



RECEIVED
MAY 01 2024

Letter of Transmittal

To: Planning Department
Proulx Center, 124 Memorial Street
Franklin, New Hampshire 03235
603-934-2341

Date: May 1, 2024
File No.: 100704.000

Attention: Seth Creighton, Planning & Zoning Director

Re: Commerce Drive Solar – Site Plan Application
Tax Map 102 - Lot 9 & 402

We are sending you the following via:

<input type="checkbox"/> Next Day Service	<input type="checkbox"/> U.S. Mail
<input type="checkbox"/> Second Day Service	<input checked="" type="checkbox"/> Hand Delivery
<input type="checkbox"/> Certified Mail	<input type="checkbox"/> Other:

No.	Copies	Date	Description
1	1	04/30/2024	Check #75067
2	14	05/01/2024	Site Plan Application Form
3	14	05/01/2024	Waiver Request Form
4	14	05/01/2024	Waiver Request Narrative
5	14	05/01/2024	Special Use Permit Application Form
6	14	05/01/2024	Abutters List
7	14	04/26/2024	Letter of Authorization
8	14	05/01/2024	Project Narrative
9	14	05/01/2024	Response to Staff Comments
10	14	03/13/2014	Copy of Access Easement
11	14	05/01/2024	Decomissioning Plan
12	14	05/01/2024	Solar Informational Packet
13	14	04/30/2024	Project Plan Set (11'x17")
14	2	04/30/2024	Project Plan Set (24'x36")

These are transmitted:

<input type="checkbox"/> For your use	<input checked="" type="checkbox"/> For review and comment
<input type="checkbox"/> As requested	<input type="checkbox"/> Other:



Remarks:

Copy To:

Signed: Garrett Seibert
Garrett Seibert, EIT

CITY OF FRANKLIN
SITE PLAN REVIEW APPLICATION

Location of Proposed Development: Commerce Drive New Map #: _____
Parcel ID (Map/Lot #): 102/9 & 102/402 Zoning of Parcel: Industrial 1

Applicant

Name: Commerce Drive Solar, LLC
Address: 4445 Eastgate Mall Rd., Suite 200
City/State/Zip: San Diego, CA 92121
Phone: 603-817-1175
Email: Akellar@luminia.io

Owner of Record

Name: Franklin Commons Realty Group
Address: 70 Industrial Park Dr.
City/State/Zip: Franklin, NH 03235
Phone: _____
Email: _____

Applicant's Agent/Engineer

Name: Nobis - Group
Address: 18 Chenell Drive
City/State/Zip: Concord, NH 03301
Phone: 603-513-1018
Email: gseibert@nobis-group.com

Other (if Applicable)

Name: _____
Address: _____
City/State/Zip: _____
Phone: _____
Email: _____

Development Proposal, Please explain: The project involves construction of an approximate 2 megawatt (AC) solar array on two undeveloped wooded parcels. The installation will include post-mounted panels as well as new electrical conduit, energy converting equipment, an access driveway, perimeter fencing and stormwater controls.

Information:

Number of Proposed Buildings/Units: None
Frontage on What Road(s): Commercial Drive / South Main Street

Services Available: **Sewer** Municipal N/A Septic N/A **Water** Municipal N/A Well N/A
Non-Municipal Services Proposed/Available, Explain: _____

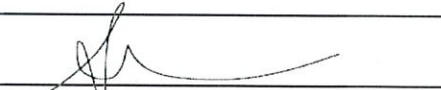
Site in Acres 54.6 Acres Developable Acres 52.8 Acres

Are waiver's requested, and if so, please fill out attached Waiver Request sheet: ☒ Yes ☐ No

Zoning Board Approvals Granted: ☐ Variance ☐ Special Exception ☐ Other ☒ None
Please Explain: _____
Dates Granted: _____

Does this submission represent an amended plan: ☐ Yes ☒ No
Date approval Granted: _____
Conditions of Approval: _____

Was a conceptual plan submitted to the Planning Board: ☒ Yes ☐ No
Date approval Granted: 3/27/24
Conditions of Approval: _____

Signature of Applicant:  Date: 4/30/24

For Office Use Only

Deadline Date: _____ Actual Date Submitted: _____

Meeting Date: _____

Amount Due Application: \$ _____

Amount Due Abutters: \$ _____ Total Number of Abutters: _____

Total Due: \$ _____

Amount Paid: \$ _____ How Paid: ☐ Cash ☐ Check # _____

Date Paid _____

Is the following information attached to this application:

- ☒ Abutter’s List, complete with Name, Address, City, State, Zip and Map/Lot #;
- ☒ 16 Paper Prints of the Plan (4 Department Review Sheets/12 Member Sheets);
- ☒ Letter of Authorization from the Owner of Record; and,
- ☒ Waiver’s List and explanation.

What Supportive Documentation was submitted: _____

Hearing Dates:	Outcome:

SITE PLAN APPLICATION
REQUEST FOR WAIVER
(Sec. 402-6 C)

WAIVER PROCEDURE

The board may, for good cause, waive requirements as to the site plan and supporting data.

DATE: 05/01/24

Planning Board
City of Franklin
316 Central Street
Franklin, New Hampshire 03235

RE: Request for Waiver/Site Plan
Tax Map/Lot # 102/9 & 102/402

Dear Board Members:

As applicant for the above, a waiver is requested of the following site plan review requirements:

ITEM	SECTION	REASON FOR WAIVER
Utilities must be placed underground	402-5-I	Please see attached narrative

Thank you for your consideration.

Sincerely,
Nobis Group
Applicant's Name

CITY OF FRANKLIN
APPLICATION FOR SPECIAL USE PERMIT (SUP)

Fourteen (14) color copies of the completed application and all supporting information, collated into 14 individual packets, must be submitted by the Deadline Date in order for your application to be heard at the next meeting of the Planning Board.

Location of Proposed Development: Commerce Drive New Map #: _____
Parcel ID (Map/Lot #): 102/9 & 102/402 Zoning of Parcel: Industrial 1

Applicant

Name: Commerce Drive Solar, LLC
Address: 4445 Eastgate Mall Rd., Suite 200
City/State/Zip: San Diego, CA 92121
Phone: 603-817-1175
Email: Akellar@luminia.io

Owner of Record

Name: Franklin Commons Realty Group
Address: 70 Industrial Park Dr. - Suite
City/State/Zip: Franklin, NH 03235
Phone: _____
Email: _____

Applicant's Agent/Engineer

Name: Nobis - Group
Address: 18 Chenell Drive
City/State/Zip: Concord, NH 03301
Phone: 603-513-1018
Email: gseibert@nobis-group.com

Other (if Applicable)

Name: _____
Address: _____
City/State/Zip: _____
Phone: _____
Email: _____

Proposal, Please explain in detail: The project involves construction of an approximate 2 megawatt (AC) solar array on two undeveloped wooded parcels. The installation will include post-mounted panels as well as new electrical conduit, energy converting equipment, an access driveway, perimeter fencing and stormwater controls.

Information:

Does the Proposal include a Subdivision: ☐ Yes ☒ No

Number of proposed Lots: _____

Does the proposal include the need for Site Plan Approval: ☐ Yes ☐ No

Number of Proposed Buildings/Units: 0

Frontage on What Road(s): Commerce Drive

Services Available: **Sewer** Municipal ☐ Septic ☐ **Water** Municipal ☐ Well ☐

Non-Municipal Services Proposed/Available, Explain: Eversource

Site in Acres 54.6 Acres Developable Acres 52.8 Acres

Are waiver's requested, and if so, please fill out attached Waiver Request sheet: ☒ Yes ☐ No

Zoning Board Approvals Granted: ☐ Variance ☐ Special Exception ☐ Other ☒ None
Please Explain: _____

Dates Granted: _____

Does this submission represent an amended plan: ☐ Yes ☒ No

Date approval Granted: _____

Conditions of Approval: _____

Was a conceptual plan submitted to the Planning Board: ☒ Yes ☐ No

Date approval Granted: 3/27/24

Conditions of Approval: _____

Signature of Applicant: Garrett Seibert

Date: 04/30/24

Please explain why you meet ALL the following criteria:

1. The specific use and buildings, and its size, location and design are appropriate for the surrounding neighborhood and the City as a whole.

The proposed solar field is located in an industrial park area. A solar project was completed at an abutting lot.

2. The specific use and the buildings will not be detrimental, injurious, obnoxious, or offensive to the neighborhood, and the granting of the Special Use Permit [SUP] will not be contrary to the overall public interest.

The proposed solar field is located in an industrial zoned area and would serve the public interest by providing renewable energy production.

3. The granting of the SUP is consistent with the spirit and intent of the Zoning Ordinance.
Solar projects in I1 zones are allowed under the zoning ordinance. Projects with similar conditions have been approved in the recently.

4. The value of the surrounding properties will not be adversely diminished by the granting of the SUP.
The solar project is sufficiently distant from residential properties to not diminish value. Commercial business value will not be impacted by the project. Residents will not be able to see the panels from their properties.

5. The specific and unique needs of the proposed use will function safely and in an environmentally sound fashion.

Solar projects are passive and are a benefit to the environment by creating renewable energy.

6. The subject property has the required lot area and the land is of a character [slope, natural constraints such as ledge or wetlands, etc.] to adequately support the proposed use and the associated required improvements including, but not limited to, parking, drainage and utilities.

The property has enough lot area for the project, and no wetlands will need to be disturbed for the proposed use.

7. The traffic [both customers and truck/delivery vehicles] generated by the proposed use will not create adverse impacts for the surrounding neighborhood.

After construction is complete the estimated traffic will be 2-3 trips annually.

8. If the proposed use will operationally involve any second shifts, or will be open past 9 p.m., then the potential for impacts [noise, traffic, etc.] to the surrounding neighborhood will be reviewed by the Board.

The project will operate unmanned. Any site visits will be during the day.

9. The site is designed to eliminate or minimize the impacts of lighting to the surrounding neighborhood.

There is no proposed lighting for the project.

10. If during the course of the review and analysis of the proposed project adverse or obnoxious impacts are found to be created then the applicant may, through the design and construction of the certain optional on-site or off-site improvements, alleviate these impacts on the surrounding neighborhood to satisfy the concerns of the abutters and the Board. Each individual improvement will be judged and considered by the Board for its effectiveness and ability to overcome the negative impacts determined by the Board.

Any "adverse or obnoxious impacts" will be corrected if found necessary by the Board

11. Any Special Use Permit plan involving any type of daycare, nursing, sheltered care or related assisted living facility shall demonstrate that safe and secure outside facilities [play areas, decks or patios, gazebos, grassed sitting areas, etc] are available and accessible to the clients or residents, as applicable, of the facility.

This project type is not applicable.

In reviewing each application, the Board reserves the right to condition the use, time or operation, the size, location, or setbacks of the buildings, or any other component of the facility or use that is necessary to protect the integrity of the surrounding neighborhood and the City as a whole.

For Office Use Only

Deadline Date: _____ Actual Date Submitted: _____

Meeting Date: _____

Amount Due Application: \$ _____

Amount Due Abutters: \$ _____ Total Number of Abutters: _____

Total Due: \$ _____

Amount Paid: \$ _____ How Paid: ☐ Cash ☐ Check # _____

Date Paid _____

Is the following information attached to this application:

- ☐ Abutter’s List, complete with Name, Address, City, State, Zip and Map/Lot #;
- ☐ 14 Paper Prints of the Plan (2 Department Review Sheets/12 Member Sheets);
- ☐ Letter of Authorization from the Owner of Record; and,
- ☐ Waiver’s List and explanation.

What Supportive Documentation was submitted: _____

Hearing Dates:	Outcome:

§ 305-6. Special use permits.

Editor's Note: Former § 305-6, Manufactured housing standards, was repealed 4-3-2006 by Ord. No. 07-06.

A. As noted on the Permitted Use Table in § [305-13](#), certain residential, commercial, or other business uses require a special use permit (SUP). The performance standards by which the Planning Board will review and judge a SUP application are outlined below. The granting of a SUP is a discretionary action on the part of the Board, and while guided by the these performance standards, the decision to approve or deny such a permit will be dependent upon specific site and building conditions analyzed in relationship to the specific design, development, and operational management of the proposed use and the potential for impacts of the proposed use on the overall neighborhood and the City in general. Where the proposed project triggers both a SUP and site plan and/or a subdivision application, then the applicant may make one filing for both types of approval, and the hearings will be held concurrently. The following standards shall apply, as determined by the Board to be applicable, to all SUP reviews:

(1) The specific use and buildings, and its size, location and design, are appropriate for the surrounding neighborhood and the City as a whole.

(2) The specific use and buildings will not be detrimental, injurious, obnoxious, or offensive to the neighborhood, and the granting of the special use permit (SUP) will not be contrary to the overall public interest.

(3) The granting of the SUP is consistent with the spirit and intent of the Zoning Ordinance.

(4) The value of the surrounding properties will not be adversely diminished by the granting of the SUP.

(5) The specific and unique needs of the proposed use will function safely and in an environmentally sound fashion.

(6) The subject property has the required lot area and the land is of a character (slope, natural constraints such as ledge or wetlands, etc.) to adequately support the proposed use and the associated required improvements, including, but not limited to, parking, drainage, and utilities.

(7) The traffic (including residential and commercial, both customers and truck/delivery vehicles) generated by the proposed use will not create adverse impacts for the surrounding neighborhood.

(8) If the proposed industrial use will operationally involve any second shifts or will be open past 9:00 p.m., then the potential for impacts (noise, traffic, etc.) to the surrounding neighborhood will be reviewed by the Board.

(9) The site is designed to eliminate or minimize the impacts of lighting to the surrounding neighborhood.

(10) If, during the course of the review and analysis of the proposed project, adverse or obnoxious impacts are found to be created, then the applicant may, through the design and construction of certain optional on-site or off-site improvements, alleviate these impacts on the surrounding neighborhood to satisfy the concerns of the neighborhood, abutters and the Board. Each individual improvement will be judged and considered by the Board for its effectiveness and ability to overcome the identified negative impacts.

(11) Any special use permit plan involving any type of day-care, nursing, sheltered-care, or related assisted-living facility shall demonstrate that safe and secure outside facilities (play areas, decks or patios, gazebos, grassed sitting areas, etc.) are available and accessible to the clients or residents, as applicable, of the facility.

B. In reviewing each application, the Board reserves the right to condition the use, time of operation, the size, location, or setbacks of the buildings, or any other component of the facility or use that is necessary to protect the integrity of the surrounding neighborhood and the City as a whole.



nobis

Abutters List
April 30, 2024

Location of Development: Commerce Drive, Franklin, NH
Tax Map/Lot #: 102-009-00, 102-402-00 Zone: I1
Application #: _____
Date Submitted: May 1, 2024
Applicant: Commerce Drive Solar, LLC
Owner of Record: Franklin Commons Realty Group
Agent: Nobis Group – J. Chris Nadeau, PE

Abutter's Name	Address	Map and Lot #
Franklin Commons Realty Group	70 Industrial Park Dr – Suite Franklin, NH 03235	102-009-00 (subject lot) 102-402-00 (subject lot)
Commerce Drive Solar, LLC Attn. Andrew Kellar	4445 Eastgate Mall Rd., Suite 200 San Diego, CA 92121	(applicant)
Nobis Group Attn. Garrett Seibert	18 Chenell Drive Concord, NH 03301	(agent/engineer)
Richard D. Bartlett & Associates LLC Attn. Richard Bartlett	214 North State Street Concord, NH 03301	(surveyor)
City of Franklin	316 Central Street Franklin, NH 03235	082-401-00 083-012-00
Concord Regional Solid Waste Resource Recovery Cooperative	PO Box 157 Franklin, NH 03235	082-006-01
Franklin Commons Condo Association	70 Industrial Drive – Unit 6 Franklin, NH 03235	101-009-03
Webster Valve, Inc Watts Water - US	PO Box 2888 Clinton, IA 52733	101-401-00
Performance Chemicals Properties	PO Box 9 Franklin, NH 03235	101-404-00
Kendrick Family Trust, W&K	761 South Main Street Franklin, NH 03235	102-001-00
Family Properties South, LLC	75-4 Main Street, Suite 300 Plymouth, NH 03264	102-002-00
Elkins, Michael	735 South Main Street Franklin, NH 03235	102-003-00



Public Service Company of NH	PO Box 270	102-004-00
<u>D/B/A Eversource Energy</u>	Hartford, CT 06141	
Allard, John M	709 South Main Street	102-005-00
	Franklin, NH 03235	
Davis, Dennis L	705 South Main Street	102-006-00
	Franklin, NH 03235	
Herbert, Christopher R	683 South Main Street	102-007-00
<u>Katsikides, James C</u>	Franklin, NH 03235	
Arsenault, Elizabeth A	675 South Main Street	102-008-00
	Franklin, NH 03235	
Targett, William G	665 South Main Street	102-010-00
<u>Targett Jr, William G</u>	Franklin, NH 03235	
Boscawen Office Rentals, LLC	220 Lakeshore Drive	102-403-00
	Franklin, NH 03235	
DC Realty, LLC	21 Kenrick Farm Road	102-403-03
	Franklin, NH 03235	
Sanders, Harry	PO Box 600578	103-005-00
	Newtonville, MA 02460	
GMI Acquisition, LLC	288 Laconia Road	103-406-00
	Belmont, NH 03220	

April 26, 2024

To whom it may concern,

Commerce Drive Solar LLC is the applicant of the property identified as Map 102, Lot 9 & Lot 402. Franklin Commons Realty Group hereby authorizes Commerce Drive Solar, LLC and Nobis Group to execute and submit applications and any applicable materials to local and state boards, commissions, agencies, and the like on behalf of Franklin Commons Realty for the purpose of obtaining municipal and state permits and approvals of the proposed solar array facility at the property.

Sincerely,

A handwritten signature in black ink, appearing to be "A. B. Smith", written over a horizontal line.

Managing Member

Franklin Commons Realty Group
70 Industrial Park Drive
Franklin, NH 03235



nobis

May 1, 2024
File No. 100704.000

City of Franklin– Planning Board
2 High Street
Franklin, NH 03235
(603) 522-6205

Re: Project Narrative for Site Plan Review Application
Commerce Drive Solar, LLC.
Tax Map 102, Lot 9 & 402
Commerce Drive
Franklin, NH 03235

On behalf of Franklin Commons Realty Group (Owner) and Commerce Drive Solar, LLC (Applicant), Nobis Group (Nobis) is submitting this project narrative to the City of Franklin Planning Board (PB) along with an application for site plan review. The proposed project is located at the terminus of Commerce Drive, Tax Map 102, Lot 9 and 402 (Site). Please also refer to the attached Site Plan drawings for additional information.

The Applicant, Commerce Drive Solar, LLC, (Parent Company Luminia) has successfully permitted and constructed several similar solar arrays across the state which has increased renewable energy sources within those municipalities.

BACKGROUND AND SITE CHARACTER

The Site is located in the Industrial 1 Zone and is bound by Industrial businesses to the north, south and west, and by residential properties to the east. The Site consists of two parcels which consist of 2,377,318 SF (54.6 acres). The terrain within the panel area slopes gently from the west towards the northern and southern extents of the project area. There are delineated wetlands located to the north and south of the project area. These wetlands will not be impacted by the proposed project.



SITE PLAN APPLICATION – PROJECT DESCRIPTION

The proposed site development features the construction of a 2.0-Megawatt (MW) photovoltaic solar array. The array will be made up of 4,120 individual solar panels. Supporting this array and its appurtenances will be new electric utility lines, wildlife-friendly security fencing, a gravel access drive, new utility poles, stormwater controls including two sediment basins, and other Site improvements. The solar array will encompass approximately 6.1 acres, and the total on-site disturbance will be approximately 13.6 acres.

This project is proposing to construct a paved public turnaround at the end of Commerce Drive. This will be located within an existing easement on the subject property. The turnaround is proposed as 24' wide and has been designed to accommodate a fire truck. Access to the project area will be provided by a 14' gravel access drive which is approximately 1150' long with two locations for vehicle turnarounds. Wildlife friendly knot wire fencing will be installed along the perimeter to secure the solar array.

During the regular operation of the solar array, access to the site is expected to be minimal and will primarily consist of infrequent maintenance. As such, vehicle trips to and from the site are estimated to be 2 – 3 times per year.

To mitigate storm water runoff from the proposed project, the proposed site/stormwater design will incorporate the use of Best Management Practices (BMPs). Peak flows from the 2, 10, and 50-year storm will be reduced in accordance with the New Hampshire Department of Environmental Services' (NHDES) regulations. An NHDES Alteration of Terrain (AoT) permit is currently being prepared and a copy of the application will be sent to the City of Franklin. This package will contain hydraulic calculations and further specifics with regards to the stormwater design.

We trust this project narrative meets the requirements of the City of Franklin and we look forward to meeting with Board members. Please feel free to contact me with any questions or if you need additional documentation.



Sincerely,

NOBIS GROUP®

Garrett Seibert, EIT
Project Engineer
gseibert@nobis-group.com
(603) 513-1018



nobis

May 1, 2024

File No. 100704.000

City of Franklin– Planning Board

2 High Street

Franklin, NH 03235

(603) 522-6205

Re: Response to Comments for Site Plan Review Application

Commerce Drive Solar, LLC.

Tax Map 102, Lot 9 & 402

Commerce Drive

Franklin, NH 03235

This project has completed a conceptual review by the City of Franklin planning board on March 27, 2024. Comments from planning staff were provided based on the conceptual submittal. Responses can be seen below in blue font.

Road improvements:

1) The installation of a hammerhead for Commerce Dr should be added to the plans. Commerce Dr currently dead-ends with no turnaround.

The applicant, or a representative, shall design a proposed extension and turnaround of Commerce Drive, to City street specifications, and be responsible for the construction extension to the Industrial Park Drive ROW. The applicant or a representative shall submit a detailed drawing for the extension, showing a width of 24-feet and the vertical design of the layers of the roadway. No work is permitted until the MSD office has signed off on the design / construction details. Upon completion, the road area is to either be turned over to City of Franklin in title, or an easement granted to the City of Franklin to use the turnaround.

Please add engineered drawings of the required road improvements to the plan set, and applicable notes regarding transfer of land/rights.

A turn around has been added within the extents of an existing “access easement for road expansion” located at the terminus of Commerce Drive. The turnaround is 24’ wide and has been designed to accommodate a fire truck. A section detail has been added to the detail sheet. The easement document is included in this submission.

Comments related to Zoning Ordinance 305-29.2 “Solar Energy Collection Systems”:

The font in **bold** is the Zoning Ordinance language. The font in *italics* are Staff’s comments.



1) 305-29.2.F.3 states: For any commercial utility solar project located in the Industrial [I-1] Zoning District, the following requirements shall apply:

(a) The outside edge of the racked panel systems must maintain a minimum fifty-foot setback from all lot lines. This required setback may be adjusted, at the discretion of the Planning Board through the special use permit approval, if the abutting land is also industrially zoned.

The proposal shows the 50-foot setback from some, but not all lot lines; please add the setback lines from all lot lines.

Setback lines have been added as requested.

Please add notes to the plan stating that orange snow fence shall be set at the required 50-foot setback around the perimeter of the proposed solar array, as well as at the southern limits of disturbance parallel to the 20-foot wide sewer easement; the 50-foot setback and southern limits of disturbance are to be established by a surveyor.

A note has been added to sheet C-2 for this requirement.

(b) NOT APPLICABLE TO THIS APPLICATION

(c) The Planning Board recognizes that the Interconnection of the system to the utility grid system will involve equipment and poles that will not be able to comply with the required setbacks. That being said, the applicant must provide comprehensive plans [plans, photographs, renderings, etc.] that document all of the interconnection equipment prior to the issuance of any approval. For projects in the I-1 District, where the interconnection equipment is also in the I-1 District, the Board recognizes that the level of detail for this comprehensive plan might not need to be at the same level as an interconnection zone located in other zoning districts.

Please address this requirement. Please provide details, photos, and facsimiles of all proposed panels, poles, pieces of equipment, etc. Be sure to include scaled/dimensioned details.

Sheet C-5 provides dimensions of the proposed panels. An informational packet with pictures of panels, poles and equipment has been provided with this submittal.

305-29.2.G. Special use or site plan permits and approvals.:

(1) For any site plan or special use permit application, the Planning Board retains the rights, under RSA 767:4-b, to hire a third-party consultant to assist the Board in various phases of the review, approval, or inspection of the construction work. The applicant or owner shall submit funds to the City to establish an escrow account to compensate the consultant.

Staff will suggest that the PB include into any Conditional Approval that they allow City Staff Technical Staff to require that third party consultant(s) be hired, at the owner/applicant's expense, to assist with City reviews.

N/A

(2) In granting a conditional use permit pursuant to this section, the Planning Board may impose any reasonable conditions or restrictions deemed necessary to carry out the intended purpose of this section.



Planning Board to offer comment and direction at their meetings.

N/A

(3) In its review of any solar project, the Planning Board will evaluate how the design and location characteristics of the project might impact the character of the neighborhood and specifically the direct abutters. Two important review criteria will be if the project is contrary to the public interest, and if there will be adverse impacts to the character of the neighborhood and/or the direct abutters.

Please add more details to address the view from South Main St.

Panels will not be observable from South Main Street. Panels are located on top of a 80'-90' slope and the project has 200' – 400'+ of undisturbed vegetated buffer.

(4) For any specific requirements for a special use permit, or any requirements in § 305-6 of the Zoning Ordinance, which overlap with requirements in the site plan review regulations, the most restrictive shall apply.

305-6 is the general "Special Use Permit" criteria. Planning Board to offer comment and direction at their meetings.

Explanations for how this project qualifies as being eligible for a special use permit is provided on the SUP application form.

(5) A conceptual design plan hearing, with full notice to all abutters, is required for all commercial utility Solar projects.

This is underway, thank you.

A conceptual design plan hearing was completed on March 27th, 2024.

(6) If the project triggers the submission of an alteration of terrain permit [AOT] application to the NH DES, then no further stormwater analysis is required. If no AOT application is required, then the applicant shall provide a stormwater analysis consistent with the site plan regulations.

This will apply, NH DES AOT is required. The site's stormwater is proposed to sheet-flow over most of the site before one of two detention ponds. The ponds are designed to reduce the rate (speed) of stormwater leaving the site during the 2, 10, and 50 year storm events. The ponds are designed to maintain the volume (amount) of stormwater leaving the site during a 2 year storm event.

1) Site stabilization will be key to controlling stormwater during construction; please propose very specific during-construction erosion controls.

An erosion control plan has been included in the submitted plan set.

2) What are the soil types on this hillside?

The entirety of the upland portion of the site fits into either Hydrologic Soil Group A or B. This means runoff is minimal as the soil can infiltrate stormwater as it flows across the site.

3) How will downslope abutter's properties be protected from increased flows?



The stormwater ponds will reduce the flow of water coming from the site.

H. Screening, buffering, and natural resource impacts. Solar collection systems shall be visually screened through the preservation of existing vegetation or through a landscaped buffer in accordance with the following.

- (1) One overall goal of the submitted, and required, plan shall be to screen the project from views of abutting properties and public ways. The applicant shall submit a plan which has been prepared and stamped by a licensed landscape architect. The plan shall indicate the location, height and spacing of existing vegetation to be preserved and areas where new plantings, fencing, etc., will be required.
- (2) The applicant should, to the greatest degree possible, utilize the existing terrain and landscaping to help provide appropriate screening and buffer. The minimization of clearing of existing trees and shrubs will assist in this goal.
- (3) The use of evergreens, and other native species found in the area, as required.
- (4) Required screening shall be maintained during the operative lifetime of the solar collection system special use permit or site plan approval. Any decision by the Board shall indicate the frequency of inspections and the submission of reports to the Planning Office.
- (5) Primary agriculture solar should minimize impacts to farmland activities and prime farmland soils (as defined and delineated by soil survey and definition of NH NRCS). Dual-use arrangements (solar and farming activities are encouraged where practical).
- (6) The use of chemicals for vegetative management is prohibited. The use of native grasses, wildflowers, or other seed mixes approved by the NH DES shall be used, with regular mowing used to manage the facility.

The application has not yet addressed H.1-6. Please address these specifically in narrative form, and by plan drawings/details at time of formal site plan application.

The abutters along South Main Street will not be visually impacted from the development. The panels are located on top of a steep 80°-90° hill with a minimum of 200' – 400'+ of an undisturbed vegetated buffer. The proposed landscaping consists of clearing vegetation to the limit shown on Sheet C-2 and installing topsoil and seed on disturbed areas. No plantings or additional landscaping is proposed. The proposed seed mix is recommended by NHDES for permanent stabilization.

I. Land clearing.

- (1) Land clearing shall be limited to what is necessary for the installation and operation of the system and to insure sufficient all-season access to the solar resource given the topography of the land.
- (2) Following construction, cleared land areas must be restored with native species that are consistent with the use of the site as a solar collection system (such as slow growth or low ground cover).

Please address these.

Please call out where gravel roads, paved access, wood mulch travel pathways, etc..

Land clearing, paved access and gravel roads are provided on sheet C-2.

- (3) Erosion control measures during construction shall be detailed as required.

Please propose a phasing-plan, and a "during construction" erosion control plan.



An erosion control plan has been submitted with the plan set. The construction schedule details the proposed order of construction and details can be found on sheet G-1.

J. Electrical requirements.

(1) All systems not connected to the grid shall be approved by the electrical inspector or Building Inspector, as required.

(2) Grid-tied systems shall file a copy of a final approved interconnection agreement with the municipality prior to operation of the system.

This remains applicable, please address with formal site plan application.

An interconnection agreement will be provided once received from Eversource. The applicant asks that the requirement become a condition of approval.

K. Glare.

(1) All commercial utility solar systems shall have antiglare coatings.

This remains applicable, please address with formal site plan application.

Panels will have an antiglare coating.

L. Noise.

(1) For commercial utility systems. The application must include calculations for any equipment noise on the site based on equipment specification materials (such as inverters).

(2) Noise levels at the property line shall be in accordance with reasonable levels given the location of the facility with due consideration to the surrounding land uses and zone.

This remains applicable, please address with formal site plan application.

The transformer will be the only noise producing piece of equipment. The specifications state that it is 60 decibels. According to the CDC this is the same as normal human speech. The nearest abutter is +- 500' away.

M. Lighting.

(1) On-site lighting shall be minimal and limited to access and safety requirements only. All lighting shall be downcast and shielded from abutting properties.

This remains applicable, please address with formal site plan application. Staff does not believe there is a need for lighting.

No lighting is proposed.

N. Abandonment and decommissioning.

(1) The owner of the facility shall notify the City and the Planning Office if it intends to abandon the facility. The term "owner" includes the owner(s) at the time of the application or approval, and any future owner(s), project management team, or lease holder.

(2) If the owner fails to notify the City, the City reserves the right to determine that abandonment has occurred. Solar collection systems shall be deemed to be abandoned if operations have discontinued for more than three months without written consent of the municipality (for example, reasons beyond



the control of the owner/operator). Notice of this determination shall be provided to the owner by the Building Inspector. The owner shall have a thirty-day period within which to respond to the City.

(3) An abandoned system shall be removed and the site restored within 120 days of date of abandonment.

(4) The term "site restored" means that the property is cleared of all solar components and is left in a stable, noneroding, litter-free, and clean condition. A landscaping may remain in place.

(5) The term "solar components" includes, but is not limited to, all panels and racking systems, all aboveground equipment, all underground utility lines, security fencing, any subsurface foundations, poles and any associated mounted equipment. Utility poles that are owned or managed by the applicable energy company, and which can be removed without impacting the overall grid system, shall be removed as well.

(6) In cases where the proposed solar facility is approved, the application shall submit the decommissioning plan with the thirty-day appeal period following the endorsement of the approved notice of decision. The applicant can, of course, submit the plan, or a draft, during the hearing process.

(7) In order to ensure that the required site restoration work is performed, the owner of any commercial utility, accessory agricultural, or multiunit residential solar system shall provide the City with a performance bond equal to the estimated costs of restoration. The following conditions shall apply:

(a) The bond shall be kept current on a yearly basis by the owner. The owner shall provide to the City every three years a new cost estimate to perform all of the restoration work. The bond amount shall be adjusted accordingly every three years.

(b) The performance bond can be used by the owner, with the written approval of the City, to pay for the removal or decommissioning costs. Once the restoration work has been completed, and the Planning Office or the Code and Inspection Division has issued a certificate for the work, any remaining funds will be returned to the owner.

(c) If the owner fails to undertake the restoration work, the City reserves the right to perform the work and to utilize the performance bond funds. The City shall give 45 days' notice to the owner that it will commence with the restoration work. Any bond funds remaining shall be returned to the entity which posted and maintained the bond

Please submit a decommissioning plan (property to be cleared of all solar components and is left in a stable, noneroding, litter-free, and clean condition. All existing landscaping may remain in place.)

Please submit copies of three price quotes for decommissioning

A decommissioning plan has been attached to this submittal. Quotes for decommissioning are unavailable and prices for decommissioning must be taken from other examples from within the industry.

Comments related to the Site Plan Regulations:

The font in **bold** is the Site Plan Regulation language. The font in *italics* are Staff's comments.

A) Site Plan Regulation Section 402-7 list solar-specific requirements. The requirements are noted below in bold font and my related comments are noted in italics.

1. **A comprehensive plan that details, but is not limited to, all solar arrays, equipment, interconnection equipment, landscaping, and any other information required by the Planning Board.**
This remains applicable, please address with formal site plan application.

All details have been addressed with the site plan application.

2. A narrative document which details the specifics of the project [size, number of panels, approach to the design features, stormwater management, etc.].

a) Please explain the proposed materials and color of the screws, racking system, and solar panels.

Colors and materials of solar equipment can be found on the informational packet included in this submission as well as on Sheet C-5 of the plan set.

b) Please call out life expectancy of the system.

The system's life expectancy is 35 years.

c) Describe required maintenance.

Maintenance is limited to a frequency of 2-3 times per year. This will include mowing and trimming of any vegetation that may impact the system's efficiency.

d) Cite how many panels are proposed.

4,120 panels are proposed.

3. The Site Plan Requirements and Design Specifications can be used as a general guideline for the preparation of the plan.

a) Site Plan Regulation 402—5.1 requires all utilities to be placed underground. This proposal calls for hundreds of feet of new overhead wires and other aboveground poles/utilities. Please either propose these to be underground, or submit / request waivers from this Regulation, or a combination of both.

A waiver has been requested and is included with this submittal.

4. Special attention should be paid to the plans and details for the interconnection equipment situated between the solar arrays and the utility grid.

a) Please address this regulation.

Sheet C-2 details the proposed electrical equipment and locations of utility poles, transformers, and other equipment. As part of this submission an informational packet has been included showing photos and additional details of the equipment.

5. The plan shall show access to the site to be used in the event of a fire or other emergency response situation. This access way shall be discussed and coordinated with the Franklin Fire Department.

a) Please address this regulation. Please include in the detail sheet a typical profile/cut of the road/access.

A 14' access road is proposed and leads to the two sections of the solar array. We would like to propose that a meeting with the Franklin Fire Department be a condition of approval.

6. The applicant shall contain a comprehensive contact information sheet, with the names, and contact information [email addresses, cell or land line numbers, and mailing addresses] for all



owners, engineers, architects, or any other representatives. This contact information sheet will, in some abbreviated format, also be posted on the fencing or gates at the site so that contact can be readily made in the case of any emergency.

a) Please address this regulation.

This requirement will be completed prior to construction.

7. Fencing shall be installed, if required, by the electric code or the utility. Additional security or fencing may be required if the location of the system presents a safety concern for abutting land uses.

a) Fencing has been proposed, thank you. Please provide a detail of said fencing.

The details of the proposed fencing can be seen on sheet C-7 as well as in the submitted informational packet.

8. The application shall prepare an As-built plan, at the same scale as the approved plan cited in any Notice of decision, showing all elements and components of the construction facility.

a) This will become a Condition of Approval and need to be met before the City issues a Certificate of Completion.

The applicant acknowledges that this will be a Condition of Approval.

9. For any building permit applied for following the issuance of a Notice of Decision, the permit application package shall contain details and specifications for all components or equipment that relate to compliance with all fire, life, and electrical codes. Such information can be supplied via manufacturer's specifications or through detailed description.

a) This will become a Condition of Approval.

The applicant acknowledges that this will be a Condition of Approval.

10. As referenced in Section 305-29.2.G.6 of the Zoning Ordinance, a copy of the NHDES Alteration of Terrain [AoT] permit shall be provided to the Planning Board for systems that are required to secure such a permit. For projects which do not trigger an AoT permit process, the applicant shall adhere to the Stormwater Management sections of the Site Plan regulations.

This is applicable.

A copy of the AoT permit application will be sent to the City of Franklin when it is submitted to NHDES.

11. All construction work performed in accordance with any approval of a Site Plan or Special Use Permit shall be conducted in accordance with Best Management Practices for erosion and sedimentation control during the pre-construction, construction and post-construction restoration period. Plantings utilized shall be native species which provide beneficial habitat for song birds, pollinators and/or foraging species.

Please address the landscaping portion of these regulations by having an NH Licensed Landscape Architect review the proposed plantings, including proposed seeding, and have them stamp the plans/submit a letter approving of all landscaping.

No plantings are proposed for this project since the project will be fully screened using natural vegetation and the existing topography. Seed mixes are taken from NHDES recommendations for permanent stabilization.



Due to these factors as well as having a significant buffer between the property and nearby abutters we do not feel as though a landscape architect will be necessary to provide recommendations for this project.

General Comments from Planning Dept. Staff:

- 1) a) Please call out how many acres are to be cleared, currently the notes state 0.0 acres.
- b) Please propose a grading, drainage, and stabilization plan so that no more than 5-acres is disturbed at one time.

The disturbed area can be seen within the table on sheet G-1. Sheet G-1 also includes a schedule of work which describes how and when areas of the project will be stabilized. Due to the nature of solar construction, it is not feasible to limit disturbance to less than 5-acres. We have proposed an environmental monitor to inspect the project area throughout construction to ensure conformance with sediment control best practices. This is an acceptable practice under NHDES regulations.

- 2) Please add the date the wetland delineation was completed.

Wetlands have been delineated previously in October of 2018. Stoney Brook Environmental has confirmed previous flagging and completed the delineation in September of 2023. This is noted on Sheet C-2.

Per NH Dept. of Environmental Services, Env-Wt 406 “DELINEATION AND CLASSIFICATION OF JURISDICTIONAL AREAS” wetland delineations are only good for 5 years: [Microsoft Word - Env-Wt 400 as of 10-2020.docx \(nh.gov\)](#)

- 3) The property address shall be posted at the beginning of the driveway / on the proposed fence. Please work with the Fire Department to confirm the address number.

This requirement will be completed prior to construction.

Sincerely,

NOBIS GROUP®

Garrett Seibert, EIT
Project Engineer
gseibert@nobis-group.com
(603) 513-1018

When recorded please return to:
 Sessler Law Office, PLLC
 359 Central Street
 Franklin, New Hampshire 03235

14⁴⁹
 2⁰²
 25-

MERRIMACK COUNTY

ACCESS EASEMENT

KNOW ALL PERSONS, that **F.I.P. Expansion, LLC**, a New Hampshire Limited Liability Company, of 20 Canal Street and a mailing address of P.O. Box 174, Franklin, New Hampshire 03235, for consideration paid, grants to **Delta Equity, LLC**, a New Hampshire Limited Liability Company, of 470 Mast Road, Goffstown, New Hampshire, 03045 with QUITCLAIM COVENANTS, an access and travel easement over land of the Grantor in the City of Franklin, Merrimack County, New Hampshire, as follows:

The right of the Grantee, its successors and assigns, to improve and to construct a road extension from the southerly terminus of Commerce Drive, so called, shown as a proposed roadway on a plan entitled "Boundary Line Adjustment between Stanley S. Weglarz and F.I.P. Expansion, LLC" prepared by Lepene Engineering & Surveying, dated February 7, 2007 and recorded in the Merrimack County Registry of Deeds as Plan #18442, to the northerly boundary of land of the Grantee. This right shall include the right to use, access, keep clear of snow, ice and other obstructions, and to travel on by foot or by vehicle, over the easement area. This easement area is to the same width as the existing traveled portion of said Commerce Drive.

This easement shall be in used in common with the Grantor, its successors and assigns.

The Grantee may employ the easement granted herein for any lawful purpose allowed by the zoning ordinance in the City of Franklin, New Hampshire, including but not limited to the removal of timber from the logging of adjacent land of the Grantee. All logging activity and any other use of Commerce Drive shall be conducted in a good and workmanlike manner and shall not disturb nor inhibit the use of Commerce Drive by the Grantor or any of its successors and or assigns or the public.

The Grantee shall be responsible for all repairs, maintenance, snow removal and improvements to the extension of Commerce Drive. All such activity shall be conducted in a good and workmanlike manner and shall not disturb or inhibit the use by the Grantor of its remaining land.

This is a non-contractual transfer. *[Signature]*

Page 2

Delta Equity, LLC to F.I.P. Expansion, LLC

Meaning and intending to describe and convey an easement over a portion of the premises conveyed to the Grantor by deed recorded in the Merrimack County Registry of Deeds at Book 1685, Page 0174.

Wherefore, James Aberg has signed this easement deed as the Member/Manager, duly authorized of **F.I.P. Expansion, LLC** this the 13 day of March, 2014

MCRD

[Signature]
Name:
Member/Manager

STATE OF NEW HAMPSHIRE
COUNTY OF

On this the 13 day of March, 2014, personally appeared the above named James Aberg, known to me to be the person whose name is subscribed to the within instrument, and acknowledged that He/she has executed the same as the Member/Manager of **F.I.P. Expansion, LLC** for the purposes therein contained.

Before me,

[Signature]
Notary Public/Justice of the Peace
My commission expires:



JENNIFER SLEEPER, Notary Public
My Commission Expires May 26, 2015

Commerce Drive Solar LLC DECOMMISSIONING PLAN

1. Project Description

Commerce Drive Solar LLC is proposing to develop a solar energy farm in Franklin NH. A solar array consists of photovoltaic panels that transform sunlight into usable energy. The facility will have approximately 4,120 individual panels transforming sunlight each day into usable energy that is fed into the regional electric grid. The project will generate enough electricity to power over 300 New Hampshire homes per year. Estimated operational life of the project will be 25 years with option to extend.

The project consists of a 2.00-Megawatt ("MW") solar array to generate power that will be sold under a long-term contract under the New Hampshire Community Power programs.

The solar site is located at the end of Commerce Drive. A street address has not yet been assigned, however the Map and Lot numbers are 102/9 & 102/402.

2. Construction

The solar energy farm will be located on a property that is currently undeveloped and consists of a wooded parcel in an industrial park. The ground-mounted solar panels will be located within a fenced area approximately 10 acres in size. Commerce Drive will be utilized to access the solar panels, and a new earthen road will be built to access the panels within the parcel. Each solar panel will rest on a galvanized steel and aluminum frame and will be located on a metal pole that will be driven into the ground. Utility trenches will be excavated to install the underground electrical lines leading to each string of solar panels. Once the utilities are installed the utility trench will be filled and seeded to maintain a consistent grassed surface. Concrete slabs will be installed to hold the necessary inverters/transformers required to operate the solar array.

3. Decommissioning Process

This section sets out the details and different steps of decommissioning the solar farm that have been compiled from over a dozen New Hampshire projects, engineers and municipalities. The installation will be removed no later than one year after operations are discontinued.

a) Deconstruction: DC-Cabling

All inverter systems and electrical components of the PV-System will be switched off. In following all plug-in connectors and string cables will be disconnected. To remove the cables which are laid in the ground, all cable trenches will be opened. In the following all cables will be removed and separated. After the uninstalling of the wiring the materials will be disposed of in accordance with the disposal regulations for metal waste which applies at the installation site at the time.

b) Deconstruction: PV-Modules

All PV-Modules will be removed and separated from mounting system and removed from the site. After removal, the PV-Modules will be reused or recycled.

c) Deconstruction: Inverters / Transformers / Substation

After the uninstallation of the entire monitoring system (cabling + components) the inverter / transformer stations as well as the substation will be removed from the site. The concrete foundations will be removed, and the holes will be filled with soil. Then the transformer stations will be removed and disposed of in accordance with the disposal regulations for metal and concrete waste which apply at the installation site at the time.

d) Deconstruction: Mounting System

The mounting system will be removed completely. The deconstruction shall proceed as follows: I. module carrier system, II. purlin profiles, III. Posts. The disposal of the materials will be done in accordance with the disposal regulations for metal waste which applies at the installation site at the time.

e) Deconstruction: AC- Cabling / Earthing

All AC-cables and combiner boxes will be disconnected and removed. To remove the cables which are laid in the ground, all cable trenches will be opened. In the following all cables and earth stripes will be removed and separated. The cable trenches will be back filled with ordinary borrow or other suitable backfill material. After all wiring has been uninstalled, the materials will be disposed of in accordance with the disposal regulations for metal waste which applies at the installation site at the time.

f) Deconstruction: Fence and Alarm System

All parts of the fence and gates as well as the alarm system (if applicable) will be removed. The disposal of the materials follows in accordance with the disposal regulations for metal waste which apply at the installation site at the time.

g) Ground Regulation

When the decommission works are completed, the land will be restored by grading and revegetating disturbed areas.

All equipment and fixtures removed from the solar farm will either be reused, recycled, or disposed of at the time of decommissioning. Upon decommissioning of this solar farm, reuse of the solar panels will be the priority. If reuse is not feasible, the solar panels will be recycled in accordance with the PV CYCLE USA waste management scheme, or similar. Items that are not able to be reused or recycled will be disposed of in accordance with local rules and regulations.

4. Force Majeure

An exception to these requirements will be allowed for a force majeure event, which is defined as any event or circumstance that wholly or partly prevents or delays the performance of any material obligation arising under the Project permits, but only to the extent:

5. Such event is not within the reasonable control, directly or indirectly, of Commerce Drive Solar LLC (including without limitation event such as fire, earthquake, flood, tornado, hurricane, acts of God and natural disasters; war, civil strike or similar violence);

6. Commerce Drive Solar LLC has taken all responsible precautions and measures to prevent or avoid such event or mitigate the effect of such event on Commerce Drive Solar LLC's ability to perform its obligations under the Project permits and which, by the exercise of due diligence, it has been unable to overcome; and

- Such event is not the direct or indirect result of the fault of negligence of Commerce Drive Solar LLC.

In the event of a force majeure event, which results in the absence of electrical generation by one or more solar panels for 12 months, Commerce Drive Solar LLC will demonstrate to the City of Franklin by the end of the 12 months of non-operation that the Project, or any single solar panel, will be substantially operational and producing electricity within 24 months of the force majeure event. If such a demonstration is not made to Franklin's satisfaction, the decommissioning of any single solar panel only (and no other part of the Project that is operational) or if the entire Project is not substantially operational and producing electricity, then decommissioning of the Project will be initiated within 18 months after the force majeure event.



Solar Development:

Franklin Planning Board Meeting

May 2024

Andrew Kellar
VP Development
(603) 817-1175



www.luminia.io





Luminia: About Us

A seasoned leadership team with deep experience in solar project finance, solar project development, capital markets, banking and Commercial Real Estate (CRE) development.

Market-leading track record in financing and developing C&I and renewable energy assets, included \$4 Bn+ in renewable infrastructure, \$1 Bn+ in CRE and \$350M in residential solar

In addition to our core team's experience, in 2022 we acquired a leading New England based community solar developer that brings extensive origination, entitlement, interconnection and construction experience. 3

Significant C&I, Community Solar, and Small Utility Scale Experience:

- 15 MW of community solar projects contracted 2021
- 40+ MW of community solar projects contracted throughout New Hampshire, Connecticut, and Massachusetts
- Developing 10MW of solar and storage microgrid projects over multiple sites in Puerto Rico
- Financed and constructed roof-mount, ground-mount and carport behind-the meter solar projects throughout all CA IOU territories
- Over 200 MW pipeline in development



Commerce Drive Solar: Glare and Noise

- All solar panels must have anti glare coating (see attached spec sheet) and noise calculations by a certified electrical engineer are below. It should be noted that a **normal human conversation is traditionally 60 Db** and the transformers spec'ed for this project is 58 Db. The Chint (CPS) 250 Inverter being spec'ed out has no sound and no moving parts. Temperature is controlled by the outside air, not a fan cooled or liquid cooled system

Assuming that you are buying standard transformers, per NEMA TR-1, a 1000 kva pad mounted transformer's the average allowable audible sound level is 58 db.

VSUN
Innovative & Smart

VSUN550-144BMH-DG

550W

Highest power output

21.52%

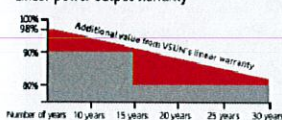
Module efficiency

12years

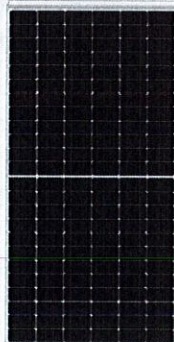
Material & Workmanship warranty

30 years

Linear power output warranty



VSUN550-144BMH-DG VSUN545-144BMH-DG
VSUN540-144BMH-DG VSUN535-144BMH-DG



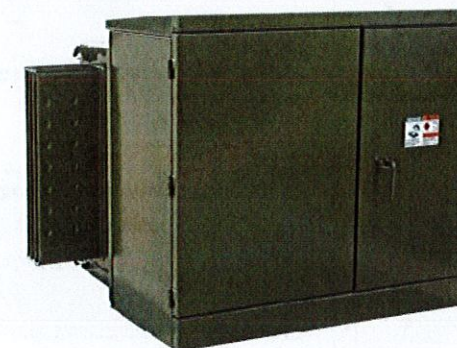
Material Characteristics

Dimensions	2256×1133×35mm (L×W×H)
Weight	32.5kg
Frame	silver anodized aluminum frame
Front Glass	High transparency,Antireflection coated,Semi-toughened safety glass, 2.0mm
Back Glass	Glazed & Semi-toughened safety glass, 2.0mm
Cells	12×12 pieces bifacial monocrystalline solar cells series strings
Junction Box	IP68, 3 diodes
Cable&Connector	Potrait: 900 mm (cable length can be customized) , 1×4 mm 2 , compatible with MC4

Table 4. Audible Sound Levels

Self-Cooled, Two Winding kVA Rating	NEMA® TR-1 Average Decibels (dB)
45-500	56
501-700	57
701-1000	58
1001-1500	60
1501-2000	61
2001-2500	62
2501-3000	63
3001-4000	64
4001-5000	65
5001-6000	66
6001-7500	67
7501-10000	68

Scott Secret, PE
64 Beacon St., Unit C202
Worcester, MA 01608
781-929-0139
scott.secret@ssecretpe.com



How far away can you hear 60 dB?

60dB is the pressure difference of normal conversation. Ignoring all other ambient noise and assuming perfect hearing, a normal person could hear it about 40 feet away.

Feb 25, 2023



CPSSCH275KTL-DO/US-800

The 250/275 kW high power CS three phase string inverters are designed for ground mount applications. The units are high performance, advanced and reliable inverters designed specifically for the North American environment and grid. High efficiencies, wide operating voltages, broad temperature ranges and NEMA Type 4K enclosure enable this inverter platform to operate at high performance across many applications. The SCH2750L inverters include a selectable active power of either 250 kW or 275 kW (factory default) with 12 MPPTs and are available with either 6 fused PV string inputs or 24 unfused UV string inputs. The CPS/ENVI-M solution enables communication, control and remote product upgrades.

Key Features

- | | |
|---|--|
| <ul style="list-style-type: none"> • NEMA 3P, NEMA 21, 22/23 compliant • Touch safe 3C face hides adds convenience and safety • IP65 (EN60529) protection enables remote from hygiene upgrades • Integrated DC disconnect switches • Protection features for enhanced reliability and safety • Selectable max AC active power of 2500W or 275 kW • UL 1741 SA certified to CA Rule 21, including SA 4518 | <ul style="list-style-type: none"> • 12 MPPTs with 8 fixed inputs or 16 unhooked inputs • Copper and Aluminum compatible AC connection • NEMA type enclosure enables tough, long-life installation • Full power capacity up to 42°C • Standard 5 year warranty with extensions to 20 years • Supported core protocols (Modbus RTU, IEC 61850, PLC-IP) • UL 1741 SA certified 1741 SA 1741 certified |
|---|--|





Commerce Drive Solar: Utility equipment requirements

- See plan along with the following images of the equipment required in the Eversource application and an example of a transformer layout.

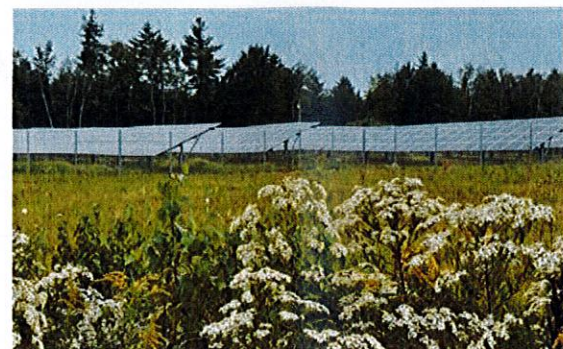
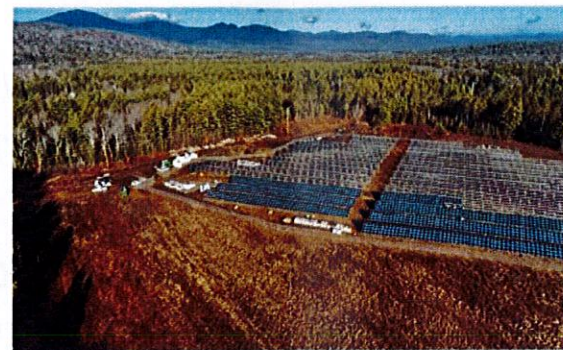
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Commerce Drive Solar: Eversource, Fire Dept & Power Sales

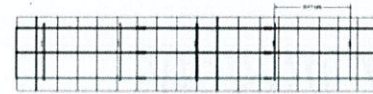
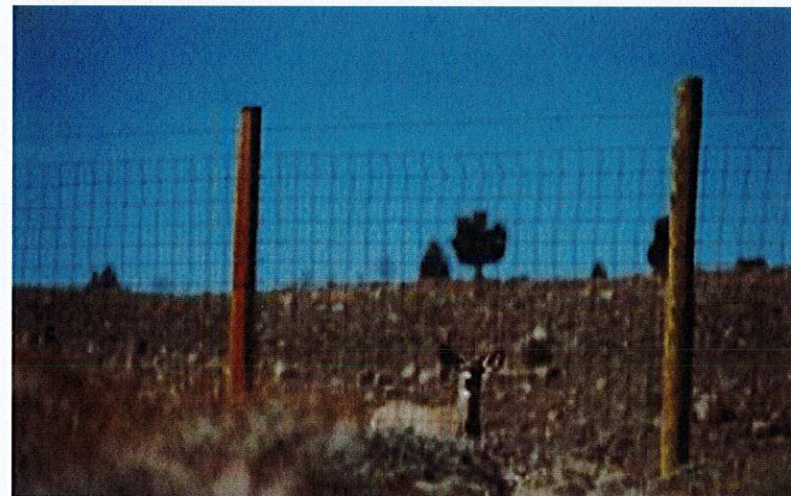
- *The project has taken special care to design the array to limit the amount of equipment between the grid and the solar array to the available capacity while meeting Eversource's required design specifications.*
- *The plan represents the expected access by the fire department, which is also required by Eversource to gain access to the poles and transformer. In the past, the Franklin Fire Department staff has meet with the construction team upon completion of the other solar project in town to go over the standard safety protocol for solar projects. For this project, the planning department will coordinate a meeting between the applicant and police/fire, during which we will discuss final details related to emergency access.*
- *The final project will incorporate the required signage and contact information spelled out in this section of the ordinance as well as required by Eversource.*
- *This project will be developed and permitted under the Municipal Group Net Metering law (RSA 362 – Senate bill 1654) and/or the Community Power law (RSA 53-E).*
- *These laws can be found by going to the following links:*
- *GNM: <https://www.puc.nh.gov/sustainable%20energy/GroupNetMetering.html>*
- *Community Power: <https://www.gencourt.state.nh.us/rsa/html/III/53-E/53-E-mrg.htm>*

Commerce Drive Solar: Racking type

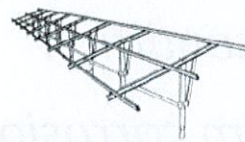
- *The project will incorporate fixed tilt panels at a 25-degree angle facing south. Below are examples of this type of layout.*



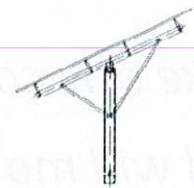
Commerce Drive Solar: Fencing, Panel, Knox Box Examples



SOLAR ARRAY MODULE - TOP VIEW
NOT TO SCALE

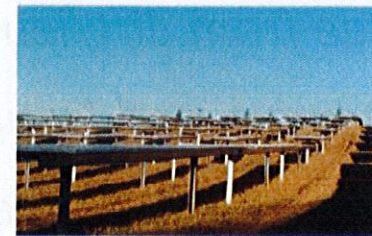


SOLAR ARRAY MODULE - ISO VIEW
NOT TO SCALE

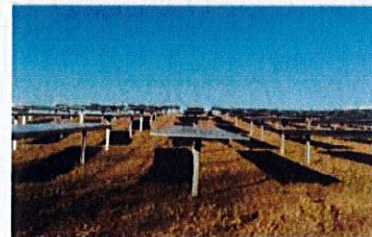


SOLAR ARRAY MODULE - SIDE VIEW
NOT TO SCALE

4-6 ft in height



SOLAR ARRAY MODULE - TRACKER
NOT TO SCALE

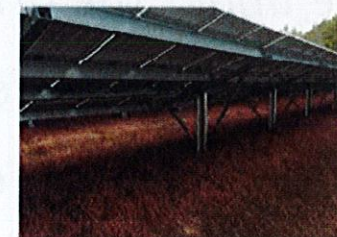


SOLAR ARRAY MODULE - TRACKER
NOT TO SCALE

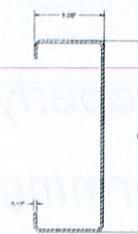
8-12 ft in height



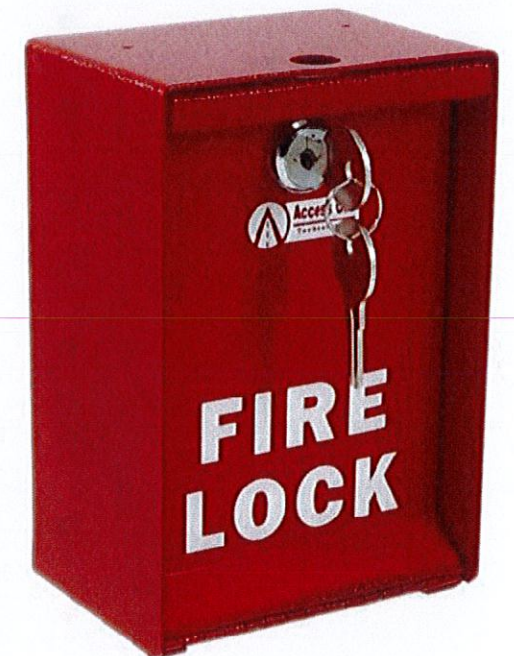
SOLAR ARRAY MODULE - FIXED TILT
NOT TO SCALE



SOLAR ARRAY MODULE - FIXED TILT
NOT TO SCALE



SOLAR ARRAY MODULE - POST X-SEC
NOT TO SCALE





Commerce Drive Solar: O&M plan

Luminia and its project owner contracts with the installation company to include, but not limited to, the following O&M services on an annual basis. Access to the site is via a contractor van or non-CDL truck:

- *Make sure modules are free from dirt/leaves.*
- *Inspect all mounting framework and fixings for integrity*
- *No shading issues have occurred since the installation or last inspection*
- *Space under the array is not obstructed and DC cables are securely clipped*
- *Test over current devices are in good operating condition*
- *All electrical connections are secure and free from corrosion*
- *Enclosures are secure and remote monitoring & security systems are maintained over wi-fi or cable connections*
- *All inverters are performing properly and will make any corrections if necessary*
- *All electrical systems are performing properly and will make any corrections if necessary*
- *Inspect the access road for any damage and repair as needed*
- *Vegetation management without chemicals around panels & fencing area by way of a small commercial truck and trailer with commercial mowers & trimmers. Typically, 2-3 times a year*

Commerce Drive Solar: Project Decommissioning

Luminia prepares a Decommissioning Plan (attached to this application packet) for all its solar array facilities prior to performing the activities. The Plan is developed under the supervision of a professional engineer and all permits are obtained before beginning work. Our lease agreement with the landowner requires us to completely remove the array and all its associated facilities (i.e., concrete pads). Below is a summary of the typical decommissioning tasks:

- *Remove Rack Wiring*
- *Remove Cable*
- *Remove Panels*
- *Dismantle Racks*
- *Remove and Load Racks*
- *Remove Electrical Equipment*
- *Breakup and Remove Concrete Pads and Ballasts*
- *Remove Power Poles*
- *Remove Fence*
- *Grading and hydroseed and Restore Vegetated surfaces*

The cost for decommissioning is currently estimated at \$25,000 per megawatt MW/Ac and the project will be required to provide a form of surety to support the decommissioning plan & costs.

Commerce Drive Solar: Project Decommissioning

Luminia and its project owner contract with solar panel recycling companies during the decommissioning stage of the project to remove the panels from the site, remove the recyclable components and then dispose of the components that are not recyclable. These components are similar to electronic waste regulated by the EPA.

RESOURCE RECYCLING

Your trusted source for recycling news and analysis

How the recycling industry is preparing to tackle solar panels

Published June 15, 2021
Updated June 18, 2021
79 views



Recycling processors are developing strategies for an increasing number of PV modules entering the market. (Hill20 / Shutterstock)

In some ways, solar panels present some of the same recycling challenges as old TVs. They carry a high cost to recycle properly, have limited commodity value and contain hazardous metals. At the same time, relatively few jurisdictions currently recycle them, and markets are working against reuse.

"Solar panels are pretty much the new CRT," said AJ Orben, vice president of Arizona-based We Recycle Solar, referring to cathode ray tubes, which contain leaded glass and were used in old bulky TVs.

Interviews with electronics and solar panel recycling industry experts shed light on the challenges of solar panels with photovoltaic (PV) modules, which have the potential to be obsolete, dumped, abandoned or illegally landfilled, just as [CRTs were a number of years ago](#).

Partly to head off potential mismanagement by certified recycling facilities, nonprofit group Sustainable Electronics Recycling International (SERI) is working on adding solar panels to its R2 e-waste certification standard. Nearly 1,000 electronics recycling facilities around the world are certified to the R2 standard.

Meanwhile, more solar panels are continuing to enter the end-of-life stream. However, along with processing complications, and the expected additional regulations, are business opportunities.

This is just the tip of the iceberg, said John Shegarian, co-founder and executive chairman of nationwide electronics processor ERI, referring to the number of panels his company is currently recycling about a semi-truck trailer full a week. "This is just warm up to the game."

Complex mix of materials

About 95% of panels sold today are crystalline silicon, which have PV cells made with silicon semiconductor technology. According to the [Solar Panel Recycling Handbook](#), designed by Luminia, the elements for decades, solar panels are made up of interconnected PV cells that are encapsulated in plastic and sandwiched between glass and a backsheet. The typical panel has a metal frame, usually aluminum, and external copper wiring.

In an [article for Resource Recycling](#) last year, Melissa Ann Schmidt of solar power equipment exchange EnergyBin explained that crystalline silicon panels are predominantly made of glass but also contain plastic, aluminum, silicon and copper, along with trace amounts of silver, tin and lead.

Recycling companies can easily separate the aluminum frame and external copper wires for recycling. But because the PV cells are encapsulated in layers of ethylene vinyl acetate (EVA) plastic and bonded to the glass, additional processes are needed to recover the silver, copper or high-purity silicon in the silicon wafers.

Processors taking in solar panels are currently employing different strategies.

We Recycle Solar has a large solar panel recycling plant in Fresno, Ariz., as well as the California border, and a smaller one in New York City. Launched five years ago, We Recycle Solar is recycling tens of thousands of panels each week, with material coming from homes, businesses and solar farms.

The company is the largest recycler of solar panels in the U.S., said Orben, although he noted there's only a handful of companies recovering all – or almost all – of the materials in panels. We Recycle Solar removes the aluminum frame and wiring and shreds the panels. The shredded material then undergoes secondary chemical processing, electrolysis, and additional processes to separate the metals, silicon and glass for shipments to downstream processors, he said.

"It's taken us five years to really refine what we do," he said.

Resource Recycling

in

The latest recycling industry news

Carriage: A growing force in fight against contamination
Facing ever-increasing pressure to deliver a cleaner stream to processors, cities across North America are turning to outside inspection of residential lots. Many are seeing positive results from the effort.

Google explores how to capture 4.5 billion tons of plastic
A report from Google lays out how mechanical and chemical recycling a "circular plastic production" can, consumer incentives and more can increase plastic recovery over the next two decades.

In My Opinion: Comparing the nation's first packaging EPR laws
A policy expert at the Sustainable Packaging Coalition (SPC) warns on recent SPC research to explain the differences between recently enacted extended producer responsibility laws in Maine and Oregon.

Brands invest in China plastics recycling
Beverage giants and other multinationals are joining millions of Chinese brands and retailers to reclaim Evergreen.

Recycled corrugated producers look to expand in US
Two major producers of containerboard made from recycled fiber are growing their presence in the U.S. Paper industry will add up to a Georgia box plant and Atlantic Packaging is working on a major facility in Illinois.

UCL prices effect global demand for containerboard
Paper mills in Asia and other areas are being forced to pay substantially more for OCC over the past few months, reflecting the global strength in corrugated packaging demand.

Recycling industry confronts tough labor markets
Recycling operators around the country are struggling to find and retain employees. A handful of stakeholders share potential solutions they've tried as they look to fill open positions.

See more Resource Recycling headlines



Based in Fresno, Calif., ERI processes solar panels for Redwood Materials, a Carson City, Nev.-based [plastic-to-metal recovery](#) of valuable metals from batteries. In April, ERI [announced a partnership](#) through which the processor will send all of its recovered batteries and shredded solar panel scrap to Redwood Materials. As part of the agreement, Redwood donated a substantial sum to ERI, according to an ERI press release.

ERI has been working for about three years on R&D for solar panel recycling, Shegarian said. After removing aluminum frames, ERI size reduces the panels in modified shredders. The key steps in the process are shredding and separating glass from the metals-bearing materials while avoiding unnecessary emissions.

The resulting shredded bits of metals-bearing material are then shipped to Redwood, which uses its technology to separate metals such as copper, silver and lead.

Another e-waste company processing solar panels is Echo Environmental, [which operates a 166,000-square-foot recycling and reuse facility](#) in Carrollton, Texas, near Dallas.

Receiving a million-plus pounds of solar panels a year from manufacturers and others, Echo crews first remove the aluminum frame and clip off wires for recycling, said Tommy McGuire, president of Echo Environmental.

Echo then shreds the modules before using a milling process to separate a portion of clean glass, which is sent for use in floor glass insulation and reflective paint. The remaining metals-bearing material is moved into shredded circuit boards from electronics and shipped for smelting.

Complications around hazardous

Complicating the end-of-life equation is the fact that some types of panels are considered hazardous because of their concentrations of toxic metals. The South Carolina Department of Health and Environmental Control [warns about](#) the different types that may be considered hazardous, noting that non-hazardous panels can be disposed of in municipal solid waste landfills.

Among the types requiring special handling are thin-film cells, which are less common than crystalline silicon panels. First Solar, a solar panel manufacturer that has run a recycling program since 2005, makes [cadmium telluride thin-film solar cell modules](#). According to First Solar, the [recycling process](#) involves shredding and milling in a hammermill. After that, the EVA laminate is separated from clean glass, separately, a third-party company performs a metal precipitation process to recover cadmium and tellurium.

McGuire of Echo said because of the hazardous metals and additional handling requirements involved, Echo advises its customers with cadmium-containing thin-film cells to send them straight to First Solar's recycling facility in Ohio.

By and large, Echo's testing shows other panels aren't hazardous waste, he noted. But they still need to be handled carefully.

"Your typical PV module doesn't have a lot of hazardous implications, but similar to electronics, we certainly don't want them filling up our landfills," McGuire said.

Orben of We Recycle Solar said, in company testing shows that over two-thirds of panels are considered hazardous waste under the federal Resource Conservation and Recovery Act (RCRA) because of their lead or silver concentrations. About 10% of those same panels are considered hazardous under California standards because even if they haven't exceeded acceptable lead or silver levels, they've exceeded water copper or zinc limits.

We Recycle Solar [operates](#) with a hazardous waste permit, according to the EPA, which noted that, corrosive waste, cadmium, lead and silver are handled there.

In addition to the hazardous material considerations recycling solar panels present challenges in terms of economic viability.

"Current technology, infrastructure, and processes associated with recycling PV modules are not optimized for cost-effective recovery of high-value materials," according to a [March 2021 report](#) from the National Renewable Energy Laboratory (NREL) and the Electric Power Research Institute. "As a result, the cost of recycling is often outweighed by cheaper, more accessible disposal options."

Solar panel processors must charge fees to accept solar panels to offset their processing costs.

Orben said We Recycle Solar spends up to \$12 per pound in processing costs to yield between \$3 and \$4 in value from aluminum, copper, lead, glass, silver and silicon. OEMs have lightweighted and used less valuable metals in newer generations of more efficient products, which is great news from the manufacturing and consumer perspectives but not for recyclers, he said.

Meanwhile, Orben doesn't foresee processing costs coming down significantly in the future as a result of economies of scale. A lot of the costs will still be tied to labor, which is only expected to become more expensive.

He added that there remains a financial incentive for waste generators to pay to recycle panels when the alternative is hazardous waste disposal, but that incentive slips away when cheaper municipal solid waste landfills are an option.

Additionally, not all collectors understand the economics of properly handling the material, Orben noted, creating cost pressures from the outset.

We Recycle Solar frequently gets calls from transfer stations, landfills and other recyclers that have accepted solar panels at no cost or low cost (such as 10 cents a pound) because they think they contain a lot of valuable materials.

McGuire of Echo Environmental added that solar panel commodity value is predominantly in the aluminum frames, with the wires and clean glass product also generating some amount of revenue.

Echo's process of mixing shredded PV cell material with shredded circuit board scrap as it's shipped to a smelter reduces the value of the circuit board mix by several cents per pound, but the practice also keeps the material out of landfills, allows metals to be recovered and offsets smelter's needs for fluxing agents, he said.

ERI's Shegarian noted that, for now, his company's Fresno plant is the only ERI facility processing solar panels, but ERI's other facilities across the country are getting calls about solar panel recycling on a daily basis.

"The opportunity is massive, but to do it the right way is going to cost a lot of money," Shegarian said.



Resale market headwinds

Solar panels are designed to produce electricity for decades, so reselling a used panel may appear the best option economically and environmentally, and that exchange does happen.

At the same time, processors said, certain market and tax policy forces are also working against reuse.

McGuire said Echo has the ability to test the energy output of used panels so they can be resold. That works well for higher-value modules, he said, noting that there are international markets for secondhand modules, as well as one-off domestic projects.

But panels that didn't pass manufacturers' quality control checks can't be resold, he noted. And when contractors perform de-install and aggregate and ship solar panels to Echo, what arrives is often a mishmash of different types of panels, making it tough to keep a consistent inventory, McGuire said.

Additionally, the pace of panel innovation hampers resale because prices for new panels have come down in line with efficiency boosts. According to the [U.S. Energy Information Administration](#), the average value of PV modules shipped in 2019 (the most recent year for which data is available) was 41 cents per watt of electricity generated at peak performance. A decade earlier, the average was \$2.70 per peak watt.

We Recycle Solar does resell solar equipment. But Orben also likened the problem to that facing some segments of the electronics market. "Having a 15-year-old panel that still produces is a lot like having a Pentium 3 today," Orben said.

Further hindering the secondary market is U.S. tax policy. McGuire noted that the federal government provides tax credits for homeowners installing new PV systems – for 2021, [the credit](#) is 26% of the cost of a system.

"It's really an uneven playing field, because you can't get that tax credit on secondhand modules," McGuire said.

Enter the regulations

More solar panels are expected to enter the waste stream in coming years.

According to the U.S. Energy Information Administration, shipments of new panels have increased substantially over the past 15 years. In 2019, enough PV modules were shipped to produce a net 16 million peak kilowatts of electricity, a nearly 14-fold increase over the amount shipped a decade earlier.

Many of them will be decommissioned well before the end of their usable lives, because of performance improvements and lower costs for new panels, Shegarian of ERI said. Power producers may replace them in five years or less because the ROI is so compelling.

A report from the International Renewable Energy Agency (IRENA) and International Energy Agency (IEA) Photovoltaic Power Systems Programme (IEA-IPVPS) [estimates](#) that, by 2050, cumulative global PV panel waste will have reached 50-75 million metric tons, up from about 43,500-250,300 tons in 2016.

The report calls for the passage of PV-specific waste regulations, among other measures. Some of that has already occurred. For example, [Europe has adopted](#) laws forcing solar panel producers to finance the collection and recycling of their products.

In 2011, Washington state [became the first state](#) to pass a bill establishing an [extended producer responsibility \(EPR\) program for solar panels](#). Starting in July 2021, the law will require manufacturers to fund collection and recycling of the panels.

In California, the Department of Resources Recycling and Recovery (CalRecycle) [has considered](#) taking solar panels to its electronics recycling program. The department is [awaiting state legislative action](#) to draft a paper, expected to be released this year, on end-of-life management of PV panels.

In the meantime, the California Department of Toxic Substances Control (DTSC) late last year [announced regulations](#) (which were based on 1015 legislation) classifying PV modules as a universal waste, not a hazardous waste, having regulatory burdens associated with collecting and shipping them. That being said, the panels are still considered hazardous if testing shows they exceed hazardous metals concentration limits in California. If federal law and [universal waste handlers](#) are required to do that testing when they discard the panels.

McGuire of Echo said he'd like to see regulations lead utilities to build the cost of recycling into their solar projects. Echo receives a lot of broken or defective panels from manufacturers, but he has yet to see a million pounds come in from a solar farm decommissioning/replacement project, he noted.

"I think it's very counterintuitive to the entire mission of solar if that stuff ends up in a landfill," he said.

Set to be integrated into R2

Meanwhile, SERI has begun a process to add solar panels to the R2 recycling standard, a step that would provide clear guidelines and requirements for e-scrap companies looking to handle the material.

After the newest version of the standard, [R2V3 was finalized in 2020](#), SERI formed a workgroup of solar industry stakeholders to look at the issue. Among the 24 members of that workgroup were Dwight Clark of We Recycle Solar and Echo Environmental's McGuire, who helped lead the group.

That workgroup met for six months before presenting its conclusions to SERI's R2 Technical Advisory Committee (TAC), which on May 19 [agreed to begin the process](#) of drafting language to make sure the new R2 standard also encompasses solar panels and fixtures.

Cory Dehney, SERI's executive director, noted that R2V3's new structure allows for the addition of appendices for specific materials. A new solar panels appendix would be mandatory for R2-certified companies taking in PV panels, he said.

"Adding PV modules would be giving the world a way to recognize processors that are handling them in an environmentally sound manner," Dehney said in an interview. "Processors are going to tell you they're handling them right, now or you know?"

Dehney noted that the NFPA457-2019 [standard](#) has been created to cover the life cycle of PV modules and that the Global Electronics Council has adopted that standard for its ePEAT listed products. But there isn't a standard focused specifically on end-of-life recycling.

McGuire said the adding PV modules to R2 would help ensure certified facilities don't solar panels – or residuals from them – to proper downstream.

Shegarian was also supportive. ERI's facilities are certified to both R2 and e-Stewards, another electronics recycling standard widely used in North America.

"It's always helpful when more certifications come in and help put guardrails around what really is the worst responsible is," he said.

This story has been corrected and updated. The story previously said the 2021 solar panel tax credit for homeowners was 20%, but legislation signed into law in December 2020 changed that credit to 26% for 2021. The story text and related link have been corrected and updated.

A version of this story appeared in ESource News on May 13.



Commerce Drive Solar: Project Decommissioning

Below is an example bond/surety/Letter of Credit Luminia uses

DRAFT LC V.2
DRAFTDRAFT**DRAFT**DRAFT**DRAFT**DRAFT**DRAFT**DRAFT**

LETTER OF CREDIT NO. [INSERT LETTER OF CREDIT NUMBER]

ISSUER:
[]

BENEFICIARY:
[]
[]
[]

APPLICANT:
[]
[]
[]

LETTER OF CREDIT NO: [INSERT LETTER OF CREDIT NUMBER]
ISSUE DATE: [INSERT ISSUE DATE]
EXPIRATION DATE: [INSERT DATE ONE YEAR AFTER ISSUE DATE]
EXPIRATION PLACE: AT OUR COUNTERS
AMOUNT: []

RE: DECOMMISSIONING OF ____ MW SOLAR ELECTRIC GENERATION FACILITY LOCATED
IN _____, NH ("PROJECT")

ISSUER HEREBY ISSUES IN FAVOR OF BENEFICIARY THIS IRREVOCABLE STANDBY
LETTER OF CREDIT ("STANDBY") IN THE MAXIMUM AGGREGATE AMOUNT OF
\$ _____ WHICH IS AVAILABLE BY PRESENTATION OF THE FOLLOWING DOCUMENT:

BENEFICIARY'S SIGNED AND DATED STATEMENT ADDRESSED TO THE ISSUER AND
READING AS FOLLOWS: "[] HAS FAILED TO PERFORM DECOMMISSIONING
AND SITE RESTORATION ACTIVITIES AS AGREED IN THE DECOMMISSIONING PLAN
DATED []"

PARTIAL DRAWINGS ARE ALLOWED.
MULTIPLE DRAWINGS ARE ALLOWED.

THE EXPIRATION DATE OF THIS STANDBY SHALL BE AUTOMATICALLY EXTENDED FOR
ADDITIONAL PERIODS OF ONE YEAR UNLESS ISSUER SENDS NOTICE TO BENEFICIARY
AT THE ABOVE-STATED ADDRESS BY CERTIFIED MAIL, COURIER, OR OTHER RECEIPTED
MEANS OF DELIVERY AT LEAST SIXTY (60) DAYS PRIOR TO THE THEN-CURRENT
EXPIRATION DATE THAT ISSUER ELECTS NOT TO EXTEND THE EXPIRATION DATE OF
THIS STANDBY.

ISSUER ENGAGES WITH BENEFICIARY THAT DOCUMENTS PRESENTED UNDER AND IN
COMPLIANCE WITH THE TERMS OF THIS STANDBY WILL BE HONORED IF PRESENTED
DURING BUSINESS HOURS ON OR BEFORE THE EXPIRATION DATE AT
[]. PAYMENT AGAINST A COMPLYING PRESENTATION SHALL BE MADE
WITH ISSUER'S OWN FUNDS AND BY WIRE TRANSFER TO A DULY REQUESTED ACCOUNT
OF THE BENEFICIARY.

IN THE EVENT THIS STANDBY IS NO LONGER REQUIRED, THIS ORIGINAL STANDBY AND
ALL ORIGINAL AMENDMENTS, IF ANY, MUST BE RETURNED TO ISSUER AT THE PLACE
FOR PRESENTATION TOGETHER WITH A SIGNED LETTER ON BENEFICIARY'S LETTERHEAD
ADDRESSED TO ISSUER EXPRESSLY AUTHORIZING CANCELLATION.

THIS STANDBY IS ISSUED SUBJECT TO THE INTERNATIONAL STANDBY PRACTICES 1998
("ISP98"), INTERNATIONAL CHAMBER OF COMMERCE PUBLICATION 590.

COMMUNICATIONS OTHER THAN DEMANDS MAY BE MADE TO ISSUER BY TELEPHONE
AT [] OR BY TELEFAX AT []. BENEFICIARY
REQUESTS FOR AMENDMENT OF THIS STANDBY, INCLUDING AMENDMENT TO REFLECT
A CHANGE IN THE BENEFICIARY'S ADDRESS, SHOULD BE MADE TO APPLICANT,
WHO MAY THEN REQUEST ISSUER TO ISSUE THE DESIRED AMENDMENT.

AUTHORIZED SIGNATURE _____ AUTHORIZED SIGNATURE _____

Applicant approves this draft LC: _____
(initials)

Applicant approves this draft LC: _____
(initials)

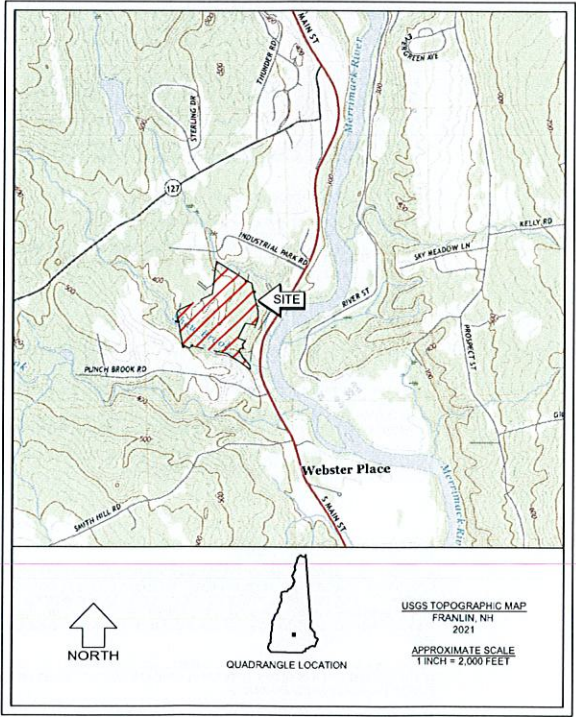
COMMERCE DRIVE SOLAR LLC.

COMMERCE DRIVE FRANKLIN, NH

SITE ENGINEER
NOBIS GROUP. - CONCORD, NH

SURVEYOR
RICHARD D. BARTLETT & ASSOCIATES - CONCORD, NH

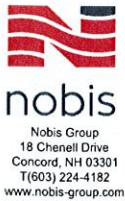
WETLAND SCIENTIST & SOIL EVALUATOR
STONE RIDGE ENVIRONMENTAL - ALTON, NH



SHEET INDEX

I.D.	NO.	DRAWING NAME
CS		COVER SHEET
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MAY 1, 2024



Nobis Group
18 Chenell Drive
Concord, NH 03301
T(603) 224-4182
www.nobis-group.com

LEGEND

EXISTING	PROPOSED	SUBJECT PROPERTY LINE
---	---	OTHER PROPERTY LINE
---	---	SETBACKS
---	---	EASEMENT
---	---	STONE WALL
---	---	RETAINING WALL
---	---	EDGE OF WETLAND
---	---	STREAM / RIVER
---	---	TREE LINE
---	---	CHAIN LINK FENCE
---	---	GUARD RAIL (STEEL)
---	---	GUARD RAIL (WOOD)
---	---	CENTERLINE
---	---	EDGE OF GRAVEL
---	---	EDGE OF PAVEMENT
---	---	MAJOR CONTOUR
---	---	MINOR CONTOUR
---	---	DRAIN LINE
---	---	UD UNDER DRAIN
---	---	SWALE FLOW DIRECTION
---	---	SILT FENCE / WADDE
---	---	OHW OVERHEAD UTILITY WIRE
---	---	UGE UNDERGROUND ELECTRIC
---	---	UNDERGROUND TELECOM
---	---	ZONING BOUNDARY LINE

EXISTING	PROPOSED	DRAIN MANHOLE
---	---	CATCH BASIN
---	---	UTILITY POLE
---	---	PAD MOUNTED TRANSFORMER
---	---	SPOT GRADE
---	---	CURB SPOT GRADE
---	---	SIGN POST
---	---	TREE
---	---	CONCRETE
---	---	GRAVEL
---	---	RIP RAP
---	---	WETLAND
---	---	WETLAND IMPACT
---	---	FLOW DIRECTION
---	---	STONE CHECK DAM
---	---	INLET PROTECTION
---	---	SLOPE & DIRECTION
---	---	TEST PIT LOCATION
---	---	BORING LOCATION

GENERAL NOTES:

- EXISTING CONDITIONS, TOPOGRAPHICAL INFORMATION, NORTH ORIENTATION, NORTH ARROW, AND COORDINATE VALUES DEPICTED ON THESE DRAWINGS ARE BASED ON PLANS TITLED "EXISTING CONDITIONS PLAT OF LAND OF FRANKLIN COMMONS REALTY GROUP, LLC", DATED DECEMBER 4, 2024, PROVIDED TO NOBIS GROUP BY RICHARD D. BARTLETT & ASSOCIATES LLC.
- THESE DRAWINGS AND ACCOMPANYING TEXT HAVE BEEN PREPARED FOR COMMERCE DRIVE SOLAR, LLC, FOR REVIEW BY THE CITY OF FRANKLIN PLANNING BOARD, CODE ENFORCEMENT, GENERAL SERVICES, POLICE, AND FIRE DEPARTMENTS.
- THESE DRAWINGS SHOULD BE REVIEWED IN CONJUNCTION WITH THE ACCOMPANYING DESIGN REPORT TITLED "STORMWATER MANAGEMENT REPORT FOR COMMERCE DRIVE SOLAR, PERKINS HILL ROAD, FRANKLIN, NH" DATED MAY 15, 2024, PREPARED BY NOBIS GROUP.
- THE CONTRACTOR SHALL OBTAIN COVERAGE UNDER EPA NPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FOR CONSTRUCTION ACTIVITIES PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND IMPLEMENTING AN ENVIRONMENTAL PROTECTION AGENCY (EPA) STORM WATER POLLUTION PREVENTION PLAN PRIOR TO THE START OF CONSTRUCTION AND DURING CONSTRUCTION ON-SITE IN ACCORDANCE WITH THE EPA REGULATIONS UNDER THE CLEAN WATER ACT.
- THE PROJECT SHALL BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430.53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
- WILDLIFE-FRIENDLY EROSION CONTROL MESH, IF NEEDED, SHALL BE ECOMATting EM-400.
- ALL SOLAR ARRAY PANELS WILL BE INSTALLED IN ACCORDANCE WITH SECTION ENV-WQ 1511 OF THE NHDES ALTERATION OF TERRAIN REGULATIONS. PANELS WILL BE INSTALLED TO PROMOTE SHEET FLOW. THE AREA BENEATH THE DRIP EDGE OF ALL PANELS WILL BE MONITORED DURING CONSTRUCTION ACTIVITIES. SIGNS OF EROSION WILL BE ADDRESSED IMMEDIATELY WITH THE PLACEMENT OF STONE, COMPOST MULCH, WOOD CHIPS OR EROSION CONTROL MATTING, AS DETAILED IN THESE SITE PLAN DRAWINGS.
- IN ACCORDANCE WITH RSA 485-A:17, TERRAIN ALTERATION, THIS SOLAR ENERGY PROJECT WILL REQUIRE AN ALTERATION OF TERRAIN PERMIT APPROVAL FROM THE NHDES. THE CITY OF FRANKLIN WILL RECEIVE COPIES OF THE AOT PERMIT APPLICATION AND SITE PLAN DRAWINGS FOR REVIEW AND COMMENT. CONSTRUCTION WILL COMMENCE ONLY AFTER RECEIVING FINAL APPROVAL FROM BOTH NHDES AND CITY OF FRANKLIN PLANNING BOARD.

WILDLIFE PROTECTION NOTES:

- ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHALL BE REPORTED IMMEDIATELY TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2451 AND BY EMAIL AT NHFGREVIEW@WILDLIFE.NH.GOV. EMAIL SUBJECT LINE [NH23-2579, COMMERCE DRIVE SOLAR, WILDLIFE SPECIES OBSERVATION](#).
- PHOTOGRAPHS OF THE OBSERVED SPECIES AND NEARBY ELEMENTS OF HABITAT OR AREAS OF LAND DISTURBANCE SHALL BE PROVIDED TO NHFG IN DIGITAL FORMAT AT THE ABOVE EMAIL ADDRESS FOR VERIFICATION AS FEASIBLE.
- IN THE EVENT A THREATENED OR ENDANGERED SPECIES IS OBSERVED ON THE PROJECT SITE DURING THE TERM OF THE PERMIT, THE SPECIES SHALL NOT BE DISTURBED, HANDLED, OR HARMED IN ANY WAY PRIOR TO CONSULTATION WITH NHFG AND IMPLEMENTATION OF CORRECTIVE ACTIONS RECOMMENDED BY NHFG, IF ANY, TO ASSURE THE PROJECT DOES NOT APPRECIABLY JEOPARDIZE THE CONTINUED EXISTENCE OF THREATENED AND ENDANGERED SPECIES AS DEFINED IN FIS 1002.04.
- THE NHFG, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.

CONSTRUCTION SEQUENCE:

- LAND SURVEYOR WILL CLEARLY IDENTIFY AND FLAG PROPOSED LIMITS OF CLEARING PRIOR TO COMMENCING CLEARING ACTIVITIES ON SITE.
- CONSTRUCT TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO ANY EARTH MOVING OPERATIONS. INSPECT EROSION AND SEDIMENT CONTROL MEASURES WEEKLY AND WITHIN 24 HOURS OF ANY SIGNIFICANT RAINFALL EVENT (1/2" OF RAIN OR MORE). PERFORM ANY NEEDED MAINTENANCE AND STABILIZATION AS NEEDED.
- DISTURBANCES OF AREAS SHALL BE MINIMIZED. TEMPORARY STABILIZATION SHALL BE APPLIED WITHIN 72 HOURS OR PRIOR TO A RAIN EVENT OF 0.5" WITHIN A 24-HOUR PERIOD, WHICHEVER IS SOONER. ALL AREAS SHALL BE STABILIZED WITH SEED MULCH AND TACKIFIER WITHIN 72 HOURS OF ACHIEVING FINAL GRADE AND PRIOR TO THE END OF THE GROWING SEASON. MULCH/TACKIFIER SHALL BE MAINTAINED IN ACCORDANCE WITH ENV-WQ 1506.01 THROUGHOUT ALL CONSTRUCTION PHASES. THE LENGTH OF EXPOSURE OF UNSTABILIZED SOIL SHALL BE LIMITED TO 45 DAYS OR LESS.
- PLACE, GRADE, AND STABILIZE DISTURBED AREAS WITH TEMPORARY SEEDING AND MULCHING. SEED AND MULCH MUST BE APPLIED UPON FINAL GRADING AND REMAIN IN PLACE DURING INSTALLATIONS OF VERTICAL SUPPORTS AND ARRAYS.
- PERFORM CLEARING TO LIMITS SHOWN ON SITE PLAN.
- GRUB AREAS FOR ROAD AND STORMWATER/SEDIMENT PONDS.
- CONSTRUCT GRAVEL ROAD, STORMWATER CONVEYANCE SWALE, AND STORMWATER/SEDIMENT PONDS. STABILIZE ROAD WITH GRAVEL AND CONVEYANCE SWALE(S) AND STORMWATER/SEDIMENT PONDS WITH HYDROSEED AND EROSION CONTROL MATTING.
- GRUB REMAINING AREAS.
- STABILIZE SOLAR ARRAY AREA WITH SEED AND HAY MULCH.
- CONDUCT UNDERGROUND UTILITY CONDUIT INSTALLATIONS, BACKFILL AND COMPACT.
- INSTALL SOLAR ARRAY FOUNDATIONS, VERTICAL SUPPORTS, RACKING SYSTEMS, PHOTOVOLTAIC ARRAYS AND ELECTRICAL COMPONENTS ACCORDING TO THE SITE PLAN AND ASSOCIATED DETAILS.
- ALL CUT AND FILL SLOPES SHALL BE STABILIZED, LOAMED, SEEDED, AND MULCHED. STABILIZE REMAINING DISTURBED AREAS WITH SEED AND MULCH. TOUCH-UP AREAS DISTURBED BY SOLAR ARRAY INSTALLATION ACTIVITIES.
- REMOVE TEMPORARY EROSION CONTROL MEASURES AND PROPERLY DISPOSE OF FOLLOWING CONSTRUCTION AND ONCE FULL GROUND COVER HAS BEEN ESTABLISHED.

WINTER CONSTRUCTION NOTES:

ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE ELSEWHERE. MULCH REMAINING IN THE SPRING SHALL BE REMOVED AND REPLACED AT RATE OF 2 TONS PER ACRE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND TACKIFIER SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND.

ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.

AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3 OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON, BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.

PROJECT AREA TABULATION						
	TOTAL PROJECT AREA	AREA OF CLEARING	AREA OF CLEARING WITH NO GRUBBING	AREA OF STORMWATER POND(S) & ROAD	TOTAL AREA OF SITE GRADING	AREA OF SOLAR ARRAY
MAP 32 LOT 34	13.6 ACRES	13.5 ACRES	0.0 ACRES	1.3 ACRES	3.9 ACRES	6.1 ACRES

ENVIRONMENTAL MONITORING:

AN ENVIRONMENTAL MONITOR SHALL BE EMPLOYED DURING CONSTRUCTION.

THE ENVIRONMENTAL MONITOR SHALL:

- INSPECT THE PROJECT SITE AT LEAST ONCE EACH WEEK FROM THE START OF TERRAIN ALTERATION ACTIVITIES UNTIL ALL TERRAIN ALTERATION ACTIVITIES ARE COMPLETED AND THE SITE IS STABILIZED.
- IN ADDITION TO REGULAR WEEKLY INSPECTIONS, INSPECT THE PROJECT SITE DURING ANY RAIN EVENT IN WHICH 0.5 INCH OF PRECIPITATION OR MORE FALLS WITHIN A 24 HOUR PERIOD, PROVIDED THAT IF THE ENVIRONMENTAL MONITOR IS UNABLE TO BE PRESENT DURING SUCH A STORM, THE MONITOR SHALL INSPECT THE SITE WITHIN 24 HOURS OF THE RAIN EVENT.
- SUBMIT A WRITTEN REPORT, STAMPED BY A QUALIFIED ENGINEER OR A CPESC SPECIALIST, TO THE NHDES WITHIN 24 HOURS OF EACH INSPECTION THAT:
 - DESCRIBES THE PROGRESS OF THE PROJECT, INCLUDING WHETHER ALL CONDITIONS OF THE PERMIT ARE BEING MET AND, IF NOT, WHICH REQUIREMENTS ARE NOT BEING MET;
 - IF ANY REQUIREMENTS ARE NOT BEING MET, AN EXPLANATION OF THE CORRECTIVE ACTION(S) THAT WILL BE OR ARE BEING TAKEN TO BRING THE PROJECT INTO COMPLIANCE WITH APPLICABLE REQUIREMENTS AND THE DEADLINE BY WHICH SUCH ACTIONS WILL BE COMPLETED; AND
 - INCLUDES PHOTOGRAPHS OF THE SITE THAT ARE REPRESENTATIVE OF THE PROJECT, AND
- RETAIN A COPY OF THE REPORT PREPARED PURSUANT TO (3), ABOVE, ON-SITE FOR REVIEW DURING SITE INSPECTIONS BY FEDERAL, STATE, AND LOCAL OFFICIALS.

ROUTINE INSPECTION FREQUENCY MAY BE REDUCED FROM ONCE EACH WEEK TO AT LEAST ONCE EACH MONTH IF EITHER OF THE FOLLOWING CONDITIONS IS MET:

- WORK HAS BEEN SUSPENDED AND THE ENTIRE SITE IS STABILIZED IN ACCORDANCE WITH ENV-WQ 1505.04, OR
- RUNOFF IS UNLIKELY BECAUSE:
 - THE GROUND IS FROZEN OR THE SITE IS COVERED WITH SNOW OR ICE, AND
 - THE PROJECT IS IN AN AREA WHERE FROZEN CONDITIONS ARE ANTICIPATED TO CONTINUE FOR MORE THAN ONE MONTH.

EROSION CONTROL NOTES:

PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS. AS SHOWN ON SHEET C-4, TWO ROWS OF SILT FENCE SHALL BE PROVIDED WHEN INSTALLATION OCCURS ADJACENT TO WETLANDS.

ALL SWALES & PONDS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF INTO THEM.

WELDED PLASTICS OR "BIODEGRADABLE PLASTIC" NETTING OR THREAD (E.G. POLYPROPYLENE) IS PROHIBITED IN EROSION CONTROL MATTING AT THE SITE. CONTRACTOR SHALL UTILIZE EROSION CONTROL BERMS, WHITE FILTREXX DEGRADABLE WOVEN SILT SOCK AND "WILDLIFE FRIENDLY" OPTIONS SUCH AS ECO DEPOT'S ECOMATting 400 (EM-400) OR NH FISH AND GAME APPROVED EQUAL FOR EROSION CONTROL MATERIALS.

SCHEDULE OF WORK:

THIS WORK IS ANTICIPATED TO BEGIN IN SPRING 2025 WITH A FINAL COMPLETION DATE IN FALL 2025. NO WINTER EARTH DISTURBANCE IS EXPECTED FOR THIS PROJECT. SHOULD WINTER WORK BE REQUIRED, THIS PLAN AND THE ACCOMPANYING STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE MODIFIED ACCORDINGLY.

ADEQUATE MEASURES SHOULD BE TAKEN TO MINIMIZE AIR BORNE DUST PARTICLES ARISING FROM SOIL DISTURBANCE AND CONSTRUCTION.

- *DISTURBANCE OF AREAS SHALL BE MINIMIZED, ENSURING THAT ALL NHDES STORMWATER CRITERIA ARE INCORPORATED, INCLUDING PERIMETER EROSION CONTROLS AND STABILIZED STORMWATER DETENTION PONDS. IN ADDITION, THE CONSTRUCTION SEQUENCE WILL BE FOLLOWED AS DESCRIBED IN THESE SITE PLAN DRAWINGS.
- *EROSION CONTROL FEATURES SHALL BE INCORPORATED INTO THE PROJECT PRIOR TO ANY OTHER DISTURBANCE OR CONSTRUCTION.
- *TEMPORARY STABILIZATION SHALL BE APPLIED WITHIN 72 HOURS OF OBTAINING FINISH GRADE, OR PRIOR TO A RAIN EVENT OF 0.25" WITHIN A 24-HOUR PERIOD, WHICHEVER IS SOONER.
- *FOR TEMPORARY STABILIZATION, APPLY HAY/STRAW MULCH AND TACKIFIER ON ALL DISTURBED SOIL AREAS. APPLICATION RATES OF 2 TONS OF STRAW OR HAY PER ACRE SHALL BE USED TO PREVENT EROSION UNTIL VEGETATIVE COVER CAN BE ESTABLISHED. ALTERNATIVELY, APPLY WOOD CHIPS OR GROUND BARK MULCH 2 TO 6 INCHES DEEP AT A RATE OF 10 TO 20 TONS PER ACRE.
- *ALL AREAS SHALL BE STABILIZED WITH SEED MULCH AND TACKIFIER WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE AND PRIOR TO THE END OF THE GROWING SEASON.
- *WHEN EROSION IS LIKELY TO BE A PROBLEM, GRUBBING OPERATION SHALL BE SCHEDULED AND PERFORMED SUCH THAT GRADING OPERATION AND PERMANENT EROSION CONTROL FEATURES CAN FOLLOW IMMEDIATELY THEREAFTER.
- *AS WORK PROGRESSES, PATCH SEEDING AND MULCHING SHALL BE DONE AS REQUIRED ON AREAS PREVIOUSLY TREATED TO MAINTAIN OR ESTABLISH PROTECTIVE COVER.
- *WHEN SEDIMENT CONTAINMENT DEVICES REACH 33% CAPACITY, ALL ACCUMULATED SEDIMENTS AND DEBRIS MUST BE REMOVED TO RESTORE THE BASIN TO ITS DESIGN CONFIGURATION.

EROSION CONTROL IMPLEMENTATION SCHEDULE:

THE FOLLOWING GENERAL SCHEDULE IDENTIFIES THE PROPOSED SOIL EROSION AND SEDIMENT CONTROL AND STORM WATER MANAGEMENT MEASURES THAT ARE TO BE IMPLEMENTED PRIOR TO AND DURING CONSTRUCTION:

- *PERFORM LIMITED GRUBBING, STRIPPING AND SITE GRADING ONLY AS NEEDED TO COMPLETE IMMEDIATE WORK GOALS.
- *BLOCK STORM WATER FLOW AS NECESSARY TO INSTALL ALL STORM WATER STRUCTURES IN THE DRY.
- *INSTALL PERMANENT STORM DRAIN SYSTEM.
- *INSTALL TEMPORARY SOIL STABILIZATION MEASURE INCLUDING SEED, MULCH, FERTILIZER, MATTING, ETC.
- *REDIRECT FLOWS INTO FINISHED STRUCTURES PRIOR TO FILL OPERATIONS.
- *PLACE HUMUS AND CONDUCT PERMANENT SEEDING AND MULCHING OF ALL DISTURBED GROUND. SEED AND MULCH MUST BE APPLIED UPON FINAL GRADING AND REMAIN IN PLACE DURING INSTALLATIONS OF VERTICAL SUPPORTS AND ARRAYS.

TEMPORARY STABILIZATION:

EROSION CONTROL MEASURES SHALL BE IMPLEMENTED, AS WRITTEN HEREIN AND AS DEPICTED ON THE ACCOMPANYING PLAN, FROM THE COMMENCEMENT OF CONSTRUCTION ACTIVITY UNTIL FINAL STABILIZATION IS COMPLETE.

TEMPORARY STABILIZATION MEASURES MUST REMAIN IN PLACE THROUGH ALL CONSTRUCTION PHASES, UNTIL THE SITE IS PERMANENTLY STABILIZED.

TEMPORARY GRADING: TEMPORARY GRADING DURING CONSTRUCTION SHOULD BE PERFORMED IN SUCH A MANNER TO FACILITATE MAXIMUM INFILTRATION OF STORMWATER AND MINIMIZE OR ELIMINATE STORMWATER RUNOFF FROM THE SITE.

MULCH: MULCHING WITH LOOSE HAY OR STRAW, AT A RATE OF 2 TONS PER ACRE, SHALL BE DONE IMMEDIATELY AFTER EACH AREA HAS BEEN FINAL GRADED. WHEN SEED FOR EROSION CONTROL IS SOWN PRIOR TO PLACING THE MULCH, THE MULCH SHOULD BE PLACED ON THE SEEDED AREAS WITHIN 72 HOURS AFTER SEEDING.

TACKIFIER: PLACEMENT OF SOIL TACKIFIER HAS PROVEN TO BE AN EFFECTIVE METHOD OF PREVENTING SOIL AND ADHERING MULCH IN PLACE. THE PLACEMENT OF A SOIL TACKIFIER SHOULD BE PERFORMED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND SHOULD BE REAPPLIED AS NECESSARY TO CONTROL AIR BORN DUST AND SOIL, AND MULCH LOSS UNTIL PERMANENT VEGETATION IS ESTABLISHED.

ROAD CLEANING: THE CONTRACTOR SHALL SWEEP ROADS DAILY, OR AS NEEDED TO MAINTAIN CLEAN PAVED SURFACES AT ALL CONSTRUCTION ACCESS/EGRESS POINTS.

DUST CONTROL: THE CONTRACTOR SHALL IMPLEMENT DUST CONTROL MEASURES AS NEEDED TO PREVENT AIRBORNE DUST PARTICLES FROM LEAVING THE SITE. DUST CONTROL MEASURES SHALL CONSIST OF USE OF A WATER TRUCK EQUIPPED WITH A SPRAY-BAR THAT DISSIPATES THE WATER EVENLY OVER THE SURFACE.

PERMANENT STABILIZATION: GRASS, TREES, SHRUBS AND MULCHED PLANTING BEDS WILL BE CONSTRUCTED AND MAINTAINED IN LOCATIONS AS SHOWN ON THE DRAWINGS TO STABILIZE AREAS NOT WITHIN THE PARKING LOT BUILDING FOOTPRINT. THE CONTRACTOR WILL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL FOR ONE YEAR AFTER COMPLETION.

AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:

- BASE COARSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
- A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
- A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED;
- EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

ALL ROADWAYS/PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

STORMWATER DETENTION PONDS:

- *DO NOT TRAFFIC EXPOSED SOIL SURFACES WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE DETENTION POND.
- *AFTER THE DETENTION PONDS ARE EXCAVATED TO FINAL DESIGN ELEVATION, THE FLOOR SHOULD BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE THE ORIGINAL INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.
- *DO NOT PLACE DETENTION PONDS INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED AS DESCRIBED IN THESE NOTES.

EXCAVATION DEWATERING:

SHOULD EXCAVATION DEWATERING BE REQUIRED, THE CONTRACTOR MUST INSURE THAT ANY EXCAVATION DEWATERING DISCHARGES ARE NOT CONTAMINATED. NOTE: THE WATER IS CONSIDERED UNCONTAMINATED IF THERE IS NO GROUNDWATER CONTAMINATION WITHIN 1,000 FEET OF THE DISCHARGE.

THE CONTRACTOR MUST TREAT ANY UNCONTAMINATED EXCAVATION DEWATERING AS NECESSARY TO REMOVE SUSPENDED SOLIDS AND TURBIDITY DURING CONSTRUCTION. THE DISCHARGES MUST BE SAMPLED AT A LOCATION PRIOR TO MIXING WITH STORM WATER OR STREAM FLOW AT LEAST ONCE PER WEEK DURING WEEKS WHEN DISCHARGES OCCUR. THE SAMPLES MUST BE ANALYZED FOR TOTAL SUSPENDED SOLIDS (TSS) AND MUST MEET MONTHLY AVERAGE AND MAXIMUM DAILY TSS LIMITATIONS OF 50 MILLIGRAMS PER LITER (MG/L), RESPECTIVELY.

STORMWATER POLLUTION PREVENTION PLAN:

THE PROJECT IS SUBJECT TO THE REQUIREMENTS OF THE USEPA NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION PERMIT, WHICH INCLUDES A WRITTEN STORM WATER POLLUTION PREVENTION (SWPPP) PLAN FOR CONSTRUCTION. THE SWPPP PLAN SHALL OUTLINE DETAILED SPECIFICATIONS FOR IMPLEMENTATION, INSPECTION, AND MAINTENANCE OF ALL EROSION CONTROL MEASURES. THE CONTRACTOR HAS SOLE RESPONSIBILITY FOR COMPLIANCE WITH THE EROSION AND SEDIMENT CONTROL PLAN, SHALL BE RESPONSIBLE FOR AMENDING THE SWPPP ACCORDINGLY, AND SHALL BE RESPONSIBLE FOR ANY PENALTIES RESULTING FROM LACK OF COMPLIANCE.

SPECIFICATIONS FOR TEMPORARY AND PERMANENT SEEDING:

GRASS SEED MIXES SHALL CONSIST OF THE MIXTURES AS DETAILED IN THE FOLLOWING TABLES, WITH 98% PURITY:

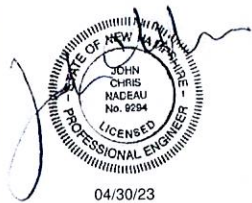
EROSION CONTROL SEED MIX		
SEED	BY % MASS	% GERMINATION (MIN.)
WINTER RYE 80 (MIN.)	80 (MIN.)	85
RED FESCUE (CREEPING) 4 (MIN.)	4 (MIN.)	80
PERENNIAL RYE GRASS 3 (MIN.)	3 (MIN.)	90
RED CLOVER 3 (MIN.)	3 (MIN.)	90
OTHER CROP GRASS 0.5 (MAX.)	0.5 (MAX.)	
NOXIOUS WEED SEED 0.5 (MAX.)	0.5 (MAX.)	
INERT MATTER 1.0 (MAX.)	1.0 (MAX.)	

PERMANENT SEED MIX		
SEED	BY % MASS	% GERMINATION (MIN.)
RED FESCUE (CREEPING) 50	50	85
KENTUCKY BLUE 25	25	85
PERENNIAL RYE GRASS 10	10	90
RED TOP 10	10	85
LANDINO CLOVER 5	5	85



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04/30/23

NOT ISSUED
FOR
CONSTRUCTION

COMMERCE DRIVE
SOLAR, LLC

SOUTH MAIN STREET
FRANKLIN, NH 03235

TAX MAP:
MAP 102 / LOT 009

OWNER(S):
FRANKLIN COMMONS
REALTY GROUP, LLC
70 INDUSTRIAL PARK DRIVE, SUITE 7
FRANKLIN, NH 03235

APPLICANT:
COMMERCE DRIVE SOLAR, LLC
C/O LUMINIA
4445 EASTGATE MALL ROAD, SUITE 200
SAN DIEGO, CA 92121

NO.	DATE	DESCRIPTION

REVISIONS

SCALE:
AS NOTED

DATE: MAY 2024

NOBIS PROJECT NO. 100704.000

DRAWN BY: GS

CHECKED BY: JCN

CAD DRAWING FILE:

100704-000-G-1-NOTES & LEGEND.dwg

SHEET TITLE

GENERAL
NOTES AND
LEGEND

SHEET

G-1

MATCH TO SHEET 2



LEGEND	
	PROPERTY LINE
	EDGE OF PAVEMENT
	EDGE OF GRAVEL
	OVERHEAD UTILITY LINES
	DRAINAGE LINE
	SEWER LINE
	GAS LINE
	TEL. LINE
	UNDERGROUND ELECT.
	DOUBLE YELLOW LINE
	SINGLE WHITE LINE
	VERTICAL OR SLOPED GRANITE CURB
	SHORE LINE
	CHAIN LINK FENCE
	STOCKADE FENCE
	STONE WALL
	EDGE OF WOODS
	CONIFEROUS TREE
	SHRUB
	DECIDUOUS TREE
	ARTESIAN WELL
	IRON PIPE OR REBAR
	GRANITE OR CONCRETE BOUND (GB OR CB)
	UTILITY POLE
	LIGHT POLE
	SEWER MANHOLE
	DRAIN MANHOLE
	CATCH BASIN
	HYDRANT
	WATER SHUTOFF
	WATER VALVE
	IRRIGATION CONTROL VALVE
	GAS SHUTOFF

NOTES

- Survey by total station between the dates of November 5, and December 3, 2018. Control Traverse error of closure 1:13,987. Additional survey conducted September 20 through December 1, 2023 having an error if closure of 1:24,945'.
- Horizontal datum is based on New Hampshire State Plane Coordinate System NAD 83.
- Vertical datum is based on NAVD 88.
- Owner of record: Franklin Commons Realty Group, LLC 70 Industrial Park Drive—Unit 7 Franklin, NH 03235 Map 102, Lot 402, Book 3444, Page 750 and Map 102, Lot 9, Book 3623 Page 1516.
- The subject premises are within the R2—High Density Residential zoning district. Minimum lot size for lots with off site city sewer or water = 15,000 sq. ft., Minimum frontage = 100', Building setbacks: front=20'; side=15'; rear=15'.
- The underground utilities depicted hereon have been located from field survey information and plotted from existing drawings. The surveyor makes no guarantee that the underground utilities depicted comprise all such utilities in the area, either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although they are located as accurately as possible from the information available. The surveyor has not physically located the underground portion of the utilities. All contractors should notify, in writing, any utility company and appropriate governmental agencies prior to any excavation work and call DIG-SAFE at 1-888-344-7233.
- The intent of this plat is to depict existing conditions on Map 102, Lot 402 and Lot 9.
- The parcel is located within Zone "X" Areas of Minimal Flood Hazard as shown on the Flood Insurance Rate Map for Franklin, NH map no. 33013C0166E effective date April 19, 2010.
- Topographic data on Lot 402 provided by Eastern Topographics November, 2018. Topographic data on Lot 9 is LIDAR based as processed and provided by Bryon L. Bailey Associates, Inc. Sept 18, 2023. Whereas, topography was generated by third parties from two different sources at two different times additional on-site topographic survey may be required in areas of overlapping data.

Map 103, Lot 408
GMI Acquisition, LLC
288 Laconia Road
Belmont, NH 03220
Book 3451, Page 1262

CERTIFICATIONS
I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED BY ME OR THOSE UNDER MY DIRECT IMMEDIATE SUPERVISION, AND DEPICTS A SURVEY CONDUCTED WITH A TOTAL STATION HAVING AN URBAN CLASSIFICATION AND A MINIMUM ERROR OF CLOSURE LESS THAN 1:10,000.

SIGNATURE LICENSE NO. DATE

NO.	DATE	REVISION

FOR: RICHARD D. BARTLETT & ASSOCIATES, LLC

RICHARD D. BARTLETT & ASSOCIATES, LLC
214 North State Street
Concord, N.H. 03301
Tel.: (603) 225-6770
info@richarddbartlett.com
www.richarddbartlett.com
LICENSED LAND SURVEYORS

EXISTING CONDITIONS PLAT
of land of
FRANKLIN COMMONS REALTY GROUP, LLC
PROJECT: COMMERCE WAY FRANKLIN, NH
LOCATION: MAP 102, LOTS 9 & 402
DATE: DEC. 4, 2023
JOB NO.: 623.179
SHEET 1 OF 6

GRAPHIC SCALE
0' 50' 100'
25'
SCALE: 1" = 50'

MATCH TO SHEET 6

MATCH TO SHEET 3



Map 101, Lot 401
Webster Valve, Inc.
c/o Watts Water Tech, Inc.
P.O. Box 4929
Portland, OR 97208
Book 2044, Page 431

Map 102, Lot 403
F.I.P. Expansion, LLC
c/o FBIDC
P.O. Box 174
Franklin, NH 03235
Book 3026, Page 1672

PSNH
Easement
Book 923,
Page 328

Map 102, Lot 402
FRANKLIN COMMONS REALTY
GROUP, LLC
P.O. Box 575
Tilton, NH, NH 03276
Book 3444, Page 750
Total Area 1,325,344± Sq. Ft.
or 30.43± Ac.

Map 82, Lot 409
Concord Regional Solid
Waste Resource Recovery
Cooperative
25 Rescue Road
P.O. Box 157
Franklin, NH 03235
Book 3569, Page 2356

CERTIFICATIONS
I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED BY ME OR THOSE
UNDER MY DIRECT IMMEDIATE SUPERVISION, AND DEPICTS A SURVEY
CONDUCTED WITH A TOTAL STATION HAVING AN URBAN CLASSIFICATION
AND A MINIMUM ERROR OF CLOSURE LESS THAN 1:10,000.

SIGNATURE _____ LICENSE NO. _____ DATE _____

MATCH TO SHEET 1

NO.	DATE	REVISION

FOR: RICHARD D. BARTLETT
& ASSOCIATES, LLC

**RICHARD D. BARTLETT
& ASSOCIATES, LLC**
214 North State Street
Concord, N.H. 03301
Tel.: (603) 225-6770
info@richarddbartlett.com
www.richarddbartlett.com
LICENSED LAND SURVEYORS

EXISTING CONDITIONS PLAT
of land of
**FRANKLIN COMMONS
REALTY GROUP, LLC**
PROJECT: COMMERCE WAY FRANKLIN, NH
LOCATION: MAP 102, LOT 402
GRAPHIC SCALE
0' 50' 100'
SCALE: 1" = 50'
DATE: DEC. 4, 2023
JOB NO.: 823.179
SHEET 2 OF 6

MATCH TO SHEET 5



Map 101, Lot 404
Performance Chemicals
Properties, LLC
PO Box 9
Franklin, NH 03235
Book 3384, Page 416

Map 101, Lot 9-03
Franklin Commons
Condominium Assoc.
70 Industrial Park Dr. Unit 6
c/o Stencil On-Line
F Mcallister
Franklin, NH 03235
Book 2786, Page 1510
Book 2867 Page 48

Map 102, Lot 403-03
F.I.P. Expansion, LLC
c/o FBIDC
PO Box 174
Franklin, NH 03235
Book 2685, Page 174

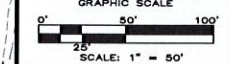
Map 102, Lot 403
F.I.P. Expansion, LLC
c/o FBIDC
PO Box 174
Franklin, NH 03235
Book 3026, Page 1672

SEE ACCESS EASEMENT
FOR ROAD EXPANSION
V. 3433 P. 2080

ACCESS AND
HIGHWAY EASEMENT
V. 3433 P. 931

EXISTING CONDITIONS PLAT
of land of
FRANKLIN COMMONS
REALTY GROUP, LLC

PROJECT: COMMERCE WAY FRANKLIN, NH
LOCATION: MAP 102, LOT 402



DATE: DEC. 4, 2023
JOB NO.: 823.179
SHEET 3 OF 6

CERTIFICATIONS
I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED BY ME OR THOSE
UNDER MY DIRECT IMMEDIATE SUPERVISION, AND DEPICTS A SURVEY
CONDUCTED WITH A TOTAL STATION HAVING AN URBAN CLASSIFICATION
AND A MINIMUM ERROR OF CLOSURE LESS THAN 1:10,000.

SIGNATURE _____ LICENSE NO. _____ DATE _____

RICHARD D. BARTLETT
& ASSOCIATES, LLC
214 North State Street
Concord, N.H. 03301
Tel.: (603) 226-8770

info@richarddbartlett.com
www.richarddbartlett.com

LICENSED LAND SURVEYORS

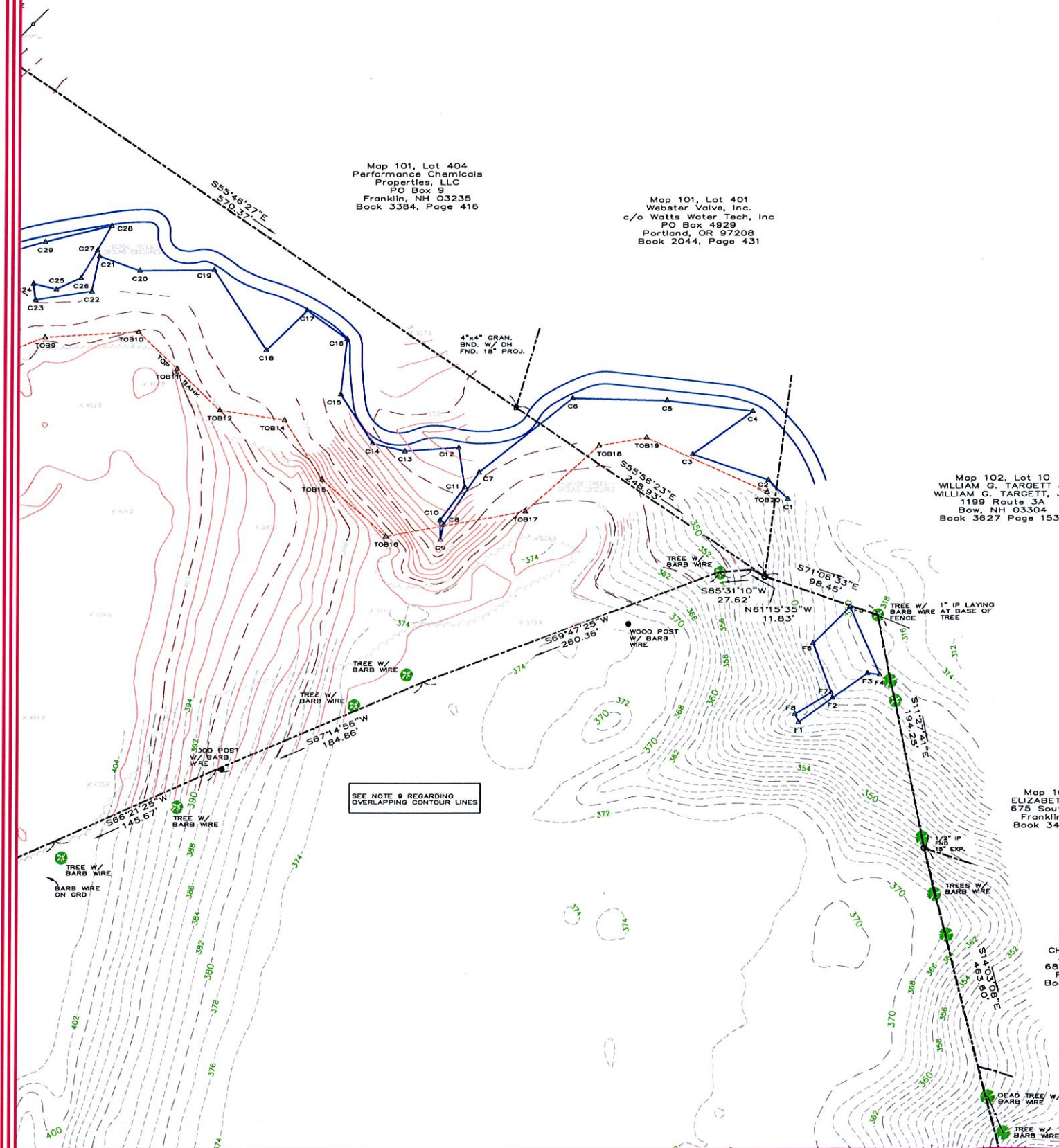
FOR: RICHARD D. BARTLETT
& ASSOCIATES, LLC

NO.	DATE	REVISION

MATCH TO SHEET 2

MATCH TO SHEET 4

MATCH TO SHEET 3



Map 101, Lot 404
Performance Chemicals
Properties, LLC
PO Box 9
Franklin, NH 03235
Book 3384, Page 416

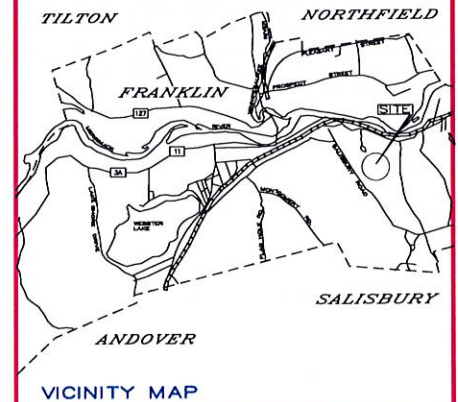
Map 101, Lot 401
Webster Valve, Inc.
c/o Watts Water Tech, Inc
PO Box 4929
Portland, OR 97208
Book 2044, Page 431

Map 102, Lot 10
WILLIAM G. TARGETT &
WILLIAM G. TARGETT, JR.
1199 Route 3A
Bow, NH 03304
Book 3627 Page 1539

Map 102, Lot 008
ELIZABETH ARSENAULT
875 South Main Street
Franklin, NH 03235
Book 3433, Page 939

Map 102, Lot 007
CHRISTOPHER HEBERT
JAMES KATSIKIDES
883 South Main Street
Franklin, NH 03235
Book 3569, Page 1245

SEE NOTE 9 REGARDING
OVERLAPPING CONTOUR LINES



CERTIFICATIONS
I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED BY ME OR THOSE
UNDER MY DIRECT IMMEDIATE SUPERVISION, AND DEPICTS A SURVEY
CONDUCTED WITH A TOTAL STATION HAVING AN URBAN CLASSIFICATION
AND A MINIMUM ERROR OF CLOSURE LESS THAN 1:10,000.

SIGNATURE _____ LICENSE NO. _____ DATE _____

NO.	DATE	REVISION

FOR: RICHARD D. BARTLETT
& ASSOCIATES, LLC



**RICHARD D. BARTLETT
& ASSOCIATES, LLC**
214 North State Street
Concord, N.H. 03301
Tel.: (603) 226-8770

info@richarddbartlett.com
www.richarddbartlett.com

LICENSED LAND SURVEYORS

**EXISTING CONDITIONS PLAT
of land of
FRANKLIN COMMONS
REALTY GROUP, LLC**

PROJECT : COMMERCE WAY FRANKLIN, NH
LOCATION : MAP 102, LOTS 9 & 402

GRAPHIC SCALE
0' 50' 100'
25'
SCALE: 1" = 50'
DATE: DEC. 4, 2023
JOB NO.: 823.179
SHEET 4 OF 6

MATCH TO SHEET 5

MATCH TO SHEET 4

MATCH TO SHEET 2

MATCH TO SHEET 3

Map 102, Lot 006
DENNIS L. DAVIS
705 South Main Street
Franklin, NH 03235
Book 3398, Page 832

BOUNDARY LINES IN THIS AREA
BASED ON EXISTING PHYSICAL
EVIDENCE AND FENCE LINES
CALLED FOR BY DEEDS. THERE IS
A LACK OF SUPPORTING EVIDENCE
AND DISCREPANCIES RELATED TO
PLAN REFERENCES 6 AND 7

Map 102, Lot 005
JOHN M. ALLARD
709 South Main Street
Franklin, NH 03235
Book 3718, Page 104

Map 102, Lot 004
PUBLIC SERVICE CO. OF NH
D/B/A EVERSOURCE ENERGY
PO Box 270
Hartford CT 06141
Book 924, Page 333

Map 102, Lot 003
MICHAEL ELKINS
735 South Main Street
Franklin, NH 03235
Book 3270, Page 278

Map 102, Lot 9
FRANKLIN COMMONS REALTY
GROUP, LLC
P.O. Box 575
Tilton, NH, NH 03276
Book 3632, Page 1516
Total Area:
1,051,974± Sq. Ft.
or 24.15± Ac.

SEE NOTE 9 REGARDING
OVERLAPPING CONTOUR LINES

BOUNDARY LINES AROUND MAP
102 LOT 003 BASED ON PAROL
EVIDENCE OBTAINED FROM
ABUTTING LAND OWNER MICHAEL
ELKINS - STEEL PINS HELD

150' PSNH Easement
Book 922, Page 491
(No Structures or
poles shown in
approximate location)

CERTIFICATIONS
I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED BY ME OR THOSE
UNDER MY DIRECT IMMEDIATE SUPERVISION, AND DEPICTS A SURVEY
CONDUCTED WITH A TOTAL STATION HAVING AN URBAN CLASSIFICATION
AND A MINIMUM ERROR OF CLOSURE LESS THAN 1:10,000.

SIGNATURE _____ LICENSE NO. _____ DATE _____

NO.	DATE	REVISION

FOR: RICHARD D. BARTLETT
& ASSOCIATES, LLC

**RICHARD D. BARTLETT
& ASSOCIATES, LLC**
214 North State Street
Concord, N.H. 03301
Tel.: (603) 226-6770
rdb@richarddbartlett.com
www.richarddbartlett.com
LICENSED LAND SURVEYORS

**EXISTING CONDITIONS PLAT
of land of
FRANKLIN COMMONS
REALTY GROUP, LLC**
PROJECT: COMMERCE WAY FRANKLIN, NH
LOCATION: MAP 102, LOTS 9 & 402
DATE: DEC. 4, 2023
JOB NO.: 823.179
SHEET 4 OF 6

GRAPHIC SCALE
0' 50' 100'
SCALE: 1" = 50'



MATCH TO SHEET 5



REFERENCES

1. Plat entitled "Boundary Survey for Polyclad Laminates, Inc." by Lepene, Knowlton & Darbyshire Assoc. Inc dated May 24, 1990 and recorded at the M.C.R.D. as plan no. 11997.
2. Plat entitled "Boundary Line Adjustment between Tax Map 082, Lot 408-00 Stanley S. Weglarz and Tax Map 102, Lot 403-00 F.I.P. Expansion, LLC" by Lepene Engineering & Surveying dated February 7, 2007 and recorded at the M.C.R.D. as plan no. 18442.
3. Plat entitled "Tax Map 82 Lot 401 & 409, Tax Map 83 Lot 9 & 10 Lot Consolidation & Resubdivision Plan land of Concord Regional Solid Waste Resource Recovery Cooperative" by T.F. Bernier, Inc. dated December, 2015 and recorded at the M.C.R.D. as plan no. 20160007331.
4. N.H. Highway Department plans project 13928A, sheet 42 of 160.
5. "ALTA/NSPS Land Title Survey of land of Franklin Commons Realty Group, LLC", dated July 17, 2019 by this office. (Unrecorded).
6. "Land of Roger & Norma Laro Proposed for Subdivision Route 3 Franklin, NH", dated Dec., 1969 by T.J. Soter, recorded at the MCRD as plan no. 2454.
7. "Land of Guy F. & Iane M. Laro Proposed for Subdivision Route U.S. Route 3 Franklin, NH", dated Feb. 1973 by T.J. Soter, recorded at the MCRD as plan no. 3282.

WETLAND NOTES

Jurisdictional Wetlands were delineated by Stoney Ridge Environmental LLC in October 2018 for Lot 402 and September 2023 for Lot 9 utilizing the following standards:

- 1) *Field Indicators of Hydric Soils in the United States*, Version 7.0. 2010. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.). United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with the National Technical Committee for Hydric Soils.
- 2) *Field Indicators for Identifying Hydric Soils in New England*, Version 3. April 2004. NEIWPCC Wetlands Workgroup. Wilmington, MA 01887.
- 3) *North American Digital Flora: National Wetland Plant List*, version 2.1.0 (<http://wetland.plants.usace.army.mil/>). U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH, and BONAP, Chapen Hill.
- 4) *National List of Plant Species That Occur in Wetlands: 1988 New Hampshire*. United States Department of the Interior. Fish and Wildlife Service. NERC-88/18.29.
- 5) *Corps of Engineers Wetlands Delineation Manual*, January 1987. Wetlands Research Program Technical Report W-87-1.
- 6) *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northeast and Northcentral Regions*, October 2009. U.S. Army Corps of Engineers. Environmental Laboratory ERDC/EL TR-09-19.
- 7) *Classification of Wetlands and Deepwater Habitats of the United States*. December 1979. L. Cowardin, V. Carter, F. Golet, and E. LaRoe, U.S. Department of the Interior. Fish and Wildlife Service. FWS/OBS-79/31

CERTIFICATIONS

"I, HEREBY CERTIFY THAT THIS PLAT WAS PREPARED BY ME OR THOSE UNDER MY DIRECT IMMEDIATE SUPERVISION, AND DEPICTS A SURVEY CONDUCTED WITH A TOTAL STATION HAVING AN URBAIN CLASSIFICATION AND A MINIMUM ERROR OF CLOSURE LESS THAN 1:10,000.

SIGNATURE _____ LICENSE NO. _____ DATE _____



RICHARD D. BARTLETT & ASSOCIATES, LLC
214 North State Street
Concord, N.H. 03301
Tel.: (603) 226-6770

info@richarddbartlett.com
www.richarddbartlett.com

LICENSED LAND SURVEYORS

EXISTING CONDITIONS PLAT
of land of
FRANKLIN COMMONS
REALTY GROUP, LLC

PROJECT : COMMERCE WAY FRANKLIN, NH
LOCATION : MAP 102, LOTS 9 & 402

GRAPHIC SCALE
0' 50' 100'
25'

SCALE: 1" = 50'

DATE: DEC. 4, 2023

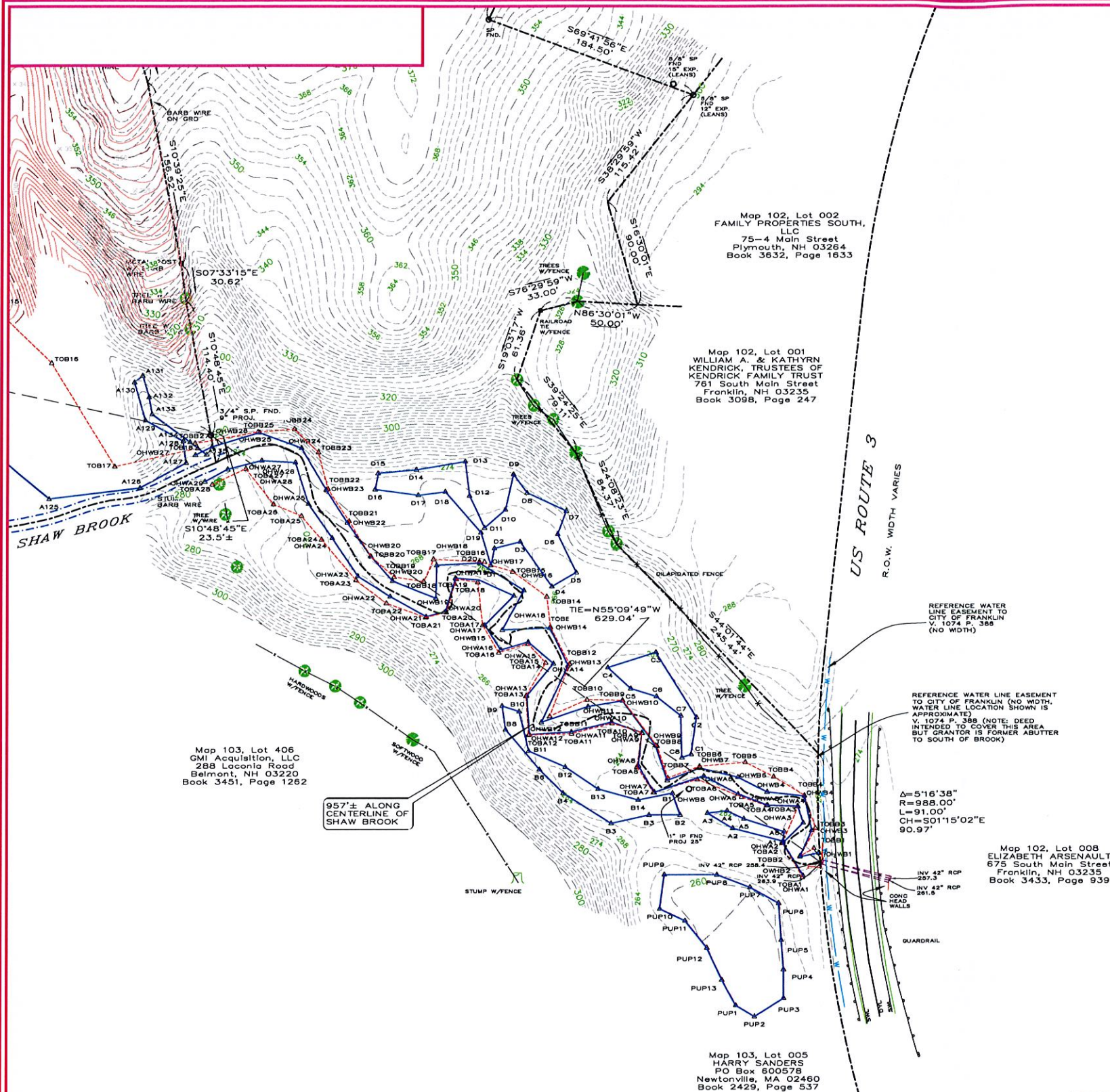
JOB NO.: 823.179

SHEET 6 OF 6

NO.	DATE	REVISION

FOR: RICHARD D. BARTLETT & ASSOCIATES, LLC

MATCH TO SHEET 1



Map 102, Lot 002
FAMILY PROPERTIES SOUTH, LLC
75-4 Main Street
Plymouth, NH 03264
Book 3632, Page 1633

Map 102, Lot 001
WILLIAM A. & KATHYRN
KENDRICK, TRUSTEES OF
KENDRICK FAMILY TRUST
761 South Main Street
Franklin, NH 03235
Book 3088, Page 247

Map 103, Lot 406
GMI Acquisition, LLC
288 Locoma Road
Belmont, NH 03220
Book 3451, Page 1262

957'± ALONG
CENTERLINE OF
SHAW BROOK

US ROUTE 3
R.O.W. WIDTH VARIES

REFERENCE WATER
LINE EASEMENT TO
CITY OF FRANKLIN
V. 1074 P. 388
(NO WIDTH)

REFERENCE WATER LINE EASEMENT
TO CITY OF FRANKLIN (NO WIDTH,
WATER LINE LOCATION SHOWN IS
APPROXIMATE)
V. 1074 P. 388 (NOTE: DEED
INTENDED TO COVER THIS AREA
BUT GRANTOR IS FORMER ABUTTER
TO SOUTH OF BROOK)

Δ=5'16'38"
R=988.00'
L=91.00'
CH=S01'15'02"E
90.97'

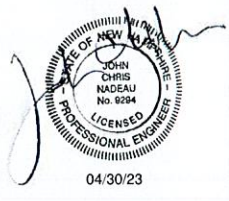
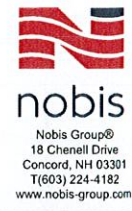
Map 102, Lot 008
ELIZABETH ARSENAULT
675 South Main Street
Franklin, NH 03235
Book 3433, Page 939

Map 103, Lot 005
HARRY SANDERS
PO Box 600578
Newtonville, MA 02460
Book 2429, Page 537



NOTES:
1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED LOCATION OF THE PHOTOVOLTAIC ARRAY, FENCING, EQUIPMENT PAD, GRAVEL ACCESS DRIVE, AND UTILITY POLES IN RELATION TO EXISTING SITE FEATURES.
2. REFER TO SHEET G-1 FOR GENERAL NOTES AND LEGEND.

PLAN REFERENCES:
1. EXISTING CONDITIONS, TOPOGRAPHICAL INFORMATION, NORTH ORIENTATION, NORTH ARROW, AND COORDINATE VALUES DEPICTED ON THESE DRAWINGS ARE BASED ON PLANS TITLED "EXISTING CONDITIONS PLAT OF LAND OF FRANKLIN COMMONS REALTY GROUP, LLC," DATED DECEMBER 4, 2023, PROVIDED TO NOBIS GROUP, BY RICHARD D. BARTLETT & ASSOCIATES LLC.



NOT ISSUED
FOR
CONSTRUCTION

COMMERCE DRIVE
SOLAR, LLC
SOUTH MAIN STREET
FRANKLIN, NH 03235

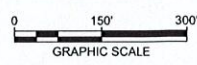
TAX MAP:
MAP 102 / LOT 009

OWNER(S):
FRANKLIN COMMONS
REALTY GROUP, LLC
70 INDUSTRIAL PARK DRIVE, SUITE 7
FRANKLIN, NH 03235

APPLICANT:
COMMERCE DRIVE SOLAR, LLC
C/O LUMINIA
4445 EASTGATE MALL ROAD, SUITE 200
SAN DIEGO, CA 92121

NO.	DATE	DESCRIPTION
-----	------	-------------

REVISIONS



DATE: MAY 2024
NOBIS PROJECT NO. 100704.000
DRAWN BY: GS
CHECKED BY: JCN
CAD DRAWING FILE:
100704.000-C-200-SITE.dwg
SHEET TITLE

SITE OVERVIEW

SHEET
C-1

J:\100704.000-Commerce Drive Solar Franklin, NH\CAD\DWG\100704.000-C-300-G&D.dwg 4/30/2024 11:38 AM



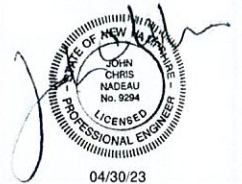
NOTES

1. REFER TO SURVEYOR'S PLAN FOR BASE PLAN REFERENCES AND ADDITIONAL NOTES.
2. ALL ELEVATIONS SHOWN ARE IN REFERENCE TO THE SURVEY PLAN AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
3. CONTRACTOR WILL NOTIFY OWNER & ENGINEER IMMEDIATELY IF SITE CONDITIONS DIFFER FROM WHAT IS SHOWN ON PLAN.
4. LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES ARE APPROXIMATE ONLY AND ARE BASED ON RECORDS FROM THE UTILITY COMPANIES AND FIELD MEASUREMENTS OF VISIBLE STRUCTURES. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION AND WILL NOTIFY ENGINEER AND OWNER IMMEDIATELY OF ANY CONFLICTS.
5. ALL WORK ON SITE, ALL UTILITY WORK AND ALL WORK WITH CITY R.O.W. WILL BE PERFORMED IN ACCORDANCE WITH THE TOWN OF FRANKLIN SPECIFICATIONS, LATEST EDITION.
6. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING DIG SAFE (1-888-DIG-SAFE) AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF WORK. THE CONTRACTOR WILL COORDINATE WORK WITH THE CITY FIRE, POLICE, AND COMMUNITY DEVELOPMENT DEPARTMENTS.
7. ALL STORM DRAIN PIPING WITH LESS THAN 3.0 FEET OF COVER WILL BE OVERLAID WITH 2" THICK RIGID INSULATION FOR THE FULL WIDTH OF PIPE TRENCH.
8. REFER TO SHEET G-1 FOR GENERAL NOTES AND LEGEND.



nobis

Nobis Group®
18 Chennell Drive
Concord, NH 03301
T(603) 224-4182
www.nobis-group.com



NOT ISSUED
FOR
CONSTRUCTION

COMMERCE DRIVE
SOLAR, LLC

SOUTH MAIN STREET
FRANKLIN, NH 03235

TAX MAP:
MAP 102 / LOT 009

OWNER(S):
FRANKLIN COMMONS
REALTY GROUP, LLC
70 INDUSTRIAL PARK DRIVE, SUITE 7
FRANKLIN, NH 03235

APPLICANT:
COMMERCE DRIVE SOLAR, LLC
C/O LUMINIA
4445 EASTGATE MALL ROAD, SUITE 200
SAN DIEGO, CA 92121

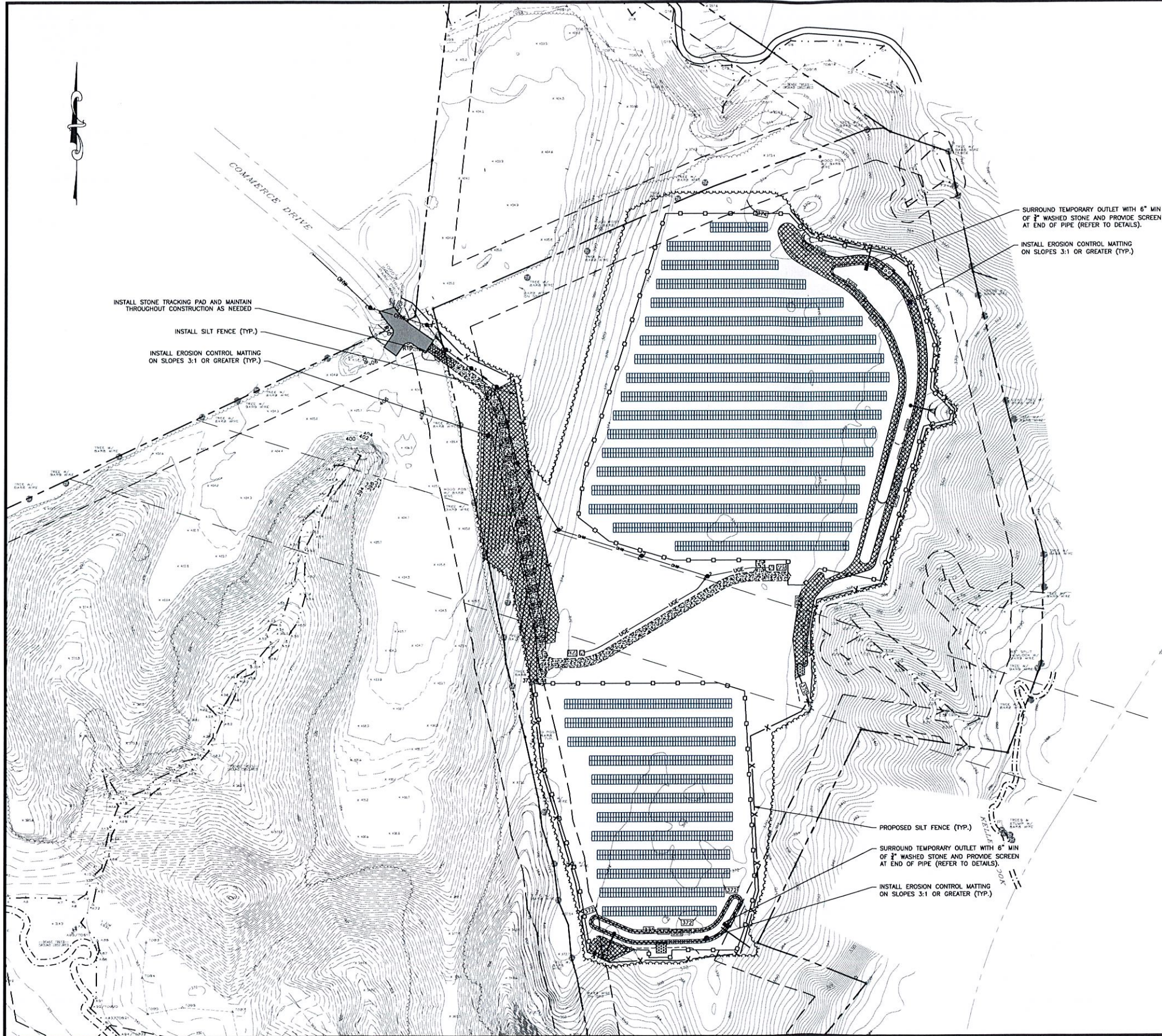
NO.	DATE	DESCRIPTION
REVISIONS		

0 80' 160'
GRAPHIC SCALE

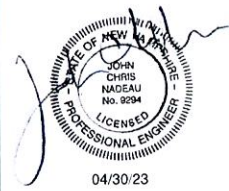
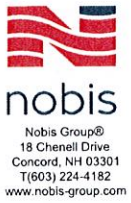
DATE:	MAY 2024
NOBIS PROJECT NO.	100704.000
DRAWN BY:	GS
CHECKED BY:	JCN
CAD DRAWING FILE:	100704.000-C-300-G&D.dwg
SHEET TITLE	

GRADING &
DRAINAGE PLAN

SHEET
C-3



- NOTES:**
1. THIS PLAN IS NOT INTENDED TO SHOW PERMANENT DRAINAGE DESIGNS AND TO BE USED FOR TEMPORARY EROSION AND SEDIMENT CONTROL ONLY.
 2. CONTRACTOR TO GRADE ACTIVE EXCAVATION AREAS TO ALLOW MAXIMUM INFILTRATION OF STORMWATER AND MINIMIZE RUNOFF FROM DISTURBED AREAS.
 3. DISTURBANCES OF AREAS TO BE MINIMIZED. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED FOR LONGER THAN TWO WEEKS DURING THE GROWING SEASON. AREAS WHICH WILL NOT BE PERMANENTLY SEEDED WITHIN TWO WEEKS OF DISTURBANCE SHALL BE TEMPORARILY SEEDED AND MULCHED. ALL AREAS SHALL BE STABILIZED WITH SEED AND MULCH AND TACKIFIER WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE AND PRIOR TO THE END OF THE GROWING SEASON.
 4. FOR FURTHER INFORMATION ON BEST MANAGEMENT PRACTICES SEE COMPLETE PLAN SET AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR THIS PROJECT PREPARED BY NOBIS ENGINEERING, INC. (DATE).
 5. USE TEMPORARY EROSION AND SEDIMENT CONTROL PRODUCTS THAT EITHER DO NOT CONTAIN NETTING, OR THAT CONTAIN NETTING MANUFACTURED FROM 100% BIODEGRADABLE NON-PLASTIC MATERIALS SUCH AS JUTE, SISAL, OR COIR FIBER. DEGRADABLE, PHOTODEGRADABLE, UV-DEGRADABLE, OXO-DEGRADABLE, OR OXO-BIODEGRADABLE PLASTIC NETTING (INCLUDING POLYPROPYLENE, NYLON, POLYETHYLENE, AND POLYESTER) ARE NOT EQUIVALENT ALTERNATIVES. NETTING USED IN THESE PRODUCTS SHOULD HAVE A LOOSE-WEAVE WILDLIFE-SAFE DESIGN WITH MOVABLE JOINTS BETWEEN THE HORIZONTAL AND VERTICAL TWINES, ALLOWING THE TWINES TO MOVE INDEPENDENTLY AND THUS REDUCING THE POTENTIAL FOR WILDLIFE ENTANGLEMENT.
 6. AVOID THE USE OF SILT FENCES REINFORCED WITH METAL OR PLASTIC MESH OR IF POSSIBLE RECOMMEND THE USE OF EROSION CONTROL BERM.
 7. WHEN NO LONGER REQUIRED, TEMPORARY EROSION AND SEDIMENT CONTROL PRODUCTS SHOULD BE REMOVED PROMPTLY FROM THE PROJECT SITE.
 8. USE NONWOVEN COIR FABRIC WHEN A SURFACE FABRIC TREATMENT IS REQUIRED FOR EROSION CONTROL AND STABILIZATION, SUCH AS 100% BIODEGRADABLE COCONUT FIBER MAT OR EQUAL AS REVIEWED AND APPROVED BY THE PROJECT DESIGN ENGINEER.
 9. USE WOVEN COIR FABRIC WHEN SITE CONDITIONS WARRANT. THE OUTER LAYER OF WOVEN COIR FABRIC SHOULD BE A HIGH STRENGTH, CONTINUOUSLY WOVEN MAT (I.E., WITHOUT SEAMS) AND MADE OF 100% COCONUT FIBER.
 10. REFER TO GENERAL NOTES AND LEGEND SHEET FOR ADDITIONAL EROSION CONTROL NOTES AND CONSTRUCTION SEQUENCE.



NOT ISSUED
FOR
CONSTRUCTION

COMMERCE DRIVE
SOLAR, LLC
SOUTH MAIN STREET
FRANKLIN, NH 03235

TAX MAP:
MAP 102 / LOT 009

OWNER(S):
FRANKLIN COMMONS
REALTY GROUP, LLC
70 INDUSTRIAL PARK DRIVE, SUITE 7
FRANKLIN, NH 03235

APPLICANT:
COMMERCE DRIVE SOLAR, LLC
C/O LUMINIA
4445 EASTGATE MALL ROAD, SUITE 200
SAN DIEGO, CA 92121

NO.	DATE	DESCRIPTION
REVISIONS		



DATE:	MAY 2024
NOBIS PROJECT NO.	100704.000
DRAWN BY:	GS
CHECKED BY:	JCN
CAD DRAWING FILE:	100704.000-C-320-EROS.dwg
SHEET TITLE	

EROSION
CONTROL PLAN

SHEET
C-4

NOT ISSUED
FOR
CONSTRUCTION

COMMERCE DRIVE
SOLAR, LLC

SOUTH MAIN STREET
FRANKLIN, NH 03235

TAX MAP:
MAP 102 / LOT 009

OWNER(S):
FRANKLIN COMMONS
REALTY GROUP, LLC
70 INDUSTRIAL PARK DRIVE, SUITE 7
FRANKLIN, NH 03235

APPLICANT:
COMMERCE DRIVE SOLAR, LLC
C/O LUMINIA
4445 EASTGATE MALL ROAD, SUITE 200
SAN DIEGO, CA 92121

NO.	DATE	DESCRIPTION
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REVISIONS

SCALE:
AS NOTED

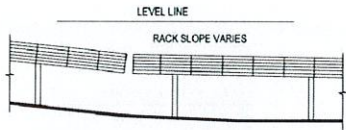
DATE: MAY 2024
NOBIS PROJECT NO. 100704.000
DRAWN BY: GS
CHECKED BY: JCN
CAD DRAWING FILE:
100704.000-C-500-DETAILS.dwg

SHEET TITLE

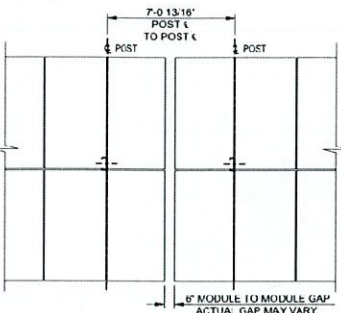
SOLAR ARRAY
CONSTRUCTION
DETAILS

SHEET
C-5

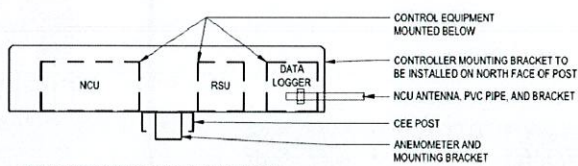
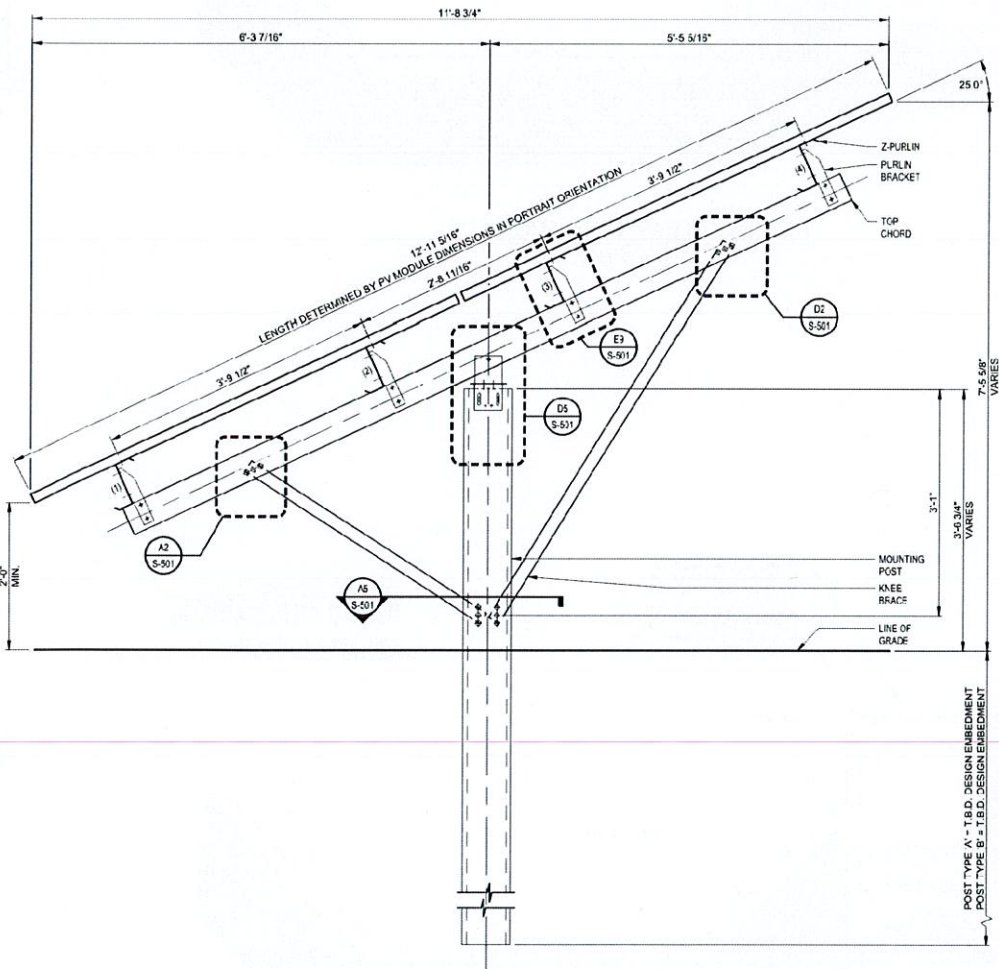
RACK SYSTEM TOPOGRAPHIC RELATIONSHIP



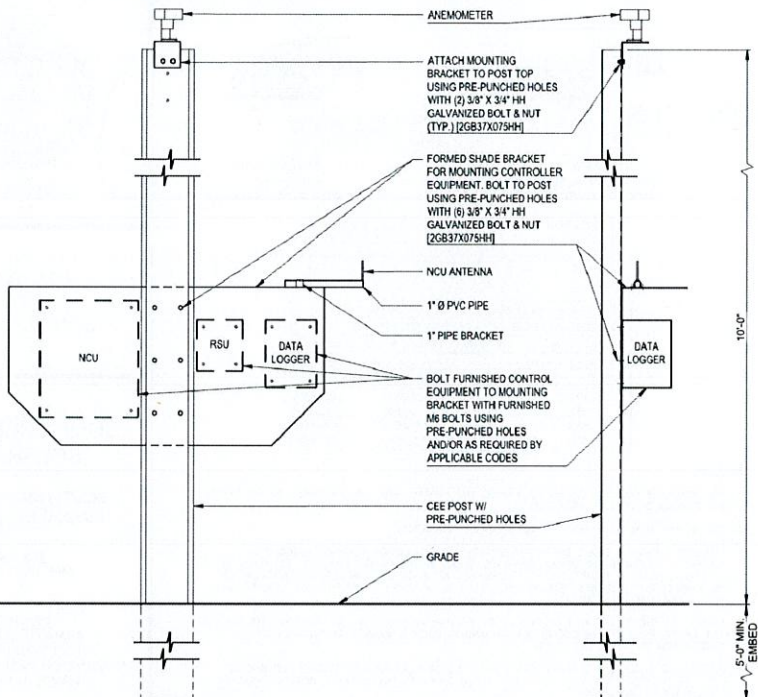
FOLLOW GRADE



TYPICAL
ROW BREAK DETAIL



PLAN VIEW

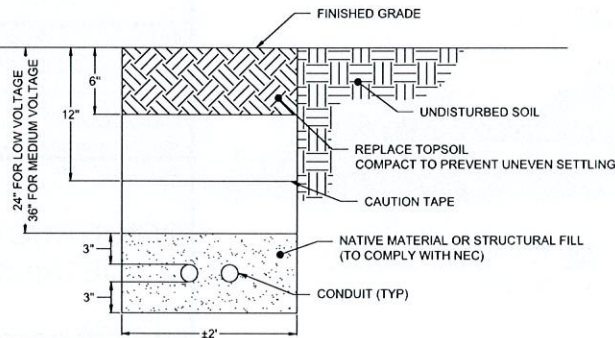


FRONT VIEW (LOOKING NORTH)

SIDE VIEW

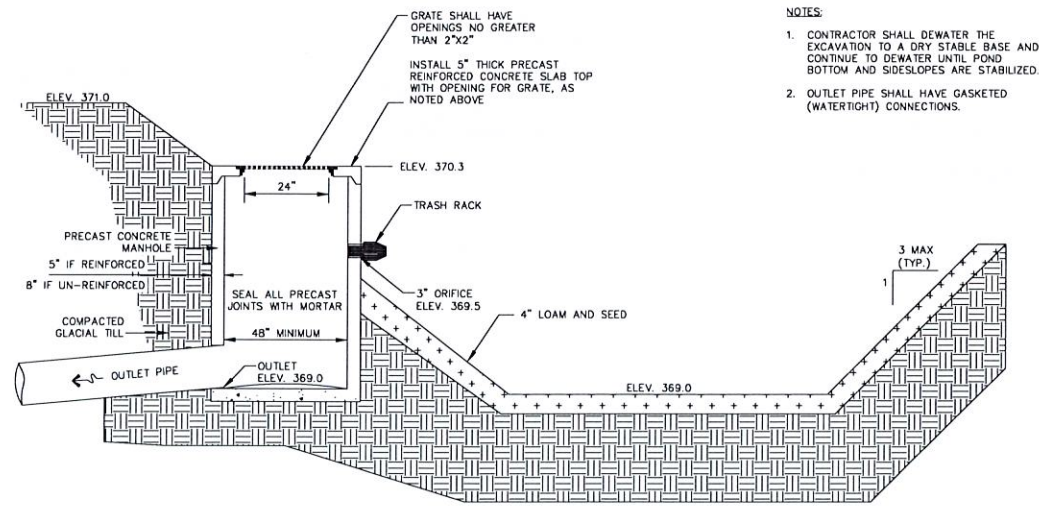
NOTE: ALTERNATE MOUNTING OPTIONS FOR NCU, RSU, AND WEATHER MONITORING EQUIPMENT ARE ALLOWED.
A. EQUIPMENT SHALL BE MOUNTED PER THE EQUIPMENT INSTALLATION MANUAL WITH APPROVED HARDWARE.
B. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING MATERIAL AND DESIGN FOR ANY ALTERNATE MOUNTING FOR EQUIPMENT.
C. ANEMOMETER EQUIPMENT SHALL BE MOUNTED AT HEIGHT ABOVE GRADE SHOWN. SNOW AND FLOOD SENSORS SHALL BE LOCATED PER EQUIPMENT INSTALLATION MANUALS WITH APPROVED REFERENCE PAD BELOW EQUIPMENT.
D. FURNISHED EQUIPMENT MAY VARY PER LOCATION.

CONTROLS EQUIPMENT
MOUNTING DETAIL



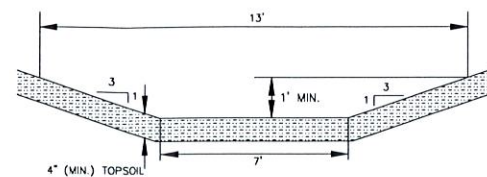
ELECTRICAL TRENCH (TYP.)
NOT TO SCALE

DESIGN
RACK SECTION

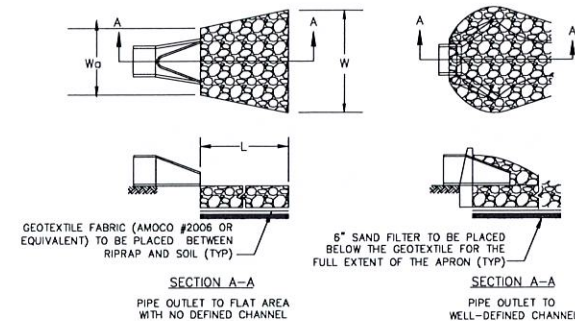


DETENTION BASIN 1 SECTION
NOT TO SCALE

- NOTES:
1. CONTRACTOR SHALL DEWATER THE EXCAVATION TO A DRY STABLE BASE AND CONTINUE TO DEWATER UNTIL POND BOTTOM AND SIDESLOPES ARE STABILIZED.
 2. OUTLET PIPE SHALL HAVE GASKETED (WATERTIGHT) CONNECTIONS.



TREATMENT SWALE SECTION
NOT TO SCALE

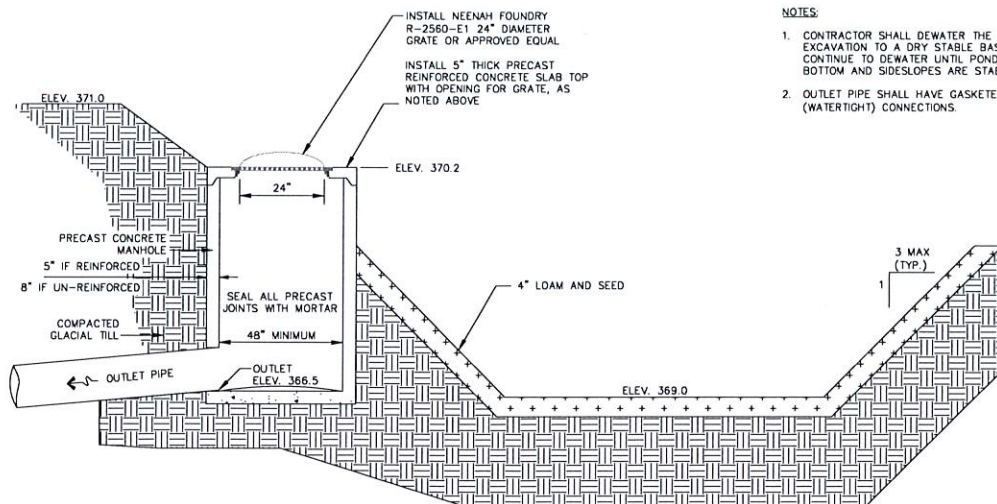


STRUCTURE	W _o	W	L	RIP RAP SIZE
FES 1	2	9	7	4
FES 2	3	14	27	4

TABLE 7-24--RECOMMENDED RIPRAP GRADATION RANGES			
THICKNESS OF RIPRAP = (2.25x d50) FEET (6" MIN)			
d50 SIZE = 4"	X	0 FEET	9 X INCHES
% OF WEIGHT SMALLER THAN THE GIVEN d50 SIZE	SIZE OF STONE (INCHES) FROM		
100%	(1.5x d50)	(2.0x d50)	
85%	(1.3x d50)	(1.8x d50)	
50%	(1.0x d50)	(1.5x d50)	
15%	(0.3x d50)	(0.5x d50)	

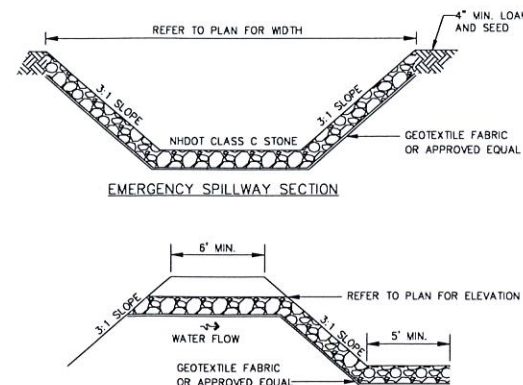
- NOTES:
1. THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIPRAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
 2. THE RIPRAP SHALL CONFORM TO THE SPECIFIED GRADATION.
 3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIPRAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
 4. STONE FOR THE RIPRAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.
 5. OUTLETS TO A DEFINED CHANNEL SHALL HAVE 2:1 OR FLATTER SIDE SLOPES AND SHOULD BEGIN AT THE TOP OF THE CULVERT AND TAPER DOWN TO THE CHANNEL BOTTOM THROUGH THE LENGTH OF THE APRON.
 6. MAINTENANCE: THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO OUTLET PROTECTION.

RIP RAP OUTLET PROTECTION APRON
NOT TO SCALE

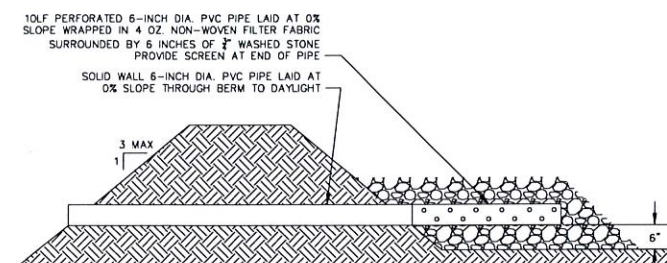


DETENTION BASIN 2 SECTION
NOT TO SCALE

- NOTES:
1. CONTRACTOR SHALL DEWATER THE EXCAVATION TO A DRY STABLE BASE AND CONTINUE TO DEWATER UNTIL POND BOTTOM AND SIDESLOPES ARE STABILIZED.
 2. OUTLET PIPE SHALL HAVE GASKETED (WATERTIGHT) CONNECTIONS.



EMERGENCY SPILLWAY SECTION
EMERGENCY SPILLWAY PROFILE
NOT TO SCALE



SEDIMENT BASIN TEMPORARY OUTLET
NOT TO SCALE

NOT ISSUED
FOR
CONSTRUCTION

COMMERCE DRIVE
SOLAR, LLC
SOUTH MAIN STREET
FRANKLIN, NH 03235

TAX MAP:
MAP 102 / LOT 009

OWNER(S):
FRANKLIN COMMONS
REALTY GROUP, LLC
70 INDUSTRIAL PARK DRIVE, SUITE 7
FRANKLIN, NH 03235

APPLICANT:
COMMERCE DRIVE SOLAR, LLC
C/O LUMINIA
4445 EASTGATE MALL ROAD, SUITE 200
SAN DIEGO, CA 92121

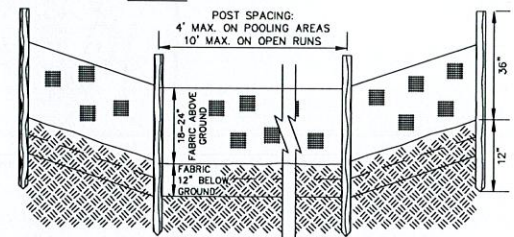
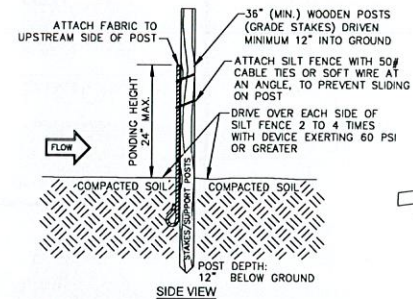
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REVISIONS		

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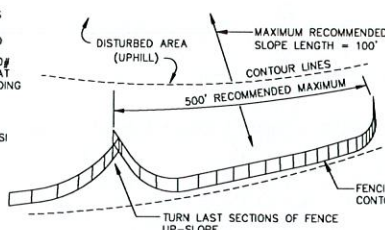
DATE: MAY 2024
NOBIS PROJECT NO. 100704.000
DRAWN BY: GS
CHECKED BY: JCN
CAD DRAWING FILE:
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SHEET TITLE

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DETAILS

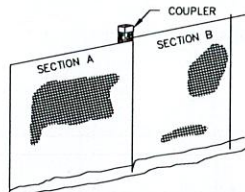
SHEET
C-6



INSTALL SILT FENCE ALONG THE CONTOUR OF SLOPE AND TURN UPHILL AT ENDS, TO CREATE A SMALL SEDIMENT CONTAINMENT SYSTEM DOWNSLOPE OF ALL WORK AREAS ADJACENT TO WETLANDS (TYPICAL)



TYPICAL SILT FENCE LAYOUT
NOT TO SCALE

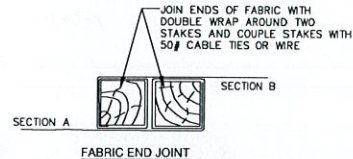


JOINING SECTIONS

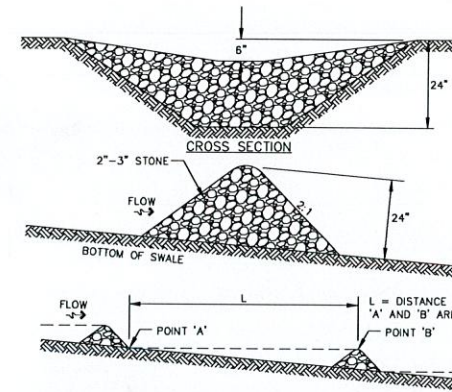
SILT FENCE INSTALLATION
NOT TO SCALE

SPECIFICATIONS FOR SILT FENCE INSTALLATION

1. INSTALL POSTS 4 FEET APART IN CRITICAL WATER RETENTION AREAS AND 8-10 FEET APART ON STANDARD APPLICATIONS.
2. INSTALL POSTS 12 INCHES DEEP ON THE DOWN HILL SIDE OF THE SILT FENCE, AND AS CLOSE AS POSSIBLE TO THE FABRIC.
3. SECURELY ATTACH THE FABRIC TO EACH POST WITH TIES SECURED WITHIN THE TOP 8" OF THE FABRIC. ATTACH EACH TIE DIAGONALLY 45 DEGREES THROUGH THE FABRIC, WITH EACH PUNCTURE AT LEAST 2" VERTICALLY APART.
4. WRAP APPROXIMATELY 6 INCHES OF FABRIC AROUND THE END POSTS AND SECURE WITH 3 TIES.
5. THE INSTALLATION SHOULD BE CHECKED AND CORRECTED FOR ANY DEVIATIONS BEFORE COMPACTION. USE A FLAT-BLADED SHOVEL TO TUCK FABRIC DEEPER INTO THE SILT IF NECESSARY.
6. COMPACTION IS VITALLY IMPORTANT FOR EFFECTIVE RESULTS. COMPACT THE SOIL IMMEDIATELY NEXT TO THE SILT FENCE FABRIC WITH THE FRONT WHEEL OF THE TRACTOR, SKID STEER, OR ROLLER EXERTING AT LEAST 60 POUNDS PER SQUARE INCH.

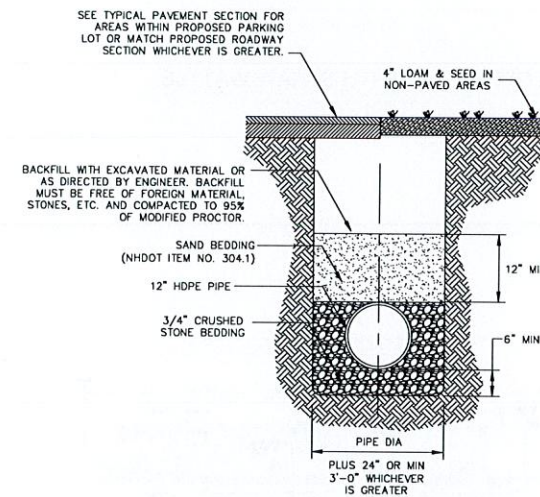


FABRIC END JOINT

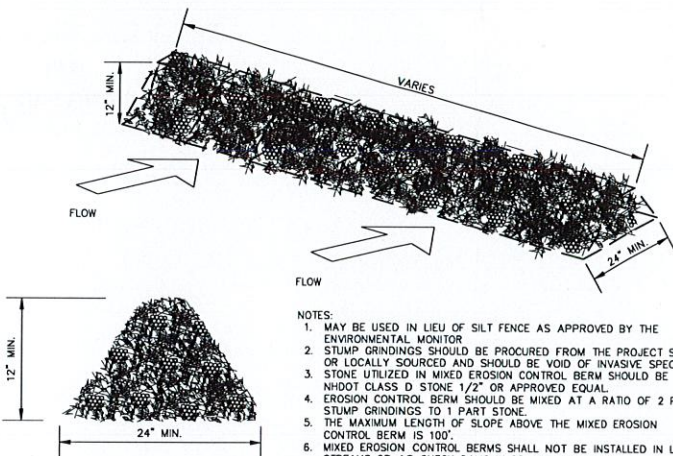


MAINTENANCE NOTE:
STONE CHECK DAMS SHOULD BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY NECESSARY REPAIRS SHOULD BE MADE IMMEDIATELY. PARTICULAR ATTENTION SHOULD BE GIVEN TO END RUN AND EROSION AT THE DOWNSTREAM TOE OF THE STRUCTURE. WHEN THE STRUCTURES ARE REMOVED, THE DISTURBED PORTION SHOULD BE BROUGHT TO THE EXISTING CHANNEL GRADE AND THE AREAS PREPARED, SEEDED AND MULCHED. WHILE THIS PRACTICE IS NOT INTENDED TO BE USED PRIMARILY FOR SEDIMENT TRAPPING, SOME SEDIMENT WILL ACCUMULATE BEHIND THE STRUCTURES. SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRUCTURES WHEN IT HAS ACCUMULATED TO ONE HALF OF THE ORIGINAL HEIGHT OF THE STRUCTURE.

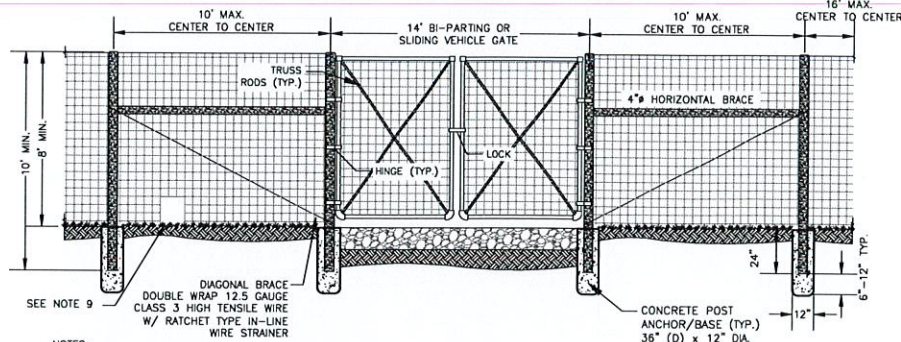
STONE CHECK DAM
NOT TO SCALE



TYPICAL DRAINAGE TRENCH
NOT TO SCALE

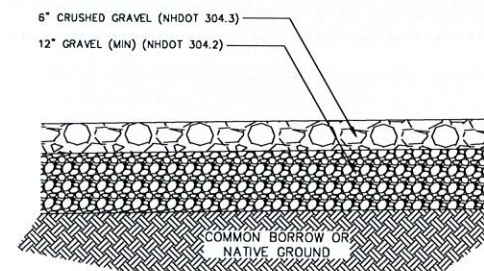


MIXED EROSION CONTROL BERM DETAIL
NOT TO SCALE



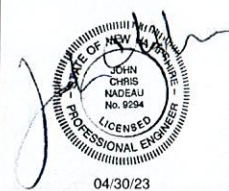
- NOTES:
1. CONCRETE ANCHOR/BASE SHALL BE MIN. 3000 PSI, CAST-IN-PLACE FOR ALL CORNERS, PULL, TERMINAL AND GATE POSTS. ALL OTHER POSTS CAN BE DIRECT PUSH/BURIAL IF POST IS EMBEDDED MIN. 3 FEET.
 2. ALL POSTS SHALL EXTEND A MIN. 8 FEET ABOVE GROUND SURFACE.
 3. PROVIDE HORIZONTAL AND DIAGONAL BRACING AT ALL CORNERS, PULL, TERMINAL AND GATE POSTS.
 4. POST SHALL BE SPACE AT A MAXIMUM OF 18'-0". SEE DETAIL FOR GATE POST SPACING.
 5. POST SHALL BE PRESSURE TREATED PINE OR EQUIVALENT.
 6. HORIZONTAL WOOD BRACES SHALL BE PINNED OR DOWELED.
 7. GATE SHALL BE PT WOOD (4" MIN. SQUARE STOCK), METAL (2" BLACK COATED) OR APPROVED EQUIVALENT.
 8. MESH SHALL BE HIGH TENSILE STEEL 4"x4" FIXED-KNOT 12.5 GAUGE WIRE.
 9. CUT 8" WIDE BY 12" TALL FOX AND ANIMAL PASSAGE OPENING IN BOTTOM OF MESH EVERY 50 FEET.

TYPICAL WOOD POST AND KNOT WIRE FENCE
NOT TO SCALE



GRAVEL ACCESS ROAD SECTION
NOT TO SCALE

nobis
Nobis Group®
18 Chenell Drive
Concord, NH 03301
T(603) 224-4182
www.nobis-group.com



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COMMERCE DRIVE
SOLAR, LLC
SOUTH MAIN STREET
FRANKLIN, NH 03235

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REALTY GROUP, LLC
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APPLICANT:
COMMERCE DRIVE SOLAR, LLC
C/O LUMINIA
4445 EASTGATE MALL ROAD, SUITE 200
SAN DIEGO, CA 92121

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REVISIONS

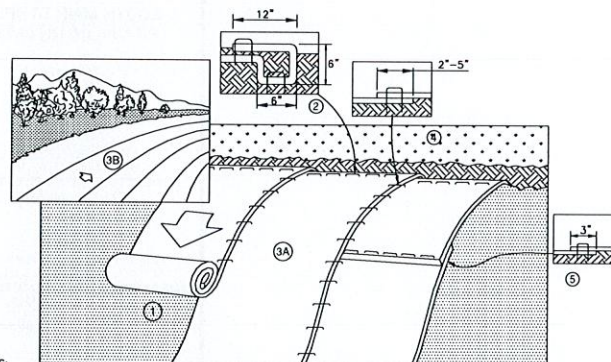
SCALE:
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DATE: MAY 2024
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CHECKED BY: JCN
CAD DRAWING FILE:
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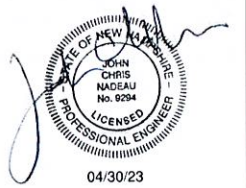
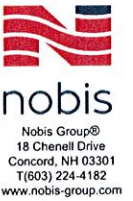
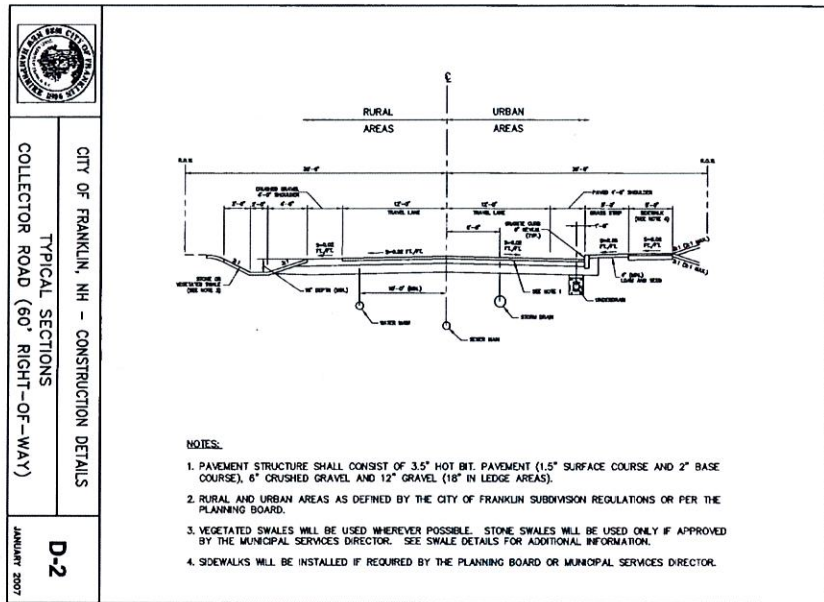
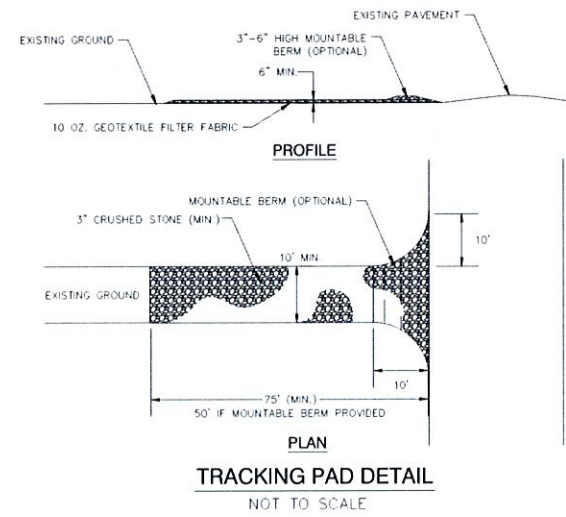
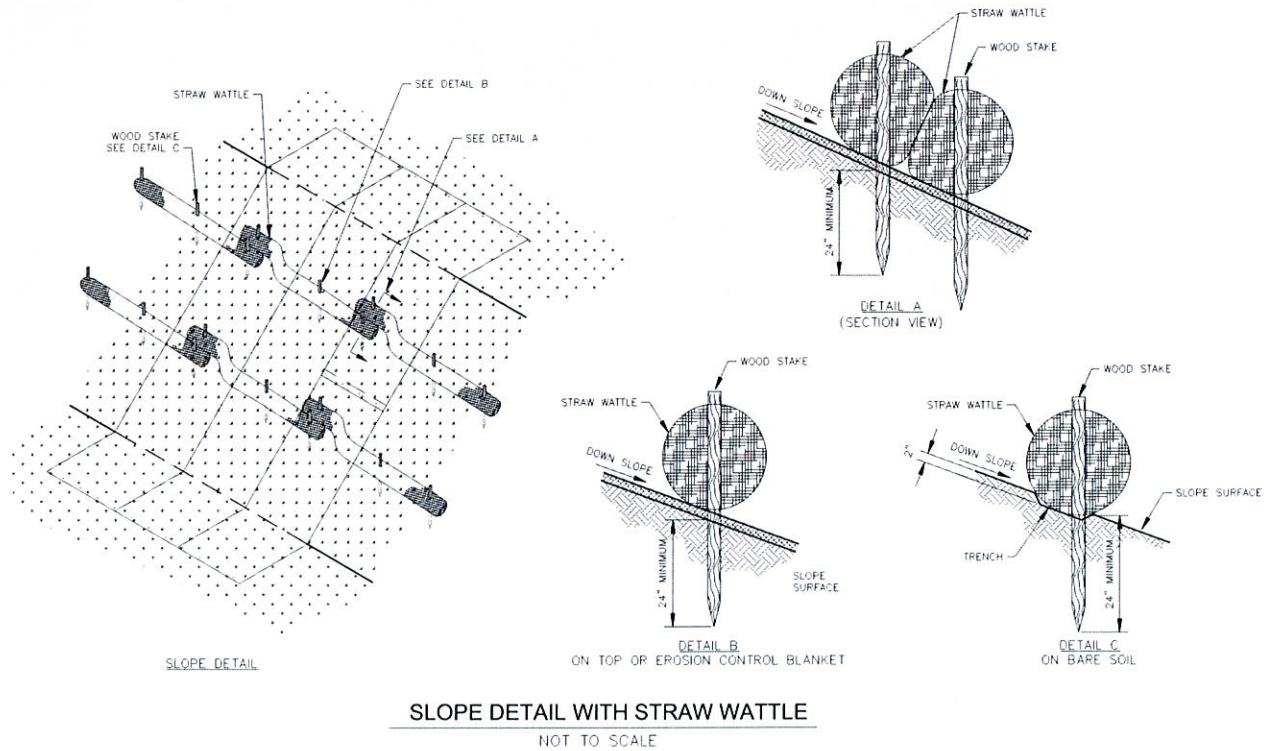
SHEET
C-7



- NOTES:
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
 3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
 5. CONSECUTIVE BLANKETS SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.
 6. THERE SHALL BE NO PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN 1/8 INCHES MATERIAL UTILIZED.
 7. USE NORTH AMERICAN GREEN "BIONET" SC150BN EROSION CONTROL BLANKET OR APPROVED ALTERNATIVE.
 8. TURF REINFORCEMENT MATS SHALL BE COVERED WITH SOIL TO PREVENT EXPOSURE OF THE MATS TO THE SURFACE.

NORTH AMERICAN GREEN
14649 HIGHWAY 41 NORTH
EVANSVILLE, INDIANA 47725
1-800-772-2040

EROSION CONTROL BLANKET SLOPE INSTALLATION
(NORTH AMERICAN GREEN "SC150BN")
NOT TO SCALE



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SHEET TITLE

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DETAILS

SHEET
C-8