

# PROPOSED SITE PLAN DOCUMENTS

FOR  
**MAPLE STREET SOLAR, LLC**

PROPOSED  
**SOLAR FARM**

LOCATION OF SITE:  
 160 MAPLE STREET, TOWN OF BELLINGHAM & FRANKLIN  
 NORFOLK COUNTY, MASSACHUSETTS  
 LOTS INCLUDED (PARCEL #): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION  
 OF D 239-010, & 32-0009 (BELLINGHAM)

### REFERENCES

EXISTING CONDITIONS SURVEY:  
 FELDMAN GEOSPATIAL  
 152 HAMPDEN STREET, BOSTON, MA 01608  
 DATE: 05/09/2022

ANR SURVEY:  
 FELDMAN GEOSPATIAL  
 152 HAMPDEN STREET, BOSTON, MA 01608  
 DATE: 08/05/2022

\* THE ABOVE REFERENCED DOCUMENTS ARE INCORPORATED BY REFERENCE AS PART OF THESE PLANS. HOWEVER, BOHLER ENGINEERING DOES NOT CERTIFY THE ACCURACY OF THE WORK REFERENCED OR DERIVED FROM THESE DOCUMENTS, BY OTHERS.

### REVISIONS

REV	DATE	COMMENT	DRAWN BY



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PROJECT No.: W201257  
 DRAWN BY: CMC / OGR  
 CHECKED BY: GD  
 DATE: 07/20/2023  
 CAD I.D.: W201257-SPPO-08

### PROJECT:

### PROPOSED SITE PLAN DOCUMENTS

FOR  
**MAPLE STREET SOLAR LLC**  
 PROPOSED SOLAR FARM

LOTS INCLUDED (PARCEL #): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION OF D 239-010, & 32-0009  
 160 MAPLE STREET,  
 TOWN OF BELLINGHAM & FRANKLIN,  
 NORFOLK COUNTY, MASSACHUSETTS

### BOHLER //

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 SOUTHBOROUGH, MA 01772  
 Phone: (508) 480-9900

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### SHEET TITLE:

**COVER SHEET**

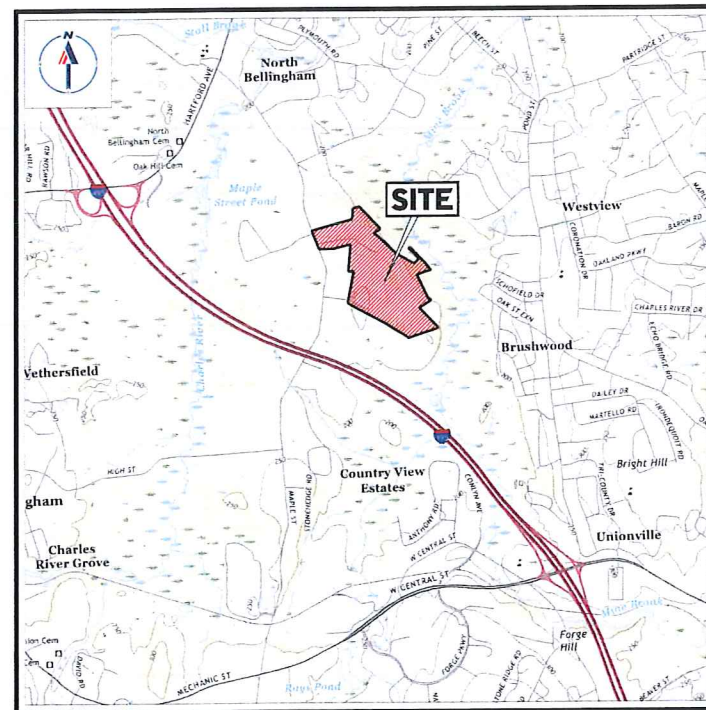
### SHEET NUMBER:

**C-101**

ORG. DATE - 07/20/2023

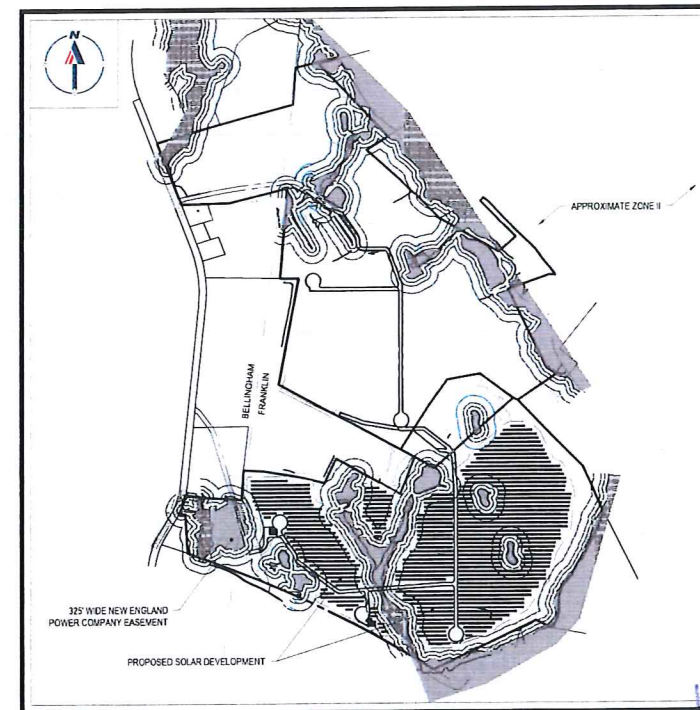
### DRAWING SHEET INDEX

SHEET TITLE	SHEET NUMBER
COVER SHEET	C-101
GENERAL NOTES SHEET	C-102
OVERALL DEMOLITION PLAN	C-201
DEMOLITION PLAN (A-F)	C-202 - C-207
OVERALL SITE LAYOUT PLAN	C-301
SITE LAYOUT PLAN (A - F)	C-302 - C-307
OVERALL GRADING PLAN	C-401
GRADING PLAN (A - F)	C-402 - C-407
OVERALL EROSION & SEDIMENT CONTROL PLAN	C-601
EROSION & SEDIMENT CONTROL PLAN (A - F)	C-602 - C-607
EROSION & SEDIMENT CONTROL NOTES & DETAILS	C-608 - C-609
DETAIL SHEETS	C-901 - C-906
FIRE TRUCK CIRCULATION PLAN	1 OF 1
EXISTING CONDITIONS PLAN (BY FELDMAN GEOSPATIAL)	8 SHEETS



**USGS MAP**

SCALE: 1" = 2,000'  
 SOURCE: FRANKLIN MASSACHUSETTS USGS QUADRANGLE



**SITE MAP**

SCALE: 1" = 600'  
 SOURCE: GOOGLE AERIAL

PREPARED BY

**BOHLER //**

RECEIVED  
 2023 JUL 21 A 9:29  
 TOWN OF FRANKLIN  
 TOWN CLERK

GENERAL NOTES

- 1. THESE PLANS ARE SOLELY BASED ON INFORMATION THE OWNER AND OTHERS PROVIDED TO BOHLER ENGINEERING... 2. THE CONTRACTOR MUST STRICTLY COMPLY WITH THESE NOTES AND ALL SPECIFICATIONS... 3. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION... 4. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION... 5. THE CONTRACTOR MUST ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THESE PLANS... 6. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION... 7. THE CONTRACTOR MUST REFER TO AND ENURE COMPLIANCE WITH THE APPROVED ARCHITECTURAL BUILDING PLANS... 8. THE CONTRACTOR MUST FIELD VERIFY ALL DIMENSIONS AND MEASUREMENTS... 9. THE CONTRACTOR MUST MAINTAIN RECORDS... 10. WHEN INCLUDED AS ONE OF THE REFERENCED DOCUMENTS... 11. ENGINEER OF RECORD AND BOHLER ARE NEITHER LIABLE NOR RESPONSIBLE... 12. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WHEN AND WHERE SHORING IS REQUIRED... 13. THE CONTRACTOR MUST EXERCISE EXTREME CAUTION WHEN PERFORMING ANY WORK ACTIVITIES... 14. DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE... 15. IF THE CONTRACTOR SOLELY RESPONSIBILITY TO MAINTAIN RECORDS... 16. THE CONTRACTOR MUST REPAIR AT CONTRACTOR'S SOLE COST... 17. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE... 18. THE CONTRACTOR MUST IMMEDIATELY IDENTIFY IN WRITING... 19. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE... 20. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE... 21. ALL CONTRACTORS MUST CARRY AT LEAST THE MINIMUM AMOUNT... 22. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE... 23. NEITHER THE PROFESSIONAL AGENTS OF BOHLER... 24. WHEN IT IS CLEARLY AND SPECIFICALLY WITHIN THE BOHLER'S SCOPE... 25. IF THE CONTRACTOR DEVIATES FROM THESE PLANS... 26. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROTECTING... 27. OWNER MUST MAINTAIN AND PRESERVE ALL PHYSICAL SITE FEATURES... 28. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING... 29. THE CONTRACTOR MUST STRICTLY COMPLY WITH THE LATEST... 30. THE CONTRACTOR AND OWNER MUST INSTALL ALL ELEMENTS... 31. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN AN ON-SITE STORMWATER POLLUTION PREVENTION PLAN... 32. AS CONTAINED IN THESE DRAWINGS AND ASSOCIATED DOCUMENTS...

GENERAL DEMOLITION NOTES

- 1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE... 2. THE CONTRACTOR MUST CONDUCT DEMOLITION/REMOVALS ACTIVITIES... 3. WHEN DEMOLITION RELATED ACTIVITIES... 4. THE DEMOLITION (AND/OR REMOVAL) PLAN IS INTENDED TO PROVIDE... 5. THE CONTRACTOR MUST ALSO REVIEW ALL CONSTRUCTION DOCUMENTS... 6. ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE... 7. THE CONTRACTOR IS RESPONSIBLE FOR JOB SITE SAFETY... 8. PRIOR TO THE COMMENCEMENT OF ANY SITE ACTIVITY... 9. THE CONTRACTOR MUST BECOME FAMILIAR WITH THE APPLICABLE UTILITY SERVICE PROVIDER... 10. PRIOR TO COMMENCING ANY DEMOLITION, THE CONTRACTOR MUST... 11. OBTAIN ALL REQUIRED PERMITS AND MAINTAIN THE SAME... 12. NOTIFY AT A MINIMUM, THE MUNICIPAL ENGINEER... 13. INSTALL THE REQUIRED SOLID EROSION AND SEDIMENT CONTROL... 14. IN ACCORDANCE WITH STATE LAW... 15. LOCATE AND PROTECT ALL UTILITIES AND SERVICES... 16. PROTECT AND MAINTAIN IN OPERATION ALL ACTIVE UTILITIES... 17. ARRANGE FOR AND COORDINATE WITH THE APPLICABLE UTILITY SERVICE PROVIDERS... 18. THE CONTRACTOR MUST NOT PERFORM ANY EARTH MOVEMENT ACTIVITIES... 19. THE CONTRACTOR MUST MAINTAIN A RECORD SET OF PLANS... 20. EXPLOSIVES MUST NOT BE USED WITHOUT PRIOR WRITTEN CONSENT... 21. IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL STANDARDS... 22. THE CONTRACTOR MUST LOCATE AND CLEARLY DEFINE VERTICALLY... 23. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION... 24. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS... 25. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS... 26. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS... 27. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS... 28. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS... 29. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS... 30. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS... 31. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS... 32. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS...

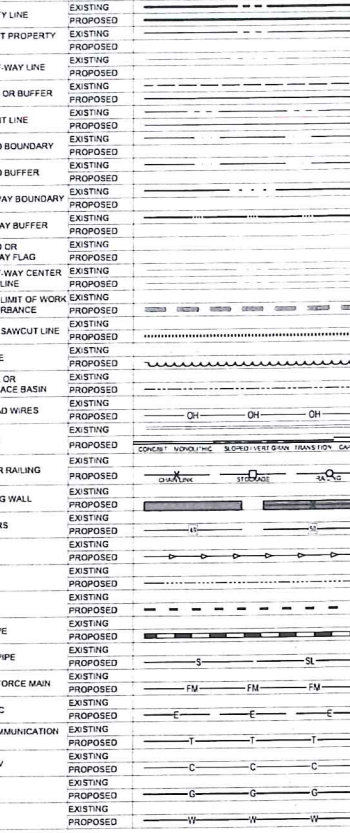
GENERAL GRADING NOTES

- 1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE... 2. SITE GRADING MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS... 3. THE CONTRACTOR IS REQUIRED TO SECURE ALL NECESSARY AND/OR REQUIRED PERMITS... 4. THE CONTRACTOR IS FULLY RESPONSIBLE FOR VERIFYING EXISTING TOPOGRAPHIC INFORMATION... 5. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING ALL UNSUITABLE MATERIALS... 6. IN THE EVENT OF A DISCREPANCY(IES) AND/OR CONFLICTS BETWEEN PLANS... 7. THE CONTRACTOR IS RESPONSIBLE TO IMPORT FILL OR EXPORT EXCESS MATERIAL... 8. EXCAVATIONS TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE... 9. WHERE RETAINING WALLS ARE IDENTIFIED ON THE PLANS... 10. USE OF GRAVITY BLOCK WALLS SHALL BE CONSIDERED... 11. STORMWATER RUNOFF FROM PROPERTY MUST BE COLLECTED... 12. BEFORE COMMENCING GRADING WORK... 13. REFER TO GENERAL NOTES SHEET FOR ADDITIONAL ADA GUIDELINES... 14. FOR ALL RETAINING WALLS (GT USE), ALL OTHER OFFICES... 15. PEER REVIEW AND GLOBAL STABILITY ANALYSIS OF THE RETAINING WALL DESIGN... 16. CONTRACTOR SHALL INSTALL CONCRETE CURB... 17. CONTRACTOR SHALL FIELD VERIFY RETAINING WALL LOCATIONS... 18. CONTRACTOR SHALL COORDINATE WITH OWNER/OPERATOR... 19. BEFORE COMMENCING GRADING WORK... 20. CONTRACTOR SHALL COORDINATE WITH OWNER/OPERATOR... 21. CONTRACTOR SHALL FIELD VERIFY THE LOCATION... 22. CONTRACTOR SHALL FIELD VERIFY THE LOCATION... 23. CONTRACTOR SHALL FIELD VERIFY THE LOCATION... 24. CONTRACTOR SHALL FIELD VERIFY THE LOCATION... 25. CONTRACTOR SHALL FIELD VERIFY THE LOCATION... 26. CONTRACTOR SHALL FIELD VERIFY THE LOCATION... 27. CONTRACTOR SHALL FIELD VERIFY THE LOCATION... 28. CONTRACTOR SHALL FIELD VERIFY THE LOCATION... 29. CONTRACTOR SHALL FIELD VERIFY THE LOCATION... 30. CONTRACTOR SHALL FIELD VERIFY THE LOCATION... 31. CONTRACTOR SHALL FIELD VERIFY THE LOCATION... 32. CONTRACTOR SHALL FIELD VERIFY THE LOCATION...

ABBREVIATIONS

Table with 2 columns: KEY and DESCRIPTION. Lists various construction terms and their abbreviations, such as ARCH (ARCHITECT), BC (BENCH MARK), BM (BENCH MARK), BOC (BOTTOM OF CURB), etc.

TYPICAL LINE TYPE LEGEND



REVISIONS

Table with 4 columns: REV, DATE, COMMENT, DRAWN BY. Contains a list of revisions to the document.



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ISSUED FOR MUNICIPAL & AGENCY REVIEW & APPROVAL. THE DRAWING IS INTENDED FOR MUNICIPAL AGENCY REVIEW AND APPROVAL... PROJECT: 160 MAPLE STREET

PROPOSED SITE PLAN DOCUMENTS

FOR MAPLE STREET SOLAR LLC PROPOSED SOLAR FARM. LOTS INCLUDED (PARCEL NO.): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION OF D 239-010, 239-009

BOHLER

352 TURNPIKE ROAD SOUTHBORO, MA 01772 Phone: (508) 480-9900

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SHEET TITLE:

REFER TO SITE LAYOUT PLAN FOR ZONING ANALYSIS TABLE AND LAND USE / ZONING INFORMATION & NOTES

REFER TO EROSION AND SEDIMENT CONTROL NOTES & DETAILS SHEET FOR TYPICAL EROSION NOTES AND DETAILS

ORG. DATE - 07/20/2023







Now or Formerly  
LMP PROPERTIES, LLC  
80,000 SQ. FT. PAVE 38  
PARCEL ID: 235-011

260.13'  
N62°32'38"W

N61°40'39"W  
500.46'

S60°46'13"E  
295.09'

785.48'  
N23°21'34"E

S75°58'37"E  
155.90'

S61°21'56"E  
209.84'

N21°51'53"E  
270.37'

EXIST 100' BUFFER DISTURBANCE AREA = 26,315± SF

EXIST 50' BUFFER DISTURBANCE AREA = 4574 SF

PROP 50' BUFFER DISTURBANCE AREA = 1,792± SF

PROP 100' BUFFER DISTURBANCE AREA = 4,207± SF

EXIST 100' BUFFER DISTURBANCE AREA = 22,547± SF

EXIST 50' BUFFER DISTURBANCE AREA = 3712 SF

PROP 50' BUFFER DISTURBANCE AREA = 563± SF

EXIST 50' BUFFER DISTURBANCE AREA = 448± SF

EXIST 100' BUFFER DISTURBANCE AREA = 1,431± SF

PROP 50' BUFFER DISTURBANCE AREA = 476± SF

EXIST 50' BUFFER DISTURBANCE AREA = 2,052± SF

PROP 100' BUFFER DISTURBANCE AREA = 596± SF

EXIST 100' BUFFER DISTURBANCE AREA = 1,394± SF

PROP 25' BUFFER DISTURBANCE AREA = 314± SF

EXIST 50' BUFFER DISTURBANCE AREA = 672± SF

PROP 50' BUFFER DISTURBANCE AREA = 46± SF

EXIST 100' BUFFER DISTURBANCE AREA = 2,731± SF

EXIST 50' BUFFER DISTURBANCE AREA = 800± SF

PROP 50' BUFFER DISTURBANCE AREA = 46± SF

EXIST 50' BUFFER DISTURBANCE AREA = 7,082± SF

EXIST 100' BUFFER DISTURBANCE AREA = 9,502± SF

EXIST 25' BUFFER DISTURBANCE AREA = 1,924± SF

PROP 25' BUFFER DISTURBANCE AREA = 194± SF

EXIST 50' BUFFER DISTURBANCE AREA = 1,024± SF

EXIST 100' BUFFER DISTURBANCE AREA = 24,249± SF

EXIST 25' BUFFER DISTURBANCE AREA = 4,351± SF

EXIST 50' BUFFER DISTURBANCE AREA = 7,824± SF

EXIST 100' BUFFER DISTURBANCE AREA = 4,166± SF

PROP 100' BUFFER DISTURBANCE AREA = 434± SF

EXIST 100' BUFFER DISTURBANCE AREA = 17± SF

EXIST 100' BUFFER DISTURBANCE AREA = 272± SF

EXIST 100' BUFFER DISTURBANCE AREA = 1,722± SF

PROP 50' BUFFER DISTURBANCE AREA = 1,114± SF

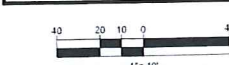
EXIST 50' BUFFER DISTURBANCE AREA = 1,033± SF

EXIST 50' BUFFER DISTURBANCE AREA = 1,033± SF

**ALL VEGETATION WITHIN THE LIMIT OF WORK LINE TBR. (TYP.)**

**THIS PLAN TO BE UTILIZED FOR DEMOLITION PURPOSES ONLY. REFER TO GENERAL NOTES SHEET FOR ADDITIONAL NOTES**

**TBR. = TO BE REMOVED**



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PROGRAM MANAGEMENT  
LAND ACQUISITION  
SUSTAINABLE DESIGN  
PERMITTING SERVICES  
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PROJECT NO.: W201257  
DRAWN BY: CMC / OCR  
CHECKED BY: GD  
DATE: 07/20/2023  
CAD ID.: W201257-02M0-08

**PROPOSED SITE PLAN DOCUMENTS**

FOR  
**MAPLE STREET SOLAR LLC**  
PROPOSED SOLAR FARM

LOTS INCLUDED (PARCEL #): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION OF D 239-010, & 32-0009  
160 MAPLE STREET,  
TOWN OF BELLINGHAM & FRANKLIN,  
NORFOLK COUNTY, MASSACHUSETTS

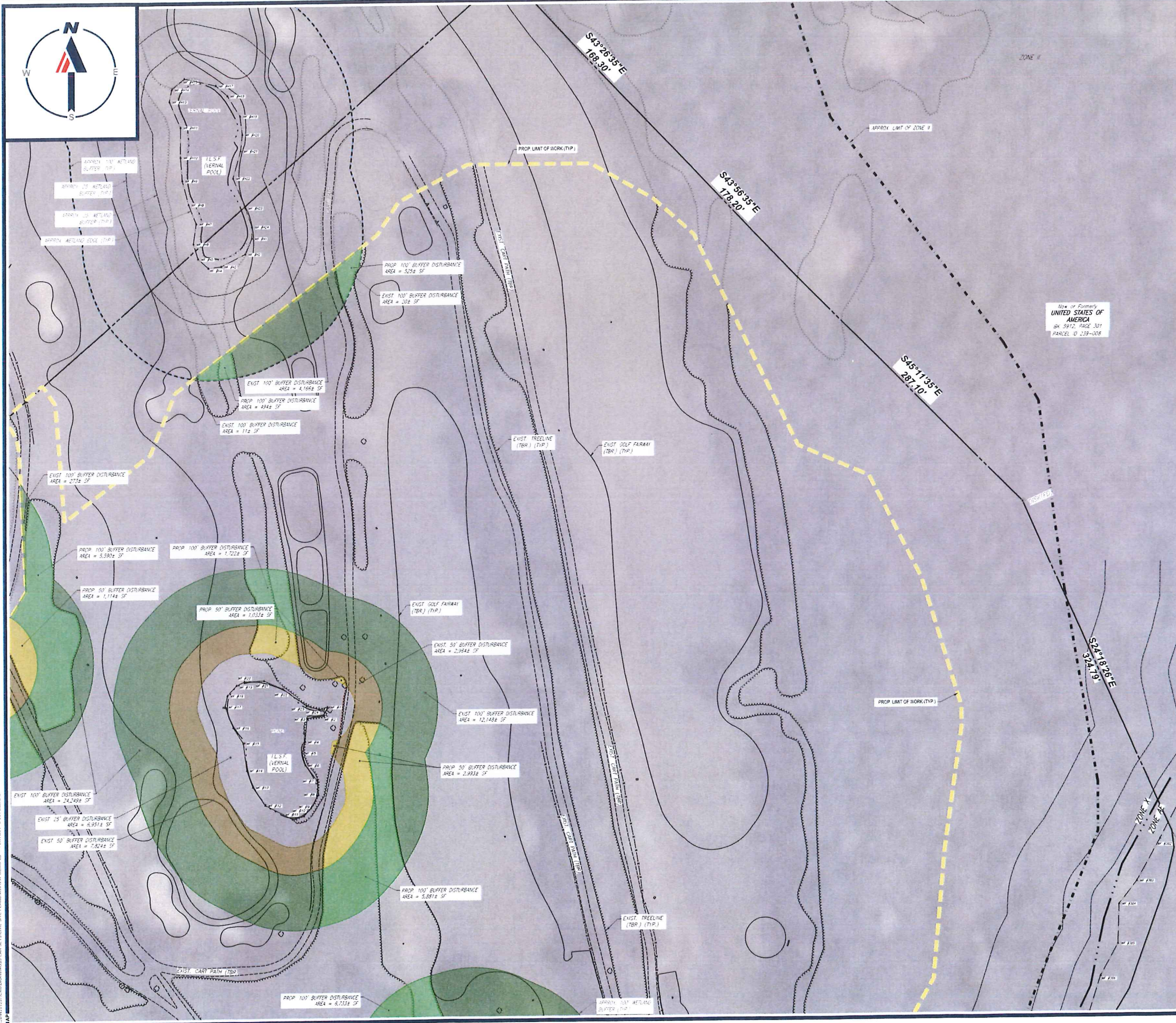
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Phone: (508) 480-9900  
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JOHN A. KLUGAR  
REGISTERED PROFESSIONAL ENGINEER  
No. 41530

SHEET TITLE:  
**DEMOLITION PLAN B**

SHEET NUMBER:  
**C-203**

ORG. DATE - 07/20/2023



Site of Formerly  
**UNITED STATES OF AMERICA**  
 BK 3912, PAGE 301  
 PARCEL ID 239-010

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 CHECKED BY: GD  
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 CAD I.D.: W201257-DEMO-08

**PROPOSED SITE  
 PLAN DOCUMENTS**

FOR  
**MAPLE STREET  
 SOLAR LLC**  
 PROPOSED  
 SOLAR FARM

LOTS INCLUDED (PARCEL #): 255-001,  
 254-001, 239-010 A, 239-010 B, 239-010  
 C, PORTION OF D 239-010, & 32-0009  
 160 MAPLE STREET,  
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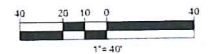
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 SOUTHBOROUGH, MA 01772  
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**ALL VEGETATION WITHIN THE  
 LIMIT OF WORK LINE TBR. (TYP.)**

**THIS PLAN TO BE UTILIZED FOR  
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 TO GENERAL NOTES  
 SHEET FOR ADDITIONAL NOTES**

**TBR. = TO BE REMOVED**



SHEET TITLE:  
**DEMOLITION  
 PLAN C**

SHEET NUMBER:  
**C-204**

ORG. DATE - 07/20/2023

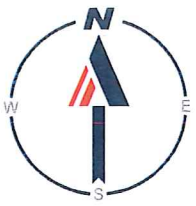












**MAPLE STREET**  
(1929 COUNTY LAYOUT)  
(PUBLIC - 80' WIDE)

LMP PROPERTIES, LLC

NEW ENGLAND POWER COMPANY

N18°34'30"E  
18.91'

297.99'  
N60°45'22"W

260.13'  
N62°32'38"W

S87°05'16"E 131.97'

S80°26'16"E  
190.71'

S79°28'01"E  
76.96'

S75°58'37"E  
155.90'

S60°46'43"E  
295.09'

S82°45'33"E  
142.78'

S86°26'57"E  
244.08'

N03°43'46"E  
201.34'

N25°21'34"E  
785.48'

DH(FD)

DH(FD)

(P,FD)

PROP LIMIT OF WORK (TYP)

PROPOSED PERIMETER FENCE (TYP)

345W PV MODULES

PROPOSED FIXED TILT SOLAR RACKING (TYP)

PROP UNDERGROUND ELECTRIC

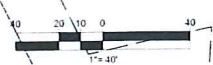
APPROX 100' WETLAND BUFFER (TYP)

APPROX 50' WETLAND BUFFER (TYP)

APPROX 25' WETLAND BUFFER (TYP)

APPROX WETLAND EDGE (TYP)

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DRAWN BY: CMG / OCR  
CHECKED BY: GD  
DATE: 07/20/2023  
CAD LD.: W201257-SPPD-08

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FOR  
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SHEET TITLE:  
**SITE LAYOUT PLAN A**

SHEET NUMBER:  
**C-302**

ORG. DATE - 07/20/2023





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 CAD I.D.: W201257-SPD-08

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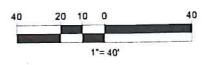
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**BOHLER**

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 SOUTHBOROUGH, MA 01772  
 Phone: (508) 480-9900  
 www.BohlerEngineering.com

Professional Engineer Seal for John A. Bohler, No. 41530, State of Massachusetts.

**THIS PLAN TO BE UTILIZED FOR SITE LAYOUT PURPOSES ONLY. REFER TO GENERAL NOTES SHEET FOR ADDITIONAL NOTES**



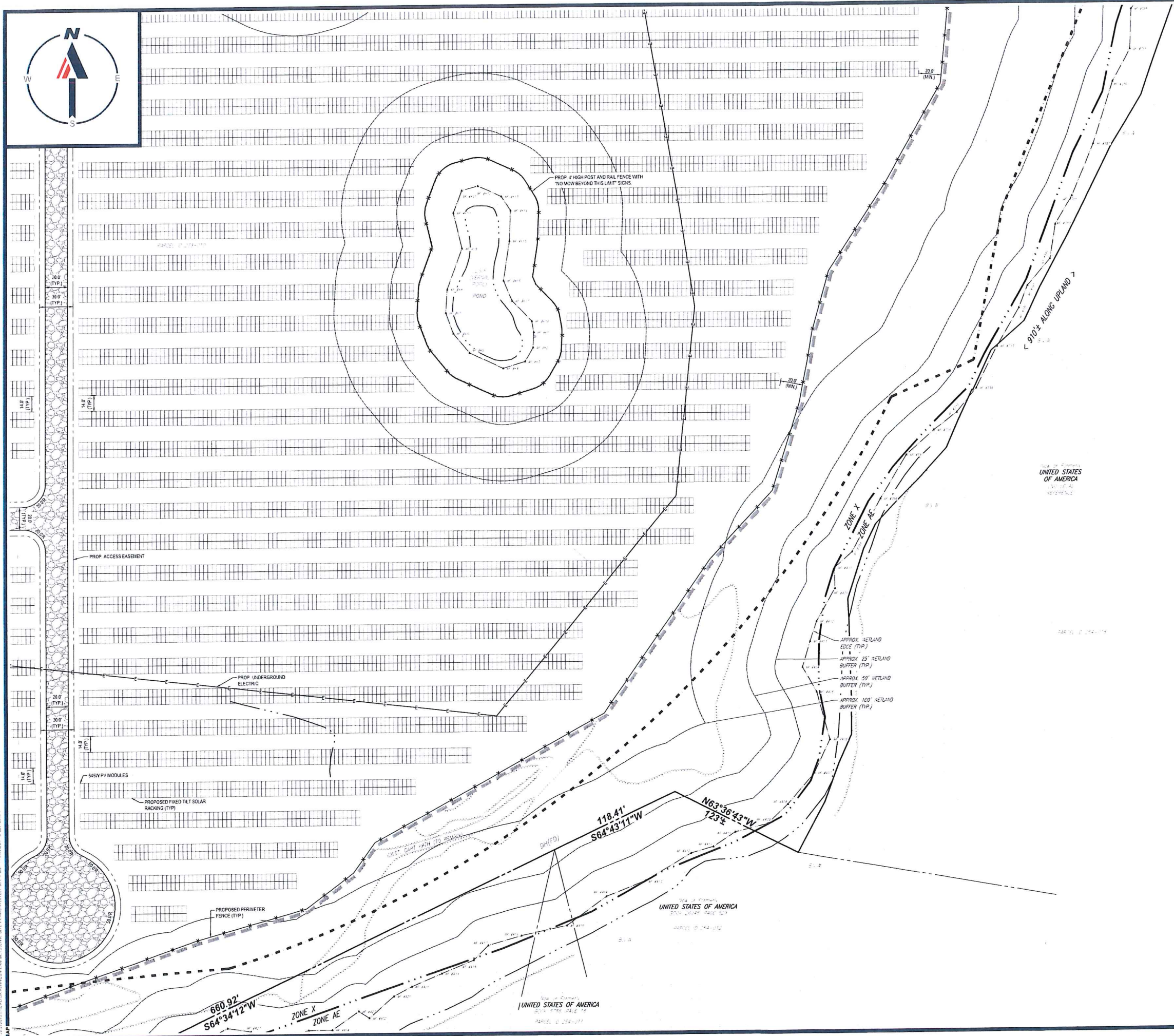
SHEET TITLE:  
**SITE LAYOUT PLAN C**

SHEET NUMBER:  
**C-304**

ORG. DATE - 07/20/2023







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LOTS INCLUDED (PARCEL #): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION OF D 239-010, & 32-0009  
 160 MAPLE STREET  
 TOWN OF BELLINGHAM & FRANKLIN, NORFOLK COUNTY, MASSACHUSETTS

**BOHLER**  
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SHEET TITLE:  
**SITE LAYOUT PLAN F**

SHEET NUMBER:  
**C-307**

ORG. DATE - 07/20/2023







MAPLE STREET  
(1929 COUNTY LAYOUT)  
(PUBLIC - 50' WIDE)

ALL RED SHADED AREAS, WITHIN LIMIT  
OF WORK WILL HAVE EXTENDED STAKE  
POSTS TO ACCOMMODATE THE STEEP  
SLOPES

PROP. LIMIT OF WORK (TYP.)

**BOHLER**  
SITE CIVIL AND CONSULTING ENGINEERING  
LAND SURVEYING  
PROGRAM MANAGEMENT  
LAND ACQUISITION  
SUSTAINABLE DESIGN  
PERMITTING SERVICES  
TRANSPORTATION SERVICES

**REVISIONS**

REV	DATE	COMMENT	DRAWN BY

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PROJECT No.: W201257  
DRAWN BY: CMC / OCR  
CHECKED BY: GD  
DATE: 07/20/2023  
CAD I.D.: W201257-GRAD-03

PROJECT:  
**PROPOSED SITE PLAN DOCUMENTS**

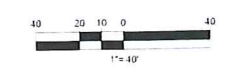
FOR  
**MAPLE STREET SOLAR LLC**  
PROPOSED SOLAR FARM

LOTS INCLUDED (PARCEL #): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION OF D 239-010, & 32-0009  
160 MAPLE STREET,  
TOWN OF BELLINGHAM & FRANKLIN,  
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**THIS PLAN TO BE UTILIZED FOR SITE GRADING PURPOSES ONLY. REFER TO GENERAL NOTES SHEET FOR ADDITIONAL NOTES**



SHEET TITLE:  
**GRADING PLAN A**  
SHEET NUMBER:  
**C-402**  
ORG. DATE - 07/20/2023





APPROX. 100' WETLAND BUFFER (TYP.)  
 APPROX. 50' WETLAND BUFFER (TYP.)  
 APPROX. 25' WETLAND BUFFER (TYP.)  
 APPROX. WETLAND EDGE (TYP.)

ALL RED SHADED AREAS WITHIN LIMIT OF WORK WILL HAVE EXTENDED STAND POSTS TO ACCOMMODATE THE STEEP SLOPES

ALL RED SHADED AREAS WITHIN LIMIT OF WORK WILL HAVE EXTENDED STAND POSTS TO ACCOMMODATE THE STEEP SLOPES

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 SUSTAINABLE DESIGN  
 TRANSPORTATION SERVICES

**REVISIONS**

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PROJECT No.: W201257  
 DRAWN BY: CMC / OCR  
 CHECKED BY: GD  
 DATE: 07/20/2023  
 CAD ID.: W201257-GRAD-08

**PROPOSED SITE PLAN DOCUMENTS**

FOR  
**MAPLE STREET SOLAR LLC**  
 PROPOSED SOLAR FARM

LOTS INCLUDED (PARCEL #): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION OF D 239-010, & 32-0009  
 160 MAPLE STREET,  
 TOWN OF BELLINGHAM & FRANKLIN,  
 NORFOLK COUNTY, MASSACHUSETTS

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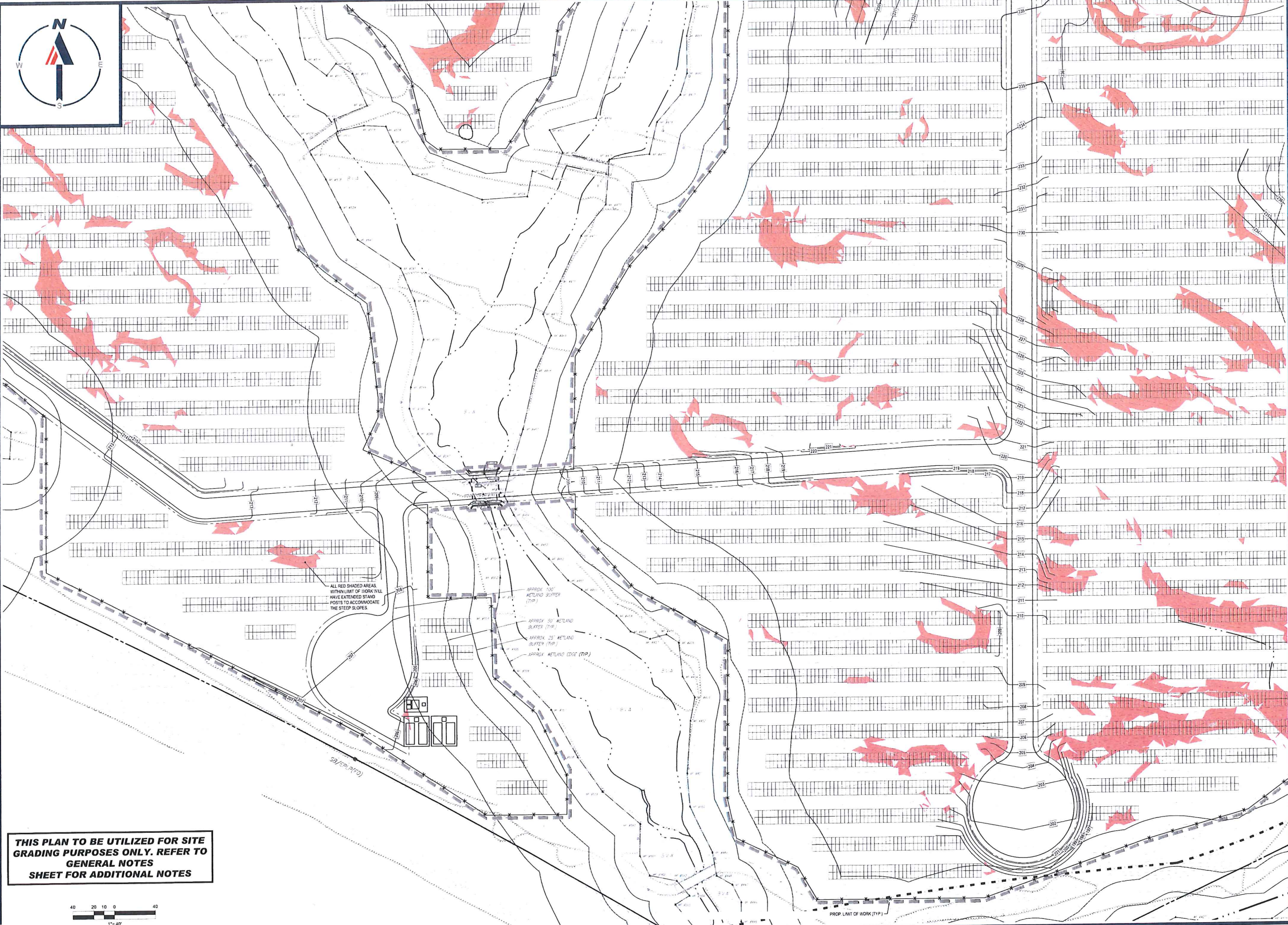


SHEET TITLE:  
**GRADING PLAN C**

SHEET NUMBER:  
**C-404**

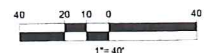
ORG. DATE - 07/20/2023





ALL RED SHADED AREAS WITHIN LIMIT OF WORK WILL HAVE EXTENDED STAKE POSTS TO ACCOMMODATE THE STEEP SLOPES.

**THIS PLAN TO BE UTILIZED FOR SITE GRADING PURPOSES ONLY. REFER TO GENERAL NOTES SHEET FOR ADDITIONAL NOTES**



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**REVISIONS**

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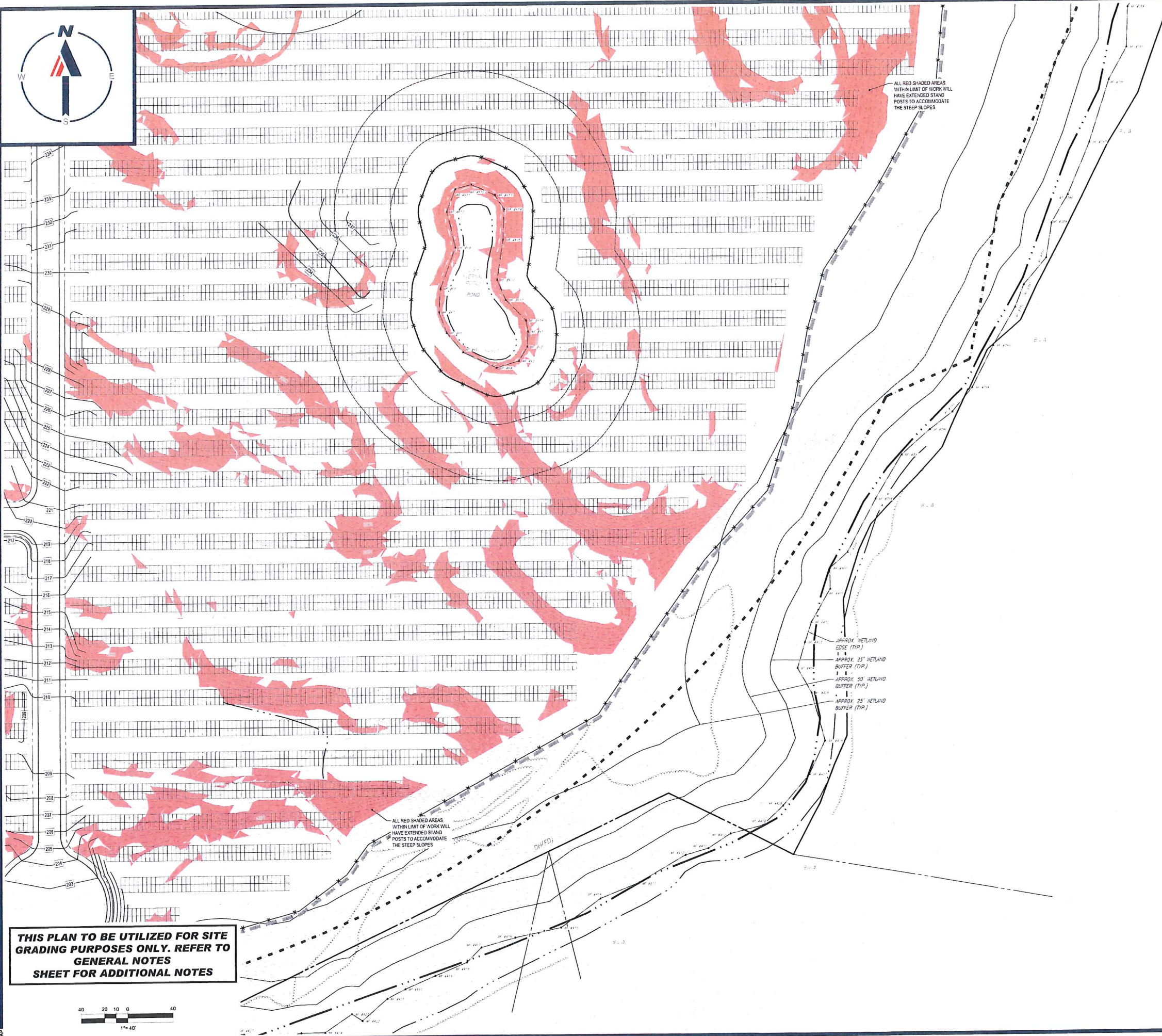
PROJECT No.: W201257  
 DRAWN BY: CMC / OCR  
 CHECKED BY: GD  
 DATE: 07/20/2023  
 CAD ID.: W201257-GRAD-08

PROJECT:  
**PROPOSED SITE PLAN DOCUMENTS**  
 FOR  
**MAPLE STREET SOLAR LLC**  
 PROPOSED SOLAR FARM  
 LOTS INCLUDED (PARCEL #): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION OF D 239-010, & 32-0009  
 160 MAPLE STREET, TOWN OF BELLINGHAM & FRANKLIN, NORFOLK COUNTY, MASSACHUSETTS

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SHEET TITLE:  
**GRADING PLAN E**  
 SHEET NUMBER:  
**C-406**  
 ORG. DATE - 07/20/2023

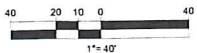


ALL RED SHADED AREAS WITHIN LIMIT OF WORK WILL HAVE EXTENDED STAND POSTS TO ACCOMMODATE THE STEEP SLOPES

ALL RED SHADED AREAS WITHIN LIMIT OF WORK WILL HAVE EXTENDED STAND POSTS TO ACCOMMODATE THE STEEP SLOPES

APPROX WETLAND EDGE (TYP)  
1' ±  
APPROX 25' WETLAND BUFFER (TYP)  
1' ±  
APPROX 50' WETLAND BUFFER (TYP)  
1' ±  
APPROX 25' WETLAND BUFFER (TYP)

**THIS PLAN TO BE UTILIZED FOR SITE GRADING PURPOSES ONLY. REFER TO GENERAL NOTES SHEET FOR ADDITIONAL NOTES**



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PROJECT No.: W201257  
 DRAWN BY: CMC / OCB  
 CHECKED BY: GD  
 DATE: 07/20/2023  
 CAD L.D.: W201257-GRAD-08

PROJECT:

**PROPOSED SITE PLAN DOCUMENTS**

FOR  
**MAPLE STREET SOLAR LLC**  
 PROPOSED SOLAR FARM

LOTS INCLUDED (PARCEL #): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION OF D 239-010, & 32-0009  
 160 MAPLE STREET,  
 TOWN OF BELLINGHAM & FRANKLIN,  
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SHEET TITLE:

**GRADING PLAN F**

SHEET NUMBER:  
**C-407**

ORG. DATE - 07/20/2023





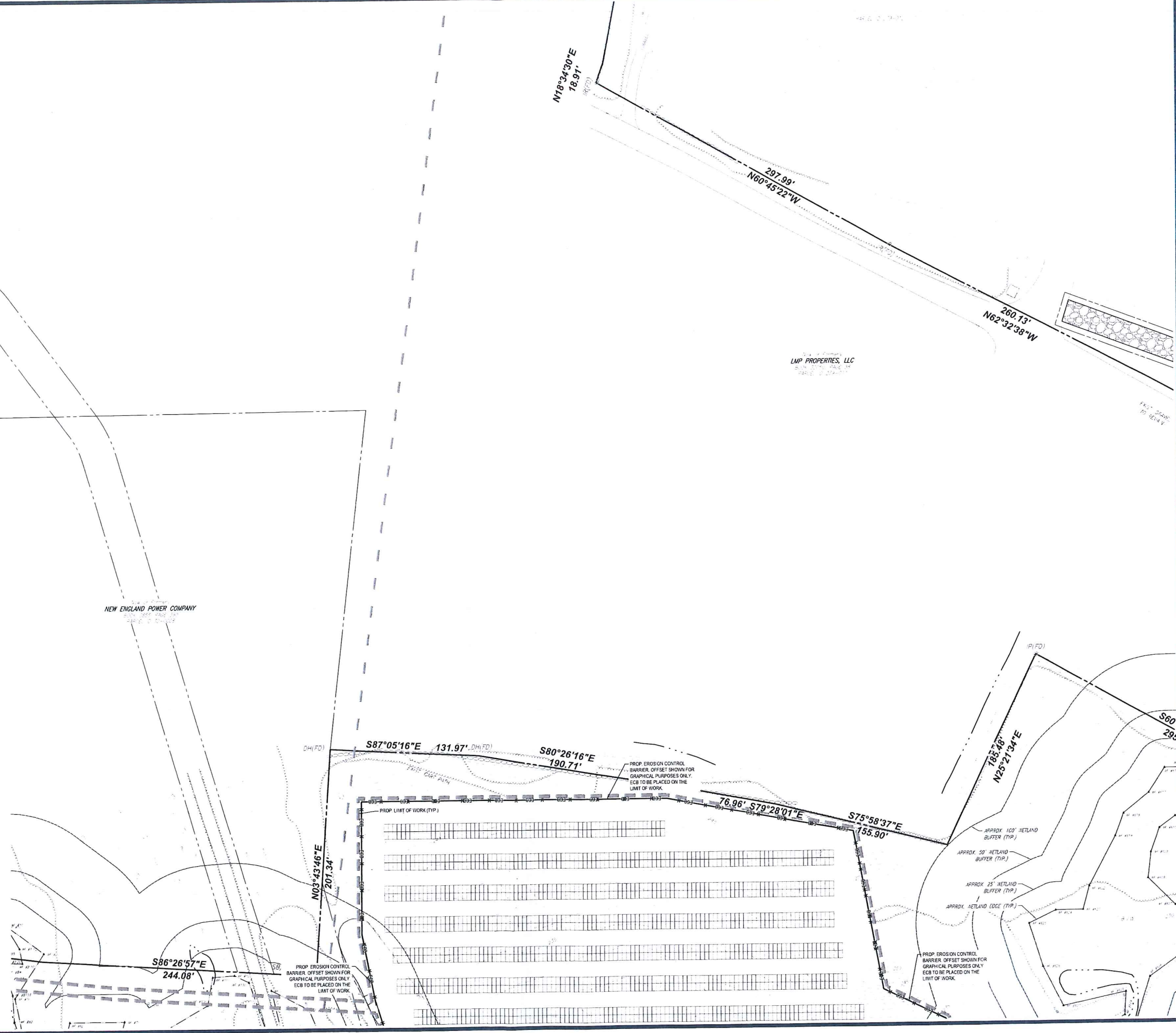
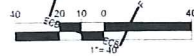


**THIS PLAN TO BE UTILIZED FOR SITE SOIL AND EROSION CONTROL PURPOSES ONLY**

**MEADOW SEED MIX SHALL BE INSTALLED WITHIN ALL LANDSCAPE AREAS DELINEATED BY THE LIMIT OF WORK**

**REFER TO SOIL EROSION CONTROL NOTES & DETAIL SHEET FOR EROSION NOTES AND DETAILS**

**EROSION CONTROL BARRIER SHALL CONSIST OF BOTH COMPOST SOCK AND SIT FENCE UNLESS OTHERWISE NOTED. SEE DETAILS FOR MORE INFORMATION.**



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PROJECT No.: W201251  
 DRAWN BY: CMC / OCR  
 CHECKED BY: GO  
 DATE: 07/20/2023  
 CAD I.D.: W201251-EROS-08

**PROPOSED SITE PLAN DOCUMENTS**

FOR  
**MAPLE STREET SOLAR LLC**  
 PROPOSED SOLAR FARM  
 LOTS INCLUDED (PARCEL #): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION OF D 239-010, & 32-0009  
 160 MAPLE STREET,  
 TOWN OF BELLINGHAM & FRANKLIN,  
 NORFOLK COUNTY, MASSACHUSETTS

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SHEET TITLE:  
**EROSION & SEDIMENT CONTROL PLAN A**  
 SHEET NUMBER:  
**C-602**  
 ORG. DATE - 07/20/2023





APPROX 100' WETLAND BUFFER (TYP.)  
 APPROX 25' WETLAND BUFFER (TYP.)  
 APPROX 25' WETLAND BUFFER (TYP.)  
 APPROX WETLAND EDGE (TYP.)

PROP EROSION CONTROL BARRIER, OFFSET SHOWN FOR GRAPHICAL PURPOSES ONLY. ECB TO BE PLACED ON THE LIMIT OF WORK.

PROP EROSION CONTROL BARRIER, OFFSET SHOWN FOR GRAPHICAL PURPOSES ONLY. ECB TO BE PLACED ON THE LIMIT OF WORK.

PROP EROSION CONTROL BARRIER, OFFSET SHOWN FOR GRAPHICAL PURPOSES ONLY. ECB TO BE PLACED ON THE LIMIT OF WORK.

PROP LIMIT OF WORK (TYP)

S43°26'35"E  
168.30'

S43°56'35"E  
178.20'

S45°11'35"E  
287.10'

S22°18'16"E  
324.79'

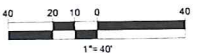
UNITED STATES OF AMERICA

**THIS PLAN TO BE UTILIZED FOR SITE SOIL AND EROSION CONTROL PURPOSES ONLY**

**MEADOW SEED MIX SHALL BE INSTALLED WITHIN ALL LANDSCAPE AREAS DELINEATED BY THE LIMIT OF WORK**

**REFER TO SOIL EROSION CONTROL NOTES & DETAIL SHEET FOR EROSION NOTES AND DETAILS**

**EROSION CONTROL BARRIER SHALL CONSIST OF BOTH COMPOST SOCK AND SIT FENCE UNLESS OTHERWISE NOTED. SEE DETAILS FOR MORE INFORMATION.**



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REV	DATE	COMMENT	DRAWN BY
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PROJECT NO.: W201251  
 DRAWN BY: CMC / OCR  
 CHECKED BY: GD  
 DATE: 07/20/2023  
 CAD I.D.: W201251-EROS-CR

**PROPOSED SITE PLAN DOCUMENTS**

FOR  
**MAPLE STREET SOLAR LLC**  
 PROPOSED SOLAR FARM

LOTS INCLUDED (PARCEL #): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION OF D 239-010, & 32-0009  
 160 MAPLE STREET,  
 TOWN OF BELLINGHAM & FRANKLIN,  
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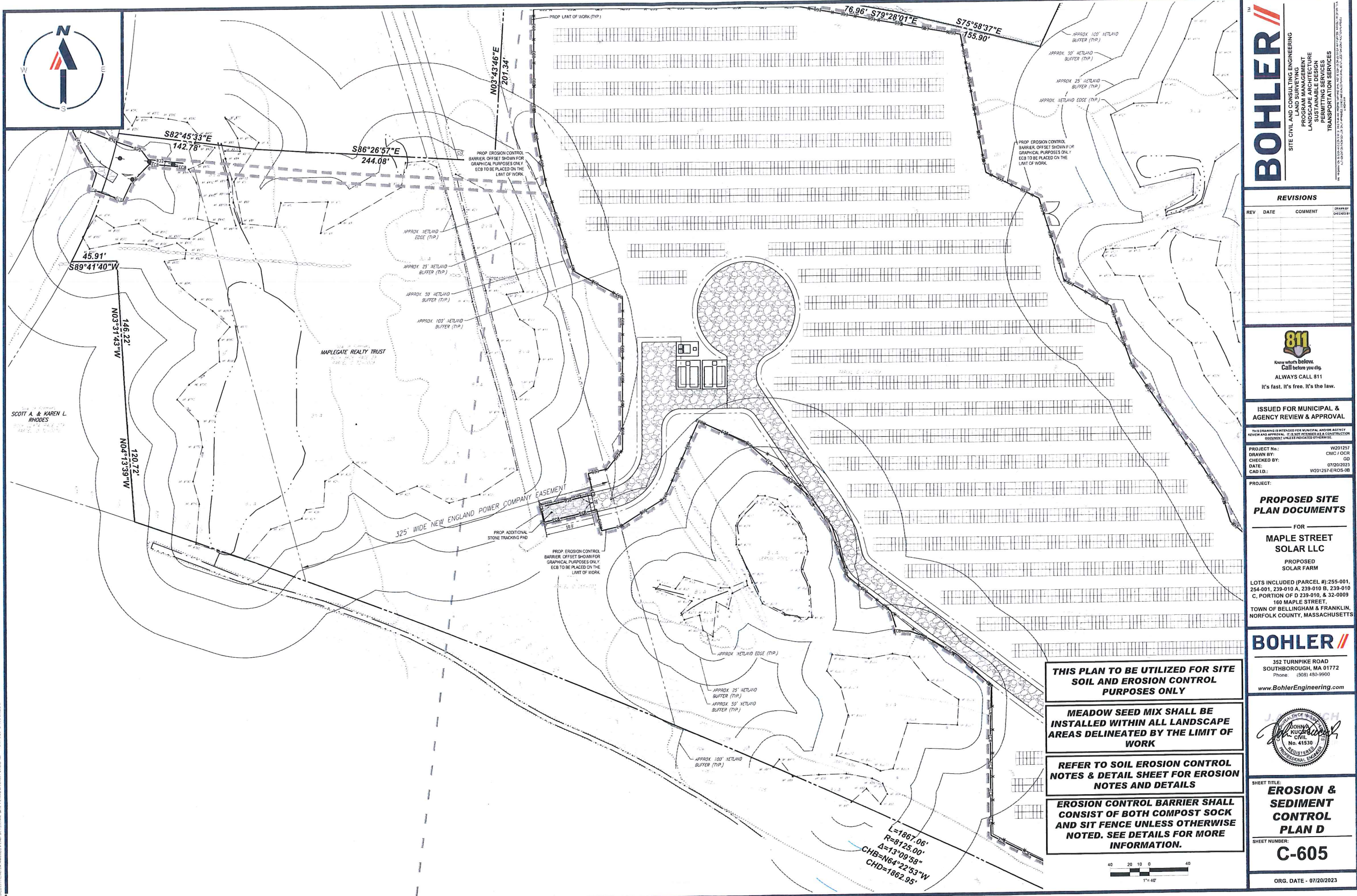
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SHEET TITLE:  
**EROSION & SEDIMENT CONTROL PLAN C**

SHEET NUMBER:  
**C-604**

ORG. DATE - 07/20/2023



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PROJECT No.: W201257  
 DRAWN BY: CMC / OCR  
 CHECKED BY: GD  
 DATE: 07/20/2023  
 CAD I.D.: W201257-EROS-08

**PROPOSED SITE PLAN DOCUMENTS**  
 FOR  
**MAPLE STREET SOLAR LLC**  
 PROPOSED SOLAR FARM

LOTS INCLUDED (PARCEL #): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION OF D 239-010, & 32-0009  
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SHEET TITLE:  
**EROSION & SEDIMENT CONTROL PLAN D**

SHEET NUMBER:  
**C-605**

ORG. DATE - 07/20/2023

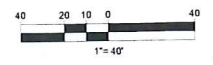
**THIS PLAN TO BE UTILIZED FOR SITE SOIL AND EROSION CONTROL PURPOSES ONLY**

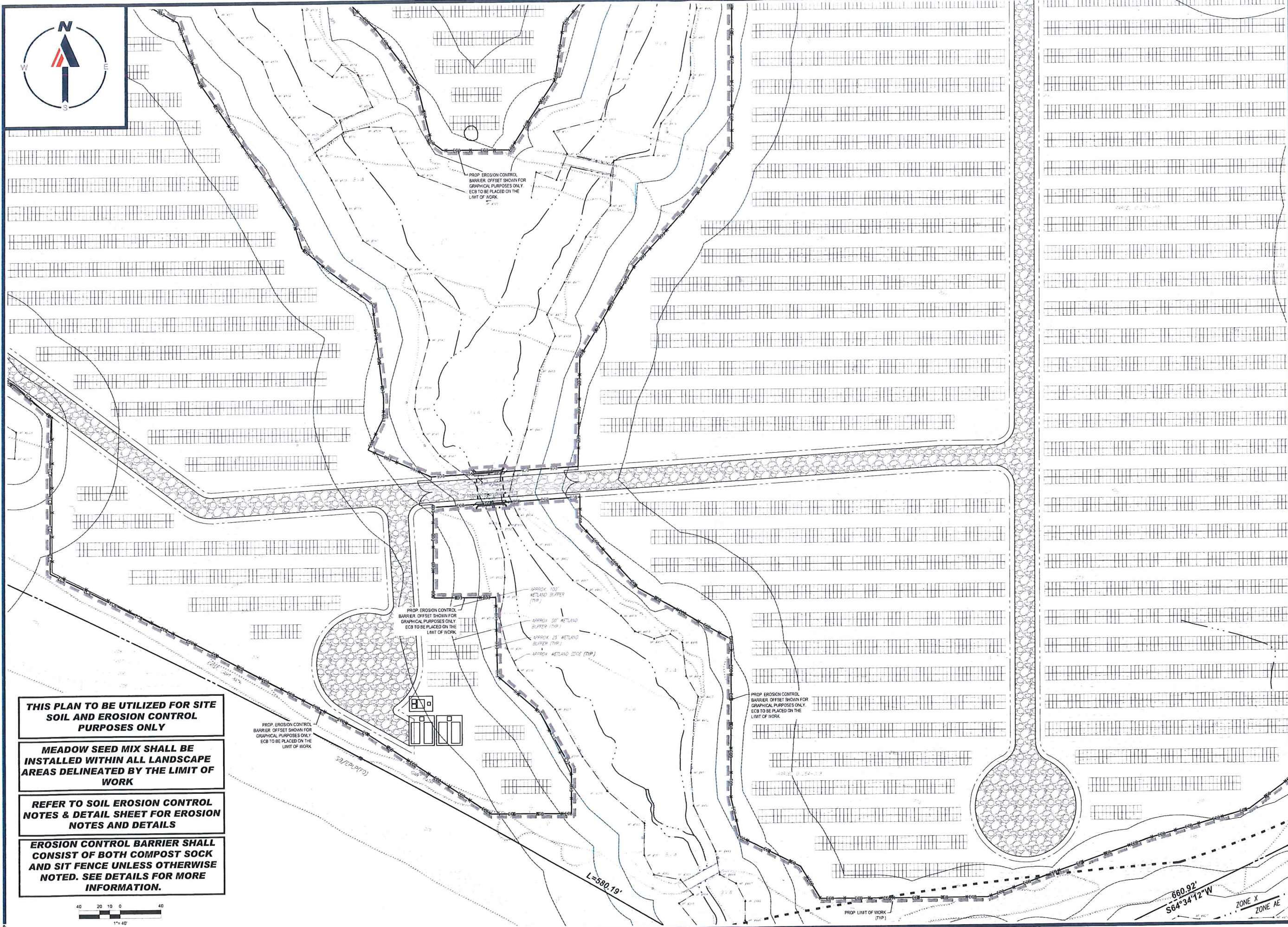
**MEADOW SEED MIX SHALL BE INSTALLED WITHIN ALL LANDSCAPE AREAS DELINEATED BY THE LIMIT OF WORK**

**REFER TO SOIL EROSION CONTROL NOTES & DETAIL SHEET FOR EROSION NOTES AND DETAILS**

**EROSION CONTROL BARRIER SHALL CONSIST OF BOTH COMPOST SOCK AND SIT FENCE UNLESS OTHERWISE NOTED. SEE DETAILS FOR MORE INFORMATION.**

L=1867.06'  
 R=8125.00'  
 Δ=13°09'58"  
 CHB=N64°22'53"W  
 CHD=1862.95'





**THIS PLAN TO BE UTILIZED FOR SITE SOIL AND EROSION CONTROL PURPOSES ONLY**

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**EROSION CONTROL BARRIER SHALL CONSIST OF BOTH COMPOST SOCK AND SIT FENCE UNLESS OTHERWISE NOTED. SEE DETAILS FOR MORE INFORMATION.**

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PROJECT NO.: W201257  
 DRAWN BY: CMC / OCR  
 CHECKED BY: GD  
 DATE: 07/20/2023  
 CAD L.D.: W201257-EROS-08

**PROPOSED SITE PLAN DOCUMENTS**

FOR  
**MAPLE STREET SOLAR LLC**

PROPOSED SOLAR FARM

LOTS INCLUDED (PARCEL #): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION OF D 239-010, & 32-0009  
 160 MAPLE STREET,  
 TOWN OF BELLINGHAM & FRANKLIN,  
 NORFOLK COUNTY, MASSACHUSETTS

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SHEET TITLE:  
**EROSION & SEDIMENT CONTROL PLAN E**

SHEET NUMBER:  
**C-606**

ORG. DATE - 07/20/2023



**EROSION AND SEDIMENT CONTROL NOTES**

- ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE AS SET FORTH IN THE MOST CURRENT STATE SEDIMENT AND EROSION CONTROL MANUAL.
- THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT IN AN UNTREATED OR UNVEGETATED CONDITION FOR A MINIMUM TIME PERIOD. AREAS SHALL BE PERMANENTLY STABILIZED IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS. AT A MINIMUM, AREAS SHALL BE PERMANENTLY STABILIZED ACCORDING TO THE CURRENT EDITION OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP), OR IN THE ABSENCE OF A SWPPP, THEY SHALL BE PERMANENTLY STABILIZED WITHIN 14 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF THE SOIL. IF THE DISTURBANCE IS WITHIN 100 FEET OF A STREAM OR POND, THE AREA SHALL BE STABILIZED WITHIN 7 DAYS OR PRIOR TO ANY STORM EVENT (THIS WOULD INCLUDE WETLANDS).
- SEDIMENT BARRIERS (SILT FENCE, STRAW BARRIERS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 8%.
- INSTALL SILTATION BARRIER AT TOE OF SLOPE TO FILTER SILT FROM RUNOFF. SEE SILTATION BARRIER DETAILS FOR PROPER INSTALLATION. SILTATION BARRIER WILL REMAIN IN PLACE PER NOTE #5.
- ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSITION. SEDIMENT SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UP-SLOPE ARE PERMANENTLY STABILIZED. FOR SEDIMENT CONTROL DEVICES THAT ARE WITHIN AREAS SUBJECT TO CONSERVATION COMMISSION JURISDICTION, THE DEVICES SHALL REMAIN IN PLACE AND BE REMOVED IN ACCORDANCE WITH THE ORDER OF CONDITIONS.
- NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO TO ONE (2:1) UNLESS OTHERWISE INDICATED ON THE PLANS. SLOPE PROTECTION FOR SLOPES GREATER THAN 2:1 SHALL BE DESIGNED BY A GEOTECHNICAL ENGINEER.
- IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST, USE TEMPORARY MULCH (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
- TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST TO PROTECT FROM SPRING RUNOFF PROBLEMS.
- DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL STANDARDS.
- REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND PREPARED FOR FINAL SEEDING AS FOLLOWS:
  - SIX INCHES OR DEPTH SPECIFIED ON THE LANDSCAPE PLAN. OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE.
  - APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TESTING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 800 LB PER ACRE OR 18.4 LB PER 1,000 SF USING 10-20-20 OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB PER 1,000 SF).
  - FOLLOWING SEED BED PREPARATION, DITCHES AND BACK SLOPES WILL BE SEED TO A MIXTURE OF 47% CREEPING REE FESCUE, 5% RED TOP, AND 48% TALL FESCUE. THE LAWN AREAS WILL BE SEED TO A PREMIUM TURF MIXTURE OF 44% KENTUCKY BLUE GRASS, 44% CREEPING REE FESCUE, AND 12% PERENNIAL RYEGRASS. SEEDING RATE IS 1.03 LBS PER 1,000 SF LAWN. QUALITY SOO MAY BE SUBSTITUTED FOR SEED WHERE SLOPES DO NOT EXCEED 2:1, SOO ON SLOPES STEEPER THAN 3:1 SHOULD BE PEGGED.
  - STRAW MULCH AT THE RATE OF 70-90 LBS PER 1,000 SF. A HYDRO-APPLICATION OF WOOD OR PAPER FIBER SHALL BE APPLIED FOLLOWING SEEDING. A SUITABLE NON-TOXIC BINDER WILL BE USED ON STRAW MULCH FOR WIND CONTROL.
- ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE IS 70% STABILIZED. FOR EROSION CONTROL MEASURES THAT ARE WITHIN AREAS SUBJECT TO CONSERVATION COMMISSION JURISDICTION, THE MEASURES SHALL REMAIN IN PLACE AND BE REMOVED IN ACCORDANCE WITH THE ORDER OF CONDITIONS.
- WETLANDS WILL BE PROTECTED WITH BARRIERS CONSISTING OF STRAW BALES, COMPOST TUBES, SILT FENCE OR A COMBINATION THEREOF.
- ALL AREAS WITHIN 100 FEET OF A FLAGGED WETLAND OR STREAM SHALL HAVE AN EXPOSURE WINDOW OF NOT MORE THAN 7 DAYS.
- ALL AREAS WITHIN 100 FEET OF A FLAGGED WETLAND OR STREAM SHALL FOLLOW APPROPRIATE EROSION CONTROL MEASURES PRIOR TO EACH STORM IF NOT BEING ACTIVELY WORKED.

LOCATION PROTECTED AREA	MULCH	MULCH RATE (1000 SF)
WINDY AREA	SHREDED OR CHOPPED CORNSTALKS STRAW (ANCHORED)	155-275 POUNDS 100 POUNDS
MODERATE TO HIGH VELOCITY AREAS OR STEEP SLOPES GREATER THAN 3:1	JUTE MESH OR EXCELSDIOR MAT	AS REQUIRED
GREATER THAN 3:1	(REFER TO GEOTECHNICAL REPORT FOR FINAL DESIGN REQUIREMENT)	

\* A HYDRO-APPLICATION OF WOOD OR PAPER FIBER MAY BE APPLIED FOLLOWING SEEDING. A SUITABLE NON-TOXIC BINDER SHALL BE USED TO ADDITIONAL WIND CONTROL.

\* MULCH ANCHORING: ANCHOR MULCH WITH PEG AND TWINE (1/2" SQ. YD/BLOCK). MULCH NETTING (AS PER MANUFACTURER). WOOD CELLULOSE FIBER (750 LBS/ACRE). CHEMICAL TACK (AS PER MANUFACTURER'S SPECIFICATIONS). USE OF A SERPENTED STRAIGHT DISK WETTING FOR SMALL AREAS AND ROAD DITCHES MAY BE PERMITTED.

- PROPOSED LOCATIONS OF SURFACE STORMWATER MANAGEMENT BASINS CAN BE UTILIZED AS A TEMPORARY SEDIMENT TRAP DURING CONSTRUCTION. SEDIMENT TRAPS SHALL BE SIZED AND CONSTRUCTED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS.
  - TEMPORARY SEDIMENT TRAPS SHALL BE SIZED PER THE CURRENT EDITION OF THE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS AND PROVIDE A MINIMUM OF 1,600 CF PER ACRE OF TRIBUTARY AREA WITH A MAXIMUM TRIBUTARY AREA OF 5 ACRES, MAINTAIN A 2:1 LENGTH TO WIDTH RATIO, AND NOT EXCEED 5 FT IN HEIGHT. UPON SITE STABILIZATION, ACCUMULATED SEDIMENT SHALL BE REMOVED AND THE TEMPORARY SEDIMENT TRAP EXCAVATED TO 1 FOOT BELOW THE TRAP. THE AREA SHALL BE REGRADED AND STABILIZED IN ACCORDANCE WITH THE GRADING AND LANDSCAPE PLANS.
- STOCKPILING OF MATERIALS (DIRT, WOOD, CONSTRUCTION MATERIALS, ETC.) MUST REMAIN COVERED AT ALL TIMES TO MINIMIZE ANY DUST PROBLEMS THAT MAY OCCUR WITH ADJACENT PROPERTIES AND TO PROVIDE MAXIMUM PROTECTION AGAINST EROSION RUNOFF.
- EXISTING CATCH BASIN STRUCTURES SHALL BE PROTECTED UNTIL SUCH TIME AS THEY ARE REMOVED.
- THE CONTRACTOR MUST PERFORM DEWATERING (IF REQUIRED), IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND PAY FOR THE COSTS ASSOCIATED WITH ANY AND ALL NECESSARY DISCHARGE PERMITS ASSOCIATED WITH SAME.
- THE CONTRACTOR MUST LOCATE CONSTRUCTION WASTE MATERIAL STORAGE AREAS TO MINIMIZE EXPOSURE TO STORMWATER. THE CONTRACTOR MUST IMMEDIATELY PLACE CONSTRUCTION WASTE IN ON-SITE STORAGE CONTAINERS UNTIL THAT CONSTRUCTION WASTE IS READY FOR OFF-SITE DISPOSAL. THE CONTRACTOR MUST MAINTAIN SPILL PREVENTION AND RESPONSE EQUIPMENT AND MAKE SAME CONTINUOUSLY AVAILABLE ON-SITE FOR USE BY THE CONTRACTOR'S EMPLOYEES WHO MUST BE PROPERLY TRAINED IN THE APPLICATION OF SPILL PREVENTION AND RESPONSE PROCEDURES.

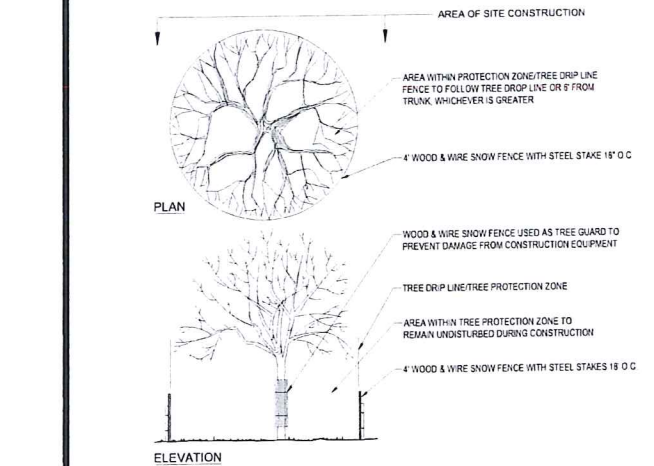
- EROSION CONTROL NOTES DURING WINTER CONSTRUCTION
  - WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15.
  - WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT THE AMOUNT OF AREA OPEN AT ONE TIME IS MINIMIZED TO THE MAXIMUM EXTENT PRACTICABLE AND IN CONFORMANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN SUCH THAT ADEQUATE PROVISIONS ARE EMPLOYED TO CONTROL STORMWATER RUNOFF.
  - CONTINUATION OF EARTHWORK OPERATION ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED TO SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 7 ABOVE.
  - AN AREA SHALL BE CONSIDERED TO HAVE BEEN TEMPORARILY STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR STRAW AT A RATE OF 100 LB PER 1,000 SQUARE FEET (WITH OR WITHOUT SEEDING) OR DORMANT SEEDING, MULCHED AND ADEQUATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE.
  - FOR AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR A PERIOD EXCEEDING 14 DAYS BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 15TH, LOAM OR SEED WILL NOT BE REQUIRED. THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDING. IF THE EXPOSED AREA HAS BEEN FINE GRADED AND IS SMOOTH, WHEN THE AREA MAY BE DORMANT SEEDING AT A RATE OF 200-300% HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED AS APPLICABLE. SLOPES SHALL NOT BE LEFT UNSTABILIZED OVER THE WINTER OR IN AREAS WHERE WORK HAS CEASED FOR MORE THAN 14 DAYS UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF SEDIMENT BARRIERS OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS.
- MULCHING REQUIREMENTS:
  - BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 15TH ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING OR WOOD CELLULOSE FIBER.
  - MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPE EXPOSED TO DIRECT WINDS AND FOR ALL SLOPES GREATER THAN 8%.
  - MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15% AFTER OCTOBER 1ST THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
- ALL DISTURBED AREAS SHALL BE STABILIZED IN ACCORDANCE WITH THE STORMWATER PREVENTION PLAN.
- DURING THE WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.

**GENERAL EROSION AND SEDIMENT CONTROL NOTES**

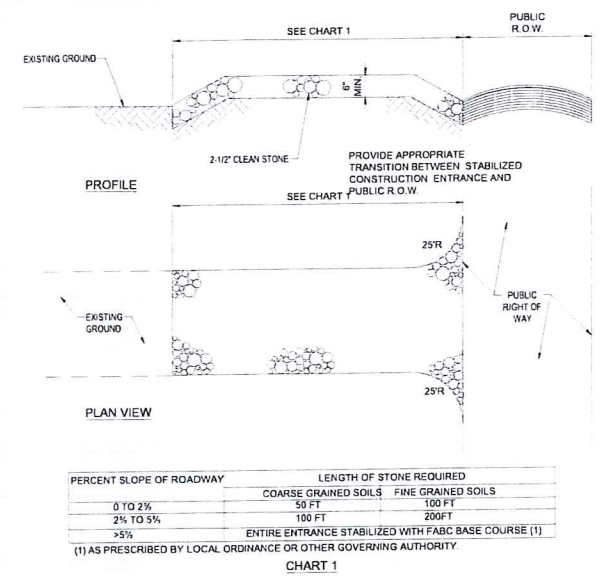
- THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.
- EROSION CONTROL MEASURES MUST CONFORM TO THE STATE, LOCAL, AND FEDERAL GUIDELINES FOR URBAN EROSION AND SEDIMENT CONTROL UNLESS OTHERWISE NOTED, OR UNLESS ENGINEER CLEARLY AND SPECIFICALLY, IN WRITING, DIRECTS OTHERWISE. INSTALLATION OF EROSION CONTROL, CLEARING, AND SITE WORK MUST BE PERFORMED EXACTLY AS INDICATED IN THE EROSION CONTROL CONSTRUCTION NOTES.
- THE DISTURBED LAND AREA OF THIS SITE IS APPROXIMATELY 44,133 ACRES.
- THE FOLLOWING EROSION CONTROL MEASURES ARE PROPOSED FOR THIS SITE:
  - STABILIZED CONSTRUCTION ENTRANCE/EXIT - A TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT IS TO BE INSTALLED AT THE DESIGNATED LOCATION SHOWN ON THE PLAN. THIS AREA MUST BE GRADED SO THAT RUNOFF WATER WILL BE RETAINED ON-SITE.
  - SEDIMENT FENCE - INSTALL SILT FENCE(S) AND/OR SILT SOCK AROUND ALL OF THE DOWNSLOPE PERIMETERS OF THE SITE, TEMPORARY FILL AND SOIL STOCKPILES.
  - INSTALL FILTER FABRIC DROP INLET PROTECTION AROUND EACH DRAINAGE INLET AS DRAINAGE STRUCTURES ARE INSTALLED TO REDUCE THE QUANTITY OF SEDIMENT. INSTALL TEMPORARY INLET PROTECTION ON INLETS DOWNSLOPE FROM DISTURBANCE, WHICH MAY BE BEYOND THE LIMITS OF DISTURBED AREA.
- INSTALLATION OF EROSION CONTROL DEVICES MUST BE IN ACCORDANCE WITH ALL OF THE MANUFACTURER'S RECOMMENDATIONS.
- THE CONTRACTOR MUST INSPECT EROSION CONTROL MEASURES WEEKLY. THE CONTRACTOR MUST REMOVE ANY SILT DEPOSITS GREATER THAN 6" OR HALF THE HEIGHT OF THE EROSION CONTROL BARRIERS HEIGHT COLLECTED ON THE FILTER FABRIC AND/OR SILT SOCK BARRIERS AND EXCAVATE AND REMOVE ANY SILT FROM DROP INLET PROTECTION.
- THE CONTRACTOR MUST APPLY TEMPORARY SEED AND MULCH TO ALL DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINISHED GRADE AND VEGETATED WITHIN 7 DAYS. WHEN AREAS ARE DISTURBED AFTER THE GROWING SEASON, THE CONTRACTOR MUST FINISH SAME WITH GEOTEXTILE FABRIC AND MAINTAIN SAME IN STRICT ACCORDANCE WITH BEST MANAGEMENT PRACTICES.
- THE CONTRACTOR MUST INSTALL ADDITIONAL EROSION CONTROL MEASURES IF ENGINEER SO REQUIRES, TO PREVENT ANY, INCLUDING THE INCIDENTAL DISCHARGE OF SILT-LADEN RUNOFF FROM EXITING THE SITE.
- THE CONTRACTOR MUST BE RESPONSIBLE FOR INSPECTING AND MAINTAINING ALL EROSION CONTROL MEASURES ON THE SITE UNTIL PERMANENT PAVING AND TURF/ANOSCAPING IS ESTABLISHED. THE COSTS OF INSTALLING AND MAINTAINING THE EROSION CONTROL MEASURES MUST BE INCLUDED IN THE BID PRICE FOR THE SITE WORK AND THE CONTRACTOR IS RESPONSIBLE FOR ALL SUCH COSTS.
- THE CONTRACTOR MUST CONTINUE TO MAINTAIN ALL EROSION CONTROL MEASURES UNTIL THE COMPLETION OF CONSTRUCTION AND THE ESTABLISHMENT OF VEGETATION.
- THE CONTRACTOR MUST REMOVE EROSION CONTROL MEASURES, SILT AND DEBRIS AFTER ESTABLISHING PERMANENT VEGETATION COVER OR OTHER INSTALLING A DIFFERENT, SPECIFIED METHOD OF STABILIZATION.
- THIS PLAN REPRESENTS THE MINIMUM LEVEL OF IMPLEMENTATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROL FACILITIES. MEASURES AND STRUCTURES ADDITIONAL FACILITIES, MEASURES AND STRUCTURES MUST BE INSTALLED WHERE NECESSARY TO COMPLY WITH ALL APPLICABLE CODES AND STANDARDS AND/OR TO PREVENT ANY, INCLUDING THE INCIDENTAL DISCHARGE OF SILT-LADEN RUNOFF FROM EXITING THE SITE.
- THE CONTRACTOR MUST PROTECT ALL EXISTING TREES AND SHRUBS. THE CONTRACTOR MUST REFER TO THE LANDSCAPE AND/OR DEMOLITION PLAN(S) FOR TREE PROTECTION, FENCE LOCATIONS AND DETAILS.
- THE CONTRACTOR MUST REFER TO GRADING PLANS FOR ADDITIONAL INFORMATION.
- THE CONTRACTOR MUST CLEAN EXISTING AND PROPOSED DRAINAGE STRUCTURES AND INTERCONNECTING PIPES ON OR OFF-SITE AS THE JURISDICTIONAL AGENCY REQUIRES, BOTH AT THE TIME OF SITE STABILIZATION AND AT END OF PROJECT.
- SOIL EROSION CONTROL MEASURES MUST BE ADJUSTED OR RELOCATED BY THE CONTRACTOR AS IDENTIFIED DURING SITE OBSERVATION IN ORDER TO MAINTAIN THE COMPLETE EFFECTIVENESS OF ALL CONTROL MEASURES.
- THE CONTRACTOR MUST IDENTIFY ON THE PLAN, THE LOCATION OF WASTE CONTAINERS, FUEL STORAGE TANKS, CONCRETE WASHOUT AREAS AND ANY OTHER LOCATIONS WHERE HAZARDOUS MATERIALS ARE STORED.

- THE FOLLOWING CONSTRUCTION SEQUENCE IS RECOMMENDED:
- INSTALLATION OF STABILIZED CONSTRUCTION ENTRANCE/EXIT (AS SHOWN)
  - INSTALLATION OF EROSION CONTROL BARRIER (STRAW BALES AND SILT FENCE) (AS SHOWN)
  - INSTALLATION OF INLET PROTECTION IN STREET (AS SHOWN)
  - DEMOLITION OF EXISTING SITE STRUCTURES (SEE DEMOLITION PLAN)
  - DEMOLITION OF EXISTING SITE PAVEMENT AND AMENITIES (SEE DEMOLITION PLAN)
  - CLEARING AND GRUBBING
  - INSTALLATION OF TEMPORARY SWALES AND SEDIMENT BASINS
  - EARTHWORK AND EXCAVATION/FILLING AS NECESSARY
  - CONSTRUCTION OF UTILITIES
  - STABILIZE PERMANENT LAWN AREAS AND SLOPES WITH TEMPORARY SEEDING
  - INSTALLATION OF INLET PROTECTION OF ON-SITE UTILITIES (AS SHOWN)
  - CONSTRUCTION OF BUILDINGS
  - CONSTRUCTION OF ALL CURBING AND LANDSCAPE ISLANDS AS INDICATED ON THE PLANS
  - SPREAD TOPSOIL ON SLOPED AREAS AND SEED AND MULCH
  - FINAL GRADING OF ALL SLOPED AREAS
  - PLACE 6" TOPSOIL ON SLOPES AFTER FINAL GRADING COMPLETED. FERTILIZE, SEED, AND MULCH SEED MIXTURE TO BE INSTALLED AS REQUIRED.
  - REMOVAL OF THE TEMPORARY SEDIMENT BASINS
  - PAVE PARKING LOT
  - LANDSCAPING PER LANDSCAPING PLAN
  - REMOVE EROSION CONTROLS AS DISTURBED AREAS BECOME STABILIZED TO 70% STABILIZATION OR GREATER

**RECOMMENDED CONSTRUCTION SEQUENCE**



**TREE PROTECTION DURING SITE CONSTRUCTION**

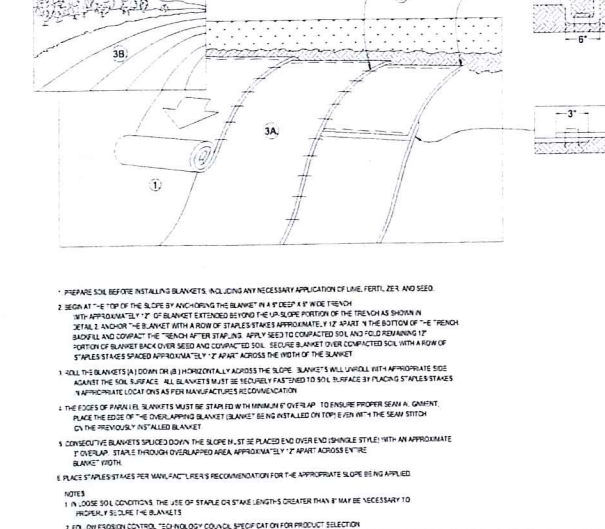


**STABILIZED CONSTRUCTION ENTRANCE**

PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED
0 TO 2%	COARSE GRAINED SOILS: 50 FT FINE GRAINED SOILS: 100 FT
2% TO 5%	100 FT
>5%	200 FT

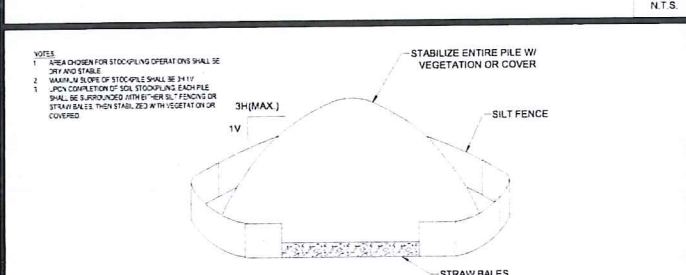
ENTIRE ENTRANCE STABILIZED WITH FABC BASE COURSE (1)  
(1) AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER GOVERNING AUTHORITY.

**CHART 1**

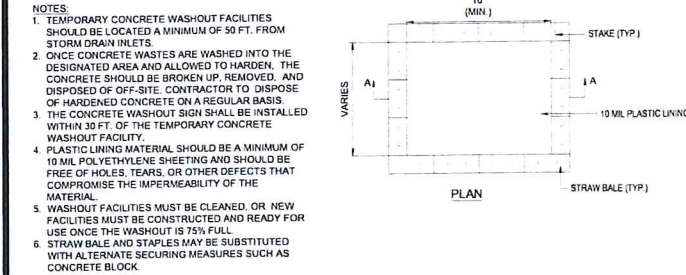
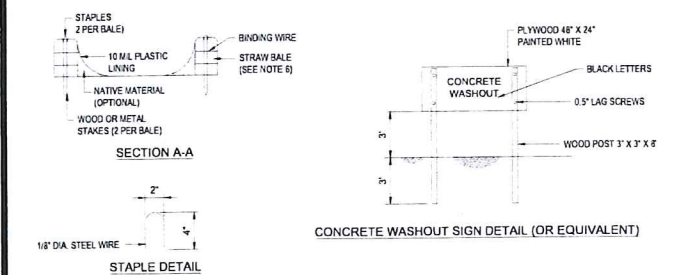


**EROSION CONTROL BLANKET 2:1 SLOPES (SLOPE INSTALLATION)**

NOTES:  
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.  
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 1\"/>



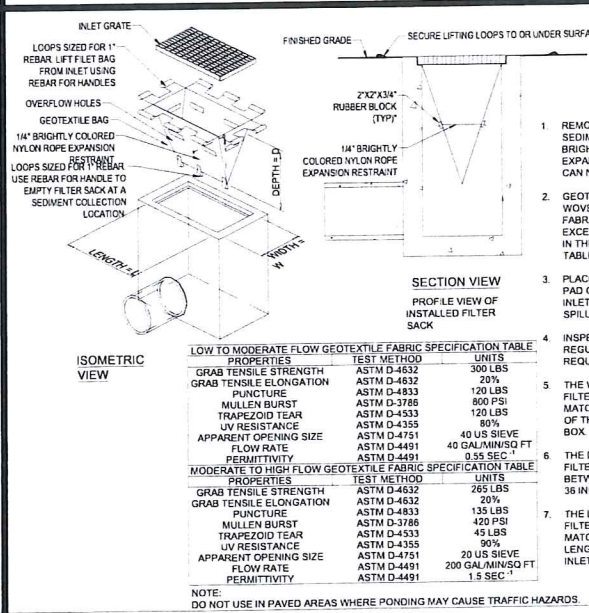
**TEMPORARY STOCKPILE**



**CONCRETE WASTE MANAGEMENT AREA**

NOTES:  
1. TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE LOCATED A MINIMUM OF 50 FT. FROM STORM DRAIN INLETS.  
2. ONCE CONCRETE WASTES ARE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN, THE CONCRETE SHOULD BE BROKEN UP, REMOVED, AND DISPOSED OF OFF-SITE. CONTRACTOR TO DISPOSE OF HARDENED CONCRETE ON A REGULAR BASIS.  
3. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 10 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.  
4. PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.  
5. WASHOUT FACILITIES MUST BE CLEANED, OR NEW FACILITIES MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75% FULL.  
6. STRAW BALES AND STAPLES MAY BE SUBSTITUTED WITH ALTERNATE SECURING MEASURES SUCH AS CONCRETE BLOCK.

**DEWATERING GEOTEXTILE FILTER BAG DETAIL**



**FILTER SACS (GRATED INLETS)**

NOTE:  
DO NOT USE IN PAVED AREAS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

**BOHLER**  
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LAND SURVEYING  
PROGRAM MANAGEMENT  
LANDSCAPE ARCHITECTURE  
SUSTAINABLE DESIGN  
PERMITTING SERVICES  
TRANSPORTATION SERVICES

**REVISIONS**

REV	DATE	COMMENT	DRAWN BY
			DEC2023

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PROJECT No.: W201257  
C/MC / OCR  
DRAWN BY: GD  
CHECKED BY: GD  
DATE: 07/20/2023  
CAD I.D.: W201257-EROS-08

**PROPOSED SITE PLAN DOCUMENTS**

FOR  
**MAPLE STREET SOLAR LLC**  
PROPOSED SOLAR FARM  
LOTS INCLUDED (PARCEL #): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION OF D 239-010, & 32-0009 160 MAPLE STREET, TOWN OF BELLINGHAM & FRANKLIN, NORFOLK COUNTY, MASSACHUSETTS

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352 TURNPIKE ROAD  
SOUTHBOROUGH, MA 01772  
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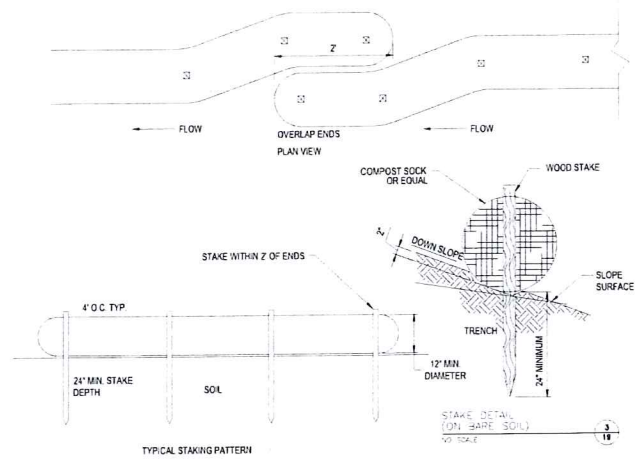
Professional Engineer  
No. 41530  
Professional Engineer

**EROSION & SEDIMENT CONTROL NOTES & DETAILS**

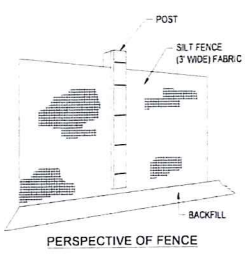
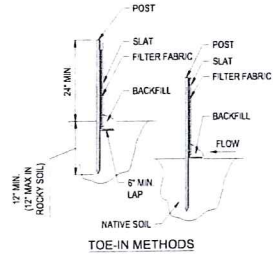
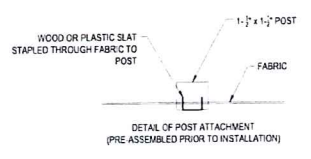
SHEET NUMBER: **C-607**

ORG. DATE - 07/20/2023

EROSION CONTROL BARRIER SHALL CONSIST OF BOTH COMPOST SOCK AND SILT FENCE UNLESS OTHERWISE NOTED



COMPOST SOCK



SILT FENCE

- INSTALLATION
1. EXCAVATE A 6"x6" TRENCH ALONG THE LINE OF EROSION CONTROL OF THE SITE.
  2. UNROLL SILTATION FENCE AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH (NET SIDE AWAY FROM FLOW DIRECTION).
  3. DRIVE THE POST INTO THE GROUND UNTIL THE NETTING IS LAYING ACROSS THE TRENCH BOTTOM.
  4. LAY THE TOE-IN FLAP OF THE FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH. BACKFILL THE TRENCH AND TAMP THE SOIL. TOE-IN CAN ALSO BE ACCOMPLISHED BY LAYING FABRIC FLAP ON UNDISTURBED GROUND AND PILING & TAMPING FILL AT THE BASE.
  5. COMBINATION OF COMPOST SOCK AND SILT FENCE SHALL BE USED AS NOTED ON THE PLAN.
  6. WIRE BACK SILT FENCE TO BE USED IN AREAS WITHIN 50 FOOT WETLAND BUFFER. SEE DETAIL (THIS SHEET).

EROSION CONTROL BARRIER (ECB) DETAIL

N.T.S.

REVISIONS

REV	DATE	COMMENT	DRAWN BY	CHECKED BY



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PROJECT No.: W201257  
 DRAWN BY: CMC / OCR  
 CHECKED BY: GJ  
 DATE: 07/20/2023  
 CAD I.D.: W201257-EROS-08

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR  
**MAPLE STREET SOLAR LLC**  
 PROPOSED SOLAR FARM

LOTS INCLUDED (PARCEL #): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION OF D 239-010, & 32-0009  
 160 MAPLE STREET,  
 TOWN OF BELLINGHAM & FRANKLIN,  
 NORFOLK COUNTY, MASSACHUSETTS

**BOHLER**

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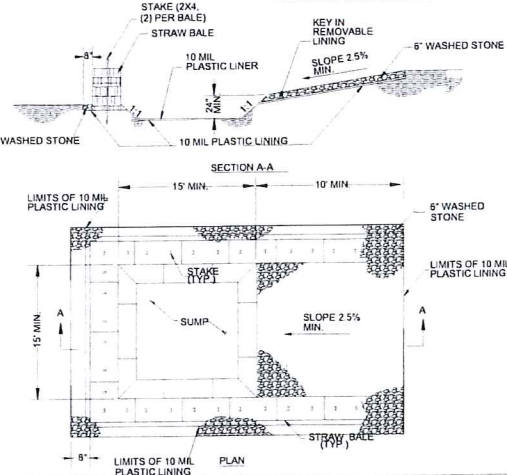
SHEET TITLE:  
**EROSION & SEDIMENT CONTROL NOTES & DETAILS**

SHEET NUMBER:  
**C-609**

ORG. DATE - 07/20/2023



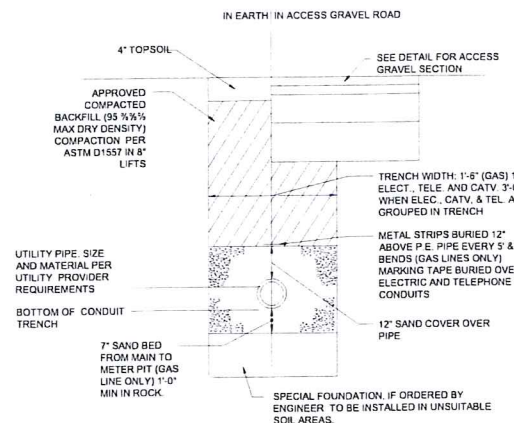
- NOTES
- PIT IS SPECIFICALLY DESIGNED, DIKED AND IMPROVED FACILITY SHALL NOT BE FILLED BEYOND 95% CAPACITY CONTAINED TO PREVENT CONTACT BETWEEN CONCRETE UNLESS A NEW FACILITY IS CONSTRUCTED.
  - WASH WATER SHALL NOT BE ALLOWED TO FLOW TO SURFACE & GRINDING TO BE DISPOSED OF IN THE PIT WATER.
  - FACILITY MUST HOLD SUFFICIENT VOLUME TO CONTAIN 100% OF WASH WATER. CONCRETE WASTE WITH A MINIMUM FREEBOARD OF 12" DEBRIS FROM THE VEHICLE WASH AREA SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL DEBRIS SHALL BE REMOVED FROM THE SITE WHEN 95% FULL CAPACITY. CONCRETE WASTE WITH ALL TOWN, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES.



**CONCRETE WASHOUT DETAIL**

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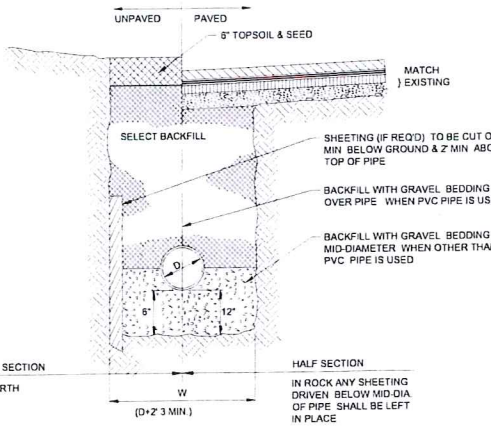
NOTE: THE CONTRACTOR IS DIRECTED AND RESPONSIBLE TO SLOPE AND/OR SHIELD THE TRENCH EXCAVATION IN ACCORDANCE WITH ALL APPLICABLE OSHA REGULATIONS.



**ALTERNATIVE ELECTRICAL TRENCH DETAIL**

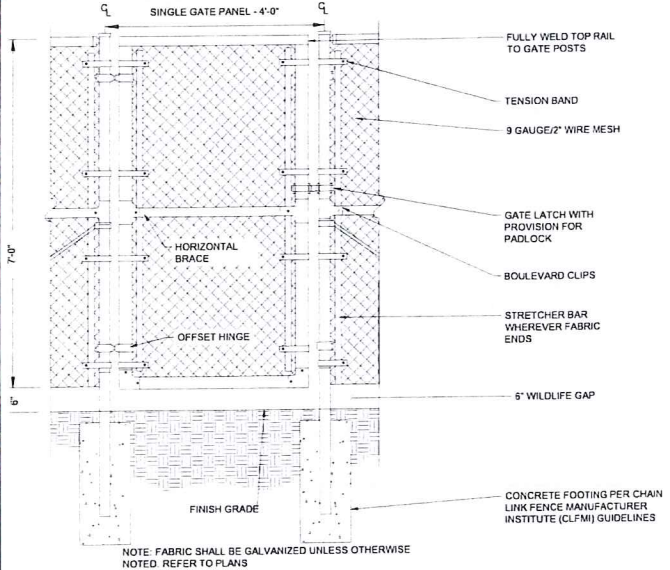
N.T.S.

NOTE: ALL PROPOSED UNDERGROUND UTILITIES THAT FALL WITHIN THE EXISTING ELECTRIC EASEMENTS SHALL BE AASHTO HS-25 RATED.



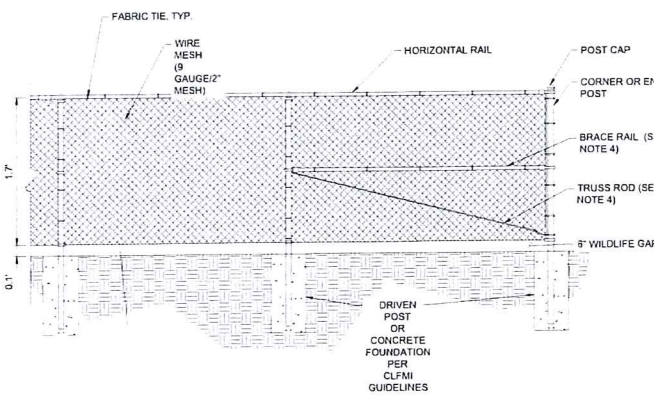
**TYPICAL UTILITY TRENCH**

N.T.S.



**7' ACCESS GATE WITH WILDLIFE GAP**

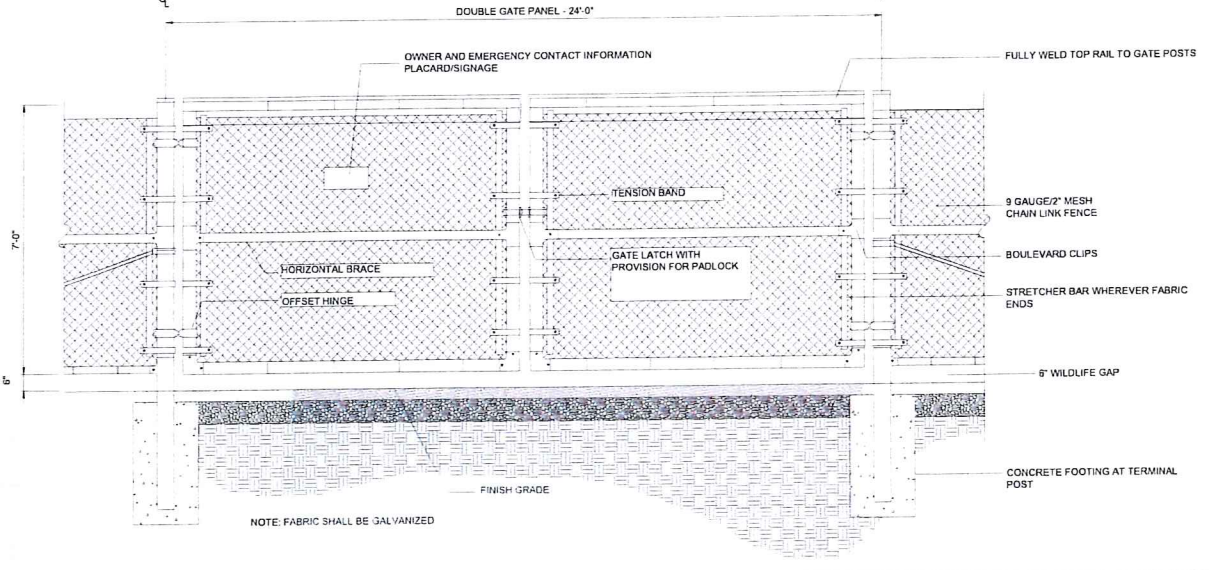
N.T.S.



**7' CHAIN LINK FENCE WITH WILDLIFE GAP**

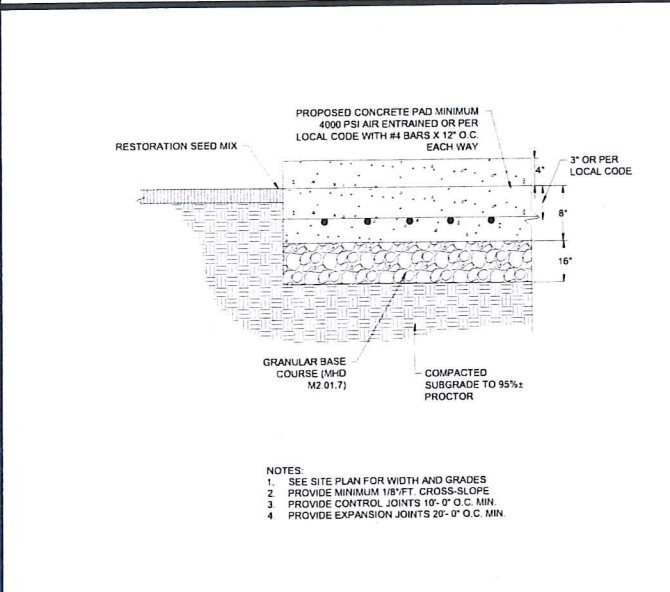
N.T.S.

- NOTES
- THE FENCE SHALL MEET OR EXCEED THE CHAIN LINK FENCE MANUFACTURER INSTITUTE (CLFMI) GUIDELINES AND RELATED FEDERAL SPECIFICATIONS FOR SECURITY CHAIN LINK FENCE MATERIALS AND INSTALLATION.
  - FENCE MATERIAL AND COMPONENTS SHALL BE GALVANIZED UNLESS OTHERWISE NOTED.
  - THIS DETAIL NOT APPLICABLE FOR PRIVACY FENCE OR FENCE WITH SLATS.
  - ADJUSTABLE TRUSS ROD AND BRACE RAIL AT CORNER OR END POSTS ONLY, IF REQUIRED BY CLFMI GUIDELINES.



**24' WIDE DOUBLE SWING GATE WITH WILDLIFE GAP**

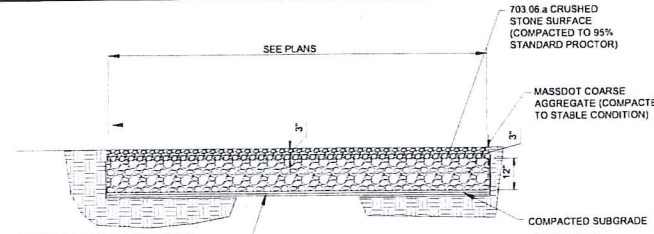
N.T.S.



**CONCRETE PAD FOR EQUIPMENT**

N.T.S.

- NOTES
- SEE SITE PLAN FOR WIDTH AND GRADES
  - PROVIDE MINIMUM 18" FT CROSS-SLOPE
  - PROVIDE CONTROL JOINTS 10'-0" O.C. MIN.
  - PROVIDE EXPANSION JOINTS 20'-0" O.C. MIN.

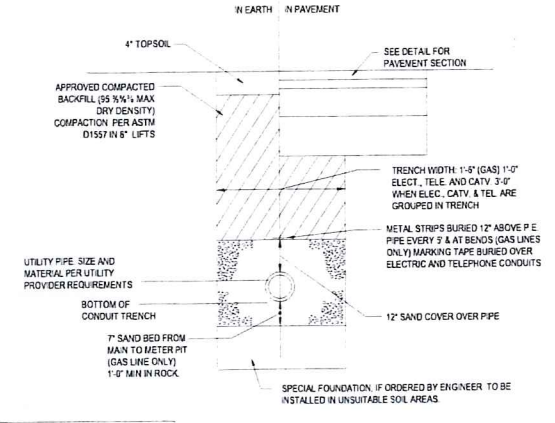


**ACCESS GRAVEL ROAD**

N.T.S.

- NOTES
- SUBCONTRACTOR SHALL EXCAVATE TO SUITABLE MATERIAL FOR SUBGRADE.
  - SUBCONTRACTOR SHALL COMPACT SUBGRADE TO PROVIDE SUITABLE SURFACE TO PLACE ROAD (95% MODIFIED PROCTOR). 3RD PARTY COMPACTION TESTING IS REQUIRED AT GRAVEL ACCESS ROAD AS FURTHER NOTED PER 'ADDITIONAL NOTE 13 Z' ON SHEET C-0-0. REFER TO GEOTECHNICAL REPORT FOR SUBGRADE PREPARATION CRITERIA.
  - SUBCONTRACTOR SHALL FOLLOW MANUFACTURER INSTALLATION PROCEDURES.
  - WHERE OVERLAPPING OF GEOTEXTILE FABRIC IS REQUIRED, SUBCONTRACTOR SHALL OVERLAP A MINIMUM OF 24".
  - SUBCONTRACTOR SHALL REMOVE TEMPORARY CONSTRUCTION ACCESS ROADS, AND RESTORE TO PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE CEOR AND THE GOVERNING AGENCIES.
  - SUBCONTRACTOR SHALL INSTALL CONDUITS FOR ALL ELECTRICAL CONDUIT CROSSINGS PRIOR TO INSTALLATION OF THE GEOTEXTILE MATERIAL. THE GEOTEXTILE SHALL NOT BE HORIZONTALLY CUT ONCE INSTALLED.
  - THE PROPOSED ACCESS ROAD SHALL HAVE A MAXIMUM RUNNING SLOPE OF 10%. PLEASE REFER TO THE GRADING PLAN FOR MORE INFORMATION.

NOTE: THE CONTRACTOR IS DIRECTED AND RESPONSIBLE TO SLOPE AND/OR SHIELD THE TRENCH EXCAVATION IN ACCORDANCE WITH ALL APPLICABLE OSHA REGULATIONS.



**PRIMARY ELECTRICAL TRENCH DETAIL**

N.T.S.

NOTE: ALL PROPOSED UNDERGROUND UTILITIES THAT FALL WITHIN THE EXISTING ELECTRIC EASEMENTS SHALL BE AASHTO HS-25 RATED.

**BOHLER**  
SITE CIVIL AND CONSULTING ENGINEERING  
LAND SURVEYING  
PROGRAM MANAGEMENT  
LANDSCAPE ARCHITECTURE  
SUSTAINABLE DESIGN  
TRANSPORTATION SERVICES

**REVISIONS**

REV	DATE	COMMENT	DRAWN BY	CHECKED BY

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PROJECT No.: W201257  
DRAWN BY: CMC / OCR  
CHECKED BY: GD  
DATE: 07/20/2023  
CAD ID: W201257-DET-08

**PROPOSED SITE PLAN DOCUMENTS**  
FOR  
**MAPLE STREET SOLAR LLC**  
PROPOSED SOLAR FARM  
LOTS INCLUDED (PARCEL #): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION OF D 239-010, & 32-0009  
160 MAPLE STREET,  
TOWN OF BELLINGHAM & FRANKLIN,  
NORFOLK COUNTY, MASSACHUSETTS

**BOHLER**  
352 TURNPIKE ROAD  
SOUTHBOROUGH, MA 01772  
Phone: (508) 480-9900  
www.BohlerEngineering.com

Professional Engineer Seal for John A. Bohler, No. 41530, State of Massachusetts.

SHEET TITLE:  
**DETAIL SHEET**  
SHEET NUMBER:  
**C-901**

ORG. DATE - 07/20/2023





Three-Phase Transformers  
CA202003EN  
Effective April 2016  
Supersedes 2/10/12 July 2015

COOPER POWER SERIES

# Three-phase pad-mounted compartmental type transformer



### General

At Eaton, we are constantly striving to introduce new innovations to the transformer industry, bringing you the highest quality, most reliable transformers. Eaton's Cooper Power Series Transformer Products are ISO 9001 compliant, emphasizing process improvement in all phases of design, manufacture, and testing in order to drive the provision of the highest quality products at the lowest cost. Eaton's Cooper Power Series transformers are available with electrical grade mineral oil or Envirotemp™ FR3™ fluid, a non-flammable and non-degradable fluid. Electrical codes recognize the advantages of using Envirotemp™ FR3™ fluid both indoors and outdoors for the same applications. The non-toxic fluid meets Occupational Safety and Health Administration (OSHA) and Section 490.23 NEC Requirements.

With transformer sizes ranging from 48 kVA to 12 MVA and high voltages ranging from 2400 V to 46 kV, Eaton has you covered. From fabrication of the tanks and cabinets to winding of the cores and coils, to production of arresters, switches, tap changers, expulsion fuses, current limit fuses, bushings (live and dead) and molded rubber gaskets, Eaton does it all. Eaton's Cooper Power Series transformers are available with electrical grade mineral oil or Envirotemp™ FR3™ fluid, a non-flammable and non-degradable fluid. Electrical codes recognize the advantages of using Envirotemp™ FR3™ fluid both indoors and outdoors for the same applications. The non-toxic fluid meets Occupational Safety and Health Administration (OSHA) and Section 490.23 NEC Requirements.



Three-phase pad-mounted compartmental type transformer

Catalog Data CA202003EN  
Effective April 2016

Table 2. Three-Phase Ratings

Three-Phase 50 or 60 Hz
kVA Available
48, 75, 112.5, 150, 225, 300, 500, 750, 1000, 1500, 2000, 2500, 3000, 3750, 5000, 7500, 10000

Table 3. Impedance Voltage

Rating (kVA)	Low-voltage rating		
	0-600 V	2400 Δ through 4600 Δ	5000 Δ through 13800Y/7870 or 13800 Δ
48-75	2.75-3.75	2.75-3.75	2.75-3.75
112.5-300	1.15-1.75	1.15-1.75	1.15-1.75
300	4.35-5.75	4.35-5.75	4.35-5.75
750-2500	3.75	3.75	3.75
3750	3.75	3.75	3.30
5000	3.00	3.00	3.30

Note: The standard impedance is ± 15%.

Table 4. Audible Sound Levels

Self-Cooled, Two Winding kVA Rating	NEMA™ TR-1 Average	
	Decibels (dB)	
48-750	58	
501-750	57	
751-1000	58	
1001-1500	58	
1501-2000	57	
2001-2500	52	
2501-3000	53	
3001-4000	44	
4001-5000	45	
5001-6000	46	
6001-7500	47	
7501-10000	48	

Table 5. Insulation Test Levels

kV Class	Insulated Test 100 or 400 Hz 7200 Cycles	
	LV BIL Distribution	Applied Test 60 Hz (kV)
2.5	30	10
2.5	45	15
5	30	19
3.7	75	26
15	45	34
25	125	50
34.5	150	50

Table 6. Temperature Rise Ratings 0-3300 Feet (0-1000 meters)

Unit Rating (Temperature Rise Windings)	Standard		Optional
	°C		
Ambient Temperature Max	40	50	55
Ambient Temperature 24 Hour Average	30	40	45
Temperature Rise Hotspot	40	50	55

www.eaton.com/cooperpowerseries

Catalog Data CA202003EN  
Effective April 2016

Three-phase pad-mounted compartmental type transformer

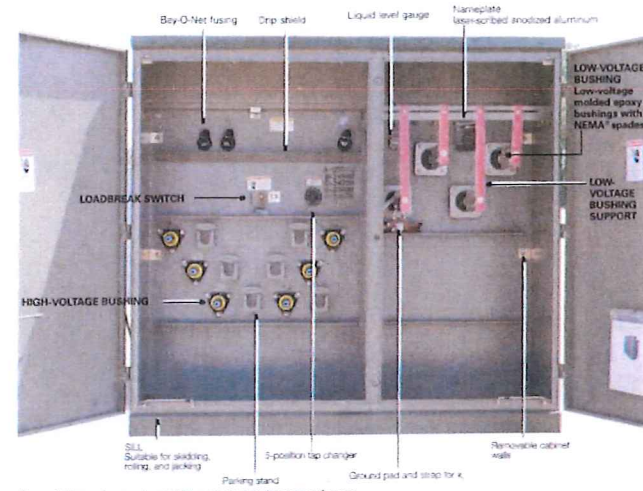


Figure 1. Three-phase pad-mounted compartmental type transformer.

Table 1. Product Scope

Type	Three-Phase, 50 or 60 Hz, 0-15000 kVA, 2400-46 kV, 10-15000 lbs (4.5-6.8 t), 10-15000 ft <sup>3</sup> (283-425 m <sup>3</sup> )
Fluid Type	Mineral oil or Envirotemp™ FR3™ fluid
Cell Configuration	2-winding or 3-winding or 2-winding (Low-High-Low) 3-winding (Low-Low-High)
Size	45-10200 kVA
Primary Voltage	2400-46,000 V
Secondary Voltage	100V/120 V to 14,400 V
Specialty Designs	Inverter/Rectifier Bridge K-factor tap to 4:1 Vacuum Fault Interrupter (VFI) 10" Terminal (Labeled and Cabled) Factory Mutual PFM Approved Solar/Wind Design Distributed Protection Special Applications (including DSWPE) Hardened Data Center

www.eaton.com/cooperpowerseries

Catalog Data CA202003EN  
Effective April 2016

Three-phase pad-mounted compartmental type transformer

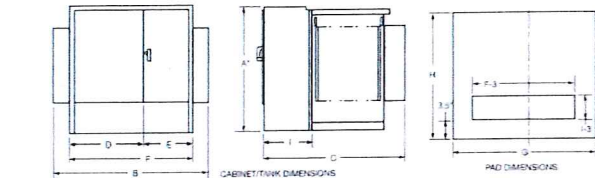


Figure 2. Transformer and pad dimensions.

Table 7. Fluid-filled—aluminum windings 55/65 °C Rise\*

kVA Rating	OUTLINE DIMENSIONS (in.)										Gallons of Fluid	Approx. Total Weight (lbs.)
	A	B	C	D	E	F	G	H	I	J		
48	30	38	25	12	22	30	32	43	35	15	15	2.20
75	30	40	27	12	23	30	32	43	35	17.5	2.30	
112.5	30	42	28	12	24	30	32	43	35	20	2.40	
150	30	44	29	12	25	30	32	43	35	22.5	2.50	
225	30	46	30	12	26	30	32	43	35	25	2.60	
300	30	48	31	12	27	30	32	43	35	27.5	2.70	
375	30	50	32	12	28	30	32	43	35	30	2.80	
500	30	52	33	12	29	30	32	43	35	32.5	2.90	
750	30	54	34	12	30	30	32	43	35	35	3.00	
1000	30	56	35	12	31	30	32	43	35	37.5	3.10	
1500	30	58	36	12	32	30	32	43	35	40	3.20	
2000	30	60	37	12	33	30	32	43	35	42.5	3.30	
2500	30	62	38	12	34	30	32	43	35	45	3.40	
3000	30	64	39	12	35	30	32	43	35	47.5	3.50	
3750	30	66	40	12	36	30	32	43	35	50	3.60	
5000	30	68	41	12	37	30	32	43	35	52.5	3.70	
7500	30	70	42	12	38	30	32	43	35	55	3.80	

Table 8. Fluid-filled—Copper Windings 55/65 °C Rise\*

kVA Rating	OUTLINE DIMENSIONS (in.)										Gallons of Fluid	Approx. Total Weight (lbs.)
	A	B	C	D	E	F	G	H	I	J		
48	30	38	24	12	22	30	32	43	35	15	1.80	
75	30	40	25	12	23	30	32	43	35	17.5	1.90	
112.5	30	42	26	12	24	30	32	43	35	20	2.00	
150	30	44	27	12	25	30	32	43	35	22.5	2.10	
225	30	46	28	12	26	30	32	43	35	25	2.20	
300	30	48	29	12	27	30	32	43	35	27.5	2.30	
375	30	50	30	12	28	30	32	43	35	30	2.40	
500	30	52	31	12	29	30	32	43	35	32.5	2.50	
750	30	54	32	12	30	30	32	43	35	35	2.60	
1000	30	56	33	12	31	30	32	43	35	37.5	2.70	
1500	30	58	34	12	32	30	32	43	35	40	2.80	
2000	30	60	35	12	33	30	32	43	35	42.5	2.90	
2500	30	62	36	12	34	30	32	43	35	45	3.00	
3000	30	64	37	12	35	30	32	43	35	47.5	3.10	
3750	30	66	38	12	36	30	32	43	35	50	3.20	
5000	30	68	39	12	37	30	32	43	35	52.5	3.30	
7500	30	70	40	12	38	30	32	43	35	55	3.40	

\* Weights, gallons of fluid, and dimensions are for reference only and not for construction. Please contact Eaton for exact dimensions.

www.eaton.com/cooperpowerseries

## THREE-PHASE PAD-MOUNTED COMPARTMENTAL TYPE TRANSFORMER



### REVISIONS

REV	DATE	COMMENT	DRAWN BY	CHECKED BY



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PROJECT No.: W201257  
CMC / OCR  
DRAWN BY: GD  
CHECKED BY: GD  
DATE: 07/20/2023  
CAD L.D.: W201257-OETL-08

PROJECT:

### PROPOSED SITE PLAN DOCUMENTS

FOR

### MAPLE STREET SOLAR LLC

PROPOSED SOLAR FARM

LOTS INCLUDED (PARCEL #): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION OF D 239-010, & 32-0009 160 MAPLE STREET, TOWN OF BELLINGHAM & FRANKLIN, NORFOLK COUNTY, MASSACHUSETTS



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SOUTHBOROUGH, MA 01772  
Phone: (508) 480-9900

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SHEET TITLE:

### DETAIL SHEET

SHEET NUMBER:

### C-904

ORG. DATE - 07/20/2023

NTS

## AstroTwins™

Enjoy the Energy of the Universe

### 400W~415W

P-type Monocrystalline PV Module  
CHSM72M(DG)/F-BH Series (158.75)

CHSM72M(DG)/F-BH is efficient module with silver-glazed glass.

**96.00%** 12-year Warranty for Maximum and Processing  
**30-year** Warranty for Extra Linear Power Output

**KEY FEATURES**

- 5W OUTPUT POSITIVE TOLERANCE**  
Guarantee 5~10W positive tolerance power output reliability
- EXCELLENT WEATHER RESISTANCE**  
Reduces the risk of micro-crack and scratched product warranty
- BIFACIAL POWER**  
The backside makes use of the reflected and scattered light from the surroundings, the module can yield up to 3%~35% power more depending on the albedo
- REDUCE INTERNAL MISMATCH LOSS**  
Repeat mismatch test and optimize layout
- APPLICABLE FOR MULTI DIFFERENT ENVIRONMENTS**  
The wide range of applications such as 3-PTV, vertical installation, snow area, high humidity area and strong ultraviolet rays etc.
- SMALL TRAIL RESISTANCE**  
Reduces the probability of soil trails with wind-water impact transmission

**COMPREHENSIVE CERTIFICATES**

Find solar company which passed the TOP  
NREL IECIS 15941 certification audit.

For Global Market

**ASTROENERGY**  
A GREE COMPANY

### ELECTRICAL SPECIFICATIONS

Power rating (Watt)	400 Wp	405 Wp	410 Wp	415 Wp
String Capacity	Front: 292	Back: 292	Front: 292	Back: 292
STC rated output (P <sub>max</sub> )	400	405	410	415
Rated voltage (V <sub>MPP</sub> ) at STC	40.67	40.88	41.10	41.31
Rated current (I <sub>MPP</sub> ) at STC	9.84	9.91	9.98	10.05
Open circuit voltage (V <sub>OC</sub> ) at STC	48.34	48.52	48.70	48.87
Short circuit current (I <sub>SC</sub> ) at STC	10.30	10.38	10.44	10.54
Module efficiency	19.8%	19.7%	19.7%	19.7%
Temperature coefficient (P <sub>max</sub> )	-0.26%/°C	-0.26%/°C	-0.26%/°C	-0.26%/°C
Temperature coefficient (V <sub>OC</sub> )	-0.28%/°C	-0.28%/°C	-0.28%/°C	-0.28%/°C
Temperature coefficient (I <sub>SC</sub> )	0.05%/°C	0.05%/°C	0.05%/°C	0.05%/°C
Maximum system voltage (V <sub>DCmax</sub> )	1500V	1500V	1500V	1500V
Number of diodes	9	9	9	9
Auxiliary box IP rating	IP 65	IP 65	IP 65	IP 65
Maximum system fuse rating	20 A	20 A	20 A	20 A

**MECHANICAL SPECIFICATIONS**

Outer dimensions (L x W x H): 2038 x 1010 x 30 mm

Frame technology: Aluminum, silver anodized

Glass Thickness: 2.0 mm

Frame weight: 2.5 kg

Cable length (MC4): 1700mm, 2000mm, 2300mm

Cable diameter (MC4): 4 mm<sup>2</sup> 12 AWG

Maximum mechanical test load: 5400 Pa (Directly 2400 Pa Back)

Connector type (MC4): MC4 compatible

**PACKING SPECIFICATIONS**

Weight (module/frame only): 26.3 kg

Packing unit: 36 pcs / box

Weight of packing unit (for 400W cabinet): 964 kg

Number of modules per 400W cabinet: 782 pcs

**MODULE DIMENSION DETAILS**

## CONNECTPV

Simplifying Solar PV

### 1500V Disconnect Combiners

ConnectPV Disconnect Combiner products are based on a core product architecture optimized for commercial and utility scale solar projects, simplifying design and specification. Options and accessories allow the designer to optimize the products for each project - reducing installation labor costs.

ConnectPV products incorporate "best-in-class" components combined with rugged mechanical designs to maximize reliability over the projected life of the project.

Compatible with grounded systems - negatively or positively grounded with fuses on the ungrounded string input conductor, or ungrounded systems with fuses on both string input conductors.

**Standard Product Features**

- 250A, 320A, and 400A UL98B Certified Manual Disconnects
- Lock Out/Tag-Out on Disconnect Handle
- 8-32 Fused Inputs, #14-#6 AWG Wire Range
- Touch Safe Fuse holders
- 15A Fuse Typical, 30A Maximum - user specified
- M10 or M12 Studs provided for single or double hole lugs
- Accommodates 90C Cu/Al Mechanical or Compression Lugs
- Internal Safety Cover over all live components
- NEMA 3R, 4, and 4X Enclosures
- Padlock Latch for Door
- Unique Serial number per unit
- Labeling to meet NEC Requirements
- 5 Year Warranty

**Product Options**

- Class 2 40KA Surge Protective Device
- Mechanical Lugs Installed or Compression Lugs included
- Breather Vents for High Humidity Locations
- H4 or MC4 Bulkhead or Whip Connectors Installed
- Upsized Enclosures for Larger Output Wires
- Mounting Brackets installed
- Extended Warranty

**Model Numbers are derived from the following template:** CBX15V-##(DC)-FFAA-EE

VV	T	##	FF	AA	EE
Voltage	Topology	Disconnect Rating	String Count	Fuse Rating	Enclosure Type
15 = 1500V	G-Grounded F= Floating	250A, 320A or 400A	08-32 2 string maximum	02-30 15A Typical	N4 = Carbon Steel 4X = Fiberglass*

Additional Options and Accessories Available: Shrouds (See Catalog)

**ABOUT CONNECTPV INC.**

Based in San Diego, CA, ConnectPV Inc. delivers expertise and experience. We bring over 10 years of Solar PV industry experience in electrical Balance of System products coupled with more than 25 years of high quality ISO 9001:2008 certified manufacturing experience. We actively work with our customers to deliver innovative, high quality, and cost effective solutions.

Contact Toll Free: (844)-246-6140  
Local: (658) 246-6140

www.connectpv.com  
sales@connectpv.com

San Diego, CA  
CBX15 Rev. 3.0

## CONNECTPV

Simplifying Solar PV

### ConnectPV reduces electrical BOS project costs by simplifying:

**Configuration**  
Design Engineers quickly review and approve our products to meet the project requirements. Simplifying design and specification.

**Installation**  
Field installers quickly install our products because they provide ample wiring room, reducing installation time and labor cost.

**Regulation**  
Any inspectors quickly review and approve our products because we have designed for 100% compliance with the NEC and UL Standards. Reducing project suspension and rework time.

**Operation**  
O&M Personnel reduce field service time because our products use high quality components and are designed for a 10 year life expectancy. Maximizing system revenue generation.

**Typical Input Characteristics**

Input Circuits	Standard Disconnect Ampacity	Input Wire Size	Output Type	NEMA 4X 4 Steel (inches)	NEMA 4X 4 Steel Fiberglass (inches)	NEMA 4X 4 Steel Fiberglass (inches)	NEMA 4X 4 Steel Fiberglass (inches)
15	250	M10	Stud	24x24x8	24x24x8	24x30x8	24x30x8
20	320	M10	Stud	24x24x8	24x24x8	24x30x8	24x30x8
24	320	M12	Stud	30x24x8	30x24x8	30x30x8	30x30x8*
28	400	M12	Stud	30x30x8	30x30x8	36x36x8	36x36x8*
32	400	M12	Stud	30x30x8	36x30x8	36x36x8	36x36x8*

\* Fiberglass Enclosure Steel NEMA 4X  
Standard Disconnects used are 125% Compliant per UL 1741  
Special Disconnects available for 150A (available for 0230 combination)

High Ampacity input terminals available:  
e.g. 12 input 400A with 15A fuses  
See Specimen Subject to Change

Additional Options and Accessories Available: Shrouds (See Catalog)

Contact Toll Free: (844)-246-6140  
Local: (658) 246-6140

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San Diego, CA  
CBX15 Rev. 3.0

## CAB1000/AC

Up to 1500 VDC  
Utility-grade energy storage inverter.  
Scalable to 4 MW

**Return on Investment**

- Low maintenance
- Low charging and discharging rate
- Modular 1 MW blocks
- Highest energy storage performance

**Modular / Flexible configuration**

- 1 MW blocks, 1000 VDC
- 1 MW blocks, 1500 VDC
- 1 MW blocks, 1500 VDC, 1500 VDC
- 1 MW blocks, 1500 VDC, 1500 VDC, 1500 VDC

**Simple O&M**

- Modular design with low component count
- Fielded assembly solution

**Easily Transportable**

- Fielded assembly solution
- Available with pallet rack or standard forklift
- No crane required
- Top integrated busbar blocks

**Advanced Technology**

- Fully semiconductor and gate driver
- Fielded assembly solution
- 1500 VDC, 1500 VDC, 1500 VDC, 1500 VDC

The CAB1000 scalable platform was specifically developed to offer a straightforward and simple solution to developers of utility grade energy storage systems. In 1 MW blocks, the CAB1000 platform offers a single modular system which is factory pre-assembled and ready to go. The inverter power conversion system also boasts high performance components and system redundancy.

With world class power density and an easy to install design your energy storage system will be commissioned quickly and easily. This energy storage DC/AC has never been more flexible or straightforward.

**epcpower**

PRELIMINARY - EPC Power Corporation 70100022 August 2019

## CAB1000/DC

DC coupled solar + storage

**Bidirectional 1500 V DC-DC conversion**

With a power rating of up to 3000 kW, EPC's DC-DC outdoor cabinet is designed to seamlessly integrate energy storage into 1000 V or 1500 V PV systems.

**1500 V DC-DC Any DC source Wide DC voltage range**

- NEMA 3R rated
- Peak efficiency >96%
- Connects directly between PV & storage
- Rerit or new installations
- MPPT capable
- Bidirectional buck/boost

Our DC-DC converters are compatible with a wide range of DC sources. Whether you have 1000 V class lithium battery banks, DC generators, ultra-capacitors, other battery chemistries (lead-acid, flow, etc.), or even fuel cells, our DC-DC converters have your needs covered. By connecting a wide range of DC voltage levels, EPC's DC-DC solutions enable highly scalable power conversion in your application.

The CAB1000/DC is designed from the ground up with simplicity, reliability, and scalability in mind.

**Key benefits:**

- 4-quadrant (bidirectional buck or boost)
- DC coupled solar
- Power flow in either direction regardless of voltages
- Wide DC range
- Optimized for energy storage

**epcpower**

PRELIMINARY - EPC Power Corporation 70100022 August 2019

## CAB1000/DC

Bidirectional DC-DC

**Use Case 1:**

**Use Case 2:**

**Proven products. Limitless possibilities.**

**epcpower**

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PROJECT No.: W201257  
DRAWN BY: GAO/OCR  
CHECKED BY: GAO  
DATE: 07/20/2023  
CAD ID.: W201257-02TL-08

**PROPOSED SITE PLAN DOCUMENTS**

FOR  
**MAPLE STREET SOLAR LLC**  
PROPOSED SOLAR FARM

LOTS INCLUDED (PARCEL #): 255-001, 254-001, 239-010 A, 239-010 B, 239-010 C, PORTION OF D 239-010, & 32-0009  
160 MAPLE STREET,  
TOWN OF BELLINGHAM & FRANKLIN,  
NORFOLK COUNTY, MASSACHUSETTS

**BOHLER**

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**JOHN A. BOHLER**  
REGISTERED PROFESSIONAL ENGINEER  
No. 41530

**DETAIL SHEET**

**C-905**

SHEET NUMBER:  
ORG. DATE - 07/20/2023

PHOTOVOLTAIC PANEL SPECIFICATIONS

PHOTOVOLTAIC PANEL SPECIFICATIONS

NTS



