1.0 PROJECT DESCRIPTION

Market Street Gardiner Solar, LLC (Applicant), a wholly owned subsidiary of SunRaise Development, LLC (SunRaise), proposes to construct the Market Street Gardiner Solar Project (Project), a distributed generation utility scale solar energy facility in Gardiner, Maine (Figure 1-1). The total fenced area of the proposed solar arrays is approximately 15 acres. The solar arrays will have an installed capacity of approximately 4.9 megawatts (MW) of electricity. The Project is located within the boundaries of an existing Commercial Subdivision previously permitted under the Site Location of Development Act (Site Law). The initial Site Law permit application (L-010587-25-A-N) was submitted by Associated Grocers of Maine, Inc. and approved on November 27, 1984. The permit transfer from Associated Grocers of Maine to Pine State Trading Co. (Pine State) was approved on June 15, 2012. Based on the proposed Project and discussions with the Department, SunRaise is applying for a minor amendment to the current Site Law permit.

The Project area is south of Route 201 and located east of the end of Market Street. The topography of the Project area slopes downwards to the south and north with elevations that range between 285 and 350 feet above sea level. The existing vegetative community is primarily made up of mature northern red oak (*Quercus rubra*) and American beech (*Fagus grandifolia*) hardwood forests. The site has been previously logged based on the predominance of smaller trees and cut stumps.

The Project is designed to use photovoltaic (PV) panels mounted on fixed-tilt axes sited to maximize solar energy production through the year. Approximately 12,360 PV panels will be installed within the fenced in solar array area. The modules will be mounted on galvanized steel frames supported by ground screws capable of withstanding up to 170 miles per hour wind speed and 100 pounds per square foot snow loads. Based on the 4.9 MW capacity, the solar array is expected to generate enough clean electricity to power the equivalent of approximately 637 Maine homes.

Other project features will include construction of an approximately 14-foot-wide, 2,990-foot-long access road; 32 inverters; 2 transformers; and medium voltage electrical collector line connecting to the electrical grid at a point of interconnect (POI) adjacent to the existing warehouse on Market Street. A 7-foot-tall chain-link fence will surround the proposed solar array areas and is a safety requirement of the National Electrical Safety Code. The fence will have an approximately 6-inch gap between the bottom of the fence and the ground to allow for wildlife passage. Civil site plans are provided in Exhibit 1-1.

The power from solar arrays will be collected and transmitted to the POI utilizing medium voltage buried electrical collector line. The buried electrical collector line will be place in a trench located adjacent to the Project access road. Power will tie into the existing electrical grid at the POI adjacent to the existing Pine State warehouse on Market Street. The POI will require three poles spaced 30 to 35 feet apart. No new access is required for the POI as it is sited adjacent to Market Street.

As part of the permitting process, the Applicant has completed studies of natural resources and wildlife in the Project area. As currently designed, the Project will result in 13,343 square feet (sf) of permanent fill and/or grading due to the access road wetland crossing and ground screws located within delineated wetlands. An estimated 17,090 sf of vegetative clearing within delineated wetlands is anticipated for the

access road corridor[1], installation of PV modules[2], and to reduce shading of the panel arrays. This requires approvals from the Maine Department of Environmental Protection (MDEP) pursuant to the Natural Resources Protection Act (NRPA); therefore, this permit application is a combined application to satisfy the Site Location of Development Law (Minor Amendment), the NRPA, the Construction General Permit, and a 401 Water Quality Certification.

1.1 CONSTRUCTION PLAN

The Applicant's owners have extensive experience constructing solar energy facilities in the Northeast, with numerous projects currently in operation. The Applicant is committed to constructing facilities that minimize environmental impacts and comply with regulatory requirements and recommendations.

Construction is projected to begin in late fall 2020 with the goal of project completion set for late spring 2021. The sequence of project construction will generally adhere to the timeline detailed below (Table 1-1), although adjustments may be necessary to accommodate seasonality and weather conditions.

Once the Project area is cleared, such areas will be grubbed, as necessary, and earthwork to build the access road will commence. The Project area will be accessed by the construction of a new access road originating from Market Street.

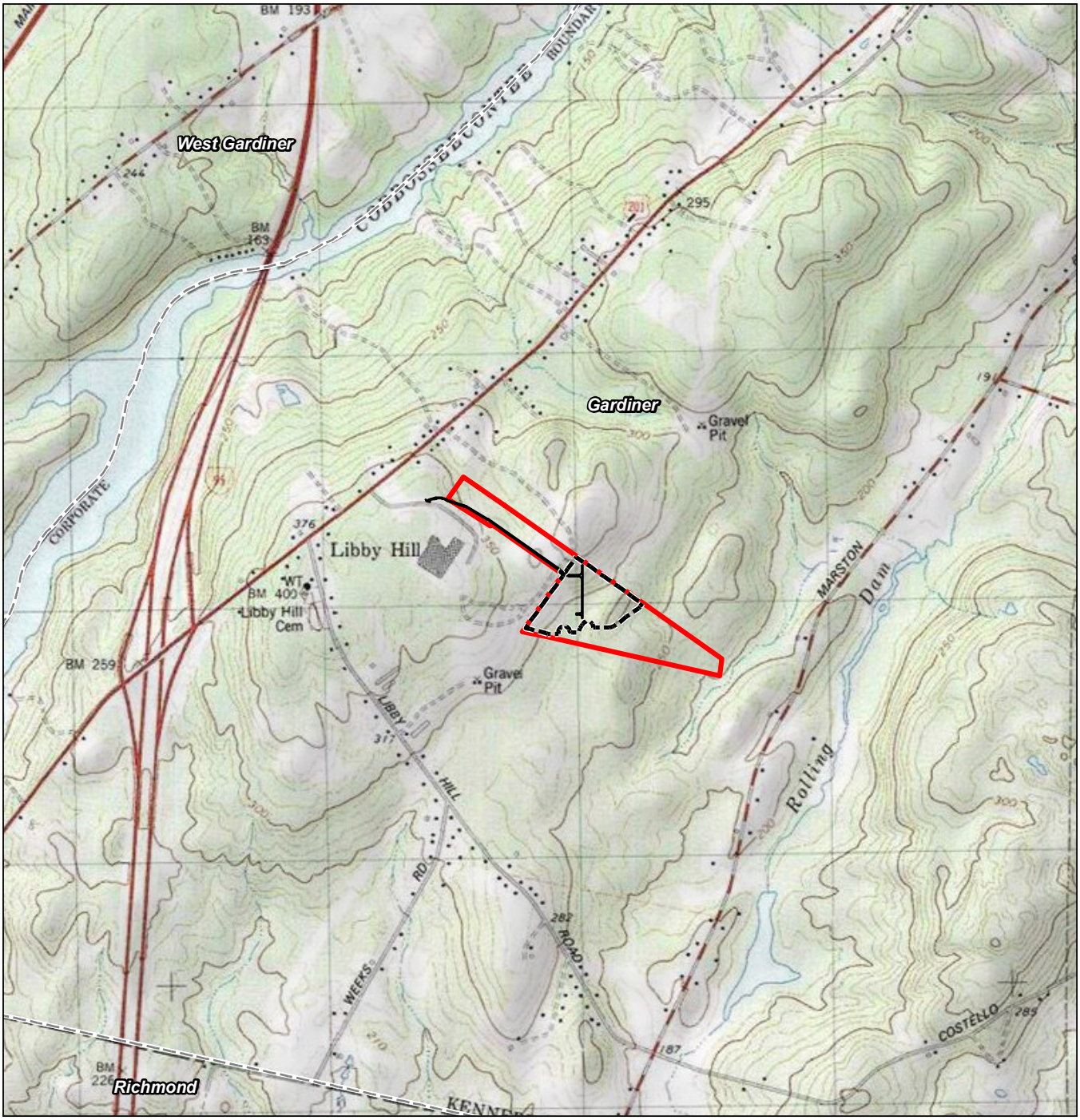
Once site preparation has been completed, underground electrical work (e.g., underground collection line burial) and solar racking systems installation will begin. The panel racking will utilize ground screws, which require minimal grading. Panels and ancillary equipment will be delivered to the site and may be temporarily staged within suitable existing cleared upland areas of the Project. Following the installation of the racking, panels will be placed on to the racking. Erosion control measures will be in place per regulatory requirements and best management practices.

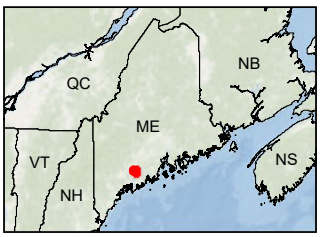
Table 1-1. Estimated construction activity timeline

Task	Timeframe
Preliminary layout and staking of new road segment and solar array/laydown areas	10/5/20 – 10/9/20
Clear for access road, electrical collection corridor, and solar array area	10/12/20 – 10/23/20
Install erosion control measures in areas to be disturbed	10/26/20 – 10/30/20
Grubbing and initial grading for access road and solar array area	11/02/20 – 11/20/20
Final grading of access road and solar array area	11/23/20 – 12/11/20
Underground electrical work	12/14/20 – 12/25/20
Installation of racking foundations	12/28/20 – 01/22/21
Installation of racking and modules	01/25/21 – 03/19/21
Begin commercial operations	03/22/21 – 03/26/21
Remove temporary erosion and sedimentation control measures upon final site stabilization and reseeding	05/03/21 – 05/14/21

[1] Excluding areas of access road fill and permanent grading within the limits of vegetative clearing.
[2] Excluding areas of fill (ground screws – 12 sf) within the limits of vegetation clearing.

Figure 1-1: USGS Location Map





Legend
- Project Parcel
- Approximate Limit of Disturbance (LOD)
- Access Road Corridor
- Municipal Boundary
- USGS Quad: Gardiner

0 2,000 Feet
(At original document size of 8.5x11)
1:24,000

N

Stantec

Notes
1. Coordinate System: NAD 1983 StatePlane Maine West FIPS 1802 Feet
2. Data Sources: Base features obtained from the Maine Office of GIS (MEGIS).
3. Background: USGS Imagery/Topo provided by The National Map Mapping Service (http://basemap.nationalmap.gov/arcgis/services/USGSImageryTopo).

Project Location
Gardiner, Maine

Prepared by REM on 2020-02-26
IR Review by EDB on 2020-02-26

Client/Project 195601801
Market Street Gardiner Solar, LLC
Market Street Gardiner Solar Project

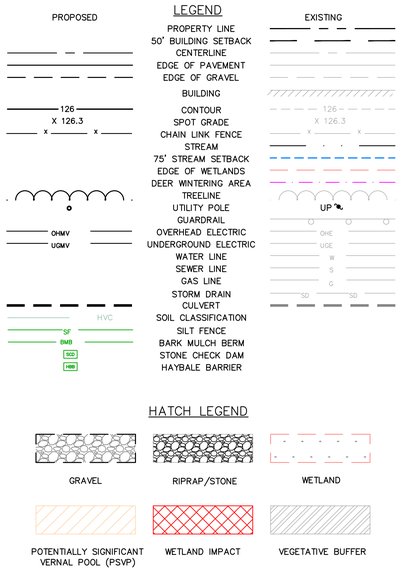
Figure No.
1-1

Title
USGS Location

V:\1956\active\195601801\03_data\gis_cad\gis\MXDs\Gardiner\01801_1-1_Gardiner_USGS.mxd Revised: 2020-02-26 By: rmack

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

Exhibit 1-1: Civil Site Plans



PERMIT SET

GARDINER SOLAR

CITY OF GARDINER, KENNEBEC COUNTY, MAINE

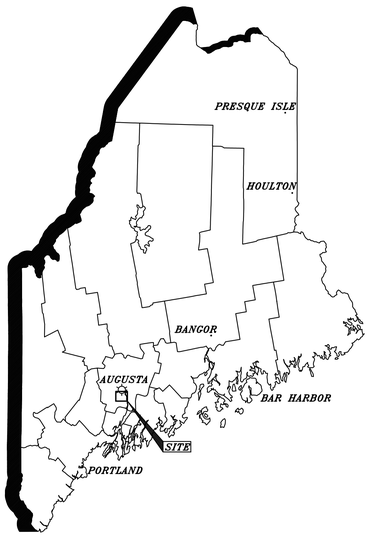
PREPARED FOR MARKET STREET GARDINER SOLAR, LLC.

85711E

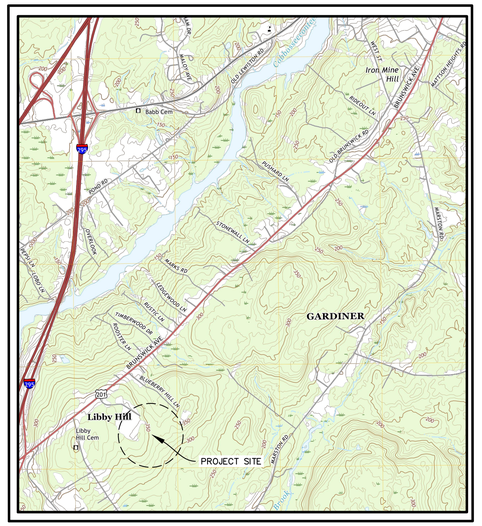
MARCH 9, 2020

SHEET INDEX

SHEET NO.	DESCRIPTION
	COVER
C-1	SITE PLAN
C-2, C-3	PLAN AND PROFILE
C-4	SEDIMENTATION AND EROSION CONTROL PLAN
C-5	PRE DEVELOPMENT DRAINAGE PLAN
C-6	POST DEVELOPMENT DRAINAGE PLAN
C-7	POST DEVELOPMENT WATER QUALITY PLAN
D-1, D-2	DETAIL



LOCUS MAP



VICINITY MAP

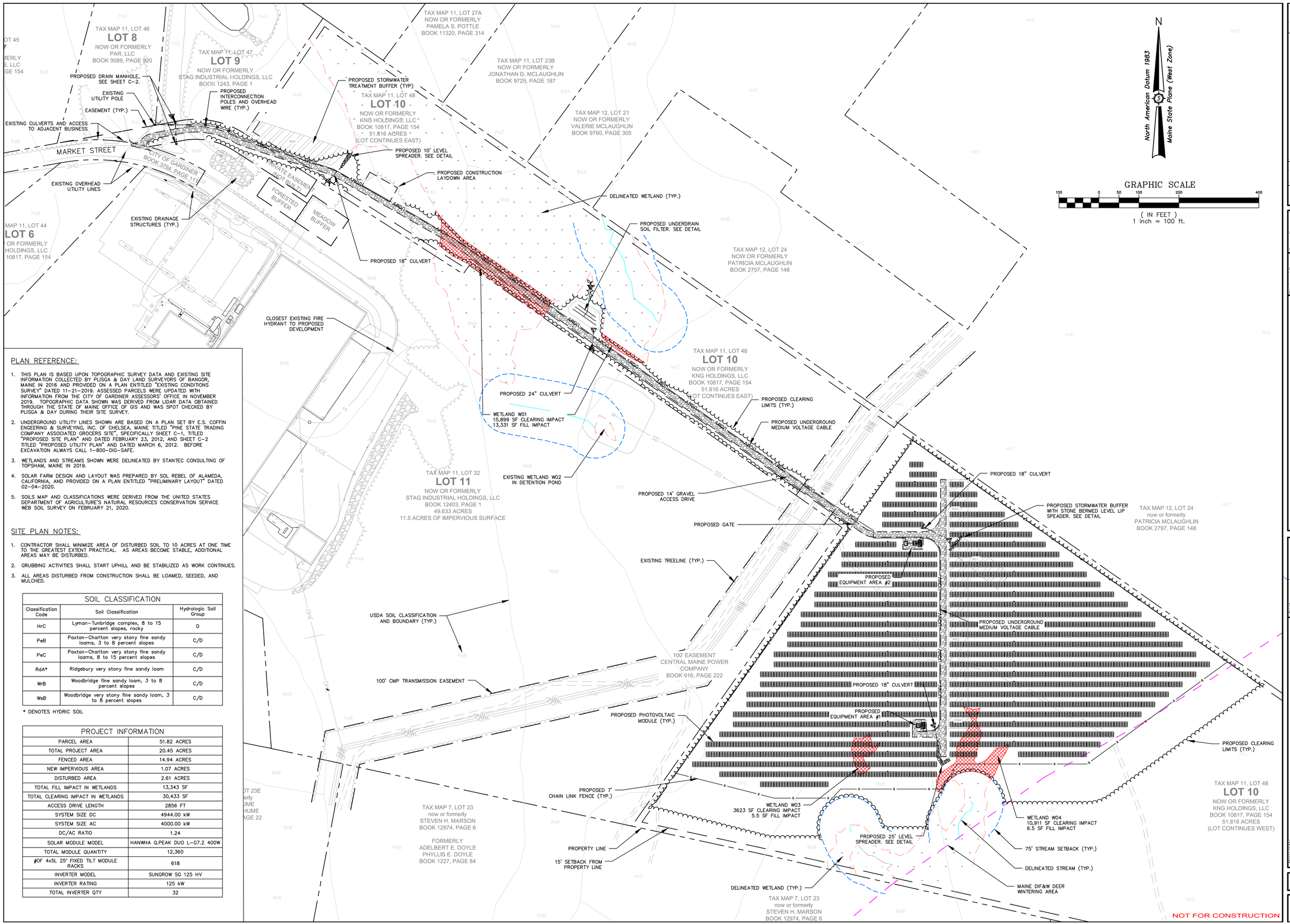
DESIGN TEAM:

ENGINEERING Sewall SURVEYING
www.sewall.com The evolution of expertise 1 800 648 4202

Stantec

SEAL
STATE OF MAINE
MODI A. DUBÉ-O'NEAL
NO. 13020
LICENSED PROFESSIONAL ENGINEER
03/09/2020
CIVIL DESIGN

NOT FOR CONSTRUCTION



PLAN REFERENCE:

1. THIS PLAN IS BASED UPON TOPOGRAPHIC SURVEY DATA AND EXISTING SITE INFORMATION COLLECTED BY PLISGA & DAY LAND SURVEYORS OF BANGOR, MAINE IN 2016 AND PROVIDED ON A PLAN ENTITLED "EXISTING CONDITIONS SURVEY" DATED 11-21-2019. ASSESSED PARCELS WERE UPDATED WITH INFORMATION FROM THE CITY OF GARDINER ASSESSORS' OFFICE IN NOVEMBER 2019. TOPOGRAPHIC DATA SHOWN WAS DERIVED FROM LIDAR DATA OBTAINED THROUGH THE STATE OF MAINE OFFICE OF GIS AND WAS SPOT CHECKED BY PLISGA & DAY DURING THEIR SITE SURVEY.
2. UNDERGROUND UTILITY LINES SHOWN ARE BASED ON A PLAN SET BY E.S. COFFIN ENGEERING & SURVEYING, INC. OF CHELSEA, MAINE TITLED "PINE STATE TRADING COMPANY ASSOCIATED GROCERS SITE", SPECIFICALLY SHEET C-1, TITLED "PROPOSED SITE PLAN" AND DATED FEBRUARY 23, 2012, AND SHEET C-2 TITLED "PROPOSED UTILITY PLAN" AND DATED MARCH 6, 2012. BEFORE EXCAVATION ALWAYS CALL 1-800-DIG-SAFE.
3. WETLANDS AND STREAMS SHOWN WERE DELINEATED BY STANTEC CONSULTING OF TOPSHAM, MAINE IN 2019.
4. SOLAR FARM DESIGN AND LAYOUT WAS PREPARED BY SOL REBEL OF ALAMEDA, CALIFORNIA, AND PROVIDED ON A PLAN ENTITLED "PRELIMINARY LAYOUT" DATED 02-04-2020.
5. SOILS MAP AND CLASSIFICATIONS WERE DERIVED FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE'S NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY ON FEBRUARY 21, 2020.

SITE PLAN NOTES:

1. CONTRACTOR SHALL MINIMIZE AREA OF DISTURBED SOIL TO 10 ACRES AT ONE TIME TO THE GREATEST EXTENT PRACTICAL. AS AREAS BECOME STABLE, ADDITIONAL AREAS MAY BE DISTURBED.
2. GRUBBING ACTIVITIES SHALL START UPHILL AND BE STABILIZED AS WORK CONTINUES.
3. ALL AREAS DISTURBED FROM CONSTRUCTION SHALL BE LOAMED, SEEDED, AND MULCHED.

SOIL CLASSIFICATION		
Classification Code	Soil Classification	Hydrologic Soil Group
HrC	Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky	D
PeB	Paxton-Charlton very stony fine sandy loams, 3 to 8 percent slopes	C/D
PeC	Paxton-Charlton very stony fine sandy loams, 8 to 15 percent slopes	C/D
RdA*	Ridgebury very stony fine sandy loam	C/D
WrB	Woodbridge fine sandy loam, 3 to 8 percent slopes	C/D
WsB	Woodbridge very stony fine sandy loam, 3 to 8 percent slopes	C/D

* DENOTES HYDRIC SOIL

PROJECT INFORMATION	
PARCEL AREA	51.82 ACRES
TOTAL PROJECT AREA	20.45 ACRES
FENCED AREA	14.94 ACRES
NEW IMPERVIOUS AREA	1.07 ACRES
DISTURBED AREA	2.61 ACRES
TOTAL FILL IMPACT IN WETLANDS	13,343 SF
TOTAL CLEARING IMPACT IN WETLANDS	30,433 SF
ACCESS DRIVE LENGTH	2856 FT
SYSTEM SIZE DC	4944.00 kW
SYSTEM SIZE AC	4000.00 kW
DC/AC RATIO	1.24
SOLAR MODULE MODEL	HANWHA Q.PEAK DUO L-G7.2 400W
TOTAL MODULE QUANTITY	12,360
#OF 4x5L 25' FIXED TILT MODULE RACKS	618
INVERTER MODEL	SUNGROW SG 125 HV
INVERTER RATING	125 kW
TOTAL INVERTER QTY	32

NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
*	*	*	*

Designed By: FB
Drawn By: FB
Date: 03/09/2020
Scale: AS SHOWN
Checked
Approved

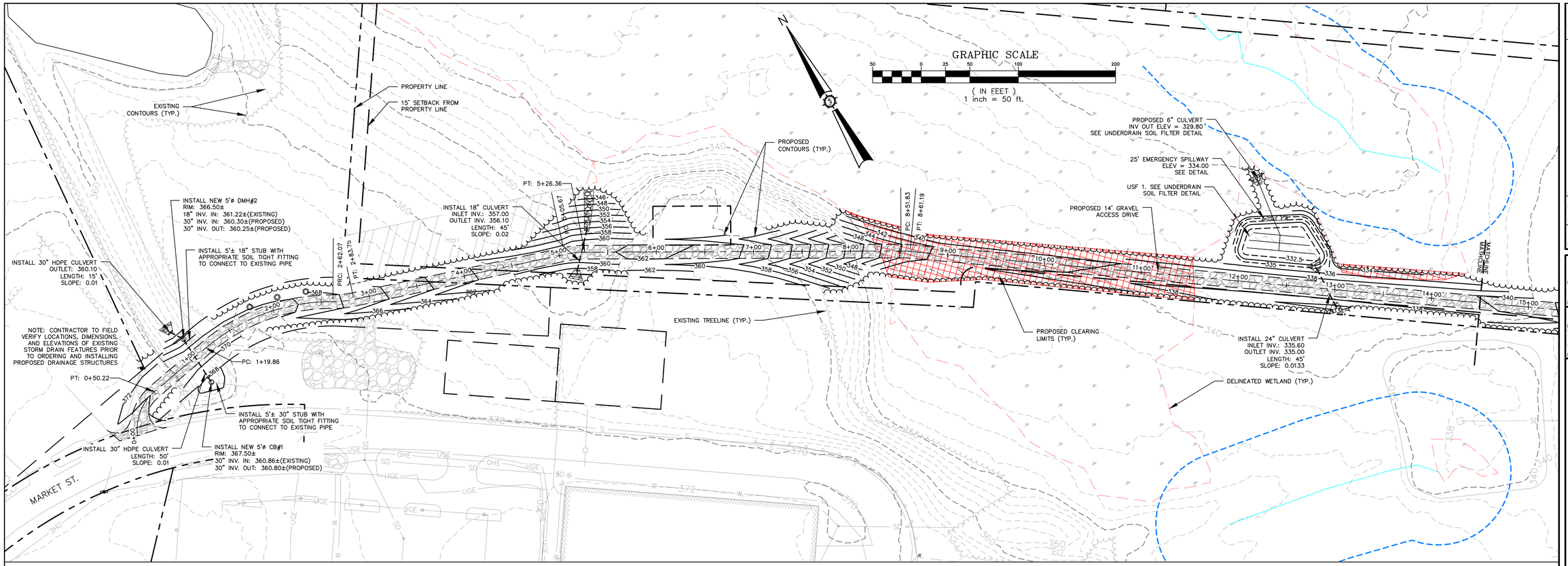
GARDINER SOLAR
MARKET ST. GARDINER SOLAR, LLC
47 MARKET ST.
Project Location: GARDINER, MAINE
Drawing Description: SITE PLAN

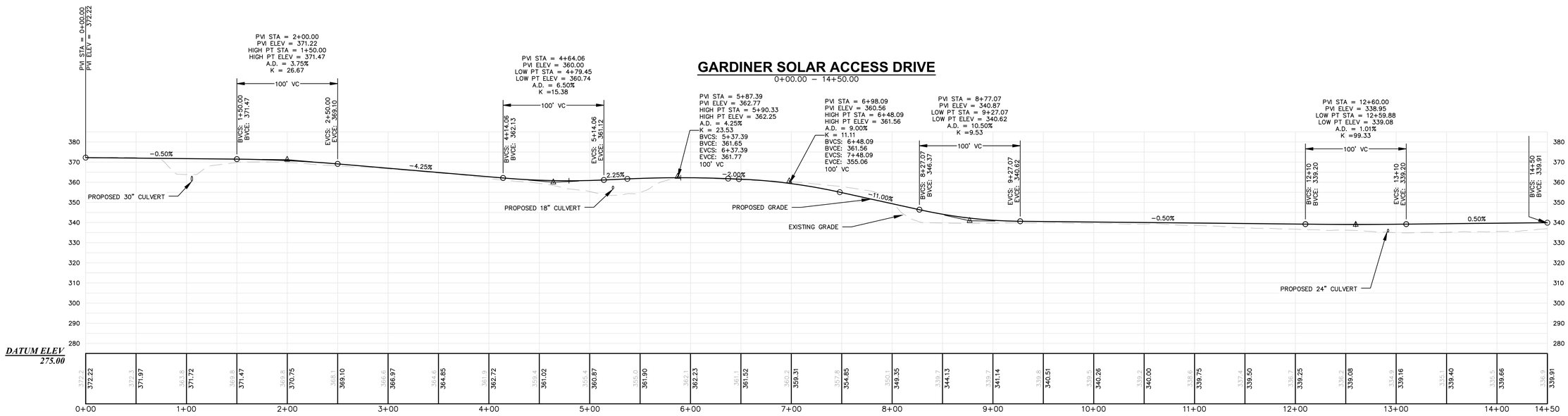
STATE OF MAINE
MICHAEL J. MODI
A
DUBE-O'NEAL
NO. 13020
LICENSED
PROFESSIONAL ENGINEER
Seal
03/09/2020

Project No.: 85711E
Engineer: ENGINEERING
SURVEYING
1 800 648 4202
Sewall
The evolution of expertise
www.sewall.com

Phase: PERMIT

Sheet No.: C-1





NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
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-	-	-	-
-	-	-	-

Designed By: FB
Drawn By: FB
Date: 03/09/2020
Scale: AS SHOWN
Approved
Checked

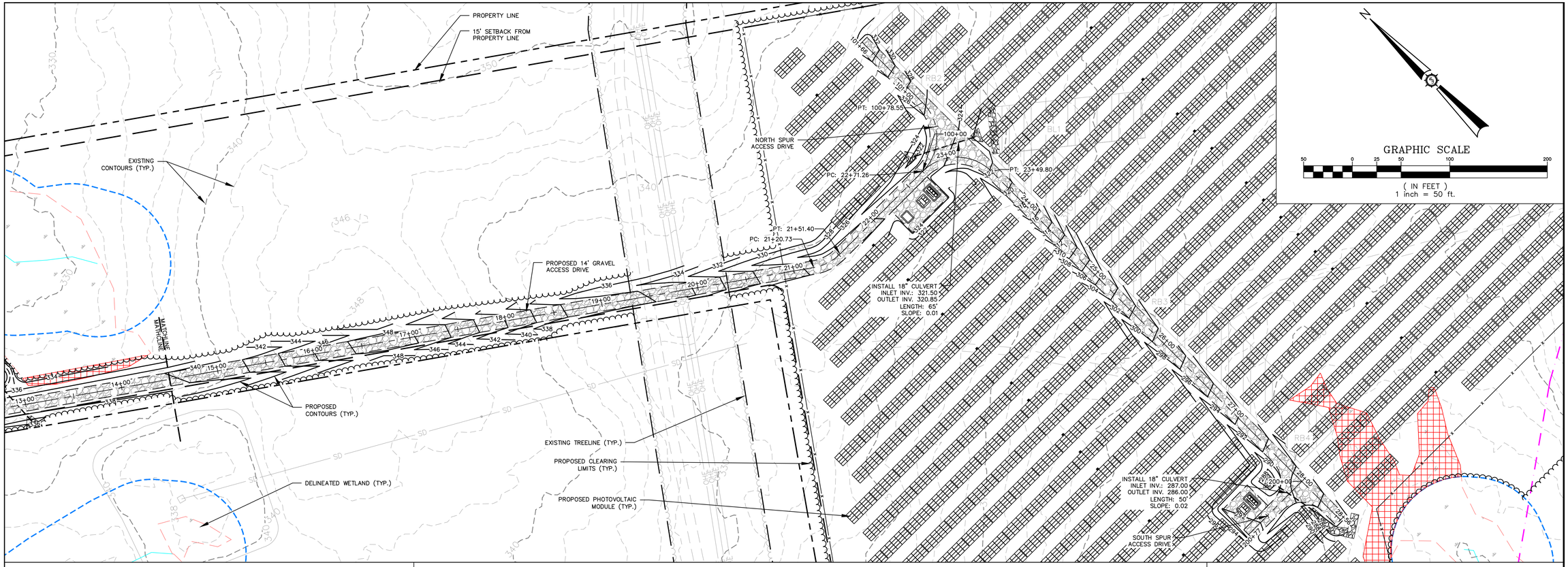
GARDINER SOLAR
MARKET ST. GARDINER SOLAR, LLC
47 MARKET ST.
Project Location
GARDINER, MAINE
Drawing Description
PLAN & PROFILE

STATE OF MAINE
NICOLE A. DUBÉ-O'NEAL
NO. 13020
LICENSED PROFESSIONAL ENGINEER
Seal
08/09/2020

Project No.: 85711E
Engineer
ENGINEERING
SURVEYING
1 800 648 4202
www.sewall.com
The evolution of expertise

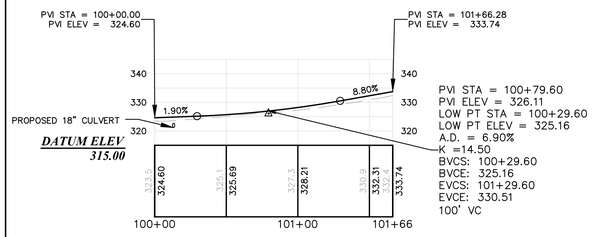
Phase: PERMIT

Sheet No.: C-2



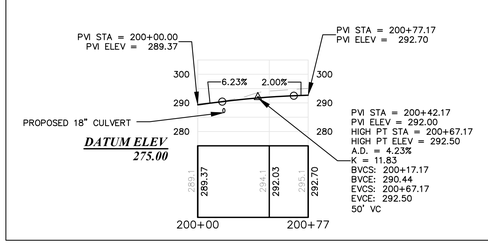
GARDINER SOLAR NORTH SPUR

100+00.00 – 101+66.28



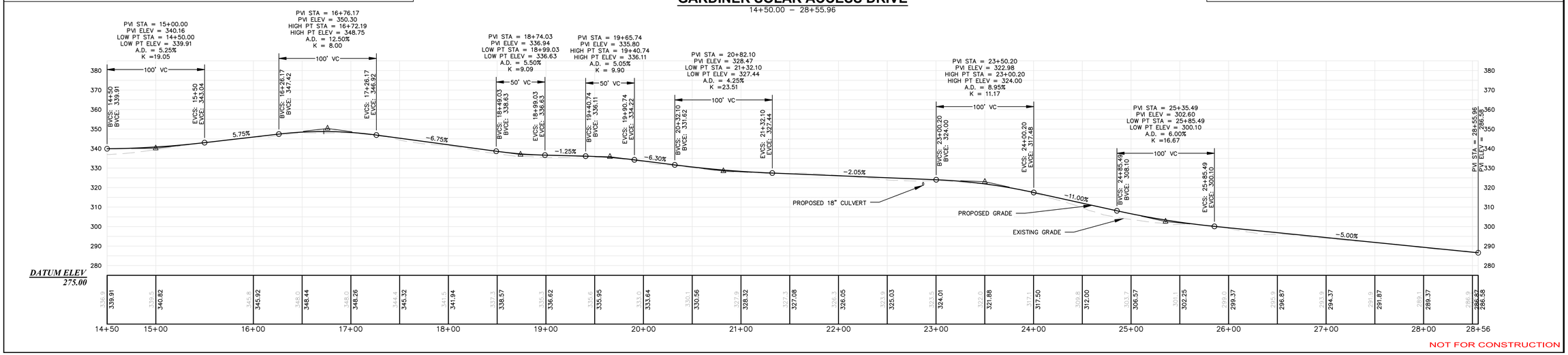
GARDINER SOLAR SOUTH SPUR

200+00.00 – 200+77.17



GARDINER SOLAR ACCESS DRIVE

14+50.00 – 28+55.96



NOT FOR CONSTRUCTION

Rev.#	Dwg. By	Description	Date
-	-	-	-

GARDINER SOLAR
MARKET ST. GARDINER SOLAR, LLC
47 MARKET ST.
Project Location
GARDINER, MAINE
Drawing Description
PLAN & PROFILE

Designed By: FB
Drawn By: FB
Date: 03/09/2020
Scale: AS SHOWN
Approved
Checked

STATE OF MAINE
NICOLE A. DUBE-O'NEAL
NO. 13020
LICENSED PROFESSIONAL ENGINEER
Seal
03/09/2020

85711E
Project No.
Engineer
ENGINEERING
SURVEYING
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Phase
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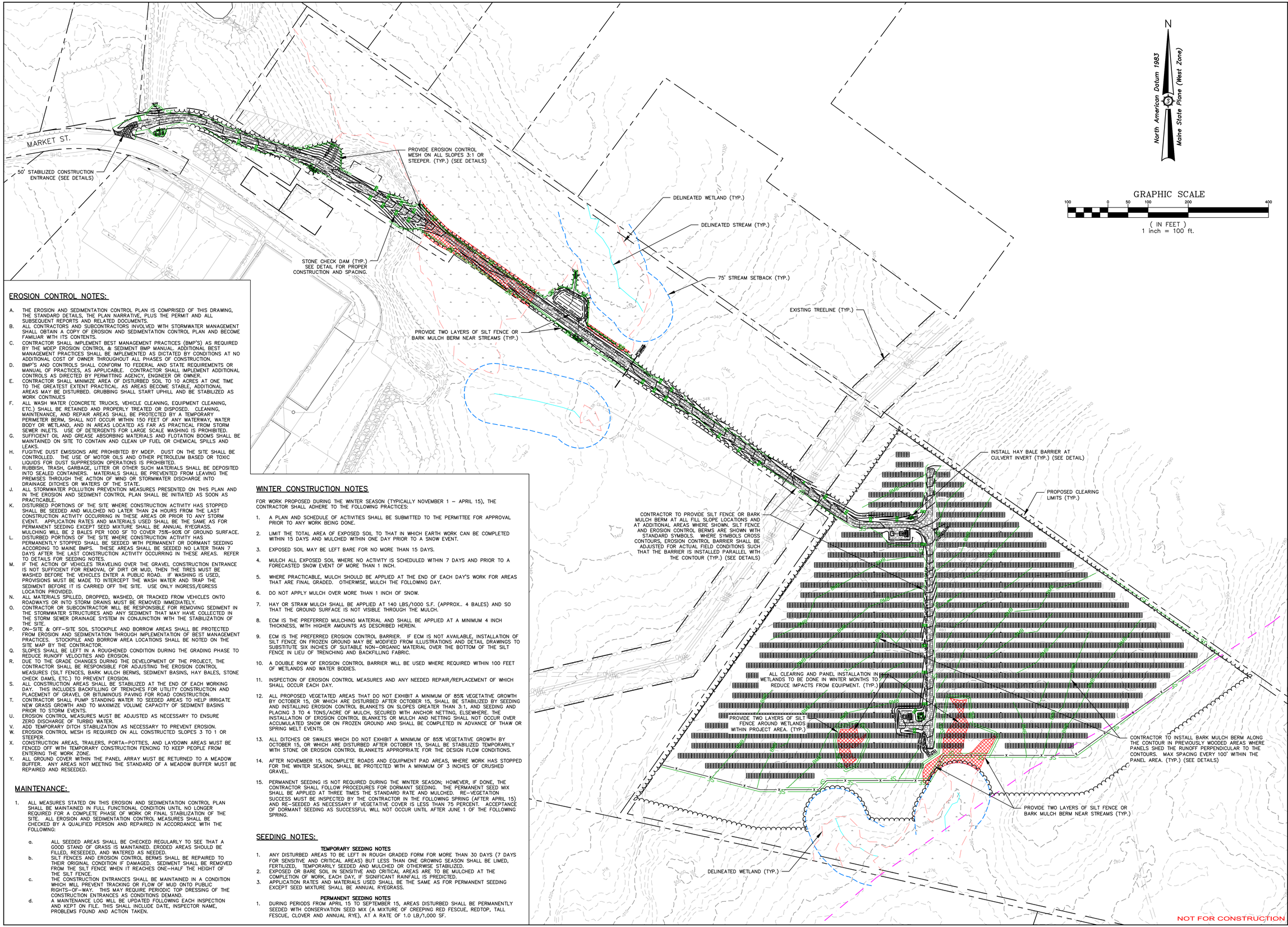
Sheet No.
C-3



N

North American Datum 1983

Maine State Plane (West Zone)

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

EROSION CONTROL NOTES:

A. THE EROSION AND SEDIMENTATION CONTROL PLAN IS COMPRISED OF THIS DRAWING, THE STANDARD DETAILS, THE PLAN NARRATIVE, PLUS THE PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.
B. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORMWATER MANAGEMENT SHALL OBTAIN A COPY OF EROSION AND SEDIMENTATION CONTROL PLAN AND BECOME FAMILIAR WITH ITS CONTENTS.
C. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES (BMP'S) AS REQUIRED BY THE MDEP EROSION CONTROL & SEDIMENT BMP MANUAL. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
D. BMP'S AND CONTROLS SHALL CONFORM TO FEDERAL AND STATE REQUIREMENTS OR MANUAL OF PRACTICES, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY, ENGINEER OR OWNER.
E. CONTRACTOR SHALL MINIMIZE AREA OF DISTURBED SOIL TO 10 ACRES AT ONE TIME TO THE GREATEST EXTENT PRACTICAL. AS AREAS BECOME STABLE, ADDITIONAL AREAS MAY BE DISTURBED. GRUBBING SHALL START UPHILL AND BE STABILIZED AS WORK CONTINUES
F. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE RETAINED AND PROPERLY TREATED OR DISPOSED. CLEANING, MAINTENANCE, AND REPAIR AREAS SHALL BE PROTECTED BY A TEMPORARY PERIMETER BERM, SHALL NOT OCCUR WITHIN 150 FEET OF ANY WATERWAY, WATER BODY OR WETLAND, AND IN AREAS LOCATED AS FAR AS PRACTICAL FROM STORM SEWER INLETS. USE OF DETERGENTS FOR LARGE SCALE WASHING IS PROHIBITED.
G. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE TO CONTAIN AND CLEAN UP FUEL OR CHEMICAL SPILLS AND LEAKS.
H. FUGITIVE DUST EMISSIONS ARE PROHIBITED BY MDEP. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
I. RUBBISH, TRASH, GARBAGE, LITTER OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
J. ALL STORMWATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN AND IN THE EROSION AND SEDIMENT CONTROL PLAN SHALL BE INITIATED AS SOON AS PRACTICABLE.
K. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED SHALL BE SEEDED AND MULCHED NO LATER THAN 24 HOURS FROM THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS OR PRIOR TO ANY STORM EVENT. APPLICATION RATES AND MATERIALS USED SHALL BE THE SAME AS FOR PERMANENT SEEDING EXCEPT SEED MIXTURE SHALL BE ANNUAL RYEGRASS. MULCHING WILL BE 2 BALES PER 1000 SF TO COVER 75%–90% OF GROUND SURFACE.
L. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE SEEDED WITH PERMANENT OR DORMANT SEEDING ACCORDING TO MAINE BMPS. THESE AREAS SHALL BE SEEDED NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO DETAILS FOR SEEDING NOTES.
M. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCE IS NOT SUFFICIENT FOR REMOVAL OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE. USE ONLY INGRESS/EGRESS LOCATION PROVIDED.
N. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
O. CONTRACTOR OR SUBCONTRACTOR WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE STORMWATER STRUCTURES AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEM IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
P. ON–SITE & OFF–SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP BY THE CONTRACTOR.
Q. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
R. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, BARK MULCH BERMS, SEDIMENT BASINS, HAY BALES, STONE CHECK DAMS, ETC.) TO PREVENT EROSION.
S. ALL CONSTRUCTION AREAS SHALL BE STABILIZED AT THE END OF EACH WORKING DAY. THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.
T. CONTRACTOR SHALL PUMP STANDING WATER TO SEEDED AREAS TO HELP IRRIGATE NEW GRASS GROWTH AND TO MAXIMIZE VOLUME CAPACITY OF SEDIMENT BASINS PRIOR TO STORM EVENTS.
U. EROSION CONTROL MEASURES MUST BE ADJUSTED AS NECESSARY TO ENSURE ZERO DISCHARGE OF TURBID WATER.
V. ADD TEMPORARY DITCH STABILIZATION AS NECESSARY TO PREVENT EROSION.
W. EROSION CONTROL MESH IS REQUIRED ON ALL CONSTRUCTED SLOPES 3 TO 1 OR STEEPER.
X. CONSTRUCTION AREAS, TRAILERS, PORTA–POTTIES, AND LAYDOWN AREAS MUST BE FENCED OFF WITH TEMPORARY CONSTRUCTION FENCING TO KEEP PEOPLE FROM ENTERING THE WORK ZONE.
Y. ALL GROUND COVER WITHIN THE PANEL ARRAY MUST BE RETURNED TO A MEADOW BUFFER. ANY AREAS NOT MEETING THE STANDARD OF A MEADOW BUFFER MUST BE REPAIRED AND RESEEDED.

MAINTENANCE:

1. ALL MEASURES STATED ON THIS EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE MAINTAINED IN FULL FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETE PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

   a. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND OF GRASS IS MAINTAINED. ERODED AREAS SHOULD BE FILLED, RESEEDED, AND WATERED AS NEEDED.
   b. SILT FENCES AND EROSION CONTROL BERMS SHALL BE REPAIRED TO THEIR ORIGINAL CONDITION IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCE WHEN IT REACHES ONE–HALF THE HEIGHT OF THE SILT FENCE.
   c. THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.
   d. A MAINTENANCE LOG WILL BE UPDATED FOLLOWING EACH INSPECTION AND KEPT ON FILE. THIS SHALL INCLUDE DATE, INSPECTOR NAME, PROBLEMS FOUND AND ACTION TAKEN.

WINTER CONSTRUCTION NOTES

FOR WORK PROPOSED DURING THE WINTER SEASON (TYPICALLY NOVEMBER 1 – APRIL 15), THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING PRACTICES:

1. A PLAN AND SCHEDULE OF ACTIVITIES SHALL BE SUBMITTED TO THE PERMITTEE FOR APPROVAL PRIOR TO ANY WORK BEING DONE.
2. LIMIT THE TOTAL AREA OF EXPOSED SOIL TO THAT IN WHICH EARTH WORK CAN BE COMPLETED WITHIN 15 DAYS AND MULCHED WITHIN ONE DAY PRIOR TO A SNOW EVENT.
3. EXPOSED SOIL MAY BE LEFT BARE FOR NO MORE THAN 15 DAYS.
4. MULCH ALL EXPOSED SOIL WHERE NO ACTIVITY IS SCHEDULED WITHIN 7 DAYS AND PRIOR TO A FORECASTED SNOW EVENT OF MORE THAN 1 INCH.
5. WHERE PRACTICABLE, MULCH SHOULD BE APPLIED AT THE END OF EACH DAY'S WORK FOR AREAS THAT ARE FINAL GRADED. OTHERWISE, MULCH THE FOLLOWING DAY.
6. DO NOT APPLY MULCH OVER MORE THAN 1 INCH OF SNOW.
7. HAY OR STRAW MULCH SHALL BE APPLIED AT 140 LBS/1000 S.F. (APPROX.. 4 BALES) AND SO THAT THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH.
8. ECM IS THE PREFERRED MULCHING MATERIAL AND SHALL BE APPLIED AT A MINIMUM 4 INCH THICKNESS, WITH HIGHER AMOUNTS AS DESCRIBED HEREIN.
9. ECM IS THE PREFERRED EROSION CONTROL BARRIER. IF ECM IS NOT AVAILABLE, INSTALLATION OF SILT FENCE ON FROZEN GROUND MAY BE MODIFIED FROM ILLUSTRATIONS AND DETAIL DRAWINGS TO SUBSTITUTE SIX INCHES OF SUITABLE NON–ORGANIC MATERIAL OVER THE BOTTOM OF THE SILT FENCE IN LIEU OF TRENCHING AND BACKFILLING FABRIC.
10. A DOUBLE ROW OF EROSION CONTROL BARRIER WILL BE USED WHERE REQUIRED WITHIN 100 FEET OF WETLANDS AND WATER BODIES.
11. INSPECTION OF EROSION CONTROL MEASURES AND ANY NEEDED REPAIR/REPLACEMENT OF WHICH SHALL OCCUR EACH DAY.
12. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS/ACRE OF MULCH, SECURED WITH ANCHOR NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
13. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
14. AFTER NOVEMBER 15, INCOMPLETE ROADS AND EQUIPMENT PAD AREAS, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL.
15. PERMANENT SEEDING IS NOT REQUIRED DURING THE WINTER SEASON; HOWEVER, IF DONE, THE CONTRACTOR SHALL FOLLOW PROCEDURES FOR DORMANT SEEDING. THE PERMANENT SEED MIX SHALL BE APPLIED AT THREE TIMES THE STANDARD RATE AND MULCHED. RE–VEGETATION SUCCESS MUST BE INSPECTED BY THE CONTRACTOR IN THE FOLLOWING SPRING (AFTER APRIL 15) AND RE–SEEDED AS NECESSARY IF VEGETATIVE COVER IS LESS THAN 75 PERCENT. ACCEPTANCE OF DORMANT SEEDING AS SUCCESSFUL WILL NOT OCCUR UNTIL AFTER JUNE 1 OF THE FOLLOWING SPRING.

SEEDING NOTES:

TEMPORARY SEEDING NOTES

1. ANY DISTURBED AREAS TO BE LEFT IN ROUGH GRADED FORM FOR MORE THAN 30 DAYS (7 DAYS FOR SENSITIVE AND CRITICAL AREAS) BUT LESS THAN ONE GROWING SEASON SHALL BE LIMED, FERTILIZED, TEMPORARILY SEEDED AND MULCHED OR OTHERWISE STABILIZED.
2. EXPOSED OR BARE SOIL IN SENSITIVE AND CRITICAL AREAS ARE TO BE MULCHED AT THE COMPLETION OF WORK, EACH DAY, IF SIGNIFICANT RAINFALL IS PREDICTED.
3. APPLICATION RATES AND MATERIALS USED SHALL BE THE SAME AS FOR PERMANENT SEEDING EXCEPT SEED MIXTURE SHALL BE ANNUAL RYEGRASS.

PERMANENT SEEDING NOTES

1. DURING PERIODS FROM APRIL 15 TO SEPTEMBER 15, AREAS DISTURBED SHALL BE PERMANENTLY SEEDED WITH CONSERVATION SEED MIX (A MIXTURE OF CREEPING RED FESCUE, REDTOP, TALL FESCUE, CLOVER AND ANNUAL RYE), AT A RATE OF 1.0 LB/1,000 SF.

Rev. #	Dwg. By	Description	Date
-	-	-	-

Designed By: FB
Drawn By: FB
Date: 03/09/2020
Scale: AS SHOWN
Approved
Checked

GARDINER SOLAR
MARKET ST. GARDINER SOLAR, LLC
47 MARKET ST.
Project Location: GARDINER, MAINE
Drawing Description: EROSION AND SEDIMENTATION CONTROL PLAN

STATE OF MAINE
WODI A. DUBE-O'NEAL
NO. 13020
LICENSED PROFESSIONAL ENGINEER
Seal
09/09/2020

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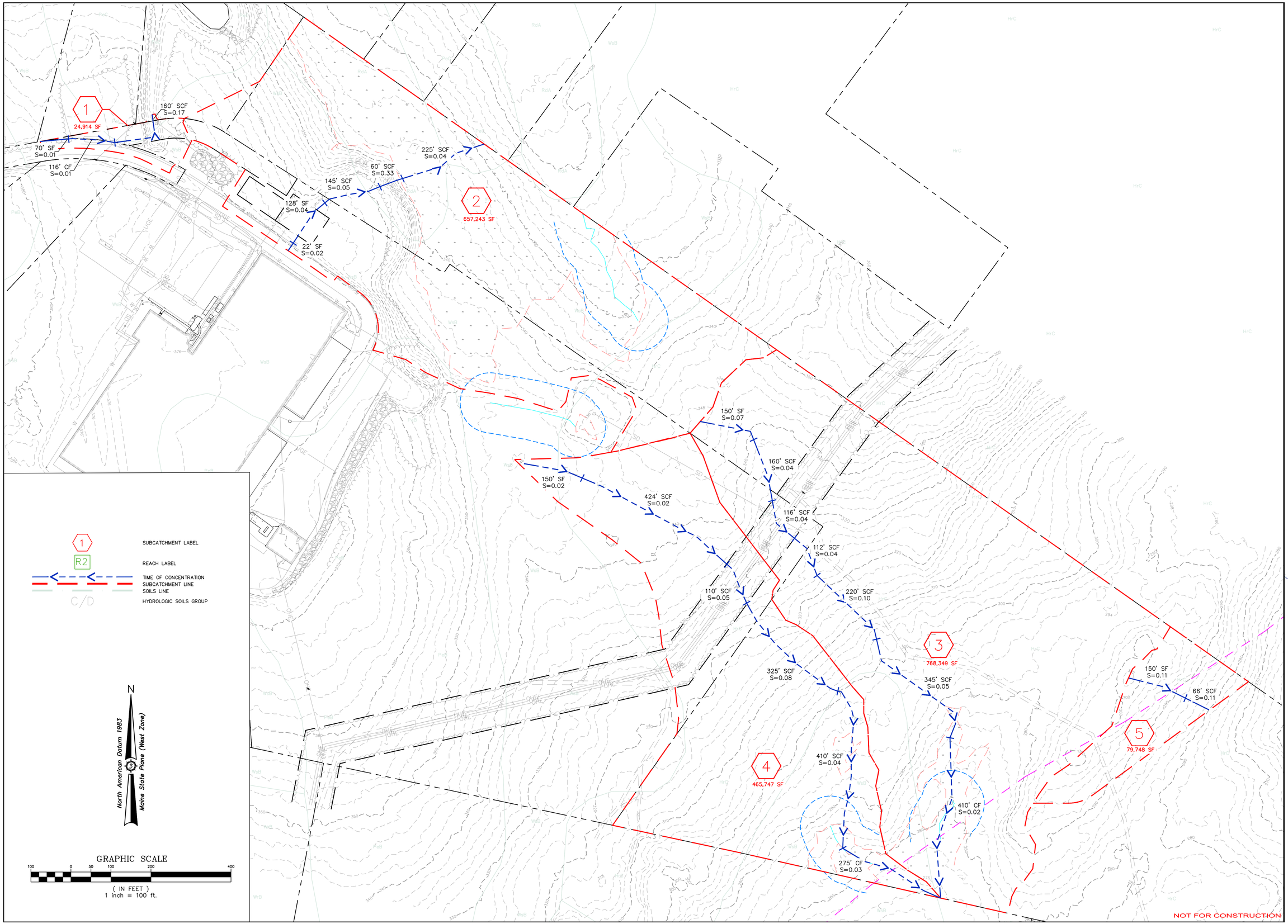
Project No.: 85711E
Engineer

Phase: PERMIT

Sheet No.: C-4



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GARDINER SOLAR
MARKET ST. GARDINER SOLAR, LLC
47 MARKET ST
Project Location
GARDINER, MAINE
Drawing Description
PRE DEVELOPMENT DRAINAGE PLAN

Designed By: FB
Drawn By: FB
Date: 03/09/2020
Scale: AS SHOWN
Approved
Checked

STATE OF MAINE
WENDI A. DUBE-O'NEAL
NO. 13020
LICENSED PROFESSIONAL ENGINEER
Seal
03/09/2020

85711E
Project No.
Engineer

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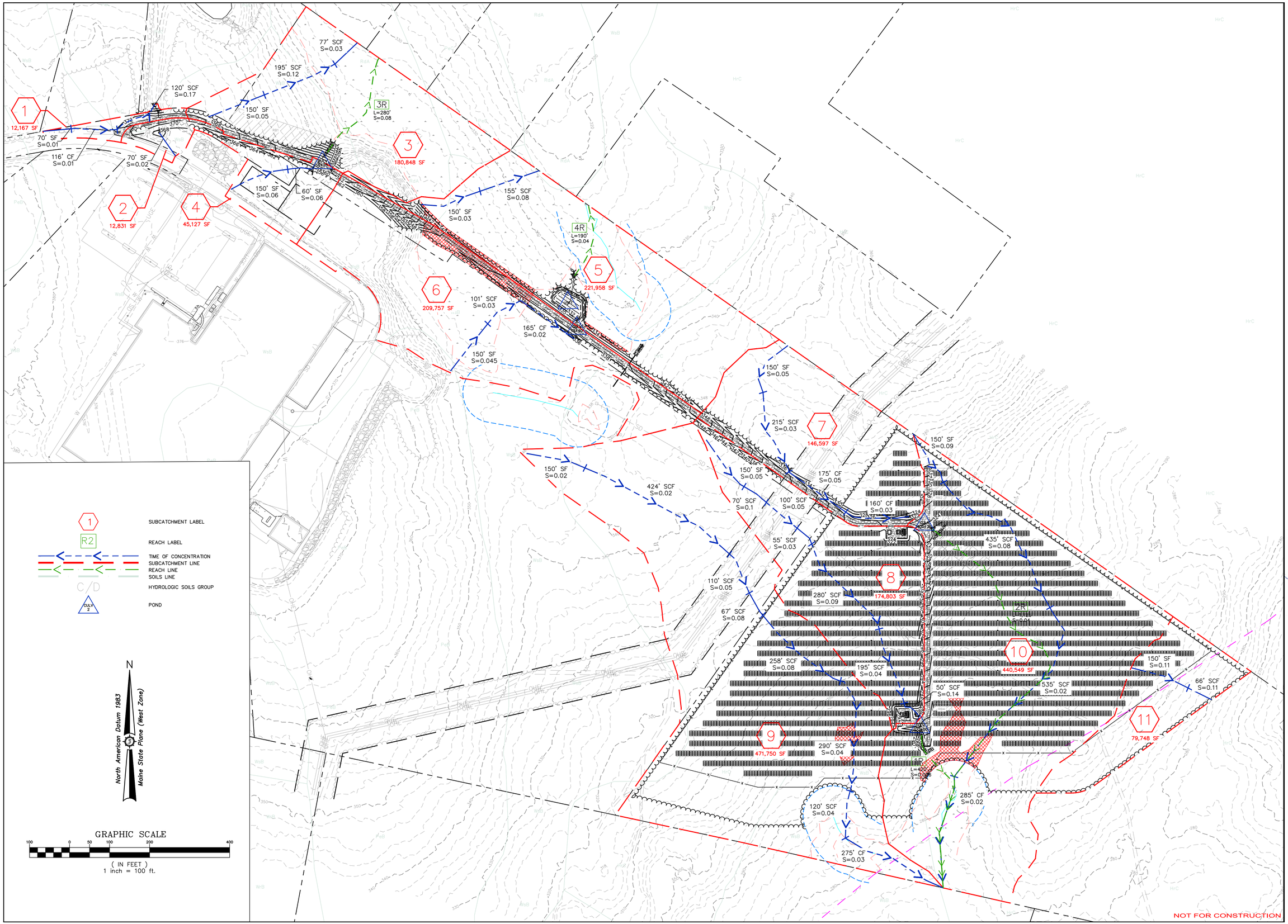

1 — SUBCATCHMENT LABEL

R2 — REACH LABEL

TIME OF CONCENTRATION
SUBCATCHMENT LINE
REACH LINE
SOILS LINE

C/D — HYDROLOGIC SOILS GROUP

DA1-V 2 — POND

N

North American Datum 1983
Maine State Plane (West Zone)

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

Rev. #	Dwg. By	Description	Date
-	-	-	-

Designed By: FB
Date: 03/09/2020
Drawn By: FB
Scale: AS SHOWN
Approved
Checked

GARDINER SOLAR
MARKET ST. GARDINER SOLAR, LLC

47 MARKET ST.
Project Location
GARDINER, MAINE

Drawing Description
POST DEVELOPMENT DRAINAGE PLAN

STATE OF MAINE
JODI A. DUBÉ-O'NEAL
NO. 13020
LICENSED PROFESSIONAL ENGINEER
03/09/2020
Seal

85711E
Project No.

Engineer
ENGINEERING

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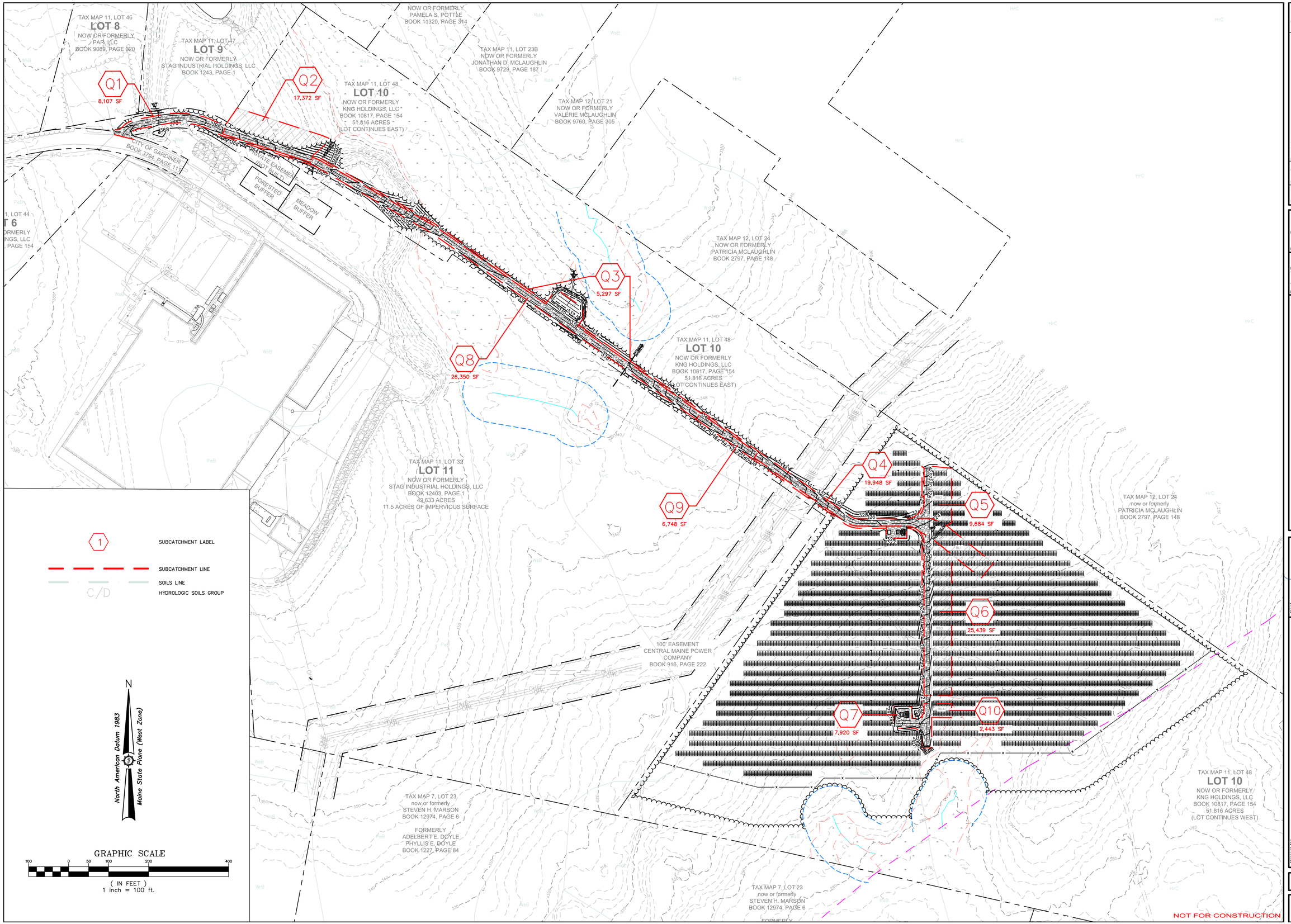

1 SUBCATCHMENT LABEL

SUBCATCHMENT LINE

SOILS LINE

C/D HYDROLOGIC SOILS GROUP

N

North American Datum 1983
Maine State Plane (West Zone)

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

Rev. #	Dwg. By	Description	Date
-	-	-	-

Designed By: FB
Date: 03/09/2020
Drawn By: FB
Scale: AS SHOWN
Approved:
Checked:

GARDINER SOLAR
MARKET ST. GARDINER SOLAR, LLC
47 MARKET ST.
Project Location
GARDINER, MAINE
Drawing Description
POST DEVELOPMENT WATER QUALITY PLAN

STATE OF MAINE
WOODI
A.
DUBE-O'NEAL
NO. 13020
LICENSED
PROFESSIONAL ENGINEER
Seal
08/09/2020

Project No.
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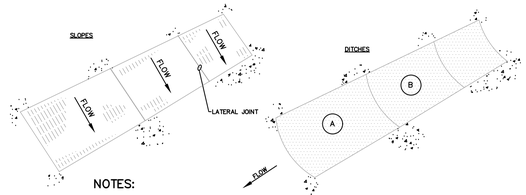
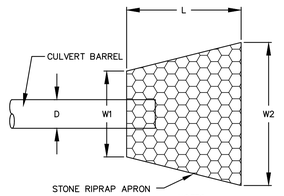


NOTES:

1. BURY THE TOP END OF THE MESH MATERIAL IN A 6" TRENCH AND BACKFILL AND TAMP TRENCHING SECURE END WITH STAPLES AT 6" SPACING, 4" DOWN FROM EXPOSED END.
2. FLOW DIRECTION JOINTS TO HAVE UPPER END OF LOWER STRIP BURIED WITH UPPER LAYERS OVERLAPPED 4" AND STAPLED. OVERLAP B OVER A.
3. LATERAL JOINTS TO HAVE 4" OVERLAP OF STRIPS. STAPLE 18" O.C.
4. STAPLE OUTSIDE LATERAL EDGE 2' ON CENTER
5. WIRE STAPLES TO BE MIN. OF #11 WIRE 6" LONG AND 1-1/2" WIDE.
6. USE NORTH AMERICAN GREEN DS 150 OR APPROVED EQUAL.

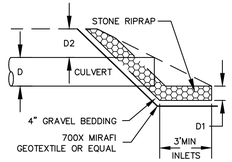
EROSION CONTROL MESH
NOT TO SCALE



D	W1	W2	L	d50
15"	4'	14'	10'	4"
18"	5'	15'	10'	6"
24"	6'	16'	12'	6"

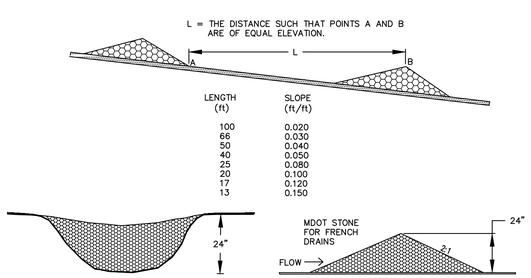
NOTES
1. THE RIPRAP APRON SHALL BE CONSTRUCTED WITH NO SLOPE ALONG ITS LENGTH.

CULVERT OUTLET DETAIL PLAN VIEW
NOT TO SCALE



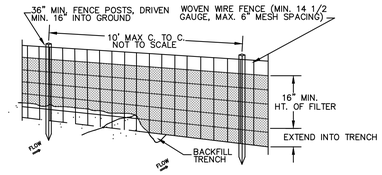
D	D1	D2 INLET	D2 OUTLET
15"	9"	24"	12"
18"	13.5"	24"	12"
24"	13.5"	36"	12"

CULVERT INLET/OUTLET DETAIL PLAN VIEW
NOT TO SCALE

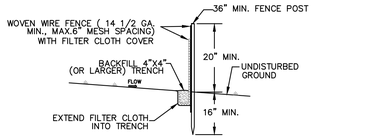


LENGTH (ft)	SLOPE (ft/ft)
100	0.020
66	0.030
50	0.040
40	0.050
25	0.080
20	0.100
17	0.120
13	0.150

STONE CHECK DAM DETAILS
NOT TO SCALE



PERSPECTIVE VIEW



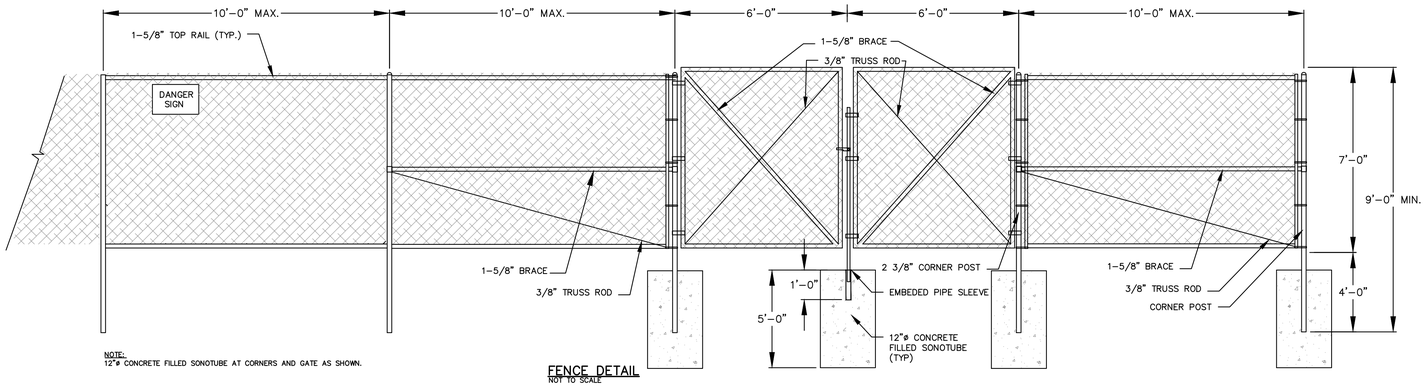
SECTION

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

NOTE: THE CONTRACTOR HAS THE OPTION TO NOT USE WOVEN WIRE MESH IF STAKE SPACERS ARE REDUCED TO 6' O.C.

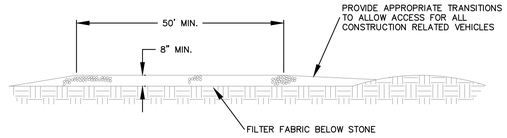
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP OF MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
5. POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD
6. FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING
7. FILTER CLOTH: FILTER X, MARAFI 100X, STABI-LINKA T140N OR APPROVED EQUAL
8. PREFABRICATED UNIT: GEOFAB, ENVROFENCE, OR APPROVED EQUAL.

SILT FENCE DETAIL
NOT TO SCALE

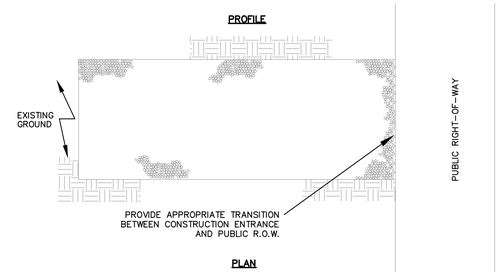


NOTE:
12"ø CONCRETE FILLED SONOTUBE AT CORNERS AND GATE AS SHOWN.

FENCE DETAIL
NOT TO SCALE



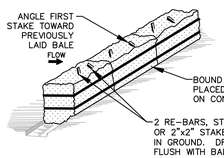
PROFILE



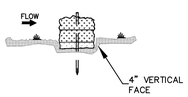
PLAN

NOTES:
1. STONE SIZE – USE 2"–3" CRUSHED STONE.
2. LENGTH – AS SHOWN ON GRADING PLAN, MIN. 50 FEET.
3. THICKNESS – NOT LESS THAN EIGHT (8) INCHES.
4. WIDTH – NOT LESS THAN FULL WIDTH OF ALL POINT OF INGRESS OR EGRESS.
5. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



ANCHORING DETAIL

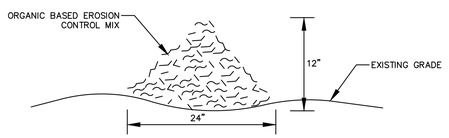


EMBEDDING DETAIL

CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF FOUR INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECT FREQUENTLY AND REPAIR OR REPLACE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

HAYBALE DETAIL
NOT TO SCALE



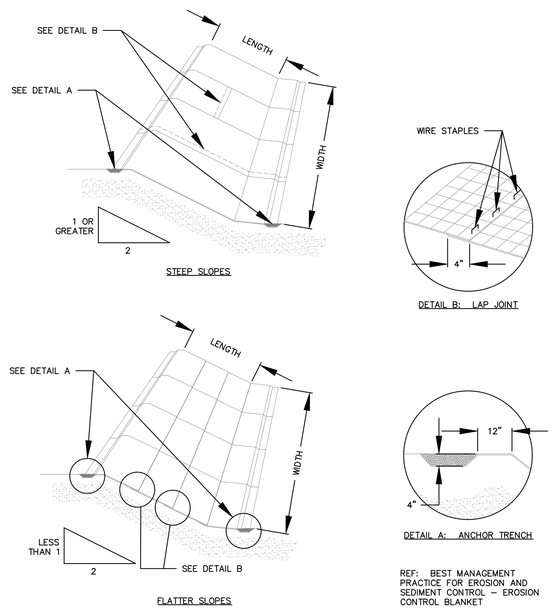
COMPOSITION

EROSION CONTROL MIX SHALL BE MANUFACTURED ON OR OFF THE PROJECT SITE SUCH THAT ITS COMPOSITION IS IN ACCORDANCE WITH THE LATEST REVISION OF THE MDEP MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.

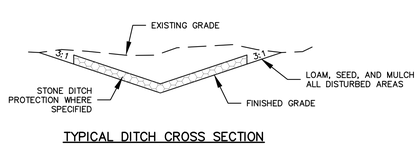
INSTALLATION:

1. THE BARRIER MUST BE PLACED ACROSS THE SLOPE, ALONG THE CONTOUR.
2. EXISTING GROUND SHALL BE PREPARED SUCH THAT THE BARRIER MAY LIE NEARLY FLAT ALONG THE GROUND TO AVOID THE CREATION OF VOIDS AND BRIDGES IN ORDER TO MINIMIZE THE POTENTIAL OF WASH OUTS UNDER THE BARRIER.
3. THE BARRIER SHALL BE A MINIMUM OF 1 FOOT HIGH (AS MEASURED ON THE UPHILL SIDE) AND 2 FEET WIDE FOR SLOPES LESS THAN 5% IN GRADE AND SHALL BE WIDER TO ACCOMMODATE THE ADDITIONAL RUNOFF.
4. EROSION CONTROL MIX MAY BE INSTALLED WHERE SILT FENCE IS ILLUSTRATED ON THE DESIGN PLANS IN AREAS EXCEPT IN, BUT NOT LIMITED TO, THE FOLLOWING AREAS: WETLAND AREAS, AT POINTS OF CONCENTRATED FLOW, BELOW CULVERT OUTLET APRONS, AROUND CATCH BASINS AND CLOSED STORM SYSTEMS AND AT THE BOTTOM OF STEEP SLOPES THAT ARE MORE THAN 50 FEET FROM TOP TO BOTTOM.

EROSION CONTROL MIX BERM
NOT TO SCALE



SLOPE APPLICATION–FOR EROSION CONTROL MESH
NOT TO SCALE



TYPICAL DITCH CROSS SECTION
NOT TO SCALE

NOT FOR CONSTRUCTION

Rev. #	Description	Dwg. By	Date
1			
2			
3			

Designed By: FB
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Date: 03/09/2020
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Approved

GARDINER SOLAR
MARKET ST. GARDINER SOLAR, LLC
47 MARKET ST
Project Location: GARDINER, MAINE
Drawing Description: **DETAILS**

STATE OF MAINE
WODI A. DUBE-O'NEAL
NO. 13020
LICENSED PROFESSIONAL ENGINEER
Seal
08/03/2020

85711E
Project No.
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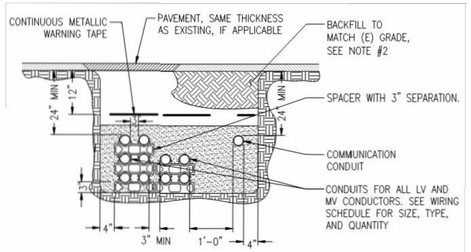
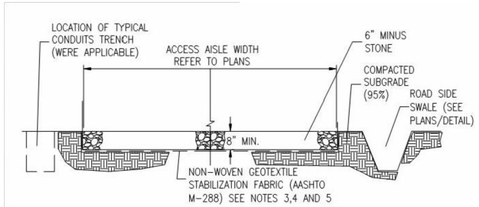


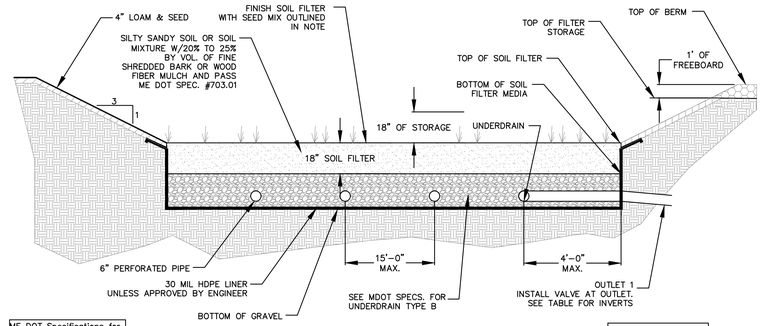
NOTES:
1. MAINTAIN A MINIMUM DISTANCE OF 1' BETWEEN CONDUIT WITH COMMUNICATION WIRING AND ANY CONDUIT WITH ELECTRIC POWER CONDUCTORS. POWER AND DATA CONDUITS MAY CROSS AND THE 1' MIN. MAY BE REDUCED FOR TRENCH SECTIONS LESS THAN 10' AND NEAR EQUIPMENT STUB-UPS.
2. BACKFILL IN ACCORDANCE WITH ELECTRICAL SPECIFICATION SECTION 312000.

TYPICAL ELECTRICAL TRENCH
NOT TO SCALE



NOTES:
1. SUBCONTRACTOR SHALL EXCAVATE TO SUITABLE MATERIAL FOR SUBGRADE.
2. SUBCONTRACTOR SHALL COMPACT SUBGRADE TO PROVIDE SUITABLE SURFACE TO PLACE ROAD.
3. GEOTEXTILE FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS:
   - TENSILE STRENGTH: 150 LB MIN.
   - ELONGATION: 50%
   - CBR PUNCTURE: 400 LB MIN.
   - MINIMUM WATER FLOW RATE: 120 GPM / FT^2
4. SUBCONTRACTOR SHALL FOLLOW GEOTEXTILE FABRIC MANUFACTURER INSTALLATION PROCEDURES.
5. WHERE OVERLAPPING OF GEOTEXTILE FABRIC IS REQUIRED, SUBCONTRACTOR SHALL OVERLAP A MINIMUM OF 24".
6. SUBCONTRACTOR SHALL REMOVE TEMPORARY CONSTRUCTION ACCESS ROADS, AND RESTORE TO PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE CEOR AND THE GOVERNING AGENCIES.

GRAVEL ACCESS ROAD WITH SWALE
NOT TO SCALE



ME DOT Specifications for Aggregate (MDOT #703.01)	
Sieve Size	% by Weight
⅜"	100
#4	95–100
#8	80–100
#16	50–85
#30	25–60
#60	10–30
#100	2–10
#200	0–5

NOTE: UNDERDRAIN PIPE DIAMETER SHALL BE 6" UNLESS OTHERWISE NOTED.

SOIL FILTER MEDIA TO MEET THE LATEST MDEP SPECS FOUND IN THE MOST CURRENT VERSION OF THE BMP MANUAL.

THE UNDERDRAINED SOIL FILTER MUST BE PLANTED WITH A SPECIES TOLERANT OF FREQUENT INUNDATION SUCH AS A NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AS AVAILABLE FROM NEW ENGLAND WETLAND PLANTS, INC., AMHERST, MA, CONTAINING THE FOLLOWING:

UPLAND BENTGRASS	VIRGINIA WILD RYE
CREEPING BENTGRASS	CREEPING RED FESCUE
FOX SEDGE	SWITCH GRASS
SOFT RUSH	LITTLE BLUESTEM
GREEN BULRUSH	BONESET
WOOL GRASS	SENSITIVE FERN
GRASS-LEAVED GOLDENROD	BIG BLUESTEM, NIAGRA
BLUE VERVAIN	NEW ENGLAND ASTER

APPLIED AT A RATE OF 35 LBS/ACRE. LIGHTLY MULCH WITH CLEAN WEED FREE STRAW TO CONSERVE MOISTURE.

ME DOT Specifications for Underdrain Type B	
Sieve Size	% by Weight
1"	90–100
½"	75–100
#4	50–100
#20	15–80
#50	0–15
#200	0–5

	TOP OF BERM	TOP OF SPILLWAY ELEV/LENGTH	TOP OF SOIL FILTER	BOTTOM OF SOIL MEDIA	BOTTOM OF GRAVEL	OUTLET 1 (UD) DIA./LENGTH	OUTLET 1 (UD) ELEV. IN/OUT
USF 1	335	334/25 FT	332.50	331	329.83	6"/50 FT	330.17/329.80

GENERAL NOTES FOR UNDERDRAIN FILTER BASINS:

CONSTRUCTION SEQUENCE:
1. THE SOIL FILTER MEDIA AND VEGETATION MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION UNLESS THE RUNOFF FROM THE CONTRIBUTING AREA IS DIVERTED AROUND THE FILTER INTO A TEMPORARY BASIN FOR SEDIMENT REMOVAL UNTIL STABILIZATION IS COMPLETED.

COMPACTION OF SOIL FILTER:
1. FILTER SOIL MEDIA AND UNDERDRAIN BEDDING MATERIAL MUST BE COMPACTED TO BETWEEN 90% AND 92% STANDARD PROCTOR. THE BED SHOULD BE INSTALLED IN AT LEAST TWO LIFTS OF 9 INCHES TO PREVENT POCKETS OF LOOSE MEDIA.

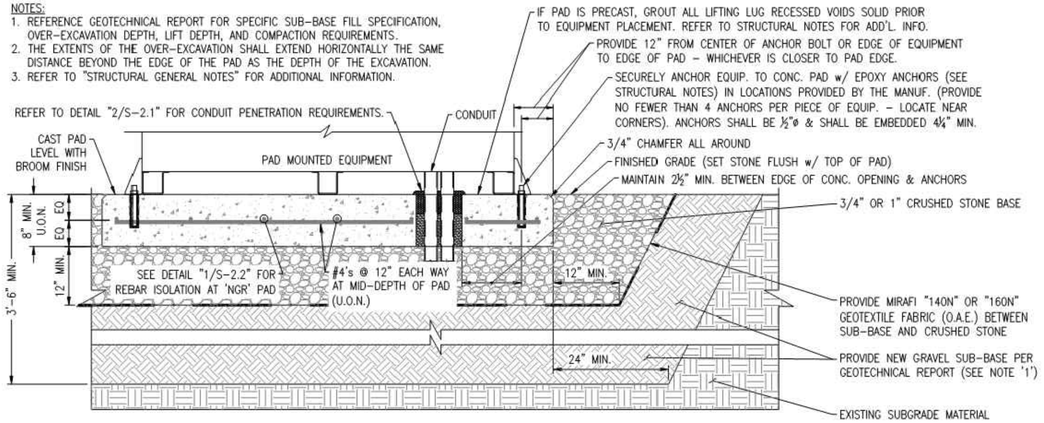
CONSTRUCTION OVERSIGHT: INSPECTION BY A PROFESSIONAL ENGINEER WILL OCCUR AT A MINIMUM:
1. AFTER THE PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED.
2. AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA.
3. AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED. BIO-RETENTION CELLS MUST BE STABILIZED PER THE PROVIDED PLANTING SCHEME AND DENSITY FOR THE CANOPY COVERAGE OF 30 AND 50%.
4. AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS, AND ALL MATERIAL USED FOR THE CONSTRUCTION OF THE THE FILTER BASIN MUST BE CONFIRMED AS SUITABLE BY THE DESIGN ENGINEER. TESTING MUST BE DONE BY A CERTIFIED LABORATORY TO SHOW THAT THEY HAVE PASSED DEP SPECIFICATIONS.

TESTING AND SUBMITTALS:
1. THE CONTRACTOR SHALL IDENTIFY THE LOCATION AND SOURCE OF EACH COMPONENT OF THE FILER MEDIA. ALL RESULTS OF FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR CONFIRMATION. THE CONTRACTOR SHALL:
   A. SELECT SAMPLES FOR SAMPLING OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY.
   B. PERFORM A SIEVE ANALYSIS CONFORMING TO ASTM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COURSE AGGREGATES 1996A) ON EACH TYPE OF THE SAMPLE MATERIAL. THE RESULTING SOIL FILTER MEDIA MIXTURE MUST HAVE 8% TO 12% BY WEIGHT PASSING THE #200 SIEVE, A CLAY CONTENT OF LESS THAN 2% (DETERMINED HYDROMETER GRAIN SIZE ANALYSIS) AND HAVE 10% DRY WEIGHT OF ORGANIC MATTER.
   C. PERFORM A PERMEABILITY TEST ON THE SOIL FILTER MEDIA MIXTURE CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 90–92% OF MAXIMUM DRY DENSITY BASED ON ASTM D698.

OUTLET VALVE SETTING:
1. SET VALVE AT THE OUTLET TO THE CLOSED POSITION.
2. INSPECT SOIL FILTER AFTER RAIN EVENT, ONCE THE SOIL FILTER IS FULL OF WATER OPEN THE VALVE. NOTE THE TIME THAT THE VALVE WAS OPENED AND THE POSITION OF THE VALVE.
3. CHECK THE SOIL FILTER 24 HOURS AFTER THE VALVE WAS OPENED. AT THE 24 HOUR MARK WATER SHOULD STILL BE COMING OUT OF THE OUTLET.
4. CHECK THE FILTER AGAIN IN ANOTHER 24 HOURS (48 HOURS FROM THE VALVE BEING OPENED). AT THIS TIME THERE SHOULD BE NO MORE WATER COMING OUT OF THE OUTLET.
5. THIS PROCESS SHOULD BE REPEATED UNTIL THE VALVE IS AT THE CORRECT POSITION SUCH THAT THE WATER DOES NOT DRAIN FROM THE FILTER BEFORE 24 HOURS BUT IS DRAINED BY 48 HOURS.
6. MARK THE FINAL VALVE POSITION. CONTINUE THE REGULAR INSPECTIONS AND MAINTENANCE.

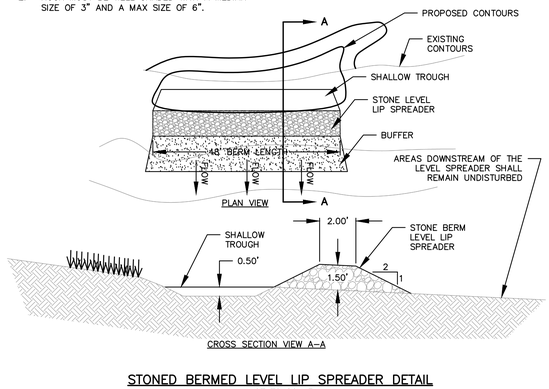
TYPICAL UNDERDRAIN SOIL FILTER
NOT TO SCALE

NOTES:
1. REFERENCE GEOTECHNICAL REPORT FOR SPECIFIC SUB-BASE FILL SPECIFICATION, OVER-EXCAVATION DEPTH, LIFT DEPTH, AND COMPACTION REQUIREMENTS.
2. THE EXTENTS OF THE OVER-EXCAVATION SHALL EXTEND HORIZONTALLY THE SAME DISTANCE BEYOND THE EDGE OF THE PAD AS THE DEPTH OF THE EXCAVATION.
3. REFER TO "STRUCTURAL GENERAL NOTES" FOR ADDITIONAL INFORMATION.

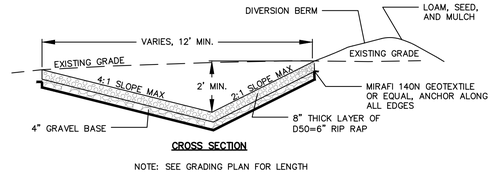


CONCRETE EQUIPMENT PAD – SECTION
NOT TO SCALE

NOTE:
1. STONE LEVEL LIP SPREADER MUST CONSIST OF DURABLE ROCK THAT WILL NOT DISINTEGRATE BY EXPOSURE TO WATER OR WEATHER.
2. ROCK MUST BE WELL GRADED WITH A MEDIAN SIZE OF 3" AND A MAX SIZE OF 6".



STONED BERMED LEVEL LIP SPREADER DETAIL
NOT TO SCALE



CROSS SECTION

NOTE: SEE GRADING PLAN FOR LENGTH

LEVEL SPREADER NOTES
1) ALL LEVEL SPREADERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR CONSTRUCTION.
2) ALL LEVEL SPREADERS SHALL BE CONSTRUCTED IN A CUT SECTION, I.E. THERE SHALL BE NO EARTH FILL ALONG DOWNSTREAM EDGE.
3) ALL LEVEL SPREADERS SHALL BE ALIGNED PARALLEL TO THE EXISTING CONTOURS.
4) THE ENTRANCE DITCH TO THE LEVEL SPREADER SHALL HAVE A MAXIMUM GRADE OF 1.0% FOR AT LEAST 50 FEET IMMEDIATELY PRIOR TO ENTERING THE SPREADER.
5) THE LEVEL SPREADER SHALL HAVE A LONGITUDINAL GRADE OF 0.0%

TYPICAL LEVEL SPREADER
NOT TO SCALE

NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
-	-	-	-

Designed By: FB
Drawn By: FB
Date: 03/09/2020
Scale: AS SHOWN
Checked
Approved

GARDINER SOLAR
MARKET ST. GARDINER SOLAR, LLC
47 MARKET ST.
Project Location: GARDINER, MAINE
Drawing Description: DETAILS

Seal: STATE OF MAINE, WODI A. DUBÉ-O'NEAL, NO. 13020, LICENSED PROFESSIONAL ENGINEER, 03/09/2020

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Phase: PERMIT

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