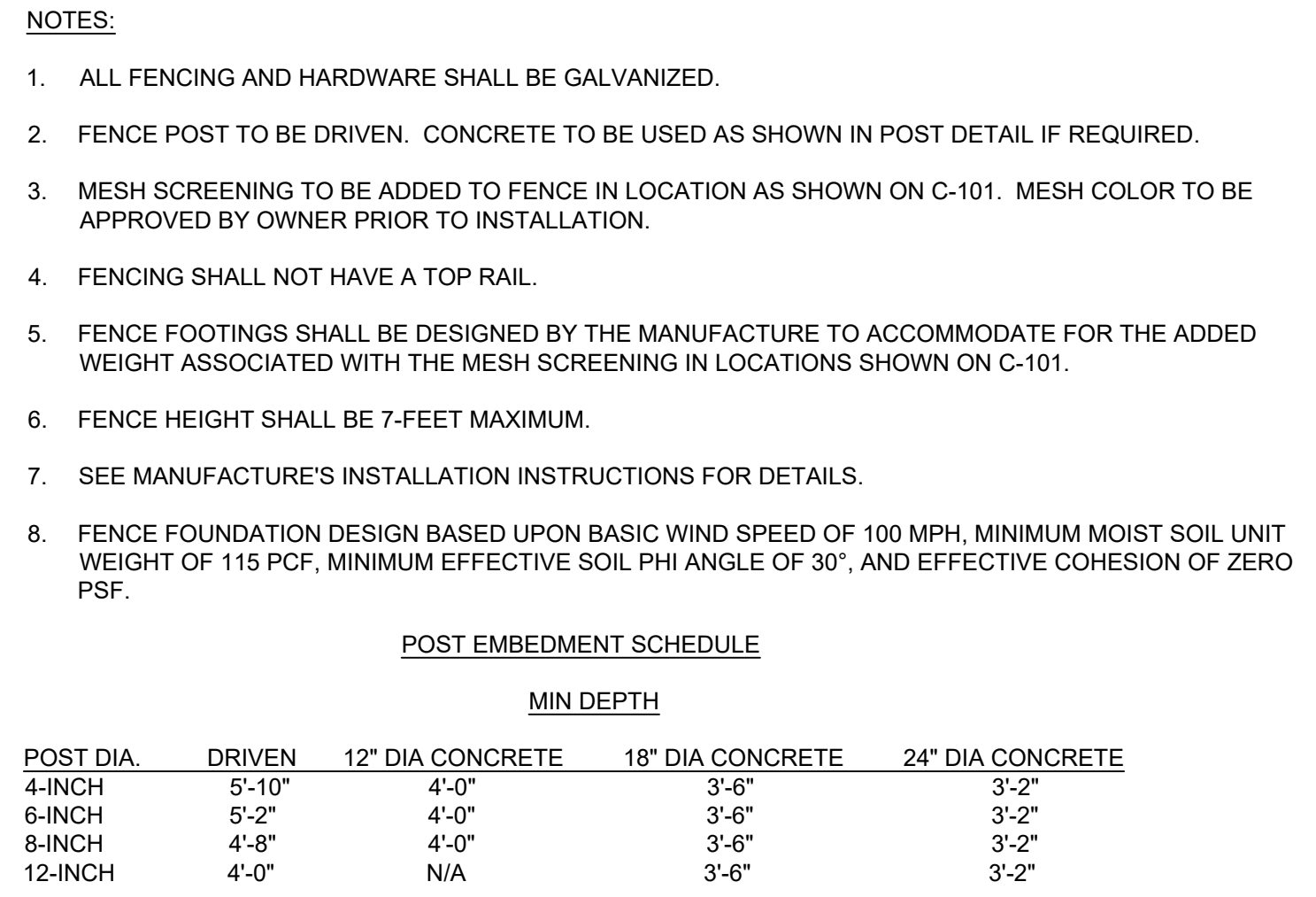
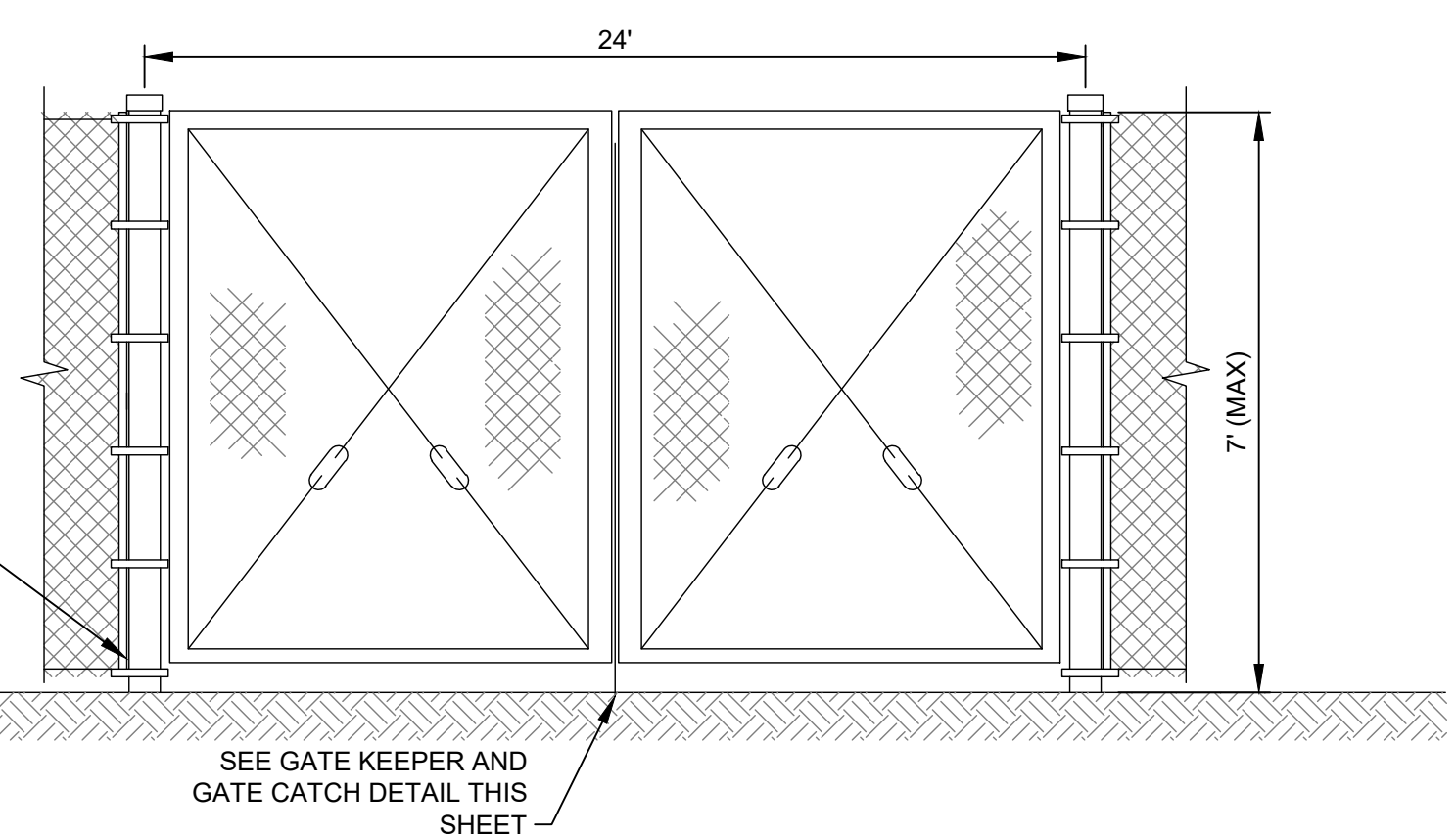
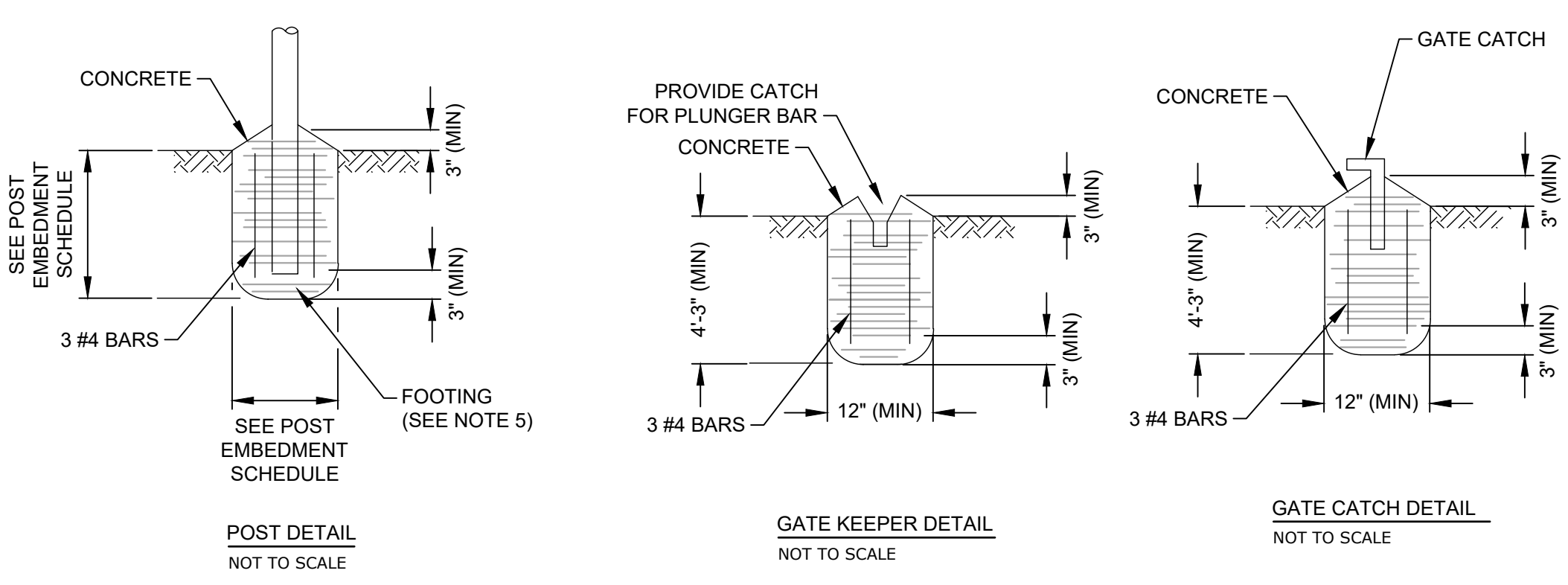
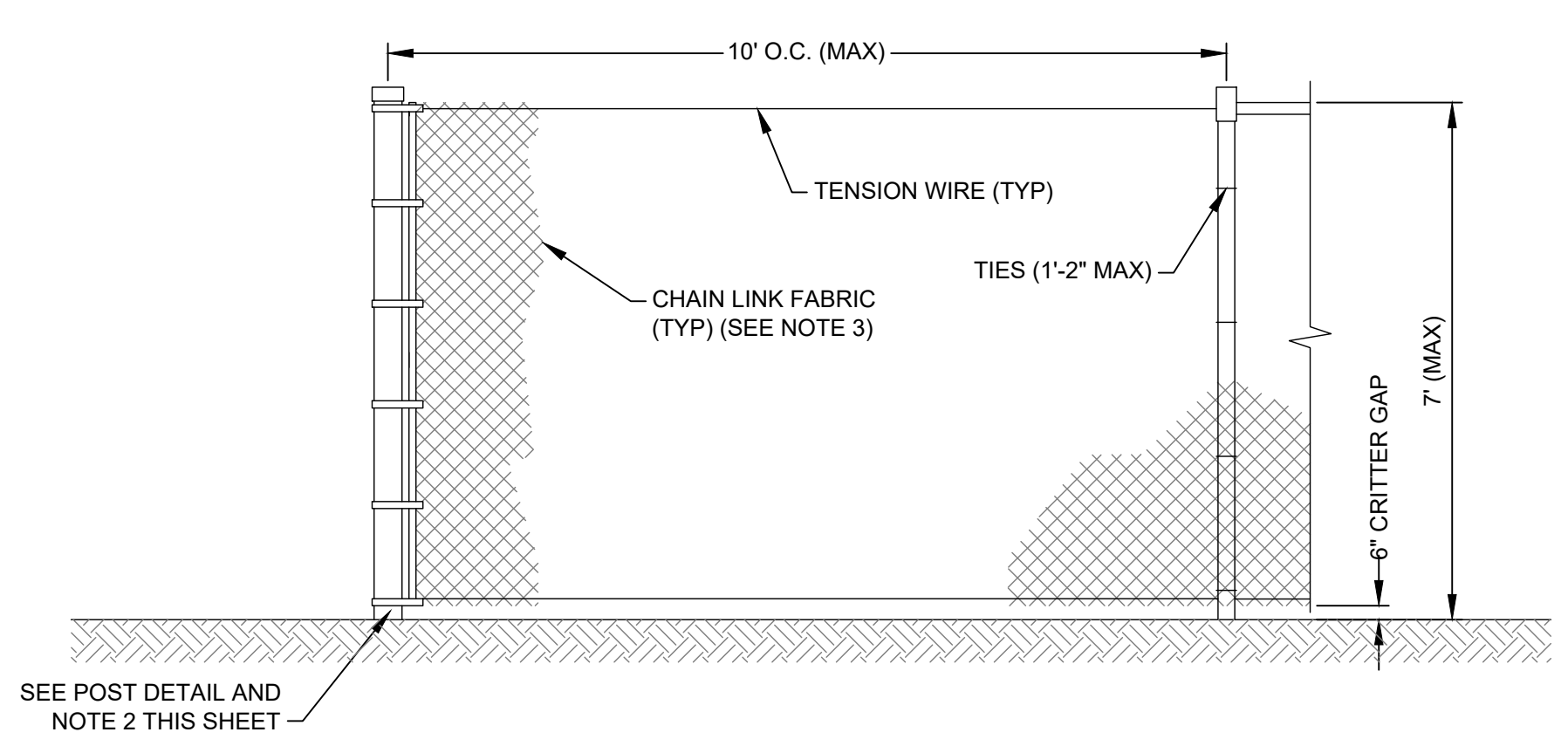
SUNPIN
Securing a brighter future through solar

SEAL: ANDREW P. VARDAKIS
CIVIL ENGINEER
No. 92524
REGISTERED PROFESSIONAL ENGINEER
4/11/2023

DESIGNED BY: APV
DRAWN BY: DED
CHECKED BY: OAC
SCALE: AS SHOWN

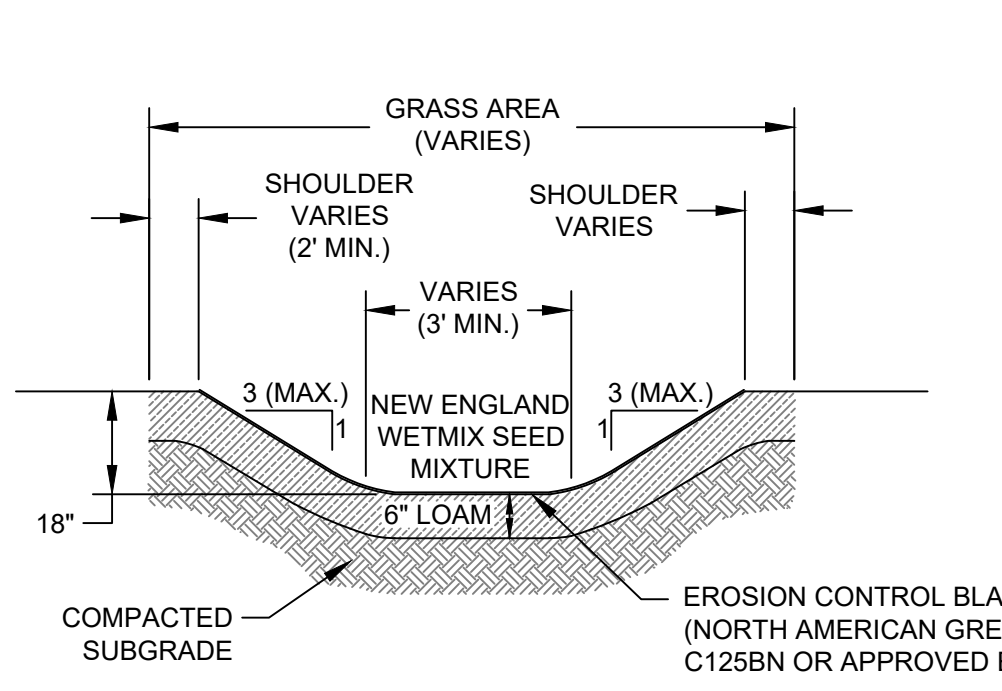
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DRAWING NUMBER: **C-501**
SHEET NUMBER: **5 OF 6**

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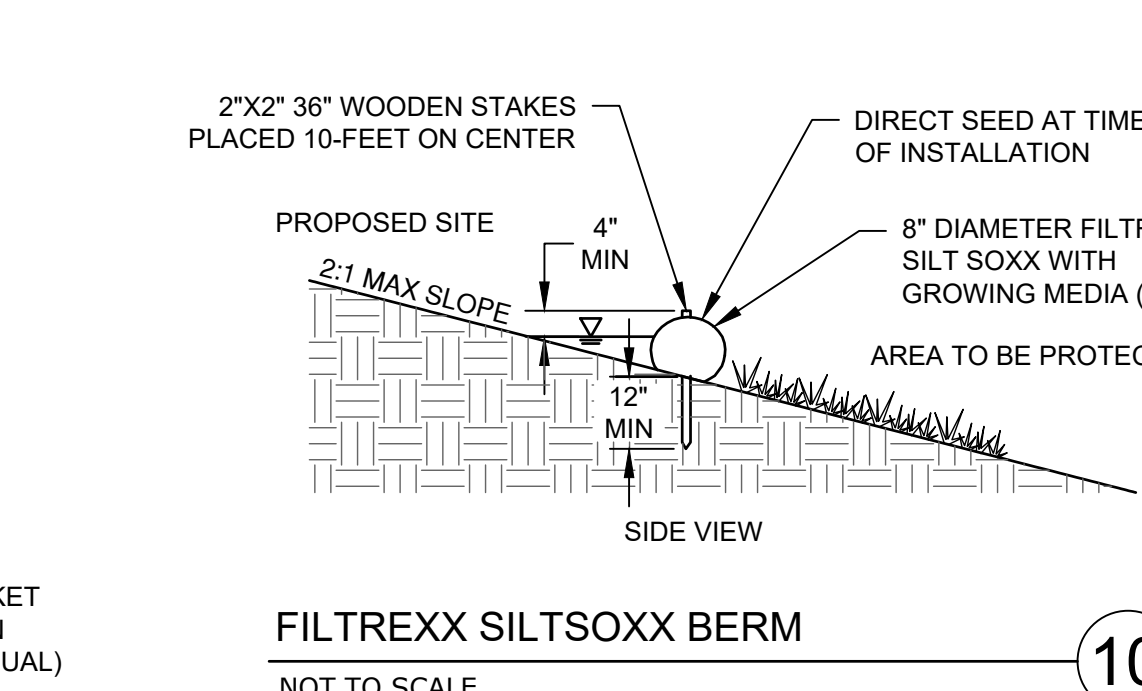


TYPICAL CHAIN LINK FENCE AND GATE DETAIL
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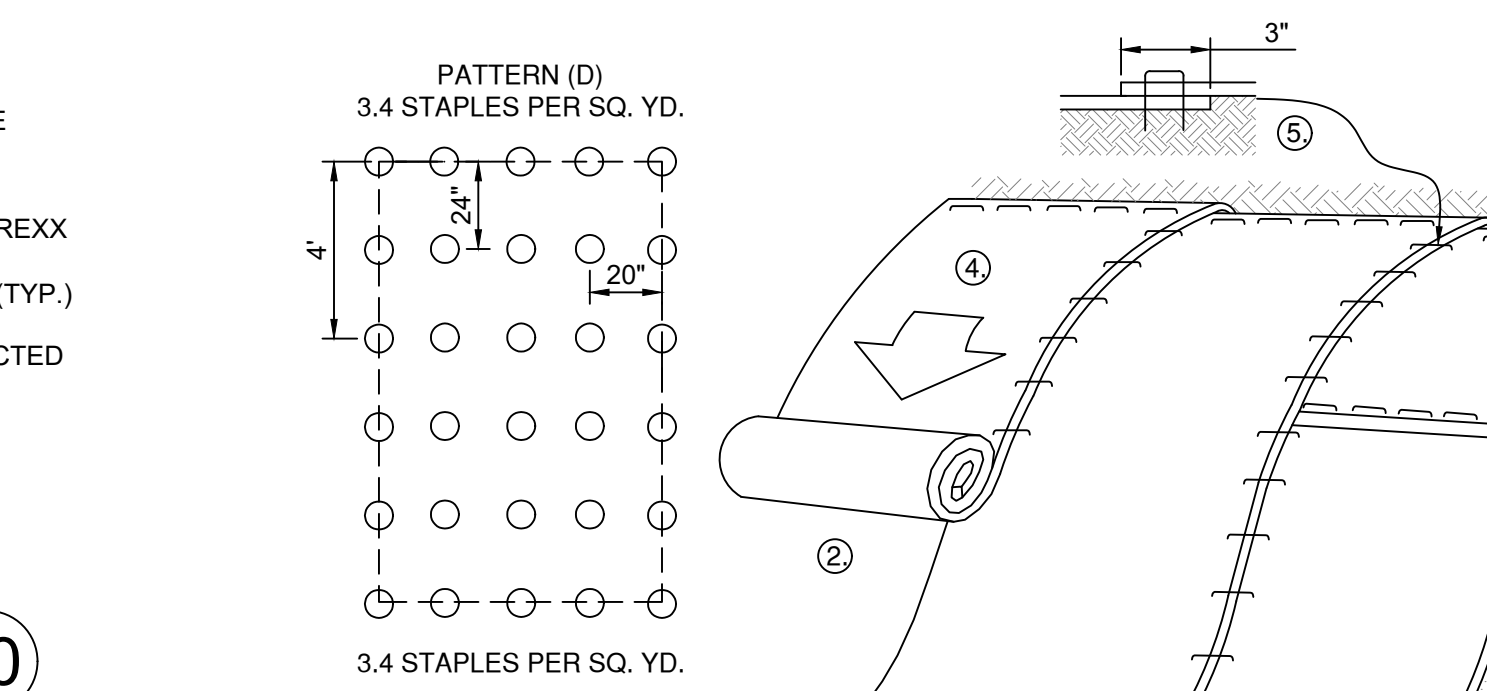
INFILTRATION BASIN 1
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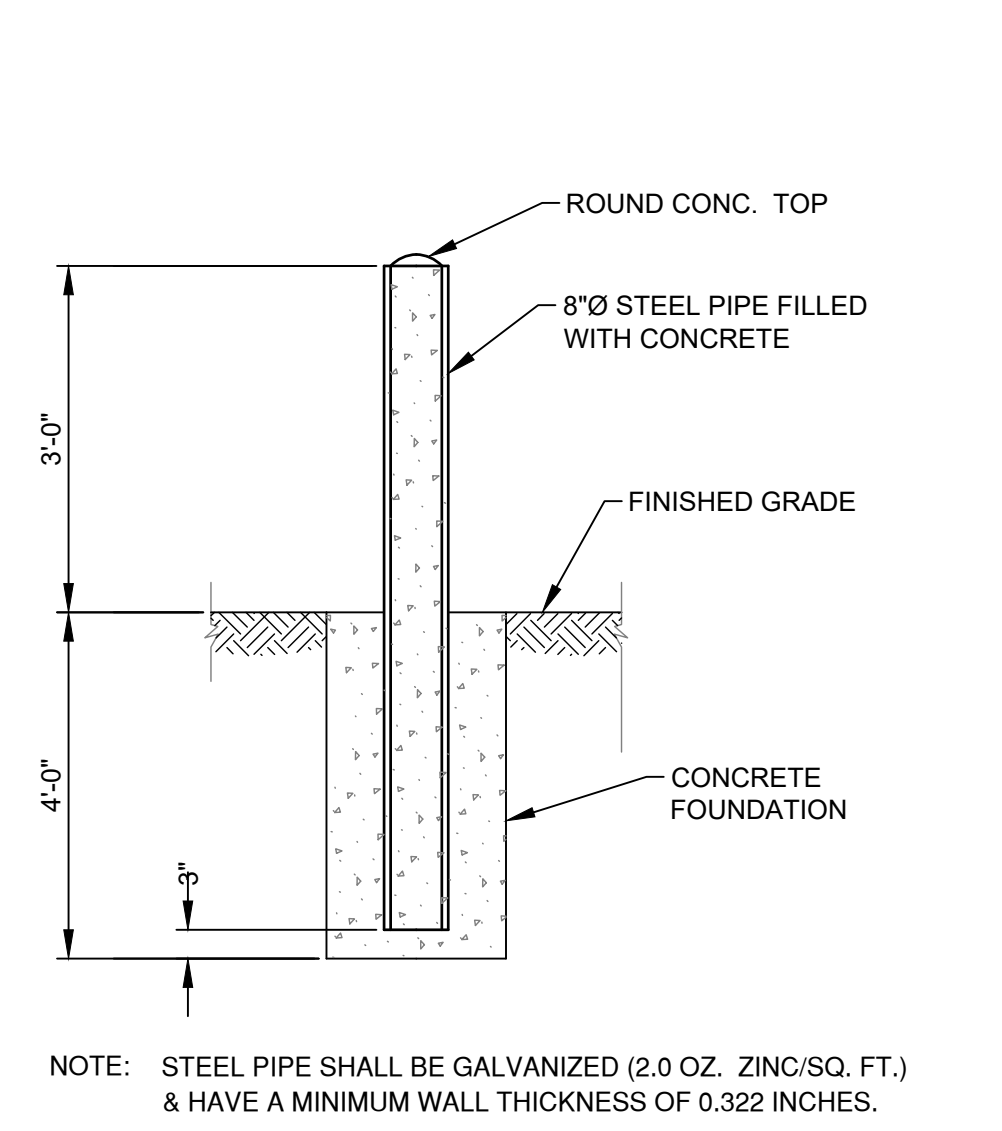
GRASSED SWALE
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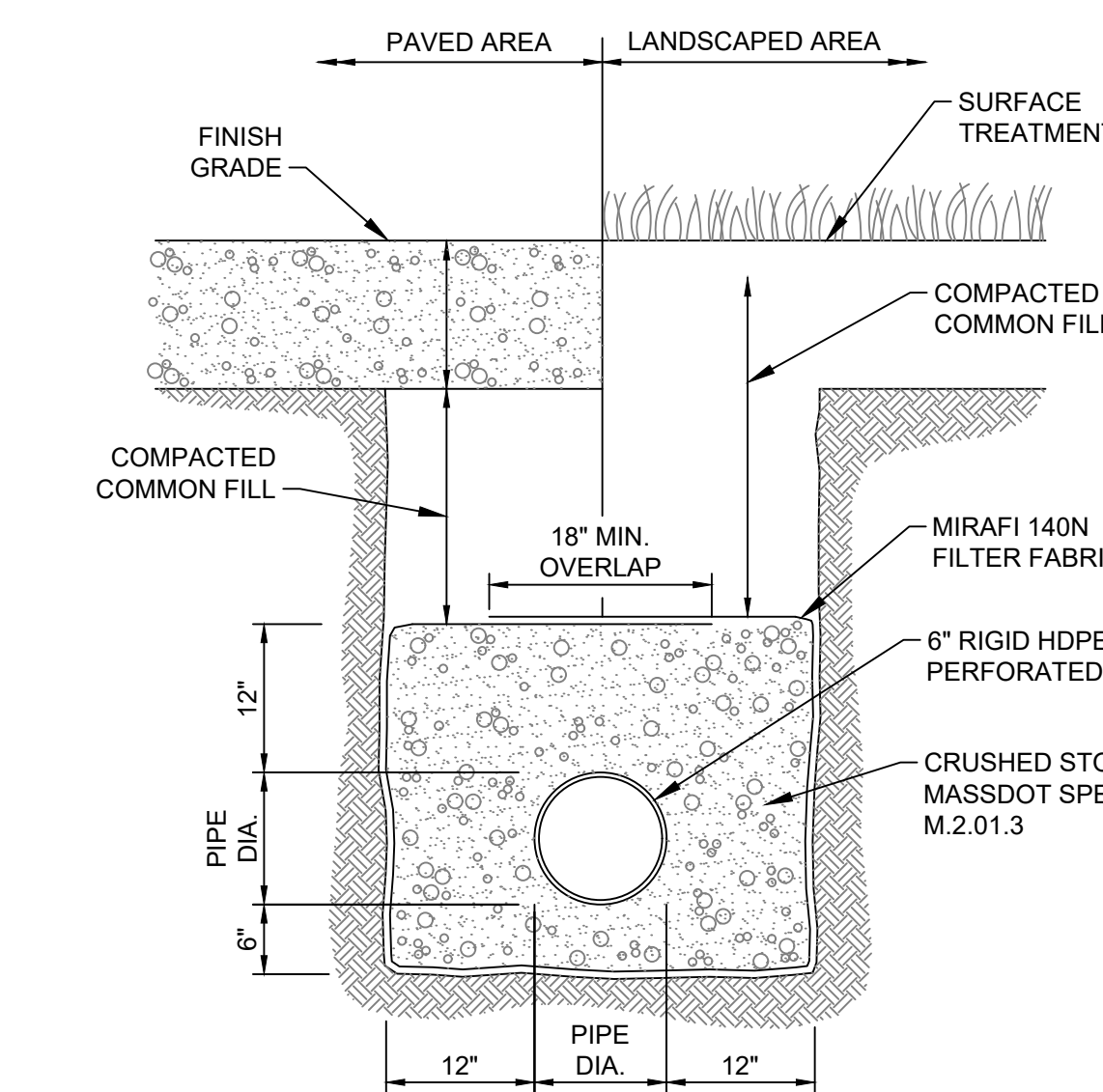
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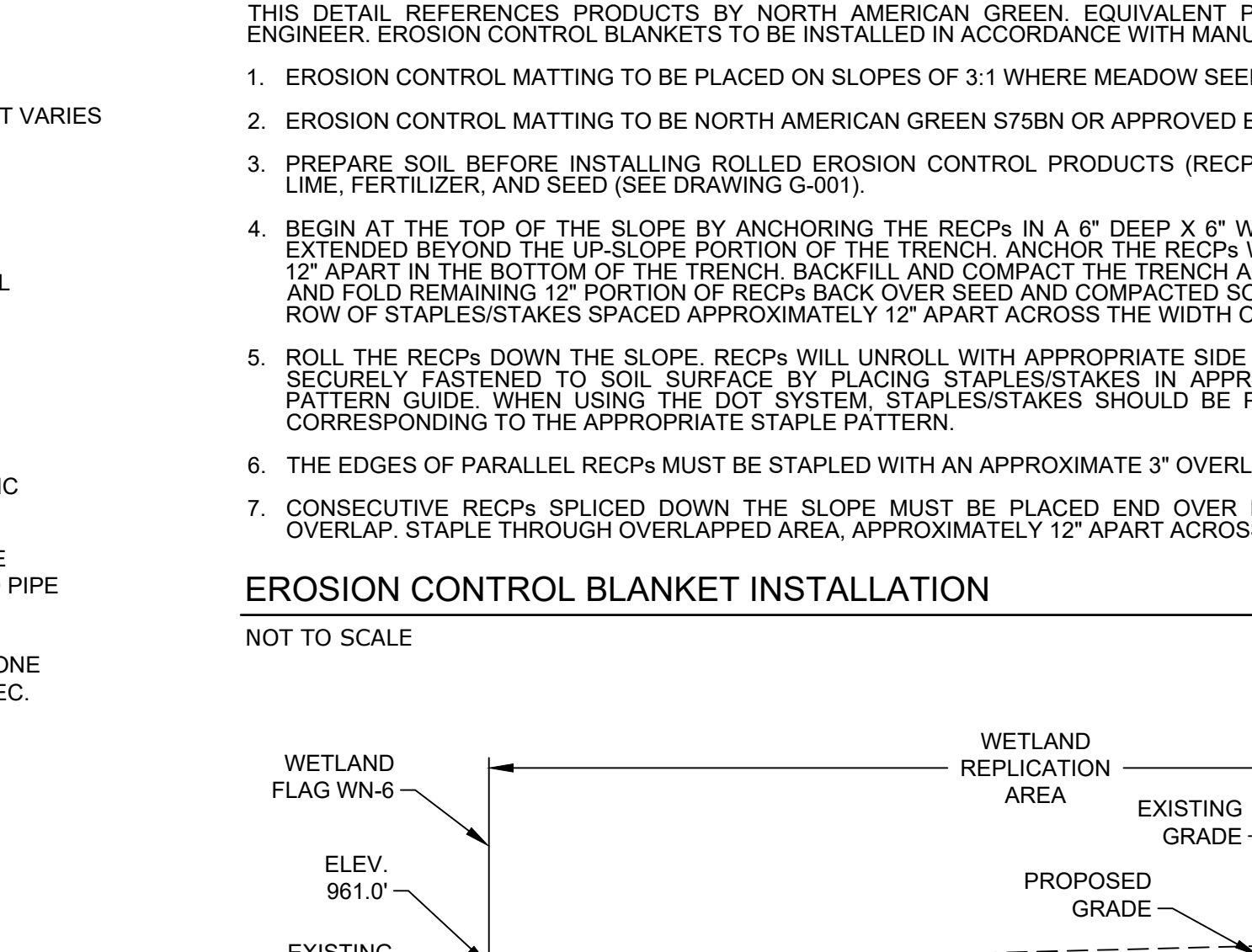
OVERFLOW WEIR
 NOT TO SCALE



BOLLARD
 NOT TO SCALE



EROSION CONTROL BLANKET INSTALLATION
 NOT TO SCALE

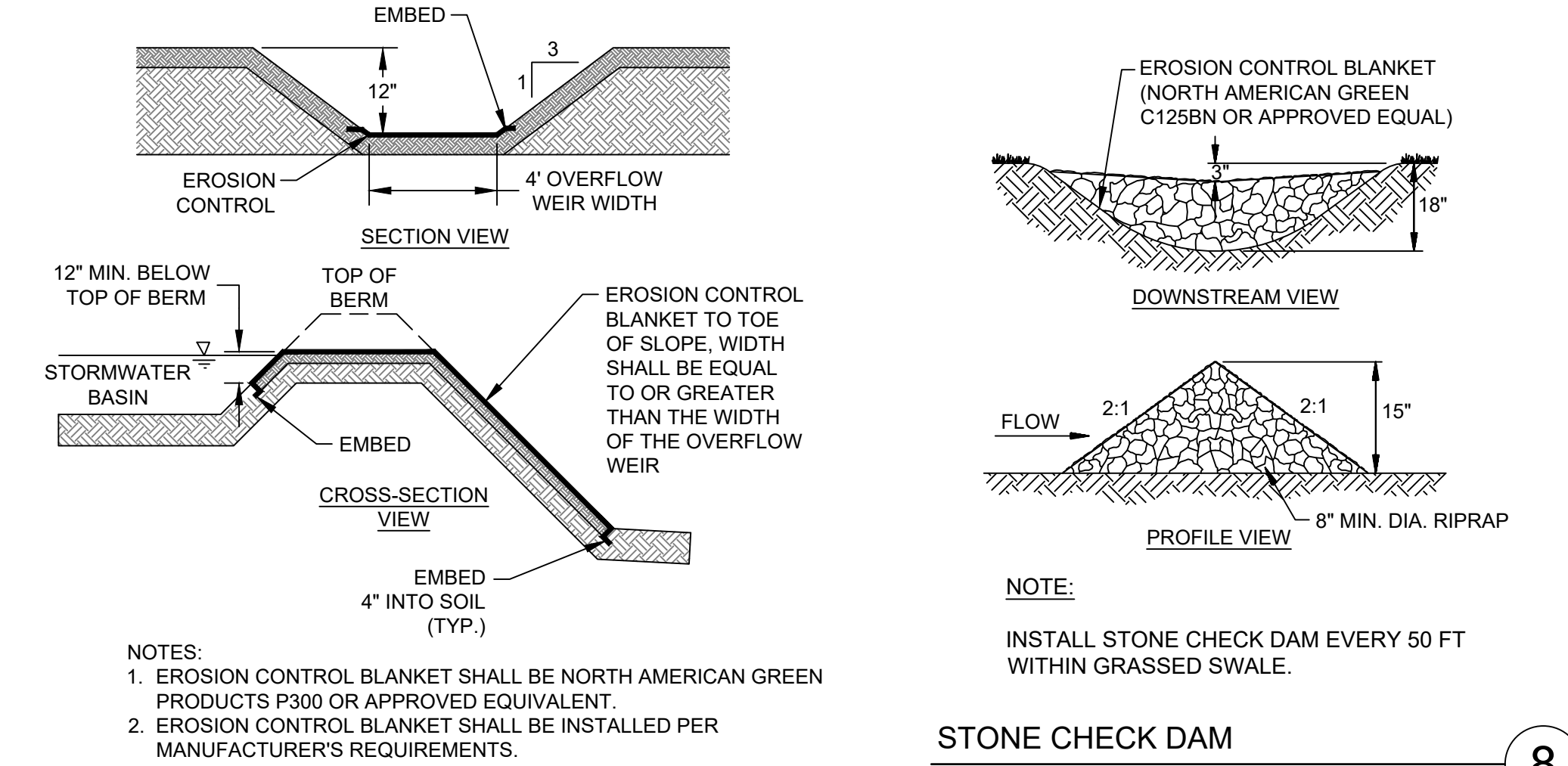
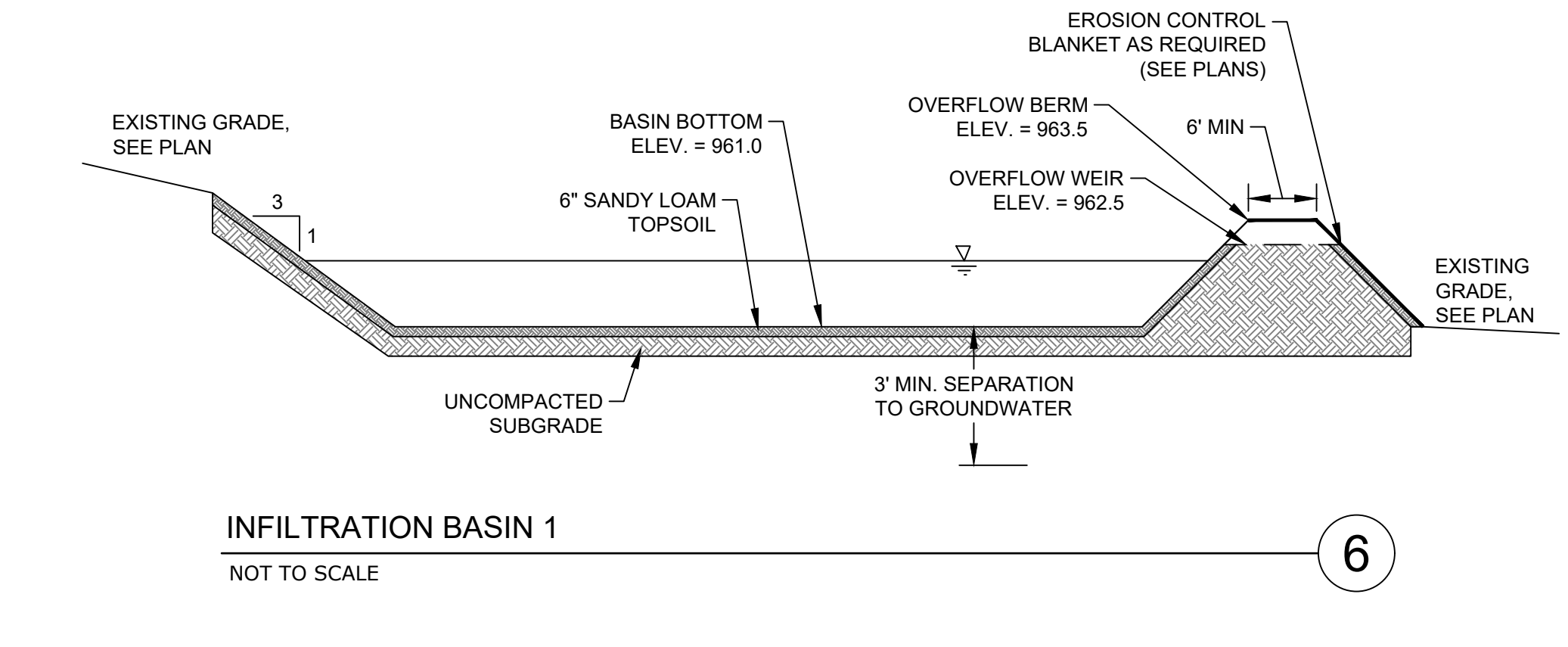


TYPICAL CROSS SECTION AT WETLAND REPLICATION AREA
 NOT TO SCALE

GRASSED SWALE
 NOT TO SCALE

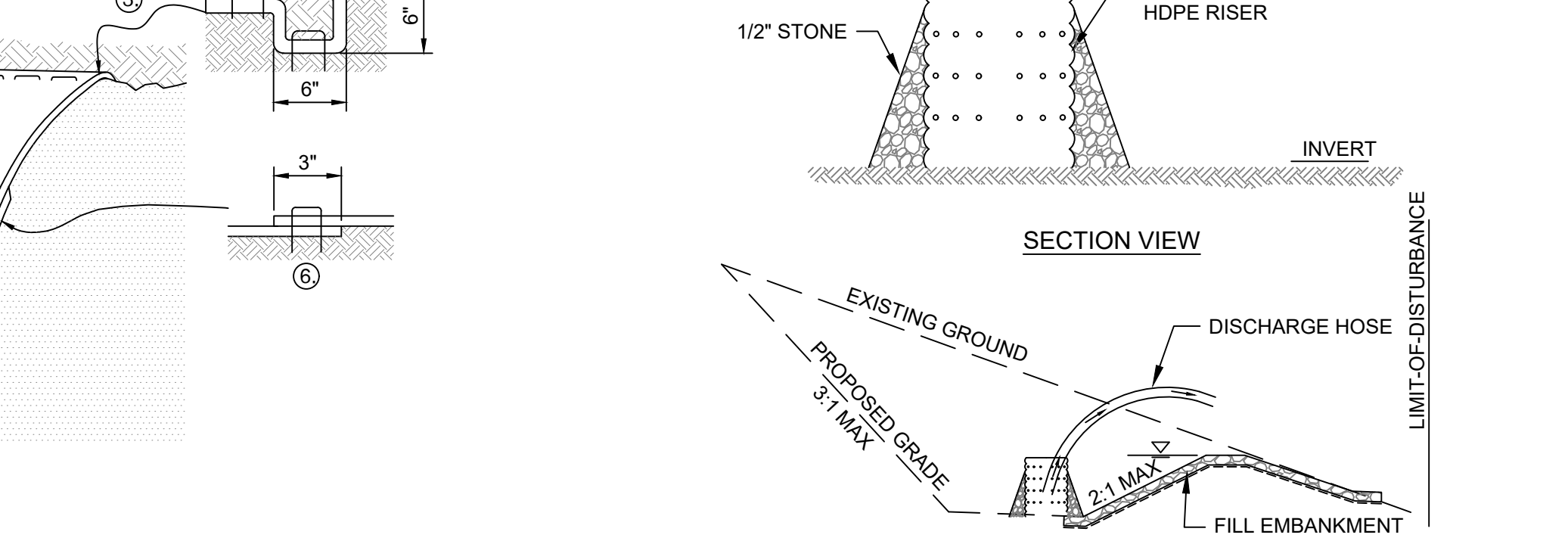
UNDERDRAIN
 NOT TO SCALE

EROSION CONTROL BLANKET INSTALLATION
 NOT TO SCALE

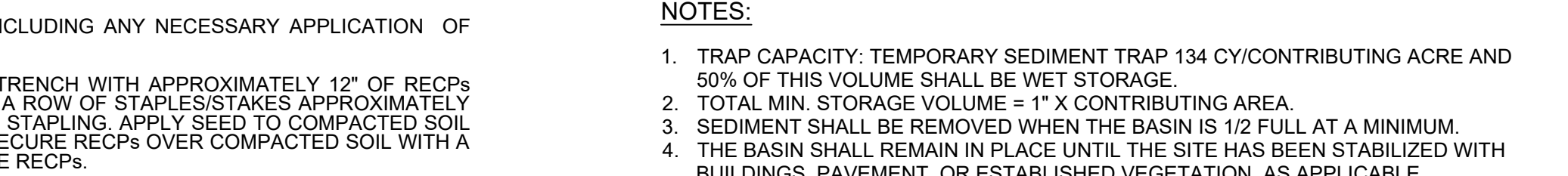


INFILTRATION BASIN 1
 NOT TO SCALE

OVERFLOW WEIR
 NOT TO SCALE



STONE CHECK DAM
 NOT TO SCALE



TYPICAL CROSS SECTION AT WETLAND REPLICATION AREA
 NOT TO SCALE

TEMPORARY SEDIMENT TRAP SIZING

SEDIMENT TRAP ID	SEDIMENT TRAP 1	SEDIMENT TRAP 2	SEDIMENT TRAP 3	SEDIMENT TRAP 4
DRAINAGE AREA, SQ.FT.	51,872	56,217	107,992	39,672
DRAINAGE AREA, AC.	1.19	1.29	2.48	0.91
REQUIRED STORAGE VOLUME, CU.FT. (1/2-INCH PER ACRE OF DRAINAGE AREA)	2,161	2,342	4,500	1,653
PROPOSED TEMPORARY SEDIMENT TRAP BOTTOM AREA, SQ.FT.	841	841	1,735	841
PROPOSED TEMPORARY SEDIMENT TRAP TOP AREA, SQ.FT.	1,735	1,735	2,856	1,735
PROPOSED TEMPORARY SEDIMENT TRAP DEPTH, FT.	2	2	2	2
PROPOSED TEMPORARY SEDIMENT TRAP STORAGE VOLUME, CU.FT.	2,576	2,576	4,591	2,576

*MAX. ALLOWED DRAINAGE AREA TO A SEDIMENT TRAP IS 5 ACRES, PER MASSACHUSETTS EROSION AND SEDIMENTATION CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS

TEMPORARY SEDIMENT TRAP
 NOT TO SCALE

DATE	REVISION	ISSUE / REVISION DESCRIPTION
04/10/2023	7	ISSUED FOR PLANNING BOARD REVIEW
06/15/2021	6	UPDATED PROPOSED CONDITIONS WITH NEW EQUIPMENT PADS
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PROJECT: 5,154 MW DC GROUND-MOUNT SOLAR PV DEVELOPMENT
 BALDWINVILLE RD
 WINCHENDON, MASSACHUSETTS
 CLIENT: WINCHENDON SOLAR, LLC
 TITLE: CONSTRUCTION, EROSION, AND SEDIMENTATION CONTROL DETAILS

DESIGNED BY: APV
 CHECKED BY: OAC
 PROJECT NUMBER: 3652180157
 DRAWING NUMBER: C-502
 SHEET NUMBER: 6 OF 6

SEAL: ANDREW P. VARDAKIS
 CIVIL ENGINEER
 No. 52524
 REGISTERED PROFESSIONAL ENGINEER
 COMMONWEALTH OF MASSACHUSETTS
 4/11/2023

DESIGNED BY: APV
 CHECKED BY: OAC
 PROJECT NUMBER: 3652180157
 DRAWING NUMBER: C-502
 SHEET NUMBER: 6 OF 6

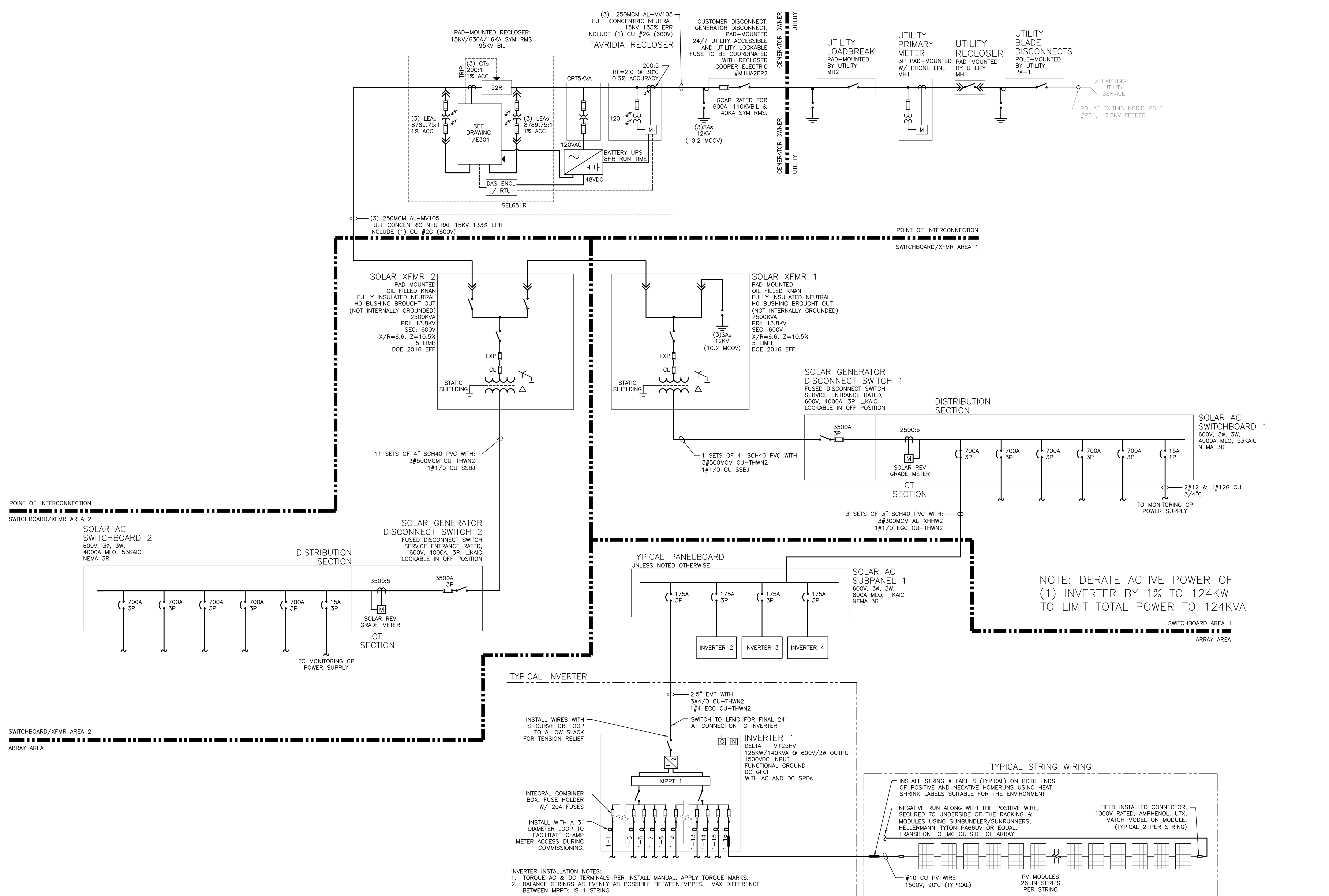
APPENDIX

C

ELECTRICAL ONE-
LINE DIAGRAM



PLOT DATE: 7/23/2021 10:42 AM



1 ONE LINE DIAGRAM
SCALE: NONE

DRAWING TITLE
ONE LINE DIAGRAM

REVISION DESCRIPTION	DATE	IC DOCUMENTS REV 7	IC DOCUMENTS REV 6	IC DOCUMENTS REV 5	IC DOCUMENTS REV 4
	07/23/2021				
	12/15/2020				
	11/13/2020				
	07/09/2020				

PURE POWER ENGINEERING
5 MARINE VIEW PLAZA, HOBOKEN, NJ
WWW.PUREPOWER.COM
RICHARD A. WINS
MA LICENSE NO. 48515

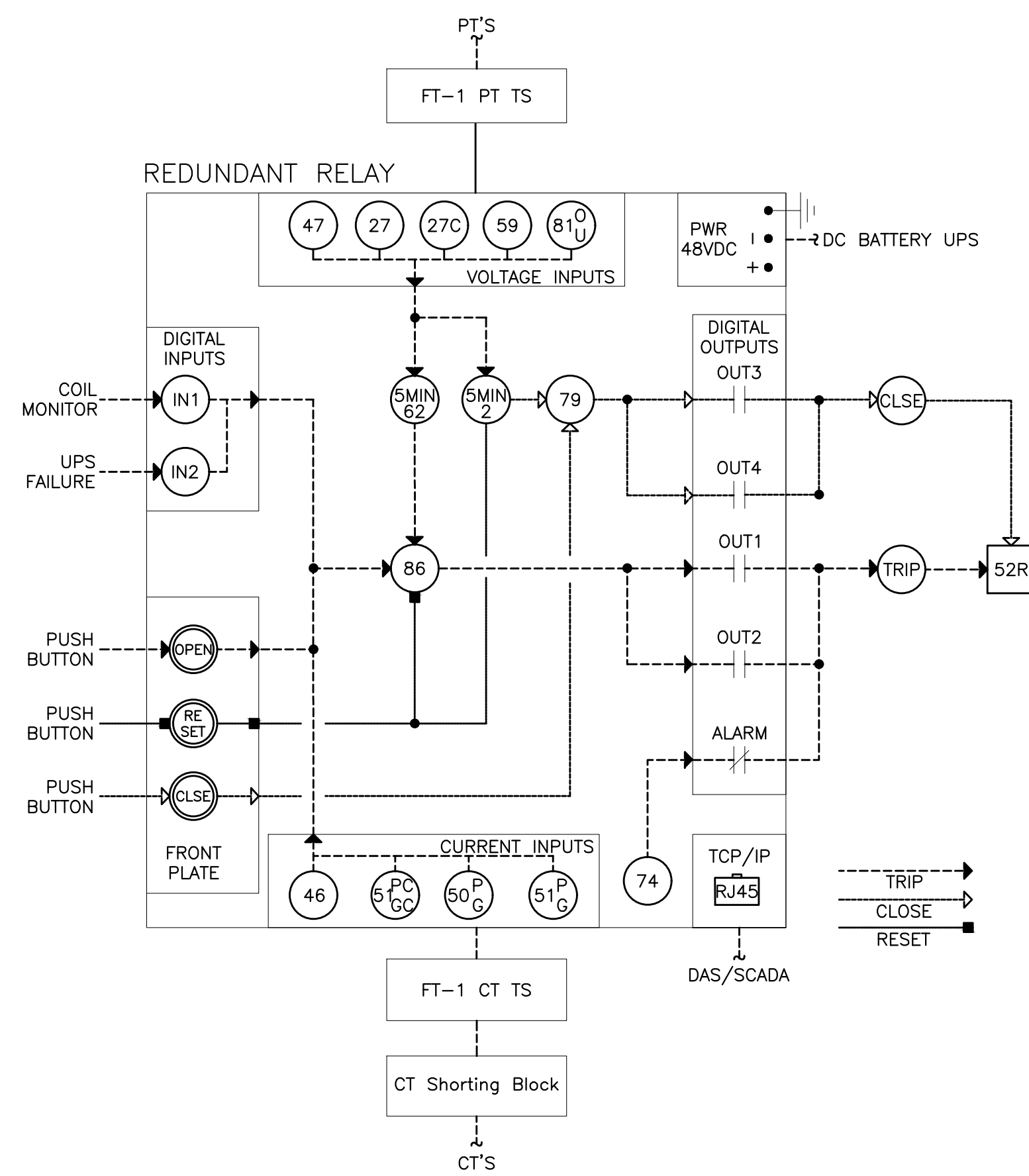
SUNPIN HOLDINGS, LLC
12424 WILSHIRE BLVD #750
LOS ANGELES, CA 90025
WWW.SUNPINSOLAR.US

DEVELOPER
SUNPIN
PAGE SIZE
36" x 24"
PROJECT #
PPE 18.192

DC SYSTEM SIZE: 7.488 MW
AC SYSTEM SIZE: 4.999 MW
MODULE SIZE: JINKO EN-360M-72-V
MODULE QUANTITY: 20,800
STRING QUANTITY: 950
ORIENTATION: 25° TILT, 180° AZIMUTH

PROJECT 7.488MW SOLAR GROUND MOUNT SYSTEM AT
185 BALDWINVILLE ROAD
185 BALDWINVILLE ROAD
WINCHENDON, MA 01475

DRAWING #
E300



1 RELAY
E301 / SCALE: NONE

EXTERNAL RELAY SETTINGS							
ANSI ELEMENT #	Pickup	Real	Units	Level	Delay (sec)	Total Clear Time (sec)*	Description
27	0.79	6944	V	88%	1.95	2.00	Slow UV
27	0.45	3955	V	50%	1.05	1.10	Fast UV
59	0.99	8702	V	110%	1.95	2.00	Slow OV
59	1.08	9493	V	120%	0.11	0.16	Fast OV
81U-1	56.50	56.50	Hz	94%	0.11	0.16	Fast UF
81U-2	58.50	58.50	Hz	98%	299.95	300.00	Slow UF
81O-1	62.00	62.00	Hz	103%	0.11	0.16	Fast OF
81O-2	61.20	61.20	Hz	102%	299.95	300.00	Slow OF
51G	0.19	38	A	18%			U5; TD=6.2 Timed Ground OC
51N	2.09	418	A	200%	1.95	2.00	C3 Timed Neutral OC
50P	12.55	2510	A	1200%	0.00	0.05	Instant. Phase OC
51P	1.20	240	A	115%			C3; TD=2.0 Timed Phase OC
79	0.86	7559	V	95%	299.95	300.00	Min Reclosing Voltage Value
79	0.95	8350	V	105%	299.95	300.00	Max Reclosing Voltage Value
79	59.50	59.50	Hz	99%	299.95	300.00	Min Reclosing Frequency Value
79	60.50	60.50	Hz	101%	299.95	300.00	Max Reclosing Frequency Value
209.18A USED FOR 50/51 ELEMENTS				7967.4V USED FOR 27/59 ELEMENTS			
CT RATIO FACTOR = 200				LEA RATIO FACTOR = 8789.75			
* total clear time includes 0.05 sec breaker opening time							

3 RELAY SETTINGS
E300 / SCALE: NONE

INVERTER INTERNAL PROTECTIVE SETTINGS: UL1741-SA COMPLIANT					
ANSI ELEMENT #	Pickup	Units*	Level	Total Clear Time (sec)	Description
27	528.0	V	88%	2.00	Slow UV
27	300.0	V	50%	1.10	Fast UV
59	660.0	V	110%	2.00	Slow OV
59	720.0	V	120%	0.16	Fast OV
81U-1	56.50	Hz	94%	0.16	Fast UF
81U-2	58.50	Hz	98%	300.00	Slow UF
81O-1	62.00	Hz	103%	0.16	Fast OF
81O-2	61.20	Hz	102%	300.00	Slow OF
79	570.0	V	95%	300.00	Min Reclosing Voltage Value
79	630.0	V	105%	300.00	Max Reclosing Voltage Value
79	59.6	Hz	99%	300.00	Min Reclosing Frequency Value
79	60.5	Hz	101%	300.00	Max Reclosing Frequency Value
INVERTER INTERNAL OPERATION SETTINGS					
PF Set Point	1.00				Power Factor Control
Var Control	OFF				Reactive Power Control
Ramp Rate	10%/1 sec				dkw / dt
Freq Control	OFF				Speed Control

* voltages based off 600V Line to Line

2 INVERTER SETTINGS
E300 / SCALE: NONE

APPENDIX

D

EQUIPMENT

DOCUMENTATION

ASTRO 6 Twins

Create Sustainable and Efficient Green Energy



ASTRONERGY
A CHINT COMPANY

635W~655W

Monocrystalline PV Module
CHSM66M(DG)/F-BH Series (210)



KEY FEATURES

+5W

OUTPUT POSITIVE TOLERANCE
Guaranteed 0~+5W positive tolerance to ensure power output.



NON-DESTRUCTIVE CUTTING
Higher bending strength of cells and mechanical properties of modules.



HIGH CUSTOMER VALUE
Up to 25% additional power gain, lower BOS cost and LCOE.



INNOVATIONAL HALF-CUT&MULTI-BUSBAR TECHNOLOGY
Lower risk of microcrack, better shading tolerance, higher reliability.

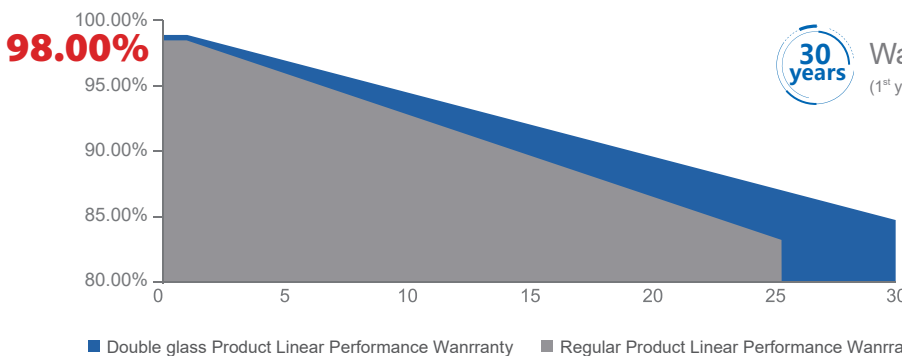


SUPER PERC+ CELL TECHNOLOGY
Higher module power and module efficiency, lower power degradation.



APPLICABLE FOR MULTI DIFFERENT ENVIRONMENTS
Wide range of applications, such as snow areas, high humidity areas and strong sandstorm areas, etc.

WARRANTY



Warranty for Materials and Processing



Warranty for Extra Linear Power Output
(1st year ≤ 2.0%, 2nd~30th years ≤ 0.45% / year)

Preliminary
For Global Market



The first solar company which passed the TUV Nord IEC/TS 62941 certification audit.

ELECTRICAL SPECIFICATIONS

Power rating (front)	635 Wp		640 Wp		645 Wp		650 Wp		655 Wp	
	Front	Back	Front	Back	Front	Back	Front	Back	Front	Back
Testing Condition	Front	Back	Front	Back	Front	Back	Front	Back	Front	Back
STC rated output (P_{mpp}/Wp)	635	444	640	448	645	451	650	455	655	458
Rated voltage (V_{mpp}/V) at STC	37.08	37.09	37.28	37.29	37.48	37.49	37.68	37.69	37.88	37.89
Rated current (I_{mpp}/A) at STC	17.13	11.99	17.17	12.02	17.21	12.05	17.26	12.08	17.30	12.11
Open circuit voltage (V_{oc}/V) at STC	44.89	44.88	45.09	45.08	45.29	45.28	45.49	45.48	45.69	45.68
Short circuit current (I_{sc}/A) at STC	18.17	12.72	18.22	12.75	18.27	12.79	18.32	12.82	18.37	12.86
Module efficiency	20.4%	14.3%	20.6%	14.4%	20.8%	14.5%	20.9%	14.6%	21.1%	14.7%
Temperature coefficient (P_{mpp})	- 0.34%/°C									
Temperature coefficient (I_{sc})	+ 0.04%/°C									
Temperature coefficient (V_{oc})	- 0.25%/°C									
Nominal module operating temperature (NMOT)	43±2°C									
Maximum system voltage (IEC/UL)	1500V _{DC}									
Number of diodes	3									
Junction box IP rating	IP 68									
Maximum series fuse rating	35 A									

STC: Irradiance 1000W/m², Cell Temperature 25°C, AM=1.5

ELECTRICAL SPECIFICATIONS (Integrated power)

P_{mpp} gain	P_{mpp}	V_{mpp}	I_{mpp}	V_{oc}	I_{sc}
5%	677 Wp	37.48 V	18.07 A	45.29 V	19.18 A
10%	709 Wp	37.48 V	18.93 A	45.29 V	20.10 A
15%	741 Wp	37.49 V	19.79 A	45.30 V	21.01 A
20%	774 Wp	37.49 V	20.65 A	45.30 V	21.92 A
25%	806 Wp	37.49 V	21.51 A	45.30 V	22.84 A

Electrical characteristics with different rear power gain (reference to 645W)

MECHANICAL SPECIFICATIONS

Outer dimensions (L x W x H)	2384 x 1303 x 35 mm
Frame technology	Aluminum, silver anodized
Front glass thickness	2.0 mm
Cable length (IEC/UL)	Portrait: 350 mm Landscape: 1400 mm
Cable diameter (IEC/UL)	4 mm ² / 12 AWG
① Maximum mechanical test load	5400 Pa (front) / 2400 Pa (back)
Connector type (IEC/UL)	HCB40 / MC4-EVO2 (optional)

① Refer to Astronergy crystalline installation manual or contact technical department.
Maximum Mechanical Test Load=1.5×Maximum Mechanical Design Load.

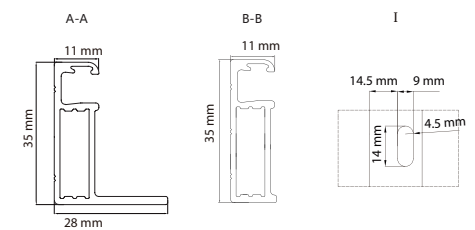
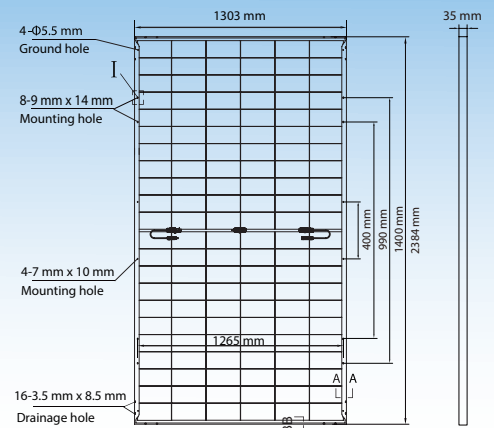
PACKING SPECIFICATIONS

① Module Weight	39.4 kg
② Packing unit	31 pcs / box
Weight of packing unit (for 40'HQ container)	1320 kg
Number of modules per 40'HQ container	527 pcs

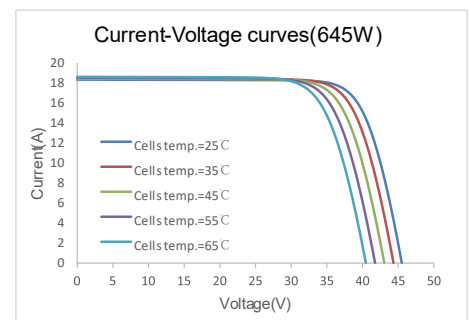
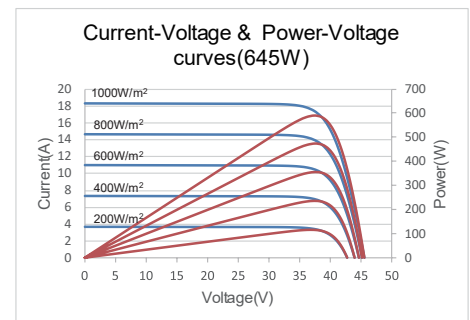
① Tolerance +/- 1.0kg

② Subject to sales contract

MODULE DIMENSION DETAILS



CURVE



Eagle 1500V 72 340-360 Watt MONO CRYSTALLINE MODULE

Positive power tolerance of 0~+3%

ISO9001:2008、ISO14001:2004、OHSAS18001
certified factory.
IEC61215、IEC61730 certified products.



PERC

(4BB)



KEY FEATURES



System Voltage:

The maximum voltage is promoted to 1500V and the module strings are extended by 50% which reduces the overall system BOS.



4 Busbar Solar Cell:

4 busbar solar cell adopts new technology to improve the efficiency of modules, offers a better aesthetic appearance, making it perfect for rooftop installation.



High Efficiency:

Higher module conversion efficiency (up to 18.57%) benefit from Passivated Emmitter Rear Contact (PERC) technology.



PID RESISTANT:

Limited power degradation of Eagle module caused by PID effect is guaranteed under strict testing condition (60 C /85%RH,96hours) for mass production.



Low-light Performance:

Advanced glass and solar cell surface texturing allow for excellent performance in low-light environments.



Severe Weather Resilience:

Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal).

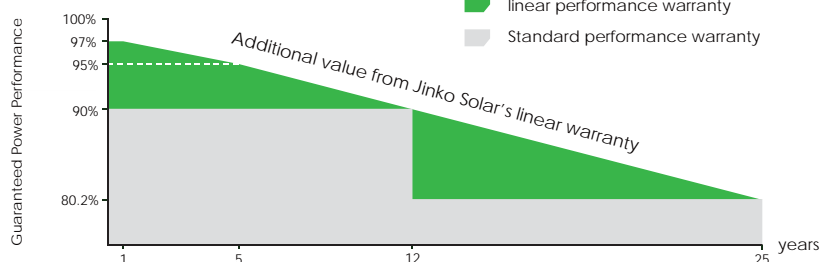


Durability against extreme environmental conditions:

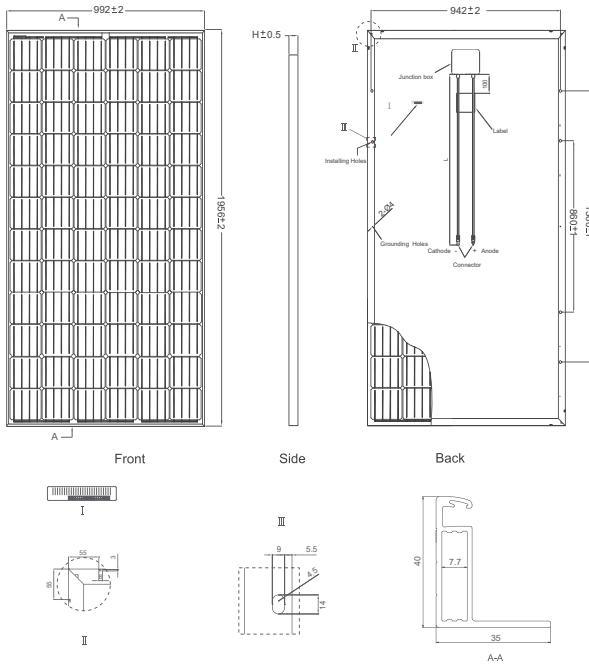
High salt mist and ammonia resistance certified by TUV NORD.

LINEAR PERFORMANCE WARRANTY

10 Year Product Warranty • 25 Year Linear Power Warranty



Engineering Drawings

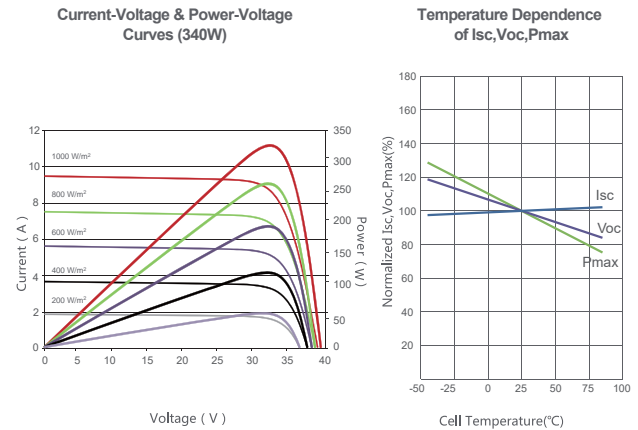


Packaging Configuration

(Two boxes=One pallet)

26pcs/box, 52pcs/pallet, 624 pcs/40'HQ Container

Electrical Performance & Temperature Dependence



Mechanical Characteristics

Cell Type	Mono-crystalline PERC 156×156mm (6 inch)
No. of cells	72 (6×12)
Dimensions	1956×992×40mm (77.01×39.05×1.57 inch)
Weight	26.5 kg (58.4 lbs)
Front Glass	4.0mm, Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP67 Rated
Output Cables	TÜV 1×4.0mm ² , Length:900mm or Customized Length

SPECIFICATIONS

Module Type	JKM340M-72-V		JKM345M-72-V		JKM350M-72-V		JKM355M-72-V		JKM360M-72-V	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	340Wp	254Wp	345Wp	258Wp	350Wp	262Wp	355Wp	266Wp	360Wp	270Wp
Maximum Power Voltage (Vmp)	38.7V	36.8V	38.9V	37.0V	39.1V	37.2V	39.3V	37.5V	39.5V	37.7V
Maximum Power Current (Imp)	8.79A	6.89A	8.87A	6.98A	8.94A	7.05A	9.04A	7.09A	9.12A	7.17A
Open-circuit Voltage (Voc)	47.1V	45.5V	47.3V	45.8V	47.5V	46.0V	47.8V	46.2V	48.0V	46.5V
Short-circuit Current (Isc)	9.24A	7.33A	9.31A	7.38A	9.38A	7.46A	9.45A	7.54A	9.51A	7.61A
Module Efficiency STC (%)	17.52%		17.78%		18.01%		18.31%		18.57%	
Operating Temperature(°C)	-40°C~+85°C									
Maximum system voltage	1500VDC (IEC)									
Maximum series fuse rating	15A									
Power tolerance	0~+3%									
Temperature coefficients of Pmax	-0.39%/°C									
Temperature coefficients of Voc	-0.29%/°C									
Temperature coefficients of Isc	0.05%/°C									
Nominal operating cell temperature (NOCT)	45±2°C									

*STC: Irradiance 1000W/m² Cell Temperature 25°C AM=1.5

NOCT: Irradiance 800W/m² Ambient Temperature 20°C AM=1.5 Wind Speed 1m/s

* Power measurement tolerance: ± 3%

Ground Mount Solutions

RBI Solar's ground mount solutions have a variety of components that are designed to accommodate site specific conditions. As customizable, project based solutions, our ground mount systems can be engineered to accommodate high wind and snow loads. Our licensed in-house engineers incorporate data from certified geotechnical reports, on-site pile tests, wind tunnel analyses, and all applicable codes and loading considerations to determine the most cost-effective solution to reduce the overall total project cost.

- Site-specific ground mount solutions
- On-site pile testing
- Pre-assembly available
- 20-year standard warranty
- Module Specific Design
- ETL Classified to UL Standard 2703



Fixed Tilt Solutions (GM-NextGen)





Neg #: 17Q3334534

ITEM	QTY	kVA	Conductor	%Z
20	5	2000	Cu/Cu	H - X = 5.63 H - Y = 5.77 X - Y = 12.99

Description:

Type : Three Winding Liquid-Filled MTR Padmounted Transformer

Fluid : Natural Ester Fluid

Core : Grain Oriented Steel

Phase : 3 Phase

Frequency : 60 Hz

Average Winding Rise : 65 °C

Ambient Temperature : 30 °C

High Voltage : 13200GrdY/7620

High Voltage Taps : +2 -2 2.5%

High Voltage BIL : 95kV BIL

High Voltage Neutral : H0 bushing with ground strap

Low Voltage : 400 Delta x 400 Delta

Low Voltage BIL : 45kV BIL x 45kV BIL

Feed Configuration : Loop feed

Color : Green (Munsell 7GY 3.29/1.5)

Features (included in price):

TANK & CABINET

- Dry Nitrogen Blanket
- Penta-head cabinet handle bolt
- Bolted cooling radiators (three banks) x 3

GROUNDING

- Core Grounding - Accessible through handhole
- Ground Bar x 2

BUSHINGS

- Loadbreak Inserts (dead front) x 6
- ANSI C57.12.34 Fig 9&11 HV bushing pattern (minimum)
- 200 amp HV bushing wells x 6
- 12-hole integral spade bushings x 3
- 6-hole integral spade bushings x 3
- Spade Supports
- ANSI C57.12.34 Fig 5&8 specific in-line LV bushing pattern
- Porcelain Ho With Spade

ARRESTERS

- 10 kV MCOV 8.40 elbow arrester - 15 kV interface x 3

FUSES

- Bayonet with integral cartridge fuse x 3
- Parallel oil-immersed partial range current limiting fuse x 6



Neg #: 17Q3334534	
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SWITCHES

- 4-position 200 amp T-blade make before break (closed transition)

MONITORING

- .5" Pressure Relief Valve – Qualitrol 202-037-02 (50 SCFM at 15 PSI)
- 5G Impact Indicator
- External padlockable box for gauges
- Liquid level gauge with alarm contacts
- Pressure vacuum gauge with alarm contacts
- Dial type thermometer with alarm contacts

FITTINGS

- Drain valve and sampler

MARKINGS

- UL Listed on Nameplate

OTHER

- Electrostatic shield bushing
- Seismic anchor provisions
- 9.5" x 17.5" Tank Handhole Cover
- 30" deep cabinet
- Copper Electrostatic Shield
- DOE 2016 Efficiency Requirements Do Not Apply: Step-up transformer

TESTS

- One Dissolved Gas Test ‡

Contains less-flammable biodegradable natural ester fluid with no detectable level of PCB, less than 1PPM, at the time of manufacture.

For information about natural ester fluid, go to:

<http://www.cargill.com/products/industrial/dielectric-ester-fluids/envirotemp-fr3/index.jsp>

M125HV



The power behind competitiveness

Delta Commercial Series

Product Features

- High DC input voltage up to 1500Vdc
- Excellent efficiency performance, 99.2% peak & 99% CEC
- Capable of landing up to 20 strings via fused inputs
- Electrolytic Capacitor Free, >20 years life
- NEMA 4X protection level
- Integral DC Arc fault detector
- Integral AC & DC disconnects
- Integral type 2 SPD at AC & DC side
- String monitoring
- Operating temp. range -13°~140°F (-25°~60°C)

Outstanding performance

M125HV have excellent efficiency performance, peak 99.2% and CEC 99%.



Benefits with M125HV



All-in-one Design:

String fuses, surge protection devices, DC & AC switches and arc fault detection circuit are integrated into the design.



String Monitoring Function:

The string monitoring function can precisely record real-time current value up to 20 strings via communication interface.



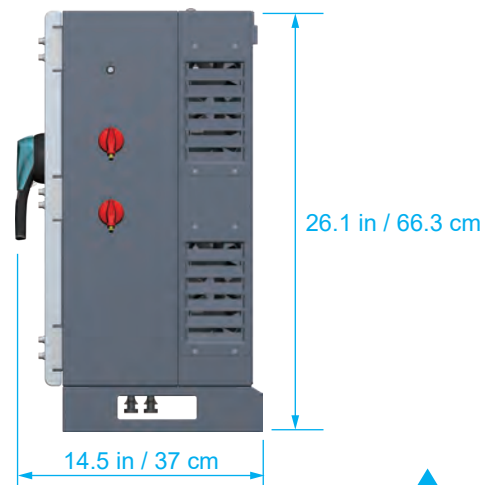
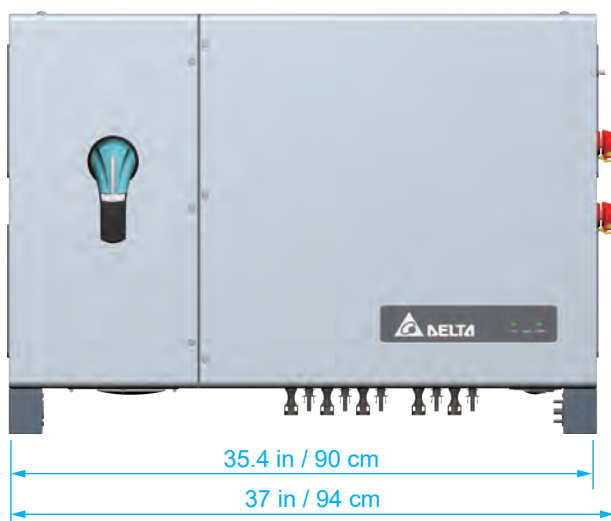
High Durability Design:

Based on electrolytic capacitor free design and NEMA 4X protection level, inverter can increase the lifetime and long term reliability.



Installation Flexibility:

According to different installation environment, M125HV supports wall mount bracket/stand to do vertical installation.



Technical Specifications

Model	M125HV
DC Input	
Max. input voltage	1500V
Operating voltage range	860~1500V
MPP voltage range for rated power	860~1350V *
Rated voltage	1050V
MPP tracker	1
Max. operating current	150A
Max. allowable array Isc	320A
String fuse provisioned	40 x 20A/1500V PV fuses
Connection type	20 pairs of UTX connector with fuse clip
Surge protection	Type 2 SPD
DC Switch	YES
String current monitoring	YES
AC Output	
Rated output power	125kVA
Max. output power	140kVA
Max. output current	135A
Grid configuration	3P-3W/Δ
Operating voltage range	384V~690V
Operating frequency range	50/60Hz ±5Hz
Power factor	Unity at rated or maximum power, 0.8 ind ~ 0.8 cap adjustable
Protection	Type 2 SPD
THD	<3%
Connection type	2/0 AWG – 300 kcmil ring terminal lug (Cu or Al wire) with AC Switch
Night time consumption **	<3.5W
Efficiency	
Peak efficiency	99.2%
CEC efficiency	99%
Information	
Communication	RS-485 (Delta/ Sunspec)
Indicator	LED
Regulation	
	UL 1741 SA, UL1741, UL1998, UL 1699B IEEE1547, IEEE1547.1, CSA C22.2
General Data	
Smart inverter functionality	Voltage/Frequency Ride through, Volt/Var, Volt/Watt, Power curtailment, Frequency/Watt
Operating temp. range	-13°~140°F, >122°F de-rating (-25°~60°C, >50°C de-rating)
Protection level	NEMA 4X
Operating elevation	<9800ft (<3000m)
Cooling	Forced air cooling with Smart Fan control
Dimension (W x H x D, in)	35.4 x 26.1 x 14.5
Weight (lb)	176

* Ambient < 0°C : 860~1450V
 Ambient < 25°C : 860~1350V
 Ambient < 40°C : 860~1250V

** Night time consumption with standby communication

- All specifications are subject to change without prior notice.





Delta Electronics (Americas), Ltd

46101 Fremont Blvd, Fremont, CA 94538

www.delta-americas.com

Customer Service Technical Support

PVI.Support.US@deltaww.com

+1-877-442-4832

SC1000KU

Power Conversion System



HIGH YIELD

- Max. efficiency 98.4%
- Effective forced air cooling, 1.1 overload capacity, Wide DC voltage operation window, flexible for battery configuration

EASY O&M

- Compact design and light weight for easy installation
- Scalable system configuration, extend to MW power range

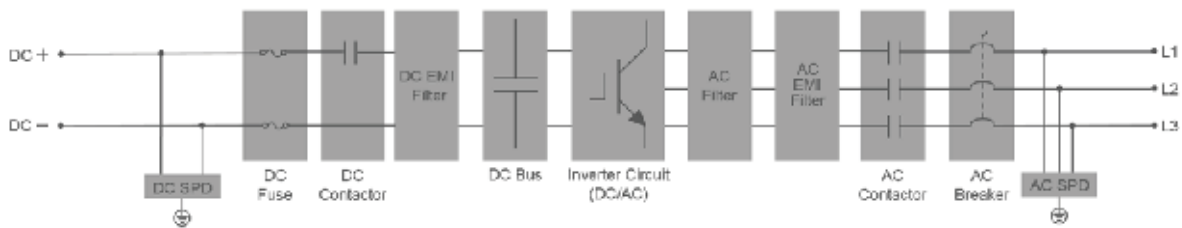
ESS APPLICATIONS

- Battery charge & dis-charge management integrated
- Bidirectional power conversion system with full four quadrant operation
- Compatible with high voltage battery system, low system cost

GRID SUPPORT

- Fast and accurate power response
- Grid support including L/HVRT, soft start/stop, specified power factor control and reactive power support

CIRCUIT DIAGRAM



System Type	SC1000KU
DC Side	
DC voltage range for nominal power	810 ~ 1,200 V
Max. DC current	1,358 A
AC Side(Grid)	
Nominal AC power (at 50°C)	1,000 kW
Max. AC power at PF=1 (at 45°C)	1,100 kVA
Max. AC current	1,176 A
Max. THD of current	< 3 % (at nominal power)
DC current injection	< 0.5 %
Nominal AC voltage	540 V
AC voltage range	475 ~ 594 V
Nominal grid frequency	60 Hz
Grid frequency range	55 ~ 65 Hz
Power factor at nominal power	> 0.99
Power factor range	0.8 (lagging) ~ 0.8 (leading)
Efficiency	
Max. efficiency	98.4%
General Data	
Dimensions (W × H × D)	1,606 × 2,065 × 960 mm / 63.2" × 81.3" × 37.8"
Weight	1,400 kg / 3,086 lbs.
Degree of protection	IP 21 / NEMA 2
Operating ambient temperature range	-30 ~ 50 °C / -22 ~ 122 °F
Allowable relative humidity range	0 ~ 95 % (No-condensing)
Max. operating altitude	2,000 m / 6,561 ft
Display	Touch screen
Cooling method	Temperature-controlled forced air cooling
Isolation	Transformerless
Self-consumption at stop	< 127 W
Noise emission	< 78.6 dB @1m
Communication	RS485, Ethernet, CAN
Communication protocol	Modbus RTU, Modbus TCP, IEC104
Compliance	UL 1741, UL1741 SA, IEEE 1547, IEEE 1547.1, CSA C22.2 No. 107.1-01

APPENDIX

E

OPERATION &

MAINTENANCE PLAN



OPERATION & MAINTENANCE PLAN
Winchendon Solar Facility, Baldwinville Road,
Winchendon, Massachusetts
March 2023

1. Operation & Maintenance Responsibility:

It shall be the responsibility of the Operators of the Solar Facility to implement the Operation and Maintenance Plan in accordance with the provisions set forth herein.

2. Winchendon Solar Facility:

The Winchendon Solar Facility (the “Solar Facility” or “Facility”) will be constructed and maintained on approximately 12.8 acres of the 47.1-acre site on Parcels 272, 273, and 274 on Baldwinville Road, Winchendon, MA (the “Site”).

3. Parties and Notices:

A. Owner: Winchendon Solar, LLC
4 Park Plaza, Suite 1250
Irvine, CA 92614

B. Operator: Winchendon Solar, LLC
4 Park Plaza, Suite 1250
Irvine, CA 92614

4. Maintenance Log:

Operators shall maintain a maintenance log in accordance with the maintenance and inspection schedule as outlined herein. The maintenance log shall be made available to the Town upon request.

5. Solar Facility Operation:

The Solar Facility and all equipment shall be operated as set forth in the respective operation manuals and according to all local, state, and federal laws, rules and regulations; including but not limited to the National Electric Code ANSI/NEPA 70.

6. Solar Facility Production Monitoring:

The Operator of the Solar Facility will utilize AlsoEnergy PowerTrack Monitoring System, or equivalent, internet based monitoring service. This monitoring service will provide 24- 7 data relative to electrical output and overall facility function.

7. Bi-Annual Inspection of Solar Facility:

The Operator of the Solar Facility will perform biannual (December and June) visual inspections of the Solar Facility. The biannual inspections will be conducted by a professional engineer and master electrician and will consist of the following:

- Visual inspection of all equipment including but not limited to solar panels, racking system components, foundation pads, inverters, load centers, transformers, wiring and wiring connections.
- Visual inspection of site soil conditions, site drainage including the integrity of the earthen berms, site vegetation, security features and fencing.
- Parties conducting visual inspection shall submit a written report of their findings. Said written report shall be the basis for required maintenance and repairs.

8. Monthly Inspection of Solar Facility:

The Operator of the Solar Facility will conduct general monthly inspections of the Solar Facility. The monthly inspections will be conducted by a qualified person and will consist of the following:

- Visual inspection of all equipment including but not limited to solar panels, racking system components, foundation pads, inverters, load centers, transformers, wiring and wiring connections.
- Visual inspection of overall site stability, soil conditions, site drainage including the integrity of the earthen berms, site vegetation, security features and fencing.
- Parties conducting visual inspection shall submit a written report and/or a

completed checklist summarizing their findings. Said report/checklist shall be the basis for required maintenance and repairs.

9. Scheduled Maintenance

The Operator of the Solar Facility shall maintain the solar panels and electrical equipment in accordance with manufacturer's guidelines.

10. General Maintenance

The Operator of the Solar Facility will perform general maintenance of the Solar Facility. General maintenance includes, but is not limited to:

- **Snow Clearing:** Within 5 days of a snow event the access road will be plowed, snow will be removed from solar panels using ladders, man-lift (if necessary) and a soft snow rake. ATV's and snow blowers may be used to move and distribute snow that piles in the array rows. ATV operators must take precautions to prevent rutting and must immediately report any rutting so that repairs can be made.

- **Vegetation:**

Inside Perimeter Fence – Vegetation shall be kept to appropriate heights to ensure production losses are not incurred due to shading. Mowing, weed whacking, pruning, trimming, and removing of vegetation in and around the solar arrays will be conducted during the growing months. It is anticipated that this will occur twice per growing season. Trimming will also be performed along the fence to maintain a clear path along both sides of the fence, and to prevent the entanglement of vegetation.

Outside Perimeter Fence – This area will be allowed to re-vegetate naturally, but will be periodically maintained to prevent growth from shading the solar array. Vegetation closest to the array will be maintained to a height of approximately 6 to 8 feet, while vegetation furthest from the array will be maintained to a height of 20 to 30 feet depending on the location and resulting shading. Maintenance will include cutting, pruning and/or trimming, and the schedule will depend on growth rate.

- **General Repairs:** Repairs to the rip-rap swale, earthen berms, the access road, entrance, landscaping, and security fencing will be performed as needed. The Solar Facility will be maintained such that the drainage features are working as designed, that the site is stable, and it is pleasing to the eye.

11. Emergency Measures:

The Operator shall take action as necessary to ensure the Solar Facility is operated in a safe manner. If an emergency situation arises, Operator shall make best efforts to eliminate the emergency, and shall immediately notify the appropriate town and state officials. A sign with emergency contact information will be posted on the entrance gate to the Solar Facility. Emergency procedures will be detailed in the Health and Safety Plan developed as required by Paragraph 12 of this Operation and Maintenance Plan.

In order to shut the Solar Facility down in the case of an emergency, there are 2 pole mounted emergency shut off switches, each accessible from the road. These shut off switches are marked on the site plan as, "Pole for Utility Disconnect" and "Pole with Gang Operated Switch and Riser". If either shut off switch is operated, the Solar Facility will shut down.

12. Health and Safety:

A Health and Safety and Emergency Response Plan will be developed for O&M activities at the Site. This Plan will be delivered to the Town prior to commencement of operations.

APPENDIX

F

CERTIFICATE OF
LIABILITY
INSURANCE



CERTIFICATE OF LIABILITY INSURANCE

12/1/2022

DATE (MM/DD/YYYY)

7/14/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Lockton Insurance Brokers, LLC 19800 MacArthur Blvd., Suite 1250 CA License #0F15767 Irvine 92612 949-252-4400	CONTACT NAME: PHONE (A/C, No. Ext):		FAX (A/C, No):
	E-MAIL ADDRESS:		
INSURER(S) AFFORDING COVERAGE			NAIC #
INSURER A: Federal Insurance Company			20281
INSURER B: Everest National Insurance Company			10120
INSURER C:			
INSURER D:			
INSURER E:			
INSURER F:			

COVERAGES SUNHO01 **CERTIFICATE NUMBER:** 18716843 **REVISION NUMBER:** XXXXXXXX

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:	N	N	3606-02-11	12/1/2021	12/1/2022	EACH OCCURRENCE	\$ 1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 1,000,000
							MED EXP (Any one person)	\$ 10,000
							PERSONAL & ADV INJURY	\$ 1,000,000
							GENERAL AGGREGATE	\$ 2,000,000
							PRODUCTS - COMP/OP AGG	\$ 2,000,000
								\$
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY	N	N	7361-23-66	12/1/2021	12/1/2022	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000
							BODILY INJURY (Per person)	\$ XXXXXXXX
							BODILY INJURY (Per accident)	\$ XXXXXXXX
							PROPERTY DAMAGE (Per accident)	\$ XXXXXXXX
								\$ XXXXXXXX
A B	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input type="checkbox"/> RETENTION \$	N	N	78191062 XC6EX00151-211	12/1/2021 12/1/2021	12/1/2022 12/1/2022	EACH OCCURRENCE	\$ 21,000,000
							AGGREGATE	\$ 21,000,000
								\$ XXXXXXXX
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A	NOT APPLICABLE			PER STATUTE	OTH-ER
							E.L. EACH ACCIDENT	\$ XXXXXXXX
							E.L. DISEASE - EA EMPLOYEE	\$ XXXXXXXX
							E.L. DISEASE - POLICY LIMIT	\$ XXXXXXXX

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
 Re: 185 Baldwinville Rd, Winchendon, MA 01475

CERTIFICATE HOLDER

18716843
Evidence of Coverage

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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APPENDIX

G

FINANCIAL
DOCUMENTATION

DECOMMISSIONING COST

At the end of the useful life of the solar modules, the facility value will be reduced to the commodity materials it is constructed of, including aluminum, steel, copper and wood. The associated cost of removal and disposal are summarized below in Table 1. Labor costs are based on the Department of Labor Standard Prevailing Wage Rates.

Table 1
Estimate Decommissioning Cost

Component/Activity	Cost	Comment
Temporary Erosion Control Installation and Removal	\$5000	2 laborers at \$51.99 x 24 hours and material
Chain-Link Fence Removal	\$4000	3 persons crew plus equipment, 2 days @ \$2000
AC/DC Electrical Wiring	\$28,000	6 persons crew & equipment, 8 days @ \$3,500
Utility Pole Removal	\$2000	2 persons crew plus equipment, 1 day @ \$2000
Transformer/Inverter/Switchgear Removal	\$4,000	3 persons crew plus equipment, 2 days @ \$2,000
Concrete Pad Removal	\$4,000	2 persons crew plus equipment, 2 days @ \$2,000
PV Modules Removal	\$9,600	3 persons crew, 8 days @ \$1,200
Racking System Removal	\$14,400	3 persons crew plus equipment, 8 days @ \$1,800
Earth Screw Removal	\$10,000	2 persons crew plus equipment, 5 days @ \$2,000
Regrade/Seed Disturbed Areas	\$7,000	1 persons crew plus equipment, 5 days @ \$1,400
Total	\$88,000	

Performance Bond

Bond No. _____

KNOW ALL MEN BY THESE PRESENTS:

That _____
(Here insert the name and address or legal title of the Contractor)

_____ as Principal, hereinafter called Principal, and _____, a corporation of the State of _____, with its home office in the City of _____, U.S.A., as Surety, hereinafter call Surety, are held and firmly bound unto

_____ (Here insert the name and address or legal title of the Owner)

_____ as Obligee, hereinafter called Owner, in the amount of

_____ Dollars (\$ _____), for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated _____, entered into a contract with Owner for _____

_____ in accordance with drawings and specifications prepared by _____

_____ (Here insert full name, title and address)

_____ which contract is by reference made a part thereof, and is hereinafter referred to as the Contract.

_____ faithfully perform said contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Whenever Principal shall be, and be declared by Obligee to be in default under the contract, the Obligee having performed Obligee's obligations thereunder:

- (1) Surety may promptly remedy the default subject to the provisions of Paragraph 3 herein, or;
- (2) Obligee after reasonable notice to Surety may, or Surety upon demand of Obligee may arrange for the performance of Principal's obligation under the contract subject to the provisions of Paragraph 3 herein;
- (3) The balance of the contract price, as defined below, shall be credited against the reasonable cost of completing performance of the contract. If completed by the Obligee, and the reasonable cost exceeds the balance of the contract price, the Surety shall pay to the Obligee such excess, but in no event shall the aggregate liability of the Surety exceed the amount of this bond. If the Surety arranges completion or remedies the default, that portion of the balance of the contract price as may be required to complete the contract or remedy the default and to reimburse the Surety for its outlays shall be paid to the Surety at the times and in the manner as said sums would have been payable to Principal had there been no default under the contract. The term "balance of the contract price," as used in this paragraph, shall mean the total amount payable by Obligee to Principal under the contract and any amendments thereto, less the amounts heretofore properly paid by Obligee under the contract.

Any suit under this bond must be instituted within one (1) year after (i) completion of the contract, including the expiration of all warranties and guarantees, or (ii) discovery of the defect or breach of warranty, if the action be for such, whichever is the shorter period; it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of Owner.

Signed and sealed this _____ day of _____ A. D. , _____

In the presence of:

Principal

(Seal)

By _____ (Seal)
_____, Attorney-in-Fact

APPENDIX

H

APPLICATION FOR
LOW IMPACT
DEVELOPMENT
PERMIT, O&M/LTPPP
PLAN

TOWN OF WINCHENDON



Planning Board

Telephone (978) 297-3308
Facsimile (978) 297-5411

109 Front Street
Winchendon, Massachusetts 01475-1758

Application for Low Impact Development Permit

Fee paid: Town of Winchendon \$ _____

Pursuant to the provisions of Massachusetts General Law Chapter 40, Section 57, the Town Bylaw, Licenses and Permits of Delinquent Taxpayers, Section 21.1: 'Any Board ... shall deny the application ... for any person, corporation, or business enterprise who has neglected or refused to pay any local taxes, fees, assessments, betterments, or any other municipal charge.'

Certification must be obtained from the Town Treasurer on this form before it is submitted to the Planning Board.

The Town Treasurer has up to ten (10) days to complete certification.

I hereby certify that no debt is owed to the Town by the applicant or the owner of record for a period of time greater than twelve (12) months.

Town Treasurer

Date

PB # _____ Rec'd by Planning Board _____

APPLICANT name Winchendon Solar, LLC

Address 4 Park Plaza, Ste 1250; Irvine, CA 92614 Tel. # (617) 586-8468

LANDOWNER name Kevin A. Doyle

Address 6 Warner Lane #6, Westminster, MA 01473 Tel. # (978) 503-8766

LOCATION OF LAND Baldwinville Road - Parcels 13-0-272, 13-0-273, 13-0-274

Property is to be used for Solar PV Development

Other Permits being applied for (if any) Baldwinville Road

Area to be disturbed (square feet) 583,440 sq. ft. (13.4 acres)

Deed to the property, as recorded in the Worcester District Registry of Deeds;

Book 47372 Page 168 and is shown on

Assessors Map 13 Parcel 272, 273, 274 Zoning R80

Lot size 47.1 acres total. Parcel 272 (2 acres), Parcel 273 (43 acres), Parcel 274 (2.15 acres).

The undersigned hereby request a Low Impact Development Permit under the Winchendon Low Impact Development Bylaw and further certify that all information provided in this application and supporting documents is true.

OWNER signature _____

DocuSigned by:

D9882F2E40EF480...

APPLICANT signature _____

* **NOTE: Supporting Documents are required with this application. See listing on the reverse of this form.**

Required materials that must be submitted with this application:

The LID application shall include a list of abutters, to include owners of land directly opposite on any public or private street or way, and abutters to abutters within 300 feet of the property line of the petitioner as they appear on the most recent applicable tax list (notwithstanding that the land of any such owner is located in another city or town or across a body of water). The names and addresses will be supplied by the assessors office.

Payment of the application fee and review fee (if the LID authority so requires);

Five (5) full-size paper copies; 10 reduced size, 11”X17” copies; 15 copies of supporting narrative and 1 copy in electronic form of each of the following:

- LID Management Plan and project description
- Operation and Maintenance Plan;
- Erosion and Sediment Control Plan;
- Inspection and Maintenance agreements.
- The names and full contact information for every person involved in developing the plan and who may be contacted for clarifications or additions. Such information must include mail address, land line phone number, fax number and email address. A cellular phone number shall be included, if available

NOTES:

A LID Permit must be issued prior to any site disturbing or altering activity.

Further supporting documentation must be provided if the LID Authority so requires.

While the applicant may be a representative; the Permittee will be the owner of the site or the holder of an easement thereon.

If an application is signed other than by the property owner, the applicant’s interest in the property and her/his authority to sign shall be clearly indicated. If an applicant signs in more than one capacity, each capacity shall be clearly indicated.

If some person, other than the applicant, is authorized to sign other documents related to the matter, that authority shall be clearly indicated in the application or in a separate document.

WINCHENDON SOLAR, LLC

OPERATION AND MAINTENANCE
PLAN AND LONG-TERM POLLUTION
PREVENTION PLAN
BALDWINVILLE ROAD, WINCHENDON, MA

MARCH 23, 2023



OPERATION AND
MAINTENANCE
PLAN FOR THE
SOLAR
PHOTOVOLTAIC
DEVELOPMENT
BALDWINVILLE ROAD

WINCHENDON SOLAR, LLC

PROJECT NO.: 3652180157

DATE: MARCH 23, 2023

WSP USA ENVIRONMENT & INFRASTRUCTURE, INC.

100 APOLLO DRIVE, SUITE 302

CHELMSFORD, MA 01824

T: +1 (978) 692-9090

WSP.COM



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1 INTRODUCTION

WSP USA Environment & Infrastructure, Inc. (WSP) has prepared this Operations and Maintenance Plan and Long-Term Pollution Prevention Plan as a combined document to ensure that the stormwater best management practices (BMPs) designed and constructed as part of the proposed ground-mounted solar photovoltaic (PV) project (the Project) located at Baldwinville Road in Winchendon, MA (the Site) continue to function as designed. The elements of this plan were developed in accordance with the Standards 4 and 9 of the Massachusetts Stormwater Standards and the requirements of the Massachusetts Stormwater Handbook.

2 OPERATION AND MAINTENANCE PLAN

The BMPs designed and constructed as part of the Project shall be operated and maintained in accordance with the requirements identified on the drawings submitted with the Notice of Intent and this Operations and Maintenance Plan.

2.1 STORMWATER MANAGEMENT SYSTEM OWNERS AND RESPONSIBLE PARTY

The owner of the stormwater management system at the Site and the party responsible for operation and maintenance of the stormwater BMPs is:

Winchendon Solar, LLC
4 Park Plaza, Suite 1250
Irvine, CA 92614

2.2 CONSTRUCTION PERIOD EROSION AND SEDIMENTATION CONTROLS

Stormwater inspections during construction through project completion (final site stabilization) will be performed under the EPA NPDES Construction General Permit. Each of the following areas must be inspected by or under the supervision of the owner and operator at least once every seven (7) calendar days and within twenty-four (24) hours after any storm event, which generates at least 0.25 inches of rainfall per twenty-four (24) hour period and/or after a significant amount of runoff or snowmelt:

- All areas that have been cleared, graded, or excavated and where permanent stabilization has not been achieved;
- All stormwater erosion, runoff, and sediment control measures (including pollution prevention control measures) installed at the site;
- Construction material, unstabilized soil stockpiles, waste, borrow, or equipment storage and maintenance areas that are covered by this permit and are exposed to precipitation;
- All areas where stormwater typically flows within the site, including temporary drainage ways designed to divert, convey, and/or treat stormwater;
- All points of discharge from the site;
- All locations where temporary soil stabilization measures have been

- implemented;
- All locations where vehicles enter or exit the site.

Additional provisions include:

- Sediment shall be removed before it accumulates to one-half foot deep at the installed sediment barrier;
- Sediment barrier shall be replaced where it is worn, torn, or otherwise damaged;
- Any part of the sediment barrier that is not properly installed on the ground shall be re-anchored or replace.

2.3 POST-CONSTRUCTION

Following construction completion and final site stabilization, Winchendon Solar, LLC and their Contractors will perform stormwater inspections as follows:

- Remove temporary erosion and sediment controls (sediment barrier);
- Inspect site for stability and any evidence of erosion or sedimentation;
- Inspect the lower “drip edge” of the solar PV panels for erosion. If erosion along the drop edge is observed erosion control matting shall be installed along the length of the edge;
- As part of bi-annual facility inspection and maintenance, the Site will be inspected for general site stability and function/sedimentation of the infiltration basin.

2.4 MAINTENANCE TASKS

2.4.1 GENERAL O&M REQUIREMENTS

The BMPs specified for this Project are designed to attenuate runoff from the Project in areas located upgradient of the existing surrounding wetlands. These BMPs will be most effective if properly maintained. This section describes the general maintenance concepts that must be implemented in order to extend the lifespan of the BMPs and maximize their ability to minimize accelerated erosion and sediment pollution.

In general, maintenance of BMPs requiring earth disturbance should occur in late spring or summer, after spring rains have diminished, drier weather has set in, and when vegetation can re-establish itself through the growing season. Other times may be suitable if weather permits or if the potential for sediment transport is low. Any maintenance should occur with the intent to limit earth disturbance during

times of high erosion potential.

If earth disturbance occurs as part of maintenance activities, appropriate erosion and sediment controls shall be implemented. Fertilizer should not be applied, as this will result in an export of nitrogen and phosphorus from the BMP; with an exception for initial vegetation establishment.

Removed sediment shall always be managed in such a manner that it will not erode and wash into the stormwater conveyance system or a local water body.

2.4.2 INFILTRATION BASIN

Inspect at least twice per year to monitor for proper function. Inspections should also occur after major storms to determine if the basin is meeting the expected infiltration rate. The basin should be inspected for subsidence, erosion, and sediment accumulation.

- Remove accumulated sediment from the basin on a bi-annual basis or sooner if noticeable clogging of the basin is observed.
-

2.4.3 CRUSHED STONE ACCESS ROAD

Annually in the spring season the washed crushed stone shall be re-distributed and supplemented to achieve an even, compacted surface conforming to the original design grades. Snow plow damage shall be inspected throughout the winter season and repaired as needed. Any vegetation growing within the roadway is to be removed immediately upon identification. Potholes shall be repaired as required. If standing water is observed more than 48 hours after a storm event, then the crushed stone surface shall be excavated, the subsoil shall be scarified to breakup any hard-packed sediment, and the roadway shall be restored to original design specifications. Trash and debris shall be removed from the washed crushed stone surface as needed and shall be disposed of in accordance with applicable local, state and federal guidelines and regulations. The surface of the washed crushed stone access road shall not be used to store soil or other materials that could clog the permeable stone surface.

2.4.4 GRASSED SWALE

Minor soil erosion gullies shall be repaired when they occur, and check dams shall be added/repaired/replaced as necessary. Grass cover shall be mowed to a minimum of three times per growing season to maintain maximum grass heights less than 12". Silt/sediment shall be removed from the channel bottom after it reaches 1" in depth.

If standing water is observed more than 48 hours after a storm event, then the surface shall be rototilled or cultivated to breakup any hard-packed sediment, re-vegetated, and restored to original design specifications.

2.5 GENERAL SITE MAINTENANCE

The Site area to be occupied by the solar array will be vegetated with low-maintenance native grass species. The grass will be mowed bi-annually, and any woody vegetation not otherwise managed by mowing will be manually removed. This includes the area immediately adjacent to the perimeter fence, to prevent woody vegetation from impacting the fence. Herbicides are not proposed for use on the Site.

2.6 SCALED PLANS

Plans drawn to scale that depict the location of the stormwater features, their discharge points, and elements of the overall stormwater management system are included with the Site Plan Review. A Proposed Stormwater Conditions Plan is included in this O&M Plan.

2.7 PUBLIC SAFETY FEATURES

The Project will be surrounded by a chain link fence. The gate will be locked at all times and will need to be opened to conduct routine maintenance activities.

2.8 ESTIMATED OPERATION AND MAINTENANCE BUDGET

An estimated Operation and Maintenance budget is estimated to be approximately \$5,000 per year to perform the general maintenance described in this O&M Plan.

3 LONG-TERM POLLUTION PREVENTION PLAN

In accordance with EPA Standards, the development and implementation of suitable practices for source control and pollution prevention shall be incorporated in a Long-Term Pollution Prevention Plan (LTPPP). The primary focus of the LTPPP is to establish procedures and controls for limiting the potential sources of pollutants, including nutrients that may contribute to excessive contaminant levels in the site's stormwater runoff. To this end the following sources controls and procedures will be in place at the site:

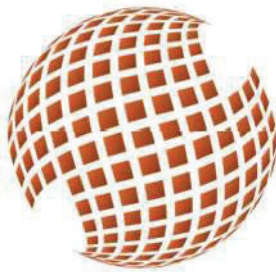
- **Good House Keeping** – The site shall be kept clean at all times. Refuse disposal and pickup shall occur on a regular basis and all material shall be disposed of in designated locations.
- **Storing Material and waste products inside or under cover** – No material storage is to take place outside at the site on either paved or lawn areas. All materials stored on-site will be in conformance with all storage requirements of local, state, and federal agencies.
- **Spill Prevention and Response** – A spill recovery kit shall be readily accessible at the facility at all times. Contact information for an emergency cleanup vendor shall be visible and apparent at the facility. All employees shall be briefed on clean-up response and procedures.
- **Maintenance of lawns and other landscaped areas** – All landscaping and maintenance shall be performed so as not to disturb stabilized surfaces.
- **Storage and use of herbicides and pesticides** – Application of herbicides or pesticides (if required) will not be applied during construction.
- **Nutrient management plan** – The goal of the nutrient management plan is to minimize the potential sources of excess nutrients on the site and the release of nutrients in the stormwater from the site. This minimization relates both to infiltrated water and runoff. In general, the nature of the site use will tend to reduce nutrients in the stormwater. Further, procedures indicated above or in the O&M Plan will act to reduce the levels of nutrients in the stormwater and the nutrients entering the groundwater.

APPENDIX



DECOMMISSIONING PLAN





SUNPIN

Securing a brighter future through solar

Decommissioning Plan

Proposed Solar Facility

Baldwinville Road

Winchendon, MA

5.154 MW DC Photovoltaic System

February 2023

Prepared for Winchendon Planning Board

Winchendon Solar, LLC

4 Park Plaza, Suite 1250

Irvine, CA 92614

424-465-9770

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1.0 PROJECT DESCRIPTION

The project is a 5.154 MW (DC) photovoltaic (PV) generation system (facility) located on Parcels 13-0-272, 13-0-273, and 13-0-274 on Baldwinville Road in Winchendon, Massachusetts. The facility will reside on 12.8 acres of land which Sunpin Solar intends to lease the property from the owner on a date that is agreeable to both parties. The facility will interconnect to National Grid through a 13.8 kV gang-operated three-phase utility distribution system.

The facility consists of a ground mounted solar array; the solar panels are mounted on a simple fixed-tilt, post, rail, and cross beam racking system. The low end of the panels is approximately three feet above the ground; the top or high end of the panels is approximately ten feet off the ground. The entire project will be surrounded by a chain-link fence as required by the National Electric Code. The solar array will be connected to a series of inverters, which are electrical current conversion equipment and switches. The electric power from the inverters will be run via underground conductors and five utility poles on the Site to the electricity distribution line (i.e. grid) on Baldwinville Road. Native vegetation, grass, and wild flowers will be utilized for ground cover within the project boundaries.

The Project has an estimated useful lifetime of 20 to 40 years with minimal equipment replacement and repowering. For the purposes of this decommissioning plan, Sunpin Solar assumes that at the end of 20 years, the system will be completely dismantled and the Site restored to its pre-construction state.

2.0 DECOMMISSIONING OVERVIEW

The owner of the facility will decommission and remove all equipment installed at the Site associated with the PV generation system upon expiration of its useful life. The Municipality will be notified by certified mail of the proposed dates for discontinued operations and decommissioning. The decommissioning will be completed within 150 days of the proposed date of decommissioning. The majority of the equipment materials will be recycled or sold back to the manufacturer. All non-recyclable materials will be disposed of at an approved landfill or facility in accordance with state and federal regulations.

The facility owner will be responsible for all decommissioning costs and will obtain all permits or approvals required by the Municipality and the Commonwealth of Massachusetts prior to decommissioning.

3.0 PROCEDURES FOR DECOMMISSIONING AFTER CEASING OPERATION

The system and related appurtenances will be dismantled, removed and shipped off site for recycling or disposal. Details of these activities are provided in Sections 3.1 to 3.9 as follows.

3.1 Temporary Erosion Control

Appropriate construction-related erosion and sedimentation control best management practices (BMPs) will be used during the decommissioning phase of the project. The BMPs will be inspected and maintained on a regular basis to ensure they are working as intended. These controls will remain in place until the decommissioning is complete and the Site is stable.

3.2 General Removal Process

Effectively, the decommissioning of the facility proceeds in reverse order of the installation.

1. The system shall be disconnected from the utility power grid.
2. PV modules shall be disconnected, collected and shipped to a recycler.
3. Site aboveground and underground electrical interconnection and distribution cables shall be removed and recycled.
4. The steel PV racking system, posts, and earth screws shall be removed and recycled.
5. Electrical and electronic devices, including transformers, inverters and switchgear devices shall be removed and recycled off-site by an approved recycler or shipped back to the manufacturer for reuse or refurbishing.
6. Concrete foundations shall be removed, broken up, and recycled off-site by a concrete recycler.
7. Chain-link fencing, posts, and gates shall be removed and will be recycled.
8. The gravel access road can remain on Site, or it can be removed and the gravel repurposed either on- or off-site.
9. The Site may be converted to other uses in accordance with applicable land use regulations in effect at that time of decommissioning. Since there are no permanent changes to the Site, it can be restored to its original condition, including re-vegetation. Any soil disturbances that occur during decommissioning will be repaired, and the disturbed areas will be readily loamed and seeded, as necessary, to stabilize the Site.

3.3 PV Modules

The PV modules contain numerous recyclable materials, including glass, semiconductor material, aluminum, copper, and plastic. The project owner will seek and partner with one of the many PV module recyclers available in the industry. To take advantage of this program, the PV modules will be electrically and mechanically disconnected from the solar array and packaged for shipment. The recycler arranges for the transportation and recycling of the modules from the Site. The module recycling program includes the glass and the encapsulated semiconductor material, with over 90% of the material recovered for future use. A sample module recycler is provided as follows.



Acute Solar Inc. 1-214-250-2433

Recyclers Of Solar Panels, Solar Laminates, Solar Cells

Home

Things We Buy

Pictures Of Products We Buy



We are currently buying:

Solar Panels / Surplus Panels

Solar Laminates

Solar Glass, Frames

New, Used, Off Specifications Welcome!!

All you have to do is call us, we make all logistical arrangements!

We can de-install solar arrays and solar installs. We pay all the freight!

We pay and pickup throughout the USA, Canada, Mexico, Europe!

Please give us a call or email today!!!

1-214-250-2433 or

kc@acutesolar.com

Northern California Office:

250 S. Central Ave.
Tracy, CA 94538
408-500-1747

Dallas Texas Office:

3020 Legacy Dr.
Plano TX 75025
214-250-2433

3.4 Transformers, Inverters and Switchgear Devices

Transformers, inverters, and switchgear devices will be disconnected and removed from their concrete pads. Combiner box assemblies will be pulled off of the ground mounting structures intact, including the ballasts from the mounting system. The equipment will be recycled off-site by an approved recycler or shipped back to the manufacturer for reuse or refurbishing.

3.5 Electrical Wiring

The electrical wiring is typically installed underground (limited amount) or is attached directly to the module racking structure. To remove the underground wire, the original trenches in which the wire is buried will be dug up and the conduit and wire removed. The wire attached to the racking structure is primarily attached via plastic clip and can be removed by hand. The wiring is either copper or aluminum (depending on the function/location) encapsulated in an insulating plastic material; most of these materials are desirable commodities that can be recycled. Overhead wiring will be disconnected, and the wiring and wooden utility poles will be removed and shipped off site for recycling.

3.6 Racking System, Posts and Earth Screws

The racking system consists of galvanized racking rails and posts. All of these materials can be recycled and/or reused. Removal of the racking is straightforward, as the primary attachment is via screws, clips, nuts, and bolts. The steel posts are secured to the earth screws by nuts and bolts and will be removed by hand and using heavy equipment. An appropriate recycler can reuse these materials.

3.7 Chain-Link Fence

The chain-link fence is constructed of galvanized fence fabric, rails, tension wires, posts. The line posts are driven into the ground while the corner posts and gate posts are set in concrete footings. The fence fabric, rails and tension wires will be removed, and the posts and concrete footings will be pulled from the ground using heavy equipment. The poles will be separated from the concrete by cutting and shipped off site with the other fence materials for recycling. The concrete footings will be broken up and shipped off for recycling or disposal.

3.8 Concrete Pads

The concrete pads for the transformers, inverters, and switchgear devices will be removed by heavy equipment, broken up, and shipped off site for recycling or disposal.

3.9 Site Restoration

Areas of the Site disturbed during decommissioning will be repaired immediately. Repairs will include filling voids from the removal of the earth screws, fence posts, utility poles, and concrete pads. These areas will be fine graded, if necessary, then loamed and seeded. The gravel access may remain or be removed, depending on the future use of the site and/or Planning Board requirements. If removed, some of the gravel can be used to fill the voids referenced above, and the remaining material can be transported off site for reuse at another location.

APPENDIX

J

IMPACT STATEMENT



IMPACT STATEMENT

Re: Winchendon Solar, LLC
Site Plan Review Application
Proposed Solar Photovoltaic Development
Baldwinville Road, Winchendon, MA 01475

Rules and Regulations for the Review and Approval of Site Plan and Site Development in Winchendon

Section 3.3.5 Impact Statement

E. Each Impact Statement shall address the following elements:

1. Existing Conditions Element This element may reference the existing conditions plan provided as part of the application and shall describe the following:

a. Location, size, and current use of existing parcel(s)

Baldwinville Road; Tax Map 13, Parcels 13-0-272 (2 acres), 13-0-273 (43 acres), and 13-0-274 (2.15 acres); existing wooded areas with wetlands.

b. Existing infrastructure and buildings on site

There is an existing residence at northeast corner of the property.

c. General description of the soil and geological conditions of the site, including results of any soil testing.

Soils on-site primarily consist of stony materials with a Hydrologic Soil Groups varying from A, B/D, and C. See Hydrologic Analysis provided in this application for further details. Wetlands were delineated by Wood and field located in June 2018 as shown on the Drawings included in this application.

d. Inclusion of any unique site characteristics, including but not limited to features deemed important by the Massachusetts's Historical Commission, Natural Heritage, FEMA.

To the best of the Applicant's and Owner's knowledge, no MHC or NHESP characteristics exist on the property. An area of 500-year flooding (minimal flood hazard) is located in the southwestern part of the site, outside the area proposed for development.

2. Proposed Development Element shall describe the following:

a. List of all other permits, Federal, State and Local required for the proposed development

- ***U.S. Fish and Wildlife Service Streamlined Consultation Form – Northern Long-Eared Bat***
- ***EPA NPDES Construction General Permit and Stormwater Pollution Prevention Plan***
- ***Local Planning Board Site Plan Review and LID Permit***
- ***MassDEP and Local Conservation Commission Notice of Intent (NOI)***
- ***Local Building Permit***

b. An area tabulation which will state along with the total area and percentage of the following:

- i. Site area
- ii. Wetland and other resource areas on site
- iii. Area dedicated to drainage and other utilities
- iv. Proposed impervious area
- v. Total area of disturbance
- vi. Area reserved for recreation, parks or other open land

Item	Area (Acres)	% of Parcel
Parcel	47.15	100.00%
Site Area (fenced area)	12.81	27.17%
Wetland Area (NE property delineation only)	9.99	21.19%
Drainage / Utilities (underground electric)	0.01	0.01%
Proposed Impervious Area (equipment pads + array posts)	0.02	0.01%
Area of Disturbance (tree clearing)	13.39	28.40%
Open Land (land remaining outside fence)	34.34	72.83%

3. Transportation Element which will include:

a. Traffic Generation – A comparison of the estimated pre-developed traffic to post-developed traffic. Including: volume, overall average daily traffic generation, composition, peak hour levels, directional flows and street capacities. The methodology used to derive these predictions shall be included.

A traffic analysis is requested to be waived for the Project. Construction traffic will consist of material delivery trucks and personnel vehicles for an approximate 4-month period. Post-construction traffic on-site will be limited to periodic inspections on an approximate bi-annual basis by 1-2 personnel vehicles.

b. Description of all proposed roadways and other travel areas, including pavement width, right of way width, total length, means of egress, and maximum grade.

The proposed crushed stone access road is 15 feet wide and consists of a dense graded crushed stone material. The proposed road encompasses the perimeter of the array inside the fence for an approximate length of 3,670 feet at a maximum grade of 20% for a short section in the northwestern corner of the array. Egress is provided at the existing gravel site entrance on Baldwinville Road. There is no proposed pavement or right of way.

4. Construction Element This element may reference the development plan provided as part of the application and shall include the following:

a. Estimated Construction Schedule including phasing, clearing schedule, hours of operation, exposure time.

The approximate construction duration will be approximately 4 months. Construction will commence with tree clearing of the proposed fence area, removal of stumps within the fenced area, and construction of the perimeter crushed stone access road. Construction hours are typically 7am to 4pm Monday

through Friday, although the Applicant is amenable to coordinating with the Town on specific schedules.

b. Estimates of the cost of performing the various items of required work. (This is for consideration in determining the amount of performance bond or cash security as required in section 3.7.)

The proposed construction cost is approximately \$3.5 million.

c. Estimate of proposed cut and fill volumes, schedule for bringing fill on and off site, and the source(s) of purchased fill

There is minimal proposed grading for the Project, which will be limited to filling voids left by stump removal and to install the proposed crushed stone access road. There is no proposed importing or exporting of material aside from the crushed stone access road.

d. Describe the methods to be used during construction to control erosion and sedimentation (i.e., use of sediment basins and type of mulching, matting, or temporary vegetation), describe the size and location of land to be cleared at any given time and length of time of exposure, covering of soil stockpiles, and other control methods and their effect on the site and on the surrounding area.

Silt fence and hay bale sediment barriers are proposed to be installed around the downgradient portions of the Project and upgradient of adjacent wetland areas as shown on the Drawings. Detailed erosion and sedimentation control construction notes are provided on Drawing Sheet C-501 of the Drawings provided with this submittal. Approximately 12.8 acres will be cleared and stumped within the proposed fenced area. Following construction of the array, the fenced area will be mulched and seeded for permanent vegetative stabilization.

e. Describe permanent methods to be used to control erosion and sedimentation. Include description of:

i. any areas subject to flooding or ponding

Existing wetland areas are located in the center and on the perimeter of the array which will be avoided for construction of the Project.

ii. proposed surface drainage system

The existing surface drainage patterns will not be altered for the Project. The proposed crushed stone access road will promote infiltration of the solar development area while also acting as a level spreader.

iii. proposed land grading and permanent vegetative cover

The fenced array area will not be graded, and will be mulched and seeded with a grass mix following construction.

iv. methods to be used to protect existing vegetation

Existing vegetation will remain outside the fenced area. The wetland buffer lines will be marked in the field prior to construction.

v. the relationship of the development to the topography

The array and access road will follow the existing terrain of the site with minimal grading.

vi. any proposed alterations of shorelines, marshes or seasonal wet areas

Not applicable; no proposed alterations.

vii. any existing or proposed flood control or wetland easements

Not applicable; none existing or proposed.

viii. calculated increase of peak run-off caused by altered surface conditions and methods to be used to return water to the soils.

The project will yield a net decrease in peak run-off from existing to proposed condition. See Hydrologic Analysis provided in this application for further details. The proposed crushed stone access road will promote groundwater recharge.

f. In reviewing the Statement, the Board will consider the degree to which water is recycled back into the ground, the maintenance and improvement of the flow and quality of surface waters, the preservation or promotion of wildlife refuges, historic sites, unique geological, botanical and archeological features, existing or potential trails and accesses to open space areas, and the health and safety of the inhabitants of the area.

Acknowledged.

5. Public Utility Element prepared by a professional engineer registered in Massachusetts, to consist of the following sub-elements:

a. Water Supply and Distribution - The average daily and peak demand; method of supply to the proposed buildings. Coordination with the Town Water Department, and if deemed advisable, appropriate State agencies, is strongly recommended.

Not applicable; no proposed water supply.

b. Sewage Treatment - The average daily and peak demand; and any unusual composition or concentration of component flows into the proposed system(s), the method to serve the proposed buildings. Coordination with the Board of Health, the Department of Public Works, and if deemed advisable, appropriate State agencies, is strongly recommended.

Not applicable; no proposed sewer. Temporary restroom facilities will be utilized during construction for on-site personnel.

c. Storm Drainage – Description of existing surface drainage characteristics of the site and surrounding areas. Methodology of post-developed storm water management, including methods of maintaining existing drainage pattern, and explanation of how the proposed storm water management system complies with Massachusetts Stormwater Handbook.

See Hydrologic Analysis provided in this application for further details.

d. Solid Waste - The average weekly demand; expected contents; recycling potential; on-site incineration, reduction or compaction; and method of disposal including its ultimate destination.

Not applicable; no proposed solid waste. Temporary dumpster units will be utilized during construction to remove any solid waste generated during construction.

6. Conservation and Recreation Element to contain the following:

a. Description of existing vegetation, water, wetlands and resource areas and explanation of any proposed activity within a resource area.

The area of the site proposed for development has been extensively logged within approximately the past 10 years. Bordering vegetated wetland areas are located on the northern and western portions of the property. Isolated wetlands are located in the center of the property and along the western edge of the proposed array. Wetlands will be protected and will not be impacted by the project.

b. Surface Water and Soils. Describe the location, extent and type of existing water and wetlands, including existing surface drainage characteristics, both within and adjacent to, the project.

See Drawing Sheets V-101 and C-101 for locations of wetlands. See Hydrologic Analysis for description of surface drainage characteristics.

c. Subsurface Conditions. Describe any limitations on the proposed project caused by subsurface soil and water conditions, and methods to be used to overcome them.

i. Describe the procedures and findings of percolation tests conducted on the site.

Not applicable.

ii. Evaluate the impact of sewerage disposal methods on the quality of subsurface water.

Not applicable.

a. Water quality impact from run-off on adjacent and downstream surface water bodies and subsurface ground water and the water table shall be detailed. Coordination with State and Town water quality agencies including that Board of Health and Conservation Commission is recommended so that necessary agreements and responsibilities can be included in the study of the proposed development and its alternatives. The relationship of the proposed development to navigable streams, flood plains, and municipal water supply impoundments and reservations shall be shown.

The Project is proposed to remain outside of the 100-foot wetland buffer in all locations on-site. An area of 500-year flooding (minimal flood hazard) is located in the southwestern part of the site, outside the area proposed for development. The 100-foot buffer line will also be pre-marked in the field prior to construction. There are no navigable streams or municipal water supply impoundments on the site.

b. General Ecology - The relation of the proposed development to the major botanical, zoological, geological and hydrological resources of the site shall be examined. Consideration of those resources adjacent to the site shall also be made where deemed appropriate by the Planning Board. Consideration shall also be given to rare or endangered species of plant and wildlife found on the site.

The site is a formerly wooded lot with an overall slope down toward the west. It has been extensively logged within approximately the past 10 years. The general ecological description of the site is large areas of pioneer woody and herbaceous species interspersed with smaller areas of small to mature trees that were preserved in the logging operation. Predominant plant species are: raspberry, bracken fern, wood fern, grasses, lowbush blueberry, black cherry, white pine, and red maple. Site soils are variably rocky, but no bedrock outcrops were observed. No evidence of rare or endangered species was found, and the site does not contain any areas of NHESP Priority Habitat or Estimated Habitat.

c. It shall also deal with the compatibility of existing soils with the proposed development.

There is no proposed exporting or importing of materials aside from the crushed stone access road.

d. It shall describe any proposed recreational facilities/open space, a statement of intended owner(s) of any proposed recreational facilities/open space, and indication as to whether the recreational facilities/open space will be available to the public.

The remainder of the site outside of the fenced area will remain undisturbed.

7. Sustainable Energy Element

This element shall discuss the effects of the proposed development on the production and consumption of energy; on the generation and absorption of greenhouse gasses and other conditions which will affect the sustainability of our community in the rapidly changing environment. The Board will welcome proposals that will reduce net effects on global warming.

The proposed project is a solar power generation project whose purpose is to provide a renewable energy source to reduce the region's reliance on greenhouse-gas generating fossil fuels, reduce global warming, and improve the sustainability of the community and region. The proposed solar array achieves the stated sustainable energy goals.

8. Aesthetics Element to consist of the following:

a. Architecture - The style of architecture of the proposed buildings shall be described and their compatibility with the function of and the architectural style of adjacent buildings. Sketches, photos, elevations and renderings are encouraged to illustrate architectural appropriateness as well as innovation. Consultation with the Building Commissioner is recommended.

Not applicable; no proposed buildings.

b. Lighting - The type, design, location, function and intensity of all exterior lighting facilities, existing and proposed, shall be described. Attention given to safety, privacy, security, avoidance of light pollution, and daytime and nighttime appearance shall be detailed.

Not applicable; no proposed lighting.

c. Landscaping - Provisions for landscaping shall be described including type, location and function.

Proposed mulch and grass seed mix for the fenced area of the array as described on Sheet C-501 of the Drawings. Existing vegetation will be left in place adjacent to Baldwinville Road and the abutting residential properties.

d. Visual- Attention given to views into the site and from the site shall be described. Included shall be long-distance views as well as to and from adjacent properties. Visual impact may be related to the preceding sub-elements concerning the overall aesthetics of the proposed development.

The Project adheres to all required property line setbacks and provides twice the required 25-foot side yard setback in consideration of the abutters to the south (minimum 50 feet to the array). Existing vegetation will be left in place adjacent to Baldwinville Road and the abutting residential properties.

9. Neighborhood and Community Element to consist of the following:

a. Schools - The expected impact on the school system pre- kindergarten, elementary, middle school, and secondary levels, by type of housing (single family, garden apartment, townhouse, high rise, etc.), and by bedroom (one-bedroom, two-bedroom, etc.). The number of students; school bus routing changes if found necessary. Coordination with the Superintendent of Schools is recommended, particularly for large residential developments.

Not applicable; no proposed residences.

b. Police - The expected impact on police service, time and manpower needed to protect the proposed development; provision for special alarm or warning devices or agents and other needs shall be presented. Coordination with the Police Department is recommended.

The Project does not anticipate any impact on the local Police Department. No alarm systems or warning systems are proposed other than the off-site electrical monitoring of the system. 24-hour contact information will be posted on-site and will be provided to all emergency service personnel in case of emergency.

c. Fire - Expected fire protection needs, on-site fire fighting capabilities, on-site alarm or other warning devices, flow water needs, source and delivery system and other needs shall be presented. Coordination with the Fire Department is recommended.

The Project does not anticipate any impact on the local Fire Department. No alarm systems or warning systems are proposed other than the off-site electrical monitoring of the system. 24-hour contact information will be posted on-site and will be provided to all emergency service personnel in case of emergency.

d. Existing Neighborhood Land Use - Compatibility with adjacent or nearby existing land uses, or approved private development plans, if known, for adjacent or nearby land use changes to occur during the life of the proposed development. If the proposed uses are not compatible, the reasons therefore shall be detailed. Consultation with the Planning Agent is strongly recommended.

The Project has been sited in order to be compatible with nearby existing land uses in excess of the required property line setbacks and in a naturally screened and forested property.

e. Master Plan Element - The statement shall detail the compatibility of the proposed development and its alternatives to any established plans of the Planning Board,

Conservation Commission, Department of Public Works and other Town and State agencies as applicable. If not compatible, the reasons therefore shall be detailed.

Acknowledged.

10. Social-Economic Element to consist of the following:

a. Population — In residential development, the overall population; ranges in expected family size by housing type and bedroom count; ranges in expected income and other relevant social data shall be estimated.

Not applicable; no proposed residences.

b. Low/Moderate Income Housing — In residential developments, any provisions for low and/or moderate income housing shall be identified as to type of housing and bedroom count; State or Federal subsidies proposed to be applied for; and indication, if any, from the appropriate agencies including the Winchendon Housing Authority as to its desirability and feasibility in regard to its location, financing, and any operating subsidy.

Not applicable; no proposed residences.

c. Employment - In all nonresidential developments and in large residential developments the number and types of job skills to be employed shall be detailed. This shall include both construction labor and full-time work force when the development is in operation; employment by shift; estimates as to the amount of local labor which is intended to be used.

Not applicable; no proposed employment.

11. Municipal Benefit/Cost Element

A primary part of this element shall be an analysis of the net benefit or cost to the Town in dollars, as complete as is practicable. This municipal benefit/cost analysis should follow standard and usual procedures and parameters for measuring both the benefits to be derived and costs to be incurred by the Town of Winchendon as a result of the implementation of the proposed development. It will be helpful to provide one or more benefit/cost analyses for alternative uses to provide for a basis for comparison. Except in unusual cases, or when the construction of a proposed development is scheduled to take place in distinct and separate phases and each phase may be functional and operable without any or all of the others, the municipal benefit/cost analysis may assume full and complete development and occupancy. In phased development or in other unusual cases, the Planning Board may require more than one analysis (an analysis for each phase) and/or more than one impact statement. This element may also estimate net benefit or costs of non-qualifiable environmental impacts.

As part of the proposed solar PV array, the Applicant will pay taxes on the improvements added to the property. Such dollar amount of the improvements are to be negotiated with the Town and determined following the required permit approvals listed above.

12. Waste Generation and Disposal Element

The types and volumes of solid waste likely to be generated by the proposed use shall be listed. The means of handling these wastes shall be given in detail. Particular attention shall be paid to the type, location, and screening of outdoor waste containers. If hazardous wastes will be produced, full detail as to their nature and means of disposal shall be provided.

Not applicable; no proposed solid waste. Temporary dumpster units will be utilized during construction to remove any solid waste generated during construction.

APPENDIX

K

CONSERVATION
COMMISSION ORDER
OF CONDITIONS



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
 345-0672
 MassDEP File # _____
 eDEP Transaction # _____
 Winchendon
 City/Town

A. General Information

Please note:
 this form has been modified with added space to accommodate the Registry of Deeds Requirements

1. From: Town of Winchendon
 Conservation Commission
2. This issuance is for (check one):
 a. Order of Conditions b. Amended Order of Conditions
3. To: Applicant:

Important:
 When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



a. First Name Sunpin Solar Development, LLC b. Last Name _____
 c. Organization _____
 3 Corporate Park, Suite 168
 d. Mailing Address _____
 Irvine CA 92606
 e. City/Town f. State g. Zip Code

4. Property Owner (if different from applicant):

Kevin Doyle
 a. First Name b. Last Name
 c. Organization _____
 PO Box 113
 d. Mailing Address _____
 Winchendon MA 01475
 e. City/Town f. State g. Zip Code

5. Project Location:

185 Baldwinville Road Winchendon
 a. Street Address b. City/Town
 13 4
 c. Assessors Map/Plat Number d. Parcel/Lot Number

Latitude and Longitude, if known: 42.623343d m -
s 72.061984d m



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
 345-0672
 MassDEP File # _____
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 Winchendon
 City/Town

A. General Information (cont.)

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):
Worcester
 a. County _____ b. Certificate Number (if registered land) _____
 c. Book _____ d. Page _____
7. Dates: 7/3/2019 3/5/2020 3/9/2020
 a. Date Notice of Intent Filed b. Date Public Hearing Closed c. Date of Issuance
8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):
See attached list
 a. Plan Title _____
 b. Prepared By _____ c. Signed and Stamped by _____
 d. Final Revision Date _____ e. Scale _____
 f. Additional Plan or Document Title _____ g. Date _____

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:
 Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act (the Act). Check all that apply:
- a. Public Water Supply b. Land Containing Shellfish c. Prevention of Pollution
 d. Private Water Supply e. Fisheries f. Protection of Wildlife Habitat
 g. Groundwater Supply h. Storm Damage Prevention i. Flood Control
2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

- a. the following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.

Applicant: Sunpin Solar Development, LLC (the "Applicant")
Project Address: 185 Baldwinville Road (Map 13, Lot 4 the "Property")
DEP File #345-0672

Section A – Question 8 – Final Plans and Documents

Title Sunpin Solar Development, LLC – 4.062 MW DC Ground-Mount Solar PV Development
185 Baldwinville Road Winchendon, MA 01475
Prepared by Wood Massachusetts, Inc. – 271 Mill Rd. Chelmsford, MA 01824
Stamped by Andrew Vardakis, PE – Civil #52524
Date January 6, 2020

Title Notice of Intent - Proposed 3.922 MW DC Solar Photovoltaic Development
Prepared by AMEC Foster Wheeler – 271 Mill Rd. Chelmsford, MA 01824
Signed by Andrew Vardakis, PE & Stephen Herzog
Dated July 2, 2019

Title Stormwater Management Report – Ground-Mount Solar PV Development
Prepared by Wood Massachusetts, Inc. – 271 Mill Rd. Chelmsford, MA 01824
Revised January 2020

Title SWPPP – Ground-Mount Solar PV Development
Prepared by Wood Massachusetts, Inc. – 271 Mill Rd. Chelmsford, MA 01824
Revised January 2020

Title Operation and Maintenance Plan and Long-term Pollution Prevention Plan OPERATION
Prepared by AMEC Foster Wheeler – 271 Mill Rd. Chelmsford, MA 01824
Dated July 2019



B. Findings (cont.)

Denied because:

- b. the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**
- c. the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**
- 3. Buffer Zone Impacts: Shortest distance between limit of project disturbance and the wetland resource area specified in 310 CMR 10.02(1)(a) _____ a. linear feet

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. <input type="checkbox"/> Bank	_____ a. linear feet	_____ b. linear feet	_____ c. linear feet	_____ d. linear feet
5. <input type="checkbox"/> Bordering Vegetated Wetland	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
6. <input type="checkbox"/> Land Under Waterbodies and Waterways	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
	_____ e. c/y dredged	_____ f. c/y dredged		
7. <input type="checkbox"/> Bordering Land Subject to Flooding	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
Cubic Feet Flood Storage	_____ e. cubic feet	_____ f. cubic feet	_____ g. cubic feet	_____ h. cubic feet
8. <input type="checkbox"/> Isolated Land Subject to Flooding	_____ a. square feet	_____ b. square feet		
Cubic Feet Flood Storage	_____ c. cubic feet	_____ d. cubic feet	_____ e. cubic feet	_____ f. cubic feet
9. <input type="checkbox"/> Riverfront Area	_____ a. total sq. feet	_____ b. total sq. feet		
Sq ft within 100 ft	_____ c. square feet	_____ d. square feet	_____ e. square feet	_____ f. square feet
Sq ft between 100-200 ft	_____ g. square feet	_____ h. square feet	_____ i. square feet	_____ j. square feet



WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Findings (cont.)

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. <input type="checkbox"/> Land Under the Ocean	_____	_____		
	a. square feet	b. square feet		
	_____	_____		
	c. c/y dredged	d. c/y dredged		
12. <input type="checkbox"/> Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. <input type="checkbox"/> Coastal Beaches	_____	_____	_____ cu yd	_____ cu yd
	a. square feet	b. square feet	c. nourishment	d. nourishment
14. <input type="checkbox"/> Coastal Dunes	_____	_____	_____ cu yd	_____ cu yd
	a. square feet	b. square feet	c. nourishment	d. nourishment
15. <input type="checkbox"/> Coastal Banks	_____	_____		
	a. linear feet	b. linear feet		
16. <input type="checkbox"/> Rocky Intertidal Shores	_____	_____		
	a. square feet	b. square feet		
17. <input type="checkbox"/> Salt Marshes	_____	_____	_____	_____
	a. square feet	b. square feet	c. square feet	d. square feet
18. <input type="checkbox"/> Land Under Salt Ponds	_____	_____		
	a. square feet	b. square feet		
	_____	_____		
	c. c/y dredged	d. c/y dredged		
19. <input type="checkbox"/> Land Containing Shellfish	_____	_____	_____	_____
	a. square feet	b. square feet	c. square feet	d. square feet
20. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	_____	_____		
	a. c/y dredged	b. c/y dredged		
21. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	_____	_____		
	a. square feet	b. square feet		
22. <input type="checkbox"/> Riverfront Area	_____	_____		
	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	_____	_____	_____	_____
	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	_____	_____	_____	_____
	g. square feet	h. square feet	i. square feet	j. square feet



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
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Winchendon

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B. Findings (cont.)

* #23. If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c (BVW) or B.17.c (Salt Marsh) above, please enter the additional amount here.

23. Restoration/Enhancement *:

_____ a. square feet of BVW

_____ b. square feet of salt marsh

24. Stream Crossing(s):

_____ a. number of new stream crossings

_____ b. number of replacement stream crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - a. The work is a maintenance dredging project as provided for in the Act; or
 - b. The time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
 - c. If the work is for a Test Project, this Order of Conditions shall be valid for no more than one year.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order. An Order of Conditions for a Test Project may be extended for one additional year only upon written application by the applicant, subject to the provisions of 310 CMR 10.05(11)(f).
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Order will expire on _____ unless extended in writing by the Department.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.



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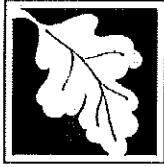
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C. General Conditions Under Massachusetts Wetlands Protection Act

8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.
10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MassDEP"]
"File Number 345-0672 "
11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.



Massachusetts Department of Environmental Protection
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Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
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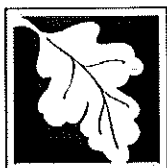
eDEP Transaction #
Winchendon
City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.
19. The work associated with this Order (the "Project")
- (1) is subject to the Massachusetts Stormwater Standards
 - (2) is NOT subject to the Massachusetts Stormwater Standards

If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:

- a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.
- b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:
 - i.* all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;
 - ii.* as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
 - iii.* any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;



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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

iv. all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition;

v. any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following:

i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and

ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.



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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

- g) The responsible party shall:
1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
 2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
 3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.
- h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.
- i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.
- j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.
- k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.
- l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document):

See Additional Conditions #20 – #60 on pages 10A – 10F.

20. For Test Projects subject to 310 CMR 10.05(11), the applicant shall also implement the monitoring plan and the restoration plan submitted with the Notice of Intent. If the conservation commission or Department determines that the Test Project threatens the public health, safety or the environment, the applicant shall implement the removal plan submitted with the Notice of Intent or modify the project as directed by the conservation commission or the Department.

Applicant: Sunpin Solar Development, LLC (the "Applicant")
Project Address: 185 Baldwinville Road (Map 13, Lot 4 the "Property")
DEP File #345-0672

Summary: This filing requests Conservation Commission approval for work in the 100-foot Buffer Zone to Bordering Vegetated Wetlands (BVW) for site improvements associated with the installation of a 4.062 MW DC Ground mount solar PV development.

This Order of Conditions (aka this "Order") is approved pursuant to the provisions of the Massachusetts Wetlands Protection Act, 310 CMR 10.00, and the Town of Winchendon Wetlands Protection Bylaw, subject to the following Additional Conditions #20 – #60:

Additional Conditions – General

20. All proposed work shall be performed in accordance with the Notice of Intent filed July 2, 2019 and accompanying plans (the "Plans"): **'Notice of Intent Documents'** prepared by AMEC Foster Wheeler – 271 Mill Rd. Chelmsford, MA 01824 signed by Andrew Vardakis, PE & Stephen Herzog.
21. The Winchendon Conservation Commission (aka the "Commission"), Conservation Agent (aka the "Agent"), Building Inspector, consultants acting as agents of the Commission, and the Department of Environmental Protection reserve the right to enter and inspect the Property at all reasonable times, until the issuance of the Certificate of Compliance, to evaluate compliance with this Order of Conditions, the Wetlands Protection Act, 310 CMR 10.00, and the Town of Winchendon Wetlands Protection Bylaw; may obtain any information, measurements, photographs, observations, and/or materials, and/or may require the submittal of any data or information deemed necessary by the Commission for that evaluation. Further, work shall be halted on the project if the Commission, agent or DEP determines that any of the work is not in compliance with this Order; in that case, work shall not resume until the Commission is satisfied that the work will comply, and has so notified the Applicant in writing.
22. Prior to the issuance of the Certificate of Compliance, this Order of Conditions shall apply to any successor in control or successor in interest to the Property (including future lessees and their assigns) described in the Notice of Intent and accompanying plans; prior to the issuance of the Certificate of Compliance, this Order shall be referred to in all deeds to succeeding owners in all or any portion of the Property. (Perpetual Conditions shall continue beyond the issuance of the Certificate of Compliance; see Conditions #23 and #49 – #55 below.) The Conservation Commission shall be notified in writing of all pending transfers of title in all or any portion of the Property; the Applicant and all succeeding owners shall submit a draft deed to the Agent for review prior to closing on the transfer.
23. Conditions #49 – #55 below shall continue in force beyond the Certificate of Compliance in perpetuity and shall be referred to in all future deeds to the Property. The Conservation Commission shall be notified in writing of all pending transfers of title in all or any portion of the Property; the Applicant and all succeeding owners shall submit a draft deed to the Agent for review prior to closing on the transfer (see Condition #22 above).
24. Upon completion of this project, the Applicant shall submit the following to the Conservation Commission in order to receive the Certificate of Compliance:
 1. DEP WPA Form 8A Request for Certificate of Compliance.

Applicant: Sunpin Solar Development, LLC (the "Applicant")
Project Address: 185 Baldwinville Road (Map 13, Lot 4 the "Property")
DEP File #345-0672

2. a. A written statement from the Applicant certifying that the work has been conducted as shown on the plan(s) and documents referenced above, and as conditioned by the Commission.
- b. A written statement from a registered professional engineer of the Commonwealth certifying that the work has been conducted as shown on the plan(s) and documents referenced above, and as conditioned by the Commission.
3. An "As-Built" plan prepared for the public record, signed and stamped by a registered professional engineer or land surveyor of the Commonwealth. In addition to all new construction, the "As-Built" plan shall show the edge of flagged wetlands, the boundary of the 100-foot Buffer Zone, limit of permanent clearing, wetland replication area(s).

Design and Pre-Construction Requirements

25. Prior to the start of construction, copies of the NPDES Construction General Permit and associated Stormwater Pollution Prevention Plan (SWPPP) shall be forwarded via e-mail to the Conservation Agent.
26. If there are any changes to the plans as submitted, the Applicant shall have the responsibility to submit revised plans showing all changes to the Conservation Commission for review. This includes changes required by the Commission and/or other Town and/or State agencies as well as those introduced by the Applicant. After reviewing the revised plans, the Commission will make a determination as to whether the changes require an Amendment to this Order of Conditions or the filing of a new Notice of Intent. No work may start before the Commission has completed its review and notified the Applicant in writing of its determination.
27. No work shall commence on this project until the expiration of the 10-day appeal period, no requests for appeals having been filed with the Department of Environmental Protection, **and a copy of the first page of the recorded Order of Conditions, bearing the time-stamped Registry of Deeds Book and Page Numbers, has been submitted to the Conservation Commission.**

Installation of Erosion/Siltation/Sedimentation Controls

28. Before the start of any site work (e.g. earth disturbance, clearing of vegetation, etc.), erosion/siltation/sedimentation barriers **consisting of 12"-diameter straw wattles and silt fence entrenched a depth of six inches (6") shall be installed in the locations shown on SHEET 3 of the Plans and according to the detail shown on SHEET 4 of the Plans, which is incorporated herein, by reference, to this Order of Conditions.** Vegetation and soil may be removed/disturbed as necessary to facilitate placement of erosion/siltation/sedimentation barriers. After the installation of the erosion/siltation/sedimentation barriers, but prior to the start of any further work on the project, the Applicant and/or Applicant's contractor shall notify the Conservation Agent to conduct a site inspection. Work on the project shall be permitted to commence and proceed only with the Agent's authorization pursuant to the site inspection.

Applicant: Sunpin Solar Development, LLC (the "Applicant")
Project Address: 185 Baldwinville Road (Map 13, Lot 4 the "Property")
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Additional Pre-Construction Requirements

29. The Applicant shall inform the Conservation Agent in writing of the name, mailing address, e-mail address, business and home telephone numbers of the project supervisor who will be responsible for ensuring on-site compliance with this Order of Conditions. The Applicant shall also provide the names and contact information for all contractors and subcontractors.

Construction Management

30. Copies of all Stormwater Reports prepared pursuant to requirements of the Stormwater Pollution Prevention Plan (the "SWPPP"; see Condition #25 above), shall be forwarded via e-mail to the Conservation Agent upon completion of each report.
31. A complete copy of this Order of Conditions, including its drawings, Special Conditions, and any amendments, shall be maintained at the work site whenever work is being performed. The Applicant shall have the responsibility to ensure that all on-site contractors, subcontractors and other personnel are fully aware of the terms and conditions of this Order and that no activity other than that authorized by this Order is permitted in areas under the jurisdiction of the Conservation Commission. A complete copy of this Order and the project plans shall be given to every contractor and subcontractor performing the work defined and described herein.

Limit of Work

32. **The Limit of Work ("LOW") shall be the erosion/siltation/sedimentation barriers** specified by Condition #28 above. Workers on site shall be informed that except as otherwise authorized by this Order of Conditions (e.g. construction of wetland replication area), **no activity** is permitted on the wetland side of the LOW at any time, including, but not limited to, the use of machinery, storage of machinery or materials, stockpiling of soil or construction materials, and littering.

Erosion/Siltation/Sedimentation Controls

33. All erosion/siltation/sedimentation barriers shall be properly placed, secured, and inspected at the close of each work day, and, if possible, before heavy rainstorms. Any accumulation of soils/silt/sediment against the erosion/siltation/sedimentation barriers shall be removed if the depth reaches six (6) inches. Any barriers that have deteriorated or been damaged by construction accidents shall be immediately replaced or repaired as necessary. Any breakout of sediment due to a failure of the barriers caused by an unforeseen heavy rain event, or any other uncontrollable emergency, shall be immediately reported to the Conservation Agent.
34. All erosion/siltation/sedimentation barriers shall remain in place and be maintained in proper working order through regular cleaning, repair, and/or replacement, as necessary, during and after construction until all disturbed areas under the jurisdiction of this Order of Conditions have been permanently stabilized, inspected, and approved by the Conservation Agent. All erosion/siltation/sedimentation barriers shall be removed prior to the issuance of the Certificate of Compliance (see Conditions #47 and #48 below.)

Applicant: Sunpin Solar Development, LLC (the "Applicant")
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35. An adequate stockpile of erosion/siltation/sedimentation control materials shall be kept on site at all times for emergency or routine replacement and shall include materials to repair silt fences, hay bales, stone rip-rap filter dikes, or any other devices to be used during construction.
36. The Conservation Commission reserves the right to modify erosion/siltation/sedimentation controls based on experience at this site, or to otherwise impose additional conditions on portions of this project to mitigate any impacts which could result from site erosion, or any noticeable degradation of surface water quality discharging from the site.
37. Site grading and construction shall be scheduled to avoid periods of high surface water. Once begun, grading and construction shall move uninterrupted to completion to avoid erosion and siltation of wetlands.

Use and Storage of Motorized Vehicles/Machinery

38. Motorized vehicles or any other motorized machinery involved in the work shall be kept at least 100 feet away from the edge of wetlands (i.e. outside the 100-foot Buffer Zone) when not actually engaged in that work, including overnight and weekend storage.
39. No maintenance or refueling of motorized vehicles shall take place in wetlands or 100-foot Buffer Zone including, but not limited to, fueling, lubricating, fluid replacement, maintenance, and washing. If a spill occurs, contaminated soils shall be removed according to guidelines established by the Department of Environmental Protection, Bureau of Waste Site Cleanup. The remedial activities may be conducted in accordance with the provisions of an Immediate Response Action (IRA) or Remedial Abatement Measure (RAM) under the Massachusetts Contingency Plan. The Conservation Commission shall be provided written notice for approval of any remedial activities that are needed within the 100-foot Buffer Zone or Wetland Resource Area(s). Any damage to any Wetland Resource Area(s) and/or 100-foot Buffer Zone caused as a direct result of this project shall be the responsibility of the Applicant to repair, restore and/or replace.
40. Vehicles and equipment for fuel storage and refueling operations shall be parked in an upland area outside the 100-foot Buffer Zone.

Additional Construction Management Conditions

41. Groundwater encountered during excavation shall be directed (i.e. pumped) away from wetlands.
42. No stockpiling of construction materials in the 100-foot Buffer Zone. Unless re-used, excavated soil shall be removed from the 100-foot Buffer Zone on a day-to-day basis. All excess excavated soil and imported fill shall be removed from the 100-foot Buffer Zone upon the completion of construction and grading.
43. During construction, all solid and chemical waste shall be transported from the site and disposed of in compliance with Federal, State and local requirements for waste disposal.

Applicant: Sunpin Solar Development, LLC (the "Applicant")
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44. During construction, all excavations, embankments, stockpiles, haul roads, plant sites and all other work areas within and without the project boundaries shall be maintained free from dust which might cause a hazard or nuisance to others. Dust control shall be performed as the work proceeds or whenever a dust nuisance occurs.
45. No trash dumpsters shall be permitted within the 100-foot Buffer Zone during construction.
46. Prior to the issuance of the Certificate of Compliance, all unused construction materials, refuse and debris, including tree stumps, shall be permanently removed from, i.e. **not buried in**, the 100-foot Buffer Zone.

Stabilization

47. All embankments and disturbed areas within the 100-foot Buffer Zone and Riverfront Area shall be loamed, fertilized, and seeded upon completion of construction and grading. A minimum of 4-inches of topsoil shall form the seedbed. Only organic fertilizers with low nitrogen and phosphorous content shall be used. Loamed and seeded areas shall be mulched with hay, straw or chopped stalk mulch applied at a rate of 2½ tons per acre, and covered with erosion control blanketing, netting or other suitable material in order to provide an adequate surface protection until seed germination. Erosion control netting with biodegradable stitching is highly preferred. All disturbed areas shall be graded, loamed and seeded prior to November 1 of each year. No disturbed areas or stockpiled material shall be left unprotected during the winter season.
48. After erosion/siltation/sedimentation barriers are removed as permitted by the Conservation Agent, areas disturbed by the barriers shall be restored to match adjacent conditions.

Perpetual Conditions

The following Perpetual Conditions #49 – #55 shall remain in force permanently and will be recorded as such on the Certificate of Compliance:

49. The **Operation and Maintenance Plan** submitted with the Notice of Intent is incorporated herein, by reference, to this Order of Conditions.
50. The Conservation Agent shall be informed prior to any proposed further alterations within wetlands, 100-foot Buffer Zone, or 200-foot Riverfront Area to determine whether the work requires approval of the Conservation Commission.
51. No stormwater runoff from any impervious surfaces shall flow directly into wetlands. There shall be no erosion of the 100-foot Buffer Zone due to stormwater runoff from any impervious surfaces. (Sheet flow over a vegetated 100-foot Buffer Zone is permitted, if it causes no erosion.)
52. No non-organic fertilizers shall be used in wetlands or 100-foot Buffer Zone.

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53. Except in cases of threats to human health and safety, and/or as may be permitted by an Invasive Vegetation Management Plan approved in advance by the Conservation Commission, no non-organic herbicides shall be used in wetlands or 100-foot Buffer Zone. Except in cases of threats to human health and safety (stinging insects, for example), no non-organic pesticides shall be used in lawn care, or for any other exterior purpose on a regular basis, in wetlands or 100-foot Buffer Zone.
54. There shall be no outside storage of chemicals, oil, fuel, fertilizers or other potentially hazardous materials in wetlands or 100-foot Buffer Zone.
55. No leaves, lawn clippings, or other residuals from groundskeeping operations, no Christmas trees, no pet waste, or refuse of any kind, shall be dumped in wetlands or 100-foot Buffer Zone. It is the property owner's responsibility to so inform all lawn care providers.
56. Documentation shall be provided to the Conservation Agent prior to the start of construction showing the seasonal high groundwater levels within BVW#1 adjacent to the proposed wetland replacement area, and within the footprint of the proposed wetland replacement area to ensure that the proposed grades will provide sufficient groundwater hydrology for the replacement area.
57. Documentation for the wetland replacement area shall be provided including, but not limited to, quantitative data plots presenting vegetation, soils and other indicators of hydrology (e.g., a wetland determination data form). At least two fixed data points shall be established within the wetland replacement area and marked by permanent markers then located by survey or GPS., An additional data plot shall be required for each 5,000 sf of replacement area beyond the first two points.
58. Pre-construction notification shall be given and an on-site meeting shall be held to review the requirements of the wetland replacement area prior to the commencement of any site preparation.
59. Annual reports shall be submitted prior to the end of the growing season so that the Commission may field-verify conditions.
60. The Fire Chief shall confirm their acceptance of the GravelPave2 system for the roadways. The product is recommended for a 5% maximum slope for fire/emergency access and the slopes on this project exceed 8%.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

345-0672

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eDEP Transaction #

Winchendon

City/Town

D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? Yes No
2. The Town of Winchendon hereby finds (check one that applies):
Conservation Commission

- a. that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw, specifically:

1. Municipal Ordinance or Bylaw

2. Citation

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

- b. that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

1. Municipal Ordinance or Bylaw

2. Citation

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):
contained within the additional conditions on pages 10A-10F



Massachusetts Department of Environmental Protection
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WPA Form 5 – Order of Conditions
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
 345-0672
 MassDEP File # _____
 eDEP Transaction # _____
 Winchendon
 City/Town _____

E. Signatures

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

3/09/2020

Please indicate the number of members who will sign this form.

1. Date of Issuance

This Order must be signed by a majority of the Conservation Commission.

3
 2. Number of Signers

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

Signatures:

by hand delivery on

by certified mail, return receipt requested, on

 Date

 Date

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

DEP File Number:

**Request for Departmental Action Fee
Transmittal Form**

Provided by DEP

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. Request Information

1. Location of Project

a. Street Address	b. City/Town, Zip
c. Check number	d. Fee amount

2. Person or party making request (if appropriate, name the citizen group's representative):

Name

Mailing Address

City/Town	State	Zip Code
Phone Number	Fax Number (if applicable)	

3. Applicant (as shown on Determination of Applicability (Form 2), Order of Resource Area Delineation (Form 4B), Order of Conditions (Form 5), Restoration Order of Conditions (Form 5A), or Notice of Non-Significance (Form 6)):

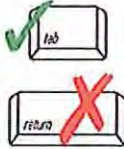
Name

Mailing Address

City/Town	State	Zip Code
Phone Number	Fax Number (if applicable)	

4. DEP File Number:

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



B. Instructions

1. When the Departmental action request is for (check one):

- Superseding Order of Conditions – Fee: \$120.00 (single family house projects) or \$245 (all other projects)
- Superseding Determination of Applicability – Fee: \$120
- Superseding Order of Resource Area Delineation – Fee: \$120



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

**Request for Departmental Action Fee
Transmittal Form**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:

Provided by DEP

B. Instructions (cont.)

Send this form and check or money order, payable to the *Commonwealth of Massachusetts*, to:

Department of Environmental Protection
Box 4062
Boston, MA 02211

2. On a separate sheet attached to this form, state clearly and concisely the objections to the Determination or Order which is being appealed. To the extent that the Determination or Order is based on a municipal bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.
3. Send a **copy** of this form and a **copy** of the check or money order with the Request for a Superseding Determination or Order by certified mail or hand delivery to the appropriate DEP Regional Office (see <http://www.mass.gov/eea/agencies/massdep/about/contacts/>).
4. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

