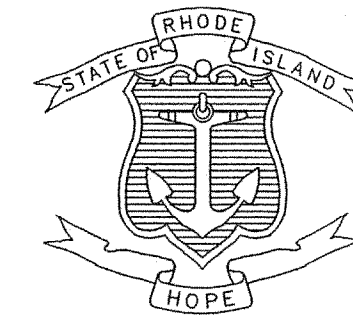


FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	R.I.		2011	1	107

STATE OF RHODE ISLAND



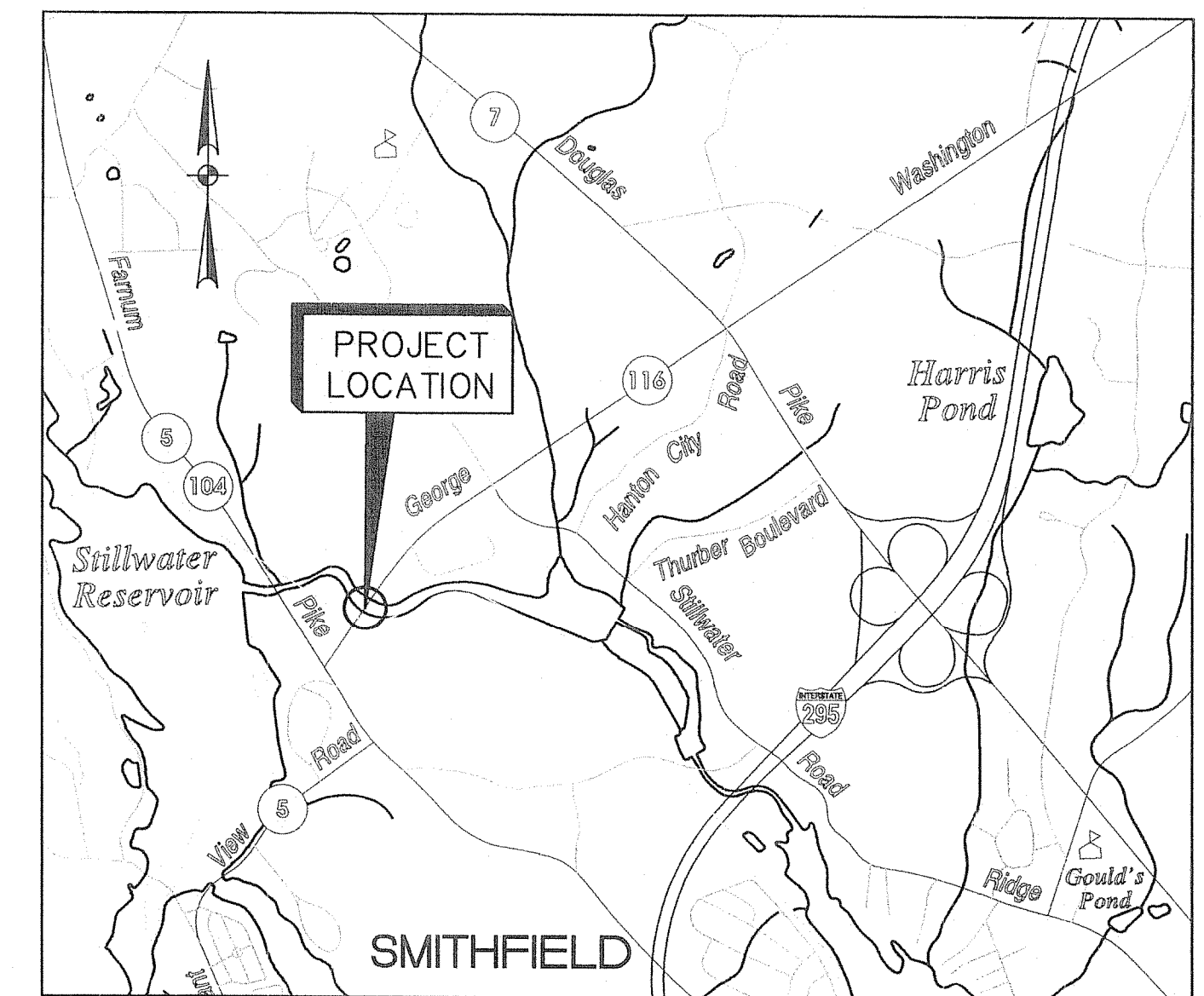
DEPARTMENT OF TRANSPORTATION

PLAN, PROFILE AND SECTIONS OF PROPOSED

STATE HIGHWAY
STILLWATER VIADUCT
BRIDGE NO. 278 REHABILITATION

TOWN OF SMITHFIELD
COUNTY OF PROVIDENCE

R.I. CONTRACT NO. 2011-CB-XXX F.A. PROJECT NO. BRO-0278(XXX), 3RD-PRTY(XXX)
0.281 MILES



LOCATION PLAN
SCALE: 1"=2000'

DESIGN LOADING:

- * AASHTO HS25-44 LOADING-SUPERSTRUCTURE
- * RHODE ISLAND LEGAL LOAD
- * PEDESTRIAN LIVE LOAD - 85 PSF

TRAFFIC DESIGN DATA

GEORGE WASHINGTON HIGHWAY ROUTE 116

2005 AADT	9,350 VPD
2015 AADT	10,290 VPD
2005 DHV	935 VPH
D	50%
K	10%
T	5%

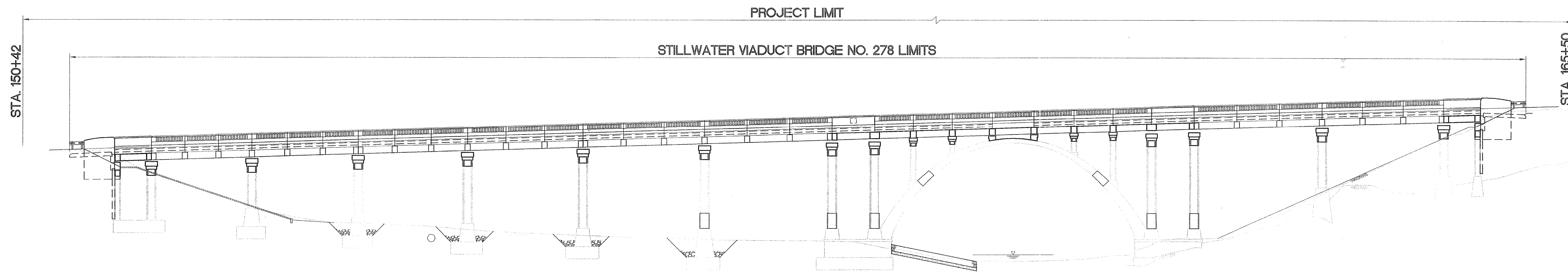
POSTED SPEED LIMIT

FARNUM PIKE TO STILLWATER VIADUCT BRIDGE NO. 278	30 MPH
ROUTE 116 EAST OF STILLWATER VIADUCT BRIDGE NO. 278	50 MPH

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED AUG - 2 2011 FILE # 11-0133
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

W. Joseph Carey
PERMITTING

RI DEPARTMENT OF TRANSPORTATION	
APPROVED	DATE
CHIEF DESIGN ENGINEER	DATE
APPROVED	DATE
CHIEF ENGINEER	DATE
APPROVED	DATE
DIRECTOR	DATE
DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	
APPROVED	DATE
DIVISION ADMINISTRATOR	DATE



PROJECT LIMIT

STILLWATER VIADUCT BRIDGE NO. 278 LIMITS

STA. 150+42

STA. 165+50

ELEVATION

Scale: 1" = 20'

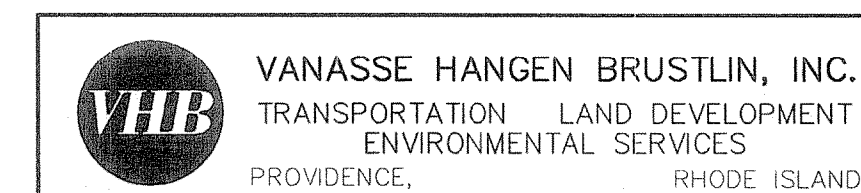
Peter C. Chiu
No. 7854
REGISTERED PROFESSIONAL ENGINEER (STRUCTURAL)
6-29-2011

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

RHODE ISLAND STANDARD SPECIFICATIONS AND STANDARD DETAILS

SPECIFICATIONS TO GOVERN THIS PROJECT ARE THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 EDITION, AND THE STATE AND FEDERAL SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS. STANDARD DETAILS FOR THIS PROJECT ARE THE RHODE ISLAND STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.

BASE OF LEVELS
N.G.V.D. 1929



Contract Number _____
Number of Sheet 1
Total Sheets 107

J:\71359\cadd\st\planset\0163D_VI_001_BCOVER.DWG

GENERAL NOTES:

- 1. ALL CONSTRUCTION INDICATED ON THESE PLANS SHALL BE IN ACCORDANCE WITH:
* THE LATEST REVISION OF AND SUPPLEMENTS TO RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, (RI STANDARD SPECIFICATIONS)
* THE SEVENTEENTH EDITION (2002) OF THE STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS INCLUDING THE LATEST INTERIMS.
* THE SPECIFICATIONS ACCOMPANYING THESE PLANS.
IN CASE OF CONFLICT, 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 MEAN SEA LEVEL, (NGVD 1929).
4. COORDINATES USED ON THESE PLANS ARE BASED ON THE STATEWIDE COORDINATE SYSTEM, THE NORTH AMERICAN DATUM OF 1983 (NAD 83).
5. TOPOGRAPHIC CONDITIONS WERE OBTAINED FROM AERIAL PHOTOGRAMMETRY, ACCURACY OF VERTICAL TOPOGRAPHY IS WITHIN (*ONE-HALF OF A FOOT*).
6. FOR BENCH MARKS AND TIES SEE HIGHWAY LOCATION PLANS.
7. ANGLES ARE SHOWN TO THE NEAREST SECOND.
8. ALL ABUTMENTS AND WALLS ARE DRAWN LOOKING AT THE EXPOSED FACES.
9. ALL ITEMS NOT REFERENCED FOR MODIFICATION WILL BE "EXISTING TO REMAIN" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
10. ANY DAMAGE TO EXISTING STATE OR PRIVATE PROPERTY CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.
11. THE CONTRACTOR SHALL PLACE ALL EQUIPMENT AND MATERIAL IN HIS FIELD YARD OR AT A SITE APPROVED BY THE ENGINEER. THE EQUIPMENT AND MATERIAL SHALL BE PLACED IN A STORAGE AREA SO AS NOT TO CAUSE A SAFETY HAZARD, OR PRESENT A HAZARD TO THE ENVIRONMENT.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION WITH UTILITY COMPANIES.
13. SEE "HIGHWAY PLANS", FOR LOCATIONS OF EXISTING AND PROPOSED UTILITIES, DRAINAGE, AND OTHER STRUCTURES. REMOVE AND RELOCATE EXISTING UTILITIES AND/OR DRAINAGE WITHIN THE LIMITS OF THE BRIDGE FOUNDATIONS AS SHOWN ON HIGHWAY PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO AVOID ANY DAMAGE TO THE UTILITIES, DRAINAGE, AND OTHER STRUCTURES.
14. THE CONTRACTOR IS CAUTIONED OF THE PRESENCE OF OVERHEAD ELECTRIC WIRES AND CABLES.
15. 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.
16. TEMPORARY PROTECTIVE SHIELD. DEBRIS SHIELDS SHALL BE PROVIDED AND INSTALLED TO PROTECT MOTORISTS, PEDESTRIANS, SENSITIVE ENVIRONMENTAL RECEPTORS, FROM ANY DEMOLITION OR CONSTRUCTION DEBRIS.
17. EXISTING DETAILS, DIMENSIONS AND ELEVATIONS PROVIDED IN THIS PLAN SET THAT HAVE BEEN OBTAINED FROM THE ORIGINAL DRAWINGS LABELED "BRIDGE NO. 278 AND APPROACHES, STILLWATER VIADUCT, DATED OCTOBER 1934" AND "3R HIGHWAY IMPROVEMENTS: ROUTE 116 DATED JUNE 1984" ARE NOT GUARANTEED. FIELD CONDITIONS MAY EXIST WHICH DEVIATE FROM THE TYPICAL AND THEORETICAL DIMENSIONS SHOWN ON THE PLANS. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ASSURE PROPER FIT OF THE FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY.
18. THE CONTRACTOR SHALL TAKE THE PROPER PRECAUTION TO ENSURE THE STABILITY OF ALL STRUCTURAL ELEMENTS DURING ALL PHASED CONSTRUCTION UNTIL THE TOTAL STRUCTURE IS IN PLACE.
19. CONTRACTOR SHALL CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO STARTING THE WORK TO VERIFY LOCATIONS OF EXISTING UTILITIES.
20. NO MATERIAL SHALL BE RE-USED UNLESS OTHERWISE APPROVED BY THE ENGINEER.

DESIGN DATA:

DESIGN LOADING:

AASHTO HS25-44 LOADING-SUPERSTRUCTURE
RHODE ISLAND LEGAL LOAD
PEDESTRIAN LIVE LOAD - 85 PSF

MATERIALS:

REINFORCING STEEL: AASHTO DESIGNATION M31 (ASTM DESIGNATION A615) GRADE 60.
CONCRETE: CLASS HP-fc = 5,000 PSI
PRECAST CONCRETE DECK PANELS: CLASS HP-fc = 8,000 PSI
CAST-IN-PLACE CONCRETE COLUMNS: CLASS XX-fc = 4,000 PSI

HYDRAULIC DATA:

DRAINAGE AREA - SQ. MI.: 25
DESIGN DISCHARGE - cfs: 1,355
DESIGN FREQUENCY - YEARS: 50
DESIGN VELOCITY - FT./S.: 1.71
DESIGN NORMAL WATER ELEV. - FT.: 195.5

BASIC FLOOD DATA:

DISCHARGE Q (100 YEAR) - cfs: 538
HIGH WATER ELEVATION - FT. 10 YR.=197.58, 50 YR.=197.96, 100 YR.=198.16

FLOOD OF RECORD:

DISCHARGE - cfs UNKNOWN
FREQUENCY - YEARS: UNKNOWN
DATE: SEP 1954 AND MARCH 1968
EVIDENCE OF SCOUR AND EROSION: JUNE 2003 - TOP OF WEST ARCH ABUTMENT FOOTING EXPOSED

FOUNDATIONS:

MAXIMUM ALLOWABLE SOIL BEARING CAPACITY FOR TEMPORARY SUPPORT = 4,000 PSF

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. 8,000 PSI FOR DECK PANELS. THE MINIMUM REQUIRED COMPRESSIVE STRENGTH AT STRESS TRANSFER FOR THE PRESTRESSED PANELS SHALL NOT BE LESS THAN 6,500 PSI. THE PANELS SHALL NOT BE USED TO SUPPORT CONSTRUCTION LOADS UNTIL THE 28 DAY STRENGTH HAS BEEN REACHED. NOTE: BESIDES HP CONCRETE, ALL OTHER CONCRETE TO BE MODIFIED THROUGH THE ADDITION OF CALCIUM NITRATE BASED CORROSION INHIBITOR IN ACCORDANCE WITH RI STANDARD SPECIFICATION.
5. NON-PRESTRESSED REINFORCEMENT SHALL CONFORM TO AASHTO DESIGNATION M 31 (ASTM DESIGNATION A 615) GRADE 60 AND SHALL BE EPOXY COATED.
6. WELDED WIRE FABRIC FOR REINFORCING SHALL CONFORM TO AASHTO DESIGNATION M55 (ASTE DESIGNATION A 185) GRADE 60.
7. PRESTRESSING STRANDS SHALL CONSIST OF UNCOATED HIGH STRENGTH SEVEN WIRE LOW-RELAXATION STRANDS HAVING A NOMINAL DIAMETER OF 2" CONFORMING TO THE REQUIREMENTS OF AASHTO STANDARD SPECIFICATION M 203 (ASTM DESIGNATION A 416) GRADE 270.
8. EXPOSED CORNERS SHALL BE CHAMFERED 1"-INCH, OR AS SHOWN ON PLANS.
9. 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.
10. DURING HANDLING, THE BEAMS 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.
11. 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.
12. THE EXPOSED FACE OF EXTERIOR BEAMS 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 MEMBERS.
13. ALL SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER IN SUFFICIENT TIME TO PERMIT CAREFUL CHECKING.
14. ALL EPOXY COATED REINFORCING BARS SHALL BE SECURELY TIED TO PREVENT DISLOCATION. TIES USED FOR THE EPOXY COATED REINFORCING STEEL SHALL ALSO BE COATED.
15. 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.
16. 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.
17. ENDS OF BEAMS SHALL BE VERTICAL AFTER ALL DEAD LOADS HAVE BEEN PLACED.
18. ALLOWANCES FOR FABRICATION TOLERANCES SHALL BE PERMITTED IN ACCORDANCE WITH AASHTO AND PCI MANUAL.
19. HAND-HELD VIBRATORS SHALL BE EQUIPPED WITH RUBBER TIPPED HEADS WHEN USED TO CONSOLIDATE CONCRETE AROUND EPOXY-COATED REINFORCEMENT AND EMBEDMENTS.

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.

CONCRETE NOTES:

- 1. CLASSES OF CONCRETE SHALL BE HIGH PERFORMANCE CLASS HP, CLASS X, CLASS XX AND CLASS A, AS DESCRIBED IN THE RI STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS OF THE SPECIFICATIONS. REFERS TO THE "MATERIAL" NOTES FOR CLASSES OF CONCRETE SPECIFIED FOR VARIOUS COMPONENTS.
2. ALL CLASSES OF CONCRETE ARE TO BE MODIFIED THROUGH THE ADDITION OF CALCIUM NITRITE-BASED CORROSION INHIBITOR IN ACCORDANCE WITH SECTION 605 OF THE RI STANDARD SPECIFICATIONS. IN ADDITION, HP CONCRETE USED DECKS ONLY SHALL BE MODIFIED WITH ADDITION OF SYNTHETIC FIBERS IN ACCORDANCE WITH SECTION 604 OF THE RI STANDARD SPECIFICATIONS. HP CONCRETE USED FOR PRESTRESSED PRECAST CONCRETE IS NOT REQUIRED TO BE MODIFIED WITH USE OF SYNTHETIC FIBER.
3. 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.
4. ALL PORTLAND CEMENT CONCRETE SHALL BE AIR-ENTRAINED.
5. EXCEPT FOR FOOTING CAST BELOW GRADE, ALL REINFORCING STEEL SHALL BE EPOXY COATED. ALL WIRE TIES AND MISCELLANEOUS HARDWARE USED FOR PLACEMENT OF EPOXY COATED REINFORCING SHALL ALSO BE EPOXY COATED. EPOXY COATING FOR REINFORCING STEEL SHALL CONFORM TO AASHTO DESIGNATION M284.

- 6. ALL CRITICAL LAP SPLICES SHALL BE AS SHOWN ON THE PLANS. ALL SPLICES NOT SHOWN ON THE PLANS SHALL BE LAPPED IN ACCORDANCE WITH THE AASHTO BRIDGE DESIGN SPECIFICATIONS FOR CLASS C LAP SPLICES.
7. UNLESS OTHERWISE SPECIFIED ALL REINFORCING BARS SHALL HAVE THE FOLLOWING MINIMUM COVER:

Table with 2 columns: Description and MINIMUM COVER. Rows include CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH, STIRRUPS, TIES AND SPIRALS, DECK SLABS, and ALL OTHER BARS.

- 8. UNLESS OTHERWISE NOTED, ANCHOR BOLTS SHALL BE ASTM DESIGNATION A 307, AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO DESIGNATION M 232 (ASTM DESIGNATION A 153), OR METALIZED IN A MANNER APPROVED BY THE ENGINEER. SUCH APPROVAL DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PREVENT CONCRETE STAINS OR DISCOLORATIONS. SWEDGED RODS SHALL BE AASHTO DESIGNATION M 270 (ASTM DESIGNATION A 709) GRADE 36 AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO DESIGNATION M 232 (ASTM DESIGNATION A 153).

- 9. ALL ANCHOR BOLTS SHALL BE SET PRIOR TO PLACEMENT OF CONCRETE UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.
10. 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.

- 11. CONCRETE SURFACE FINISH AND SURFACE TREATMENT SHALL BE PROVIDED AT THE EXPOSED NEW AND EXISTING SURFACES AS STATED BELOW.

A. SURFACE FINISH SANDBLASTED SHALL BE APPLIED TO THE COMPONENTS OF THE BALLUSTER RAILING, IN ACCORDANCE WITH 808.09.11 OF THE STANDARD SPECIFICATIONS. THESE COMPONENTS INCLUDE THE TOP CAP, THE VERTICAL SPINDLES, AND THE BOTTOM BEAM SECTION.

B. SURFACE TREATMENT - CLEAR CONCRETE PENETRATING SEALANT SHALL BE APPLIED TO ALL EXPOSED SURFACES OF THE BRIDGE INCLUDING EXISTING AND NEW CONCRETE. THIS SHALL INCLUDE ALL SIDES OF ALL BENTS AND COLUMNS, THE FRONT SIDES OF ABUTMENTS AND CLOSURE WALLS, THE SIDES, TOP AND BOTTOM OF ALL ARCHES, ALL SIDES OF ALL PEDESTALS AND SPANDREL COLUMNS, ALL SIDES AND BOTTOMS OF BEAMS AND FLOORBEAMS AND THE SIDES AND TOPS OF ALL RAILINGS AND ENDPPOSTS. SEALANT SHALL NOT BE APPLIED TO THE DECK AND SIDEWALKS.

- 12. ALL EXPOSED EDGES AND, REENRANT CORNERS NOT OTHERWISE DETAILED ON THE PLANS SHALL HAVE A MINIMUM 3/4" CHAMFER.

- 13. ALL JOINT SEALANT SHALL BE POLYURETHANE BASE OR SILICONE SEALANT UNLESS OTHERWISE 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. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING CONCRETE STAINS OR DISCOLORATIONS DURING CONSTRUCTION UNTIL SUCH TIME AS THE SURFACES ARE APPROVED AND ACCEPTED. ANY CONCRETE STAINS OR DISCOLORATION OCCURRING PRIOR TO ACCEPTANCE OF THE SURFACES SHALL BE REMOVED BY THE CONTRACTOR AT HIS OWN EXPENSE.

- 15. 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 RHODE ISLAND STATE STANDARD SPECIFICATIONS.

- 16. PLACEMENT, FINISHING AND CURING OF BRIDGE DECK CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 814 OF THE SPECIAL PROVISIONS OF THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND IN ACCORDANCE WITH THE SEQUENCE AND DIRECTION OF POURS AS SHOWN ON THE PLANS.

- 17. IN ACCORDANCE WITH THE RHODE ISLAND 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 FROM 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 HE MUST SUBMIT A CATALOG CUT AND OTHER NECESSARY INFORMATION 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 TO THE SATISFACTION OF THE ENGINEER.

- 18. ALL REMOVABLE DECK FORMS SHALL PRODUCE THE DIMENSIONS SHOWN ON THE PLANS. STAY-IN-PLACE (SIP) FORMS MAY BE USED WITHIN SIDEWALK UTILITY BAYS ONLY. SHOULD THE CONTRACTOR CHOOSE TO USE SIP FORMS, THE CONTRACTOR SHALL SUBMIT COMPLETE DESIGN AND DETAILS IN ACCORDANCE WITH CODE 105.02. THE COST OF SIP FORMS AND RELATED WORK SHALL BE INCLUDED IN THE COST OF THE DECK SIDEWALK CONCRETE.

- 19. IN THE DECK SLABS, THE TOP BARS SHALL BE SPLICED AT THE CENTER OF SPANS BETWEEN GIRDERS. BOTTOM BARS SHALL BE SPLICED OVER THE GIRDERS.

- 20. EMBEDMENT LENGTHS FOR DRILLED AND GROUTED DOWELS SHALL BE IN ACCORDANCE WITH SECTION 819 OF THE RHODE ISLAND STANDARD SPECIFICATIONS UNLESS OTHERWISE INDICATED ON THE PLANS.

- 21. HAND-HELD VIBRATORS SHALL BE EQUIPPED WITH RUBBER TIPPED HEADS WHEN USED TO CONSOLIDATE CONCRETE AROUND EPOXY-COATED REINFORCEMENT AND EMBEDMENTS.

- 22. ALL CONTACT SURFACES OF NEW CONCRETE TO EXISTING (OR PREVIOUSLY SET) SHALL HAVE BONDING COMPOUND APPLIED.

- 23. THE CONTRACTOR SHALL ENSURE THAT DISCHARGES OF THE CONCRETE AND/OR CONCRETE WASH WATER TO THE RIVER OR OTHER FRESH WATER WETLANDS DOES NOT OCCUR.

- 24. PRE-CAST CONCRETE FLOORBEAMS/SPANDREL COLUMN CAPS MAY BE SET ON CAST-IN-PLACE COLUMNS ONCE THE COLUMNS HAVE REACHED THEIR SPECIFIED STRENGTH, BUT NOT BEFORE A 14 DAY CURE PERIOD HAS BEEN REACHED.

SPECIAL NOTICE TO CONTRACTOR:

THE CONTRACTOR IS ADVISED THAT THE EXISTING BRIDGE ABUTMENTS AND WALLS ARE MOST VULNERABLE TO DAMAGE DUE TO HEAVY TRUCK AND EQUIPMENT LOADINGS ON THEIR RESPECTIVE BACKFILLS. THEREFORE, THE CONTRACTOR SHALL INSURE THAT HE LIMITS THE LOCATION OF SUCH HEAVY EQUIPMENT AS PROPOSED. ANY SUCH DAMAGE TO THE ABUTMENTS AND WALLS SHALL BE REPAIRED AND/OR REPLACED AT THE SOLE EXPENSE OF THE CONTRACTOR.



Table with 6 columns: FED. ROAD DIV. NO., STATE, FEDERAL AID PROJECT NO., FISCAL YEAR, SHEET NO., TOTAL SHEETS. Values: 1, RI, BR0-0278(003), 2011, 2, 107

- 25. ALL SURFACES OF NEW AND EXISTING CONCRETE SHALL BE CLEANED WITH HIGH-PRESSURE WATER PRIOR TO THE APPLICATION OF CLEAR PENETRATING SEALANT. ALSO, TEST AREAS OF THE EXISTING STRUCTURE SHALL BE HIGH-PRESSURE WATER CLEANED IN ORDER TO INSURE PROPER COLOR-MATCHING OF THE NEW INTEGRALLY COLORED CONCRETE.
26. ALL NEW CAST-IN-PLACE AND PRECAST CONCRETE EXCEPT FOR THE CONCRETE DECK AND DECK PANELS, SHALL BE INTEGRALLY COLORED TO MATCH THE EXISTING STRUCTURE AFTER CLEANING. THIS SHALL APPLY TO CONCRETE REPAIR AREAS AS WELL. REFER TO THE SPECIAL PROVISIONS.
27. SUPPORT RAILS FOR THE FINISHING MACHINE(S) SHALL BE LOCATED BEYOND THE CURB LINE SUCH THAT THE ENTIRE BRIDGE DECK SHALL RECEIVE A MACHINE FINISH. THE CONTRACTOR SHALL INCLUDE THE LOADING OF THE FINISHING MACHINE(S) AND THE SUPPORT RAIL SYSTEM IN THE DESIGN OF THE CANTILEVER DECK SUPPORT SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST AND DESIGN OF THIS SUPPORT SYSTEM WHICH MAY REQUIRE THE ADDITION OF TEMPORARY DIAPHRAGMS OR BRACES TO PREVENT FASCIA STRINGER ROTATION.

BRIDGE PLAN

Table with 2 columns: SHEET NO. and DESCRIPTION. Lists sheets 1 through 80 and their corresponding descriptions like COVER, BRIDGE DRAWING INDEX, etc.

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

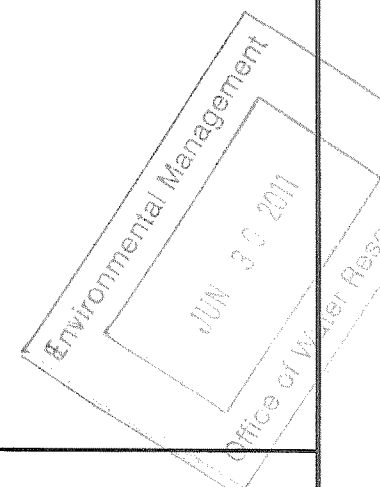
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT FRESHWATER WETLANDS PROGRAM APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL DATED AUG - 2 2011 FILE # 11-0133 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL. APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

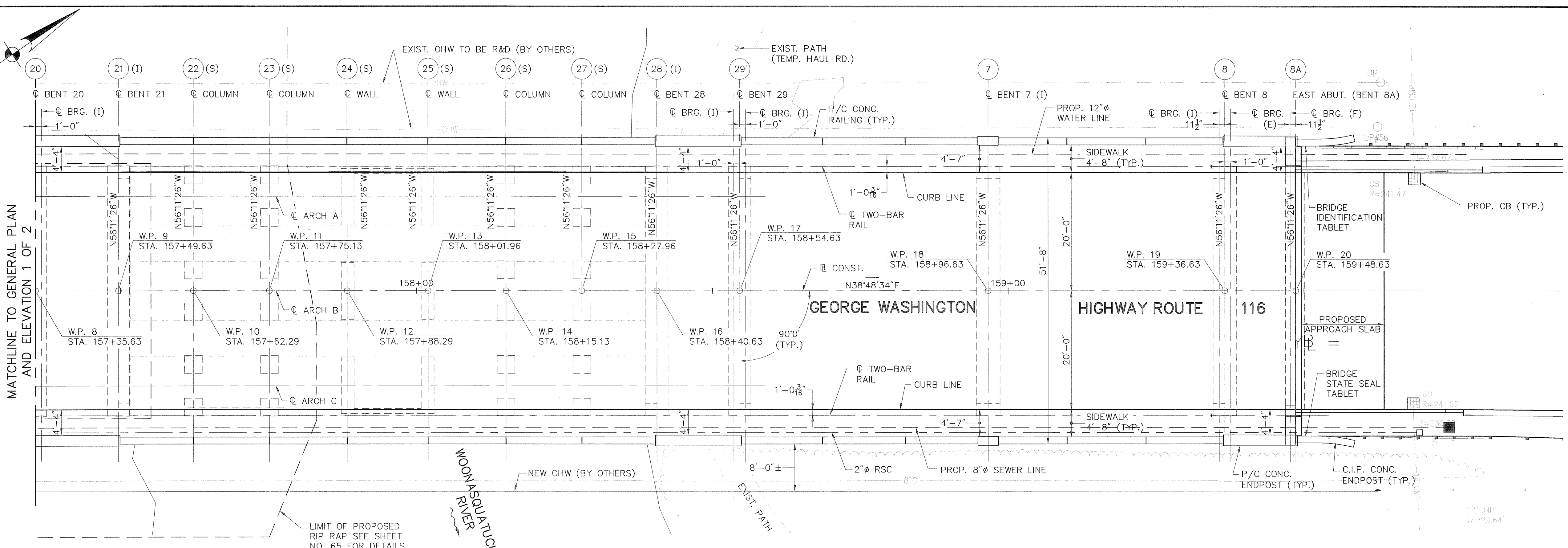
HIGHWAY PLAN

Table with 2 columns: SHEET NO. and DESCRIPTION. Lists sheets H1 through H23 and their descriptions like STANDARD PLAN SYMBOLS, etc.

REVISIONS table and project title block: RHODE ISLAND DEPARTMENT OF TRANSPORTATION BRIDGE REHABILITATION STILLWATER VIADUCT BRIDGE NO. 278 SMITHFIELD RHODE ISLAND BRIDGE DRAWING INDEX AND GENERAL NOTES CHECKED BY DATE SCALE AS SHOWN

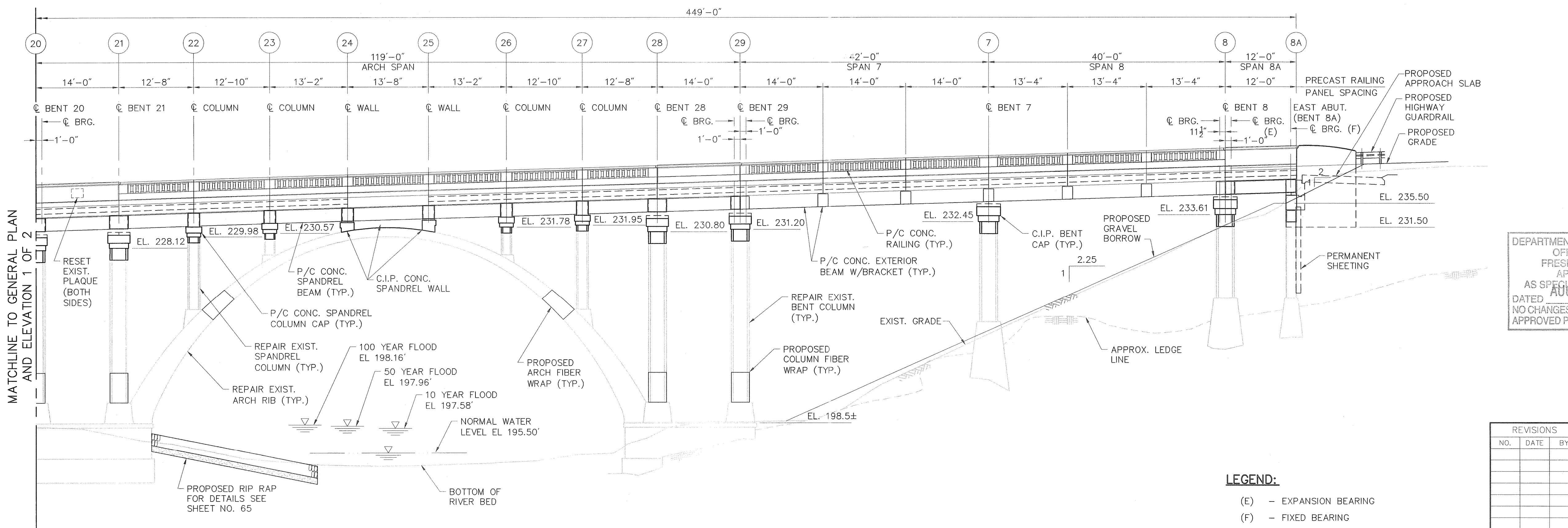
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GENERAL PLAN
SCALE: 1"=10'-0"

WORKING POINT COORDINATES	
WORKING POINT NO.	COORDINATES
W.P. 8	N 300562.9495 E 318135.9223
W.P. 9	N 300574.5820 E 318143.7124
W.P. 10	N 300585.1066 E 318150.7605
W.P. 11	N 300595.7697 E 318157.9014
W.P. 12	N 300606.7098 E 318165.2278
W.P. 13	N 300618.0653 E 318172.8324
W.P. 14	N 300629.0054 E 318180.1588
W.P. 15	N 300639.6685 E 318187.2997
W.P. 16	N 300650.1931 E 318194.3478
W.P. 17	N 300661.8256 E 318202.1379
W.P. 18	N 300696.7231 E 318225.5081
W.P. 19	N 300729.9587 E 318247.7655
W.P. 20	N 300739.9294 E 318254.4427

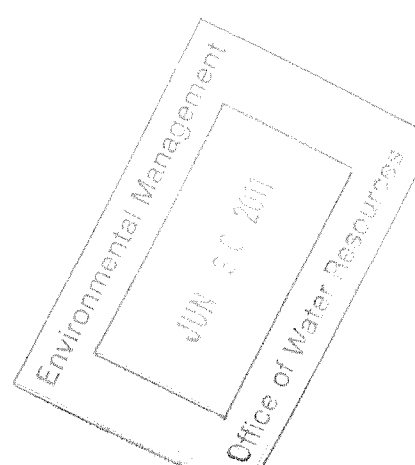


ELEVATION
SCALE: 1"=10'-0"

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED AUG - 2 2011 FILE # 11-e133
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

W. Joseph Casey
NOTE:
FOR EXISTING ELEVATION SEE SHEET NO 17.



LEGEND:

- (E) - EXPANSION BEARING
- (F) - FIXED BEARING
- (S) - SLIDING BEARING
- (I) - ISOLATION BEARING

REVISIONS		
NO.	DATE	BY

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

BRIDGE REHABILITATION STILLWATER VIADUCT BRIDGE NO. 278

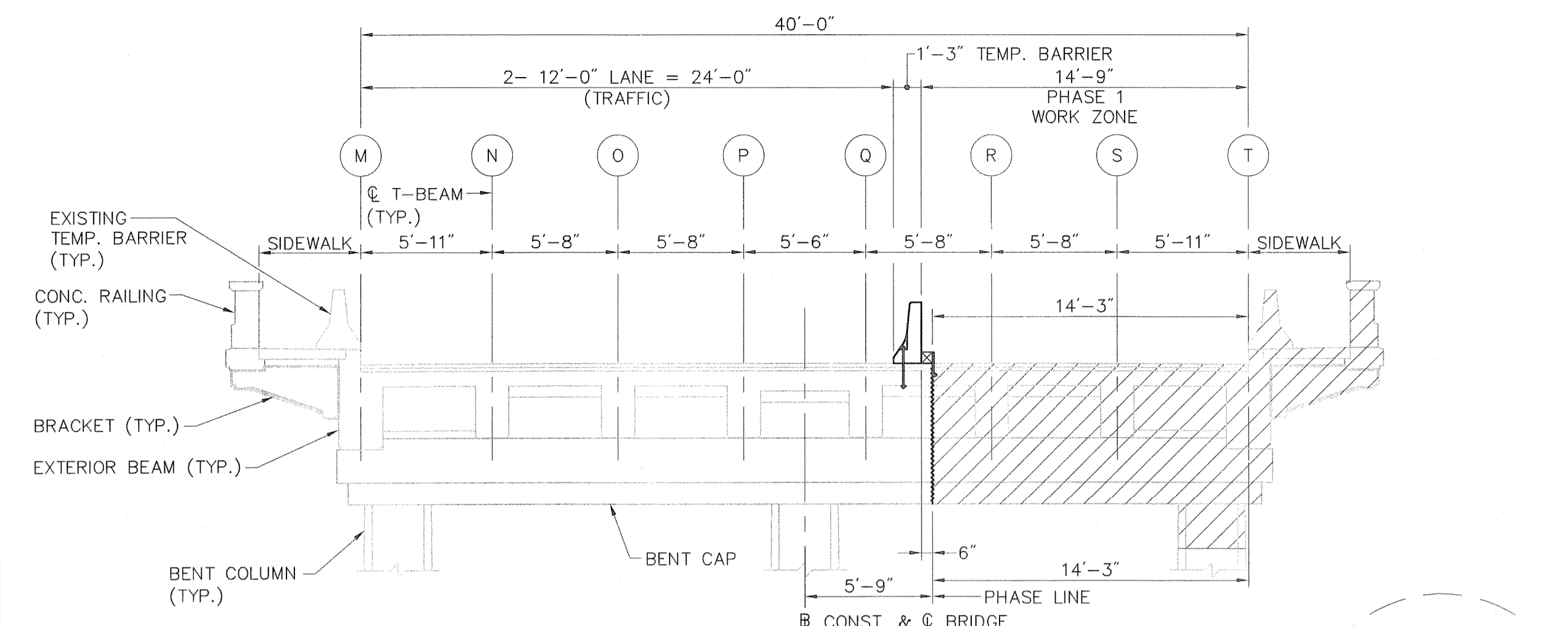
SMITHFIELD RHODE ISLAND

GENERAL PLAN AND ELEVATION 2 OF 2

CHECKED BY _____ DATE _____ SCALE AS SHOWN

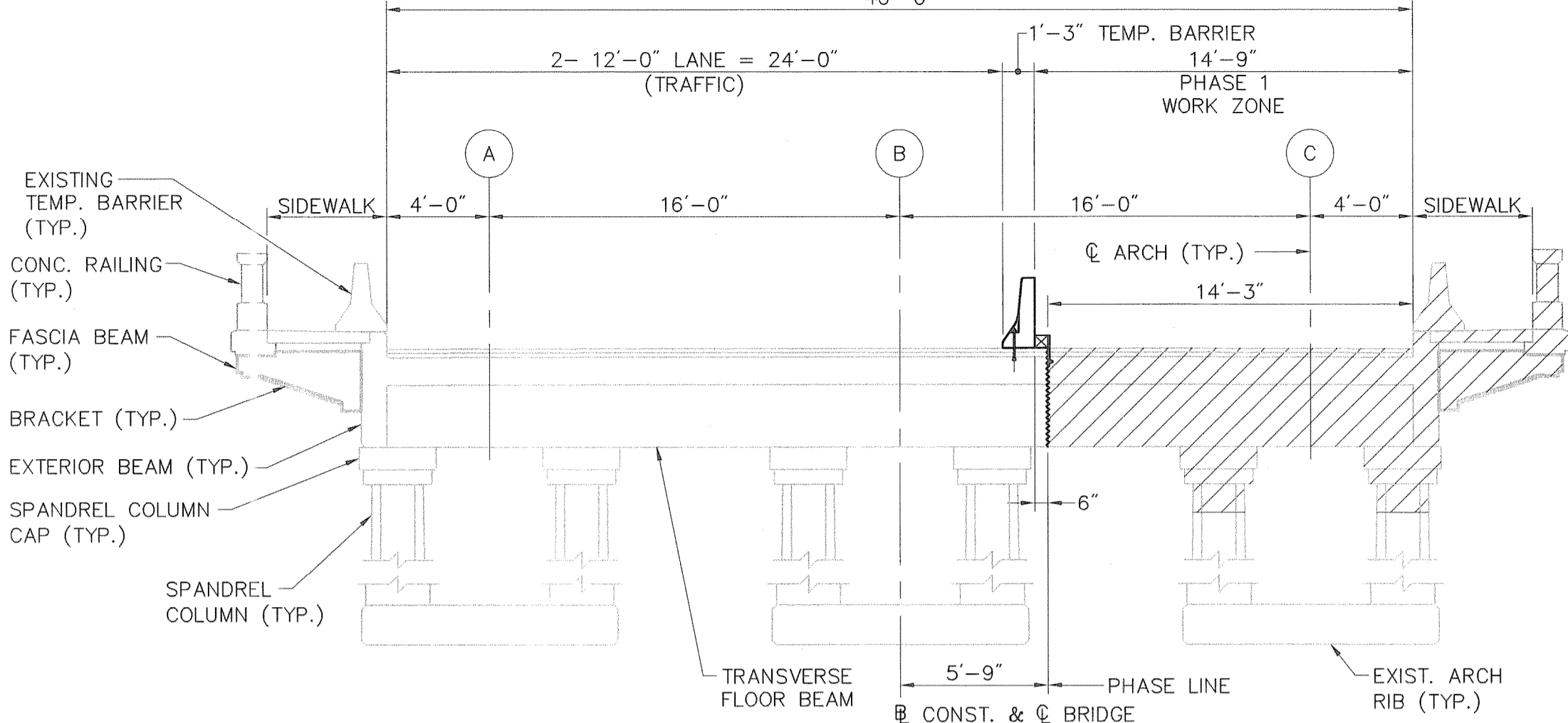
VHB VANASSE HANGEN BRUSTLIN, INC.
TRANSPORTATION LAND DEVELOPMENT ENVIRONMENTAL SERVICES
PROVIDENCE, RHODE ISLAND

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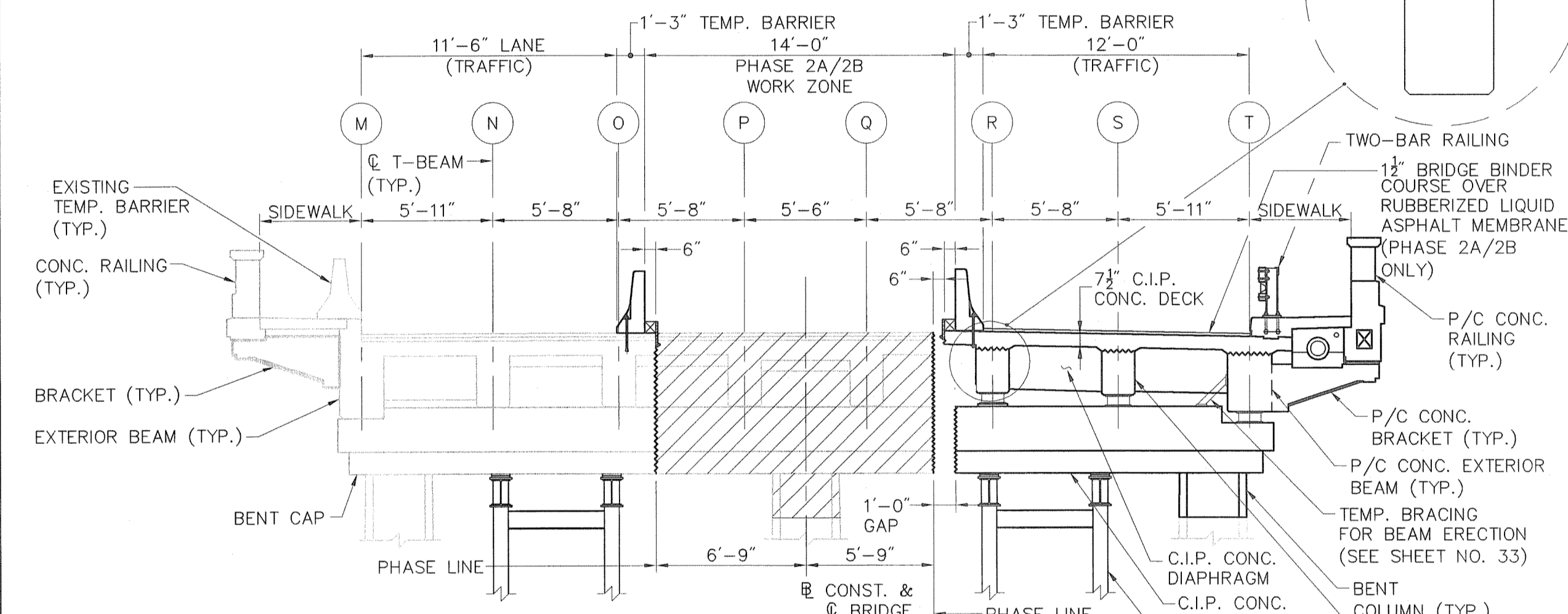
NOTE: EXIST. SIDEWALK IS BARRICADED FROM PEDESTRIAN ACCESS. LOADING WILL NOT BE ALLOWED ON THE EXISTING SIDEWALK.

PHASE 1



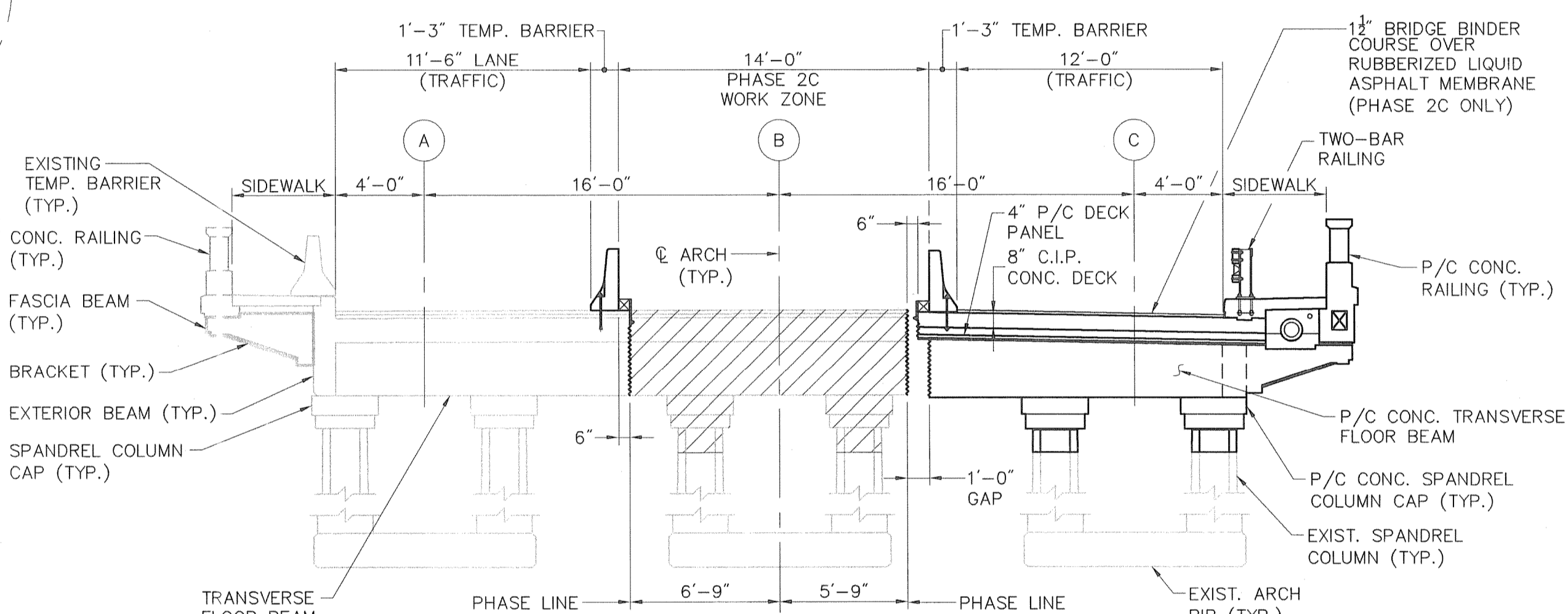
NOTE: EXIST. SIDEWALK IS BARRICADED FROM PEDESTRIAN ACCESS. LOADING WILL NOT BE ALLOWED ON THE EXISTING SIDEWALK.

PHASE 1



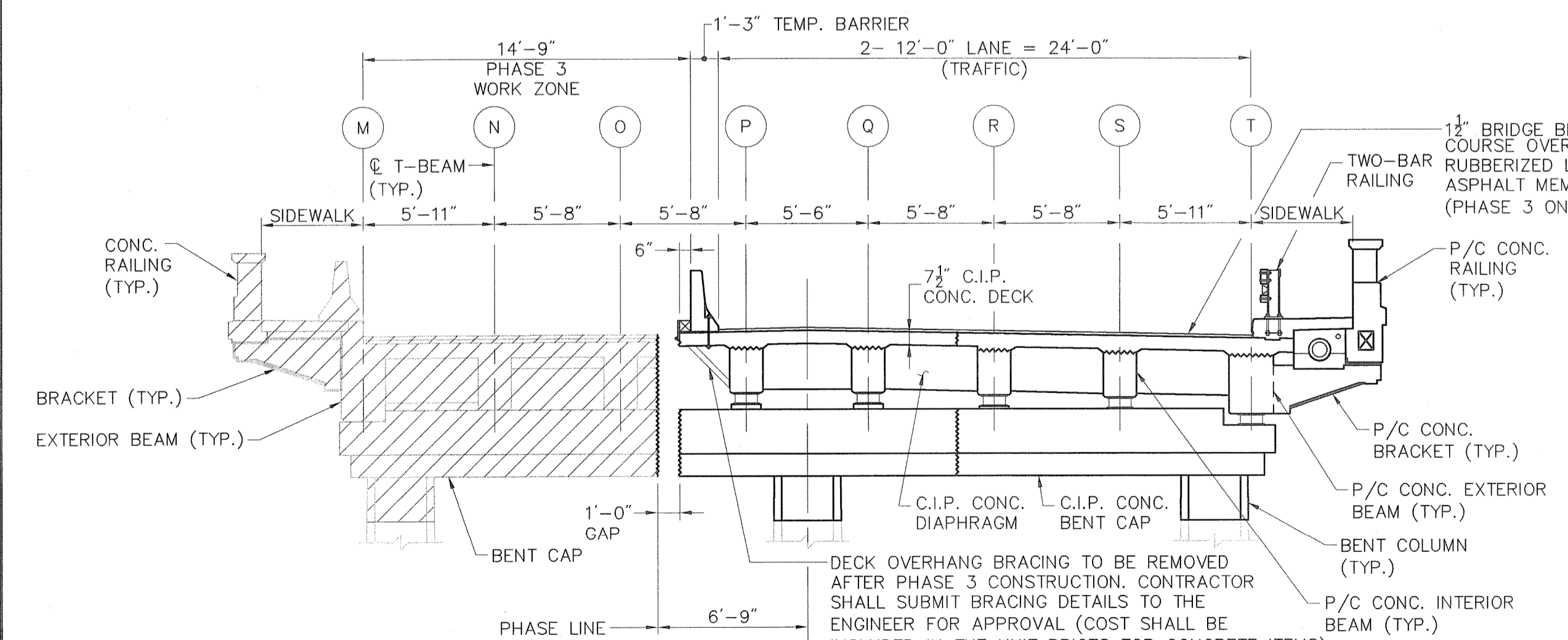
NOTE: EXIST. SIDEWALK IS BARRICADED FROM PEDESTRIAN ACCESS. LOADING WILL NOT BE ALLOWED ON THE EXISTING SIDEWALK. LOADING ON THE NEW SIDEWALK SHALL BE LIMITED TO 85 PSF.

PHASE 2A AND PHASE 2B



NOTE: EXIST. SIDEWALK IS BARRICADED FROM PEDESTRIAN ACCESS. LOADING WILL NOT BE ALLOWED ON THE EXISTING SIDEWALK. LOADING ON THE NEW SIDEWALK SHALL BE LIMITED TO 85 PSF.

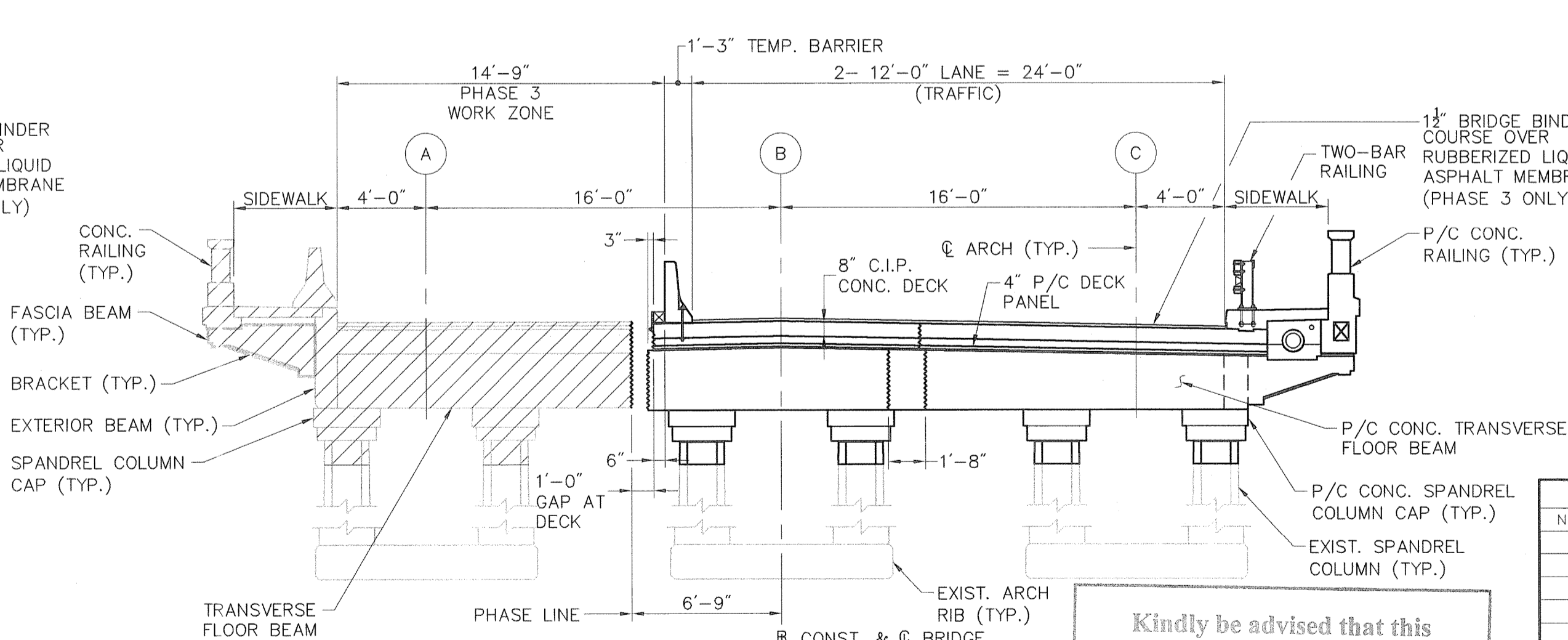
PHASE 2C



DECK OVERHANG BRACING TO BE REMOVED AFTER PHASE 3 CONSTRUCTION. CONTRACTOR SHALL SUBMIT BRACING DETAILS TO THE ENGINEER FOR APPROVAL (COST SHALL BE INCLUDED IN THE UNIT PRICES FOR CONCRETE ITEMS)

PHASE 3

SPANS 1 THRU 6, 7, 8
SCALE: 3/16"=1'-0"



NOTE: SIMILAR DETAIL AT ARCH ABUTMENT BENT, ARCH CROWN, SPANS 1A & 8A.

PHASE 3

ARCH SPAN
SCALE: 3/16"=1'-0"

SEQUENCE OF STAGE CONSTRUCTION

- PHASE 1**
1. INSTALL TEMPORARY BARRIERS ON EXISTING DECK TO ACCOMMODATE TWO LANES OF TRAFFIC.
 2. REMOVE SUPERSTRUCTURE AS SHOWN (SEE SHT. NO. 16 FOR DEMOLITION LIMIT).
 3. DEMOLISH PORTIONS OF EXISTING SUBSTRUCTURES (SEE DEMOLITION DRAWINGS FOR ADDITIONAL DETAILS).
 4. INSTALL TEMPORARY SUPPORT AT PROPOSED BENT AS SHOWN (SEE PHASE 2).
 5. CONSTRUCT PROPOSED STRUCTURE (SEE PHASE 2)
- PHASE 2A, 2B AND 2C**
1. INSTALL TEMPORARY BARRIERS ON BOTH PROPOSED AND EXISTING DECK TO ACCOMMODATE TWO LANES OF TRAFFIC.
 2. INSTALL TEMPORARY SUPPORT AT EXISTING BENT.
 3. REMOVE PHASE 2 STRUCTURE AS SHOWN (SEE SHT. NO. 16. FOR DEMOLITION LIMIT).
 4. CONSTRUCT PROPOSED STRUCTURE (SEE PHASE 3).

- PHASE 3**
1. INSTALL TEMPORARY BARRIERS ON PROPOSED DECK TO ACCOMMODATE TWO LANES OF TRAFFIC.
 2. REMOVE SUPERSTRUCTURE AS SHOWN (SEE SHT. NO. 16 FOR DEMOLITION LIMIT).
 3. DEMOLISH PORTIONS OF EXISTING SUBSTRUCTURES (SEE DEMOLITION DRAWINGS FOR ADDITIONAL DETAILS).
 4. CONSTRUCT PROPOSED STRUCTURE. (SEE SHT. NOS. 7 AND 8 FOR FINAL CONDITIONS).

SEQUENCE OF NEW CONSTRUCTION AT EACH PHASE:

1. CONSTRUCT C.I.P. CONCRETE BENT/ P/C CONCRETE SPANDREL COLUMN CAPS.
2. INSTALL BEARINGS AND ERECT P/C CONCRETE FLOORBEAMS/BEAMS.
3. CONSTRUCT C.I.P. CONCRETE DIAPHRAGMS AND INSTALL DECK FORMWORK.
4. POUR C.I.P. CONCRETE DECK.
5. INSTALL P/C CONCRETE RAILING, INSTALL PROPOSED WATER LINE (PHASE 3 ONLY) AND POUR C.I.P. CONCRETE CURBING AND SIDEWALK AS APPLICABLE.
6. INSTALL TWO BAR RAILING AS APPLICABLE.
7. AT CONTRACTOR'S OPTION, THE ENTIRE C.I.P. CONCRETE BENT CAN BE CONSTRUCTED DURING PHASE 1 WITH EXISTING BEAMS SUPPORTED ON TEMPORARY SHORING.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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FRESHWATER WETLANDS PROGRAM
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LEGEND:
[Hatched Box] - REMOVE AND DISPOSE

NOTE:
FOR TEMPORARY SUPPORT SYSTEM, SEE SHEET NO. 79.

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RHODE ISLAND DEPARTMENT OF TRANSPORTATION

BRIDGE REHABILITATION STILLWATER VIADUCT BRIDGE NO. 278

SMITHFIELD RHODE ISLAND

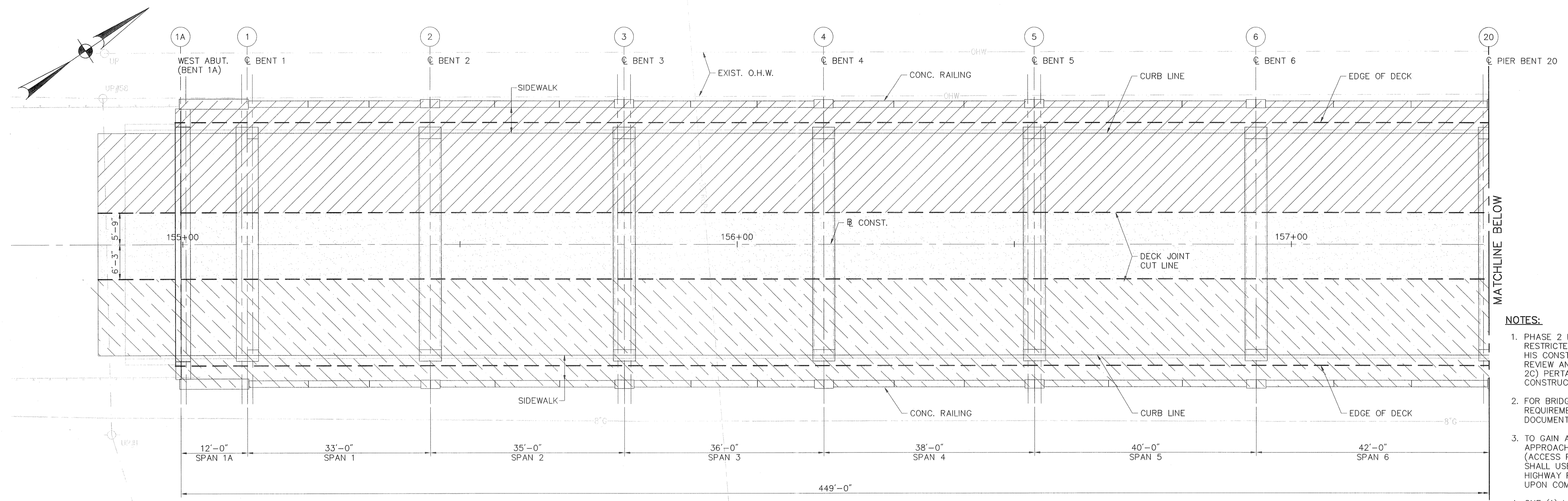
STAGED CONSTRUCTION 1 OF 4

CHECKED BY _____ DATE _____ SCALE AS SHOWN

REVISIONS		
NO.	DATE	BY

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FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	R.I.	BR0-0278(003)	2011	10	107



PLAN AT DECK
SCALE: 1"=10'-0"

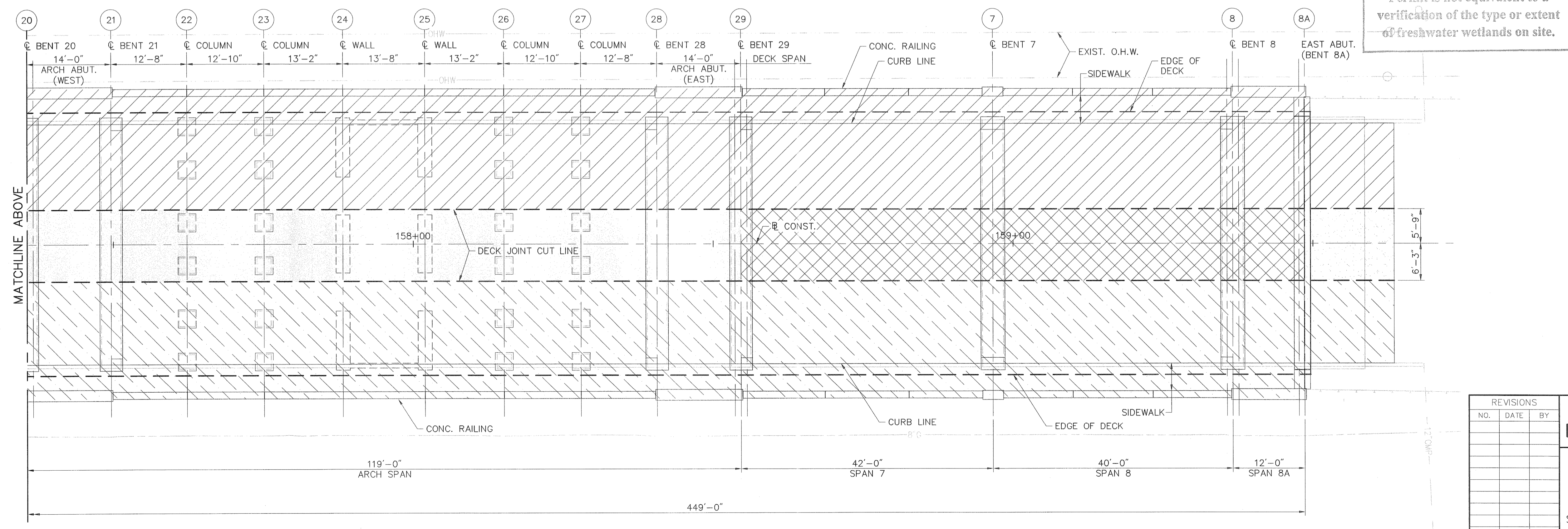
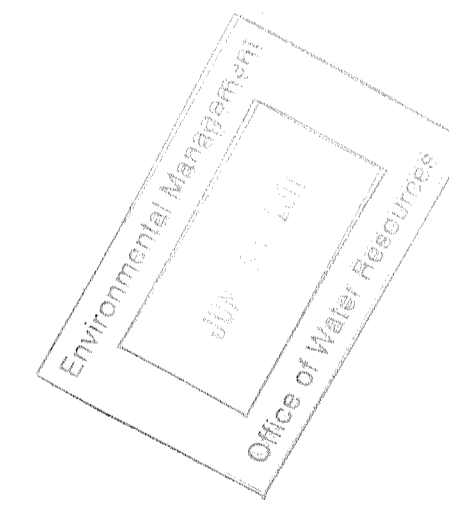
- NOTES:**
- PHASE 2 IS DIVIDED INTO THREE SUB-PHASES DUE TO RESTRICTED WORKING AREA. CONTRACTOR MUST SUBMIT HIS CONSTRUCTION SEQUENCE AND METHODOLOGY FOR REVIEW AND APPROVAL. SUB-PHASE LETTERING (2A, 2B, 2C) PERTAINS TO PHASE DESIGNATION AND NOT CONSTRUCTION SEQUENCES.
 - FOR BRIDGE LOAD RESTRICTION AND CLOSURE REQUIREMENT, SEE CS PAGES OF THE CONTRACT DOCUMENTS.
 - TO GAIN ACCESS BELOW THE BRIDGE AT THE WEST APPROACH, CONTRACTOR SHALL USE THE SCENIC TRAIL (ACCESS PATH) AT THE EAST APPROACH, CONTRACTOR SHALL USE A TEMPORARY HAUL ROAD AS SHOWN ON THE HIGHWAY PLAN SET. FINAL GRADE SHALL BE RESTORED UPON COMPLETION OF CONSTRUCTION.
 - ONE (1) LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED ON BRIDGE UNLESS OTHERWISE NOTED.

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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FRESHWATER WETLANDS PROGRAM
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W. Joseph Cassey

- LEGEND:**
- PHASE 1
 - PHASE 2A
 - PHASE 2B
 - PHASE 2C
 - PHASE 3



PLAN AT DECK
SCALE: 1"=10'-0"

REVISIONS		
NO.	DATE	BY

**RHODE ISLAND
DEPARTMENT OF TRANSPORTATION**

**BRIDGE REHABILITATION
STILLWATER VIADUCT
BRIDGE NO. 278**

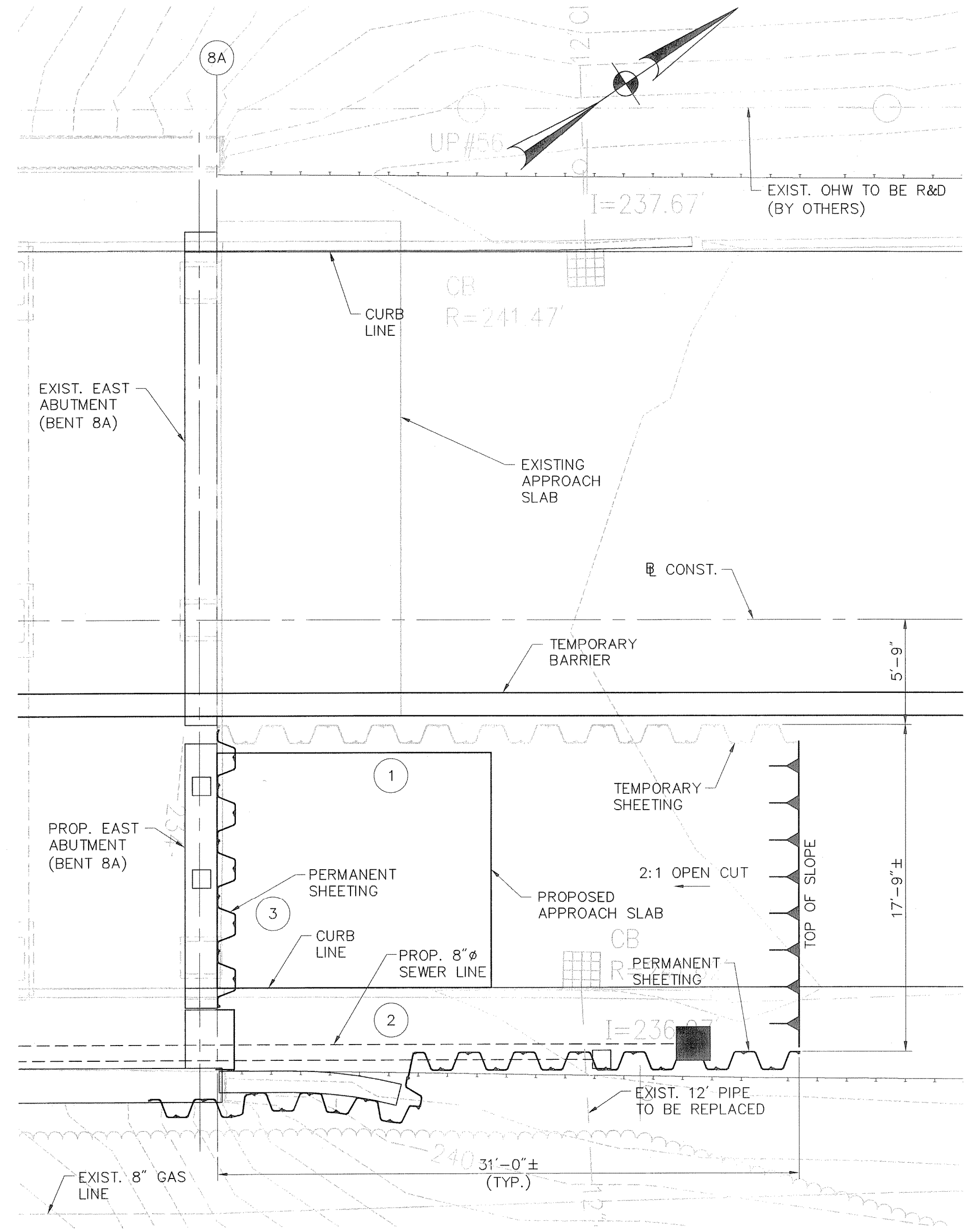
SMITHFIELD RHODE ISLAND

**STAGED CONSTRUCTION
2 OF 4**

CHECKED BY _____ DATE _____ SCALE AS SHOWN

VHB VANASSE HANGEN BRUSTLIN, INC.
TRANSPORTATION LAND DEVELOPMENT
ENVIRONMENTAL SERVICES
PROVIDENCE, RHODE ISLAND

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PHASE 1

SUGGESTED SEQUENCE OF STAGE CONSTRUCTION

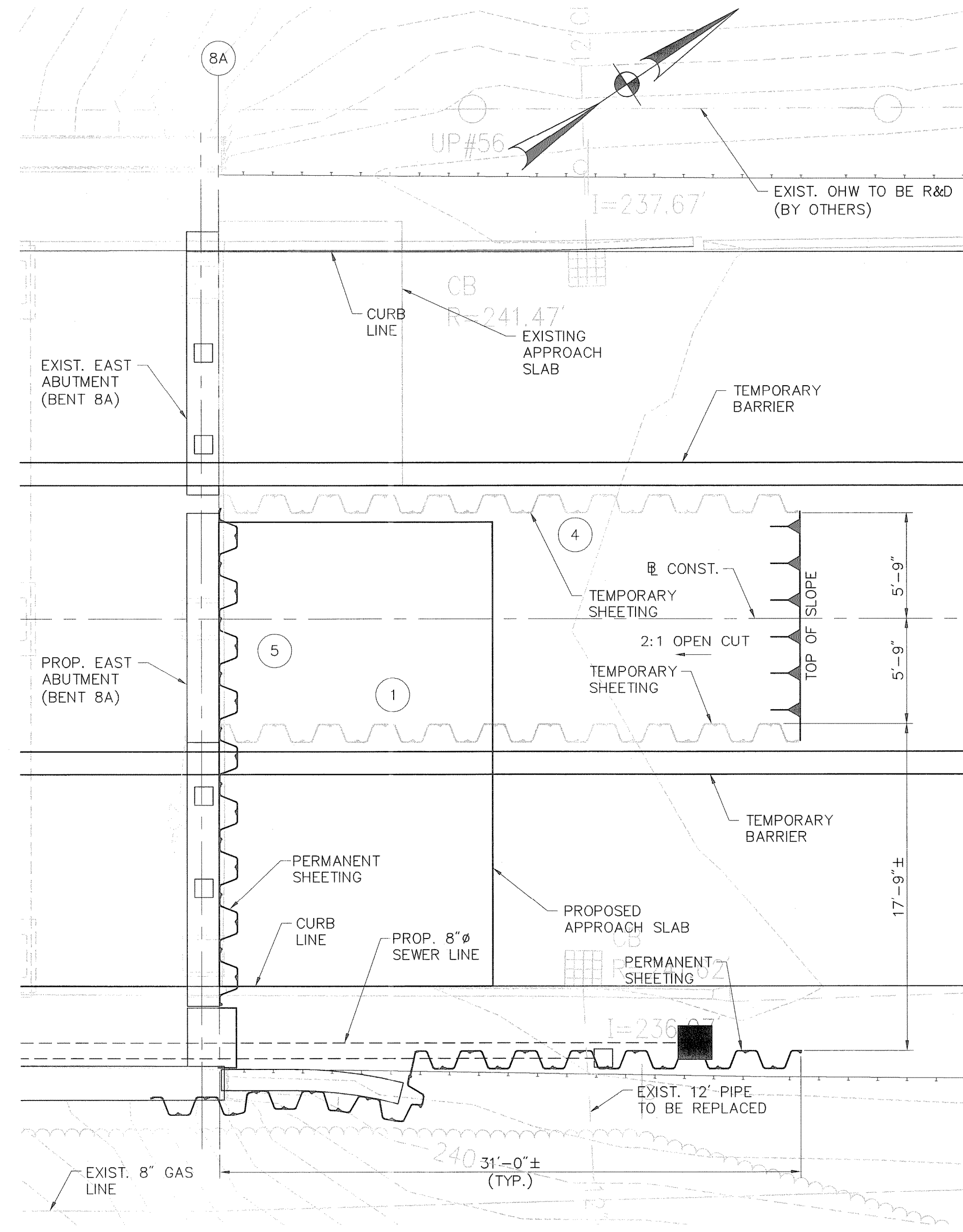
ALL WORK SHALL PROCEED IN ACCORDANCE WITH SEQUENCE OF CONSTRUCTION AND MAINTENANCE AND PROTECTION OF TRAFFIC PLANS AND THE CONTRACT DOCUMENT.

PHASE 1

1. LOCALLY EXCAVATE TO TOP OF EXISTING APPROACH SLAB AND PARTIALLY DEMOLISH EXISTING APPROACH SLAB AS REQUIRED TO INSTALL SHEETING ①.
2. INSTALL SHEETING ②. EXCAVATE AND DEMOLISH REMAINING APPROACH SLAB.
3. INSTALL SHEETING ③ ALONG EXISTING BENT CAP. EXCAVATE AND DEMOLISH EXISTING BENT CAP.
4. CUT SHEETING ③ AS REQUIRED TO CONSTRUCT PROPOSED BENT CAP WITH TEMPORARY SUPPORT.
5. COMPLETE REMAINING STRUCTURES AND BACKFILL TO FINISHED GRADE.

PHASE 2B

1. LOCALLY EXCAVATE TO TOP OF EXISTING APPROACH SLAB AND PARTIALLY DEMOLISH EXISTING APPROACH SLAB AS REQUIRED TO INSTALL SHEETING ④.
2. EXCAVATE AND DEMOLISH REMAINING APPROACH SLAB.
3. INSTALL SHEETING ⑤ ALONG EXISTING BENT CAP. EXCAVATE AND DEMOLISH EXISTING BENT CAP.
4. CUT SHEETING ⑤ AS REQUIRED TO CONSTRUCT PROPOSED BENT CAP.
5. CONSTRUCT SUPERSTRUCTURE AND BACKFILL.
6. BACKFILL AND CUT OFF SHEETING ① TO CONSTRUCT APPROACH SLAB.
7. COMPLETE REMAINING STRUCTURES AND BACKFILL TO FINISHED GRADE.



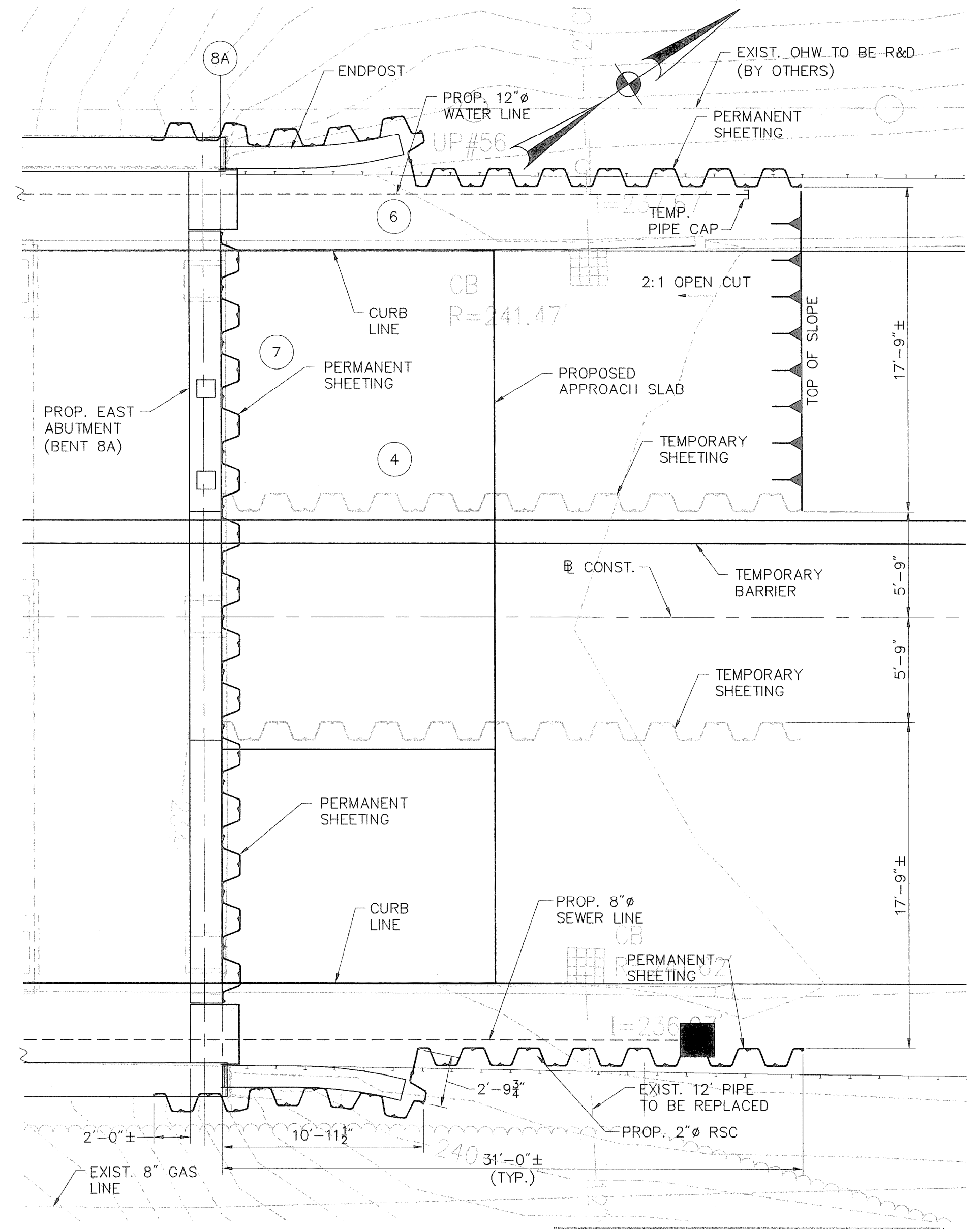
PHASE 2B

EAST APPROACH

SCALE: 3/16"=1'-0"

PHASE 3

1. INSTALL SHEETING ⑥. EXCAVATE AND DEMOLISH REMAINING APPROACH SLAB.
2. INSTALL SHEETING ⑦ ALONG EXISTING BENT CAP. EXCAVATE AND DEMOLISH EXISTING BENT CAP.
3. CUT SHEETING ⑦ AS REQUIRED TO CONSTRUCT PROPOSED BENT CAP.
4. CUT SHEETING ④ 1' BELOW APPROACH SLAB
5. COMPLETE REMAINING STRUCTURES AND BACKFILL TO FINISHED GRADE.



PHASE 3

LEGEND:

- - SEWER TERMINAL MANHOLE
- - FIBER OPTIC HAND HOLE

NOTES:

1. SEE SHEET NO. 15 FOR ADDITIONAL NOTES AND DETAILS.
2. CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR THE EXISTING GAS LINES AND OVERHEAD WIRES/CABLES. NO EXCAVATION WILL BE ALLOWED WITHIN THREE FOOT CLEARANCE OF THE GAS FACILITY. NOTIFY RIDOT AND NATIONAL GRID GAS COMPANY IMMEDIATELY IF THE PIPE IS EXPOSED OR DAMAGED DURING CONSTRUCTION.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED AUG - 2 2011 FILE # 11-1133
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

W. Joseph Conroy

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REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

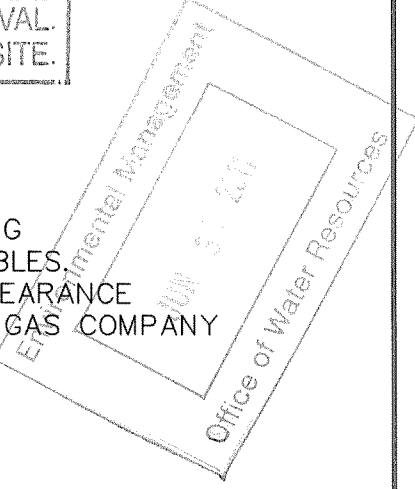
BRIDGE REHABILITATION
STILLWATER VIADUCT
BRIDGE NO. 278

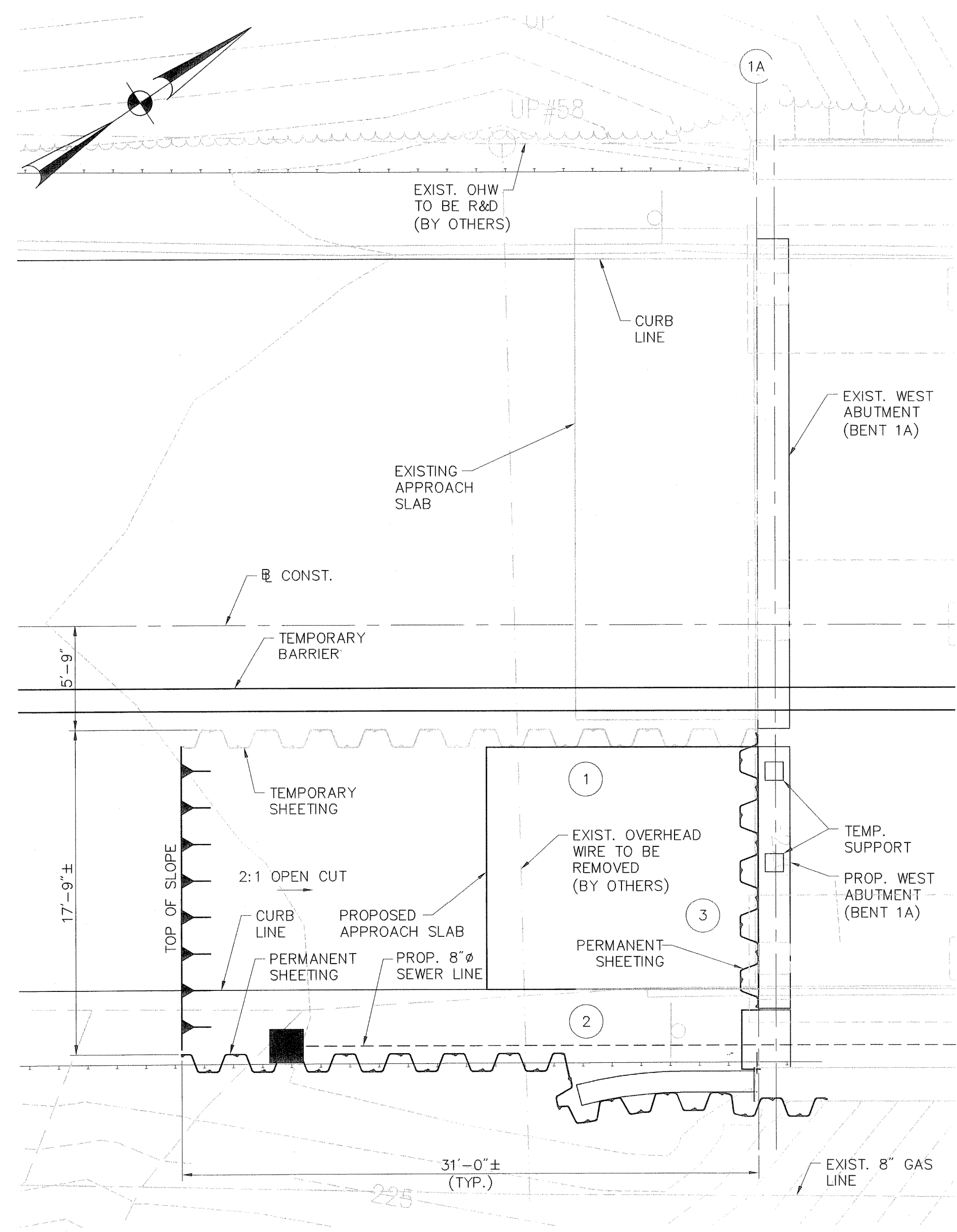
SMITHFIELD RHODE ISLAND

EARTH RETAINING SYSTEMS
GENERAL PLAN 2 OF 2

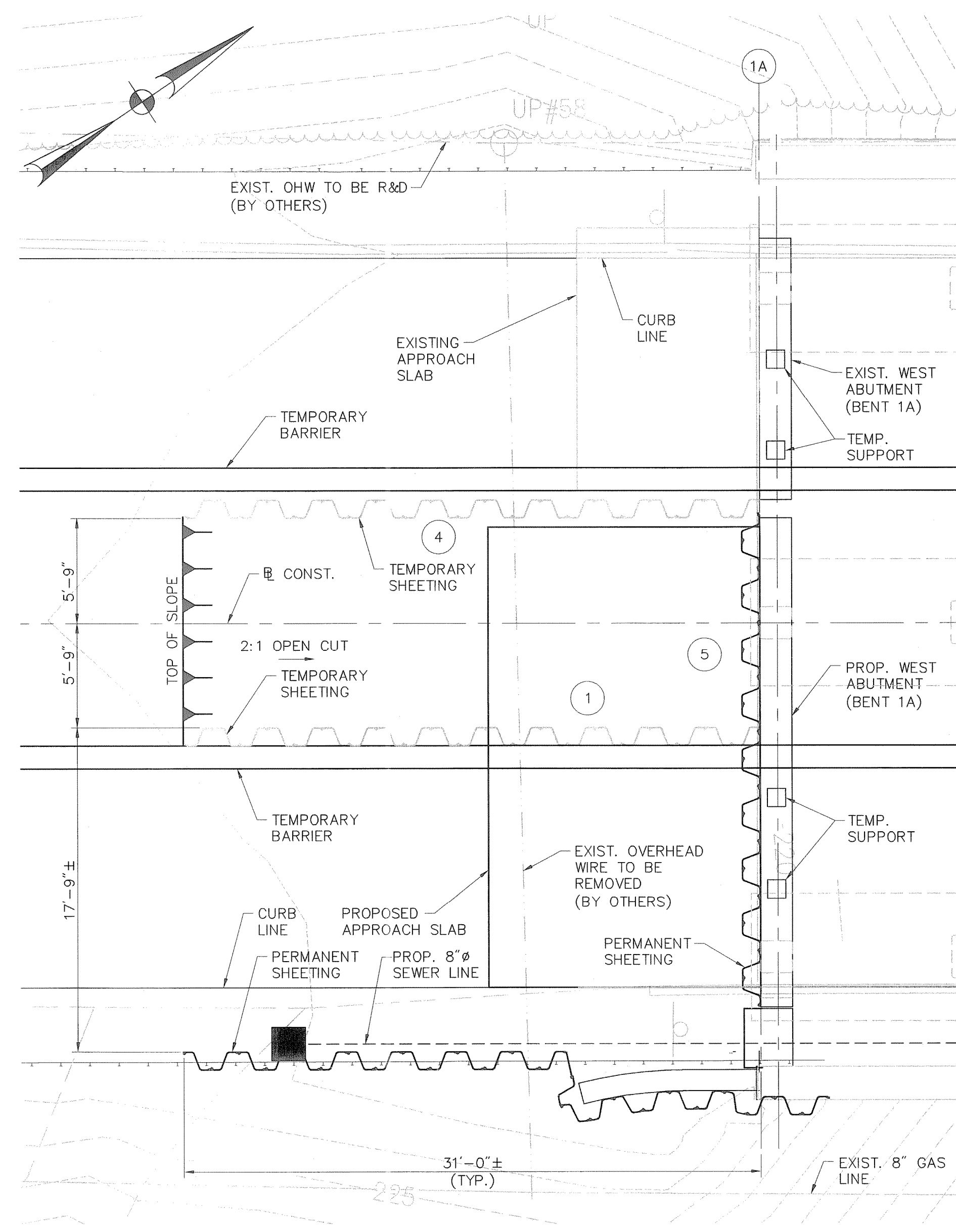
CHECKED BY _____ DATE _____ SCALE AS SHOWN

VHB VANASSE HANGEN BRUSTLIN, INC.
TRANSPORTATION LAND DEVELOPMENT
ENVIRONMENTAL SERVICES
PROVIDENCE, RHODE ISLAND

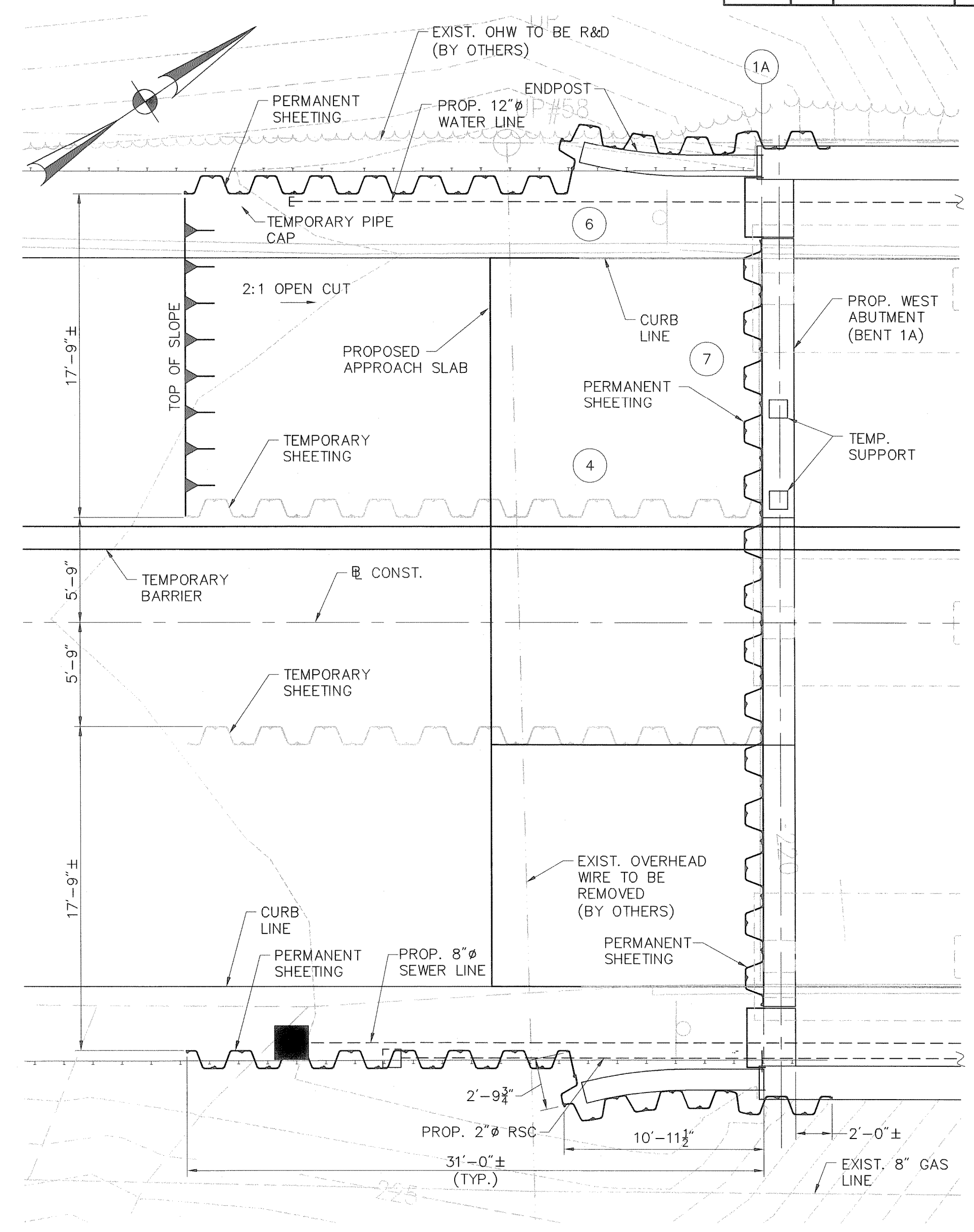




PHASE 1



PHASE 2A



PHASE 3

SUGGESTED SEQUENCE OF STAGE CONSTRUCTION

ALL WORK SHALL PROCEED IN ACCORDANCE WITH SEQUENCE OF CONSTRUCTION AND MAINTENANCE AND PROTECTION OF TRAFFIC PLANS AND THE CONTRACT DOCUMENT.

PHASE 1

1. LOCALLY EXCAVATE TO TOP OF EXISTING APPROACH SLAB AND PARTIALLY DEMOLISH EXISTING APPROACH SLAB AS REQUIRED TO INSTALL SHEETING ①.
2. INSTALL SHEETING ②. EXCAVATE AND DEMOLISH REMAINING APPROACH SLAB.
3. INSTALL SHEETING ③ ALONG EXISTING BENT CAP. EXCAVATE AND DEMOLISH EXISTING BENT CAP.
4. CUT SHEETING ③ AS REQUIRED TO CONSTRUCT PROPOSED BENT CAP WITH TEMPORARY SUPPORT.
5. COMPLETE REMAINING STRUCTURES AND BACKFILL TO FINISHED GRADE.

PHASE 2A

1. LOCALLY EXCAVATE TO TOP OF EXISTING APPROACH SLAB AND PARTIALLY DEMOLISH EXISTING APPROACH SLAB AS REQUIRED TO INSTALL SHEETING ④.
2. EXCAVATE AND DEMOLISH REMAINING APPROACH SLAB.
3. INSTALL SHEETING ⑤ ALONG EXISTING BENT CAP. DEMOLISH EXISTING BENT CAP.
4. CUT SHEETING ⑤ AS REQUIRED TO CONSTRUCT PROPOSED BENT CAP.
5. CONSTRUCT SUPERSTRUCTURE AND BACKFILL.
6. BACKFILL AND CUT OFF SHEETING ① TO CONSTRUCT APPROACH SLAB.
7. COMPLETE REMAINING STRUCTURES AND BACKFILL TO FINISHED GRADE.

PHASE 3

1. INSTALL SHEETING ⑥. EXCAVATE AND DEMOLISH REMAINING APPROACH SLAB.
2. INSTALL SHEETING ⑦ ALONG EXISTING BENT CAP. EXCAVATE AND DEMOLISH EXISTING BENT CAP.
3. CUT SHEETING ⑦ AS REQUIRED TO CONSTRUCT PROPOSED BENT CAP.
4. CUT SHEETING ④ 1' BELOW APPROACH SLAB
5. COMPLETE REMAINING STRUCTURES AND BACKFILL TO FINISHED GRADE.

WEST APPROACH

SCALE: 3/16"=1'-0"

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
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W. Joseph Conroy

LEGEND:

- - SEWER TERMINAL MANHOLE
- - FIBER OPTIC HAND HOLE

NOTES:

1. SEE SHEET NO. 15 FOR ADDITIONAL NOTES AND DETAILS.
2. CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR THE EXISTING GAS LINES AND OVERHEAD WIRES/CABLES. NO EXCAVATION WILL BE ALLOWED WITHIN THREE FOOT CLEARANCE OF THE GAS FACILITY. NOTIFY RIDOT AND NATIONAL GRID GAS COMPANY IMMEDIATELY IF THE PIPE IS EXPOSED OR DAMAGED DURING CONSTRUCTION.

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REVISIONS		
NO.	DATE	BY

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

BRIDGE REHABILITATION STILLWATER VIADUCT BRIDGE NO. 278

SMITHFIELD RHODE ISLAND

EARTH RETAINING SYSTEMS GENERAL PLAN 1 OF 2

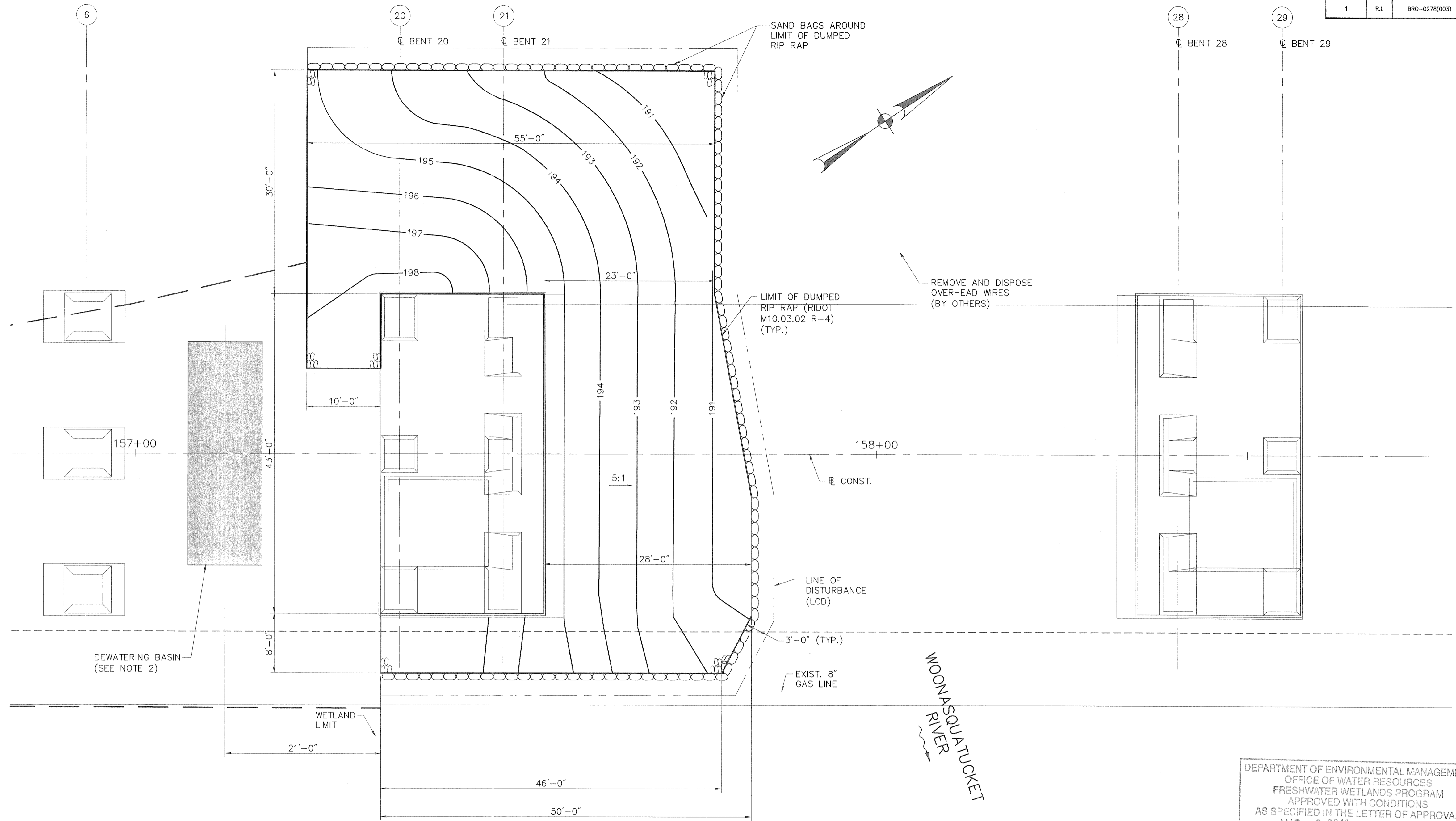
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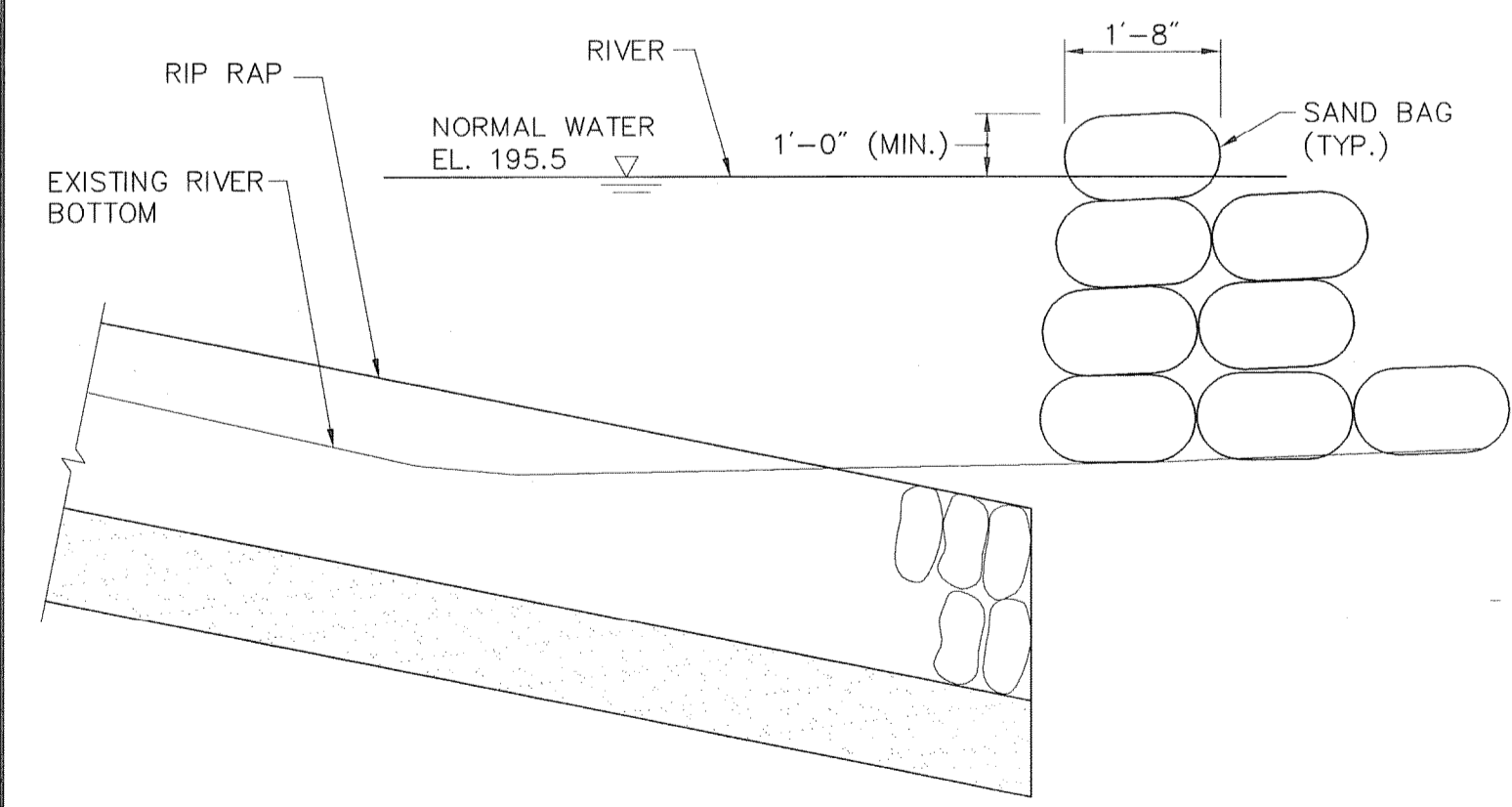
VANASSE HANGEN BRUSTLIN, INC.
TRANSPORTATION LAND DEVELOPMENT ENVIRONMENTAL SERVICES
PROVIDENCE, RHODE ISLAND

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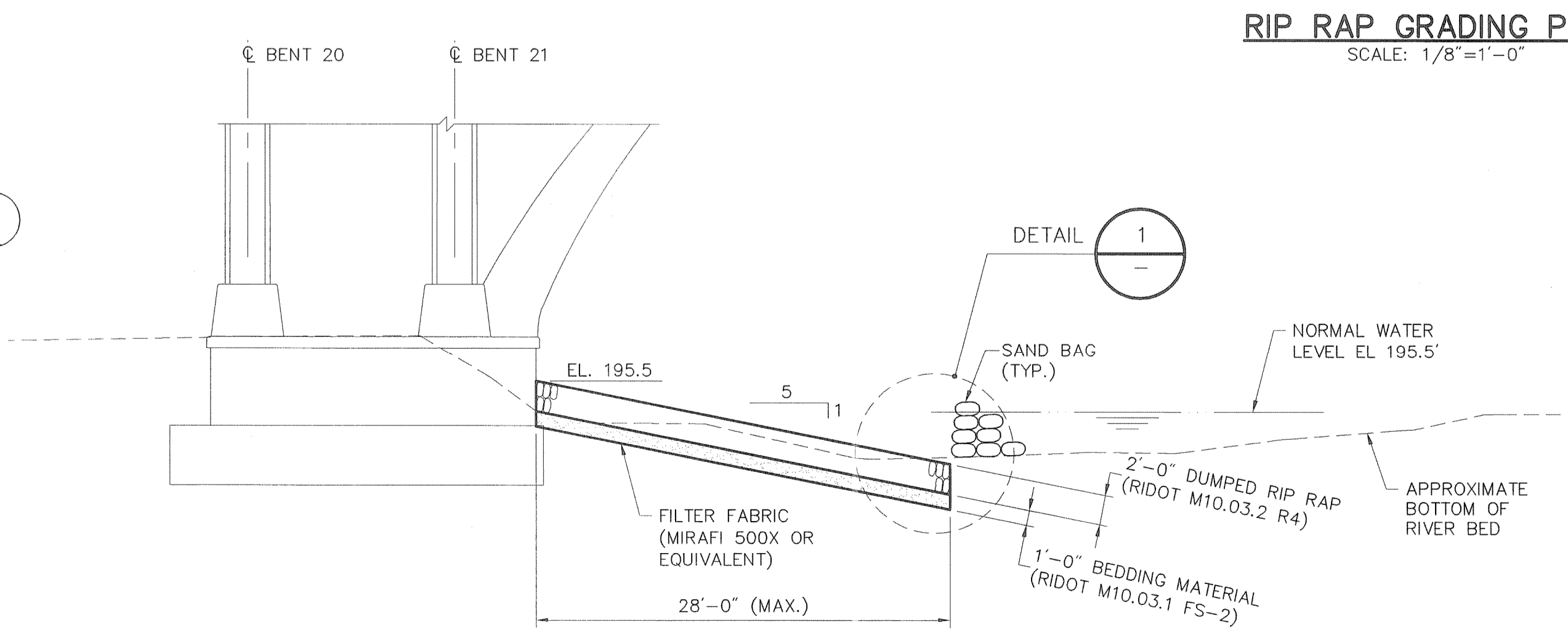
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	R.I.	BR0-0278(003)	2011	65	107



100 YEAR FLOOD EL. 198.16



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



TYPICAL SECTION ALONG BASELINE OF CONSTRUCTION
SCALE: 1/8"=1'-0"

RIP RAP GRADING PLAN
SCALE: 1/8"=1'-0"

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LEGEND

- DEWATERING BASIN. LOCATION MAY VARY DEPENDANT ON ADJACENT CONSTRUCTION ACTIVITIES.



VANASSE HANGEN BRUSTLIN, INC.
TRANSPORTATION LAND DEVELOPMENT ENVIRONMENTAL SERVICES
PROVIDENCE, RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
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W. Joseph Conroy

NOTES

- SEE HIGHWAY PLANS FOR OVERALL GRADING AND ACCESS DETAILS.
- IF DEWATERING/SOIL STOCKPILING IS REQUIRED DURING RIPRAP SCOUR PAD CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A DEWATERING BASIN, R.I. STD. 9.7.0. THE LOCATION OF THE BASIN SHALL ADHERE TO ALL RESTRICTIONS AS STATED OR IMPLIED BY THE APPROVED RIDEM PERMIT AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION OF THE BASIN.

REVISIONS		
NO.	DATE	BY

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

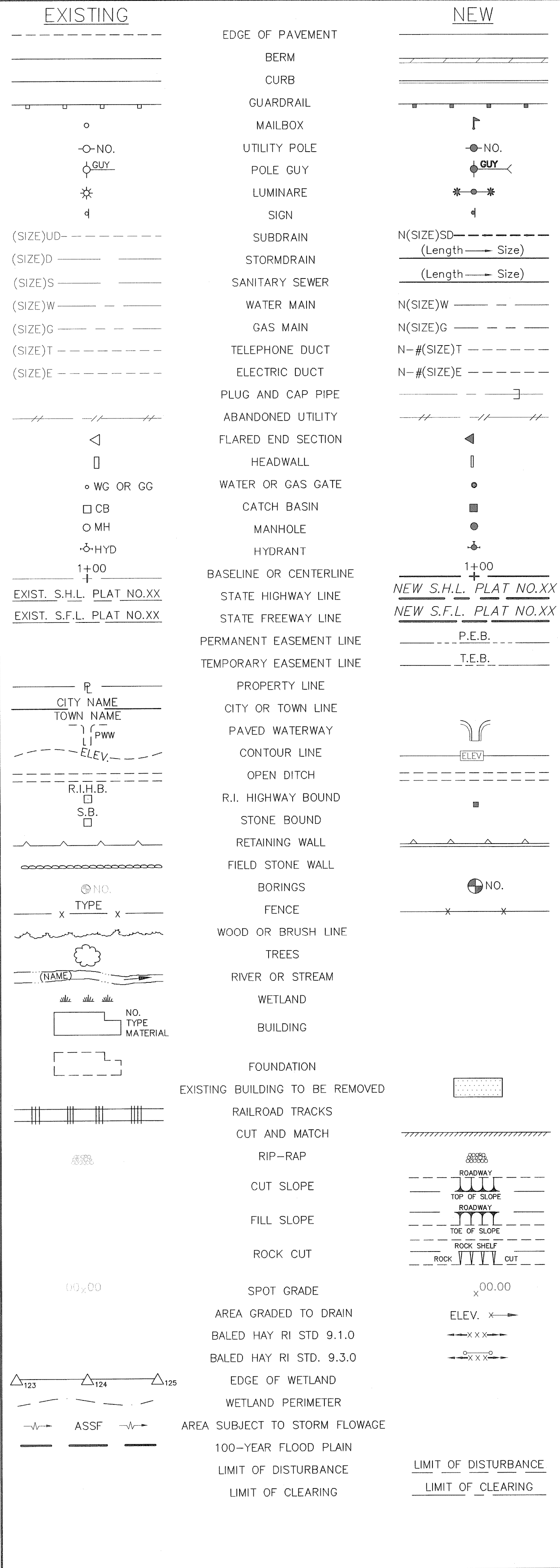
BRIDGE REHABILITATION STILLWATER VIADUCT BRIDGE NO. 278

SMITHFIELD RHODE ISLAND

SLOPE PROTECTION DETAIL

CHECKED BY _____ DATE _____ SCALE AS SHOWN

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1.1.0	UNDERDRAIN	7.4.2	GRANITE TRANSITION CURB (VERTICAL FACE TO SLOPE FACE)	AB	ADJUST CATCH BASIN TO GRADE
1.3.0	CONCRETE CONNECTING COLLAR	7.5.0	BITUMINOUS CONCRETE LIP CURB	ABM	ADJUST CATCH BASIN TO MANHOLE
2.1.0	CONCRETE HEADWALLS FOR PIPE CULVERTS	7.5.1A	BITUMINOUS BERM (CONSTRUCTION METHOD A)	AC	ADJUST CURB STOP TO GRADE
2.2.0	STANDARD HEADWALLS FOR MULTIPLE 3'-6" TO 7'-0" PIPE CULVERTS	7.5.1B	BITUMINOUS BERM (CONSTRUCTION METHOD B)	AD	ADJUST DRAINAGE MANHOLE TO GRADE
2.3.0 (DIA.)	PRECAST CONCRETE FLARED END SECTION	7.6.0	CURB SETTING DETAIL	AE	ADJUST ELECTRIC MANHOLE TO GRADE
3.2.0	BRICK/SOLID BLOCK 4'-0" ROUND MANHOLE	8.2.0	BITUMINOUS CONCRETE DITCH	AFC	ADJUST FRAME AND COVER TO GRADE
3.2.1 (DIA.)	BRICK/SOLID BLOCK 5'-0" OR 6'-0" ROUND MANHOLE	8.3.0	RIP-RAP DITCH	AFG	ADJUST FRAME AND GRATE TO GRADE
3.3.0	BRICK/SOLID BLOCK TYPE "D" SQUARE CATCH BASIN	8.4.0	PAVED WATERWAY	AG	ADJUST GAS GATE BOX TO GRADE
3.3.2	BRICK/SOLID BLOCK TYPE "F" SQUARE CATCH BASIN	9.1.0	BALED HAY EROSION CHECK	AHH	ADJUST HANDHOLE TO GRADE
3.3.3	SOLID BLOCK FLUSH SQUARE CATCH BASIN	9.2.0	SILT FENCE DETAIL	AS	ADJUST SANITARY SEWER MANHOLE TO GRADE
3.4.0	BRICK/SOLID BLOCK TYPE "D" ROUND CATCH BASIN	9.3.0	BALED HAY DITCH EROSION CHECK AND SILT FENCE COMBINED	AT	ADJUST TELEPHONE MANHOLE TO GRADE
3.4.1	BRICK/SOLID BLOCK ROUND CATCH BASIN WITH GUTTER INLET	9.4.0	BALED HAY DITCH AND SWALE EROSION CHECK	AW	ADJUST WATER GATE BOX TO GRADE
3.4.2	BRICK/SOLID BLOCK TYPE "F" ROUND CATCH BASIN	9.5.0	LOG AND HAY CHECK DAM	BCD	BITUMINOUS CONCRETE DRIVEWAY 3" BITUMINOUS CONCRETE TYPE 1-2 8" GRAVEL BORROW SUBBASE COURSE
3.4.3	BRICK/SOLID BLOCK TYPE "R" CATCH BASIN	9.7.0	DEWATERING BASIN	BPS	BUILD NEW STRUCTURE OVER EXISTING PIPE
3.4.4	SOLID BLOCK FLUSH ROUND CATCH BASIN	9.8.0	BALED HAY CATCH BASIN INLET PROTECTION	CCB	CLEAN CATCH BASIN
3.4.5 (DIA.)	BRICK/SOLID BLOCK 5'-0" OR 6'-0" ROUND CATCH BASIN	9.9.0	CONSTRUCTION ACCESS	CCP	CUT AND CAP PIPE WITH RESTRAINT (ALL SIZES)
3.5.0	SOLID BLOCK SHALLOW TYPE "F" SQUARE CATCH BASIN	10.1.0	WET STONE MASONRY RETAINING WALL	CCP	CUT AND CAP PIPE WITH RESTRAINT (ALL SIZES)
3.5.1 (SIZE)	SOLID BLOCK SHALLOW 5'-0" OR 6'-0" SQUARE CATCH BASIN	10.2.0	RUBBLE MASONRY WALL	CFP	CLEAN AND FLUSH PIPE
3.6.0	BRICK/SOLID BLOCK DROP INLET	10.3.0	CONCRETE RETAINING WALL	CG	CLEARING AND GRUBBING
3.7.0 (DIA.)	BRICK/SOLID BLOCK ROUND MANHOLE OR CATCH BASIN GREATER THAN 12'-0"	10.4.0	STONE MASONRY STEPS	CMH	CLEAN MANHOLE
4.2.0	PRECAST 4'-0" ROUND MANHOLE	14.1.0	CONCRETE HIGHWAY BOUND	CP (X)	COLD PLANE (DEPTH)
4.2.1	PRECAST 5'-0" ROUND MANHOLE	15.1.0	POST AND MOUNTINGS FOR RURAL MAILBOX	CPP	CUT AND PLUG PIPE (ALL TYPES, ALL SIZES)
4.2.2	PRECAST 6'-0" ROUND MANHOLE	15.2.0 (X)	POST AND MULTIPLE MOUNTINGS FOR RURAL MAILBOXES (NO.)	DB	REMOVE AND DISPOSE BITUMINOUS CURB
4.3.0 (SIZE)	PRECAST 4'-0" OR 6'-0" SQUARE MANHOLE OR CATCH BASIN	18.2.0	PRECAST TYPE "A" HANDHOLE	DC	REMOVE AND DISPOSE CONCRETE CURB
4.4.0 (DIA.)	PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN	18.2.2	HEAVY DUTY TYPE "H" HANDHOLE	DCB	REMOVE AND DISPOSE CATCH BASIN
4.5.0	PRECAST CONCRETE DROP INLET	18.3.0	ALUMINUM LIGHTING STANDARDS	DDI	REMOVE AND DISPOSE DROP INLET
4.5.1	PRECAST CONCRETE DROP INLET LATERAL OUTLET	20.2.0	BI-DIRECTIONAL CONTROL DEVICE	DF	REMOVE AND DISPOSE FENCE
4.5.2	PRECAST CONCRETE DROP INLET LONGITUDINAL OUTLET	24.6.1	STREET SIGN MOUNTING DETAIL	DFC	REMOVE AND DISPOSE FRAME AND COVER
5.3.0	CATCH BASIN AND MANHOLE STEP	26.2.0	POLYETHYLENE DRUM WITH MARKINGS	DFE	REMOVE AND DISPOSE FLARED END SECTION
5.4.0	CONCRETE COLLARS	26.3.0	PVC PLASTIC PIPE TYPE III BARRICADE	DFG	REMOVE AND DISPOSE FRAME AND GRATE
6.1.0	LIGHT-DUTY SQUARE FRAME AND ROUND COVER	31.1.0	CHAIN LINK FENCE 3'-0" TO 4'-0"	DFH	REMOVE AND DISPOSE FIRE HYDRANT
6.1.1	HEAVY DUTY SQUARE FRAME AND ROUND COVER	31.2.0	CHAIN LINK FENCE 5'-0" TO 6'-0"	DFP	REMOVE AND DISPOSE FLEXIBLE PAVEMENT
6.2.0	LIGHT-DUTY ROUND FRAME AND COVER	31.2.1	CHAIN LINK FENCE 5'-0" TO 6'-0" INTERMEDIATE POST	DG	REMOVE AND DISPOSE GUARDRAIL
6.2.1	HEAVY-DUTY ROUND FRAME AND COVER	31.3.0	WOVEN WIRE RIGHT-OF-WAY FENCE (STEEL POST)	DH	REMOVE AND DISPOSE HEADWALL
6.3.0	SQUARE FRAME AND GRATE	34.1.0	TYPICAL GUARDRAIL INSTALLATION	DHB	REMOVE AND DISPOSE HIGHWAY BOUND
6.3.1	SQUARE FRAME AND GRATE	34.2.0	STEEL BEAM GUARDRAIL	DHH	REMOVE AND DISPOSE HANDHOLE
6.3.2	SQUARE FRAME AND GRATE (BICYCLE SAFE)	34.2.1	STEEL BEAM GUARDRAIL DETAILS	DL	REMOVE AND DISPOSE LIGHT AND FOUNDATION
6.3.3	HIGH CAPACITY FRAME AND GRATE	34.2.2	STEEL BEAM GUARDRAIL DOUBLE FACED ASSEMBLY	DMB	REMOVE AND DISPOSE MEDIAN BARRIER
6.3.4	HIGH CAPACITY FRAME AND GRATE (BICYCLE SAFE)	34.2.3	STEEL BEAM GUARDRAIL FIXTURES	DMH	REMOVE AND DISPOSE MANHOLE
6.4.0	ROUND FRAME AND GRATE	34.2.5	STEEL BEAM GUARDRAIL REFLECTORIZED TRIANGULAR DELINEATOR	DMM	REMOVE AND DISPOSE MEDIAN MARKER
7.1.0S	PRECAST CONCRETE CURB (STRAIGHT)	34.3.1	GUARDRAIL END SECTION	DOW	REMOVE AND DISPOSE OBSERVATION WELL
7.1.0C	PRECAST CONCRETE CURB (CIRCULAR)	34.3.2	TERMINAL END SECTION (SINGLE FACE)	DP	REMOVE AND DISPOSE PIPE
7.1.1	3'-0" PRECAST CONCRETE TRANSITION CURB	34.3.3	ANCHORAGE DETAILS APPROACH END SECTION	DPB	REMOVE AND DISPOSE PAVEMENT AND RIGID BASE
7.1.2	6'-0" PRECAST CONCRETE TRANSITION CURB	34.3.4	ANCHORAGE DETAILS TRAILING END SECTION	DRB	REMOVE AND DISPOSE RIGID BASE
7.1.4	PRECAST 2'-0" RADIUS CORNER	34.4.0	STEEL BACKED TIMBER GUARDRAIL	DS	REMOVE AND DISPOSE SIGN
7.1.5	PRECAST CONCRETE INLET STONE (FOR SQUARE CATCH BASIN)	34.4.1	STEEL BACKED TIMBER GUARDRAIL TERMINAL SECTION-TYPE 1	DSS	REMOVE AND DISPOSE TRAFFIC SIGNAL SYSTEM
7.1.6	PRECAST CONCRETE INLET STONE (FOR ROUND CATCH BASIN)	40.1.0	DOUBLE-FACED PRECAST MEDIAN BARRIER	DSW	REMOVE AND DISPOSE SIDEWALK
7.1.7	PRECAST CONCRETE APRON STONE (FOR SQUARE CATCH BASIN)	40.2.0	SINGLE-FACED PRECAST MEDIAN BARRIER	DTD	REMOVE AND DISPOSE TELEPHONE DUCT BANKS
7.1.8	PRECAST CONCRETE APRON STONE (FOR ROUND CATCH BASIN)	40.2.1	SINGLE-FACED PRECAST MEDIAN BARRIER	DUP	REMOVE AND DISPOSE UTILITY POLE
7.2.0S	PRECAST CONCRETE SLOPED FACE CURB (STRAIGHT)	40.3.0	PRECAST MEDIAN BARRIER TRANSITION UNIT	DWW	REMOVE AND DISPOSE PAVED WATERWAY
7.2.0C	PRECAST CONCRETE SLOPED FACE CURB (CIRCULAR)	40.5.0	PRECAST MEDIAN BARRIER FOR TEMPORARY TRAFFIC CONTROL	FF	FILTER FABRIC RIPRAP FLARED END UNDERLAYMENT
7.2.1	PRECAST CONCRETE SLOPED FACE TRANSITION CURB	43.1.0	CEMENT CONCRETE SIDEWALK	GET	FLARED GUARDRAIL END TREATMENT
7.2.2	PRECAST CONCRETE TRANSITION CURB (VERTICAL FACE TO SLOPED FACE)	43.2.0	BITUMINOUS CONCRETE SIDEWALK	IA	IMPACT ATTENUATOR
7.3.0S	GRANITE CURB (STRAIGHT)	43.3.0	WHEELCHAIR RAMP	IDL	IMPERVIOUS DITCH LINER
7.3.0C	GRANITE CURB (CIRCULAR)	43.3.1	WHEELCHAIR RAMP FOR LIMITED RIGHT-OF-WAY AREAS	LOD	LIMIT OF DISTURBANCE
7.3.1	3'-0" GRANITE TRANSITION CURB	43.4.0	DRIVEWAY DEVELOPMENT FOR 3'-0" TRANSITION CURB	LOR	LIMIT OF REGRADING
7.3.2	6'-0" GRANITE TRANSITION CURB	43.4.1	DRIVEWAY DEVELOPMENT FOR 6'-0" TRANSITION CURB	LS	DEPARTMENT OF ENVIRONMENTAL MANAGEMENT FRESHWATER WETLANDS PROGRAM APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL DATED AUG - 2 2011 FILE # 11-2133 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL. APPROVED PLANS MUST BE AT CONSTRUCTION SITE. <i>W. Joseph Carney</i>
7.3.3	GRANITE WHEELCHAIR RAMP TRANSITION CURB	43.5.0	CEMENT CONCRETE DRIVEWAYS		
7.3.4	GRANITE 2'-0" RADIUS CORNER	48.1.0	DETECTABLE WARNING SYSTEM		
7.3.5	GRANITE INLET STONE (FOR SQUARE CATCH BASIN)	51.1.0	TREE PROTECTION DEVICE		
7.3.6	GRANITE INLET STONE (FOR ROUND CATCH BASIN)	51.1.1	DRIP LINE TREE PROTECTION DEVICE FOR EXISTING TREES		
7.3.7	GRANITE APRON STONE (FOR SQUARE CATCH BASIN)	51.2.0	SHRUB PROTECTION DEVICE		
7.3.8	GRANITE APRON STONE (FOR ROUND CATCH BASIN)	51.3.0	TREE WELL		
7.4.0	GRANITE SLOPED FACE CURB	51.4.0	TREE WALL		
7.4.1	GRANITE SLOPED FACE TRANSITION CURB				

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

PAVEMENT STRUCTURE

(A) (X")	BITUMINOUS SURFACE COURSE
(B) (X")	BITUMINOUS BASE COURSE
(C) (X")	GRAVEL BORROW SUBBASE COURSE

REVISIONS

NO.	DATE	BY

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

BRIDGE REHABILITATION STILLWATER VIADUCT BRIDGE NO. 278

SMITHFIELD RHODE ISLAND

STANDARD PLAN SYMBOLS & STANDARD LEGEND

CHECKED BY _____ DATE _____ SCALE AS SHOWN

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

Office of Water Resources

TEMPORARY CONSTRUCTION NOTES:

1. FOR ALL CONSTRUCTION OPERATIONS AND ALL TEMPORARY CONSTRUCTION PHASES, CONDITIONS AND SITUATIONS, THE FOLLOWING SHALL APPLY:

a. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF TEMPORARY BRACING SYSTEMS FOR ALL MATERIALS AND EQUIPMENT AS REQUIRED GIVEN THE DESIGN WIND LOADING IN THE TABLE BELOW. THIS DESIGN WIND LOADING SHALL GOVERN THROUGHOUT THE DURATION OF THE CONTRACT.

HEIGHT ABOVE GROUND* (feet)	WIND PRESSURE FOR TRUSSES (psf)	WIND PRESSURE ALL OTHER MATERIALS & EQUIPMENT (psf)
17	32	22
33	39	26
50	43	28
100	48	33
295	59	40

*FOR HEIGHTS NOT GIVEN, USE THE WIND PRESSURE FOR THE NEXT HIGHEST HEIGHT. FOR STRUCTURES SPANNING AN INTERSTATE HIGHWAY, MINIMUM WIND PRESSURE SHALL BE THE HEIGHT OF: (i) 35 psf OR (ii) VALUE TABULATED ABOVE.

- b. 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, ASSUMED LOADS AND CALCULATED STRESSES DURING VARYING STAGES OF LIFTING. THIS APPLIES TO STRUCTURES OF ANY KIND.
- c. A REGISTERED PROFESSIONAL ENGINEER, LICENSED IN THE STATE OF RHODE ISLAND, WILL BE REQUIRED TO STAMP THE CONTRACTOR'S ERECTION PLAN.
- d. 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 CHANGES MUST BE SUBMITTED TO R.I.D.O.T. FOR REVIEW AND APPROVAL PRIOR TO IMPLEMENTATION.
- e. A MANDATORY PRE-ERECTION CONFERENCE WILL BE HELD AT LEAST TWO WEEKS PRIOR TO THE START OF 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 RESIDENT ENGINEER, THE DESIGN PROJECT ENGINEER, AND THE DESIGN CONSULTANT. BASED UPON DISCUSSIONS AT THIS MEETING AND REVIEW OF THE CONTRACTOR'S ERECTION PLAN, R.I.D.O.T. MAY ORDER THE CONTRACTOR TO MODIFY AND RESUBMIT THE ERECTION PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL.
- f. THE CONTRACTOR WILL BE REQUIRED TO PERFORM DAILY INSPECTION OF THE ERECTED GIRDERS UNTIL THE BRIDGE DECK IS COMPLETELY POURED.
- g. THE COST OF PREPARING AND STAMPING THE ERECTION PLAN, COMPUTATIONS, AND REPORTS, RESPONDING TO R.I.D.O.T.'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.

LANDSCAPE NOTES:

- 1. ALL PLANT MATERIAL MUST BE TAGGED AT THE NURSERY IN ACCORDANCE WITH THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
- 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 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 WITH SECTION M18 OF THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.

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.
- 2. FOR CANTILEVER SIGN STRUCTURES, DOUBLE CANTILEVER ARMS WILL BE USED EXCLUSIVELY; SINGLE CANTILEVER ARMS AND TRUSSES WILL NOT BE ALLOWED.
- 3. FOR OVERHEAD SPAN SIGN STRUCTURES, SINGLE ARMS WILL BE USED EXCLUSIVELY.

DESIGN

- 1. THE BASIC WIND SPEED, V, USED IN THE DETERMINATION OF THE DESIGN WIND PRESSURE SHALL BE 130 MPH.
- 2. THE DESIGN OF ANCHOR BOLTS SHALL RESULT IN A DUCTILE STEEL FAILURE PRIOR TO ANY SUDDEN BRITTLE FAILURE OF THE CONCRETE.
- 3. WHEN THE CLEARANCE BETWEEN THE BOTTOM OF THE LEVELING NUTS AND THE TOP OF THE CONCRETE IS EQUAL TO OR GREATER THAN ONE BOLT DIAMETER, BENDING STRESSES IN THE ANCHOR BOLTS SHALL BE CONSIDERED IN THE DESIGN.
- 4. AT THIS TIME, THE FATIGUE PROVISIONS OF THE SPECIFICATIONS SHALL ONLY BE APPLIED TO CANTILEVER STRUCTURES, PENDING DEVELOPMENT OF THE FURTHER SPECIFICATIONS. HOWEVER, ANY NON-CANTILEVERED STRUCTURES MAY WARRANT SPECIAL FATIGUE CONSIDERATIONS, AT THE DISCRETION OF THE DESIGNER. THESE STRUCTURES SHALL BE DESIGNED FOR FATIGUE LOADING EITHER BY USING A DYNAMIC ANALYSIS OF THE STRUCTURE OR BY USING APPLICABLE EQUIVALENT STATIC PRESSURE DESIGN PROVISIONS FROM THE SPECIFICATIONS. SUCH CASES SHALL BE DISCUSSED WITH THE DEPARTMENT DURING THE PRELIMINARY DESIGN PHASE.
- 5. STRUCTURE COMPONENTS AND THEIR CONNECTIONS SHALL BE DESIGNED TO RESIST THE WORST-CASE FATIGUE LOADING UPON EVALUATION OF ALL APPLICABLE CASES ACTING SEPARATELY.
- 6. POLES AND ARMS SHALL HAVE A MINIMUM TAPER OF 0.14" PER FOOT, IN ORDER TO MINIMIZE THEIR SUSCEPTIBILITY TO VORTEX SHEDDING; AS A RESULT, THIS FATIGUE LOAD CASE MAY BE ELIMINATED FROM THE DESIGN.
- 7. UNTIL THE DEPARTMENT CAN CONDUCT FURTHER RESEARCH, GALLOPING FATIGUE LOADING SHALL BE INCORPORATED IN ALL DESIGNS. VIBRATION MITIGATION DEVICES WILL NOT BE PERMITTED AS A SUBSTITUTE FOR THIS LOAD CASE, UNLESS CALCULATIONS ARE SUBMITTED THAT PROVE THEIR EFFECTIVENESS.
- 8. TRAFFIC SIGNAL STRUCTURES ON ROADWAYS WITH LIMITED TRUCK TRAFFIC MAY BE DECLARED EXEMPT FROM TRUCK-INDUCED FATIGUE LOADING, UPON DISCUSSION WITH THE DEPARTMENT ON A CASE-BY-CASE BASIS.
- 9. IN REGARD TO "FATIGUE IMPORTANCE FACTORS, IF", THE FOLLOWING SHALL APPLY:
 - FATIGUE CATEGORY I WILL APPLY ONLY TO INTERSTATES AND ONLY TO SIGN STRUCTURES. FATIGUE CATEGORY II WILL APPLY TO ALL OTHER STRUCTURES.
 - FOR FATIGUE CATEGORY I, TRUCK-INDUCED LOADING WILL BE BASED ON 65 MPH VELOCITY.
 - FOR FATIGUE CATEGORY II, TRUCK-INDUCED LOADING WILL BE BASED ON 30 MPH VELOCITY.

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. HEADED CAST-IN-PLACE ANCHOR BOLTS SHALL BE USED IN LIEU OF HOOKED ANCHOR BOLTS.

TRAFFIC SIGNAL NOTES:

- 1. ALL SALVAGED TRAFFIC SIGNAL EQUIPMENT SHALL BE DELIVERED TO THE R.I.D.O.T. ANTHONY FACILITY, 16 MAPLEDALE STREET, COVENTRY, RHODE ISLAND, 02816.
- 2. BACK PLATES ARE REQUIRED ON ALL TRAFFIC SIGNAL HEADS AND SHALL BE INCLUDED IN THE PRICE OF THE SIGNAL HEAD.
- 3. THE CONTRACTOR SHALL SUPPLY AND INSTALL ON THE UPPER LEFT HAND CORNER OF THE BACK OR 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. THE TRAFFIC CONTROLLER SHALL BE ORIENTED SO THAT THE CABINET DOOR IS FACING THE SIDEWALK, UNLESS OTHERWISE STATED ON PLANS.
- 5. 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.
- 6. 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.
- 7. 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. BARE GROUND WIRE WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE PRICE OF PVC CONDUIT ITEMS.
- 8. FINAL PLACEMENT OF SIGNAL HEADS, DETECTORS, STOP BARS AND CROSSWALKS TO BE DETERMINED IN THE FIELD DURING CONSTRUCTION ACCORDING TO OBSERVED INTERSECTION CHARACTERISTICS BY THE ENGINEER.
- 9. 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.
- 10. ALL FOUNDATIONS MUST HAVE CONES OR BARRELS BOLTED TO FOUNDATION BASES UNTIL ACTUAL POLE IS INSTALLED.
- 11. 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.
- 12. ACCESS TO PEDESTRIAN PUSHBUTTONS SHALL MEET ADA REQUIREMENTS. ALL PEDESTRIAN PUSHBUTTONS SHALL BE ADA COMPLIANT WITH A 2" DIAMETER. SIGNS INSTALLED AT PROPOSED PEDESTRIAN PUSHBUTTONS SHALL BE MUTCD 2003 CODE R10-3B (LEFT OR RIGHT) AND SHALL BE INSTALLED SO THAT IT IS CLEARLY INDICATED WHICH CROSSING IS ASSIGNED TO EACH BUTTON.
- 13. ALL LOOP DETECTORS SHALL BE CENTERED WITHIN EACH LANE AS DELINEATED, UNLESS OTHERWISE DIMENSIONED ON PLANS.
- 14. ALL LOOP DETECTORS SHALL BE CUT INTO THE FINAL PAVEMENT SURFACE COURSE.
- 15. TRAFFIC SIGNAL CONTROLLERS SHALL BE WIRED SO THAT ANY FIRE PRE-EMPTION SHALL OVERRIDE MANUAL (PUSH BUTTON) OPERATION.
- 16. 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 DURING THE WHICH 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. PAYMENT WILL BE INCLUDED UNDER THE PAY ITEM FOR "MAINTENANCE AND MOVEMENT TRAFFIC PROTECTION."
- 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. DRUM BARRICADES 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. ROAD WORK AHEAD (W20-1) 36"x36" AND END ROAD WORK (G20-2) 36"x18" SIGNS SHALL BE MOUNTED AT ALL INTERSECTING STREETS, AS SHOWN ON THE PLANS.

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED AUG - 2 2011. FILE # 11-1133
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APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

W. Joseph Conroy

Environmental Management
Office of Water Resources

REVISIONS		
NO.	DATE	BY

**RHODE ISLAND
DEPARTMENT OF TRANSPORTATION**

**BRIDGE REHABILITATION
STILLWATER VIADUCT
BRIDGE NO. 278**

SMITHFIELD RHODE ISLAND

STANDARD NOTES - 2

CHECKED BY _____ DATE _____ SCALE AS SHOWN

VHB VANASSE HANGEN BRUSTLIN, INC.
TRANSPORTATION LAND DEVELOPMENT
ENVIRONMENTAL SERVICES
PROVIDENCE, RHODE ISLAND

GENERAL NOTES

- STOCKPILING OF DEMOLISHED MATERIALS WILL NOT BE ALLOWED ON STATE PROPERTY OVERNIGHT UNLESS APPROVED BY THE ENGINEER AND COORDINATED WITH RIDOT LANDSCAPE DEPARTMENT. IF ANY STOCKPILING OF MATERIALS IS ALLOWED, THE CONTRACTOR WILL REPAIR THE AREA AT NO ADDITIONAL COST TO THE STATE.
- THE COST OF ANY CURB CUTTING REQUIRED TO INSTALL NEW CURBING WILL BE INCLUDED IN THE UNIT BID PRICES FOR THE NEW CURB.

GENERAL NOTES-DRAINAGE

- THE COST OF REMOVING AND DISPOSING INLET OR APRON STONES SHALL BE PAID FOR UNDER THE BID PRICE FOR CURB REMOVAL.

GENERAL NOTES-UTILITIES

- IF THE CONTRACTOR EXPOSES OR DAMAGES A GAS PIPELINE, THE CONTRACTOR SHALL NOTIFY NATIONAL GRID GAS COMPANY AT THE PROVIDENCE DISPATCH OFFICE, (401) 525-5513. NATIONAL GRID GAS COMPANY SHALL INSPECT THE EXPOSED PIPELINE BEFORE THE CONTRACTOR BACKFILLS OVER THE GAS PIPELINE.

GENERAL NOTES-SIGNS

- BEFORE INSTALLATION, ALL SIGNS, MOUNTINGS AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.

GENERAL NOTES-PAVEMENT MARKINGS

- FINAL PAVEMENT MARKINGS SHALL BE EPOXY RESIN. (SEE LOCATION PLANS FOR DETAILS)
- EPOXY RESIN PAVEMENT MARKINGS SHALL BE PLACED ON THE FINAL SURFACE COURSE NO SOONER THAN 2 WEEKS BUT NO LATER THAN 4 WEEKS FROM THE COMPLETION OF PAVING OPERATIONS.
- THE CONTRACTOR SHALL INSTALL 4 INCH TEMPORARY FAST-DRYING WATERBORNE PAVEMENT MARKINGS AT THE COMPLETION OF EACH DAYS PAVING OPERATION BEFORE OPENING LANES FOR TRAFFIC.

GENERAL NOTES-MAINTENANCE AND PROTECTION OF TRAFFIC

- TEMPORARY CONSTRUCTION SIGNS AND BARRICADES SHALL BE IN PLACE PRIOR TO THE START OF WORK IN ANY SECTION OPEN TO TRAFFIC.
- UNLESS OTHERWISE SPECIFIED, TEMPORARY CONSTRUCTION SIGNS SHALL CONFORM TO SECTION M-16 OF THE STANDARD SPECIFICATIONS.
- TEMPORARY CONSTRUCTION SIGN PANELS SHALL BE 3/4" THICK EXTERIOR GRADE PLYWOOD CONFORMING TO SECTION M-16 OF THE STANDARD SPECIFICATIONS.
- SIGN RADI AND BORDERS SHALL BE AS SPECIFIED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2003 EDITION, AND SUBSEQUENT ADDENDA.
- UNLESS OTHERWISE INDICATED, SIGN MOUNTINGS SHALL BE R.I. STD. 24.3.0.
- CONSTRUCTION SIGNS "TRAFFIC FINES DOUBLED" SHALL BE POSTED IN CONSTRUCTION AREAS AS DIRECTED BY THE ENGINEER.
- SEE GENERAL PROVISIONS/CONSTRUCTION SECTION (CS-PAGES) OF THE CONTRACT DOCUMENTS FOR TIME RESTRICTIONS, COORDINATION WITH ADJACENT PROJECTS, AND OTHER INFORMATION RELATED TO MAINTENANCE AND PROTECTION OF TRAFFIC.
- THE CONTRACTOR SHALL MEET ALL ADA REQUIREMENTS WHEN INSTALLING DETOUR SIGNS.
- ALL SIGNS SHALL BE LOCATED IN AREAS THAT ARE VISIBLE TO MOTORISTS, FREE FROM OBSTRUCTIONS AND SHALL BE APPROVED BY THE ENGINEER.
- UNLESS OTHERWISE NOTED, STRIPING USED DURING CONSTRUCTION SHALL BE 4" FAST-DRYING WATERBORNE PAINT.

EMERGENCY CONTACTS

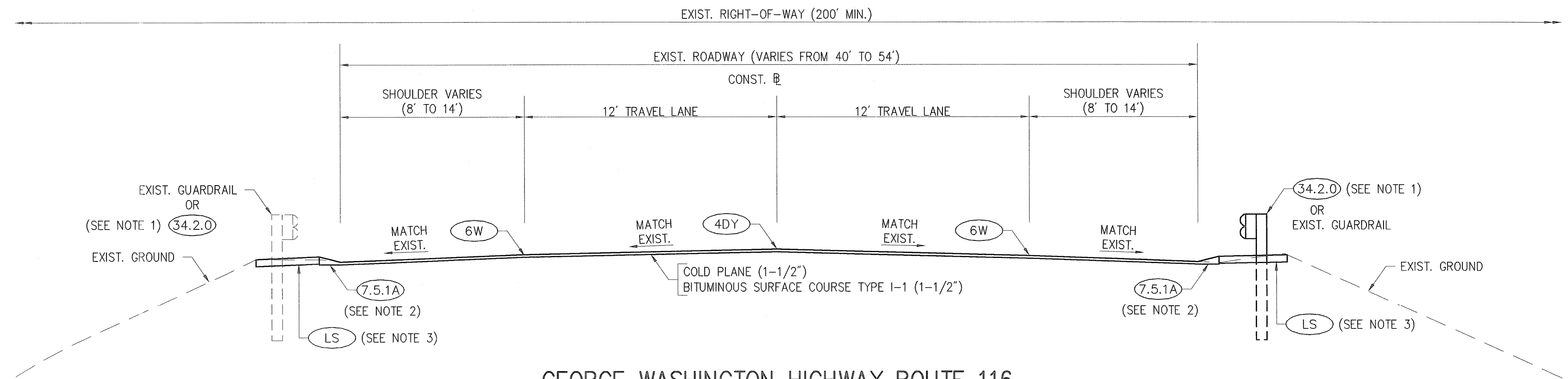
RIDOT DEPUTY CHIEF ENGINEER	(401) 222-2023
RIDOT MAINTENANCE	(401) 222-2378
SMITHFIELD POLICE	(401) 231-2500
SMITHFIELD FIRE	(401) 949-1233
R.I. STATE POLICE	(401) 444-1000

ABBREVIATIONS

APPROX	APPROXIMATE
ASSF	AREA SUBJECT TO STORM FLOWAGE
BIT	BITUMINOUS
B	BASELINE
C	CENTERLINE
CONST	CONSTRUCTION
EXIST	EXISTING
INV	INVERT
LT	LEFT
O.C.	ON CENTER
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
P.O.L.	POINT ON LINE
PROP	PROPOSED
PT	POINT OF TANGENCY
R.I.	RHODE ISLAND
RIDOT	RHODE ISLAND DEPARTMENT OF TRANSPORTATION
RT	RIGHT
STA	STATION
STD	STANDARD
SWL	SINGLE WHITE LINE - 6"

LEGEND:

- (3.3.5) - BRICK/SOLID BLOCK DOUBLE GRATE CATCH BASIN GRATE PERPENDICULAR TO EDGE OF PAVEMENT R.I. STD. 3.3.5
- (26.1.0) - FLUORESCENT TRAFFIC CONE R.I. STD. 26.1.0
- (26.3.1) - PLASTIC PIPE TYPE III BARRICADE R.I. STD. 26.3.1
- (34.3.5) - GUARDRAIL CONNECTION TO EXISTING END POST APPROACH END SECTION R.I. STD. 34.3.5
- (34.3.6) - GUARDRAIL CONNECTION TO EXISTING END POST TRAILING END SECTION R.I. STD. 34.3.6
- BB - BOULDER BARRIER
- CFS - COMPOST FILTER SOCK
- DGC - REMOVE AND DISPOSE GRANITE CURB
- DT - REMOVE AND DISPOSE TREE
- DU - REMOVE AND DISPOSE GUY (BY OTHERS)
- DUP - REMOVE AND DISPOSE UTILITY POLE (BY OTHERS)
- RDS - REFLECTIVE DELINEATORS FOR TEMPORARY CONCRETE BARRIERS (PHASE 1 AND PHASE 3 - WHITE & PHASE 2 - AMBER)
- SAB - SHOCK ABSORBING BARRIER MODULES (SAND)
- UG - NEW ANCHOR (BY OTHERS)
- UP - NEW UTILITY POLE (BY OTHERS)
- [Hatched Box] - WORK AREA



**GEORGE WASHINGTON HIGHWAY ROUTE 116
COLD PLANE & OVERLAY SECTION
STA. 150+42 TO STA. 154+84.71
STA. 159+63.54 TO STA. 165+50**

SCALE: 1"=4'

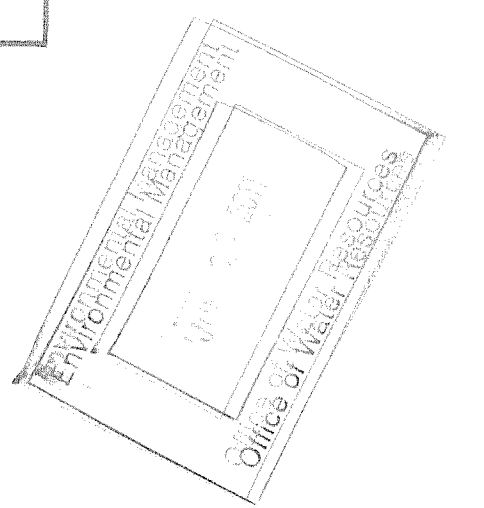
NOTES:

- FOR PROPOSED GUARDRAIL LIMITS OF WORK SEE HIGHWAY GENERAL PLANS.
- FOR PROPOSED BITUMINOUS BERM LIMITS OF WORK SEE HIGHWAY GENERAL PLANS.
- FOR PROPOSED LOAN BORROW LIMITS OF WORK SEE HIGHWAY GENERAL PLANS.

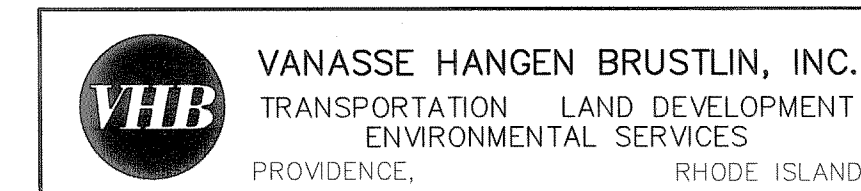
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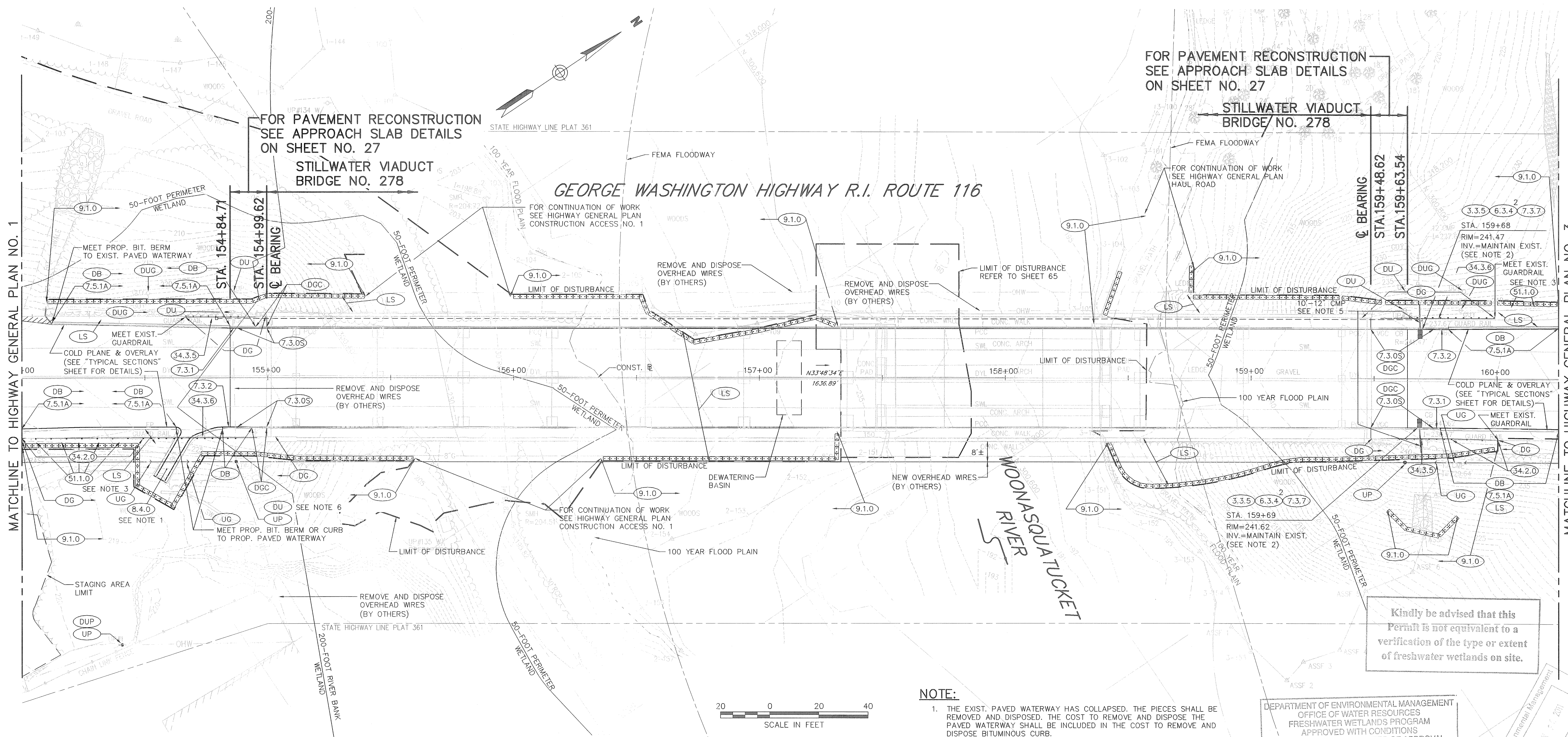
W. Joseph Caray



REVISIONS			RHODE ISLAND DEPARTMENT OF TRANSPORTATION
NO.	DATE	BY	
			BRIDGE REHABILITATION STILLWATER VIADUCT BRIDGE NO. 278
			SMITHFIELD RHODE ISLAND
			JOB SPECIFIC HIGHWAY NOTES, LEGEND AND TYPICAL SECTION
CHECKED BY _____ DATE _____ SCALE AS SHOWN			



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FOR PAVEMENT RECONSTRUCTION
SEE APPROACH SLAB DETAILS
ON SHEET NO. 27

FOR PAVEMENT RECONSTRUCTION
SEE APPROACH SLAB DETAILS
ON SHEET NO. 27

STILLWATER VIADUCT
BRIDGE NO. 278

STILLWATER VIADUCT
BRIDGE NO. 278

GEORGE WASHINGTON HIGHWAY R.I. ROUTE 116

MATCHLINE TO HIGHWAY GENERAL PLAN NO. 1

MATCHLINE TO HIGHWAY GENERAL PLAN NO. 3

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NOTE:

1. THE EXIST. PAVED WATERWAY HAS COLLAPSED. THE PIECES SHALL BE REMOVED AND DISPOSED. THE COST TO REMOVE AND DISPOSE THE PAVED WATERWAY SHALL BE INCLUDED IN THE COST TO REMOVE AND DISPOSE BITUMINOUS CURB.
2. THE CONTRACTOR SHALL REMOVE AND DISPOSE THE EXIST. CATCH BASIN, FRAME, GRATE, AND APRON STONE.
3. THE ENGINEER AND A LANDSCAPE REPRESENTATIVE WILL IDENTIFY THE TREES TO BE PROTECTED BEFORE CLEARING AND GRUBBING.
4. THE CONTRACTOR SHALL CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF DISTURBANCE.
5. THE CONTRACTOR SHALL REMOVE AND DISPOSE A PORTION OF THE EXIST. PIPE TO FACILITATE CONSTRUCTION. THE CONTRACTOR SHALL MAINTAIN THE EXIST. INVERTS WHEN PLACING THE NEW PIPE.
6. THE EXIST. FLOOD LIGHT ON THE UTILITY POLE SHALL BE REMOVED AND DISPOSED BY OTHERS BEFORE UTILITY POLE REMOVAL.
7. FOR NEW WATER AND SEWER SERVICES SEE STRUCTURAL DRAWINGS SHEET NOS. XXX

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W. Joseph Carney

Environmental Management
Office of Water Resources
8/2/11

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NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

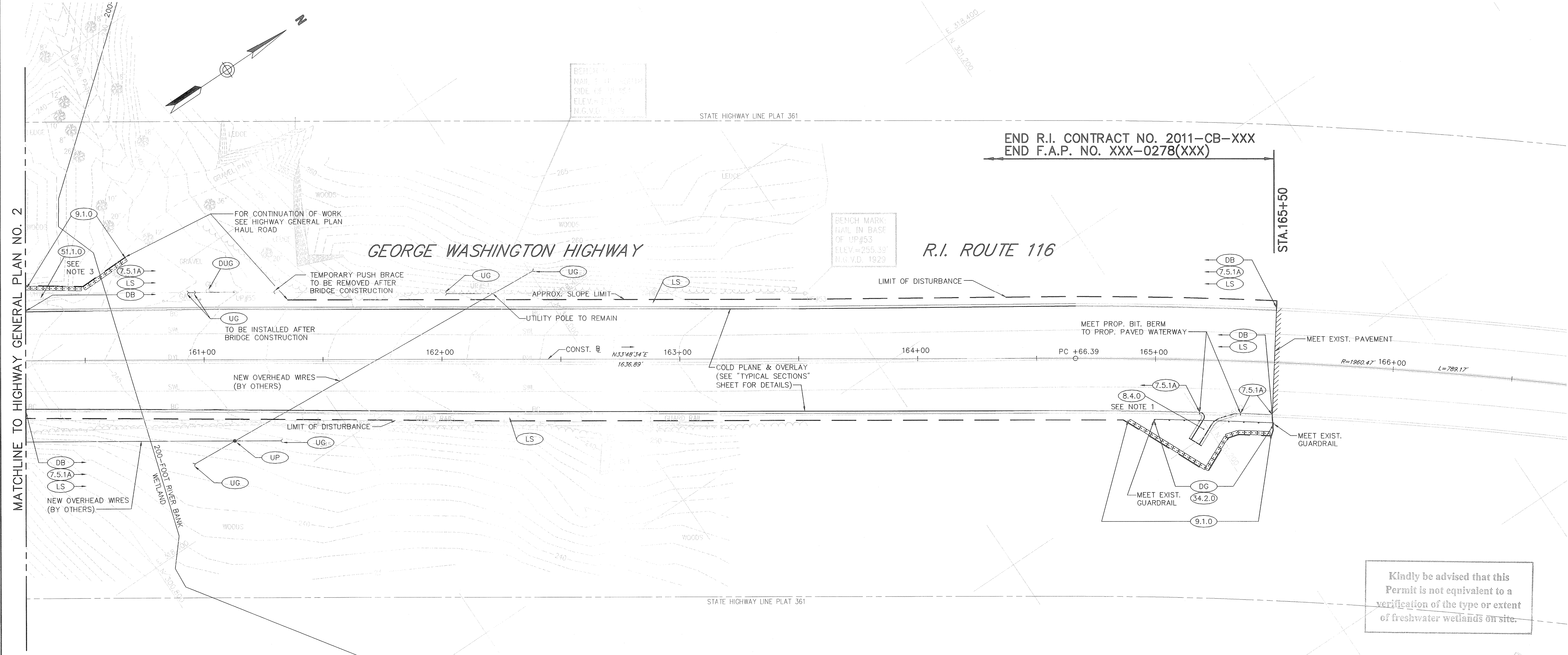
BRIDGE REHABILITATION
STILLWATER VIADUCT
BRIDGE NO. 278

SMITHFIELD RHODE ISLAND

HIGHWAY
GENERAL PLAN NO. 2

CHECKED BY _____ DATE _____ SCALE AS SHOWN

VHB VANASSE HANGEN BRUSTLIN, INC.
TRANSPORTATION LAND DEVELOPMENT
ENVIRONMENTAL SERVICES
PROVIDENCE, RHODE ISLAND



MATCHLINE TO HIGHWAY GENERAL PLAN NO. 2

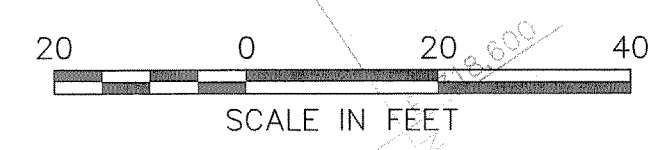
END R.I. CONTRACT NO. 2011-CB-XXX
END F.A.P. NO. XXX-0278(XXX)

STA. 165+50

GEORGE WASHINGTON HIGHWAY

R.I. ROUTE 116

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W. Joseph Conroy
Office of Water Resources

NOTE:

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2. THE CONTRACTOR SHALL CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF DISTURBANCE.
3. THE ENGINEER AND A LANDSCAPE REPRESENTATIVE WILL IDENTIFY THE TREES TO BE PROTECTED BEFORE CLEARING AND GRUBBING.
4. THE CONTRACTOR SHALL VERIFY THE GAS MAIN LOCATION THROUGH TEST PITS BEFORE DRIVING THE GUARDRAIL POSTS. THE COST TO LOCATE THE GAS MAIN SHALL BE INCIDENTAL TO THE COST OF THE GUARDRAIL.

REVISIONS		
NO.	DATE	BY

**RHODE ISLAND
DEPARTMENT OF TRANSPORTATION**

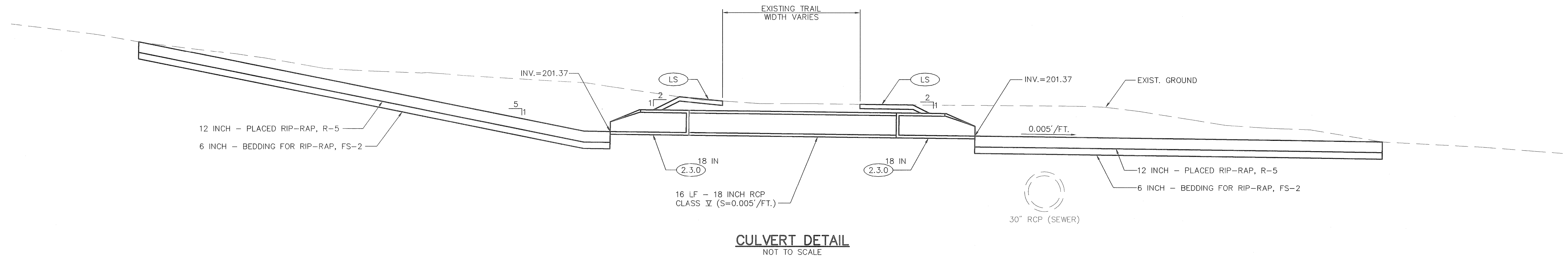
**BRIDGE REHABILITATION
STILLWATER VIADUCT
BRIDGE NO. 278**

SMITHFIELD RHODE ISLAND

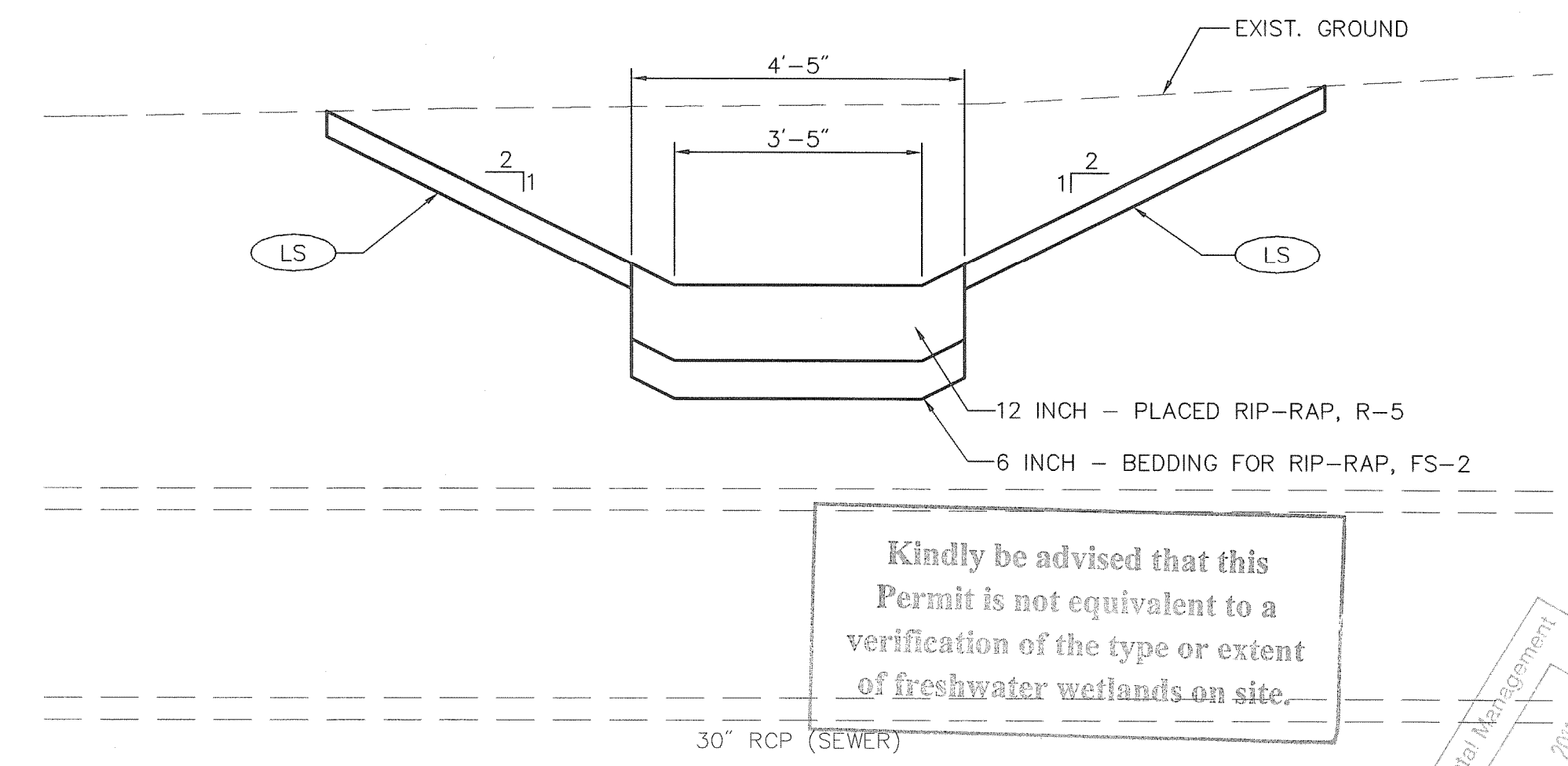
**HIGHWAY
GENERAL PLAN NO. 3**

CHECKED BY _____ DATE _____ SCALE AS SHOWN

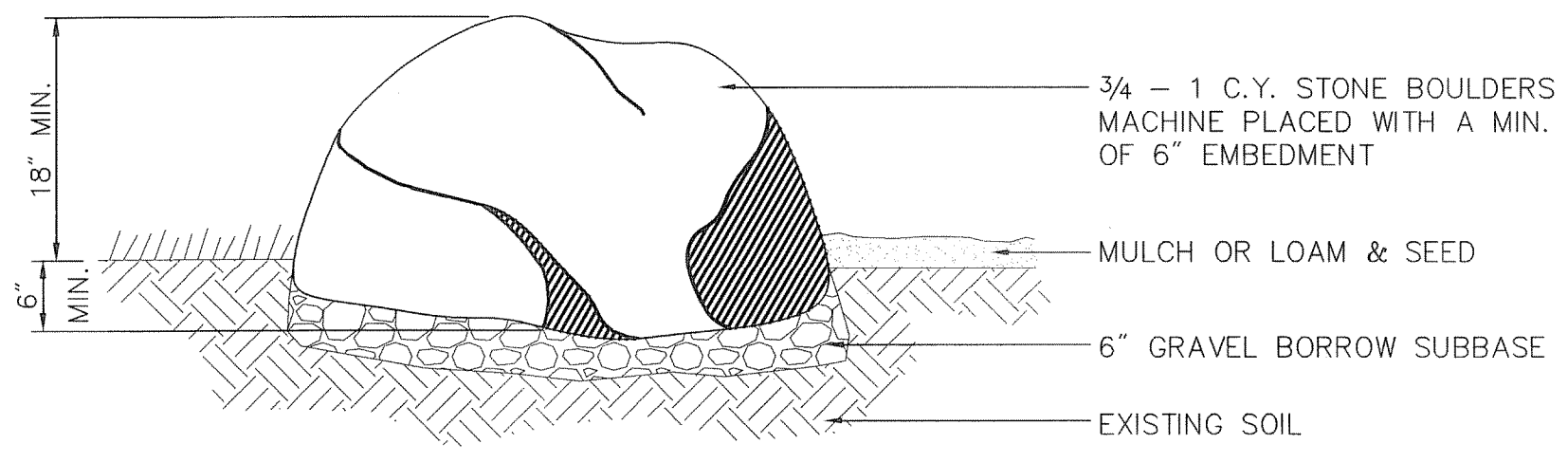
VHB VANASSE HANGEN BRUSTLIN, INC.
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ENVIRONMENTAL SERVICES
PROVIDENCE, RHODE ISLAND



CULVERT DETAIL
NOT TO SCALE



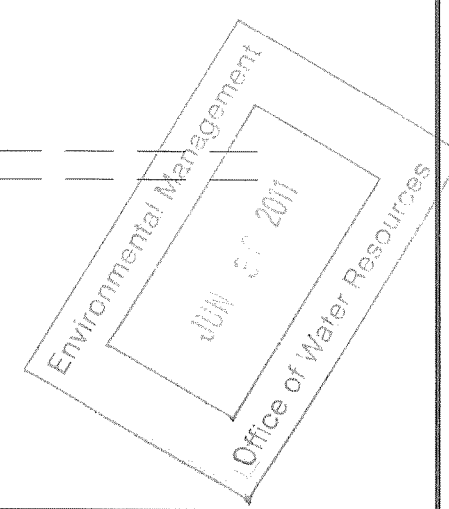
RIP-RAP DITCH DETAIL
NOT TO SCALE



NOTE:
TO BE SPACED 6' O.C. WHEN MORE THAN ONE

BOULDER BARRIER	(BB)
SCALE: NTS	
S-STD.	
H-STD.	

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W. Joseph Carey

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BRIDGE REHABILITATION STILLWATER VIADUCT BRIDGE NO. 278

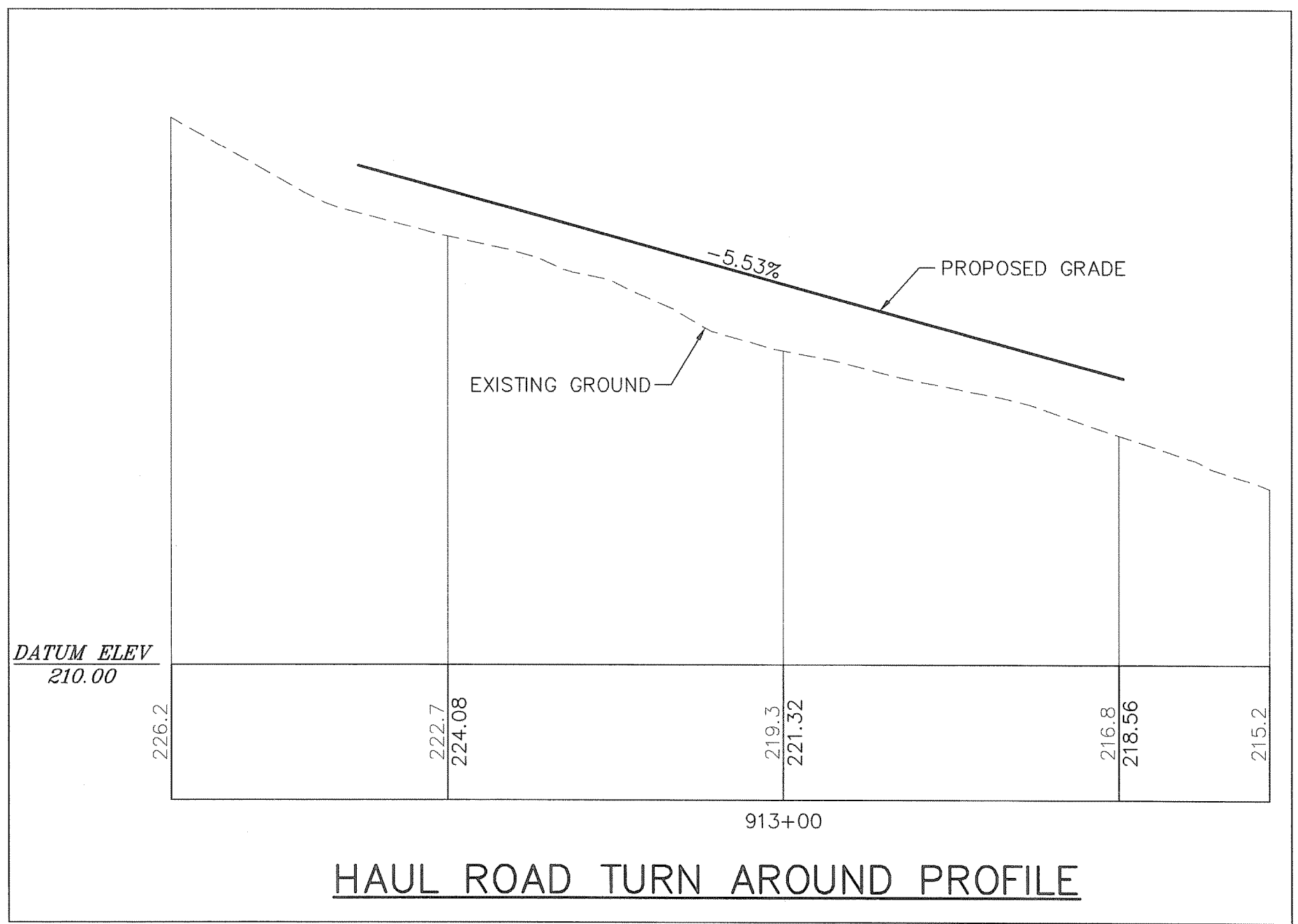
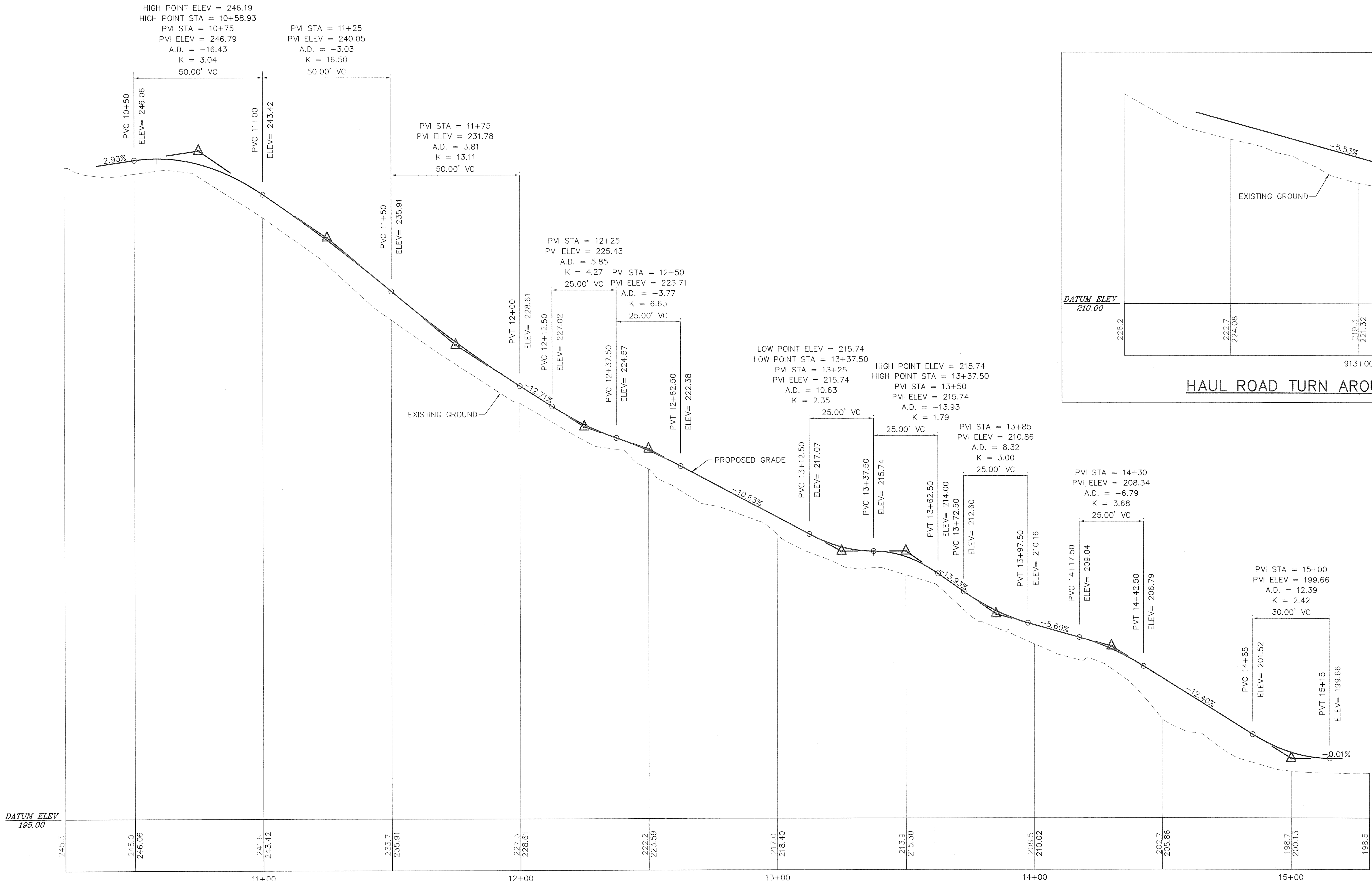
SMITHFIELD RHODE ISLAND

HIGHWAY CONSTRUCTION ACCESS DETAILS

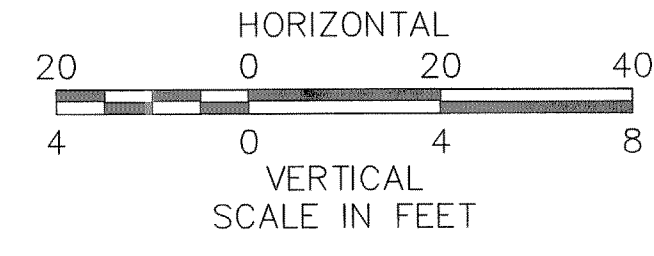
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TRANSPORTATION LAND DEVELOPMENT ENVIRONMENTAL SERVICES
PROVIDENCE, RHODE ISLAND

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HAUL ROAD PROFILE



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Environmental Management
 July 1, 2011
 Office of Water Resources

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
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W. Joseph Casey

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 TRANSPORTATION LAND DEVELOPMENT
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 PROVIDENCE, RHODE ISLAND

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NO.	DATE	BY

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

BRIDGE REHABILITATION STILLWATER VIADUCT BRIDGE NO. 278

SMITHFIELD RHODE ISLAND

HIGHWAY PROFILE HAUL ROAD

CHECKED BY _____ DATE _____ SCALE AS SHOWN