MILLIS E COMMUNITY SOLAR ARRAY

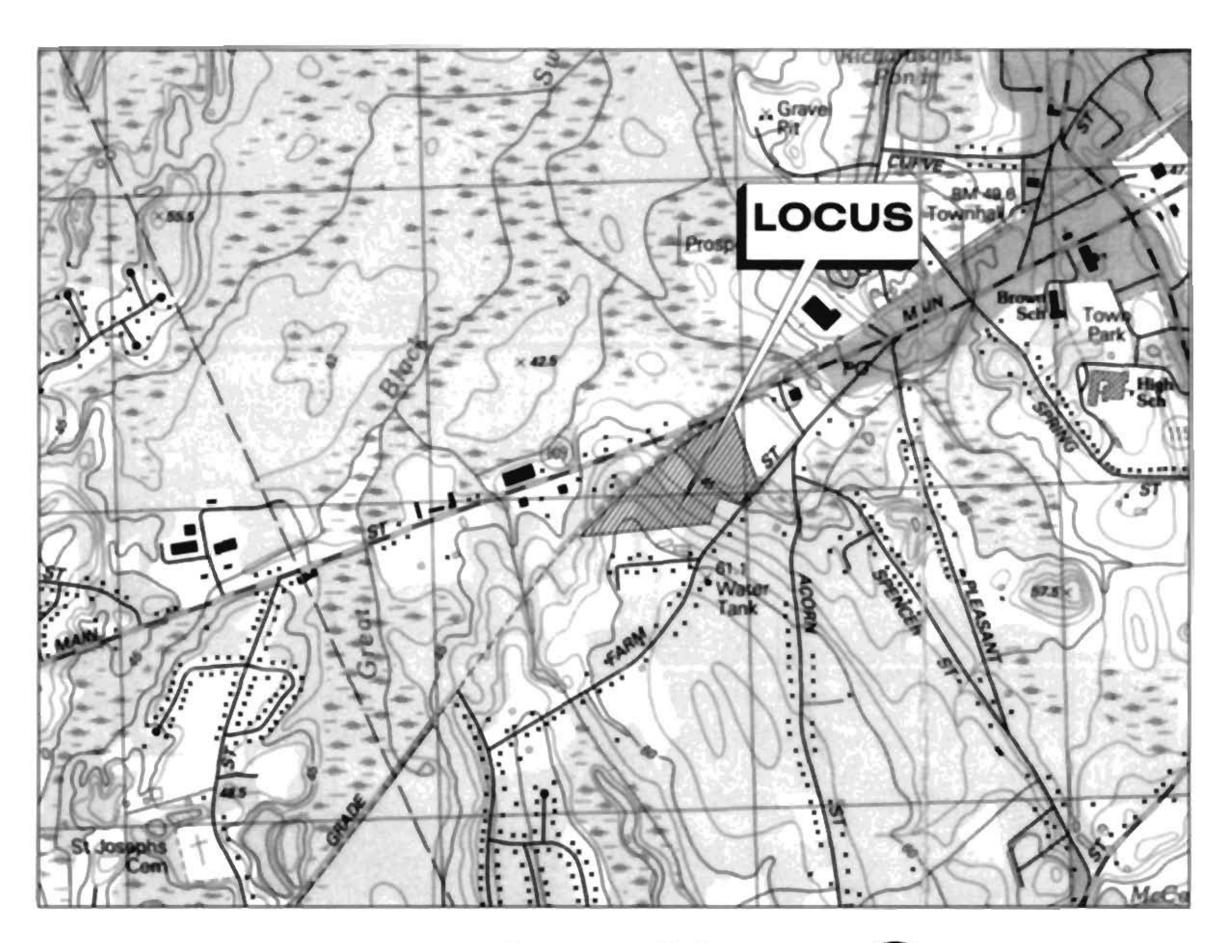
MILLIS, MASSACHUSETTS (Norfolk County)

APPLICANT

Clean Energy Collective 146 West Boylston Drive, 3rd Floor Worcester, Massachusetts 01606 617-834-8567

CIVIL ENGINEER/SURVEYOR AND LANDSCAPE ARCHITECT

Beals and Thomas, Inc. **Reservoir Corporate Center** 144 Turnpike Road Southborough, Massachusetts 01772



Locus Map Scale: 1'' = 1000'



Permit Plan Set - January 6, 2017 **Revision 1 - June 14, 2017** Revised July 24, 2017 Revised August 4, 2017

SHEET INDEX

Cover Sheet

Plan of Land (By Others)

TP-1 Topographic Plan

Notes, References and Legend Sheet

C2.1 **Index Plan**

C3.1 Site Preparation Plan

C4.1 Layout and Materials Plan

C5.1 Grading, Drainage & Utility Plan

C6.1 Site Details #1

C6.2 Site Details #2

Plan and Profile

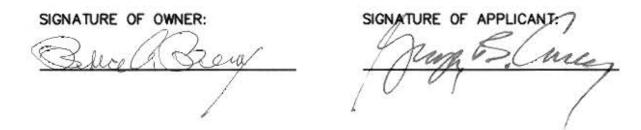


THIS ENDORSEMENT OF THE PLANNING BOARD SHOULD NOT BE CONSTRUED TO BE A DETERMINATION OF CONFORMANCE



Job No.: 2832.00 Plan No.: 283200P001E-001

Sheet 1 of 11



GENERAL NOTES

THE CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS. THE CONTRACTOR SHALL ALSO PAY ALL FEES AND POST ALL BONDS ASSOCIATED WITH THE SAME, AND COORDINATE WITH THE ENGINEER AND ARCHITECT AS REQUIRED.

CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY AND ALL CONSTRUCTION MEANS AND METHODS.

LIMIT OF WORK SHALL BE EROSION CONTROL BARRIERS, LIMIT OF GRADING AND SITE PROPERTY LINES AND/OR AS INDICATED ON DRAWINGS.

ANY ALTERATION TO THESE DRAWINGS MADE IN THE FIELD DURING CONSTRUCTION SHALL BE RECORDED BY THE CONTRACTOR ON RECORD DOCUMENTS.

ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO OWNER.

APPROVAL OF THE OWNER. FOR DRAWING LEGIBILITY, ALL EXISTING TOPOGRAPHIC FEATURES, EXISTING UTILITIES, PROPERTY

EXISTING TREES AND SHRUBS OUTSIDE THE LIMITS OF GRADING SHALL BE REMOVED ONLY UPON PRIOR

BOUNDARIES, EASEMENTS, ETC. MAY NOT BE SHOWN ON ALL DRAWINGS. REFER TO ALL REFERENCED DRAWINGS AND OTHER DRAWINGS IN THIS SET FOR ADDITIONAL INFORMATION.

ALL EXCAVATORS OR CONTRACTORS MUST REFER TO 520 CMR 14.00 TO OBTAIN A TRENCH PERMIT PRIOR TO ANY CONSTRUCTION RELATED TRENCHES ON SITE. ZONING DISTRICT: INDUSTRIAL I-P-2.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH CONDITIONS THAT MAY BE PROMULGATED BY THE MILLIS PLANNING BOARD, CONSERVATION COMMISSION AND MUNICIPAL AGENCIES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING. SECURING AND COMPLIANCE WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION GENERAL PERMIT. AS ADMINISTERED BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY.

THE CONTRACTOR SHALL GIVE TWENTY-FOUR HOURS NOTICE TO PERTINENT TOWN DEPARTMENTS PRIOR TO COMMENCING ANY WORK IN THE FIELD.

EROSION CONTROL AND SEDIMENTATION NOTES

AN EROSION CONTROL BARRIER SHALL BE INSTALLED ALONG THE EDGE OF PROPOSED DEVELOPMENT AS INDICATED IN THE PLAN PRIOR TO THE COMMENCEMENT OF DEMOLITION OR CONSTRUCTION OPERATIONS. CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES DURING ENTIRE CONSTRUCTION PERIOD. ANY SEDIMENT TRACKED ONTO PUBLIC RIGHT-OF-WAYS SHALL BE SWEPT AT THE END OF EACH WORKING DAY.

ALL STOCKPILE AREAS SHALL BE LOCATED WITHIN LIMIT OF WORK LINE AND STABILIZED TO PREVENT

ALL DEBRIS GENERATED DURING SITE PREPARATION ACTIVITIES SHALL BE LEGALLY DISPOSED OF OFF

PROVIDE CRIBBING AS NECESSARY TO PROTECT EXISTING UTILITY LINES DURING CONSTRUCTION. ADDITIONAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS CONDITIONS WARRANT OR AS DIRECTED BY THE SOLAR DEVELOPER.

ALL POINTS OF CONSTRUCTION EGRESS OR INGRESS SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADS.

ALL AREAS IDENTIFIED AS CRITICAL AREA SEEDING SHALL BE STABILIZED DURING CONSTRUCTION BY SEEDING WITH ANNUAL RYE GRASS AT THE RATE OF FORTY (40) LBS/ACRE.

ANY DENUDED SURFACE WHICH WILL BE EXPOSED FOR A PERIOD OF ONE MONTH OR MORE SHALL BE CONSIDERED CRITICAL VEGETATION AREAS. THESE AREAS SHALL BE MULCHED WITH STRAW. MULCH SHALL BE SPREAD UNIFORMLY IN A CONTINUOUS BLANKET OF SUFFICIENT THICKNESS TO COMPLETELY HIDE THE SOIL FROM VIEW.

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED ON A DAILY BASIS DURING CONSTRUCTION TO INSURE THAT CHANNELS, DITCHES AND PIPES ARE CLEAR OF DEBRIS AND THAT THE EROSION CONTROL BARRIERS ARE INTACT.

DUST SHALL BE CONTROLLED BY SPRINKLING OR OTHER APPROVED METHODS AS NECESSARY. OR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE.

EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM LEAVING THE

CLEAN AND MAINTAIN EROSION CONTROL BARRIER AS REQUIRED DURING CONSTRUCTION OPERATIONS TO ENSURE ITS CONTINUED FUNCTIONALITY.

CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY SEDIMENTATION BASINS IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN.

LAYOUT AND MATERIALS NOTES

CONTRACTOR SHALL REPORT SIGNIFICANT CONFLICTS TO THE OWNER AND THE ENGINEER FOR

THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN SITE PLAN DIMENSIONS AND BUILDING PLANS BEFORE PROCEEDING WITH ANY PORTION OF SITE WORK WHICH MAY BE AFFECTED SO THAT PROPER ADJUSTMENTS TO THE SITE LAYOUT CAN BE MADE IF NECESSARY.

PROTECT EXISTING PROPERTY MONUMENTS AND ABUTTING PROPERTIES DURING CONSTRUCTION ACTIVITIES.

GRADING, DRAINAGE AND UTILITY NOTES

UNDERGROUND UTILITIES WERE COMPILED FROM AVAILABLE RECORD PLANS OF UTILITY COMPANIES AND PUBLIC AGENCIES. ARE APPROXIMATE AND ASSUMED. BEFORE COMMENCING SITE WORK IN ANY AREA. CONTACT "DIG SAFE" AT 1-888-344-7233 AND THE OWNER TO ACCURATELY LOCATE UNDERGROUND UTILITIES. ANY DAMAGE TO EXISTING UTILITIES OR STRUCTURES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. NO EXCAVATION SHALL BE DONE UNTIL UTILITY COMPANIES AND THE OWNER ARE PROPERLY NOTIFIED IN ADVANCE.

ALL SITE WORK SHALL MEET OR EXCEED THE SITE WORK SPECIFICATIONS TO BE PREPARED FOR THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK WHICH WOULD BE AFFECTED.

ALL WORK PERFORMED AND ALL MATERIALS FURNISHED SHALL CONFORM WITH THE LINES, GRADES SHOWN ON THE SITE PLANS AND PROJECT SPECIFICATIONS. GRADE ALL AREAS TO DRAIN.

THE CONTRACTOR SHALL VERIFY EXISTING GRADES IN THE FIELD AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS. ELECTRIC. TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES, AS REQUIRED. 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 BY THE CONTRACTOR. AND THE INFORMATION FURNISHED TO THE OWNER AND ENGINEER FOR RESOLUTION.

ALL UTILITY COVERS, GRATES, ETC. SHALL BE ADJUSTED TO BE FLUSH WITH THE FINISHED GRADE UNLESS OTHERWISE NOTED.

INSTALL ALL UTILITIES (INCLUDING CONCRETE PADS) PER UTILITY COMPANY STANDARDS.

CONTRACTOR SHALL PROTECT ALL UNDERGROUND DRAINAGE AND UTILITY FACILITIES FROM EXCESSIVE VEHICULAR LOADS DURING CONSTRUCTION. ANY DAMAGE TO THESE FACILITIES RESULTING FROM CONSTRUCTION LOADS WILL BE RESTORED TO ORIGINAL CONDITION.

THE CONTRACTOR SHALL REMOVE ALL EROSION CONTROL BARRIERS AFTER REVEGETATION OF DISTURBED AREAS AND AFTER APPROVAL OF THE CONSERVATION COMMISSION AND WETLAND SPECIALIST

THE CONTRACTOR SHALL SCHEDULE HIS WORK TO ALLOW THE FINISHED SUBGRADE ELEVATIONS TO DRAIN PROPERLY WITHOUT PUDDLING. SPECIFICALLY, ALLOW WATER TO ESCAPE PRIOR TO APPLICATION OF LOAM. PROVIDE TEMPORARY POSITIVE DRAINAGE AS REQUIRED.

TRIMMING OF BRANCHES OR LIMITED CLEARING FOR OVERHEAD WIRE INSTALLATION WILL BE PERFORMED AS NECESSARY.

PLANTING NOTES

PERMANENTLY STABILIZE ALL GRADED AREAS UNLESS OTHERWISE INDICATED

REGRADE STOCKPILE AREA AFTER REMOVAL OF SURPLUS MATERIALS (SEE SITE WORK SPECIFICATIONS). STABILIZE THE DISTURBED AREA WITH SEED.

TOPSOIL STRIPPED FROM THE SITE AND PROPERLY STOCKPILED PRIOR TO APPLICATION MAY. UPON APPROVAL OF THE ENGINEER, BE USED FOR PREPARATION OF LAWNS AND PLANTING BEDS. IT SHOULD BE FREE OF LARGE (ONE (1) INCH OR GREATER) COBBLES, ROOTS, OLD SOD, TRASH, WOOD OR OTHER CONTAMINANTS AND BE OF A FRIABLE CONSISTENCY AND SUITABLE FOR PLANT GROWTH.

THE LANDSCAPE CONTRACTOR SHALL FURNISH ANY ADDITIONAL TOPSOIL NECESSARY. TOPSOIL SHALL BE FERTILE, FRIABLE, NATURAL AND PRODUCTIVE TOPSOIL OF GOOD CLAY-LOAM TYPE. IT SHALL BE FREE OF WEED SEEDS. TOPSOIL SHALL BE WITHOUT ADMIXTURE OF SUBSOIL AND SHALL BE REASONABLY FREE OF STONES, LUMPS, ROOTS, STICKS AND OTHER FOREIGN MATTER. TOPSOIL SHALL NOT BE WORKED OR APPLIED IN A MUDDY OR WET CONDITION.

TOPSOIL SHALL BE SPREAD TO A MINIMUM DEPTH OF FOUR (4) INCHES AFTER SETTING ON ALL STRIPPED PLANTED AREAS INCLUDING SLOPE STABILIZATION, GRASSED AREAS AND AFTER FILLS ARE PROPERLY SETTLED AND SUBGRADE HAS BEEN APPROVED BY THE OWNER. THE SETTLED TOPSOIL SHALL BE UP TO THE FINISHED GRADE AS CALLED FOR ON THE DRAWINGS. SCARIFY SUBGRADE TO A DEPTH OF TWO (2) INCHES BEFORE PLACING TOPSOIL.

PLANTING SEED SHALL BE SOWN IN SEASONAL CONDITIONS AS APPROPRIATE FOR GOOD SEED SURVIVAL OR AT SUCH TIMES AS APPROVED BY THE OWNER, PROVIDE ADEQUATE WATERING TO MAINTAIN A MOIST SEED BED AT ALL TIMES.

WATER MULCH AND SEED BED THOROUGHLY AND IMMEDIATELY AFTER COMPLETION OF MULCHING. SOIL SHALL BE MOISTENED TO A DEPTH OF FOUR (4) INCHES. CONTRACTOR SHALL INSTRUCT OWNERS REPRESENTATIVE ON APPROPRIATE WATERING PROCEDURES DURING INITIAL ESTABLISHMENT.

IF CERTAIN OF THE SEEDED AREAS DO NOT SHOW A PROMPT "CATCH". THESE SHALL BE RESEEDED IN ORDER TO ESTABLISH GROWTH OF GRASS OVER THE ENTIRE AREA.

PROTECT NEWLY TOPSOILED, GRADED AND/OR SEEDED AREAS FROM TRAFFIC AND EROSION. KEEP AREAS FREE OF TRASH AND DEBRIS RESULTING FROM LANDSCAPE CONTRACTOR OPERATIONS.

REPAIR AND RE-ESTABLISH GRADES IN SETTLED, ERODED AND RUTTED AREAS TO THE SPECIFIED GRADE AND TOLERANCES.

THE LANDSCAPE CONTRACTOR SHALL CLEAN UP AND REMOVE ANY DEBRIS FROM THE SITE CAUSED BY THE LANDSCAPE CONTRACTOR.

AREAS INSIDE FENCE LINE AND WITHIN LIMITS OF GRADING WILL BE CLEARED AND GRUBBED. AREA TO THE SOUTH OF STOCKADE FENCE WILL BE COPPICED TO A HEIGHT OF 12-INCH TO 18-INCH; STUMPS AND GROUNDCOVER WILL REMAIN.

2.2.2 ESTIMATED PROJECT DATES

Estimated Project Start Date: TBD

Estimated Project Completion Date: TBD

Estimated Timeline of Activity Construction Activity and BMP Descriptions Date Start -Date End Before any site grading activities begin

Stake Limit of Construction. Workers shall be informed that no construction activity is to occur beyond this limit at any time.

Delineate the limit of the natural buffer to be maintained with flags, tape or other similar device. Clear vegetation as necessary within the limits of construction. A stockpile of wood chips from tree cutting shall be left on site for stabilization.

4. Grub the areas where erosion control barrier is required, removing stumps and roots as necessary. The existing ground surface shall be disturbed as little as possible prior to the start of construction. 5. Install silt fence and straw bales as shown on the plans. An adequate stockpile of erosion control materials shall be on site at all times for emergency or routine replacement and shall include materials to repair silt fences, straw bales, or any other devices planned for use during construction. Construct stabilized construction exits.

Construct staging and materials storage area. Install temporary sanitary facilities and dumpsters.

Date Start -Date End Site grading Begin site clearing and grubbing operations.

Commence excavation of stormwater management basins. Install crushed stone trenches, protect from siltation. 3. Check dams shall be installed along the temporary drainage channels to reduce velocities and

collect sediment. Begin site grading and topsoil stripping as needed.

Establish topsoil stockpiles as needed.

6. Disturbed areas where construction will cease for more than 14 days shall be stabilized with erosion controls. Install gravel turnaround area.

Date Start —Date End Infrastructure (racking system, utilities, modules, etc.) Construct temporary concrete washout area.

Install utilities, racking system and solar modules. Install electrical equipment and wiring of modules.

Date Start -Date End Final stabilization

Remove sediment from stormwater basins, swales accumulated during construction of the array. Prepare final seeding of disturbed areas. Monitor stabilized areas until final stabilization is reached.

2.4 CONSTRUCTION SITE ESTIMATES

Total property area:

6.90 acres

23.8 acres

Total construction site area to be disturbed: Maximum area to be disturbed at one time: 6.90 acres Percentage impervious area before construction: 0 % Runoff curve number before construction:

Percentage impervious area after construction: 0 %

Runoff curve number after construction:

4.2 MINIMIZE DISTURBED AREA AND PROTECT NATURAL FEATURES AND SOIL 4.2.1 Preserve Existing Vegetation

Description: The preserved area of existing vegetation shall be as identified on the Site Plans and Sitework Specifications. Installation Schedule: The preserved areas of existing vegetation shall be delineated as shown on the

Maintenance and Inspection: Areas outside the limits of work shall be protected from damage during construction and will be monitored along with erosion control barriers.

4.3 PHASED CONSTRUCTION ACTIVITY

The proposed site is too small for phased grading to be practical. To minimize erosion during grading activities, grading and site work shall be conducted after snowmelt and during periods of predicted dry weather. The areas of the site that will remain vegetated after construction shall be graded first and stabilized with hydromulch or seeding immediately after grading activities are completed. All other areas of the construction site shall be stabilized if site work is not planned for more than 14 days. To minimize potential erosion from the site, only areas necessary to construct the grass drainage channels, sediment basin, and construction entrances/exits shall be disturbed initially. These areas shall be cleared, grubbed, and graded and the above measures shall be installed. These areas shall be stabilized immediately after construction but no later than 14 days after construction ceases. Overall grubbing, clearing, grading shall be conducted over a 2—week period to limit erosion from the site. Areas graded during this time period shall be stabilized with hydromulch immediately after construction but no later than 14 days after construction ceases.

For a timeline of construction activity, see the Estimated Project Dates section of this report.

4.4.4Dust Control

Description: Dust from the site shall be controlled by using a mobile pressure—type distributor truck to apply potable water to disturbed areas. The mobile unit shall apply water at a rate of 300 gallons per acre and minimized as necessary to prevent runoff and ponding. Installation Schedule: Dust control shall be implemented as needed once site grading has been initiated and during windy conditions (forecasted or actual wind conditions of 20 mph or greater) while site grading is occurring. Spraying of potable water shall be performed no more than three times a day during the months of May-September and once per day during the months of October-April or whenever the dryness of the soil warrants it. Maintenance and Inspection: At least one mobile unit shall be available at all times to distribute potable water to control dust on the project area. Each mobile unit shall be equipped with a positive shutoff valve to prevent over watering of the disturbed area.

EARTHWORK VOLUMES

SITE CUT (EXCLUDES BASINS) CUT- 1.5' X 16,470 SF. = $24,705\pm$ SF. $2.5' \times 56.235 \text{ SF.} = 14.057 \pm \text{ SF.}$ 3' \times 3,214 SF. = 9,642 \pm SF. 48,404 CF. = 1.792 CY. SITE FILL (EXCLUDES BASINS) 2.5' D X 13.194 SF. = 32.985 CF. = 1.222 CY. FILL = 1.222 CYBASIN 1 CUT= 2,066 SF. X 2.5'= 5,165 CF. FILL = 1,018 X 1.2'= 1,221.6 CY.

450 CY 5,055 CF 187 CY BASIN 2 CUT= 142 SF. X 2'= 284 CF FILL = 330 X 1.5'= 495 CY. = 18 CY. CUT= 217 SF. X 3'= 651 CF CUT= 80 SF. X 2'= 160 CF CUT= 346 SF. X 1'= 346 CF 1.441 CF. = 54 CY.BASIN 3

CUT= 3.114 SF. X 2.25'= 7.006 CF. FILL = 105 X 0.5'= 53 CY.

12,172 CF FILL = 210 X 1.5'= 315 CY.

 $FILL = 1,981 \times 1.75' = 3.466 \text{ CY}.$

CUT= 389 SF. X 1'= 389 CF FILL = 366 X 1'= 366 CY. CUT= 150 SF. X 2'= 300 CF FILL = 1,094 X 1'= 1.094 CY. 1460 CF. CUT= 293 SF. X 1'= 293 CF = 54 CY. CUT= 534 SF. X 1'= 534 CF CUT= 264 SF. X 1'= 264 CF CUT= 488 SF. X 2.5'= 1.220 CF 3.000 CF = 111 CY.

SITE TOTALS CUT = 1.792 + 450 + 54 + 111 = 2.407 CY. FILL = 1,222 + 187 + 18 + 54 = 1,481 CYNET EXPORT = 926 CY *

* MATERIAL WILL BE SPREAD ON-SITE.

4.5 PROTECT SLOPES 4.5.1 Erosion Control Blanket

Description: Erosion control blankets shall be used to provide stabilization for the slopes in the grass drainage channels and sediment basins, and on slopes greater than 3:1 throughout the site. Installation Schedule: The erosion control blankets shall be installed once the slopes of the grass drainage channel and sediment basin have reached final grade. Maintenance and Inspection: The erosion control blanket shall be inspected weekly and immediately after storm events to determine if cracks, tears, or breaches have formed in the fabric; if so, the blanket shall be repaired or replaced immediately. Good contact with the soil shall be maintained and erosion shall not occur under the blanket. Any areas where the blanket is not in close contact with the around shall be repaired or replaced.

4.6.1 Erosion Control Barrier

Description: An erosion control barrier, consisting of staked straw wattles and entrenched siltation fencing, shall be installed along the downgradient side of the proposed project to decrease the velocity of sheet flows and intercept and detain small amounts of sediment from disturbed areas. Installation Schedule: Erosion Control Barrier shall be installed prior to clearing and grubbing. Maintenance and Inspection: Erosion Control Barrier shall be inspected weekly, following storms, and daily during rainy periods. Damaged fencing shall be replaced. Concentrated flows shall be intercepted and rerouted. Sediment accumulations shall be removed when reaching a depth of 6-inches, or one—half of the above ground height of the barrier, whichever is less. Deteriorated fencing material shall be replaced. Used fencing shall be properly disposed of.

Description: Temporary gravel or crushed stone construction entrances/exits or other means shall be used to minimize off—site movement of soil with vehicles. Construction access points shall be maintained to minimize tracking of soil onto public roads and existing parking lots to remain. If the rock entrance is not working to keep streets clean, then install wheel wash, sweep streets, or wash streets if wash water can be collected. Installation Schedule: Stabilized construction entrance shall be installed prior to clearing and

Maintenance and Inspection: Stabilized construction entrances shall be inspected daily. Gravel or crushed stone shall be added if the pad is no longer in accordance with the specifications. If the rock entrance is not working to keep streets clean, then install wheel wash, sweep streets, or wash streets if wash water can be collected. When sediment has been tracked off of the site, it shall be removed by the end of the same working day, or by the end of the next working day if track—out occurs on a non-work day. Remove sediment by sweeping, shoveling or vacuuming roadways were sediment has been tracked-out.

5.0 GOOD HOUSEKEEPING BMPS

This SWPPP contains a listing of the good housekeeping best management practices (BMPs) that shall be implemented to control pollutants in stormwater discharges during construction—related work. The BMPs are categorized below:

- Material Handling and Waste Management
- " Establish Proper Building Material Staging Areas Designate Washout Areas
- Establish Proper Equipment/Vehicle Fueling and Maintenance Practices Allowable Non-Stormwater Discharges and Control Equipment/Vehicle Washing
- Spill Prevention and Control Plan

5.1 MATERIAL HANDLING AND WASTE MANAGEMENT

Several management procedures and practices are proposed to prevent and/or reduce the discharge of pollutants to stormwater from solid or liquid wastes that will be generated at the site. These measures are grouped into the following categories: (1) solid or construction waste disposal, (2) recycling, (3) sanitary and septic waste, and (4) hazardous materials.

5.1.1 Solid or Construction Waste Disposal

Description: All waste materials shall be collected and disposed of into metal trash dumpsters in the materials storage area. Dumpsters shall have a secure watertight lid, be placed away from stormwater conveyances and drains, and meet all federal, state, and municipal regulations. Only trash and construction debris from the site shall be deposited in the dumpster. No construction materials shall be buried on-site unless authorized by a program for recycling/beneficial use. All personnel shall be instructed regarding the correct disposal of trash and construction debris. Notices that state these practices shall be posted in the office trailer and the individual who manages day—today site operations shall be responsible for seeing that these practices are followed. Installation Schedule: Trash dumpsters shall be installed once the materials storage area has been

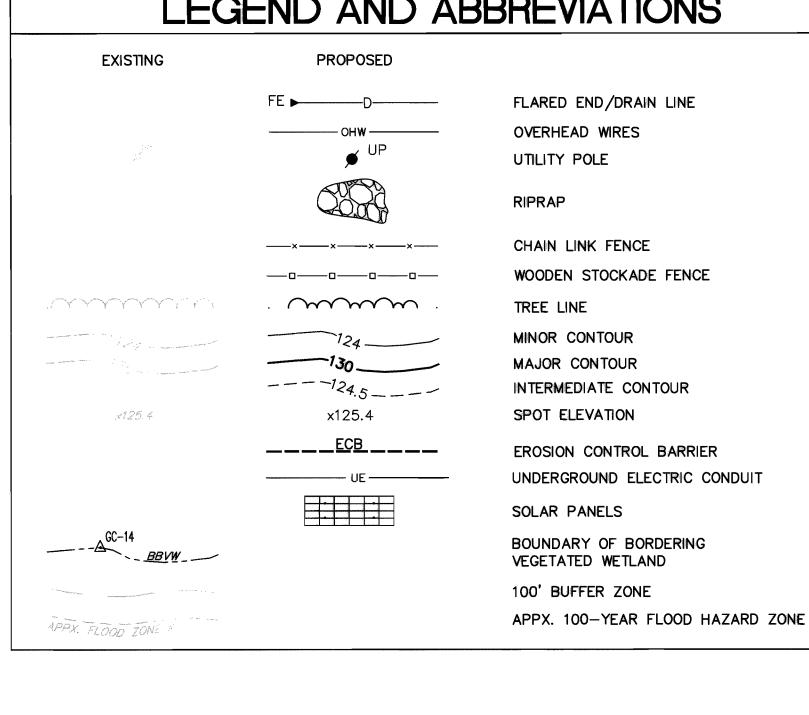
Maintenance and Inspection: The dumpsters shall be inspected weekly and immediately after storm events. The dumpsters shall be emptied weekly and taken to an approved landfill or recycling facility. If trash and construction debris are exceeding the dumpsters' capacity, the dumpsters shall be emptied more frequently.

5.2 ESTABLISH PROPER MATERIAL STAGING AREAS

Description: Construction equipment and construction materials shall be stored at a staging area outside of buffer zones. All hazardous—waste materials such as oil filters, petroleum products, paint and equipment maintenance fluids shall be stored in structurally sound and sealed containers under cover within the storage area. Installation Schedule: The materials storage area shall be installed after grading and before any

infrastructure is constructed at the site. Maintenance and Inspection: The storage area shall be inspected weekly and after storm events. The storage area shall be kept clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, or covers shall be repaired or replaced as needed to maintain proper function.

LEGEND AND ABBREVIATIONS



7.0 FINAL STABILIZATION

In compliance with the Construction General Permit, soil stabilization measures must be implemented immediately whenever earth-disturbing activities are temporarily or permanently ceased on any portion of the site. Earth-disturbing activities are temporarily ceased when clearing, grading, and excavation within any area of a site that will not include a permanent structure will not resume for a period of 14 or more calendar days, but such activities will resume in the future.

In the context of this provision, "immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the earth—disturbing activities have temporarily or permanently ceased. The following activities constitute the initiation of stabilization:

- Preparing the soil for vegetative or non-vegetative stabilization;
- applying mulch or other non-vegetative product to the exposed area:
- seeding or planting the exposed area; starting any of the activities in listed above on a portion of the area to be stabilized, but not on the entire area: and finalizing arrangements to have stabilization product fully installed in compliance with the applicable deadline for completing stabilization.

As soon as practicable, but no later than 14 calendar days after the initiation of soil stabilization measures the following activities are required to be completed:

For vegetative stabilization, all activities necessary to initially seed or plant the area to be stabilized; and/or For non-vegetative stabilization, the installation or application of all such non-vegetative

The following sections detail the management practices proposed to achieve final stabilization of the

7.1 PERMANENT SEEDING

Description: Permanent seeding shall be applied immediately after the final design grades are achieved on portions of the site but no later than 14 days after construction activities have permanently ceased. After the entire site is stabilized, any sediment that has accumulated shall be removed and hauled off-site for disposal at an approved landfill. Construction debris, trash and temporary BMPs (including silt fences, material storage areas, sanitary toilets, and inlet protection) shall also be removed and any areas disturbed during removal shall be seeded immediately. Seeding shall be performed in accordance to the Site Plans and Landscape Specifications for the project. Installation Schedule: Seeding shall occur at portions of the site where construction activities have permanently ceased shall be stabilized, as soon as possible but no later than 14 days after construction ceases.

Maintenance and Inspection: All seeded areas shall be inspected weekly during construction activities for failure and after storm events until a dense cover of vegetation has been established. If failure is noticed at the seeded area, the area shall be reseeded, fertilized, and mulched immediately. After construction is completed at the site, permanently stabilized areas shall be monitored until final

APPROVAL BY THE

KXIX

BEALS AND THOMAS, INC. SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, OR

THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

PROCEDURES UTILIZED BY THE CONTRACTOR, NOR FOR THE SAFETY OF PUBLIC OR CONTRACTOR'S EMPLOYEES; OR FOR

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DETERMINATION OF CONFORMANCE

MILLIS PLANNING BOARD

D-SMX 9/4/2017

PREPARED FOR:

RECORD OWNER:

PARCEL ADDRESS:

146 WEST BOYLSTON DRIVE

3RD FLOOR

WORCESTER, MA., 01606

617-834-8567

BRUCE A. BERRY TRUST.

J&B REALTY TRUST

508-376-5600

ASSESSORS PARCEL 22-27

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1280 MAIN STREET

MILLIS, MA 02054

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FEENCY

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PREPARED BY:

BEALS + THOMAS
Civil Engineers + Landscape Architects + Land Surveyors + Planners +
Environmental Specialists

BEALS AND THOMAS, INC. Reservoir Corporate Center

144 Turnpike Road Southborough, Massachusetts 01772-2104 T 508.366.0560 | www.bealsandthomas.com

3 08/04/2017 REVISED PER TOWN COMMENTS 2 07/24/2017 REVISED PER TOWN COMMENTS

1 06/14/2017 REVISED PER TOWN'S COMMENT 0 01/06/2017 FIRST ISSUE ISSUE DATE DESCRIPTION DES | DWN | CHK'D | APP'D

PROJECT:

MILLIS E COMMUNITY SOLAR ARRAY

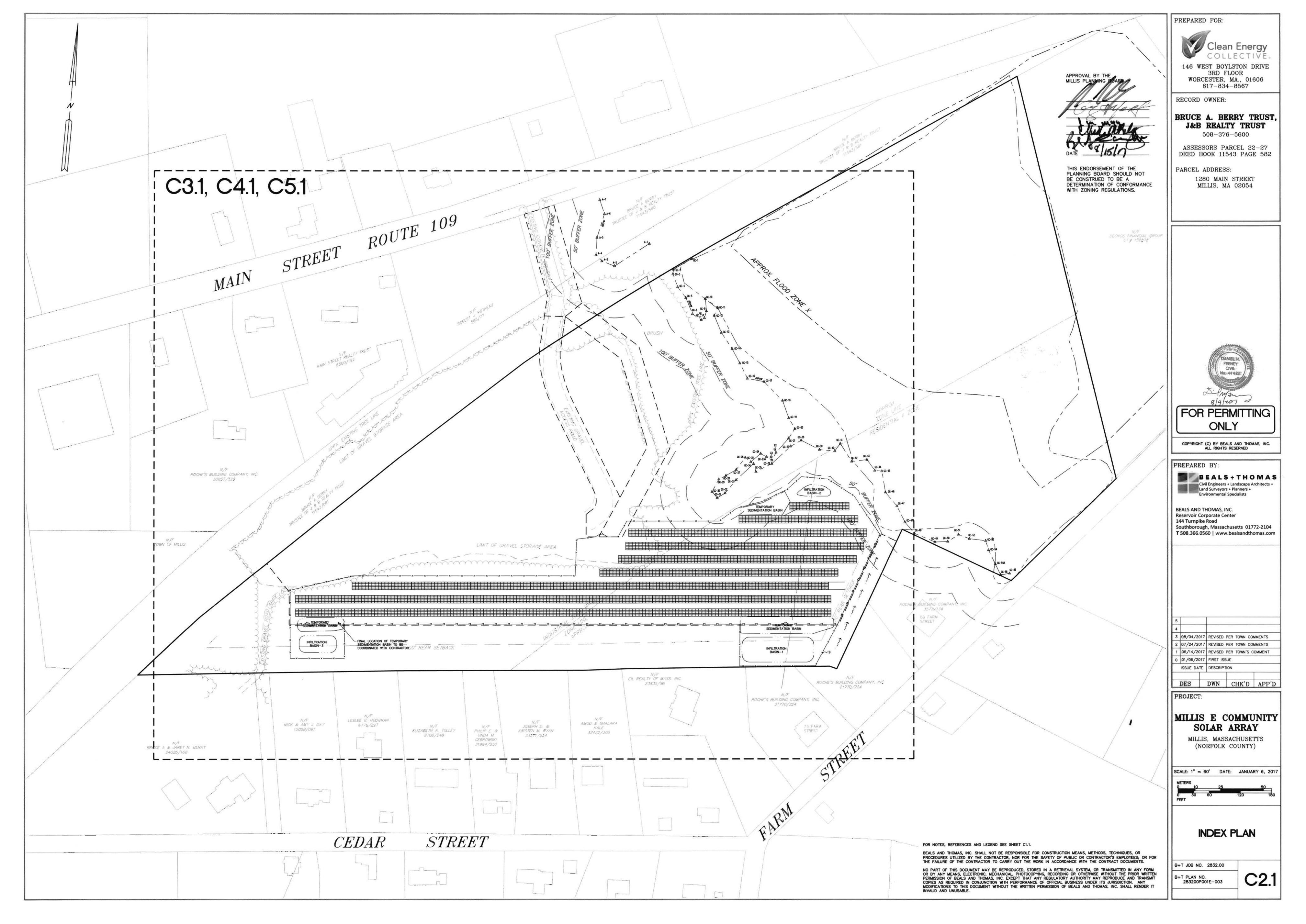
MILLIS. MASSACHUSETTS (NORFOLK COUNTY)

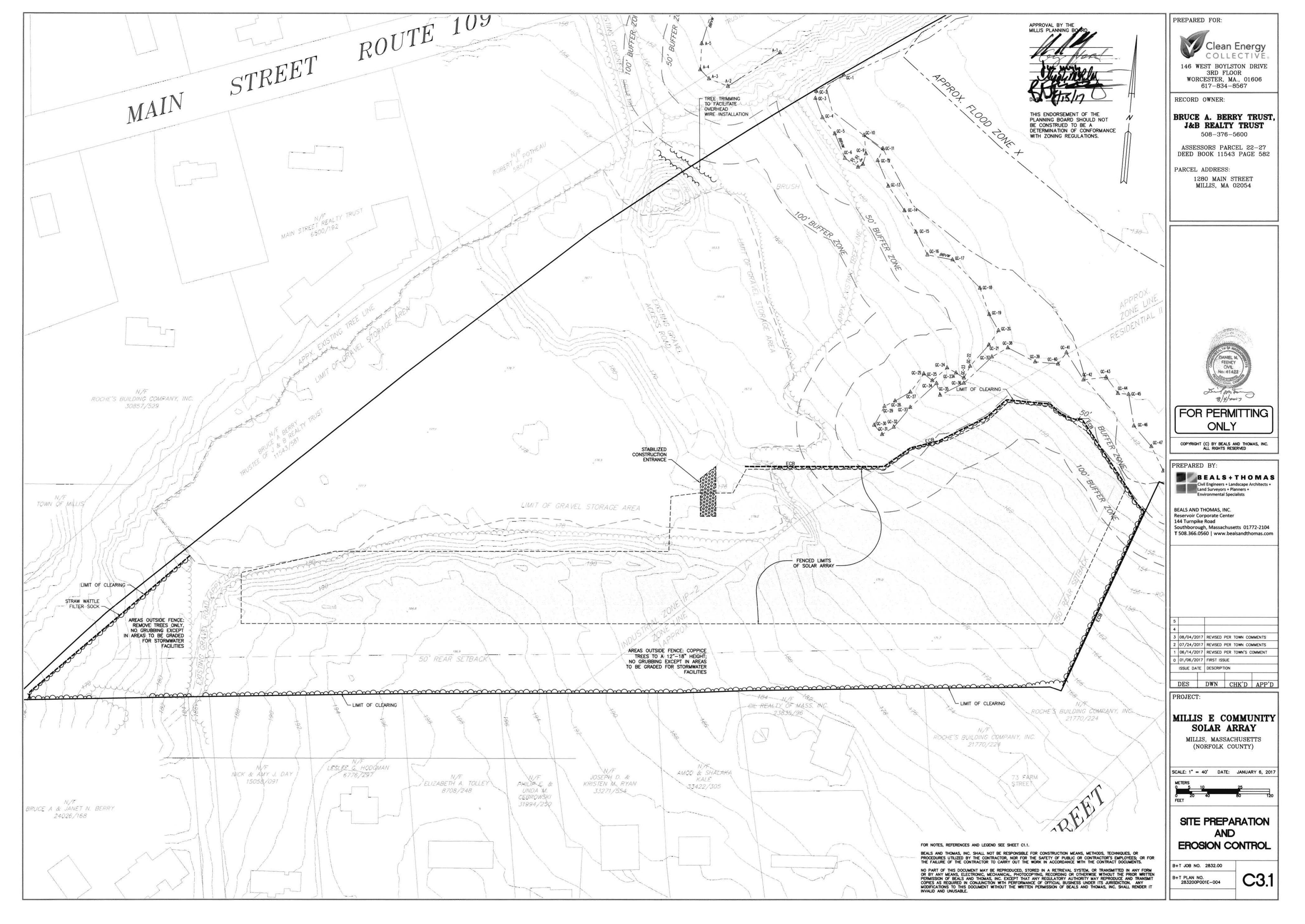
SCALE: N.T.S. DATE: JANUARY 6, 2017

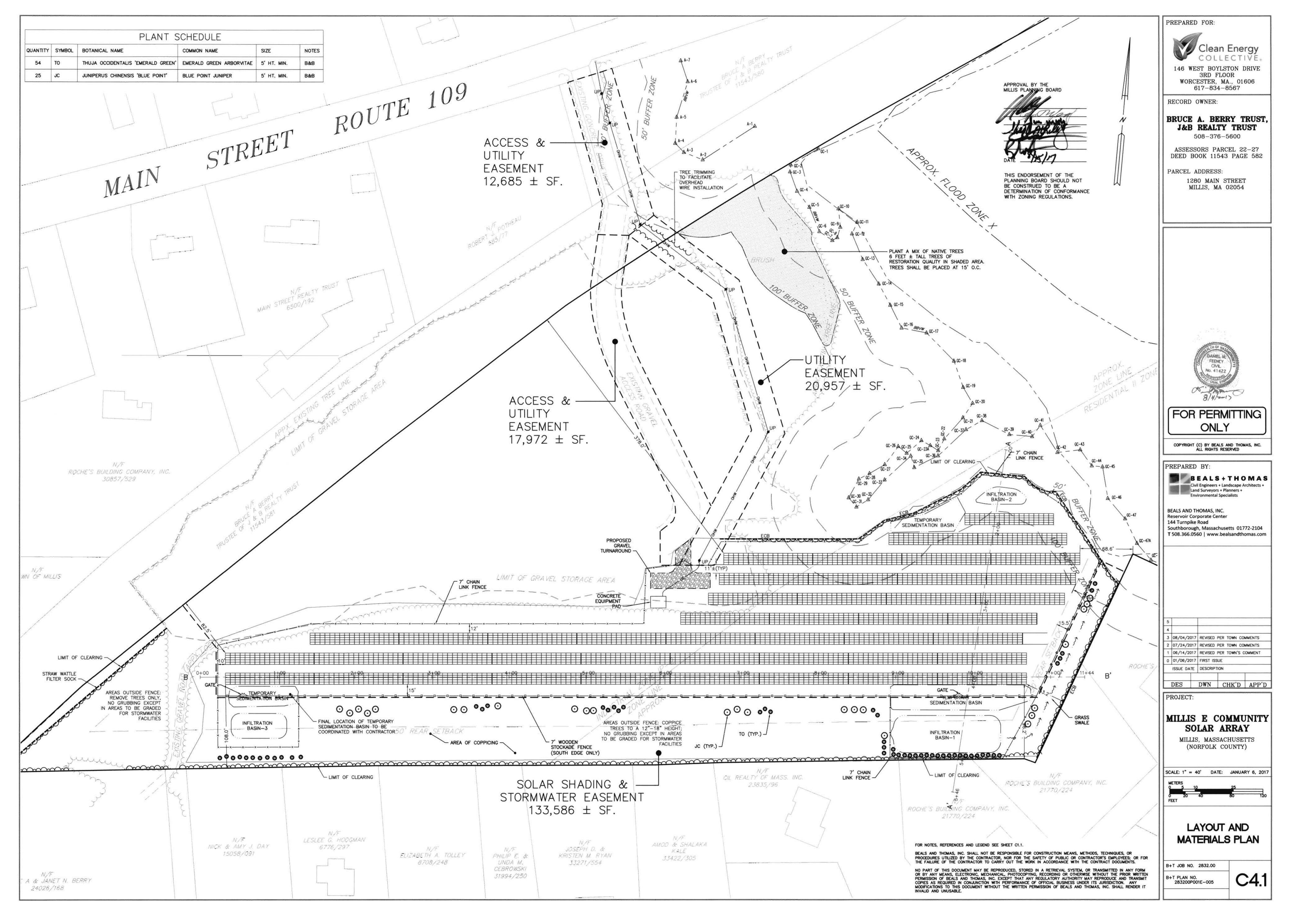
NOTES, REFERENCES, AND LEGEND

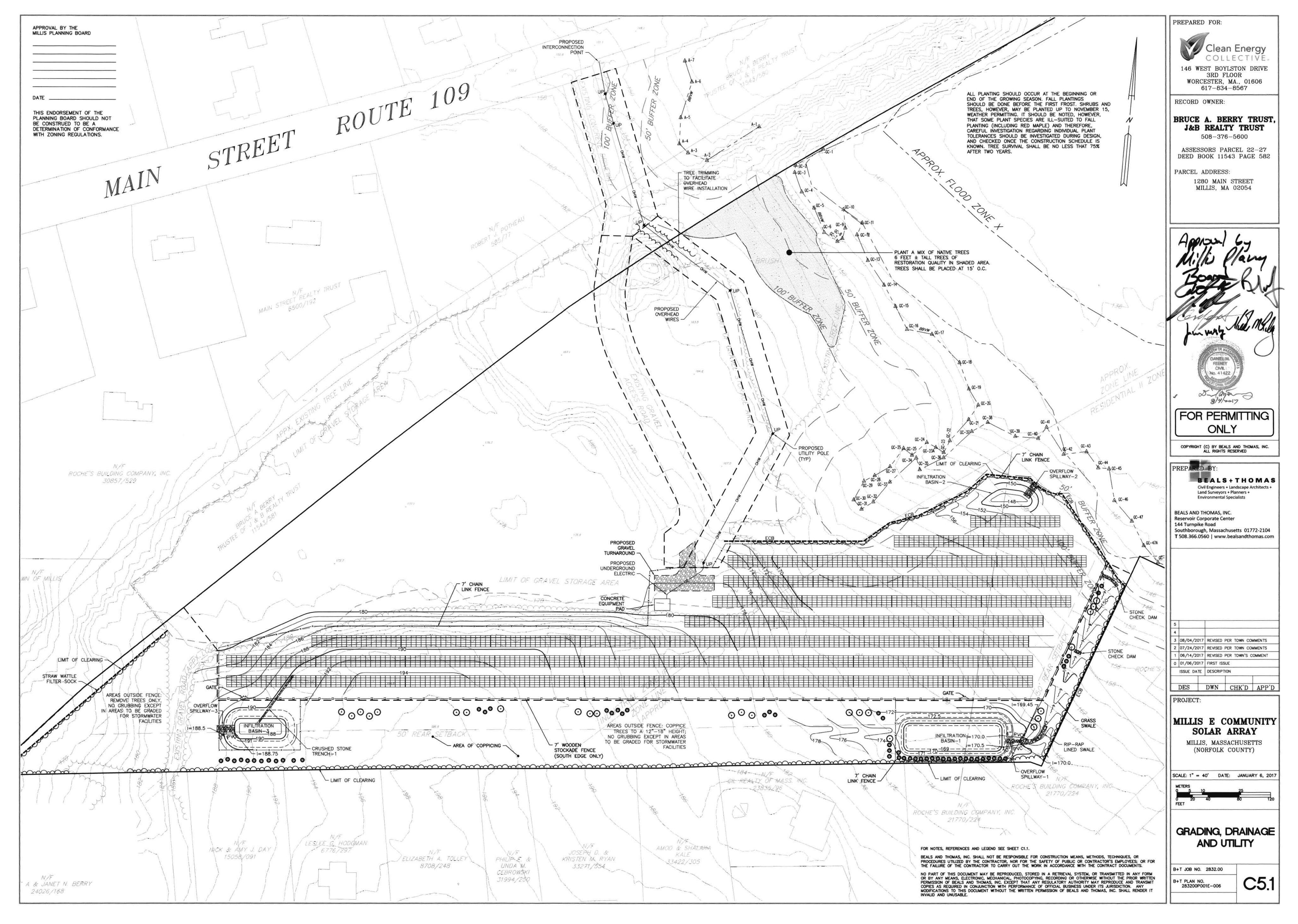
B+T JOB NO. 2832.00

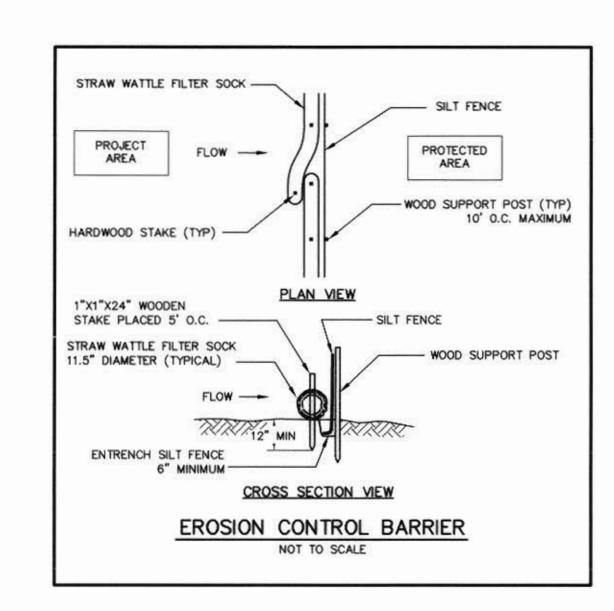
B+T PLAN NO. 283200P001E-002

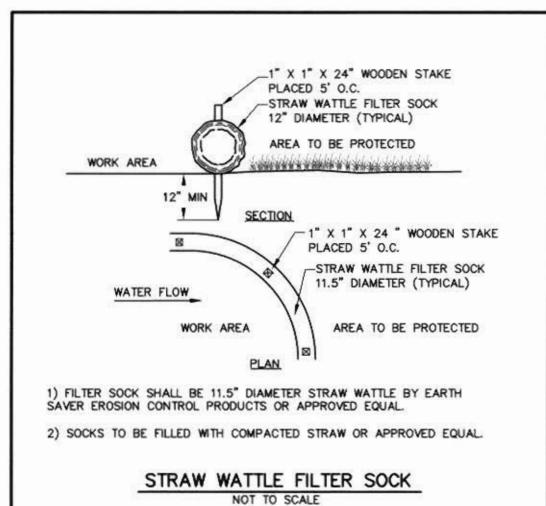


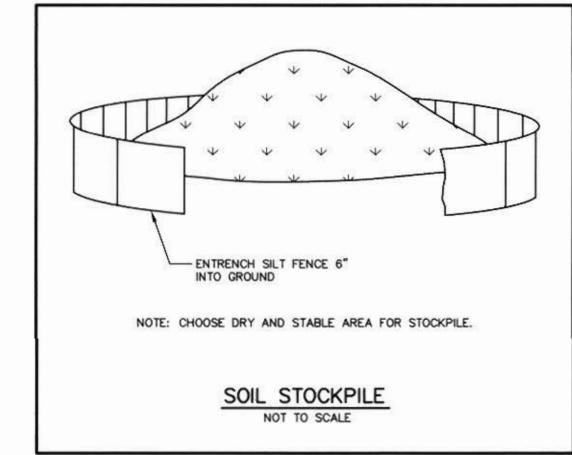


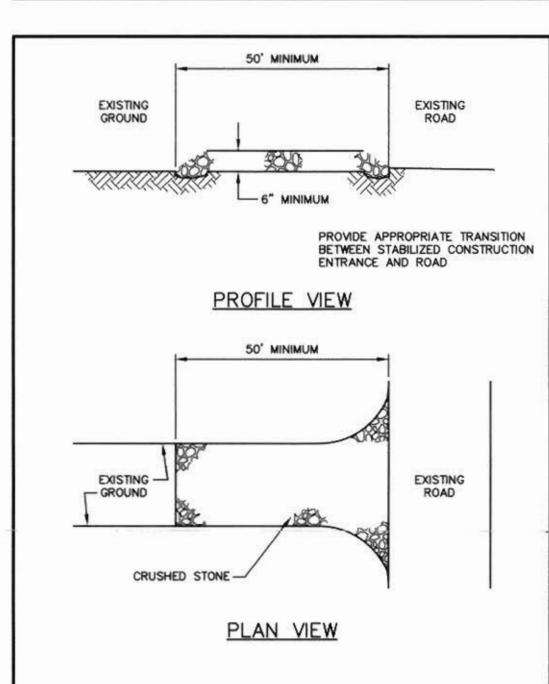












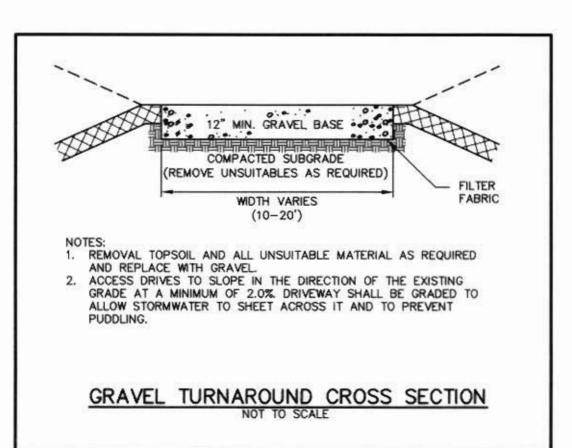
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO EXISTING ROAD. THIS MAY REQUIRE

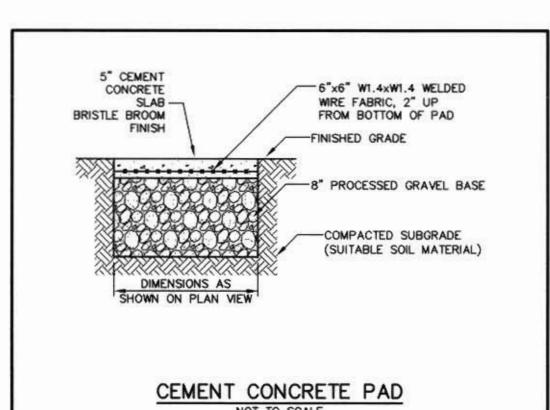
CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO EXISTING ROAD SHALL BE REMOVED IMMEDIATELY.

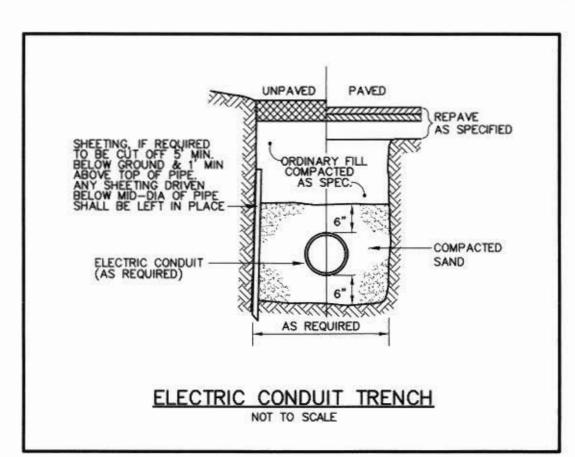
STABILIZED CONSTRUCTION ENTRANCE

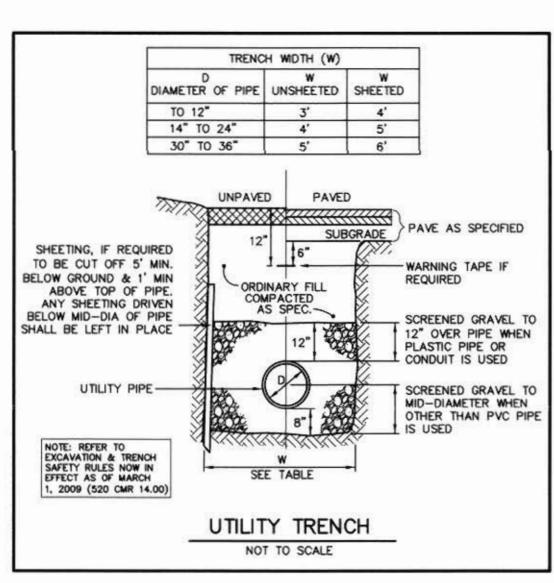
NOT TO SCALE

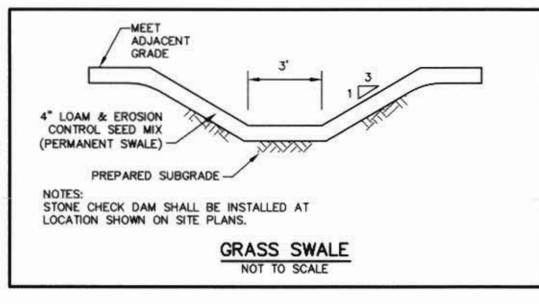
PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS

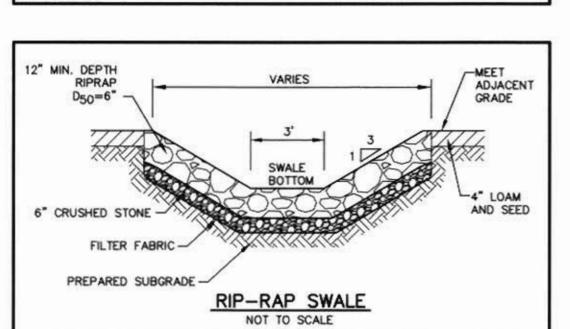


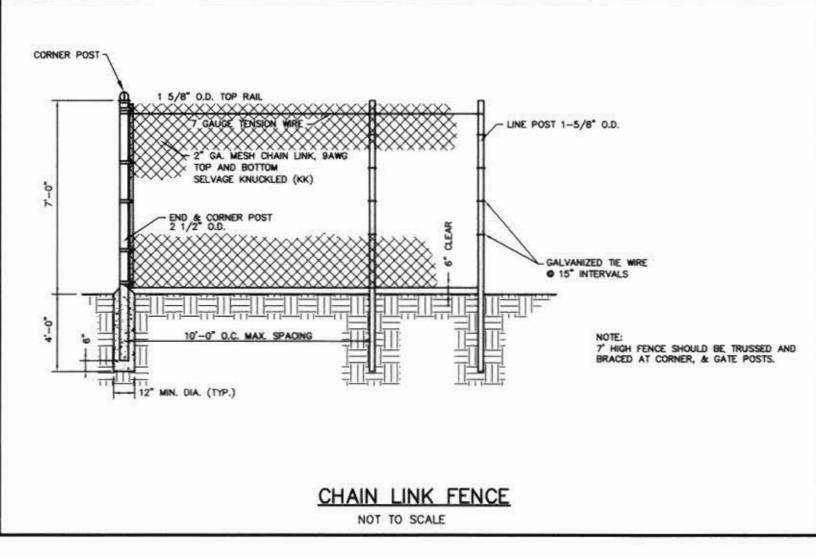


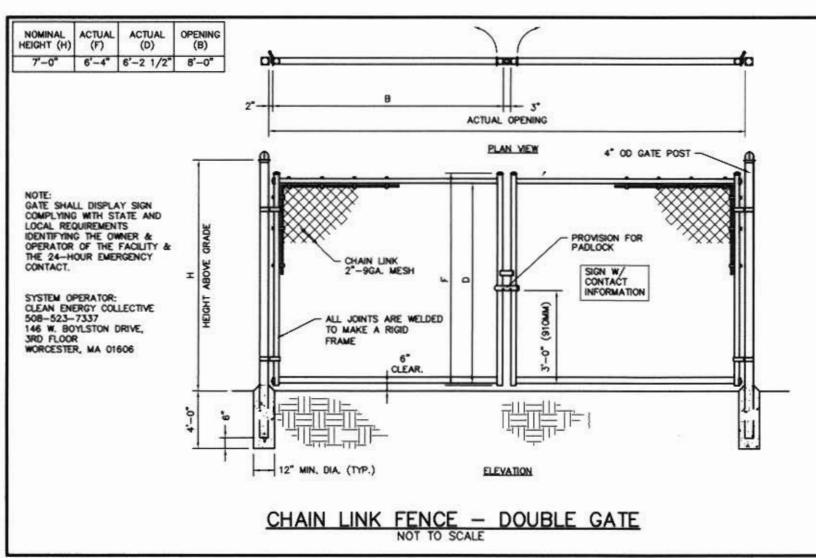


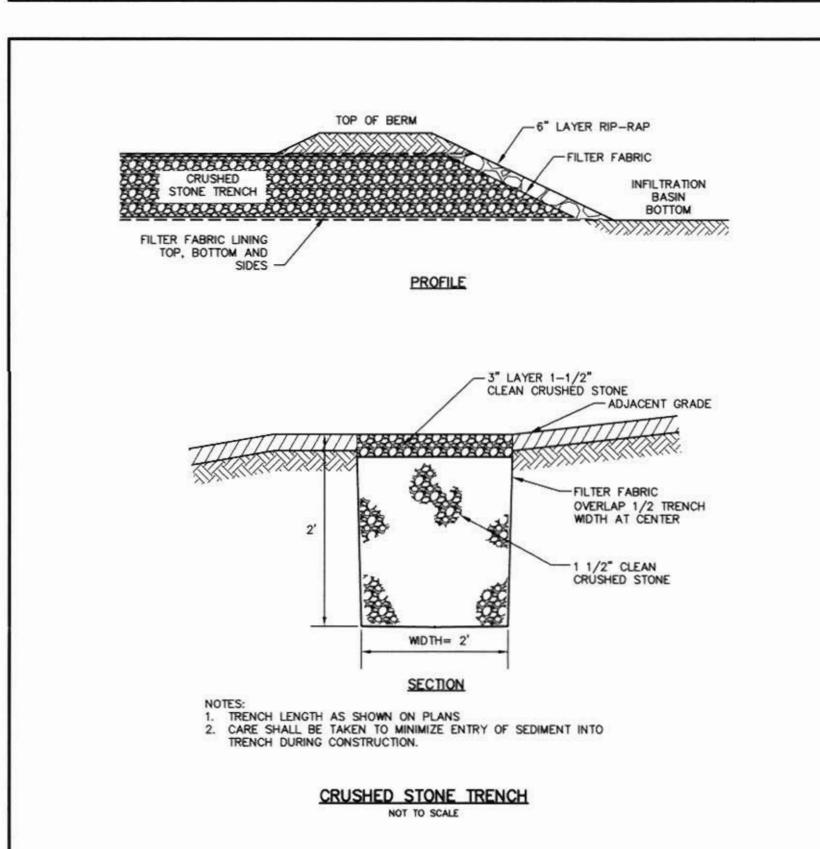


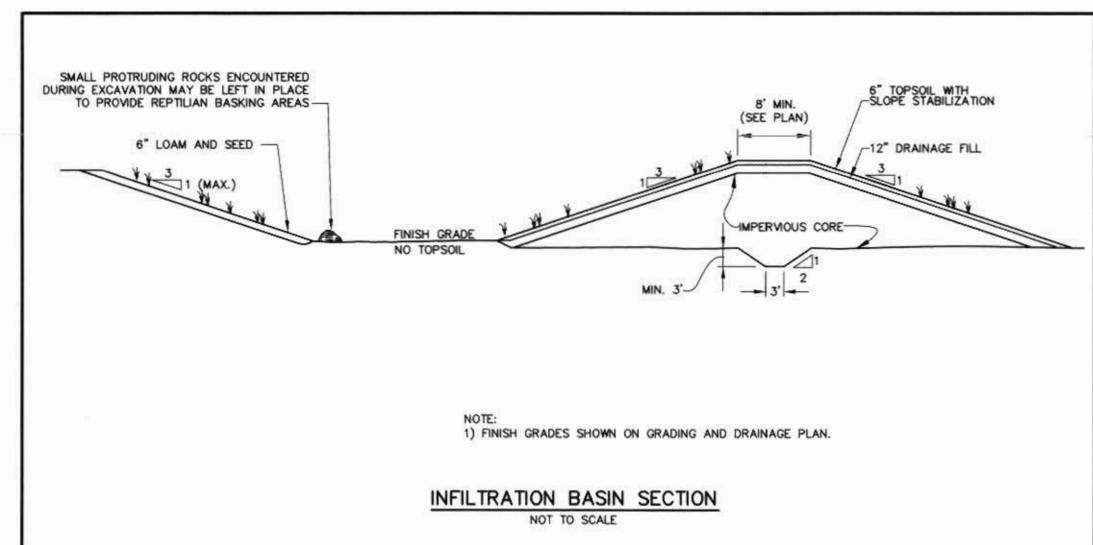


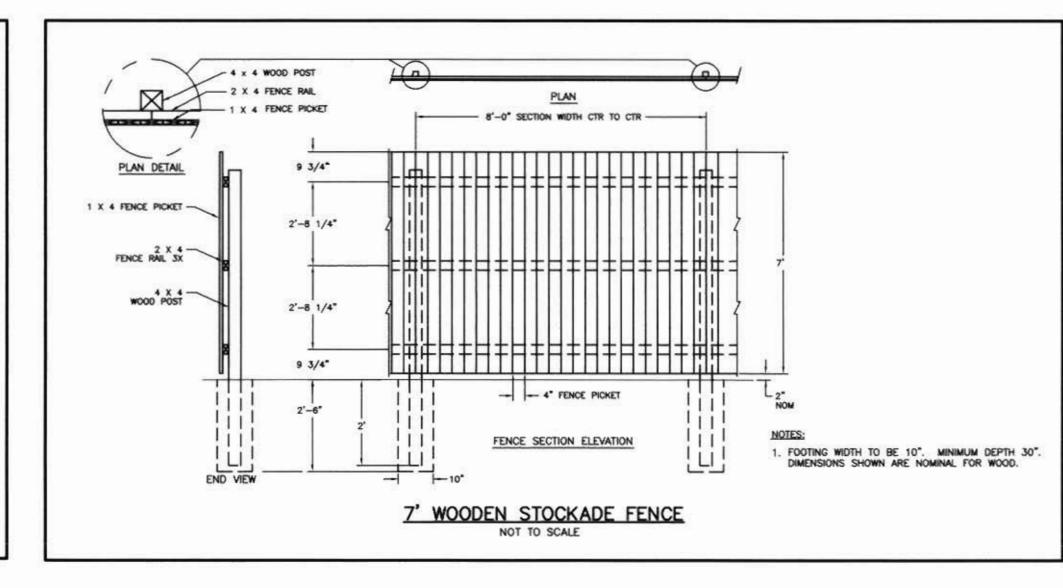


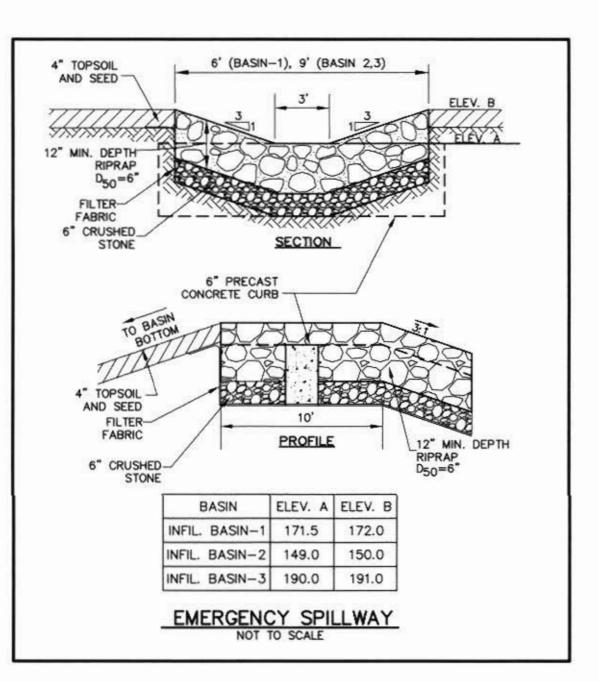


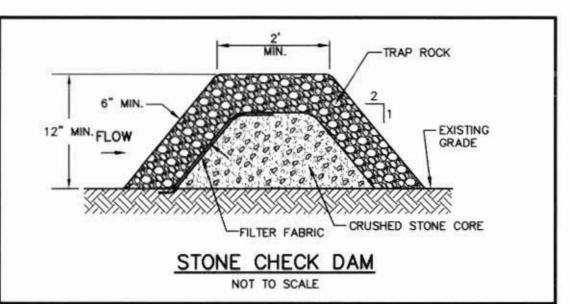














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PREPARED FOR: Clean Energy

146 WEST BOYLSTON DRIVE 3RD FLOOR

WORCESTER, MA., 01606

617-834-8567

RECORD OWNER:

BRUCE A. BERRY TRUST, J&B REALTY TRUST

508-376-5600 ASSESSORS PARCEL 22-27

DEED BOOK 11543 PAGE 582

MILLIS, MA 02054

PARCEL ADDRESS: 1280 MAIN STREET

FOR PERMITTING ONLY

8/4/200

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PREPARED BY:

BEALS+THOMAS Civil Engineers + Landscape Architects + Land Surveyors + Planners + Environmental Specialists

BEALS AND THOMAS, INC. Reservoir Corporate Center 144 Turnpike Road Southborough, Massachusetts 01772-2104 T 508.366.0560 | www.bealsandthomas.com

5		
4		
3	08/04/2017	REVISED PER TOWN COMMENTS
2	07/24/2017	REVISED PER TOWN COMMENTS
1	06/14/2017	REVISED PER TOWN'S COMMENT
0	01/06/2017	FIRST ISSUE
ISSUE DATE		DESCRIPTION

PROJECT:

MILLIS E COMMUNITY SOLAR ARRAY

DES DWN CHK'D APP'D

MILLIS, MASSACHUSETTS (NORFOLK COUNTY)

SCALE: AS NOTED DATE: JANUARY 6, 2017

SITE DETAILS

B+T JOB NO. 2832.00

283200P001E-007

B+T PLAN NO.



TerraFarm Ground Mount - Landscape

ETL listed, Electrically bonded system, verified Wiley

Up to 160 mph wind speed, 80 psf snow load, Exposure C

60% maximum, limited by installation equipment

Professional Engineer Stamped Drawings Available in 50 States Custom Engineered to Exceed Applicable ASCE, IBC, and UL Standards.

Up to 7 panels high and up to 12 panels long

Commercial to Utility Scale

20-year limited warranty

Galvanized steel (G90 or Better)

5 - 45 degrees

Panel Orientation Array Configurations

Tilt Angle: Lower Panel Clearance

Max Capacity of PV modules

60 Cell Listed Aluminum Framed Module (37"-41" x 63"-67") 72 Cell Listed Aluminum Framed Module (37"-41" x 75"x79")

PH:239.362.0211 F: 239.362.0586 Visit us online at www.terrasmart.com

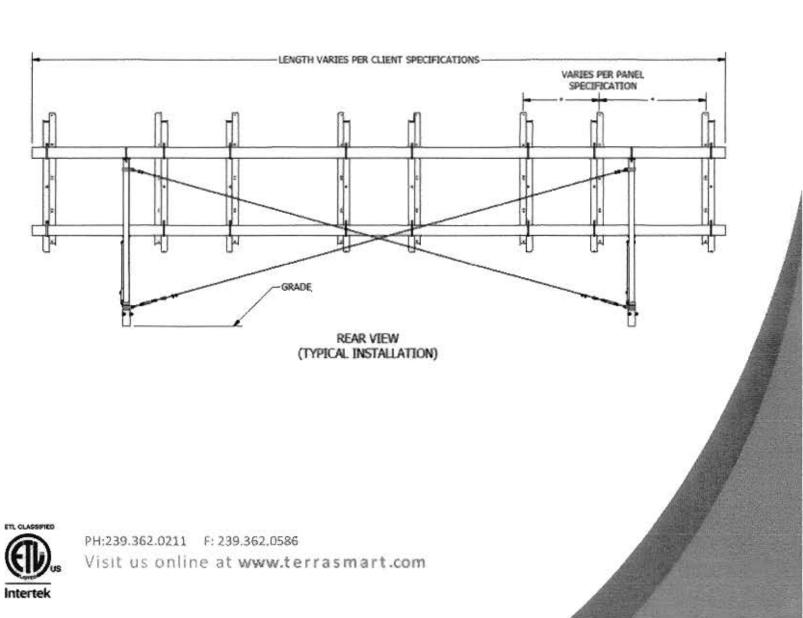


trical Performance & Temperature Depende

Benefits

Minimal hardware to assemble No in-field drilling, cutting, or welding Significantly reduces installed labor costs Integrated foundation solution

Turn-key installation service available, Foundation to Panels Pre-assembly options available Maximum adjustability for following grade



SIDE ELEVATION

RACKING SYSTEM INFORMATION NOT TO SCALE

3/8"-16 X 6" U-BIXT, TWO FLAT WASHERS, TWO LOOK WASHERS 3/16" GALYANIZED STEEL WIRE ROPE CROSS BRACE CABLE -1/6"-16 X 1-1/2" CARREAGE BOLT, LOCK WASHER, AND HEX NUT-3/16" GALVANIZED STEEL WIRE ROPE CROSS BRACE CABLE -AND TWO GALVANIZED WIRE ROPE CLIPS GALVANIZED STEEL TURNBUCKLE-3/6"-16 X 1-1/2" CARRIAGE BOLT, LOCK WASHER, AND HEX NUT -DETAIL B PH:239.362.0211 F; 239.362.0586 Visit us online at www.terrasmart.com

INFORMATION SHOWN IS A GENERIC DETAIL OF THE RACKING STRUCTURAL SYSTEM PROPOSED. DIMENSIONAL INFORMATION SHOWN SUBJECT TO CHANGE



1280 Main St. Millis, MA 02054

24-HOUR EMERGENCY NUMBER: 844-232-7253

CleanEnergyCo.com

EMERGENCY CONTACT SIGN NOT TO SCALE



Extreme high efficiency module:

Through the internal nano-level reflection technology to improve the power

Anti-PID Guarantee: Through the unique high reliability encapsulating technology to make sure the module possess anti-PID characteristics under high temperature and hunidity for a long time. Have passed anti-PID test 60°C /85% RH condition for 1000th. Low-light Performance:

Advanced glass and surface texturing allow for excellent performance in

Severe Weather Resilience:

Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal). Durability against extreme environmental conditions:

High salt mist and ammonia resistance certified by TUV NORD. Temperature Coefficient: improved temperature coefficient decreases power loss during high temperatures.

LINEAR PERFORMANCE WARRANTY 10 Year Fraduct Warranty • 25 Year Linear Power Warranty

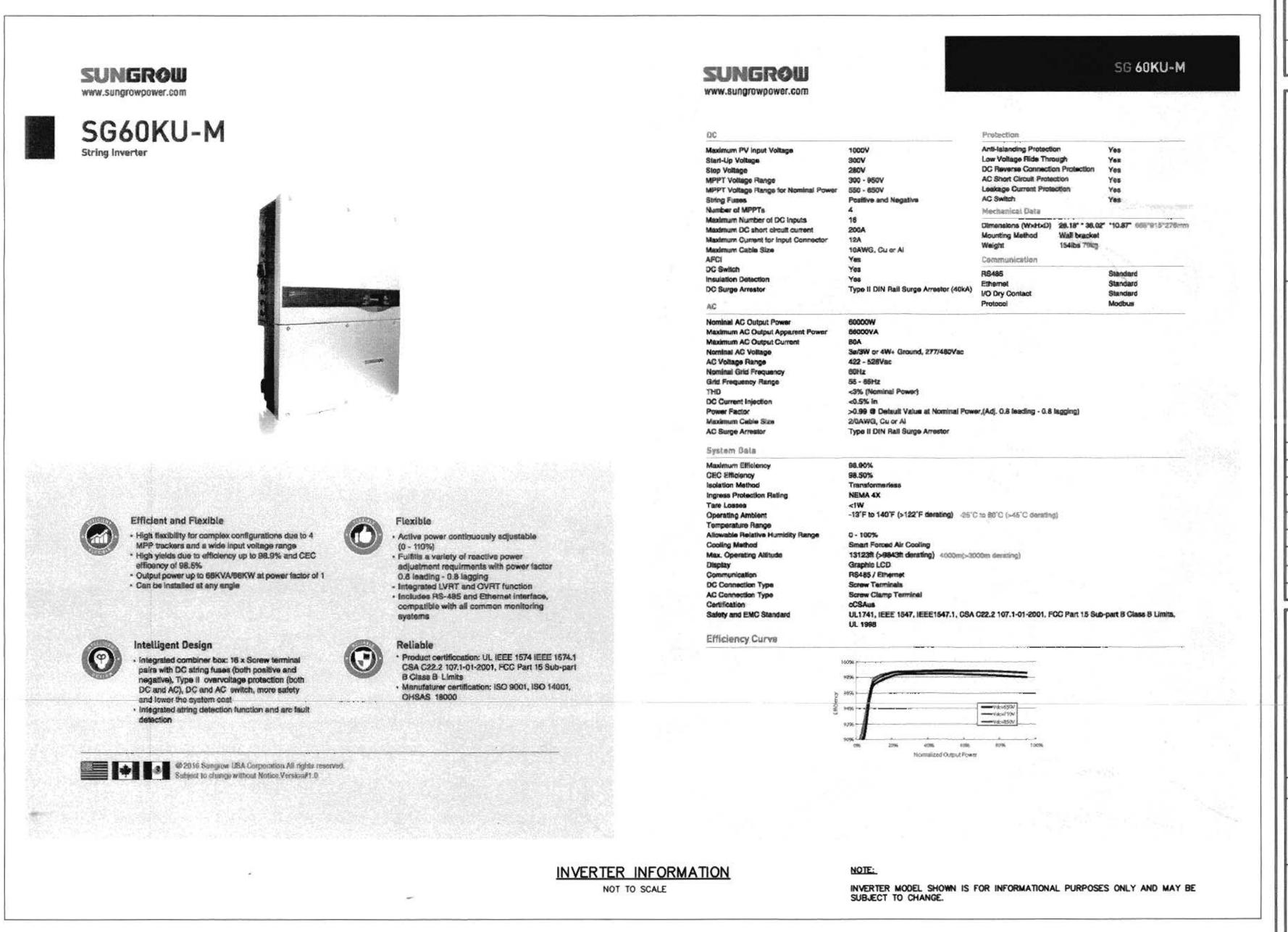
iiii New linear performance warranty

Call Temperature(TC) Poly-crystaline (56x) Minors (61x0) 1956+942+40ron-07781+09405+1.57 (w/d-265.50764365 Front Glass 4.0mm, High Transmission, Low Iron, Tempered Glass (Two boxes «One pallet) Junction Box Output Causes TOV 1 x 4 9 mm Claringth 9 0 County SPECIFICATIONS Maximum Power (Pmax) Maximum Power Voltage (Vmb) Maximum Power Current (Imp) 8.55A 5.85A 8.66A 6.91A Open-circuit Voltage (Voc) Short-circuit Current (Isc) B.96A 7.26A 9.01A 7.29A 9.86A 7.30A 9.10A 7.34A Module Efficiency STC (%) Operating Temperature(*C) -40°C~+65°C Maximum system soltage Maximum series fuse rating Power tolerance Temperature coefficients of Pmax Temperature coefficients of Voc Temperature coefficients of Isc. STC: Irradiance 1000W/m² Cell Temperature 25°C AM=1.5 NOCT: # Irradiance 800W/m² Ambient Temperature 20°C AM=1.5 Wind Speed 1m/s

* Power measurement tolerance: ± 3%

SOLAR MODULE INFORMATION NOT TO SCALE

SOLAR MODULE SHOWN IS FOR INFORMATIONAL PURPOSES ONLY AND MAY BE SUBJECT TO CHANGE.



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PREPARED FOR:

146 WEST BOYLSTON DRIVE WORCESTER, MA., 01606

617-834-8567

RECORD OWNER:

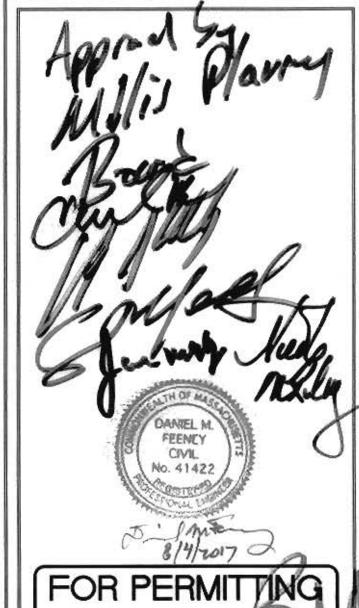
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508-376-5600

ASSESSORS PARCEL 22-27 DEED BOOK 11543 PAGE 582

PARCEL ADDRESS:

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3 08/04/2017 REVISED PER TOWN COMMENTS 2 07/24/2017 REVISED PER TOWN COMMENTS 06/14/2017 REVISED PER TOWN'S COMMENT 0 01/06/2017 FIRST ISSUE

DES | DWN | CHK'D | APP'D PROJECT:

ISSUE DATE DESCRIPTION

MILLIS E COMMUNITY SOLAR ARRAY

> MILLIS, MASSACHUSETTS (NORFOLK COUNTY)

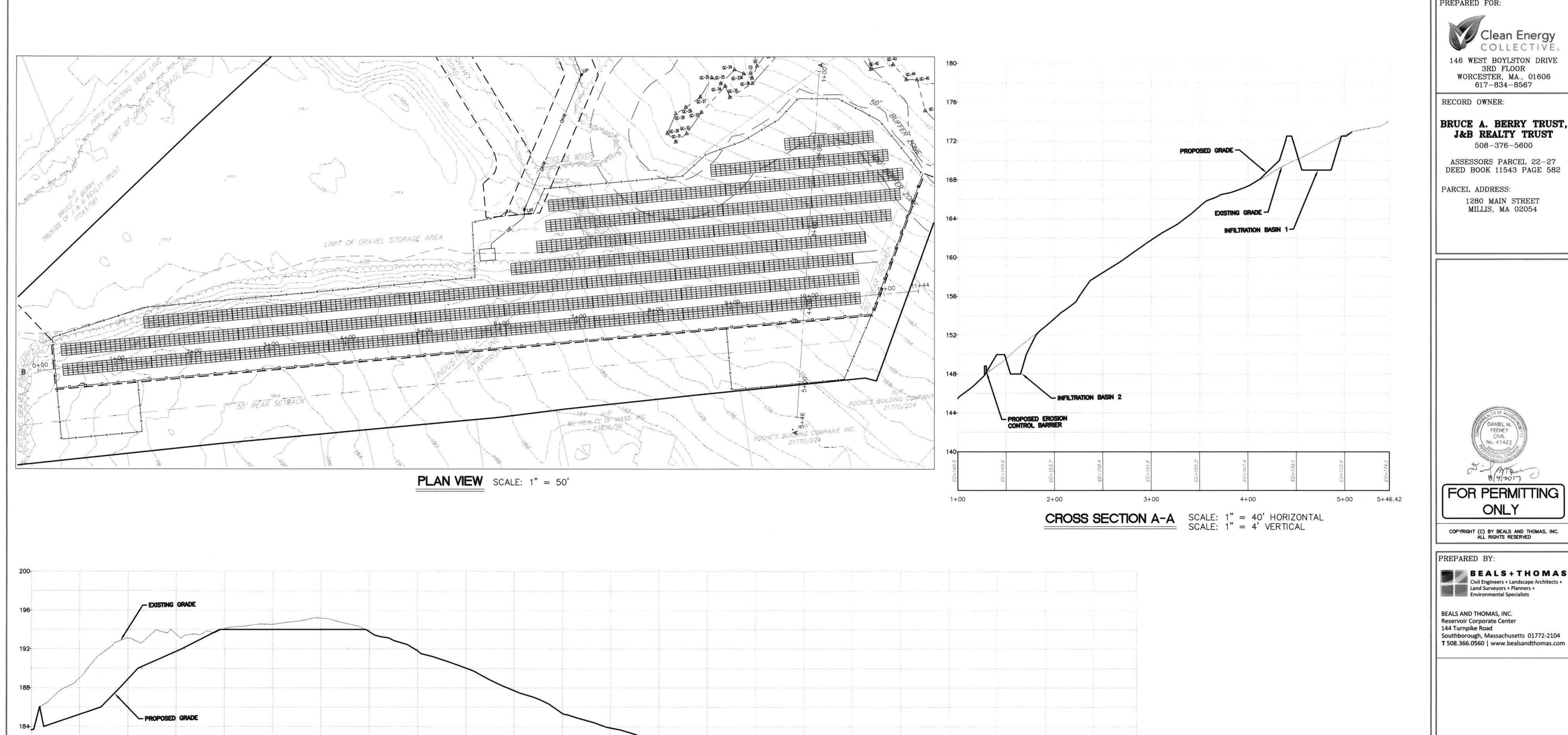
SCALE: AS NOTED DATE: JANUARY 6, 2017

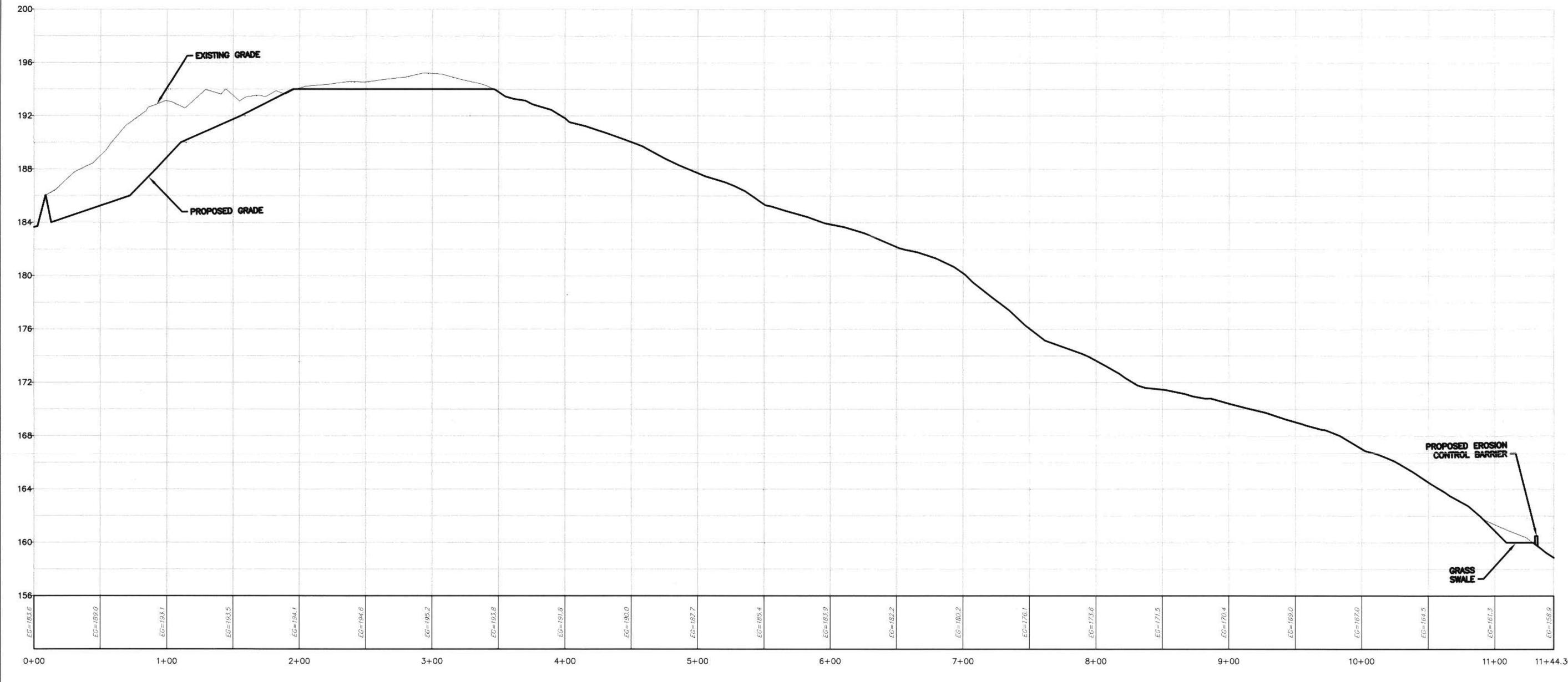
SITE DETAILS

B+T JOB NO. 2832.00

283200P001E-008

B+T PLAN NO.





APPROVAL BY THE MILLIS PLANNING BOARD THIS ENDORSEMENT OF THE PLANNING BOARD SHOULD NOT BE CONSTRUED TO BE A DETERMINATION OF CONFORMANCE WITH ZONING REGULATIONS.

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3 08/04/2017 REVISED PER TOWN COMMENTS 2 07/24/2017 REVISED PER TOWN COMMENTS 1 06/14/2017 REVISED PER TOWN'S COMMENT 0 01/06/2017 FIRST ISSUE ISSUE DATE DESCRIPTION

DES DWN CHK'D APP'D

PROJECT:

MILLIS E COMMUNITY SOLAR ARRAY

> MILLIS, MASSACHUSETTS (NORFOLK COUNTY)

SCALE: AS NOTED DATE: JANUARY 6, 2017

PLAN AND PROFILE

B+T JOB NO. 2832.00 B+T PLAN NO.

283200P001E-009

CROSS SECTION B-B

SCALE: 1" = 40' HORIZONTAL
SCALE: 1" = 4' VERTICAL