# PERMIT SITE PLANS

# Solar Panel Facility

1291 Broadway
Haverhill, Massachusetts 01832

Prepared for

## Clean Energy Collective

### PURPOSE AND INTENT

1. THIS PLAN SET IS FOR SITE PLAN REVIEW PERMITTING PROCESS ONLY AND IS NOT INTENDED FOR CONSTRUCTION.

### GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY THE LOCATION AND RELATIVE ELEVATION OF BENCH MARKS PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER.

2. CONTRACTOR SHALL FURNISH CONSTRUCTION LAYOUT OF SITE IMPROVEMENTS. THIS WORK SHALL BE PERFORMED BY A PROFESSIONAL LAND SURVEYOR.

3. SAFETY MEASURES, CONSTRUCTION METHODS AND CONTROL OF WORK SHALL BE RESPONSIBILITY OF THE CONTRACTOR.

4. ALL SITE CONSTRUCTION SHALL COMPLY WITH THE HAVERHILL DEPARTMENT OF PUBLIC WORKS STANDARDS.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND/OR REPLACEMENT OF ANY EXISTING IMPROVEMENTS DAMAGED DURING CONSTRUCTION THAT ARE NOT DESIGNATED FOR DEMOLITION AND / OR REMOVAL HEREON. DAMAGED IMPROVEMENTS SHALL BE REPAIRED TO THE SATISFACTION OF THEIR RESPECTIVE OWNERS.

6. ANY INTENDED REVISION OF THE HORIZONTAL AND/OR VERTICAL LOCATION OF IMPROVEMENTS TO BE CONSTRUCTED AS SHOWN HEREON SHALL BE REVIEWED AND APPROVED BY ENGINEER PRIOR TO IMPLEMENTATION.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING HORIZONTAL AND VERTICAL MEASUREMENTS FOR ALL SUBSURFACE STRUCTURES. THIS INFORMATION SHALL BE REPORTED TO THE ENGINEER.

### REGULATORY NOTES

1. CONTRACTOR SHALL CONTACT "DIG-SAFE" FOR AN UNDERGROUND UTILITY MARKING AT 811 AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY WORK.

2. CONTRACTOR SHALL MAKE HIMSELF AWARE OF ALL CONSTRUCTION REQUIREMENTS, CONDITIONS AND LIMITATIONS IMPOSED BY PERMITS AND APPROVALS ISSUED BY REGULATORY AUTHORITIES PRIOR TO THE COMMENCEMENT OF ANY WORK. CONTRACTOR SHALL COORDINATE AND OBTAIN ALL CONSTRUCTION PERMITS REQUIRED BY REGULATORY AUTHORITIES.

3. ALL WORK OUTSIDE OF THE BUILDING THAT IS LESS THAN 10 FEET FROM THE INSIDE FACE OF THE BUILDING FOUNDATION SHALL CONFORM WITH THE UNIFORM STATE PLUMBING CODE OF MASSACHUSETTS, 248 CMR 2.00.

4. CONSTRUCTION ACTIVITIES SHALL CONFORM TO THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).

### PLAN NOTES

1. LOCATIONS OF EXISTING UNDERGROUND UTILITIES/OBSTRUCTIONS/SYSTEMS SHOWN HEREON ARE APPROXIMATE ONLY. ALL UTILITIES/OBSTRUCTIONS/SYSTEMS MAY NOT BE SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UNDERGROUND UTILITIES/OBSTRUCTIONS/SYSTEMS, WHETHER OR NOT SHOWN HEREON.

3. RIM ELEVATIONS SHOWN FOR NEW STRUCTURES ARE APPROXIMATE AND ARE PROVIDED TO ASSIST CONTRACTOR WITH MATERIAL TAKEOFFS. FINISH RIM ELEVATIONS SHOULD MATCH PAVEMENT, GRADING OR LANDSCAPING, UNLESS SPECIFICALLY INDICATED OTHERWISE.

9. WHERE NEW PAVING MEETS EXISTING PAVING, MEET LINE AND GRADE OF EXISTING WITH NEW PAVING.

10. AT LOCATIONS WHERE EXISTING PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING PAVEMENT SHALL BE SAWCUT TO A CLEAN, SMOOTH EDGE. 11. EXCAVATION REQUIRED WITHIN PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.

13. ALL DISTURBED AREAS NOT COVERED WITH PAVEMENT, STRUCTURES, INDIVIDUAL PLANTINGS, OR MULCH SHALL BE PLANTED AS SHOWN ON THE SITE PLANS OR AS DIRECTED BY THE ENGINEER.

14. ALL UNDERGROUND STRUCTURES AND UTILITIES SHALL BE CAPABLE OF WITHSTANDING H20 WHEEL LOADS.

15. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, SIZE, INVERTS AND TYPES OF EXISTING PIPES AT ALL PROPOSED POINTS OF CONNECTION PRIOR TO ORDERING MATERIALS. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY AT NO ADDITIONAL COST BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT.

16. SILT FENCE AND/OR HAYBALES SHOWN HEREON SHALL BE INSTALLED BEFORE EARTH DISTURBANCE OCCURS WITHIN BUFFER ZONE, AND SHALL SERVE AS THE LIMIT OF WORK.

17. CONTRACTOR SHALL PROVIDE DUST CONTROL FOR CONSTRUCTION OPERATIONS AS APPROVED BY THE ENGINEER.

18. ALL POINTS OF CONSTRUCTION EGRESSOR INGRESS SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ON TO PUBLIC ROADS. 19. SEE LANDSCAPE PLANS FOR GRADING, LAYOUT AND PLANTING.

19. NEWLY GRADED AND DISTURBED UPLAND AREAS WITHIN THE SOLAR ARRAY SHALL BE PLANTED WITH EARNST CONSERVATION SEEDS INC HBF SEED MIX OR APPROVED EQUAL. NEWLY GRADED AND DISTURBED UPLAND AREAS OUTSIDE OF THE SOLAR ARRAY SHALL BE HYDROSEEDED WITH A CUSTOM EARNST CONSERVATION SEEDS INC SEED MIX OR APPROVED EQUAL. THE CUSTOM MIX SHALL CONTAIN PARTRIDGE PEA, SPOTTED BEEBALM, WILD BERGAMOT, VIRGINIA MOUNTAINMINT, BLUE VERVAIN, MARSH BLAZING STAR, SMOOTH BLUE ASTER, HEATH ASTER, ANISE HYSSOP, AND BLUE FALSE INDIGO. POND AREAS SHALL BE PLANTED WITH NEW ENGLAND CONSERVATION/WILDLIFE MIX OR APPROVED EQUAL. ALL SEED MIXES SHALL BE APPLIED PER THE MANUFACTURERS RECOMMENDATION.

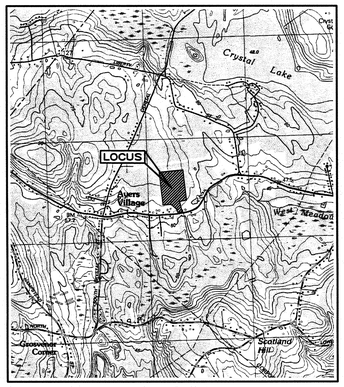
20. THE STORMWATER PONDS SHALL BE CLEARED AND CONSTRUCTED AT THE BEGINNING OF THE CONSTRUCTION SEQUENCE, FOLLOWING THE INSTALLATION OF EROSION CONTROLS AND PRIOR TO THE UPSTREAM GROUND DISTRUBANCE.

### DIMENSIONAL REQUIREMENTS

RURAL RESIDENTIAL (RR) DISTRICT

| | REQUIRED | | PROVIDED | |
|---|---|---|---|---|
| MINIMUM LOT AREA | 80,000 | SQ FT | 1,068,000± | SQ FT |
| MINIMUM LOT FRONTAGE | 200 | FT | 163 | FT* |
| MINIMUM LOT DEPTH | 125 | FT | 1,494 | FT |
| FRONT SETBACK | 40 | FT | 755± | FT |
| SIDE SETBACK | 25 | FT | 128± | FT |
| REAR SETBACK | 40 | FT | 40 | FT |
| MAXIMUM HEIGHT | 35 | FT | <35 | FT |
| MAXIMUM STORIES | 2.5 | | N/A | |
| MAXIMUM BUILDING COVERAGE | 15 | % | N/A | |
| MINIMUM OPEN SPACE | 70 | % | 89 | % |

*APPROVED BY THE HAVERHILL BOARD OF APPEALS ON NOVEMBER 18, 2015.




### VICINITY MAP

SCALE: 1"=500'

### PROJECT TEAM

APPLICANT:
CLEAN ENERGY COLLECTIVE
146 WEST BOYLSTON STREET
SUITE 201
WORCESTER, MASSACHUSETTS 01606

OWNER:
JANET P. DONOVAN
1305 BROADWAY
HAVERHILL, MASSACHUSETTS 01832

LAND SURVEYORS & CIVIL ENGINEERS:
HANCOCK ASSOCIATES
185 CENTRE STREET
DANVERS, MASSACHUSETTS 01923

### SHEET INDEX


C1..... TITLE SHEET
EC1, EC2..... TOPOGRAPHIC PLANS OF LAND
C2A, C2B..... SITE PREPARATION AND LAYOUT AND MATERIALS PLANS
C3A, C3B..... GRADING AND DRAINAGE PLANS
C4..... SITE DETAILS
C5..... SOLAR DETAILS
M1..... WETLAND MITIGATION PLAN


### LEGEND

| EXISTING | | PROPOSED |
|---|---|---|
| 234 | SURFACE CONTOUR | 18 |
| | EDGE OF TRAVELED WAY | |
| x x x | FENCE | |
| | EDGE OF WOODED AREA | |
| #181 OHW | EXISTING UTILITY POLE WITH DESIGNATION OVERHEAD WIRES AND GUY POLE | OHW |
| E | ELECTRIC MANHOLE & UNDERGROUND ELECTRIC LINES | E |
| T | TELEPHONE MANHOLE & UNDERGROUND TELEPHONE LINES | |
| × 232.6 | SPOT ELEVATION | 16.60 × |
| 26.8 12"M | PROMINENT DECIDUOUS TREE WITH ELEVATION, SIZE AND SPECIES | |
| | MANHOLE (UNKNOWN UTILITY) | |
| BM | BENCHMARK | |
| DHCB | DRILL HOLE IN CONCRETE BOUND | |
| I.PIPE | IRON PIPE | |
| I.ROD | IRON ROD | |
| VGC | VERTICAL GRANITE CURB | |
| | SIGN | |
| | 25' NO BUILD NO DISTURBANCE ZONE | |
| | 50' NO BUILD ZONE | |
| | 100' WETLAND BUFFER ZONE | |
| | 100' WETLAND BUFFER ZONE TO VERNAL POOL | |
| | STRAW WATTLE BARRIER | |
| | GUARDRAIL | |
| | SETBACK LINE | |
| | WALL | |
| | GRAVEL ACCESS ROAD | |
| | RIP RAP | |
| | INFILTRATION TRENCH | |
| | SOLAR PANEL ARRAY | |
| | OUTLET CONTROL STRUCTURE | OCS |
| | WOODS ROAD | OCS |

SITE ADDRESS:

SOLAR PANEL FACILITY

1291 Broadway
Haverhill, Massachusetts

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CLEAN ENERGY COLLECTIVE

146 West Boylston Street
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Worcester, Massachusetts 01606


HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

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COMMONWEALTH OF MASSACHUSETTS VACLAV TALACKO CIVIL No. 23879 REGISTERED PROFESSIONAL ENGINEER

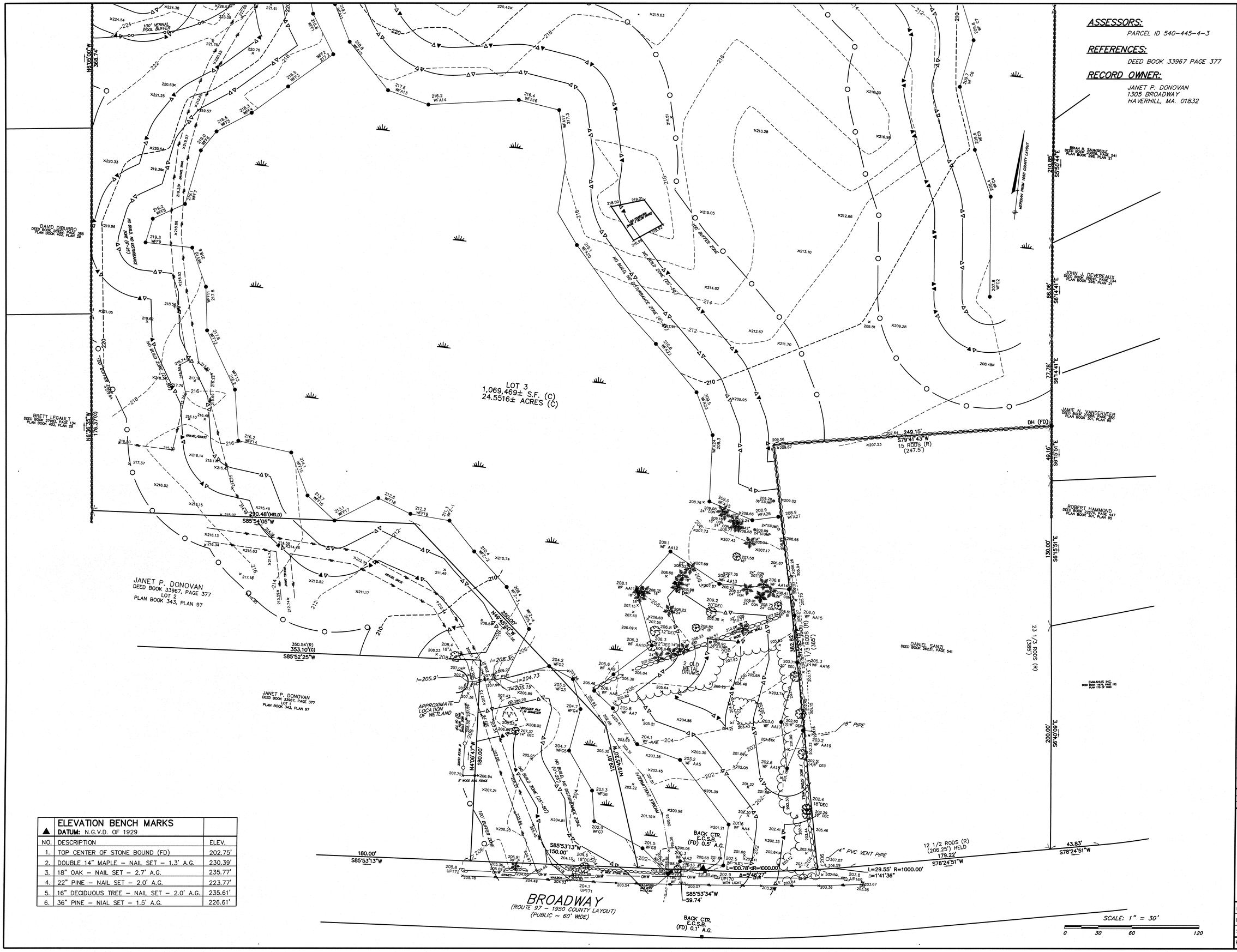
| NO. | BY | APP | DATE | ISSUE/REVISION DESCRIPTION |
|---|---|---|---|---|
| 6 | KAC | VVT | 11/3/2016 | CONSERVATION COMMISSION COMMENTS |
| 5 | KAC | VVT | 10/13/2016 | REVISED ACCESS ROAD |
| 4 | KAC | VVT | 3/24/2016 | CONSERVATION COMMISSION COMMENTS |
| 3 | KAC | VVT | 3/2/2016 | CONSERVATION COMMISSION COMMENTS |
| 2 | KAC | VVT | 2/18/2016 | PEER REVIEW COMMENTS |
| 1 | KAC | VVT | 2/4/2016 | PEER REVIEW COMMENTS |

DATE: 10/5/15 | APPROVED BY: VVT | DRAWN BY: KAC | SCALE: AS NOTED | CHECK BY: JP/VVT

TITLE SHEET

PLOT DATE: Nov 03, 2016 12:40 pm
PATH: E:\

DWG: 19168eng access road revised.dwg
LAYOUT: Cover
SHEET: 1 OF 10
C1
PROJECT NO.: 19168




| ELEVATION BENCH MARKS<br>DATUM: N.G.V.D. OF 1929 | | |
|---|---|---|
| NO. | DESCRIPTION | ELEV. |
| 1. | TOP CENTER OF STONE BOUND (FD) | 202.75' |
| 2. | DOUBLE 14" MAPLE – NAIL SET – 1.3' A.G. | 230.39' |
| 3. | 18" OAK – NAIL SET – 2.7' A.G. | 235.77' |
| 4. | 22" PINE – NAIL SET – 2.0' A.G. | 223.77' |
| 5. | 16" DECIDUOUS TREE – NAIL SET – 2.0' A.G. | 235.61' |
| 6. | 36" PINE – NIAL SET – 1.5' A.G. | 226.61' |

SITE ADDRESS

# SOLAR POWER FACILITY

1291 & 1305 Broadway
Haverhill, Massachusetts

PREPARED FOR

CLEAN ENERGY COLLECTIVE

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Suite 201
Worcester, Massachusetts 01606


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COMMONWEALTH OF MASSACHUSETTS
JASON A. ELLIS
No. 46052
PROFESSIONAL LAND SURVEYOR
11/3/16

| NO. | BY | APP | DATE | ISSUE/REVISION DESCRIPTION |
|---|---|---|---|---|
| 4 | JAE | WVT | 11/2/16 | ADDITIONAL WETLAND LOCATIONS |
| 3 | JAE | WVT | 10/13/16 | REVISED ACCESS ROAD |
| 2 | JAE | WVT | 9/22/16 | ADDITIONAL TOPO ALONG PROPERTY LINE |
| 1 | JAE | WVT | 3/24/16 | CONSERVATION COMMISSION COMMENTS |

DATE: 9/15/15 DRAWN BY: JJP/JAE
SCALE: 1"=30' CHECK BY: JAE/WCJ

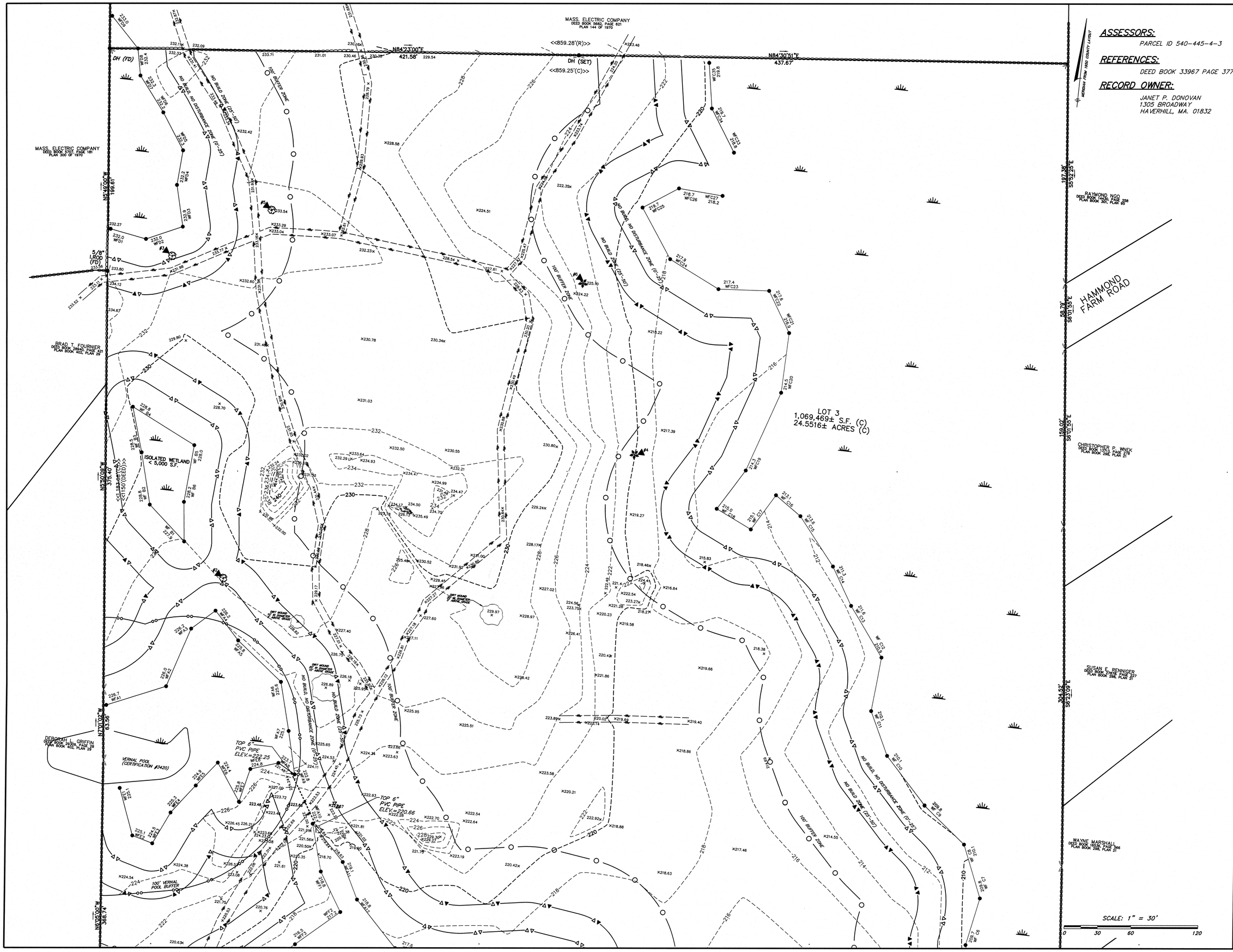
# TOPOGRAPHIC PLAN OF LAND IN HAVERHILL, MA

PLOT DATE: Nov 03, 2016 1:39 pm
PATH: F:\Civil 3D Projects\19168\DWG\

DWG: 19168SV.dwg
LAYOUT: TOPO
SHEET: 1 OF 2

EC1

PROJECT NO.: 19168




**ASSESSORS:**

PARCEL ID 540-445-4-3

**REFERENCES:**

DEED BOOK 33967 PAGE 377

**RECORD OWNER:**

JANET P. DONOVAN
1305 BROADWAY
HAVERHILL, MA. 01832

SITE ADDRESS:

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COMMONWEALTH OF MASSACHUSETTS
JASON A. ELLIS
No. 40759
PROFESSIONAL LAND SURVEYOR
11/9/16

| NO. | BY | APP | DATE | ISSUE/REVISION DESCRIPTION |
|---|---|---|---|---|
| 3 | JAE | WVT | 10/13/16 | REVISED ACCESS ROAD |
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SCALE: AS SHOWN CHECK BY: JAE/WCJ

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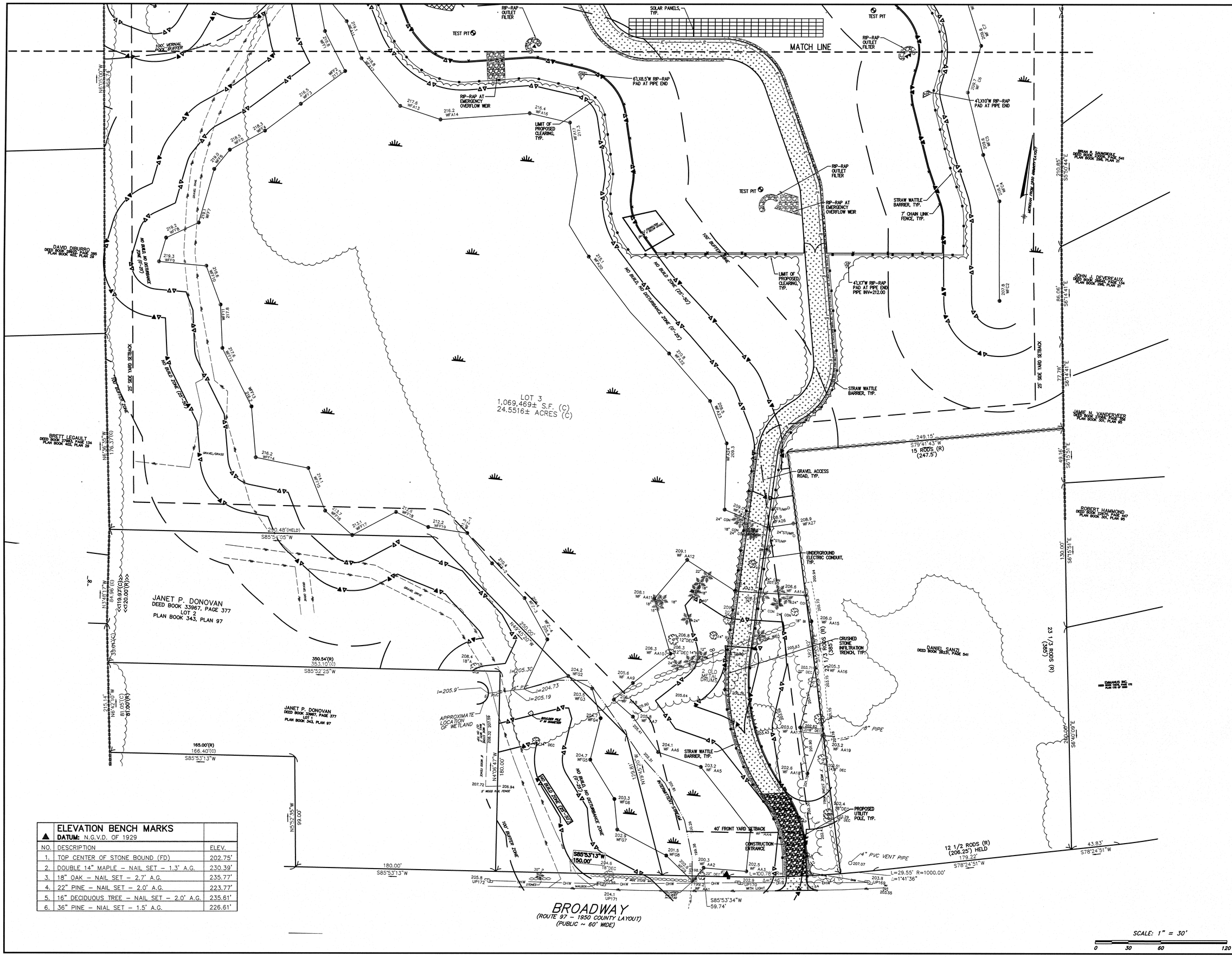
PLOT DATE: Nov 03, 2016 1:40 pm
PATH: F:\Civil 3D Projects\19168\DWG\

DWG: 19168SV.dwg
LAYOUT: TOPO
SHEET: 2 OF 2

EC2

PROJECT NO.: 19168




| ▲ ELEVATION BENCH MARKS DATUM: N.G.V.D. OF 1929 | | |
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COMMONWEALTH OF MASSACHUSETTS
VERNON V. TRUDEL
CIVIL
No. 34038
11/3/2016
PROFESSIONAL ENGINEER

| NO. | BY | APP | DATE | ISSUE/REVISION DESCRIPTION |
|---|---|---|---|---|
| 6 | KAC | VVT | 11/3/2016 | CONSERVATION COMMISSION COMMENTS |
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| | |
|---|---|
| | APPROVED BY: VVT |
| DATE: 10/5/15 | DRAWN BY: KAC |
| SCALE: AS NOTED | CHECK BY: JP/VVT |

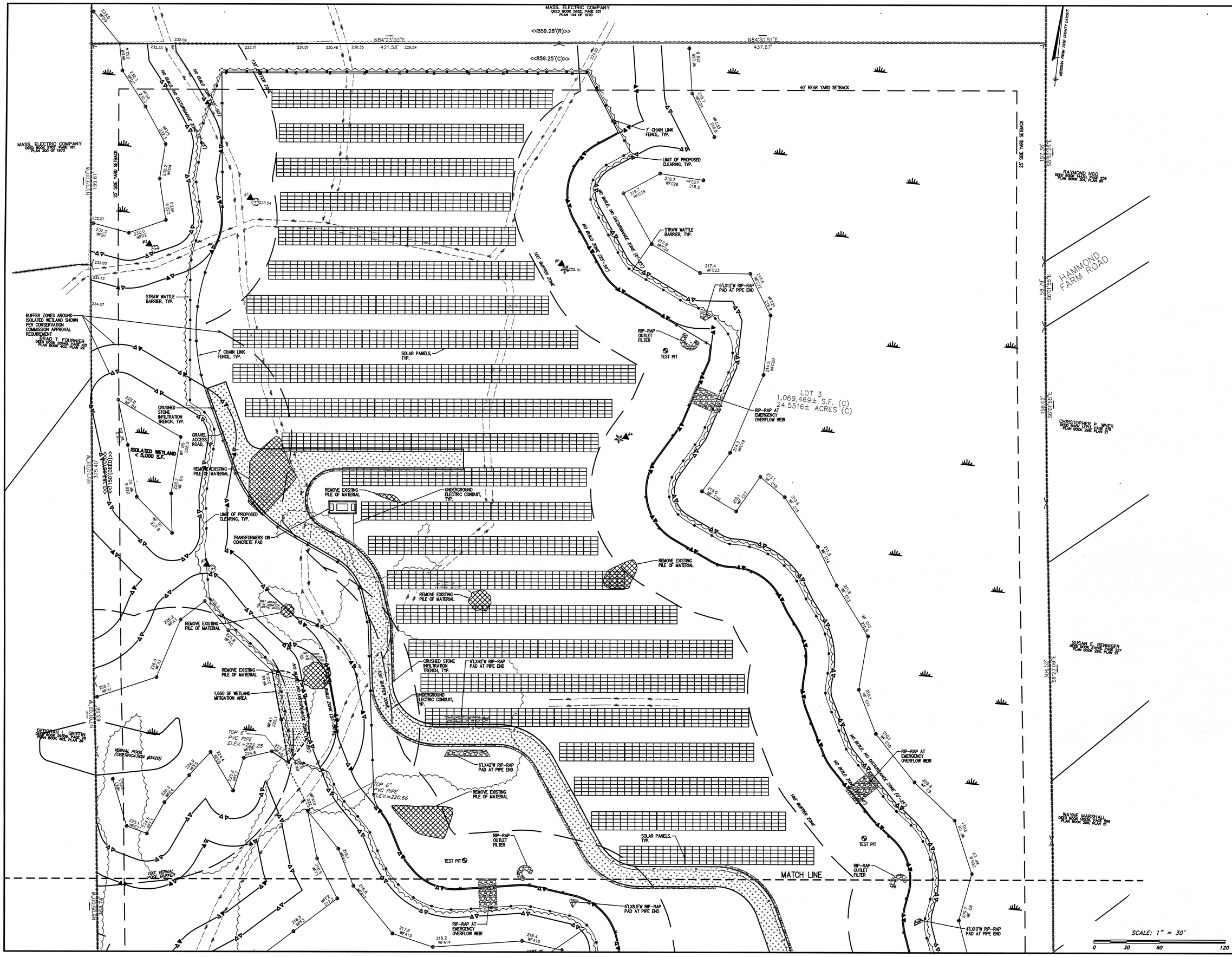
## SITE PREPARATION AND LAYOUT AND MATERIALS SHEET 1

PLOT DATE: Nov 03, 2016 12:43 pm
PATH: Q:\

DWG: 19168eng access road revised.dwg
LAYOUT: LM1
SHEET: 4 OF 10

C2A

PROJECT NO.: 19168

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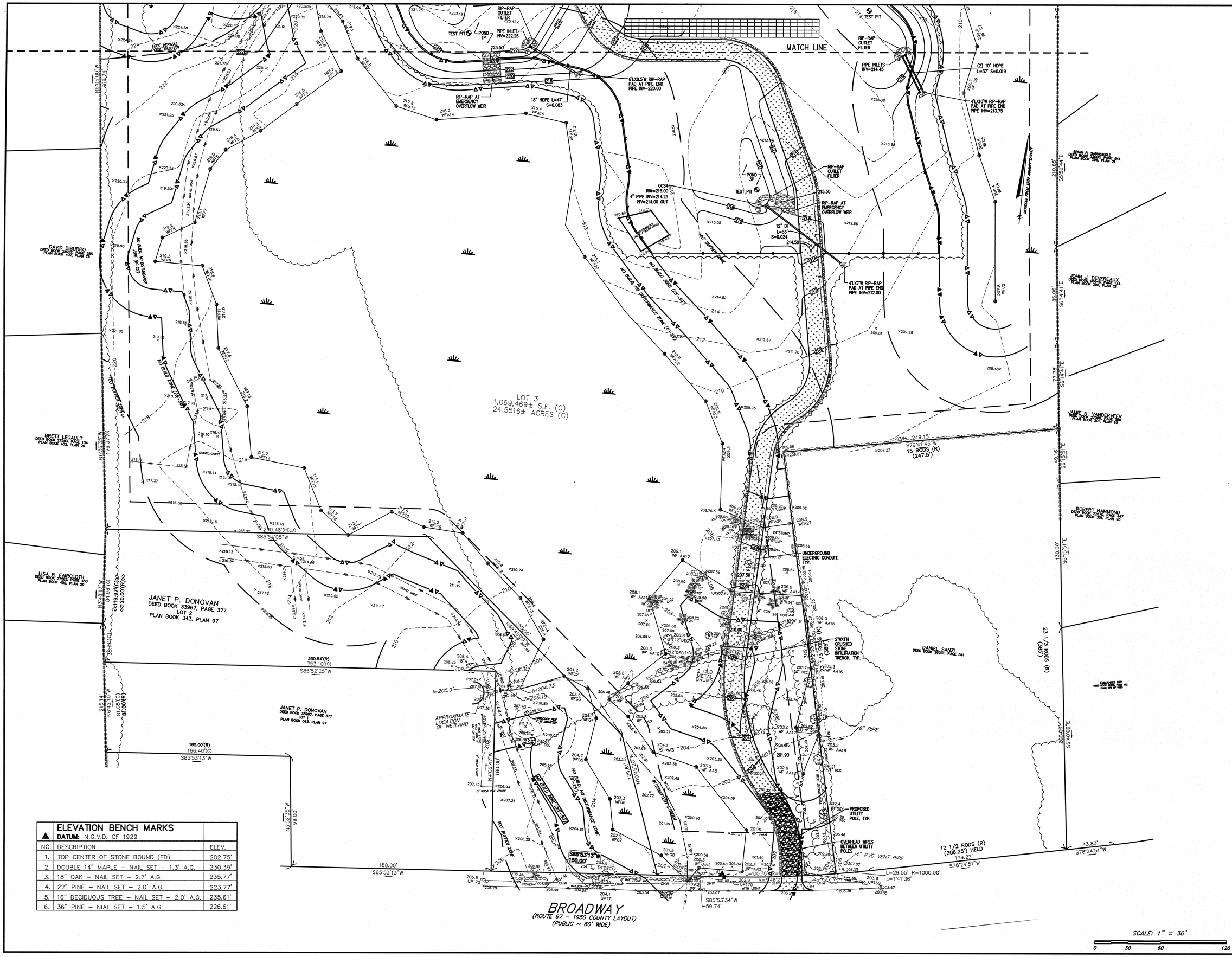
DATE: 10/5/15
SCALE: AS NOTED
APPROVED BY: VVT
DRAWN BY: KAC
CHECK BY: JP/VVT

## SITE PREPARATION AND LAYOUT AND MATERIALS SHEET 2

PLOT DATE: Nov 03, 2016 12:43 pm
PATH: G:\

DWG: 19168eng access road revised.dwg
LAYOUT: LM2
SHEET: 5 OF 10
C2B

PROJECT NO.: 19168

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| 1 | KAC | VVT | 2/4/2016 | PEER REVIEW COMMENTS |

| | |
|---|---|
| | APPROVED BY: VVT |
| DATE: 10/5/15 | DRAWN BY: KAC |
| SCALE: AS NOTED | CHECK BY: JP/VVT |

COMMONWEALTH OF MASSACHUSETTS
JOHN PAUL HANCOCK
No. 34028
REGISTERED PROFESSIONAL ENGINEER

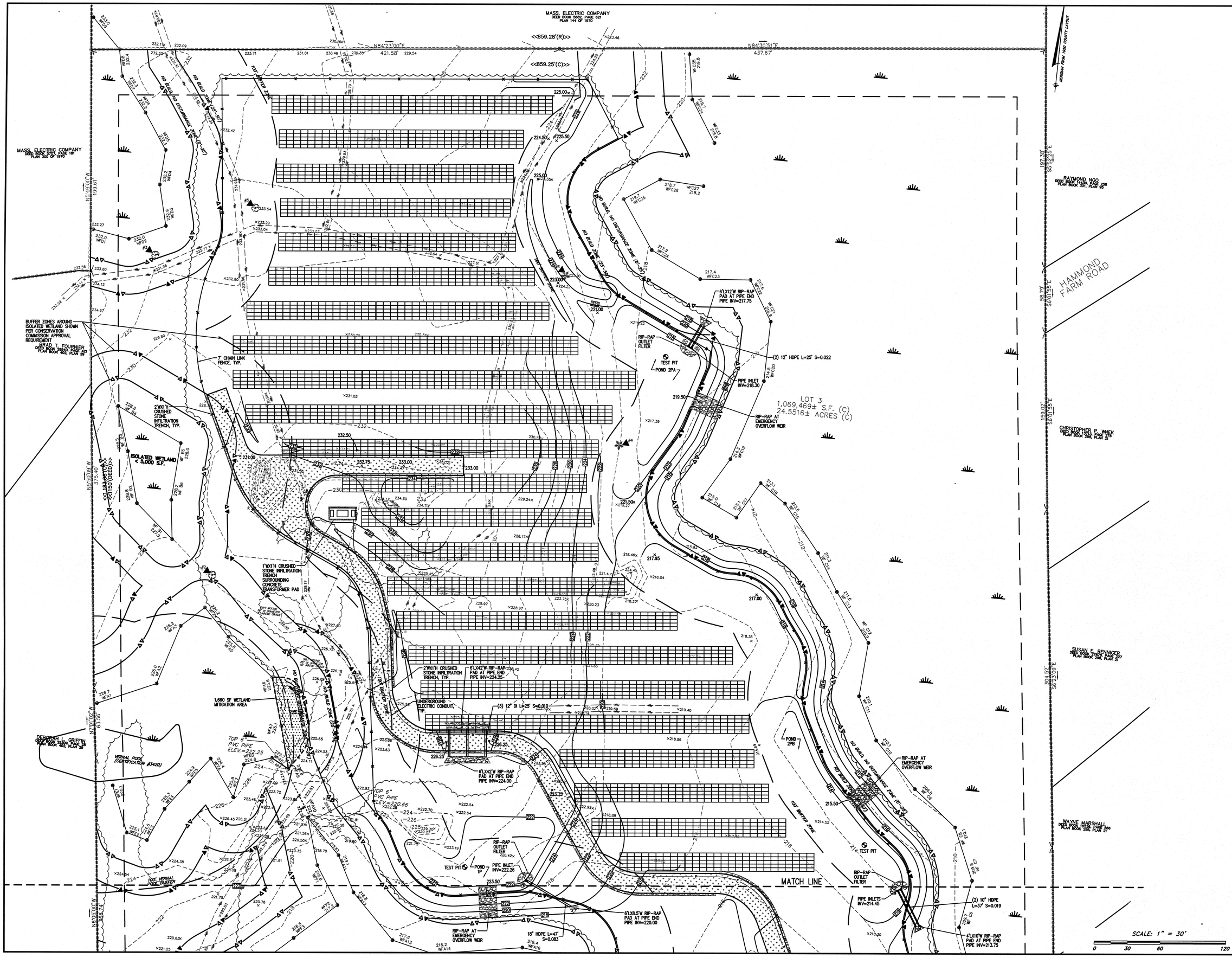
## GRADING AND DRAINAGE PLAN SHEET 1

PLOT DATE: Nov 03, 2016 12:42 pm
PATH: E:\

DWG: 19168eng access road revised.dwg
LAYOUT: GD1
SHEET: 6 OF 10

C3A

PROJECT NO.: 19168

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DATE: 10/5/15 | APPROVED BY: VVT
SCALE: AS NOTED | DRAWN BY: KAC
CHECK BY: JP/VVT

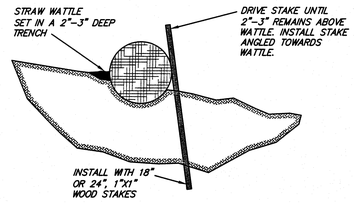
## GRADING AND DRAINAGE PLAN SHEET 2

PLOT DATE: Nov 03, 2016 12:43 pm
PATH: G:\

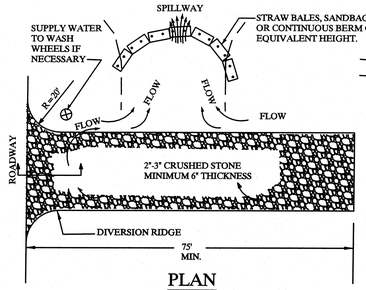
DWG: 19168eng access road revised.dwg
LAYOUT: GD2
SHEET: 7 OF 10

C3B

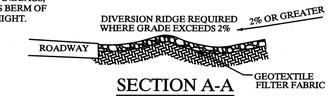
PROJECT NO.: 19168




## STRAW WATTLE INSTALLATION
NOT TO SCALE



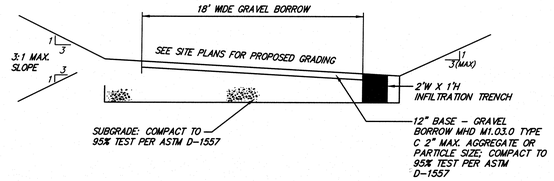

PLAN



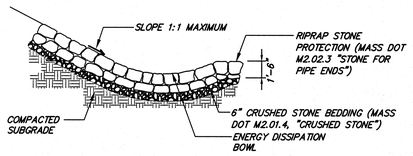

SECTION A-A

NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. IN THE DIRECTION OF TRAVEL, THE CONSTRUCTION ENTRANCE/EXIT SHALL SLOPE DOWN TOWARDS THE SITE AND AWAY FROM THE ROADWAY.
5. CONSTRUCTION ENTRANCE TO BE LOCATED AT SOUTHERN END OF PROPOSED GRAVEL ACCESS ROAD.

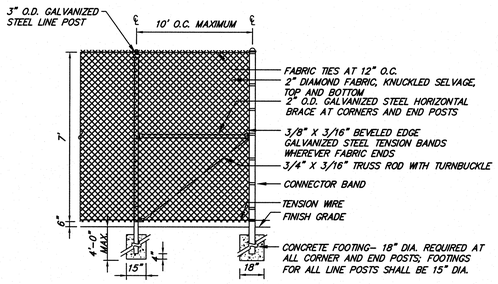
## TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT
NOT TO SCALE



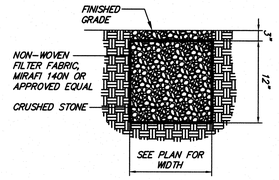

## GRAVEL ACCESS ROAD
CROSS SECTION
NOT TO SCALE



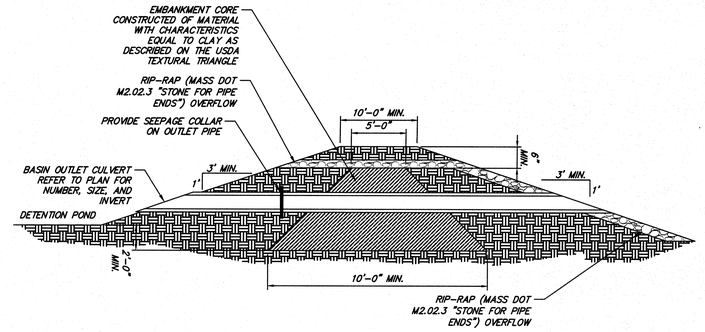

## RIP-RAP OVERFLOW
NOT TO SCALE



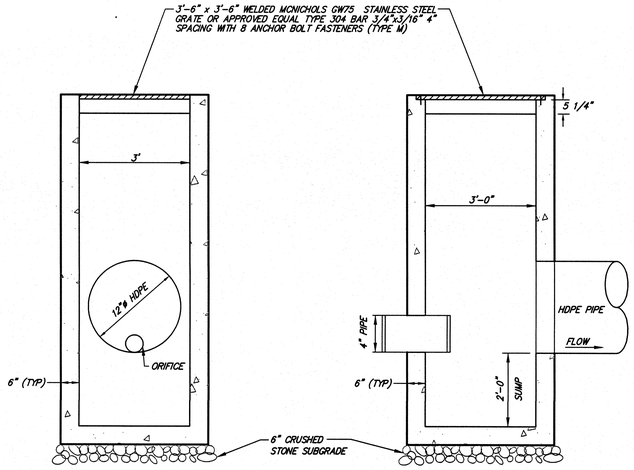

## CHAIN LINK FENCE
NOT TO SCALE




## INFILTRATION TRENCH
NOT TO SCALE

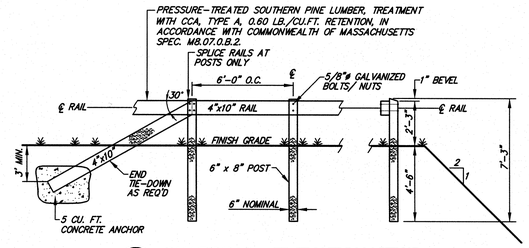



## BERM AT DETENTION POND
NOT TO SCALE

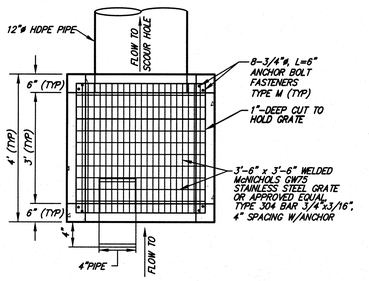



ELEVATION
NOT TO SCALE

SECTION
NOT TO SCALE



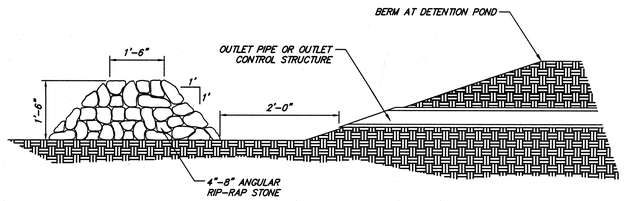

## GUARDRAIL- ELEVATION VIEWS
NOT TO SCALE



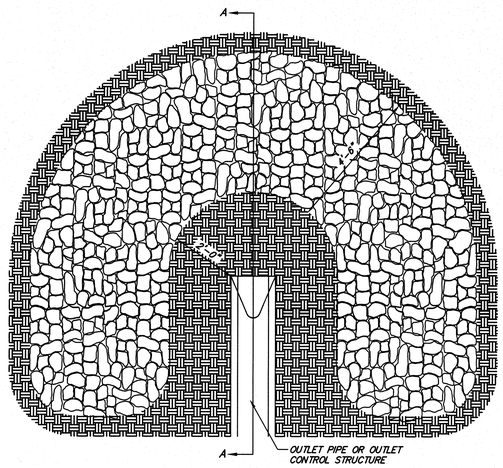

PLAN

NOTE: SEE GRADING AND DRAINAGE PLAN FOR ELEVATIONS, LOCATIONS, AND ORIFICE SIZES.

## OUTLET CONTROL STRUCTURES
NOT TO SCALE




SECTION A-A




PLAN

## RIP-RAP OUTLET FILTER
NOT TO SCALE

SITE ADDRESS:

# SOLAR PANEL FACILITY

1291 Broadway
Haverhill, Massachusetts

PREPARED FOR:

CLEAN ENERGY COLLECTIVE

146 West Boylston Street
Suite 201
Worcester, Massachusetts 01606


HANCOCK ASSOCIATES

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Land Surveyors

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| NO. | BY | APP | DATE | ISSUE/REVISION DESCRIPTION |
|---|---|---|---|---|
| 6 | KAC | VVT | 11/3/2016 | CONSERVATION COMMISSION COMMENTS |
| 5 | KAC | VVT | 10/13/2016 | REVISED ACCESS ROAD |
| 4 | KAC | VVT | 3/24/2016 | CONSERVATION COMMISSION COMMENTS |
| 3 | KAC | VVT | 3/2/2016 | CONSERVATION COMMISSION COMMENTS |
| 2 | KAC | VVT | 2/18/2016 | PEER REVIEW COMMENTS |
| 1 | KAC | VVT | 2/4/2016 | PEER REVIEW COMMENTS |

| | |
|---|---|
| DATE: 10/5/15 | APPROVED BY: VVT |
| | DRAWN BY: KAC |
| SCALE: AS NOTED | CHECK BY: JP/VVT |

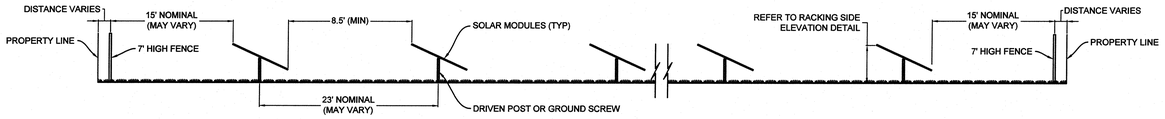
## SITE DETAILS

PLOT DATE: Nov 03, 2016 12:44 pm
PATH: S:\

DWG: 19168eng access road revised.dwg
LAYOUT: Details
SHEET: 8 OF 10

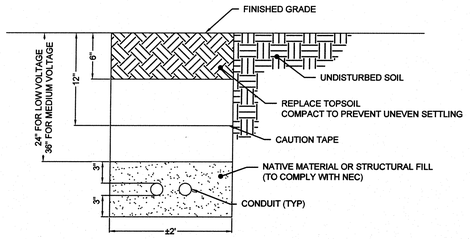
C4

PROJECT NO.: 19168



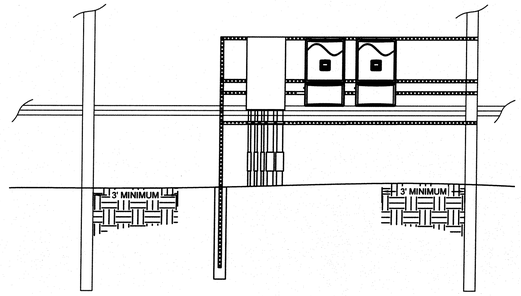

FIXED TILT SECTION (TYP.)

NOT TO SCALE



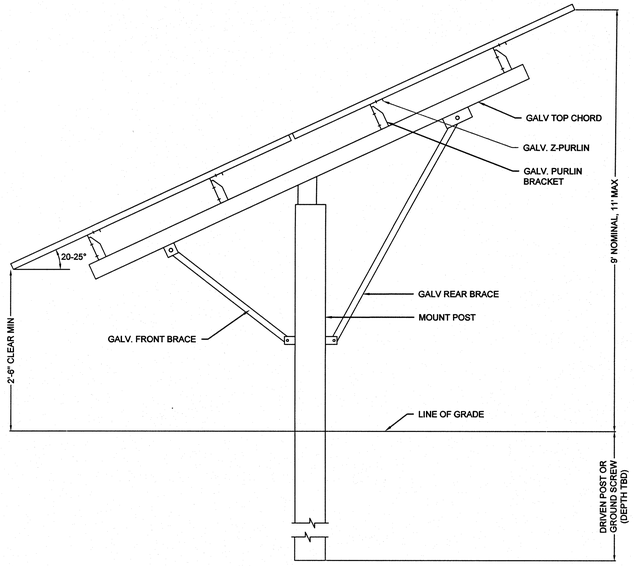

ELECTRICAL TRENCH (TYP.)

NOT TO SCALE



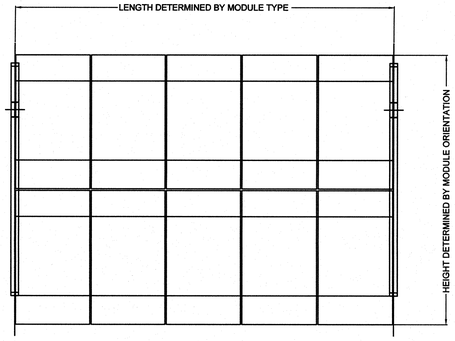

INVERTER MOUNTING (TYP.)

NOT TO SCALE




RACKING SIDE ELEVATION (TYP.)

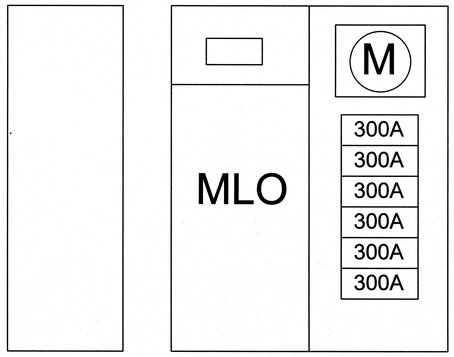
NOT TO SCALE



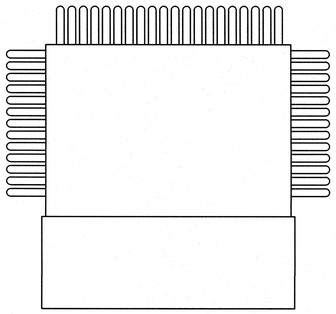

PV MODULE (TYP.)

NOT TO SCALE

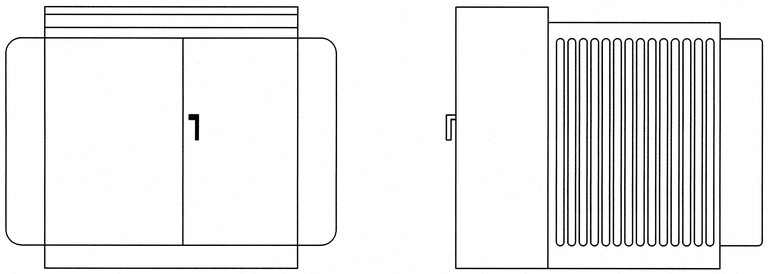
AC Switchgear Dimensions



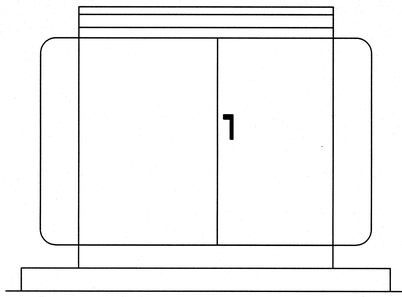

NOTE:
1. Above ground utility poles will be located at site. Estimated pole heights will be ~38' above grade. Reference Site Plan drawings for pole locations.



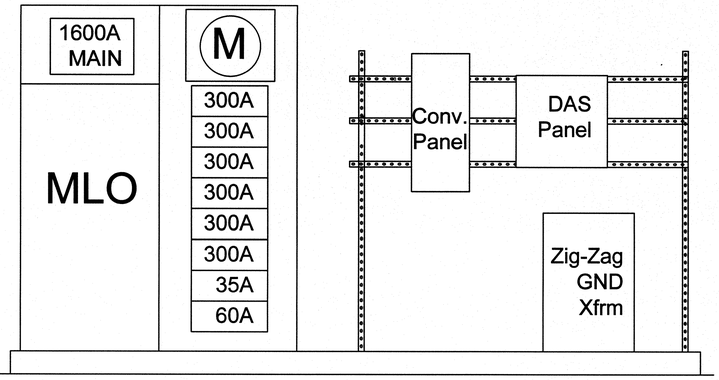
MV Transformer Dimensions



MV Transformer on Pad



AC Switchgear, Convenience Panel DAS Enclosure & Zig-Zag Xfrm




NOTE:
SOLAR DETAILS BY CLEAN ENERGY COLLECTIVE.

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| 1 | KAC | VVT | 2/4/2016 | PEER REVIEW COMMENTS |

DATE: 10/5/15
SCALE: AS NOTED
APPROVED BY: VVT
DRAWN BY: KAC
CHECK BY: JP/VVT

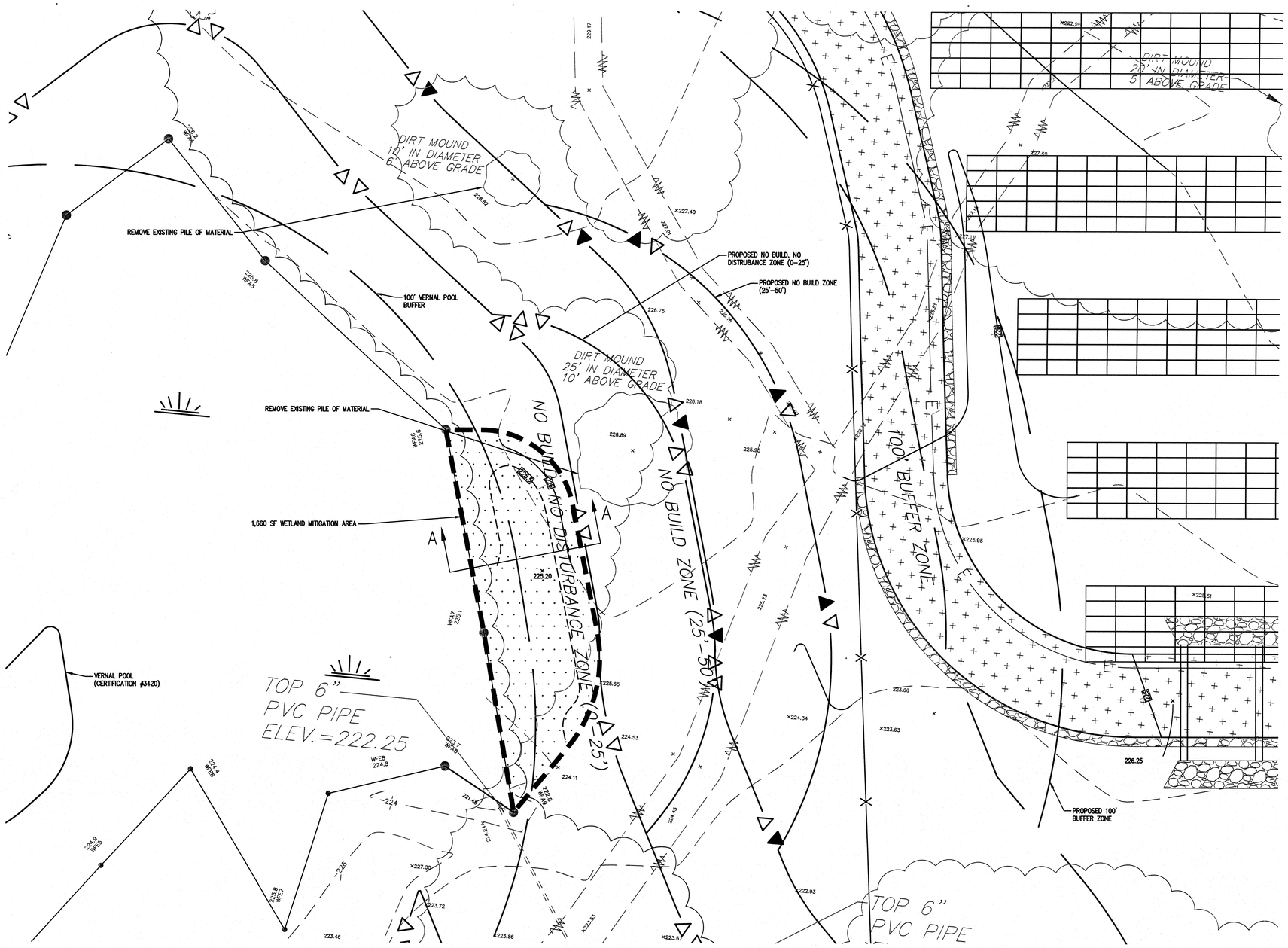
## SOLAR DETAILS

PLOT DATE: Nov 03, 2016 12:44 pm
PATH: B:\

DWG: 19168eng access road revised.dwg
LAYOUT: Details (2)
SHEET: 9 OF 10

C5

PROJECT NO.: 19168

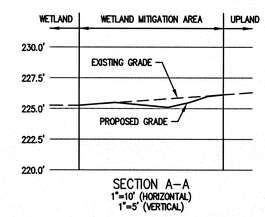



## Wetland Mitigation Area Planting Details

| Scientific Name | Common Name | Quantity | Spacing (feet on center) | Size | Stock |
|---|---|---|---|---|---|
| *Betula lenta* | Yellow birch | 8 | 15 | 3-4' | Container |
| Acer rubrum | Red maple | 8 | 15 | 3-4' | Container |
| *Quercus bicolor* | Swamp white oak | 8 | 15 | 3-4' | Container |
| *Ilex verticillata* | Winterberry | 18 | 10 | 2-3' | Container |
| *Vaccinium corymbosum* | Highbush blueberry | 18 | 10 | 2-3' | Container |
| *Cornus amomum* | Silky dogwood | 18 | 10 | 2-3' | Container |
| New England Wetland Seed Mix or Equivalent (1lb/2,500 square feet) | | | | | |

## Wetland Mitigation Area Planting Notes

1. The grading and planting of the wetland mitigation area will be overseen by a qualified certified wetland scientist with mitigation design and construction experience.
2. Install erosion controls between the wetland and mitigation area.
3. Final subgrade elevations are to be documented by field survey.
4. Bring excavated area to grade with approximately 12" of topsoil with high organic content (at least 12% organic carbon content by weight).
5. The plantable topsoil will be a loamy, friable soil free of stones, stumps, large sticks, roots/seeds of invasive plants or other man-made litter. The certified wetland scientist will approve the soil as suitable by visual inspection prior to it being spread.
6. During the plant installation, the trees and shrubs will be randomly spaced (by the certified wetland scientist) to simulate natural growth patterns.
7. All plant materials will be installed in accordance with the minimum guidelines of the American Standard for Nursery Stock (ANS Z60.1) (American Hort.org, 2014).
8. Any proposed substitutions of plant materials will be made with equivalent plants by the certified wetland scientist.
9. Remove the tags, ribbons, labels, etc. and all plant containers when the plants are installed.
10. Water all trees and shrubs immediately following installation.
11. Broadcast the seed immediately following the planting of the trees and shrubs.
12. The preferred planting window for woody plants is April 1 to June 15 and September 1 to October 15.
13. Post-construction monitoring of the vegetation establishment will be conducted by the certified wetland scientist in late summer for two growing seasons. A standard of 75% establishment of the trees and shrubs will be evaluated. Monitoring events will include photo documentation and any recommendations for adaptive management measures such as invasive plant management actions.




SECTION A-A
1"=10' (HORIZONTAL)
1"=5' (VERTICAL)

SCALE: 1" = 10'
0 10 20 40

SITE ADDRESS:

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DATE: 10/5/15
SCALE: AS NOTED
APPROVED BY: VVT
DRAWN BY: KAC
CHECK BY: JP/VVT

# WETLAND MITIGATION PLAN

PLOT DATE: Nov 03, 2016 12:46 pm
PATH: S:\

DWG: 19168eng access road revised.dwg
LAYOUT: GD2 (2)
SHEET: 10 OF 10

M1

PROJECT NO.: 19168