DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION

GD Richmond Beaver River I

Direct Current(DC):7.45MW / Alternating Current(AC):5.25MW

172 Beaver River Road
Richmond, Rhode Island 02812
Assessor's Plat 8E Lot 12

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C1.9	Detail Sheet
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L1.0	Landscape Plan*
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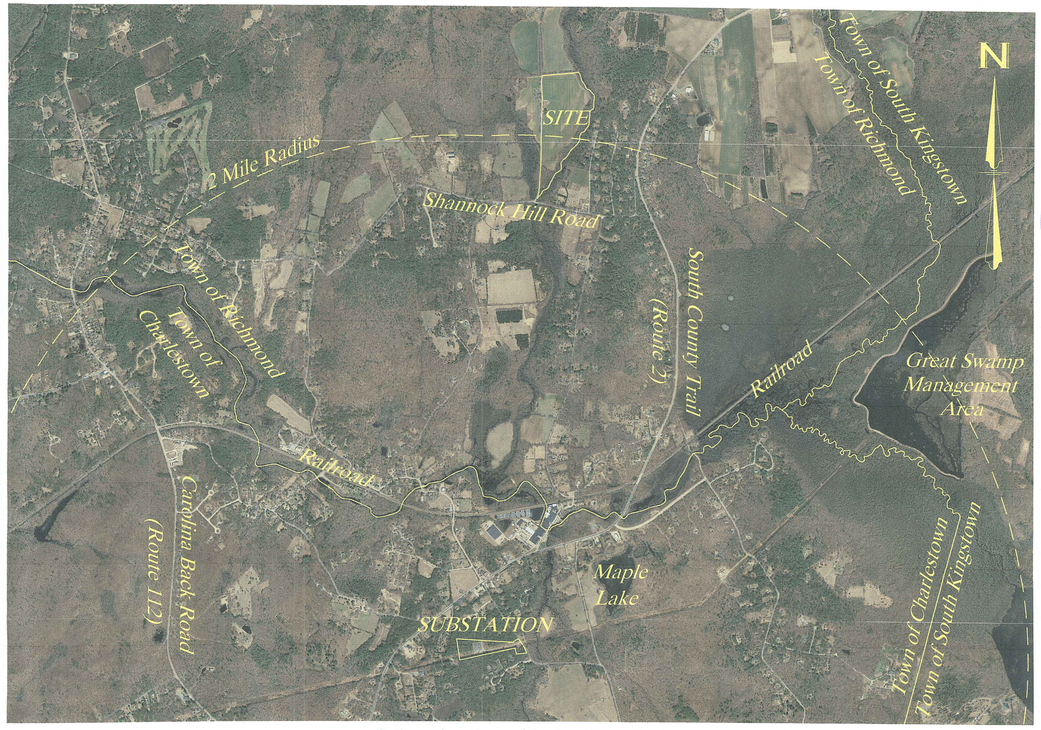
1 of 1	Boundary Survey Plan
	*Not Included in Submission

Vicinity Map (Scale: 1"=1,000')



Substation Map (Scale: 1"=1,500')

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL
DATED: NOV 10 2023 FILE #: 18-0093
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Nancy L. Freeman

RI Environmental Management
SEP 15 2023
Office of Water Resources

KEVIN C. MORIN
No. 9951
REGISTERED PROFESSIONAL ENGINEER
CIVIL
9/15/2023

2000 Chapel View Blvd, Suite 500
Cranston, RI 02920
(401) 295-4998
www.green-ri.com
GREEN development

APPLICANT INFO: GD Richmond Beaver River I, LLC
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

OWNER INFO: William M. Stamp Jr., Trustee of The William M. Stamp, Jr. Revocable Trust - 2004
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: Green Development, LLC
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

No.	DATE	REVISION	BY
11	9/15/2023	RIDEM PERMIT MODIFICATION	MWB
10	9/15/2023	TOWN PLANNER REVIEW COMMENTS	MWB
9	5/12/2023	BUILDING PERMIT SUBMISSION	MWB
8	1/10/2020	REVISED ZONING SUBMISSION	MWB
7	9/26/2019	LAYOUT REVISIONS	RBS
6	9/6/2019	RIDEM RESUBMISSION	RBS
5	5/7/2019	RIDEM RESUBMISSION	RBS
4	12/7/2018	RIDEM RESUBMISSION	RBS
3	5/15/2018	TOWN PLANNER REVIEW COMMENTS	RBS
2	4/18/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS
1	4/16/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS

SHEET TITLE: Cover Sheet

PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC):7.45MW | ALTERNATING CURRENT(AC):5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

SHEET NO.: C1.1 OF 11

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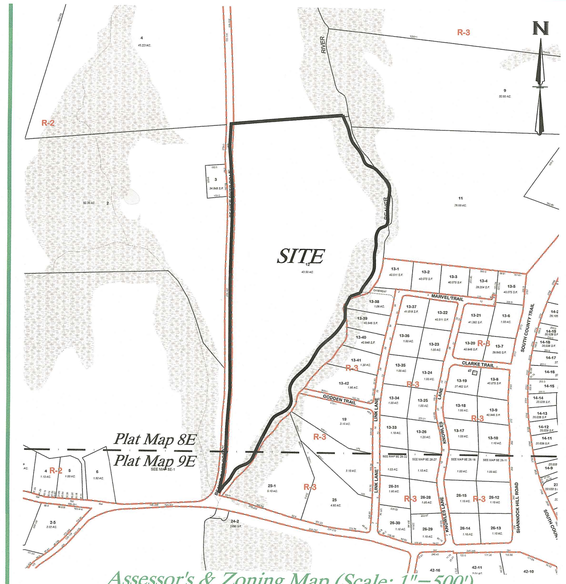
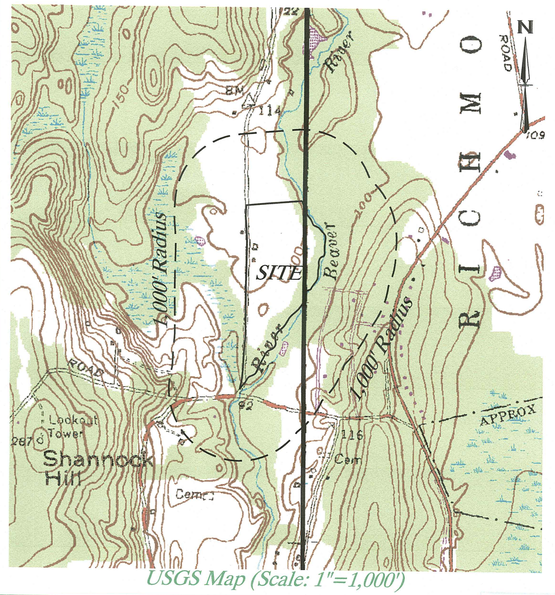
1/2 Mile Radius Map



Assessor's & Zoning Map (Scale: 1"=500')



USGS Map (Scale: 1"=1,000')

Disclaimer:

THIS PLAN IS NOT TO BE CONSTRUED AS AN ACCURATE BOUNDARY SURVEY AND IS SUBJECT TO SUCH CHANGES AS AN ACCURATE BOUNDARY SURVEY MAY DISCLOSE. INFORMATION AND IMAGES ON THIS PLAN ARE THOSE FOUND THROUGH ONLINE STATE AND CITY/TOWN GIS DATABASES. THE INFORMATION SHOWN IS ONLY AS ACCURATE AS THE INFORMATION FOUND THROUGH ONLINE SITE RESEARCH. AERIAL IMAGE DEPICTED IS FROM 2014 USGS DIGITAL TRUE COLOR ORTHOPHOTOGRAPHY. THE ASSESSOR'S AND ZONING MAP ABOVE IS TAKEN FROM PLAN TITLED "TOWN OF RICHMOND, WASHINGTON COUNTY - RHODE ISLAND, TAX ASSESSOR'S MAP WITH ZONING", TAX MAP REVISIONS THROUGH DECEMBER 31, 2014 AND ZONING AMENDMENTS THROUGH SEPTEMBER 7, 2010 FOR PLAT MAP 8E AND TAX MAP REVISIONS THROUGH DECEMBER 31, 2015 AND ZONING AMENDMENTS THROUGH AUGUST 12, 2014 FOR PLAT MAP 9E. FOR BEST CLARITY, THIS SHEET SHOULD BE REPRODUCED IN COLOR ONLY.

SEP 15 2023

Existing Conditions Legend

- NATURAL HERITAGE AREA
- GROUNDWATER RESERVOIR AREA
- GROUNDWATER RECHARGE AREA

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
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Ashley L. Freeman

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GREEN development

APPLICANT INFO: *GD Richmond Beaver River I, LLC*
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OWNER INFO: *William M. Stamp Jr. Trustee of The William M. Stamp, Jr. Revocable Trust - 2004*
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: *Green Development, LLC*
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

No.	DATE	BY
11	9/15/2023	RIDEM PERMIT MODIFICATION	MWB
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8	1/23/2020	TOWN RESUBMISSION	RBS
7	9/20/2019	LAYOUT REVISIONS	RBS
6	5/5/2019	TOWN RESUBMISSION	RBS
5	1/7/2019	RIDEM RESUBMISSION	RBS
4	10/1/2018	RIDEM RESUBMISSION	RBS
3	5/15/2018	TOWN PLANNER REVIEW COMMENTS	RBS
2	5/11/2018	TOWN PLANNER REVIEW COMMENTS	RBS
1	4/2/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS

SHEET TITLE:
Aerial & Map Sheet
PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

KEVIN C. MORIN
No. 19851
REGISTERED PROFESSIONAL ENGINEER
CIVIL
9/15/2023

SHEET NO.:
C1.2 OF 11

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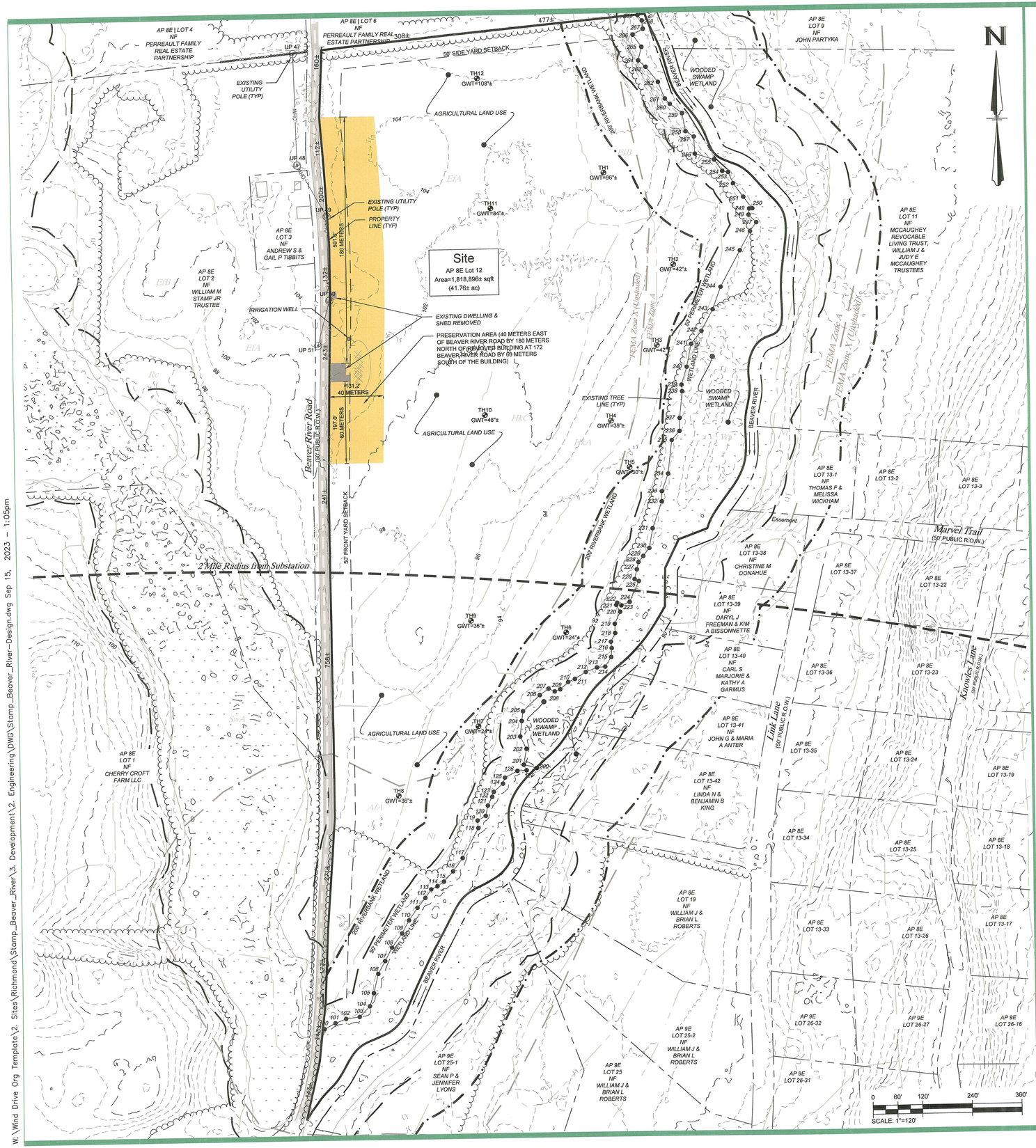

General Site Information:

1. APPLICANT INFORMATION: GD RICHMOND BEAVER RIVER I, LLC
2000 CHAPEL VIEW BLVD, SUITE 500
CRANSTON, RHODE ISLAND 02920

2. OWNER INFORMATION: WILLIAM M. STAMP JR, TRUSTEE OF THE WILLIAM M. STAMP, JR. REVOCABLE TRUST - 2004
ONE STAMP PLACE
EXETER, RHODE ISLAND 02882

3. SITE INFORMATION: 172 BEAVER RIVER ROAD
RICHMOND, RHODE ISLAND, 02812
ASSESSOR'S PLAT 8E, LOT 12
AREA: 41.76± ACRES
ZONE: R-3 (RESIDENTIAL, 3 ACRE MINIMUM)

4. FEMA INFORMATION: THE SITE IS LOCATED WITHIN ZONE X AND ZONE A AS DELINEATED ON THE FLOOD INSURANCE RATE MAP (FIRM) FOR THE TOWN OF RICHMOND, WASHINGTON COUNTY. FIRM MAP NUMBERS, REVISION DATES AND ZONE DESCRIPTIONS ARE AS FOLLOW:

FIRM MAP NUMBER	FIRM MAP REVISION DATE
44009C0160H	OCTOBER 19, 2010
44009C0180H	OCTOBER 19, 2010
44009C0178H	OCTOBER 19, 2010
44009C0159H	OCTOBER 19, 2010

ZONE	DESCRIPTION
A	AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTORS NOT DETERMINED.
X (UNSHADED)	AREAS WHERE THERE IS MINIMAL FLOODING.

THE PROPOSED SOLAR PANELS ARE LOCATED ENTIRELY WITHIN ZONE X AND NO FILLING OR GRADING WITHIN THE 100-YEAR FLOODPLAIN IS PROPOSED.

5. AREA INFORMATION:

SITE WITHIN	YES/NO
GROUNDWATER PROTECTION AREA (RIDEM)	NO
NATURAL HERITAGE AREAS (RIDEM)	NO
HISTORIC CEMETERY AREA (CITY/TOWN)	NO
HISTORIC DISTRICT (CITY/TOWN)	NO
OVERLAY DISTRICT (CITY/TOWN)	YES*
GROUNDWATER RESERVOIR AREA (CITY/TOWN)	YES
GROUNDWATER RECHARGE AREA (CITY/TOWN)	YES

*SITE IS LOCATED IN AN AGRICULTURAL OVERLAY AND AQUIFER OVERLAY DISTRICT

6. SOIL INFORMATION:

SOIL NAME	HSG	ACREAGE	DESCRIPTION
AfA*	B	1.97 AC	AGAWAM FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES
EfA*	B	14.31 AC	ENFIELD SILT LOAM, 0 TO 3 PERCENT SLOPES
EfB	B	1.68 AC	ENFIELD SILT LOAM, 3 TO 8 PERCENT SLOPES
HkA	A	3.30 AC	HINCKLEY GRAVELLY SANDY LOAM, 0 TO 3 PERCENT SLOPES
HkC	A	5.17 AC	HINCKLEY GRAVELLY SANDY LOAM, ROLLING
Nt*	C	2.29 AC	NINIGRET FINE SANDY LOAM
Ss*	B	3.39 AC	SUDBURY SANDY LOAM
Wa	D	9.65 AC	WALPOLE SANDY LOAM
	TOTAL:	41.76 AC	

*PRIME AGRICULTURAL SOILS

THE SOIL ABBREVIATIONS REFERENCE THE SOIL SURVEY OF RHODE ISLAND,PREPARED BY THE USDA SOIL CONSERVATION SERVICE INFORMATION FOUND THROUGH ONLINE RESEARCH FROM RIGIS DATA. THE ABBREVIATIONS CORRESPOND TO SOIL AREAS OUTLINED ON THE PLAN AND ARE TO BE CONSIDERED APPROXIMATE BASED ON RIGIS DATABASE

7. ZONING INFORMATION:

EXISTING ZONE (TABLE 18.20.010)	ZONE R-3 (SINGLE-FAMILY DWELLING)	PROPOSED
MINIMUM LOT AREA:	3 ACRES	41.76± ACRES
MINIMUM FRONTAGE:	300'	2.580±
MINIMUM FRONT YARD:	50'	N/A
MINIMUM FRONT YARD (SOLAR):	50'	52.3'
MINIMUM SIDE YARD:	35'	N/A
MINIMUM SIDE YARD (SOLAR):	50'	77.7'
MINIMUM REAR YARD:	100'	N/A
MINIMUM REAR YARD (SOLAR):	50'	207.2'
MAXIMUM HEIGHT OF MAIN STRUCTURE:	35'	N/A
MAXIMUM BUILDING COVERAGE:	10%	N/A
MAXIMUM HEIGHT OF SOLAR PANEL:	12'	<12'
MINIMUM SOLAR FIELD COVERAGE:	11 ACRES	20.56± ACRES*

*AREA WITHIN LIMITS OF PROPOSED FENCE. SOLAR ARRAY-20.56± ACRES; SOLAR PANELS ONLY- 7.85± ACRES.

8. WETLANDS WERE DELINEATED ONSITE BY MASON & ASSOCIATES, INC., 771 PLAINFIELD PIKE, NORTH SCITUATE, RI 02857 ON FEBRUARY 23, 2018.

9. EXISTING CONDITIONS WITHIN THE PROPERTY WERE DETERMINED BY ONLINE INFORMATION, AERIAL MAPPING, THE RIGIS DATABASE AND A SITE WALK PERFORMED ON APRIL 9, 2018. THE PROPERTY BOUNDARY IS TAKEN FROM A CLASS I SURVEY PREPARED BY NATIONAL SURVEYORS-DEVELOPERS, INC. PREPARED ON APRIL 12, 2018 BASED ON A SURVEY PERFORMED BETWEEN APRIL 6, 2018 AND APRIL 12, 2018.

10. ON SITE SOIL EVALUATIONS WERE PERFORMED BY DIPRETE ENGINEERING, 2 STAFFORD COURT, CRANSTON, RI 02920 ON APRIL 11, 2018.

11. TOPOGRAPHY SHOWN ON THE PLAN IS LIDAR AND WAS OBTAINED BY RIGIS DATABASE. ELEVATIONS IN U.S. SURVEY FEET ARE REFERENCED TO NAVD88 DATUM.

12. THERE ARE NO HISTORICAL CEMETERIES LOCATED ON SITE BASED ON THE RHODE ISLAND HISTORICAL CEMETERY COMMISSION WEBSITE AND RESOURCES.

13. THE FACILITY IS NOT LOCATED IN A CONSERVATION EASEMENT, PRESERVATION EASEMENT, OR HAS ANY DEED RESTRICTIONS. THE ENTIRE PROPERTY WILL BE REMOVED FROM FARM, FOREST, OPEN SPACE DESIGNATION PRIOR TO CONSTRUCTION.

14. PRESERVATION AREA SHOWN IS BASED ON THE REPORT ENTITLED "PHASE 1 INTENSIVE ARCHAEOLOGICAL SURVEY OF THE GREEN DEVELOPMENT- BEAVER RIVER ROAD SOLAR FARM IN THE TOWN OF RICHMOND, RI" DATED SEPTEMBER 2019 PREPARED BY ARCHAEOLOGICAL CONSULTING SERVICES.

Certification Note:

THE BOUNDARY LINE SHOWN ON THIS PLAN DEPICTS A CLASS I BOUNDARY PROVIDED BY NATIONAL SURVEYORS-DEVELOPERS, INC. DATED APRIL 2018. THIS PLAN ITSELF IS NOT TO BE CONSTRUED AS AN ACCURATE BOUNDARY SURVEY AND IS SUBJECT TO SUCH CHANGES AS AN ACCURATE BOUNDARY SURVEY MAY DISCLOSE. ONLINE INFORMATION FROM RECORDED DATA AND EXISTING MAPS FROM THE TOWN AND STATE, AND RIGIS DATABASE WAS USED TO COMPILE THIS PLAN. DUE TO THE ACCURACY LEVELS OF SAID DATA AND MAPS, THIS PLAN IS TO BE CONSIDERED APPROXIMATE UNLESS SPECIFIED THAT ACTUAL FIELD SURVEY AND DEED RESEARCH HAS BEEN CONDUCTED.

Existing Conditions Legend

- PROPERTY LINE
- SETBACK LINE
- ASSESSOR LINE
- GIS WETLAND LINE
- WETLAND HATCH
- WETLAND FLAG AND WETLAND LINE
- 50' PERIMETER WETLAND LINE
- SURVEYED STREAM/RIVER LINE
- 200' RIVERBANK WETLAND LINE
- EDGE OF PAVEMENT
- PAVEMENT HATCH
- PRESERVATION AREA
- TH8 GWT=36'± — TEST HOLE LOCATION
- USDA SOIL LINE
- EfB — USDA SOIL TYPE
- FEMA LINE
- ZONE LINE
- R-3 Zone — ZONE CLASSIFICATION
- TREE LINE
- UP — UTILITY POLE
- 100 — MAJOR CONTOURS AND LABELS
- 100 — MINOR CONTOURS AND LABELS
- EASEMENT LINE & HATCH
- 2 MILE RADIUS FROM SUBSTATION

SEP 15 2023

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
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2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

OWNER INFO: William M. Stamp Jr. Trustee of The William M. Stamp, Jr. Revocable Trust - 2004
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: Green Development, LLC
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

No.	DATE:	REVISION:
11	9/15/2023	RIDEM PERMIT MODIFICATION
10	5/23/2023	FIRE MARSHALL REVIEW SUBMISSION
9	5/2/2023	BUILDING PERMIT SUBMISSION
8	4/7/2023	TOWN RESUBMISSION
7	9/20/2019	LAYOUT REVISIONS
6	9/9/2019	TOWN RESUBMISSION
5	5/1/2019	RIDEM RESUBMISSION
4	3/15/2019	TOWN PLANNER REVIEW COMMENTS
3	3/15/2019	TOWN PLANNER REVIEW COMMENTS
2	3/31/2018	DEVELOPMENT PLAN REVIEW & TIE RIDEM SUBMISSION
1	4/16/2018	DEVELOPMENT PLAN REVIEW SUBMISSION

SHEET TITLE:
Existing Site Analysis Plan

PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

KEVIN C. MORIN
No. 15057
REGISTERED PROFESSIONAL ENGINEER
CIVIL
9/15/2023

SHEET NO.:
C1.3 OF 11

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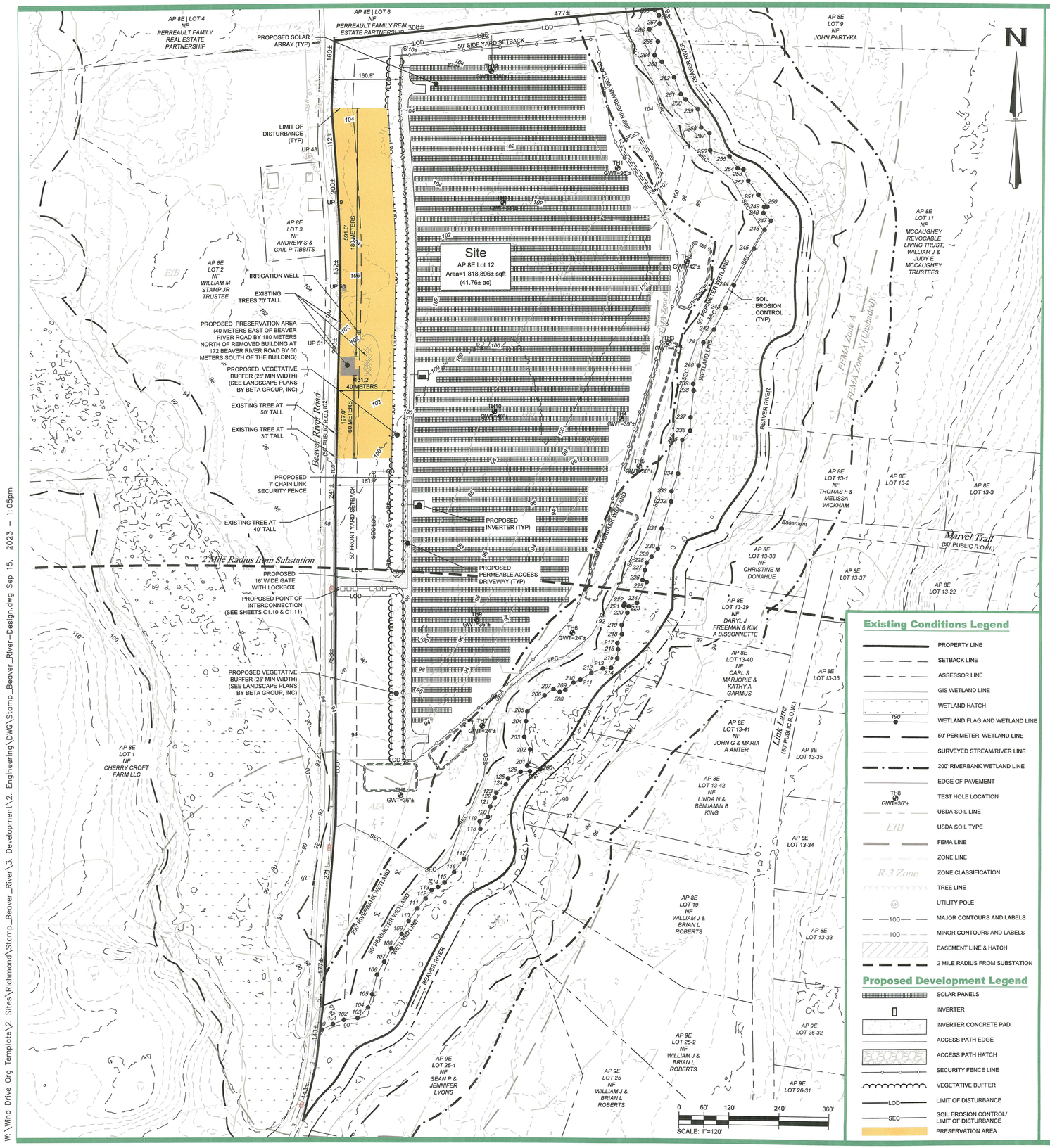

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- PROPERTY LINE
- SETBACK LINE
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- GIS WETLAND LINE
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- WETLAND FLAG AND WETLAND LINE
- 50' PERIMETER WETLAND LINE
- SURVEYED STREAM/RIVER LINE
- 200' RIVERBANK WETLAND LINE
- EDGE OF PAVEMENT
- TEST HOLE LOCATION
- USDA SOIL LINE
- USDA SOIL TYPE
- FEMA LINE
- ZONE LINE
- ZONE CLASSIFICATION
- TREE LINE
- UTILITY POLE
- MAJOR CONTOURS AND LABELS
- MINOR CONTOURS AND LABELS
- EASEMENT LINE & HATCH
- 2 MILE RADIUS FROM SUBSTATION

Proposed Development Legend

- SOLAR PANELS
- INVERTER
- INVERTER CONCRETE PAD
- ACCESS PATH EDGE
- ACCESS PATH HATCH
- SECURITY FENCE LINE
- VEGETATIVE BUFFER
- LIMIT OF DISTURBANCE
- SOIL EROSION CONTROL/ LIMIT OF DISTURBANCE
- PRESERVATION AREA

Development Information:

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2. OWNER INFORMATION: WILLIAM M. STAMP JR, TRUSTEE OF THE WILLIAM M. STAMP, JR. REVOCABLE TRUST - 2004
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RICHMOND, RHODE ISLAND, 02812
ASSESSOR'S PLAT 8E, LOT 12
AREA: 41.76± ACRES
ZONE: R-3 (RESIDENTIAL, 3 ACRE MINIMUM)

4. REQUIRED PERMITS: SPECIAL USE PERMIT - ZONING (TOWN)
DEVELOPMENT PLAN REVIEW - PLANNING (TOWN)
FRESHWATER WETLANDS/RIPDES - RIDEM
(STATE APPROVED MARCH 21, 2019 APP.# 18-0252)

5. PANEL INFORMATION:

MODEL:	ASTROSEMI
CAPACITY (PER PANEL):	405 W
DIMENSIONS (PER PANEL):	39 X 77.2 IN

6. ARRAY INFORMATION:

PANEL COUNT:	16,362
TOTAL AREA (PANELS ONLY):	7.5± ACRES
TOTAL AREA (SOLAR ARRAY):	16.79± ACRES
TOTAL AREA (WITHIN FENCE):	20.56± ACRES
TOTAL AREA (LOD):	28.65± ACRES
DIRECT CURRENT(DC):	(7.2 MW)
ALTERNATING CURRENT(AC):	(5.25 MW)
ARRAY TYPE:	FIXED
AZIMUTH (DEG):	180°
TILT(DEG):	25°

7. TRANSFORMER INFORMATION:

TOTAL TRANSFORMER COUNT:	6
1000kVA TRANSFORMER:	4
750kVA TRANSFORMER:	1
500kVA TRANSFORMER:	1

8. INVERTER INFORMATION:

TOTAL INVERTER COUNT:	10
SOLECTRIA XTM 500 INVERTER:	9
SOLECTRIA XTM 750 INVERTER:	1

9. FEMA INFORMATION: THE SITE IS LOCATED WITHIN ZONE X AND ZONE A AS DELINEATED ON THE FLOOD INSURANCE RATE MAP (FIRM) FOR THE TOWN OF RICHMOND, WASHINGTON COUNTY. FIRM MAP NUMBERS, REVISION DATES AND ZONE DESCRIPTIONS ARE AS FOLLOW:

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10. AREA INFORMATION:

SITE WITHIN	YES/NO
GROUNDWATER PROTECTION AREA (RIDEM)	NO
NATURAL HERITAGE AREAS (RIDEM)	NO
HISTORIC CEMETERY AREA (CITY/TOWN)	NO
HISTORIC DISTRICT (CITY/TOWN)	NO
OVERLAY DISTRICT (CITY/TOWN)	YES*
GROUNDWATER RESERVOIR AREA (CITY/TOWN)	YES
GROUNDWATER RECHARGE AREA (CITY/TOWN)	YES

*SITE IS LOCATED IN AN AGRICULTURAL OVERLAY AND AQUIFER OVERLAY DISTRICT

11. SOIL INFORMATION:

SOIL NAME	HSG	ACREAGE	DESCRIPTION
AfA*	B	1.97 AC	AGAWAM FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES
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HkC	A	5.17 AC	HINCKLEY GRAVELLY SANDY LOAM, ROLLING
Nr*	C	2.29 AC	NINIGRET FINE SANDY LOAM
Sx*	B	3.39 AC	SUDBURY SANDY LOAM
Wa	D	9.65 AC	WALPOLE SANDY LOAM
	TOTAL:	41.76 AC	

*PRIME AGRICULTURAL SOILS

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12. ZONING INFORMATION:

EXISTING ZONE (TABLE 18.20.010)	ZONE R-3 (SINGLE-FAMILY DWELLING)	PROPOSED
MINIMUM LOT AREA:	3 ACRES	41.76± ACRES
MINIMUM FRONTAGE:	300'	2,580'±
MINIMUM FRONT YARD:	50'	N/A
MINIMUM FRONT YARD (SOLAR):	50'	52.3'
MINIMUM SIDE YARD:	35'	N/A
MINIMUM SIDE YARD (SOLAR):	50'	77.7'
MINIMUM REAR YARD:	100'	N/A
MINIMUM REAR YARD (SOLAR):	50'	207.2'
MAXIMUM HEIGHT OF MAIN STRUCTURE:	35'	N/A
MAXIMUM BUILDING COVERAGE:	10%	N/A
MAXIMUM HEIGHT OF SOLAR PANEL:	12'	<12'
MINIMUM SOLAR FIELD COVERAGE:	11 ACRES	20.85± ACRES*

*AREA WITHIN LIMITS OF PROPOSED FENCE. SOLAR ARRAY-20.56± ACRES; SOLAR PANELS ONLY- 7.85± ACRES.

13. WETLANDS WERE DELINEATED ONSITE BY MASON & ASSOCIATES, INC., 771 PLAINFIELD PIKE, NORTH SCITUATE, RI 02857 ON FEBRUARY 23, 2018.

14. EXISTING CONDITIONS WITHIN THE PROPERTY WERE DETERMINED BY ONLINE INFORMATION, AERIAL MAPPING, THE RIGIS DATABASE AND A SITE WALK PERFORMED ON APRIL 9, 2018. THE PROPERTY BOUNDARY IS TAKEN FROM A CLASS I SURVEY PREPARED BY NATIONAL SURVEYORS-DEVELOPERS, INC. PREPARED ON APRIL 12, 2018 BASED ON A SURVEY PERFORMED BETWEEN APRIL 6, 2018 AND APRIL 12, 2018.

15. ON SITE SOIL EVALUATIONS WERE PERFORMED BY DIPRETE ENGINEERING, 2 STAFFORD COURT, CRANSTON, RI 02920 ON APRIL 11, 2018.

16. TOPOGRAPHY SHOWN ON THE PLAN IS LIDAR AND WAS OBTAINED BY RIGIS DATABASE. ELEVATIONS IN U.S. SURVEY FEET ARE REFERENCED TO NAVD88 DATUM.

17. THERE ARE NO HISTORICAL CEMETERIES LOCATED ON SITE BASED ON THE RHODE ISLAND HISTORICAL CEMETERY COMMISSION WEBSITE AND RESOURCES.

18. THE FACILITY IS NOT LOCATED IN A CONSERVATION EASEMENT, PRESERVATION EASEMENT, OR HAS ANY DEED RESTRICTIONS. THE ENTIRE PROPERTY WILL BE REMOVED FROM FARM, FOREST, OPEN SPACE DESIGNATION PRIOR TO CONSTRUCTION.

19. THIS PLAN SET REFERENCES RHODE ISLAND DEPARTMENT OF TRANSPORTATION (RIDOT) STANDARD DETAILS WHICH CAN BE FOUND ON THE RIDOT ONLINE DATABASE. DESIGNATED DETAILS ARE LABELED WITHIN IN THIS PLAN SET AS RIDOT STD X.X.X. REFERENCE LINK: HTTP://WWW.DOT.RI.GOV/DOCUMENTS/DOINGBUSINESS/RIDOT_STD_DETAILS.PDF

20. NO TOPSOIL OR PRIME AGRICULTURAL SOIL, AS DEFINED IN CHAPTER 18.08, SHALL BE REMOVED FROM THE SITE FOR INSTALLATION OF THE FACILITY.

21. THE EXISTING ON SITE DWELLING IS SERVICED BY PRIVATE WELL AND PRIVATE SEPTIC. THE EXISTING DWELLING IS TO BE REMOVED AND DISPOSED ENTIRELY. THE EXISTING PRIVATE WELL AND PRIVATE OWTS ARE TO BE ABANDONED IN ACCORDANCE WITH RIDOH AND RIDEM REQUIREMENTS.

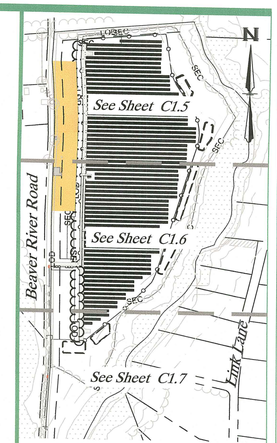
22. THIS PROJECT IS PROPOSED TO BE BUILT IN 1 PHASE.

23. NO OUTDOOR LIGHTING IS PROPOSED FOR THIS PROJECT.

24. NO SIGNAGE IS PROPOSED FOR THIS PROJECT EXCEPT REQUIRED WARNING SIGNAGE PER ELECTRIC CODE AND NATIONAL GRID REQUIREMENTS.

25. AS PER DEVELOPMENT PLAN CHECKLIST ITEM 17 THE FOLLOWING SUMMARY OF AREAS IS PROVIDED:
- AREA OF SOLAR PANELS - 342,102 SQ.FT.
- AREA OF PERMEABLE ACCESS DRIVEWAY - 42,620 SQ.FT.
- AREA OF CONCRETE PADS FOR ELECTRICAL EQUIPMENT - 1,850 SQ.FT.
- AREA WITH PERIMETER FENCE (INCLUSIVE OF THE ABOVE) - 897,355 SQ.FT.
- SEE BETA PLANS FOR LANDSCAPED AREA

26. TRANSFORMER PAD CONSTRUCTION TO INCORPORATE C.I. AGENT GEOMEMBRANE LINER SOLUTION SYSTEM AS A CONTAINMENT MEASURE.



Index Key To Sheets
1.5, 1.6 & 1.7
(Scale: 1"=400')

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL
DATED: NOV 10 2023 FILE #: 18-0003
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Randy L. Freeman

FILED/RECEIVED
SEP 15 2023
CRMC/WATER RESOURCES

KEVIN C. MORIN
No. 18851
REGISTERED PROFESSIONAL ENGINEER
CIVIL
9/15/2023

GREEN development
2000 Chapel View Blvd, Suite 500
Cranston, RI 02920
(401) 295-4998
www.green-ri.com

APPLICANT INFO: GD Richmond Beaver River I, LLC
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

OWNER INFO: William M. Stamp Jr. Trustee of The William M. Stamp, Jr. Revocable Trust - 2004
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: Green Development, LLC
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

No.	DATE	REVISION	BY
11	9/15/2023	RIDEM PERMIT MODIFICATION	KVB
10	8/23/2023	PRE-MARSHALL REVIEW SUBMISSION	KVB
9	5/12/2023	BUILDING PERMIT SUBMISSION	KVB
8	1/10/2020	REVISED ZONING SUBMISSION	RBS
7	10/7/2019	TOWN PLANNER REVIEW COMMENTS	RBS
6	9/9/2019	TOWN RESUBMISSION	RBS
5	5/1/2019	RIDEM RESUBMISSION	RBS
4	12/7/2018	RIDEM RESUBMISSION	RBS
3	9/27/2018	TOWN PLANNER REVIEW COMMENTS	RBS
2	5/11/2018	TOWN PLANNER REVIEW COMMENTS	RBS
1	4/16/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS

SHEET TITLE:
Proposed Site Plan
PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

SHEET NO.:
C1.4 OF 11

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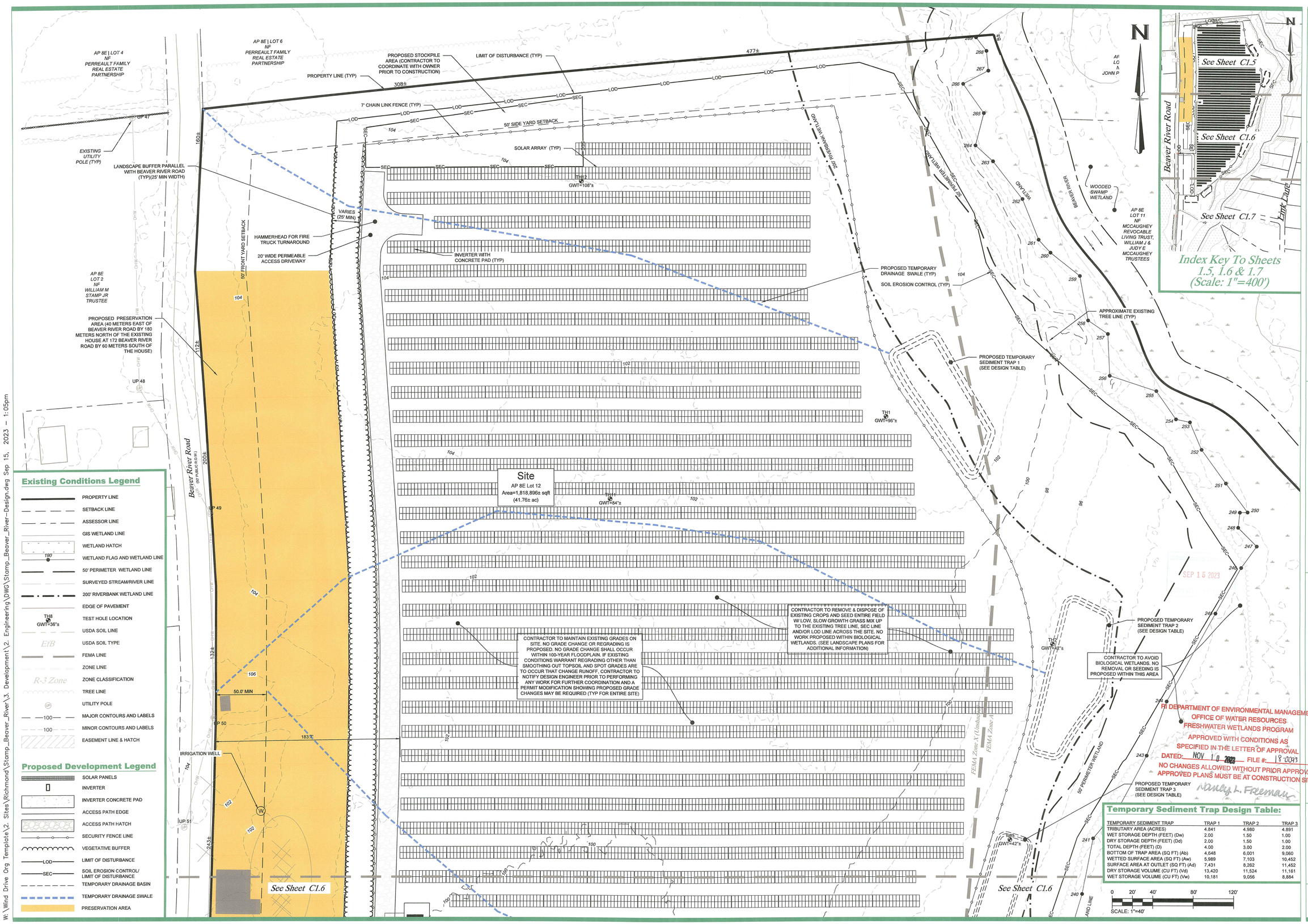

Existing Conditions Legend

- PROPERTY LINE
- SETBACK LINE
- ASSESSOR LINE
- GIS WETLAND LINE
- WETLAND HATCH
- 190' WETLAND FLAG AND WETLAND LINE
- 50' PERIMETER WETLAND LINE
- SURVEYED STREAM/RIVER LINE
- 200' RIVERBANK WETLAND LINE
- EDGE OF PAVEMENT
- TH8 GWT=36"± TEST HOLE LOCATION
- USDA SOIL LINE
- EfB USDA SOIL TYPE
- FEMA LINE
- ZONE LINE
- R-3 Zone ZONE CLASSIFICATION
- TREE LINE
- UP UTILITY POLE
- 100 MAJOR CONTOURS AND LABELS
- 100 MINOR CONTOURS AND LABELS
- EASEMENT LINE & HATCH

Proposed Development Legend

- SOLAR PANELS
- INVERTER
- INVERTER CONCRETE PAD
- ACCESS PATH EDGE
- ACCESS PATH HATCH
- SECURITY FENCE LINE
- VEGETATIVE BUFFER
- LOD LIMIT OF DISTURBANCE
- SEC SOIL EROSION CONTROL/ LIMIT OF DISTURBANCE
- TEMPORARY DRAINAGE BASIN
- TEMPORARY DRAINAGE SWALE
- PRESERVATION AREA

Temporary Sediment Trap Design Table:

TEMPORARY SEDIMENT TRAP	TRAP 1	TRAP 2	TRAP 3
TRIBUTARY AREA (ACRES)	4.841	4.980	4.891
WET STORAGE DEPTH (FEET) (Dw)	2.00	1.50	1.00
DRY STORAGE DEPTH (FEET) (Dd)	2.00	1.50	1.00
TOTAL DEPTH (FEET) (D)	4.00	3.00	2.00
BOTTOM OF TRAP AREA (SQ FT) (Ab)	4,648	6,001	9,060
WETTED SURFACE AREA (SQ FT) (Aw)	5,989	7,103	10,452
SURFACE AREA AT OUTLET (SQ FT) (Ad)	7,431	8,282	11,452
DRY STORAGE VOLUME (CU FT) (Vd)	13,420	11,524	11,161
WET STORAGE VOLUME (CU FT) (Vw)	10,181	9,056	8,884

Index Key To Sheets 1.5, 1.6 & 1.7 (Scale: 1"=400')

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: NOV 10 2023 FILE #: 18-0093
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy L. Freeman

RECEIVED
SEP 15 2023
CRMC

KEVIN C. MORIN
No. 19651
REGISTERED PROFESSIONAL ENGINEER
CIVIL
9/15/2023

No.	DATE	REVISION	BY
11	9/15/2023	RIDEM PERMIT MODIFICATION	MWB
10	5/23/2023	FIRE MARSHALL REVIEW SUBMISSION	MWB
9	5/5/2023	BUILDING PERMIT SUBMISSION	MWB
8	1/30/2023	LAYOUT REVISIONS SUBMISSION	MWB
7	1/30/2019	TOWN RESUBMISSION	RBS
6	5/9/2019	TOWN RESUBMISSION	RBS
5	5/7/2019	RIDEM RESUBMISSION	RBS
4	5/6/2019	TOWN RESUBMISSION	RBS
3	5/15/2018	TOWN PLANNER REVIEW COMMENTS	RBS
2	5/11/2018	TOWN PLANNER REVIEW COMMENTS	RBS
1	4/16/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS

SHEET TITLE:
Enlarged Site, Grading & Utility Plan - 1

PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

SHEET NO.:
C1.5 OF 11

APPLICANT INFO: GD Richmond Beaver River I, LLC
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

OWNER INFO: William M. Stamp Jr, Trustee of The William M. Stamp, Jr. Revocable Trust - 3894
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: Green Development, LLC
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

2000 Chapel View Blvd, Suite 500
Cranston, RI 02920
(401) 295-4998
www.green-ri.com
GREEN development

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See Sheet C1.5

PROPOSED PRESERVATION AREA (40 METERS EAST OF BEAVER RIVER ROAD BY 180 METERS NORTH OF THE EXISTING HOUSE AT 172 BEAVER RIVER ROAD BY 60 METERS SOUTH OF THE HOUSE)

EXISTING TREE AT 50' TALL

EXISTING TREE AT 30' TALL

WILLIAM M STAMP JR TRUSTEE NF AP 8E LOT 2

Beaver River Road (50' PUBLIC R.O.W.)

SOLAR ARRAY (TYP)

PROPERTY LINE (TYP)

LANDSCAPE BUFFER PARALLEL WITH BEAVER RIVER ROAD (TYP)(25' MIN WIDTH)

EXISTING TREE AT 40' TALL

LIMIT OF DISTURBANCE (TYP)

7' CHAIN LINK FENCE (TYP)

PROPOSED CONCRETE WASHOUT AREA AND CONSTRUCTION STAGING AREA (CONTRACTOR TO COORDINATE WITH OWNER PRIOR TO CONSTRUCTION)

PROPOSED CONSTRUCTION ACCESS ENTRANCE

CONCRETE PAD MOUNTED EQUIPMENT (TYP)

50' FRONT YARD SETBACK

20' WIDE PERMEABLE ACCESS DRIVEWAY

16' GATE WITH LOCK BOX FOR FIRE DEPARTMENT (CONTRACTOR TO COORDINATE WITH FIRE DEPARTMENT FOR LOCATION AND REQUIREMENTS)

UNDERGROUND ELECTRICAL DUCTBANK (TYP) (SEE SHEET C1.10)

INTERCONNECTION POINT
LATITUDE: N41°28'3.99"
LONGITUDE: W71°37'39.47"
(SEE SHEETS C1.10 & C1.11)

ELECTRICAL MANHOLE (SEE SHEET C1.10)

LANDSCAPE BUFFER PARALLEL WITH BEAVER RIVER ROAD (TYP) (25' MIN WIDTH)

VARIES (25' MIN)

VARIES (25' MIN)

Site
AP 8E Lot 12
Area=1,902,446± sqft
(43.67± ac)

INVERTER WITH CONCRETE PAD (TYP)

CONTRACTOR TO REMOVE & DISPOSE OF EXISTING CROPS AND SEED ENTIRE FIELD W/ LOW, SLOW GROWTH GRASS MIX UP TO THE EXISTING TREE LINE, SEC LINE AND/OR LOD LINE ACROSS THE SITE. NO WORK PROPOSED WITHIN BIOLOGICAL WETLANDS. (SEE LANDSCAPE PLANS FOR ADDITIONAL INFORMATION)

CONTRACTOR TO MAINTAIN EXISTING GRADES ON SITE. NO GRADE CHANGE OR REGRADING IS PROPOSED. NO GRADE CHANGE SHALL OCCUR WITHIN 100-YEAR FLOODPLAIN. IF EXISTING CONDITIONS WARRANT REGRADING OTHER THAN SMOOTHING OUT TOPSOIL AND SPOT GRADES ARE TO OCCUR THAT CHANGE RUNOFF, CONTRACTOR TO NOTIFY DESIGN ENGINEER PRIOR TO PERFORMING ANY WORK FOR FURTHER COORDINATION AND A PERMIT MODIFICATION SHOWING PROPOSED GRADE CHANGES MAY BE REQUIRED (TYP FOR ENTIRE SITE)

TH1 GWT=48"±
TH2 GWT=30"±
TH3 GWT=36"±
TH4 GWT=30"±
TH5 GWT=36"±
TH6 GWT=24"±
TH7 GWT=30"±
TH8 GWT=36"±

FEMA Zone A

See Sheet C1.7

See Sheet C1.5

PROPOSED TEMPORARY DRAINAGE SWALE (TYP)

PROPOSED TEMPORARY SEDIMENT TRAP 3 (SEE DESIGN TABLE)

PROPOSED TEMPORARY SEDIMENT TRAP 4 (SEE DESIGN TABLE)

APPROXIMATE EXISTING TREE LINE (TYP)

WETLAND LINE

WOODED SWAMP WETLAND

BEAVER RIVER

SOIL EROSION CONTROL (TYP)

50' PERIMETER WETLAND

200' RIVERBANK WETLAND

215.0' MIN

AP 8E LOT 13-38 NF CHRISTINE M DONAHUE

AP 8E LOT 13-39 NF DARYL J FREEMAN & KIM A BISSONNETTE

AP 8E LOT 13-40 NF CARL S MARJORIE & KATHY A GARMUS

See Sheet C1.6

See Sheet C1.7

Beaver River Road

Link Lane

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: NOV 10 2023 FILE #: 18-0023
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Wesley L. Freeman

SEP 15 2023

Existing Conditions Legend

- PROPERTY LINE
- SETBACK LINE
- ASSESSOR LINE
- GIS WETLAND LINE
- WETLAND HATCH
- WETLAND FLAG AND WETLAND LINE
- 50' PERIMETER WETLAND LINE
- SURVEYED STREAM/RIVER LINE
- 200' RIVERBANK WETLAND LINE
- EDGE OF PAVEMENT
- TEST HOLE LOCATION
- USDA SOIL LINE
- USDA SOIL TYPE
- FEMA LINE
- ZONE LINE
- ZONE CLASSIFICATION
- TREE LINE
- UTILITY POLE
- MAJOR CONTOURS AND LABELS
- MINOR CONTOURS AND LABELS
- EASEMENT LINE & HATCH

Proposed Development Legend

- SOLAR PANELS
- INVERTER
- INVERTER CONCRETE PAD
- ACCESS PATH EDGE
- ACCESS PATH HATCH
- SECURITY FENCE LINE
- VEGETATIVE BUFFER
- LIMIT OF DISTURBANCE
- SOIL EROSION CONTROL/ LIMIT OF DISTURBANCE
- TEMPORARY DRAINAGE BASIN
- TEMPORARY DRAINAGE SWALE
- PRESERVATION AREA

Temporary Sediment Trap Design Table:

TEMPORARY SEDIMENT TRAP	TRAP 3	TRAP 4
TRIBUTARY AREA (ACRES)	4.891	4.984
WET STORAGE DEPTH (FEET) (Dw)	1.00	1.00
DRY STORAGE DEPTH (FEET) (Dd)	1.00	1.00
TOTAL DEPTH (FEET) (D)	2.00	2.00
BOTTOM OF TRAP AREA (SQ FT) (Ab)	9,080	9,645
WETTED SURFACE AREA (SQ FT) (Aw)	10,452	10,697
SURFACE AREA AT OUTLET (SQ FT) (Ad)	11,452	11,773
DRY STORAGE VOLUME (CU FT) (Vd)	11,161	11,235
WET STORAGE VOLUME (CU FT) (Vw)	8,884	9,092

0 20' 40' 80' 120'
SCALE: 1"=40'

Index Key To Sheets 1.5, 1.6 & 1.7 (Scale: 1"=400')

2000 Chapel View Blvd, Suite 500
Cranston, RI 02920
(401) 295-4998
www.green-ri.com
GREEN development

APPLICANT INFO: GD Richmond Beaver River I, LLC
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

OWNER INFO: William M. Stamp Jr, Trustee of The William M. Stamp, Jr. Revocable Trust - 2004
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: Green Development, LLC
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

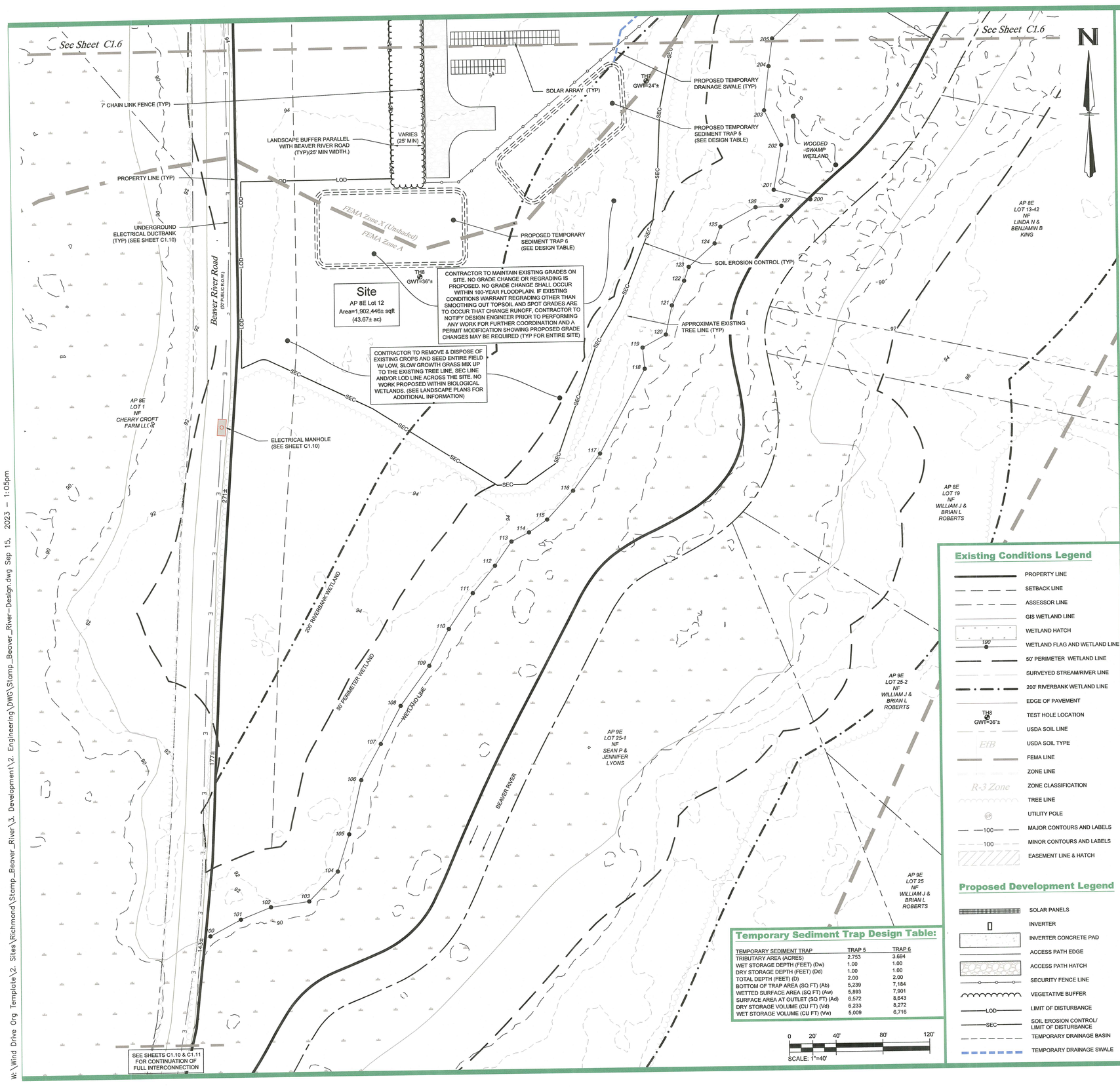
No.	DATE	REVISION	BY
11	9/15/2023	RIDEM PERMIT MODIFICATION	LWB
10	5/23/2023	PRE MARSHALL REVIEW SUBMISSION	LWB
9	5/2/2023	BUILDING PERMIT SUBMISSION	LWB
8	9/30/2019	TOWN RESUBMISSION	LWB
7	9/30/2019	LAYOUT REVISIONS	RBS
6	5/7/2019	TOWN RESUBMISSION	RBS
5	5/7/2019	RIDEM RESUBMISSION	RBS
4	5/15/2018	TOWN PLANNER REVIEW COMMENTS	RBS
3	5/15/2018	TOWN PLANNER REVIEW COMMENTS	RBS
2	5/1/2018	TOWN PLANNER REVIEW COMMENTS	RBS
1	4/16/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS

SHEET TITLE:
Enlarged Site, Grading & Utility Plan - 2

PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

KEVIN C. MORIN
No. 9851
REGISTERED PROFESSIONAL ENGINEER
CIVIL
9/15/2023

SHEET NO.:
C1.6 OF 11



Notes:

1. CONSTRUCTION IS ANTICIPATED TO BEING IN THE SUMMER OF 2018 OR ONCE ALL NECESSARY APPROVALS HAVE BEEN ACQUIRED.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION BETWEEN THE APPROPRIATE UTILITY COMPANIES FOR AGREEMENTS TO SERVICE THE PROPOSED FACILITY. ALL PROPOSED OVERHEAD AND UNDERGROUND UTILITIES CORRESPONDING TO THE INSTALLATION OF THE SOLAR FIELD SHALL BE COORDINATED WITH THE APPLICANT AND DESIGN ENGINEER PRIOR TO INSTALLATION.
3. CONTRACTOR TO VERIFY EXISTING GRADES AT TIE-IN LOCATIONS WITH PROPOSED ACCESS PATH TO ENSURE PROPER INSTALLATION AND TRANSITION BETWEEN THE EXISTING CONDITIONS AND PROPOSED FACILITY.
4. SEE SEQUENCE OF CONSTRUCTION BELOW FOR ABBREVIATED INSTRUCTIONS. CONTRACTOR TO REFER TO THE SESC FOR FULL SEQUENCE OF CONSTRUCTION ACTIVITIES, PROJECT PHASING AND ADDITIONAL INFORMATION. CONTRACTOR MAY MODIFY SEQUENCE OF CONSTRUCTION AS FIELD CONDITIONS WARRANT WITH THE APPROVAL FROM THE DESIGN ENGINEER.
5. CONTRACTOR IS RESPONSIBLE FOR ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES ON SITE SHOW ON THE PLANS. CONTRACTOR TO NOTIFY THE DIRECTOR OF RICHMOND PUBLIC WORKS, THE TOWN OF RICHMOND ENGINEERING DEPARTMENT, RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AND DESIGN ENGINEER A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
6. ALL EXISTING UTILITIES SHOWN ARE FROM VISIBLE INFORMATION, DRAWINGS FROM OTHERS, RIGIS DATA, SURVEYED INFORMATION AND/OR INFORMATION PROVIDED TO GREEN DEVELOPMENT AND IS SUBJECT TO CHANGE AND ARE TO BE CONSIDERED APPROXIMATE ONLY. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE TO CONTACT THE PROPER UTILITY ENGINEERING DEPARTMENTS AND COMPANIES TO LOCATE ALL EXISTING SUBSURFACE UTILITIES AND STRUCTURES IN AND AROUND THE LIMIT OF DISTURBANCE.
7. CONTRACTOR TO CALL THE DIG SAFE CENTER TOLL FREE AT 1-888-344-7233, 72 HOURS PRIOR TO ANY EXCAVATION WORK TAKES PLACE. CONTRACTOR TO NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCIES FOUND DURING UTILITY RESEARCH PRIOR TO EXCAVATION. ANY DAMAGE TO ANY EXISTING UTILITIES WHICH ARE SHOWN AND NOT SHOWN ON THE PLANS OR DETAILED BY DIG SAFE SHALL BE THE RESPONSIBILITY OF THE SITE CONTRACTOR.
8. CONTRACTOR IS LIABLE TO OBTAIN ALL MUNICIPAL, STATE AND FEDERAL APPROVALS AND PERMITS PRIOR TO THE START OF CONSTRUCTION.
9. DAILY SWEEPING AT CONSTRUCTION ENTRANCE DURING DEMOLITION AND CONSTRUCTION IS REQUIRED TO MINIMIZE SEDIMENTS ON BEAVER RIVER ROAD. THE CONTRACTOR SHALL PROVIDE STORAGE FOR WATER AS NECESSARY TO ENSURE PROPER DUST CONTROL.
10. CONTRACTOR IS RESPONSIBLE FOR REMOVING AND DISPOSING (R&D) OF ALL MATERIALS LEGALLY AS INDICATED ON THE PLANS TO AN APPROVED OFF-SITE LOCATION.
11. CONTRACTOR'S STOCKPILE AND STAGING AREAS WITHIN THE LIMIT OF DISTURBANCE SHALL BE RESTORED TO MATCH PRIOR CONDITIONS OR PROPOSED CONDITIONS SHOWN ON THE PLANS.
12. NO OUTDOOR STORAGE IS PROPOSED EXCEPT FOR TEMPORARY STORAGE FOR MATERIALS DURING CONSTRUCTION. SEE SHEET C1.6 FOR STOCKPILE AND STAGING AREA LOCATION.
13. THIS PLAN SET REFERENCES RHODE ISLAND DEPARTMENT OF TRANSPORTATION (RIDOT) STANDARD DETAILS WHICH CAN BE FOUND ON THE RIDOT ONLINE DATABASE. DESIGNATED DETAILS ARE LABELED WITHIN IN THIS PLAN SET AS RIDOT STD X.X.X.

    REFERENCE LINK: HTTP://WWW.DOT.RI.GOV/DOCUMENTS/DOINGBUSINESS/RIDOT_STD_DETAILS.PDF
14. NO TOPSOIL OR PRIME AGRICULTURAL SOIL SHALL BE REMOVED FROM THE SITE FOR INSTALLATION OF THE FACILITY.
15. CONTRACTOR TO PERFORM ALL WORK IN ACCORDANCE WITH THE RHODE ISLAND STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRICTION AND THE TOWN OF RICHMOND STANDARDS SPECIFICATIONS AND DETAILS.
16. THIS PROJECT IS PROPOSED TO BE BUILT IN 1 PHASE.
17. ALL STUMPS SHALL BE GROUND ONSITE OR REMOVED IN AN ACCEPTABLE MANNER OFF SITE. NO STUMP DUMPS ARE PROPOSED ON SITE FOR THIS PROJECT.
18. NO OUTDOOR LIGHTING IS PROPOSED FOR THIS PROJECT.
19. ALL CONCRETE WASHOUT AREAS MUST CONFORM TO RIDEM REGULATIONS. SEE SHEET C1.6 FOR CONCRETE WASHOUT AREA LOCATION.
20. NO SIGNAGE IS PROPOSED FOR THIS PROJECT EXCEPT REQUIRED WARNING SIGNAGE PER ELECTRIC CODE AND NATIONAL GRID REQUIREMENTS.
21. AS PER DEVELOPMENT PLAN CHECKLIST ITEM 17 THE FOLLOWING SUMMARY OF AREAS IS PROVIDED:
    - AREA OF SOLAR PANELS - 432,803 SQ.FT.
    - AREA OF PERMEABLE ACCESS DRIVEWAY - 42,620 SQ.FT.
    - AREA OF CONCRETE PADS FOR ELECTRICAL EQUIPMENT - 1,850 SQ.FT.
    - AREA WITH PERIMETER FENCE (INCLUSIVE OF THE ABOVE) - 1,042,244 SQ.FT.
    - SEE BETA PLANS FOR LANDSCAPED AREA

Existing Conditions Legend

- PROPERTY LINE
- SETBACK LINE
- ASSESSOR LINE
- GIS WETLAND LINE
- WETLAND HATCH
- WETLAND FLAG AND WETLAND LINE
- 50' PERIMETER WETLAND LINE
- SURVEYED STREAM/RIVER LINE
- 200' RIVERBANK WETLAND LINE
- EDGE OF PAVEMENT
- TEST HOLE LOCATION
- USDA SOIL LINE
- USDA SOIL TYPE
- FEMA LINE
- ZONE LINE
- ZONE CLASSIFICATION
- TREE LINE
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- MAJOR CONTOURS AND LABELS
- MINOR CONTOURS AND LABELS
- EASEMENT LINE & HATCH

Proposed Development Legend

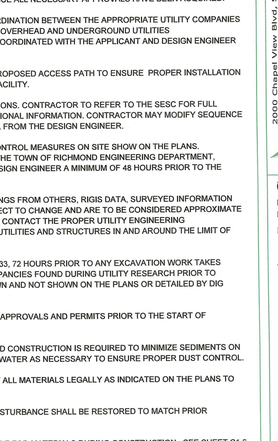
- SOLAR PANELS
- INVERTER
- INVERTER CONCRETE PAD
- ACCESS PATH EDGE
- ACCESS PATH HATCH
- SECURITY FENCE LINE
- VEGETATIVE BUFFER
- LIMIT OF DISTURBANCE
- SOIL EROSION CONTROL/ LIMIT OF DISTURBANCE
- TEMPORARY DRAINAGE BASIN
- TEMPORARY DRAINAGE SWALE

Temporary Sediment Trap Design Table:

TEMPORARY SEDIMENT TRAP	TRAP 5	TRAP 6
TRIBUTARY AREA (ACRES)	2.753	3.694
WET STORAGE DEPTH (FEET) (Dw)	1.00	1.00
DRY STORAGE DEPTH (FEET) (Dd)	1.00	1.00
TOTAL DEPTH (FEET) (D)	2.00	2.00
BOTTOM OF TRAP AREA (SQ FT) (Ab)	5,239	7,184
WETTED SURFACE AREA (SQ FT) (Aw)	5,893	7,901
SURFACE AREA AT OUTLET (SQ FT) (Ad)	6,572	8,643
DRY STORAGE VOLUME (CU FT) (Vd)	6,233	8,272
WET STORAGE VOLUME (CU FT) (Vw)	5,009	6,716

Sequence of Construction

1. SURVEY AND STAKE LIMIT OF SEDIMENTATION BARRIERS/LIMIT DISTURBANCE.
2. INSTALL PERIMETER EROSION CONTROL BARRIERS AS SHOWN ON THE PLANS ALONG LIMIT OF DISTURBANCE. IN NO CASE IS THE LIMIT OF DISTURBANCE TO EXTEND BEYOND THE SEDIMENTATION BARRIERS.
3. CLEAR BRUSH AND TREES ON SITE IF NECESSARY, WITHIN LIMIT OF DISTURBANCE. IN NO CASE IS THE LIMIT OF DISTURBANCE TO EXTEND BEYOND THE SEDIMENTATION BARRIERS OR CONSTRUCTION FENCING.
4. PRIOR TO REMOVAL OF STUMPS AND SOIL DISTURBANCE, INSTALL TEMPORARY SEDIMENT SWALE AND TRAPS AS PER PLANS. ALL TEMPORARY CONTROL DEVICES SHALL BE INSTALLED PER THE RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK.
5. GRUB AND REMOVE TREE STUMPS ON SITE IF NECESSARY, TOPSOIL IS TO BE STRIPPED AND STOCKPILED IN APPROVED LOCATIONS SHOWN ON PLANS TO BE RE-USED FOLLOWING TEMPORARY GRADING ACTIVITIES FOR SOIL EROSION MEASURES. STOCKPILES ARE TO BE PROTECTED BY A ROW OF SILT FENCE AND COVERED OR TEMPORARILY SEEDED.
6. RE-GRADE SITE AS NECESSARY PER PLANS.
7. INSTALL SOLAR PROJECT INCLUDING BUT NOT LIMITED TO THE INSTALLATION OF THE RACKING SYSTEM, UNDERGROUND CONDUIT, EQUIPMENT PADS, ACCESS PATH, PANELS, NEW UTILITY POLES ON SITE, FENCING, ETC. AS REQUIRED BY APPROVED PLANS.
8. ONCE ROUGH GRADE ON THE SITE HAS BEEN ESTABLISHED AND SOLAR PANELS/EQUIPMENT HAS BEEN INSTALLED, DISTURBED AREAS SHALL BE LOAMED AND SEEDED W/ LOW, SLOW GROWTH GRASS MIX TO RE-ESTABLISH VEGETATION.
9. TEMPORARY SEDIMENT CONTROLS AND TRAPS ARE TO BE MAINTAINED AND REMAIN UNTIL THE SITE IS STABILIZED.
10. IN THE EVENT THE DRIP EDGE AT PANELS RESULTS IN RILL EROSION, INSTALL PROTECTIVE MEASURES SUCH AS CRUSHED STONE, EROSION CONTROLS BLANKETS, ETC. AS NEEDED.
11. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES FOLLOWING FINAL VEGETATIVE ESTABLISHMENT OF ALL DISTURBED AREAS AND FULL SITE STABILIZATION.
12. IMPLEMENT LONG TERM OPERATION AND MAINTENANCE PLAN.



Index Key To Sheets 1.5, 1.6 & 1.7 (Scale: 1"=400')

SEP 15 2023

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: NOV 1 0 2023 FILE #: 18-0093
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy L. Freeman

2000 Chapel View Blvd, Suite 500
Cranston, RI 02920
(401) 295-4998
www.green-ri.com
GREEN development

APPLICANT INFO: GD Richmond Beaver River I, LLC
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

OWNER INFO: William M. Stamp Jr. Trustee of The William M. Stamp, Jr. Revocable Trust - 2004
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: Green Development, LLC
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

No.	DATE:	REVISION	BY
11	9/15/2023	RIDEM PERMIT MODIFICATION	MRB
10	9/23/2023	PRE MARSHALL REVIEW SUBMISSION	MRB
9	9/2/2023	BUILDING PERMIT SUBMISSION	MRB
8	1/30/2020	REVISED PER COMMENTS	RSS
7	12/6/2019	TOWN RESUBMISSION	RSS
6	9/9/2019	TOWN RESUBMISSION	RSS
5	5/7/2019	RIDEM RESUBMISSION	RSS
4	3/27/2019	TOWN PLANNER REVIEW COMMENTS	RSS
3	9/27/2018	TOWN PLANNER REVIEW COMMENTS	RSS
2	5/31/2018	TOWN PLANNER REVIEW COMMENTS	RSS
1	4/26/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RSS

SHEET TITLE:
Enlarged Site, Grading & Utility Plan - 3

PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

KEVIN C. MORIN
No. 9851
REGISTERED PROFESSIONAL ENGINEER
CIVIL
9/15/2023

SHEET NO.:
C1.7 OF 11

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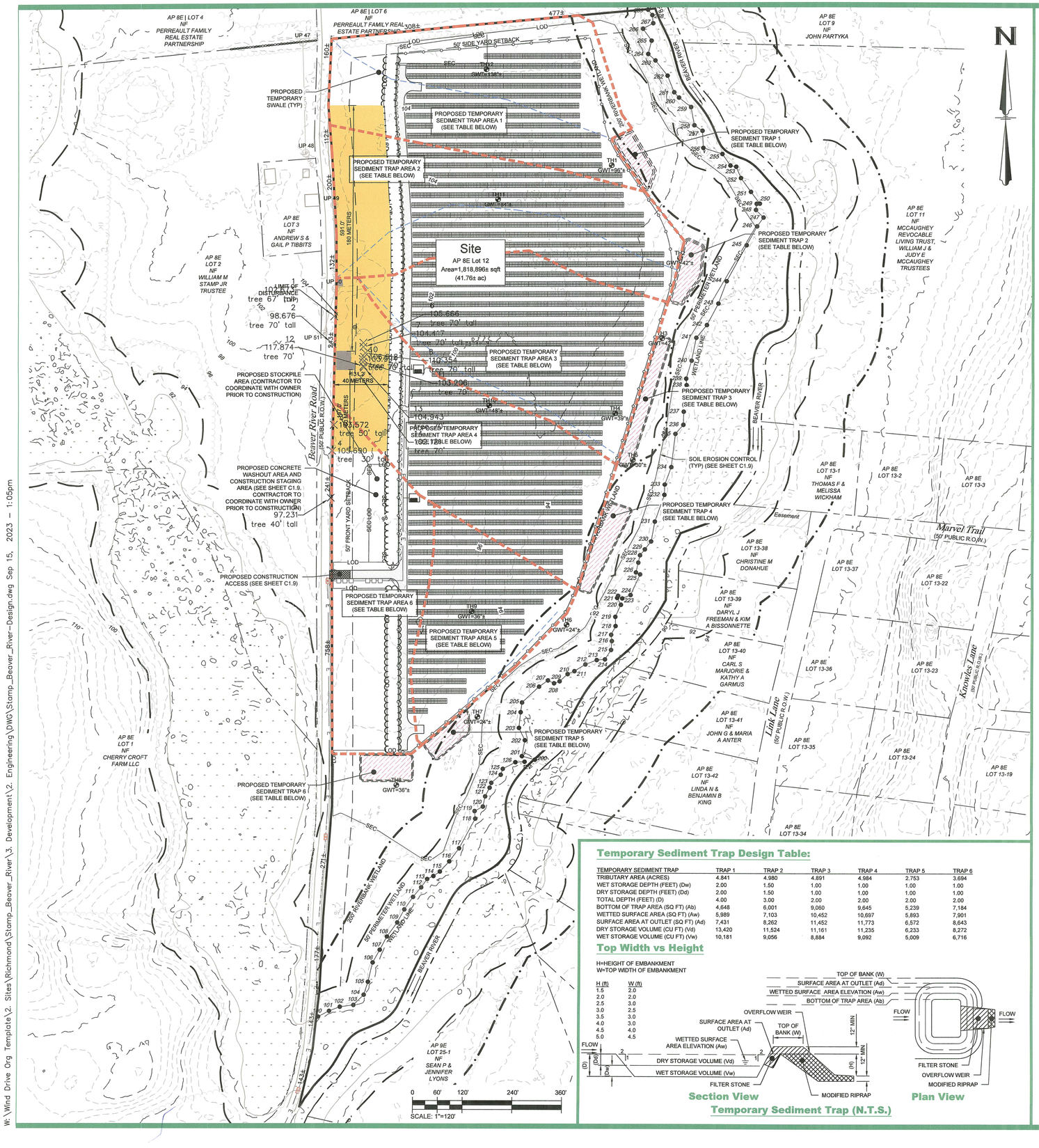

Temporary Sediment Trap Design Table:

TEMPORARY SEDIMENT TRAP	TRAP 1	TRAP 2	TRAP 3	TRAP 4	TRAP 5	TRAP 6
TRIBUTARY AREA (ACRES)	4.841	4.980	4.891	4.984	2.753	3.694
WET STORAGE DEPTH (FEET) (Dw)	2.00	1.50	1.00	1.00	1.00	1.00
DRY STORAGE DEPTH (FEET) (Dd)	2.00	1.50	1.00	1.00	1.00	1.00
TOTAL DEPTH (FEET) (D)	4.00	3.00	2.00	2.00	2.00	2.00
BOTTOM OF TRAP AREA (SQ FT) (Ab)	4,648	6,001	9,060	9,645	5,239	7,184
WETTED SURFACE AREA (SQ FT) (Aw)	5,989	7,103	10,452	10,697	5,893	7,901
SURFACE AREA AT OUTLET (SQ FT) (Ad)	7,431	8,262	11,452	11,773	6,572	8,643
DRY STORAGE VOLUME (CU FT) (Vd)	13,420	11,524	11,161	11,235	6,233	8,272
WET STORAGE VOLUME (CU FT) (Vw)	10,181	9,056	8,884	9,092	5,009	6,716

Top Width vs Height

H=HEIGHT OF EMBANKMENT
W=TOP WIDTH OF EMBANKMENT

H (ft)	W (ft)
1.5	2.0
2.0	2.0
2.5	3.0
3.0	2.5
3.5	3.0
4.0	3.0
4.5	4.0
5.0	4.5

Temporary Sediment Trap (N.T.S.)

Soil Erosion and Sediment Control Notes:

1. ACCOMPANYING DOCUMENTS: SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC) WHICH CONTAINS THE FOLLOWING:
   - EROSION CONTROL MEASURES
   - SHORT TERM MAINTENANCE
   - ESTABLISHMENT OF VEGETATIVE COVER
   - CONSTRUCTION POLLUTION PREVENTION
   - SEQUENCE OF CONSTRUCTION

   OPERATIONS AND MAINTENANCE PLAN (O&M) WHICH CONTAINS THE FOLLOWING:
   - LONG TERM MAINTENANCE
   - LONG TERM POLLUTION PREVENTION

   THESE DOCUMENTS ARE TO BE CONSIDERED AS PART OF THE PROJECT PLANS AND THE CONTRACTOR AND OWNER MUST MAINTAIN CURRENT COPIES OF THE ABOVE DOCUMENTS AS PART OF A FULL PLAN SET.
2. CONTRACTOR TO REFER TO THE SESC FOR SEQUENCE OF CONSTRUCTION ACTIVITIES, PROJECT PHASING AND ADDITIONAL INFORMATION. CONTRACTOR MAY MODIFY SEQUENCE OF CONSTRUCTION WITH THE APPROVAL FROM THE DESIGN ENGINEER.
3. ALL EXISTING UTILITIES SHOWN ARE FROM VISIBLE INFORMATION, DRAWINGS FROM OTHERS, RIGIS DATA, SURVEYED INFORMATION AND/OR INFORMATION PROVIDED TO GREEN DEVELOPMENT AND IS SUBJECT TO CHANGE AND ARE TO BE CONSIDERED APPROXIMATE ONLY. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE TO CONTACT THE PROPER UTILITY ENGINEERING DEPARTMENTS AND COMPANIES TO LOCATE ALL EXISTING SUBSURFACE UTILITIES AND STRUCTURES IN AND AROUND THE LIMIT OF DISTURBANCE.
4. CONTRACTOR TO CALL THE DIG SAFE CENTER TOLL FREE AT 1-888-344-7233, 72 HOURS PRIOR TO ANY EXCAVATION WORK TAKES PLACE. CONTRACTOR TO NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCIES FOUND DURING UTILITY RESEARCH PRIOR TO EXCAVATION. ANY DAMAGE TO ANY EXISTING UTILITIES WHICH ARE SHOWN AND NOT SHOWN ON THE PLANS OR DETAILED BY DIG SAFE SHALL BE THE RESPONSIBILITY OF THE SITE CONTRACTOR.
5. CONTRACTOR IS LIABLE TO OBTAIN ALL MUNICIPAL, STATE AND FEDERAL APPROVALS AND PERMITS PRIOR TO THE START OF CONSTRUCTION.
6. DAILY SWEEPING AT CONSTRUCTION ENTRANCE DURING DEMOLITION AND CONSTRUCTION IS REQUIRED TO MINIMIZE SEDIMENTS ON BEAVER RIVER ROAD. THE CONTRACTOR SHALL PROVIDE STORAGE FOR WATER AS NECESSARY TO ENSURE PROPER DUST CONTROL.
7. CONTRACTOR IS RESPONSIBLE FOR REMOVING AND DISPOSING (R&D) OF ALL MATERIALS LEGALLY AS INDICATED ON THE PLANS TO AN APPROVED OFF-SITE LOCATION.
8. CONTRACTOR'S STOCKPILE AND STAGING AREAS WITHIN THE LIMIT OF DISTURBANCE SHALL BE RESTORED TO MATCH PRIOR CONDITIONS OR PROPOSED CONDITIONS SHOWN ON THE PLANS.
9. THIS PLAN SET REFERENCES RHODE ISLAND DEPARTMENT OF TRANSPORTATION (RIDOT) STANDARD DETAILS WHICH CAN BE FOUND ON THE RIDOT ONLINE DATABASE. DESIGNATED DETAILS ARE LABELED WITHIN IN THIS PLAN SET AS RIDOT STD X.X.X.

   REFERENCE LINK: HTTP://WWW.DOT.RI.GOV/DOCUMENTS/DOINGBUSINESS/RIDOT_STD_DETAILS.PDF
10. NO TOPSOIL OR PRIME AGRICULTURAL SOIL SHALL BE REMOVED FROM THE SITE FOR INSTALLATION OF THE FACILITY.
11. THIS PROJECT IS PROPOSED TO BE BUILT IN 1 PHASE.

Design Rules and Regulations:

THE TEMPORARY SEDIMENT TRAPS SHALL BE INSTALLED AND CONFORM TO ALL RULES AND REGULATIONS SET FORTH BY THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AND DESCRIBED WITHIN THE THOSE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST REVISION, UNDER SECTION SIX FOR TEMPORARY SEDIMENT TRAPS.

APPLICABILITY: BELOW DISTURBED AREAS WHERE THE CONTRIBUTING DRAINAGE AREA IS 5 ACRES OR LESS - FOR DRAINAGE AREAS GREATER THAN 5 ACRES USE A TEMPORARY SEDIMENT BASIN.

WHERE THE INTENDED USE IS 6 MONTHS OR LESS. FOR USES EXTENDING BEYOND 6 MONTHS USE A TEMPORARY SEDIMENT BASIN.

REQUIREMENTS: THE TEMPORARY SEDIMENT TRAP HAS TWO STORAGE REQUIREMENTS AS FOLLOW:
WET STORAGE - CREATED BY EXCAVATION WITHIN A DRAINAGE WAY
DRY STORAGE - CREATED BY THE CONSTRUCTION OF A PERVIOUS STONE DIKE ACROSS THE DRAINAGE WAY

SEDIMENT IS REQUIRED TO BE REMOVED FROM THE TRAP WHEN THE SEDIMENT ACCUMULATION EXCEEDS HALF OF THE WET STORAGE VOLUME OF THE TRAP.

ACCESS IS TO BE PROVIDED TO THE TRAP FOR SEDIMENT REMOVAL. EXCAVATED SEDIMENT WILL BE REMOVED AND DISPOSED OF AT AN APPROVED OFF-SITE LOCATION OR ON THE EXISTING SITE.

THE TRAPS ARE TO BE INSTALLED PRIOR TO CONDUCTING ANY GRADING ACTIVITIES IN THE CONTRIBUTING WATERSHED AREAS AS SHOWN ON THE PLAN.

LOCATIONS: NOT TO BE LOCATED IN CLOSE PROXIMITY TO EXISTING OR PROPOSED BUILDING FOUNDATIONS.

LOCATE TRAPS TO OBTAIN MAXIMUM STORAGE BENEFIT FROM THE TERRAIN, FOR EASE OF CLEAN OUT AND DISPOSAL OF THE TRAPPED SEDIMENT.

TRAP CAPACITY: THE TRAP SHALL HAVE AN INITIAL STORAGE VOLUME OF 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA, HALF OF WHICH SHALL BE IN THE FORM OF WET STORAGE TO PROVIDE A STABLE SETTLING MEDIUM. THE REMAINING STORAGE VOLUME SHALL BE IN THE FORM OF A DRAWDOWN (DRY STORAGE) WHICH WILL PROVIDE EXTENDED SETTLING TIME DURING LESS FREQUENT, LARGER STORM EVENTS.
WET STORAGE - VOLUME SHALL BE MEASURED FROM THE LOW POINT OF THE EXCAVATED AREA TO THE BASE OF THE STONE OUTLET STRUCTURE.
DRY STORAGE - VOLUME SHALL BE MEASURED FROM THE BASE OF THE STONE OUTLET TO THE TOP OF THE STONE OUTLET (OVERFLOW MECHANISM)

THE TRAP SHALL BE SIZED TO STORE 1 INCH OF RUNOFF FROM THE CONTRIBUTING AREA OR PER THE SEDIMENT VOLUME METHOD (SEE EQUATION TABLE) IN ACCORDANCE WITH STANDARD 10 OF THE 2010 RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL.

SLOPES: ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER EXCEPT FOR THE EXCAVATED WET STORAGE AREA WHERE SLOPES SHALL NOT EXCEED 1.5:1. THE MAXIMUM DEPTH OF EXCAVATION WITHIN THE WET STORAGE AREA SHOULD NOT EXCEED THREE (3) FEET TO FACILITATE CLEAN-OUT AND FOR SITE SAFETY CONSIDERATIONS.

INLETS/OUTLETS: THE OUTLET SHALL BE LOCATED AT THE MOST DISTANT HYDRAULIC POINT FROM THE INLET.

THE OUTLET CONSISTS OF A PERVIOUS STONE DIKE WITH A CORE OF MODIFIED RIPRAP AND FACED ON THE UPSTREAM SIDE WITH STONE AND MUST OUTLET ONTO STABILIZED GROUND.

EMBANKMENT: THE MAXIMUM HEIGHT OF A TEMPORARY SEDIMENT TRAP EMBANKMENT IS LIMITED TO 5 FEET AS MEASURED VERTICALLY FROM THE CREST OF THE EMBANKMENT TO THE DOWN SLOPE BASE OF THE EMBANKMENT OR TOW OF THE STONE DIKE, WHICHEVER IS LOWER.

SIDE SLOPES OF THE EMBANKMENT SHALL BE 2:1 OR FLATTER.

MODIFIED RIPRAP: SHALL MEET THE REQUIREMENTS OF THE RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUBSECTION M.10.03.2.

FILTER STONE: SHALL MEET THE REQUIREMENTS OF THE RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUBSECTION M.10.03.9 TABLE I, COLUMN V FILTER STONE.

Installation Requirements:

CLEAR, GRUB AND STRIP ANY VEGETATION AND ROOT MAT FROM ANY PROPOSED EMBANKMENT AND OUTLET AREA. REMOVE STONES AND ROCKS WHOSE DIAMETER IS GREATER THAN THREE (3) INCHES AND OTHER DEBRIS.

EXCAVATE WET STORAGE AND CONSTRUCT THE EMBANKMENT AND/OR OUTLET AS NEEDED TO ATTAIN THE NECESSARY STORAGE REQUIREMENTS. USE ONLY FILL MATERIAL FOR THE EMBANKMENT THAT IS FREE FROM EXCESSIVE ORGANICS, DEBRIS, LARGE ROCKS (OVER SIX (6) INCHES) OR OTHER UNSUITABLE MATERIALS. COMPACT THE EMBANKMENT IN 9-INCH LAYERS BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.

STABILIZE THE EARTHEN EMBANKMENT USING ANY OF THE FOLLOWING MEASURES, SEEDING FOR TEMPORARY VEGETATIVE COVER; SEEDING FOR PERMANENT VEGETATIVE COVER; OR SLOPE PROTECTION, IMMEDIATELY AFTER INSTALLATION.

CARRY OUT CONSTRUCTION OPERATIONS IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE MINIMIZED.

Inspection, Maintenance, and Removal Requirements:

INSPECT THE TEMPORARY SEDIMENT TRAP AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.25 INCH OR GREATER. CHECK THE OUTLET TO ENSURE THAT IT IS STRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED BY EROSION OR CONSTRUCTION EQUIPMENT. THE HEIGHT OF THE STONE OUTLET OR WEIR CREST SHOULD BE MAINTAINED AT LEAST 1 FOOT BELOW THE CREST OF THE EMBANKMENT. ALSO CHECK FOR SEDIMENT ACCUMULATION AND FILTRATION PERFORMANCE.

WHEN SEDIMENTS HAVE ACCUMULATED TO ONE HALF THE MINIMUM REQUIRED VOLUME OF THE WET STORAGE, DEWATER THE TRAP AS NEEDED, REMOVE SEDIMENTS AND RESTORE THE TRAP TO ITS ORIGINAL DIMENSIONS. DISPOSE OF THE SEDIMENT REMOVED FROM THE BASIN IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE AND CAUSE SEDIMENTATION PROBLEMS.

THE TEMPORARY SEDIMENT TRAP MAY BE REMOVED AFTER THE CONTRIBUTING DRAINAGE AREA IS STABILIZED. IF IT IS TO BE REMOVED, THEN THE PLANS SHOULD SHOW HOW THE SITE OF THE TEMPORARY SEDIMENT TRAP IS TO BE GRADED AND STABILIZED AFTER REMOVAL.

Soil Erosion & Sediment Control Legend

- LOD —— LIMIT OF DISTURBANCE
- SEC —— SOIL EROSION CONTROL/ LIMIT OF DISTURBANCE
- TEMPORARY DRAINAGE SWALE
- TRIBUTARY AREA FOR TEMPORARY SEDIMENT TRAP
- TEMPORARY SEDIMENT TRAP

SEP 15 2023

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL
DATED: Nov 10 2023 FILE #: 18-0093
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Stanley L. Freeman

GREEN development
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Cranston, RI 02920
(401) 295-5620
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APPLICANT INFO: GD Richmond Beaver River I, LLC
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

OWNER INFO: William M. Stamp Jr, Trustee of The William M. Stamp, Jr. Revocable Trust - 2004
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: Green Development, LLC
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

No.	DATE:	REVISION:	BY
11	9/15/2023	RIDM PERMIT MODIFICATION	MRB
10	5/23/2023	FIRE MARSHALL REVIEW SUBMISSION	MRB
9	3/10/2023	REVISED PERMIT SUBMISSION	MRB
8	2/1/2023	PERMIT SUBMISSION	RSS
7	9/20/2019	LAYOUT REVISIONS	RSS
6	9/9/2019	TOWN RESUBMISSION	RSS
5	12/7/2018	RIDM RESUBMISSION	RSS
4	8/15/2018	TOWN PLANNER REVIEW COMMENTS	RSS
3	8/15/2018	TOWN PLANNER REVIEW COMMENTS	RSS
2	5/21/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RSS
1	4/20/2018	PRELIMINARY PLAN SUBMISSION	RSS

SHEET TITLE:
Soil Erosion and Sediment Control Plan
PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

KEVIN C. MORIN
No. 18851
REGISTERED PROFESSIONAL ENGINEER
CIVIL
9/15/2023

SHEET NO.:
C1.8 OF 11

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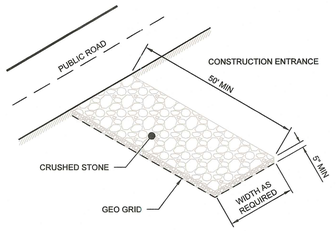
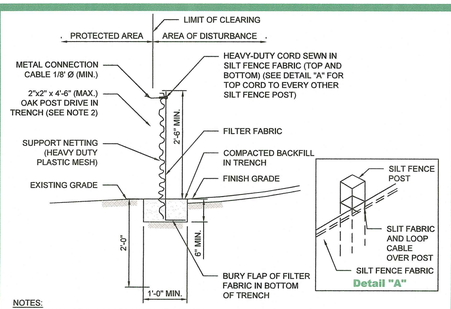


NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 211 OF THE R.I. STANDARD SPECIFICATIONS.
2. SHALL BE IN ACCORDANCE WITH RHODE ISLAND DEPARTMENT OF TRANSPORTATION R.I. STANDARD DETAIL 9.9.0.
3. SEE PLANS FOR LOCATION.

Construction Access

NOT TO SCALE



NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
2. 2"x2" x 4'-6"(MAX.) OAK POSTS FOR SILT FENCE SHALL BE LOCATED 8'-0"(MAX.) o.c. IN WETLAND AREAS AND 4'-0"(MAX.) o.c. IN WETLAND RAVINE, GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.
3. 1" x 1" x 4'-6"(MIN.) POSTS PERMITTED FOR PRE-FABRICATED SILT FENCE.
4. SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.

Silt Fence Detail

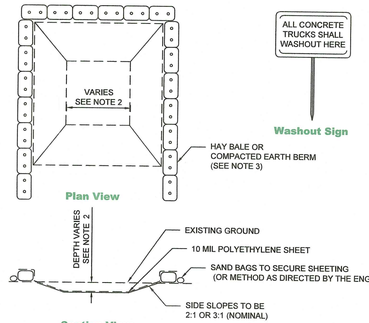
NOT TO SCALE

NOTES

1. CONCRETE WASHOUT AREA(S) SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE. THE CONCRETE WASHOUT AREA SHALL BE ENTIRELY SELF-CONTAINED.
2. THE CONTRACTOR SHALL SUBMIT THE DESIGN, LOCATION AND SIZING OF THE CONCRETE WASHOUT AREA(S) WITH THE PROJECT'S SOIL EROSION AND SEDIMENTATION CONTROL PLAN AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO PROCEEDING WITH ANY CONCRETE WORK.

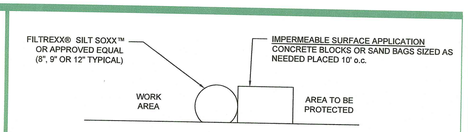
   LOCATION: WASHOUT AREA(S) ARE TO BE LOCATED AWAY FROM ANY STREAM, WETLAND, STORM DRAINS, OR OTHER SENSITIVE RESOURCE AREAS. WASH WATER SHALL NOT BE ALLOWED TO FLOW TO SURFACE WATER. THE FLOOD CONTINGENCY PLAN MUST ADDRESS THE CONCRETE WASHOUT IF THE WASHOUT IS TO BE LOCATED WITHIN THE FLOODPLAIN.

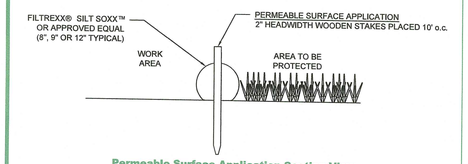
   SIZE: THE WASHOUT MUST HAVE SUFFICIENT VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS WITH A MINIMUM FREEBOARD OF 12".
3. SURFACE DISCHARGE IS UNACCEPTABLE, THEREFORE, HAY BALES OR OTHER CONTROL MEASURES, AS APPROVED BY THE ENGINEER, SHOULD BE USED AROUND THE PERIMETER OF THE CONCRETE WASHOUT AREA FOR CONTAINMENT.
4. SIGNS SHOULD BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CONCRETE AREA(S) AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS. WASHOUT AREA(S) SHOULD BE FLAGGED WITH SAFETY FENCING OR OTHER APPROVED METHODS.
5. WASHOUT AREA(S) ARE TO BE INSPECTED AT LEAST ONCE A WEEK FOR STRUCTURAL INTEGRITY, ADEQUATE HOLDING CAPACITY AND CHECKED FOR LEAKS, TEARS, OR OVERFLOWS. (AS REQUIRED BY THE CONTRACTION SITE ENVIRONMENTAL INSPECTION REPORT) WASHOUT AREA(S) SHOULD BE CHECKED AFTER HEAVY RAINS. WASHOUT AREA(S) SHALL NOT BE FILLED BEYOND 95% CAPACITY UNLESS A NEW WASHOUT AREA IS CONSTRUCTED.
6. HARDENED CONCRETE WASTE SHOULD BE REMOVED AND DISPOSED OF WHEN THE WASTE HAS ACCUMULATED TO HALF OF THE CONCRETE WASHOUT'S HEIGHT. THE WASTE CAN BE STORED AT AN UPLAND LOCATION, AS APPROVED BY THE ENGINEER. ALL CONCRETE WASTE SHALL BE DISPOSED OF IN A MANNER CONSISTENT WITH ALL APPLICABLE LAWS, REGULATIONS, AND GUIDELINES.

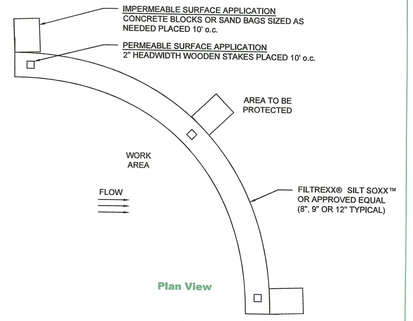


Concrete Washout Area

NOT TO SCALE







NOTES:

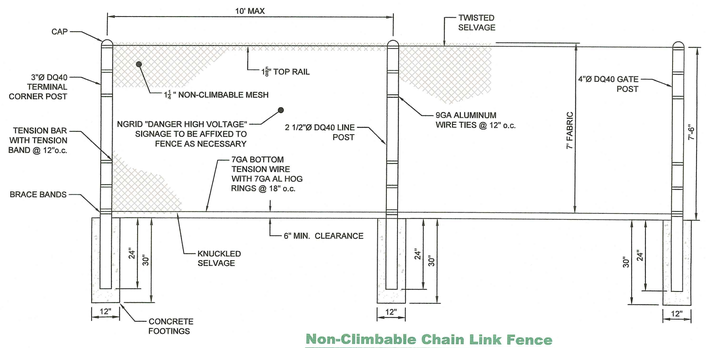
1. CONTRACTOR TO USE FILTREXX® SILT SOXX™ OR APPROVED EQUAL
2. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
3. SILT SOXX™ FILL TO MEET APPLICATION REQUIREMENTS.
4. FILTER MEDIA TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.
5. SEE PLANS FOR LOCATION AND SURFACE APPLICATION TYPE.

Silt Soxx Sediment Barrier

NOT TO SCALE

Sequence of Construction

1. SURVEY AND STAKE LIMIT OF SEDIMENTATION BARRIERS/LIMIT DISTURBANCE.
2. INSTALL PERIMETER EROSION CONTROL BARRIERS AS SHOWN ON THE PLANS ALONG LIMIT OF DISTURBANCE. IN NO CASE IS THE LIMIT OF DISTURBANCE TO EXTEND BEYOND THE SEDIMENTATION BARRIERS.
3. CLEAR BRUSH AND TREES ON SITE IF NECESSARY, WITHIN LIMIT OF DISTURBANCE. IN NO CASE IS THE LIMIT OF DISTURBANCE TO EXTEND BEYOND THE SEDIMENTATION BARRIERS OR CONSTRUCTION FENCING.
4. PRIOR TO REMOVAL OF STUMPS AND SOIL DISTURBANCE, INSTALL TEMPORARY SEDIMENT SWALE AND TRAPS AS PER PLANS. ALL TEMPORARY CONTROL DEVICES SHALL BE INSTALLED PER THE RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK.
5. GRUB AND REMOVE TREE STUMPS ON SITE IF NECESSARY. TOPSOIL IS TO BE STRIPPED AND STOCKPILED IN APPROVED LOCATIONS SHOWN ON PLANS TO BE RE-USED FOLLOWING TEMPORARY GRADING ACTIVITIES FOR SOIL EROSION MEASURES. STOCKPILES ARE TO BE PROTECTED BY A ROW OF SILT FENCE AND COVERED OR TEMPORARILY SEEDED.
6. RE-GRADE SITE AS NECESSARY PER PLANS.
7. INSTALL SOLAR PROJECT INCLUDING BUT NOT LIMITED TO THE INSTALLATION OF THE RACKING SYSTEM, UNDERGROUND CONDUIT, EQUIPMENT PADS, ACCESS PATH, PANELS, NEW UTILITY POLES ON SITE, FENCING, ETC. AS REQUIRED BY APPROVED PLANS.
8. ONCE ROUGH GRADE ON THE SITE HAS BEEN ESTABLISHED AND SOLAR PANELS/EQUIPMENT HAS BEEN INSTALLED, DISTURBED AREAS SHALL BE LOAMED AND SEEDED W/ LOW, SLOW GROWTH GRASS MIX TO RE-ESTABLISH VEGETATION.
9. TEMPORARY SEDIMENT CONTROLS AND TRAPS ARE TO BE MAINTAINED AND REMAIN UNTIL THE SITE IS STABILIZED.
10. IN THE EVENT THE DRIP EDGE AT PANELS RESULTS IN RILL EROSION, INSTALL PROTECTIVE MEASURES SUCH AS CRUSHED STONE, EROSION CONTROLS BLANKETS, ETC. AS NEEDED.
11. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES FOLLOWING FINAL VEGETATIVE ESTABLISHMENT OF ALL DISTURBED AREAS AND FULL SITE STABILIZATION.
12. IMPLEMENT LONG TERM OPERATION AND MAINTENANCE PLAN.

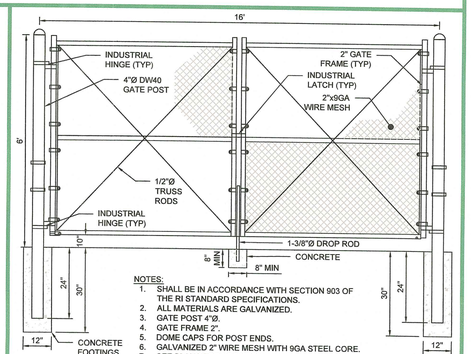


NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 903 OF THE RI STANDARD SPECIFICATIONS.
2. ALL MATERIALS ARE GALVANIZED.
3. GATE POST 4"Ø.
4. TERMINAL POSTS 3"Ø.
5. GATE FRAME 2.5"Ø.
6. 1⅝" TOP RAIL AND 7GA BOTTOM TENSION WIRE
7. TENSION BARS WITH TENSION BANDS @ 12" o.c.
8. DOME CAPS FOR POST ENDS.
9. 9GA TIE WIRES WITH STEEL CORE ON LINE POSTS.
10. 3" BRACE BANDS ON TERMINAL CORER POSTS.
11. GALVANIZED 1⅝" WIRE MESH WITH 9GA STEEL CORE.
12. CONTRACTOR TO PROVIDE A 6" MINIMUM OF GROUND CLEARANCE BELOW FENCE TO ALLOW FOR SMALL WILDLIFE PASSAGE.
13. SEE PLANS FOR LOCATION.

Non-Climbable Chain Link Fence

NOT TO SCALE

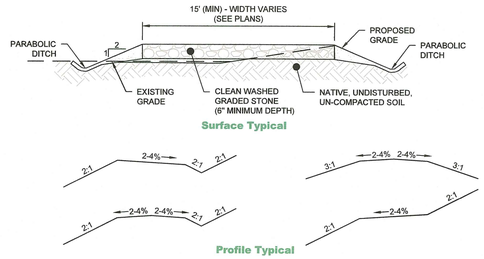


NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 903 OF THE RI STANDARD SPECIFICATIONS.
2. ALL MATERIALS ARE GALVANIZED.
3. GATE POST 4"Ø.
4. GATE FRAME 2".
5. DOME CAPS FOR POST ENDS.
6. GALVANIZED 2" WIRE MESH WITH 9GA STEEL CORE.
7. SEE PLANS FOR LOCATION.

Chain Link Double Leaf Swing Gate

NOT TO SCALE



CONDITION:	DRIVEWAY THICKNESS	STONE SIZE	FINES
BASE LAYER WITH GEOTEXTILE FABRIC (NOT EXTENSIVELY WET)	6" MIN.	3 - 3½	0-6%
BASE LAYER WITH GEOTEXTILE FABRIC (WET CONDITIONS)	6" MIN.	3 - 3½	0-6%

CONSTRUCTION NOTES:

A. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER AS TO MINIMIZE POTENTIAL EROSION AND WATER QUALITY DEGRADATION.

B. FIXED EROSION CONTROLS AND SITE STABILIZATION SHALL BE CONDUCTED IN ACCORDANCE WITH APPROVED BMP'S, OR PURSUANT TO PROJECT SPECIFIC PERMITS.

C. TREES, STUMPS, ROOTS, BRUSH AND WEEDS SHALL BE REMOVED FROM THE WORK AREA IF DETERMINED NECESSARY TO SAFETY CONSTRUCT ROAD WAYS

D. ON WEAK BEARING SOIL SUCH AS LOOSE ALLUVIAL, OR WETLANDS SOILS, SURFACE TREATMENT SHOULD BE UNDERLAIN WITH WOVEN GEOTEXTILES.

E. AT MINIMUM, ROADSIDE DITCHES SHALL BE 1-FT BELOW ROAD SURFACE.

F. DISCHARGE POINTS FOR DITCHES SHALL NOT BE NEAR WETLANDS OF STREAMS, AND OR BE LOCATED AT THE DIRECTION OF THE EPSCS.

Surfacing Specifications

SIEVE DESIGNATION	PERCENTAGE BY MASS (WEIGHT) PASSING SQUARE MESH SIEVES
90 MM (3.5 INCH)	100
75 MM (3 INCH)	90-100
50 MM (2 INCH)	75-100
25 MM (1 INCH)	50-80
12.5 MM (1/2 INCH)	30-60
4.75 MM (NO.4)	15-40
75 UM (NO. 200)	0-6

DENSE GRADED CRUSHED STONE FOR SUBBASE:

A. DENSE GRADED CRUSHED STONE FOR SUBBASE SHALL CONSIST OF CLEAN, HARD, UNIFORMLY GRADED, CRUSHED STONE. IT SHALL BE SUFFICIENTLY FREE FROM DIRT, DELETERIOUS MATERIAL, AND PIECES THAT ARE STRUCTURALLY WEAK AND SHALL MEET THE FOLLOWING REQUIREMENTS:

B. SOURCE OF MATERIALS SHALL BE OBTAINED FROM AREAS STRIPPED AND CLEANED OF SOIL AND DEBRIS BEFORE BLASTING.

C. MATERIAL COARSER THEN THE THE 4.75 MM (NO.4) SIEVE SHALL NOT BE MORE THEN 30 PERCENT, BY MASS (WEIGHT), OF THIN AND/OR ELONGATED PIECES.

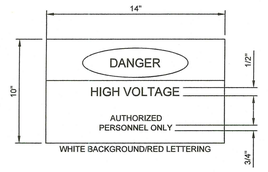
Material Specifications

SOURCES:

- SURFACING TYPICAL AND SURFACING SPECS: DERIVED FROM USDA NRCS DRAWING "ACCESS ROAD; ME-ENG-AR1"
- PROFILE TYPICAL: DERIVED FROM USDA FOREST SERVICE PUBLICATION "FOREST ROAD CONSTRUCTION AND MAINTENANCE"
- MATERIAL SPECS: DERIVED FROM VTRANS 704.06 SUBBASE

Permeable Access Driveway

NOT TO SCALE

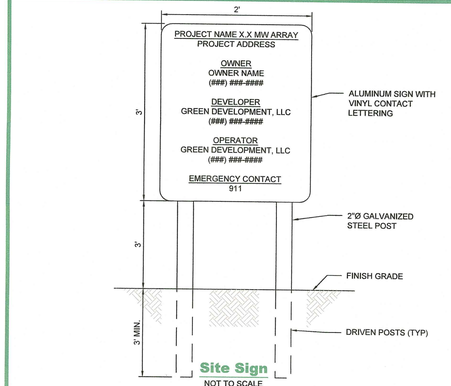


NOTES:

1. LOCATED ON EACH FENCE GATE
2. LOCATED ALONG EVERY FENCE PERIMETER

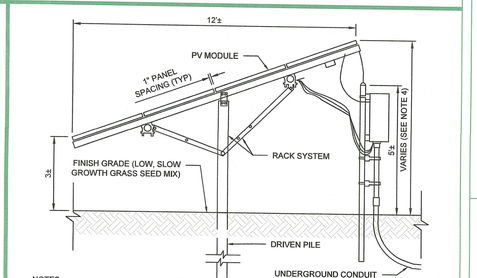
Fence 'Danger High Voltage' Signage

NOT TO SCALE



Site Sign

NOT TO SCALE

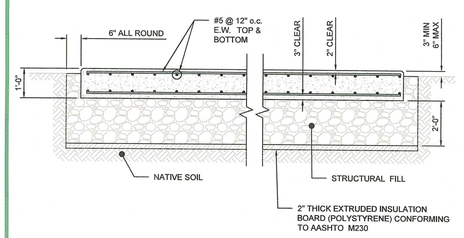


NOTES:

1. ADJACENT ARRAY TABLES SHALL BE INSTALLED WITH A MINIMUM OF 6 INCHES OF SEPARATION.
2. ROWS OF ARRAY TABLES SHALL BE INSTALLED WITH A MINIMUM OF 12 FEET OF SEPARATION.
3. TYPICAL SOLAR PANEL RACKING SYSTEM SHOWN. SELECTED RACKING SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS.
4. INSTALLED HEIGHT WILL VARY BASED ON THE RACKING LAYOUT AND FINAL DESIGN BUT WILL BE LESS THAN 12' PER ZONING CODE REQUIREMENTS.

Solar Panel Racking

NOT TO SCALE



Cast-In-Place Concrete Pad for Inverter

NOT TO SCALE

NOTES:

1. ALL CONCRETE WORK SHALL CONFORM TO ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE BUILDINGS".
2. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 AND BE DETAILED IN ACCORDANCE WITH ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
3. REBAR SHALL HAVE A MINIMUM CONCRETE COVER AS FOLLOWS:
   - CONCRETE DEPOSITED AGAINST GROUND.....3 IN.
   - CONCRETE EXPOSED TO WEATHER OF CONTACT WITH GROUND: FOR BARS #5 AND LARGER .....2 IN. FOR BARS SMALLER THEN #5.....1 1/2 IN.
   - CONCRETE NOT EXPOSED TO THE WEATHER OR THE GROUND: SLABS AND WALLS .....3/4 IN.
4. ALL REINFORCED BARS SHALL BE CONTINUOUS AND LAPPED A MINIMUM OF 48 BAR DIAMETERS AT ALL SPLICES, CORNERS AND INTERSECTIONS UNLESS NOTED OTHERWISE .
5. ALL REINFORCEMENT SHALL BE SECURELY TIED IN ITS PROPOSED LOCATIONS PRIOR TO AND DURING PLACEMENT OF CONCRETE USING APPROVED CHAIRS, SPACERS AND TIE WIRE AS REQUIRED. NO BARS SHALL BE CUT OR OMITTED IN THE FIELD WITH OUT THE APPROVAL OF THE ENGINEER.
6. CONCRETE PROTECTION FOR REINFORCEMENT SHALL IN ALL CASES BE AT LEAST EQUAL TO THE DIAMETER OF THE BAR EXCEPT FOR CONCRETE.
7. CONCRETE SHALL BE CAST-IN-PLACE. NORMAL WEIGHT CONCRETE AND SHALL DEVELOP A COMPRESSIVE STRENGTH OF 4,000 PSI IN 28 DAYS. CONCRETE SHALL HAVE A MAXIMUM AGGREGATE SIZE OF 3/4 INCH, MINIMUM CEMENT CONTENT OF 560 LBS/CU. YD., AND A MAXIMUM SLUMP OF 4 INCHES.
8. ALL EXPOSED EDGES OF CONCRETE SHALL HAVE A 3/4 INCH CHAMFER UNLESS NOTED.
9. ALL CONCRETE EXPOSED TO THE WEATHER SHALL BE AIR- ENTRAINED.
10. SIZES AND LOCATIONS OF ALL REQUIRED EMBEDDED ITEMS FOR ALL TRADES SUCH AS ANCHOR BOLTS, PIPING SLEEVES HOLD DOWN ANCHORS, ETC., SHALL BE COORDINATED BY THE CONTRACTOR WITH OTHER TRADES.

SEP 15 2023

RECEIVED
SEP 15 2023
OFFICE OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: NOV 10 2023 FILE #: 18-0093
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
A COPY OF THIS MUST BE AT CONSTRUCTION SITE

KEVIN C. MORIN
No. 19951
REGISTERED PROFESSIONAL ENGINEER
CIVIL
9/15/2023

SHEET NO.:
C1.9 OF 11

SHEET TITLE:
Detail Sheet

PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

No.	DATE:	REVISION	BY:
11	9/15/2023	FINAL PERMIT SUBMISSION	MWB
10	8/25/2023	PERMIT MODIFICATION	MWB
9	7/7/2023	BUILDING PERMIT SUBMISSION	MWB
8	1/10/2020	REVISED ZONING SUBMISSION	RBS
7	1/30/2019	LAYOUT REVISIONS	RBS
6	5/7/2019	TOWN COMMENTS	RBS
5	5/7/2019	RIDM RESUBMISSION	RBS
4	12/7/2018	RIDM RESUBMISSION	RBS
3	9/25/2018	TOWN PLANNER REVIEW COMMENTS	RBS
2	8/24/2018	TOWN PLANNER REVIEW COMMENTS	RBS
1	4/18/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS

APPLICANT INFO: GD Richmond Beaver River I, LLC
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

OWNER INFO: William M. Stamp Jr, Trustee of The William M. Stamp, Jr. Revocable Trust - 2004
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: Green Development, LLC
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

2000 Chapel View Blvd, Suite 500
Cranston, RI 02920
(401) 295-4999
www.green-ri.com

GREEN development

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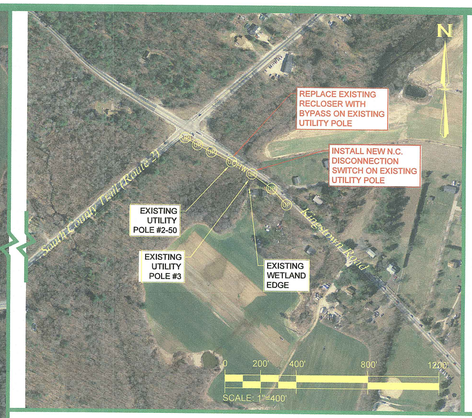
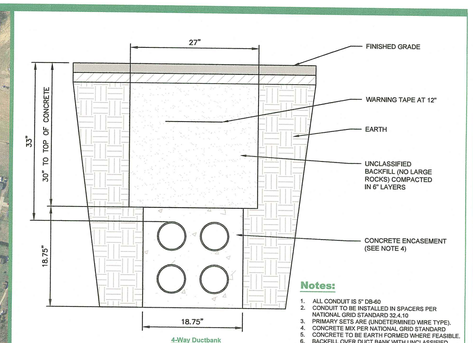
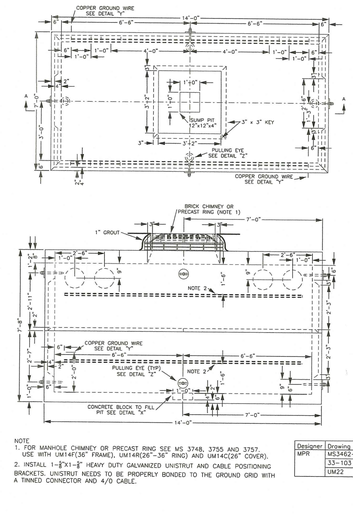




4-Way Ductbank

Ductbank Cross Sections
NOT TO SCALE

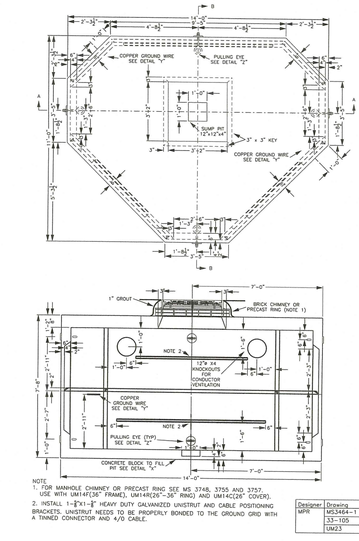
Notes:
1. ALL CONDUIT IS 5" DB-60
2. CONDUIT TO BE INSTALLED IN SPACERS PER NATIONAL GRID STANDARD 32.4.10
3. PRIMARY SETS ARE (UNDETERMINED WIRE TYPE).
4. CONCRETE MIX PER NATIONAL GRID STANDARD
5. CONCRETE TO BE EARTH FORMED WHERE FEASIBLE.
6. BACKFILL OVER DUCT BANK WITH UNCLASSIFIED FILL (NO LARGER ROCKS) COMPACTED IN 6" LAYERS.
7. WARNING TAPE TO BE BLACK PRINTING ON RED BACKGROUND.



NOTE
1. FOR MANHOLE CHIMNEY OR PRECAST RING SEE MS 3748, 3755 AND 3757. USE WITH UM14F(36" FRAME), UM14R(26"–36" RING) AND UM14C(26" COVER).
2. INSTALL 1–$\frac{3}{8}$"X1–$\frac{3}{8}$" HEAVY DUTY GALVANIZED UNISTRUT AND CABLE POSITIONING BRACKETS. UNISTRUT NEEDS TO BE PROPERLY BONDED TO THE GROUND GRID WITH A TINNED CONNECTOR AND 4/0 CABLE.

Designer	Drawing	Date
MPR	MS3462–1	3/15/19
	33–103	
	UM22	

PRECAST CONCRETE MANHOLE 2 WAY DISTRIBUTION – 6 FEET X 13 FEET (INSIDE)			
nationalgrid	UNDERGROUND CONSTRUCTION STANDARD	PAGE NUMBER	ISSUE
		33-103	7/19



NOTE
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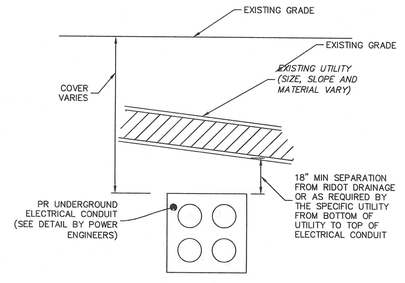
2. INSTALL 1–$\frac{3}{8}$"X1–$\frac{3}{8}$" HEAVY DUTY GALVANIZED UNISTRUT AND CABLE POSITIONING BRACKETS. UNISTRUT NEEDS TO BE PROPERLY BONDED TO THE GROUND GRID WITH A TINNED CONNECTOR AND 4/0 CABLE.

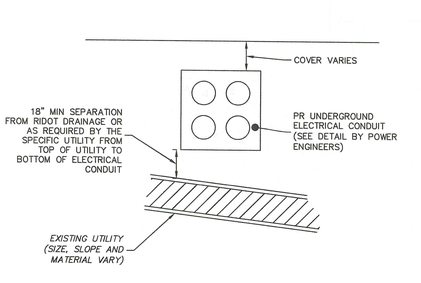
Designer	Drawing	Date
MPR	MS3464–1	3/15/19
	33–105	
	UM23	

PRECAST CONCRETE MANHOLE 3 WAY DISTRIBUTION – 10 FEET X 13 FEET (INSIDE)			
nationalgrid	UNDERGROUND CONSTRUCTION STANDARD	PAGE NUMBER	ISSUE
		33-105	7/19

Electrical Manholes (2-Way & 3-Way)
(NOT TO SCALE)



CONDUIT CROSSING BELOW EXISTING UTILITY



CONDUIT CROSSING OVER EXISTING UTILITY

Typical Electrical Conduit Utility Crossing
(NOT TO SCALE)

SEP 15 2023

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: NOV 10 2023 FILE #: 18-0043
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL

Bradley J. Freeman

GREEN development
2000 Chapel View Blvd, Suite 500
Cranston, RI 02920
(401) 295-4998
www.green-ri.com

APPLICANT INFO: *GD Richmond Beaver River I, LLC*
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

OWNER INFO: *William M. Stamp Jr, Trustee of The William M. Stamp Jr. Revocable Trust - 2004*
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: *Green Development, LLC*
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

No.	DATE	REVISION	BY
1	4/19/2019	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS
2	5/15/2019	TOWN PLANNER REVIEW COMMENTS	RBS
3	5/17/2019	TOWN PLANNER REVIEW COMMENTS	RBS
4	12/7/2018	RIDOM RESUBMISSION	RBS
5	5/1/2019	RIDEM RESUBMISSION	RBS
6	9/20/2018	LAYOUT REVISIONS	MRB
7	9/20/2018	RIDEM RESUBMISSION	RBS
8	1/10/2020	REVISED ZONING SUBMISSION	MRB
9	5/12/2023	BUILDING PERMIT SUBMISSION	MRB
10	7/5/2023	DRAFT SUBMISSION	MRB
11	9/15/2023	RIDEM PERMIT MODIFICATION	MRB

SHEET TITLE:
Interconnection - Overall & Details

PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

KEVIN C. MORIN
No. 9951
REGISTERED PROFESSIONAL ENGINEER
CIVIL
9/15/2023

SHEET NO.:
C1.10 OF 11

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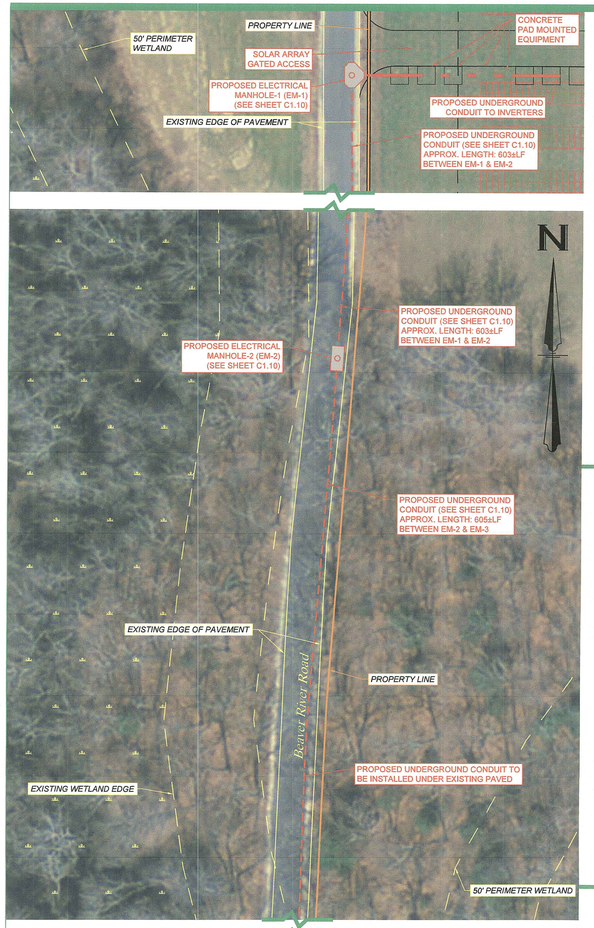
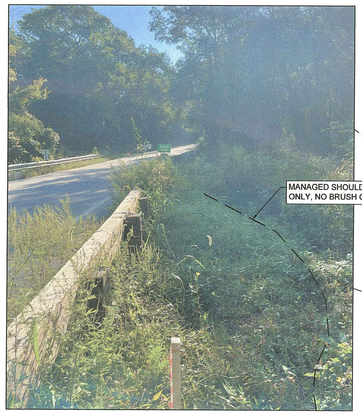
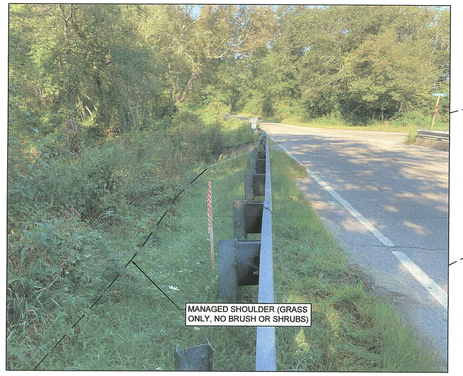
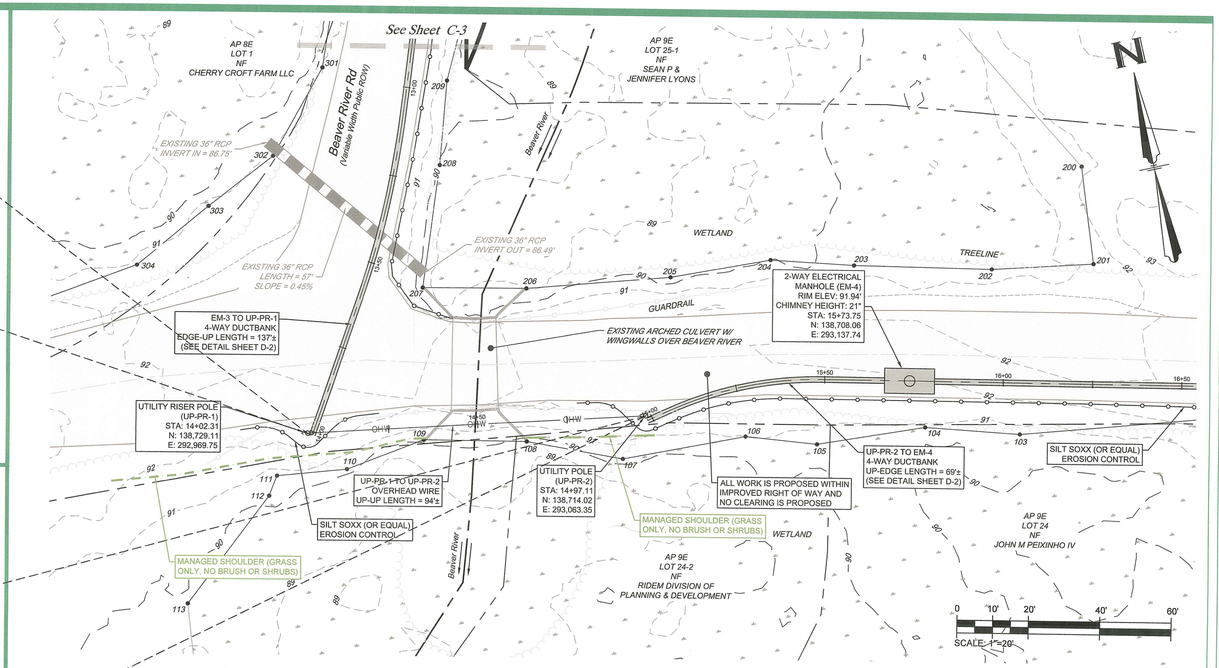




Proposed Utility Pole 1 (West of River)



Proposed Utility Pole 2 (East of River)



Ductbank River Crossing Plan

2000 Chapel View Blvd, Suite 500
Cranston, RI 02920
(401) 295-4998
www.green-ri.com

GREEN development

APPLICANT INFO: *GD Richmond Beaver River I, LLC*
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

OWNER INFO: *William M. Stamp Jr. Trustee of The William M. Stamp Jr. Revocable Trust - 2004*
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: *Green Development, LLC*
2000 CHAPEL VIEW BLVD, SUITE 500, CRANSTON, RI 02920

No.	DATE	REVISION	
11	9/15/2023	RIDEM PERMIT MODIFICATION	MWB
10	5/23/2023	FIRE MARSHAL REVIEW SUBMISSION	MWB
9	3/7/2023	TOWN PLANNER REVIEW COMMENTS	MWB
8	1/10/2020	REVISED ZONING SUBMISSION	MWB
7	9/20/2019	LAYOUT REVISIONS	RBS
6	5/7/2019	TOWN RESUBMISSION	RBS
5	3/5/2019	TOWN RESUBMISSION	RBS
4	12/7/2018	RIDEM RESUBMISSION	RBS
3	5/15/2018	TOWN PLANNER REVIEW COMMENTS	RBS
2	2/17/2018	TOWN PLANNER REVIEW COMMENTS	RBS
1	1/5/2018	PRELIMINARY PLANS & 1ST SUBMISSION	RBS

SHEET TITLE:
Interconnection - Enlarged
PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC):5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

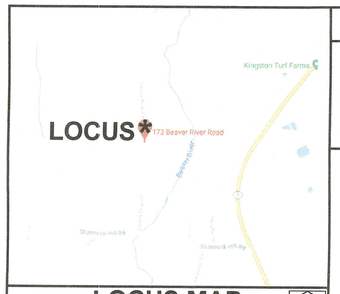
SEP 15 2023

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL
DATED: NOV 10 2023 FILE #: 18-0013
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy L. Freeman

KEVIN C. MORIN
No. 9851
9/15/2023
REGISTERED PROFESSIONAL ENGINEER
CIVIL

SHEET NO.:
C1.11 OF 11

W:\Wind Drive Org Template\2. Sites\Richmond\Stamp_Beaver_River\3. Development\2. Engineering\DWG\Stamp_Beaver_River-Cover.dwg Sep 15, 2023 - 1:06pm



LOCUS MAP
NOT TO SCALE

ZONING CRITERIA

ZONING DISTRICT	R-3
MINIMUM LOT AREA	130,680 SQ. FT. (3 ACRES)
MINIMUM LOT FRONTAGE	300'
MINIMUM FRONT YARD SETBACK	50'
MINIMUM SIDE YARD SETBACK	35'
MINIMUM REAR YARD SETBACK	100'
MAXIMUM BUILDING COVERAGE	10%
MAXIMUM BUILDING HEIGHT	35'

NO.	DATE	DESCRIPTION	BY

RI STATE PLANE (NAD-83)

A.P. 8E LOT 13-1
N/F THOMAS F. & MELISSA WICKHAM JR.
D.B. 148 PG. 37

A.P. 8E LOT 13-38
N/F CHRISTINE M. DONAHUE
D.B. 306 PG. 772

A.P. 8E LOT 13-39
N/F DARYL J. FREEMAN & KIM A. BISSONNETTE
D.B. 311 PG. 451

A.P. 8E LOT 13-40
N/F MARJORIE S. CARL KATHY A. GARMUS
D.B. 199 PG. 510

A.P. 8E LOT 13-41
N/F JOHN G. & MARIA A. ANTER
D.B. 118 PG. 918

A.P. 8E LOT 13-42
N/F LINDA N. & BENJAMIN B. KING
D.B. 301 PG. 225

GODDEN TRAIL (UNDEVELOPED - 40' WIDE)

A.P. 8E LOT 19
N/F WILLIAM J. & BRIAN L. ROBERTS
D.B. 158 PG. 458

A.P. 9E LOT 25-2
N/F WILLIAM J. & BRIAN L. ROBERTS
D.B. 158 PG. 458

A.P. 9E LOT 25-1
N/F SEAN P. & JENNIFER L. LYONS
D.B. 305 PG. 955

BEAVER RIVER
EXISTING BOUNDARY IS 330' +/- ALONG EXISTING RIVER BANK

A.P. 8E LOT 11
N/F MCCAUGHEY REVOCABLE LIVING TRUST WILLIAM J. & JUDY E. MCCAUGHEY TRUSTEES
D.B. 233 PG. 904

A.P. 8E LOT 9
N/F JOHN PARTYKA
D.B. 136 PG. 70

A.P. 8E LOT 12
N/F WILLIAM M. STAMP JR TRUSTEE
D.B. 235 PG. 267

TOTAL AREA
1,818,896 SQ. FT. +/-
41.7561 ACRES +/-

S17°54'40"W 2779.53'
CLOSURE LINE

224.34' TO SHORE LINE N84°17'17"E TOTAL = 477.04'

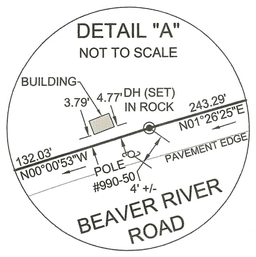
BUILDING SETBACK (TYP)

DH (SET)

N84°29'56"E 306.19'

A.P. 8E LOT 6
N/F PERREAULT FAMILY REAL ESTATE PARTNERSHIP
D.B. 85 PG. 218

DETAIL "A"
NOT TO SCALE



BUILDING SETBACK (TYP)

BUILDING
SEE DETAIL "A"

EXISTING DWELLING #172

IP (SET)

N01°09'45"E 240.91'

757.71'
N00°05'42"W

BEAVER RIVER ROAD
(PUBLIC - VARIABLE WIDTH)

IP (SET)

160.06'
N02°53'22"E

111.77'
N04°14'59"W

63'

HELD 65' FROM ORIGINAL POLE LOCATION POLE #48

199.71'
N03°18'56"W

2-GUYS POLE #49

132.03'
N00°00'53"W

POLE #990-50

DH (SET)

N01°26'25"E 243.29'

4.55'

5.12'

EXISTING DWELLING

BUILDING

BUILDING

A.P. 8E LOT 3
N/F ANDREW S. & GAIL P. TIBBITS
D.B.49 PG.689

* SEE PLAN REFERENCE #1

A.P. 8E LOT 2
N/F WILLIAM M. STAMP JR. TRUSTEE
D.B. 235 PG. 267

A.P. 8E LOT 4
N/F PERREAULT FAMILY REAL ESTATE PARTNERSHIP
D.B. 85 PG. 218

21.77' TO SHORE LINE

IP (SET)

143.31'
N06°01'26"E

120.91'

T=142.68'
N12°52'45"E

177.25'
N02°37'47"E

270.91'
N04°16'02"E

SHANNOCK HILL ROAD

A.P. 8E LOT 1
N/F CHERRY CROFT FARM LLC
D.B. 228 PG. 810

SEP 15 2023

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: NOV 10 2023 FILE #: 18-0003
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy L. Freeman

REFERENCES:

1. A CERTAIN PLAN ENTITLED " TRACT OF LAND IN THE TOWN OF RICHMOND R.I. PROPERTY OF STEPHEN D. WHEELER ; SURVEYED AND PLATTED BY A.J. EASTERBROOKS CIVIL ENGINEER ; DATED MARCH 1964 ; SCALE 1" = 30 " AND RECORDED IN THE TOWN OF RICHMOND R.I.

2. A CERTAIN PLAN ENTITLED " COLONY 1691, A RESIDENTIAL SUBDIVISION IN THE TOWN OF RICHMOND R.I. PROPERTY OF MILDRED L. GODDEN ; SURVEYED AND PLATTED BY A.J. EASTERBROOKS CIVIL ENGINEER ; DATED JAN.-FEB. 1964 ; SCALE 14" = 80' " AND RECORDED IN THE TOWN OF RICHMOND R.I.

3. A CERTAIN PLAN ENTITLED " SURVEY & SITE PLAN PERREAULT FIELD MINOR SUBDIVISION - FINAL, LOT 4 ON A.P. 8E IN RICHMOND R.I., DESIGNED AND PLATTED FOR PERREAULT FAMILY REAL ESTATE PARTNERSHIP ; DATED JANUARY 2013 ; SCALE 1" = 120' ; SURVEYED BY DONALD W. JACKSON " AND RECORDED IN THE TOWN OF RICHMOND R.I. ON MAP 423 SLIDE 412B

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO SECTION 9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATIONS FOR PROFESSIONAL LAND SURVEYORS NOVEMBER 25, 2015 AS FOLLOWS:

TYPE OF SURVEY: COMPREHENSIVE BOUNDARY SURVEY
MEASUREMENT SPECIFICATION: CLASS 1 STANDARD

PURPOSE OF SURVEY: BOUNDARY SURVEY

BY: Norbert A Therien DATE: 4-12-18
NORBERT A. THERIEN, PLS NO. 1739

NORBERT A. THERIEN
No. 1739
REGISTERED PROFESSIONAL LAND SURVEYOR

NATIONAL Surveyors-Developers Inc.
42 Hamlet Ave., Woonsocket, R.I.
(401) 769-7779

LEGEND
NOT TO SCALE

- BOUNDARY
- ABUTTER
- STONEWALL
- BUILDING ENVELOPE
- IRON PIN
- BOUND
- DRILL HOLE
- UTILITY POLE

GRAPHIC SCALE

100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

WILLIAM M. STAMP JR TRUSTEE
MAP 8E LOT 12
172 BEAVER RIVER ROAD
RICHMOND, RHODE ISLAND

BOUNDARY SURVEY

DRAWN BY: J.M.L.	CHECKED BY: N.A.T.	FIELD BY:
APRIL 2018	JOB No. 2018-63	SHEET 1 OF 1

Plot\SERVER FILES\NATIONAL 2018\2018-63\dwg\2018-63.dwg, EXISTING, 1:1

DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION

GD Richmond Beaver River I

Direct Current(DC):7.45MW / Alternating Current(AC):5.25MW

172 Beaver River Road
Richmond, Rhode Island 02812
Assessor's Plat 8E Lot 12

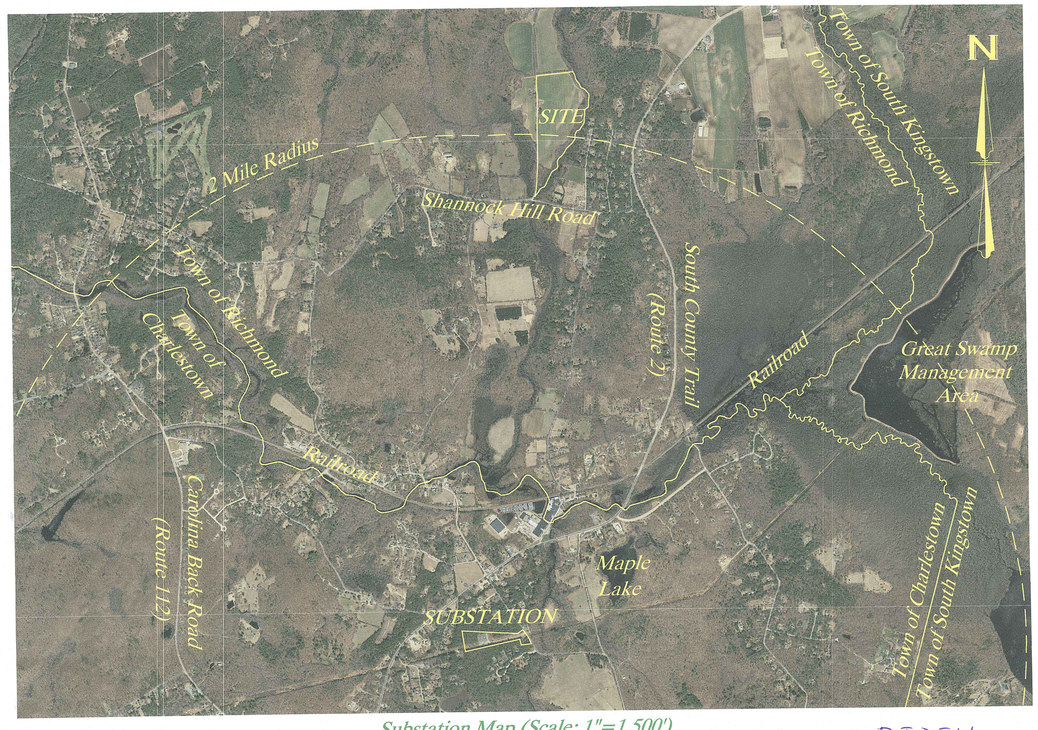
Sheet Index

Sheet Number	Sheet Title
C1.1	Cover Sheet
C1.2	Aerial & Map Sheet
C1.3	Existing Site Analysis Plan
C1.4	Proposed Site Plan
C1.5	Enlarged Site, Grading & Utility Plan - 1
C1.6	Enlarged Site, Grading & Utility Plan - 2

Sheet Index

Sheet Number	Sheet Title
C1.7	Enlarged Site, Grading & Utility Plan - 3
C1.8	Soil Erosion and Sediment Control Plan
C1.9	Detail Sheet
C1.10	Interconnection - Overall & Details
C1.11	Interconnection - Enlarged

Vicinity Map (Scale: 1"=1,000')



Substation Map (Scale: 1"=1,500')

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Environmental Management
MAY 3 2019
Office of Water Resources

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Environmental Management
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Office of Water Resources

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN LETTER OF APPROVAL
DATED JUL 3 2019 18-0093
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE ON SITE DURING CONSTRUCTION

R.I.D.E.M COPY

GREEN development, LLC
3760 Quaker Lane
North Kingstown, RI 02852
(401) 295-4998
www.green-ri.com

APPLICANT INFO: GD Richmond Beaver River I, LLC
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

OWNER INFO: William M. Stamp Jr, Trustee
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: Green Development, LLC
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

No.	DATE	REVISION	BY
5	5/1/2019	RIDEM RESUBMISSION	RRS
4	12/7/2018	RIDEM PLANNER REVIEW COMMENTS	RRS
3	5/31/2018	TOWN PLANNER REVIEW COMMENTS	RRS
2	5/11/2018	TOWN PLANNER REVIEW COMMENTS	RRS
1	4/18/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RRS

SHEET TITLE: Cover Sheet

PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

KEVIN C. MORIN
No. 9857
REGISTERED PROFESSIONAL ENGINEER
CIVIL
5/1/2019

SHEET NO.: C1.1 OF 11

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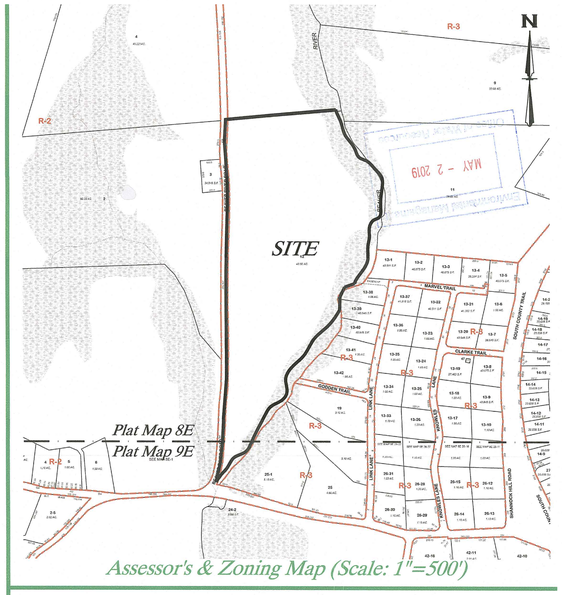
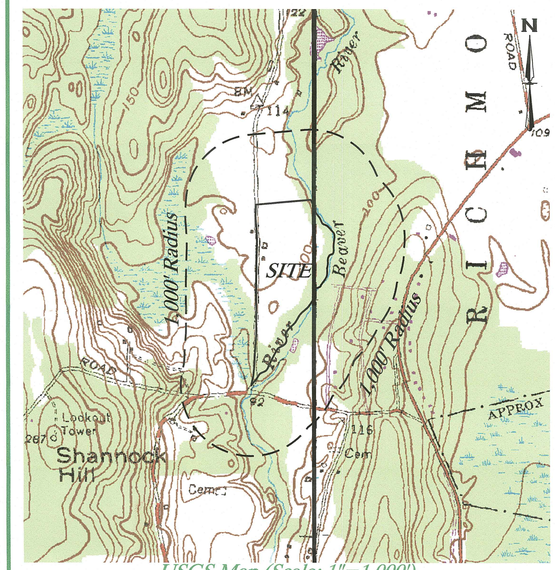
1/2 Mile Radius Map



Assessor's & Zoning Map (Scale: 1"=500')



USGS Map (Scale: 1"=1,000')

Disclaimer:

THIS PLAN IS NOT TO BE CONSTRUED AS AN ACCURATE BOUNDARY SURVEY AND IS SUBJECT TO SUCH CHANGES AS AN ACCURATE BOUNDARY SURVEY MAY DISCLOSE. INFORMATION AND IMAGES ON THIS PLAN ARE THOSE FOUND THROUGH ONLINE STATE AND CITY/TOWN GIS DATABASES. THE INFORMATION SHOWN IS ONLY AS ACCURATE AS THE INFORMATION FOUND THROUGH ONLINE SITE RESEARCH. AERIAL IMAGE DEPICTED IS FROM 2014 USGS DIGITAL TRUE COLOR ORTHOPHOTOGRAPHY. THE ASSESSOR'S AND ZONING MAP ABOVE IS TAKEN FROM PLAN TITLED "TOWN OF RICHMOND, WASHINGTON COUNTY - RHODE ISLAND, TAX ASSESSOR'S MAP WITH ZONING", TAX MAP REVISIONS THROUGH DECEMBER 31, 2014 AND ZONING AMENDMENTS THROUGH SEPTEMBER 7, 2010 FOR PLAT MAP 8E AND TAX MAP REVISIONS THROUGH DECEMBER 31, 2015 AND ZONING AMENDMENTS THROUGH AUGUST 12, 2014 FOR PLAT MAP 9E. FOR BEST CLARITY, THIS SHEET SHOULD BE REPRODUCED IN COLOR ONLY.

Existing Conditions Legend

- NATURAL HERITAGE AREA
- GROUNDWATER RESERVOIR AREA
- GROUNDWATER RECHARGE AREA

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
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3760 Quaker Lane
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GREEN development, LLC

APPLICANT INFO: *GD Richmond Beaver River I, LLC*
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

OWNER INFO: *William M. Stamp Jr, Trustee*
ONE STAMP PLACE, EXETER, RI 02852

PREPARED BY: *Green Development, LLC*
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

No.	DATE	BY
5	5/1/2019	RIDEM RESUBMISSION	RBS
4	5/1/2019	TRC PLANNER REVIEW COMMENTS	RBS
3	5/1/2018	TRC PLANNER REVIEW COMMENTS	RBS
2	5/11/2018	TOWN PLANNER REVIEW COMMENTS	RBS
1	4/19/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS

SHEET TITLE:
Aerial & Map Sheet

PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

KEVIN C. MORIN
No. 9851
REGISTERED PROFESSIONAL ENGINEER
CIVIL
5/1/2019

SHEET NO.:
C1.2 OF 11

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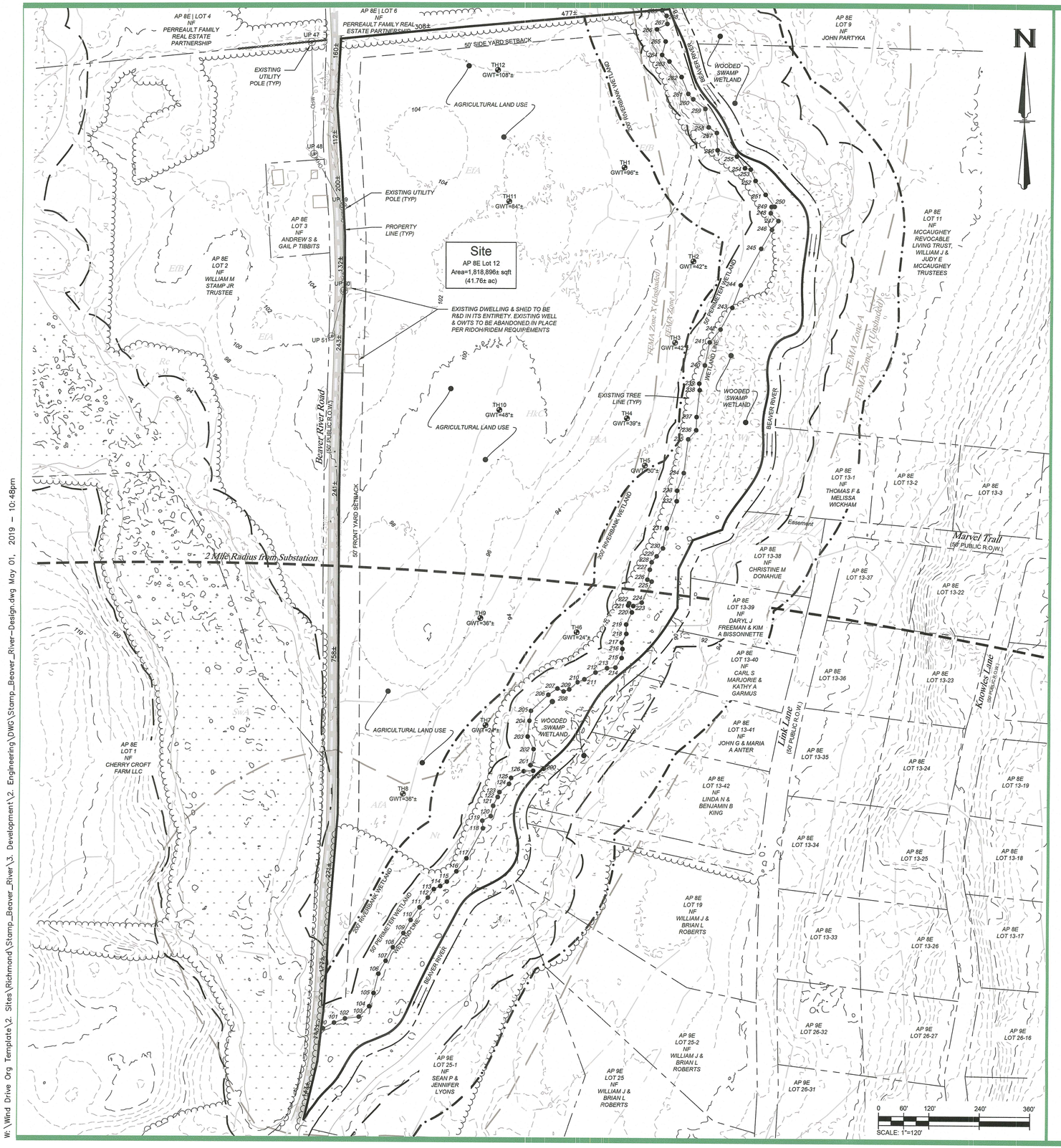

General Site Information:

1. APPLICANT INFORMATION: GD RICHMOND BEAVER RIVER I, LLC
3760 QUAKER LANE
NORTH KINGSTOWN, RHODE ISLAND 02852

2. OWNER INFORMATION: WILLIAM M. STAMP JR, TRUSTEE
ONE STAMP PLACE
EXETER, RHODE ISLAND 02882

3. SITE INFORMATION: 172 BEAVER RIVER ROAD
RICHMOND, RHODE ISLAND, 02812
ASSESSOR'S PLAT 8E, LOT 12
AREA: 41.76± ACRES
ZONE: R-3 (RESIDENTIAL, 3 ACRE MINIMUM)

4. FEMA INFORMATION: THE SITE IS LOCATED WITHIN ZONE X AND ZONE A AS DELINEATED ON THE FLOOD INSURANCE RATE MAP (FIRM) FOR THE TOWN OF RICHMOND, WASHINGTON COUNTY. FIRM MAP NUMBERS, REVISION DATES AND ZONE DESCRIPTIONS ARE AS FOLLOW:

FIRM MAP NUMBER	FIRM MAP REVISION DATE
44009C0160H	OCTOBER 19, 2010
44009C0180H	OCTOBER 19, 2010
44009C0178H	OCTOBER 19, 2010
44009C0159H	OCTOBER 19, 2010

ZONE	DESCRIPTION
A	AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTORS NOT DETERMINED.
X (UNSHADED)	AREAS WHERE THERE IS MINIMAL FLOODING.

THE PROPOSED SOLAR PANELS ARE LOCATED ENTIRELY WITHIN ZONE X AND NO FILLING OR GRADING WITHIN THE 100-YEAR FLOODPLAIN IS PROPOSED.

5. AREA INFORMATION:

SITE WITHIN	YES/NO
GROUNDWATER PROTECTION AREA (RIDEM)	NO
NATURAL HERITAGE AREAS (RIDEM)	NO
HISTORIC CEMETERY AREA (CITY/TOWN)	NO
HISTORIC DISTRICT (CITY/TOWN)	NO
OVERLAY DISTRICT (CITY/TOWN)	YES*
GROUNDWATER RESERVOIR AREA (CITY/TOWN)	YES
GROUNDWATER RECHARGE AREA (CITY/TOWN)	YES

*SITE IS LOCATED IN AN AGRICULTURAL OVERLAY AND AQUIFER OVERLAY DISTRICT

6. SOIL INFORMATION:

SOIL NAME	HSG	ACREAGE	DESCRIPTION
AfA*	B	1.97 AC	AGAWAM FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES
EfA*	B	14.31 AC	ENFIELD SILT LOAM, 0 TO 3 PERCENT SLOPES
EfB	B	1.68 AC	ENFIELD SILT LOAM, 3 TO 8 PERCENT SLOPES
HkA	A	3.30 AC	HINCKLEY GRAVELLY SANDY LOAM, 0 TO 3 PERCENT SLOPES
HkC	A	5.17 AC	HINCKLEY GRAVELLY SANDY LOAM, ROLLING
Nt*	C	2.29 AC	NINIGRET FINE SANDY LOAM
Ss*	B	3.39 AC	SUDBURY SANDY LOAM
Wa	D	9.65 AC	WALPOLE SANDY LOAM
	TOTAL:	41.76 AC	

*PRIME AGRICULTURAL SOILS

THE SOIL ABBREVIATIONS REFERENCE THE SOIL SURVEY OF RHODE ISLAND,PREPARED BY THE USDA SOIL CONSERVATION SERVICE INFORMATION FOUND THROUGH ONLINE RESEARCH FROM RIGIS DATA. THE ABBREVIATIONS CORRESPOND TO SOIL AREAS OUTLINED ON THE PLAN AND ARE TO BE CONSIDERED APPROXIMATE BASED ON RIGIS DATABASE

7. ZONING INFORMATION:

EXISTING ZONE (TABLE 18.20.010)	ZONE R-3 (SINGLE-FAMILY DWELLING)	PROPOSED
MINIMUM LOT AREA:	3 ACRES	41.76± ACRES
MINIMUM FRONTAGE:	300'	2,580'±
MINIMUM FRONT YARD:	50'	N/A
MINIMUM FRONT YARD (SOLAR):	50'	52.3'
MINIMUM SIDE YARD:	35'	N/A
MINIMUM SIDE YARD (SOLAR):	50'	77.7'
MINIMUM REAR YARD:	100'	N/A
MINIMUM REAR YARD (SOLAR):	50'	207.2'
MAXIMUM HEIGHT OF MAIN STRUCTURE:	35'	N/A
MAXIMUM BUILDING COVERAGE:	10%	N/A
MAXIMUM HEIGHT OF SOLAR PANEL:	12'	<12'
MINIMUM SOLAR FIELD COVERAGE:	11 ACRES	23.93± ACRES*

*AREA WITHIN LIMITS OF PROPOSED FENCE. SOLAR ARRAY-19.34± ACRES; SOLAR PANELS ONLY- 9.94± ACRES.

8. WETLANDS WERE DELINEATED ONSITE BY MASON & ASSOCIATES, INC., 771 PLAINFIELD PIKE, NORTH SCITUATE, RI 02857 ON FEBRUARY 23, 2018.

9. EXISTING CONDITIONS WITHIN THE PROPERTY WERE DETERMINED BY ONLINE INFORMATION, AERIAL MAPPING, THE RIGIS DATABASE AND A SITE WALK PERFORMED ON APRIL 9, 2018. THE PROPERTY BOUNDARY IS TAKEN FROM A CLASS I SURVEY PREPARED BY NATIONAL SURVEYORS-DEVELOPERS, INC. PREPARED ON APRIL 12, 2018 BASED ON A SURVEY PERFORMED BETWEEN APRIL 6, 2018 AND APRIL 12, 2018.

10. ON SITE SOIL EVALUATIONS WERE PERFORMED BY DIPRETE ENGINEERING, 2 STAFFORD COURT, CRANSTON, RI 02920 ON APRIL 11, 2018.

11. TOPOGRAPHY SHOWN ON THE PLAN IS LIDAR AND WAS OBTAINED BY RIGIS DATABASE. ELEVATIONS IN U.S. SURVEY FEET ARE REFERENCED TO NAVD88 DATUM.

12. THERE ARE NO HISTORICAL CEMETERIES LOCATED ON SITE BASED ON THE RHODE ISLAND HISTORICAL CEMETERY COMMISSION WEBSITE AND RESOURCES.

13. THE FACILITY IS NOT LOCATED IN A CONSERVATION EASEMENT, PRESERVATION EASEMENT, OR HAS ANY DEED RESTRICTIONS. THE ENTIRE PROPERTY WILL BE REMOVED FROM FARM, FOREST, OPEN SPACE DESIGNATION PRIOR TO CONSTRUCTION.

Certification Note:

THE BOUNDARY LINE SHOWN ON THIS PLAN DEPICTS A CLASS I BOUNDARY PROVIDED BY NATIONAL SURVEYORS-DEVELOPERS, INC. DATED APRIL 2018. THIS PLAN ITSELF IS NOT TO BE CONSTRUED AS AN ACCURATE BOUNDARY SURVEY AND IS SUBJECT TO SUCH CHANGES AS AN ACCURATE BOUNDARY SURVEY MAY DISCLOSE. ONLINE INFORMATION FROM RECORDED DATA AND EXISTING MAPS FROM THE TOWN AND STATE, AND RIGIS DATABASE WAS USED TO COMPILE THIS PLAN. DUE TO THE ACCURACY LEVELS OF SAID DATA AND MAPS, THIS PLAN IS TO BE CONSIDERED APPROXIMATE UNLESS SPECIFIED THAT ACTUAL FIELD SURVEY AND DEED RESEARCH HAS BEEN CONDUCTED.

Existing Conditions Legend

- PROPERTY LINE
- SETBACK LINE
- ASSESSOR LINE
- GIS WETLAND LINE
- WETLAND HATCH
- WETLAND FLAG AND WETLAND LINE
- 50' PERIMETER WETLAND LINE
- SURVEYED STREAM/RIVER LINE
- 200' RIVERBANK WETLAND LINE
- EDGE OF PAVEMENT
- PAVEMENT HATCH
- TH8 GWT=36"± — TEST HOLE LOCATION
- USDA SOIL LINE
- EfB — USDA SOIL TYPE
- FEMA LINE
- ZONE LINE
- R-3 Zone — ZONE CLASSIFICATION
- TREE LINE
- UP — UTILITY POLE
- 100 — MAJOR CONTOURS AND LABELS
- 100 — MINOR CONTOURS AND LABELS
- EASEMENT LINE & HATCH
- 2 MILE RADIUS FROM SUBSTATION

Environmental Management
MAY - 2 2019
Office of Water Resources

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THIS LETTER OF APPROVAL
DATED JUL 3 2019 FILE # 18-0093
NO CHANGES MAY BE MADE WITHOUT PRIOR APPROVAL
APPROVED PLANS SHALL BE KEPT AT CONSTRUCTION SITE
Charles A. Horbert

3760 Quaker Lane
North Kingstown, RI 02852
(401) 295-4998
www.green-ri.com
GREEN development, LLC

APPLICANT INFO: GD Richmond Beaver River I, LLC
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

OWNER INFO: William M. Stamp Jr, Trustee
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: Green Development, LLC
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

No.	DATE	REVISION	BY
5	5/1/2019	RIDEM RESUBMISSION	RBS
4	12/7/2018	RIDEM RESUBMISSION	RBS
3	5/15/2018	TOWN PLANNER REVIEW COMMENTS	RBS
2	5/11/2018	TOWN PLANNER REVIEW COMMENTS	RBS
1	4/18/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS

SHEET TITLE:
Existing Site Analysis Plan
PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

KEVIN C. MORIN
No. 19582
REGISTERED PROFESSIONAL ENGINEER
CIVIL
5/1/2019

SHEET NO.:
C1.3 OF 11

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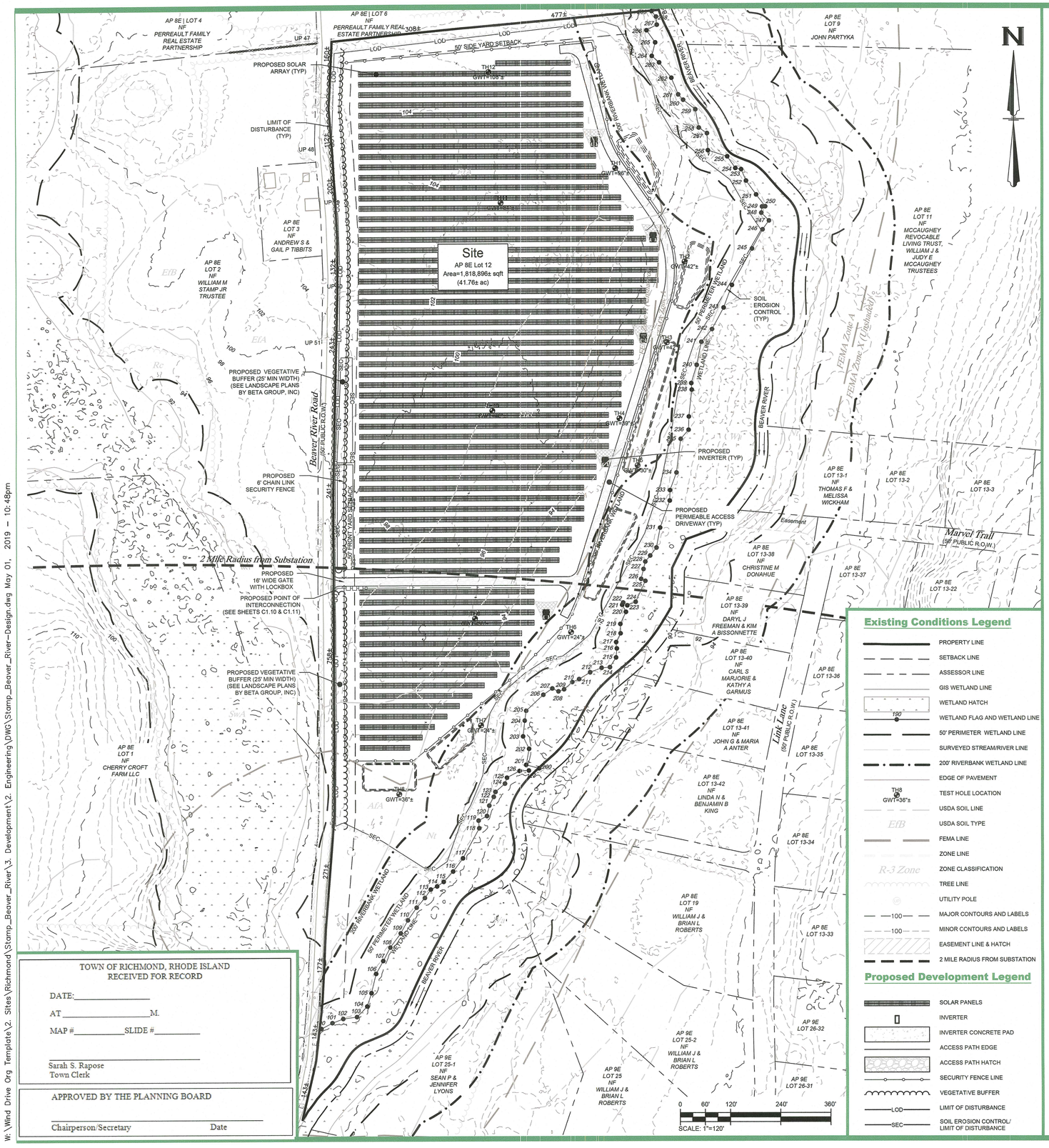


TOWN OF RICHMOND, RHODE ISLAND
RECEIVED FOR RECORD

DATE:_____

AT _____M.

MAP #_____SLIDE #_____

_____
Sarah S. Rapose
Town Clerk

APPROVED BY THE PLANNING BOARD

_____
Chairperson/Secretary Date

Development Information:

1. APPLICANT INFORMATION: GD RICHMOND BEAVER RIVER I, LLC
3760 QUAKER LANE
NORTH KINGSTOWN, RHODE ISLAND 02852

2. OWNER INFORMATION: WILLIAM M. STAMP JR, TRUSTEE
ONE STAMP PLACE
EXETER, RHODE ISLAND 02882

3. SITE INFORMATION: 172 BEAVER RIVER ROAD
RICHMOND, RHODE ISLAND, 02812
ASSESSOR'S PLAT 8E, LOT 12
AREA: 41.76± ACRES
ZONE: R-3 (RESIDENTIAL, 3 ACRE MINIMUM)

4. REQUIRED PERMITS: SPECIAL USE PERMIT - ZONING (TOWN)
DEVELOPMENT PLAN REVIEW - PLANNING (TOWN)
FRESHWATER WETLANDS/RIPDES - RIDEM (STATE)

5. PANEL INFORMATION:

MODEL:	JA SOLAR (JAM6K-72-360PR)
CAPACITY (PER PANEL):	360 W
DIMENSIONS (PER PANEL):	39 X 77.2 IN

6. ARRAY INFORMATION:

PANEL COUNT:	20,700
TOTAL AREA (PANELS ONLY):	9.94± ACRES
TOTAL AREA (SOLAR ARRAY):	19.34± ACRES
TOTAL AREA (WITHIN FENCE):	23.93± ACRES
TOTAL AREA (LOD):	31.12± ACRES
DIRECT CURRENT(DC):	7,452,000 W (7.45 MW)
ALTERNATING CURRENT(AC):	5,250,000 W (5.25 MW)
ARRAY TYPE:	FIXED
AZIMUTH (DEG):	180°
TILT(DEG):	25°

7. TRANSFORMER INFORMATION:

TOTAL TRANSFORMER COUNT:	6
1000kVA TRANSFORMER:	4
750kVA TRANSFORMER:	1
500kVA TRANSFORMER:	1

8. INVERTER INFORMATION:

TOTAL INVERTER COUNT:	10
SOLECTRIA XTM 500 INVERTER:	9
SOLECTRIA XTM 750 INVERTER:	1

9. FEMA INFORMATION: THE SITE IS LOCATED WITHIN ZONE X AND ZONE A AS DELINEATED ON THE FLOOD INSURANCE RATE MAP (FIRM) FOR THE TOWN OF RICHMOND, WASHINGTON COUNTY. FIRM MAP NUMBERS, REVISION DATES AND ZONE DESCRIPTIONS ARE AS FOLLOW:

FIRM MAP NUMBER	FIRM MAP REVISION DATE
44009C0160H	OCTOBER 19, 2010
44009C0180H	OCTOBER 19, 2010
44009C0178H	OCTOBER 19, 2010
44009C0159H	OCTOBER 19, 2010

ZONE	DESCRIPTION
A	AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTORS NOT DETERMINED.
X (UNSHADED)	AREAS WHERE THERE IS MINIMAL FLOODING.

THE PROPOSED SOLAR PANELS ARE LOCATED ENTIRELY WITHIN ZONE X AND NO FILLING OR GRADING WITHIN THE 100-YEAR FLOODPLAIN IS PROPOSED.

10. AREA INFORMATION:

SITE WITHIN	YES/NO
GROUNDWATER PROTECTION AREA (RIDEM)	NO
NATURAL HERITAGE AREAS (RIDEM)	NO
HISTORIC CEMETERY AREA (CITY/TOWN)	NO
HISTORIC DISTRICT (CITY/TOWN)	NO
OVERLAY DISTRICT (CITY/TOWN)	YES*
GROUNDWATER RESERVOIR AREA (CITY/TOWN)	YES
GROUNDWATER RECHARGE AREA (CITY/TOWN)	YES

*SITE IS LOCATED IN AN AGRICULTURAL OVERLAY AND AQUIFER OVERLAY DISTRICT

11. SOIL INFORMATION:

SOIL NAME	HSG	ACREAGE	DESCRIPTION
AfA*	B	1.97 AC	AGAWAM FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES
EIA*	B	14.31 AC	ENFIELD SILT LOAM, 0 TO 3 PERCENT SLOPES
EfB	B	1.68 AC	ENFIELD SILT LOAM, 3 TO 8 PERCENT SLOPES
HkA	A	3.30 AC	HINCKLEY GRAVELLY SANDY LOAM, 0 TO 3 PERCENT SLOPES
HkC	A	5.17 AC	HINCKLEY GRAVELLY SANDY LOAM, ROLLING
Nr*	C	2.29 AC	NINIGRET FINE SANDY LOAM
Sa*	B	3.39 AC	SUDBURY SANDY LOAM
Wa	D	9.65 AC	WALPOLE SANDY LOAM
	TOTAL:	41.76 AC	

*PRIME AGRICULTURAL SOILS

THE SOIL ABBREVIATIONS REFERENCE THE SOIL SURVEY OF RHODE ISLAND,PREPARED BY THE USDA SOIL CONSERVATION SERVICE INFORMATION FOUND THROUGH ONLINE RESEARCH FROM RIGIS DATA. THE ABBREVIATIONS CORRESPOND TO SOIL AREAS OUTLINED ON THE PLAN AND ARE TO BE CONSIDERED APPROXIMATE BASED ON RIGIS DATABASE

12. ZONING INFORMATION:

EXISTING ZONE (TABLE 16.20.010)	ZONE R-3 (SINGLE-FAMILY DWELLING)	PROPOSED
MINIMUM LOT AREA:	3 ACRES	41.76± ACRES
MINIMUM FRONTAGE:	300'	2,580'±
MINIMUM FRONT YARD:	50'	N/A
MINIMUM FRONT YARD (SOLAR):	50'	52'±
MINIMUM SIDE YARD:	35'	N/A
MINIMUM SIDE YARD (SOLAR):	50'	77.2'
MINIMUM REAR YARD:	100'	N/A
MINIMUM REAR YARD (SOLAR):	50'	207.2'
MAXIMUM HEIGHT OF MAIN STRUCTURE:	35'	N/A
MAXIMUM BUILDING COVERAGE:	10%	N/A
MAXIMUM HEIGHT OF SOLAR PANEL:	12'	<12'
MINIMUM SOLAR FIELD COVERAGE:	11 ACRES	23.93± ACRES*

*AREA WITHIN LIMITS OF PROPOSED FENCE. SOLAR ARRAY-19.34± ACRES; SOLAR PANELS ONLY- 9.94± ACRES.

13. WETLANDS WERE DELINEATED ONSITE BY MASON & ASSOCIATES, INC., 771 PLAINFIELD PIKE, NORTH SCITUATE, RI 02857 ON FEBRUARY 23, 2018.

14. EXISTING CONDITIONS WITHIN THE PROPERTY WERE DETERMINED BY ONLINE INFORMATION, AERIAL MAPPING, THE RIGIS DATABASE AND A SITE WALK PERFORMED ON APRIL 9, 2018. THE PROPERTY BOUNDARY IS TAKEN FROM A CLASS I SURVEY PREPARED BY NATIONAL SURVEYORS-DEVELOPERS, INC. PREPARED ON APRIL 12, 2018 BASED ON A SURVEY PERFORMED BETWEEN APRIL 6, 2018 AND APRIL 12, 2018.

15. ON SITE SOIL EVALUATIONS WERE PERFORMED BY DIPRETE ENGINEERING, 2 STAFFORD COURT, CRANSTON, RI 02920 ON APRIL 11, 2018.

16. TOPOGRAPHY SHOWN ON THE PLAN IS LIDAR AND WAS OBTAINED BY RIGIS DATABASE. ELEVATIONS IN U.S. SURVEY FEET ARE REFERENCED TO NAVD88 DATUM.

17. THERE ARE NO HISTORICAL CEMETERIES LOCATED ON SITE BASED ON THE RHODE ISLAND HISTORICAL CEMETERY COMMISSION WEBSITE AND RESOURCES.

18. THE FACILITY IS NOT LOCATED IN A CONSERVATION EASEMENT, PRESERVATION EASEMENT, OR HAS ANY DEED RESTRICTIONS. THE ENTIRE PROPERTY WILL BE REMOVED FROM FARM, FOREST, OPEN SPACE DESIGNATION PRIOR TO CONSTRUCTION.

19. THIS PLAN SET REFERENCES RHODE ISLAND DEPARTMENT OF TRANSPORTATION (RIDOT) STANDARD DETAILS WHICH CAN BE FOUND ON THE RIDOT ONLINE DATABASE. DESIGNATED DETAILS ARE LABELED WITHIN IN THIS PLAN SET AS RIDOT STD X.X.X. REFERENCE LINK: HTTP://WWW.DOT.RI.GOV/DOCUMENTS/DOINGBUSINESS/RIDOT_STD_DETAILS.PDF

20. NO TOPSOIL OR PRIME AGRICULTURAL SOIL, AS DEFINED IN CHAPTER 18.08, SHALL BE REMOVED FROM THE SITE FOR INSTALLATION OF THE FACILITY.

21. THE EXISTING ON SITE DWELLING IS SERVICED BY PRIVATE WELL AND PRIVATE SEPTIC. THE EXISTING DWELLING IS TO BE REMOVED AND DISPOSED ENTIRELY. THE EXISTING PRIVATE WELL AND PRIVATE OWTS ARE TO BE ABANDONED IN ACCORDANCE WITH RIDOH AND RIDEM REQUIREMENTS.

22. THIS PROJECT IS PROPOSED TO BE BUILT IN 1 PHASE.

23. NO OUTDOOR LIGHTING IS PROPOSED FOR THIS PROJECT.

24. NO SIGNAGE IS PROPOSED FOR THIS PROJECT EXCEPT REQUIRED WARNING SIGNAGE PER ELECTRIC CODE AND NATIONAL GRID REQUIREMENTS.

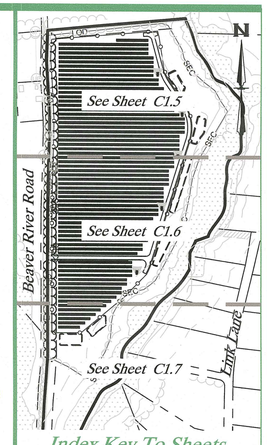
25. AS PER DEVELOPMENT PLAN CHECKLIST ITEM 17 THE FOLLOWING SUMMARY OF AREAS IS PROVIDED:
- AREA OF SOLAR PANELS - 432,803 SQ.FT.
- AREA OF PERMEABLE ACCESS DRIVEWAY - 42,620 SQ.FT.
- AREA OF CONCRETE PADS FOR ELECTRICAL EQUIPMENT - 1,850 SQ.FT.
- AREA WITH PERIMETER FENCE (INCLUSIVE OF THE ABOVE) - 1,042,244 SQ.FT.
- SEE BETA PLANS FOR LANDSCAPED AREA

Existing Conditions Legend

- PROPERTY LINE
- SETBACK LINE
- ASSESSOR LINE
- GIS WETLAND LINE
- WETLAND HATCH
- 190 — WETLAND FLAG AND WETLAND LINE
- 50' PERIMETER WETLAND LINE
- SURVEYED STREAM/RIVER LINE
- 200' RIVERBANK WETLAND LINE
- EDGE OF PAVEMENT
- TH8 GWT=36"± — TEST HOLE LOCATION
- USDA SOIL LINE
- EfB — USDA SOIL TYPE
- FEMA LINE
- ZONE LINE
- R-3 Zone — ZONE CLASSIFICATION
- TREE LINE
- UTILITY POLE
- 100 — MAJOR CONTOURS AND LABELS
- 100 — MINOR CONTOURS AND LABELS
- EASEMENT LINE & HATCH
- 2 MILE RADIUS FROM SUBSTATION

Proposed Development Legend

- SOLAR PANELS
- INVERTER
- INVERTER CONCRETE PAD
- ACCESS PATH EDGE
- ACCESS PATH HATCH
- SECURITY FENCE LINE
- VEGETATIVE BUFFER
- LOD — LIMIT OF DISTURBANCE
- SEC — SOIL EROSION CONTROL/ LIMIT OF DISTURBANCE



Index Key To Sheets
1.5, 1.6 & 1.7
(Scale: 1"=400')

MAY - 2 2019
Office of Water Resources

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JUL 3 2019 FILE # 18-0093
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED FOR CONSTRUCTION SITE:
Charles A. Horbert

GREEN development, LLC
3760 Quaker Lane
North Kingstown, RI 02852
(401) 295-4998
www.green-ri.com

APPLICANT INFO: GD Richmond Beaver River I, LLC
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

OWNER INFO: William M. Stamp Jr, Trustee
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: Green Development, LLC
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

No.	DATE	REVISION	BY
5	5/1/2019	RIDEM RESUBMISSION	RBS
4	12/7/2018	RIDEM RESUBMISSION	RBS
3	5/15/2018	TOWN PLANNER REVIEW COMMENTS	RBS
2	5/21/2018	TOWN PLANNER REVIEW COMMENTS	RBS
1	4/18/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS

SHEET TITLE:
Proposed Site Plan
PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

KEVIN C. MORIN
No. 15851
REGISTERED PROFESSIONAL ENGINEER
CIVIL
5/1/2019

SHEET NO.:
C1.4 OF 11

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TOWN OF RICHMOND, RHODE ISLAND
RECEIVED FOR RECORD

DATE:_____

AT _____M.

MAP #_____SLIDE #_____

_____
Sarah S. Rapose
Town Clerk

APPROVED BY THE PLANNING BOARD

_____
Chairperson/Secretary Date

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF
DATED JUL 3 2019 FILE # 15-0078
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

MAY - 2 2019

Existing Conditions Legend

- PROPERTY LINE
- SETBACK LINE
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- GIS WETLAND LINE
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- 100 — WETLAND FLAG AND WETLAND LINE
- 50' PERIMETER WETLAND LINE
- SURVEYED STREAM/RIVER LINE
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Proposed Development Legend

- SOLAR PANELS
- INVERTER
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- LOD — LIMIT OF DISTURBANCE
- SEC — SOIL EROSION CONTROL/ LIMIT OF DISTURBANCE
- TEMPORARY DRAINAGE BASIN
- TEMPORARY DRAINAGE SWALE

Temporary Sediment Trap Design Table:

TEMPORARY SEDIMENT TRAP	TRAP 1	TRAP 2	TRAP 3
TRIBUTARY AREA (ACRES)	4.841	4.980	4.891
WET STORAGE DEPTH (FEET) (Dw)	2.00	1.50	1.00
DRY STORAGE DEPTH (FEET) (Dd)	2.00	1.50	1.00
TOTAL DEPTH (FEET) (D)	4.00	3.00	2.00
BOTTOM OF TRAP AREA (SQ FT) (Ab)	4,648	6,001	9,060
WETTED SURFACE AREA (SQ FT) (Aw)	5,989	7,103	10,452
SURFACE AREA AT OUTLET (SQ FT) (Ad)	7,431	8,282	11,452
DRY STORAGE VOLUME (CU FT) (Vd)	13,420	11,524	11,161
WET STORAGE VOLUME (CU FT) (Vw)	10,181	9,056	8,884

GREEN development, LLC
3760 Quaker Lane
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APPLICANT INFO: GD Richmond Beaver River I, LLC
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

OWNER INFO: William M. Stamp Jr, Trustee
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: Green Development, LLC
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

No.	DATE	REVISION	BY
5	5/1/2019	RIDEM RESUBMISSION	RBS
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3	5/15/2018	TOWN PLANNER REVIEW COMMENTS	RBS
2	5/1/2018	TOWN PLANNER REVIEW COMMENTS	RBS
1	4/16/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS

SHEET TITLE:
Enlarged Site, Grading & Utility Plan - 1

PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC); 7.45MW | ALTERNATING CURRENT(AC); 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

KEVIN C. MORIN
No. 18951
REGISTERED PROFESSIONAL ENGINEER
CIVIL
5/1/2019

SHEET NO.:
C1.5 OF 11

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3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

OWNER INFO: *William M. Stamp Jr, Trustee*
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: *Green Development, LLC*
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

No.	DATE	REVISION	BY
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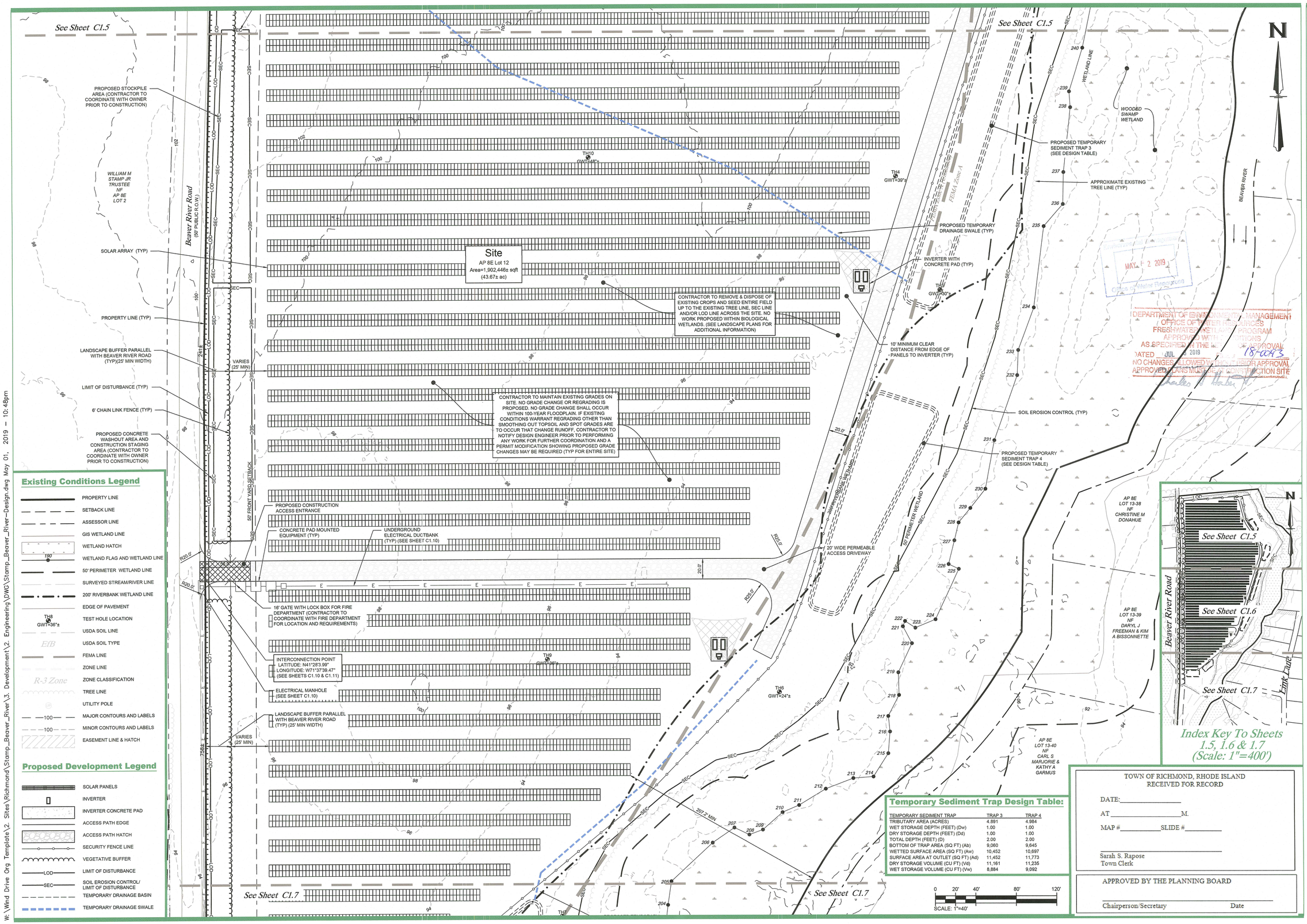
4	12/7/2018	RIDEM RESUBMISSION	RBS
3	5/15/2018	TOWN PLANNER REVIEW COMMENTS	RBS
2	4/18/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS
1	4/18/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS

SHEET TITLE:
Enlarged Site, Grading & Utility Plan - 2

PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

KEVIN C. MORIN
No. 9051
REGISTERED PROFESSIONAL ENGINEER
CIVIL
5/1/2019

SHEET NO.:
C1.6 OF 11



Existing Conditions Legend

- PROPERTY LINE
- SETBACK LINE
- ASSESSOR LINE
- GIS WETLAND LINE
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- WETLAND FLAG AND WETLAND LINE
- 50' PERIMETER WETLAND LINE
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- UTILITY POLE
- MAJOR CONTOURS AND LABELS
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Proposed Development Legend

- SOLAR PANELS
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- LIMIT OF DISTURBANCE
- SOIL EROSION CONTROL/ LIMIT OF DISTURBANCE
- TEMPORARY DRAINAGE BASIN
- TEMPORARY DRAINAGE SWALE

Temporary Sediment Trap Design Table:

TEMPORARY SEDIMENT TRAP	TRAP 3	TRAP 4
TRIBUTARY AREA (ACRES)	4.891	4.984
WET STORAGE DEPTH (FEET) (Dw)	1.00	1.00
DRY STORAGE DEPTH (FEET) (Dd)	1.00	1.00
TOTAL DEPTH (FEET) (D)	2.00	2.00
BOTTOM OF TRAP AREA (SQ FT) (Ab)	9,060	9,645
WETTED SURFACE AREA (SQ FT) (Aw)	10,452	10,697
SURFACE AREA AT OUTLET (SQ FT) (Ad)	11,452	11,773
DRY STORAGE VOLUME (CU FT) (Vd)	11,161	11,235
WET STORAGE VOLUME (CU FT) (Vw)	8,884	9,092

Index Key To Sheets 1.5, 1.6 & 1.7 (Scale: 1"=400')

TOWN OF RICHMOND, RHODE ISLAND
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DATE:_____
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_____
Sarah S. Rapose
Town Clerk

APPROVED BY THE PLANNING BOARD
_____
Chairperson/Secretary Date

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVAL WITH CONDITIONS
AS SPECIFIED IN THE APPROVAL
DATED JUL 2019
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE ON SITE DURING CONSTRUCTION
18-0043

Environmental Compliance
MAY 2 2019
Office Water Resources

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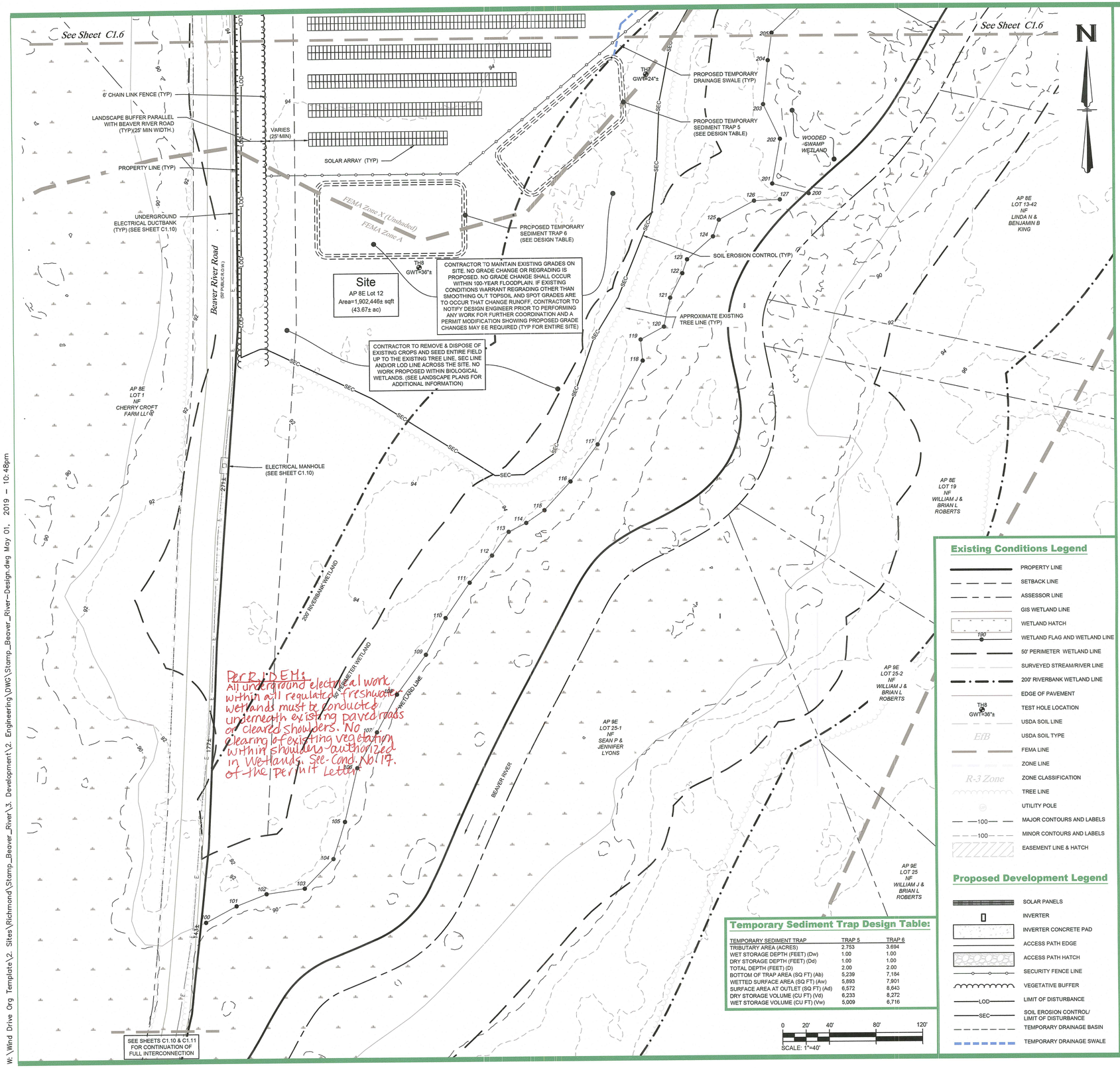


Notes:

1. CONSTRUCTION IS ANTICIPATED TO BEING IN THE SUMMER OF 2018 OR ONCE ALL NECESSARY APPROVALS HAVE BEEN ACQUIRED.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION BETWEEN THE APPROPRIATE UTILITY COMPANIES FOR AGREEMENTS TO SERVICE THE PROPOSED FACILITY. ALL PROPOSED OVERHEAD AND UNDERGROUND UTILITIES CORRESPONDING TO THE INSTALLATION OF THE SOLAR FIELD SHALL BE COORDINATED WITH THE APPLICANT AND DESIGN ENGINEER PRIOR TO INSTALLATION.
3. CONTRACTOR TO VERIFY EXISTING GRADES AT TIE-IN LOCATIONS WITH PROPOSED ACCESS PATH TO ENSURE PROPER INSTALLATION AND TRANSITION BETWEEN THE EXISTING CONDITIONS AND PROPOSED FACILITY.
4. SEE SEQUENCE OF CONSTRUCTION BELOW FOR ABBREVIATED INSTRUCTIONS. CONTRACTOR TO REFER TO THE SESC FOR FULL SEQUENCE OF CONSTRUCTION ACTIVITIES, PROJECT PHASING AND ADDITIONAL INFORMATION. CONTRACTOR MAY MODIFY SEQUENCE OF CONSTRUCTION AS FIELD CONDITIONS WARRANT WITH THE APPROVAL FROM THE DESIGN ENGINEER.
5. CONTRACTOR IS RESPONSIBLE FOR ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES ON SITE SHOW ON THE PLANS. CONTRACTOR TO NOTIFY THE DIRECTOR OF RICHMOND PUBLIC WORKS, THE TOWN OF RICHMOND ENGINEERING DEPARTMENT, RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AND DESIGN ENGINEER A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
6. ALL EXISTING UTILITIES SHOWN ARE FROM VISIBLE INFORMATION, DRAWINGS FROM OTHERS, RIGIS DATA, SURVEYED INFORMATION AND/OR INFORMATION PROVIDED TO GREEN DEVELOPMENT AND IS SUBJECT TO CHANGE AND ARE TO BE CONSIDERED APPROXIMATE ONLY. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE TO CONTACT THE PROPER UTILITY ENGINEERING DEPARTMENTS AND COMPANIES TO LOCATE ALL EXISTING SUBSURFACE UTILITIES AND STRUCTURES IN AND AROUND THE LIMIT OF DISTURBANCE.
7. CONTRACTOR TO CALL THE DIG SAFE CENTER TOLL FREE AT 1-888-344-7233, 72 HOURS PRIOR TO ANY EXCAVATION WORK TAKES PLACE. CONTRACTOR TO NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCIES FOUND DURING UTILITY RESEARCH PRIOR TO EXCAVATION. ANY DAMAGE TO ANY EXISTING UTILITIES WHICH ARE SHOWN AND NOT SHOWN ON THE PLANS OR DETAILED BY DIG SAFE SHALL BE THE RESPONSIBILITY OF THE SITE CONTRACTOR.
8. CONTRACTOR IS LIABLE TO OBTAIN ALL MUNICIPAL, STATE AND FEDERAL APPROVALS AND PERMITS PRIOR TO THE START OF CONSTRUCTION.
9. DAILY SWEEPING AT CONSTRUCTION ENTRANCE DURING DEMOLITION AND CONSTRUCTION IS REQUIRED TO MINIMIZE SEDIMENTS ON BEAVER RIVER ROAD. THE CONTRACTOR SHALL PROVIDE STORAGE FOR WATER AS NECESSARY TO ENSURE PROPER DUST CONTROL.
10. CONTRACTOR IS RESPONSIBLE FOR REMOVING AND DISPOSING (R&D) OF ALL MATERIALS LEGALLY AS INDICATED ON THE PLANS TO AN APPROVED OFF-SITE LOCATION.
11. CONTRACTOR'S STOCKPILE AND STAGING AREAS WITHIN THE LIMIT OF DISTURBANCE SHALL BE RESTORED TO MATCH PRIOR CONDITIONS OR PROPOSED CONDITIONS SHOWN ON THE PLANS.
12. NO OUTDOOR STORAGE IS PROPOSED EXCEPT FOR TEMPORARY STORAGE FOR MATERIALS DURING CONSTRUCTION. SEE SHEET C1.6 FOR STOCKPILE AND STAGING AREA LOCATION.
13. THIS PLAN SET REFERENCES RHODE ISLAND DEPARTMENT OF TRANSPORTATION (RIDOT) STANDARD DETAILS WHICH CAN BE FOUND ON THE RIDOT ONLINE DATABASE. DESIGNATED DETAILS ARE LABELED WITHIN IN THIS PLAN SET AS RIDOT STD X.X.X.

    REFERENCE LINK: HTTP://WWW.DOT.RI.GOV/DOCUMENTS/DOINGBUSINESS/RIDOT_STD_DETAILS.PDF
14. NO TOPSOIL OR PRIME AGRICULTURAL SOIL SHALL BE REMOVED FROM THE SITE FOR INSTALLATION OF THE FACILITY.
15. CONTRACTOR TO PERFORM ALL WORK IN ACCORDANCE WITH THE RHODE ISLAND STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRICTION AND THE TOWN OF RICHMOND STANDARDS SPECIFICATIONS AND DETAILS.
16. THIS PROJECT IS PROPOSED TO BE BUILT IN 1 PHASE.
17. ALL STUMPS SHALL BE GROUND ONSITE OR REMOVED IN AN ACCEPTABLE MANNER OFF SITE. NO STUMP DUMPS ARE PROPOSED ON SITE FOR THIS PROJECT.
18. NO OUTDOOR LIGHTING IS PROPOSED FOR THIS PROJECT.
19. ALL CONCRETE WASHOUT AREAS MUST CONFORM TO RIDEM REGULATIONS. SEE SHEET C1.6 FOR CONCRETE WASHOUT AREA LOCATION.
20. NO SIGNAGE IS PROPOSED FOR THIS PROJECT EXCEPT REQUIRED WARNING SIGNAGE PER ELECTRIC CODE AND NATIONAL GRID REQUIREMENTS.
21. AS PER DEVELOPMENT PLAN CHECKLIST ITEM 17 THE FOLLOWING SUMMARY OF AREAS IS PROVIDED:
    - AREA OF SOLAR PANELS - 432,803 SQ.FT.
    - AREA OF PERMEABLE ACCESS DRIVEWAY - 42,620 SQ.FT.
    - AREA OF CONCRETE PADS FOR ELECTRICAL EQUIPMENT - 1,850 SQ.FT.
    - AREA WITH PERIMETER FENCE (INCLUSIVE OF THE ABOVE) - 1,042,244 SQ.FT.
    - SEE BETA PLANS FOR LANDSCAPED AREA

Sequence of Construction

1. SURVEY AND STAKE LIMIT OF SEDIMENTATION BARRIERS/LIMIT DISTURBANCE.
2. INSTALL PERIMETER EROSION CONTROL BARRIERS AS SHOWN ON THE PLANS ALONG LIMIT OF DISTURBANCE. IN NO CASE IS THE LIMIT OF DISTURBANCE TO EXTEND BEYOND THE SEDIMENTATION BARRIERS.
3. CLEAR BRUSH AND TREES ON SITE IF NECESSARY, WITHIN LIMIT OF DISTURBANCE. IN NO CASE IS THE LIMIT OF DISTURBANCE TO EXTEND BEYOND THE SEDIMENTATION BARRIERS OR CONSTRUCTION FENCING.
4. PRIOR TO REMOVAL OF STUMPS AND SOIL DISTURBANCE, INSTALL TEMPORARY SEDIMENT SWALE AND TRAPS AS PER PLANS. ALL TEMPORARY CONTROL DEVICES SHALL BE INSTALLED PER THE RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK.
5. GRUB AND REMOVE TREE STUMPS ON SITE IF NECESSARY. TOPSOIL IS TO BE STRIPPED AND STOCKPILED IN APPROVED LOCATIONS SHOWN ON PLANS TO BE RE-USED FOLLOWING TEMPORARY GRADING ACTIVITIES FOR SOIL EROSION MEASURES. STOCKPILES ARE TO BE PROTECTED BY A ROW OF SILT FENCE AND COVERED OR TEMPORARILY SEEDED.
6. RE-GRADE SITE AS NECESSARY PER PLANS.
7. INSTALL SOLAR PROJECT INCLUDING BUT NOT LIMITED TO THE INSTALLATION OF THE RACKING SYSTEM, UNDERGROUND CONDUIT, EQUIPMENT PADS, ACCESS PATH, PANELS, NEW UTILITY POLES ON SITE, FENCING, ETC. AS REQUIRED BY APPROVED PLANS.
8. ONCE ROUGH GRADE ON THE SITE HAS BEEN ESTABLISHED AND SOLAR PANELS/EQUIPMENT HAS BEEN INSTALLED, DISTURBED AREAS SHALL BE LOAMED AND SEEDED TO RE-ESTABLISH VEGETATION.
9. TEMPORARY SEDIMENT CONTROLS AND TRAPS ARE TO BE MAINTAINED AND REMAIN UNTIL THE SITE IS STABILIZED.
10. IN THE EVENT THE DRIP EDGE AT PANELS RESULTS IN RILL EROSION, INSTALL PROTECTIVE MEASURES SUCH AS CRUSHED STONE, EROSION CONTROLS BLANKETS, ETC. AS NEEDED.
11. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES FOLLOWING FINAL VEGETATIVE ESTABLISHMENT OF ALL DISTURBED AREAS AND FULL SITE STABILIZATION.
12. IMPLEMENT LONG TERM OPERATION AND MAINTENANCE PLAN.

Existing Conditions Legend

- PROPERTY LINE
- SETBACK LINE
- ASSESSOR LINE
- GIS WETLAND LINE
- WETLAND HATCH
- WETLAND FLAG AND WETLAND LINE
- 50' PERIMETER WETLAND LINE
- SURVEYED STREAM/RIVER LINE
- 200' RIVERBANK WETLAND LINE
- EDGE OF PAVEMENT
- TEST HOLE LOCATION
- USDA SOIL LINE
- USDA SOIL TYPE
- FEMA LINE
- ZONE LINE
- ZONE CLASSIFICATION
- TREE LINE
- UTILITY POLE
- MAJOR CONTOURS AND LABELS
- MINOR CONTOURS AND LABELS
- EASEMENT LINE & HATCH

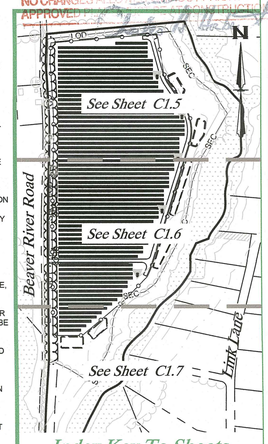
Proposed Development Legend

- SOLAR PANELS
- INVERTER
- INVERTER CONCRETE PAD
- ACCESS PATH EDGE
- ACCESS PATH HATCH
- SECURITY FENCE LINE
- VEGETATIVE BUFFER
- LIMIT OF DISTURBANCE
- SOIL EROSION CONTROL/ LIMIT OF DISTURBANCE
- TEMPORARY DRAINAGE BASIN
- TEMPORARY DRAINAGE SWALE

Temporary Sediment Trap Design Table:

TEMPORARY SEDIMENT TRAP	TRAP 5	TRAP 6
TRIBUTARY AREA (ACRES)	2.753	3.694
WET STORAGE DEPTH (FEET) (Dw)	1.00	1.00
DRY STORAGE DEPTH (FEET) (Dd)	1.00	1.00
TOTAL DEPTH (FEET) (D)	2.00	2.00
BOTTOM OF TRAP AREA (SQ FT) (Ab)	5,239	7,184
WETTED SURFACE AREA (SQ FT) (Aw)	5,893	7,901
SURFACE AREA AT OUTLET (SQ FT) (Ad)	6,572	8,643
DRY STORAGE VOLUME (CU FT) (Vd)	6,233	8,272
WET STORAGE VOLUME (CU FT) (Vw)	5,009	6,716

0 20' 40' 80' 120'
SCALE: 1"=40'



Index Key To Sheets 1.5, 1.6 & 1.7 (Scale: 1"=400')

TOWN OF RICHMOND, RHODE ISLAND
RECEIVED FOR RECORD
DATE:_____
AT _____M.
MAP #_____SLIDE #_____
_____
Sarah S. Rapose
Town Clerk

APPROVED BY THE PLANNING BOARD
_____
Chairperson/Secretary Date

Rhode Island Department of Environmental Management
MAY 2 2019
Office of Water Resources
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 2 JUL 3 2019 FILE # 18-0093
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED ____ DENIED ____

3760 Quaker Lane
North Kingstown, RI 02852
(401) 295-4998
www.green-ri.com
GREEN development, LLC

APPLICANT INFO: GD Richmond Beaver River I, LLC
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

OWNER INFO: William M. Stamp Jr, Trustee
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: Green Development, LLC
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

No.	DATE	REVISION	BY
5	5/1/2019	RIDEM RESUBMISSION	RBS
4	12/7/2018	RIDEM RESUBMISSION	RBS
3	5/15/2018	TOWN PLANNER REVIEW COMMENTS	RBS
2	5/11/2018	TOWN PLANNER REVIEW COMMENTS	RBS
1	4/16/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS

SHEET TITLE:
Enlarged Site, Grading & Utility Plan - 3

PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

KEVIN C. MORIN
No. 9851
REGISTERED PROFESSIONAL ENGINEER
CIVIL
5/1/2019

SHEET NO.:
C1.7 OF 11

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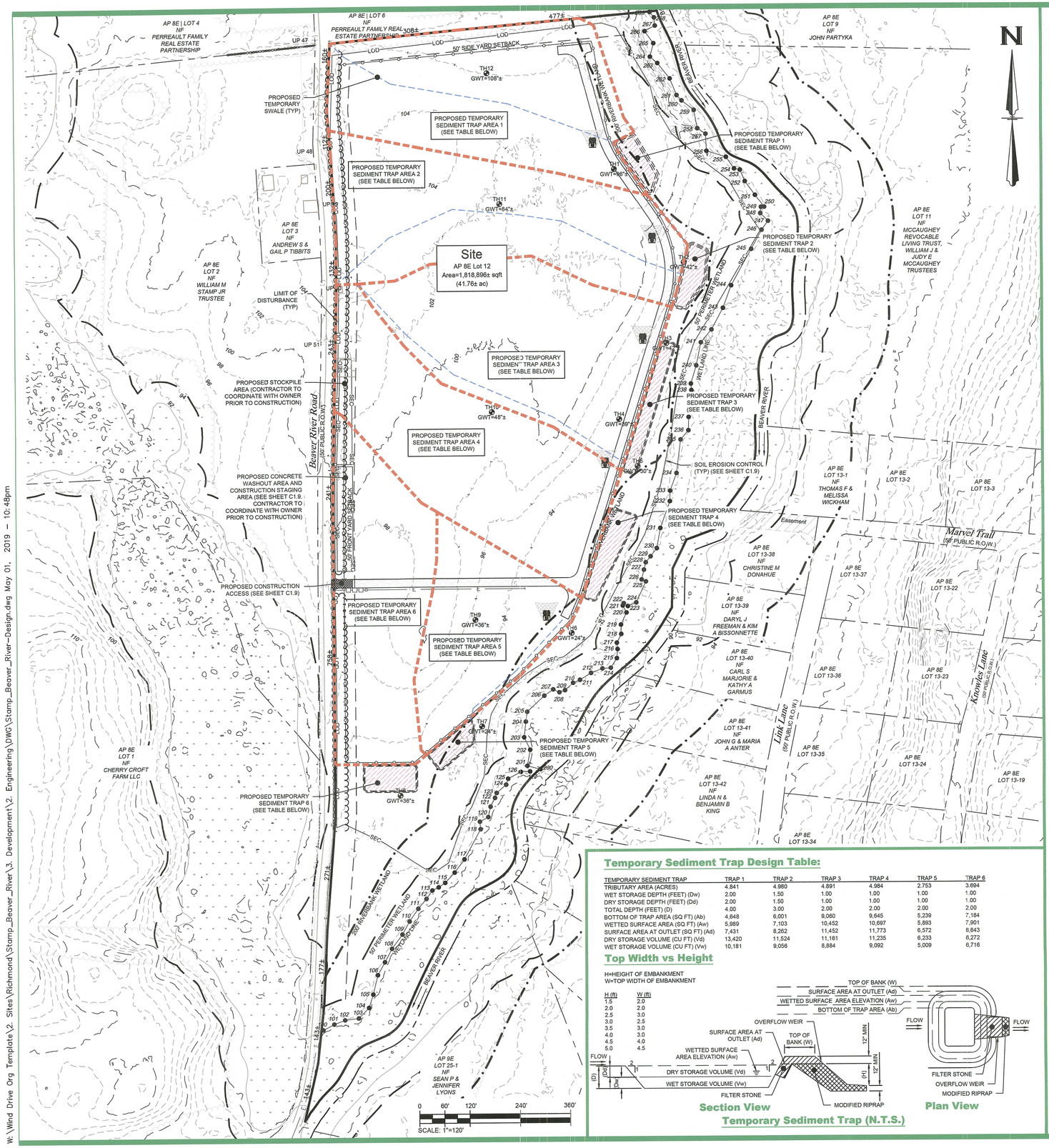

Temporary Sediment Trap Design Table:

TEMPORARY SEDIMENT TRAP	TRAP 1	TRAP 2	TRAP 3	TRAP 4	TRAP 5	TRAP 6
TRIBUTARY AREA (ACRES)	4.841	4.980	4.891	4.984	2.753	3.694
WET STORAGE DEPTH (FEET) (Dw)	2.00	1.50	1.00	1.00	1.00	1.00
DRY STORAGE DEPTH (FEET) (Dd)	2.00	1.50	1.00	1.00	1.00	1.00
TOTAL DEPTH (FEET) (D)	4.00	3.00	2.00	2.00	2.00	2.00
BOTTOM OF TRAP AREA (SQ FT) (Ab)	4,648	6,001	9,060	9,645	5,239	7,184
WETTED SURFACE AREA (SQ FT) (Aw)	5,989	7,103	10,452	10,697	5,893	7,901
SURFACE AREA AT OUTLET (SQ FT) (Ad)	7,431	8,262	11,452	11,773	6,572	8,643
DRY STORAGE VOLUME (CU FT) (Vd)	13,420	11,524	11,161	11,235	6,233	8,272
WET STORAGE VOLUME (CU FT) (Vw)	10,181	9,056	8,884	9,092	5,009	6,716

Top Width vs Height

H=HEIGHT OF EMBANKMENT
W=TOP WIDTH OF EMBANKMENT

H (ft)	W (ft)
1.5	2.0
2.0	2.0
2.5	3.0
3.0	2.5
3.5	3.0
4.0	3.0
4.5	4.0
5.0	4.5

Temporary Sediment Trap (N.T.S.)

Soil Erosion and Sediment Control Notes:

1. ACCOMPANYING DOCUMENTS: SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC) WHICH CONTAINS THE FOLLOWING:
   - EROSION CONTROL MEASURES
   - SHORT TERM MAINTENANCE
   - ESTABLISHMENT OF VEGETATIVE COVER
   - CONSTRUCTION POLLUTION PREVENTION
   - SEQUENCE OF CONSTRUCTION

   OPERATIONS AND MAINTENANCE PLAN (O&M) WHICH CONTAINS THE FOLLOWING:
   - LONG TERM MAINTENANCE
   - LONG TERM POLLUTION PREVENTION

   THESE DOCUMENTS ARE TO BE CONSIDERED AS PART OF THE PROJECT PLANS AND THE CONTRACTOR AND OWNER MUST MAINTAIN CURRENT COPIES OF THE ABOVE DOCUMENTS AS PART OF A FULL PLAN SET.
2. CONTRACTOR TO REFER TO THE SESC FOR SEQUENCE OF CONSTRUCTION ACTIVITIES, PROJECT PHASING AND ADDITIONAL INFORMATION. CONTRACTOR MAY MODIFY SEQUENCE OF CONSTRUCTION WITH THE APPROVAL FROM THE DESIGN ENGINEER.
3. ALL EXISTING UTILITIES SHOWN ARE FROM VISIBLE INFORMATION, DRAWINGS FROM OTHERS, RIGIS DATA, SURVEYED INFORMATION AND/OR INFORMATION PROVIDED TO GREEN DEVELOPMENT AND IS SUBJECT TO CHANGE AND ARE TO BE CONSIDERED APPROXIMATE ONLY. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE TO CONTACT THE PROPER UTILITY ENGINEERING DEPARTMENTS AND COMPANIES TO LOCATE ALL EXISTING SUBSURFACE UTILITIES AND STRUCTURES IN AND AROUND THE LIMIT OF DISTURBANCE.
4. CONTRACTOR TO CALL THE DIG SAFE CENTER TOLL FREE AT 1-888-344-7233, 72 HOURS PRIOR TO ANY EXCAVATION WORK TAKES PLACE. CONTRACTOR TO NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCIES FOUND DURING UTILITY RESEARCH PRIOR TO EXCAVATION. ANY DAMAGE TO ANY EXISTING UTILITIES WHICH ARE SHOWN AND NOT SHOWN ON THE PLANS OR DETAILED BY DIG SAFE SHALL BE THE RESPONSIBILITY OF THE SITE CONTRACTOR.
5. CONTRACTOR IS LIABLE TO OBTAIN ALL MUNICIPAL, STATE AND FEDERAL APPROVALS AND PERMITS PRIOR TO THE START OF CONSTRUCTION.
6. DAILY SWEEPING AT CONSTRUCTION ENTRANCE DURING DEMOLITION AND CONSTRUCTION IS REQUIRED TO MINIMIZE SEDIMENTS ON BEAVER RIVER ROAD. THE CONTRACTOR SHALL PROVIDE STORAGE FOR WATER AS NECESSARY TO ENSURE PROPER DUST CONTROL.
7. CONTRACTOR IS RESPONSIBLE FOR REMOVING AND DISPOSING (R&D) OF ALL MATERIALS LEGALLY AS INDICATED ON THE PLANS TO AN APPROVED OFF-SITE LOCATION.
8. CONTRACTOR'S STOCKPILE AND STAGING AREAS WITHIN THE LIMIT OF DISTURBANCE SHALL BE RESTORED TO MATCH PRIOR CONDITIONS OR PROPOSED CONDITIONS SHOWN ON THE PLANS.
9. THIS PLAN SET REFERENCES RHODE ISLAND DEPARTMENT OF TRANSPORTATION (RIDOT) STANDARD DETAILS WHICH CAN BE FOUND ON THE RIDOT ONLINE DATABASE. DESIGNATED DETAILS ARE LABELED WITHIN IN THIS PLAN SET AS RIDOT STD X.X.X.

   REFERENCE LINK: HTTP://WWW.DOT.RI.GOV/DOCUMENTS/DOINGBUSINESS/RIDOT_STD_DETAILS.PDF
10. NO TOPSOIL OR PRIME AGRICULTURAL SOIL SHALL BE REMOVED FROM THE SITE FOR INSTALLATION OF THE FACILITY.
11. THIS PROJECT IS PROPOSED TO BE BUILT IN 1 PHASE.

Design Rules and Regulations:

THE TEMPORARY SEDIMENT TRAPS SHALL BE INSTALLED AND CONFORM TO ALL RULES AND REGULATIONS SET FORTH BY THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AND DESCRIBED WITHIN THE THOSE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST REVISION, UNDER SECTION SIX FOR TEMPORARY SEDIMENT TRAPS.

APPLICABILITY: BELOW DISTURBED AREAS WHERE THE CONTRIBUTING DRAINAGE AREA IS 5 ACRES OR LESS - FOR DRAINAGE AREAS GREATER THAN 5 ACRES USE A TEMPORARY SEDIMENT BASIN.

WHERE THE INTENDED USE IS 6 MONTHS OR LESS. FOR USES EXTENDING BEYOND 6 MONTHS USE A TEMPORARY SEDIMENT BASIN.

REQUIREMENTS: THE TEMPORARY SEDIMENT TRAP HAS TWO STORAGE REQUIREMENTS AS FOLLOW:
WET STORAGE - CREATED BY EXCAVATION WITHIN A DRAINAGE WAY
DRY STORAGE - CREATED BY THE CONSTRUCTION OF A PERVIOUS STONE DIKE ACROSS THE DRAINAGE WAY

SEDIMENT IS REQUIRED TO BE REMOVED FROM THE TRAP WHEN THE SEDIMENT ACCUMULATION EXCEEDS HALF OF THE WET STORAGE VOLUME OF THE TRAP.

ACCESS IS TO BE PROVIDED TO THE TRAP FOR SEDIMENT REMOVAL. EXCAVATED SEDIMENT WILL BE REMOVED AND DISPOSED OF AT AN APPROVED OFF-SITE LOCATION OR ON THE EXISTING SITE.

THE TRAPS ARE TO BE INSTALLED PRIOR TO CONDUCTING ANY GRADING ACTIVITIES IN THE CONTRIBUTING WATERSHED AREAS AS SHOWN ON THE PLAN.

LOCATIONS: NOT TO BE LOCATED IN CLOSE PROXIMITY TO EXISTING OR PROPOSED BUILDING FOUNDATIONS.

LOCATE TRAPS TO OBTAIN MAXIMUM STORAGE BENEFIT FROM THE TERRAIN, FOR EASE OF CLEAN OUT AND DISPOSAL OF THE TRAPPED SEDIMENT.

TRAP CAPACITY: THE TRAP SHALL HAVE AN INITIAL STORAGE VOLUME OF 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA, HALF OF WHICH SHALL BE IN THE FORM OF WET STORAGE TO PROVIDE A STABLE SETTLING MEDIUM. THE REMAINING STORAGE VOLUME SHALL BE IN THE FORM OF A DRAWDOWN (DRY STORAGE) WHICH WILL PROVIDE EXTENDED SETTLING TIME DURING LESS FREQUENT, LARGER STORM EVENTS.
WET STORAGE - VOLUME SHALL BE MEASURED FROM THE LOW POINT OF THE EXCAVATED AREA TO THE BASE OF THE STONE OUTLET STRUCTURE.
DRY STORAGE - VOLUME SHALL BE MEASURED FROM THE BASE OF THE STONE OUTLET TO THE TOP OF THE STONE OUTLET (OVERFLOW MECHANISM)

THE TRAP SHALL BE SIZED TO STORE 1 INCH OF RUNOFF FROM THE CONTRIBUTING AREA OR PER THE SEDIMENT VOLUME METHOD (SEE EQUATION TABLE) IN ACCORDANCE WITH STANDARD 10 OF THE 2010 RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL.

SLOPES: ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER EXCEPT FOR THE EXCAVATED WET STORAGE AREA WHERE SLOPES SHALL NOT EXCEED 1.5:1. THE MAXIMUM DEPTH OF EXCAVATION WITHIN THE WET STORAGE AREA SHOULD NOT EXCEED THREE (3) FEET TO FACILITATE CLEAN-OUT AND FOR SITE SAFETY CONSIDERATIONS.

INLETS/OUTLETS: THE OUTLET SHALL BE LOCATED AT THE MOST DISTANT HYDRAULIC POINT FROM THE INLET.

THE OUTLET CONSISTS OF A PERVIOUS STONE DIKE WITH A CORE OF MODIFIED RIPRAP AND FACED ON THE UPSTREAM SIDE WITH STONE AND MUST OUTLET ONTO STABILIZED GROUND.

EMBANKMENT: THE MAXIMUM HEIGHT OF A TEMPORARY SEDIMENT TRAP EMBANKMENT IS LIMITED TO 5 FEET AS MEASURED VERTICALLY FROM THE CREST OF THE EMBANKMENT TO THE DOWN SLOPE BASE OF THE EMBANKMENT OR TOW OF THE STONE DIKE, WHICHEVER IS LOWER.

SIDE SLOPES OF THE EMBANKMENT SHALL BE 2:1 OR FLATTER.

MODIFIED RIPRAP: SHALL MEET THE REQUIREMENTS OF THE RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUBSECTION M.10.03.2.

FILTER STONE: SHALL MEET THE REQUIREMENTS OF THE RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUBSECTION M.10.03.9 TABLE I, COLUMN V FILTER STONE.

Installation Requirements:

CLEAR, GRUB AND STRIP ANY VEGETATION AND ROOT MAT FROM ANY PROPOSED EMBANKMENT AND OUTLET AREA. REMOVE STONES AND ROCKS WHOSE DIAMETER IS GREATER THAN THREE (3) INCHES AND OTHER DEBRIS.

EXCAVATE WET STORAGE AND CONSTRUCT THE EMBANKMENT AND/OR OUTLET AS NEEDED TO ATTAIN THE NECESSARY STORAGE REQUIREMENTS. USE ONLY FILL MATERIAL FOR THE EMBANKMENT THAT IS FREE FROM EXCESSIVE ORGANICS, DEBRIS, LARGE ROCKS (OVER SIX (6) INCHES) OR OTHER UNSUITABLE MATERIALS. COMPACT THE EMBANKMENT IN 9-INCH LAYERS BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.

STABILIZE THE EARTHEN EMBANKMENT USING ANY OF THE FOLLOWING MEASURES, SEEDING FOR TEMPORARY VEGETATIVE COVER; SEEDING FOR PERMANENT VEGETATIVE COVER; OR SLOPE PROTECTION, IMMEDIATELY AFTER INSTALLATION.

CARRY OUT CONSTRUCTION OPERATIONS IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE MINIMIZED.

Inspection, Maintenance, and Removal Requirements:

INSPECT THE TEMPORARY SEDIMENT TRAP AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.25 INCH OR GREATER. CHECK THE OUTLET TO ENSURE THAT IT IS STRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED BY EROSION OR CONSTRUCTION EQUIPMENT. THE HEIGHT OF THE STONE OUTLET OR WEIR CREST SHOULD BE MAINTAINED AT LEAST 1 FOOT BELOW THE CREST OF THE EMBANKMENT. ALSO CHECK FOR SEDIMENT ACCUMULATION AND FILTRATION PERFORMANCE.

WHEN SEDIMENTS HAVE ACCUMULATED TO ONE HALF THE MINIMUM REQUIRED VOLUME OF THE WET STORAGE, DEWATER THE TRAP AS NEEDED, REMOVE SEDIMENTS AND RESTORE THE TRAP TO ITS ORIGINAL DIMENSIONS. DISPOSE OF THE SEDIMENT REMOVED FROM THE BASIN IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE AND CAUSE SEDIMENTATION PROBLEMS.

THE TEMPORARY SEDIMENT TRAP MAY BE REMOVED AFTER THE CONTRIBUTING DRAINAGE AREA IS STABILIZED. IF IT IS TO BE REMOVED, THEN THE PLANS SHOULD SHOW HOW THE SITE OF THE TEMPORARY SEDIMENT TRAP IS TO BE GRADED AND STABILIZED AFTER REMOVAL.

Soil Erosion & Sediment Control Legend

- LOD — LIMIT OF DISTURBANCE
- SEC — SOIL EROSION CONTROL/ LIMIT OF DISTURBANCE
- TEMPORARY DRAINAGE SWALE
- TRIBUTARY AREA FOR TEMPORARY SEDIMENT TRAP
- TEMPORARY SEDIMENT TRAP

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
MAY 2 2019
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 5/2/19 FILE # 18-0093
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED _____ DENIED _____ SEE REVERSE SIDE
Charles A. Horbert

GREEN development, LLC
3760 Quaker Lane
North Kingstown, RI 02852
(401) 295-4998
www.green-ri.com

APPLICANT INFO: GD Richmond Beaver River I, LLC
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

OWNER INFO: William M. Stamp Jr, Trustee
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: Green Development, LLC
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

No.	DATE	REVISION	BY
5	5/1/2019	RIDEM RESUBMISSION	RBS
4	12/7/2018	RIDEM RESUBMISSION	RBS
3	5/15/2018	TOWN PLANNER REVIEW COMMENTS	RBS
2	5/11/2018	TOWN PLANNER REVIEW COMMENTS	RBS
1	4/16/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS

SHEET TITLE:
Soil Erosion and Sediment Control Plan

PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45kW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

KEVIN C. MORIN
No. 9851
REGISTERED PROFESSIONAL ENGINEER
CIVIL
5/1/2019

SHEET NO.:
C1.8 OF 11

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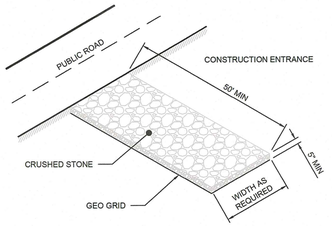
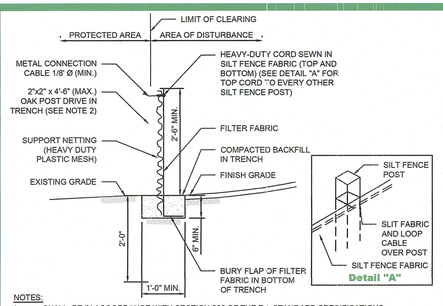


NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 211 OF THE R.I. STANDARD SPECIFICATIONS
2. SHALL BE IN ACCORDANCE WITH RHODE ISLAND DEPARTMENT OF TRANSPORTATION R.I. STANDARD DETAIL 9.9.0.
3. SEE PLAN FOR LOCATION.

Construction Access

NOT TO SCALE



NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
2. 2"x2" x 4'-6"(MAX.) OAK POSTS FOR SILT FENCE SHALL BE LOCATED 6'-0"(MAX.) o.c. IN WETLAND AREAS AND 4'-0"(MAX.) o.c. IN WETLAND RAVINE, GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.
3. 1" x 1" x 4'-6"(MIN.) POSTS PERMITTED FOR PRE-FABRICATED SILT FENCE.
4. SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.

Silt Fence Detail

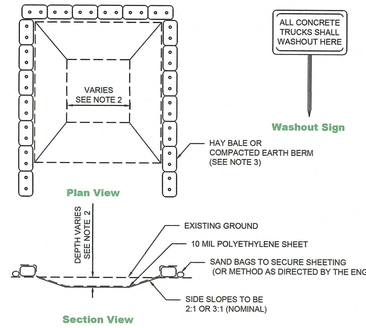
NOT TO SCALE

NOTES

1. CONCRETE WASHOUT AREA(S) SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE. THE CONCRETE WASHOUT AREA SHALL BE ENTIRELY SELF-CONTAINED.
2. THE CONTRACTOR SHALL SUBMIT THE DESIGN, LOCATION AND SIZING OF THE CONCRETE WASHOUT AREA(S) WITH THE PROJECT'S SOIL EROSION AND SEDIMENTATION CONTROL PLAN AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO PROCEEDING WITH ANY CONCRETE WORK.

   LOCATION: WASHOUT AREA(S) ARE TO BE LOCATED AWAY FROM ANY STREAM, WETLAND, STORM DRAINS, OR OTHER SENSITIVE RESOURCE AREAS. WASH WATER SHALL NOT BE ALLOWED TO FLOW TO SURFACE WATER. THE FLOOD CONTINGENCY PLAN MUST ADDRESS THE CONCRETE WASHOUT IF THE WASHOUT IS TO BE LOCATED WITHIN THE FLOODPLAIN.

   SIZE: THE WASHOUT MUST HAVE SUFFICIENT VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS WITH A MINIMUM FREEBOARD OF 12".
3. SURFACE DISCHARGE IS UNACCEPTABLE, THEREFORE, HAY BALES OR OTHER CONTROL MEASURES, AS APPROVED BY THE ENGINEER, SHOULD BE USED AROUND THE PERIMETER OF THE CONCRETE WASHOUT AREA FOR CONTAINMENT.
4. SIGNS SHOULD BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CONCRETE AREA(S) AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS. WASHOUT AREA(S) SHOULD BE FLAGGED WITH SAFETY FENCING OR OTHER APPROVED METHODS.
5. WASHOUT AREA(S) ARE TO BE INSPECTED AT LEAST ONCE A WEEK FOR STRUCTURAL INTEGRITY, ADEQUATE HOLDING CAPACITY AND CHECKED FOR LEAKS, TEARS, OR OVERFLOWS. (AS REQUIRED BY THE CONTRACTION SITE ENVIRONMENTAL INSPECTION REPORT) WASHOUT AREA(S) SHOULD BE CHECKED AFTER HEAVY RAINS. WASHOUT AREA(S) SHALL NOT BE FILLED BEYOND 95% CAPACITY UNLESS A NEW WASHOUT AREA IS CONSTRUCTED.
6. HARDENED CONCRETE WASTE SHOULD BE REMOVED AND DISPOSED OF WHEN THE WASTE HAS ACCUMULATED TO HALF OF THE CONCRETE WASHOUT'S HEIGHT. THE WASTE CAN BE STORED AT AN UPLAND LOCATION, AS APPROVED BY THE ENGINEER. ALL CONCRETE WASTE SHALL BE DISPOSED OF IN A MANNER CONSISTENT WITH ALL APPLICABLE LAWS, REGULATIONS, AND GUIDELINES.

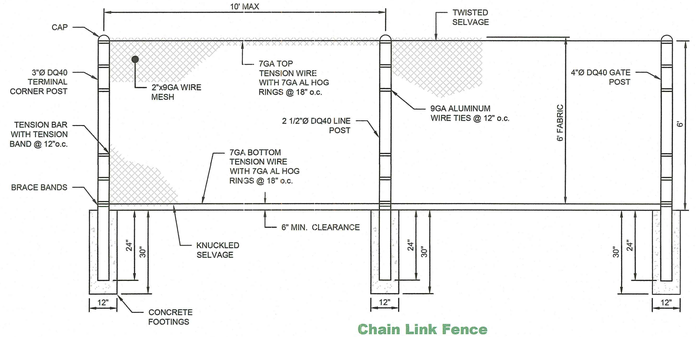


Concrete Washout Area

NOT TO SCALE

Sequence of Construction

1. SURVEY AND STAKE LIMIT OF SEDIMENTATION BARRIERS/LIMIT DISTURBANCE.
2. INSTALL PERIMETER EROSION CONTROL BARRIERS AS SHOWN ON THE PLANS ALONG LIMIT OF DISTURBANCE. IN NO CASE IS THE LIMIT OF DISTURBANCE TO EXTEND BEYOND THE SEDIMENTATION BARRIERS.
3. CLEAR BRUSH AND TREES ON SITE IF NECESSARY, WITHIN LIMIT OF DISTURBANCE. IN NO CASE IS THE LIMIT OF DISTURBANCE TO EXTEND BEYOND THE SEDIMENTATION BARRIERS OR CONSTRUCTION FENCING.
4. PRIOR TO REMOVAL OF STUMPS AND SOIL DISTURBANCE, INSTALL TEMPORARY SEDIMENT SWALE AND TRAPS AS PER PLANS. ALL TEMPORARY CONTROL DEVICES SHALL BE INSTALLED PER THE RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK.
5. GRUB AND REMOVE TREE STUMPS ON SITE IF NECESSARY. TOPSOIL IS TO BE STRIPPED AND STOCKPILED IN APPROVED LOCATIONS SHOWN ON PLANS TO BE RE-USED FOLLOWING TEMPORARY GRADING ACTIVITIES FOR SOIL EROSION MEASURES. STOCKPILES ARE TO BE PROTECTED BY A ROW OF SILT FENCE AND COVERED OR TEMPORARILY SEEDED.
6. RE-GRADE SITE AS NECESSARY PER PLANS.
7. INSTALL SOLAR PROJECT INCLUDING BUT NOT LIMITED TO THE INSTALLATION OF THE RACKING SYSTEM, UNDERGROUND CONDUIT, EQUIPMENT PADS, ACCESS PATH, PANELS, NEW UTILITY POLES ON SITE, FENCING, ETC. AS REQUIRED BY APPROVED PLANS.
8. ONCE ROUGH GRADE ON THE SITE HAS BEEN ESTABLISHED AND SOLAR PANELS/EQUIPMENT HAS BEEN INSTALLED, DISTURBED AREAS SHALL BE LOAMED AND SEEDED TO RE-ESTABLISH VEGETATION.
9. TEMPORARY SEDIMENT CONTROLS AND TRAPS ARE TO BE MAINTAINED AND REMAIN UNTIL THE SITE IS STABILIZED.
10. IN THE EVENT THE DRIP EDGE AT PANELS RESULTS IN RILL EROSION, INSTALL PROTECTIVE MEASURES SUCH AS CRUSHED STONE, EROSION CONTROLS BLANKETS, ETC. AS NEEDED.
11. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES FOLLOWING FINAL VEGETATIVE ESTABLISHMENT OF ALL DISTURBED AREAS AND FULL SITE STABILIZATION.
12. IMPLEMENT LONG TERM OPERATION AND MAINTENANCE PLAN.

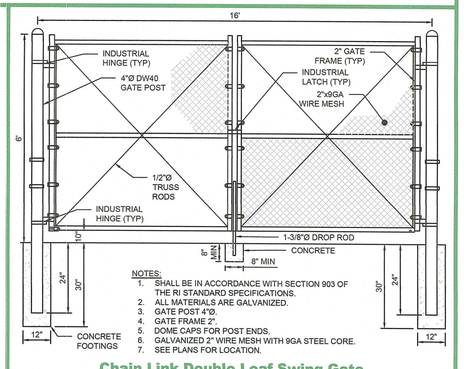


NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 903 OF THE RI STANDARD SPECIFICATIONS.
2. ALL MATERIALS ARE GALVANIZED.
3. GATE POST 4"Ø.
4. TERMINAL POSTS 3"Ø.
5. GATE FRAME 2.5"Ø.
6. 7GA TOP AND BOTTOM TENSION WIRE TO MATCH FABRIC ATTACHED BY 7GA HOG RINGS WITH STEEL CORE.
7. TENSION BARS WITH TENSION BANDS @ 12" o.c.
8. DOME CAPS FOR POST ENDS.
9. 9GA TIE WIRES WITH STEEL CORE ON LINE POSTS.
10. 3" BRACE BANDS ON TERMINAL CORER POSTS.
11. GALVANIZED 2" WIRE MESH WITH 9GA STEEL CORE.
12. CONTRACTOR TO PROVIDE A 6" MINIMUM OF GROUND CLEARANCE BELOW FENCE TO ALLOW FOR SMALL WILDLIFE PASSAGE.
13. SEE PLANS FOR LOCATION.

Chain Link Fence

NOT TO SCALE

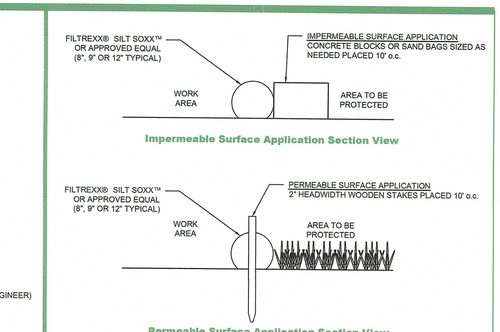


NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 903 OF THE RI STANDARD SPECIFICATIONS.
2. ALL MATERIALS ARE GALVANIZED.
3. GATE POST 4"Ø.
4. GATE FRAME 2".
5. DOME CAPS FOR POST ENDS.
6. GALVANIZED 2" WIRE MESH WITH 9GA STEEL CORE.
7. SEE PLANS FOR LOCATION.

Chain Link Double Leaf Swing Gate

NOT TO SCALE

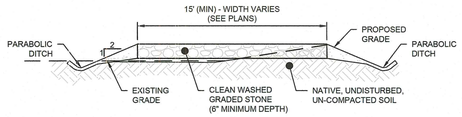


NOTES:

1. CONTRACTOR TO USE FILTREXX® SILT SOXX™ OR APPROVED EQUAL.
2. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
3. SILT SOXX™ FILL TO MEET APPLICATION REQUIREMENTS.
4. FILTER MEDIA TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.
5. SEE PLANS FOR LOCATION AND SURFACE APPLICATION TYPE.

Silt Soxx Sediment Barrier

NOT TO SCALE



CONDITION:	DRIVEWAY THICKNESS	STONE SIZE	FINES
BASE LAYER WITH GEOTEXTILE FABRIC (NOT EXTENSIVELY WET)	6" MIN.	3 - 3½	0-6%
BASE LAYER WITH GEOTEXTILE FABRIC (WET CONDITIONS)	6" MIN.	3 - 3½	0-6%

CONSTRUCTION NOTES:

A. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER AS TO MINIMIZE POTENTIAL EROSION AND WATER QUALITY DEGRADATION.

B. FIXED EROSION CONTROLS AND SITE STABILIZATION SHALL BE CONDUCTED IN ACCORDANCE WITH APPROVED BMP'S, OR PURSUANT TO PROJECT SPECIFIC PERMITS.

C. TREES, STUMPS, ROOTS, BRUSH AND WEEDS SHALL BE REMOVED FROM THE WORK AREA IF DETERMINED NECESSARY TO SAFETY CONSTRUCT ROAD WAYS

D. ON WEAK BEARING SOIL SUCH AS LOOSE ALLUVIAL, OR WETLANDS SOILS, SURFACE TREATMENT SHOULD BE UNDERLAIN WITH WOVEN GEOTEXTILES.

E. AT MINIMUM, ROADSIDE DITCHES SHALL BE 1-FT BELOW ROAD SURFACE.

F. DISCHARGE POINTS FOR DITCHES SHALL NOT BE NEAR WETLANDS OF STREAMS, AND OR BE LOCATED AT THE DIRECTION OF THE EPSCS.

Surfacing Specifications

SIEVE DESIGNATION	PERCENTAGE BY MASS (WEIGHT) PASSING SQUARE MESH SIEVES
90 MM (3.5 INCH)	100
75 MM (3 INCH)	90-100
50 MM (2 INCH)	75-100
25 MM (1 INCH)	50-80
12.5 MM (1/2 INCH)	30-60
4.75 MM (NO.4)	15-40
75 UM (NO. 200)	0-6

DENSE GRADED CRUSHED STONE FOR SUBBASE:

A. DENSE GRADED CRUSHED STONE FOR SUBBASE SHALL CONSIST OF CLEAN, HARD, UNIFORMLY GRADED, CRUSHED STONE. IT SHALL BE SUFFICIENTLY FREE FROM DIRT, DELETERIOUS MATERIAL, AND PIECES THAT ARE STRUCTURALLY WEAK AND SHALL MEET THE FOLLOWING REQUIREMENTS:

B. SOURCE OF MATERIALS SHALL BE OBTAINED FROM AREAS STRIPPED AND CLEANED OF SOIL AND DEBRIS BEFORE BLASTING.

C. MATERIAL COARSER THEN THE THE 4.75 MM (NO.4) SIEVE SHALL NOT BE MORE THEN 30 PERCENT, BY MASS (WEIGHT), OF THIN AND/OR ELONGATED PIECES.

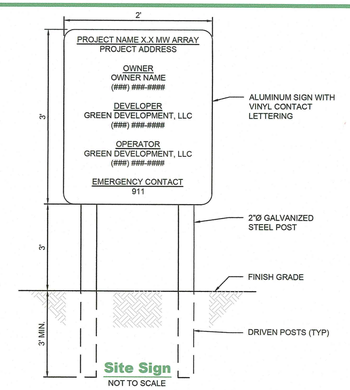
Material Specifications

SOURCES:

- SURFACING TYPICAL AND SURFACING SPECS: DERIVED FROM USDA NRCS DRAWING "ACCESS ROAD; ME-ENG-AR1"
- PROFILE TYPICAL: DERIVED FROM USDA FOREST SERVICE PUBLICATION "FOREST ROAD CONSTRUCTION AND MAINTENANCE"
- MATERIAL SPECS: DERIVED FROM VTRANS 704.06 SUBBASE

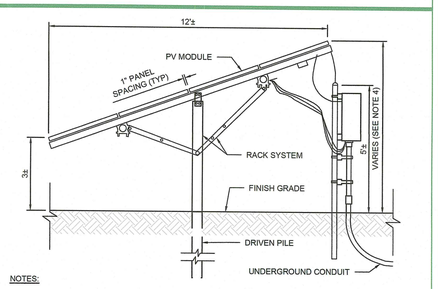
Permeable Access Driveway

NOT TO SCALE



Site Sign

NOT TO SCALE

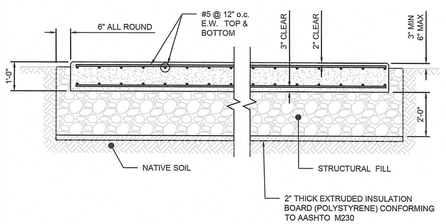


NOTES:

1. ADJACENT ARRAY TABLES SHALL BE INSTALLED WITH A MINIMUM OF 6 INCHES OF SEPARATION.
2. ROWS OF ARRAY TABLES SHALL BE INSTALLED WITH A MINIMUM OF 12 FEET OF SEPARATION.
3. TYPICAL SOLAR PANEL RACKING SYSTEM SHOWN. SELECTED RACKING SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS.
4. INSTALLED HEIGHT WILL VARY BASED ON THE RACKING LAYOUT AND FINAL DESIGN BUT WILL BE LESS THAN 12' PER ZONING CODE REQUIREMENTS.

Solar Panel Racking

NOT TO SCALE



Cast-In-Place Concrete Pad for Inverter

NOT TO SCALE

NOTES:

1. ALL CONCRETE WORK SHALL CONFORM TO ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE BUILDINGS".
2. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 AND BE DETAILED IN ACCORDANCE WITH ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
3. REBAR SHALL HAVE A MINIMUM CONCRETE COVER AS FOLLOWS:
   - CONCRETE DEPOSITED AGAINST GROUND.....3 IN.
   - CONCRETE EXPOSED TO WEATHER OF CONTACT WITH GROUND:
     FOR BARS #5 AND LARGER .....2 IN.
     FOR BARS SMALLER THEN #5.....1 1/2 IN.
   - CONCRETE NOT EXPOSED TO THE WEATHER OR THE GROUND
     SLABS AND WALLS .....3/4 IN.
4. ALL REINFORCED BARS SHALL BE CONTINUOUS AND LAPPED A MINIMUM OF 48 BAR DIAMETERS AT ALL SPLICES, CORNERS AND INTERSECTIONS UNLESS NOTED OTHERWISE .
5. ALL REINFORCEMENT SHALL BE SECURELY TIED IN ITS PROPOSED LOCATIONS PRIOR TO AND DURING PLACEMENT OF CONCRETE USING APPROVED CHAIRS, SPACERS AND TIE WIRE AS REQUIRED. NO BARS SHALL BE CUT OR OMITTED IN THE FIELD WITH OUT THE APPROVAL OF THE ENGINEER.
6. CONCRETE PROTECTION FOR REINFORCEMENT SHALL IN ALL CASES BE AT LEAST EQUAL TO THE DIAMETER OF THE BAR EXCEPT FOR CONCRETE.
7. CONCRETE SHALL BE CAST-IN-PLACE, NORMAL WEIGHT CONCRETE AND SHALL DEVELOP A COMPRESSIVE STRENGTH OF 4,000 PSI IN 28 DAYS. CONCRETE SHALL HAVE A MAXIMUM AGGREGATE SIZE OF 3/4 INCH, MINIMUM CEMENT CONTENT OF 560 LBS/CU. YD., AND A MAXIMUM SLUMP OF 4 INCHES.
8. ALL EXPOSED EDGES OF CONCRETE SHALL HAVE A 3/4 INCH CHAMFER UNLESS NOTED.
9. ALL CONCRETE EXPOSED TO THE WEATHER SHALL BE AIR- ENTRAINED.
10. SIZES AND LOCATIONS OF ALL REQUIRED EMBEDDED ITEMS FOR ALL TRADES SUCH AS ANCHOR BOLTS, PIPING SLEEVES HOLD DOWN ANCHORS, ETC., SHALL BE COORDINATED BY THE CONTRACTOR WITH OTHER TRADES.

APPLICANT INFO: GD Richmond Beaver River I, LLC
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

OWNER INFO: William M. Stamp Jr, Trustee
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: Green Development, LLC
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

3760 Quaker Lane
North Kingstown, RI 02852
(401) 295-4998
www.green-ri.com
GREEN development, LLC

No.	DATE	REVISION	BY
5	5/1/2019	RIDEM RESUBMISSION	RBS
4	12/7/2018	RIDEM RESUBMISSION	RBS
3	5/15/2018	TOWN PLANNER REVIEW COMMENTS	RBS
2	5/31/2018	TOWN PLANNER REVIEW COMMENTS	RBS
1	4/16/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS

SHEET TITLE: Detail Sheet

PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

KEVIN C. MORIN
No. 9851
REGISTERED PROFESSIONAL ENGINEER
CIVIL
5/1/2019

SHEET NO.:
C1.9 OF 11

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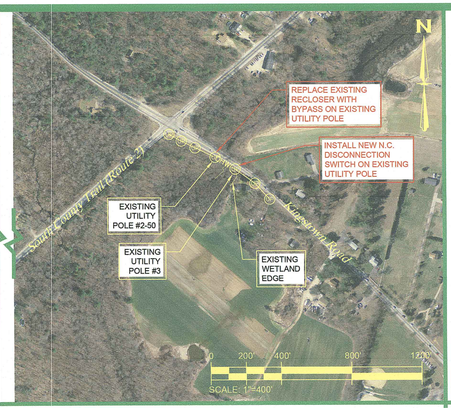
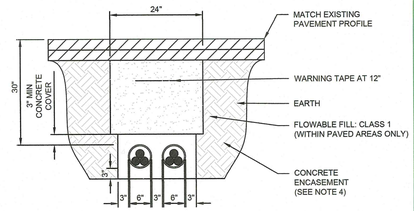


Conservation Management
MAY 2 2019
Office of Water Resources

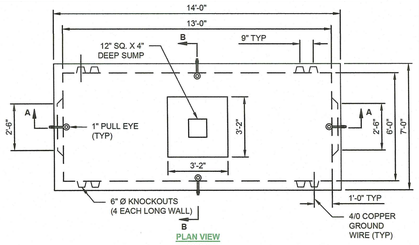
NOTES:

1. ALL CONDUIT IS 6" EB-35
2. CONDUIT TO BE INSTALLED IN SPACERS AT 3" BASE AND 3" INTERMEDIATE.
3. PRIMARY SETS ARE 35KV 3-1/C 1000LCMIL, STRANDED COPPER, EPR, CONCENTRIC ⅓ NEUTRAL
4. CONCRETE MIX PER NATIONAL GRID STANDARD
5. CONCRETE TO BE EARTH FORMED
6. FLOWABLE FILL TO BE USED FOR ALL BACKFILL TO SUBGRADE.
7. WARNING TAPE TO BE BLACK PRINTING ON RED BACKGROUND.



Ductbank Cross Section

(NOT TO SCALE)

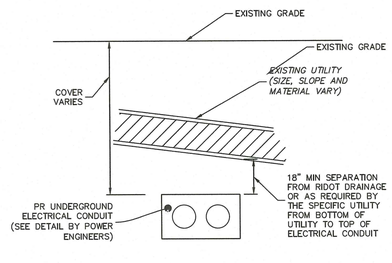


NOTES:

1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN LOADING: AASHTO HS20-44, 0 TO 5 FEET COVER.
3. DESIGN SPECIFICATIONS - ACI 318 & AASHTO LOAD FACTOR DESIGN METHOD.
4. STEEL REINFORCEMENT CONFORMS TO ASTM A615, GRADE 60. MINIMUM COVER 1"
5. ALL TERMINATORS SHALL HAVE BELL ENDS FLUSH WITH THE INSIDE WALL.
6. CONSTRUCTION JOINT SHALL BE SEALED WITH 1"Ø BUTYL RUBBER OR APPROVED EQUAL.

Electrical Manhole

(NOT TO SCALE)



Typical Electrical Conduit Utility Crossing

(NOT TO SCALE)

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JUL 3 2019 FILE # 18-0093
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED FOR CONSTRUCTION SITE

3760 Quaker Lane
North Kingstown, RI 02852
(401) 295-4998
www.green-ri.com
GREEN development, LLC

APPLICANT INFO: *GD Richmond Beaver River I, LLC*
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

OWNER INFO: *William M. Stamp Jr, Trustee*
ONE STAMP PLACE, EXETER, RI 02882

PREPARED BY: *Green Development, LLC*
3760 QUAKER LANE, NORTH KINGSTOWN, RI 02852

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5	5/1/2019	RIDEM RESUBMISSION	RBS
4	12/7/2018	RIDEM RESUBMISSION	RBS
3	9/15/2018	TOWN PLANNER REVIEW COMMENTS	RBS
2	3/17/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS
1	1/4/2018	DEVELOPMENT PLAN REVIEW & SPECIAL USE PERMIT SUBMISSION	RBS

SHEET TITLE:
Interconnection - Overall & Details

PROJECT INFORMATION:
GD Richmond Beaver River I
DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW
172 BEAVER RIVER ROAD, RICHMOND, RI 02812
ASSESSOR'S PLAT 8E LOT 12

KEVIN C. MORIN
No. 9851
REGISTERED PROFESSIONAL ENGINEER
CIVIL
5/1/2019

SHEET NO.:
C1.10 OF 11

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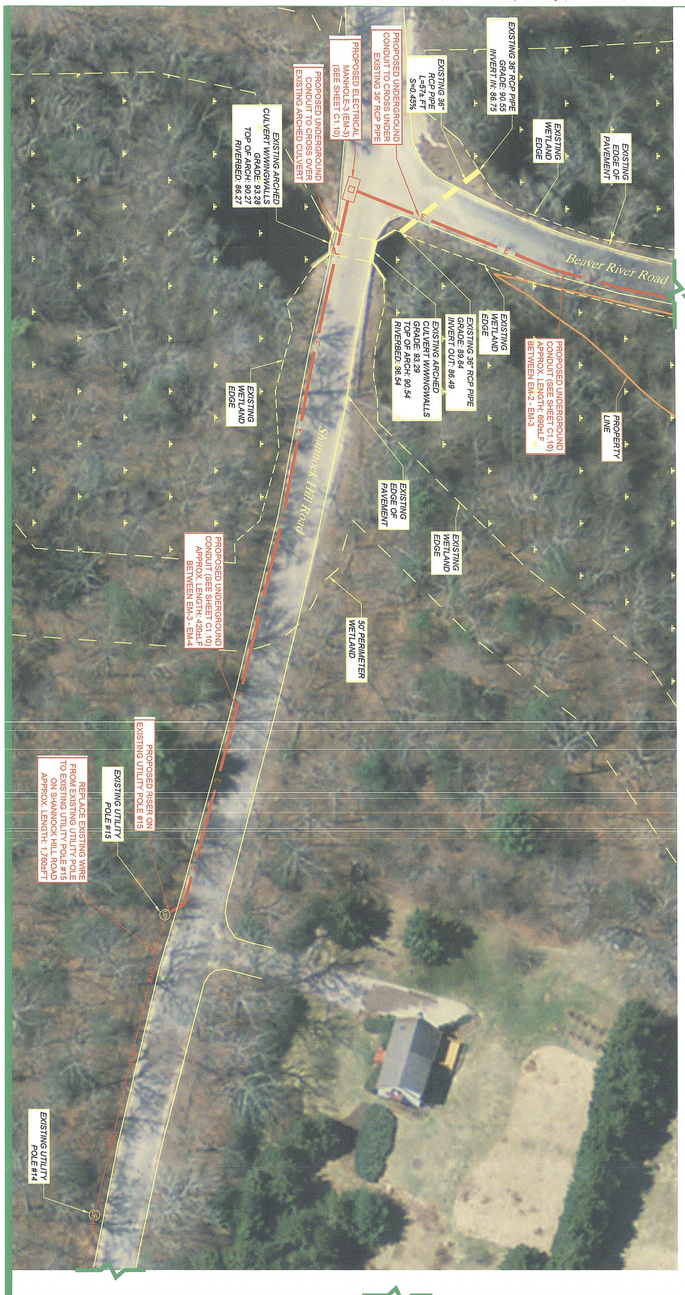

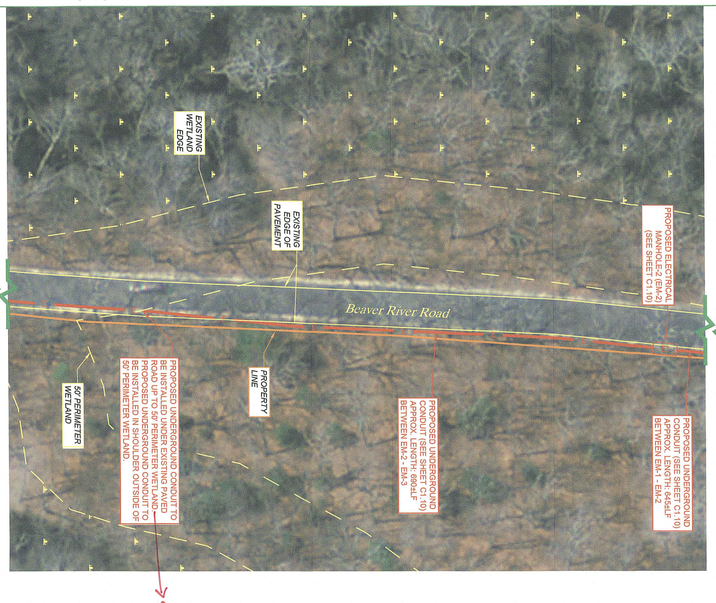

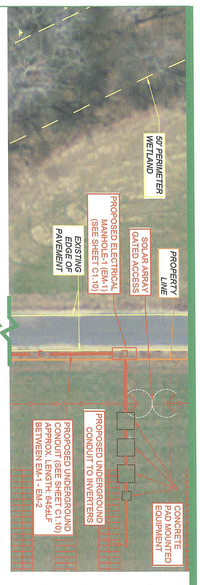

& all other regulated wetlands such as ZBA RBW per RIDEM - See Condition No. 17.

SHEET NO: C1.11 OF 11	KEVIN C. MORIN No. 17020 REGISTERED PROFESSIONAL ENGINEER CIVIL 5/1/2019	SHEET TITLE: *Interconnection - Enlarged* PROJECT INFORMATION: *GD Richmond Beaver River I* DIRECT CURRENT(DC): 7.45MW | ALTERNATING CURRENT(AC): 5.25MW 172 BEAVER RIVER ROAD, RICHMOND, RI 02812 ASSESSOR'S PLAT 8E LOT 12	

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