FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	1	32

INDEX

BRIDGE PLANS

HIGHWAY PLANS

STATE OF RHODE ISLAND

DEPARTMENT OF TRANSPORTATION

DESIGN / BUILD SERVICES FOR REPLACEMENT OF

FALLS RIVER BRIDGE AND APPROACHES

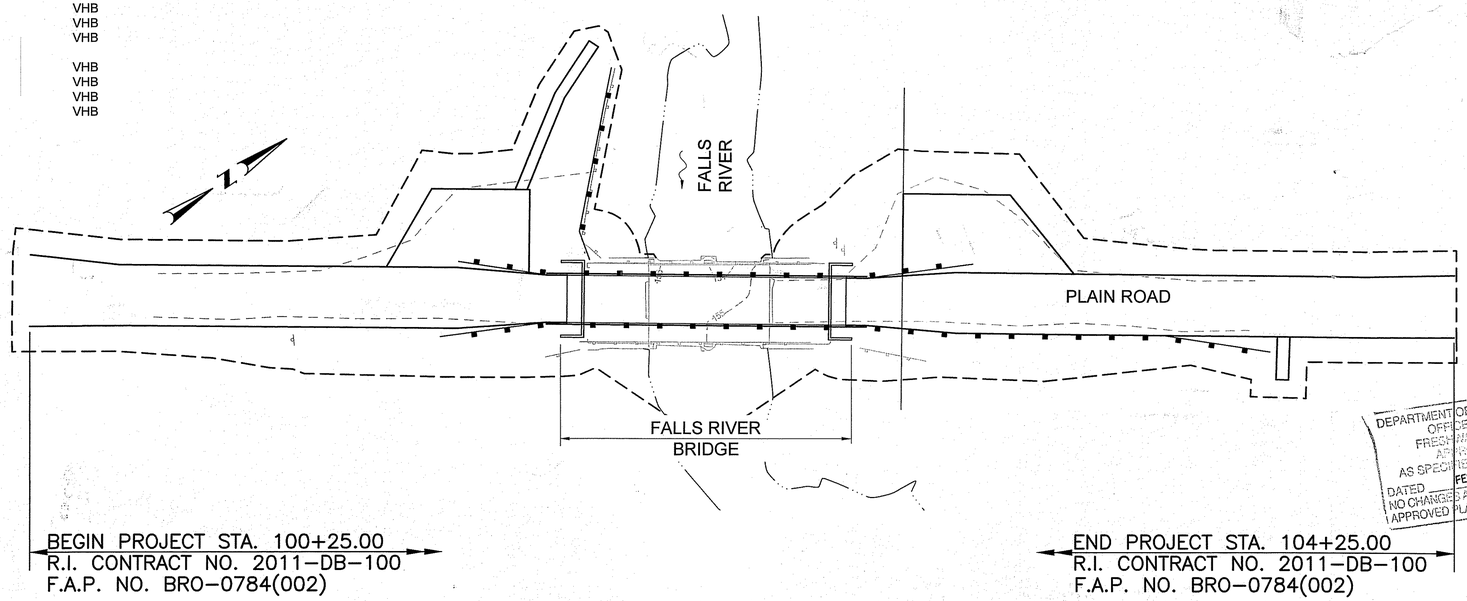
BRIDGE NO. 128401 (EXISTING 784)

EXETER

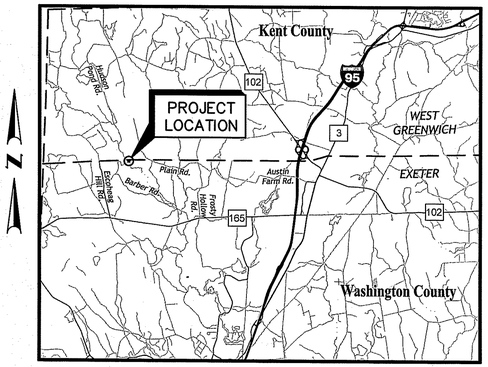
WASHINGTON COUNTY

R.I. CONTRACT NO. 2011-DB-100 F.A. PROJECT NO. BRO-0784(002)

0.08 MILES



PLAN
SCALE:1"=20'-0"



LOCATION MAP
SCALE: 1"=10000'

TRAFFIC DESIGN DATA

2015 AADT	20 V.P.D.
2035 AADT	25 V.P.D.
D	50%
K	25%
T	2%
2013 DHV	5 V.P.H.
2033 DHV	6 V.P.H.
DESIGN SPEED	25 M.P.H.

JEFFREY T. KLEIN — No. 9718 — 12/18/15 — REGISTERED PROFESSIONAL ENGINEER (CIVIL)
VHB PLANS

MATTHEW J. PAGE — No. 9448 — 12/18/15 — REGISTERED PROFESSIONAL ENGINEER (CIVIL)
GZA PLANS

PERMIT SUBMISSION
DECEMBER 2015

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
AS NOTED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
FEB 12 2016 FILE # 16-0001 R.I.
DATED
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

DEPARTMENT OF TRANSPORTATION
APPROVED
DEPUTY CHIEF ENGINEER — DATE
APPROVED
CHIEF ENGINEER — DATE
APPROVED
DIRECTOR — DATE

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ADMINISTRATOR — DATE

R.I. STANDARD SPECIFICATIONS AND STANDARD DETAILS

SPECIFICATIONS TO GOVERN THIS PROJECT ARE THE R.I. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2010, AND THE STATE AND FEDERAL SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS. STANDARD DETAILS FOR THIS PROJECT ARE R.I. STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.

SCALES OF DRAWINGS
AS SHOWN

BASE OF LEVELS
VERTICAL DATUM NAVD 88
HORIZONTAL DATUM NAD 83 (2011) (EPOCH: 2010.0000)

NORTHERN CONSTRUCTION SERVICE, LLC — vhb — GZA

Contract Number 2011-DB-100
Number of Sheet 1
Total Sheets 31

0163K_V1_001_COVER

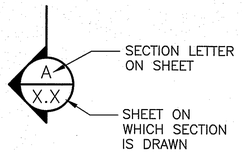
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	2	32

LIST OF ABBREVIATIONS

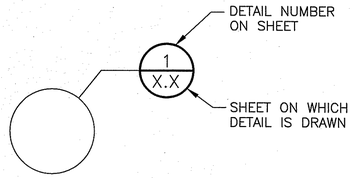
ABUTMENT	= ABUT.
ALTERNATE	= ALT.
AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	= AASHTO
ANCHOR BOLT	= A.B.
APPROVED	= APPD.
APPROXIMATE	= APPROX.
AT	= @
AVERAGE	= AVG.
BASELINE OF CONSTRUCTION	= ℄
BEAM	= BM.
BACK TO BACK	= B TO B
BETWEEN	= BTWN
BEARING	= BRG.
BITUMINOUS	= BIT.
BUILDING	= BLDG.
BUILDING LINE	= B.L.
BOLT CIRCLE	= B.C.
BOTH SIDES	= B.S.
BOTTOM	= BOT.
CENTER TO CENTER	= C TO C
CENTERLINE	= ℄
CIRCLE	= CIR.
CLEARANCE	= CLR. CL.
COLUMN	= COL.
COMPOST FILTER SOCK	= CFS
CONCRETE	= CONC.
CONCRETE MASONRY UNIT	= CMU
CONDUIT	= COND.
CONNECTION	= CONN.
CONSTRUCTION	= CONST.
CONTRACTION	= CONTR.
COUNTERSINK	= CSK.
COUPLING	= CPLG.
CROSS DIRECTION	= CD
DEFLECTION MONITORING POINT	= DMP
DETAIL	= DET.
DIAGONAL	= DIAG.
DIAPHRAGM	= DIAPHM.
DIAMETER	= DIA.
DIMENSION	= DIM.
DRAWING	= DWG.
DRAIN	= DR.
DRILL & GROUT	= D&G
EACH	= EA.
EACH FACE	= E.F.
EACH WAY	= E.W.
EAST EASTBOUND	= E.
EDGE OF ROADWAY	= E.O.R.
ELEVATION	= EB.
EXISTING	= EL.
EQUAL	= EXIST.
EXPANSION	= EQ.
	= EXP.
FAR FACE	= F.F.
FAR SIDE	= F.S.
FABRICATE	= FAB.
FACE TO FACE	= F TO F
FLANGE	= FLG.
FLAT HEAD	= F.H.
FOOTING	= FTG.
FOUNDATION	= FDN.
FURNISH, FABRICATE & ERECT	= F.F. & E.
GAGE	= GA.
GALVANIZE	= GALV.
GEOSYNTHETIC REINFORCED SOIL	= GRS
GRADE	= GR.
GRATING	= GRTG.
GROUND	= GND.
GLASS FIBER REINFORCED CONCRETE	= GFRC

HIGH DENSITY POLYETHYLENE	= HDPE
HEIGHT	= HGT., HT.
HEXAGON	= HEX.
HORIZONTAL	= HORIZ.
IBS	= INTEGRATED BRIDGE SYSTEM
INCH	= IN.
INFORMATION	= INFO.
INSIDE DIAMETER	= I.D.
INVERT	= INV.
JOINT	= JT.
LENGTH	= LGTH.
LIGHTING	= LTG.
LONG	= LG.
LOAD AND RESISTANCE FACTOR DESIGN	= L.R.F.D.
MACHINE DIRECTION	= MD
MATERIAL	= MATL.
MAXIMUM	= MAX.
MEAN HIGH WATER	= M.H.W.
MEAN SEA LEVEL	= M.S.L.
MINIMUM	= MIN.
MISCELLANEOUS	= MISC.
NEAR FACE	= N.F.
NEAR SIDE	= N.S.
NORTH	= N.
NOT TO SCALE	= N.T.S.
NUMBER	= NO.
NOT IN CONTRACT	= N.I.C.
ON CENTER	= O.C.
OPENING	= OPNG.
OUTSIDE DIAMETER	= O.D.
OPTIONAL	= OPT.
OVERHEAD WIRE	= O.H.W.
OPPOSITE	= OPP.
PEDESTRIAN	= PED.
PLATE	= PL, ℙ
POINT OF VERTICAL CURVATURE	= P.V.C.
POINT OF VERTICAL TANGENCY	= P.V.T.
POLYVINYL CHLORIDE	= PVC
POINT	= PT.
POINT OF TANGENCY POUNDS	= P.T.
POUNDS PER SQUARE INCH	= P.S.I.
POUNDS PER SQUARE FOOT	= P.S.F.
PRECAST	= P/C
PRESTRESSED	= P/S
PROFILE GRADE LINE	= PGL
RADIUS	= RAD.
RAILROAD	= RR.
REQUIRED	= REQD.
REINFORCED SOIL FOOTING	= RSF
REINFORCING	= REINF.
REHABILITATION	= REHAB.
REMOVE & DISPOSE	= R & D
RHODE ISLAND	= R.I.
RIGID STEEL	= R.S.
ROAD WEATHER INFORMATION SYSTEM	= RWIS

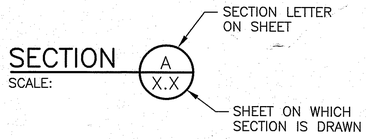
SECTION	= SECT.
SCHEDULE	= SCH.
SCHEMATIC	= SCHEM.
SHEET	= SH., SHT.
STAY-IN-PLACE	= SIP
SPACES	= SP.
SPACING	= SPC.
STATION	= STA.
STAINLESS STEEL	= S.S.
STIFFENER	= STIFF.
SYMMETRICAL	= SYM.
TEMPORARY	= TEMP.
TOP	= T
TOP AND BOTTOM	= T & B
TYPICAL	= TYP.
TUBE SECTION	= TS
VARIES	= VAR.
VERTICAL CURVE	= V.C.
VERTICAL	= VERT.
WELDED WIRE FABRIC	= W.W.F.
WEST	= W.
WITH	= W/
WIDE FLANGE	= W
WORKING POINT	= W.P.



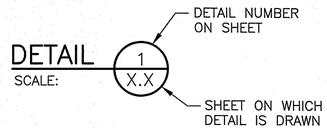
SECTION MARK



DETAIL MARK



SECTION TITLE



DETAIL TITLE

SECTION & DETAIL DESIGNATIONS

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED FEB 12 2016 FILE # 16-0001
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR REPLACEMENT OF FALLS RIVER BRIDGE
EXETER, RHODE ISLAND

BRIDGE DRAWING ABBREVIATIONS

CHECKED BY _____ DATE 11/4/15 SCALE NO SCALE

NORTHERN CONSTRUCTION SERVICE, LLC
vhb PROVIDENCE, RHODE ISLAND
GZA

9500A_FR_002_INDEX_ABBR

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	3	32

GENERAL NOTES

1. ALL CONSTRUCTION INDICATED ON THESE PLANS SHALL BE IN ACCORDANCE WITH:

   * THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2010 INCLUDING ALL REVISIONS OR SUPPLEMENTS UP TO YEAR 2015.

   * THE 2007 EDITION OF THE STATE OF RHODE ISLAND DEPARTMENT OF TRANSPORTATION LRFD BRIDGE DESIGN MANUAL, INCLUDING ALL REVISIONS OR SUPPLEMENTS UP TO YEAR 2015.

   * AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, 3RD EDITION, INCLUDING LATEST INTERIMS. THE SPECIFICATIONS ACCOMPANYING THESE PLANS.

   IN CASE OF CONFLICT BETWEEN THE PLANS, SPECIFICATIONS OR MANUAL LISTED ABOVE, THE SPECIAL PROVISIONS OF THE SPECIFICATIONS ACCOMPANYING THESE PLANS SHALL GOVERN.

2. DIMENSIONS, STATIONS, AND ELEVATIONS ARE SHOWN TO THE NEAREST ONE-HUNDREDTH OF A FOOT OR ONE-EIGHTH OF AN INCH, EXCEPT STRUCTURAL STEEL DIMENSIONS WHICH ARE TO THE NEAREST ONE-SIXTEENTH OF AN INCH.
3. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
4. ANGLES ARE SHOWN TO THE NEAREST SECOND.
5. ALL ABUTMENTS AND WALLS ARE DRAWN LOOKING AT THE EXPOSED FACES.
6. ALL ITEMS NOT REFERENCED FOR MODIFICATION WILL BE "EXISTING TO REMAIN" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
7. ANY STRUCTURAL MEMBERS THAT ARE TO REMAIN IN USE BUT ARE DAMAGED DURING DEMOLITION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, TO THE ENGINEER'S SATISFACTION.
8. ANY DAMAGE TO EXISTING STATE OR PRIVATE PROPERTY CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST THE STATE.
9. THE CONTRACTOR SHALL PLACE ALL EQUIPMENT AND MATERIAL IN HIS FIELD YARD OR AT THE APPROVED LOCATIONS SHOWN ON THE CONSTRUCTION STAGING PLAN. ANY REQUEST TO USE AN ALTERNATIVE LOCATION MAY BE SUBJECTED TO APPROVAL BY RIDEM. SUCH APPROVAL SHALL BE OBTAINED AT THE EXPENSE OF THE CONTRACTOR THROUGH COORDINATION WITH THE RIDOT NATURAL RESOURCES UNIT PRIOR TO APPROVAL BY THE RIDOT ENGINEER. THE EQUIPMENT AND MATERIAL SHALL BE PLACED IN A STORAGE AREA SO AS NOT TO CAUSE A SAFETY HAZARD.
10. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL ELEVATIONS, DIMENSIONS, DETAILS, ANGLES, STRUCTURAL MEMBER SIZES, AND LAYOUTS AS SHOWN ON THESE PLANS. THIS PRIOR FIELD VERIFICATION IS ESPECIALLY PERTINENT FOR PRE-FABRICATED STRUCTURAL ITEMS AND WORK IN THE VICINITY OF UTILITIES.
11. THE CONTRACTOR SHALL TAKE THE PROPER PRECAUTION TO ENSURE THE STABILITY OF ALL STRUCTURAL ELEMENTS DURING ALL PHASES OF CONSTRUCTION UNTIL THE TOTAL STRUCTURE IS IN PLACE.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION WITH UTILITY COMPANIES.
13. COORDINATES USED ON THESE PLANS ARE BASED ON THE STATEWIDE COORDINATE SYSTEM, THE NORTH AMERICAN DATUM OF 1983 (NAD 83).
14. TOPOGRAPHIC CONDITIONS WERE OBTAINED FROM AERIAL PHOTOGRAMMETRY. ACCURACY OF VERTICAL TOPOGRAPHY IS WITHIN 10% OF ONE-HALF THE CONTOUR INTERVAL.
15. FOR* BENCH MARKS AND TIES SEE HIGHWAY LOCATION PLANS.
16. ALL WORKING POINTS ARE SHOWN AT THE CENTERLINES OF ABUTMENT BEARINGS, UNLESS OTHERWISE NOTED.
17. CONTRACTOR SHALL SECURE ALL WORK AREAS AT ALL TIMES TO PREVENT UNAUTHORIZED ACCESS.
18. NO IN-WATER WORK IS ALLOWED BETWEEN MARCH 20 AND JUNE 20 AND/OR BETWEEN SEPTEMBER 20 AND DECEMBER 20 OF ANY CALENDAR YEAR. ANY IN-WATER WORK PROPOSED PRIOR TO JULY 1 IN ANY CALENDAR YEAR SHALL REQUIRE WRITTEN APPROVAL FROM ACOE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL REQUIRED PERMITS AND APPROVALS, AT NO COST TO THE STATE, AND THROUGH COORDINATION WITH THE RIDOT NATURAL RESOURCES UNIT.
19. THE BRIDGE IS LOCATED WITHIN A ZONE A FLOODPLAIN AS SHOWN ON FEMA FIRM PANEL FM44009C0055H EFFECTIVE DATE OCTOBER 19, 2010. ZONE A FLOODPLAINS ARE AREAS SUBJECT TO THE 1 PERCENT ANNUAL CHANCE FLOOD WITH NO BASE FLOOD ELEVATION DETERMINED.
20. DEWATERING BASIN LOCATIONS ARE SHOWN ON THE CONSTRUCTION STAGING PLAN. ANY REQUEST TO USE AN ALTERNATIVE LOCATION MAY BE SUBJECT TO APPROVAL BY RIDEM.
21. CONTRACTOR SHALL CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO STARTING THE WORK TO VERIFY LOCATIONS OF EXISTING UTILITIES.

DESIGN DATA

DESIGN SPECIFICATIONS:

* THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION, 2014.
* THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL, 2007, INCLUDING ALL REVISIONS OR SUPPLEMENTS UP TO YEAR 2015.
* ALL OTHER APPLICABLE DESIGN SPECIFICATIONS ARE REFERENCED IN SECTION 1 OF THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL DATED 2010.
* THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2010 INCLUDING ALL REVISIONS OR SUPPLEMENTS UP TO YEAR 2015.
* IN CASE OF CONFLICT, THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL SHALL GOVERN.

LOAD MODIFIERS:

THE LOAD MODIFIERS FOR THIS PROJECT ARE AS FOLLOWS:

* THE LOAD MODIFIER FOR DUCTILITY SHALL BE TAKEN AS 1.0 FOR ALL LIMIT STATES.
* THE LOAD MODIFIER FOR REDUNDANCY SHALL BE TAKEN AS 1.0
* THE LOAD MODIFIER FOR OPERATIONAL IMPORTANCE SHALL BE TAKEN AS 1.0

LOAD FACTORS:

ALL LOAD FACTORS SHALL BE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, EXCEPT AS MODIFIED IN THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL

* THE LOAD FACTOR FOR LIVE LOAD FOR THE EXTREME EVENT I SHALL BE TAKEN AS ZERO.
* THE LOAD FACTOR FOR DEAD LOAD FOR THE EXTREME EVENT I AND EXTREME EVENT II SHALL BE TAKEN AS 1.0.
* THE LOAD FACTOR FOR SETTLEMENT FOR ALL LIMIT STATES SHALL BE TAKEN AS 1.0

LIVE LOADS:

* THE DESIGN VEHICULAR LIVE LOAD SHALL BE THE HL-93 DESIGNATION ADJUSTED FOR THE DYNAMIC LOAD ALLOWANCE AND MULTIPLE PRESENCE FACTOR.
* RHODE ISLAND LEGAL LOADS.

WIND LOADING DESIGN DATA:

THE WIND LOADING DESIGN SHALL BE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL, AND AS MODIFIED HEREIN.

* EXCEPT DURING CONSTRUCTION, THE DESIGN WIND PRESSURE IS BASED ON A DESIGN WIND SPEED OF 120 MPH.
* THE DESIGN WIND PRESSURES DURING CONSTRUCTION SHALL BE AS SPECIFIED UNDER THE NOTES TITLED "GENERAL NOTES REGARDING TEMPORARY CONSTRUCTION CONDITIONS".

TRAFFIC DATA:

SEE COVER SHEET

THERMAL DESIGN FORCE DATA:

UNIFORM TEMPERATURE EFFECTS HAVE BEEN TAKEN INTO CONSIDERATION IN ACCORDANCE WITH THE PROCEDURE B OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE MINIMUM DESIGN TEMPERATURE SHALL BE -10 DEGREES F, AND THE MAXIMUM TEMPERATURE SHALL BE 105 DEGREES F.

SEISMIC DESIGN DATA:

* UNDER 2009 AASHTO LRFD INTERIM, THE SEISMIC CLASSIFICATION IS SEISMIC ZONE 1.

HYDRAULIC DATA

DRAINAGE AREA – SQ. MI. : 17.12

BASIC FLOOD DATA

DISCHARGE Q (100 YEAR) – CFS: 1,300
HIGH WATER ELEVATION – FT: 161.4 (NAVD 88)

FOUNDATION DESIGN DATA:

GRS-IBS BRIDGE ABUTMENTS:

BRIDGE ABUTMENTS DESIGNED IN ACCORDANCE WITH FEDERAL HIGHWAY ADMINISTRATION GEOSYNTHETIC REINFORCED SOIL-INTEGRATED BRIDGE SYSTEM (GRS-IBS) IMPLEMENTATION GUIDE, JANUARY 2011 AND THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, 2004.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL 16-0001
DATED FEB 12 2016 FILE #
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

JAN 8 2016

REVISIONS		
NO.	DATE	BY

NORTHERN CONSTRUCTION SERVICE, LLC
vhb PROVIDENCE, RHODE ISLAND
GZA

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR
REPLACEMENT OF
FALLS RIVER BRIDGE
EXETER, RHODE ISLAND

JOB SPECIFIC
GENERAL NOTES 1

CHECKED BY _____ DATE 11/4/15 SCALE NO SCALE

9500A_FR_003_JSBRGNOTE01

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	4	32

MATERIALS

STRUCTURAL STEEL:

* AASHTO DESIGNATION M 270 (ASTM DESIGNATION A 709) GRADE 50.

REINFORCING STEEL:

* AASHTO DESIGNATION M 31 (ASTM DESIGNATION A 615) GRADE 60.
* ASTM DESIGNATION A706 GRADE 60

CONCRETE:

* CLASS HP ($\frac{3}{4}$") f'c = 5,000 PSI PRECAST BRIDGE SEATS
* CLASS XX ($\frac{3}{4}$") f'c = 4,000 PSI APPROACH RAILING SLEEVE CONCRETE
* CONCRETE MASONRY UNIT (CMU) BLOCKS USED IN GRS ABUTMENTS SHALL BE CAST WITH 4,000 PSI CONCRETE AND HAVE A WATER ABSORPTION LIMIT 5%.

TIMBER:

* SOUTHERN PINE, NO.1

GRS GEOSYNTHETICS:

* MIRAFI HP 570 BIAXIAL WOVEN POLYPROPYLENE, ULTIMATE WIDE WIDTH TENSILE STRENGTH = 4,800 PSF (MD & CD)

CONCRETE NOTES

1. CLASSES OF CONCRETE SHALL BE XX AND HP AS DESCRIBED IN THE LATEST REVISION OF TABLES (1) AND (2) UNDER SECTION 601 "PORTLAND CEMENT CONCRETE" OF THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE SPECIAL PROVISIONS OF THE SPECIFICATIONS.
2. THE CONTRACTOR MAY, AT THE APPROVAL OF THE ENGINEER, PROPOSE THE USE OF SELF-CONSOLIDATING CONCRETE FOR ANY CLASS OF CONCRETE ON THIS PROJECT. SECTION 606 "SELF CONSOLIDATING CONCRETE (SCC)", CONTAINS THE REQUIREMENTS FOR MODIFYING ALL CLASSES OF CONCRETE MIX DESIGN FOR SELF-CONSOLIDATING APPLICATIONS.
3. ALL PORTLAND CEMENT CONCRETE SHALL BE AIR-ENTRAINED PORTLAND CEMENT CONCRETE.
4. UNLESS OTHERWISE NOTED, ALL REINFORCING STEEL SHALL BE GALVANIZED. ALL WIRE TIES AND MISCELLANEOUS HARDWARE USED FOR PLACEMENT OF GALVANIZED REINFORCING SHALL BE NON-METALIC. REINFORCING STEEL SHALL BE GALVANIZED PER ASTM A767 CLASS I (GALVANIZED STEEL).
5. ALL LAP SPLICES NOT SHOWN ON THE PLANS SHALL BE LAPPED IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR CLASS C LAP SPLICES.
6. UNLESS OTHERWISE SPECIFIED ALL REINFORCING BARS SHALL HAVE THE FOLLOWING MINIMUM COVER:

	MINIMUM COVER
PRECAST CONCRETE	2"

7. UNLESS OTHERWISE NOTED ON THE PLANS, ALL ANCHOR BOLTS SHALL BE ASTM DESIGNATION A 307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO DESIGNATION M 232 OR METALIZED IN ACCORDANCE WITH SECTION M.05. SWEDGED RODS SHALL BE AASHTO DESIGNATION M 270 GRADE 36 AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO DESIGNATION M 232.
8. ALL ANCHOR BOLTS SHALL BE SET BY TEMPLATES PRIOR TO PLACEMENT OF CONCRETE UNLESS OTHERWISE INDICATED ON THE PLANS OR AS AUTHORIZED BY THE ENGINEER.
9. HORIZONTAL CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON PLANS WILL NOT BE PERMITTED WITHOUT A WRITTEN REQUEST BY THE CONTRACTOR AND PRIOR AUTHORIZATION BY THE ENGINEER.
10. THE ENTIRE TOPSIDE SURFACES OF ABUTMENT SEATS SHALL BE PROVIDED WITH A FILM-FORMING SEALER (M12.03.1) CONCRETE SURFACE TREATMENT-PROTECTIVE COATING IN ACCORDANCE WITH SECTION 820 OF THE RI STANDARD SPECIFICATIONS.
11. ALL EXPOSED EDGES AND REENTRANT CORNERS NOT OTHERWISE DETAILED ON THE PLANS SHALL HAVE A MINIMUM $\frac{3}{4}$" CHAMFER.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING CONCRETE STAINS OR DISCOLORATIONS DURING CONSTRUCTION UNTIL SUCH TIME AS THE SURFACES ARE APPROVED AND ACCEPTED BY THE ENGINEER. ANY CONCRETE STAINS OR DISCOLORATIONS OCCURRING PRIOR TO ACCEPTANCE OF THE SURFACES SHALL BE REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.

CONCRETE NOTES (CONTINUED)

13. ALL JOINT SEALANT SHALL BE POLYURETHANE, POLYURETHANE ELASTOMERIC, OR SILICONE SEALANT AS DESIGNATED ON THE PLANS. THE COLOR OF THE JOINT SEALANT, WHERE EXPOSED, SHALL BE NEUTRAL (LIGHT GRAY OR TAN). COLOR OF THE SEALANT WHERE NOT EXPOSED, WILL BE AT THE DISCRETION OF THE CONTRACTOR.
14. UNLESS OTHERWISE NOTED ON THE PLANS, JOINT FILLER IS TO BE PREFORMED NON-EXPANSIVE, NON-EXTRUDING TYPE IN ACCORDANCE WITH SECTION M.02.11.1 OF THE RI STANDARD SPECIFICATIONS.
15. IN ACCORDANCE WITH THE RI STANDARD SPECIFICATIONS, ALL METAL TIES OR ANCHORAGES WHICH ARE REQUIRED FOR CONCRETE FORMWORK SHALL BE SO CONSTRUCTED THAT THEY CAN BE REMOVED TO AT LEAST TWO INCHES BELOW THE EXPOSED SURFACE OF THE CONCRETE WITHOUT CAUSING DAMAGE TO THE CONCRETE SURFACE. SNAP TIES MAY BE USED ONLY IF APPROVED BY THE ENGINEER. IF THE CONTRACTOR PROPOSES TO USE THEM, A CATALOG CUT AND OTHER NECESSARY INFORMATION MUST BE SUBMITTED TO THE ENGINEER TO DEMONSTRATE THAT THE TIES WILL SNAP-OFF FAR ENOUGH INTO THE CONCRETE TO ALLOW FOR PROPER PATCHING. SNAP TIES MUST PROVIDE ADEQUATE STRENGTH TO SUPPORT THE FORMS. ALL CAVITIES SHALL BE FILLED WITH AN APPROVED CEMENT MORTAR MEETING THE REQUIREMENTS OF ASTM C 928.
16 HAND-HELD VIBRATORS SHALL BE EQUIPPED WITH RUBBER TIPPED HEADS WHEN USED TO CONSOLIDATE CONCRETE AROUND REINFORCEMENT AND EMBEDMENT.
17. UNLESS OTHERWISE DIMENSIONED ON THE PLANS, ALL REINFORCEMENT BENDS SHOWN ARE STANDARD HOOKS.
18. ANY METALLIC ELEMENTS THAT ARE TO BE LEFT IN PLACE AND NOT STATED HERE SHALL BE GALVANIZED. THIS INCLUDES BUT IS NOT LIMITED TO REINFORCING STEEL, WIRE MESH, SNAP TIES, METAL TIES, ANCHORAGES FOR FORM WORK, SUPPORTS FOR MASS CONCRETE COOLING PIPES.

REINFORCEMENT NOTE

THE CONTRACTOR'S BAR FABRICATOR SHALL VERIFY THE CORRECTNESS IN PREPARING HIS ORDER LISTS AND BENDING DIAGRAMS. ANY EXPENSE INCIDENT TO REVISION OF MATERIAL AS SHOWN ON THE ORDER LISTS AND BENDING DIAGRAMS IN ORDER TO MAKE IT COMPLY WITH THE DESIGN DRAWINGS SHALL BE BORNE BY THE CONTRACTOR. SHOP DRAWINGS FOR ALL REINFORCEMENT DETAILS AND SCHEDULE SHALL BE SUBMITTED TO THE ENGINEER IN SUFFICIENT TIME TO PERMIT CAREFUL CHECKING.

TIMBER NOTES

1. CONNECTION PLATES SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO M111 (ASTM A153).
2. HIGH STRENGTH BOLTS SHALL CONFORM TO AASHTO M 164 (ASTM A325). WASHERS SHALL CONFORM TO AASHTO M293 (ASTM F436).
3. TIMBER RAIL POSTS SHALL BE SET VERTICAL IN THE FIELD.
4. THE TIMBER RAILS SHALL BE ATTACHED PARALLEL TO THE ACTUAL SLOPE OF THE BRIDGE DECK AND APPROACHES.
5. RAILS SHALL BE CONTINUOUS OVER 2 POSTS MINIMUM.
6. TIMBER FOR RAILING AND DECK WEARING SURFACE SHALL BE PRESSURE-TREATED WITH PEDESTRIAN SAFE WATER-BORNE PRESERVATIVES OR OIL-BORNE PRESERVATIVES IN LIGHT PETROLEUM SOLVENT. NO CREOSOTE-TREATED TIMBER WILL BE ALLOWED.

PRECAST CONCRETE NOTES

1. THE FABRICATION OF ALL PRECAST ELEMENTS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF SECTION 809 "PRECAST/PRESTRESSED STRUCTURE CONCRETE MASONRY" OF THE RHODE ISLAND STANDARD SPECIFICATIONS.
2. ANY PRECAST MANUFACTURING PLANT FURNISHING PRECAST PRESTRESSED BRIDGE MEMBERS SHALL BE CERTIFIED BY THE PRECAST PRESTRESSED CONCRETE INSTITUTE PLANT CERTIFICATION PROGRAM. THE CERTIFICATION SHALL BE AS A MINIMUM IN THE B3 CATEGORY, EXCEPT FOR DRAPED STRAND BRIDGE MEMBERS IN WHICH CASE A CATEGORY B4 CERTIFICATION WILL BE REQUIRED. THE MANUFACTURER SHALL SUBMIT PROOF OF CERTIFICATION PRIOR TO THE START OF PRODUCTION.
3. THE FABRICATOR IS FULLY RESPONSIBLE FOR THE DESIGN OF THE LIFTING AND ANCHORAGE DEVICES WHICH SHALL BE ADEQUATE FOR THE SAFETY FACTORS REQUIRED BY THE ERECTION PROCEDURE.
4. THE CONCRETE SHALL BE CLASS HP CONCRETE AND SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI.
5. REINFORCEMENT SHALL CONFORM TO AASHTO DESIGNATION M 31 (ASTM DESIGNATION A 615) GRADE 60 AND SHALL BE GALVANIZED.
6. EXPOSED CORNERS SHALL BE CHAMFERED $\frac{3}{4}$"-INCH, OR AS SHOWN ON PLANS.
7. ANY STRUCTURAL MEMBERS DAMAGED DURING FABRICATION, SHIPPING OR ERECTION, SUCH THAT THEIR STRUCTURAL INTEGRITY IS COMPROMISED, SHALL BE REJECTED AND REPLACED AT THE CONTRACTOR'S OWN EXPENSE. THE ENGINEER SHALL BE THE SOLE JUDGE IN DETERMINING THE STRUCTURAL INTEGRITY OF DAMAGED PRECAST MEMBERS. ANY DAMAGE THAT IS NOT STRUCTURAL IN NATURE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.
8. DURING HANDLING, THE PC ELEMENTS MUST BE MAINTAINED IN AN UPRIGHT POSITION AT ALL TIMES AND MUST BE PICKED UP ONLY BY MEANS OF APPROVED LIFTING DEVICES AT THEIR APPROVED SUPPORT POINTS.
9. DIMENSIONAL TOLERANCES SHALL NOT EXCEED THOSE RECOMMENDED IN THE LATEST EDITION OF THE PCI MANUAL FOR QUALITY CONTROL FOR PLANTS AND OF PRECAST CONCRETE PRODUCTS.
10. THE EXPOSED FACE SHALL RECEIVE A RUBBED FINISH (IN FIELD OR IN THE PLANT) IN ACCORDANCE WITH THE RHODE ISLAND STANDARD SPECIFICATIONS. THE COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE ELEMENTS.
11. ALL SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER IN SUFFICIENT TIME TO PERMIT CAREFUL CHECKING.
12. ALL GALVANIZED REINFORCING BARS SHALL BE SECURELY TIED TO PREVENT DISLOCATION. TIES USED FOR THE REINFORCING STEEL SHALL BE NON-METALLIC.
13. THE DETAILS OF ALL INSERTS, ANCHORS, AND ANY OTHER ITEMS REQUIRED TO BE CAST INTO THE PRECAST UNITS (WHETHER DETAILED ON THE CONTRACT DRAWINGS OR PROVIDED FOR THE CONTRACTOR'S CONVENIENCE) SHALL BE SHOWN ON THE SHOP DRAWINGS. PRECAST UNITS SHALL NOT BE FIRED OR DRILLED INTO FOR ATTACHMENT PURPOSES. ALL HARDWARE SHALL BE GALVANIZED.
14. THE NON-SHRINK GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 10,000 PSI AFTER 28 DAYS AS DETERMINED BY TESTING UNDER ASTM DESIGNATION C-109 AND SHALL NOT EXHIBIT ANY MEASURABLE DECREASE IN VOLUME AFTER CURING. THE CONTRACTOR SHALL STRICTLY FOLLOW THE MANUFACTURER'S RECOMMENDATIONS. NO TRAFFIC OR EQUIPMENT SHALL BE PERMITTED ON THE STRUCTURE UNTIL THE GROUT HAS CURED FOR AT LEAST 72 HOURS OR AS DIRECTED BY THE ENGINEER. GROUTING SHALL BE PERFORMED IN ACCORDANCE WITH THE DETAILS SHOWN. THE GROUT SHALL BE ON THE RIDOT APPROVED MATERIAL LIST.
15. ALLOWANCES FOR FABRICATION TOLERANCES SHALL BE PERMITTED IN ACCORDANCE WITH AASHTO AND PCI MANUAL.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED FEB 12 2016 FILE # 16-0001
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

JAN 8 2016

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR
REPLACEMENT OF
FALLS RIVER BRIDGE
EXETER, RHODE ISLAND

JOB SPECIFIC GENERAL NOTES 2

CHECKED BY _____ DATE 11/4/15 SCALE NO SCALE

NORTHERN CONSTRUCTION SERVICE, LLC
vhb PROVIDENCE, RHODE ISLAND
GZA

9500A_FR_004_JSBRGNOTE02

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	5	32

STRUCTURAL STEEL NOTES

1. FRAMING DIMENSIONS ARE GIVEN ALONG CENTERLINES OF GIRDERS AND ALONG CENTERLINES OF BEARINGS ON ABUTMENTS. THE FABRICATOR IS RESPONSIBLE FOR INCORPORATING THE CAMBER, CROSS SLOPE, AND OTHER EFFECTS THAT MAY IMPACT THE OVERALL GIRDER LENGTHS, DIMENSIONS AND/OR THE DETAILING.

2. THE SHOPS FABRICATING THE STRUCTURAL STEEL MUST BE CERTIFIED FOR "MAJOR STEEL BRIDGES (CBR)" IN ACCORDANCE WITH THE AISC QUALITY CERTIFICATION PROGRAM OR EQUIVALENT. SHOPS FABRICATING THE RAILING PLATES SHALL, AT A MINIMUM, BE CERTIFIED FOR "SIMPLE STEEL BRIDGE STRUCTURES (SBR)".

   THE SHOPS SHALL ALSO BE CERTIFIED UNDER THE AISC "SOPHISTICATED PAINT ENDORSEMENT (SPE)" QUALITY PROGRAM OR THE SSPC-QP3 PAINT CERTIFICATION PROGRAM.

   THE FABRICATOR MUST SUBMIT PROOF OF CURRENT CERTIFICATION AS SPECIFIED.

3. THE STEEL ERECTOR/CONTRACTOR FOR THIS PROJECT SHALL BE CERTIFIED FOR "ADVANCED CERTIFIED STEEL ERECTOR (ASCE)" IN ACCORDANCE WITH THE AISC QUALITY CERTIFICATION PROGRAM. THE ERECTOR/CONTRACTOR OF THE STRUCTURAL STEEL SHALL BE REQUIRED TO SUBMIT PROOF OF CURRENT CERTIFICATION AS SPECIFIED, INCLUDING THE QUALITY CONTROL PLAN AND SAFETY PLAN THAT IS REQUIRED TO OBTAIN THE CERTIFICATION.

4. FRACTURE CRITICAL MEMBERS (FCM) IF ANY, HAVE BEEN DESIGNATED ON THE STEEL FRAMING AND/OR THE STEEL DETAIL SHEETS.

5. SHOP DRAWINGS FOR ALL FABRICATED STEEL INCLUDING RAILING PLATES AND FALSEWORK SHALL BE SUBMITTED TO THE ENGINEER IN SUFFICIENT TIME TO PERMIT CAREFUL CHECKING PRIOR TO FABRICATION.

6. INSPECTION OF WELDS INCLUDING RADIOGRAPHIC TESTING (RT) AND MAGNETIC PARTICLE TESTING (MT) SHALL BE IN ACCORDANCE WITH THE RI STANDARD SPECIFICATIONS AND THE AASHTO/AWS BRIDGE WELDING CODE, EXCEPT THAT THE REMAINING PERCENTAGE OF ALL GROOVE WELDS NOT RT TESTED SHALL BE MT.

7. STRUCTURAL STEEL SHAPES AND PLATES SHALL CONFORM TO THE LATEST PROVISIONS OF AASHTO DESIGNATION M 270 GRADE 50 AS DESIGNATED ON THE PLANS. UNLESS OTHERWISE NOTED ALL STRUCTURAL STEEL SHALL BE GRADE 50.

8. ALL AASHTO M 270 STRUCTURAL STEEL USED IN GIRDERS (INCLUDING CONNECTION PLATES AND STIFFENERS), SHALL MEET THE ZONE 2 CHARPY V-NOTCH FRACTURE TOUGHNESS TEST REQUIREMENTS AS SPECIFIED IN TABLE 6.6.2-2 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR "NONFRACTURE-CRITICAL" COMPONENTS. THE ZONE 2 FRACTURE TOUGHNESS REQUIREMENTS ARE AS FOLLOWS:

   NONFRACTURE-CRITICAL

GRADE 36	15 FT-LBS @ 40°F (UP TO 4 INCHES THICK)
GRADE 50 OR 50W	15 FT-LBS @ 40°F (UP TO AND INCLUDING 2 INCHES THICK)
GRADE 50 OR 50W	20 FT-LBS @ 40°F (FROM 2 INCHES THICK UP TO AND INCLUDING 4 INCHES THICK)
GRADE HPS 70W	25 FT-LBS @ -10°F (UP TO 4 INCHES THICK)

   FRACTURE-CRITICAL

GRADE 36	25 FT-LBS @ 40°F (UP TO 4 INCHES THICK)
GRADE 50 OR 50W	25 FT-LBS @ 40°F (UP TO AND INCLUDING 2 INCHES THICK)
GRADE 50 OR 50W	30 FT-LBS @ 40°F (FROM 2 INCHES THICK UP TO AND INCLUDING 4 INCHES THICK)

   SAMPLING AND TESTING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO T243. THE FREQUENCY OF TESTING SHALL BE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

   THE CHARPY V-NOTCH FRACTURE TOUGHNESS TEST REQUIREMENT IS NOT MANDATORY FOR THE FOLLOWING STEEL COMPONENTS:

   - SUPPORT AND EXCAVATION COMPONENTS

9. WELDING SHALL BE IN ACCORDANCE WITH THE LATEST STRUCTURAL WELDING CODE AASHTO/AWS D1.5 INCLUDING ALL INTERIMS TO DATE) AND APPLICABLE SUPPLEMENTAL AWS PUBLICATIONS.

10. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO AASHTO DESIGNATION M164 (ASTM A325, TYPE 1), AND SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH AASHTO M298 (ASTM B695) CLASS 50. HIGH STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 824 OF THE RI STANDARD SPECIFICATIONS. ALL NUTS AND WASHERS SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH M05.04.4 OF THE RI STANDARD SPECIFICATIONS. UNLESS NOTED OTHERWISE, ALL STRUCTURAL STEEL CONNECTIONS ARE "SLIP CRITICAL" WITH CLASS B SURFACE CONDITIONS.

11. WASHERS MEETING AASHTO DESIGNATION M 293 ARE TO BE USED OVER ALL HOLES THAT ARE MORE THAN $\frac{1}{16}$" IN DIAMETER GREATER THAN THE BOLT DIAMETER AND UNDER ALL PARTS TURNED DURING ASSEMBLY.

12. WELDING ELECTRODES SHALL HAVE THE SAME CORROSION RESISTANCE AS THE BASE METAL AND SHALL BE FREE OF MOISTURE AT THE TIME OF USE.

13. UNLESS OTHERWISE SPECIFIED, STRUCTURAL STEEL SHALL BE PREPARED AND PAINTED IN ACCORDANCE WITH THE RI STANDARD SPECIFICATIONS.

STRUCTURAL STEEL NOTES (CONTINUED)

14. PRIOR TO FABRICATION, ALL MATERIALS SHALL BE BLAST-CLEANED TO AT LEAST SSPC-SP6 TO REMOVE ALL OIL, DIRT, GREASE, MILL SCALE AND OTHER DELETERIOUS MATERIALS FROM THE SURFACES OF THE STEEL TO BE FABRICATED.

15. PRIOR TO SHOP COATING AS SPECIFIED IN SECTION 825 OF THE RI STANDARD SPECIFICATIONS, ALL CORNERS AND EDGES OF STEEL WHICH HAVE BEEN FLAME CUT OR OTHERWISE HARDENED SHALL BE SOFTENED BY GRINDING OR BLAST-CLEANING TO PROVIDE A SURFACE SUITABLE FOR APPLICATION OF THE SPECIFIED PAINT SYSTEM.

16. WELDING OF ATTACHMENTS TO GIRDER FLANGES OR WEBS FOR CONSTRUCTION PURPOSES IS NOT PERMITTED EXCEPT WHEN APPROVED BY THE ENGINEER.

17. THE ENDS OF ALL BEAMS SHALL BE VERTICAL AFTER ALL DEAD LOADS HAVE BEEN PLACED.

18. INTERMEDIATE CONNECTION PLATES SHALL BE PLACED ON THE INTERIOR SIDE OF THE FASCIA BEAM WEBS AND ON BOTH SIDES OF ALL INTERIOR BEAM WEBS.

19. BEARING STIFFENERS SHALL BE FABRICATED AS SHOWN ON THE PLANS AND SHALL BE PLACED ON BOTH SIDES OF ALL BEAM WEBS.

20. INTERMEDIATE STIFFENERS AND CONNECTION PLATES SHALL BE SET PERPENDICULAR TO THE FLANGES OF THE BEAMS.

21. END BEARING STIFFENERS AT BEAM ENDS SHALL BE PLUMB.

22. BOLTED CONNECTIONS SHALL BE DESIGNED AS SLIP-CRITICAL CONNECTIONS. THE FAYING SURFACES SHALL SATISFY CLASS B SURFACE CONDITION AS DEFINED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

23. THE BEAMS SHALL BE CAMBERED TO THE AMOUNTS SHOWN ON THE PLANS. THE FABRICATOR'S SHOP DRAWINGS SHALL INCLUDE, IN ADDITION TO ANY CUTTING OR CAMBER DIAGRAMS NECESSARY FOR THEIR PURPOSES, A SHOP ASSEMBLY DIAGRAM WHICH PROVIDES CAMBER OFFSETS CALCULATED BY THE FABRICATOR AT THE REFERENCE POINTS PROVIDED BY THE ENGINEER (USUALLY TENTH POINTS OF THE SPAN). THE INFORMATION PROVIDED SHALL BE SUFFICIENT ENOUGH FOR THE ENGINEER TO EVALUATE WHETHER THE CAMBER HAS BEEN CORRECTLY INTERPRETED. AT THE TIME AND PLACE OF ERECTION, BEAMS SHALL HAVE THE REQUIRED AMOUNT OF CAMBER. THE ERECTED VERTICAL ALIGNMENT (CAMBER) SHALL NOT DEVIATE FROM THE THEORETICAL ERECTED VERTICAL ALIGNMENT BY MORE THAN FOLLOWING: -0, $+\frac{1}{4}$" x (TOTAL LENGTH, IN FEET, FROM THE NEAREST SUPPORT)/10. THE MAXIMUM DEVIATION IS $1\frac{1}{2}$" BETWEEN SUPPORTS.

24. ALL SHOP CONNECTIONS AND SPLICES SHALL BE WELDED. WELDING PROCEDURES AND TECHNIQUES TO BE USED IN FABRICATION AND ERECTION OF THE BEAMS SHALL BE AS SHOWN ON THE SHOP DRAWINGS AND SHALL INCORPORATE THE FOLLOWING:

    - ALL WEB AND FLANGE SPLICES OTHER THAN THOSE SHOWN ON THE PLANS MUST BE APPROVED BY THE ENGINEER. ALTERNATE OR ADDITIONAL SPLICES ARE TO BE LOCATED AND DESIGNED BY THE FABRICATOR AND SHOWN ON THE SHOP DRAWINGS. THESE SPLICES ARE TO FULLY DEVELOP THE STRENGTH OF THE WEB AND FLANGE PLATES. WEB SPLICES, IF USED, SHALL BE LOCATED 2'-0" MINIMUM FROM ANY STIFFENER.

    - NO MORE THAN TWO SHOP WEB SPLICES WILL BE PERMITTED BETWEEN FIELD SPLICES. SPLICING OF BEAMS BY FIELD WELDING WILL NOT BE PERMITTED.

25. NO SHOP FILLET WELD SHALL BE LESS THAN $\frac{1}{4}$".

26. WHEN STEEL DIE STAMPS ARE USED TO IDENTIFY PIECES AND MEMBERS, FABRICATORS SHALL UTILIZE LOW STRESS STAMPS.

27. FOR SIZE AND LOCATION OF ANCHOR BOLTS, SEE BEAM SEAT DRAWINGS.

28. THE DESIGN OF THE STRUCTURE IS BASED ON THE SELF-WEIGHT OF THE STRUCTURAL STEEL IN ITS COMPLETELY ERECTED CONFIGURATION ONLY. DEFLECTION INCURRED DURING THE VARIOUS STAGES OF THE ERECTION PROCESS ARE NOT CONSIDERED. THEREFORE, THE ACTUAL ERECTION METHODS AND SEQUENCES EMPLOYED BY THE CONTRACTOR MAY HAVE A SUBSTANTIAL EFFECT ON (1) THE TOTAL STRESS, I.E. THE DESIGN PLUS ERECTION STRESS, AND/OR (2) THE STEEL PROFILE AS ERECTED. THE CONTRACTOR SHALL SUBMIT AN ERECTION PROCEDURE IN ACCORDANCE WITH THE PROVISIONS OF SECTION 824.03.10 ERECTION, OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE CALCULATIONS FOR ALL PHASES AND ERECTION CONDITIONS WHICH DEMONSTRATE THAT THE ALLOWABLE STRESSES ARE NOT EXCEEDED AND THAT THE GEOMETRY AS ERECTED (HORIZONTAL AND VERTICAL) WILL BE CONSISTENT WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. ANY CORRECTIVE WORK NECESSARY TO REPOSITION PREVIOUSLY ERECTED STEEL TO ACHIEVE ACCEPTABLE ALIGNMENT AND PROFILE MUST BE APPROVED BY THE ENGINEER AND SHALL BE PERFORMED AT NO EXTRA COST TO THE STATE.

29. IF THE BEAMS CANNOT BE SHIPPED IN THE LENGTHS SHOWN ON THE PLANS, FIELD SPLICE(S) WILL BE PERMITTED AT THE REQUEST OF THE CONTRACTOR, BUT NO COMPENSATION WILL BE ALLOWED FOR THE SPLICES.

30. IF THE BEAMS CAN BE FABRICATED IN LENGTHS LONGER THAN THE SECTIONS SHOWN ON THE PLANS BY ELIMINATING THE FIELD SPLICES. FIELD SPLICES MAY BE OMITTED AT THE REQUEST OF THE CONTRACTOR. THE CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR SECURING A HAULING PERMIT. APPROVAL FOR ELIMINATION OF A FIELD SPLICE AT THE SHOP DRAWING STAGE DOES OBLIGATE THE DEPARTMENT TO ISSUE A HAULING PERMIT.

SHOP DRAWING SUBMITTAL

1. CRANE SUBMITTALS
2. CONCRETE: MIX DESIGNS, PLACING AND METHODS AND EQUIPMENT, CURING PLAN AND METHODS, PERSONNEL RESOURCES
3. REINFORCING STEEL, SPLICES AND INSERTS
4. BRIDGE STATE SEAL TABLETS
5. STRUCTURAL STEEL
6. CONCRETE SUBCONTRACTOR'S QUALIFICATIONS AND EXPERIENCE
7. STRUCTURAL COMPUTATIONS
8. BRIDGE DEMOLITION; EQUIPMENT, DETAILED SEQUENCE OF WORK
9. EARTH SUPPORT SYSTEMS/COFFERDAMS (SHEETING, ETC.)
10. TEMPORARY PROTECTION SHIELDS FOR DEMOLITION AND CONSTRUCTION
11. ARCHITECTURAL TREATMENTS (SPECIAL FORMS/LINERS, GRANITE VENEER, ETC.)
12. ERECTION PROCEDURES; EQUIPMENT (TYPE/SIZE AND PLACEMENT), DETAILED SEQUENCE OF WORK
13. BRIDGE RAILINGS
14. BRIDGE ID TABLETS
15. PRE CONSTRUCTION SURVEY, PRE/POST CONSTRUCTION SUMMARY OF SURROUNDING WATERWAY (BY GEOTECHNICAL DESIGN FIRM)
16. PAINTING
17. WELDING PROCEDURES; WELD SPLICES
18. GRS/IBS
19. TIMBER

NECESSARY SUBMITTALS MAY NOT BE LIMITED TO THE ABOVE LIST AND MAY REQUIRE OTHER SUBMITTALS AT THE RESIDENT ENGINEER'S REQUEST FOR; SHOP DRAWINGS, CERTIFICATE OF COMPLIANCE, PRODUCT INFORMATION, CATALOG CUTS, TEST DATA OR OTHER.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED FEB 12 2016 FILE # 16-0001
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

JAN 8 2016

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR
REPLACEMENT OF
FALLS RIVER BRIDGE
EXETER, RHODE ISLAND

JOB SPECIFIC
GENERAL NOTES 3

CHECKED BY _____ DATE 11/4/15 SCALE NO SCALE

NORTHERN CONSTRUCTION SERVICE, LLC
vhb PROVIDENCE, RHODE ISLAND
GZA

9500A_FR_005_JSBRGNOTE03

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	6	32

GENERAL NOTES REGARDING TEMPORARY CONSTRUCTION CONDITIONS

1. DESIGN WIND PRESSURES FOR CONSTRUCTION:

   MINIMUM WIND PRESSURES TO BE USED BY THE CONTRACTOR FOR DESIGN DURING THE CONSTRUCTION CONTRACT (WITH THE EXCEPTION OF SIGNS) SHALL BE FROM THE FOLLOWING TABLE:

HEIGHT ABOVE GROUND (FEET)	WIND PRESSURE (PSF)
UP TO 17'	23
OVER 17' AND UP TO 33'	27
OVER 33' AND UP TO 50'	30
OVER 50' AND UP TO 75'	34
OVER 75' AND UP TO 100'	37

   TABLE NOTES

   APPLICATION OF THE TABULAR PRESSURE:
   - BRIDGE COMPONENTS DURING CONSTRUCTION, PRIOR TO THE INSTALLATION OF THE PERMANENT BRACING SYSTEMS, NOT INCLUDING CRANE LIFTING.
   - FALSE WORK, SHORING, AND SCAFFOLDING AS DEFINED IN FHWA "GUIDE DESIGN SPECIFICATION FOR BRIDGE TEMPORARY WORKS", EXCLUDING 3-DIMENSIONAL LATTICED OR TRUSSED FRAMES OR TOWERS;
   - TEMPORARY SHIELDING.

   WIND PRESSURES FOR ALL OTHER STRUCTURES SHALL BE CALCULATED BASED ON ASCE "DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION", SEI/ASCE 37-02 (ALL REFERENCES TO THE ASCE 7 IN THE SEI/ASCE 37-02 PUBLICATION, SHALL BE THE LATEST REVISION OF ASCE 7). THE EXPOSURE CATEGORY SHALL BE B.

2. ERECTION OF BRIDGE COMPONENTS:

   FOR THE ERECTION OF STRUCTURES, THE FOLLOWING SHALL APPLY:

   - THE CONTRACTOR SHALL SUBMIT AN ERECTION PLAN THAT PROVIDES COMPLETE DETAILS OF THE PROCESS INCLUDING, BUT NOT LIMITED TO, TEMPORARY SUPPORTS, SCHEDULING AND OPERATION SEQUENCING, CRANE PLACEMENT, AND ASSUMED LOADS AND CALCULATED STRESSES DURING VARYING STAGES OF LIFTING. THIS APPLIES TO STRUCTURES OF ANY KIND. THE CAPACITY OF THE CRANE AND ALL LIFTING AND CONNECTING DEVICES SHALL BE ADEQUATE FOR 125 PERCENT OF THE TOTAL PICK LOAD INCLUDING SPREADERS AND OTHER MATERIALS. THIS FACTOR OF SAFETY SHALL BE IN ADDITION TO ALL MANUFACTURERS' PUBLISHED FACTORS OF SAFETY.
   - A REGISTERED PROFESSIONAL ENGINEER, LICENSED IN THE STATE OF RHODE ISLAND, WILL BE REQUIRED TO STAMP THE CONTRACTOR'S ERECTION PLAN.
   - THE CONTRACTOR'S PROFESSIONAL ENGINEER WILL BE REQUIRED TO INSPECT AND PROVIDE WRITTEN APPROVAL OF EACH PHASE OF A GIRDER INSTALLATION, PRIOR TO ALLOWING VEHICLES OR PEDESTRIANS ON OR BELOW THE STRUCTURE. THE PROFESSIONAL ENGINEER MUST ALSO STAMP ALL CHANGES TO THE CONTRACTOR'S ERECTION PLAN. ADDITIONALLY, ALL PROPOSED CHANGES MUST BE SUBMITTED TO RIDOT FOR REVIEW AND APPROVAL PRIOR TO IMPLEMENTATION.
   - A MANDATORY PRE-ERECTION CONFERENCE WILL BE HELD AT LEAST TWO WEEKS PRIOR TO THE START OF THE GIRDER INSTALLATION TO DISCUSS THE PLAN AND PROCEDURES, WORK SCHEDULES, CONTINGENCY PLANS, SAFETY REQUIREMENTS AND TRAFFIC CONTROL. THE CONTRACTOR'S PROFESSIONAL ENGINEER AND ERECTION SUBCONTRACTOR WILL BE REQUIRED TO ATTEND THIS MEETING, AS WILL THE RIDOT RESIDENT ENGINEER, THE DESIGN PROJECT ENGINEER AND THE DESIGN CONSULTANT. BASED UPON DISCUSSIONS AT THIS MEETING AND A REVIEW OF THE CONTRACTOR'S ERECTION PLAN, RIDOT MAY ORDER THE CONTRACTOR TO MODIFY AND RESUBMIT THE ERECTION PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL.
   - THE CONTRACTOR WILL BE REQUIRED TO PERFORM DAILY INSPECTIONS OF THE ERECTED GIRDERS UNTIL THE BRIDGE DECK IS COMPLETELY POURED.
   - THE COST OF PREPARING AND STAMPING THE ERECTION PLAN, COMPUTATIONS, AND REPORTS, RESPONDING TO RIDOT'S COMMENTS AND MAKING THE NECESSARY REVISIONS, AND ATTENDANCE AT MEETINGS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE SUPERSTRUCTURE PAY ITEM, BE IT CONCRETE, STEEL OR TIMBER.

3. ANY PERMANENT AND/OR TEMPORARY CONDITIONS INCLUDED ON THE ERECTION PLAN WHICH ARE NOT INCLUDED ON THE RIDEM APPROVED PLANS ARE SUBJECT TO WRITTEN APPROVAL BY RIDEM PRIOR TO APPROVAL BY RIDOT. SUCH APPROVAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE ACCOMPLISHED AT NO COST TO THE STATE. ALL SUBMISSIONS OF ADDITIONAL INFORMATION TO RIDEM MUST BE COORDINATED THROUGH THE RIDOT NATURAL RESOURCES UNIT.

CONSTRUCTION NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR THE IMPLEMENTATION, CONSTRUCTION, OPERATION AND SAFETY OF ALL EQUIPMENT AND PROCEDURES.
2. THE CONTRACTOR SHALL SUBMIT WORKING DOCUMENTS SHOWING PROPOSED METHODS OF LIFTING, SEQUENCING OF LIFTING, LOCATION OF CRANES, CRANE CAPACITIES, LOCATION OF THE LIFTING POINTS ON THE BRIDGE COMPONENTS, WEIGHTS OF THE COMPONENTS, LIFTING DEVICES AND LOAD DISTRIBUTION DEVICE DETAIL. THE METHOD AND ALL SUBMISSIONS SHALL BE PREPARED AND STAMPED BY A RHODE ISLAND REGISTERED PROFESSIONAL ENGINEER.
3. COORDINATE ALL CONSTRUCTION ACTIVITIES WITHIN THE WORKING AREA WITH RIDOT REGARDING UTILITIES, PROTECTION OF TRAFFIC AND SCHEDULE.
4. THE CONTRACTOR SHALL EXERCISE EXTREME CARE TO AVOID DAMAGE TO EXISTING STRUCTURES. ALL STRUCTURES DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.
5. ALL SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER IN SUFFICIENT TIME TO PERMIT CAREFUL CHECKING AS NOT TO DELAY THE PROJECT.
6. ALL RIGGING IS TO BE IN EXCELLENT WORKING CONDITION.
7. UNLOADED CRANES ARE ALLOWED TO TRAVEL IN THE WORKING AREA.
8. CRANE DELIVERY LOCATIONS MAY VARY AS LONG AS MAXIMUM CRANE RADIUS IS NOT EXCEEDED.
9. THE CONTRACTOR SHALL NOT BE PERMITTED TO ANCHOR HEAVY EQUIPMENT TO THE EXISTING BRIDGE DURING CONSTRUCTION.
10. TEMPORARY EXCAVATION SUPPORT SYSTEM SHALL BE DESIGNED, FURNISHED AND INSTALLED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO THE START OF ANY EXCAVATION.
11. CONTRACTOR SHALL SECURE ALL WORK AREAS AT ALL TIMES TO PREVENT UNAUTHORIZED ACCESS.
12. STOCKPILED SOIL TO BE 30 FEET FROM PIERS, WALLS AND ABUTMENTS.
13. THE CONTRACTOR SHALL NOT BE ALLOWED TO USE RIVER WATER DURING CONSTRUCTION. IN ADDITION, DISCHARGE FROM THE CONSTRUCTION ACTIVITIES SHALL NOT BE PERMITTED.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
PERMITTED WETLANDS PROGRAM
AS SPECIFIED IN THE LETTER OF APPROVAL
FEB 12 2016 FILE # 16-0001
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

JAN 6 2016

REVISIONS		
NO.	DATE	BY

NORTHERN CONSTRUCTION SERVICE, LLC

vhb PROVIDENCE, RHODE ISLAND

GZA

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

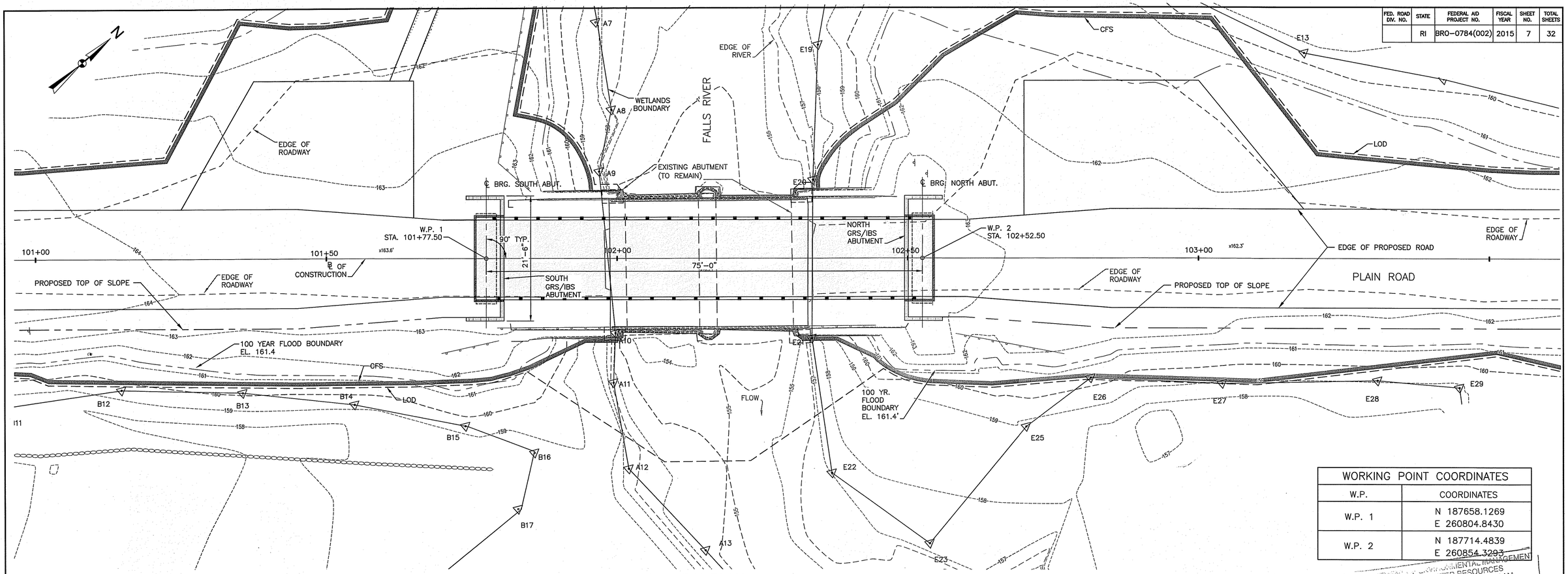
DESIGN/BUILD SERVICES FOR
REPLACEMENT OF
FALLS RIVER BRIDGE
EXETER, RHODE ISLAND

JOB SPECIFIC GENERAL NOTES 4

CHECKED BY _____ DATE 11/4/15 SCALE NO SCALE

9500A_FR_006_JSBRGNOTE04

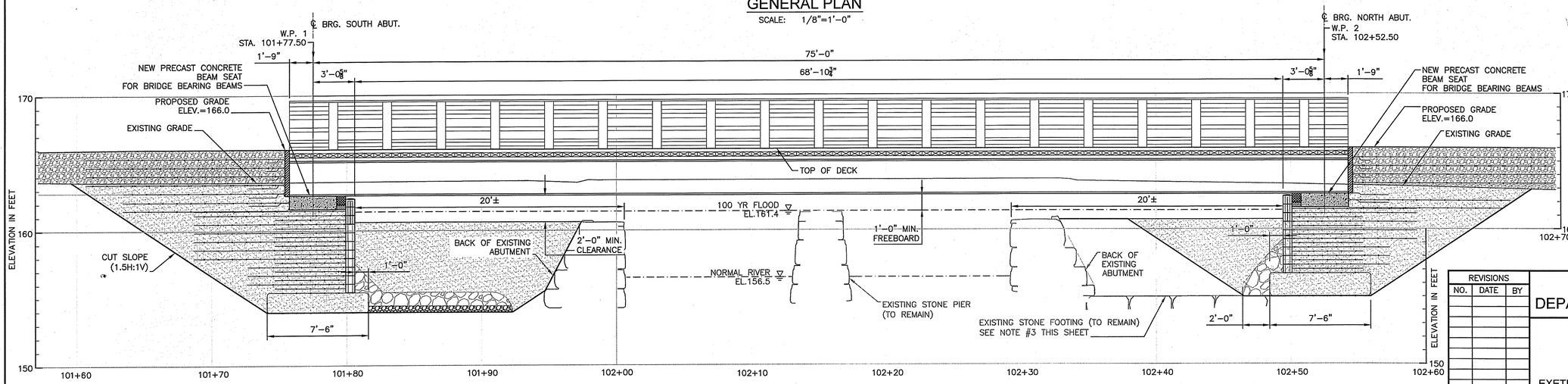
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	7	32



GENERAL PLAN

SCALE: 1/8"=1'-0"

WORKING POINT COORDINATES	
W.P.	COORDINATES
W.P. 1	N 187658.1269 E 260804.8430
W.P. 2	N 187714.4839 E 260854.3293



LONGITUDINAL SECTION

SCALE: 1/4'=1'-0"

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: FEB 12 2016 FILE # 16-0000
NO CHANGES ARE ALLOWED WITHOUT PRIOR APPROVAL
APPROVAL MUST BE AT CONSTRUCTION SITE

NOTES

1. BASE MAP DEVELOPED FROM AN AUTOCAD DRAWING FILES, "72528EX.DWG", XXXXX_ALN.DWG, AND 9500A_FR_009_GENERAL.DWG PREPARED BY VANASSE HANGEN BRUSTLIN AND TRANSMITTED TO GZA ON OCTOBER 14, 2015.
2. SEE GENERAL PLAN FOR PROJECT LIMITS.
3. CONTRACTOR TO FIELD VERIFY ELEVATION OF TOP OF EXISTING STONE TO REMAIN. CONTRACTOR TO NOTIFY SITE ENGINEER IF ELEVATION IS NOT 155. REFER TO PROJECT DATUM.

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR REPLACEMENT OF FALLS RIVER BRIDGE
EXETER, RHODE ISLAND

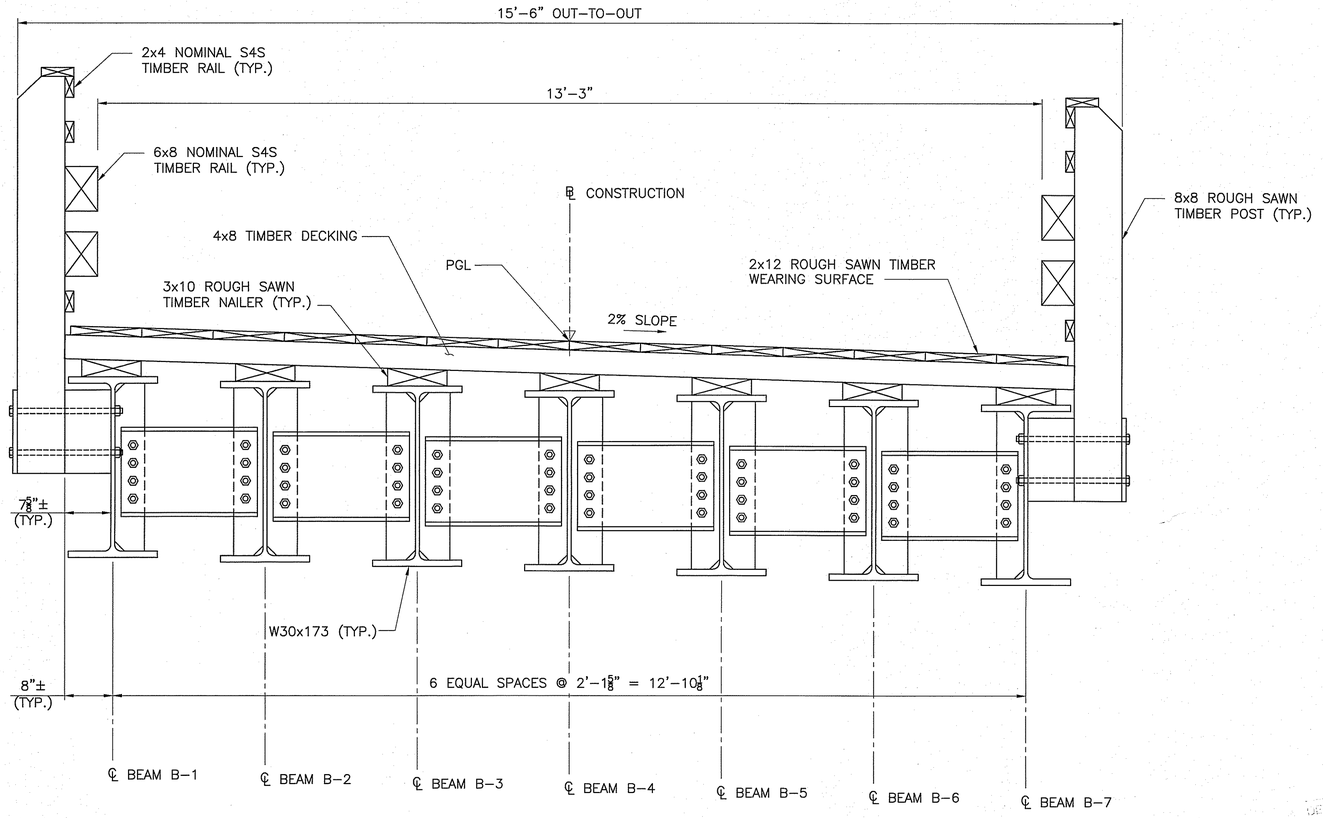
BRIDGE GENERAL PLAN AND LONGITUDINAL SECTION

CHECKED BY _____ DATE 11/4/15 SCALE AS SHOWN

NORTHERN CONSTRUCTION SERVICE, LLC
vhb PROVIDENCE, RHODE ISLAND
GZA

33906_FR_v3

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	8	32



TYPICAL TRANSVERSE SECTION (LOOKING EAST)
SCALE: 1"=1'-0"

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
SEE ATTACHED LETTER OF APPROVAL FILE # 16-0001
FEB 12 2016
DO NOT BEGIN WORK WITHOUT PRIOR APPROVAL
ALL APPROVED PLANS MUST BE AT CONSTRUCTION SITE

JAN 8 2016

NOTE:

ROUGH SAWN LUMBER IS LABELED WITH ACTUAL DIMENSIONS. SURFACED FOUR SIDES (S4S) LUMBER IS LABELED WITH NOMINAL DIMENSIONS.

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR
REPLACEMENT OF
FALLS RIVER BRIDGE
EXETER, RHODE ISLAND

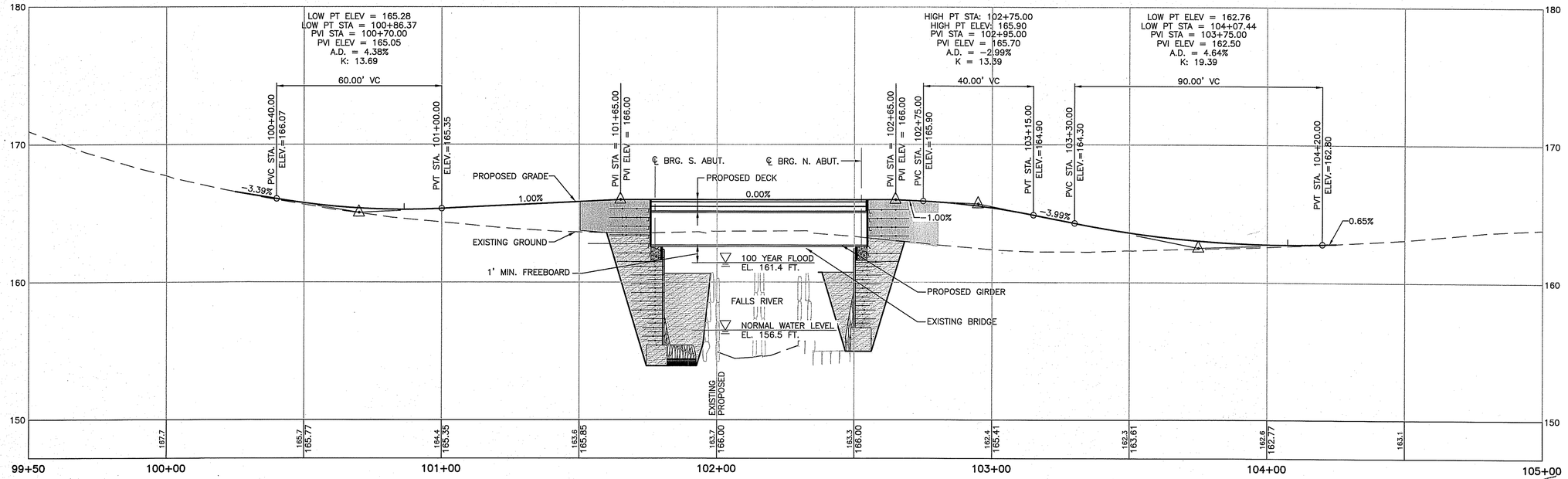
TYPICAL TRANSVERSE SECTION

CHECKED BY _____ DATE 11/4/15 SCALE AS SHOWN

NORTHERN CONSTRUCTION SERVICE, LLC
vhb PROVIDENCE, RHODE ISLAND
GZA

9500A_FR_008_BTYPICAL

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	9	32



PROFILE

SCALE HORIZONTAL: 1"=20'-0"
VERTICAL: 1"= 4'-0"

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR
REPLACEMENT OF
FALLS RIVER BRIDGE
EXETER, RHODE ISLAND

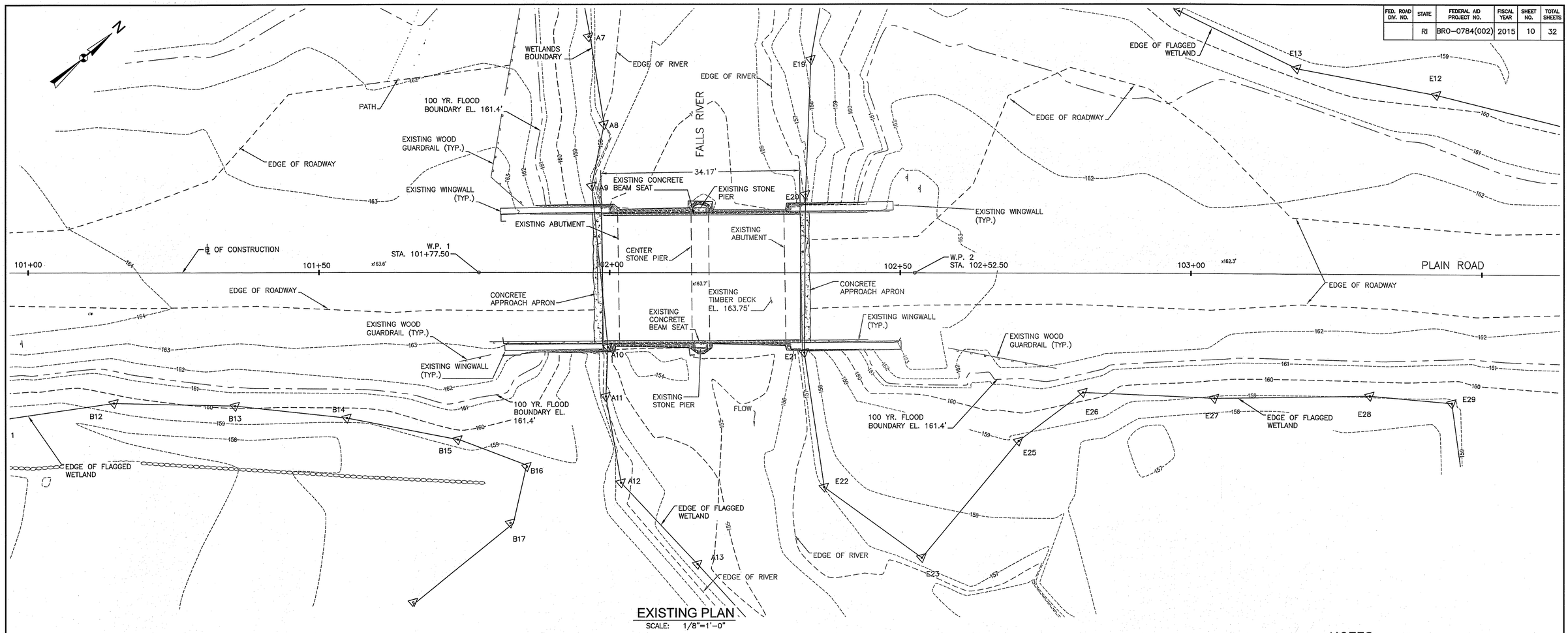
PROFILE

CHECKED BY _____ DATE 11/4/15 SCALE AS SHOWN

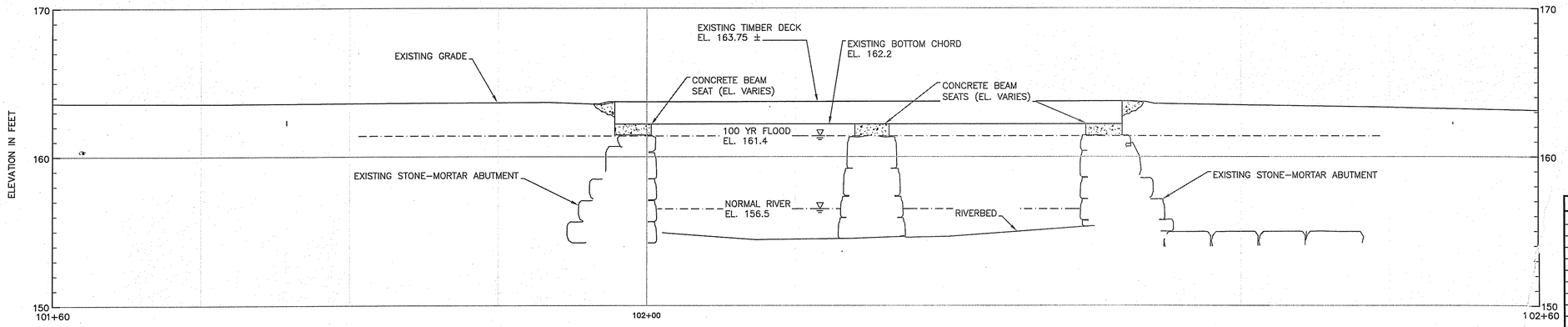
NORTHERN CONSTRUCTION SERVICE, LLC
vhb PROVIDENCE, RHODE ISLAND
GZA

9500A_FR_009_PROFILE

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	10	32



EXISTING PLAN
SCALE: 1/8"=1'-0"



EXISTING LONGITUDINAL SECTION
SCALE: 1/4"=1'-0"

NOTES

1. BASE MAP DEVELOPED FROM AN AUTOCAD DRAWING FILES, "72528EX.DWG", XXXXX_ALN.DWG, AND 9500A_FR_009_GENERAL.DWG PREPARED BY VANASSE HANGEN BRUSTLIN AND TRANSMITTED TO GZA ON OCTOBER 14, 2015.
2. SEE GENERAL PLAN FOR PROJECT LIMITS.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED FEB 12 2016 FILE # 16-0001
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

JAN 8 2016

REVISIONS		
NO.	DATE	BY

NORTHERN CONSTRUCTION SERVICE, LLC

vhb PROVIDENCE, RHODE ISLAND

GZA

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR REPLACEMENT OF FALLS RIVER BRIDGE

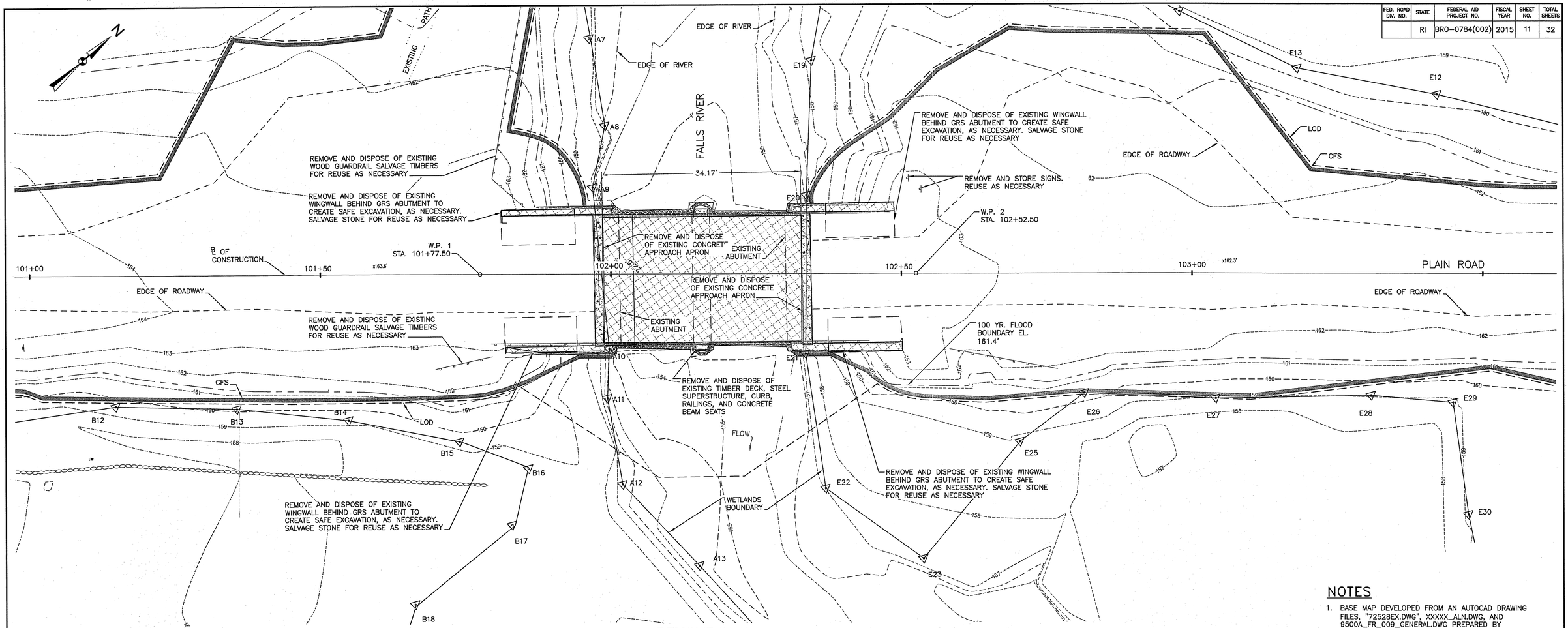
EXETER, RHODE ISLAND

EXISTING BRIDGE PLAN AND LONGITUDINAL SECTION

CHECKED BY _____ DATE 11/4/15 SCALE AS SHOWN

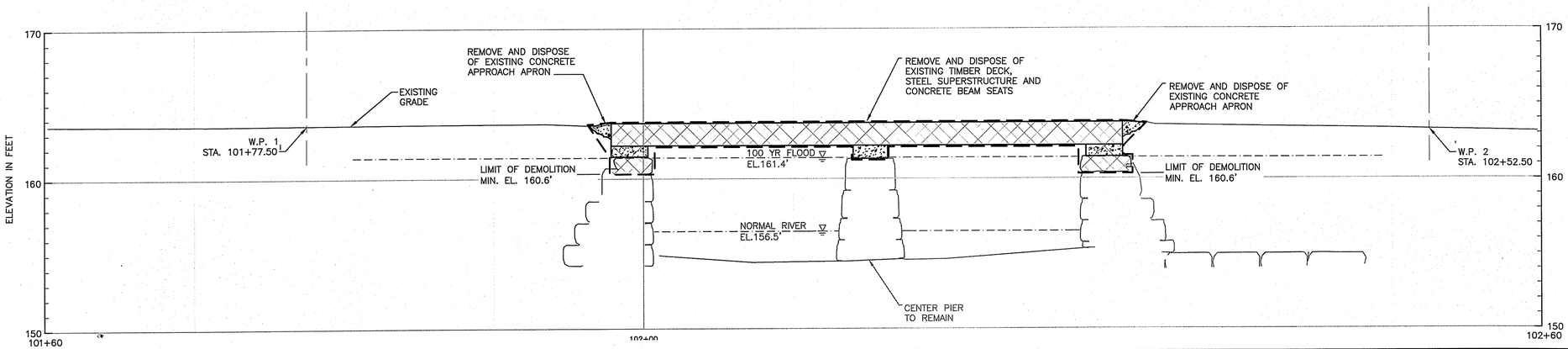
33906_FR_v3

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	11	32



DEMOLITION PLAN

SCALE: 1/8"=1'-0"



DEMOLITION SECTION

SCALE: 1/4"=1'-0"

NOTES

1. BASE MAP DEVELOPED FROM AN AUTOCAD DRAWING FILES, "72528EX.DWG", XXXXX_ALN.DWG, AND 9500A_FR_009_GENERAL.DWG PREPARED BY VANASSE HANGEN BRUSTLIN AND TRANSMITTED TO GZA ON OCTOBER 14, 2015.
2. SEE GENERAL PLAN FOR PROJECT LIMITS.

LEGEND

–REMOVE AND DISPOSE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED FEB 12 2016 FILE # 16-0001
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

RECEIVED JAN - 8 2016

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR
REPLACEMENT OF
FALLS RIVER BRIDGE
EXETER, RHODE ISLAND

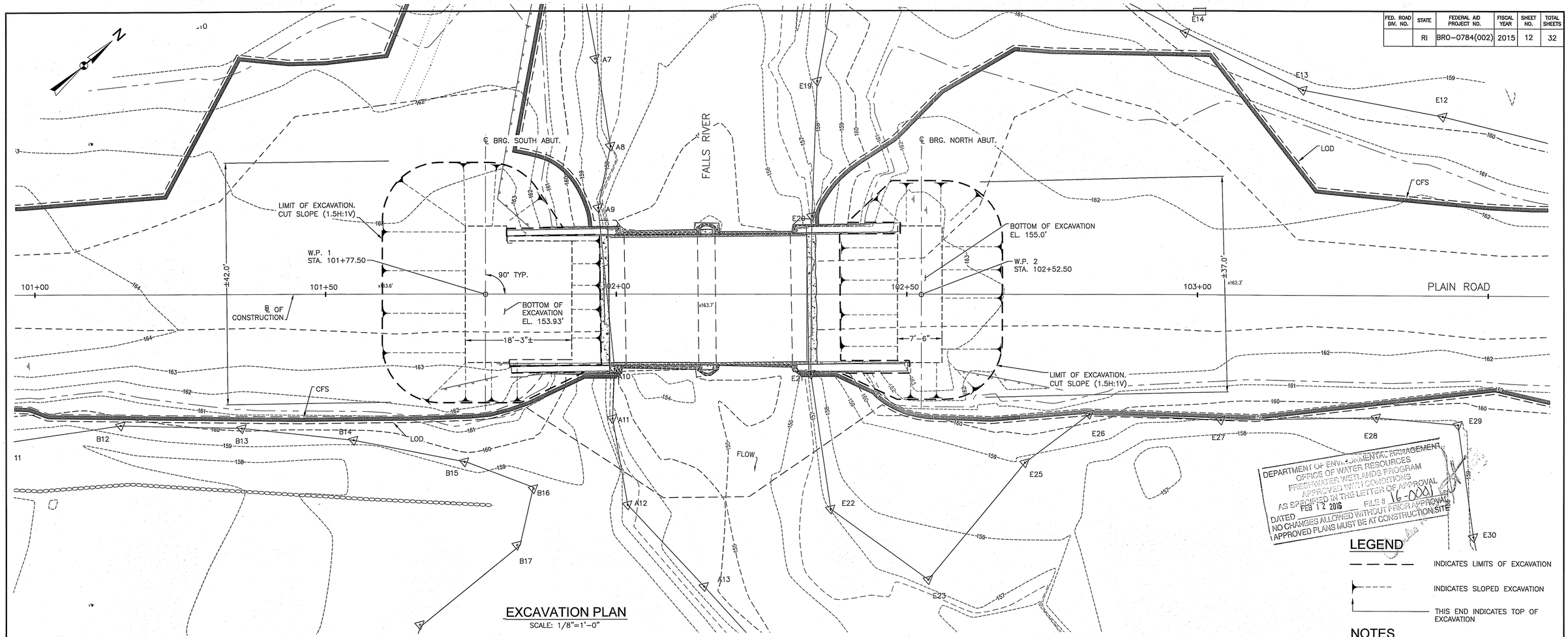
BRIDGE DEMOLITION PLAN AND SECTION

CHECKED BY _____ DATE 11/4/15 SCALE AS SHOWN

NORTHERN CONSTRUCTION SERVICE, LLC
vhb PROVIDENCE, RHODE ISLAND
GZA

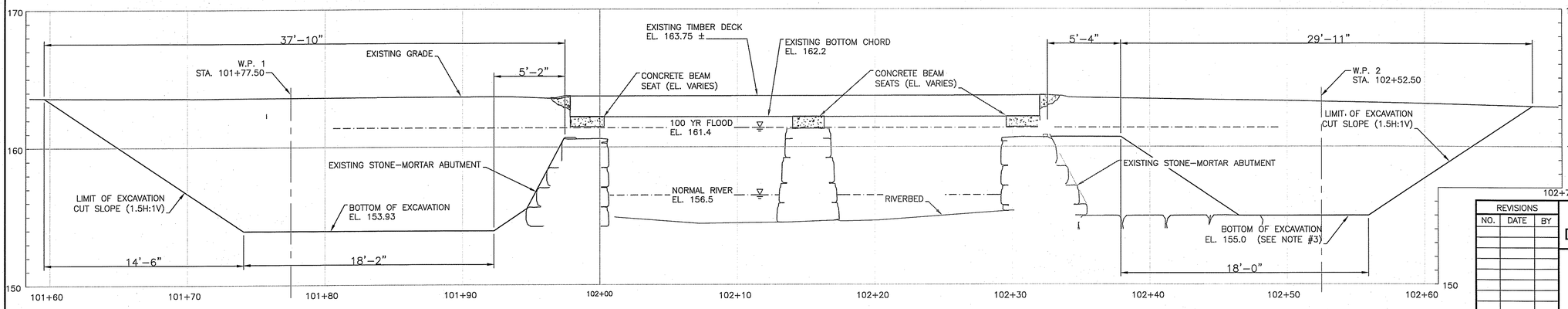
33906_FR_v3

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	12	32



EXCAVATION PLAN

SCALE: 1/8"=1'-0"



EXCAVATION SECTION

SCALE: 1/4"=1'-0"

LEGEND

- INDICATES LIMITS OF EXCAVATION
- INDICATES SLOPED EXCAVATION
- THIS END INDICATES TOP OF EXCAVATION

NOTES

1. BASE MAP DEVELOPED FROM AN AUTOCAD DRAWING FILES, "72528EX.DWG", XXXXX_ALN.DWG, AND 9500A_FR_009_GENERAL.DWG PREPARED BY VANASSE HANGEN BRUSTLIN AND TRANSMITTED TO GZA ON OCTOBER 14, 2015.
2. SEE GENERAL PLAN FOR PROJECT LIMITS.
3. CONTRACTOR TO FIELD VERIFY ELEVATION OF TOP OF EXISTING STONE TO REMAIN. CONTRACTOR TO NOTIFY SITE ENGINEER IF ELEVATION IS NOT EL. 155.0. REFER TO PROJECT DATUM.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED FEB 12 2016 FILE # 16-0001
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

JAN 8 2016

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR REPLACEMENT OF FALLS RIVER BRIDGE

EXETER, RHODE ISLAND

BRIDGE EXCAVATION PLAN AND SECTION

CHECKED BY _____ DATE 11/4/15 SCALE AS SHOWN

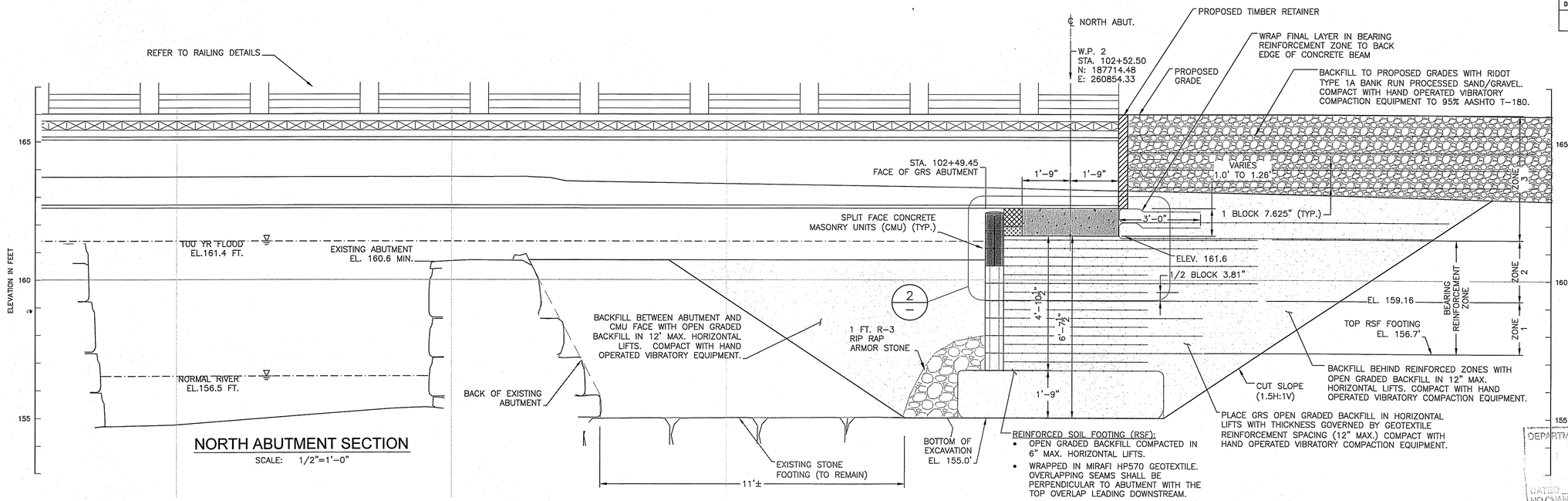
NORTHERN CONSTRUCTION SERVICE, LLC

vhb PROVIDENCE, RHODE ISLAND

GZA

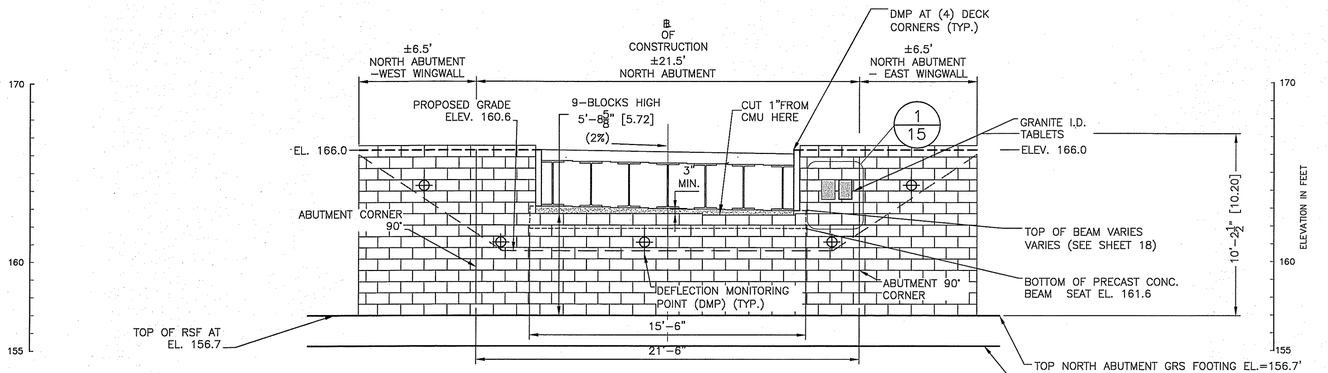
33906_FR_v3

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	13	32



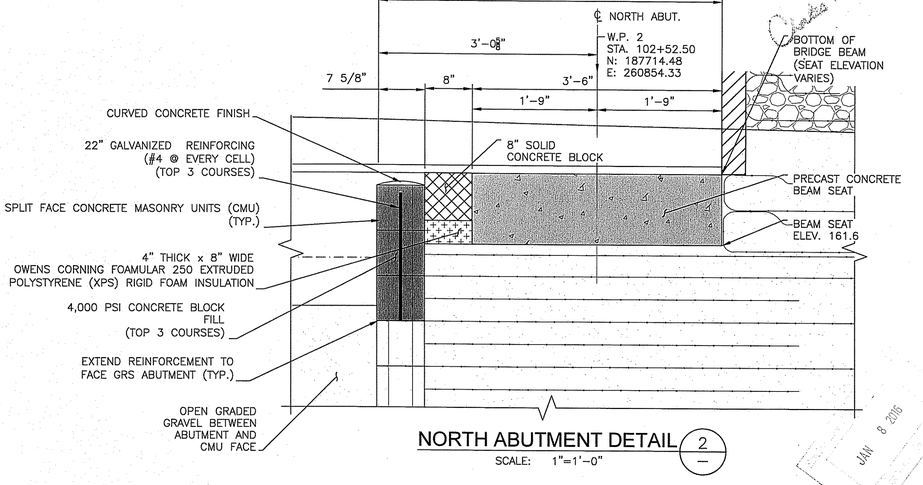
NORTH ABUTMENT SECTION

SCALE: 1/2"=1'-0"



NORTH ABUTMENT/WINGWALL ELEVATION

SCALE: 1/4"=1'-0"



NORTH ABUTMENT DETAIL (2/—)

SCALE: 1"=1'-0"

REINFORCEMENT SCHEDULE - NORTH ABUTMENT			
ZONE	TYPE	LENGTH	VERTICAL SPACING
1	MIRAFI HP570	8 FT (NOTE 1)	1 BLOCK
2	MIRAFI HP570	10 FT (NOTE 1)	1 BLOCK
3	MIRAFI HP570	VARIES (NOTE 2)	1 BLOCK
BEARING REINFORCEMENT	MIRAFI HP570	6 FT (NOTE 3)	1/2 BLOCK

NOTES:

1. DISTANCE FROM FRONT FACE OF GRS FACING BLOCKS
2. DISTANCE FROM END OF BRIDGE BEAM TO CUT SLOPE
3. DISTANCE FROM INSIDE FACE OF CMU BLOCKS

NOTES

1. BASE MAP DEVELOPED FROM AN AUTOCAD DRAWING FILE, "72528EX.DWG", PREPARED BY VANASSE HANGEN BRUSTLIN AND TRANSMITTED TO GZA ON MAY 17, 2013.

NORTHERN CONSTRUCTION SERVICE, LLC

vhb PROVIDENCE, RHODE ISLAND

GZA

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR REPLACEMENT OF FALLS RIVER BRIDGE

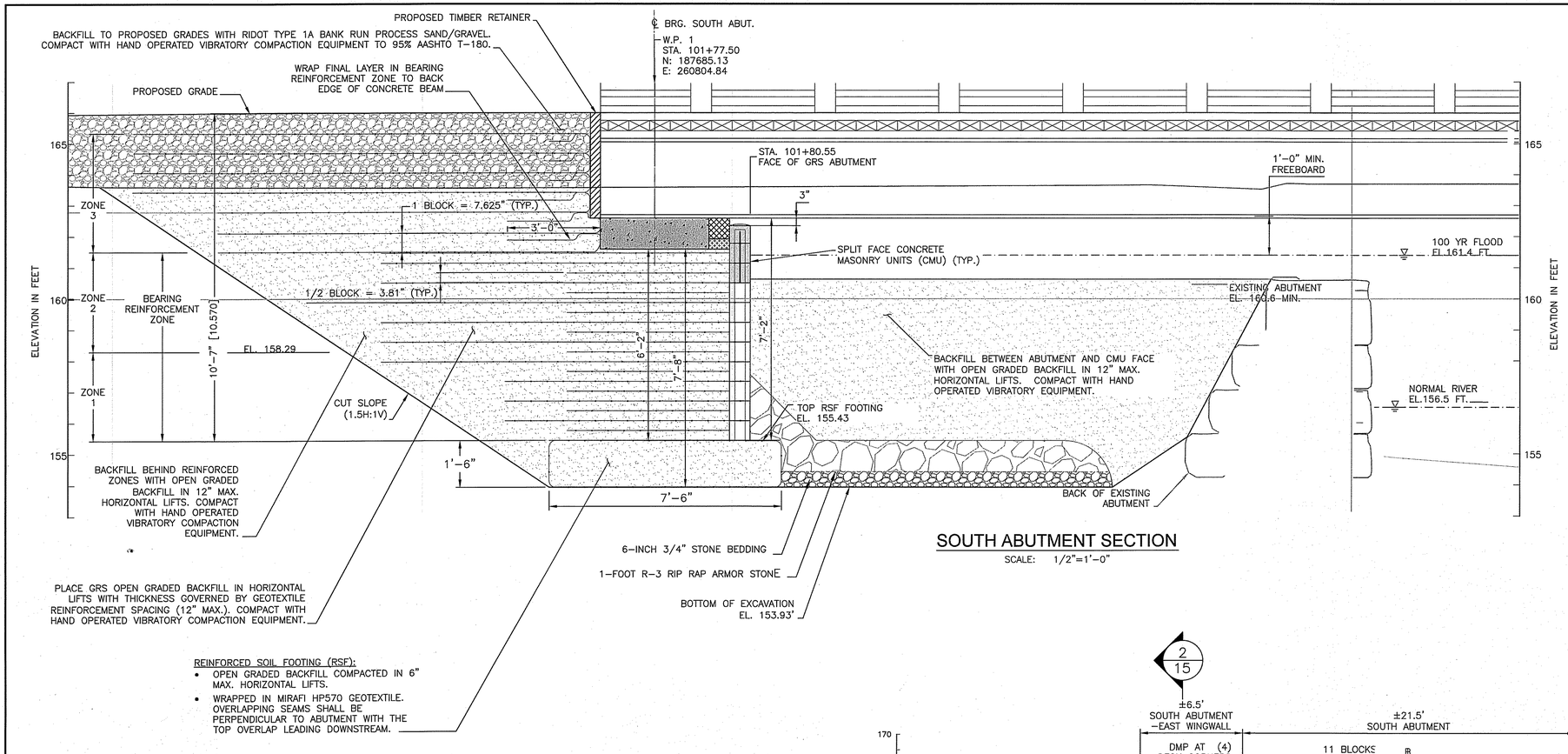
EXETER, RHODE ISLAND

NORTH ABUTMENT SECTIONS AND DETAILS

CHECKED BY _____ DATE 11/4/15 SCALE AS SHOWN

33906_FR_v3

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	14	32



SOUTH ABUTMENT SECTION

SCALE: 1/2"=1'-0"

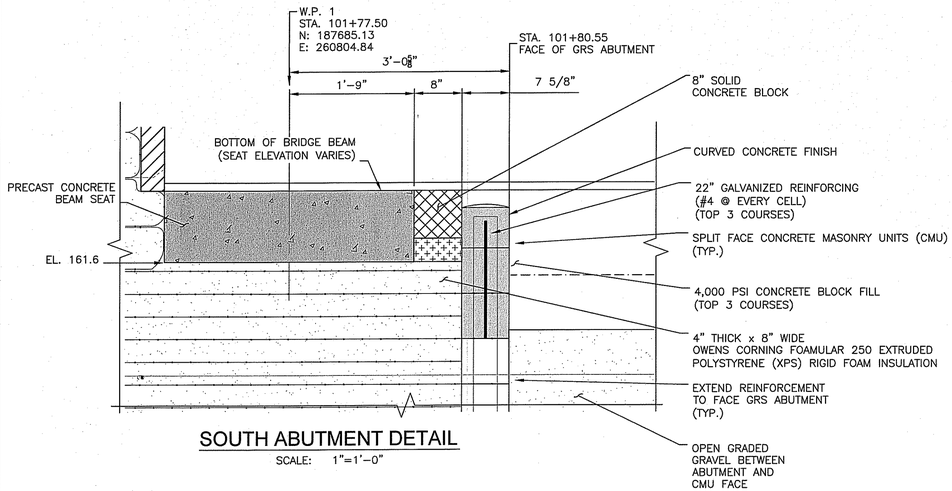
REINFORCED SOIL FOOTING (RSF):

- OPEN GRADED BACKFILL COMPACTED IN 6" MAX. HORIZONTAL LIFTS.
- WRAPPED IN MIRAFI HP570 GEOTEXTILE. OVERLAPPING SEAMS SHALL BE PERPENDICULAR TO ABUTMENT WITH THE TOP OVERLAP LEADING DOWNSTREAM.

REINFORCEMENT SCHEDULE - SOUTH ABUTMENT			
ZONE	TYPE	LENGTH	VERTICAL SPACING
1	MIRAFI HP570	8 FT (NOTE 1)	1 BLOCK
2	MIRAFI HP570	12 FT (NOTE 1)	1 BLOCK
3	MIRAFI HP570	VARIES (NOTE 2)	1 BLOCK
BEARING REINFORCEMENT	MIRAFI HP570	6 FT (NOTE 3)	1/2 BLOCK

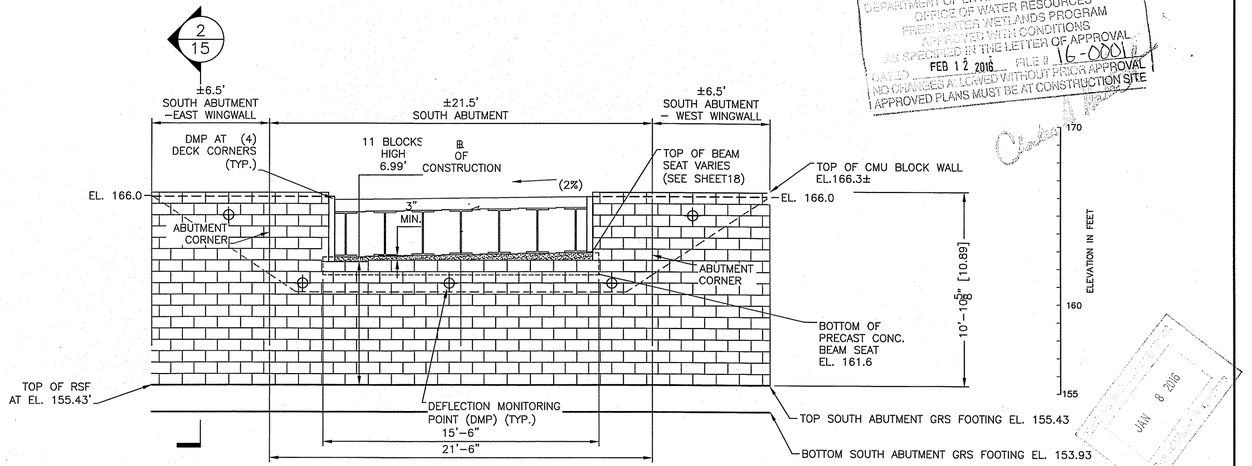
NOTES:

1. DISTANCE FROM FRONT FACE OF GRS FACING BLOCKS
2. DISTANCE FROM END OF BRIDGE BEAM TO CUT SLOPE
3. DISTANCE FROM INSIDE FACE OF CMU FACING BLOCKS



SOUTH ABUTMENT DETAIL

SCALE: 1"=1'-0"



SOUTH ABUTMENT/WINGWALL ELEVATION

SCALE: 1/4"=1'-0"

NOTES

1. BASE MAP DEVELOPED FROM AN AUTOCAD DRAWING FILE, "72528EX.DWG", PREPARED BY VANASSE HANGEN BRUSTLIN AND TRANSMITTED TO GZA ON MAY 17, 2013.

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR REPLACEMENT OF FALLS RIVER BRIDGE

EXETER, RHODE ISLAND

SOUTH ABUTMENT SECTIONS AND DETAILS

CHECKED BY _____ DATE 11/4/15 SCALE AS SHOWN

NORTHERN CONSTRUCTION SERVICE, LLC

vhb PROVIDENCE, RHODE ISLAND

GZA

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	25	32

EXISTING

	EDGE OF PAVEMENT
	BERM
	CURB
	GUARDRAIL
MB	MAILBOX
NO.	UTILITY POLE
	POLE GUY
	LUMINARE
SIGN	SIGN
(SIZE)SD	SUBDRAIN
(SIZE)D	STORMDRAIN
(SIZE)S	SANITARY SEWER
(SIZE)W	WATER MAIN
(SIZE)G	GAS MAIN
(SIZE)T	TELEPHONE DUCT
(SIZE)E	ELECTRIC DUCT
	PLUG AND CAP PIPE
	ABANDONED UTILITY
	FLARED END SECTION
	HEADWALL
WG OR GG	WATER OR GAS GATE
CB	CATCH BASIN
MH	MANHOLE
HYD	HYDRANT
1+00	BASELINE OR CENTERLINE
EXIST. S.H.L. PLAT NO. XX	STATE HIGHWAY LINE
EXIST. S.F.L. PLAT NO. XX	STATE FREEWAY LINE
EXIST. P.E.B.	PERMANENT EASEMENT LINE
EXIST. T.E.B.	TEMPORARY EASEMENT LINE
P	PROPERTY LINE
CITY NAME / TOWN NAME	CITY OR TOWN LINE
PWW	PAVED WATERWAY
ELEV.	CONTOUR LINE
	OPEN DITCH
R.I.H.B.	R.I. HIGHWAY BOUND
S.B.	STONE BOUND
	RETAINING WALL
	FIELD STONE WALL
NO.	BORINGS
TYPE	FENCE
	WOOD OR BRUSH LINE
	TREES
(NAME)	RIVER OR STREAM
	WETLAND AREA
NO. TYPE MATERIAL	BUILDING
	FOUNDATION
	BUILDING TO BE REMOVED
	RAILROAD TRACKS
	CUT AND MATCH
	RIP-RAP
	CUT SLOPE
	FILL SLOPE
	ROCK CUT
00x00	SPOT GRADE
	AREA GRADED TO DRAIN
	BALED HAY RI STD 9.1.0
	BALED HAY & SILT FENCE RI STD. 9.3.0
123 124 125	EDGE OF WETLAND
	WETLAND PERIMETER
ASSF	AREA SUBJECT TO STORM FLOW
100 YR. FLOOD BOUNDARY	100-YEAR FLOOD PLAIN
	LIMIT OF DISTURBANCE
	LIMIT OF CLEARING

NEW

	EDGE OF PAVEMENT
	BERM
	CURB
	GUARDRAIL
NO.	UTILITY POLE
GUY	POLE GUY
	LUMINARE
	SIGN
N(SIZE)SD (Length → Size)	SUBDRAIN
(Length → Size)	STORMDRAIN
N(SIZE)W	WATER MAIN
N(SIZE)G	GAS MAIN
N-#(SIZE)T	TELEPHONE DUCT
N-#(SIZE)E	ELECTRIC DUCT
	PLUG AND CAP PIPE
	ABANDONED UTILITY
	FLARED END SECTION
	HEADWALL
	WATER OR GAS GATE
	CATCH BASIN
	MANHOLE
	HYDRANT
1+00	BASELINE OR CENTERLINE
NEW S.H.L. PLAT NO. XX	STATE HIGHWAY LINE
NEW S.F.L. PLAT NO. XX	STATE FREEWAY LINE
NEW P.E.B.	PERMANENT EASEMENT LINE
NEW T.E.B.	TEMPORARY EASEMENT LINE
	PROPERTY LINE
	CITY OR TOWN LINE
	PAVED WATERWAY
ELEV.	CONTOUR LINE
	OPEN DITCH
	R.I. HIGHWAY BOUND
	STONE BOUND
	RETAINING WALL
	FIELD STONE WALL
NO.	BORINGS
	FENCE
	WOOD OR BRUSH LINE
	TREES
	RIVER OR STREAM
	WETLAND AREA
	BUILDING
	FOUNDATION
	BUILDING TO BE REMOVED
	RAILROAD TRACKS
	CUT AND MATCH
	RIP-RAP
ROADWAY / TOP OF SLOPE	CUT SLOPE
ROADWAY / TOE OF SLOPE	FILL SLOPE
ROCK SHELF / ROCK CUT	ROCK CUT
x 00.00	SPOT GRADE
ELEV. x	AREA GRADED TO DRAIN
	BALED HAY RI STD 9.1.0
	BALED HAY & SILT FENCE RI STD. 9.3.0
	EDGE OF WETLAND
	WETLAND PERIMETER
	AREA SUBJECT TO STORM FLOW
	100-YEAR FLOOD PLAIN
LIMIT OF DISTURBANCE	LIMIT OF DISTURBANCE
LIMIT OF CLEARING	LIMIT OF CLEARING

1.1.0	UNDERDRAIN
1.3.0	CONCRETE CONNECTING COLLAR
2.1.0	CONCRETE HEADWALLS FOR PIPE CULVERTS
2.2.0	STANDARD HEADWALLS FOR MULTIPLE 3'-6" TO 7'-0" PIPE CULVERTS
2.3.0 (DIA.)	PRECAST CONCRETE FLARED END SECTION
3.2.0	BRICK/SOLID BLOCK 4'-0" ROUND MANHOLE
3.2.1 (DIA.)	BRICK/SOLID BLOCK 5'-0" OR 6'-0" ROUND MANHOLE
3.3.0	BRICK/SOLID BLOCK TYPE "D" SQUARE CATCH BASIN
3.3.2	BRICK/SOLID BLOCK TYPE "F" SQUARE CATCH BASIN
3.3.3	SOLID BLOCK FLUSH SQUARE CATCH BASIN
3.4.0	BRICK/SOLID BLOCK TYPE "D" ROUND CATCH BASIN
3.4.1	BRICK/SOLID BLOCK ROUND CATCH BASIN WITH GUTTER INLET
3.4.2	BRICK/SOLID BLOCK TYPE "F" ROUND CATCH BASIN
3.4.3	BRICK/SOLID BLOCK TYPE "R" CATCH BASIN
3.4.4	SOLID BLOCK FLUSH ROUND CATCH BASIN
3.4.5 (DIA.)	BRICK/SOLID BLOCK 5'-0" OR 6'-0" ROUND CATCH BASIN
3.5.0	SOLID BLOCK SHALLOW TYPE "F" SQUARE CATCH BASIN
3.5.1 (SIZE)	SOLID BLOCK SHALLOW 5'-0" OR 6'-0" SQUARE CATCH BASIN
3.6.0	BRICK/SOLID BLOCK DROP INLET
3.7.0 (DIA.)	BRICK/SOLID BLOCK ROUND MANHOLE OR CATCH BASIN GREATER THAN 12'-0"
4.2.0	PRECAST 4'-0" ROUND MANHOLE
4.2.1	PRECAST 5'-0" ROUND MANHOLE
4.2.2	PRECAST 6'-0" ROUND MANHOLE
4.3.0 (SIZE)	PRECAST 4'-0" OR 6'-0" SQUARE MANHOLE OR CATCH BASIN
4.4.0 (DIA.)	PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN
4.5.0	PRECAST CONCRETE DROP INLET
4.5.1	PRECAST CONCRETE DROP INLET LATERAL OUTLET
4.5.2	PRECAST CONCRETE DROP INLET LONGITUDINAL OUTLET
5.3.0	CATCH BASIN AND MANHOLE STEP
5.4.0	CONCRETE COLLARS
6.1.0	LIGHT-DUTY SQUARE FRAME AND ROUND COVER
6.1.1	HEAVY DUTY SQUARE FRAME AND ROUND COVER
6.2.0	LIGHT-DUTY ROUND FRAME AND COVER
6.2.1	HEAVY-DUTY ROUND FRAME AND COVER
6.3.0	SQUARE FRAME AND GRATE
6.3.1	SQUARE FRAME AND GRATE
6.3.2	SQUARE FRAME AND GRATE (BICYCLE SAFE)
6.3.3	HIGH CAPACITY FRAME AND GRATE
6.3.4	HIGH CAPACITY FRAME AND GRATE (BICYCLE SAFE)
6.4.0	ROUND FRAME AND GRATE
7.1.0S	PRECAST CONCRETE CURB (STRAIGHT)
7.1.0C	PRECAST CONCRETE CURB (CIRCULAR)
7.1.1	3'-0" PRECAST CONCRETE TRANSITION CURB
7.1.2	6'-0" PRECAST CONCRETE TRANSITION CURB
7.1.4	PRECAST 2'-0" RADIUS CORNER
7.1.5	PRECAST CONCRETE INLET STONE (FOR SQUARE CATCH BASIN)
7.1.6	PRECAST CONCRETE INLET STONE (FOR ROUND CATCH BASIN)
7.1.7	PRECAST CONCRETE APRON STONE (FOR SQUARE CATCH BASIN)
7.1.8	PRECAST CONCRETE APRON STONE (FOR ROUND CATCH BASIN)
7.2.0S	PRECAST CONCRETE SLOPED FACE CURB (STRAIGHT)
7.2.0C	PRECAST CONCRETE SLOPED FACE CURB (CIRCULAR)
7.2.1	PRECAST CONCRETE SLOPED FACE TRANSITION CURB
7.2.2	PRECAST CONCRETE TRANSITION CURB (VERTICAL FACE TO SPLOPED FACE)
7.3.0S	GRANITE CURB (STRAIGHT)
7.3.0C	GRANITE CURB (CIRCULAR)
7.3.1	3'-0" GRANITE TRANSITION CURB
7.3.2	6'-0" GRANITE TRANSITION CURB
7.3.3	GRANITE WHEELCHAIR RAMP TRANSITION CURB
7.3.4	GRANITE 2'-0" RADIUS CORNER
7.3.5	GRANITE INLET STONE (FOR SQUARE CATCH BASIN)
7.3.6	GRANITE INLET STONE (FOR ROUND CATCH BASIN)
7.3.7	GRANITE APRON STONE (FOR SQUARE CATCH BASIN)
7.3.8	GRANITE APRON STONE (FOR ROUND CATCH BASIN)
7.4.0	GRANITE SLOPED FACE CURB
7.4.1	GRANITE SLOPED FACE TRANSITION CURB
7.4.2	GRANITE TRANSITION CURB (VERTICAL FACE TO SLOPE FACE)
7.5.0	BITUMINOUS CONCRETE LIP CURB
7.5.1A	BITUMINOUS BERM (CONSTRUCTION METHOD A)
7.5.1B	BITUMINOUS BERM (CONSTRUCTION METHOD B)
7.6.0	CURB SETTING DETAIL
8.2.0	BITUMINOUS CONCRETE DITCH
8.3.0	RIP-RAP DITCH
8.4.0	PAVED WATERWAY
9.1.0	BALED HAY EROSION CHECK
9.2.0	SILT FENCE DETAIL
9.3.0	BALED HAY DITCH EROSION CHECK AND SILT FENCE COMBINED
9.4.0	BALED HAY DITCH AND SWALE EROSION CHECK
9.5.0	LOG AND HAY CHECK DAM
9.7.0	DEWATERING BASIN
9.8.0	BALED HAY CATCH BASIN INLET PROTECTION
9.9.0	CONSTRUCTION ACCESS
10.1.0	WET STONE MASONRY RETAINING WALL
10.2.0	RUBBLE MASONRY WALL
10.3.0	CONCRETE RETAINING WALL
10.4.0	STONE MASONRY STEPS
14.1.0	CONCRETE HIGHWAY BOUND
15.1.0	POST AND MOUNTINGS FOR RURAL MAILBOX
15.2.0 (NO.)	POST AND MULTIPLE MOUNTINGS FOR RURAL MAILBOXES
18.2.0	PRECAST TYPE "A" HANDHOLE
18.2.2	HEAVY DUTY TYPE "H" HANDHOLE
18.3.0	ALUMINUM LIGHTING STANDARDS
20.2.0	BI-DIRECTIONAL CONTROL DEVICE
24.6.1	STREET SIGN MOUNTING DETAIL
26.2.0	POLYETHYLENE DRUM WITH MARKINGS
26.3.0	PVC PLASTIC PIPE TYPE III BARRICADE
31.1.0	CHAIN LINK FENCE 3'-0" TO 4'-0"
31.2.0	CHAIN LINK FENCE 5'-0" TO 6'-0"
31.2.1	CHAIN LINK FENCE 5'-0" TO 6'-0" INTERMEDIATE POST
31.3.0	WOVEN WIRE RIGHT-OF-WAY FENCE (STEEL POST)
34.1.0	TYPICAL GUARDRAIL INSTALLATION
34.2.0	STEEL BEAM GUARDRAIL
34.2.1	STEEL BEAM GUARDRAIL DETAILS
34.2.2	STEEL BEAM GUARDRAIL DOUBLE FACED ASSEMBLY
34.2.3	STEEL BEAM GUARDRAIL FIXTURES
34.2.5	STEEL BEAM GUARDRAIL REFLECTORIZED TRIANGULAR DELINEATOR
34.3.1	GUARDRAIL END SECTION
34.3.2	TERMINAL END SECTION (SINGLE FACE)
34.3.3	ANCHORAGE DETAILS APPROACH END SECTION
34.3.4	ANCHORAGE DETAILS TRAILING END SECTION
34.4.0	STEEL BACKED TIMBER GUARDRAIL
34.4.1	STEEL BACKED TIMBER GUARDRAIL TERMINAL SECTION-TYPE 1
40.1.0	DOUBLE-FACED PRECAST MEDIAN BARRIER
40.2.0	SINGLE-FACED PRECAST MEDIAN BARRIER
40.2.1	SINGLE-FACED PRECAST MEDIAN BARRIER
40.3.0	PRECAST MEDIAN BARRIER TRANSITION UNIT
40.5.0	PRECAST MEDIAN BARRIER FOR TEMPORARY TRAFFIC CONTROL
43.1.0	CEMENT CONCRETE SIDEWALK
43.2.0	BITUMINOUS CONCRETE SIDEWALK
43.3.0	WHEELCHAIR RAMP
43.3.1	WHEELCHAIR RAMP FOR LIMITED RIGHT-OF-WAY AREAS
43.4.0	DRIVEWAY DEVELOPMENT FOR 3'-0" TRANSITION CURB
43.4.1	DRIVEWAY DEVELOPMENT FOR 6'-0" TRANSITION CURB
43.5.0	CEMENT CONCRETE DRIVEWAYS
48.1.0	DETECTABLE WARNING SYSTEM
51.1.0	TREE PROTECTION DEVICE
51.1.1	DRIP LINE TREE PROTECTION DEVICE FOR EXISTING TREES
51.2.0	SHRUB PROTECTION DEVICE
51.3.0	TREE WELL
51.4.0	TREE WALL

AB	ADJUST CATCH BASIN TO GRADE
ABM	ADJUST CATCH BASIN TO MANHOLE
AC	ADJUST CURB STOP TO GRADE
AD	ADJUST DRAINAGE MANHOLE TO GRADE
AE	ADJUST ELECTRIC MANHOLE TO GRADE
AFC	ADJUST FRAME AND COVER TO GRADE
AFG	ADJUST FRAME AND GRATE TO GRADE
AG	ADJUST GAS GATE BOX TO GRADE
AHH	ADJUST HANDHOLE TO GRADE
AS	ADJUST SANITARY SEWER MANHOLE TO GRADE
AT	ADJUST TELEPHONE MANHOLE TO GRADE
AW	ADJUST WATER GATE BOX TO GRADE
BCD	BITUMINOUS CONCRETE DRIVEWAY 3" BITUMINOUS CONCRETE TYPE I-2 8" GRAVEL BORROW SUBBASE COURSE
BPS	BUILD NEW STRUCTURE OVER EXISTING PIPE
CCB	CLEAN CATCH BASIN
CCP	CUT AND CAP PIPE WITH RESTRAINT (ALL SIZES)
CFP	CLEAN AND FLUSH PIPE
CG	CLEARING AND GRUBBING
CMH	CLEAN MANHOLE
CP (DEPTH)	COLD PLANE
CPP	CUT AND PLUG PIPE (ALL TYPES, ALL SIZES)
DB	REMOVE AND DISPOSE BITUMINOUS CURB
DC	REMOVE AND DISPOSE CONCRETE CURB
DCB	REMOVE AND DISPOSE CATCH BASIN
DDI	REMOVE AND DISPOSE DROP INLET
DF	REMOVE AND DISPOSE FENCE
DFC	REMOVE AND DISPOSE FRAME AND COVER
DFE	REMOVE AND DISPOSE FLARED END SECTION
DFG	REMOVE AND DISPOSE FRAME AND GRATE
DFH	REMOVE AND DISPOSE FIRE HYDRANT
DFP	REMOVE AND DISPOSE FLEXIBLE PAVEMENT
DG	REMOVE AND DISPOSE GUARDRAIL
DH	REMOVE AND DISPOSE HEADWALL
DHB	REMOVE AND DISPOSE HIGHWAY BOUND
DHH	REMOVE AND DISPOSE HANDHOLE
DL	REMOVE AND DISPOSE LIGHT AND FOUNDATION
DMB	REMOVE AND DISPOSE MEDIAN BARRIER
DMH	REMOVE AND DISPOSE MANHOLE
DMM	REMOVE AND DISPOSE MEDIAN MARKER
DOW	REMOVE AND DISPOSE OBSERVATION WELL
DP	REMOVE AND DISPOSE PIPE
DPB	REMOVE AND DISPOSE PAVEMENT AND RIGID BASE
DRB	REMOVE AND DISPOSE RIGID BASE
DS	REMOVE AND DISPOSE SIGN
DSS	REMOVE AND DISPOSE TRAFFIC SIGNAL SYSTEM
DSW	REMOVE AND DISPOSE SIDEWALK
DTD	REMOVE AND DISPOSE TELEPHONE DUCT BANKS
DUP	REMOVE AND DISPOSE UTILITY POLE
DWW	REMOVE AND DISPOSE PAVED WATERWAY
FF	FILTER FABRIC RIPRAP FLARED END UNDERLAYMENT
GET	FLARED GUARDRAIL END TREATMENT
IA	IMPACT ATTENUATOR
IDL	IMPERVIOUS DITCH LINER
LOD	LIMIT OF DISTURBANCE
LOR	LIMIT OF REGRADING
LS	4" LOAM AND SEED

NFH	NEW FIRE HYDRANT WITH GATE VALVE
NIC	NOT IN THIS CONSTRUCTION CONTRACT
NWB	FURNISH AND INSTALL NEW WATER GATE VALVE BOX
NWVB	FURNISH AND INSTALL NEW WATER GATE VALVE AND BOX
NWCB	FURNISH AND INSTALL NEW WATER CURB STOP BOX
NWSB	FURNISH AND INSTALL NEW WATER CURB STOP AND BOX
PCD	PERMANENT CHECK DAM
PS	4" PLANTABLE SOIL AND SEED
RCB	RECONSTRUCT TYPE "D" CATCH BASIN, TO CATCH BASIN WITH GUTTER INLET
RCM	R.I.D.O.T. COMMUNICATIONS MANHOLE
RHH	REMOVE, HANDLE, HAUL, TRIM, RESET CURB EDGING, STRAIGHT, CIRCULAR (ALL TYPES)
RLP	RELOCATE LAMP POST
RMB	RELOCATE MAILBOX (BY OTHERS)
RPM	REMOVE PAVEMENT MARKINGS
RRP	RIP-RAP PAD (SEE DETAIL)
RRS	REMOVE AND RELOCATE SIGN
RUP	RELOCATE UTILITY POLE (BY OTHERS)
SB	STONE BAFFLE
SBAE	STEEL BEAM BRIDGE CONNECTION APPROACH END (W/O NESTED RAIL)
SBTE	STEEL BEAM BRIDGE CONNECTION TRAILING END (W/NESTED RAIL)
SD-	STRUCTURAL DISPOSITION - SEE CS PAGES OF SPECIFICATION
SF	REMOVE AND STOCKPILE FENCE
SGA	SPECIAL GRADED AGGREGATE
SGC	REMOVE AND STOCKPILE GRANITE CURB
SGR	REMOVE AND STOCKPILE GUARDRAIL
SH	REMOVE AND STOCKPILE HYDRANT
SS	REMOVE AND STOCKPILE SIGN
STS	REMOVE AND STOCKPILE TRAFFIC SIGNAL SYSTEM
TB	CONCRETE THRUST BLOCK
TEP	TIE EXISTING PIPE INTO NEW STRUCTURE
TNP	TIE NEW PIPE INTO EXISTING STRUCTURE
TBT	THRIE BEAM TRANSITION
TBBC	THRIE BEAM BRIDGE CONNECTION
TT	TREE TRIMMING
WCM	4" WOOD CHIP MULCH
4DY	4" EPOXY RESIN PAVEMENT MARKINGS - DOUBLE YELLOW
6W	6" EPOXY RESIN PAVEMENT MARKINGS - WHITE
12W	12" EPOXY RESIN PAVEMENT MARKINGS - WHITE
6WT	6" PREFORMED PATTERNED MARKING (HIGH PERFORMANCE TAPE)
4Y	4" EPOXY RESIN PAVEMENT MARKINGS - YELLOW
6Y	6" EPOXY RESIN PAVEMENT MARKINGS - YELLOW
P.G.L.	PROFILE GRADE LINE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED FEB 12 2016 FILE # 16-0001
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

JAN 8 2016

REVISIONS		
NO.	DATE	BY
1	6/07	TRB

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR REPLACEMENT OF FALLS RIVER BRIDGE

EXETER, RHODE ISLAND

STANDARD PLAN SYMBOLS & STANDARD LEGEND

CHECKED BY _____ DATE 11/4/15 SCALE NO SCALE

NORTHERN CONSTRUCTION SERVICE, LLC

vhb PROVIDENCE, RHODE ISLAND

GZA

9500A_FR_025_STDSYM

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	26	32

GENERAL NOTES:

1. ANY DAMAGE TO EXISTING PAVEMENT, BRIDGES, CONDUIT, SIDEWALK, FENCES, ETC., CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.
2. THE CONTRACTOR SHALL PLACE ALL EQUIPMENT AND MATERIAL AS FAR AWAY AS POSSIBLE FROM THE EDGE OF THE TRAVEL LANE SO AS NOT TO CAUSE A SAFETY HAZARD, IN ACCORDANCE WITH SECTION 106.06 OF THE R.I.D.O.T. STANDARD SPECIFICATION, LATEST EDITION.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE EXISTING CONDITIONS ARE NOT OBLITERATED BEFORE CONTROL POINTS ARE LOCATED AND CONSTRUCTION LAYOUT IS ESTABLISHED. THE CONSTRUCTION LAYOUT SHALL BE PROVIDED IN SUFFICIENT DETAIL, THEREBY ENABLING HIM TO CONSTRUCT THE PROJECT IN CONFORMITY WITH THE PLANS AND SPECIFICATIONS. SURVEY WILL BE PROVIDED BY THE CONTRACTOR. THE RESIDENT ENGINEER WILL NOT AUTHORIZE CONSTRUCTION ACTIVITIES TO BEGIN UNTIL HE IS SATISFIED THAT ALL GROUND CONTROL HAS BEEN ESTABLISHED, TIED DOWN, AND DULY RECORDED IN STANDARD FIELD BOOKS.
4. ALL R.I. STD. 9.9.0 CONSTRUCTION ACCESS ROADS SHALL BE CONSTRUCTED PRIOR TO ANY ROADWAY ACCEPTING CONSTRUCTION TRAFFIC.
5. THE FREQUENCY AND APPLICATION RATES FOR THE DUST CONTROL ITEMS WILL BE AS DIRECTED BY THE ENGINEER.
6. ALL SIDEWALK AND DRIVEWAYS DESIGNATED FOR REPLACEMENT SHALL BE CUT AND MATCHED AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
7. ASPHALT EMULSION TACK COAT SHALL BE PLACED PRIOR TO PAVEMENT PLACEMENT ON THE CONCRETE BASE OR COLD PLANED PAVEMENT, AND ON ANY NEW COURSE WHICH HAS BEEN OPEN TO TRAFFIC, OR ANY NEW COURSE WHICH HAS BEEN EXPOSED FOR MORE THAN 3 DAYS, AND/OR AS DIRECTED BY THE ENGINEER. IT SHALL ALSO BE APPLIED TO VERTICAL PAVEMENT FACES BETWEEN ADJOINING PAVEMENT SECTIONS. ALL APPLICATIONS ON BOTH HORIZONTAL AND VERTICAL SURFACES SHALL BE PAID FOR UNDER THE CONTRACT UNIT BID PRICE FOR CODE 403.0300 "ASPHALT EMULSION TACK COAT."
8. THE LIMITS OF CLEARING AND SURFACE DISTURBANCE MUST BE STRICTLY ADHERED TO IN ALL AREAS. IN ADDITION TO THOSE AREAS SPECIFICALLY DESIGNATED ON THE PLANS, THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AND PLACING, AT HIS OWN EXPENSE, PLANTABLE SOIL AND SEED IN AREAS WHICH ARE OUTSIDE OF THE PROJECT'S AREAS OF DISTURBANCE AND WHICH ARE IMPACTED BY CONSTRUCTION OPERATIONS INCLUDING THOSE AREAS WHERE VEHICLES, EQUIPMENT AND MATERIALS ARE STORED WITH THE PERMISSION OF THE ENGINEER.
9. UNDER NO CIRCUMSTANCE WILL THE CONTRACTOR BE ALLOWED TO STOCKPILE REMOVED PAVEMENT MATERIALS WITHIN THE PROJECT LIMITS.
10. CLEANING AND SWEEPING OF PAVEMENT WILL INCLUDE REMOVAL OF ALL PAVEMENT DEBRIS PRIOR TO THE PLACEMENT OF EACH BITUMINOUS PAVEMENT LIFT. ALL CLEANING AND SWEEPING SHALL BE DONE TO THE SATISFACTION OF THE ENGINEER.
11. PRIOR TO INSTALLATION, ALL SIGNS, MOUNTINGS AND LOCATIONS SHALL BE APPROVED OR MODIFIED BY THE ENGINEER.
12. THE COORDINATE SYSTEM IS THE R.I. STANDARD GRID SYSTEM, NAD 83 (2011) EPOCH-2010.00. THE VERTICAL CONTROL IS NAD 83 (2011) EPOCH 2010.00.
13. PAVEMENT OPERATIONS FOR CURBED SECTIONS: IN AREAS WHERE CURBING IS SET TO FINISH LINE AND GRADE, THE CONTRACTOR WILL NOT BE REQUIRED TO UTILIZE THE SENSOR AND SKY-TYPE DEVICE FOR AUTOMATIC GRADE CONTROL, BUT WILL BE ALLOWED TO MANUALLY ADJUST THE BITUMINOUS PAVER FOR CONTROLLING GRADE.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ROADWAYS FREE OF DEBRIS RESULTING FROM THEIR CONSTRUCTION OPERATIONS. ALL DEBRIS SHALL BE REMOVED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.
15. NO FUEL STORAGE, VEHICLE REFUELING, OR EQUIPMENT STORAGE SHALL TAKE PLACE IN DESIGNATED WETLANDS, NOR WITHIN 100' OF ANY WATER BODY. THIS REQUIREMENT SHALL NOT SUPERSEDE ANY FEDERAL, STATE OR LOCAL LAW, ORDINANCE, RULE OR REGULATION THAT APPLIES TO THE SAME, UNLESS THIS REQUIREMENT IS MORE STRINGENT THAN SAID LAW, ORDINANCE, RULE OR REGULATION.
16. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT AT THE END OF FINAL PAVING OPERATIONS, FLOW TO EXISTING DRAINAGE STRUCTURES HAS BEEN REESTABLISHED AND THAT NO ISOLATED DEPRESSIONS REMAIN. THERE SHALL BE NO SEPARATE PAYMENT FOR THIS PROVISION; IT SHALL BE CONSIDERED INCIDENTAL TO PAVING AND COLD PLANING OPERATIONS.
17. ALL EMBANKMENTS SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING 12" (AFTER COMPACTION) AND SHALL BE COMPACTED AS SPECIFIED BEFORE THE NEXT LAYER IS PLACED. ALSO, EMBANKMENT CONSTRUCTION SHALL CONFORM TO SECTION 202.03.2 OF THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
18. IF THIS PROJECT IS ON A HURRICANE EVACUATION AND DIVERSIONARY ROUTE, AS DESIGNATED ON THE COVERSHEET, THE CONTRACTOR IS ADVISED THAT UPON 12 (TWELVE) HOURS NOTICE THE ROADWAY SHALL BE OPEN TO EVACUEES AND EMERGENCY PERSONNEL. ANY EXTRA WORK NECESSARY TO COMPLY WITH THIS REQUIREMENT WILL BE REIMBURSED UNDER FORCE ACCOUNT PROCEDURES.
19. THE CONTRACTOR SHALL READ, BECOME FAMILIAR WITH, AND ADHERE TO ALL OF THE PROVISIONS, CONDITIONS, AND STIPULATIONS STATED IN THE ENVIRONMENTAL APPROVALS ISSUED FOR THE PROJECT FROM THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (RIDEM). AND/OR THE ARMY CORPS OF ENGINEERS (ACOE). AND/OR THE COASTAL RESOURCES MANAGEMENT COUNCIL (CRMC). COPIES OF EACH OF THESE PERMITS ARE INCLUDED IN THE CS PAGES OF THE CONTRACT DOCUMENTS. ALL COSTS ASSOCIATED WITH THESE CONDITIONS SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION AND INCLUDED WITH THE COST FOR THE ASSOCIATED BID ITEM(S).
20. FOR ALL PROJECTS INVOLVING KNOWN SITE REMEDIATION ISSUES, THE CONTRACTOR SHALL READ, BECOME FAMILIAR WITH, AND ADHERE TO ALL OF THE CONSTRUCTION RELATED PROVISIONS, CONDITIONS, AND STIPULATIONS OF ANY REMEDIAL PLANS DEVELOPED FOR THE PROJECT. COPIES OF THESE DOCUMENTS ARE INCLUDED IN THE CS PAGES OF THE CONTRACT DOCUMENTS. ALL COSTS ASSOCIATED WITH COMPLIANCE WITH THESE DOCUMENTS SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION AND INCLUDED WITH THE COST FOR THE ASSOCIATED BID ITEM(S).
21. NO UNPROTECTED CONSTRUCTED FEATURE MAY PROJECT MORE THAN 4 INCHES ABOVE THE FINISHED GRADE OF A TRAVERSABLE SLOPE IN A CLEAR ZONE, e.g. HEADWALL, DRAINAGE INLET, ETC.
22. THE REMAINING SECTION OR STUB OF A BREAKAWAY BASE MAY NOT PROJECT MORE THAN 4 INCHES ABOVE THE FINISHED GRADE OF A TRAVERSABLE SLOPE IN A CLEAR ZONE, e.g. SIGN POSTS, LIGHT POLES, FIRE HYDRANTS, ETC.

DRAINAGE AND EROSION CONTROL NOTES:

1. FOR ALL PROJECTS WITH AT LEAST ONE(1) ACRE OF SOIL DISTURBANCE. R.I.D.O.T. IS REQUIRED TO DEVELOP AND ENFORCE A SITE SPECIFIC SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC) IN ORDER TO REMAIN IN COMPLIANCE WITH THE RIPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL READ, BECOME FAMILIAR WITH, AND ADHERE TO ALL OF THE PROVISIONS, CONDITIONS, AND STIPULATIONS OF THE GENERAL PERMIT AND THE SITE SPECIFIC SWPPP FOR THIS PROJECT. COPIES OF THESE DOCUMENTS ARE INCLUDED IN THE CS PAGES OF THE CONTRACT DOCUMENTS. ALL COSTS ASSOCIATED WITH ADHERENCE TO THE SWPPP SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION AND INCLUDED WITH THE COST FOR THE ASSOCIATED BID ITEM(S).
2. NO UNDISTURBED AREAS SHALL BE CLEARED OF EXISTING VEGETATION AFTER OCTOBER 15 OF ANY CALENDAR YEAR OR DURING ANY PERIOD OF FULL OR LIMITED WINTER SHUTDOWN. ALL DISTURBED SOILS EXPOSED PRIOR TO OCTOBER 15 OF ANY CALENDAR YEAR SHALL BE SEEDED OR PROTECTED BY THAT DATE. ANY SUCH AREAS THAT DO NOT HAVE ADEQUATE VEGETATIVE STABILIZATION, AS DETERMINED BY THE RESIDENT ENGINEER OR ENVIRONMENTAL INSPECTOR, BY NOVEMBER 15 OF ANY CALENDAR YEAR, MUST BE STABILIZED THROUGH THE USE OF EROSION CONTROL MATTING OR HAY MULCH, IN ACCORDANCE WITH SPECIFICATIONS CONTAINED WITHIN THE R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK. IF WORK CONTINUES WITHIN ANY OF THESE AREAS DURING THE PERIOD FROM OCTOBER 15 THROUGH APRIL 15, CARE MUST BE TAKEN TO ENSURE THAT ONLY THE AREA REQUIRED FOR THAT DAY'S WORK IS EXPOSED, AND ALL ERODIBLE SOIL MUST BE RESTABILIZED WITHIN 5 WORKING DAYS. ANY WORK TO CORRECT PROBLEMS RESULTING FROM FAILURE TO COMPLY WITH THIS PROVISION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THERE WILL BE NO SEPARATE PAYMENT FOR THIS PROVISION, IT SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION OPERATIONS. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 2 WEEKS OF FINAL GRADING.
3. STOCKPILES OF MATERIAL SHALL NOT BE LOCATED WITHIN REGULATED WETLANDS OR BUFFER ZONE AREAS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 30% AND STOCKPILES OF ERODABLE MATERIAL SHALL ALSO BE SEEDED AND RINGED WITH R.I. STD. 9.1.0 TO STABILIZE.
4. IF THE PLANS INCLUDE SPECIFIC AREAS FOR PLACEMENT OF CONSTRUCTION DEWATERING BASINS AND/OR EQUIPMENT AND MATERIALS STORAGE AND STOCKPILING, AND IF THE CONTRACTOR ELECTS TO UTILIZE ANY OTHER AREAS FOR THESE PURPOSES, THIS SHALL BE APPROVED BY THE ENGINEER ONLY AFTER OBTAINING ANY NECESSARY PERMITS AND/OR PERMIT MODIFICATIONS FROM THE APPROPRIATE REGULATORY AUTHORITY(IES). ANY PERMITTING REQUIREMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE ACCOMPLISHED AT NO COST TO THE STATE. THE ENGINEER WILL COORDINATE SUBMISSION OF ANY REQUIRED PERMIT APPLICATION MATERIALS WITH THE R.I.D.O.T. OFFICE OF ENVIRONMENTAL PROGRAMS.
5. JUTE MESH SHALL BE USED TO STABILIZE PLANTABLE SOIL AND/OR LOAM IN ALL DITCHES, ON ALL SLOPES ADJACENT TO WETLANDS AND WETLAND PERIMETERS, AND ON ALL SLOPES WITHIN WATER QUALITY BASINS. JUTE MESH IN DITCHES SHALL EXTEND TO AN ELEVATION 2 FEET ABOVE THE BOTTOM OF THE DITCH.
6. SEEDING ON ALL SLOPES 3 TO 1 OR STEEPER SHALL CONSIST OF THE FOLLOWING APPLICATIONS UNLESS CHANGED IN THE CONTRACT.
   a. SEEDING TYPE I.
   b. ADHESIVE MULCH STABILIZER
7. UNVEGETATED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR PERIODS IN EXCESS OF 2 WEEKS OR THROUGH THE INACTIVE WINTER SEASON.
8. PRIOR TO DRAINAGE AND UTILITY CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION (HORIZONTAL AND VERTICAL) OF ALL EXISTING PIPES AND/OR STRUCTURES WHICH ARE TO BE CONNECTED. ANY VARIATION FOUND FROM THE PLANS MUST BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO DRAINAGE AND UTILITY CONSTRUCTION. WORK CAN COMMENCE ONLY UPON THE ENGINEER'S AUTHORIZATION.
9. ALL DRAINAGE AND UTILITY STRUCTURES WITHIN THE PAVED ROADWAY SHALL BE ADJUSTED TO GRADE WITH THE SURROUNDING PAVEMENT PRIOR TO THE WINTER SHUTDOWN.
10. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL THROUGHOUT THE WORK AREA.
11. CATCH BASIN RIM GRADES NOTED ON PLANS ARE DEPRESSED 0.1' LOWER THAN THE GUTTER GRADE. RIM ELEVATIONS SHOWN ARE FINAL GRADES. THE CONTRACTOR SHALL PLACE FRAMES AND GRATES 0.1' BELOW THE GRADE CONSTRUCTED IN THIS CONTRACT OR AS DIRECTED BY THE ENGINEER.
12. PROVISIONS FOR CLEARING TO ACCESS OUTFALLS DURING THE CLEANING AND FLUSHING OF THE CLOSED DRAINAGE SYSTEM SHALL BE KEPT TO A MINIMUM.
   a. ANY VEGETATIVE CLEARING SHALL BE LIMITED TO BRUSH AND TREES LESS THAN 3" DIAMETER.
   b. NO HEAVY EQUIPMENT MAY ENCROACH UPON VEGETATED PERIMETER OR RIVERBANK WETLANDS AS WELL AS BIOLOGICAL WETLANDS.
13. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL DEVICES FOR OUTLET PROTECTION PRIOR TO CLEANING AND FLUSHING STORM WATER DRAINAGE. EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL ALL FLUSHED SEDIMENTS ARE REMOVED. AT ALL OUTFALL LOCATIONS WHERE PIPES ARE TO BE CLEANED AND FLUSHED, OUTLET PROTECTION (R.I. STD. 9.1.0 OR 9.3.0) SHALL BE INSTALLED TO TRAP SEDIMENTS. THESE SEDIMENTS SHALL THEN BE REMOVED AND DISPOSED OF LEGALLY BEFORE THE OUTLET PROTECTION DEVICES ARE REMOVED. IF OUTLET PROTECTION AT THE OUTFALL IS NOT FEASIBLE, THEN THE OUTLET PIPE OF THE LAST DRAINAGE STRUCTURE TO BE CLEANED SHALL BE PLUGGED TO CAPTURE ALL MATERIALS FLUSHED FROM PIPES. AFTER THE MATERIALS ARE REMOVED FROM THE DRAINAGE STRUCTURE, THE OUTLET SHALL BE UNPLUGGED TO RESUME NORMAL FUNCTIONING.
14. R.I. STD. 9.8.0 BALED HAY INLET PROTECTION SHALL BE INSTALLED AT ALL CATCH BASINS AND INLETS WHENEVER SUBBASE IS EXPOSED, AND SHALL REMAIN IN PLACE UNTIL THE ABUTTING GROUND SURFACES ARE STABILIZED.
15. WHERE BALED HAY INLET PROTECTION AND SILT FENCES ARE USED AT CATCH BASINS, THEY SHALL BE REMOVED AT THE END OF THE PROJECT OR AS DIRECTED BY THE ENGINEER IN ORDER TO PREVENT CLOGGING OF THE INLET.

DRAINAGE AND EROSION CONTROL NOTES (CONTINUED):

16. DETENTION AND RETENTION BASINS MAY BE ROUGH GRADED AND STABILIZED WITH VEGETATION AND/OR OTHER EROSION CONTROL MEASURES AS REQUIRED BY THE ENGINEER PRIOR TO USE AS TEMPORARY SEDIMENTATION BASINS DURING PROJECT CONSTRUCTION. FINAL BASIN CONSTRUCTION SHALL NOT COMMENCE UNTIL ALL SOURCES OF SEDIMENT HAVE BEEN ELIMINATED, FINAL ROADSIDE VEGETATION IS ESTABLISHED AND USE OF TEMPORARY BASINS IS NO LONGER REQUIRED AS DIRECTED BY THE ENGINEER. ANY ISSUES RELATING TO EROSION AND/OR SEDIMENT TRANSPORT INTO WETLAND AREAS RESULTING FROM SUCH USE OF SEDIMENTATION BASINS DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY CORRECTIVE ACTION REQUIRED TO RESOLVE SUCH ISSUES SHALL BE COMPLETED BY THE CONTRACTOR.
17. THE TOE OF ANY FILL SLOPE IS TO REMAIN AT LEAST 1' INSIDE OF ALL EROSION CONTROLS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR COVER ANY PORTION OF THE EROSION CONTROL MEASURES WITH MATERIAL. ANY MATERIAL THAT IS PLACED ON ANY EROSION CONTROLS BY THE CONTRACTOR, OR ANY AGENT OF THE CONTRACTOR, SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR, AND ANY NECESSARY REPAIRS TO THE EROSION CONTROLS ACCOMPLISHED.
18. PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES, EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED AT THOSE AREAS INDICATED ON THE PLANS. CLEARING MAY OCCUR PRIOR TO INSTALLATION OF SUCH CONTROLS, HOWEVER NO GRUBBING, GRADING, FILLING, OR OTHER SOIL DISTURBANCE SHALL OCCUR PRIOR TO INSTALLATION. THE LIMITS OF CLEARING AND SURFACE DISTURBANCE MUST BE STRICTLY ADHERED TO IN ALL AREAS.
19. ALL HAY BALES, SILT FENCE OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS IS ESTABLISHED. IF NEEDED, TEMPORARY SEEDING CAN HELP TO MINIMIZE EROSION. TEMPORARY SEED WILL CONFORM TO R.I.D.O.T. STANDARD TEMPORARY SEED MIX.
20. THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE TO THE STATE.
21. THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE SPECIFIED IN SUBSECTION L.02.03 OF THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
22. ADDITIONAL EROSION CONTROLS, SHALL BE INSTALLED AS DIRECTED BY THE RESIDENT ENGINEER. THESE ADDITIONAL ITEMS WILL BE PAID AT THE UNIT PRICE FOR THAT BID ITEM.

UTILITY NOTES:

1. EXISTING UTILITIES HAVE BEEN SHOWN ON THE PLANS USING THE BEST AVAILABLE INFORMATION AND ARE APPROXIMATE. BUILDING SERVICE CONNECTIONS (ELECTRIC, GAS, TELEPHONE, WATER AND SANITARY) ARE NOT SHOWN. CONTRACTOR IS TO ASSUME SERVICES ARE PRESENT TO ALL BUILDINGS.
2. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING DRAINAGE AND UTILITIES BOTH UNDERGROUND AND OVERHEAD BEFORE EXCAVATION BEGINS IN ACCORDANCE WITH CHAPTER 39-1.2 OF THE R.I. GENERAL LAWS ENTITLED "EXCAVATION NEAR UNDERGROUND UTILITY FACILITIES", WITH AMENDMENTS EFFECTIVE AS OF NOVEMBER 1, 2009 AND, WHEN NECESSARY, BY CONTACTING THE INDIVIDUAL UTILITY COMPANIES. EXCAVATION SHALL BE IN ACCORDANCE WITH ALL STATUTES, ORDINANCES, RULES AND REGULATIONS OF ANY APPLICABLE CITY, TOWN, STATE OR FEDERAL AGENCY. THE CONTRACTOR SHOULD UNDERSTAND THAT NOT ALL UTILITIES SUBSCRIBE TO THE DIG SAFE PROGRAM. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES AND ENSURE THAT ALL UTILITIES HAVE BEEN MARKED PRIOR TO COMMENCING THEIR WORK. ANY DAMAGE TO EXISTING UTILITIES MARKED IN THE FIELD, OR AS A RESULT OF FAILING TO CONTACT THE APPROPRIATE UTILITY COMPANY, SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE STATE.
3. ALL EXISTING UTILITIES TO BE ABANDONED SHALL BE CAPPED.
4. EXISTING WATER SERVICES SHALL BE RECONNECTED TO THE NEW WATER MAINS.
5. UTILITY SERVICE CONNECTIONS SHALL BE MAINTAINED TO ALL EXISTING FACILITIES TO REMAIN.
6. FIRE HYDRANTS SHALL NOT BE REMOVED FROM SERVICE WITHOUT WRITTEN AUTHORIZATION FROM THE FIRE DEPARTMENT OR THE WATER AUTHORITY.
7. ALL NEW WATER LINES SHALL BE DISINFECTED TO THE SATISFACTION OF THE WATER AUTHORITY IN ACCORDANCE WITH THE SPECIFICATIONS.
8. ALL UTILITY POLE RELATED WORK SHALL BE BY OTHERS.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED FEB 12 2016 FILE # 16-0001
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles A. Horbert

JAN 8 2016

REVISIONS		
NO.	DATE	BY
1	4/07	TRB
2	3/10	RBH

NORTHERN CONSTRUCTION SERVICE, LLC

vhb PROVIDENCE, RHODE ISLAND

GZA

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR
REPLACEMENT OF
FALLS RIVER BRIDGE
EXETER, RHODE ISLAND

STANDARD NOTES - 1

CHECKED BY _____ DATE 11/4/15 SCALE NO SCALE

9500A_FR_026_STDNOTES01

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	27	32

LANDSCAPE NOTES:

1. ALL PLANT MATERIAL MUST BE TAGGED AT THE NURSERY (A RECOGNIZED GROWER OF PLANT MATERIAL) IN ACCORDANCE WITH THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION. ALL PLANT MATERIAL MUST BE NURSERY GROWN; NO PLANTATION GROWN PLANT MATERIAL WILL BE ACCEPTED.
2. ALL PLANT SUBSTITUTIONS AND/OR CHANGES IN PLANT LOCATION MUST BE APPROVED IN ACCORDANCE WITH THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
3. ALL PLANT MATERIAL IS TO BE FIELD LOCATED BY A REPRESENTATIVE FROM THE R.I.D.O.T. LANDSCAPE ARCHITECTURE UNIT.
4. A R.I.D.O.T. LANDSCAPE REPRESENTATIVE MUST BE ON SITE TO APPROVE ALL TRIMMING AND CLEARING NECESSARY TO COMPLETE THE WORK AS SHOWN ON THE PLANS.
5. ANY TOPSOIL USED AS PLANTABLE SOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS, AND SHALL CONFORM TO SECTION M.18 OF THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
6. ALL TREES AND SHRUBS SHALL BE MULCHED WITH PINE BARK MULCH IN ACCORDANCE WITH THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
7. ALL TREES AND/OR SHRUBS THAT ARE PLANTED AS A BED SHALL BE MULCHED AS A BED.
8. PROVIDE A MINIMUM 6'-8" BRANCHING STANDARD ON ALL TREES INSTALLED ADJACENT TO SIDEWALKS AND/OR PEDESTRIAN ACCESS AREAS.

STRUCTURAL NOTES FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS:

GENERAL

1. ALL SUPPORT DESIGNS AND ASSOCIATED SHOP DRAWING REVIEWS SHALL BE IN CONFORMANCE WITH THE LATEST EDITION, OF THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (THE "SPECIFICATIONS"), INCLUDING THE LATEST INTERIM SPECIFICATIONS, EXCEPT AS MODIFIED HEREIN.

CONSTRUCTION DRAWINGS AND DETAILS

1. THE FOLLOWING NOTES SHALL BE INCLUDED ON ALL PLANS AND/OR SHOP DRAWINGS IN REFERENCE TO ANCHOR BOLTS:
   - "PRETENSIONING OF ALL ANCHOR NUTS IS REQUIRED, AND SHALL BE ACCOMPLISHED BY TIGHTENING TO 1/6TH TURN BEYOND THE SNUG-TIGHT POSITION."
   - "THE MAXIMUM CLEARANCE BETWEEN THE BOTTOM OF THE LEVELING NUTS AND THE TOP OF THE CONCRETE IS CRITICAL AND SHALL NOT EXCEED THE AMOUNT SPECIFIED ON THIS DRAWING."
2. THE USE OF GROUT UNDER BASE PLATES SHALL GENERALLY NOT BE PERMITTED. IF SPECIFIC CONDITIONS WARRANT ITS USE, THE GROUT SHALL NOT BE CONSIDERED LOAD CARRYING; LOADS SHALL BE DIRECTLY SUPPORTED BY THE ANCHOR BOLTS. ADEQUATE DRAINAGE SHALL BE PROVIDED.
3. THE DAMPENING EFFECTS OF VIBRATION MITIGATION DEVICES SHALL NOT BE CONSIDERED IN THE DESIGN OF STRUCTURAL SUPPORTS FOR SIGNS AND TRAFFIC SIGNALS. IF THE CONTRACTOR CHOOSES TO USE THESE DEVICES FOR WARRANTY PURPOSES, THE TYPE OF DEVICES PROPOSED SHALL BE APPROVED BY THE DEPARTMENT PRIOR TO FABRICATION OF SUPPORTS.

TRAFFIC SIGNAL NOTES:

1. ALL SALVAGED TRAFFIC SIGNAL EQUIPMENT SHALL BE DELIVERED TO THE R.I.D.O.T. MAINTENANCE HEADQUARTERS, 360 LINCOLN AVENUE, WARWICK, RHODE ISLAND, 02888.
2. BACK PLATES SHALL BE INSTALLED ON ALL TRAFFIC SIGNAL HEADS.
3. THE CONTRACTOR SHALL SUPPLY AND INSTALL ON THE UPPER LEFT HAND CORNER OF THE BACK OF THE CONTROLLER CABINET DOOR A LAMINATED INTERSECTION GRAPHIC AND TABLE DEPICTING THE TRAFFIC DETECTOR RELAY CHANNEL ASSIGNMENTS. THE DIAGRAM SHALL BE A GRAPHIC OF THE INDIVIDUAL INTERSECTION ORIENTED SIMILAR TO THE PLANS SHOWING THE LOCATIONS OF EACH OF THE LOOP DETECTORS. THE DIAGRAM SHALL, AT A MINIMUM, INCLUDE DETECTOR NUMBERS, STREET NAME LABELS, NORTH ARROW, AND CONTROLLER CABINET LOCATION. THE ASSIGNMENT INFORMATION SHALL BE INCLUDED IN A TABLE WHICH SHALL INCLUDE, AT A MINIMUM, THE APPROACH NAME, DETECTOR NUMBER, TERMINAL NUMBER, DETECTOR RACK SLOT NUMBER, RELAY NUMBER, RELAY CHANNEL NUMBER, AND PHASE ASSOCIATED WITH EACH DETECTOR.
4. TRAFFIC CONTROLLER CABINETS, UNLESS OTHERWISE NOTED, SHALL BE NEMA TS2 TYPE 1 CABINET SIZE 6 ("P" TYPE) WITH NOMINAL DIMENSIONS OF 52"Hx44"Wx24"D.
5. ALL DELAY AND EXTENSION TIMES, AS CALLED FOR ON THE PLANS, FOR PROPOSED LOOP DETECTORS SHALL BE PROGRAMMED IN THE TRAFFIC SIGNAL CONTROLLER AND NOT THE DETECTOR RELAY.
6. A BARE GROUND WIRE SHALL BE PLACED IN ALL PVC CONDUITS AND SHALL BE BONDED TO GROUND RODS IN ACCORDANCE WITH SECTION T.03 OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
7. THE FINAL POSITION OF SIGNAL HEADS, PEDESTRIAN PUSHBUTTONS, DETECTORS, AND STOP LINE AND CROSSWALK PAVEMENT MARKINGS SHALL BE AS DIRECTED BY THE ENGINEER IN THE FIELD ACCORDING TO ACTUAL INTERSECTION CHARACTERISTICS.
8. A 2' MINIMUM BUFFER SHALL BE PROVIDED BETWEEN THE CURB AND ALL LATERAL OBSTRUCTIONS (INCLUDING ALL SIGNAL POLES AND TRAFFIC/PEDESTRIAN SIGNAL HEADS) TO PROVIDE ADEQUATE CLEARANCE FOR TURNING VEHICLES.
9. ALL FOUNDATIONS MUST HAVE CONES OR BARRELS BOLTED TO FOUNDATION BASES UNTIL ACTUAL POLE IS INSTALLED.
10. WHEN PLACING TRAFFIC SIGNAL HANDHOLES OR CONDUIT IN EXISTING PORTLAND CEMENT CONCRETE SIDEWALKS, THE ENTIRE SIDEWALK SQUARE OF CONCRETE SHALL BE REPLACED IN ACCORDANCE WITH R.I. STD. 43.1.0. NO PATCHES WILL BE ALLOWED.
11. ALL PEDESTRIAN PUSHBUTTONS SHALL BE COMPLIANT WITH "THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES" (ADAAG) AND SHALL INCLUDE A PRESSURE-ACTIVATED (NON-MOVING) BUTTON. SIGNS APPLICABLE TO PUSHBUTTON ACTUATION SHALL BE INSTALLED SUCH THAT THE CROSSING ASSIGNED TO EACH BUTTON IS CLEARLY INDICATED. IF SITE CONDITIONS DO NOT ALLOW PEDESTRIAN PUSHBUTTONS TO BE INSTALLED WHERE CALLED FOR ON THE PLANS, THE R.I.D.O.T. TRAFFIC ENGINEERING UNIT SHALL BE CONSULTED WITH THROUGH AN R.F.I. PRIOR TO INSTALLING THE PUSHBUTTONS. THE FINAL PLACEMENT OF ALL PEDESTRIAN PUSHBUTTONS SHALL BE IN ACCORDANCE WITH ADAAG AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
12. ALL LOOP DETECTORS SHALL BE CENTERED WITHIN EACH LANE AS DELINEATED, UNLESS OTHERWISE DIMENSIONED ON PLANS.
13. ALL LOOP DETECTORS SHALL BE CUT INTO THE FINAL PAVEMENT SURFACE COURSE.
14. TRAFFIC SIGNAL CONTROLLERS SHALL BE WIRED SO THAT ANY FIRE PRE-EMPTION SHALL OVERRIDE MANUAL (PUSH BUTTON) OPERATION.
15. THE CONTRACTOR SHALL WORK CONTINUOUSLY TO RESTORE TRAFFIC SIGNAL OPERATION TO ITS INTENDED PURPOSE WHEN REPLACING THE TRAFFIC SIGNAL EQUIPMENT. A POLICE DETAIL IS REQUIRED TO DIRECT TRAFFIC AT THE INTERSECTION AT ALL TIMES WHEN THE TRAFFIC SIGNAL IS INOPERATIVE. AT NO TIME SHALL THE CONTRACTOR LEAVE THE SITE BEFORE RESTORING FULL TRAFFIC OPERATIONS.

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:

1. ALL MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL SETUPS, SIGNS, CHANNELIZING DEVICES, ETC., SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
2. ALL SIGN MOUNTINGS FOR TEMPORARY AND CONSTRUCTION SIGNS SHALL BE IN ACCORDANCE WITH THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
3. THE CONTRACTOR SHALL COVER ALL EXISTING AND/OR TEMPORARY SIGNS THAT ARE NOT RELEVANT TO THE TRAFFIC CONTROL REQUIRED DURING ANY PARTICULAR STAGE OF THE CONTRACT.
4. ADVANCE FLAGPERSON SIGNS (W20-7A) SHALL BE USED IN ADVANCE OF ANY POINT AT WHICH A FLAGPERSON OR A POLICE OFFICER HAS BEEN STATIONED TO CONTROL TRAFFIC. WHEN NEEDED, AN APPROPRIATE DISTANCE MESSAGE MAY BE DISPLAYED ON A SUPPLEMENTAL PLATE (24"x18") BELOW THE FLAGPERSON SYMBOL SIGN. THE SIGN SHALL BE PROMPTLY REMOVED OR COVERED WHENEVER THE FLAGPERSON IS NOT AT THE STATION.
5. POLICE OFFICERS (AND NOT FLAGPERSONS) SHALL BE UTILIZED WHEN WORK WILL IMPACT SIGNALIZED INTERSECTIONS AND LIMITED ACCESS HIGHWAYS.
6. POLYETHYLENE DRUMS SHALL BE UTILIZED AS A CHANNELIZING DEVICE WHEN A TRAFFIC CONTROL SET-UP IS TO REMAIN BEYOND WORKING HOURS WHEN NO WORKERS ARE PRESENT. CONES SHALL BE UTILIZED WHEN A TRAFFIC CONTROL SET-UP IS TO REMAIN ONLY DURING WORKING HOURS AND IS SUBSEQUENTLY BROKEN DOWN AT THE END OF THE WORKDAY.
7. ARROW PANELS SHALL BE SET IN THE FLASHING FOUR CORNERS CAUTION MODE UNLESS UTILIZED FOR A MERGING TAPER. ARROW PANELS SET IN THE FLASHING ARROW MODE SHALL NOT BE UTILIZED FOR LANE SHIFTS.
8. TEMPORARY CONSTRUCTION SIGNS AND OTHER WORKZONE TRAFFIC CONTROL DEVICES THAT ARE DAMAGED OR REQUIRE RELOCATION SHALL BE REPLACED AND / OR RELOCATED UNDER THE PAY ITEM FOR "MAINTENANCE AND MOVEMENT TRAFFIC PROTECTION."
9. THE PRIVATE VEHICLES OF CONSTRUCTION WORKERS SHALL NOT BE PARKED ON THE TRAVEL LANES OR SHOULDERS. THEY MAY BE PARKED WITHIN THE STATE RIGHT-OF-WAY ONLY IN AREAS 30' BEYOND THE OUTSIDE EDGE OF THE TRAVEL LANES AND/OR IN AREAS APPROVED BY THE ENGINEER.
10. TEMPORARY CONSTRUCTION SIGNS AND OTHER TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE INSTALLED PRIOR TO THE START OF WORK IN ANY AREA OPEN TO TRAFFIC, AND SHALL BE REMOVED AS SOON AS PRACTICAL WHEN THEY ARE NO LONGER APPROPRIATE.
11. THE INTENDED VEHICLE PATHS THROUGH EACH WORK ZONE SHALL BE CLEARLY MARKED AT ALL TIMES. WATERBORNE PAVEMENT MARKINGS SHALL BE INSTALLED BEFORE THE END OF THE WORK SHIFT ON ALL COLD-PLANED AND NEW ROADWAY SURFACES THAT WILL BE OPENED TO TRAFFIC AT THE END OF THE SHIFT.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
WETLANDS PROGRAM
LETTER OF APPROVAL
FEB 12 2016 FILE # 16-0001
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

JAN 8 2016

REVISIONS		
NO.	DATE	BY
1	4/07	TRB
2	11/07	TRB
3	3/10	RBH

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR REPLACEMENT OF FALLS RIVER BRIDGE

EXETER, RHODE ISLAND

NORTHERN CONSTRUCTION SERVICE, LLC — vhb PROVIDENCE, RHODE ISLAND — GZA

STANDARD NOTES - 2

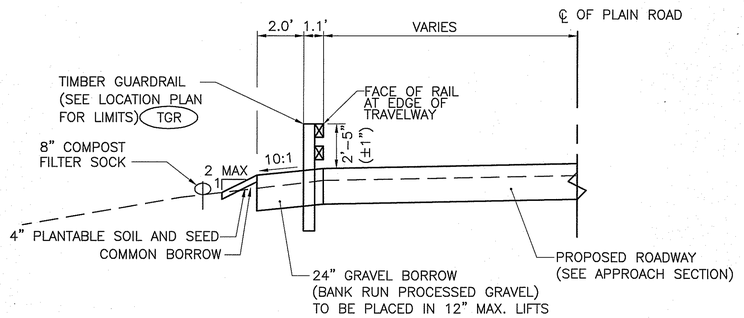
CHECKED BY ______ DATE 11/4/15 SCALE NO SCALE

9500A_FR_027_STDNOTES02

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	28	32

JOB SPECIFIC LEGEND

34.3.0	RIDOT STD. DETAIL 34.3.0 EARTH BERM FOR ROADSIDE BARRIER TERMINAL SECTIONS
GPL	GRAVEL PARKING LOT
GW	GRAVEL WALKWAY
CGR	CRUSHED GRAVEL ROAD
TGR	TIMBER GUARDRAIL
CFS	COMPOST FILTER SOCK–8"

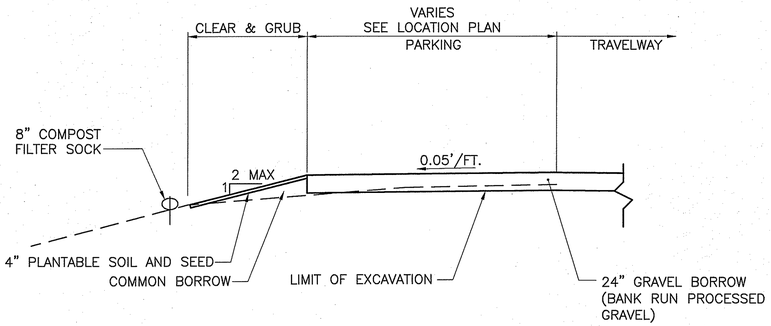


TYPICAL GUARDRAIL PLATFORM PLAIN ROAD

SCALE: 1"=4'

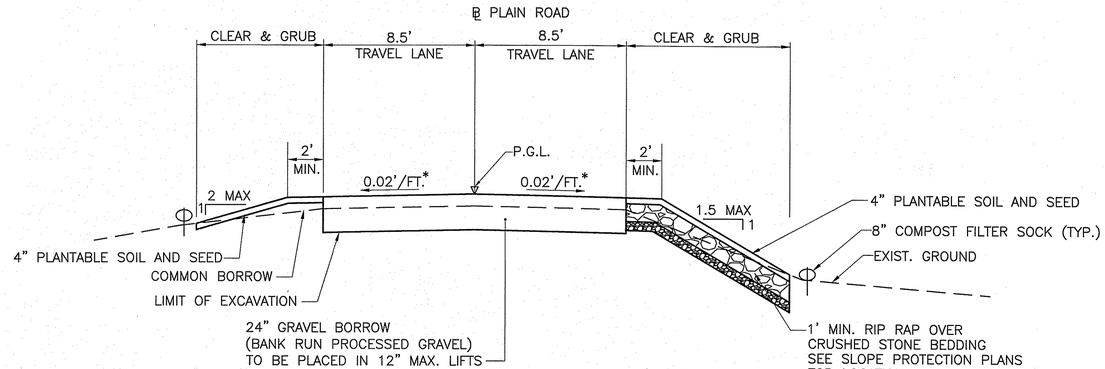
WEARING SURFACE

24" GRAVEL BORROW (BANK RUN PROCESSED GRAVEL)



PARKING LOT TYPICAL SECTION
STATION 101+40 TO 101+65
STATION 102+70 TO 103+00

NOT TO SCALE

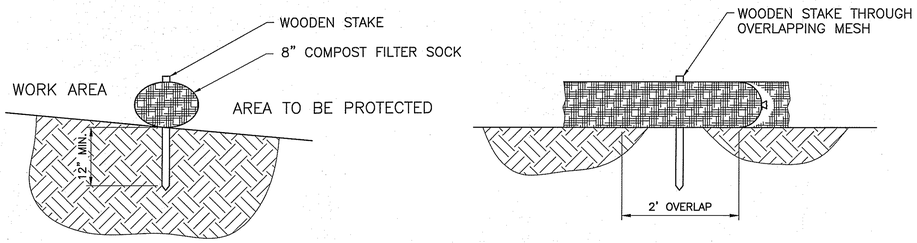


TYPICAL APPROACH SECTION
STATION 100+25 TO 101+75
STATION 102+55 TO 104+25
PLAIN ROAD

SCALE: 1"=4'

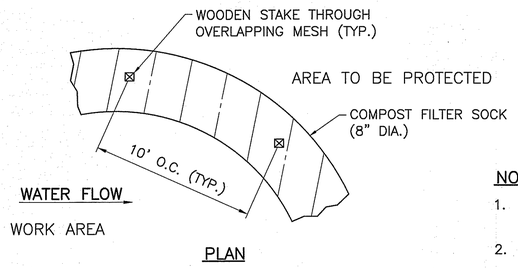
*NOTES:

1. CROSS SLOPE AT BRIDGE APPROACH VARIES, SEE GENERAL PLANS FOR TRANSITIONS.



SECTION

SECTION VIEW FROM OVERLAP



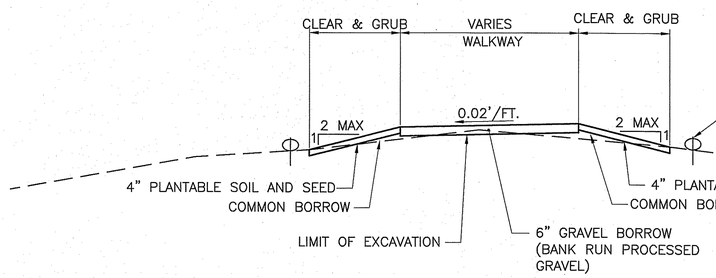
PLAN

8" COMPOST FILTER SOCK

NOT TO SCALE

NOTES:

1. ALL MATERIAL TO MEET REQUIREMENTS OF SECTION 206 OF RIDOT STD. SPECS.
2. COMPOST MATERIAL MUST BE ACCEPTED BY THE ENGINEER PRIOR TO PLACEMENT.



TYPICAL GRAVEL WALKWAY SECTION

SCALE: 1"=4'

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED FEB 12 2016 RE: # 16-0001
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

JAN 8 2016

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR REPLACEMENT OF FALLS RIVER BRIDGE
EXETER, RHODE ISLAND

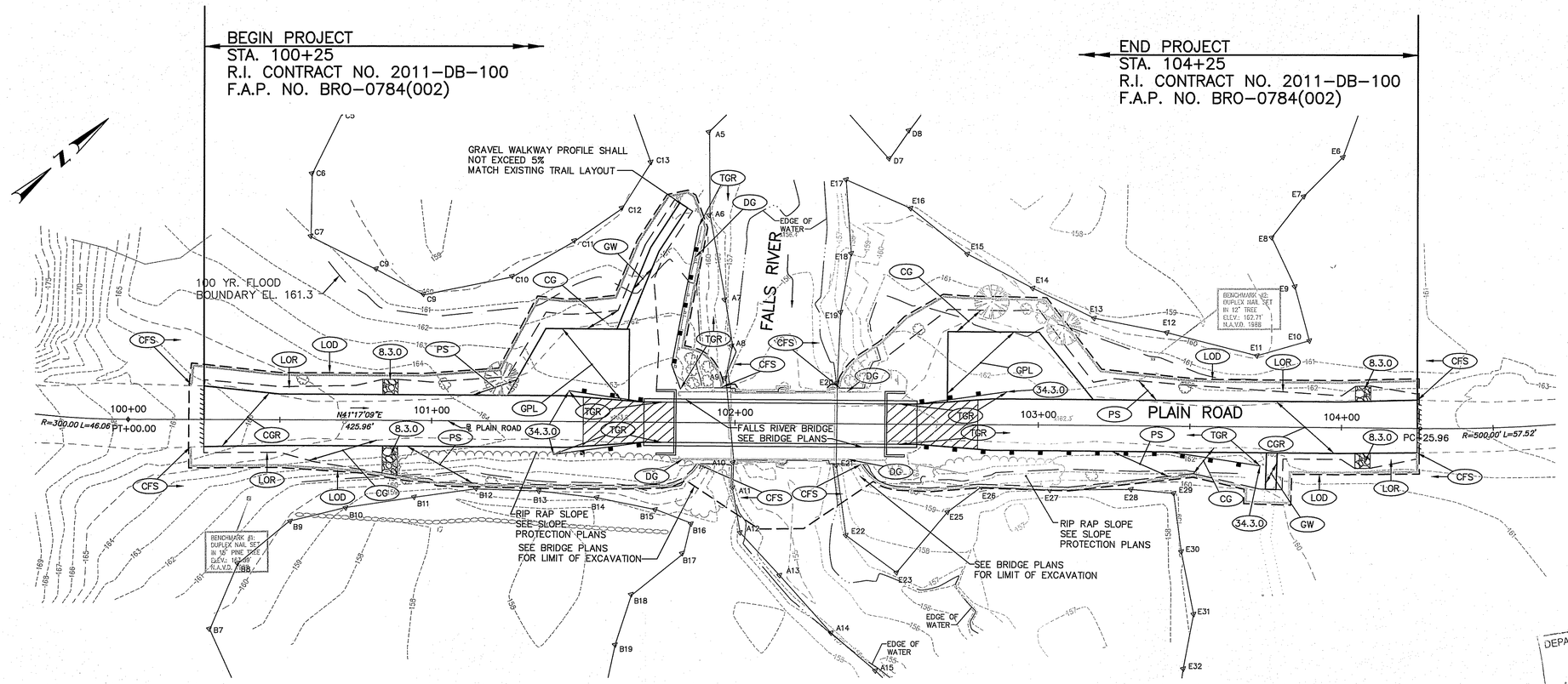
TYPICAL SECTION AND JOB SPECIFIC LEGEND

CHECKED BY _____ DATE 11/4/15 SCALE NO SCALE

NORTHERN CONSTRUCTION SERVICE, LLC
vhb PROVIDENCE, RHODE ISLAND
GZA

9500A_FR_028_TYPICAL

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	29	32



20 0 20 40
SCALE IN FEET

TREE REMOVAL/TREE TRIMMING

STATION	OFFSET	TYPE	REMOVE/LIMB
100+60	L 16 FT	30" PINE	LIMB
100+95	R 18 Ft	24" OAK	LIMB
101+05	L 16 FT	30" PINE	LIMB
101+20	R 17 Ft	14" MAPLE	LIMB
101+20 TO 101+35	L 12 FT TO 16 FT	BRUSH	REMOVE
100+90 TO 101+60	R 11FT TO 16 FT	BRUSH	REMOVE
101+60 TO 101+95	R 11 FT TO 24 FT	BRUSH W/SMALL TREES	REMOVE
101+60 TO 101+95	L 11FT TO 24 FT	SMALL TREES <4" DIA.	REMOVE
102+35	R 17 Ft	SMALL TREES <4" DIA.	REMOVE
102+62	R 16 Ft	24" OAK	REMOVE
103+35 TO 102+65	L 11 FT TO 24 FT	SMALL TREES <4" DIA.	REMOVE
102+65	L 29 FT	2-24" OAK	LIMB
102+75 TO 103+50	R 12 FT TO 16 FT	BRUSH	REMOVE
102+90	L 40 FT	2-24" PINE	LIMB
102+90 TO 103+15	L 40 FT TO 20 FT	BRUSH	REMOVE
103+25	R 15 Ft	2-12" MAPLE	REMOVE
103+45	L 15 FT	12" OAK	LIMB

NOTES:

1. SEE RAILING DETAILS FOR GUARDRAIL POST SPACING AND TERMINALS.
2. FLEXIBLE DELINEATOR POSTS SHALL BE PLACED 5' O.C. ALONG BACK OF GUARDRAIL IN PARKING AREAS.
3. CONTRARY TO DRAINAGE & EROSION CONTROL NOTE 3 ON PLAN SHEET STANDARD NOTES-1, PREVIOUSLY DISTURBED GRAVEL AREAS MAY BE USED FOR MATERIAL STOCKPILE LOCATIONS DUE TO THE LIMITED SPACE AVAILABLE NEAR THE WORK SITE. STOCKPILES WILL BE RINGED WITH COMPOST FILTER SOCK TO PREVENT MIGRATION OF MATERIALS INTO SENSITIVE AREAS.
4. THE ENTIRE WORK AREA IS WITHIN THE 200 FOOT RIVERBANK WETLAND ASSOCIATED WITH FALLS RIVER.
5. SEE CONSTRUCTION STAGING PLAN FOR STOCKPILE LOCATIONS.

= LIMITS OF CROSS SECTION TRANSITION TO NORMAL CROWN TO FULL WIDTH BRIDGE SECTION. (SEE LOCATION PLANS)

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED FEB 12 2016 FILE # 16-0001
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

JAN 8 2016

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR REPLACEMENT OF FALLS RIVER BRIDGE
EXETER, RHODE ISLAND

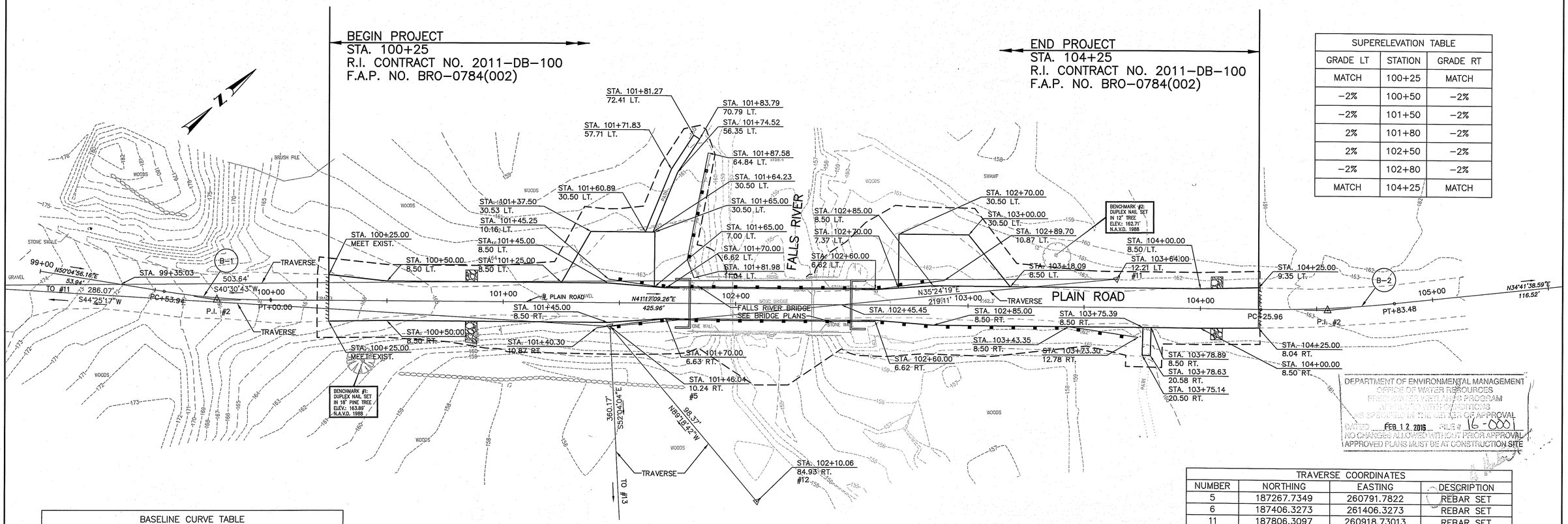
GENERAL PLAN

CHECKED BY _____ DATE 11/4/15 SCALE AS SHOWN

NORTHERN CONSTRUCTION SERVICE, LLC
vhb PROVIDENCE, RHODE ISLAND
GZA

9500A_FR_029_GENERAL

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	30	32



SUPERELEVATION TABLE		
GRADE LT	STATION	GRADE RT
MATCH	100+25	MATCH
-2%	100+50	-2%
-2%	101+50	-2%
2%	101+80	-2%
2%	102+50	-2%
-2%	102+80	-2%
MATCH	104+25	MATCH

BASELINE CURVE TABLE					
CURVE	RADIUS	LENGTH	TANGENT	DELTA	EXTERNAL
B-1	300.00	46.06	23.07	08°14'46.91"	0.89
B-2	500.00	57.52	28.79	06°35'30.67"	0.83

BASELINE CONTROL COORDINATES											
	PI STATION	PI NORTHING	PI EASTING	PC STATION	PC NORTHING	PC EASTING	PT STATION	PT NORTHING	PT EASTING	CC NORTHING	CC EASTING
POL	99+00.00	187457.9890	260613.4310								
B-1	99+77.02	187507.4102	260672.5008	99+53.94	187492.6038	260654.8037	100+00.00	187524.7487	260687.7255	187722.6938	260462.2976
B-2	104+54.75	187866.4621	260987.7792	104+25.96	187844.8255	260968.7803	104+83.48	187890.1368	187890.1368	188174.7339	260593.0671
POL	106+00.00	187985.9639	261070.4891								

TRAVERSE COORDINATES			
NUMBER	NORTHING	EASTING	DESCRIPTION
5	187267.7349	260791.7822	REBAR SET
6	187406.3273	261406.3273	REBAR SET
11	187806.3097	260918.73013	REBAR SET
12	187626.5533	260890.1421	
13	187423.4233	260591.5561	REBAR SET

BENCHMARK COORDINATES			
NUMBER	NORTHING	EASTING	DESCRIPTION
1	187537.5989	260733.6645	DUPLEX NAIL SET
2	187793.1968	260893.7876	DUPLEX NAIL SET

20 0 20 40
SCALE IN FEET

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED FEB 12 2015 FILE # 16-0001
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

JAN 8 2015

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR
REPLACEMENT OF
FALLS RIVER BRIDGE
EXETER, RHODE ISLAND

LOCATION PLAN

CHECKED BY _____ DATE 11/4/15 SCALE AS SHOWN

NORTHERN CONSTRUCTION SERVICE, LLC
vhb PROVIDENCE, RHODE ISLAND
GZA

9500A_FR_030_LOCATION

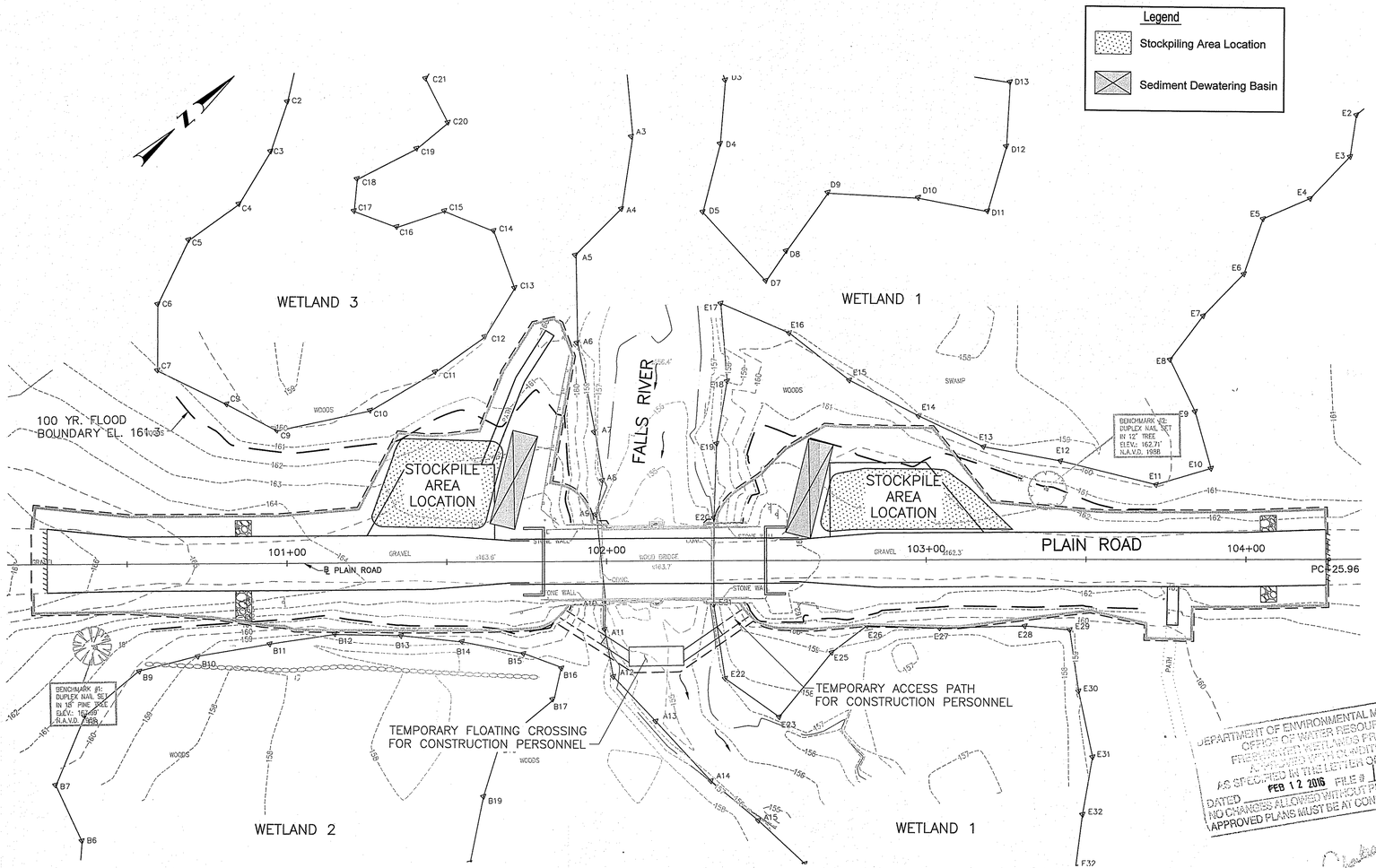
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	31	32

NOTES:

1. CONTRARY TO DRAINAGE & EROSION CONTROL NOTE 3 ON PLAN SHEET STANDARD NOTES-1, PREVIOUSLY DISTURBED GRAVEL AREAS MAY BE USED FOR MATERIAL STOCKPILE LOCATIONS DUE TO THE LIMITED SPACE AVAILABLE NEAR THE WORK SITE. STOCKPILES WILL BE RINGED WITH COMPOST FILTER SOCK TO PREVENT MIGRATION OF MATERIALS INTO SENSITIVE AREAS.
2. THE ENTIRE WORK AREA IS WITHIN THE 200 FOOT RIVERBANK WETLAND ASSOCIATED WITH FALLS RIVER.
3. ALL MATERIAL AND/OR EQUIPMENT STORED WITHIN THE APPROVED STOCKPILE LOCATION SHALL BE REMOVED FROM THE SITE WITHIN 14 DAYS FOLLOWING COMPLETION OF WORK AT THIS LOCATION.

DEWATERING NOTES:

1. WHERE CONSTRUCTION ACTIVITIES REQUIRE DEWATERING OF GROUNDWATER OR ACCUMULATED STORM WATER, THE WATER SHALL BE TREATED BEFORE DISCHARGE TO SETTLE AND REDUCE THE SUSPENDED SEDIMENTS PRIOR TO DISCHARGE FROM THE WORK SITE.
2. DEWATERING EFFLUENT SHALL NEVER BE DIRECTED INTO WETLANDS, STREAMS/RIVERS, OR OTHER SENSITIVE RESOURCE AREAS.
3. FOR THIS PROJECT, DUE TO LIMITED SITE AREA, DEWATERING BASINS WILL CONSIST OF SEDIMENT TANKS.
4. DEWATERING BASINS WILL BE SET UP AS NEEDED WITHIN THE LIMIT OF DISTURBANCE AS SHOWN OF THESE PLANS.
5. BASED UPON CONSTRUCTION ACTIVITY, IT MAY BE NECESSARY TO HAVE MORE THAN ONE BASIN, AND THESE BASINS MAY NEED TO BE RELOCATED DURING CONSTRUCTION.
6. GENERALLY, THE CONTRACTOR WILL ESTABLISH DEWATERING BASINS IN LEVEL AREAS, HOWEVER MINOR, TEMPORARY GRADING TO LEVEL THE DUMPSTER MAY BE NECESSARY. GRADES WILL BE RESTORED AS DEPICTED ON THE PLANS FOLLOWING DEWATERING. GRADING WILL BE RESTRICTED TO THE AREA DEMARCATED BY THE LIMIT OF DISTURBANCE ON THESE PLANS.
7. DEWATERING BASINS WILL BE USED TO STOCKPILE AND DEWATER EXCAVATED SEDIMENTS FROM THE PROPOSED ABUTMENT EXCAVATIONS. FOLLOWING SUFFICIENT DEWATERING TO ALLOW FOR LEGAL TRANSPORT OFF THE PROJECT SITE, THE CONTRACTOR WILL LOAD THE DUMPSTER AND TRUCK THE SEDIMENT OFF THE PROJECT SITE FOR RE-USE OR DISPOSAL AT A SUITABLE UPLAND LOCATION.
8. DEWATERING BASINS WILL BE USED TO RECEIVE WATERS PUMPED FROM WITHIN THE ABUTMENT AREAS. GENERALLY, THE EXCAVATIONS WILL BE PUMPED DOWN TO ALLOW FOR INSTALLATION OF THE NEW RIP RAP AND/OR GRS MATERIALS IN A RELATIVELY DRY CONDITION. THE DESIGN ACCOUNTS FOR APPROXIMATELY 6 INCHES OR LESS OF STANDING WATER WITHIN THE EXCAVATIONS, THEREFORE, EXCAVATIONS DO NOT NEED TO BE COMPLETELY DRY.
9. DEWATERING FLOW SHALL BE CONTROLLED SO THAT IT DOES NOT CAUSE SCOURING OR EROSION THROUGH THE USE OF A DEWATERING BASIN, FILTER SOCK, OR EQUIVALENT. IF IT IS DETERMINED THAT THE CHOSEN CONTROLS ARE NOT APPROPRIATELY FILTERING THE FINE SEDIMENT FROM THE DEWATERING PUMPATE THEN THE CONTROLS SHALL BE REVISED OR SUPPLEMENTED.
10. ONCE PUMPING COMMENCES, THE BASIN SHALL BE MONITORED FREQUENTLY TO ASSURE THAT THE RATE OF WATER DELIVERY TO THE STRUCTURE IS LOW ENOUGH TO PREVENT WATER FROM FLOWING, UNFILTERED, OVER THE TOP OF THE BASIN WALLS. THE BASIN SHALL BE MONITORED THROUGHOUT THE DEWATERING PROCESS TO ENSURE EFFECTIVE FUNCTIONING OF THE BASIN. IF THE BASIN/DEVICE IS NOT APPROPRIATELY FILTERING THE FINE SEDIMENT FROM THE DEWATERING PUMPATE THEN THE BASIN MAY NEED TO BE SUPPLEMENTED WITH A FLOCCULENT BLOCK. THE BASIN SHOULD BE INSPECTED ONCE HOURLY DURING WORK HOURS.
11. THE CONTRACTOR WILL CEASE DEWATERING ACTIVITIES IF THE BASIN IS NOT FUNCTIONING PROPERLY AND NOT RECOMMENCE DEWATERING UNTIL APPROPRIATE CORRECTIVE ACTIONS HAVE BEEN TAKEN TO RESTORE THE BASIN.
12. PERIODIC MAINTENANCE OF THE DEWATERING BASIN MAY BE REQUIRED TO MAINTAIN EFFICACY. SUCH MAINTENANCE MAY INCLUDE REMOVAL OF ACCUMULATED SEDIMENT AND REPLACEMENT, REPAIR OR AUGMENTATION OF BEST MANAGEMENT PRACTICES.
13. UNATTENDED DEWATERING SHALL NEVER BE ALLOWED.
14. BASINS SHALL BE CLEANED AND REMOVED AS SOON AS DEWATERING IS COMPLETE. SEDIMENT REMOVED FROM THE DEWATERING BASIN SHALL BE ALLOWED TO DRY BEFORE BEING DISPOSED. OFF-SITE TRUCKING OF SATURATED SOILS IS PROHIBITED BY LAW.



20 0 20 40
SCALE IN FEET

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED FEB 12 2016 FILE # 16-0001
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

JAN 8 2016

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR REPLACEMENT OF FALLS RIVER BRIDGE
EXETER, RHODE ISLAND

CONSTRUCTION STAGING PLAN

CHECKED BY _____ DATE 11/4/15 SCALE AS SHOWN

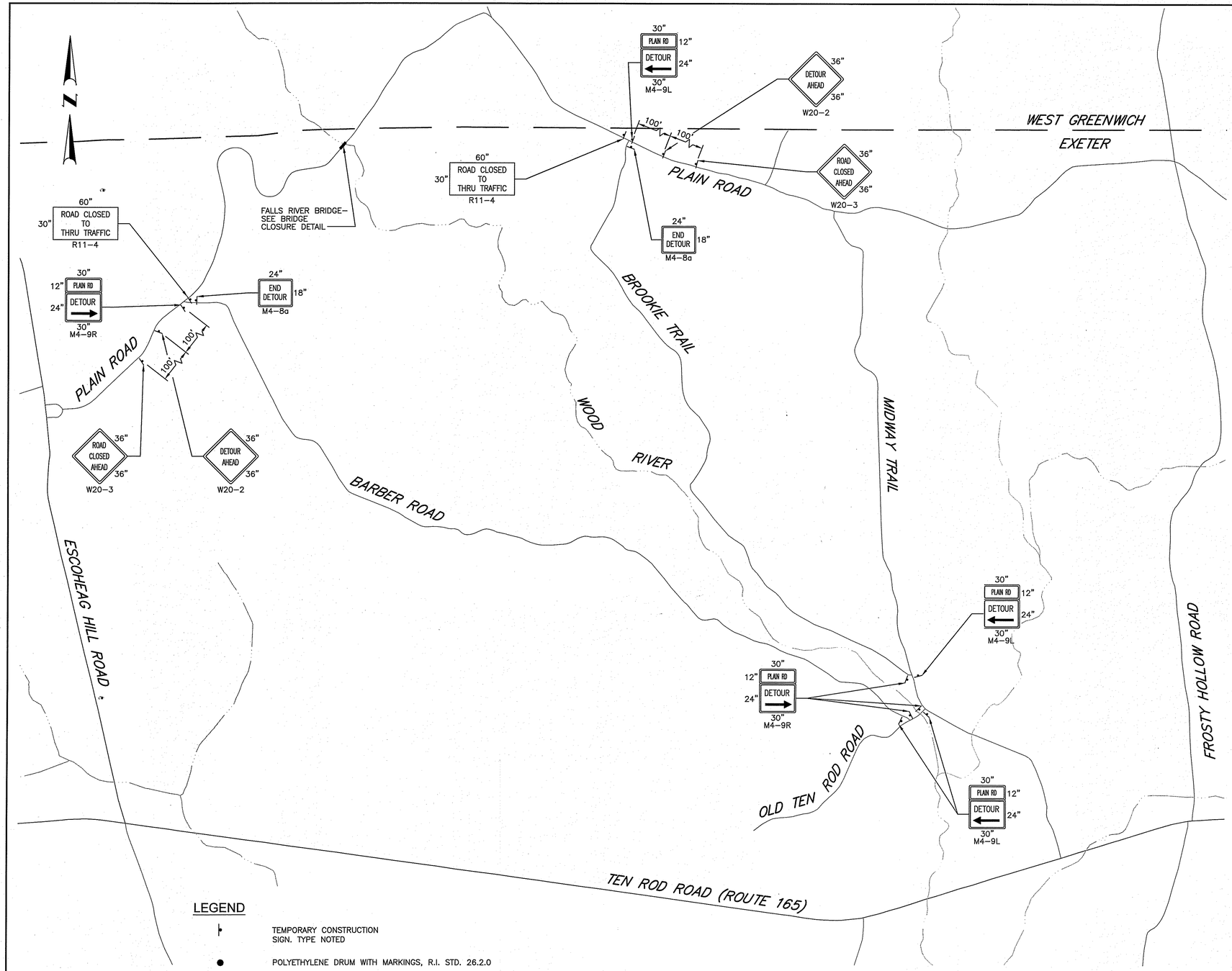
NORTHERN CONSTRUCTION SERVICE, LLC
vhb PROVIDENCE, RHODE ISLAND
GZA

9500A_FR_031_CONSTRPLAN

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI	BRO-0784(002)	2015	32	32

GENERAL NOTES:

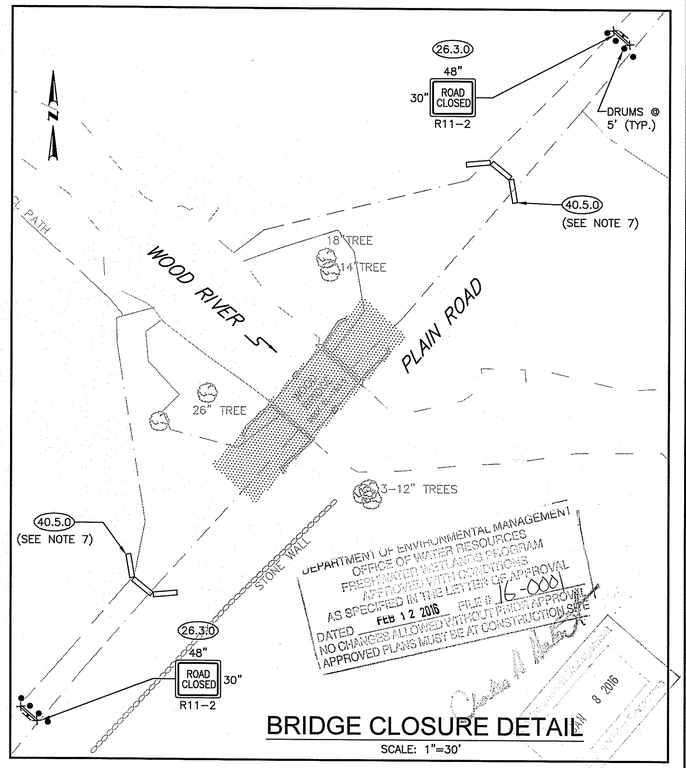
1. ALL TRAFFIC CONTROL SETUPS AND TRAFFIC CONTROL DEVICES AND MOUNTINGS INDICATED ON THESE PLANS SHALL BE IN CONFORMANCE WITH THE 2009 EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), THE LATEST REVISION OF AND MODIFICATIONS TO THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE LATEST EDITION OF THE RHODE ISLAND STANDARD DETAILS.
2. ALL TRAFFIC CONTROL SETUPS SHALL BE COORDINATED WITH ANY ADJACENT CONCURRENT CONSTRUCTION CONTRACTS TO DETERMINE IF SIGNS AND SETUPS SPECIFIED ARE APPROPRIATE.
3. ALL TEMPORARY SIGNS SHALL HAVE BLACK COPY ON ORANGE BACKGROUND AND SHALL BE INSTALLED ACCORDING TO THE RHODE ISLAND STANDARDS 24.3.0 & 29.1.0.
4. EXISTING OR TEMPORARY SIGNS WHICH ARE IN CONFLICT WITH DAILY TRAFFIC MANAGEMENT SETUPS SHALL BE COVERED. IMMEDIATELY WHEN NOT IN USE AND PRIOR TO COMPLETION, CONTRACTOR SHALL UNCOVER SIGNS.
5. WORKERS SHALL WEAR RETROREFLECTIVE PERSONAL PROTECTIVE EQUIPMENT (PPE) IN ACCORDANCE WITH THE MUTCD AND FHWA REQUIREMENTS.
6. ANY CONSTRUCTION SIGNS LOCATED BEHIND OR AMONG CHANNELIZING DEVICES MUST BE MOUNTED AT A MINIMUM HEIGHT OF 36 INCHES FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE SIGN TO MAKE THEM VISIBLE TO MOTORISTS. ALL OTHER SIGNS SHALL ME MOUNTED IN ACCORDANCE WITH THE MUTCD.
7. PRECAST CONCRETE BARRIER (R.I. STD 40.5.0) SHALL BE INSTALLED AT ALL TIMES WHEN THE BRIDGE STRUCTURE IS REMOVED, CREATING A DROP-OFF CONDITION, OR AS OTHERWISE DIRECTED BY THE ENGINEER.



LEGEND

- TEMPORARY CONSTRUCTION SIGN. TYPE NOTED
- POLYETHYLENE DRUM WITH MARKINGS, R.I. STD. 26.2.0
- WORK AREA
- (26.3.0) PVC PLASTIC PIPE TYPE III BARRICADE, R.I. STD. 26.3.0
- (40.5.0) UNANCHORED PRECAST CONCRETE BARRIER FOR FOR TEMPORARY TRAFFIC CONTROL, R.I. STD. 40.5.0

600 0 600 1200
SCALE IN FEET



BRIDGE CLOSURE DETAIL

SCALE: 1"=30'

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGN/BUILD SERVICES FOR
REPLACEMENT OF
FALLS RIVER BRIDGE
EXETER, RHODE ISLAND

TRAFFIC CONTROL PLAN

CHECKED BY _____ DATE 11/4/15 SCALE AS SHOWN

NORTHERN CONSTRUCTION SERVICE, LLC
vhb PROVIDENCE, RHODE ISLAND
GZA

9500A_FR_032_TCONTROL