

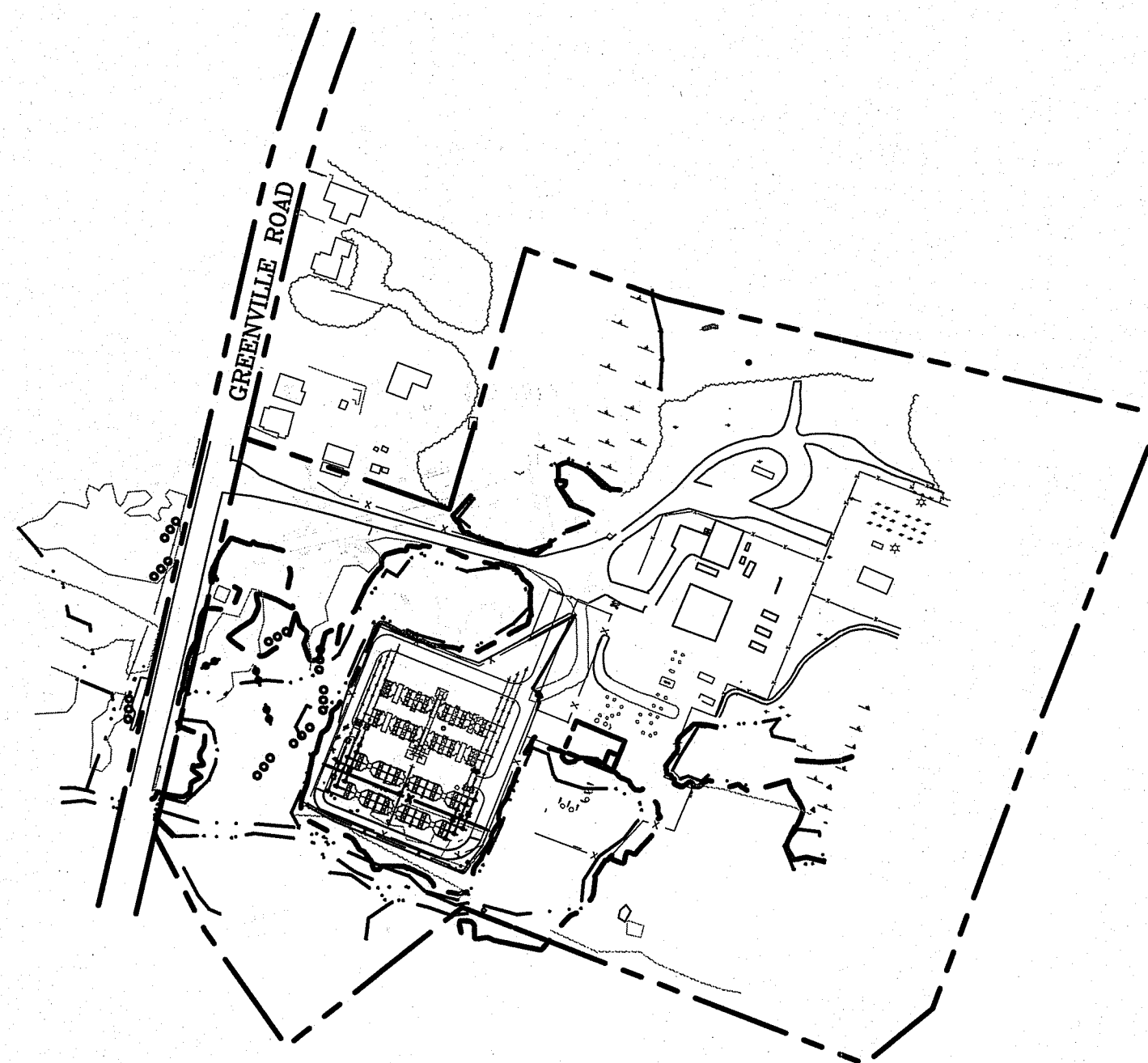
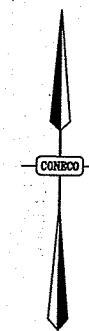
WOONSOCKET SUBSTATION 26

GRADING & DRAINAGE PLANS

76 GREENVILLE ROAD

NORTH SMITHFIELD, RHODE ISLAND 02896

LEGEND			
ABAND	ABANDONED	● GP	GUARD POST (BOLLARD)
ALT	ALTERNATE ROUTE	○ HH	GUY WIRE
AC	ASBESTOS CONCRETE	○ HYD	HANDHOLE
BIT CONC	BITUMINOUS CONCRETE	○ IP	HYDRANT
BCC	BITUMINOUS CONCRETE CURB	○ LP	INVERT
BCD	BITUMINOUS CONCRETE DRIVE	(M)	IRON PIPE
BCW	BITUMINOUS CONCRETE WALK	NPV	LIGHT POLE
BS	BORING LOCATION	PCI	MARKED IN FIELD
BS	BRUSHED STEEL PIPE	PIF	NO PIPE VISIBLE
BS	BUSH	PL	PIT CAST IRON PIPE
CATV	CABLE TELEVISION LINE	PVC	PICKET FENCE
CI	CAST IRON	△	PLASTIC PIPE
CI CL	CAST IRON-CEMENT LINED PIPE	▽	PK., NAIL, SPIKE
CIP	CAST IRON PIPE	△	POLYVINYL CHLORIDE
CB	CATCH BASIN	△	PROPERTY LINE
CB	CATHODIC PROTECTION TEST	△	PROPOSED MAJOR CONTOUR
OCB	CHAIN LINK FENCE	△	PROPOSED MINOR CONTOUR
OCB	CONDUIT MANHOLE OR PULL BOX	△	RECORD
OCB	COATED STEEL	△	REINFORCED CONCRETE PIPE
OCB	CONCRETE CURB	△	RIM
OCB	CONCRETE WALK	△	100' RIPARIAN
OCB	CONTINUATION UNDETERMINED	△	SEWER LINE
OCB	CORRUGATED METAL PIPE	△	SEWER MANHOLE
OCB	CORRUGATED PLASTIC PIPE	△	SIGN
OCB	DIAMETER	△	SLOPED BITUMINOUS CONCRETE CURB
OCB	DECIDUOUS TREE	△	SPOT ELEVATION
OCB	DRAIN LINE	△	STONE BOUND
OCB	DRAIN MANHOLE	△	STONE BOUND WITH DRILL HOLE
OCB	DUCTILE IRON	△	TELEPHONE LINE
OCB	DUCTILE IRON-CEMENT LINED	△	TELEPHONE MANHOLE
OCB	EDGE OF PAVEMENT	△	TOP OF SILT
OCB	ELECTRIC HANDHOLE	△	TOP OF WATER
OCB	ELECTRIC LINE	△	TRANSFORMER
OCB	ELECTRIC MANHOLE	△	TREE LINE
OCB	ELEVATION	△	UNDERGROUND
OCB	ESCUTCHEON PIN IN LEAD PLUG	△	UNKNOWN GATE
OCB	EVERGREEN TREE	△	UTILITY POLE
OCB	EXISTING MAJOR CONTOUR	△	UTILITY POLE/LIGHT POLE
OCB	EXISTING MINOR CONTOUR	△	VITRIFIED CONCRETE PIPE
OCB	FENCE	△	WATER GATE
OCB	FOUND	△	WATER LINE
OCB	FOUND	△	WETLAND AREA
OCB	GAS GATE	△	WETLAND FLAG
OCB	GAS LINE	△	WETLAND LINE
OCB	GRANITE	△	50' WETLAND BUFFER
OCB	GC	△	WITH
		△	WROUGHT IRON FENCE



SCALE: 1" = 200'

DESCRIPTION

COVER SHEET
 EXISTING CONDITIONS & DEMOLITION PLAN
 PROPOSED SITE GRADING & DRAINAGE PLAN
 QUALIFYING PERVIOUS AREA PLAN
 DETAIL & NOTES SHEETS

SHEET

1
 2
 3
 4
 5-6

PREPARED FOR:

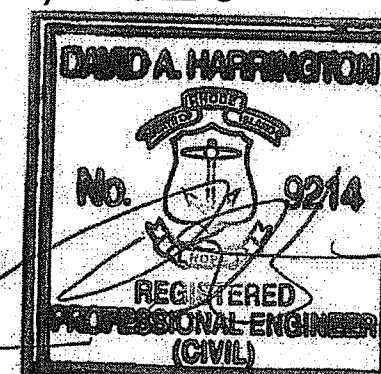
NATIONAL GRID
 40 SYLVAN ROAD
 WALTHAM,
 MASSACHUSETTS 02451



4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS 02324
 PHONE: 508.697.3191, FAX: 508.697.5996
 WEBSITE: www.coneco.com

PREPARED ON:
 JULY 12, 2017
 REVISED: JANUARY 3, 2020

ENGINEER:
 DAVID A. HARRINGTON, P.E.
 CONECO ENGINEERS & SCIENTISTS, INC.
 BRIDGEWATER, MA 02324



RHODE ISLAND REGISTERED PROFESSIONAL ENGINEER #9214

DATE:

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 of freshwater wetlands on site.

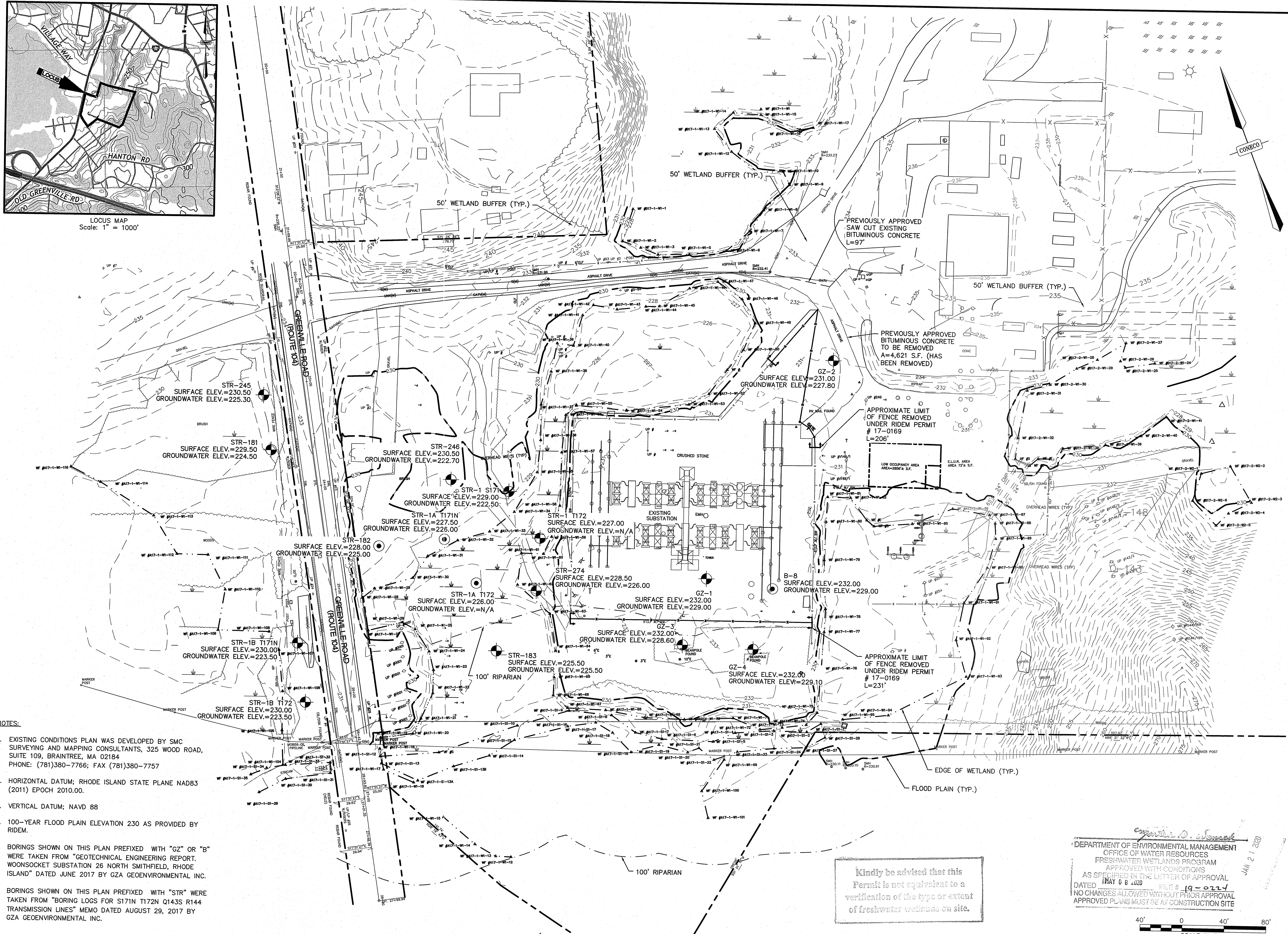
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED MAY 08 2020 FILE # 19-0224
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
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JAN 21 2020

REVISIONS			
NO.	DATE	DESCRIPTION	DR/CK
1	09/22/2017	CHANGES PER RIDEM COMMENTS	DJD/DAH
2	05/01/2019	ADD NEW DRIVEWAY, FENCE, AND MOVE SUBSTATION CRUSHED STONE EDGE	MVB/DAH
3	07/24/2019	ADDITIONAL ACCESS GATE	DJD/JEN
4	10/11/2019	REVISED DETAIL	MVB/JEN
5	1/3/2019	CHANGES PER RIDEM COMMENTS	JEN/JEN



LOCUS MAP
Scale: 1" = 1000'



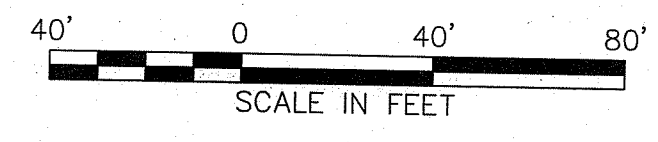
NOTES:

- EXISTING CONDITIONS PLAN WAS DEVELOPED BY SMC SURVEYING AND MAPPING CONSULTANTS, 325 WOOD ROAD, SUITE 109, BRAINTREE, MA 02184
PHONE: (781)380-7766; FAX (781)380-7757
- HORIZONTAL DATUM; RHODE ISLAND STATE PLANE NAD83 (2011) EPOCH 2010.00.
- VERTICAL DATUM; NAVD 88
- 100-YEAR FLOOD PLAIN ELEVATION 230 AS PROVIDED BY RIDEM.
- BORINGS SHOWN ON THIS PLAN PREFIXED WITH "GZ" OR "B" WERE TAKEN FROM "GEOTECHNICAL ENGINEERING REPORT, WOONSOCKET SUBSTATION 26 NORTH SMITHFIELD, RHODE ISLAND" DATED JUNE 2017 BY GZA GEOENVIRONMENTAL INC.
- BORINGS SHOWN ON THIS PLAN PREFIXED WITH "STR" WERE TAKEN FROM "BORING LOGS FOR S17N T172N Q143S R144 TRANSMISSION LINES" MEMO DATED AUGUST 29, 2017 BY GZA GEOENVIRONMENTAL INC.

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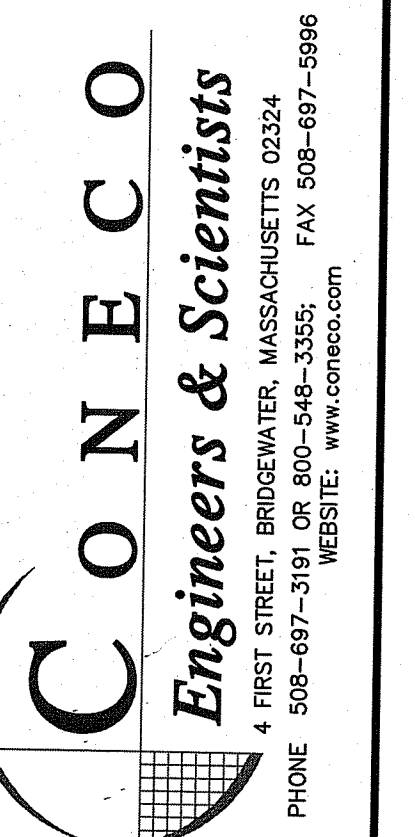
JAN 21 2020



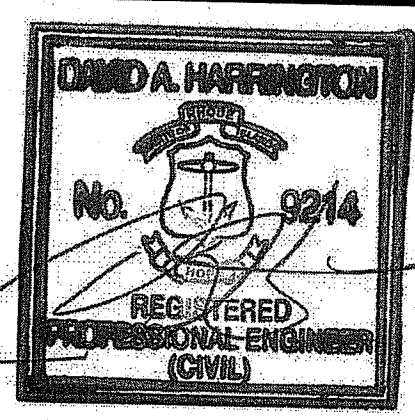
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1	09/22/2017	CHANGES PER RIDEM COMMENTS	D/D/DAH
2	05/01/2019	ADD NEW DRIVEWAY, FENCE, AND MOVE SUBSTATION CRUSHED STONE EDGE	HWB/DAH
3	07/24/2019	ADDITIONAL ACCESS GATE	D/D/JEN
5	1/3/2019	CHANGES PER RIDEM COMMENTS	JEN/JEN

NATIONAL GRID
40 SYLVAN ROAD
WALTHAM, MASSACHUSETTS 02451

WOONSOCKET SUBSTATION 26
76 GREENVILLE ROAD
ASSASSOR'S PLAT 9
LOTS 599, 633, 640 & 641
NORTH SMITHFIELD, RHODE ISLAND 02896



DATE	07/12/2017
DESIGNED: N/A	CHECKED: DAH
DRAFTED: DJD	IN CHARGE: RTL
SCALE:	1" = 40'
PROJECT NO.	6144.3
SHEET NO.	2



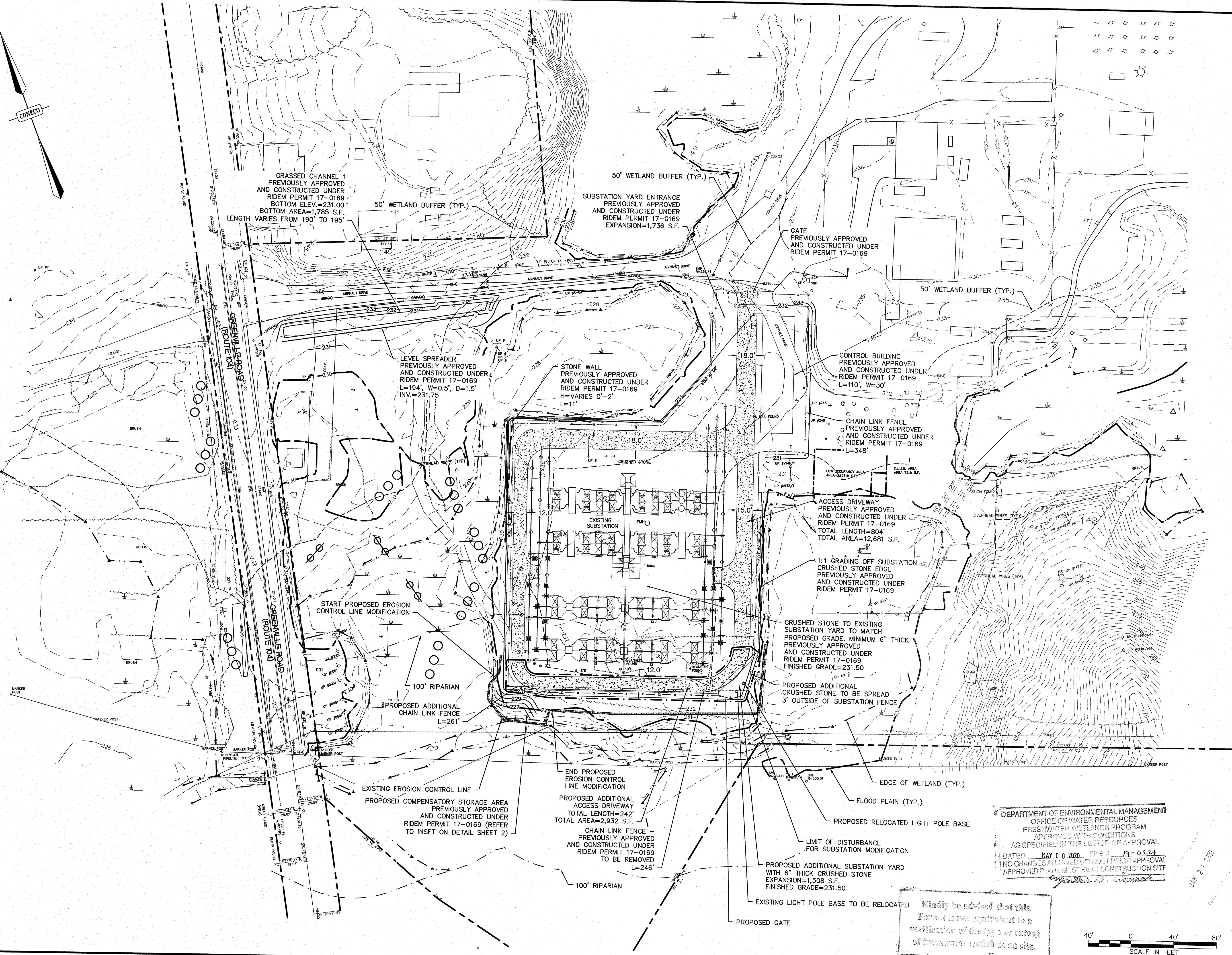
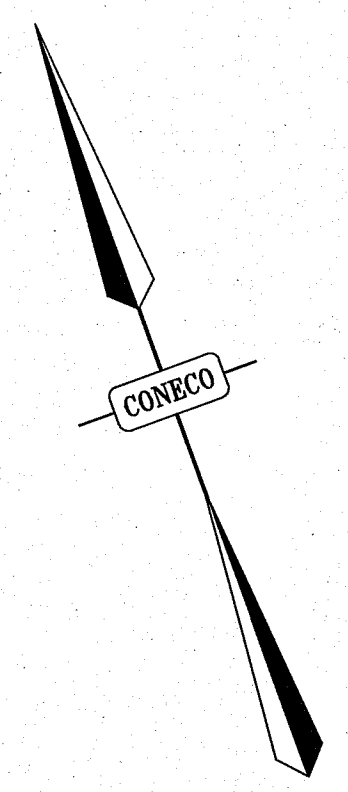
NO.	DATE	DESCRIPTION	DR/CK
1	08/22/2017	CHANGES PER RIDEM COMMENTS	DJD/DAH
2	05/01/2019	ADD NEW DRIVEWAY, FENCE, AND MOVE SUBSTATION CRUSHED STONE EDGE	WJB/DAH
3	07/24/2019	ADDITIONAL ACCESS GATE	DJD/DAH
5	1/3/2019	CHANGES PER RIDEM COMMENTS	JEN/DAH

PREPARED FOR:
NATIONAL GRID
40 SYLVAN ROAD
WALTHAM, MASSACHUSETTS 02451

PROJECT:
WOONSOCKET SUBSTATION 26
76 GREENVILLE ROAD
ASSESSOR'S PLAT 9
LOTS 599, 633, 640 & 641
NORTH SMITHFIELD, RHODE ISLAND 02896

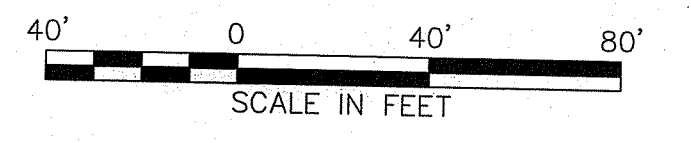
CONECO
Engineers & Scientists
 4 FIRST STREET, BROOKFIELD, MASSACHUSETTS 02224
 PHONE: 508-697-3191 OR 800-548-3355 FAX: 508-697-5996
 WEBSITE: WWW.CONECO.COM

DATE: 07/12/2017
 DESIGNED: DJD CHECKED: DAH
 DRAFTED: DJD IN CHARGE: RTL
 SCALE: 1" = 40'
 PROJECT NO. 6144.3
 SHEET NO. **3**
 OF 06

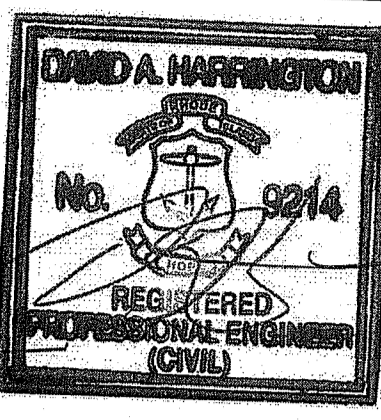


DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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JAN 21 2020



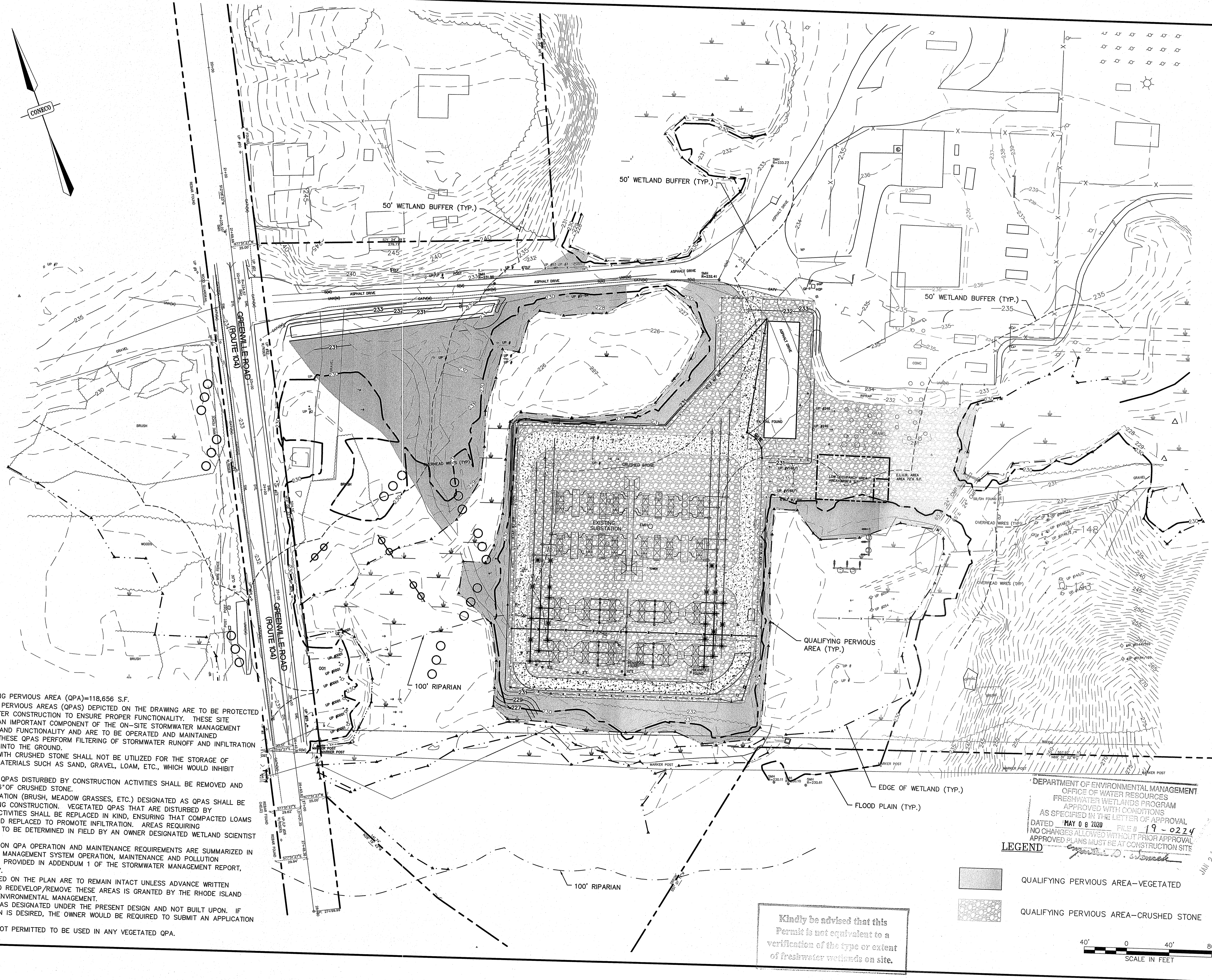
NO.	DATE	DESCRIPTION	DR/CK
1	05/01/2019	ADD NEW DRIVEWAY, FENCE, AND MOVE SUBSTATION CRUSHED STONE EDGE	MB/DJH
2	07/24/2019	ADDITIONAL ACCESS GATE	DJD/AEN
3	1/7/2019	CHANGES PER RIDEM COMMENTS	JEN/AEN

PROJECT FOR:
NATIONAL GRID
40 SYLVAN ROAD
WALTHAM, MASSACHUSETTS 02451

PROJECT:
WOONSOCKET SUBSTATION 26
76 GREENVILLE ROAD
ASSESSOR'S PLAT 9
LOTS 599, 633, 640 & 641
NORTH SMITHFIELD, RHODE ISLAND 02896

CONECO
Engineers & Scientists
 4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS 02324
 PHONE 508-697-3191 OR 800-548-3385; FAX 508-697-5986
 WEBSITE: www.coneco.com

DATE	09/22/2017
DESIGNED BY	DJD
CHECKED BY	DAH
DRAFTED BY	DJD
IN CHARGE	RTL
SCALE	1" = 40'
PROJECT NO.	6144.3
SHEET NO.	4



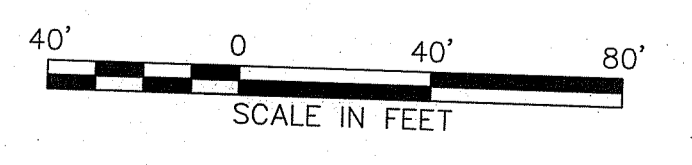
- NOTES:**
- TOTAL QUALIFYING PERVIOUS AREA (QPA)=118,656 S.F.
 - THE QUALIFYING PERVIOUS AREAS (QPAS) DEPICTED ON THE DRAWING ARE TO BE PROTECTED DURING AND AFTER CONSTRUCTION TO ENSURE PROPER FUNCTIONALITY. THESE SITE FEATURES ARE AN IMPORTANT COMPONENT OF THE ON-SITE STORMWATER MANAGEMENT SYSTEM DESIGN AND FUNCTIONALITY AND ARE TO BE OPERATED AND MAINTAINED ACCORDINGLY. THESE QPAS PERFORM FILTERING OF STORMWATER RUNOFF AND INFILTRATION OF THE RUNOFF INTO THE GROUND.
 - QPAS TREATED WITH CRUSHED STONE SHALL NOT BE UTILIZED FOR THE STORAGE OF CONSTRUCTION MATERIALS SUCH AS SAND, GRAVEL, LOAM, ETC., WHICH WOULD INHIBIT PERFORMANCE.
 - CRUSHED STONE QPAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REMOVED AND REPLACED WITH 6" OF CRUSHED STONE.
 - AREAS OF VEGETATION (BRUSH, MEADOW GRASSES, ETC.) DESIGNATED AS QPAS SHALL BE PROTECTED DURING CONSTRUCTION. VEGETATED QPAS THAT ARE DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED IN KIND, ENSURING THAT COMPACTED LOAMS ARE REMOVED AND REPLACED TO PROMOTE INFILTRATION. AREAS REQUIRING RECONSTRUCTION TO BE DETERMINED IN FIELD BY AN OWNER DESIGNATED WETLAND SCIENTIST OR BIOLOGIST.
 - POST CONSTRUCTION QPA OPERATION AND MAINTENANCE REQUIREMENTS ARE SUMMARIZED IN THE STORMWATER MANAGEMENT SYSTEM OPERATION, MAINTENANCE AND POLLUTION PREVENTION PLAN PROVIDED IN ADDENDUM 1 OF THE STORMWATER MANAGEMENT REPORT, DATED 9/22/2017.
 - THE QPAS DEPICTED ON THE PLAN ARE TO REMAIN INTACT UNLESS ADVANCE WRITTEN AUTHORIZATION TO REDEVELOP/REMOVE THESE AREAS IS GRANTED BY THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT.
 - QPAS TO REMAIN AS DESIGNATED UNDER THE PRESENT DESIGN AND NOT BUILT UPON. IF FUTURE EXPANSION IS DESIRED, THE OWNER WOULD BE REQUIRED TO SUBMIT AN APPLICATION TO RIDEM.
 - HERBICIDES ARE NOT PERMITTED TO BE USED IN ANY VEGETATED QPA.

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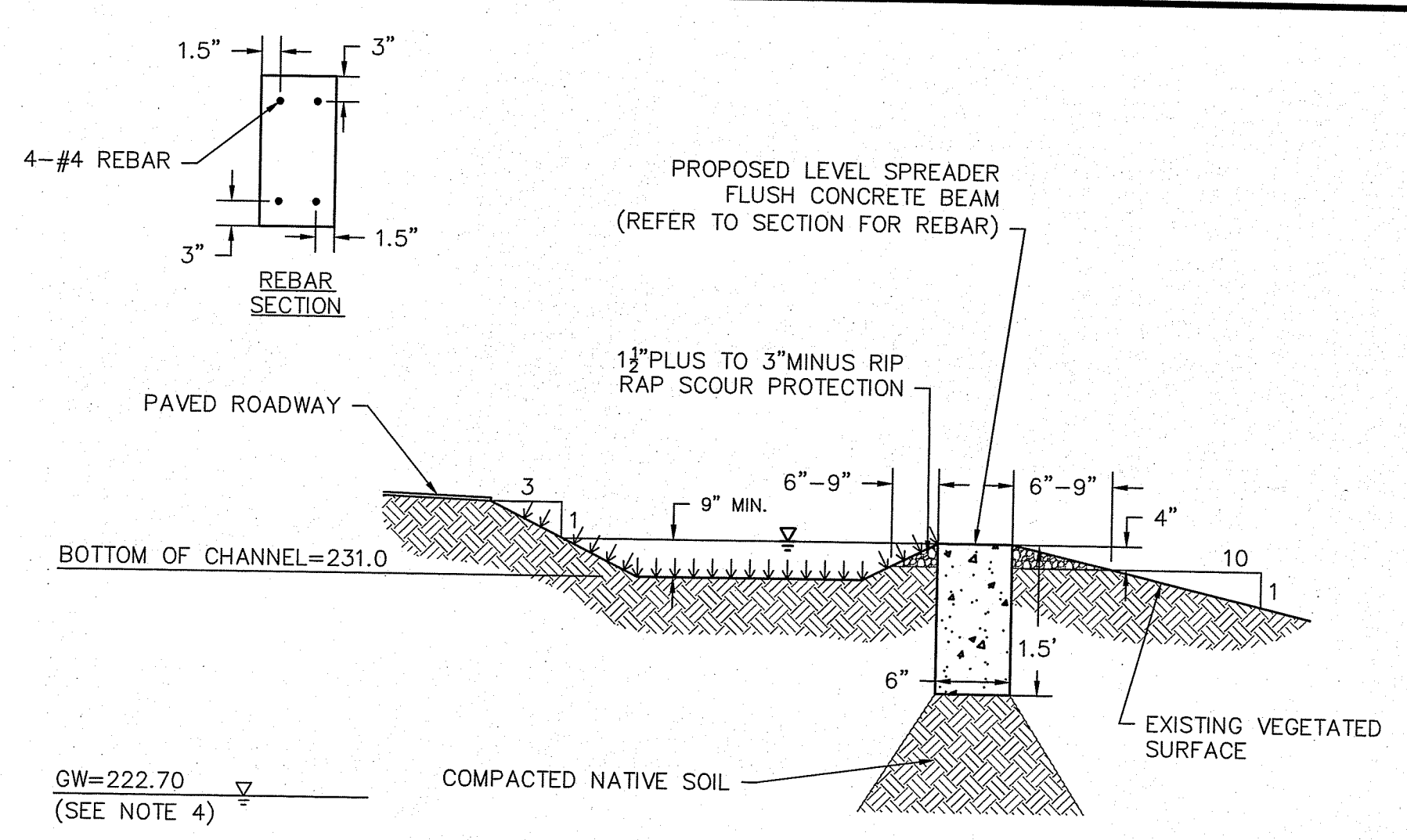
David A. Harrington
 JUN 21 2020

LEGEND

	QUALIFYING PERVIOUS AREA-VEGETATED
	QUALIFYING PERVIOUS AREA-CRUSHED STONE

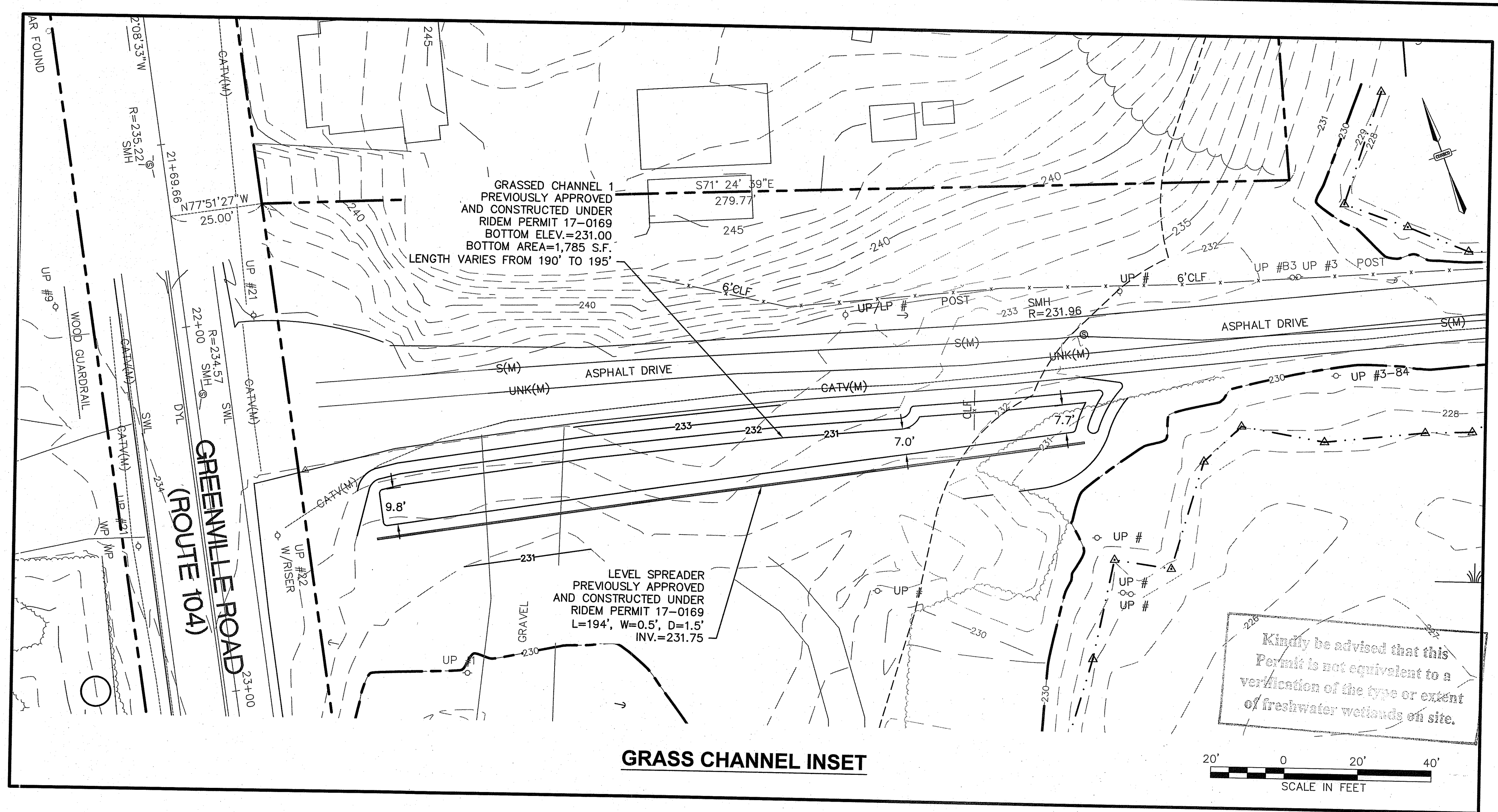


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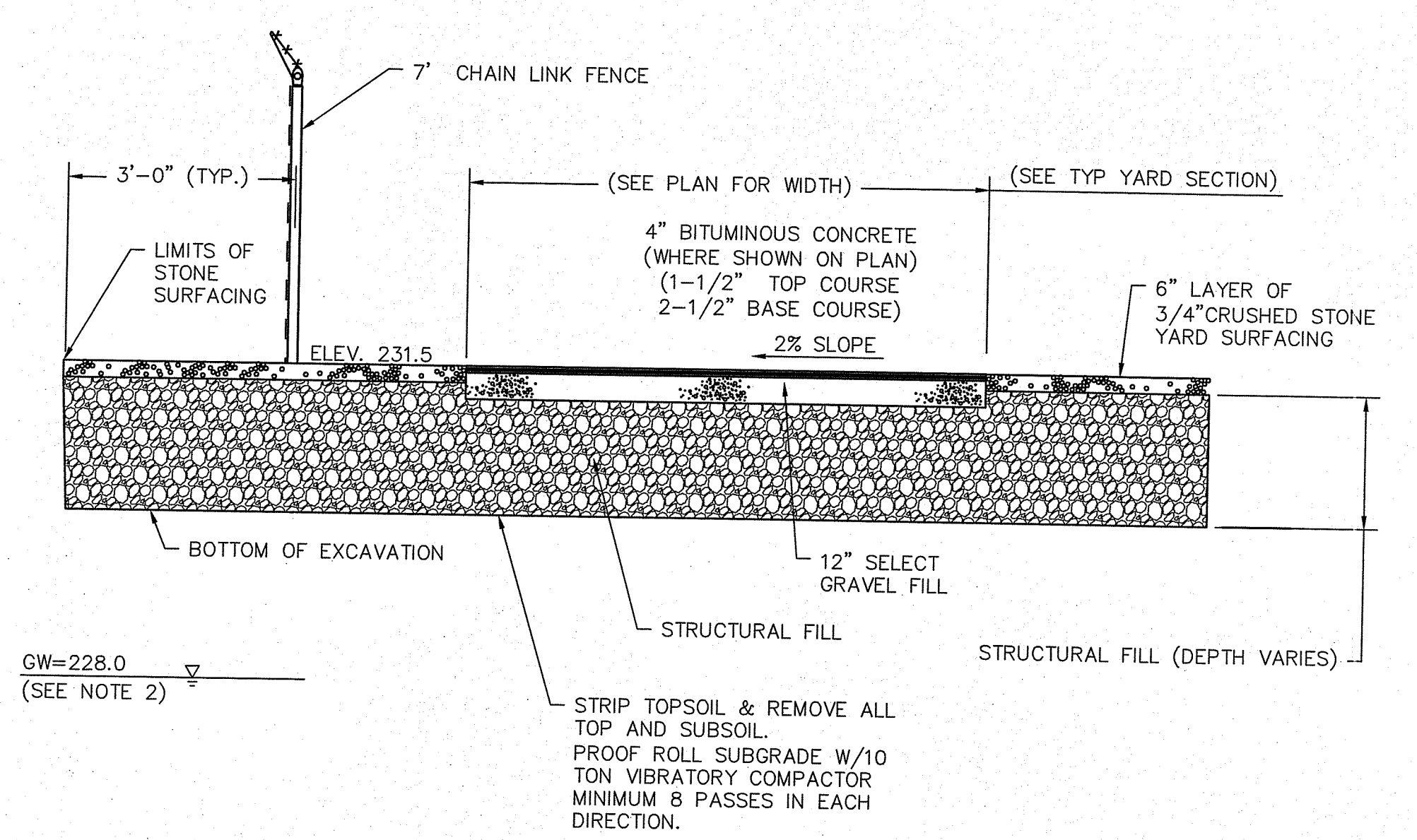


- GW=222.70
(SEE NOTE 4)
- NOTES:**
1. LEVEL SPREADER SHALL BE CONSTRUCTED AT A ZERO PERCENT GRADE ALONG THE LENGTH OF THE DISCHARGE LIP TO PROMOTE UNIFORM DISCHARGE ALONG THE ENTIRE LENGTH OF THE SPREADER.
 2. THE SPREADER SHALL DISCHARGE ONTO A WELL STABILIZED RECEIVING AREA, PREFERABLY UNDISTURBED VEGETATION, TO PREVENT EROSION.
 3. DISTURBED SLOPES SHALL BE STABILIZED USING AN EROSION CONTROL BLANKET, TREATED WITH A MINIMUM OF 4" OF LOAM AND SEED, NEW ENGLAND CONSERVATION/WILDLIFE MIX, AND DRESSED WITH STRAW MULCH.
 4. GROUNDWATER (GW) ELEVATION IS AN ASSUMED VALUE, BASED ON BORINGS PERFORMED ON SITE. ON SITE TEST BORING INFORMATION SHOWN HERE CAN BE FOUND IN "BORING LOGS FOR S171N T172N Q143S R144 TRANSMISSION LINES" MEMO DATED AUGUST 29, 2017 BY GZA GEOENVIRONMENTAL INC.
 5. GROUNDWATER TO BE CONFIRMED IN THE FIELD DURING CONSTRUCTION.

GRASSED CHANNEL WITH LEVEL SPREADER OUTLET PROTECTION
N.T.S.

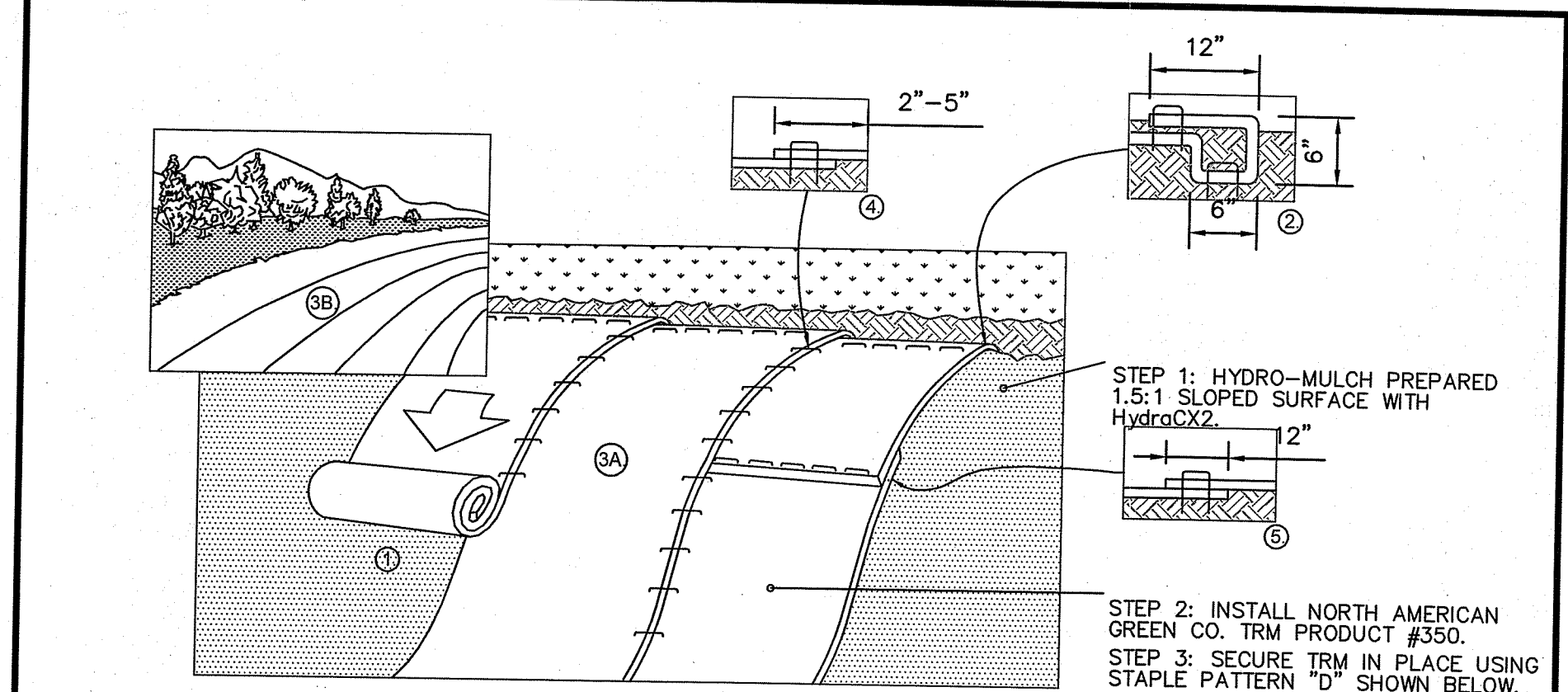


GRASS CHANNEL INSET



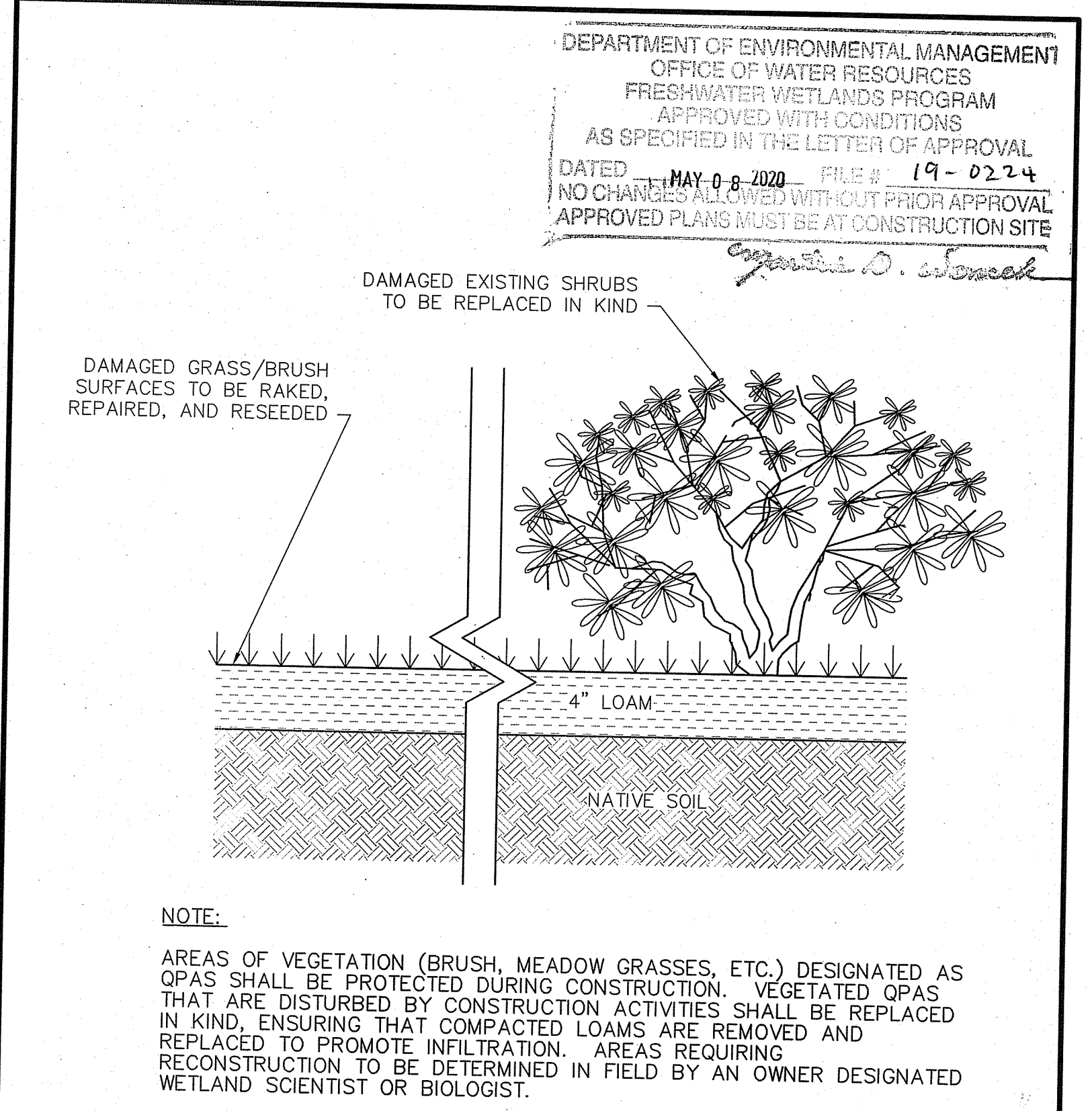
- GW=228.0
(SEE NOTE 2)
- NOTE:**
1. DETAIL TAKEN FROM NATIONAL GRID STANDARD DETAILS AND ADAPTED TO THIS SITE.
 2. GROUNDWATER (GW) ELEVATION IS AN ASSUMED VALUE, BASED ON TEST BORINGS PERFORMED ON SITE. ON SITE TEST BORING INFORMATION SHOWN HERE CAN BE FOUND IN "GEOTECHNICAL ENGINEERING REPORT, WOONSOCKET SUBSTATION 26 NORTH SMITHFIELD, RHODE ISLAND" DATED JUNE 2017 BY GZA GEOENVIRONMENTAL INC.
 3. GROUNDWATER TO BE CONFIRMED IN THE FIELD DURING CONSTRUCTION.

DRIVEWAY SECTION INSIDE YARD
N.T.S.

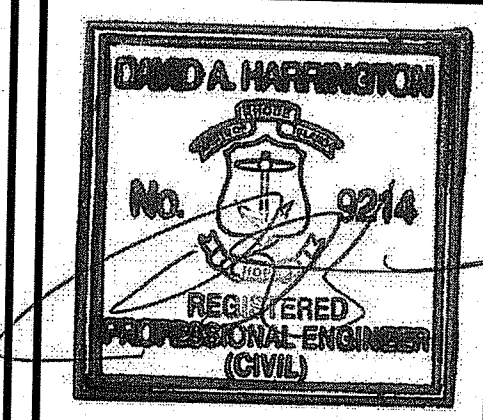


1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5cm-12.5cm) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5cm) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE BLANKET WIDTH.
6. THIS DETAIL WAS TAKEN FROM A NATIONAL GRID DETAIL.

EROSION CONTROL BLANKET DETAIL
N.T.S.



QUALIFYING PVIOUS AREA (QPA) VEGETATION RESTORATION
N.T.S.



NO.	DATE	DESCRIPTION	DR/OK
1	08/22/2017	CHANGES PER RIDEM COMMENTS	DJD/DAH
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3	07/24/2019	ADDITIONAL ACCESS GATE	DJD/DAH
4	10/11/2019	REVISED DETAIL	MWB/DAH

NATIONAL GRID
40 SYLVAN ROAD
WALTHAM, MASSACHUSETTS 02451

PROJECT: WOONSOCKET SUBSTATION 26
76 GREENVILLE ROAD
ASSESSOR'S PLAT 9
LOTS 599, 633, 640 & 641
NORTH SMITHFIELD, RHODE ISLAND 02896

DATE: MAY 08 2020 FILE # 19-0224
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PREPARED FOR: WOONSOCKET SUBSTATION 26
76 GREENVILLE ROAD
ASSESSOR'S PLAT 9
LOTS 599, 633, 640 & 641
NORTH SMITHFIELD, RHODE ISLAND 02896

PREPARED BY: DAVID A. HARRINGTON
REGISTERED PROFESSIONAL ENGINEER
(CIVIL)

SCALE: AS SHOWN

PROJECT NO. 6144.3

SHEET NO. 1 OF 2

DETAIL & NOTES SHEET

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
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CONNECO
Engineers & Scientists
4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS 02324
PHONE: 508-697-3181 OR 800-548-3355, FAX: 508-697-5998
WWW.CONNECO.COM

DATE: 07/12/2017

DESIGNED: DJD CHECKED: DAH

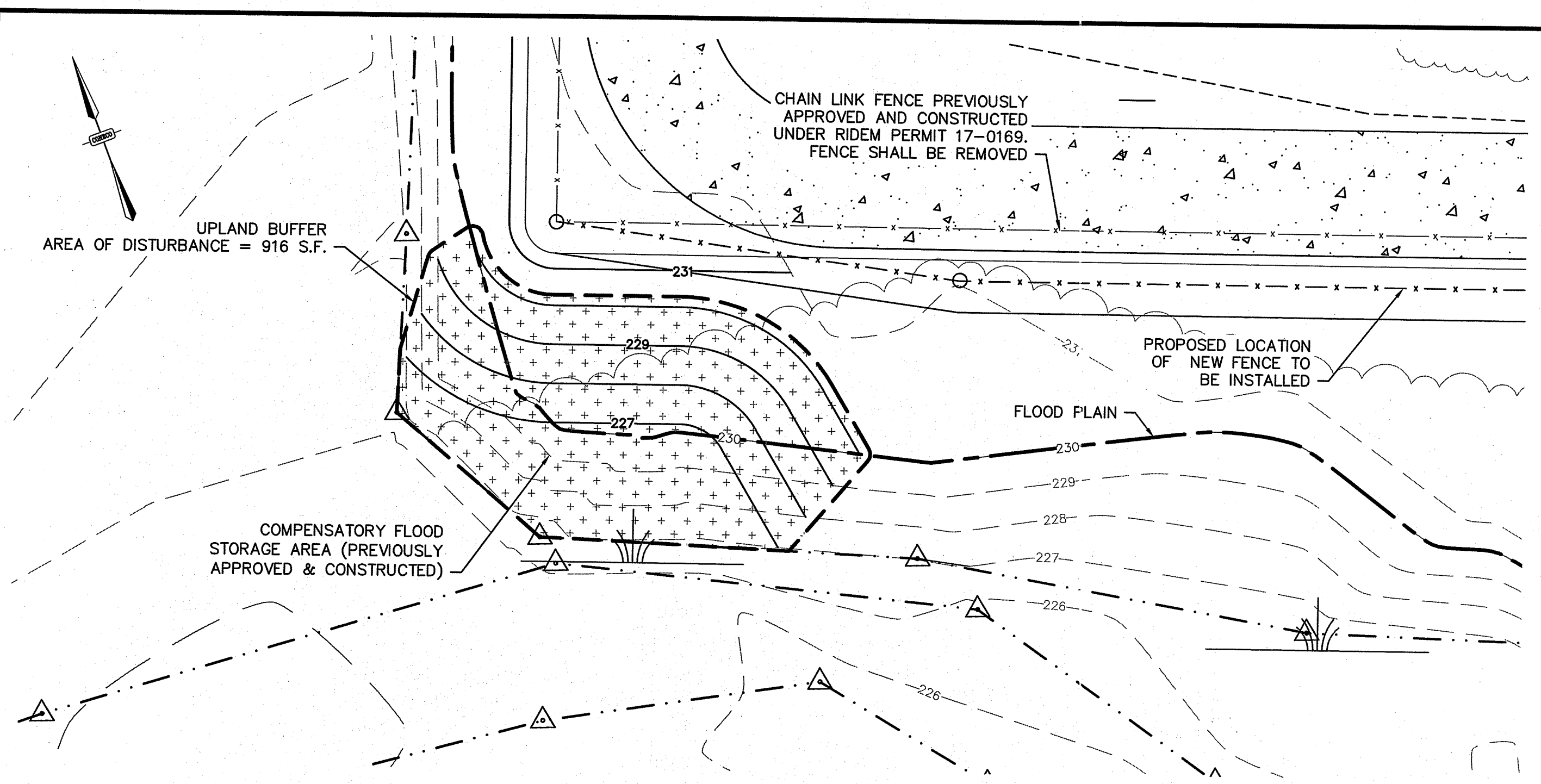
DRAFTED: DJD IN CHARGE: RTL

SCALE: AS SHOWN

PROJECT NO. 6144.3

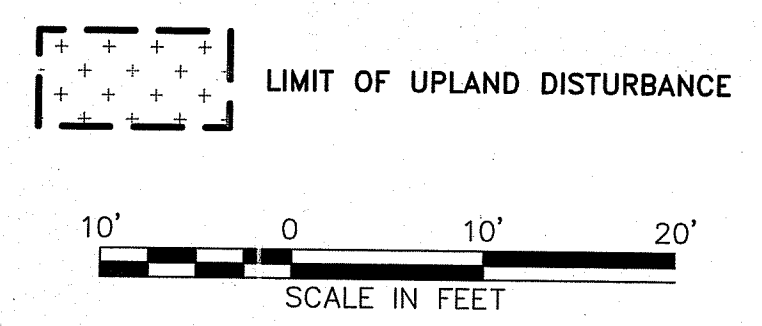
SHEET NO. 5

OF 06



COMPENSATORY FLOOD STORAGE INSET

COMPENSATORY FLOOD STORAGE		
INCREMENTAL ELEVATION	PROPOSED VOLUME OF FILLED FLOOD PLAIN (CF)	PROPOSED COMPENSATORY VOLUME (CF)
225 TO 226	154	0
226 TO 227	75	149
227 TO 228	236	313
228 TO 229	268	346
229 TO 230	392	360
TOTAL	1,126	1,168



100-YEAR COMPENSATORY FLOOD STORAGE EXCAVATION & RESTORATION NOTES:

1. THIS WORK IS BEING PERFORMED TO PROVIDE COMPENSATION FOR FLOOD STORAGE LOST DUE TO THE CONSTRUCTION OF NEW FOUNDATIONS FOR THE ELECTRICAL TRANSMISSION LINES WITHIN THE 100-YEAR FLOOD PLAIN.
2. ON-SITE ENVIRONMENTAL COMPLIANCE MONITORING WILL BE PERFORMED BY A QUALIFIED WETLAND SCIENTIST OR CPESC FROM TRC SOLUTIONS, INC.
3. TOTAL UPLAND AREA TO BE DISTURBED TO CREATE COMPENSATORY FLOOD STORAGE IS +/- 916 SQUARE FEET.
4. TOP SOIL WITHIN THIS AREA WILL BE STOCKPILED FOR REUSE IN RESTORATION.
5. CARE SHOULD BE TAKEN TO REMOVE, STORE, AND REPLANT EXISTING VEGETATION WHERE FEASIBLE.
6. AFTER ROUGH GRADE IS ACHIEVED, APPLY ONE (1) FOOT OF TOPSOIL TO THE UPLAND BUFFER AREA AND TAPER OFF TO MATCH ADJACENT ELEVATIONS.
7. PLANTINGS TO BE INSTALLED AFTER LOAM IS SPREAD. OPTIMAL PLANTING WINDOW IS FROM APRIL 1 TO MAY 15 AND SEPTEMBER 1 TO OCTOBER 15. PLANTING OUTSIDE THIS WINDOW MAY OCCUR UNDER SUITABLE ENVIRONMENTAL CONDITIONS AND THROUGH APPROVAL OF THE SUPERVISORY WETLAND SCIENTIST.
8. THE SUPERVISORY WETLAND SCIENTIST SHALL RESERVE THE RIGHT TO REJECT ACCEPTANCE OF THE PLANT SPECIES UPON DELIVERY BASED ON PLANT VIGOR/CONDITION/UNAUTHORIZED SUBSTITUTIONS AND/OR NON-COMFORMANCE WITH THE PLANTING PLAN AND SPECIFICATIONS.
9. INSTALL TREES AND SHRUBS (EXISTING IF SAVED OR MATCHING EXISTING).
10. APPLY NEW ENGLAND CONSERVATION/MILDLIFE MIX. APPLY MULCH FOLLOWING SEEDING.
11. PLANTINGS SHALL BE IRRIGATED AS NECESSARY TO PROMOTE SUCCESSFUL ESTABLISHMENT.
12. FOLLOWING CONSTRUCTION, TRC SOLUTIONS, INC. SHALL PROVIDE RIDEM A STATEMENT THAT RESTORATION HAS BEEN COMPLETED AND COLOR PHOTOGRAPHS OF THE ENTIRE AREA TO DOCUMENT THAT THE RESTORATION PLAN HAS BEEN FULLY IMPLEMENTED, BASED UPON AN 80% PLANTING / RE-VEGETATION SUCCESS RATE.

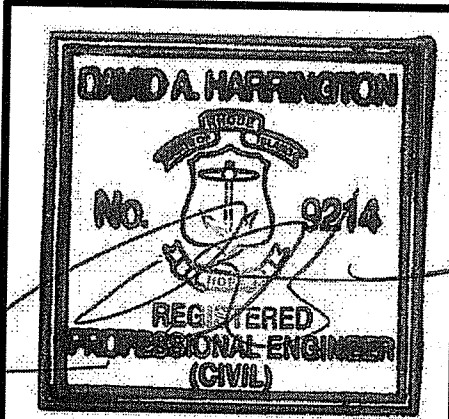
100-YEAR FLOOD IMPACT AVOIDANCE NOTES:

1. THE 100-YEAR FLOOD ELEVATION OF 230 FT. WAS PROVIDED BY RIDEM.
2. TOTAL 100-YEAR FLOOD PROJECT IMPACT IS 1,126 CUBIC FEET, WHICH IS THE RESULT OF TRANSMISSION LINE POLE REPLACEMENTS WITHIN THE EXISTING FLOOD PLAIN.
3. THE PROPOSED SUBSTATION EXPANSION DOES NOT IMPACT THE 100-YEAR FLOOD PLAIN.
4. THE COMPENSATORY STORAGE IS PROPOSED IN AN AREA ADJACENT TO A PREVIOUSLY DISTURBED AREA THAT WILL BE REDEVELOPED AS PART OF THIS PROJECT.
5. THE PROPOSED COMPENSATORY FLOOD STORAGE IS IN AN AREA THAT ALLOWS THE PROJECT TO GRADE DOWN TO ELEVATION 227 WITHOUT DISTURBING WETLANDS, WHILE LIMITING TREE DISTURBANCE.
6. THE COMPENSATORY STORAGE WAS CALCULATED USING THE AVERAGE END AREA METHOD WHICH IS A METHOD FOR CALCULATING MATERIAL AREAS UTILIZING THE AREA OF THE TWO ENDS AND THE PERPENDICULAR DISTANCE BETWEEN THE TWO AREA-FACES.
7. THE PROPOSED EXPANSION OF THE SUBSTATION DOES NOT ALTER THE 100 YEAR FLOOD PLAIN. FLOOD PLAIN IMPACTS ARE THE RESULT OF PROPOSED TRANSMISSION LINE POLE FOUNDATION REMOVALS AND INSTALLATIONS.
8. WITH A FLOOD PLAIN VOLUME LOSS OF 1,126 CUBIC FEET AND A COMPENSATORY STORAGE VOLUME 1,168 CUBIC FEET, THE RESULTING GAIN IN FLOOD STORAGE IS 42 CUBIC FEET; THEREFORE THE PROJECT DOES NOT ADVERSELY IMPACT THE 100-YEAR FLOOD PLAIN.

100-YEAR COMPENSATORY FLOOD STORAGE NOTES & DETAILS

Kindly be advised that this Permit is not equivalent to verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED MAY 08 2020 FILE # 19-0224
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



NO.	DATE	DESCRIPTION	DR/CK
2	05/07/2019	ADD NEW TRANSMISSION LINE POLE FOUNDATION CAUSED STAKE ENDS	MWB/DAH
3	07/24/2019	ADDITIONAL ACCESS GATE	D/D/EN
5	1/3/2019	CHANGES PER RIDEM COMMENTS	JEN/JEN

NATIONAL GRID
40 SYLVAN ROAD
WALTHAM, MASSACHUSETTS 02451

DETAIL & NOTES SHEET
2 OF 2

PROJECT: WOONSOCKET SUBSTATION 26
76 GREENVILLE ROAD
ASSESSOR'S PLAT 9
LOTS 639, 633, 640 & 641
NORTH SMITHFIELD, RHODE ISLAND 02896

PLAN SET: GRADING & DRAINAGE PLANS

CONECO
Engineers & Scientists
4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS 02224
PHONE 508-697-3191 OR 800-548-1355 FAX 508-697-5966
WEBSITE: www.coneco.com

DATE	09/22/2017
DESIGNED: DJD	CHECKED: DAH
DRAFTED: DJD	IN CHARGE: RTL
SCALE:	AS SHOWN
PROJECT NO.	6144.3
SHEET NO.	6

OF 06