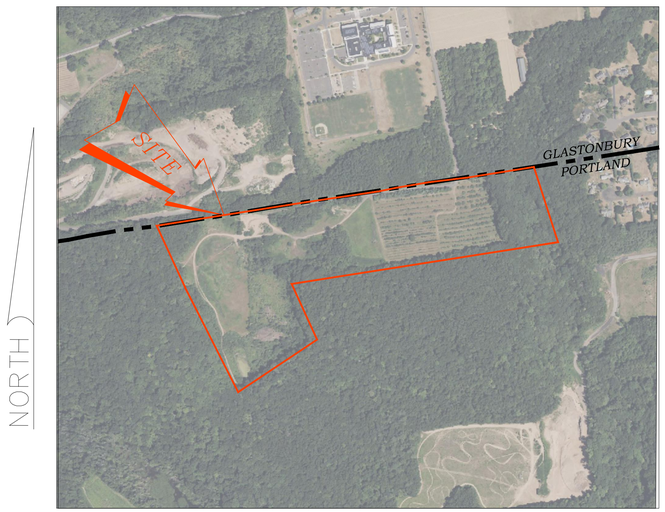
GREENSKIES CLEAN ENERGY
SOLAR ARRAY DEVELOPMENT

PRELIMINARY CIVIL DESIGN PLANS
OLD MAIDS LANE
PORTLAND, CONNECTICUT



LOCATION MAP



SITE MAP
NTS

INDEX OF DRAWINGS

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PRELIMINARY CIVIL DESIGN PLANS	
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C109	CONSTRUCTION DETAILS & NOTES
C110	CONSTRUCTION DETAILS & NOTES

REFERENCE NOTE:

1. AERIAL IMAGERY OBTAINED FROM MICROSOFT.
2. PARCEL MAP OBTAINED FROM TOWN OF PORTLAND GEOGRAPHIC INFORMATION SYSTEM (GIS).

SEPTEMBER
2025

CONNECTICUT SITING COUNCIL

PREPARED BY:

verdantas

1005 MAIN STREET, SUITE 8120
PAWTUCKET, RI 02860
TEL. 401.728.6860

Project No. 24412

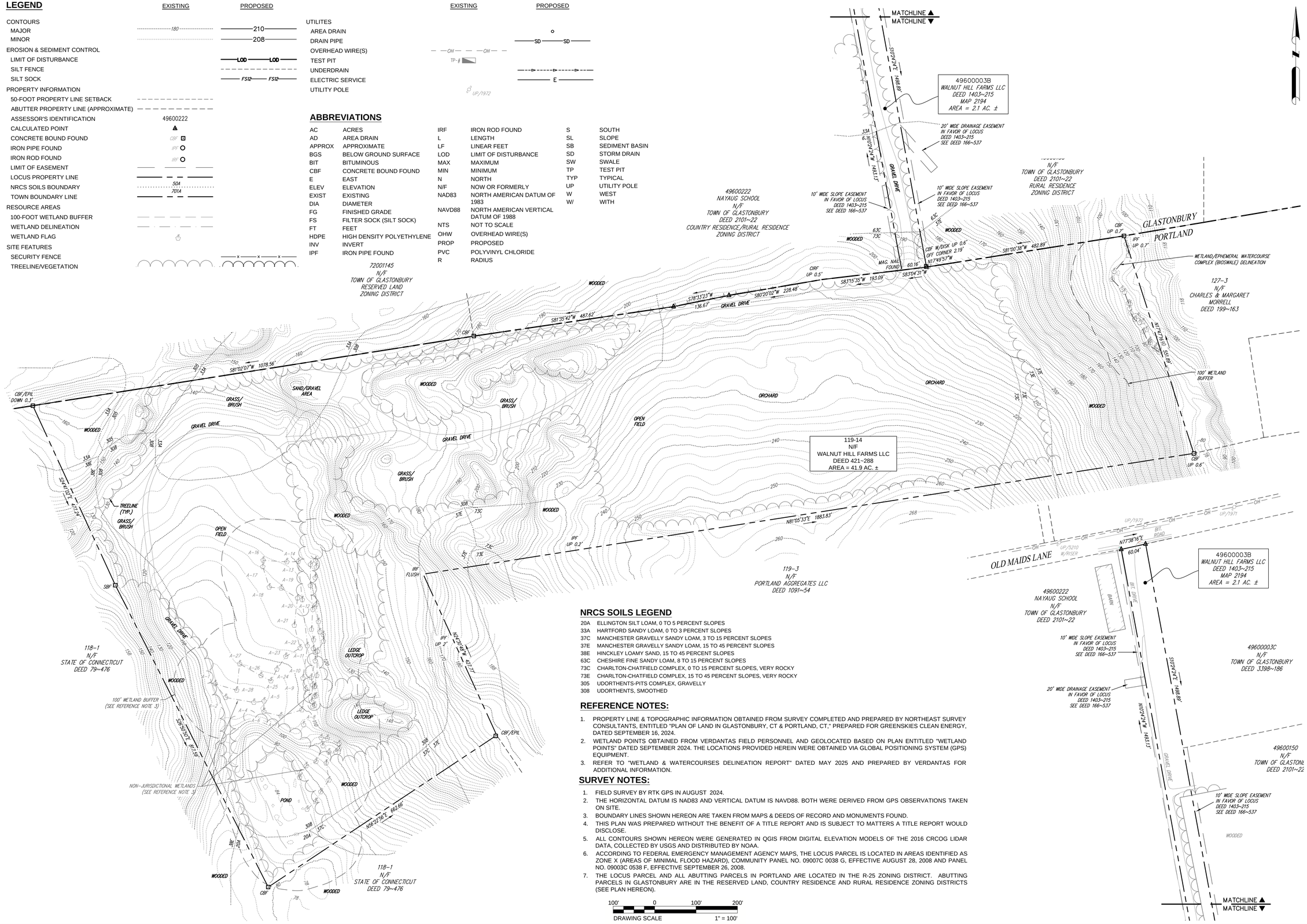
LEGEND

	EXISTING	PROPOSED
CONTOURS		
MAJOR	180	210
MINOR		208
EROSION & SEDIMENT CONTROL		
LIMIT OF DISTURBANCE		LOD LOD
SILT FENCE		
SILT SOCK		FS12 FS12
PROPERTY INFORMATION		
50-FOOT PROPERTY LINE SETBACK		
ABUTTER PROPERTY LINE (APPROXIMATE)		
ASSESSOR'S IDENTIFICATION	49600222	
CALCULATED POINT		
CONCRETE BOUND FOUND	CBF	
IRON PIPE FOUND	IPF	
IRON ROD FOUND	IRF	
LIMIT OF EASEMENT		
LOCUS PROPERTY LINE		
NRCS SOILS BOUNDARY	50A	
TOWN BOUNDARY LINE	701A	
RESOURCE AREAS		
100-FOOT WETLAND BUFFER		
WETLAND DELINEATION		
WETLAND FLAG		
SITE FEATURES		
SECURITY FENCE		x x x
TREELINE/VEGETATION		

UTILITIES	EXISTING	PROPOSED
AREA DRAIN		
DRAIN PIPE		SD SD
OVERHEAD WIRE(S)	OH OH	
TEST PIT	TP-#	
UNDERDRAIN		
ELECTRIC SERVICE		E
UTILITY POLE	UP/1972	

ABBREVIATIONS

AC	ACRES	IRF	IRON ROD FOUND	S	SOUTH
AD	AREA DRAIN	L	LENGTH	SL	SLOPE
APPROX	APPROXIMATE	LF	LINEAR FEET	SB	SEDIMENT BASIN
BGS	BELOW GROUND SURFACE	LOD	LIMIT OF DISTURBANCE	SD	STORM DRAIN
BIT	BITUMINOUS	MAX	MAXIMUM	SW	SWALE
CBF	CONCRETE BOUND FOUND	MIN	MINIMUM	TP	TEST PIT
E	EAST	N	NORTH	TYP	TYPICAL
ELEV	ELEVATION	N/F	NOW OR FORMERLY	UP	UTILITY POLE
EXIST	EXISTING	NAD83	NORTH AMERICAN DATUM OF 1983	W	WEST
DIA	DIAMETER	NAVD88	NORTH AMERICAN VERTICAL DATUM OF 1988	W/	WITH
FG	FINISHED GRADE	NTS	NOT TO SCALE		
FS	FILTER SOCK (SILT SOCK)	OHW	OVERHEAD WIRE(S)		
FT	FEET	PROP	PROPOSED		
HDPE	HIGH DENSITY POLYETHYLENE	PVC	POLYVINYL CHLORIDE		
INV	INVERT	R	RADIUS		
IPF	IRON PIPE FOUND				



NRCS SOILS LEGEND

20A	ELLINGTON SILT LOAM, 0 TO 5 PERCENT SLOPES
33A	HARTFORD SANDY LOAM, 0 TO 3 PERCENT SLOPES
37C	MANCHESTER GRAVELLY SANDY LOAM, 3 TO 15 PERCENT SLOPES
37E	MANCHESTER GRAVELLY SANDY LOAM, 15 TO 45 PERCENT SLOPES
38E	HINCKLEY LOAMY SAND, 15 TO 45 PERCENT SLOPES
63C	CHESHIRE FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES
73C	CHARLTON-CHATFIELD COMPLEX, 0 TO 15 PERCENT SLOPES, VERY ROCKY
73E	CHARLTON-CHATFIELD COMPLEX, 15 TO 45 PERCENT SLOPES, VERY ROCKY
305	UDORTHENTS-PITS COMPLEX, GRAVELLY
308	UDORTHENTS, SMOOTHED

REFERENCE NOTES:

1. PROPERTY LINE & TOPOGRAPHIC INFORMATION OBTAINED FROM SURVEY COMPLETED AND PREPARED BY NORTHEAST SURVEY CONSULTANTS, ENTITLED "PLAN OF LAND IN GLASTONBURY, CT & PORTLAND, CT," PREPARED FOR GREENSKIES CLEAN ENERGY, DATED SEPTEMBER 16, 2024.
2. WETLAND POINTS OBTAINED FROM VERDANTAS FIELD PERSONNEL AND GEOLOCATED BASED ON PLAN ENTITLED "WETLAND POINTS" DATED SEPTEMBER 2024. THE LOCATIONS PROVIDED HEREIN WERE OBTAINED VIA GLOBAL POSITIONING SYSTEM (GPS) EQUIPMENT.
3. REFER TO "WETLAND & WATERCOURSES DELINEATION REPORT" DATED MAY 2025 AND PREPARED BY VERDANTAS FOR ADDITIONAL INFORMATION.

SURVEY NOTES:

1. FIELD SURVEY BY RTK GPS IN AUGUST 2024.
2. THE HORIZONTAL DATUM IS NAD83 AND VERTICAL DATUM IS NAVD88. BOTH WERE DERIVED FROM GPS OBSERVATIONS TAKEN ON SITE.
3. BOUNDARY LINES SHOWN HEREON ARE TAKEN FROM MAPS & DEEDS OF RECORD AND MONUMENTS FOUND.
4. THIS PLAN WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO MATTERS A TITLE REPORT WOULD DISCLOSE.
5. ALL CONTOURS SHOWN HEREON WERE GENERATED IN QGIS FROM DIGITAL ELEVATION MODELS OF THE 2016 CRCOG LIDAR DATA, COLLECTED BY USGS AND DISTRIBUTED BY NOAA.
6. ACCORDING TO FEDERAL EMERGENCY MANAGEMENT AGENCY MAPS, THE LOCUS PARCEL IS LOCATED IN AREAS IDENTIFIED AS ZONE X (AREAS OF MINIMAL FLOOD HAZARD), COMMUNITY PANEL NO. 09007C 0038 G, EFFECTIVE AUGUST 28, 2008 AND PANEL NO. 09003C 0538 F, EFFECTIVE SEPTEMBER 26, 2008.
7. THE LOCUS PARCEL AND ALL ABUTTING PARCELS IN PORTLAND ARE LOCATED IN THE R-25 ZONING DISTRICT. ABUTTING PARCELS IN GLASTONBURY ARE IN THE RESERVED LAND, COUNTRY RESIDENCE AND RURAL RESIDENCE ZONING DISTRICTS (SEE PLAN HEREON).

100' 0 100' 200'
DRAWING SCALE 1" = 100'

verdantas
1005 MAIN STREET, SUITE NO.: 8120
PAWTUCKET, RI 02860

PROFESSIONAL ENGINEER NO.: XXXX P.E.: #####
STATE: XXXXXX

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
ED, JJL, JMB	ED, JJL, JMB	ED	24412

CHK'D BY DATE

No.	REVISION
	PRELIMINARY FOR CONNECTICUT SITING COUNCIL

PORTLAND~MIDDLESEX COUNTY~CONNECTICUT

EXISTING CONDITIONS PLAN
SOLAR ARRAY DEVELOPMENT
GREENSKIES CLEAN ENERGY
15430 OLD MAIDS LANE

DATE SEPTEMBER 2025
SCALE 1" = 100'
SHEET C101

z:\project files\pa-hz\greenskies\124412 - connecticut solar design and permitting\cad\sheets and plans\portland\ct siting council plans\24412_greenskies_portland_design plans.dwg 9/29/2025 9:33 AM

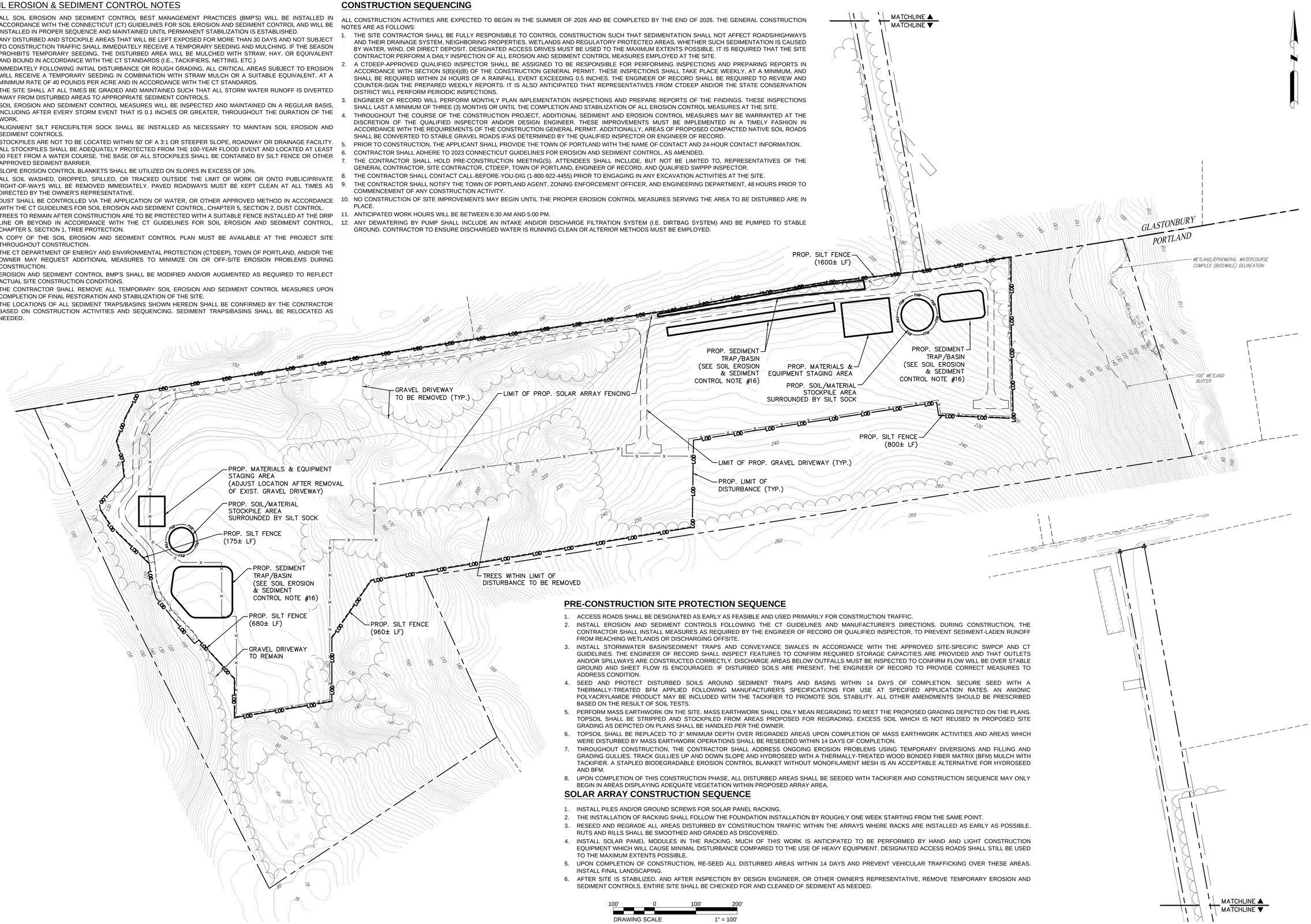
SOIL EROSION & SEDIMENT CONTROL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S) WILL BE INSTALLED IN ACCORDANCE WITH THE CONNECTICUT (CT) GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL AND WILL BE INSTALLED IN PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT STABILIZATION IS ESTABLISHED.
2. ANY DISTURBED AND STOCKPILE AREAS THAT WILL BE LEFT EXPOSED FOR MORE THAN 30 DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING AND MULCHING. IF THE SEASON PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREA WILL BE MULCHED WITH STRAW, HAY, OR EQUIVALENT AND BOUND IN ACCORDANCE WITH THE CT STANDARDS (I.E., TACKIFIERS, NETTING, ETC.)
3. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A MINIMUM RATE OF 40 POUNDS PER ACRE AND IN ACCORDANCE WITH THE CT STANDARDS.
4. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORM WATER RUNOFF IS DIVERTED AWAY FROM DISTURBED AREAS TO APPROPRIATE SEDIMENT CONTROLS.
5. SOIL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS, INCLUDING AFTER EVERY STORM EVENT THAT IS 0.1 INCHES OR GREATER, THROUGHOUT THE DURATION OF THE WORK.
6. ALIGNMENT SILT FENCE/FILTER SOCK SHALL BE INSTALLED AS NECESSARY TO MAINTAIN SOIL EROSION AND SEDIMENT CONTROLS.
7. STOCKPILES ARE NOT TO BE LOCATED WITHIN 50' OF A 3:1 OR STEEPER SLOPE, ROADWAY OR DRAINAGE FACILITY. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM THE 100-YEAR FLOOD EVENT AND LOCATED AT LEAST 50 FEET FROM A WATER COURSE. THE BASE OF ALL STOCKPILES SHALL BE CONTAINED BY SILT FENCE OR OTHER APPROVED SEDIMENT BARRIER.
8. SLOPE EROSION CONTROL BLANKETS SHALL BE UTILIZED ON SLOPES IN EXCESS OF 10%.
9. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF WORK OR ONTO PUBLIC/PRIVATE RIGHT-OF-WAYS WILL BE REMOVED IMMEDIATELY. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
10. DUST SHALL BE CONTROLLED V/A THE APPLICATION OF WATER, OR OTHER APPROVED METHOD IN ACCORDANCE WITH THE CT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, CHAPTER 5, SECTION 2, DUST CONTROL.
11. TREES TO REMAIN AFTER CONSTRUCTION ARE TO BE PROTECTED WITH A SUITABLE FENCE INSTALLED AT THE DRIP LINE OR BEYOND IN ACCORDANCE WITH THE CT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, CHAPTER 5, SECTION 1, TREE PROTECTION.
12. A COPY OF THE SOIL EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE THROUGHOUT CONSTRUCTION.
13. THE CT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION (CTDEEP), TOWN OF PORTLAND, AND/OR THE OWNER MAY REQUEST ADDITIONAL MEASURES TO MINIMIZE ON OR OFF-SITE EROSION PROBLEMS DURING CONSTRUCTION.
14. EROSION AND SEDIMENT CONTROL BMP'S SHALL BE MODIFIED AND/OR AUGMENTED AS REQUIRED TO REFLECT ACTUAL SITE CONSTRUCTION CONDITIONS.
15. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENT CONTROL MEASURES UPON COMPLETION OF FINAL RESTORATION AND STABILIZATION OF THE SITE.
16. THE LOCATIONS OF ALL SEDIMENT TRAPS/BASINS SHOWN HEREON SHALL BE CONFIRMED BY THE CONTRACTOR BASED ON CONSTRUCTION ACTIVITIES AND SEQUENCING. SEDIMENT TRAPS/BASINS SHALL BE RELOCATED AS NEEDED.

CONSTRUCTION SEQUENCING

ALL CONSTRUCTION ACTIVITIES ARE EXPECTED TO BEGIN IN THE SUMMER OF 2026 AND BE COMPLETED BY THE END OF 2026. THE GENERAL CONSTRUCTION NOTES ARE AS FOLLOWS:

1. THE SITE CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT ROADS/HIGHWAYS AND THEIR DRAINAGE SYSTEM, NEIGHBORING PROPERTIES, WETLANDS AND REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT. DESIGNATED ACCESS DRIVES MUST BE USED TO THE MAXIMUM EXTENTS POSSIBLE. IT IS REQUIRED THAT THE SITE CONTRACTOR PERFORM A DAILY INSPECTION OF ALL EROSION AND SEDIMENT CONTROL MEASURES EMPLOYED AT THE SITE.
2. A CTDEEP-APPROVED QUALIFIED INSPECTOR SHALL BE ASSIGNED TO BE RESPONSIBLE FOR PERFORMING INSPECTIONS AND PREPARING REPORTS IN ACCORDANCE WITH SECTION 5(B)(4)(B) OF THE CONSTRUCTION GENERAL PERMIT. THESE INSPECTIONS SHALL TAKE PLACE WEEKLY, AT A MINIMUM, AND SHALL BE REQUIRED WITHIN 24 HOURS OF A RAINFALL EVENT EXCEEDING 0.5 INCHES. THE ENGINEER OF RECORD SHALL BE REQUIRED TO REVIEW AND COUNTER-SIGN THE PREPARED WEEKLY REPORTS. IT IS ALSO ANTICIPATED THAT REPRESENTATIVES FROM CTDEEP AND/OR THE STATE CONSERVATION DISTRICT WILL PERFORM PERIODIC INSPECTIONS.
3. ENGINEER OF RECORD WILL PERFORM MONTHLY PLAN IMPLEMENTATION INSPECTIONS AND PREPARE REPORTS OF THE FINDINGS. THESE INSPECTIONS SHALL LAST A MINIMUM OF THREE (3) MONTHS OR UNTIL THE COMPLETION AND STABILIZATION OF ALL EROSION CONTROL MEASURES AT THE SITE.
4. THROUGHOUT THE COURSE OF THE CONSTRUCTION PROJECT, ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE WARRANTED AT THE DISCRETION OF THE QUALIFIED INSPECTOR AND/OR DESIGN ENGINEER. THESE IMPROVEMENTS MUST BE IMPLEMENTED IN A TIMELY FASHION IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONSTRUCTION GENERAL PERMIT. ADDITIONALLY, AREAS OF PROPOSED COMPACTED NATIVE SOIL ROADS SHALL BE CONVERTED TO STABLE GRAVEL ROADS IF/AS DETERMINED BY THE QUALIFIED INSPECTOR OR ENGINEER OF RECORD.
5. PRIOR TO CONSTRUCTION, THE APPLICANT SHALL PROVIDE THE TOWN OF PORTLAND WITH THE NAME OF CONTACT AND 24-HOUR CONTACT INFORMATION.
6. CONTRACTOR SHALL ADHERE TO 2023 CONNECTICUT GUIDELINES FOR EROSION AND SEDIMENT CONTROL, AS AMENDED.
7. THE CONTRACTOR SHALL HOLD PRE-CONSTRUCTION MEETING(S). ATTENDEES SHALL INCLUDE, BUT NOT BE LIMITED TO, REPRESENTATIVES OF THE GENERAL CONTRACTOR, SITE CONTRACTOR, CTDEEP, TOWN OF PORTLAND, ENGINEER OF RECORD, AND QUALIFIED SWPPP INSPECTOR.
8. THE CONTRACTOR SHALL CONTACT CALL-BEFORE-YOU-DIG (1-800-922-4455) PRIOR TO ENGAGING IN ANY EXCAVATION ACTIVITIES AT THE SITE.
9. THE CONTRACTOR SHALL NOTIFY THE TOWN OF PORTLAND AGENT, ZONING ENFORCEMENT OFFICER, AND ENGINEERING DEPARTMENT, 48 HOURS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY.
10. NO CONSTRUCTION OF SITE IMPROVEMENTS MAY BEGIN UNTIL THE PROPER EROSION CONTROL MEASURES SERVING THE AREA TO BE DISTURBED ARE IN PLACE.
11. ANTICIPATED WORK HOURS WILL BE BETWEEN 6:30 AM AND 5:00 PM.
12. ANY DEWATERING BY PUMP SHALL INCLUDE AN INTAKE AND/OR DISCHARGE FILTRATION SYSTEM (I.E. DIRTBAG SYSTEM) AND BE PUMPED TO STABLE GROUND. CONTRACTOR TO ENSURE DISCHARGED WATER IS RUNNING CLEAN OR ALTERIOR METHODS MUST BE EMPLOYED.



PRE-CONSTRUCTION SITE PROTECTION SEQUENCE

1. ACCESS ROADS SHALL BE DESIGNATED AS EARLY AS FEASIBLE AND USED PRIMARILY FOR CONSTRUCTION TRAFFIC.
2. INSTALL EROSION AND SEDIMENT CONTROLS FOLLOWING THE CT GUIDELINES AND MANUFACTURER'S DIRECTIONS. DURING CONSTRUCTION, THE CONTRACTOR SHALL INSTALL MEASURES AS REQUIRED BY THE ENGINEER OF RECORD OR QUALIFIED INSPECTOR, TO PREVENT SEDIMENT-LADEN RUNOFF FROM REACHING WETLANDS OR DISCHARGING OFFSITE.
3. INSTALL STORMWATER BASIN/SEDIMENT TRAPS AND CONVEYANCE SWALES IN ACCORDANCE WITH THE APPROVED SITE-SPECIFIC SWPCP AND CT GUIDELINES. THE ENGINEER OF RECORD SHALL INSPECT FEATURES TO CONFIRM REQUIRED STORAGE CAPACITIES ARE PROVIDED AND THAT OUTLETS AND/OR SPILLWAYS ARE CONSTRUCTED CORRECTLY. DISCHARGE AREAS BELOW OUTFALLS MUST BE INSPECTED TO CONFIRM FLOW WILL BE OVER STABLE GROUND AND SHEET FLOW IS ENCOURAGED. IF DISTURBED SOILS ARE PRESENT, THE ENGINEER OF RECORD TO PROVIDE CORRECT MEASURES TO ADDRESS CONDITION.
4. SEED AND PROTECT DISTURBED SOILS AROUND SEDIMENT TRAPS AND BASINS WITHIN 14 DAYS OF COMPLETION. SECURE SEED WITH A THERMALLY-TREATED BFM APPLIED FOLLOWING MANUFACTURER'S SPECIFICATIONS FOR USE AT SPECIFIED APPLICATION RATES. AN ANIONIC POLYACRYLAMIDE PRODUCT MAY BE INCLUDED WITH THE TACKIFIER TO PROMOTE SOIL STABILITY. ALL OTHER AMENDMENTS SHOULD BE PRESCRIBED BASED ON THE RESULT OF SOIL TESTS.
5. PERFORM MASS EARTHWORK ON THE SITE. MASS EARTHWORK SHALL ONLY MEAN REGRADING TO MEET THE PROPOSED GRADING DEPICTED ON THE PLANS. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FROM AREAS PROPOSED FOR REGRADING. EXCESS SOIL WHICH IS NOT REUSED IN PROPOSED SITE GRADING AS DEPICTED ON PLANS SHALL BE HANDLED PER THE OWNER.
6. TOPSOIL SHALL BE REPLACED TO 3" MINIMUM DEPTH OVER REGRADED AREAS UPON COMPLETION OF MASS EARTHWORK ACTIVITIES AND AREAS WHICH WERE DISTURBED BY MASS EARTHWORK OPERATIONS SHALL BE RESEEDED WITHIN 14 DAYS OF COMPLETION.
7. THROUGHOUT CONSTRUCTION, THE CONTRACTOR SHALL ADDRESS ONGOING EROSION PROBLEMS USING TEMPORARY DIVERSIONS AND FILLING AND GRADING GULLIES. TRACK GULLIES UP AND DOWN SLOPE AND HYDROSEED WITH A THERMALLY-TREATED WOOD BONDED FIBER MATRIX (BFM) MULCH WITH TACKIFIER. A STAPLED BIODEGRADABLE EROSION CONTROL BLANKET WITHOUT MONOFILAMENT MESH IS AN ACCEPTABLE ALTERNATIVE FOR HYDROSEED AND BFM.
8. UPON COMPLETION OF THIS CONSTRUCTION PHASE, ALL DISTURBED AREAS SHALL BE SEEDED WITH TACKIFIER AND CONSTRUCTION SEQUENCE MAY ONLY BEGIN IN AREAS DISPLAYING ADEQUATE VEGETATION WITHIN PROPOSED ARRAY AREA.

SOLAR ARRAY CONSTRUCTION SEQUENCE

1. INSTALL PILES AND/OR GROUND SCREWS FOR SOLAR PANEL RACKING.
2. THE INSTALLATION OF RACKING SHALL FOLLOW THE FOUNDATION INSTALLATION BY ROUGHLY ONE WEEK STARTING FROM THE SAME POINT.
3. RESEED AND REGRADE ALL AREAS DISTURBED BY CONSTRUCTION TRAFFIC WITHIN THE ARRAYS WHERE RACKS ARE INSTALLED AS EARLY AS POSSIBLE. RUTS AND RILLS SHALL BE SMOOTHED AND GRADED AS DISCOVERED.
4. INSTALL SOLAR PANEL MODULES IN THE RACKING. MUCH OF THIS WORK IS ANTICIPATED TO BE PERFORMED BY HAND AND LIGHT CONSTRUCTION EQUIPMENT WHICH WILL CAUSE MINIMAL DISTURBANCE COMPARED TO THE USE OF HEAVY EQUIPMENT. DESIGNATED ACCESS ROADS SHALL STILL BE USED TO THE MAXIMUM EXTENTS POSSIBLE.
5. UPON COMPLETION OF CONSTRUCTION, RE-SEED ALL DISTURBED AREAS WITHIN 14 DAYS AND PREVENT VEHICULAR TRAFFICKING OVER THESE AREAS. INSTALL FINAL LANDSCAPING.
6. AFTER SITE IS STABILIZED, AND AFTER INSPECTION BY DESIGN ENGINEER, OR OTHER OWNER'S REPRESENTATIVE, REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS. ENTIRE SITE SHALL BE CHECKED FOR AND CLEANED OF SEDIMENT AS NEEDED.

100' 0 100' 200'
DRAWING SCALE 1" = 100'

verdantas
1005 MAIN STREET, SUITE NO.: 8120
PAWTUCKET, RI 02860

PROFESSIONAL ENGINEER NO.: XXXX
P.E._#####
STATE: XXXXXX

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
ED, JJL, JMB	ED, JJL, JMB	ED	24412

CHK'D BY DATE

No.	REVISION
-	PRELIMINARY FOR CONNECTICUT SITING COUNCIL

PORTLAND–MIDDLESEX COUNTY–CONNECTICUT

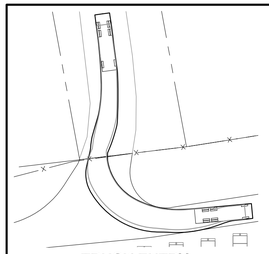
EROSION & SEDIMENT CONTROL PLAN
SOLAR ARRAY DEVELOPMENT
GREENSKIES CLEAN ENERGY
15430 OLD MAIDS LANE

DATE
SEPTEMBER 2025

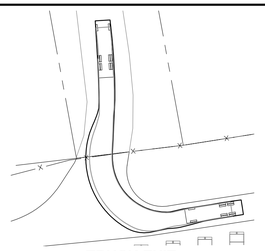
SCALE
1" = 100'

SHEET
C102

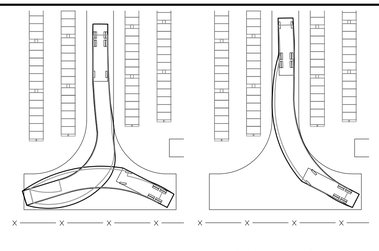
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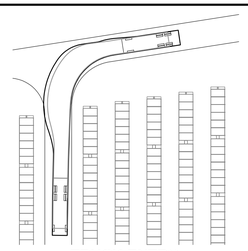
TRUCK ENTRY



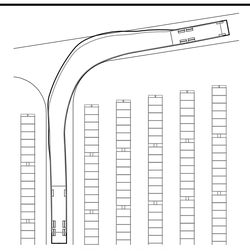
TRUCK EXIT



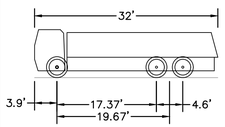
TRUCK TURNAROUND (TYP. OF 2)



TRUCK ENTRY



TRUCK EXIT



OVERALL LENGTH	32'
OVERALL WIDTH	8.3'
OVERALL BODY HEIGHT	9.9'
MIN. BODY GROUND CLEARANCE	0.8'
TRACK WIDTH	7.8'
LOCK-TO-LOCK-TIME	4.0s
MAX. WHEEL ANGLE	35°

PORTLAND TANKER TRUCK

NOT TO SCALE

KEY

BODY ENVELOPE

CHASSIS ENVELOPE

SWEPT PATH ANALYSIS

40' 0 40' 80'

DRAWING SCALE 1" = 40'

MATCHLINE ▲
MATCHLINE ▼

49600150
N/F
TOWN OF GLASTONBURY
DEED 2101~22
RURAL RESIDENCE
ZONING DISTRICT

49600222
NAYAUG SCHOOL
N/F
TOWN OF GLASTONBURY
DEED 2101~22
COUNTRY RESIDENCE/RURAL RESIDENCE
ZONING DISTRICT

72001145
N/F
TOWN OF GLASTONBURY
RESERVED LAND
ZONING DISTRICT

PROP. UNDERGROUND ELECTRIC INTERCONNECTION PATH (2025± LF)

PROP. CONNECTION TO EXIST. GRAVEL DRIVEWAY

GLASTONBURY

PORTLAND

WETLAND/EPHEMERAL WATERCOURSE COMPLEX (BIOSWALE) DELINEATION

127-3
N/F
CHARLES & MARGARET MORRELL
DEED 199~163

100' WETLAND BUFFER

PROP. 15' WIDE GRAVEL DRIVEWAY (TYP.)

PROP. CONC. EQUIPMENT PAD (500± SF)

PROP. 7' HIGH CHAIN LINK SITE SECURITY FENCE (TYP.)

PROP. UNDERGROUND ELECTRIC INTERCONNECTION PATH (690± LF)

PROP. ARRAY WITH DRIVEN STRUCTURAL SUPPORTS 8' MIN. SPACING (TYP.) (REFER TO ELECTRICAL PLANS FOR ADDITIONAL DETAILS)

PROP. CONC. EQUIPMENT PAD (500± SF)

PROP. TREELINE (TYP.)

50' PROPERTY LINE SETBACK (TYP.)

PROP. CONNECTION TO EXIST. GRAVEL DRIVEWAY

GRAVEL DRIVE

LEDGE OUTCROP

POND

118-1
N/F
STATE OF CONNECTICUT
DEED 79~476

119-3
N/F
PORTLAND AGGREGATES LLC
DEED 1091~54

OLD MAIDS LANE

UP/1972

UP/1971

UP/5210 W/RISER

OH

BIT. ROAD

PROP. POINT OF INTERCONNECTION AT UP/1972

PROP. UNDERGROUND ELECTRIC INTERCONNECTION PATH (2025± LF)

WOODED

100' 0 100' 200'

DRAWING SCALE 1" = 100'

MATCHLINE ▲
MATCHLINE ▼

verdantas

1005 MAIN STREET, SUITE NO.: 8120
PAWTUCKET, RI 02860

PROFESSIONAL ENGINEER NO.: XXXX

P.E._######

STATE: XXXXXX

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
ED, JJL, JMB	ED, JJL, JMB	ED	24412

CHK'D BY DATE

REVISION

No.

PRELIMINARY FOR CONNECTICUT SITING COUNCIL

PORTLAND-MIDDLESEX COUNTY-CONNECTICUT

PROPOSED OVERALL SITE LAYOUT PLAN
SOLAR ARRAY DEVELOPMENT
GREENSKIES CLEAN ENERGY
15430 OLD MAIDS LANE

DATE
SEPTEMBER 2025

SCALE
1" = 100'

SHEET
C103

z:\project files\ga-hz\greenskies\124412 - connecticut solar design and permitting\cad\sheets and plans\portland\ct siting council plans\24412_greenskies_portland_design plans.dwg 9/29/2025 9:34 AM

PROP. UNDERGROUND ELECTRIC INTERCONNECTION PATH (2025± LF)

PROP. CONNECTION TO EXIST. GRAVEL DRIVEWAY

GATE

4' MIN. (TYP.)

52'

50' PROPERTY LINE SETBACK (TYP.)

100' WETLAND BUFFER

PROP. 15' WIDE GRAVEL DRIVEWAY (TYP.)

52'

PROP. CONC. EQUIPMENT PAD (500± SF)

PROP. 7' HIGH CHAIN LINK SITE SECURITY FENCE (TYP.)

VARIES (25' MIN.)

PROP. UNDERGROUND ELECTRIC INTERCONNECTION PATH (690± LF)

242'

PROP. ARRAY WITH DRIVEN STRUCTURAL SUPPORTS 8' MIN. SPACING (TYP.) (REFER TO ELECTRICAL PLANS FOR ADDITIONAL DETAILS)

PROP. CONC. EQUIPMENT PAD (500± SF)

50' PROPERTY LINE SETBACK (TYP.)

PROP. TREELINE (TYP.)

MATCHLINE – SHEET C105
MATCHLINE – SHEET C104

50' 0 50' 100'
DRAWING SCALE 1" = 50'

verdantas
1005 MAIN STREET, SUITE NO.: 8120
PAWTUCKET, RI 02860

PROFESSIONAL ENGINEER NO.: XXXX
P.E._#####
STATE: XXXXXX

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PORTLAND-MIDDLESEX COUNTY-CONNECTICUT

PROPOSED SITE LAYOUT PLAN 1
SOLAR ARRAY DEVELOPMENT
GREENSKIES CLEAN ENERGY
15430 OLD MAIDS LANE

DATE
SEPTEMBER 2025

SCALE
1" = 50'

SHEET
C104

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PORTLAND~MIDDLESEX COUNTY~CONNECTICUT

PROPOSED SITE LAYOUT PLAN 2
SOLAR ARRAY DEVELOPMENT
GREENSKIES CLEAN ENERGY
15430 OLD MAIDS LANE

No.	REVISION	CHK'D BY DATE
	PRELIMINARY FOR CONNECTICUT SITING COUNCIL	
-		

DESIGNED BY: ED, JJL, JMB
DRAWN BY: ED, JJL, JMB
CHECKED BY: ED
PROJECT NO.: 24412

PROFESSIONAL ENGINEER NO.: XXXX
STATE:_XXXXXX P.E._#####

SHEET: C105
SCALE: 1" = 50'
DATE: SEPTEMBER 2025

verdantas
1005 MAIN STREET, SUITE NO.: 8120
PAWTUCKET, RI 02860

DRAINAGE NOTES

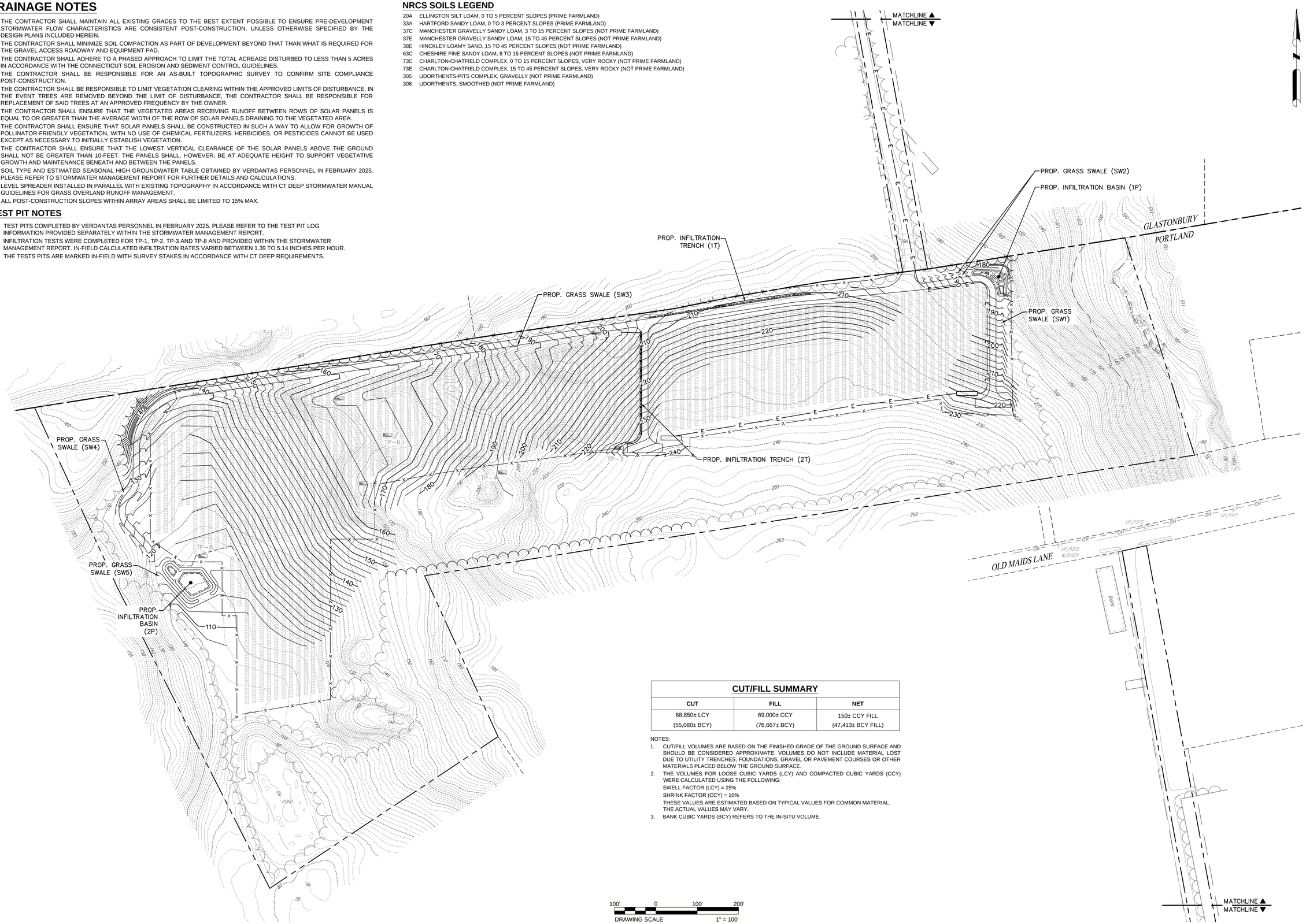
1. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING GRADES TO THE BEST EXTENT POSSIBLE TO ENSURE PRE-DEVELOPMENT STORMWATER FLOW CHARACTERISTICS ARE CONSISTENT POST-CONSTRUCTION, UNLESS OTHERWISE SPECIFIED BY THE DESIGN PLANS INCLUDED HEREIN.
2. THE CONTRACTOR SHALL MINIMIZE SOIL COMPACTION AS PART OF DEVELOPMENT BEYOND THAT THAN WHAT IS REQUIRED FOR THE GRAVEL ACCESS ROADWAY AND EQUIPMENT PAD.
3. THE CONTRACTOR SHALL ADHERE TO A PHASED APPROACH TO LIMIT THE TOTAL ACREAGE DISTURBED TO LESS THAN 5 ACRES IN ACCORDANCE WITH THE CONNECTICUT SOIL EROSION AND SEDIMENT CONTROL GUIDELINES.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AN AS-BUILT TOPOGRAPHIC SURVEY TO CONFIRM SITE COMPLIANCE POST-CONSTRUCTION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE TO LIMIT VEGETATION CLEARING WITHIN THE APPROVED LIMITS OF DISTURBANCE. IN THE EVENT TREES ARE REMOVED BEYOND THE LIMIT OF DISTURBANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF SAID TREES AT AN APPROVED FREQUENCY BY THE OWNER.
6. THE CONTRACTOR SHALL ENSURE THAT THE VEGETATED AREAS RECEIVING RUNOFF BETWEEN ROWS OF SOLAR PANELS IS EQUAL TO OR GREATER THAN THE AVERAGE WIDTH OF THE ROW OF SOLAR PANELS DRAINING TO THE VEGETATED AREA.
7. THE CONTRACTOR SHALL ENSURE THAT SOLAR PANELS SHALL BE CONSTRUCTED IN SUCH A WAY TO ALLOW FOR GROWTH OF POLLINATOR-FRIENDLY VEGETATION, WITH NO USE OF CHEMICAL FERTILIZERS. HERBICIDES, OR PESTICIDES CANNOT BE USED EXCEPT AS NECESSARY TO INITIALLY ESTABLISH VEGETATION.
8. THE CONTRACTOR SHALL ENSURE THAT THE LOWEST VERTICAL CLEARANCE OF THE SOLAR PANELS ABOVE THE GROUND SHALL NOT BE GREATER THAN 10-FEET. THE PANELS SHALL, HOWEVER, BE AT ADEQUATE HEIGHT TO SUPPORT VEGETATIVE GROWTH AND MAINTENANCE BENEATH AND BETWEEN THE PANELS.
9. SOIL TYPE AND ESTIMATED SEASONAL HIGH GROUNDWATER TABLE OBTAINED BY VERDANTAS PERSONNEL IN FEBRUARY 2025. PLEASE REFER TO STORMWATER MANAGEMENT REPORT FOR FURTHER DETAILS AND CALCULATIONS.
10. LEVEL SPREADER INSTALLED IN PARALLEL WITH EXISTING TOPOGRAPHY IN ACCORDANCE WITH CT DEEP STORMWATER MANUAL GUIDELINES FOR GRASS OVERLAND RUNOFF MANAGEMENT.
11. ALL POST-CONSTRUCTION SLOPES WITHIN ARRAY AREAS SHALL BE LIMITED TO 15% MAX.

TEST PIT NOTES

1. TEST PITS COMPLETED BY VERDANTAS PERSONNEL IN FEBRUARY 2025. PLEASE REFER TO THE TEST PIT LOG INFORMATION PROVIDED SEPARATELY WITHIN THE STORMWATER MANAGEMENT REPORT.
2. INFILTRATION TESTS WERE COMPLETED FOR TP-1, TP-2, TP-3 AND TP-8 AND PROVIDED WITHIN THE STORMWATER MANAGEMENT REPORT. IN-FIELD CALCULATED INFILTRATION RATES VARIED BETWEEN 1.39 TO 5.14 INCHES PER HOUR.
3. THE TESTS PITS ARE MARKED IN-FIELD WITH SURVEY STAKES IN ACCORDANCE WITH CT DEEP REQUIREMENTS.

NRCS SOILS LEGEND

20A	ELLINGTON SILT LOAM, 0 TO 5 PERCENT SLOPES (PRIME FARMLAND)
33A	HARTFORD SANDY LOAM, 0 TO 3 PERCENT SLOPES (PRIME FARMLAND)
37C	MANCHESTER GRAVELLY SANDY LOAM, 3 TO 15 PERCENT SLOPES (NOT PRIME FARMLAND)
37E	MANCHESTER GRAVELLY SANDY LOAM, 15 TO 45 PERCENT SLOPES (NOT PRIME FARMLAND)
38E	HINCKLEY LOAMY SAND, 15 TO 45 PERCENT SLOPES (NOT PRIME FARMLAND)
63C	CHESHIRE FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES (NOT PRIME FARMLAND)
73C	CHARLTON-CHATFIELD COMPLEX, 0 TO 15 PERCENT SLOPES, VERY ROCKY (NOT PRIME FARMLAND)
73E	CHARLTON-CHATFIELD COMPLEX, 15 TO 45 PERCENT SLOPES, VERY ROCKY (NOT PRIME FARMLAND)
305	UDORTHENTS-PITS COMPLEX, GRAVELLY (NOT PRIME FARMLAND)
308	UDORTHENTS, SMOOTHED (NOT PRIME FARMLAND)



CUT/FILL SUMMARY

CUT	FILL	NET
68,850± LCY	69,000± CCY	150± CCY FILL
(55,080± BCY)	(76,667± BCY)	(47,413± BCY FILL)

NOTES:

1. CUT/FILL VOLUMES ARE BASED ON THE FINISHED GRADE OF THE GROUND SURFACE AND SHOULD BE CONSIDERED APPROXIMATE. VOLUMES DO NOT INCLUDE MATERIAL LOST DUE TO UTILITY TRENCHES, FOUNDATIONS, GRAVEL OR PAVEMENT COURSES OR OTHER MATERIALS PLACED BELOW THE GROUND SURFACE.
2. THE VOLUMES FOR LOOSE CUBIC YARDS (LCY) AND COMPACTED CUBIC YARDS (CCY) WERE CALCULATED USING THE FOLLOWING:
   SWELL FACTOR (LCY) = 25%
   SHRINK FACTOR (CCY) = 10%
   THESE VALUES ARE ESTIMATED BASED ON TYPICAL VALUES FOR COMMON MATERIAL. THE ACTUAL VALUES MAY VARY.
3. BANK CUBIC YARDS (BCY) REFERS TO THE IN-SITU VOLUME.

100' 0 100' 200'
DRAWING SCALE 1" = 100'

verdantas
1005 MAIN STREET, SUITE NO.: 8120
PAWTUCKET, RI 02860

PROFESSIONAL ENGINEER NO.: XXXX
P.E._#####
STATE: XXXXXX

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ED, JJL, JMB	ED, JJL, JMB	ED	24412

CHK'D BY DATE

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-	PRELIMINARY FOR CONNECTICUT SITING COUNCIL

PORTLAND~MIDDLESEX COUNTY~CONNECTICUT

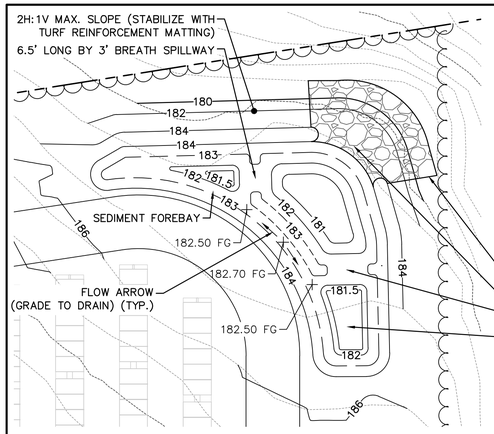
PROPOSED OVERALL DRAINAGE PLAN
SOLAR ARRAY DEVELOPMENT
GREENSKIES CLEAN ENERGY
15430 OLD MAIDS LANE

DATE
SEPTEMBER 2025

SCALE
1" = 100'

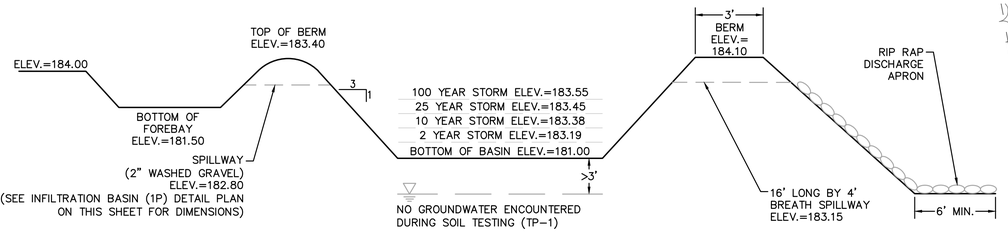
SHEET
C106

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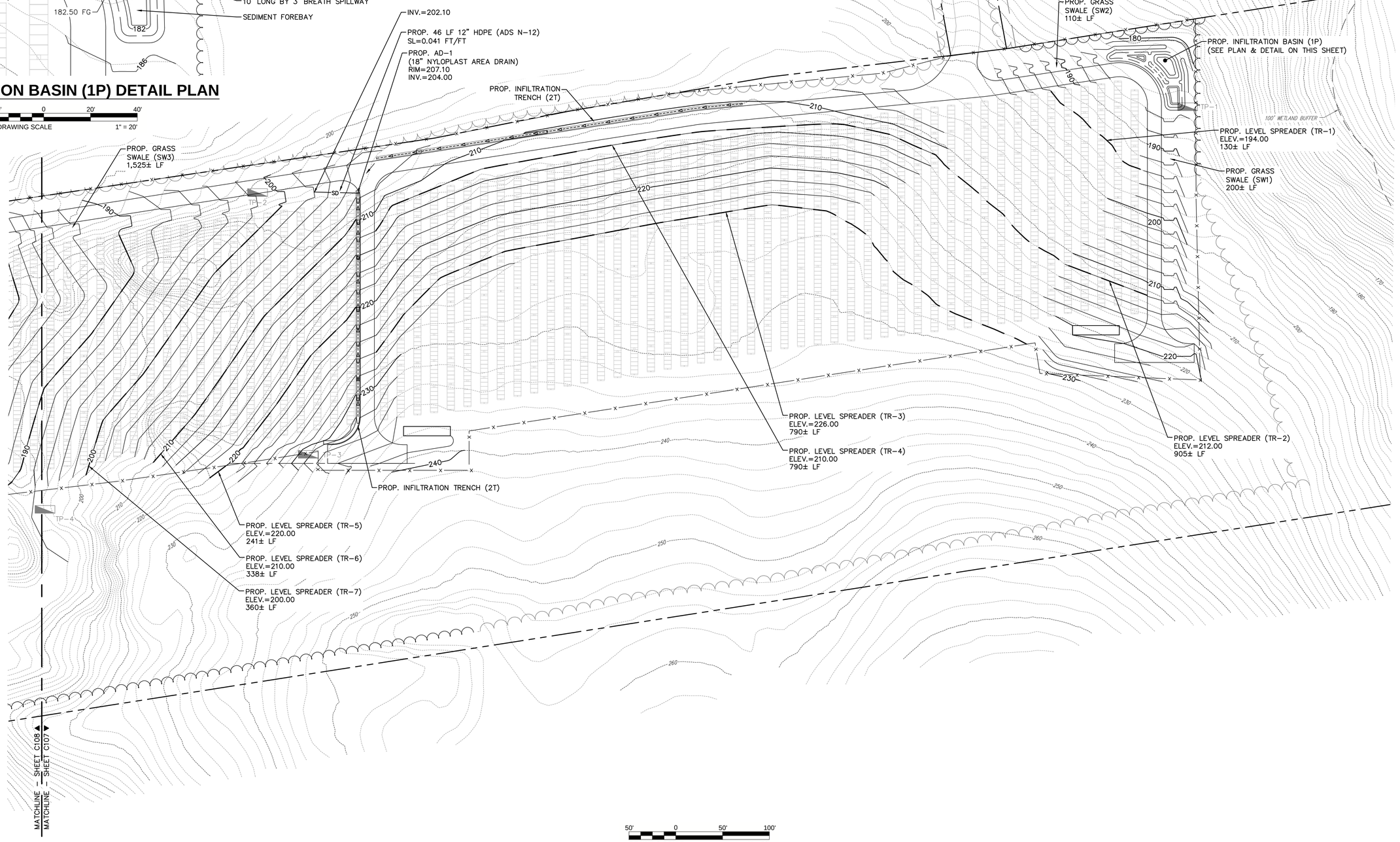
INFILTRATION BASIN (1P) DETAIL PLAN

20' 0 20' 40'
DRAWING SCALE 1" = 20'



INFILTRATION BASIN DETAIL (1P)

NOT TO SCALE



50' 0 50' 100'
DRAWING SCALE 1" = 50'

verdantas
1005 MAIN STREET, SUITE NO.: 8120
PAWTUCKET, RI 02860

PROFESSIONAL ENGINEER NO.: XXXX
P.E._#####
STATE: XXXXXX

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PORTLAND-MIDDLESEX COUNTY-CONNECTICUT

PROPOSED DRAINAGE PLAN 1
SOLAR ARRAY DEVELOPMENT

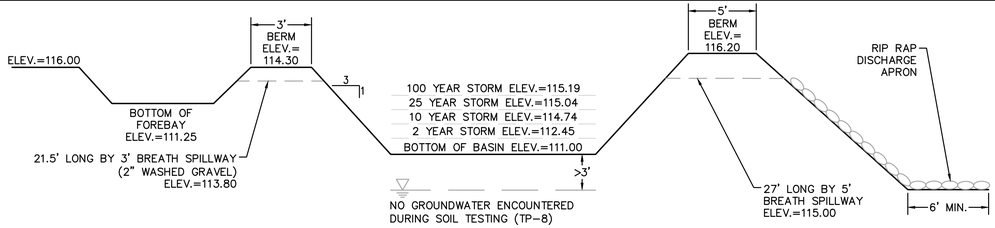
GREENSKIES CLEAN ENERGY
15430 OLD MAIDS LANE

DATE
SEPTEMBER 2025

SCALE
1" = 50'

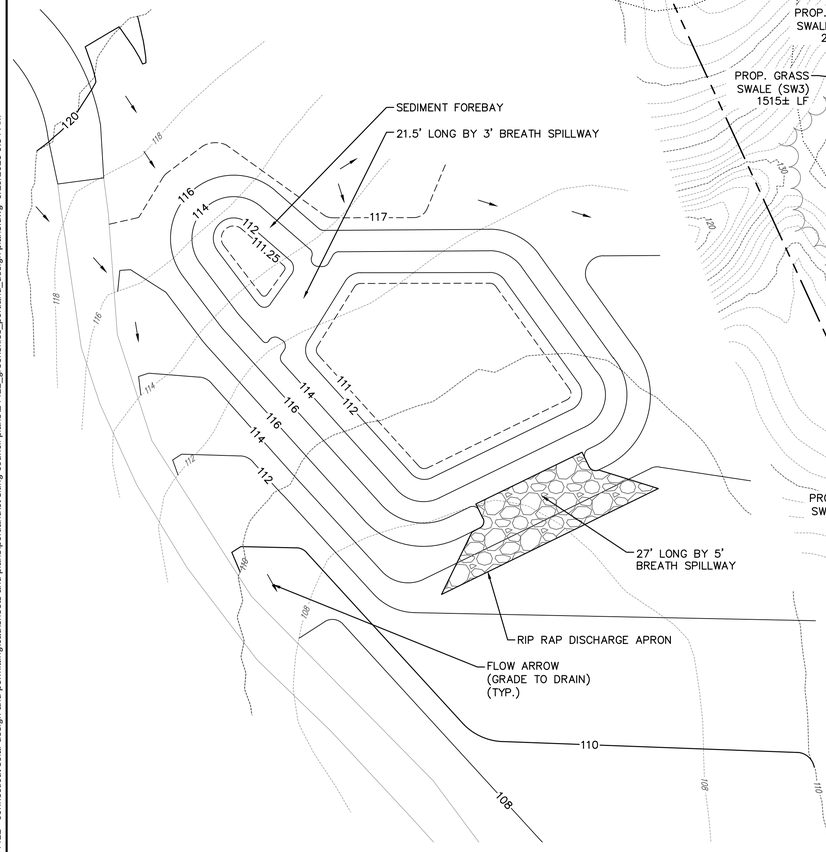
SHEET
C107

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INFILTRATION BASIN DETAIL (2P)

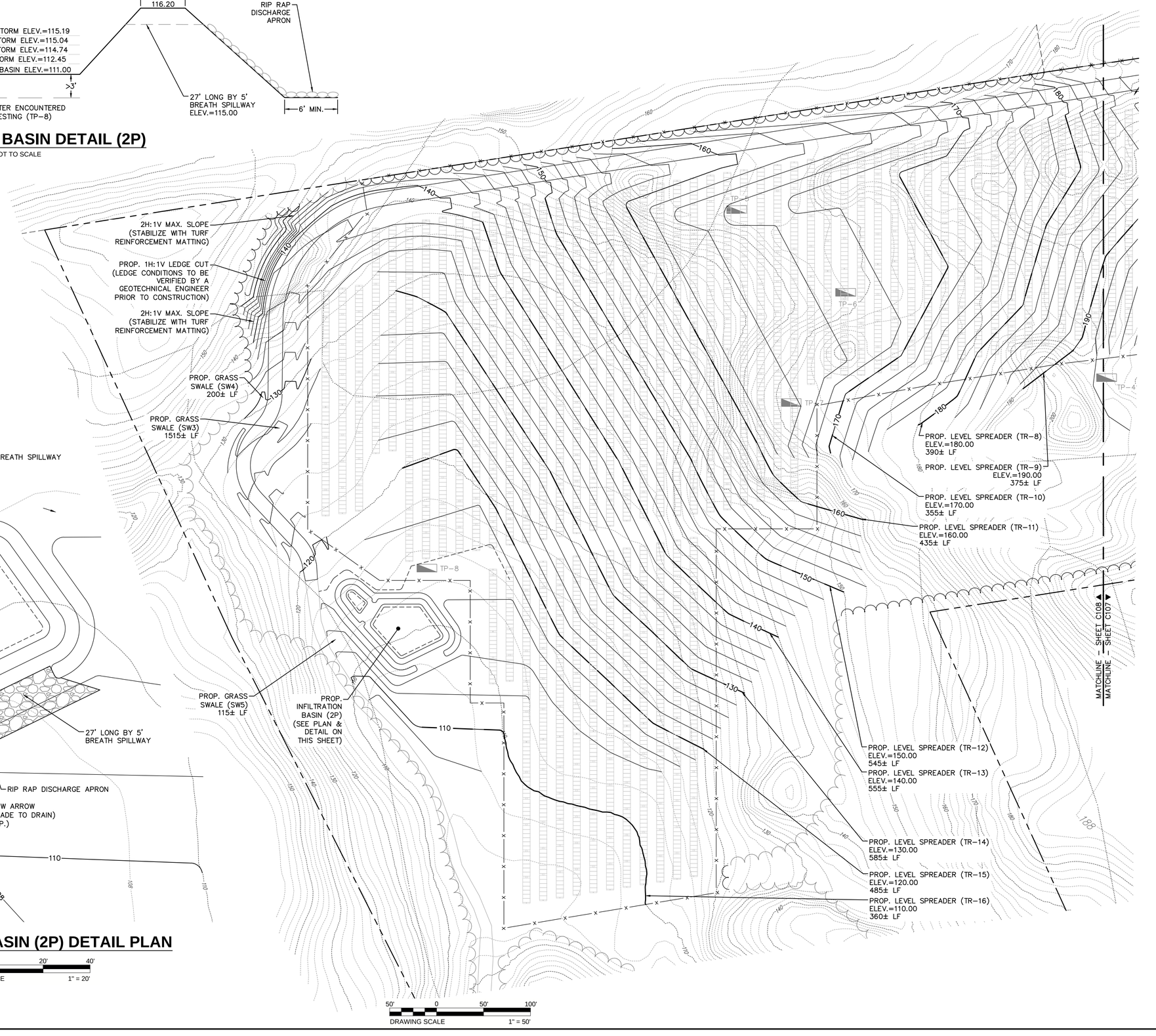
NOT TO SCALE



INFILTRATION BASIN (2P) DETAIL PLAN

20' 0 20' 40'

DRAWING SCALE 1" = 20'



50' 0 50' 100'

DRAWING SCALE 1" = 50'

verdantas
1005 MAIN STREET, SUITE NO.: 8120
PAWTUCKET, RI 02860

PROFESSIONAL ENGINEER NO.: XXXX

P.E._#####

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	PRELIMINARY FOR CONNECTICUT SITING COUNCIL

PORTLAND-MIDDLESEX COUNTY-CONNECTICUT

PROPOSED DRAINAGE PLAN 2
SOLAR ARRAY DEVELOPMENT

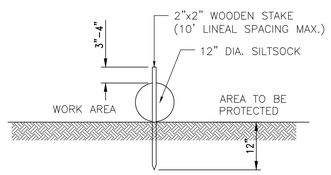
GREENSKIES CLEAN ENERGY
15430 OLD MAIDS LANE

DATE SEPTEMBER 2025

SCALE 1" = 50'

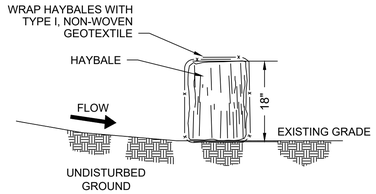
SHEET **C108**

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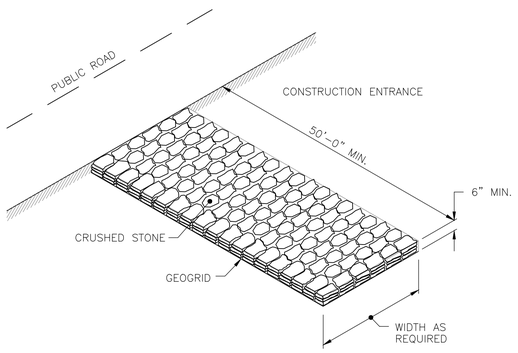
SILTSOCK DETAIL

NOT TO SCALE



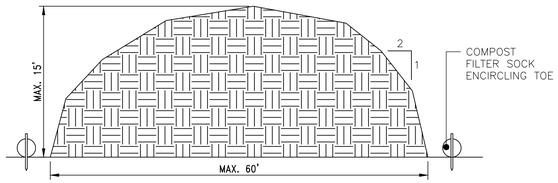
SEDIMENT BARRIER (SB) DETAIL

NOT TO SCALE



CONSTRUCTION ACCESS

NOT TO SCALE

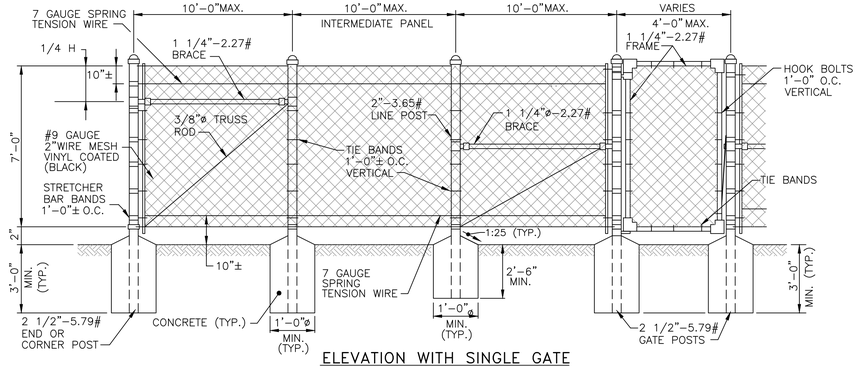


NOTES

1. THE CONTRACTOR SHALL REQUIRE WRITTEN APPROVAL FROM THE ENGINEER IN THE EVENT THE STOCKPILE LOCATION DIFFERS FROM THE APPROVED PLAN.
2. STOCKPILE AREA SHALL NOT EXCEED DIMENSIONS WITHOUT APPROVAL FROM ENGINEER.

ERODIBLE MATERIAL STOCKPILE DETAIL

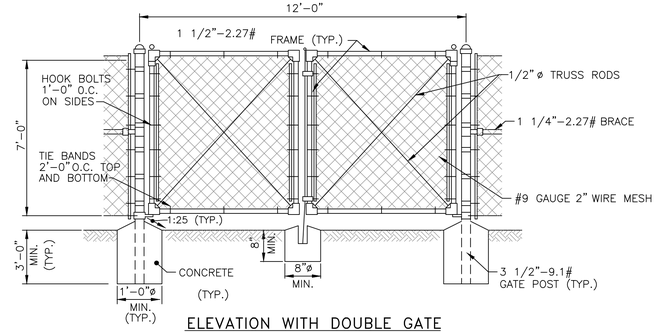
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ELEVATION WITH SINGLE GATE

NOTES:

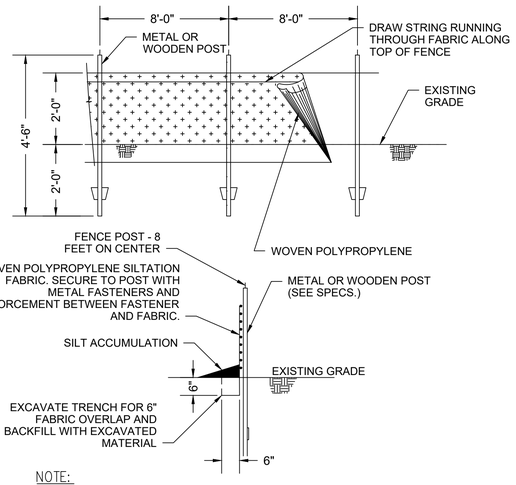
1. 6 GAUGE STREET CLIPS TO BE USED TO FASTEN SPRING TENSION WIRE TO LINE POST.
2. SPRING TENSION WIRE – NO. 7 GAUGE CORRUGATED HEAVILY GALVANIZED (2.0 OZ. PER SQ. FT.) ALUMINUM COATED (0.4 OZ. PER SQ. FT.)
3. ALL PIPES REFER TO SCHEDULE 40 NOMINAL PIPE SIZES.
4. A 1 1/4"–2.27# TOP RAIL MAY BE SUBSTITUTED FOR THE TOP TENSION WIRE WHEN THE FENCE IS NOT LOCATED IN THE CLEAR ZONE.
5. WHEN A TOP RAIL IS USED, LOCATE THE BRACE RAIL AT 1/2 H.
6. WHEN A TOP RAIL IS USED, DELETE THE BOTTOM SPRING TENSION WIRE.



ELEVATION WITH DOUBLE GATE

CHAIN LINK FENCE DETAIL

NOT TO SCALE

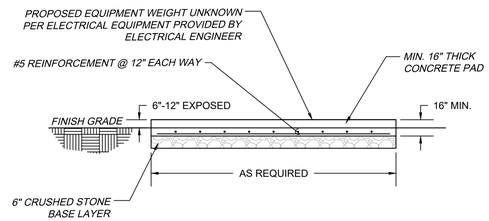


NOTE:

WHERE REQUIRED AT CRITICAL LOCATIONS, SILTATION FENCE REINFORCED WITH HOG OR CHIKEN WIRE OR INTEGRAL PLASTIC MESH REINFORCING SHALL BE USED

SILT FENCE DETAIL

NOT TO SCALE

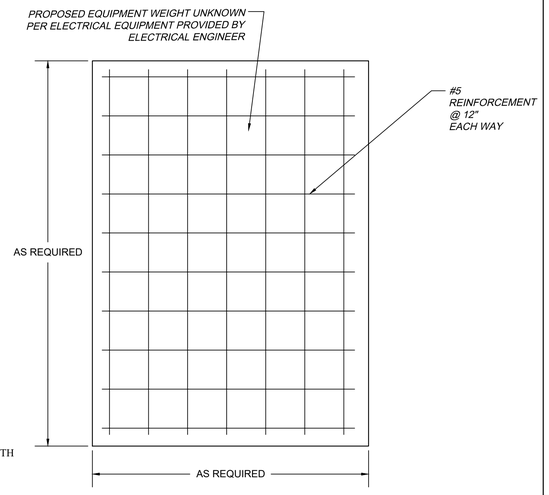


EQUIPMENT CONCRETE PAD CROSS SECTION DETAIL

NOT TO SCALE

CONCRETE NOTES

1. ALL CONCRETE WORK SHALL CONFORM TO ACT 318 AND 301 REQUIREMENTS. THIS SHALL INCLUDE PROPORTIONING OF CONCRETE MIX, PLACEMENT OF CONCRETE, AND CURING PROCEDURES.
2. CONCRETE SHALL HAVE A 4,000 PSI 28 DAY COMPRESSIVE STRENGTH.
3. PROVIDE TOTAL AIR ENTRAINMENT OF 6% ± FOR ALL CONCRETE EXPOSED TO WEATHER.
4. MAXIMUM WATER/CEMENT RATIO - W/C = 0.45.
5. CONCRETE REINFORCING SHALL BE IN ACCORDANCE WITH ASTM A615 AND HAVE A MINIMUM YIELD STRENGTH OF 60 KSI.
6. UNLESS NOTED OTHERWISE, PROVIDE 3 INCHES MINIMUM REINFORCING COVER.
7. ALL REBARS SHALL BE EPOXY COATED GRADE 60.



CONTAINER CONCRETE PAD PLAN VIEW DETAIL

NOT TO SCALE

verdantas
1005 MAIN STREET, SUITE NO.: 8120
PAWTUCKET, RI 02860

PROFESSIONAL ENGINEER NO.: XXXX
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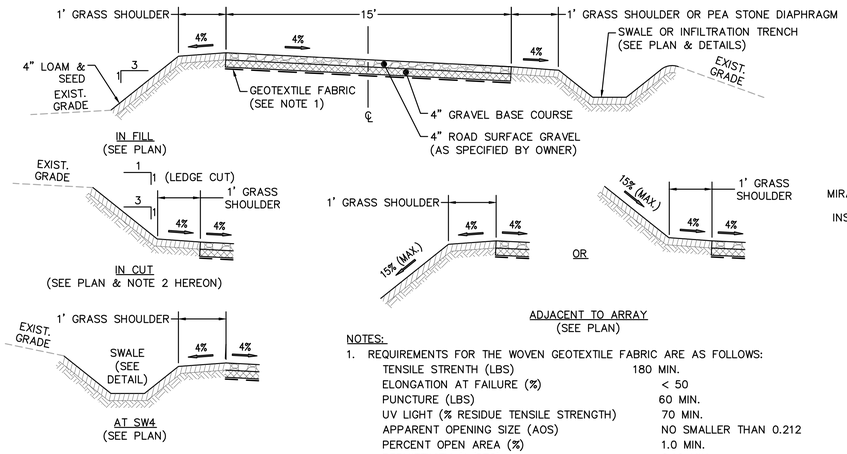
PORTLAND–MIDDLESEX COUNTY–CONNECTICUT

CONSTRUCTION DETAILS & NOTES
SOLAR ARRAY DEVELOPMENT
GREENSKIES CLEAN ENERGY
15430 OLD MAIDS LANE

DATE
SEPTEMBER 2025

SCALE
NOT TO SCALE

SHEET
C109



NOTES:

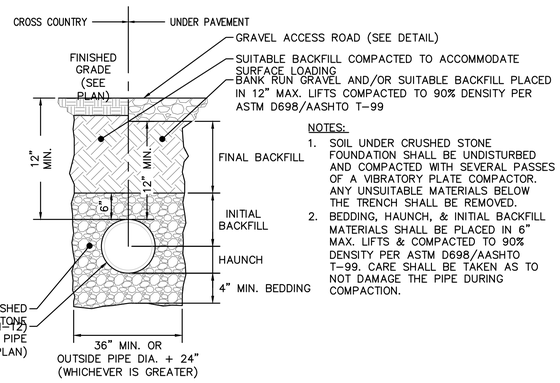
1. REQUIREMENTS FOR THE WOVEN GEOTEXTILE FABRIC ARE AS FOLLOWS:

TENSILE STRENTH (LBS)	180 MIN.
ELONGATION AT FAILURE (%)	< 50
PUNCTURE (LBS)	60 MIN.
UV LIGHT (% RESIDUE TENSILE STRENGTH)	70 MIN.
APPARENT OPENING SIZE (AOS)	NO SMALLER THAN 0.212
PERCENT OPEN AREA (%)	1.0 MIN.
PERMITTIVITY (1/SEC)	0.10 MIN.

2. WITHIN LEDGE CUT AREA, PROVIDE A SHOULDER GREATER THAN OR EQUAL TO ONE HALF THE HORIZONTAL WIDTH OF THE CUT FOR A "ROCKFALL ZONE". LEDGE CONDITIONS AND PROPOSED WORK SHALL BE CONFIRMED BY A GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.

GRAVEL ACCESS ROAD DETAIL

NOT TO SCALE

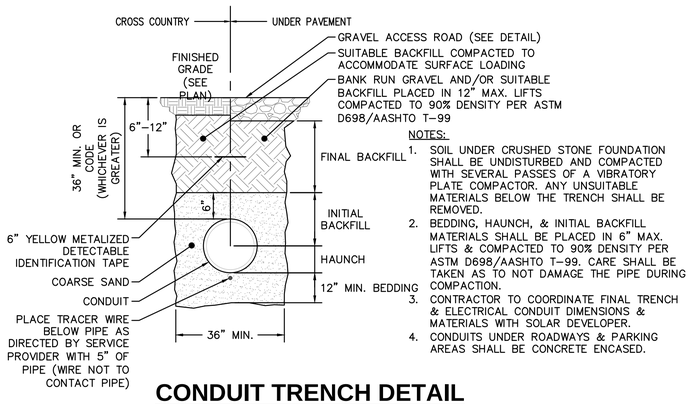


NOTES:

1. SOIL UNDER CRUSHED STONE FOUNDATION SHALL BE UNDISTURBED AND COMPACTED WITH SEVERAL PASSES OF A VIBRATORY PLATE COMPACTOR. ANY UNSUITABLE MATERIALS BELOW THE TRENCH SHALL BE REMOVED.
2. BEDDING, HAUNCH, & INITIAL BACKFILL MATERIALS SHALL BE PLACED IN 6" MAX. LIFTS & COMPACTED TO 90% DENSITY PER ASTM D698/AASHTO T-99. CARE SHALL BE TAKEN AS TO NOT DAMAGE THE PIPE DURING COMPACTION.

DRAIN TRENCH DETAIL

NOT TO SCALE

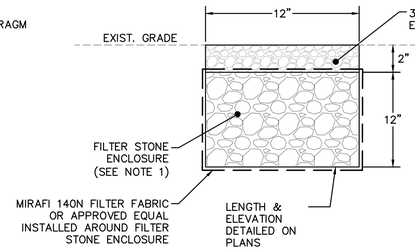


NOTES:

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2. BEDDING, HAUNCH, & INITIAL BACKFILL MATERIALS SHALL BE PLACED IN 6" MAX. LIFTS & COMPACTED TO 90% DENSITY PER ASTM D698/AASHTO T-99. CARE SHALL BE TAKEN AS TO NOT DAMAGE THE PIPE DURING COMPACTION.
3. CONTRACTOR TO COORDINATE FINAL TRENCH & ELECTRICAL CONDUIT DIMENSIONS & MATERIALS WITH SOLAR DEVELOPER.
4. CONDUITS UNDER ROADWAYS & PARKING AREAS SHALL BE CONCRETE ENCASED.

CONDUIT TRENCH DETAIL

NOT TO SCALE



NOTES:

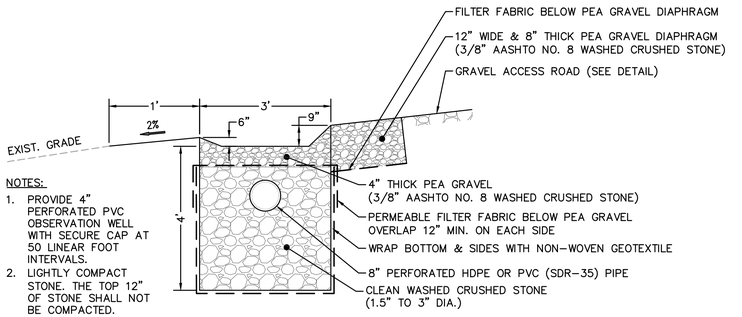
1. FILTER STONE TO BE NATIONAL STONE ASSOCIATION MODIFIED NSA NO. FS-2 WITH THE FOLLOWING PARTICLE SIEVE DISTRIBUTION:

100% PASSING	0-50% PASSING	0-15% PASSING
2	NO. 4	NO. 18

2. TRENCHES TO BE PROTECTED FROM SILTATION DURING CONSTRUCTION AND UNTIL VEGETATION IS FULLY ESTABLISHED. THE TRENCHES SHALL BE INSPECTED BY THE DESIGN ENGINEER UPON COMPLETION.
3. PERVIOUS CONTRIBUTING AREA MAXIMUM INFLOW APPROACH LENGTH IS PROPOSED ±150-FEET, INSTALLED IN PARALLEL WITH TOPOGRAPHY IN ACCORDANCE WITH CT DEEP STORMWATER QUALITY MANUAL.

LEVEL SPREADER CROSS SECTIONAL DETAIL

NOT TO SCALE

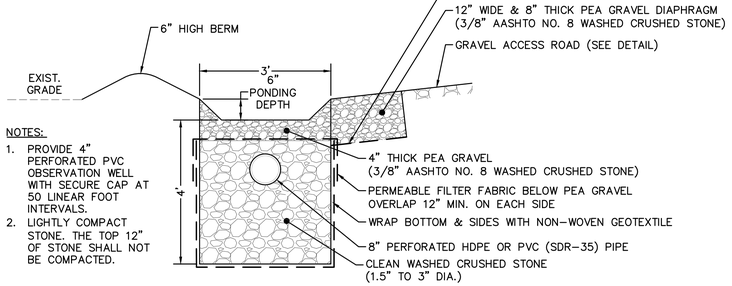


NOTES:

1. PROVIDE 4" PERFORATED PVC OBSERVATION WELL WITH SECURE CAP AT 50 LINEAR FOOT INTERVALS.
2. LIGHTLY COMPACT STONE. THE TOP 12" OF STONE SHALL NOT BE COMPACTED.

INFILTRATION TRENCH DETAIL (1T)

NOT TO SCALE

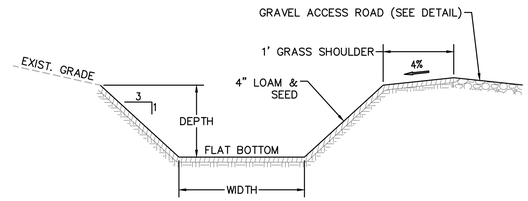


NOTES:

1. PROVIDE 4" PERFORATED PVC OBSERVATION WELL WITH SECURE CAP AT 50 LINEAR FOOT INTERVALS.
2. LIGHTLY COMPACT STONE. THE TOP 12" OF STONE SHALL NOT BE COMPACTED.

INFILTRATION TRENCH DETAIL (2T)

NOT TO SCALE

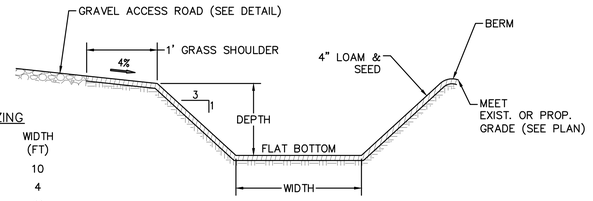


SWALE SIZING

SWALE ID	DEPTH (IN)	WIDTH (FT)
SW4	4	2
SW5	4	3

TYPICAL SWALE DETAIL (SW4 & SW5)

NOT TO SCALE



SWALE SIZING

SWALE ID	DEPTH (IN)	WIDTH (FT)
SW1	6	10
SW2	6	4
SW3	6	11

TYPICAL SWALE DETAIL (SW1, SW2 & SW3)

NOT TO SCALE

verdantas
1005 MAIN STREET, SUITE NO.: 8120
PAWTUCKET, RI 02860

PROFESSIONAL ENGINEER NO.: XXXX — P.E._#####

STATE: XXXXXX

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
ED, JJL, JMB	ED, JJL, JMB	ED	24412

CHK'D BY DATE

REVISION

PRELIMINARY FOR CONNECTICUT SITING COUNCIL

No. ,

PORTLAND-MIDDLESEX COUNTY-CONNECTICUT

CONSTRUCTION DETAILS & NOTES
SOLAR ARRAY DEVELOPMENT
GREENSKIES CLEAN ENERGY
15430 OLD MAIDS LANE

DATE SEPTEMBER 2025

SCALE AS NOTED

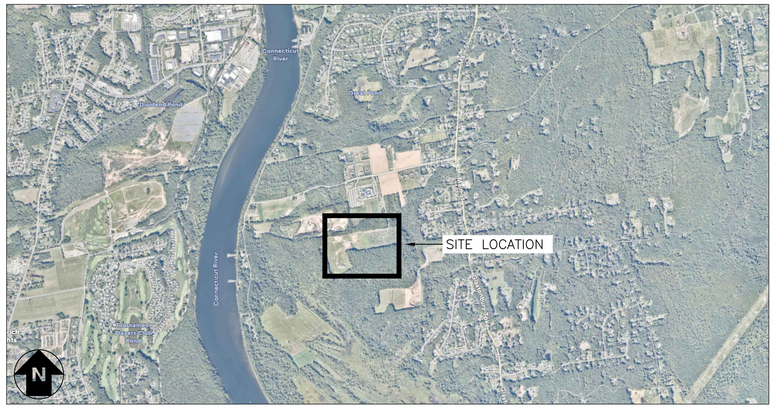
SHEET C110

z:\project files\ga-hz\greenskies\124412 - connecticut solar design and permitting\cad\sheets and plans\portland\ct siting council plans\24412_greenskies_portland_design plans.dwg 9/29/2025 9:34 AM

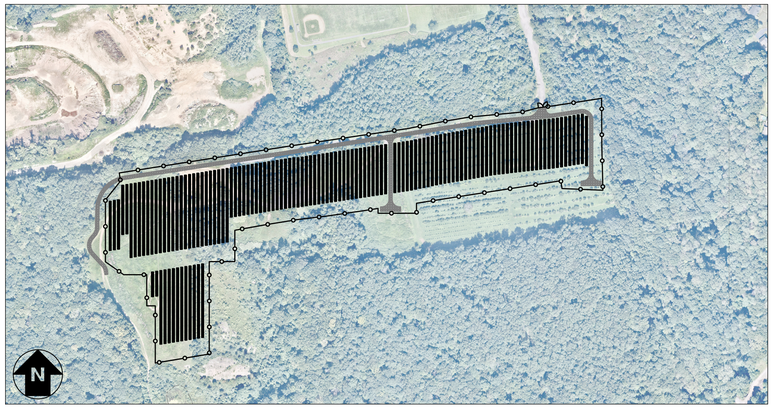
SOLAR GROUND MOUNT SYSTEM AT

OLD MAID'S LANE

15430 OLD MAID'S LANE, PORTLAND, CT 06480



LOCATION MAP
SCALE: 1" = 2000'-0"



SYSTEM PLAN
SCALE: 1" = 300'-0"

TOTAL SYSTEM SUMMARY:

TOTAL DC SYSTEM SIZE:	4,029.350 kWDC
TOTAL AC SYSTEM SIZE:	4,000.000 kWAC
MODULE MANUFACTURER:	LONGI
(QTY) MODULE TYPE 1:	(3,744) LR5-72HBD-535M
MODULE MANUFACTURER:	LONGI
(QTY) MODULE TYPE 2:	(3718) LR5-72HBD-545M
MODULE TILT:	SAT
MODULE AZIMUTH:	180°
INVERTER MANUFACTURER:	SOLECTRIA
(QTY) INVERTER TYPE 1:	(32) XGI 1500-125/125-UL

SUBSYSTEM SUMMARIES:

SYSTEM A

DC SYSTEM SIZE:	2,019.680 kWDC
AC SYSTEM SIZE:	2,000.000 kWAC
(QTY) MODULE TYPE 1:	(2080) LR5-72HBD-535M
(QTY) MODULE TYPE 2:	(1664) LR5-72HBD-545M

SYSTEM B

DC SYSTEM SIZE:	2,009.670 kWDC
AC SYSTEM SIZE:	2,000.000 kWAC
(QTY) MODULE TYPE 1:	(1664) LR5-72HBD-535M
(QTY) MODULE TYPE 2:	(2054) LR5-72HBD-545M

NOTES SPECIFIC TO CONNECTICUT

ADOPTED NEC VERSION:	2020
ADOPTED IBC VERSION:	2021
ADOPTED IFC VERSION:	2021

SCOPE OF WORK SUMMARY

GROUND MOUNT PV ARRAY:

- INSTALL SOLAR MODULES AND RACKING SYSTEM ON GROUND LEVEL.
- INSTALL INVERTERS AND ELECTRICAL DISTRIBUTION EQUIPMENT.
- INTERCONNECT AT NEW UTILITY SERVICE.

DEVELOPER:

Greenskies
a Clean Focus company

127 WASHINGTON AVENUE
WEST BUILDING, GARDEN LEVEL
NORTH HAVEN, CT 06473

ENGINEERED BY:

PUREPOWER ENGINEERING

111 RIVER STREET, SUITE 1110
HOBOKEN, NEW JERSEY 07030

DRAWING INDEX

		30% CONCEPTUAL DESIGN	30% REV1	10/08/2025	10/14/2025	
GENERAL						
G001	TITLE SHEET	●	●			
ELECTRICAL						
E001	ELECTRICAL NOTES & SYMBOLS LIST					
E100	OVERALL ELECTRICAL PLAN	●	●			
E110	EQUIPMENT AREA PLAN					
E120	EQUIPMENT MOUNTING DETAILS IN ARRAY					
E200	DC ELECTRICAL PLAN					
E300	ONE LINE DIAGRAM	●	●			
E310	SCHEDULES & CALCULATIONS					
E410	GROUNDING DETAILS					
E420	ELECTRICAL DETAILS					
E440	MESSENGER SYSTEM DETAILS					
E500	LABELS & SIGNAGE					
E600	EQUIPMENT DATA SHEETS					
STRUCTURAL						
S200	STRUCTURAL PLANS AND NOTES					
S400	STRUCTURAL DETAILS					

LEGEND:

UPDATED DRAWING ISSUED	●
UNCHANGED, PREVIOUSLY ISSUED DRAWING STILL CURRENT	○
DRAWING REMOVED FROM SET	×

DATE	REVISION DESCRIPTION	PM	ENG	CHK
10/14/2025	30% REV. 1	SK	GB	MD
10/09/2025	30% CONCEPTUAL DESIGN	SK	GB	MD

ENGINEER
PUREPOWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWER.COM
MATTHEW M. DONOVAN
CT LICENSE No. PEN.0037514

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DEVELOPER
GREENSKIES
127 WASHINGTON AVENUE
NORTH HAVEN, CT 06473
WWW.GREENSKIES.COM
Greenskies a Clean Focus company

PAGE SIZE: 36" x 24"
PROJECT #: 10036.12

PROJECT
SOLAR GROUND MOUNT SYSTEM AT
OLD MAID'S LANE
15430 OLD MAID'S LANE
PORTLAND, CT 06480

DRAWING TITLE
TITLE SHEET

DRAWING #
G001

PLOT DATE: 10/13/2025 5:04 PM

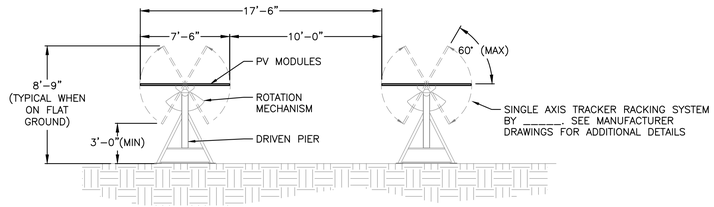
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PLOT DATE: 10/13/2025 5:05 PM

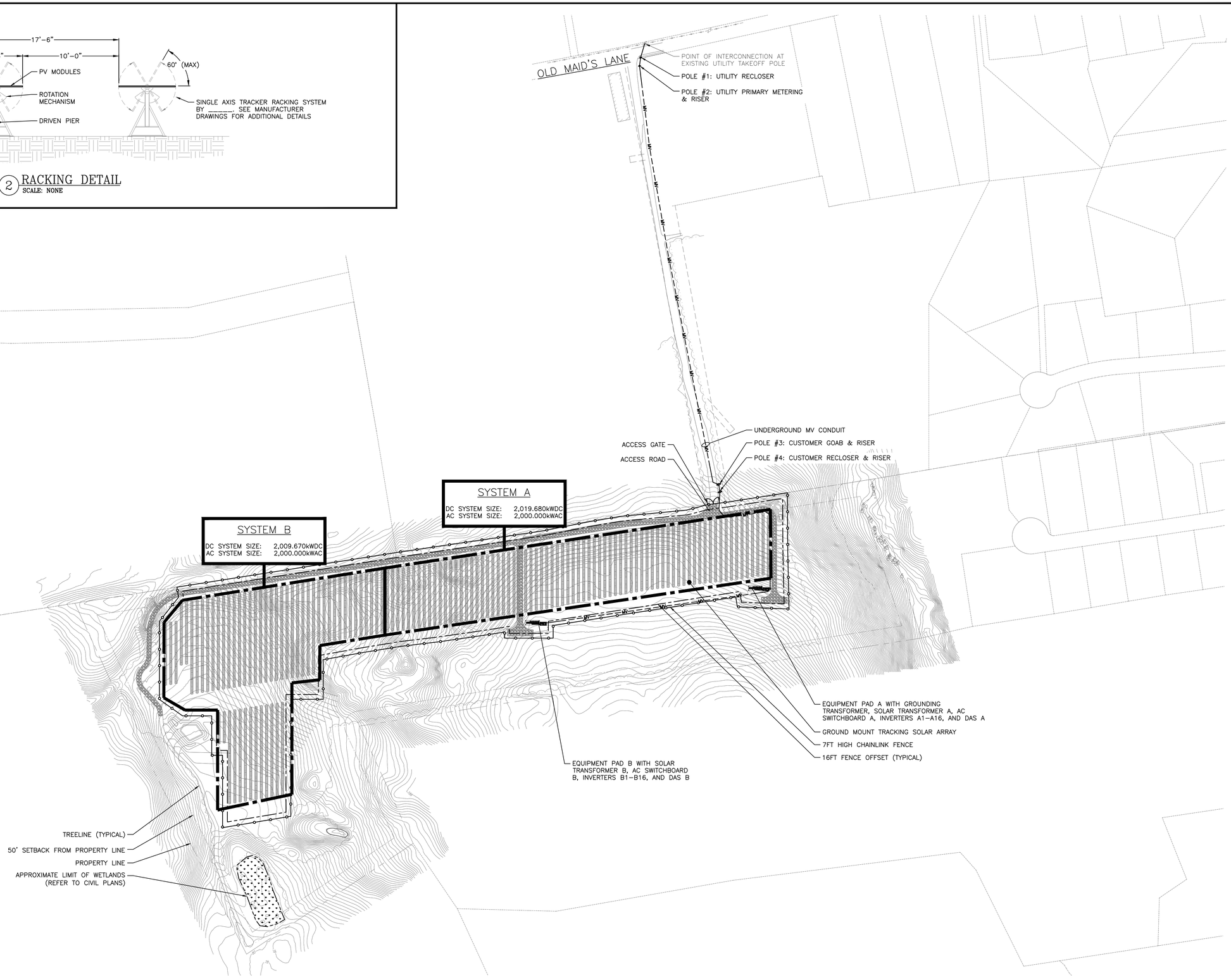
TYPICAL TABLE SIZE
1 MODULE PORTRAIT
26, 52, AND 78 MODULES LONG

RACKING DIMENSIONS SHOWN ARE TYPICAL FOR FLAT GRADE. DIMENSIONS MAY VARY WHERE SLOPES EXIST.

TRACKER POWER
TRACKER IS SELF POWERED BY ONE MOTOR PER STRUCTURE. MOTORS USE DC POWER FROM A DEDICATED SOLAR PANEL ON EACH STRUCTURE.



2 RACKING DETAIL
SCALE: NONE



1 OVERALL ELECTRICAL PLAN
SCALE: 1" = 150'

RULER IN INCHES: 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 ½ 0

DATE	REVISION DESCRIPTION	PM	ENG	CHK
10/14/2025	30% REV 1	SK	GB	MD
10/09/2025	30% CONCEPTUAL DESIGN	SK	GB	MD

ENGINEER
PUREPOWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWER.COM
MATTHEW M. DONOVAN
CT LICENSE No. PEN.0037514

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NORTH HAVEN, CT 06473
WWW.GREENSKIES.COM

DEVELOPER
Greenskies
a Clean Focus company

PAGE SIZE: 36" x 24"
PROJECT #: 10036.12

PROJECT
SOLAR GROUND MOUNT SYSTEM AT
OLD MAID'S LANE
15430 OLD MAID'S LANE
PORTLAND, CT 06480

DRAWING TITLE
OVERALL ELECTRICAL PLAN

DRAWING #
E100

PLOT DATE: 10/13/2025 5:05 PM

UTILITY OVERHEAD FEEDERS

52R

EXISTING TAKEOFF POLE #1972

POLE #1 UTILITY RECLOSER

UTILITY PRIMARY METER

M

POLE #2 UTILITY PRIMARY METERING

POINT OF COMMON COUPLING (PCC)

POINT OF COMMON COUPLING (PCC)

(4) #2 ASCR SPARROW

SOLAR GENERATOR DISCONNECT SWITCH
GANG OPERATED AIR BREAK
200A, 25KV, 150KV BIL
LOCKABLE IN OFF POSITION

(3)SAs 18KV 15.3MCOV

POLE #3 CUSTOMER GOAB

(4) #2 ASCR SPARROW

(3)SAs 18KV 15.3MCOV

CPT

(3)CTs 200:1A

(3)LEAs 5000:1 1% ACC

52R

12VDC TRIP & CLOSE

(3)LEAs 5000:1 1% ACC

(3)SAs 18KV 15.3MCOV

SOLAR RECLOSER
G&W VIPER-S RECLOSER,
POLE-TOP,
27kV, 800A CONTINUOUS,
12.5kAIC, 125kV BIL,
ACCUSENSE LEAs & CTs
INTERNAL TO RECLOSER

POLE #4 CUSTOMER RECLOSER & RISER

5" PVC CONDUIT WITH:
(3) #1 AL MV-90 25KV 133%
EPR 1/3 CONCENTRIC NEUTRAL.
INCLUDE (1)CU #6 EGC (600V)

TO AUX POWER

1" PVC WITH:
2#12 CU-THWN2
1#12 EGC CU-THWN2

GROUNDING TRANSFORMER RELAY
SEL 751,
NEMA 3R, W/ UPS

GROUNDING TRANSFORMER
360KVA, 23KV,
PAD MOUNTED,
FR-3 COOLED KNAN,
X/R=4,
Z=5.75%, 65.434 OHM PER PHASE,
9A CONTINUOUS CURRENT,
340A NEUTRAL AMPS @ 5 SEC,

NOTES:
1. Ho TO BE ISOLATED AND BONDED EXTERNAL TO THE TANK
2. TO ENSURE TRANSFORMER CANNOT BE BYPASSED: INCLUDE PHYSICAL BARRIER BETWEEN A-SIDE AND B-SIDE BUSHINGS OR USE 600A BUSHING ON A-SIDE AND 200A BUSHING ON B-SIDE

NO FUSES
NO SWITCH

5" PVC CONDUIT WITH:
(3) #1 AL MV-90 25KV 133%
EPR 1/3 CONCENTRIC NEUTRAL.
INCLUDE (1)CU #6 EGC (600V)

UMBILICAL CABLE PROVIDED BY MANUFACTURER, MOUNT TO POLE USING POLE STAPLES

1" PVC WITH:
2#10 CU-THWN2
1#10 EGC CU-THWN2

RELAY CONTROL PANEL
NEMA 4 ENCLOSURE
MOUNTED TO BASE OF RECLOSER POLE

SEL 651R

TEST SWITCH

TEST SWITCH

120VAC

POWER MODULE

12VDC

12VDC BATTERY
16AHR RUN TIME

BOND EXTERNAL TO THE TANK

1" PVC WITH:
2#10 CU-THWN2
1#10 EGC CU-THWN2

#3/0 CU GEC

1" LFMC WITH:
CAT5E

3/4" PVC WITH:
RS485 VIA BELDEN
3106DB (DATA)

MV DAS W/ RTAC
SEL-3505-3

TO EVERSOUCE RTAC
SEL-3505-3 COORDINATE
EXACT REQUIREMENTS WITH
UTILITY

1" PVC/EMT WITH:
CAT5E

2" PVC/EMT WITH:
6-STRAND FIBER

TO DAS A

1" PVC WITH:
2#12 CU-THWN2
1#12 EGC CU-THWN2

TO SOLAR TRANSFORMER B

SOLAR TRANSFORMER A
2000KVA
PAD-MOUNT,
FR-3 COOLED KNAN
PRI: 23Y/13.28KV
SEC: 600Y/347V
Z=5.75%, X/R=5.7

NOTES:
1. STATIC SHIELD TO BE EXTERNALLY GROUNDED IN LV CABINET
2. Ho AND Xo TO BE ISOLATED AND BONDED EXTERNAL TO THE TANK
3. GROUND BAR SIZED TO ACCOMMODATE ALL TRANSFORMER GROUNDING CONDUCTORS.

LOAD-BREAK SWITCH

CLF

EXP

STATIC SHIELD

ALARM CONTACT

#3/0 CU GEC

7 SETS OF 4" PVC EACH WITH:
4#500MCM CU-THWN2
1#1/0 SSBJ CU-THWN2

SOLAR AC SWITCHBOARD A
600Y/347V, 3ø, 4W
2500A, 65KAIC
NEMA 3R

150A 3P LSI

INVERTER A2 INVERTER A3 INVERTER A4 INVERTER A5 INVERTER A6 INVERTER A7 INVERTER A8 INVERTER A9 INVERTER A10 INVERTER A11 INVERTER A12 INVERTER A13 INVERTER A14 INVERTER A15 INVERTER A16

CB-A2 CB-A3 CB-A4 CB-A5 CB-A6 CB-A7 CB-A8 CB-A9 CB-A10 CB-A11 CB-A12 CB-A13 CB-A14 CB-A15 CB-A16

XXA 2P

(3) CTS

15A 3P

30A 3P

SPD

2500AF/2500AT 3P LSIG AERMS

SOLAR SYSTEM MAIN CIRCUIT BREAKER A
600V,
SERVICE ENTRANCE RATED,
ARC ENERGY REDUCTION,
LOCKABLE IN OFF POSITION

1" EMT/PVC WITH:
3#14 TWISTED PAIRS

LOAD CENTER A
EATON MINI POWER CENTER,
NEMA 3R ENCLOSED,
65KAIC
PRI: 600V, 1ø, 2W,
SEC: 120/240V, 1ø, 3W

XXA 2P

XXKVA 600:240V

XXA 2P

15A/1P 15A/1P

20A/1P 20A/1P

TO SEL 751

WR GFCI

3/4" IMC WITH:
2#12 CU-THWN2
1#12 EGC CU-THWN2

1"PVC WITH:
1#6 GEC CU-THWN2
TERMINATE AT GROUND RING

DAS A WITH REVENUE GRADE METER

TO DAS B

1.5" EMT WITH:
(1)6-STRAND
MULTIMODE FIBER

1.5" EMT WITH:
(1)6-STRAND
MULTIMODE FIBER

TO MV DAS

SCADA NOTES:
1. ALL MAXIMUM AND MINIMUM IMPORT/EXPORT LIMITS SHALL BE PROGRAMMED INSIDE THE CUSTOMER RTAC.
2. ENTIRE LOGIC MUST BE IMPLEMENTED INSIDE THE RTAC.
3. RELAY SETTINGS MUST INCORPORATE REMOTE COMMAND FROM TRAC INTO TRIP AND BLOCK CLOSE EQUATIONS.
4. CUSTOMER RTAC TO ISSUE DELAYED TRIP AFTER 5-MINUTES IF EVERSOURCE RTAC TO CUSTOMER RTAC COMMUNICATION FAILS OR GOES OFFLINE.
5. CUSTOMER RTAC TO ISSUE DELAYED TRIP AFTER 10-MINUTES IF EVERSOURCE RTAC TO DSCADA COMMUNICATION FAILS.
6. RELAY WILL TRIP THE BREAKER AFTER 1-MINUTE IF IT LOSES COMMUNICATION WITH RTAC.

SHEET NOTES:
1. ALL GROUND BARS AND LUGS SHALL BE DUAL RATED AL/CU.
2. UNLESS OTHERWISE NOTED EQUIPMENT IS PERMITTED TO BE 80% OR 100% RATED. EQUIPMENT SHOWN AS "100% RATED" SHALL INCLUDE AN ASSEMBLY, INCLUDING OVERCURRENT PROTECTION DEVICES, WHICH IS LISTED FOR CONTINUOUS OPERATION AT 100% OF ITS RATED CURRENT.
3. PVC SCH80 REQUIRED WHERE PVC IS SPECIFIED. PVC SCH40 IS PERMITTED FOR UNDERGROUND STRAIGHT RUNS ONLY.
4. CIRCUIT BREAKERS SPECIFIED WITH ADJUSTABLE-TRIP SETTINGS (LS, LSI, OR LSIG) SHALL BE PROVIDED WITH ELECTRONIC TRIP UNITS. SET NEW ADJUSTABLE-TRIP BREAKERS TO THE SETTINGS BELOW, UNLESS OTHERWISE NOTED IN POWER STUDY. "NOMINAL TRIP" REFERS TO BREAKER TRIP RATING INDICATED ON ONELINE. SETTINGS BELOW ARE NOT FOR COORDINATION PURPOSES.
   - L = 100% OF NOMINAL TRIP (EXACT) MINIMUM TIME DELAY
   - S = 125% OF NOMINAL TRIP (OR NEXT HIGHER) MINIMUM TIME DELAY
   - I = MINIMUM VALUE GREATER THAN NOMINAL TRIP
   - G = 20% OF NOMINAL TRIP (OR NEXT HIGHER) 0.5 SEC TIME DELAY

SYSTEM SUMMARY	
DC SYSTEM SIZE	4,029.350 KW
AC SYSTEM SIZE	4,000.000 KW / 4,000.000 KVA
NOMINAL VOLTAGE	23.0Y/13.28KV
OUTPUT CURRENT	125.5A
(QTY) MODULE TYPE 1	(3,744) LR5-72HBD-535M
(QTY) MODULE TYPE 2	(3,718) LR5-72HBD-545M
(QTY) INVERTER TYPE 1	(32) XGI 1500-125/125
AZIMUTH / TILT	0° / EW TRACKING
UTILITY	EVERSOURCE

SYSTEM A SUMMARY	
DC SYSTEM SIZE	2,019.680 KW
AC SYSTEM SIZE	2,000.000 KW / 2,000.000 KVA
NOMINAL VOLTAGE	23.0Y/13.28KV
OUTPUT CURRENT	125.5A
(QTY) MODULE TYPE 1	(2,080) LR5-72HBD-535M
(QTY) MODULE TYPE 2	(1,664) LR5-72HBD-545M
(QTY) INVERTER TYPE 1	(16) XGI 1500-125/125
AZIMUTH / TILT	0° / EW TRACKING
UTILITY	EVERSOURCE

TYPICAL INVERTER: 125KW
UNLESS NOTED OTHERWISE

2.5" EMT/PVC WITH:
3#3/0 AL-XHWN2
1#4 EGC CU-THWN2

SWITCH TO LFMC FOR FINAL 24" AT CONNECTION TO INVERTER

FACTORY INSTALLED JUMPER FOR OPERATION WITH NO N CONDUCTOR

INVERTER A1
SOLECTRIA XGI 1500 125/125,
NAMEPLATE: 125KW/125KVA
600V/3ø OUTPUT,
1500VDC INPUT,
FUNCTIONAL GROUND,
DC GFCI,
AC AND DC SPDs

MPPT 1

INSTALL WIRES WITH S-CURVE OR LOOP TO ALLOW SLACK FOR TENSION RELIEF

2.5" EMT WITH:
2#500MCM 2KV AL-PVWIRE
1#2 EGC 600V CU-THWN2

EQUIPMENT PAD AREA A

ARRAY AREA A

SAFETOUCH FUSE HOLDER W/ 25A FUSES

DC COMBINER BOX A1 (CB-A1)
1500VDC,
400A BUS, 16 STRING INPUTS,
DC DISCONNECT, DC SPD,
90°C OUTPUT TERMINALS,
FUSED ON POSITIVE,
NEMA 4

INSTALL WITH A 3" DIAMETER LOOP TO FACILITATE CLAMP METER ACCESS DURING COMMISSIONING.

1-1 1-2 1-3 1-8 1-9

INVERTER INSTALLATION NOTES:
1. TORQUE AC & DC TERMINALS PER INSTALL MANUAL, APPLY TORQUE MARKS.

TYPICAL STRING WIRING

INSTALL STRING # LABELS (TYPICAL) ON BOTH ENDS OF POSITIVE AND NEGATIVE HOMERUNS USING HEAT SHRINK LABELS SUITABLE FOR THE ENVIRONMENT

#10 CU PV WIRE 2000V, 90°C, +RED, -BLACK, WITH #10 EGC CU GREEN THHN. RUN #6 EGC WHERE NOT PROTECTED FROM PHYSICAL DAMAGE. SEE E001 FOR CONDUCTOR INSTALLATION NOTES.

FIELD INSTALLED CONNECTOR, 1500V RATED, MATCH MFG & MODEL ON MODULE. RECONFIRM UPON MODULE DELIVERY, AS MFG/MODEL MAY VARY FROM DATASHEET (TYPICAL)

PV MODULES
26 IN SERIES PER STRING

1 ONE LINE DIAGRAM
SCALE: NONE

RULER IN INCHES:

DATE	REVISION DESCRIPTION	PM	ENG	CHK
				MD
			GB	MD
		SK	GB	MD
10/14/2025	30% REV 1	SK	GB	MD
10/09/2025	30% CONCEPTUAL DESIGN	SK	GB	MD

PURE POWER ENGINEERING
111 RIVER STREET, HEBOKEN, NJ
PHONE: (973) 943-0444
MATTHEW M. DONOVAN
CT LICENSE No. PEN.0037514

ENGINEER

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NORTH HAVEN, CT 06473
WWW.GREENSKIES.COM

DEVELOPER

Greenskies
a Clean Focus company

PAGE SIZE: 36" x 24"

PROJECT # 100336.12

PROJECT

SOLAR GROUND MOUNT SYSTEM AT
OLD MAID'S LANE
15430 OLD MAID'S LANE
PORTLAND, CT 06480

DRAWING TITLE

ONE LINE DIAGRAM

DRAWING #

E300

SEL 651R RELAY										
SETTINGS ARE PRELIMINARY PENDING UTILITY APPROVAL AND NOT INTENDED FOR CONSTRUCTION. 50/51 SETTINGS ARE PRELIMINARY AND COORDINATION STUDY BY EOR HAS NOT BEEN COMPLETED.										
Solar System Base AC Size = 4000KVA			100.41A BASE PRIMARY USED FOR 50/51 ELEMENTS				*Total Clear Time = 3 Cycle Breaker Plus Delay (Time Dial or DEF Time)			
0.5A BASE SECONDARY 50/51P,G,N,Q							13279.06V BASE PRIMARY USED FOR 27/59 ELEMENTS			
P,G,N,Q CT RATIO FACTOR = 200							2.66V BASE SECONDARY USED FOR 27/59 ELEMENTS			
P CT Minimum Rating = 200:1 1B0.5 C50 RF = 1 @ 30C							LEA RATIO FACTOR = 5000			
ANSI ELEMENT #	Unit	Pickup (Secondary)	Real (Primary)	Level	Def. Time Delay (s)	Time Dial	Total Clear Time (s)*	Total Clear Time (cyc)*	Curve	Description
27–1	L–N Volt	2.34	11685.57	88.00%	2.95	–	3.00	180.00	–	Slow UV
27–2	L–N Volt	1.33	6639.53	50.00%	1.05	–	1.10	66.00	–	Fast UV
59–1	L–N Volt	2.92	14606.96	110.00%	1.95	–	2.00	120.00	–	Slow OV
59–2	L–N Volt	3.19	15934.87	120.00%	0.11	–	0.16	9.60	–	Fast OV
79–UV	L–N Volt	2.52	12615.10	95.00%	299.95	–	300.00	18000.00	–	Min Permissive Close Voltage
79–OV	L–N Volt	2.79	13943.01	105.00%	299.95	–	300.00	18000.00	–	Max Permissive Close Voltage
47	L–N Volt	0.00	0.00	10.00%	1.95	–	2.00	120.00	–	voltage unbalance
81U–1	Hz	58.50	58.50	97.50%	299.95	–	300.00	18000.00	–	Slow UF
81U–2	Hz	56.50	56.50	94.17%	0.11	–	0.16	9.60	–	Fast UF
81O–1	Hz	61.20	61.20	102.00%	299.95	–	300.00	18000.00	–	Slow OF
81O–2	Hz	62.00	62.00	103.33%	0.11	–	0.16	9.60	–	Fast OF
79–UF	Hz	59.50	59.50	99.17%	299.95	–	300.00	18000.00	–	Min Permissive Close Frequency
79–OF	Hz	60.50	60.50	100.83%	299.95	–	300.00	18000.00	–	Max Permissive Close Frequency
51P	A	0.75	150.61	150.00%	–	2	3.9 @2X	234.02 @2X	U4	Time Phase OC
50P	A	6.02	1204.90	1200.00%	0.00	–	0.05	3.00	–	Instantaneuos P OC
51G	A	0.10	20.08	20.00%	–	2	3.9 @2X	234.02 @2X	U4	Timed Ground OC
50G	A	0.50	100.41	100.00%	0.00	–	0.05	3.00	–	Instantaneuos G OC
74	–	–	–	–	0.00	–	0.05	3.00	–	Relay Alarm

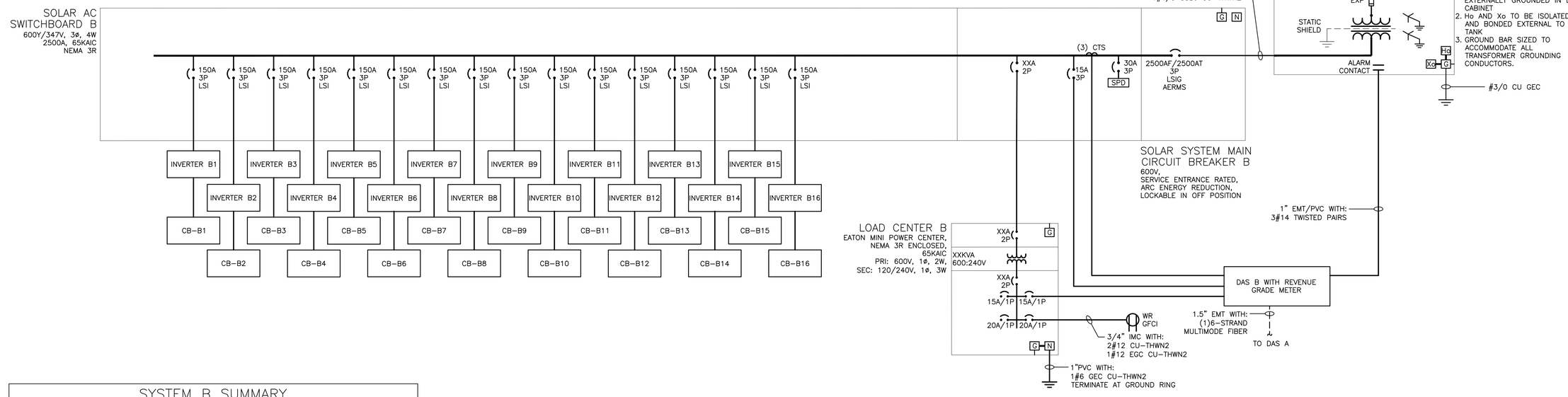
1 RELAY SETTINGS
SCALE: NONE

SEL 751 RELAY										
SETTINGS ARE PRELIMINARY PENDING UTILITY APPROVAL AND NOT INTENDED FOR CONSTRUCTION. 50/51 SETTINGS ARE PRELIMINARY AND COORDINATION STUDY BY EOR HAS NOT BEEN COMPLETED.										
Solar System Base AC Size = 4000KVA			100.41A BASE PRIMARY USED FOR 50/51 ELEMENTS				*Total Clear Time = 3 Cycle Breaker Plus Delay (Time Dial or DEF Time)			
			10.04A BASE SECONDARY 50/51N				13279.06V BASE PRIMARY USED FOR 27/59 ELEMENTS			
			N CT RATIO FACTOR = 10				2.66V BASE SECONDARY USED FOR 27/59 ELEMENTS			
			N CT Minimum Rating = 50:5 1B0.5 C50 RF = 1 @ 30C				LEA RATIO FACTOR = 5000			
ANSI ELEMENT #	Unit	Pickup (Secondary)	Real (Primary)	Level	Def. Time Delay (s)	Time Dial	Total Clear Time (s)*	Total Clear Time (cyc)*	Curve	Description
51N	A	2.01	20.08	20.00%	–	2	3.9 @2X	234.02 @2X	U4	Timed Neutral OC
50N	A	10.04	100.41	100.00%	0.00	–	0.05	3.00	–	Instantaneous N OC
74	–	–	–	–	0.00	–	0.05	3.00	–	Relay Alarm

2 GROUNDING TRANSFORMER RELAY SETTINGS
SCALE: NONE

INVERTER UL1741–SB Compliant – 600V AC				
ANSI ELEMENT #	Pickup	Level	Delay (sec)	Description
27–1	304.84V	88.0%	3.00	Slow UV
27–2	173.21V	50.0%	1.10	Fast UV
59–1	381.05V	110.0%	2.00	Slow OV
59–2	415.69V	120.0%	0.16	Fast OV
81U–1	56.50Hz	94.2%	0.16	Fast UF
81U–2	58.50Hz	97.5%	300.00	Slow UF
81O–1	62.00Hz	103.3%	0.16	Fast OF
81O–2	61.20Hz	102.0%	300.00	Slow OF
PF Set Point	1.00			Power Factor Control
Var Control	OFF			Reactive Power Control
Ramp Rate	10%/1 sec			dkw / dt
Freq Control	OFF			Speed Control

3 INVERTER SETTINGS
SCALE: NONE



SYSTEM B SUMMARY	
DC SYSTEM SIZE	2,009.670 KW
AC SYSTEM SIZE	2,000.000 KW / 2,000.000 KVA
NOMINAL VOLTAGE	23.0Y/13.28KV
OUTPUT CURRENT	125.5A
(QTY) MODULE TYPE 2	(1,664) LR5–72HBD–535M
(QTY) MODULE TYPE 2	(2,054) LR5–72HBD–545M
(QTY) INVERTER TYPE 1	(16) XGI 1500–125/125
AZIMUTH / TILT	0° / EW TRACKING
UTILITY	EVERSOURCE

SHEET NOTES:
1. ALL GROUND BARS AND LUGS SHALL BE DUAL RATED AL/CU.
2. UNLESS OTHERWISE NOTED EQUIPMENT IS PERMITTED TO BE 80% OR 100% RATED. EQUIPMENT SHOWN AS "100% RATED" SHALL INCLUDE AN ASSEMBLY, INCLUDING OVERCURRENT PROTECTION DEVICES, WHICH IS LISTED FOR CONTINUOUS OPERATION AT 100% OF ITS RATED CURRENT.
3. PVC SCH80 REQUIRED WHERE PVC IS SPECIFIED. PVC SCH40 IS PERMITTED FOR UNDERGROUND STRAIGHT RUNS ONLY.
4. CIRCUIT BREAKERS SPECIFIED WITH ADJUSTABLE–TRIP SETTINGS (LS, LSI, OR LSIG) SHALL BE PROVIDED WITH ELECTRONIC TRIP UNITS. SET NEW ADJUSTABLE–TRIP BREAKERS TO THE SETTINGS BELOW, UNLESS OTHERWISE NOTED IN POWER STUDY. "NOMINAL TRIP" REFERS TO BREAKER TRIP RATING INDICATED ON ONELINE. SETTINGS BELOW ARE NOT FOR COORDINATION PURPOSES.
   - L = 100% OF NOMINAL TRIP (EXACT) MINIMUM TIME DELAY
   - S = 125% OF NOMINAL TRIP (OR NEXT HIGHER) MINIMUM TIME DELAY
   - I = MINIMUM VALUE GREATER THAN NOMINAL TRIP
   - G = 20% OF NOMINAL TRIP (OR NEXT HIGHER) 0.5 SEC TIME DELAY

1 ONE LINE DIAGRAM
SCALE: NONE

REVISION DESCRIPTION	DATE	PM	ENG	CHK
30% CONCEPTUAL DESIGN	10/09/2025	SK	GB	MD
30% REV 1	10/14/2025	SK	GB	MD

ENGINEER
PURE POWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWERENG.COM
MATTHEW M. DONOVAN
CT LICENSE No. PEN.0037514

DEVELOPER
Greenskies
a Clean Focus company
GREENSKIES
127 WASHINGTON AVENUE
NORTH HAVEN, CT 06473
WWW.GREENSKIES.COM

PAGE SIZE 36" x 24"
PROJECT # 10036.12

PROJECT
SOLAR GROUND MOUNT SYSTEM AT
OLD MAID'S LANE
15430 OLD MAID'S LANE
PORTLAND, CT 06480

DRAWING TITLE
ONE LINE DIAGRAM

DRAWING #
E301

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PLOT DATE: 10/13/2025 5:05 PM

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