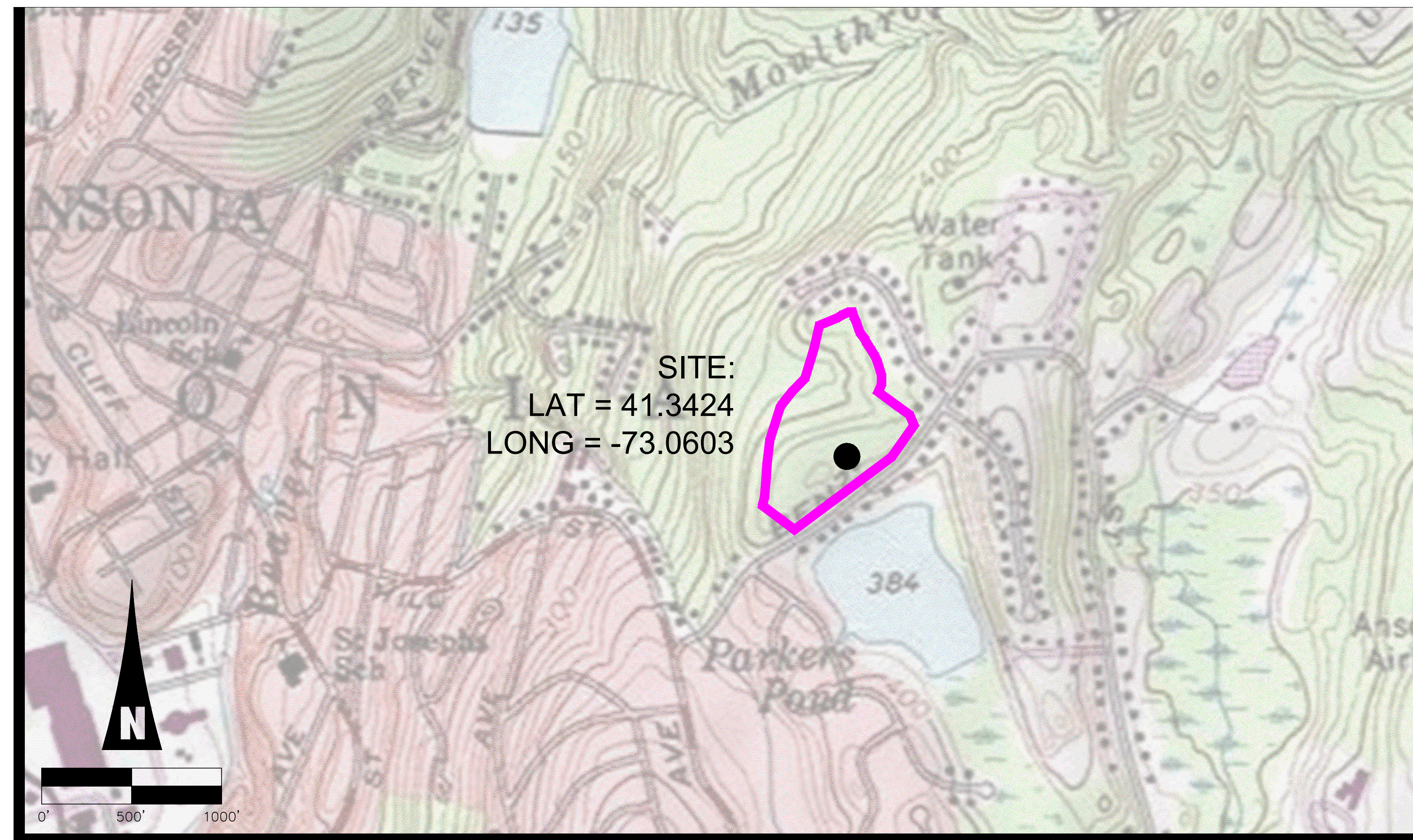


BENZ STREET SOLAR CONNECTICUT SITING COUNCIL DOCUMENTS

FOR
Site/Electrical Layout, Grading/Drainage/Erosion Control/Landscaping
IN
ANSONIA, CONNECTICUT

LOCATION MAP



SHEET INDEX

●	-	5/22/2020	1	COVER SHEET
●	-	2/04/2019	2	ALTA SURVEY (BY GODFREY HOFFMAN HODGE, LLC)
●	-	5/22/2020	3	SITE PLAN
●	-	5/22/2020	4	GRADING AND EROSION CONTROL PLAN
●	-	5/22/2020	5	SITE GRADING PLAN: DRAINAGE AREA #1
●	-	5/22/2020	6	SITE GRADING PLAN: DRAINAGE AREA #2
●	-	5/22/2020	7	LANDSCAPE PLAN
●	-	5/22/2020	8	KEY OBSERVATION POINTS
●	-	5/22/2020	9	PROJECT CROSS SECTION
●	-	5/22/2020	10	CIVIL NOTES
●	-	5/22/2020	11	CIVIL DETAILS

DRAWING INDEX LEGEND

●	-	X/XX/202X	X	SHEET TITLE
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FILLED CIRCLE INDICATES DRAWING INCLUDED WITHIN THIS ISSUE
 MOST RECENT REVISION NUMBER
 MOST RECENT ISSUE OR REVISION DATE

CONTACT INFO:

RECORD LANDOWNER:
PLH, LLC
77 WATER STREET
8TH FLOOR
NEW YORK, NY 10005

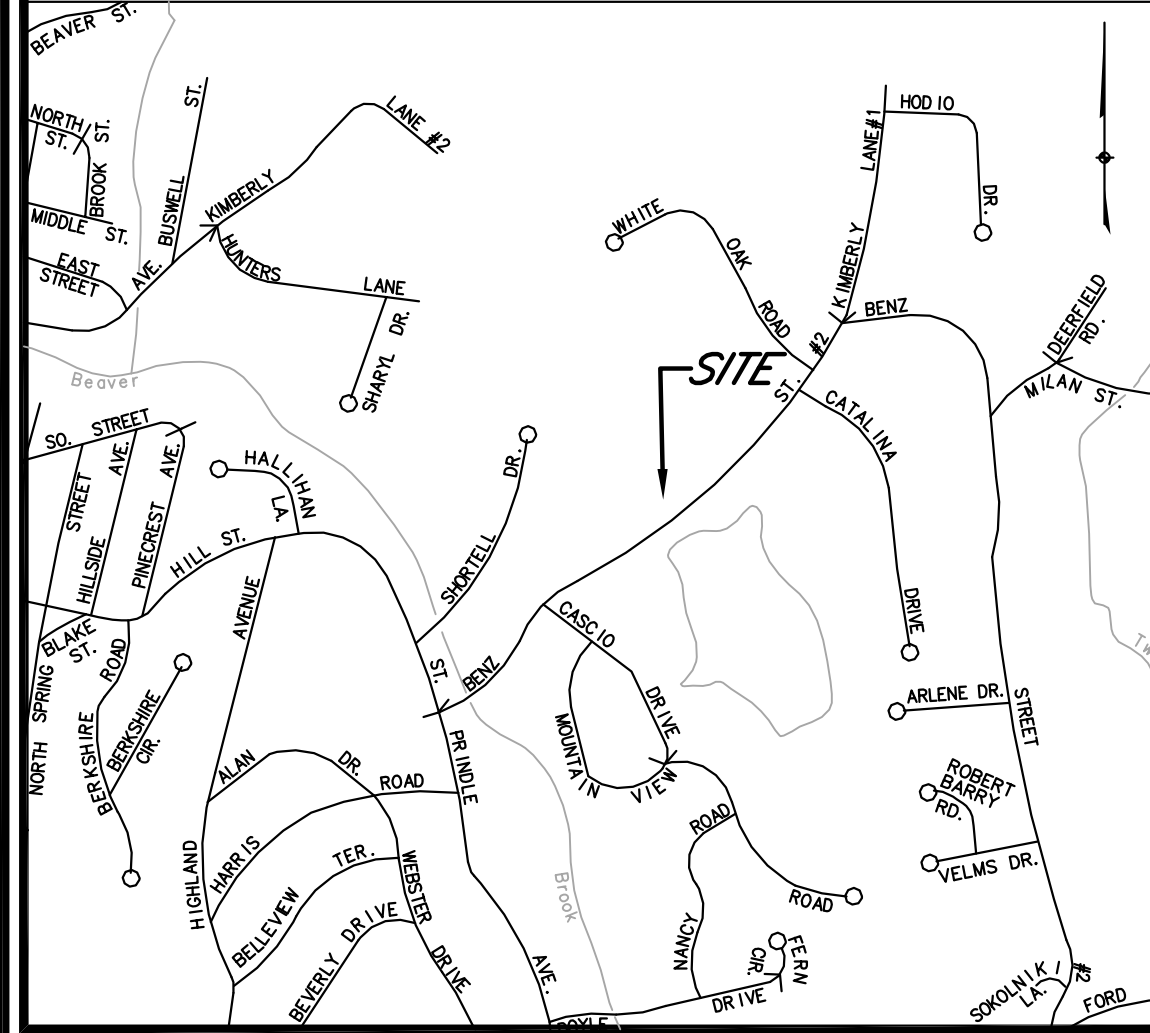
OWNER/DEVELOPER:
ECOS ENERGY
222 SOUTH 9TH STREET
SUITE 1600
MINNEAPOLIS, MN 55402

CIVIL ENGINEER:
CLA ENGINEERS, INC.
317 MAIN STREET
NORWICH, CT 06360
TEL: 860-886-1966

SURVEYOR & WETLANDS DELINEATION:
GODFREY HOFFMAN HODGE, LLC
26 BROADWAY
NORTH HAVEN, CT 06085
TEL: 203-239-4217

			CLA Engineers, Inc. Civil • Structural • Surveying	
			317 Main Street Norwich, Connecticut (860) 886-1966 Fax (860) 886-9165	
No.	Date	Revision		
	5/22/20	2M SC CSC REVISION		
	2/11/20	CSC SUBMISSION		
			Project No. CLA-6430 Proj. Engineer E.M.B. Date: 5/22/2020 Sheet No. 1	
			31 BENZ STREET ANSONIA, CT 06401 BENZ STREET SOLAR COVER SHEET	

SITE LOCATION MAP
SCALE: 1"=800'

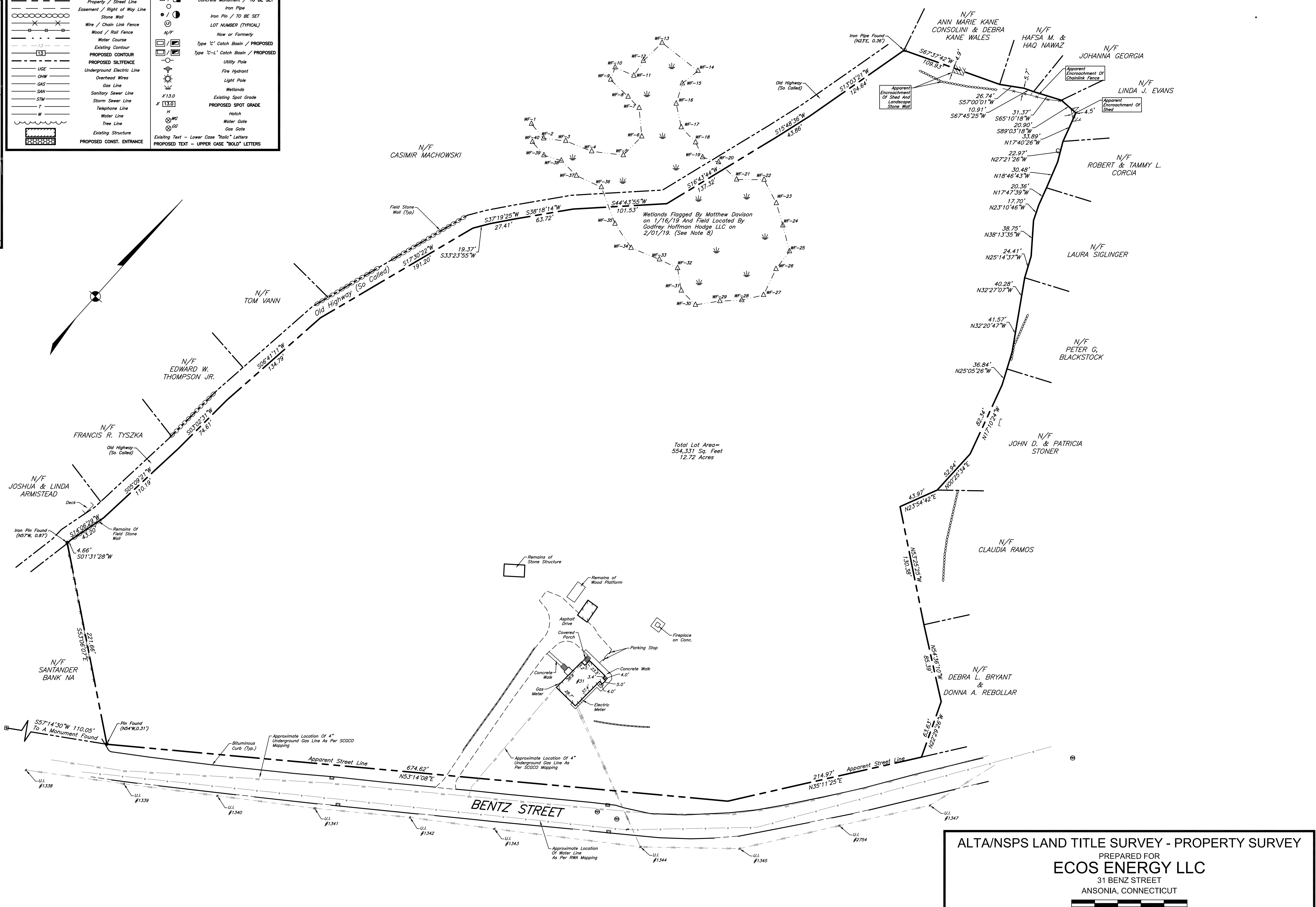


LEGEND

Property / Street Line	Concrete Monument / TO BE SET
Easement / Right of Way Line	Iron Pipe
Stone Wall	Iron Pin / TO BE SET
Wire / Chain Link Fence	LOT NUMBER (TYPICAL)
Wood / Rail Fence	Now or Formerly
Water Course	Type 'C' Catch Basin / PROPOSED
Existing Contour	Type 'L' Catch Basin / PROPOSED
PROPOSED CONTOUR	UTILITY Pole
Underground Electric Line	Fire Hydrant
Overhead Wires	Wellhead
GAS	Existing Spot Grade
Sanitary Sewer Line	PROPOSED SPOT GRADE
Storm Sewer Line	Hatch
Telephone Line	Water Gate
Water Line	Tree Line
Tree Line	Gas Gate
Existing Structure	Existing Text - Lower Case "italic" Letters
PROPOSED CONST. ENTRANCE	PROPOSED TEXT - UPPER CASE "BOLD" LETTERS

NOTES:

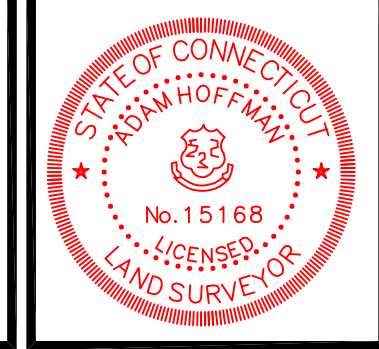
- THIS MAP AND SURVEY HAVE BEEN PREPARED IN ACCORDANCE WITH THE REGULATIONS OF CONNECTICUT STATE AGENCIES, SECTIONS 20-300B-1 THRU 20-300B-20, THE MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT EFFECTIVE JUNE 21, 1996, AMENDED OCTOBER 26, 2018.
 - THE HORIZONTAL ACCURACY CONFORMS TO CLASS "A-2".
 - THE BOUNDARY DETERMINATION CATEGORY IS A "FIRST SURVEY".
 - THE TYPE OF SURVEY IS A "PROPERTY SURVEY".
- ALL MONUMENTATION FOUND OR SET IS DEPICTED ON THIS MAP.
- THE NORTH ARROW, BEARINGS, AND COORDINATES ARE BASED UPON THE CONNECTICUT STATE PLANE COORDINATE SYSTEM, NAD 83 UTILIZING THE STATE OF CONNECTICUT ACORN GPS NETWORK.
- REFERENCE MAP(S):
 - MAP OF TWO LOTS PROPERTY OF JOSEPH DAVIDSON BENZ ST ANSONIA, CONN. BY DANIEL B. GUON DATED, MAY 16, 1985
 - ANTHONY & ELAINE DEFAZIO LOT 12 ANSONIA, CONN. BY JOSEPH WYSOWSKI DATED, AUGUST 14, 1969
 - MAP SHOWING HOUSE LOCATION ON LOT #14 WHITE OAK RIDGE ANSONIA, CONN. BY CLARKE AND PEARSON DATED, OCTOBER 2, 1962
 - MAP SHOWING HOUSE LOCATION ON LOT #2 WHITE OAK RIDGE ANSONIA, CONN. BY CLARKE AND PEARSON DATED, SEPTEMBER 6, 1961
 - MAP SHOWING HOUSE LOCATION ON LOT #6 WHITE OAK RIDGE ANSONIA, CONN. BY CLARKE AND PEARSON DATED, OCTOBER 25, 1961
 - WHITE OAK RIDGE DEVELOPMENT BY FOREST HEIGHTS INC. ANSONIA, CONN. BY CLARKE AND PEARSON DATED, MAY 1961, REVISED TO JUNE 9, 1961
 - MAP OF BUILDING LOTS OWNED BY ANDREW WEISZ, THOMAS WEISZ, & JOSEPH DIGIORGI SECTION 1 ANSONIA, CONN. BY CLARKE AND PEARSON DATED, AUGUST 19, 1959
 - MOUNTAIN VIEW ESTATES SECTION 1 ANSONIA - CONN. BY FREDERICK MAHN DATED, FEBRUARY 10, 1959
 - MOUNTAIN VIEW ESTATES SECTION 3 ANSONIA - CONN. BY FREDERICK MAHN DATED, MARCH 5, 1959
 - LOT #1 MOUNTAIN VIEW ESTATES ANSONIA CONN BY FREDERICK MAHN DATED, FEBRUARY 10, 1959
 - LOT #2 MOUNTAIN VIEW ESTATES ANSONIA - CONN. BY FREDERICK MAHN DATED, DECEMBER 26, 1958
 - LOT #3 MOUNTAIN VIEW ESTATES ANSONIA - CONN. BY FREDERICK MAHN DATED, DECEMBER 26, 1958
 - LOT #4 MOUNTAIN VIEW ESTATES ANSONIA CONN BY FREDERICK MAHN DATED, FEBRUARY 10, 1959
 - LOT #5 MOUNTAIN VIEW ESTATES ANSONIA CONN BY FREDERICK MAHN DATED, FEBRUARY 10, 1959
- PROPERTY IS SUBJECT TO AND TOGETHER WITH THE FOLLOWING:
 - SUBJECT TO AN AGREEMENT IN FAVOR OF THE CITY OF ANSONIA AS PER VOLUME 121 PAGE 028 OF THE ANSONIA LAND RECORDS.
 - RIGHTS, RESTRICTIONS, ENCUMBRANCES, COVENANTS, EASEMENTS, ETC. AS PER THE RECORD MAY APPEAR.
- THE SUBJECT PROPERTY IS DESIGNATED AS MAP 87, BLOCK 00, LOT 01 ON THE ANSONIA ASSESSOR'S RECORDS.
- PROPERTY IS LOCATED IN FLOOD ZONE(S): "X" (AREAS DETERMINED TO BE OUTSIDE THE 500 YEAR FLOOD PLAIN) AS DEPICTED ON F.I.R.M. COMMUNITY NO. 090090406J DATED MAY 16, 2017 AND 090090406H DATED DECEMBER 17, 2010.
- UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON MAY HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENTAL AGENCIES, FROM PAROLE TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE LOCATIONS OF WHICH ARE UNKNOWN TO GODFREY-HOFFMAN HODGE, LLC. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG 1-800-922-4455.
- TO CONNECTICUT ATTORNEYS TITLE INSURANCE COMPANY, THIS IS TO CERTIFY THAT THIS MAP OR PLAN AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 6, 7(A), 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19 AND 20, OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON FEBRUARY 1, 2019.



TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

ADAM WAGMAN, L.S. #15168

NOT VALID WITHOUT LIVE SIGNATURE AND SEAL.



ALL WORK, LABOR, AND MATERIALS TO BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES AND LAWS WHICH SHALL TAKE PRECEDENCE OVER THESE DRAWINGS IN THE EVENT OF ERRORS AND/OR OMISSIONS HEREON.

THE WORD "CERTIFY" OR "DECLARE" IS UNDERSTOOD TO BE AN EXPRESSION OF PROFESSIONAL OPINION BY THE LAND SURVEYOR AND/OR ENGINEER, WHICH IS BASED ON THEIR BEST KNOWLEDGE, INFORMATION AND BELIEF, AS SUCH IT CONSTITUTES NEITHER A GUARANTEE OR WARRANTY.

THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY AND CONFIDENTIAL PROPERTY OF GODFREY-HOFFMAN HODGE, LLC. REPRODUCTIONS, PUBLICATION, DISTRIBUTION, OR DUPLICATION IN WHOLE OR IN PART REQUIRES THE WRITTEN PERMISSION OF GODFREY-HOFFMAN HODGE, LLC. THIS DOCUMENT AND COPIES THEREOF ARE VALID ONLY IF THEY BEAR THE LIVE SIGNATURE AND LIVE SEAL OF THE DESIGNATED LICENSED PROFESSIONAL.

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NO.	DATE	DESCRIPTION

ALTA/NSPS LAND TITLE SURVEY - PROPERTY SURVEY

PREPARED FOR
ECOS ENERGY LLC
31 BENZ STREET
ANSONIA, CONNECTICUT

0 25 50 75 100 125

GODFREY-HOFFMAN HODGE, LLC

PROFESSIONAL LAND SURVEYORS & CIVIL ENGINEERS
26 BROADWAY NORTH HAVEN, CT 06473; TEL: 203.239.4217 - WWW.GODFREYHOFFMAN.COM
1783 FARMINGTON AVENUE, UNIONVILLE, CT 06085; TEL: 860.673.0444 - WWW.HODGELLCC.COM

DRAWN BY: KMA
CHECKED BY: CSW
DATE: 02-04-2019
SCALE: 1"=50'
PROJECT: 19-006
DRAWING: 1 of 1

BENZ SOLAR PROJECT SUMMARY
 TOTAL MODULE QUANTITY = 6,136 MODULES
 TOTAL SYSTEM RATING (DC-STC) = 2.57 MW
 TOTAL SYSTEM RATING (AC) = 1.99 MW
 ARRAY #01 = 1000 KW-AC
 ARRAY #02 = 999 KW-AC
 TOTAL DC:AC SYSTEM RATIO ~ 1.28

LEGEND:

- EXISTING PROPERTY LINE
- - - PROPOSED PROJECT FENCE
- - - PROPOSED GRAVEL ACCESS ROAD
- U MV — PROPOSED AC DISTRIBUTION
- - - CE — PROPOSED OVERHEAD ELECTRIC
- [Blue Dashed Box] 50' WETLANDS BUFFER AREA
- [Blue Dotted Line] WETLAND DELINEATION LINE
- [Blue Hatched Box] 26 x 2 SOLAR MODULE BOCK
- [Blue Grid Box] 13 x 2 SOLAR MODULE BOCK
- [Green Circle] ARBORVITAE SCREENING TREES
- [Blue Square] BASIN OUTLET

PROJECT INFORMATION:

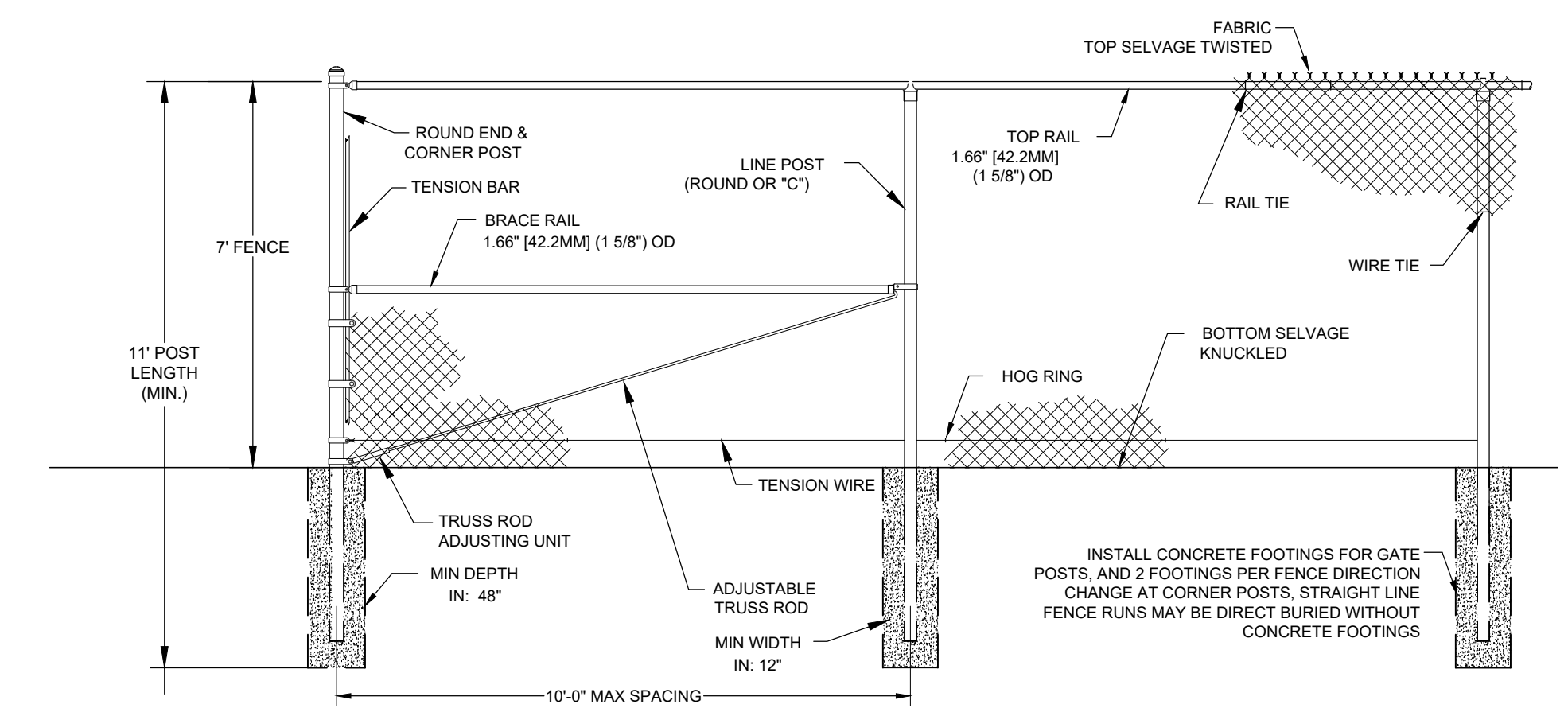
EXISTING ZONING : R
 PROPOSED USE : SPECIAL COMMERCIAL

SPECIFIC SITE NOTES:
 1. NO LIGHTING PROPOSED WITH THE PROJECT
 2. NO AUDIBLE NOISE GREATER THAN THE SITES EXISTING AMBIENT NOISE LEVEL SHALL BE DETECTABLE AT OR BEYOND THE PROPERTY LINE OF THE PROJECT
 3. EMERGENCY VEHICULAR & SITE ACCESS TO BE PROVIDED TO ALL LOCAL RESPONDERS (POLICE, FIRE, ETC..)

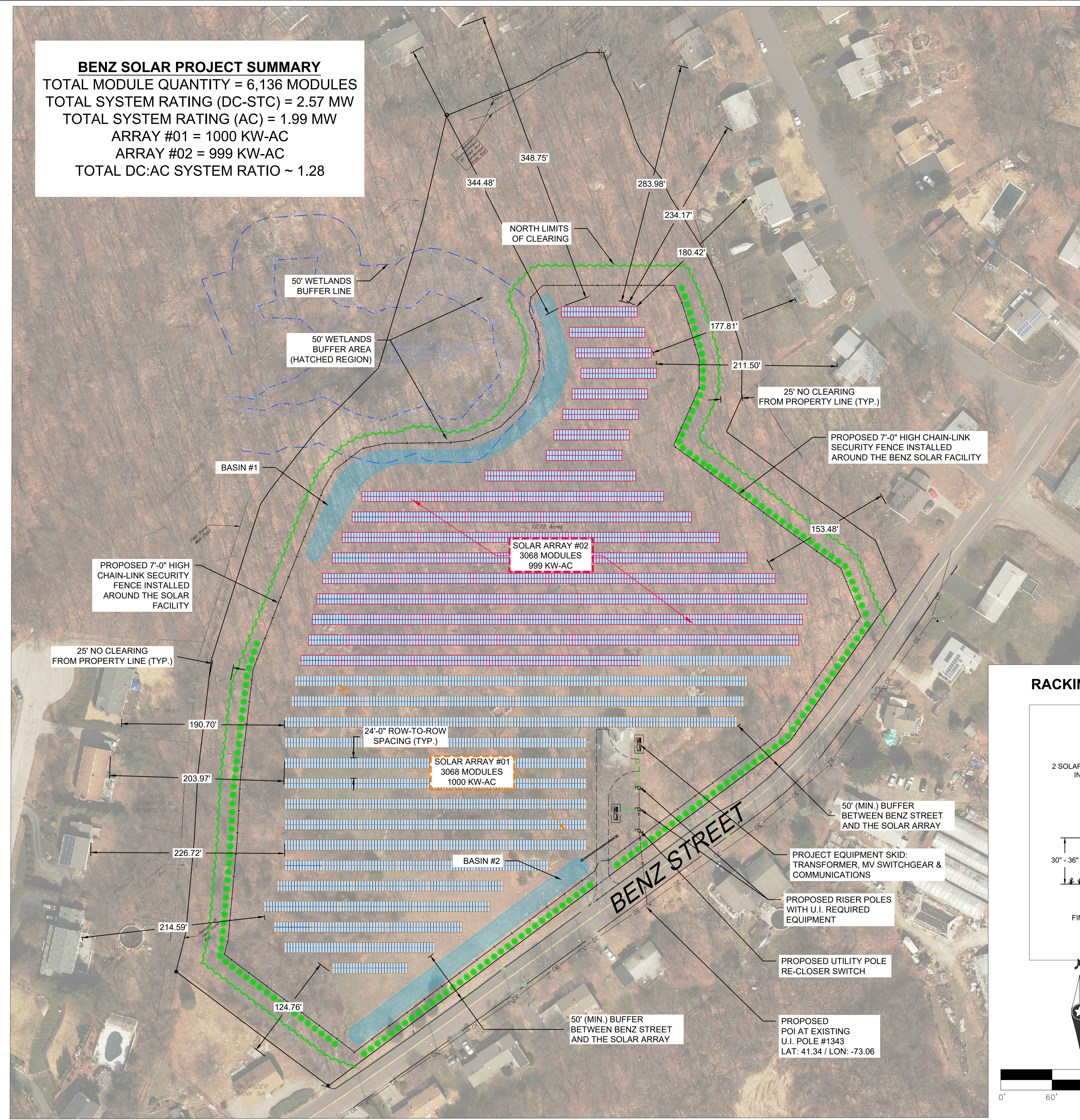
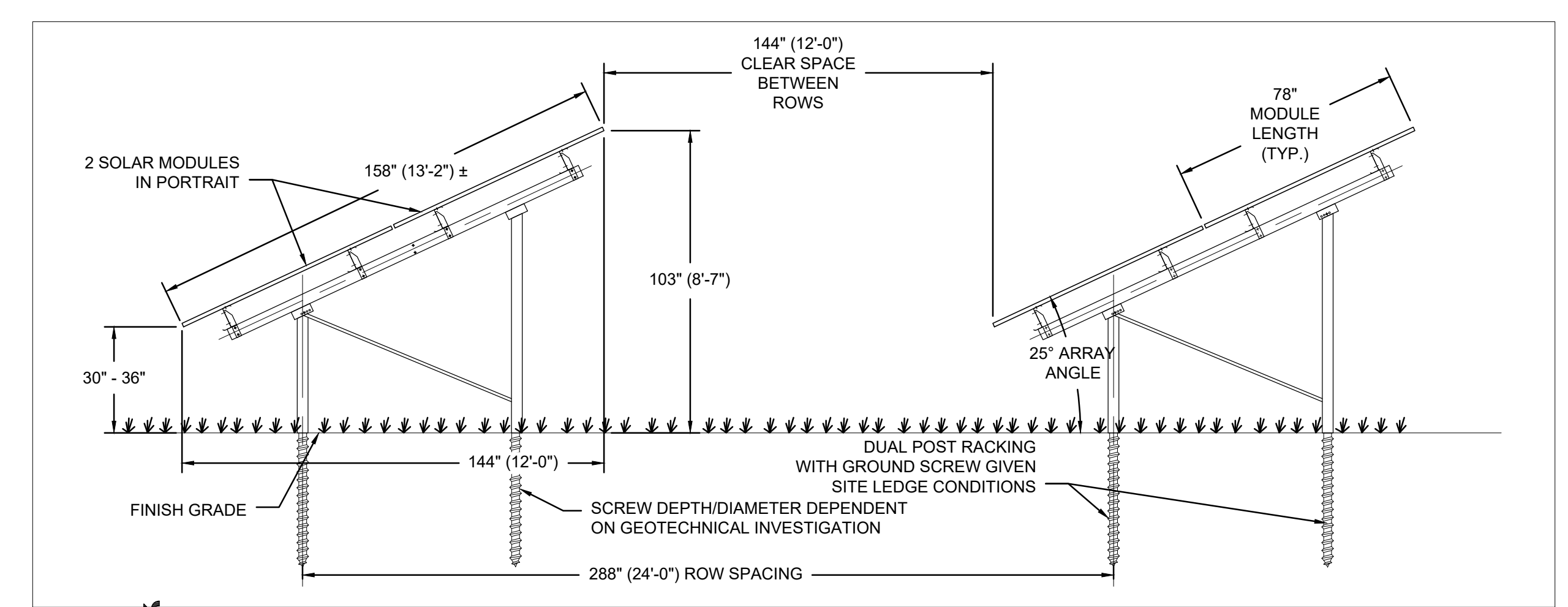
PROJECT AREAS & IMPACTS:

TOTAL SITE AREA = 12.72 ACRES
 TOTAL SITE CLEARING = 10.68 ACRES
 TOTAL ARRAY FOOTPRINT (FENCE LIMITS) = 11.35 ACRES
 TOTAL PROPOSED IMPERVIOUS: GRAVEL ACCESS ROAD, STRUCTURAL POSTS & EQUIPMENT PADS
 SITE TOTAL = 0.17 ACRES

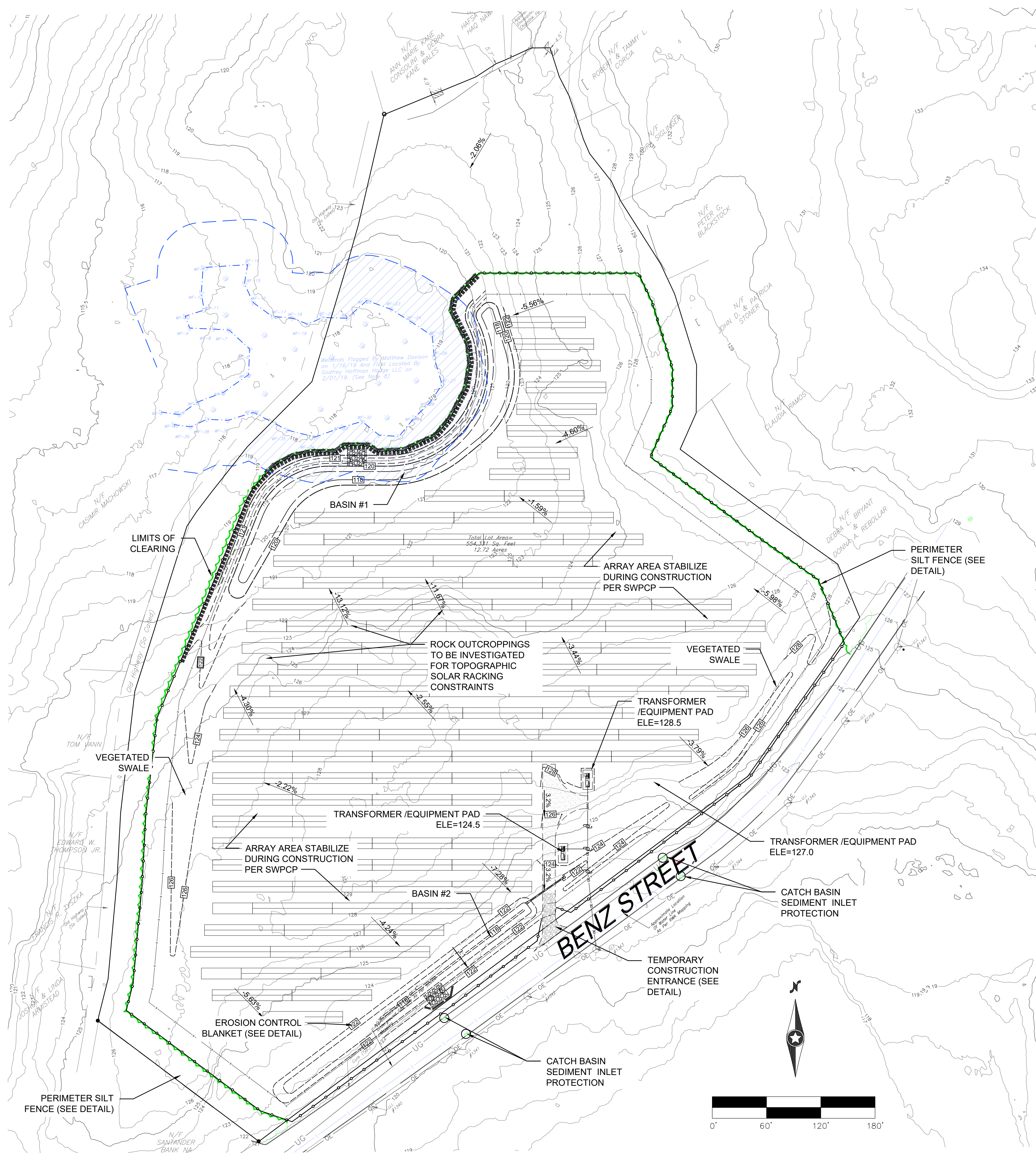
PERIMETER FENCE DETAIL:



RACKING PROFILE DETAIL:



CLA Engineers, Inc. CIVIL • STRUCTURAL • SURVEYING 317 Main Street Norwich, Connecticut (860) 886-1966 Fax (860) 886-9165			Project No. CLA-6430
			Proj. Engineer E.M.B.
5/22/20 2MW CSC REVISION 2/11/20 CSC SUBMISSION			Date: 5/22/2020
No. Date Revision			Sheet No. 3
BENZ STREET SOLAR SITE PLAN			



LEGEND:

- EXISTING PROPERTY LINE
- - - PROPOSED FENCE
- ▨ PROPOSED GRAVEL ACCESS ROAD
- LMV — PROPOSED UNDERGROUND MV CABLE
- OE — PROPOSED OVERHEAD ELECTRIC
- ~ EXISTING CONTOUR
- ~ PROPOSED CONTOUR
- ▭ 26 x 2 SOLAR MODULE BOCK
- ▭ 13 x 2 SOLAR MODULE BOCK
- ▭ 50' WETLAND BUFFER AREA
- ▭ WETLAND DELINEATION LINE & AREA
- ▭ RIP-RAP BASIN OUTLET

CONSTRUCTION NOTES:

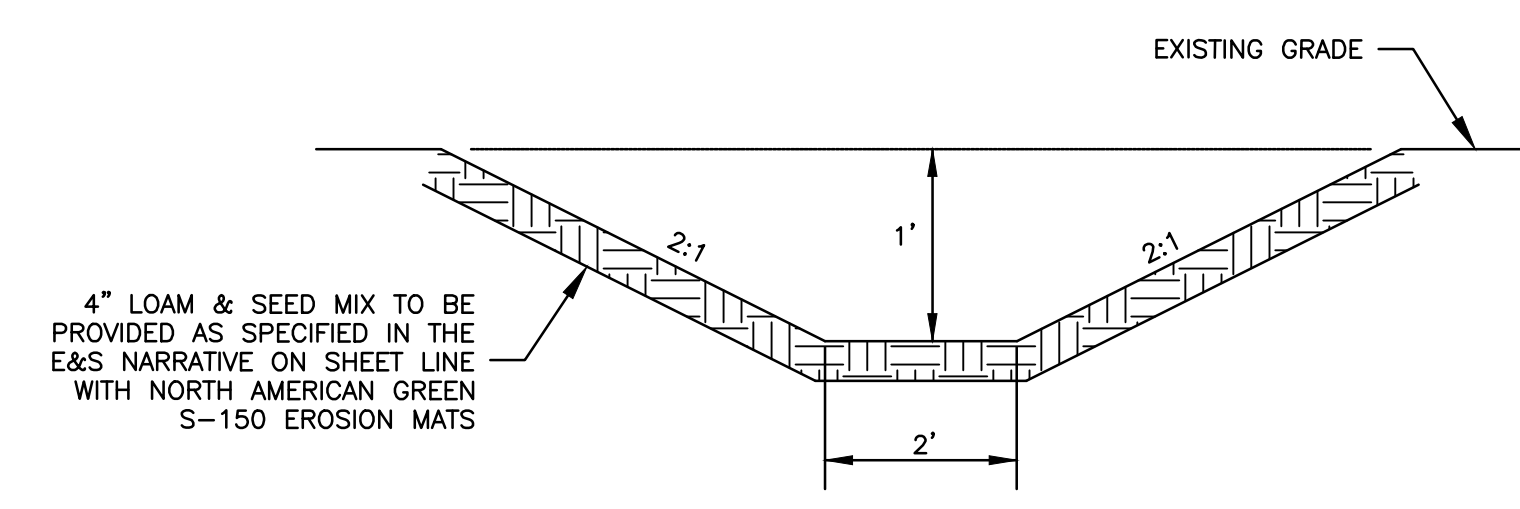
1. THE CONTRACTOR SHALL PERFORM ALL TREE REMOVAL ACTIVITIES ON SITE TO ALLOW FOR SEDIMENT TRAP INSTALLATION, NO GRUBBING IS TO OCCUR DURING TREE REMOVAL, PRIOR TO SEDIMENT TRAP INSTALLATION.
2. ALL SEDIMENT TRAP'S IDENTIFIED ON THE PLAN SHALL BE STAKED BY A REGISTERED SURVEYOR AND INSTALLED PER PLANS PRIOR TO ANY CONSTRUCTION ACTIVITY.
3. AS-BUILT DRAWINGS SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION OF THE PROJECT.

EROSION CONTROL NOTES:

1. DEVELOPER/CONTRACTOR TO OBTAIN A DEEP GENERAL STORMWATER PERMIT PRIOR TO BEGINNING CONSTRUCTION.
2. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED BEFORE ANY SOIL DISTURBANCE.
3. THE AREA OF DISTURBANCE SHALL BE KEPT TO A MINIMUM. DISTURBED AREAS REMAINING IDLE FOR MORE THAN 14 DAYS SHALL BE STABILIZED.
4. MEASURES SHALL BE TAKEN TO CONTROL EROSION WITHIN THE PROJECT AREA. SEDIMENT IN RUNOFF WATER SHALL BE TRAPPED AND RETAINED WITHIN THE PROJECT AREA USING APPROVED MEASURES.
5. WETLAND AREAS AND SURFACE AREAS SHALL BE PROTECTED FROM SEDIMENT. OFF-SITE SURFACE WATER AND RUNOFF FROM UNDISTURBED AREAS SHALL BE DIVERTED AWAY FROM DISTURBED AREAS WHERE FEASIBLE OR CARRIED THROUGH THE PROJECT AREA WITHOUT CAUSING EROSION. INTEGRITY OF DOWNSTREAM DRAINAGE SYSTEMS SHALL BE MAINTAINED.
6. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. STABILIZATION MEASURES SUCH AS HYDRO-SEEDING OR APPLICATION OF HAY/MULCH OR SOIL NETTING SHALL BE APPLIED PRIOR TO REMOVAL OF TEMPORARY EROSION MEASURES AND INSPECTED WEEKLY UNTIL STABILIZATION IS COMPLETE. TEMPORARY EROSION CONTROL MEASURES MAY BE REMOVED ONCE STABILIZATION OF ALL SITE SOILS HAS BEEN ACHIEVED AND WRITTEN AUTHORIZATION TO DO SO HAS BEEN PROVIDED BY THE STORM-WATER AUTHORITY. TRAPPED SEDIMENT SHALL BE REMOVED IMMEDIATELY WITH TEMPORARY EROSION CONTROL METHODS AND LAWFULLY DISPOSED OF OFF-SITE. OTHER DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN THIRTY DAYS.

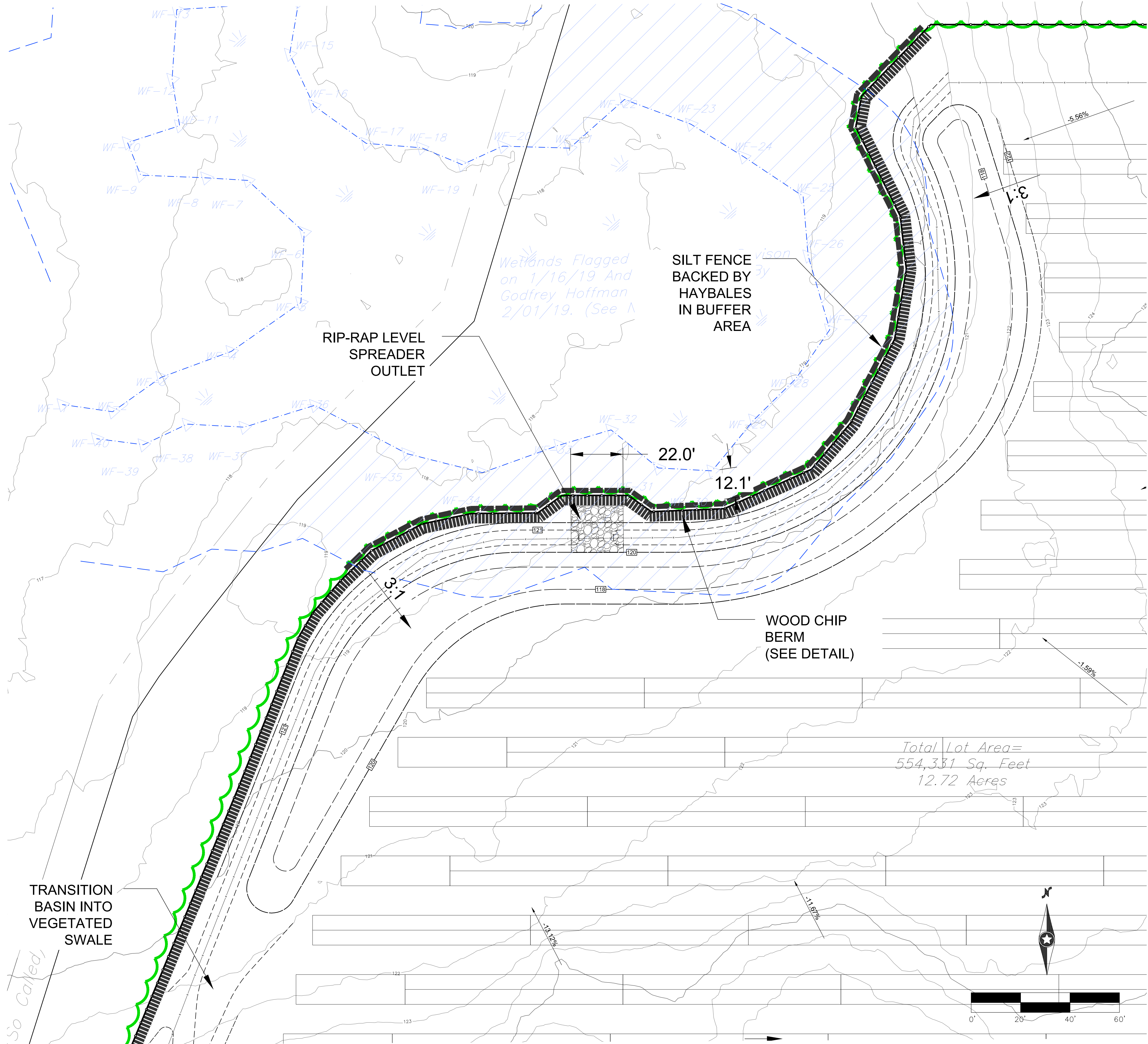
NOTES

SOLAR MODULE FOOTPRINT WITHIN THE FENCELINE OF THE PROJECT REPRESENTED IN THESE DOCUMENTS WILL BE ADJUSTED BASED ON TOPOGRAPHICAL CONSTRAINTS PRESENTED BY SITE SLOPES AND STORMWATER BASINS. THE PROJECT FOOTPRINT IN THESE DOCUMENTS REPRESENTS THE PROJECT APPROVED BY THE CONNECTICUT SITING COUNCIL ON JANUARY 18, 2018

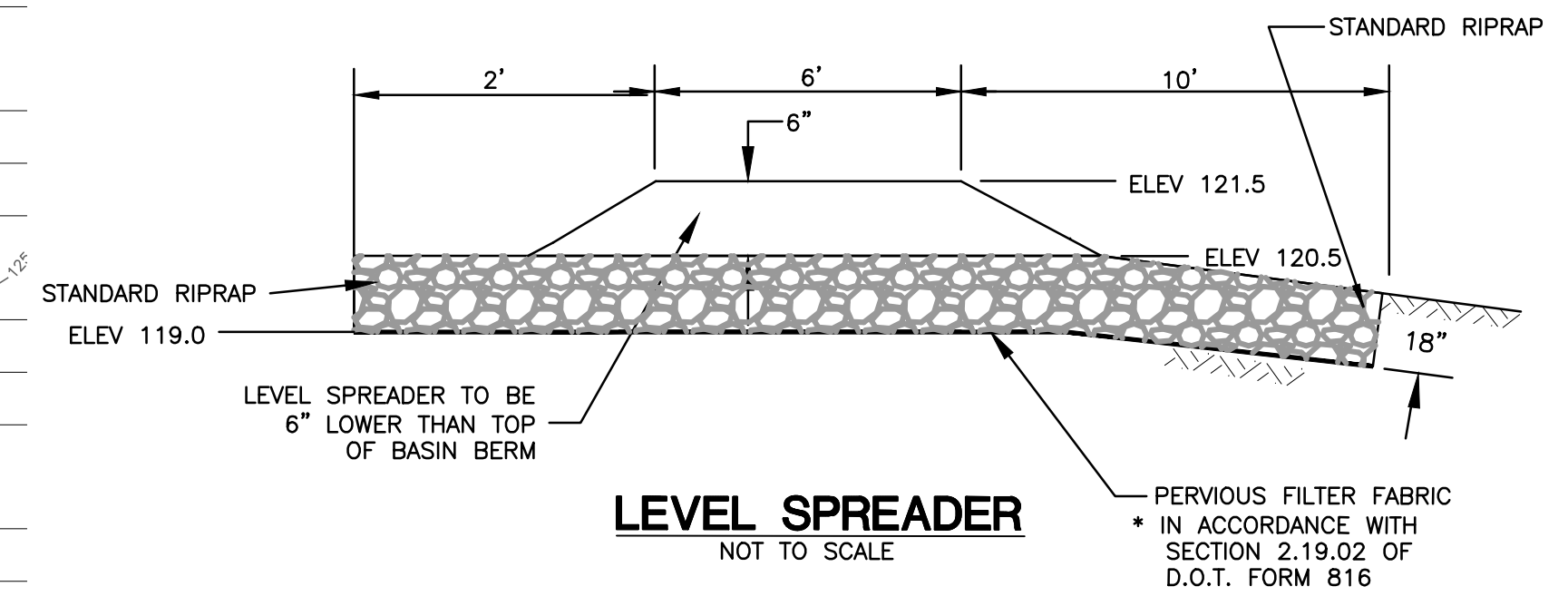


VEGETATED SWALE
NOT TO SCALE

			CLA Engineers, Inc. CIVIL • STRUCTURAL • SURVEYING	
			317 Main Street Norwich, Connecticut (860) 886-1966 Fax (860) 886-9165	
No.	Date	Revision	BENZ STREET SOLAR	
			31 BENZ STREET ANSONIA, CT 06401	
			GRADING AND EROSION CONTROL PLAN	
			Project No. CLA-6430 Proj. Engineer E.M.B. Date: 5/22/2020 Sheet No. 4	



- LEGEND:**
- EXISTING PROPERTY LINE
 - x- PROPOSED FENCE
 - ▨ PROPOSED GRAVEL ACCESS ROAD
 - (u)— PROPOSED UNDERGROUND MV CABLE
 - (o)— PROPOSED OVERHEAD ELECTRIC
 - (d)— EXISTING CONTOUR
 - (s)— PROPOSED CONTOUR
 - ▭ 26 x 2 SOLAR MODULE BLOCK
 - ▭ 13 x 2 SOLAR MODULE BLOCK
 - ▭ 50' WETLAND BUFFER AREA
 - ▭ WETLAND DELINEATION LINE & AREA
 - ▭ RIP-RAP BASIN OUTLET



SEED MIX FOR STORMWATER TREATMENT BASIN

THE NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES CONTAINS A SELECTION OF NATIVE GRASSES AND WILDFLOWERS DESIGNED TO COLONIZE RECENTLY DISTURBED SITES WHERE QUICK GROWTH OF VEGETATION IS DESIRED TO STABILIZE THE SOIL SURFACE. IT IS AN EXCELLENT SEED MIX FOR ECOLOGICALLY APPROPRIATE RESTORATIONS ON MOIST SITES THAT REQUIRE QUICK STABILIZATION AS WELL AS LONG-TERM ESTABLISHMENT OF NATIVE VEGETATION. THIS MIX IS PARTICULARLY APPROPRIATE FOR DETENTION BASINS THAT DO NOT NORMALLY HOLD STANDING WATER. SOME PLANTS IN THIS MIX CAN TOLERATE INFREQUENT INUNDATION, BUT NOT CONSTANT FLOODING.

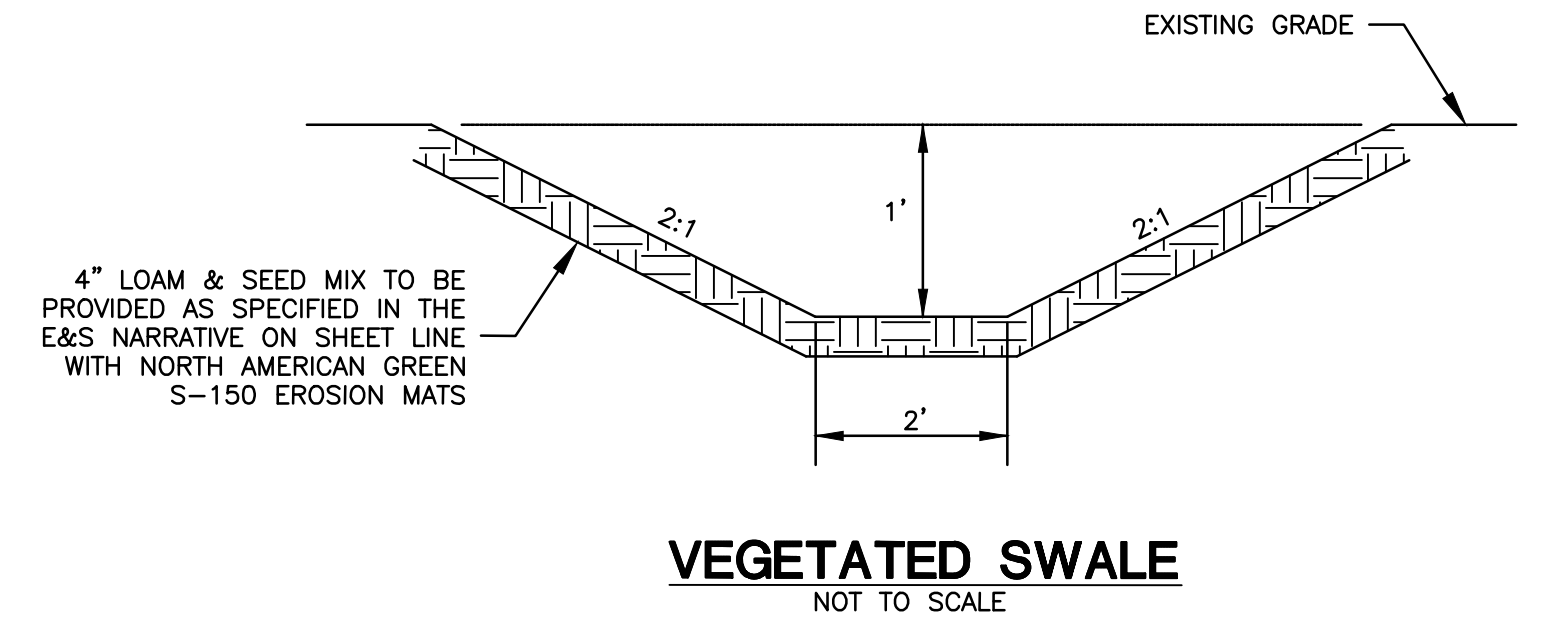
SEEDING: THE MIX MAY BE APPLIED BY HYDROSEEDING, BY MECHANICAL SPREADER, BY HYDRO-SEEDING OR ON SMALL SITES IT CAN BE SPREAD BY HAND. WHEN APPLYING ON BARE SOIL, RAKE THE SOIL TO CREATE GROOVES, APPLY SEED, THEN LIGHTLY RAKE OVER. IN NEW ENGLAND, THE BEST RESULTS ARE OBTAINED WITH A SPRING OR EARLY FALL SEEDING. SUMMER AND LATE FALL SEEDING WILL BENEFIT WITH A LIGHT MULCHING OF WEED-FREE STRAW TO CONSERVE MOISTURE. LATE FALL AND WINTER DORMANT SEEDING REQUIRE A SLIGHT INCREASE IN THE SEEDING RATE. FERTILIZATION IS NOT REQUIRED UNLESS THE SOILS ARE PARTICULARLY INFERTILE.

APPLICATION RATE: 35 LBS/ACRE (1250 SQ. FT./LB.)

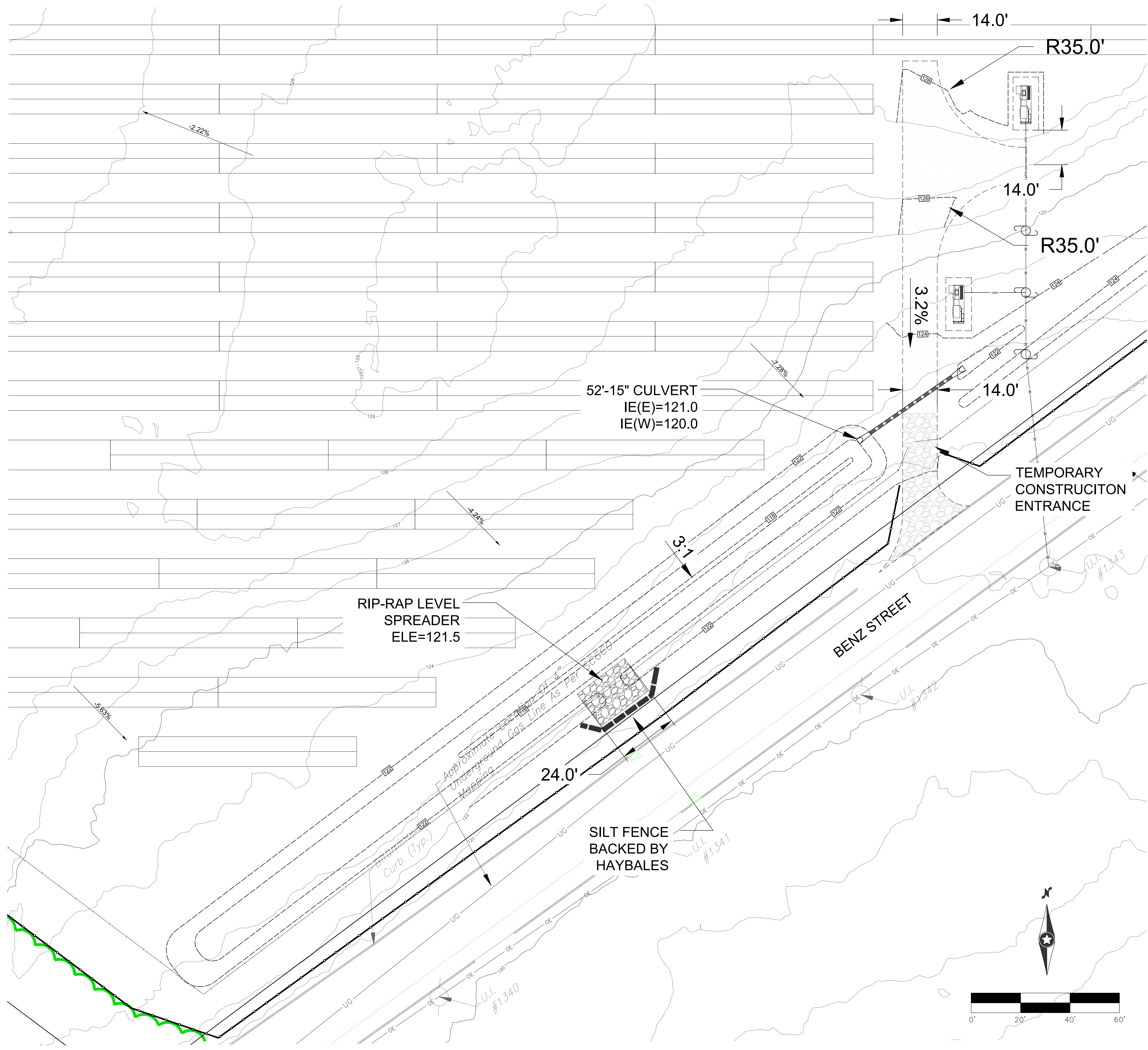
SPECIES * : SWITCHGRASS (PANICUM VIRGATUM), VIRGINIA WILD RYE (ELYMUS VIRGINICUS), CREEPING RED FESCUE (FESTUCA RUBRA), FOX SEDGE (CAREX VULPINOIDEA), CREEPING BENTGRASS (AGROSTIS STOLONIFERA), SOFT RUSH (JUNCUS EFFUSUS), NEW ENGLAND ASTER (ASTER NOVAE-ANGIAE), GRASS-LEAVED GOLDENROD (EUTHAMIA GRAMINIFOLIA), GREEN BULRUSH (SCIRPUS ATROVIRENS), BONESET (EUPATORIUM PERFORIATUM), BLUE VERVAIN (VERBENA HASTATA) UPLAND BENTGRASS (AGROSTIS PERENNANS), BIG BLUESTEM, NIAGRA (ANDROPOGON GERARDII), SENSITIVE FERN (ONOCLEA SENSIBILIS), LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM), WOOLGRASS (SCIRPUS CYPERINUS).

NOTES

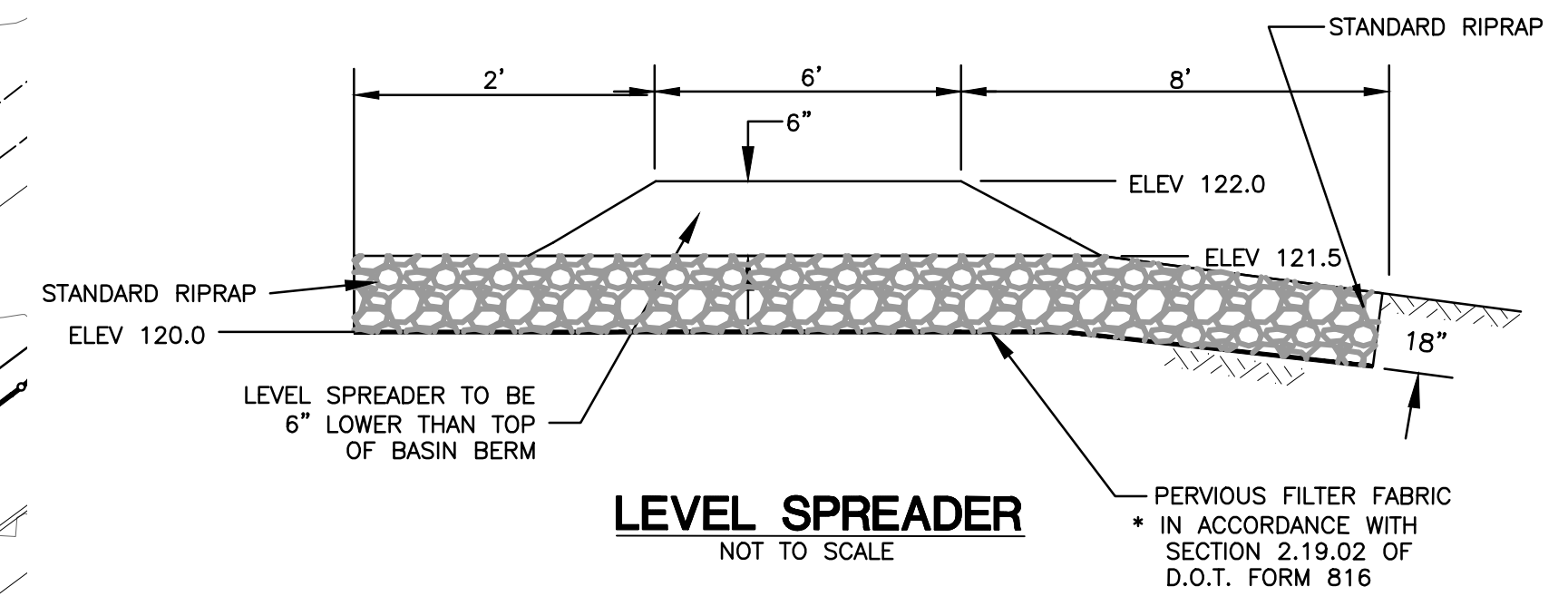
SOLAR MODULE FOOTPRINT WITHIN THE FENCELINE OF THE PROJECT REPRESENTED IN THESE DOCUMENTS WILL BE ADJUSTED BASED ON TOPOGRAPHICAL CONSTRAINTS PRESENTED BY SITE SLOPES AND STORMWATER BASINS. THE PROJECT FOOTPRINT IN THESE DOCUMENTS REPRESENTS THE PROJECT APPROVED BY THE CONNECTICUT SITING COUNCIL ON JANUARY 18, 2018



			CLA Engineers, Inc. CIVIL • STRUCTURAL • SURVEYING										
			317 Main Street Norwich, Connecticut (860) 886-1966 Fax (860) 886-9165										
<table border="1"> <tr> <td>5/22/20</td> <td>2M CSC REVISION</td> <td></td> </tr> <tr> <td>2/11/20</td> <td>CSC SUBMISSION</td> <td></td> </tr> <tr> <th>No.</th> <th>Date</th> <th>Revision</th> </tr> </table>			5/22/20	2M CSC REVISION		2/11/20	CSC SUBMISSION		No.	Date	Revision	Project No. CLA-6430 Proj. Engineer E.M.B. Date: 5/22/2020 Sheet No. 5	
5/22/20	2M CSC REVISION												
2/11/20	CSC SUBMISSION												
No.	Date	Revision											
			BENZ STREET SOLAR GRADING PLAN : BASIN #1										



- LEGEND:**
- EXISTING PROPERTY LINE
 - x- PROPOSED FENCE
 - ▨ PROPOSED GRAVEL ACCESS ROAD
 - (M)— PROPOSED UNDERGROUND MV CABLE
 - (E)— PROPOSED OVERHEAD ELECTRIC
 - (E)— EXISTING CONTOUR
 - (S)— PROPOSED CONTOUR
 - ▭ 26 x 2 SOLAR MODULE BOCK
 - ▭ 13 x 2 SOLAR MODULE BOCK
 - ▭ 50' WETLAND BUFFER AREA
 - ▭ WETLAND DELINEATION LINE & AREA
 - ▭ RIP-RAP BASIN OUTLET



SEED MIX FOR STORMWATER TREATMENT BASIN

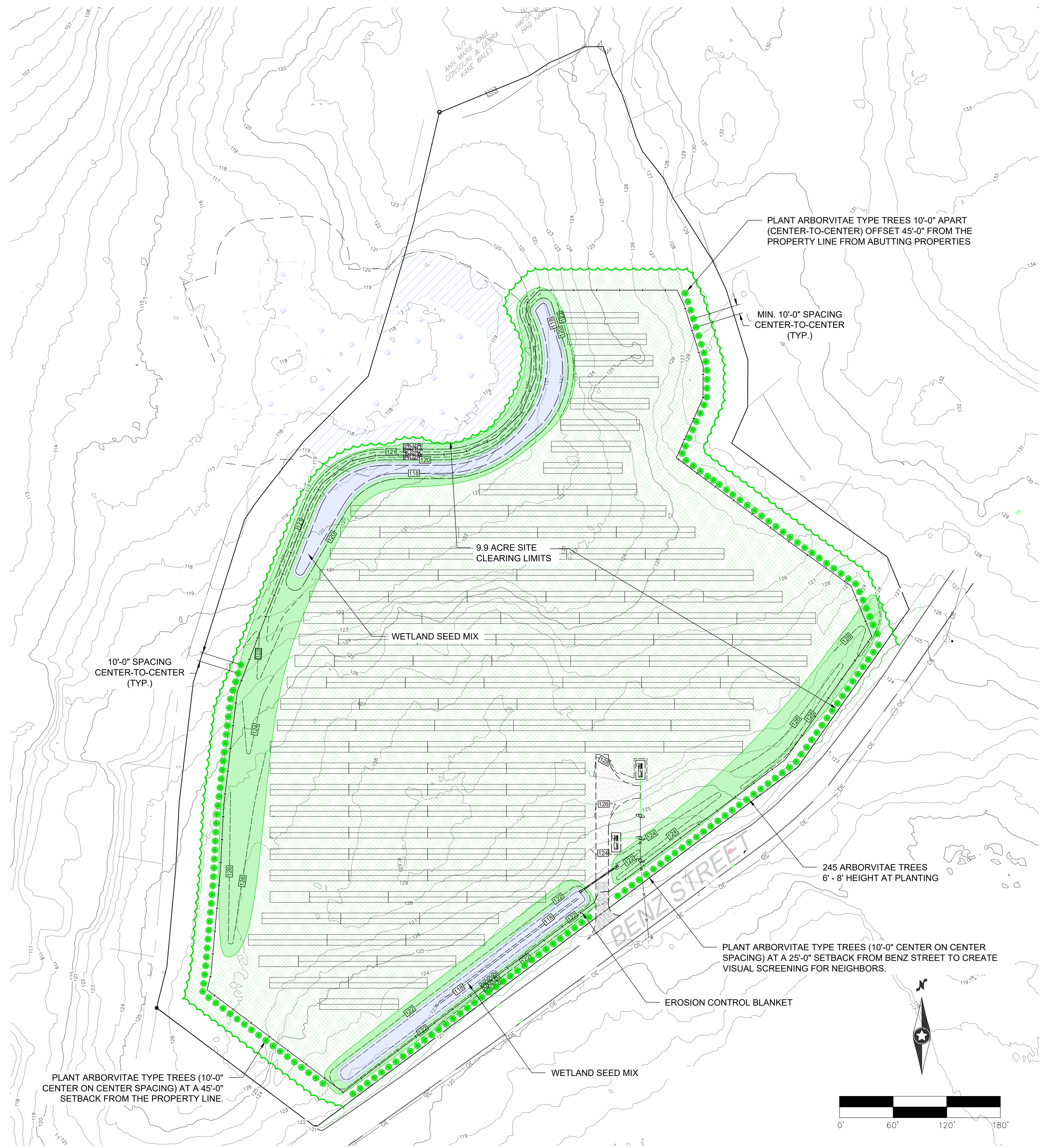
THE NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES CONTAINS A SELECTION OF NATIVE GRASSES AND WILDFLOWERS DESIGNED TO COLONIZE RECENTLY DISTURBED SITES WHERE QUICK GROWTH OF VEGETATION IS DESIRED TO STABILIZE THE SOIL SURFACE. IT IS AN EXCELLENT SEED MIX FOR ECOLOGICALLY APPROPRIATE RESTORATIONS ON MOIST SITES THAT REQUIRE QUICK STABILIZATION AS WELL AS LONG-TERM ESTABLISHMENT OF NATIVE VEGETATION. THIS MIX IS PARTICULARLY APPROPRIATE FOR DETENTION BASINS THAT DO NOT NORMALLY HOLD STANDING WATER. SOME PLANTS IN THIS MIX CAN TOLERATE INFREQUENT INUNDATION, BUT NOT CONSTANT FLOODING.

SEEDING: THE MIX MAY BE APPLIED BY HYDROSEEDING, BY MECHANICAL SPREADER, BY HYDRO-SEEDING OR ON SMALL SITES IT CAN BE SPREAD BY HAND. WHEN APPLYING ON BARE SOIL, RAKE THE SOIL TO CREATE GROOVES, APPLY SEED, THEN LIGHTLY RAKE OVER. IN NEW ENGLAND, THE BEST RESULTS ARE OBTAINED WITH A SPRING OR EARLY FALL SEEDING. SUMMER AND LATE FALL SEEDING WILL BENEFIT WITH A LIGHT MULCHING OF WEED-FREE STRAW TO CONSERVE MOISTURE. LATE FALL AND WINTER DORMANT SEEDING REQUIRE A SLIGHT INCREASE IN THE SEEDING RATE. FERTILIZATION IS NOT REQUIRED UNLESS THE SOILS ARE PARTICULARLY INFERTILE.

APPLICATION RATE: 35 LBS/ACRE (1250 SQ. FT./LB.)

SPECIES * : SWITCHGRASS (PANICUM VIRGATUM), VIRGINIA WILD RYE (ELYMUS VIRGINICUS), CREEPING RED FESCUE (FESTUCA RUBRA), FOX SEDGE (CAREX VULPINOIDEA), CREEPING BENTGRASS (AGROSTIS STOLONIFERA), SOFT RUSH (JUNCUS EFFUSUS), NEW ENGLAND ASTER (ASTER NOVAE-ANGIAE), GRASS-LEAVED GOLDENROD (EUTHAMIA GRAMINIFOLIA), GREEN BULRUSH (SCIRPUS ATROVIRENS), BONESET (EUPATORIUM PERFOLIATUM), BLUE VERVAIN (VERBENA HASTATA) UPLAND BENTGRASS (AGROSTIS PERENNANS), BIG BLUESTEM, NAGRA (ANDROPOGON GERARDII), SENSITIVE FERN (ONOCLEA SENSIBILIS), LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM), WOOLGRASS (SCIRPUS CYPERINUS).

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GRADING PLAN : BASIN #2			Project No. CLA-6430 Proj. Engineer E.M.B. Date: 5/22/2020 Sheet No. 6	



LEGEND:

- EXISTING PROPERTY LINE
- - - PROPOSED FENCE
- ▨ PROPOSED GRAVEL ACCESS ROAD
- PROPOSED UNDERGROUND MV CABLE
- PROPOSED OVERHEAD ELECTRIC
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED CLEARING LIMITS
- ▭ 26 x 2 SOLAR MODULE BOCK
- ▭ 13 x 2 SOLAR MODULE BOCK
- ▭ 50' WETLAND BUFFER AREA
- ▭ WETLAND DELINEATION LINE & AREA
- ▭ RIP-RAP BASIN OUTLET

SEED LEGEND:

- ▭ STORMWATER BASIN SEED MIX (AREA = 0.4 AC)
- ▭ EROSION CONTROL BLANKET WITH SEED (AREA = 1.4 AC)
- ▭ SOLAR ARRAY SEEDING / HAY MULCH EROSION CONTROL (AREA = 8.2 AC)

SEED MIX FOR STORMWATER TREATMENT BASIN

THE NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES CONTAINS A SELECTION OF NATIVE GRASSES AND WILDFLOWERS DESIGNED TO COLONIZE RECENTLY DISTURBED SITES WHERE QUICK GROWTH OF VEGETATION IS DESIRED TO STABILIZE THE SOIL SURFACE. IT IS AN EXCELLENT SEED MIX FOR ECOLOGICALLY APPROPRIATE RESTORATIONS ON MOIST SITES THAT REQUIRE QUICK STABILIZATION AS WELL AS LONG-TERM ESTABLISHMENT OF NATIVE VEGETATION. THIS MIX IS PARTICULARLY APPROPRIATE FOR DETENTION BASIN THAT DO NOT NORMALLY HOLD STANDING WATER. SOME PLANTS IN THIS MIX CAN TOLERATE INFREQUENT INUNDATION, BUT NOT CONSTANT FLOODING.

SEEDING: THE MIX MAY BE APPLIED BY HYDROSEEDING, BY MECHANICAL SPREADER, BY HYDRO-SEEDING OR ON SMALL SITES IT CAN BE SPREAD BY HAND. WHEN APPLYING ON BARE SOIL, RAKE THE SOIL TO CREATE GROOVES, APPLY SEED, THEN LIGHTLY RAKE OVER. IN NEW ENGLAND, THE BEST RESULTS ARE OBTAINED WITH A SPRING OR EARLY FALL SEEDING. SUMMER AND LATE FALL SEEDING WILL BENEFIT WITH A LIGHT MULCHING OF WEED-FREE STRAW TO CONSERVE MOISTURE. LATE FALL AND WINTER DORMANT SEEDING REQUIRE A SLIGHT INCREASE IN THE SEEDING RATE. FERTILIZATION IS NOT REQUIRED UNLESS THE SOILS ARE PARTICULARLY INFERTILE.

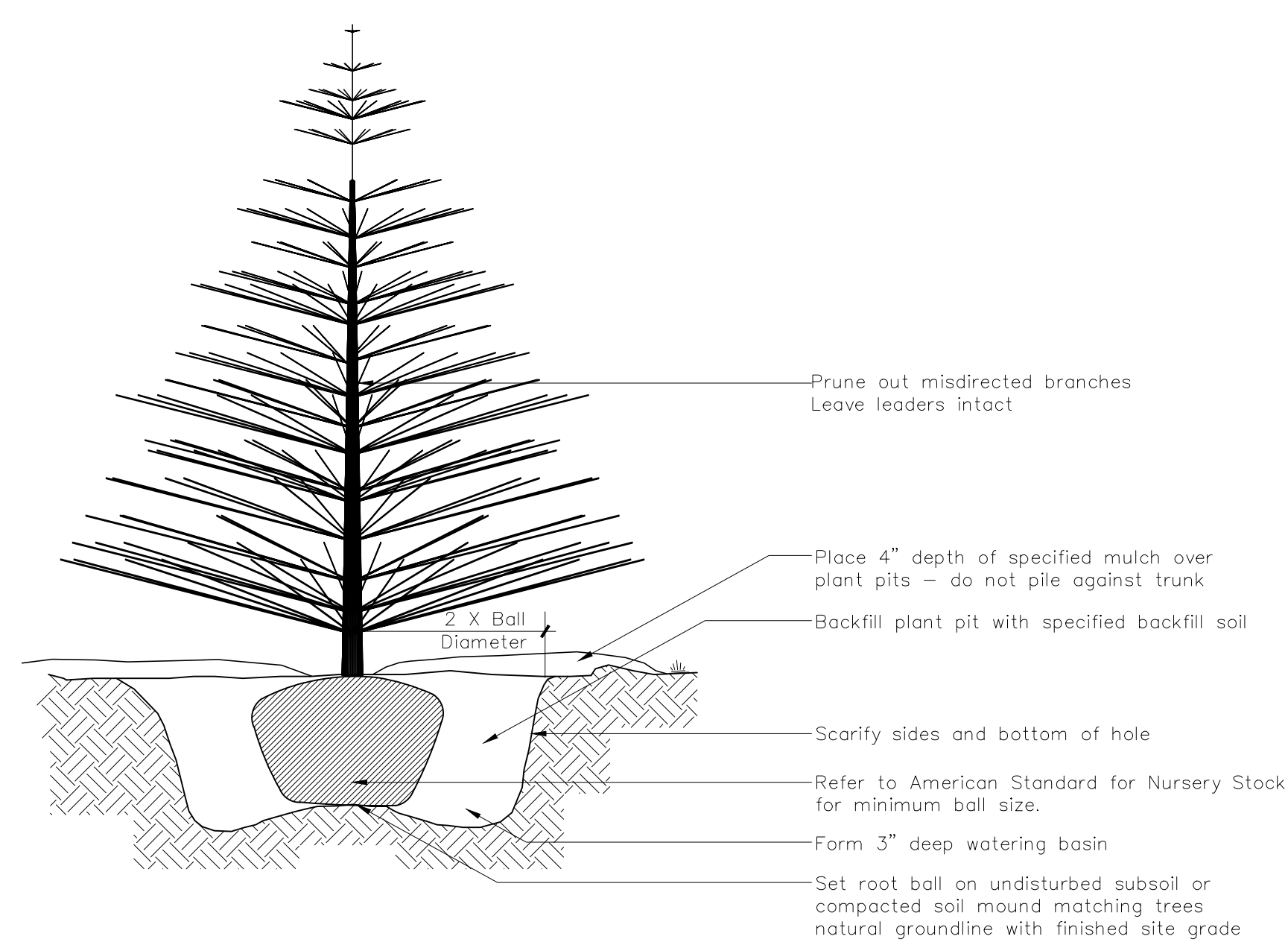
APPLICATION RATE: 35 LBS/ACRE (1250 SQ. FT./LB.)

SPECIES *: SWITCHGRASS (PANICUM VIRGATUM), VIRGINIA WILD RYE (ELYMUS VIRGINICUS), CREEPING RED FESCUE (FESTUCA RUBRA), FOX SEDGE (CAREX VULPINOIDEA), CREEPING BENTGRASS (AGROSTIS STOLONIFERA), SOFT RUSH (JUNCUS EFFUSUS), NEW ENGLAND ASTER (ASTER NOVAE-ANGLIAE), GRASS-LEAVED GOLDENROD (EUTHAMIA GRAMINIFOLIA), GREEN BULRUSH (SCIRPUS ATROVIRENS), BONESET (EUPATORIUM PERFORIATUM), BLUE VERVAIN (VERBENA HASTATA) UPLAND BENTGRASS (AGROSTIS PERENNANS), BIG BLUESTEM, NIAGRA (ANDROPOGON GERARDII), SENSITIVE FERN (ONOCLEA SENSIBILIS), LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM), WOOLGRASS (SCIRPUS CYPERINUS).

SEEDING NOTES:

1. THE CONTRACTOR SHALL SEED ALL DISTURBED AREAS ASSOCIATED WITH TREE AND ROCK REMOVAL AND SITE CLEARING. CONTRACTOR SHALL INSTALL A 50% / 50% CLOVER / FESCUE MIX OR ENGINEER APPROVED ALTERNATE SEED MIXTURE.
2. ALL SEDIMENT TRAP SIDE SLOPES ARE 3:1 AND SHALL BE SEEDED AND BLANKETED

ARBORVITAE TREE DETAIL:



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BENZ STREET SOLAR LANDSCAPE PLAN			



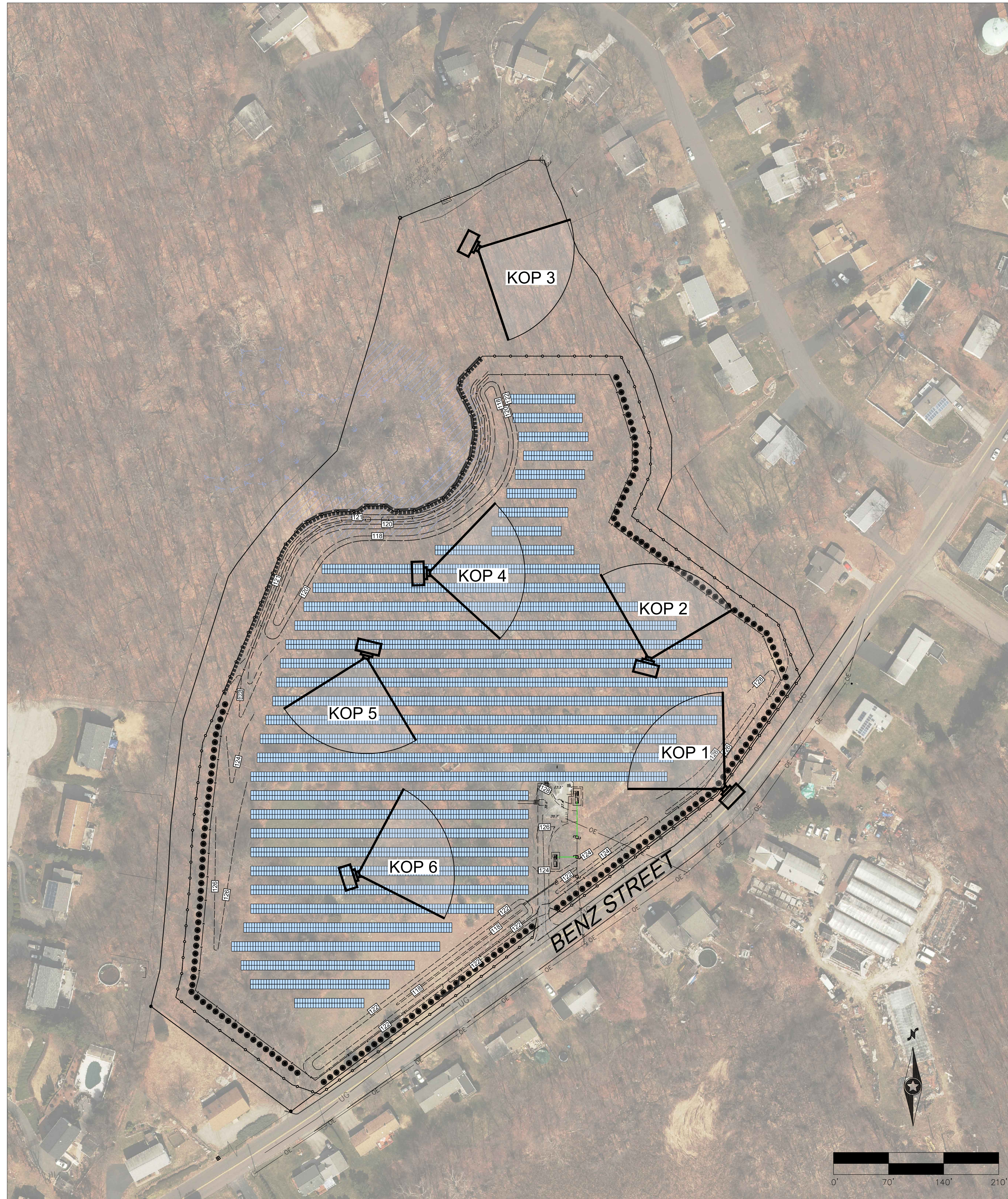
KOP 4 - MIDDLE OF SITE LOOKING EAST



KOP 5 - EASTERN MIDDLE OF SITE LOOKING SOUTH



KOP 6 - SOUTH WEST OF SITE LOOKING EAST



KOP 3 - NORTHERN SITE, LOOKING SOUTH-EAST



KOP 2 - BENZ STREET LOOKING NORTH



KOP 1 - SOUTH OF BENZ STREET LOOKING NORTH-WEST

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			BENZ STREET SOLAR	
			KEY OBSERVATION POINTS	

EXHIBIT A: PROJECT CROSS SECTION (NORTHERN SITE VIEW)

(SCALE: 1" = 80')

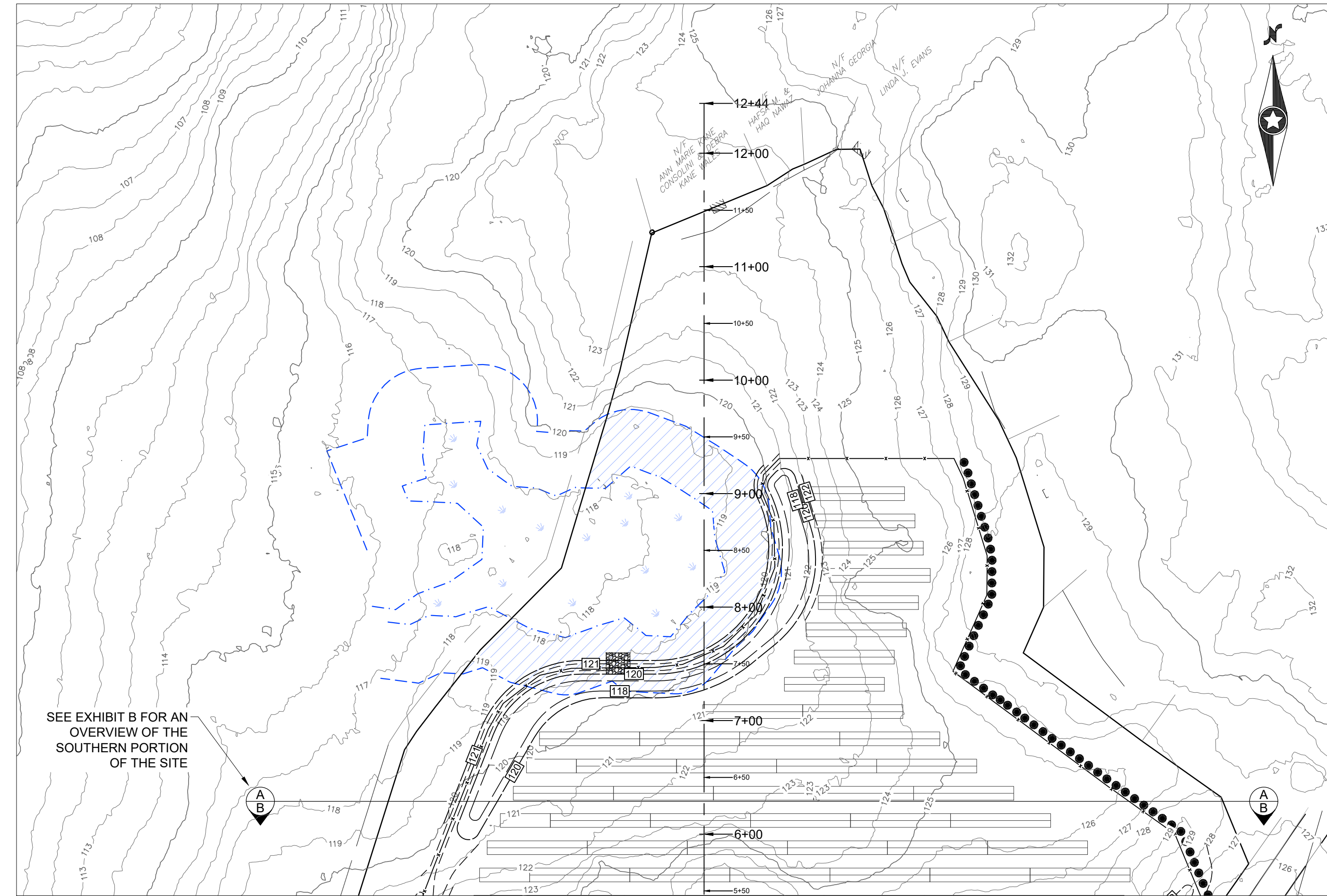
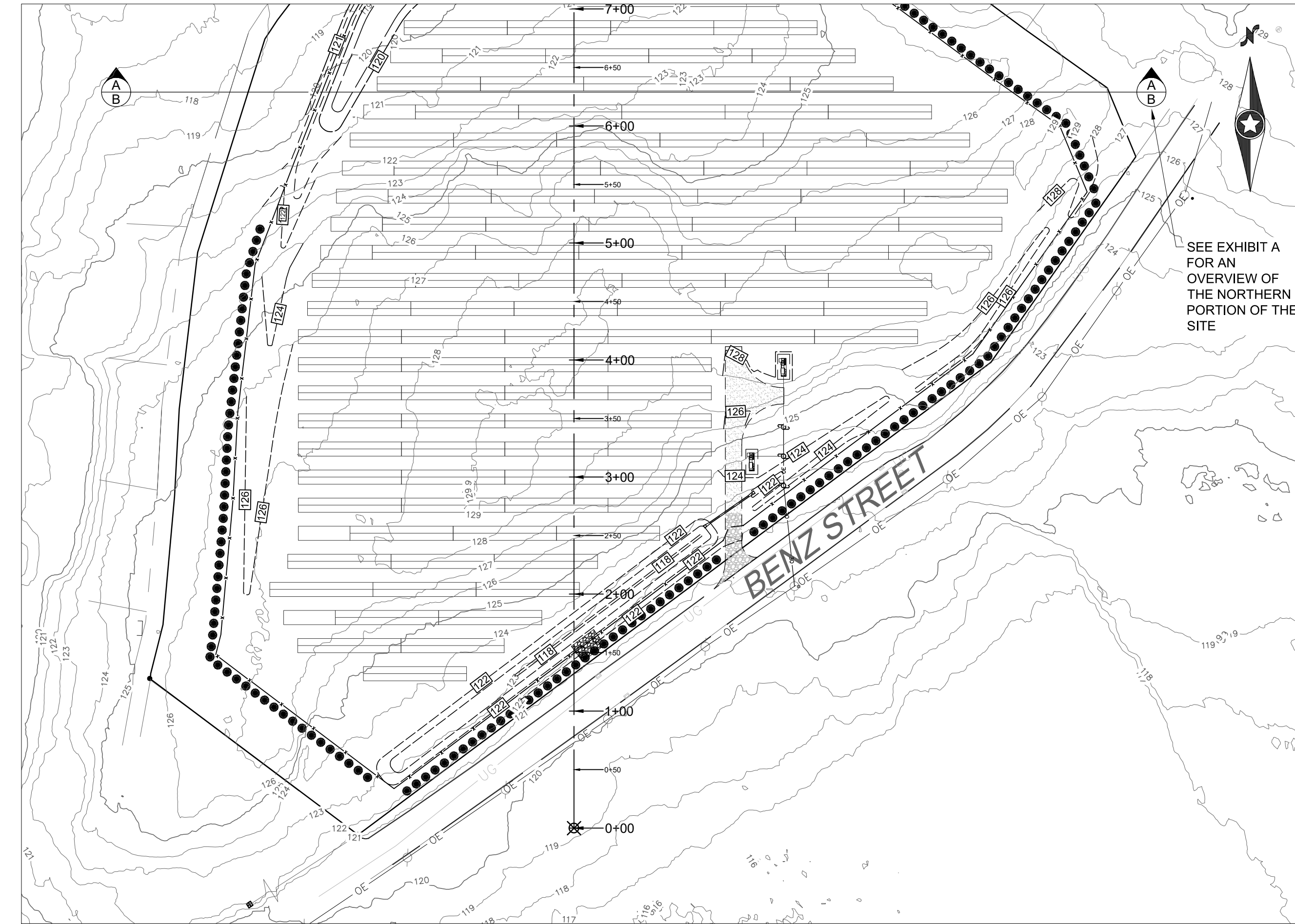
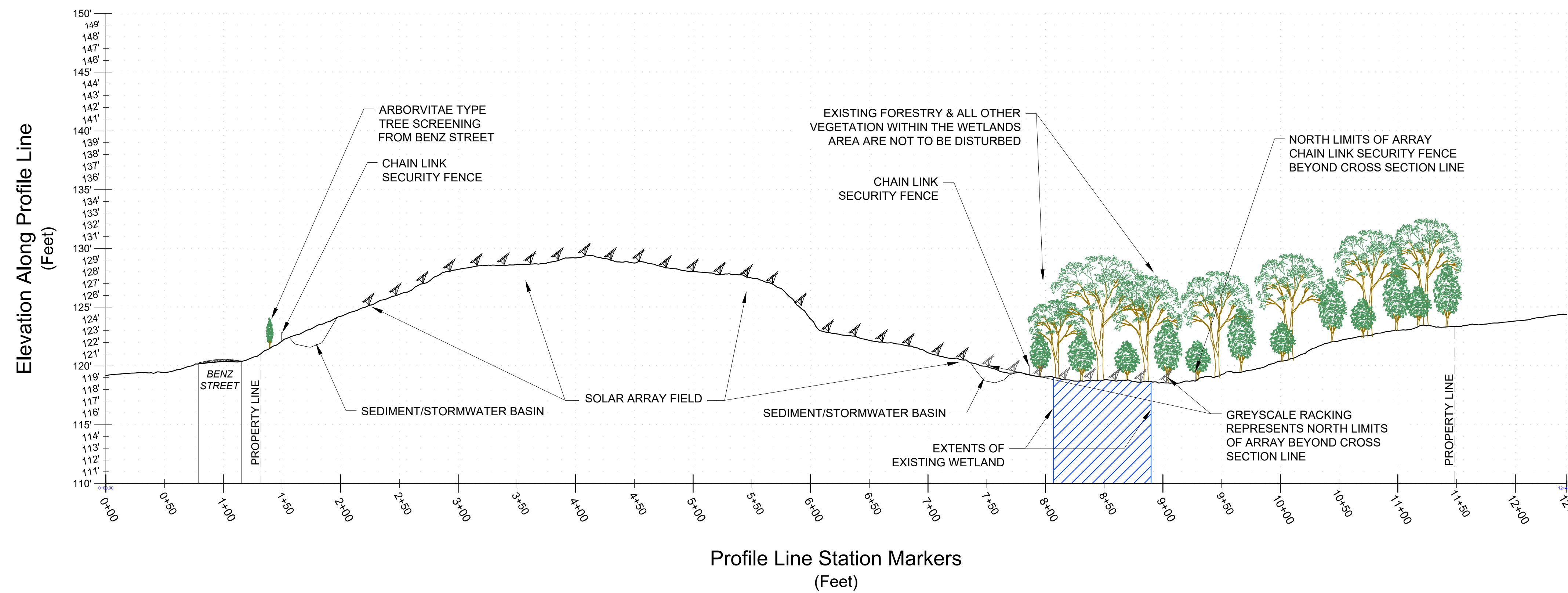


EXHIBIT B: PROJECT CROSS SECTION (SOUTHERN SITE VIEW)

(SCALE: 1" = 80')



PROJECT PROFILE:



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PROJECT CROSS SECTION			

ROAD DESIGN PARAMETERS

- ROAD MAINTENANCE CAN BE EXPECTED OVER THE LIFE OF THE PERMANENT FACILITY.

SPECIAL PROVISIONS FOR GRADING AND EROSION CONTROL

THE CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES AS PLANNED AND SPECIFIED FOLLOWING BEST MANAGEMENT PRACTICES AS OUTLINED BY THE STATE OF CONNECTICUT AND BEING IN CONFORMANCE WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL STORMWATER PERMIT. SEE THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR EROSION CONTROL AND RESTORATION SPECIFICATIONS. UNLESS OTHERWISE NOTED OR MODIFIED HEREIN, ALL SECTIONS OF THE GENERAL CONDITIONS SHALL APPLY.

EXECUTION

- CLEARING AND GRUBBING
 - THE CONTRACTOR SHALL BE REQUIRED TO REMOVE ALL TREES, STUMPS, BRUSH, AND DEBRIS WITHIN THE GRADING LIMITS SHOWN ON THE PLANS. THE CONTRACTOR IS TO REMOVE ONLY THOSE TREES WHICH ARE DESIGNATED BY THE OWNER'S REPRESENTATIVE FOR REMOVAL, AND SHALL EXERCISE EXTREME CARE AROUND EXISTING TREES TO BE SAVED.
- TOPSOIL STRIPPING
 - TOPSOIL SHALL BE STRIPPED FROM ALL ROADWAY AREAS THROUGH THE ROOT ZONE. TOPSOIL SHALL NOT BE STRIPPED OUTSIDE OF THE DESIGNATED DISTURBANCE AREAS.
 - ANY TOPSOIL, THAT HAS BEEN STRIPPED, SHALL BE RE-SPREAD OR STOCKPILED WITHIN GRADING AREAS AND/OR USED AS FILL OUTSIDE OF THE DISTURBANCE AREAS, AS DIRECTED BY THE ENGINEER.
- EMBANKMENT CONSTRUCTION
 - EMBANKMENT CONSTRUCTION SHALL CONSIST OF THE PLACING OF SUITABLE FILL MATERIAL, AFTER TOPSOIL STRIPPING, ABOVE THE EXISTING GRADE. GENERALLY, EMBANKMENTS SHALL HAVE COMPACTED SUPPORT SLOPES OF TWO AND A HALF FEET HORIZONTAL TO ONE FOOT VERTICAL. THE MATERIAL FOR EMBANKMENT CONSTRUCTION SHALL BE OBTAINED FROM THE ACCESS ROAD EXCAVATION (SEE GEOTECHNICAL REPORT FOR RESTRICTIONS), OR ANY SUITABLE, APPROVED SOIL OBTAINED OFFSITE BY CONTRACTOR, AS DIRECTED OR APPROVED BY THE ENGINEER. THIS MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 9".
 - SIDE SLOPES GREATER THAN 2.5:1 WILL NOT BE PERMITTED, UNLESS OTHERWISE NOTED ON THE PLAN.

TESTING REQUIREMENTS:

- TESTING SHALL BE PERFORMED BY A DESIGNATED INDEPENDENT TESTING AGENCY.
- SUBMIT TESTING AND INSPECTION RECORDS SPECIFIED TO THE CIVIL ENGINEER OF RECORD FOR REVIEW.
 - THE ENGINEER WILL REVIEW THE TESTING AND INSPECTION RECORDS TO CHECK CONFORMANCE WITH THE DRAWINGS AND SPECIFICATIONS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONSTRUCTION CONTRACTOR FROM THE RESPONSIBILITY FOR CORRECTING DEFECTIVE WORK.
- PROOF ROLLING:
 - PROOF-ROLLING SHALL BE PERFORMED IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER OR QUALIFIED GEOTECHNICAL REPRESENTATIVE USING A FULLY LOADED TANDUM AXLE DUMP TRUCK WITH A MINIMUM GROSS WEIGHT OF 25 TONS OR A FULLY LOADED WATER TRUCK WITH AN EQUIVALENT AXLE LOADING. PROOF-ROLLING ACCEPTANCE STANDARDS INCLUDE NO RUTTING GREATER THAN 1.5 INCHES, AND NO "PUMPING" OF THE SOIL BEHIND THE LOADED TRUCK.
- SIEVE ANALYSIS:
 - SIEVE ANALYSIS SHALL BE CONDUCTED IN ACCORDANCE WITH AASHTO T27
- PROCTOR:
 - PROCTORS SHALL BE DETERMINED IN ACCORDANCE WITH ASTM D-1557
- ATTERBERG LIMITS:
 - ATTERBERG LIMITS SHALL BE DETERMINED IN ACCORDANCE WITH AASHTO T89 AND T90
- MOISTURE DENSITY (NUCLEAR DENSITY):
 - MOISTURE DENSITY TESTING SHALL BE DONE IN ACCORDANCE WITH AASHTO T310

SUBGRADE COMPACTION, TEST ROLLING AND AGGREGATE BASE COMPACTION:

- FILL MATERIAL:
 - SOILS USED AS FILL MATERIAL SHALL BE TESTED FOR GRAIN SIZE ANALYSIS, MOISTURE CONTENT, ATTERBERG LIMITS ON FINES CONTENT, AND PROCTOR TESTS (MODIFIED DRY MAXIMUM DENSITY).
 - FOR PLACED & COMPACTED FILLS, PROVIDE ONE COMPACTION TEST PER LIFT FOR EVERY 1000 FT OF ROAD LENGTH. INCLUDE THE LOCATION, DRY DENSITY, MOISTURE CONTENT, AND COMPACTION PERCENT BASED ON MODIFIED PROCTOR MAXIMUM DRY DENSITY.
 - IN ROADWAY CUT AREAS, OR WHERE EMBANKMENT CONSTRUCTION REQUIRES LESS THAN 12 INCHES OF FILL PLACEMENT, COMPACT TO A MINIMUM OF 95 PERCENT OF THE MATERIAL'S MODIFIED PROCTOR MAXIMUM DRY DENSITY.
- COMPACTED SUBGRADE:
 - THE ENTIRE SUBGRADE SHALL BE PROOF-ROLLED PRIOR TO THE PLACEMENT OF THE AGGREGATE BASE TO IDENTIFY AREAS OF UNSTABLE SUBGRADE.
 - IF PROOF ROLLING DETERMINES THAT THE SUBGRADE STABILIZATION CANNOT BE ACHIEVED, THE FOLLOWING ALTERNATIVES WILL BE IMPLEMENTED:
 - REMOVE UNSUITABLE MATERIAL AND REPLACE WITH SUITABLE EMBANKMENT.
 - SCARIFY, DRY, AND RECOMPACT SUBGRADE AND PERFORM ADDITIONAL PROOF ROLL.
 - INCREASE ROAD BASE THICKNESS.
 - PROVIDE 1 MOISTURE DENSITY COMPACTION TESTS FOR EVERY 1000 L.F. OF ROAD LENGTH. COMPACTED SUBGRADE MUST BE COMPACTED TO A MINIMUM OF 95% MODIFIED PROCTOR MAXIMUM DRY DENSITY AT +3% OF OPTIMUM MOISTURE CONTENT FOR GRANULAR SOILS AND AT -1 TO +3% OF OPTIMUM MOISTURE CONTENT FOR COHESIVE SOILS.
- AGGREGATE BASE:
 - AGGREGATE BASE SHALL BE PROOF-ROLLED OVER THE ENTIRE LENGTH. PROVIDE 1 SIEVE ANALYSIS PER 2500 CY OF ROAD BASE PLACED.
 - IF PROOF ROLLING DETERMINES THAT THE ROAD IS UNSTABLE, ADDITIONAL AGGREGATE SHALL BE ADDED UNTIL THE UNSTABLE SECTION IS ABLE TO PASS A PROOF ROLL.

GENERAL NOTES:

- THE PLANIMETRIC FEATURES, GROUND SURFACE CONTOURS ON A LIDAR SURFACE PROVIDED NOAA.
- NO GRADING OR SOIL DISTURBANCE IS PERMITTED OUTSIDE OF THE GRADING LIMITS IDENTIFIED ON THE PLANS.
- GRADE ALL PROPOSED ROADS TO THE SLOPES PROPOSED ON THE PLANS.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DRAINAGE THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONSTRUCTION ACTIVITIES SHALL NOT BLOCK THE NATURAL OR MANMADE CREEKS OR DRAINAGE SWALES CAUSING RAINWATER TO POND. ADDITIONAL CULVERTS IN EXCESS OF THOSE ON THE PLANS MAY BE REQUIRED AS APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL NOTIFY DIGSAFE AT LEAST 48 HOURS BEFORE EXCAVATION ACTIVITIES COMMENCE.
- WETLAND INFORMATION SHOWN ON THE PLAN WAS PROVIDED BY ROB HELLSTROM LAND SURVEYING AND FLAGGED BY HIGHLANDS SOILS. THE GENERAL CONTRACTOR SHALL VERIFY THAT ALL WETLAND PERMITS HAVE BEEN SUBMITTED AND APPROVED PRIOR TO CONSTRUCTION COMMENCING.
- ELECTRICAL COLLECTION SYSTEM SHOWN ON THE PLAN SHALL BE CONSIDERED PRELIMINARY. CONTRACTOR SHALL REFER TO FINAL ELECTRICAL DESIGN PLANS FOR ACTUAL DESIGN LOCATIONS.

STORMWATER POLLUTION PREVENTION PLAN (SWPCP):

- REFER TO THE SWPPP BOOKLET FOR SEDIMENT AND EROSION CONTROL PROCEDURES, LOCATIONS OF BMPs, DETAILS, AND INSPECTION INFORMATION.
- ALL AREAS DISTURBED DURING CONSTRUCTION ACTIVITIES AND NOT COVERED BY ROAD SURFACING MATERIALS, SHALL BE SEEDED IN ACCORDANCE WITH THE SWPPP PLAN.
- TEMPORARY EROSION CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE TEMPORARY EROSION CONTROL PLAN SHALL BE IN ACCORDANCE WITH STATE OF CONNETICUT, THE EPA, AND THE SWPCP ON FILE.

SLOPE STABILIZATION:

ALL AREAS DESIGNATED ON THE PLAN FOR SLOPE STABILIZATION SHALL BE GRADED AND COMPACTED, SMOOTH AND CLEAN TO THE FINISH CONTOURS SHOWN ON THE PLAN, WITH A MINIMUM OF 4 INCHES OF TOPSOIL PLACED ON THE AREA. STABILIZATION SHALL BE ACHIEVED IN ONE OF TWO MANNERS:

- EITHER: 1) HAND-PLACED RIPRAP
OR:
2) SEED WITH EROSION CONTROL AND REVEGETATION MAT (ECRM)

- PLACEMENT OF RIP-RAP

RIPRAP HAND PLACED. HAND-PLACED RIPRAP SHALL CONSIST OF ROUGH UNHEWN QUARRY STONES, APPROXIMATELY RECTANGULAR, PLACED DIRECTLY ON THE SPECIFIED SLOPES OR SURFACES. IT SHALL BE SO LAID THAT THE WEIGHT OF THE LARGE STONES IS CARRIED BY THE SOIL RATHER THAN BY ADJACENT STONES. STONES SHALL WEIGH BETWEEN 50 AND 150 LB. EACH AND AT LEAST 60 % OF THEM SHALL WEIGH MORE THAN 100 LB. EACH WHEN USED ON EMBANKMENT CONSTRUCTION. RIP RAP FOR BMPs SHALL BE 6"-8" DIA. PREPARATION FOR HAND-PLACED RIP RAP. BEFORE ANY RIP RAP IS PLACED, THE SURFACE TO BE COVERED SHALL BE FULLY COMPACTED AND GRADED TO THE REQUIRED SLOPE. PLACE MIRAFITM8 OR APPROVED EQUAL GEOTEXTILE ON SLOPE. RIP RAP ON SLOPES SHALL COMMENCE COMMENCE IN A TRENCH BELOW THE TOW OF THE SLOPE AND SHALL PROGRESS UPWARD, EACH STONE BEING LAID BY HAND PERPENDICULAR TO THE SLOPE WITH THE LONG DIMENSION VERTICAL, FIRMLY BEDDED AGAINST THE SLOPE AND AGAINST THE ADJOINING STONE, WITH ENDS IN CONTACT, AND WITH WELL-BROKEN JOINTS. SIMILAR METHODS SHALL BE USED WHEN LAYING RIPRAP ON STREAM BEDS, IN DITCHES, AND ON LEVEL SURFACES.

THE FINISHED SURFACE OF THE RIPRAP SHALL PRESENT AN EVEN, TIGHT SURFACE, NOT LESS THAN 12 INCHES THICK, MEASURED PERPENDICULAR TO THE SLOPE.

THE STONES WEIGHING MORE THAN 100 LB. SHALL BE WELL DISPERSED THROUGHOUT THE AREA WITH THE 50-100 LB. STONES LAID BETWEEN THEM IN SUCH A MANNER THAT ALL STONES WILL BE IN CLOSE CONTACT. THE REMAINING VOIDS SHALL BE FILLED WITH SPALLS OF SUITABLE SIZE AND WELL TAMPED TO PRODUCE A FIRM AND COMPACT REVETMENT.

- STABILIZATION WITH EROSION CONTROL AND REVEGETATION MAT (ECRM)
 - AREA MUST BE GRADED SMOOTH AND CLEAN TO FINISH GRADES, AND COMPACTED.
 - SEED AND MULCH AREA. USE SEED MIX APPROVED BY THE ENGINEER.
 - INSTALL ECRM PER MANUFACTURER'S INSTRUCTIONS, HOWEVER THESE MUST INCLUDE THE FOLLOWING MINIMUM REQUIREMENTS:

A) GRADE GROUND TO FINISH CONTOURS. REMOVE ALL ROCKS, DIRT CLOUDS, STUMPS, ROOTS, TRASH, AND OTHER OBSTRUCTIONS LYING IN DIRECT CONTACT WITH THE SOIL SURFACE.

B) DIG MAT ANCHOR TRENCHES (MINIMUM 12" DEEP, 6" WIDE) AT TERMINAL ENDS AND PERIMETER SIDES WHERE MAT IS TO BE INSTALLED.

C) INSTALL MAT BY ROLLING UPHILL PARALLEL TO WATER FLOW, STARTING AT TRENCH. OVERLAP ROLLS BY MINIMUM OF 3". FASTEN TO GROUND WITH 18" PINS AND 1 1/2" WASHERS, OR EQUIVALENT. PIN MAT AT ENDS, AND EVERY 3' TO 5' ALONG OVERLAPS. DO NO STRETCH MAT. SPLICING ROLLS SHOULD BE DONE IN A CHECK SLOT. BACKFILL TO COVER ENDS AND FASTENERS, ROLLING MAT ACROSS BACKFILL AND PIN AGAIN.

FOR MAT USE MIRAFI MIRAMAT TM8 OR EQUIVALENT.

INVASIVE SPECIES:

- ALL EQUIPMENT SHALL BE INSPECTED UPON ARRIVAL. EQUIPMENT ARRIVING WITH OBSERVABLE SOIL OR PLANT FRAGMENTS WILL BE REMOVED AND CLEANED.
- HAY BALES ARE NOT BE USED ON SITE; ONLY WEED-FREE STRAW BALES ARE APPROVED.
- OFF-SITE TOPSOIL MUST BE FREE OF INVASIVE SPECIES. THE ENGINEER SHALL BE NOTIFIED OF THE TOPSOIL SOURCE 6 WEEKS BEFORE DELIVERY.

SEDIMENTATION AND EROSION CONTROL PLAN

CONTACT:
STEVE BROYER
ECOS ENERGY
222 SOUTH 9TH STREET
SUITE 1600
MINNEAPOLIS MN 55402

THE PURPOSE OF THIS PROJECT IS TO INSTALL APPROXIMATELY 6136 SOLAR MODULES AND ASSOCIATED ELECTRICAL EQUIPMENT FOR POWER GENERATION.

THE TOTAL AREA OF THE PROJECT SITE IS APPROXIMATELY 12.7 ACRES AND THE TOTAL AREA OF THE SITE THAT IS EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES IS 10.7 ACRES.

THE EROSION & SEDIMENTATION CONTROL PLAN AND DETAILS HAVE BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION IN COOPERATION WITH THE CONNECTICUT DEEP.

IN THE AREAS OF SOLAR PANEL INSTALLATION, THERE ARE SEVERAL ACTIVITIES (SITE GRADING, FOOTING INSTALLATION, PANEL INSTALLATION, AND ELECTRICAL TRENCH WORK) THAT WILL DISTURB SOIL. SOIL MUST BE PROMPTLY STABILIZED AFTER EACH ACTIVITY.

THIS PROJECT WILL NOT BE PHASED. THE DEVELOPMENT WILL FOLLOW THE CONSTRUCTION SEQUENCE PROVIDED ON THIS PLAN.

THE PROPOSED LOCATIONS OF SILTATION AND EROSION CONTROL MEASURES ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL PROVIDE SILT FENCE, HAY BALES, EROSION MAT, STONE CHECK DAMS, A CONSTRUCTION ENTRANCE, AND/OR OTHER EROSION CONTROL MEASURES AS NEEDED OR DIRECTED BY THE ENGINEER OR TOWN STAFF TO ADEQUATELY PREVENT SEDIMENT TRANSPORT.

EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE.

THE CONTRACTOR SHALL INSPECT, REPAIR AND/OR REPLACE EROSION CONTROL MEASURES EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT. SEDIMENT DEPOSITS MUST BE REMOVED BEFORE 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 UPSLOPE ARE PERMANENTLY STABILIZED.

STAKED HAY BALE SILT BARRIERS OR SILT FENCE SHALL BE INSTALLED AROUND ANY TEMPORARY STOCKPILE AREAS. TEMPORARY VEGETATIVE COVER MAY BE REQUIRED (SEE NOTE).

CONTINUOUS DUST CONTROL USING WATER OR APPROVED EQUAL SHALL BE PROVIDED FOR ALL EARTH STOCKPILES, EARTH PILED ALONG EXCAVATIONS, SURFACES OF BACKFILLED TRENCHES AND GRAVELED ROADWAY SURFACES. THE USE OF CALCIUM CHLORIDE FOR DUST CONTROL SHALL NOT BE ALLOWED.

IF DEWATERING IS NECESSARY DURING ANY TIME OF CONSTRUCTION A CLEAR WATER DISCHARGE SHALL BE PROVIDED AS SHOWN IN THE HAY-BALE BARRIER DEWATERING DETAIL OR ALTERNATE METHOD PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

ALL DISTURBED AREAS SHALL BE RESTORED PER THE SLOPE STABILIZATION AND PERMANENT VEGETATION DETAILS. ALL DISTURBED AREAS THAT ARE SLOPED LESS THAN THREE HORIZONTAL TO ONE VERTICAL (3:1) SLOPE SHALL BE LOAMED, SEEDED, FERTILIZED AND MULCHED PER THE PERMANENT VEGETATIVE COVER SPECIFICATIONS. EROSION CONTROL MATTING SHALL BE PROVIDED ON ALL DISTURBED AREAS THAT ARE SLOPED MORE THAN THREE HORIZONTAL TO ONE VERTICAL (3:1).

IF FINAL SEEDING OF DISTURBED AREAS IS NOT TO BE COMPLETED BEFORE OCTOBER 15, THE CONTRACTOR SHALL PROVIDE TEMPORARY MULCHING (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY PERMANENT SEEDING.

WHEN FEASIBLE, TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINISHED GRADED SHALL BE COMPLETED PRIOR TO OCTOBER 15.

ON EACH FRIDAY AND ALSO ON THE DAY BEFORE ANY RAIN FORECAST OF 0.5 INCHES OR MORE, THE CONTRACTOR SHALL HAY MULCH ALL EXPOSED SOIL.

ANY EROSION WHICH OCCURS WITHIN THE DISTURBED AREAS SHALL BE IMMEDIATELY REPAIRED AND STABILIZED. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT SHALL BE RETURNED TO THE SITE. POST SEEDING, INTERCEPTED SEDIMENT, IF ANY, SHALL BE DISPOSED OF IN A MANNER APPROVED BY THE TOWN AND ENGINEER.

EROSION AND SEDIMENTATION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL VEGETATION IS RE-ESTABLISHED OR SLOPES ARE STABILIZED AND REMOVAL IS APPROVED BY THE ENGINEER.

UNFORESEEN PROBLEMS WHICH ARE ENCOUNTERED IN THE FIELD SHALL BE SOLVED ACCORDING TO THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION IN COOPERATION WITH THE CONNECTICUT DEEP.

THE CONTRACTOR SHALL PROVIDE THE NAME AND EMERGENCY CONTACT INFORMATION FOR THE PROJECT PERSONNEL RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROLS PRIOR TO THE START OF CONSTRUCTION.

THE OWNER WILL EMPLOY A CERTIFIED SOIL SCIENTIST TO PERFORM WEEKLY EROSION & SEDIMENTATION CONTROL INSPECTION.

- ROUTINE REPAIRS OR MODIFICATIONS SHALL BE COMPLETED BY THE CONTRACTOR WITHIN 48 HOURS AFTER DIRECTION BY THE INSPECTOR.
- EMERGENCY REPAIRS SHALL BE COMPLETED IMMEDIATELY UPON DIRECTION BY THE INSPECTOR.

THE WETLANDS ENFORCEMENT OFFICER SHALL BE NOTIFIED AT LEAST 2 BUSINESS DAYS PRIOR TO CONSTRUCTION TO INSPECT EROSION CONTROLS.

STATE AND FEDERAL PERMITS REQUIRED: THIS PROJECT REQUIRES A PERMIT FROM THE STATE OF CONNECTICUT SITING COUNCIL.

THE FOLLOWING DOCUMENTS ARE CONSIDERED TO BE PART OF THIS EROSION AND SEDIMENTATION CONTROL PLAN: THE COMPLETE SITE PLANS, THE DRAINAGE NARRATIVE PREPARED BY CLA ENGINEERS, AND THE CTDEEP 2002 MANUAL.

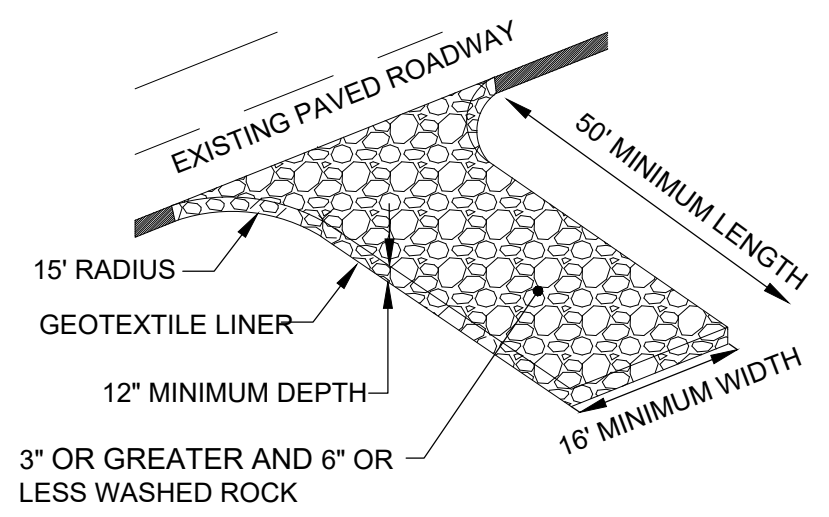
EROSION AND SEDIMENTATION CONTROL SEQUENCE

- BEFORE ANY WORK TAKES PLACE CONTACT CALL BEFORE YOU DIG 1-800-922- 4455 TO MARK UTILITIES.
- NOTIFY THE TOWN OF START OF CONSTRUCTION A MINIMUM OF 48 HOURS IN ADVANCE.
- HAVE LICENSED SURVEYOR STAKE OUT THE CLEARING LIMITS.
- CUT TREES BUT DO NOT GRUB.
- INSTALL CONSTRUCTION ENTRANCE AND PERIMETER EROSION AND SEDIMENTATION CONTROLS AND HAVE INSPECTED BY SITE INSPECTOR.
- INSTALL ADDITIONAL E&S AS SHOWN ON PLANS INCLUDING TEMPORARY VEGETATED SWALES AND TEMPORARY SEDIMENT TRAPS AND HAVE THEM INSPECTED BY THE SITE INSPECTOR.
- ANY DEWATERING WILL BE MONITORED BY A QUALIFIED ENVIRONMENTAL PROFESSIONAL TO MAINTAIN SUITABLE QUALITY OF DISCHARGE FROM THE DEWATERING AND TO ENSURE REMOVAL OF ACCUMULATED SEDIMENTS AT APPROPRIATE INTERVALS. SEDIMENTS WILL BE DISPOSED OF AT AN APPROPRIATE ON-SITE LOCATION. DEWATERING WILL DISCHARGE INTO TEMPORARY SEDIMENT TRAPS.
- ROUGH GRADE SITE.
- INSTALL CHAIN LINK FENCE AROUND PERIMETER.
- INSTALL SOLAR PANELS, HYDROSEED OR SEED AND MULCH AROUND PANELS AND HYDROSEED OR MULCH AND SEED ANY EXPOSED SOIL AT THE END OF EACH WEEK AND BEFORE EVERY RAINFALL PREDICTED FOR 0.5 INCHES OR MORE.
- TRENCH FOR AND INSTALL ELECTRIC LINES AND AT THE END OF EACH WEEK HYDROSEED OR MULCH AND SEED ANY EXPOSED SOIL AT THE END OF EACH WEEK AND BEFORE EVERY RAINFALL PREDICTED FOR 0.5 INCHES OR MORE.
- INSTALL REMAINING ELECTRIC INFRASTRUCTURE AND AT THE END OF EACH WEEK HYDROSEED OR MULCH AND SEED ANY EXPOSED SOIL AT THE END OF EACH WEEK AND BEFORE EVERY RAINFALL PREDICTED FOR 0.5 INCHES OR MORE.
- OVERSEED DISTURBED SOILS WHEN ALL SOLAR PANEL INSTALLTION IS COMPLETE.
- CLEAN SEDIMENTS BASINS AND GRADE AND RE-SEED FOR USE AS STORMWATER BASINS WHEN SITE INSPECTOR DEEMS SOILS ARE STABILIZED.
- INSTALL PLANTINGS
- MAINTAIN E&S AND PROVIDE REPORTS TO TOWN AND CTDEEP

LOCATION	TEST	FREQUENCY
STRUCTURAL FILL	GRAIN SIZE ANALYSIS, MOISTURE CONTENT, ATTERBERG LIMITS ON FINES CONTENT, AND PROCTOR	1 PER MAJOR SOIL TYPE
	MOISTURE DENSITY	1 PER 2,000 CY OR MIN. 1 PER LIFT
COMPACTED SUBGRADE	PROOF-ROLL	ENTIRE LENGTH
	MOISTURE DENSITY TEST (NUCLEAR DENSITY)	1 PER 1,000 FT OR MIN. 5 FOR THE SITE
AGGREGATE BASE	PROOF-ROLL	ENTIRE LENGTH
	SIEVE ANALYSIS	1 PER 2,500 CY



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No.	Date	Revision	31 BENZ STREET ANSONIA, CT 06401 BENZ STREET SOLAR CIVL NOTES	
2	4/1/20	REVISED HYDROLOGY		
1	2/11/20	CSC SUBMISSION	Project No. CLA-6430 Proj. Engineer E.M.B. Date: 2/11/2020 Sheet No.	
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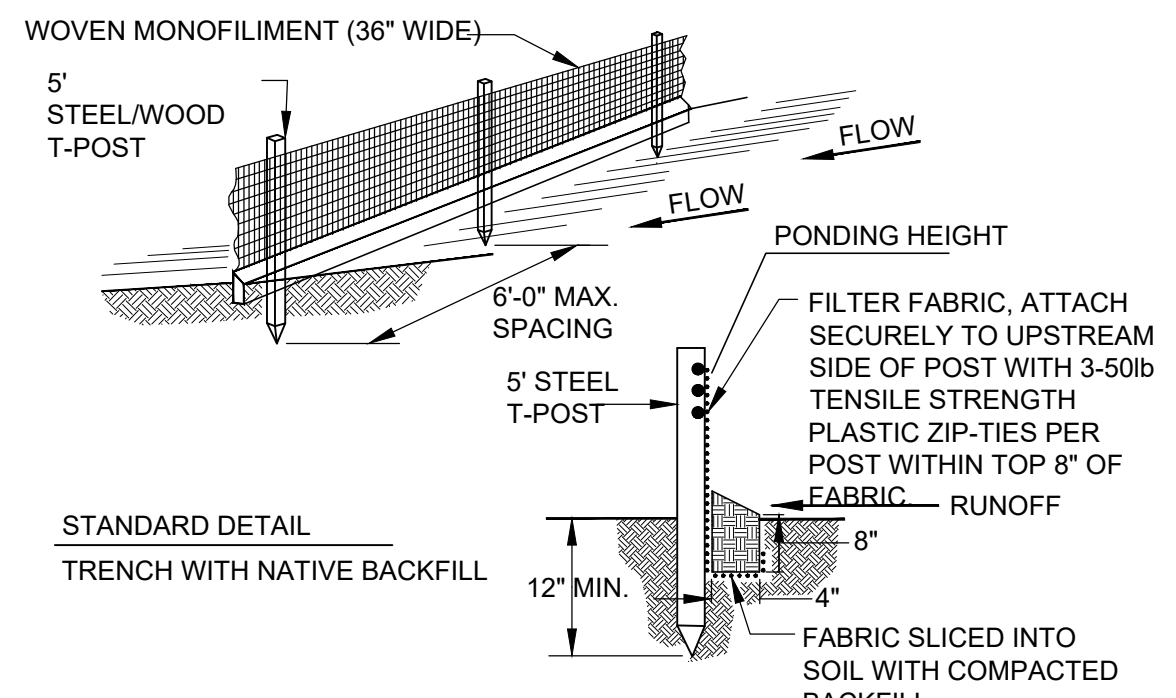


NOTE:

ROCK CONSTRUCTION ENTRANCE SHOULD BE A MINIMUM THICKNESS OF 1.0' AND CONTAIN MAXIMUM SIDE SLOPES OF 4:1. ROCK ENTRANCE SHOULD BE INSPECTED AND MAINTAINED REGULARLY. ROCK ENTRANCE LENGTH MAY NEED TO BE EXTENDED IN CLAY SOILS.

ROCK CONSTRUCTION ENTRANCE

NOT TO SCALE

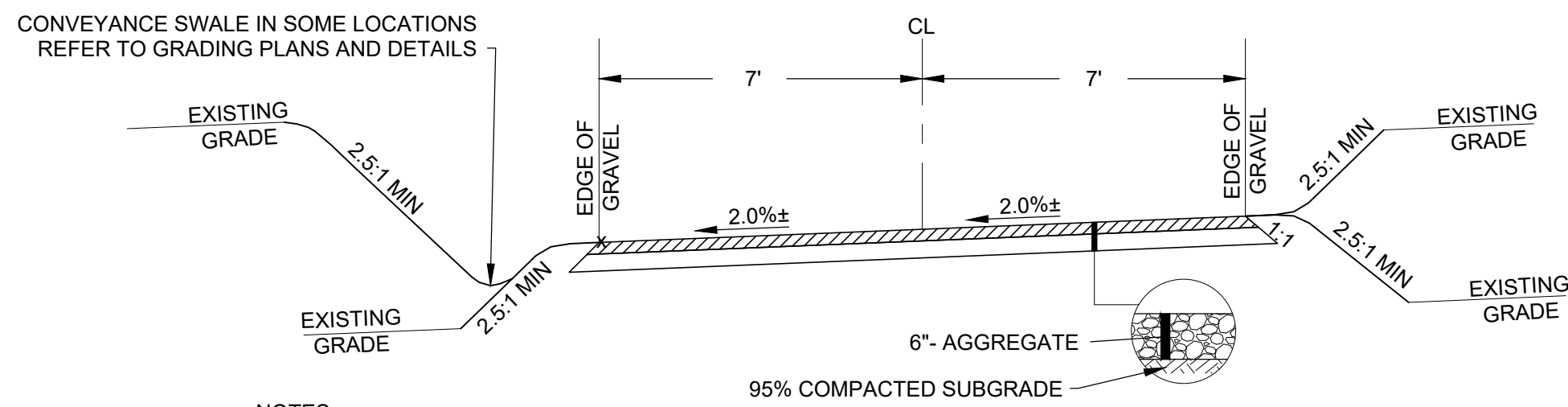


NOTE:

- INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN ACCUMULATED TO 1/3 THE HEIGHT OF THE FABRIC OR MORE.
- REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
- SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
- ALL ENDS OF THE SILT FENCE SHALL BE WRAPPED UPSLOPE SO THE ELEVATION OF THE BOTTOM OF FABRIC IS HIGHER THAN "PONDING HEIGHT".

SILT FENCE

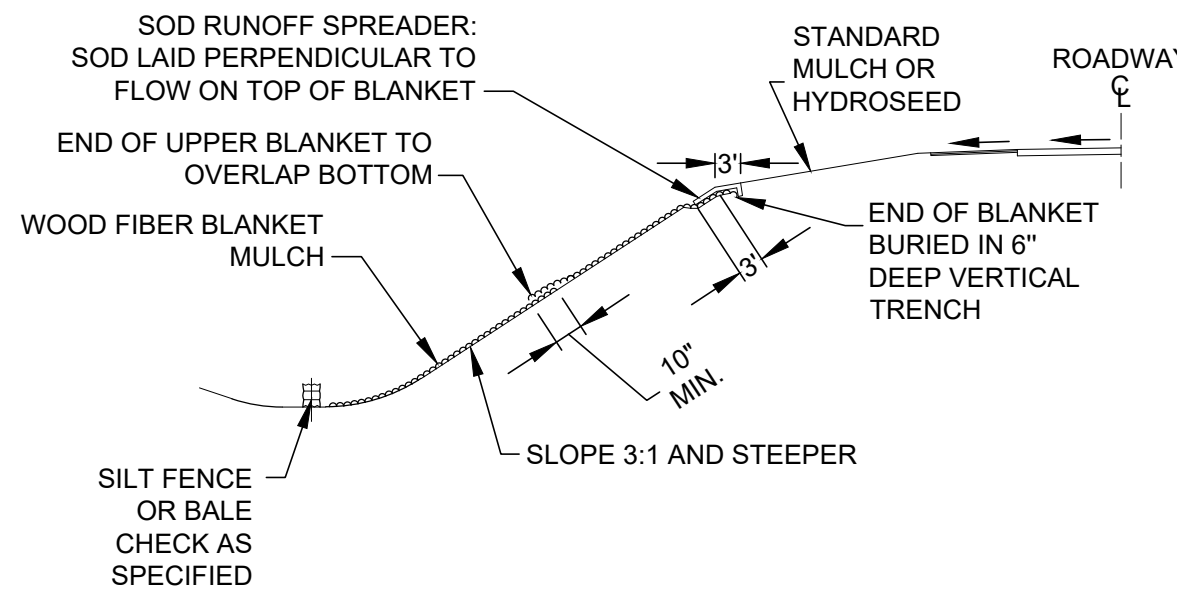
NOT TO SCALE



- CONVEYANCE SWALE IN SOME LOCATIONS REFER TO GRADING PLANS AND DETAILS
- NOTES:
- CONTRACTOR TO SUBCUT ROADWAY TO EXISTING GRADE ELEVATION TO MAINTAIN EXISTING SITE DRAINAGE PATTERNS WHEREVER POSSIBLE.
 - IN FILL LOCATIONS CONTRACTOR TO GRADE TOE OF SLOPE TO EXISTING GRADE, AND MAINTAIN NATURAL DRAINAGE PATTERNS.
 - IN CUT LOCATIONS CONTRACTOR TO CREATE SWALE ON DOWNSTREAM SIDE, REFER TO GRADING PLANS FOR DETAILS.
 - CONTRACTOR TO COMPACT AGGREGATE TO 95% MAXIMUM DRY DENSITY.
 - REFER TO GEOTECHNICAL RECOMMENDATIONS FOR ADDITIONAL ROADWAY SECTION DESIGN INFORMATION.

ACCESS ROAD DETAIL

NOT TO SCALE



EROSION CONTROL BLANKET INSTALLATION ON AN INSLOPE (WHEN REQUIRED)

CATEGORY	SLOPE	VELOCITY
1	FLAT	< 5.0 fps
2	3:1	< 6.5 fps
3	3:1	< 6.5 fps
4	2:1	< 7.0 fps

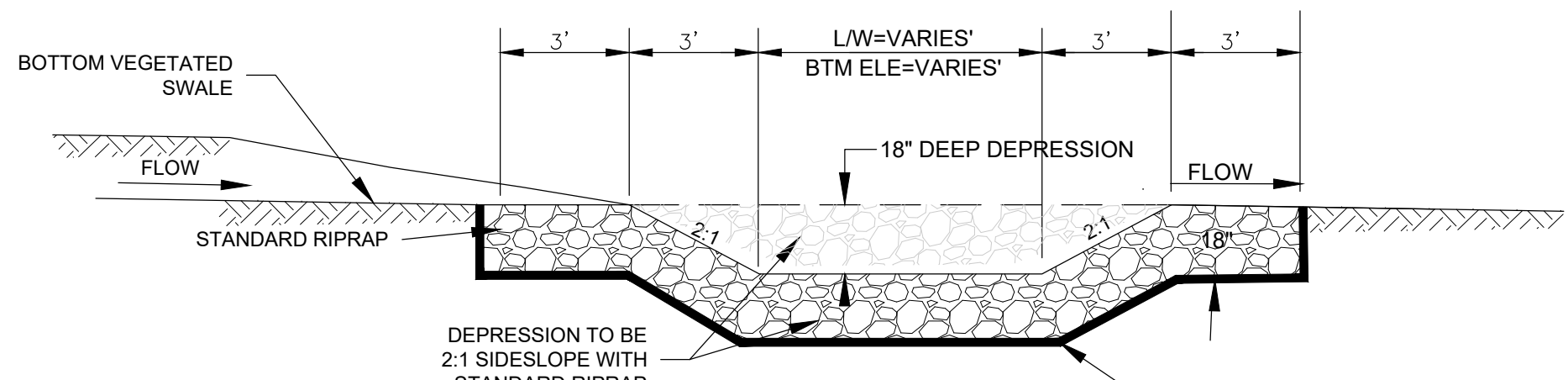
CATEGORY	ACCEPTABLE TYPES
1	STRAW RD 1S, WOOD FIBER RD 1S
2	STRAW 1S, WOOD FIBER 1S
3	STRAW 2S, WOOD FIBER 2S
4	STRAW/COCONUT 2S, WOOD FIBER HV 2S

THE LETTERING DESIGNATION SHALL BE DEFINED AS FOLLOWS:

- 1S - NETTING ON ONE SIDE
- RD - RAPIDLY DEGRADABLE
- 2S - NETTING ON TWO SIDES
- HV - HIGH VELOCITY

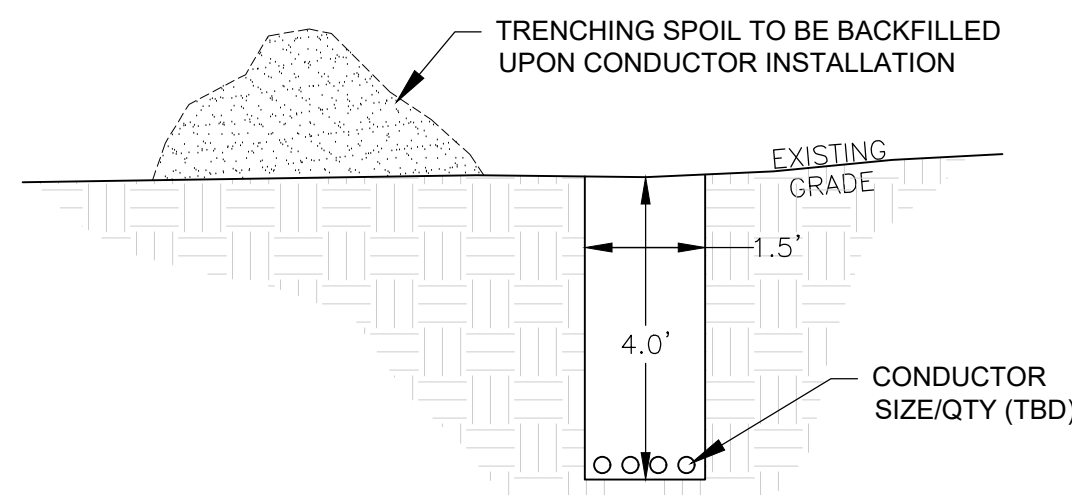
EROSION CONTROL BLANKET

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RIP-RAP SPLASH PAD

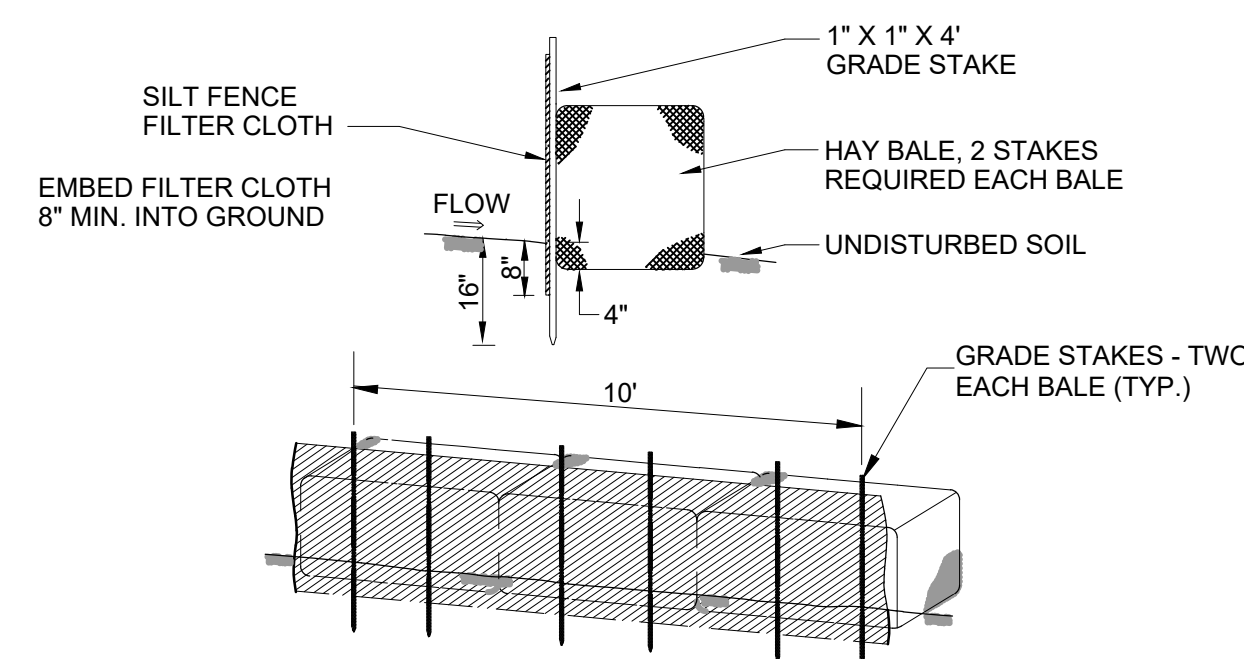
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- NOTES:
- CONDUCTOR CLEARANCES DEPENDENT ON GEOTECHNICAL PARAMETERS AND ELECTRICAL DESIGN
 - CONDUCTOR SIZING AND QUANTITIES PER TRENCH DEPENDENT ON FINAL ELECTRICAL DESIGN TRENCH DIMENSIONS FOR EARTHWORK QUANTITIES ARE CONSERVATIVE.

TRENCHING DETAIL

NOT TO SCALE

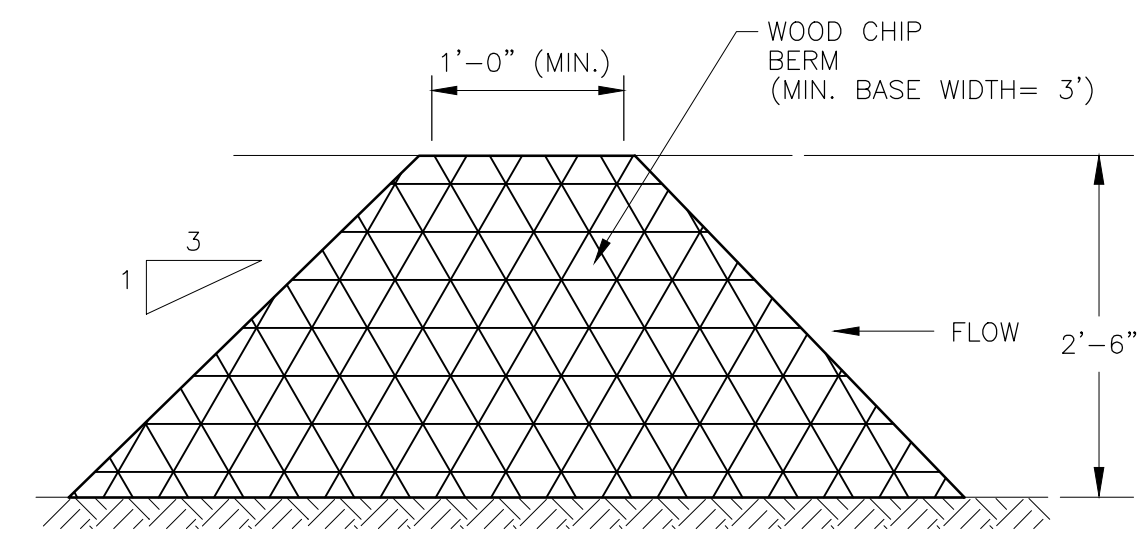


HAY-BALE / SILT FENCE EROSION PROTECTION

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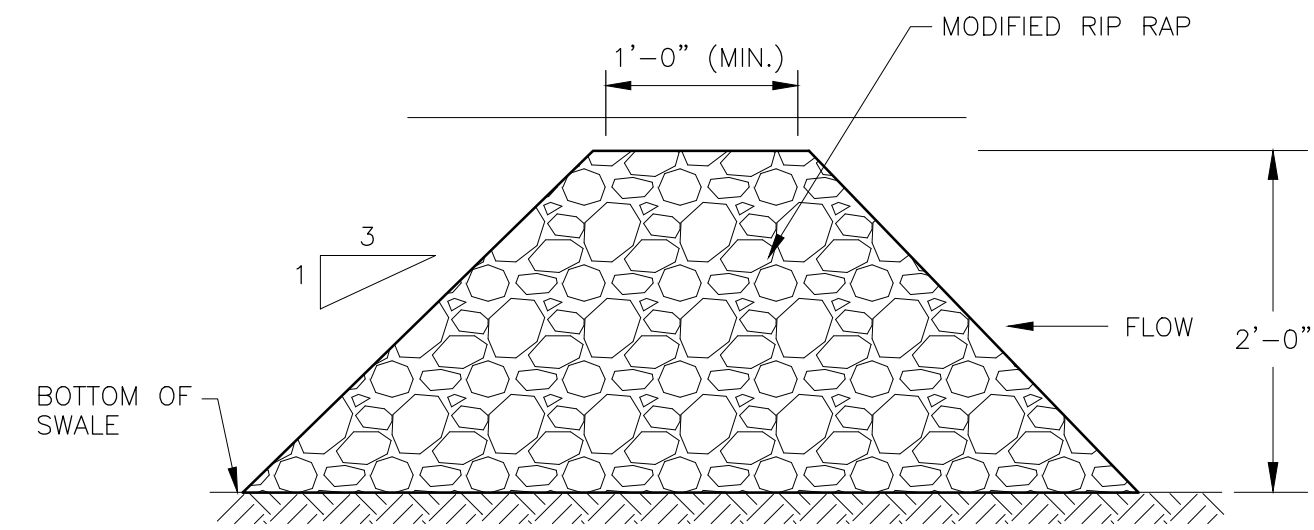
CONSTRUCTION NOTES:

- SILT FENCE FILTER CLOTH TO BE SECURELY FASTENED TO GRADE STAKE WITH STAPLES, 6" ON CENTER.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN ONE ANOTHER THEY SHALL OVERLAP BY 6" AND BE FOLDED.
- BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.



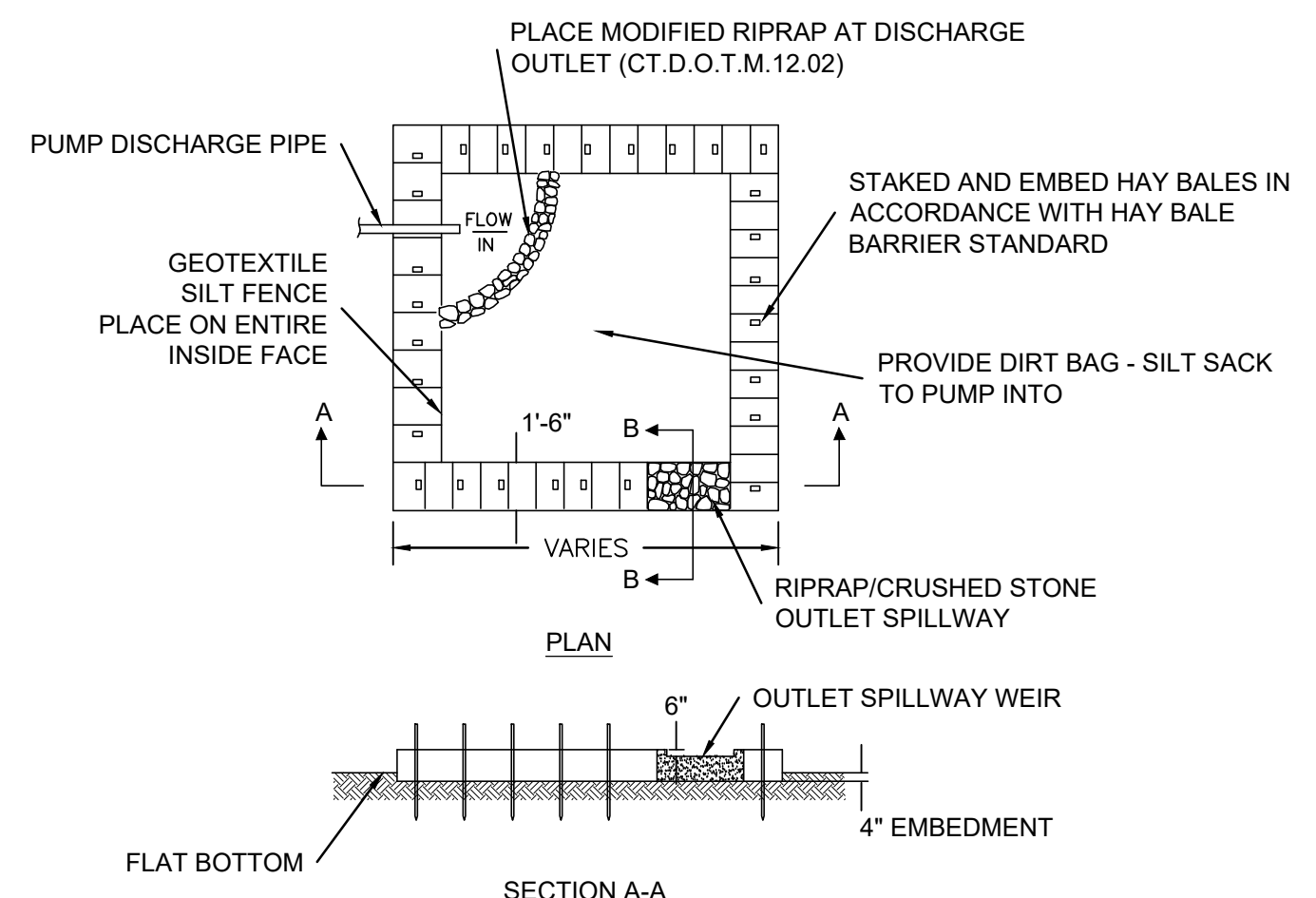
WOOD CHIP BERM

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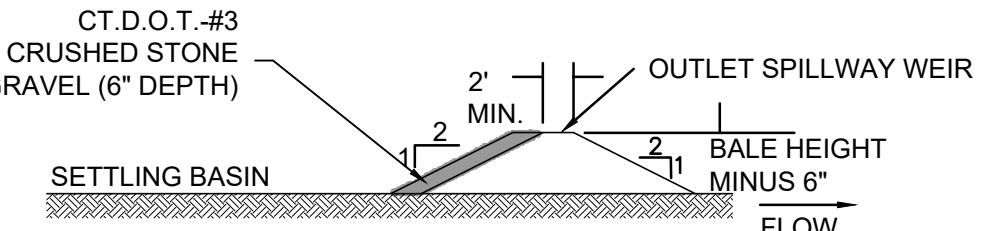


RIP-RAP CHECK DAM

NOT TO SCALE



NOTE: DIMENSIONS VARY ACCORDING TO PUMPING RATES. MINIMUM REQUIRED STORAGE IS CALCULATED FROM CREST OF SPILLWAY WEIR.



DEWATERING SETTLING BASIN DETAIL

NOT TO SCALE

DEWATERING PLAN

IF DEWATERING IS NECESSARY DURING CONSTRUCTION A CLEAR WATER DISCHARGE SHALL BE PROVIDED AS FOLLOWS:

- THE PUMP INLET WILL BE WRAPPED IN FILTER FABRIC AND PLACED IN CRUSHED STONE WITHIN THE TRENCH.
- THE PUMP OUTLET WILL DISCHARGE TO THE DEWATERING ENCLOSURE PER THE DETAIL FOR DEWATERING SETTLING BASIN TO BE LOCATED OUTSIDE OF THE 100' UPLAND REVIEW ZONE.
- THE DISCHARGE FROM THE DEWATERING ENCLOSURE WILL BE MONITORED AND ADDITIONAL MEASURES EMPLOYED IF NECESSARY.

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5/22/20	2MM	CSC REVISION		
2/11/20	CSC	SUBMISSION		
No.	Date	Revision		
			<p>Project No. CLA-6430 Proj. Engineer E.M.B. Date: 5/22/2020 Sheet No. 11</p>	
			<p>31 BENZ STREET ANSONIA, CT 06401</p> <p>BENZ STREET SOLAR</p> <p>CIVIL DETAILS</p>	