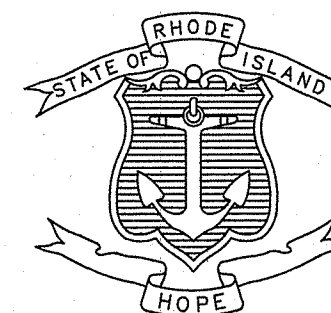


FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	-	202X	1	25

INDEX OF DRAWINGS

SHEET NO.	DESCRIPTION
BRIDGE PLANS	
1	COVER SHEET
2	LIST OF ABBREVIATIONS
3 - 5	BRIDGE GENERAL NOTES 1 - 3
6	TYPICAL BRIDGE SECTIONS
7	BRIDGE GENERAL PLAN
8	FOUNDATION PLAN
9	FOUNDATION DETAILS
10	NORTH ABUTMENT
11	SOUTH ABUTMENT
12 & 13	SUBSTRUCTURE DETAILS 1 & 2
14	FRAMING PLAN
15	PREFABRICATED BRIDGE UNIT DETAILS
16	BEARING DETAILS
17	DECK PLAN
18	DECK GRADES
19	ROADWAY JOINT DETAILS
20	END POST DETAILS
21	MISCELLANEOUS DETAILS
22 & 23	BRIDGE RAIL DETAILS 1 & 2
24 & 25	DEMOLITION DETAILS 1 & 2
26	BORING LOGS
HIGHWAY PLANS	
27	STANDARD PLAN SYMBOLS & STANDARD LEGEND
28 & 29	STANDARD NOTES 1 & 2
30	TYPICAL SECTIONS
31 & 32	GENERAL PLAN 1 & 2
33	PROFILE
34	LOCATION AND SIGNING & STRIPING PLAN
35	DETOUR PLAN
36	EXISTING CONDITIONS PLAN
37 - 41	CROSS SECTIONS 1 - 5
42	MAINTENANCE & PROTECTION OF TRAFFIC DETAILS

STATE OF RHODE ISLAND



DEPARTMENT OF TRANSPORTATION

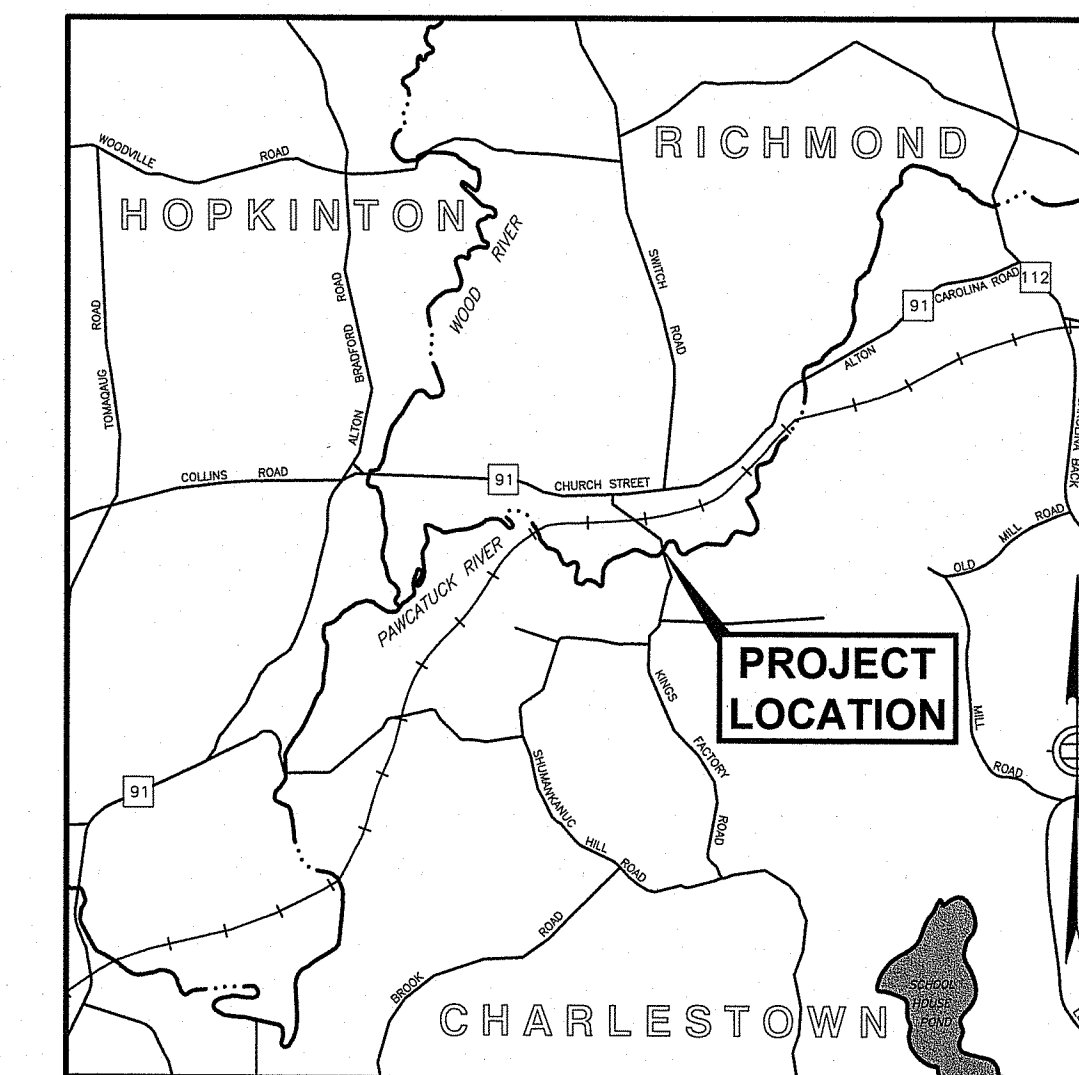
PLANS, ELEVATIONS AND SECTIONS OF PROPOSED

BRIDGE GROUP 45B REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542

TOWNS OF CHARLESTOWN & RICHMOND
WASHINGTON COUNTY

R.I. CONTRACT NO. 2021-CB-034 F.A. PROJECT NO. XXX-XXXX(XXX)

PROJECT LENGTH = 0.10 MILES



LOCUS MAP
APPROX. SCALE: 1" = 5,000'

DESIGN DESIGNATIONS

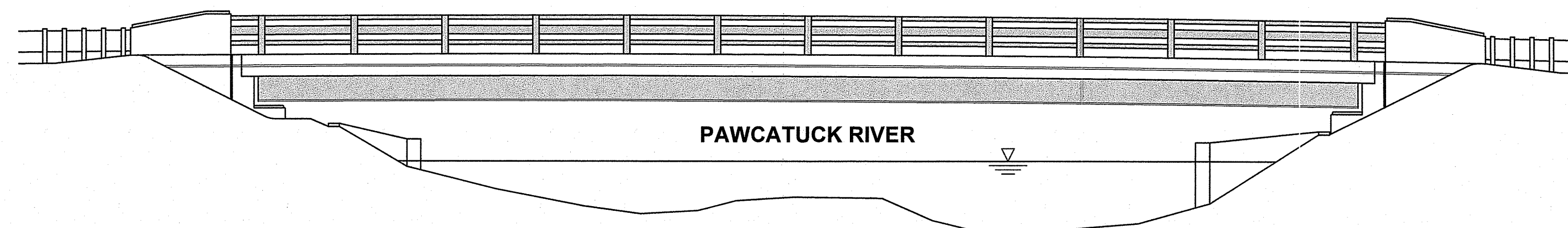
AADT (2020)	1,055 VPD
AADT (2040)	1,080 VPD
D	53/47 (NB/SB)
K	12%
T	1%
DHV	127 VPH
DDHV	67 VPH
DESIGN SPEED	40 MPH

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 10 2021 FILE # 21-C-139
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Martin D. Jenczek

Environmental Management
JUL 30 2021
Office of Water Resources

R.I.D.E.M.
APPLICATION SUBMISSION
JULY 29, 2021



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

R.I. STANDARD SPECIFICATIONS AND STANDARD DETAILS

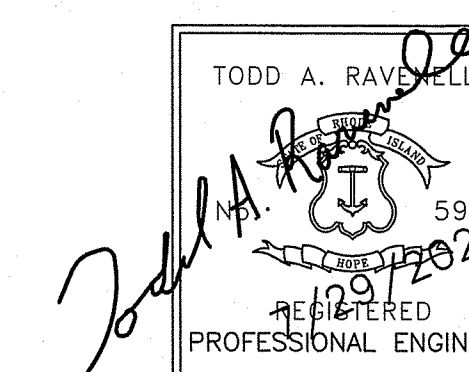
SPECIFICATIONS TO GOVERN THIS PROJECT ARE THE R.I. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 EDITION (AMENDED MARCH 2018), WITH ALL REVISIONS, AND THE STATE AND FEDERAL SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS. STANDARD DETAILS FOR THIS PROJECT ARE R.I. STANDARD DETAILS, 2018 EDITION, WITH ALL REVISIONS.

SCALES OF DRAWINGS AS SHOWN

BASE OF LEVELS
VERTICAL DATUM - NAVD 88
HORIZONTAL DATUM - NAD 83



Contract Number 2021-CB-034
Volume Number 1 OF 1
Number of Sheet 1
Total Sheets 25



R.I. DEPARTMENT OF TRANSPORTATION	
APPROVED	
ADMINISTRATOR, PROJECT MANAGEMENT	DATE
APPROVED	
CHIEF ENGINEER OF INFRASTRUCTURE	DATE
APPROVED	
DIRECTOR	DATE
US DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	
APPROVED	
ADMINISTRATOR, PROJECT MANAGEMENT	DATE

Environmental Management
JUL 30 2021
Office of Water Resources

LIST OF ABBREVIATIONS

A
 ABUTMENT = ABUT.
 ADDITIONAL = ADD'L
 ALTERNATE = ALT.
 ANCHOR BOLT = A.B.
 AND = &
 APPROACH = APPR.
 APPROVED = APPD.
 APPROXIMATE = APPROX.
 AT EACH = @
 AVENUE = AVE.
 AVERAGE = AVG.

B
 BACK TO BACK = B TO B
 BASELINE = BL
 BEAM = BM.
 BETWEEN = BTWN.
 BEARING = BRG.
 BITUMINOUS = BIT.
 BUILDING = BLDG.
 BUILDING LINE = B.L.
 BOLT CIRCLE = B.C.
 BOTTOM = BOT.
 BOTTOM OF = B.O.

C
 CAST-IN-PLACE = C.I.P.
 CENTER TO CENTER = C TO C
 CENTERLINE = CL
 CIRCLE = CIR.
 CLEARANCE = CLR.
 COLUMN = COL.
 CONCRETE = CONC.
 CONDUIT = COND.
 CONNECTION = CONN.
 CONSTRUCTION = CONST.
 CONTRACTION = CONTR.
 COUNTERSINK = CSK.
 COUPLING = CPLG.
 CLASS I CONTROLLED LOW STRENGTH MATERIAL = CLMS
 CUBIC FEET = CF

D
 DETAIL = DET.
 DIAGONAL = DIAG.
 DIAPHRAGM = DIAPHM.
 DIAMETER = DIA. OR Ø
 DIMENSION = DIM.
 DOWN = DN.
 DRAWING = DWG.
 DRAIN = DR.

E
 EACH = EA.
 EACH FACE = EF
 EAST = E.
 ELEVATION = EL. OR ELEV.
 EMBEDMENT = EMBED.
 EXISTING = EXIST.
 EXPANSION = EXP.
 EQUAL = EQ.

F
 FAR FACE = FF
 FAR SIDE = FS
 FABRICATE = FAB.
 FACE TO FACE = F TO F
 FEET = FT.
 FLANGE = FLG.
 FLAT HEAD = F.H.
 FOOTING = FTG.
 FORCE MAIN = FM
 FOUNDATION = FDN.
 FURNISH, FABRICATE & ERECT = F.F.&E.

G
 GAGE = GA.
 GALVANIZE = GALV.
 GAS = G
 GRADE = GR.
 GRATING = GR TG.
 GROUND = GND.

H
 HEIGHT = HGT.
 HEXAGON = HEX.
 HIGHWAY = HWY.
 HIGH STRENGTH = HS
 HORIZONTAL = HORIZ.

I
 INCH = IN.
 INFORMATION = INFO.
 INSIDE DIAMETER = I.D.
 INVERT = INV.

J
 JOINT = JT.

L
 LENGTH = LGTH. OR L
 LENGTH OF VERTICAL CURVE = LVC
 LEFT = LT.
 LIGHTING = LTG.
 LONG = LG.
 LOAD & RESISTANCE FACTOR DESIGN = LRFD

M
 MATERIAL = MATL.
 MAXIMUM = MAX.
 MEAN HIGH WATER = M.H.W.
 MEAN LOW WATER = M.L.W.
 MEAN SEA LEVEL = M.S.L.
 MECHANICAL = MECH.
 MINIMUM = MIN.
 MISCELLANEOUS = MISC.

N
 NEAR FACE = NF
 NEAR SIDE = NS
 NORTH = N.
 NOT TO SCALE = NTS
 NUMBER = NO. OR #

O
 OBSERVED WATER = O.W.
 ON CENTER = OC
 OPENING = OPNG.
 OUTSIDE DIAMETER = O.D.
 OPTIONAL = OPT.
 OVERHEAD WIRES = O.H.W.

P
 PLATE = PL
 PLUS OR MINUS = ±
 POINT OF CURVATURE = PC
 POINT OF VERTICAL CURVATURE = PVC
 POINT OF VERTICAL INTERSECTION = PVI
 POINT OF VERTICAL TANGENCY = PVT
 POINT OF TANGENCY = PT
 POLYVINYL CHLORIDE = PVC
 POUNDS = LBS.
 POUNDS PER SQUARE INCH = PSI
 POUNDS PER SQUARE FOOT = PSF
 PRESTRESSED PRECAST CONCRETE = P.P.C.
 PRECAST CONCRETE = P.C.

R
 RADIUS = RAD. OR R
 RAILROAD = RR
 REQUIRED = REQ'D.
 REINFORCING = REINF.
 REHABILITATION = REHAB.
 REMOVE & DISPOSE = R&D
 RIGHT = RT.

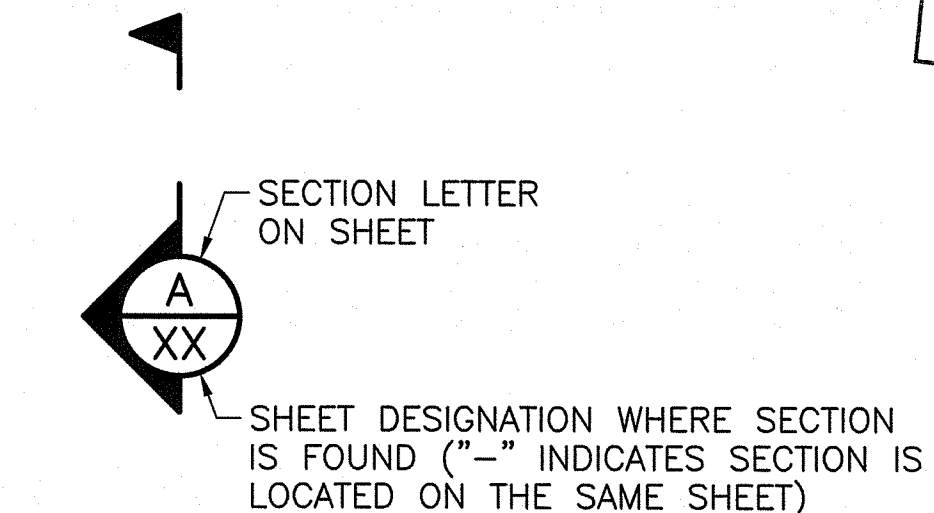
S
 SECTION = SECT.
 SCHEDULE = SCH.
 SCHEMATIC = SCHEM.
 SHEET = SHT.
 SIDEWALK = SDWK.
 SOUTH = S.
 SPACES = SP.
 STANDARD = STD.
 STATION = STA.
 SYMMETRICAL = SYM.
 STAY IN PLACE = S.I.P.
 SQUARE = SQ.

T
 TOP = T
 TOP AND BOTTOM = T&B
 TOP OF = T.O.
 THICK = THK.
 TYPICAL = TYP.

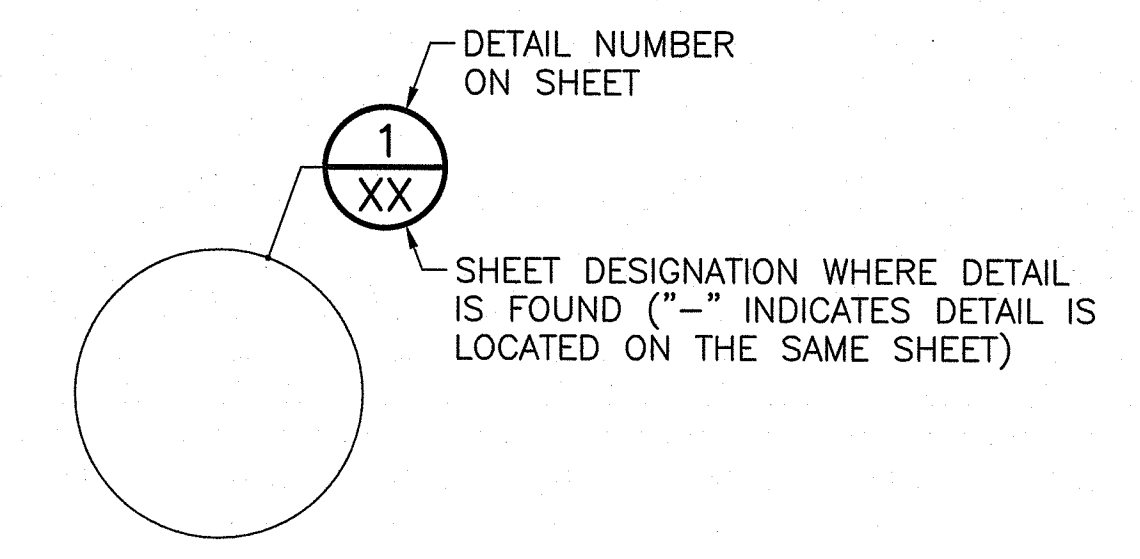
U
 UNLESS NOTED OTHERWISE = U.N.O.

V
 VARIES = VAR.
 VERTICAL CURVE = V.C.
 VERTICAL = VERT.

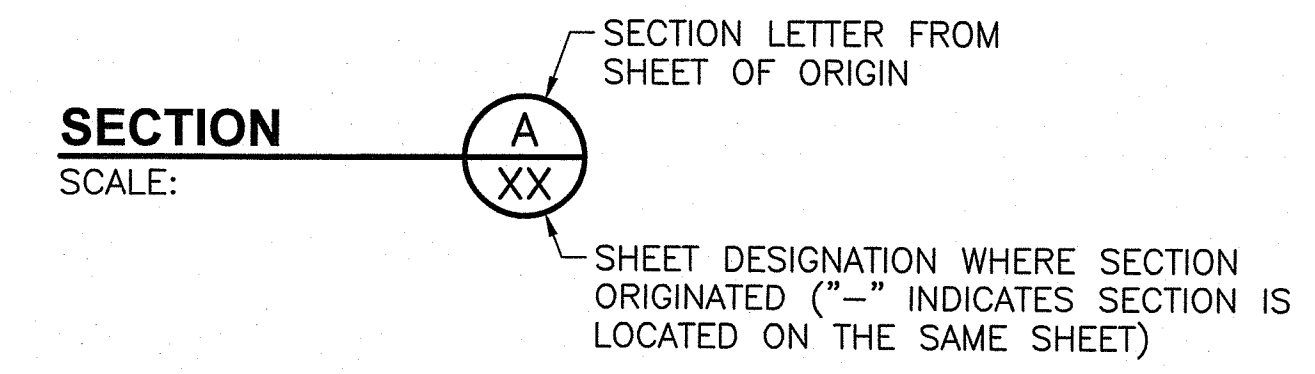
W
 WATER = W
 WELDED WIRE FABRIC = W.W.F.
 WEST = W.
 WITH = W/
 WIDE FLANGE = W.F.
 WORKING POINT = W.P.



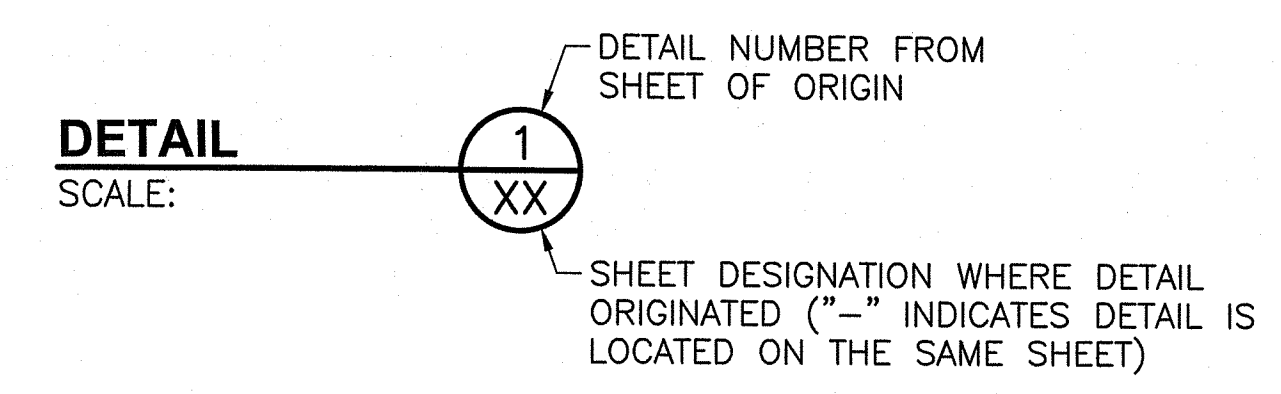
SECTION MARK



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 SEP 10 2021 FILE # 21-0739
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Jonathan B. Wenczek

Gordon R. Archibald, Inc.
 Civil and Environmental Engineers
 Pawtucket, Rhode Island

TODD A. TRAVELLE
 5928
 REGISTERED PROFESSIONAL ENGINEER



RHODE ISLAND
 DEPARTMENT OF TRANSPORTATION

DESIGNED BY: JSC
 CHECKED BY: JPW
 DATE: 5/13/21
 SHEET:
 OF:

REVISIONS			REVISIONS		
NO.	DATE	BY	NO.	DATE	BY

BRIDGE GROUP 45B_H - KINGS FACTORY
 REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542
 CHARLESTOWN & RICHMOND
 RHODE ISLAND

LIST OF ABBREVIATIONS

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2021	3	42

Environmental Management
JUL 30 2021
Office of Water Resources

GENERAL NOTES

- ALL CONSTRUCTION INDICATED ON THESE PLANS SHALL BE IN ACCORDANCE WITH:
 - THE 2004 EDITION (AMENDED MARCH 2018) OF AND SUPPLEMENTS TO THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (RI STANDARD SPECIFICATIONS).
 - THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, NINTH EDITION, 2020, INCLUDING THE LATEST INTERIM REVISIONS.
 - THE SPECIFICATIONS ACCOMPANYING THESE PLANS.
- 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.
- ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
- COORDINATES USED ON THESE PLANS ARE BASED ON THE STATEWIDE COORDINATE SYSTEM, THE NORTH AMERICAN DATUM OF 1983 (NAD 83).
- FOR BENCH MARKS AND TIES SEE HIGHWAY LOCATION PLANS.
- ANGLES ARE SHOWN TO THE NEAREST SECOND.
- ALL FOOTINGS SHALL BE APPROVED BY THE ENGINEER AS TO DIMENSIONS, ELEVATIONS, AND SUITABILITY OF FOUNDATION MATERIAL BEFORE THE PLACING OF PRECAST CONCRETE.
- ALL WORKING POINTS ARE SHOWN AT THE CENTERLINES OF BEARINGS OF ABUTMENTS, UNLESS OTHERWISE NOTED.
- ALL ABUTMENTS AND WALLS ARE DRAWN LOOKING AT THE EXPOSED FACES.
- 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, WORK IN THE VICINITY OF EXISTING UTILITIES, AND FOR EXISTING STRUCTURAL ITEMS TO REMAIN.
- THE EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND WERE LOCATED USING THE BEST AVAILABLE INFORMATION. NO BUILDING SERVICE CONNECTIONS (ELECTRIC, TELEPHONE, GAS, WATER, SANITARY AND OTHERS) ARE SHOWN. THE CONTRACTOR IS TO ASSUME THAT SERVICES TO ALL BUILDINGS ARE PRESENT.
- BOTH FEDERAL AND STATE LAW (RI. GENERAL LAW 39-1.2) REQUIRE NOTIFICATION OF APPROPRIATE UTILITY COMPANIES BEFORE DIGGING, TRENCHING, BLASTING, DEMOLISHING, BORING, BACK FILLING, GRADING, LANDSCAPING, OR OTHER EARTH MOVING OPERATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES (INCLUDING THROUGH THE "DIG SAFE" PROGRAM) TO ENSURE THAT ALL UTILITIES, BOTH UNDERGROUND AND OVERHEAD, HAVE BEEN MARKED BEFORE COMMENCEMENT OF SUCH WORK. THE CONTRACTOR SHOULD UNDERSTAND THAT NOT ALL UTILITIES SUBSCRIBE TO THE "DIG SAFE" PROGRAM. ANY DAMAGE TO EXISTING UTILITIES MARKED IN THE FIELD, OR AS A RESULT OF FAILING TO CONTACT THE APPROPRIATE UTILITY COMPANIES, SHALL BE REPAIRED OR REPLACED (AS DEEMED APPROPRIATE BY THE STATE AND/OR THE IMPACTED UTILITY COMPANY) AT NO ADDITIONAL COST TO THE STATE.
- THE CONTRACTOR SHALL NOT REMOVE BRIDGE WEIGHT LIMITS SIGNS.

DESIGN DATA

- DESIGN SPECIFICATIONS**
 - THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, NINTH EDITION, 2020, INCLUDING ALL INTERIM REVISIONS TO DATE.
 - THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL 2007 EDITION INCLUDING ALL REVISIONS TO DATE.
 - ALL OTHER APPLICABLE DESIGN SPECIFICATIONS ARE REFERENCED IN SECTION 1 OF THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL DATED 2007.
 - THE 2004 EDITION (AMENDED MARCH 2018) OF AND SUPPLEMENTS TO THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (RI STANDARD SPECIFICATIONS).
 - 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 1.00 FOR ALL LIMIT STATES.
 - THE LOAD MODIFIER FOR REDUNDANCY SHALL BE TAKEN AS 1.00 FOR ALL LIMIT STATES.
 - THE LOAD MODIFIER FOR OPERATIONAL IMPORTANCE SHALL BE TAKEN AS 1.00.

[CONT.]

DESIGN DATA [CONT.]

- 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 (SPECIFIED BELOW).
 - THE LOAD FACTOR FOR TEMPERATURE GRADIENT SHALL BE TAKEN AS ZERO.
 - 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 1.00.
 - THE LOAD FACTOR FOR SETTLEMENT FOR ALL LIMIT STATES SHALL BE TAKEN AS 1.00.
- LIVE LOADS**
 - THE DESIGN VEHICULAR LIVE LOAD SHALL BE THE HL-93 DESIGNATION ADJUSTED FOR DYNAMIC LOAD ALLOWANCE AND MULTIPLE PRESENCE FACTOR.
- FOUNDATION DESIGN DATA**
THE FACTORED AXIAL AND UPLIFT RESISTANCES FOR THE VARIOUS DEEP FOUNDATION TYPES ARE AS FOLLOWS:

LOCATION	TYPE	FACTORED AXIAL RESISTANCE (KIPS)			
		GEOTECHNICAL		STRUCTURAL	
		STRENGTH LIMIT STATES	EXTREME LIMIT STATES	STRENGTH LIMIT STATES	EXTREME LIMIT STATES
ABUTMENTS	MICROPILES	232.2	422.2	264.5	352.7

LOCATION	TYPE	FACTORED UPLIFT RESISTANCE (KIPS)			
		GEOTECHNICAL		STRUCTURAL	
		STRENGTH LIMIT STATES	EXTREME LIMIT STATES	STRENGTH LIMIT STATES	EXTREME LIMIT STATES
ABUTMENTS	MICROPILES	232.2	337.7	135.0	135.0

- THE FACTORED DESIGN AXIAL RESISTANCE AT EACH LOCATION IS THE LESSER VALUE OF THE FACTORED GEOTECHNICAL AND THE FACTORED STRUCTURAL RESISTANCES INDICATED.
- THE FACTORED GEOTECHNICAL AXIAL RESISTANCE FOR THE STRENGTH LIMIT STATE IS BASED ON THE NOMINAL AXIAL RESISTANCE AS DETERMINED USING SIDE RESISTANCE AND A RESISTANCE FACTOR OF 0.55.
- THE FACTORED GEOTECHNICAL AXIAL RESISTANCE FOR THE EXTREME LIMIT STATE IS BASED ON THE NOMINAL AXIAL RESISTANCE AS DETERMINED USING SIDE RESISTANCE AND A RESISTANCE FACTOR OF 1.00.
- THE FACTORED GEOTECHNICAL UPLIFT RESISTANCE FOR THE STRENGTH LIMIT STATE IS BASED ON THE NOMINAL AXIAL RESISTANCE AS DETERMINED USING SIDE RESISTANCE AND A RESISTANCE FACTOR OF 0.55.
- THE FACTORED GEOTECHNICAL UPLIFT RESISTANCE FOR THE EXTREME LIMIT STATE IS BASED ON THE NOMINAL AXIAL RESISTANCE AS DETERMINED USING SIDE RESISTANCE AND A RESISTANCE FACTOR OF 0.80.

1. WIND LOADING 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".

7. TRAFFIC DATA

• AADT (2020)	1,055 VPD
• AADT (2040)	1,080 VPD
• D	53/47 (NB/SB)
• K	12%
• T (PEAK HOUR)	1%
• DHV	127 VPH
• DDHV	67 VPH
• DESIGN SPEED	40 MPH

[CONT.]

DESIGN DATA [CONT.]

- HYDRAULIC AND SCOUR DATA**
 - DESIGN FLOW DRAINAGE AREA 107 SQUARE MILES
 - 100-YEAR FLOOD ELEVATION 49.1 (NAVD 88)
 - 500-YEAR FLOOD ELEVATION 51.4 (NAVD 88)
 - 100-YEAR FLOOD VELOCITY 2.36 FT/S
 - 500-YEAR FLOOD VELOCITY 2.32 FT/S
 - 100-YEAR SCOUR DEPTH 10.7 FT (@ EXIST. ABUTMENT)
 - 500-YEAR SCOUR DEPTH 9.1 FT (@ EXIST. ABUTMENT)
- THERMAL DESIGN FORCE DATA**
UNIFORM TEMPERATURE EFFECTS HAVE BEEN TAKEN INTO CONSIDERATION IN ACCORDANCE WITH PROCEDURE B OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE MINIMUM DESIGN TEMPERATURE SHALL BE -10° F AND THE MAXIMUM TEMPERATURE SHALL BE 105° F.
- SEISMIC DESIGN DATA**
 - THE SEISMIC ANALYSIS AND DESIGN SHALL BE IN ACCORDANCE WITH THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL.
 - THE COMBINATION OF SEISMIC FORCE EFFECTS IS IN ACCORDANCE WITH THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL.
 - THIS BRIDGE HAS BEEN CLASSIFIED AS NON-CRITICAL.
 - THE SITE HAS BEEN CLASSIFIED AS SITE CLASS C.

MATERIALS

- STRUCTURAL STEEL:
- AASHTO DESIGNATION M 270, GRADE 50
- REINFORCING STEEL:
- AASHTO DESIGNATION M 31, GRADE 60, GALVANIZED
- CONCRETE STRENGTHS:
- ULTRA HIGH PERFORMANCE CONCRETE (UHPC) $f_c = 12,000$ PSI (3 DAYS)
LONGITUDINAL DECK CLOSURE POURS BETWEEN SUPERSTRUCTURE MODULES
 - CLASS MC 3/4" $f_c = 3,500$ PSI (28 DAYS) AND $f_c = 5,000$ (56 DAYS)
ABUTMENT STEMS
 - CLASS HP 3/4" $f_c = 5,000$ PSI (28 DAYS)
ALL OTHER STRUCTURAL CONCRETE

FOUNDATIONS

- THE FURNISHING AND INSTALLING OF THE DEEP FOUNDATION TYPES SPECIFIED IN THIS CONTRACT SHALL BE IN ACCORDANCE WITH ITEM CODES 804.9901 THROUGH 804.9904.
- A GEOTECHNICAL DATA REPORT PREPARED BY PAUL B. ALDINGER & ASSOCIATES, INC. IN JUNE 2020 IS INCLUDED WITHIN THE CONTRACT DOCUMENTS.

LUMP SUM BID ITEM NOTES

- THE CONTRACTOR SHALL NOTE THAT SOME BRIDGE ITEMS ON THIS PROJECT ARE PAID FOR ON A LUMP SUM BASIS OR ARE INCLUDED FOR PAYMENT UNDER OTHER LUMP SUM ITEM(S). IN GENERAL THESE INCLUDE BUT MAY NOT BE LIMITED TO:
 - CONSTRUCTION OF KINGS FACTORY ROAD BRIDGE NO. 542 LESS ITEMS IDENTIFIED IN THE JOB SPECIFIC SPECIFICATION
 - TEMPORARY COFFERDAM WITH SILTATION CONTROL
 - REMOVAL AND DISPOSAL OF THE EXISTING BRIDGE SUPERSTRUCTURE
 - REMOVAL AND DISPOSAL OF PORTIONS OF THE EXISTING BRIDGE SUBSTRUCTURE.
AS PROVIDED FOR IN THE SPECIAL PROVISION CODE 109.07 "PARTIAL PAYMENT OF LUMP SUM ITEMS", WITHIN TEN (10) CALENDAR DAYS AFTER THE DATE OF THE NOTICE OF AWARD, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL THE BREAKDOWN OF EACH LUMP SUM BID ITEM.
- FOR REQUIREMENTS AND WORK DESCRIBED IN THE CONTRACT DOCUMENTS BUT NOT EXPRESSLY IDENTIFIED TO BE MEASURED SEPARATELY FOR PAYMENT, THE COST THEREOF SHALL BE INCLUDED IN THE CONTRACT BID PRICES OF THE ITEMS OF WORK TO WHICH THEY PERTAIN AS LISTED IN THE PROPOSAL.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
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DATED SEP 10 2021 FILE # 21-0139
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Martin D. Weneck

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

TODD A. TRAVELLE
5928
REGISTERED PROFESSIONAL ENGINEER

RI DOT RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGNED BY:	JSC
CHECKED BY:	JPW
DATE:	5/13/21
SHEET:	
OF:	

BRIDGE GROUP 45B_H - KINGS FACTORY
REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542
CHARLESTOWN & RICHMOND
RHODE ISLAND

BRIDGE GENERAL NOTES - 1

Environmental Management
JUL 30 2021
Office of Water Resources

CONCRETE NOTES

- CLASSES OF CONCRETE SHALL BE ULTRA HIGH PERFORMANCE CONCRETE (UPHC), MASS CONCRETE CLASS MC, AND HIGH PERFORMANCE CLASS HP AS DESCRIBED IN THE RI STANDARD SPECIFICATIONS AND/OR THE SPECIAL PROVISIONS OF THE SPECIFICATIONS. REFER TO THE "MATERIALS" NOTES FOR CLASSES OF CONCRETE SPECIFIED FOR VARIOUS COMPONENTS.
- 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.
- ALL PORTLAND CEMENT CONCRETE SHALL BE AIR-ENTRAINED.
- ALL REINFORCING STEEL SHALL BE GALVANIZED. ALL WIRE TIES AND MISCELLANEOUS HARDWARE USED FOR PLACEMENT OF GALVANIZED REINFORCING SHALL ALSO BE GALVANIZED. GALVANIZED COATING FOR REINFORCING STEEL SHALL CONFORM TO SUBSECTION M.05.05 OF THE RI STANDARD SPECIFICATIONS.
- 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 LRFD BRIDGE DESIGN SPECIFICATIONS FOR CLASS B LAP SPLICES.
- WITHIN THE TRANSVERSE CLOSURE POURS AT ABUTMENTS, THE TOP BARS IN THE DECK SLABS SHALL BE SPLICED AT THE CENTER OF SPANS BETWEEN STRINGERS; THE BOTTOM BARS SHALL BE SPLICED OVER THE STRINGERS.
- UNLESS OTHERWISE INDICATED ON THE PLANS, ALL MAIN REINFORCING BARS SHALL HAVE THE FOLLOWING MINIMUM COVER:

MINIMUM COVER

CONCRETE CAST AGAINST OR PERMANENTLY EXPOSED TO EARTH (FOOTINGS, ABUTMENT AND WALL FACES, BACKWALLS)	3"
PRECAST ELEMENTS PERMANENTLY EXPOSED TO EARTH (FOOTINGS, ABUTMENT AND WALL FACES, BACKWALLS)	2"
DECK SLAB	TOP 2" (+1/4", -0") BOTTOM 1" (+1/8", -0")
ALL OTHER BARS	2"

COVER TO TIES AND STIRRUPS MAY BE 1/2" LESS THAN THE ABOVE VALUES SPECIFIED FOR MAIN REINFORCING, BUT IN NO CASE LESS THAN 1/2".

- ANCHOR RODS SHALL BE ASTM DESIGNATION F1554, GRADE 55. ANCHOR RODS, NUTS, AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO DESIGNATION M232 OR METALIZED IN ACCORDANCE WITH SECTION M.05 OF THE RI STANDARD SPECIFICATIONS.
- 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.
- UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CONCRETE SURFACES VISIBLE IN ELEVATION TO ONE FOOT BELOW FINAL GROUND LINE (AND THE UNDERSIDE OF ALL CONCRETE DECK SLABS OUTSIDE OF THE FASCIA BEAM) SHALL RECEIVE A CONCRETE SURFACE RUBBED FINISH IN ACCORDANCE WITH THE RI STANDARD SPECIFICATIONS.
- THE ENTIRE TOPSIDE SURFACES OF ABUTMENT BEAM SEATS, AS WELL AS VERTICAL FACES OF BACKWALLS, 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.
- ALL EXPOSED EDGES AND REENTRANT CORNERS NOT OTHERWISE DETAILED ON THE PLANS SHALL HAVE A MINIMUM 3/4" CHAMFER.
- ALL JOINT SEALANT SHALL BE 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.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING CONCRETE STAINS OR DISCOLORATION 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 AT NO ADDITIONAL COST TO THE STATE.
- 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.
- PLACEMENT, FINISHING AND CURING OF BRIDGE DECK CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 814 OF THE RI STANDARD SPECIFICATIONS EXCEPT AS MODIFIED HEREIN.
- ALL DECK FORMS SHALL BE OF THE REMOVABLE TYPE THAT WILL PRODUCE THE DIMENSIONS SHOWN ON THE PLANS.
- EMBEDMENT LENGTHS FOR DRILLED AND GROUTED DOWELS SHALL BE IN ACCORDANCE WITH SECTION 819 OF THE RI STANDARD SPECIFICATIONS.

[CONT.]

CONCRETE NOTES [CONT.]

- 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 AND SHALL BE GALVANIZED. 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.
- WATER STOPS/SEALS ARE REQUIRED FOR HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS IN ABUTMENTS AND WALLS WHEN EXPOSED TO BACKFILL EARTH MATERIAL. WATER STOPS/SEALS SHALL BE INSTALLED AT THE LOCATIONS DETAILED ON THE PLANS, AT THE LOCATIONS AS SPECIFIED ABOVE AND AT ALL LOCATIONS AS DIRECTED BY THE ENGINEER. NEOPRENE SEALS SHALL CONSIST OF A SELF ADHESIVE STRIP WITH A DUROMETER OF 50-60, MEETING THE REQUIREMENTS OF ASTM D2240.

STRUCTURAL STEEL NOTES

- FRAMING DIMENSIONS ARE GIVEN ALONG CENTERLINES OF STRINGERS 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 STINGER LENGTHS, DIMENSIONS AND/OR THE DETAILING.
- THE SHOPS FABRICATING THE STRUCTURAL STEEL (EXCEPT FOR RAILINGS AND BEARINGS), MUST BE CERTIFIED FOR "MAJOR STEEL BRIDGES (CBR)" IN ACCORDANCE WITH THE AISC QUALITY CERTIFICATION PROGRAM OR EQUIVALENT. SHOPS FABRICATING THE RAILINGS AND BEARINGS 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.
- 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.
- SHOP DRAWINGS FOR ALL FABRICATED STEEL INCLUDING BEARINGS, RAILINGS, AND FALSEWORK SHALL BE SUBMITTED TO THE ENGINEER IN SUFFICIENT TIME TO PERMIT CAREFUL CHECKING PRIOR TO FABRICATION.
- 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 OR DYE-PENETRANT TESTED.
- STRUCTURAL STEEL SHAPES AND PLATES SHALL CONFORM TO THE LATEST PROVISIONS OF AASHTO DESIGNATION M 270 GRADE 36 AND GRADE 50 AS DESIGNATED ON THE PLANS.
- ALL AASHTO M 270 STRUCTURAL STEEL USED IN STRINGERS (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" AND "FRACTURE-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 INCH THICK UP TO AND INCLUDING 4 INCHES THICK)

SAMPLING AND TESTING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO T 243. 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:

- BEARINGS AND SOLE PLATES
 - EXPANSION JOINTS
 - DRAINAGE MATERIAL
 - RAILINGS
 - SUPPORT OF EXCAVATION COMPONENTS
- 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.
 - UNLESS OTHERWISE NOTED, ALL HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM DESIGNATION F 3125, GRADE A325, GALVANIZED, AND THEY SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 824 OF THE RI STANDARD SPECIFICATIONS.

[CONT.]

STRUCTURAL STEEL NOTES [CONT.]

- WASHERS MEETING ASTM DESIGNATION F 436 ARE TO BE USED OVER ALL HOLES THAT ARE MORE THAN 1/16" IN DIAMETER GREATER THAN THE BOLT DIAMETER AND UNDER ALL PARTS TURNED DURING ASSEMBLY.
- WELDING ELECTRODES SHALL HAVE THE SAME CORROSION RESISTANCE AS THE BASE METAL AND SHALL BE FREE OF MOISTURE AT THE TIME OF USE.
- STRUCTURAL STEEL SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO DESIGNATION M 111.
- UNLESS OTHERWISE SPECIFIED, THE UPPER SURFACES OF STRINGER TOP FLANGES SHALL BE FREE OF GALVANIZED COATING, PAINT, OIL OR OTHER IMPURITIES THAT WOULD IN ANY WAY REDUCE THE BOND OF CONCRETE TO STEEL.
- 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.
- PRIOR TO GALVANIZING, 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 SYSTEM.

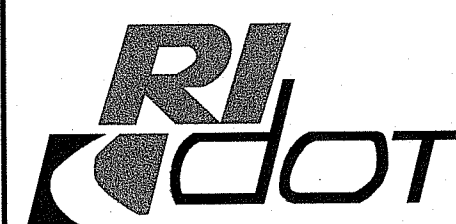
UPON COMPLETION OF ALL FABRICATION AND PRIOR TO GALVANIZING, THE STRUCTURAL STEEL SHALL BE PREPARED IN ACCORDANCE WITH ASTM DESIGNATION A 385.
- WELDING OF ATTACHMENTS TO STRINGER FLANGES OR WEBS FOR CONSTRUCTION PURPOSES IS NOT PERMITTED EXCEPT WHEN APPROVED BY THE ENGINEER.
- THE ENDS OF ALL STRINGERS SHALL BE VERTICAL AFTER ALL DEAD LOADS HAVE BEEN PLACED.
- CONNECTION PLATES SHALL BE SET PERPENDICULAR TO THE FLANGES OF THE STRINGERS.
- 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.
- THE STRINGERS SHALL BE CAMBERED TO THE AMOUNTS SHOWN ON THE PLANS, AND AT THE TIME AND PLACE OF ERECTION THEY SHALL HAVE THE REQUIRED AMOUNT OF CAMBER.
- ALL FILLET WELDS SHALL BE IN ACCORDANCE WITH THE BRIDGE WELDING CODE AASHTO/AWS D1.5 TABLE 2.1 (1/4" MINIMUM).
- ALL SHEAR STUD CONNECTORS SHALL BE WELDED BY THE AUTOMATIC TIMED ELECTRIC ARC PROCESS. SHEAR STUDS SHALL BE INSPECTED AND TESTED IN ACCORDANCE WITH SECTION 824 OF THE RI STANDARD SPECIFICATIONS.
- WHEN STEEL DIE STAMPS ARE USED TO IDENTIFY PIECES AND MEMBERS, FABRICATORS SHALL UTILIZE LOW STRESS STAMPS.
- FOR SIZE AND LOCATION OF ANCHOR RODS, SEE ABUTMENT AND BEARING DRAWINGS.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED **SEP 10 2021** FILE # **2-0139**
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Martin D. Semek

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

TODD A. BRAVENELLE
5928
REGISTERED
PROFESSIONAL ENGINEER



RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGNED BY: JSC
CHECKED BY: JPW
DATE: 5/13/21
SHEET:
OF:

REVISIONS			REVISIONS		
NO.	DATE	BY	NO.	DATE	BY

BRIDGE GROUP 45B_H - KINGS FACTORY
REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542
CHARLESTOWN & RICHMOND
RHODE ISLAND

BRIDGE GENERAL NOTES - 2

Environmental Management
JUL 30 2021
Office of Water Resources

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	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:

A. 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 C.

B. WHERE APPLICABLE HIGHER AMTRAK WIND REQUIREMENTS SHALL SUPERSEDE THESE REQUIREMENTS.

C. FOR STRUCTURES SITUATED ABOVE LIVE INTERSTATE TRAFFIC, THE TABULAR VALUES SHALL BE INCREASED BY 5 PSF.

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 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 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 STEEL 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.

PREFABRICATED BRIDGE ELEMENT NOTES

- THE FABRICATION OF ALL PRECAST CONCRETE ELEMENTS SHALL BE IN ACCORDANCE WITH SECTION 809 "PRECAST/PRESTRESSED CONCRETE MASONRY" OF THE RI STANDARD SPECIFICATIONS.
- ANY PRECAST MANUFACTURING PLANT FURNISHING PRECAST PRESTRESSED BRIDGE MEMBERS MUST BE CERTIFIED BY THE PRECAST PRESTRESSED CONCRETE INSTITUTE PLANT CERTIFICATION PROGRAM. THE CERTIFICATION SHALL BE AS A MINIMUM IN THE B3 CATEGORY. THE MANUFACTURER SHALL SUBMIT PROOF OF CERTIFICATION PRIOR TO THE START OF PRODUCTION.
- LIFTING DEVICES ARE THE RESPONSIBILITY OF THE PRECASTER.
- ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.
- 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 MEMBERS. ANY DAMAGE THAT IS NOT STRUCTURAL IN NATURE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO COST TO THE STATE.
- DURING HANDLING, THE ELEMENTS MUST BE PICKED UP ONLY BY MEANS OF APPROVED LIFTING DEVICES AT THEIR APPROVED SUPPORT POINTS.
- NO PERMANENT DISTORTION (TWIST) AS A RESULT OF LIFTING AND HANDLING WILL BE ALLOWED.
- DIMENSIONAL TOLERANCES SHALL NOT EXCEED THOSE RECOMMENDED IN THE LATEST EDITION OF THE PCI "MANUAL FOR QUALITY CONTROL FOR PLANTS AND PRODUCTION OF PRECAST AND PRESTRESSED CONCRETE PRODUCTS" AND THOSE SPECIFIED WITHIN THESE PLANS.
- ALL SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER IN SUFFICIENT TIME TO PERMIT CAREFUL CHECKING.
- ALL GALVANIZED REINFORCING BARS SHALL BE SECURELY TIED TO PREVENT DISLOCATION. TIES USED FOR THE GALVANIZED REINFORCING STEEL SHALL ALSO BE GALVANIZED.
- 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 IN ACCORDANCE WITH AASHTO M 232.
- 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. GROUTING SHALL BE PERFORMED IN ACCORDANCE WITH THE DETAILS SHOWN. THE GROUT SHALL BE ON THE RIDOT APPROVED MATERIAL LIST.
- PREFABRICATED ELEMENTS SHALL BE PRE-ASSEMBLED TO ENSURE PROPER MATCH BETWEEN ELEMENTS TO THE SATISFACTION OF THE ENGINEER PRIOR TO SHIPPING. THE PROCEDURE FOR LEVELING AND VERTICAL ADJUSTMENT SHALL BE ESTABLISHED DURING THE PRE-ASSEMBLY AND APPROVED BY THE ENGINEER.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 10 2021 FILE # 21-0139
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED BY THIS MUST BE AT CONSTRUCTION SITE
Yvonne D. Weneck

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

TODD A. TRAVENELLE
5928
REGISTERED PROFESSIONAL ENGINEER

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

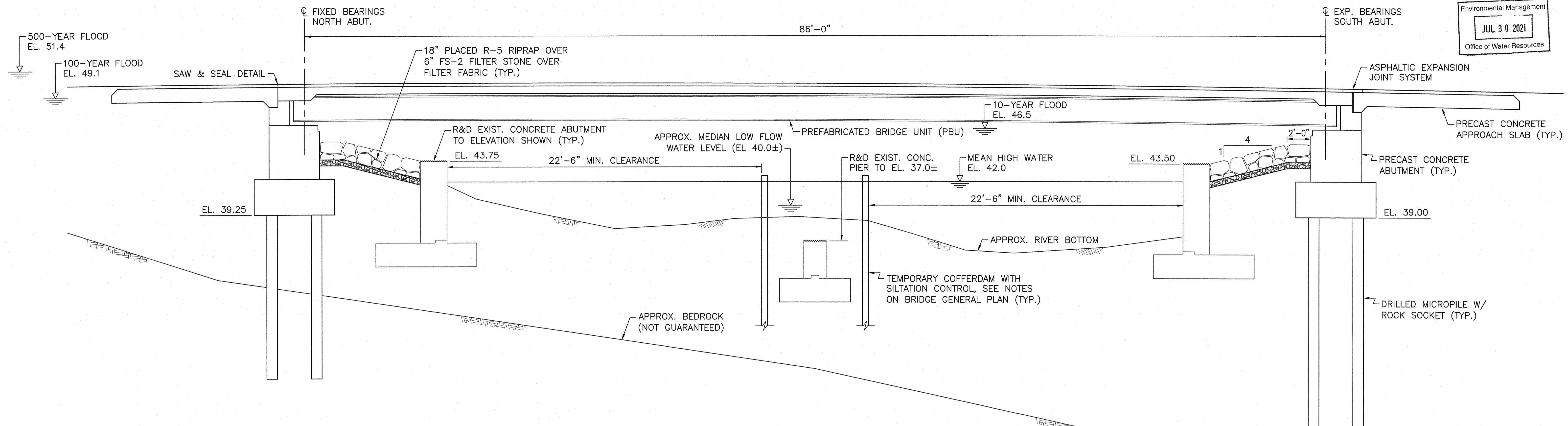
DESIGNED BY: JSC
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DATE: 5/13/21
SHEET:
OF:

BRIDGE GROUP 45B_H - KINGS FACTORY
REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542
CHARLESTOWN & RICHMOND
RHODE ISLAND

BRIDGE GENERAL NOTES - 3

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2021	6	42

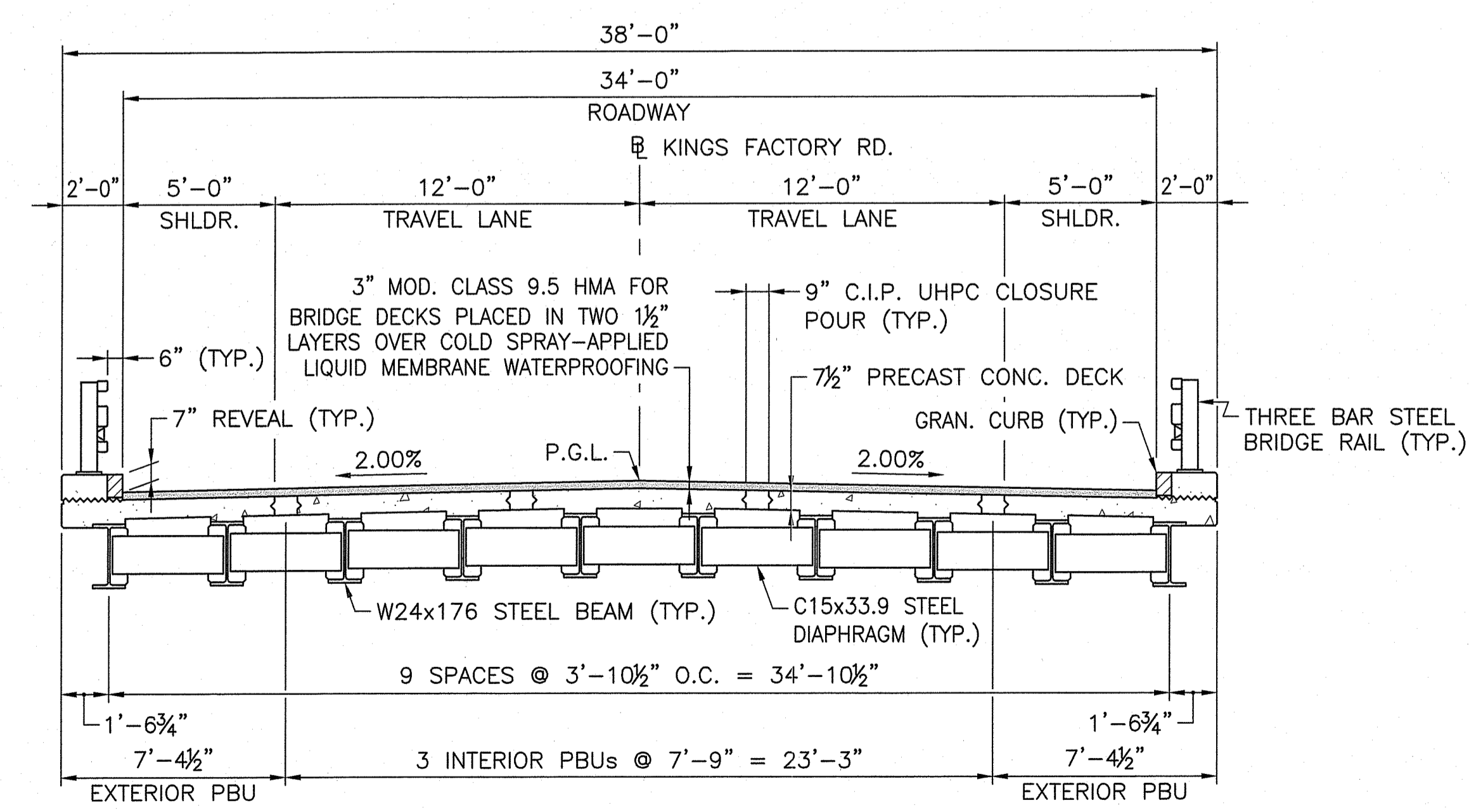
Environmental Management
JUL 30 2021
Office of Water Resources



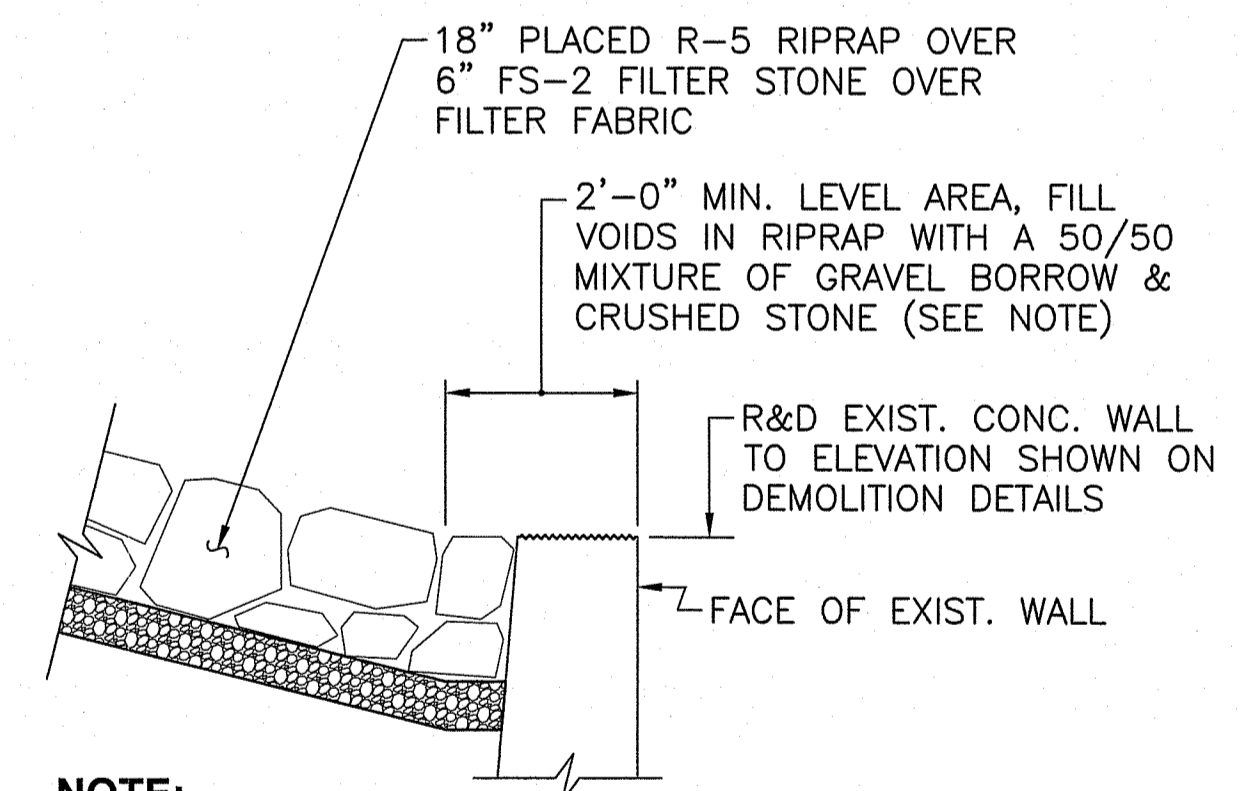
LONGITUDINAL BRIDGE SECTION
SCALE: 1/4" = 1'-0"

*LOCATIONS OF EXISTING OVERHEAD UTILITIES ARE SHOWN PRIOR TO ANTICIPATED RELOCATIONS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THESE LOCATIONS. SEE OVERHEAD UTILITY NOTE ON BRIDGE GENERAL PLAN.

- APPROX. LOCATION PRIMARY ELECTRIC*—○
- APPROX. LOCATION SECONDARY ELECTRIC*—○
- APPROX. LOCATION CABLE*—○
- APPROX. LOCATION TELEPHONE*—○



TRANSVERSE BRIDGE SECTION
SCALE: 1/4" = 1'-0"



NOTE:
ALL COST ASSOCIATED WITH THE FILLING OF THE VOIDS WITH THE GRAVEL BORROW & CRUSHED STONE MIXTURE WILL BE CONSIDERED INCIDENTAL TO THE COST OF THE RIPRAP.

SECTION AT FACE OF EXIST. WALL
SCALE: 1/2" = 1'-0"

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Justin J. Jensen

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REGISTERED PROFESSIONAL ENGINEER
5928

RI DOT
RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

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DATE: 5/13/21
SHEET:
OF:

REVISIONS			REVISIONS		
NO.	DATE	BY	NO.	DATE	BY

BRIDGE GROUP 45B_H - KINGS FACTORY
REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542
CHARLESTOWN & RICHMOND
RHODE ISLAND

BRIDGE TYPICAL SECTIONS

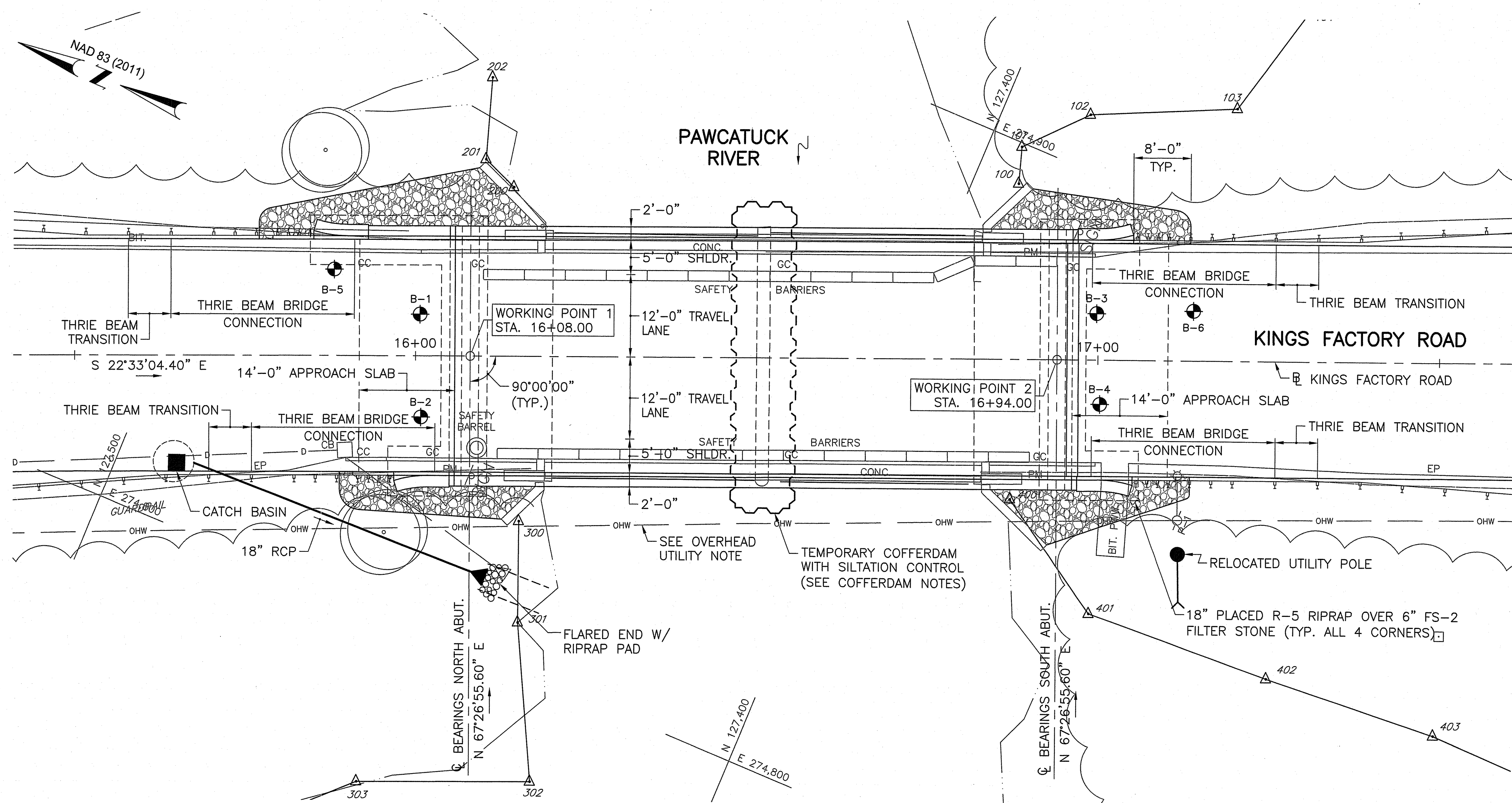
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2021	7	42

OVERHEAD UTILITY NOTE:

EXISTING OVERHEAD UTILITIES (ELECTRIC, TELEPHONE & CABLE) WILL BE RELOCATED BY OTHERS IN ORDER TO FACILITATE THE INSTALLATION OF THE PREFABRICATED BRIDGE UNITS (PBU). HOWEVER, THE TIMING OF THIS RELOCATION WORK IS NOT GUARANTEED. THE CONTRACTOR SHALL SELECT METHODS, MEANS, AND MATERIALS SUCH THAT ALL OTHER REQUIRED WORK CAN BE ACCOMPLISHED WITH THESE FACILITIES IN PLACE AND IN SERVICE WHILE MAINTAINING THE MINIMUM REQUIRED CLEARANCES. PAYMENT FOR COMPLYING WITH THESE REQUIREMENTS SHALL BE INCLUDED IN THE COST OF THE VARIOUS ITEMS OF WORK; NO SEPARATE PAYMENT WILL BE MADE.

Environmental Management
JUL 30 2021
 Office of Water Resources

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



COFFERDAM NOTES:

1. THE TEMPORARY COFFERDAM AND SILTATION CONTROL SHALL BE IN PLACE PRIOR TO BEGINNING ANY DEMOLITION WORK FOR THE EXISTING PIER.
2. THE INTENT OF THE TEMPORARY COFFERDAM AND SILTATION CONTROL IS TO CONTAIN THE GENERATED SILT AND TO PROVIDE A SAFE DEWATERED WORK AREA FOR THE CONTRACTOR DURING THE DEMOLITION WORK.
3. THE TEMPORARY COFFERDAM IS DEPICTED AS A STEEL SHEETING STRUCTURE HEREIN; THE ACTUAL CONFIGURATION OF THE COFFERDAM IS THE RESPONSIBILITY OF THE CONTRACTOR.
4. REFERENCE ITEM CODE 203.9901 FOR ADDITIONAL REQUIREMENTS.
5. AFTER THE PIER HAS BEEN DEMOLISHED TO THE SPECIFIED ELEVATION AND ALL BULK DEBRIS HAS BEEN REMOVED, THE DEMOLITION FOOTPRINT SHALL BE BACK-GRADED USING NATIVE STREAMBED MATERIAL FROM WITHIN THE COFFERDAM AREA. IF IT IS DETERMINED THAT ADDITIONAL BACKFILL MATERIAL IS REQUIRED TO BRING THE AREA UP TO THE SURROUNDING RIVER BOTTOM, CLEAN, WASHED CRUSHED STONE AGGREGATE (1" TYPICAL) CONFORMING TO SECTION M.01 OF THE RI STANDARD SPECIFICATIONS SHALL BE USED. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO THE DEMOLITION WORK; NO ADDITIONAL PAYMENT WILL BE MADE.

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Martin D. Senek

CONTROL COORDINATES		
POINT	NORTHING	EASTING
WORKING POINT 1 STA. 16+08.00	127,457.912	274,839.825
WORKING POINT 2 STA. 16+94.00	127,378.488	274,872.807

Gordon R. Archibald, Inc.
 Civil and Environmental Engineers
 Pawtucket, Rhode Island

TODD A. RAVENTHILLE
 5928
 REGISTERED PROFESSIONAL ENGINEER



RHODE ISLAND
 DEPARTMENT OF TRANSPORTATION

DESIGNED BY: JSC
 CHECKED BY: JPW
 DATE: 5/13/21
 SHEET:
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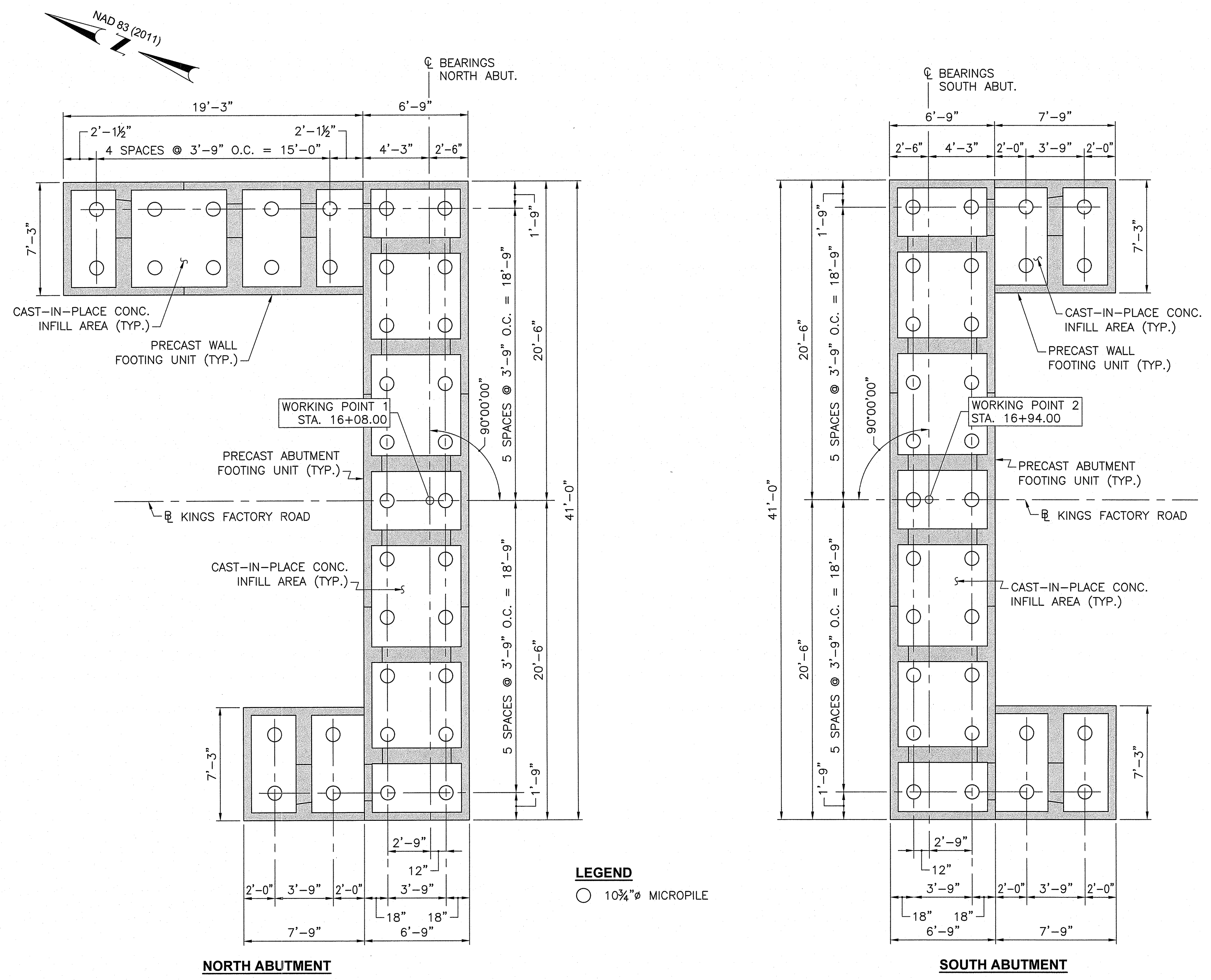
SCALE: 1"=10'

REVISIONS				REVISIONS			
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE

BRIDGE GROUP 45B_H - KINGS FACTORY
 REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542
 CHARLESTOWN & RICHMOND
 RHODE ISLAND

BRIDGE GENERAL PLAN

Environmental Management
JUL 30 2021
 Office of Water Resources



LEGEND
 ○ 10 3/4" Ø MICROPILE

FOUNDATION PLAN
 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 SEP 10 2021 FILE # 21-0139
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Martin D. Wemak

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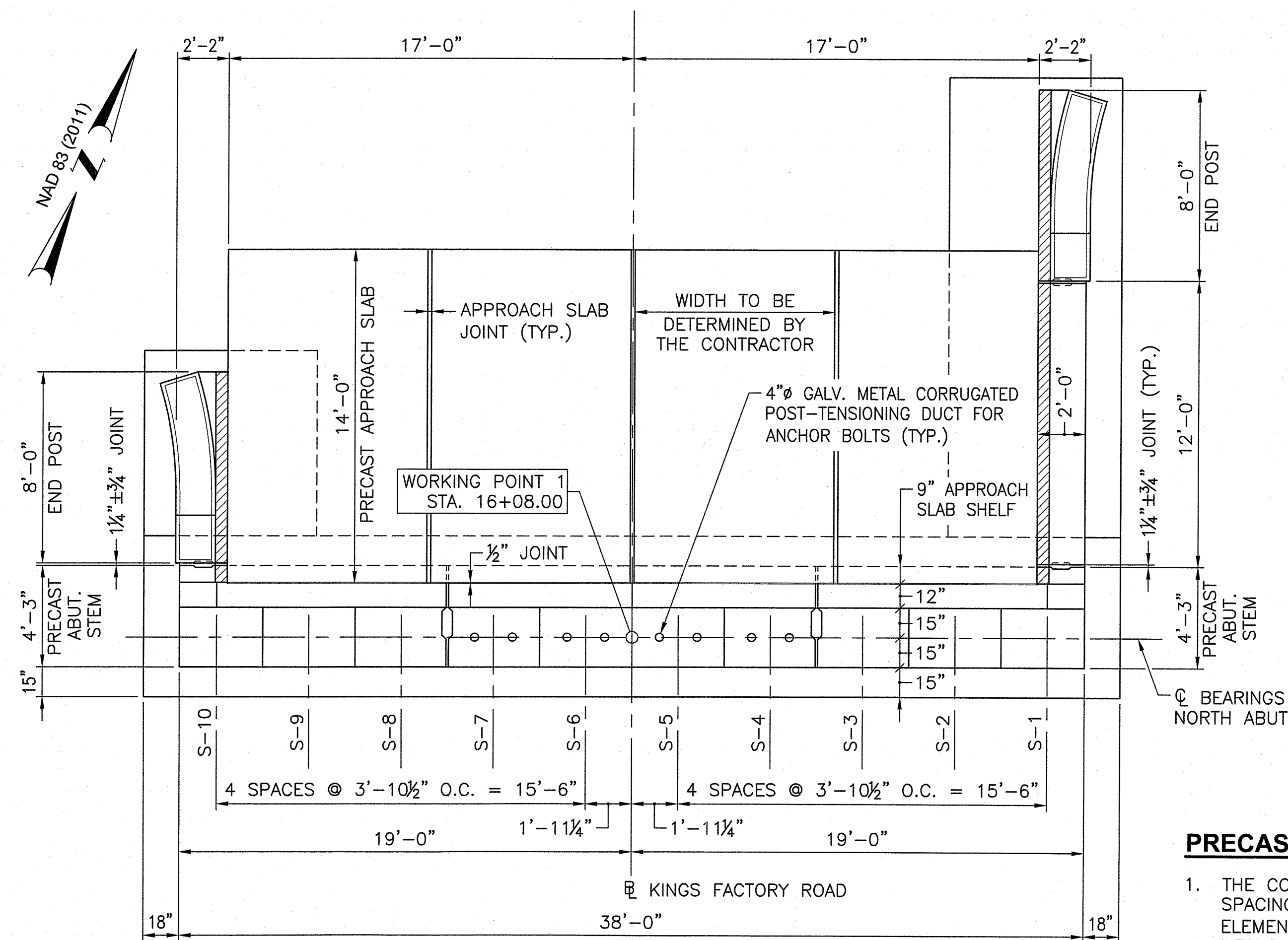
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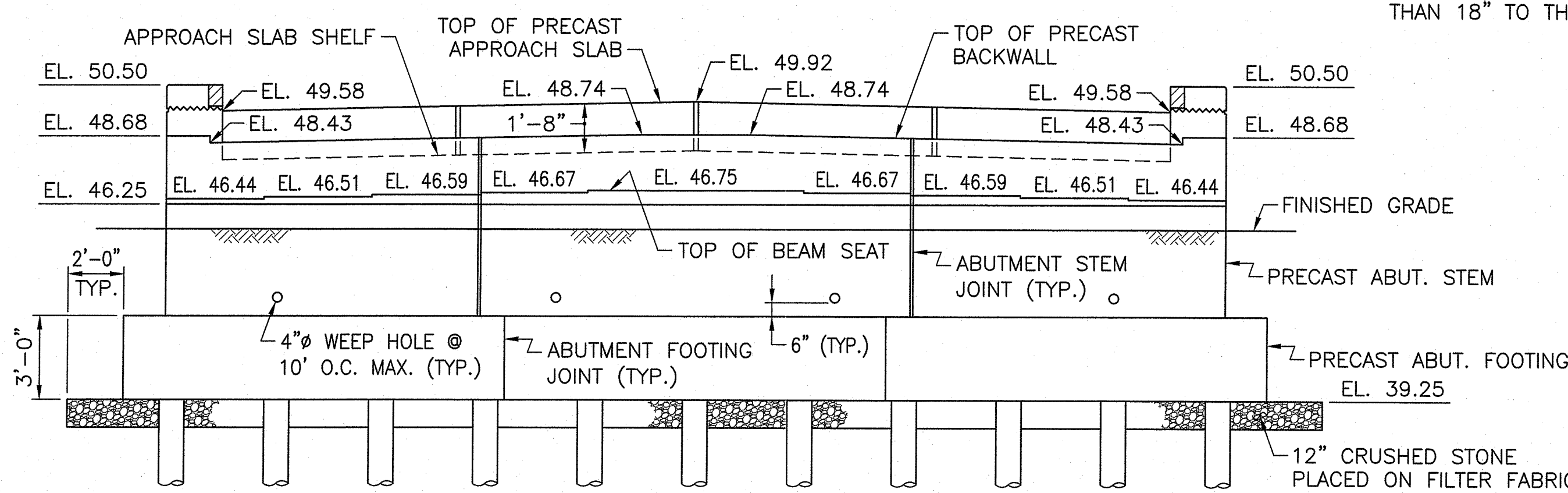
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BRIDGE GROUP 45B_H - KINGS FACTORY
 REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542
 CHARLESTOWN & RICHMOND
 RHODE ISLAND
FOUNDATION PLAN

Environmental Management
JUL 30 2021
 Office of Water Resources



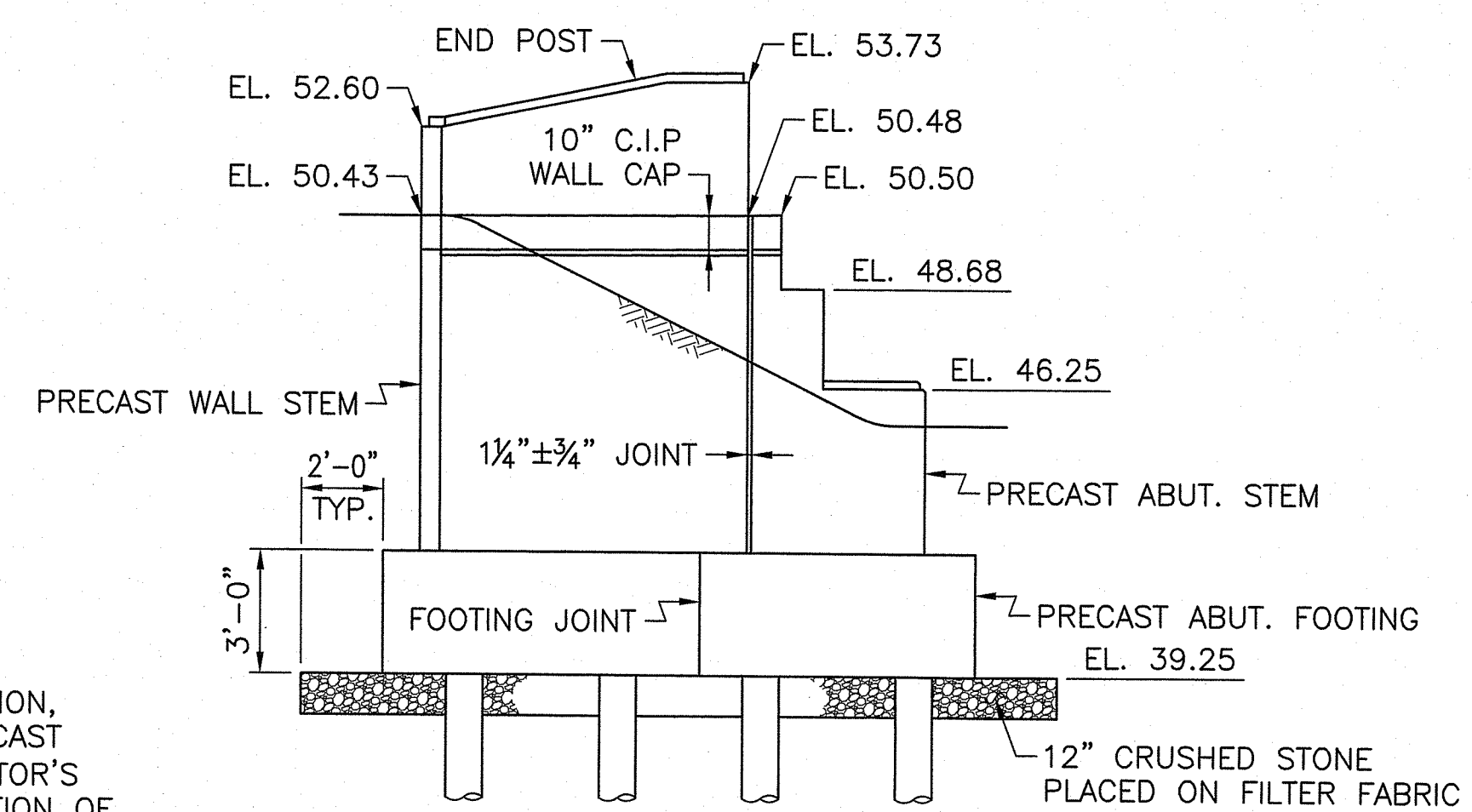
NORTH ABUTMENT PLAN
 SCALE: 1/4" = 1'-0"



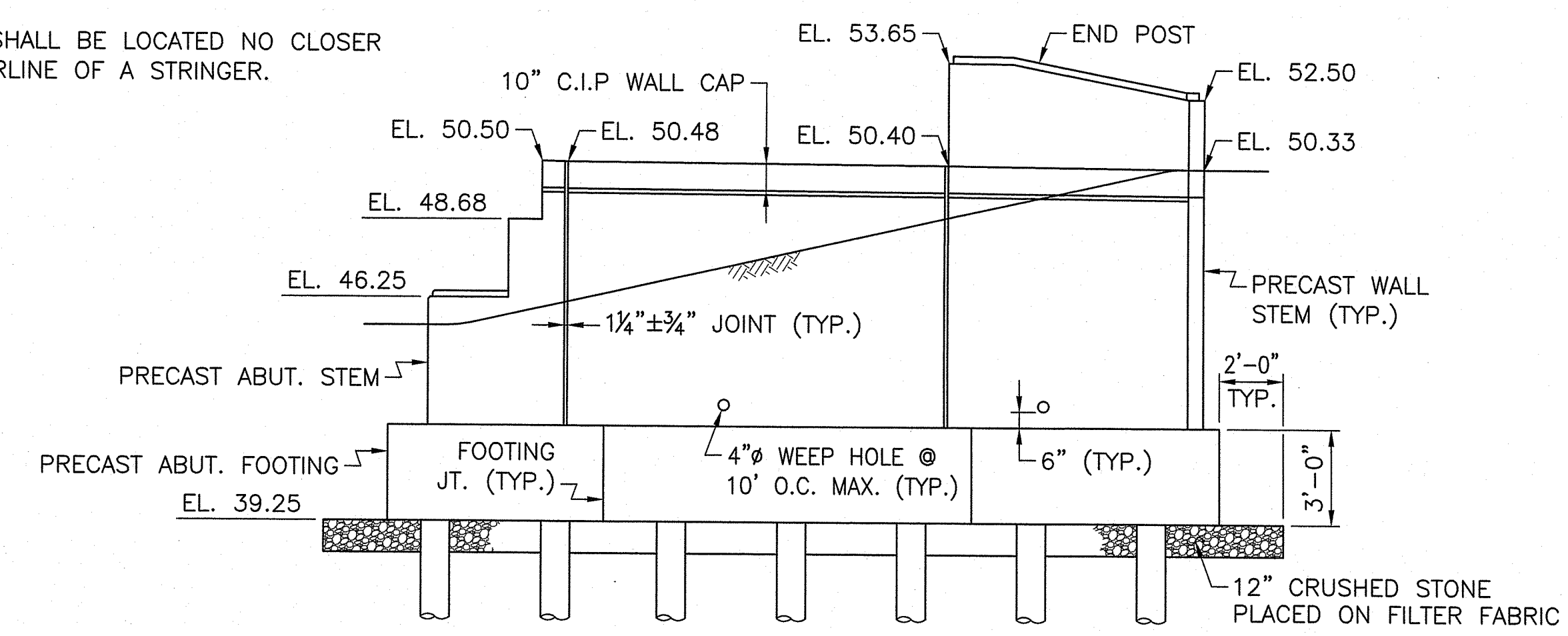
NORTH ABUTMENT ELEVATION
 SCALE: 1/4" = 1'-0"

PRECAST JOINT NOTES

1. THE CONTRACTOR SHALL DETERMINE THE LOCATION, SPACING, AND NUMBER OF JOINTS IN THE PRECAST ELEMENTS TAKING INTO ACCOUNT THE CONTRACTOR'S MEANS AND METHODS USED FOR THE INSTALLATION OF THESE ELEMENTS.
2. ABUTMENT STEM SEGMENTS SHALL BE SUCH THAT EACH SEGMENT SPANS NO LESS THAN TWO CROSS MEMBERS IN THE PRECAST FOOTING SEGMENTS AND SHALL BE NO LESS THAN 8'-0" LONG.
3. ABUTMENT STEM JOINTS SHALL BE LOCATED NO CLOSER THAN 18" TO THE CENTERLINE OF A STRINGER.



NORTHWEST WALL ELEVATION
 SCALE: 1/4" = 1'-0"



NORTHEAST WALL ELEVATION
 SCALE: 1/4" = 1'-0"

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RHODE ISLAND
 DEPARTMENT OF TRANSPORTATION

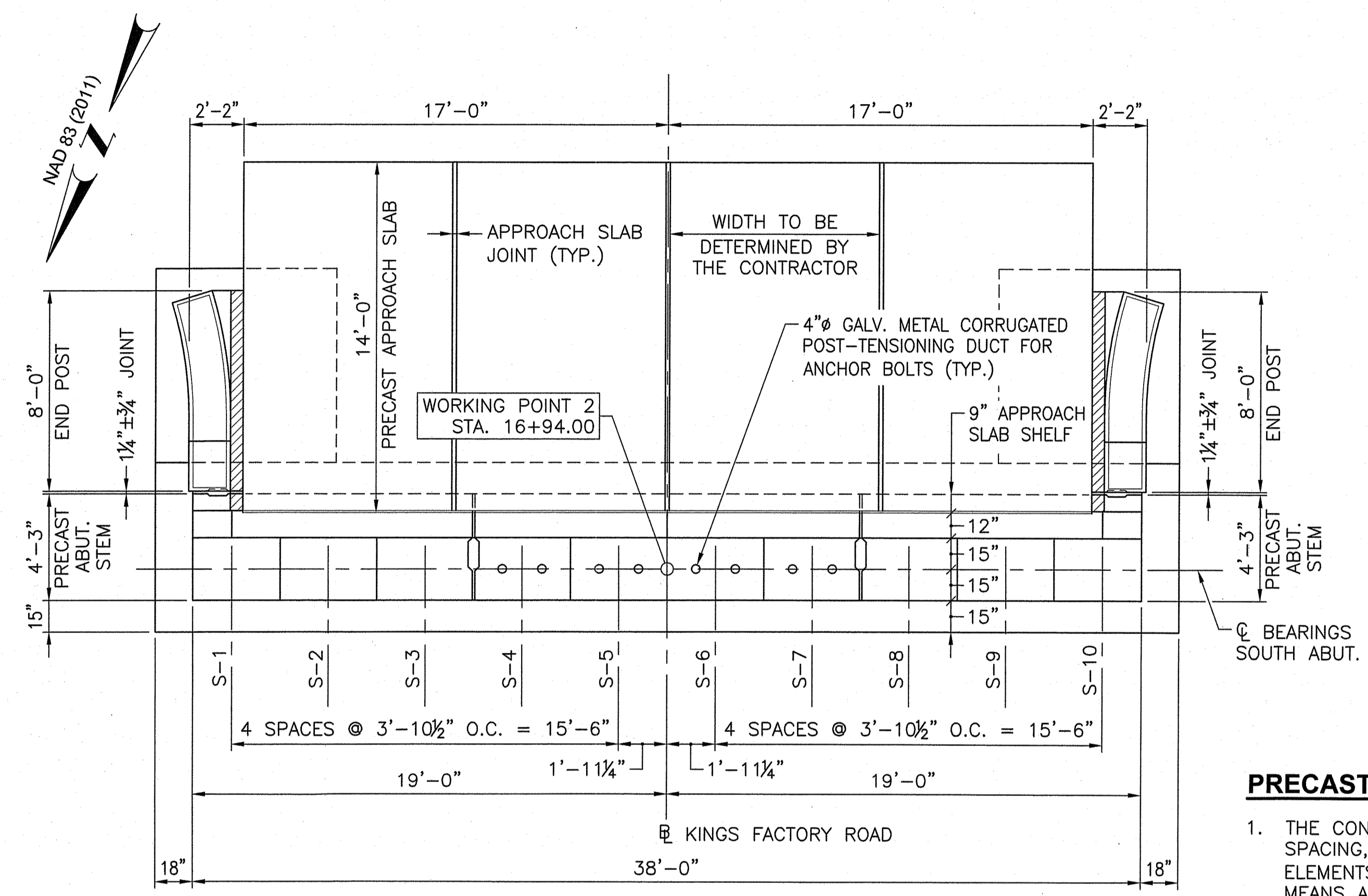
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 RHODE ISLAND

NORTH ABUTMENT

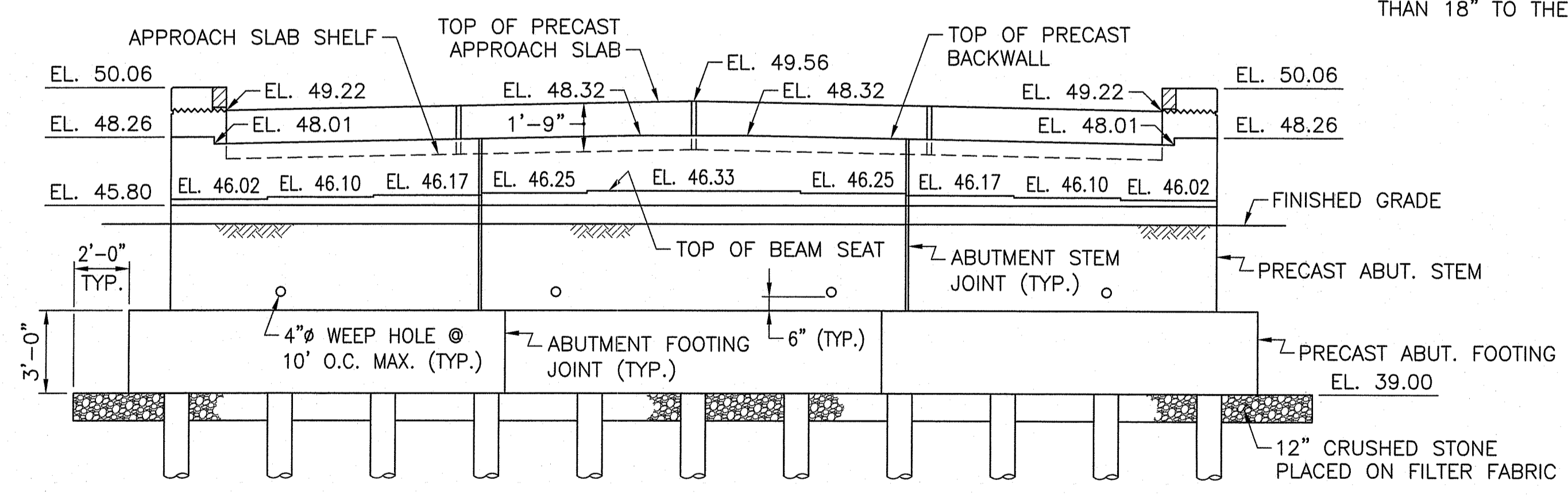
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JUL 30 2021
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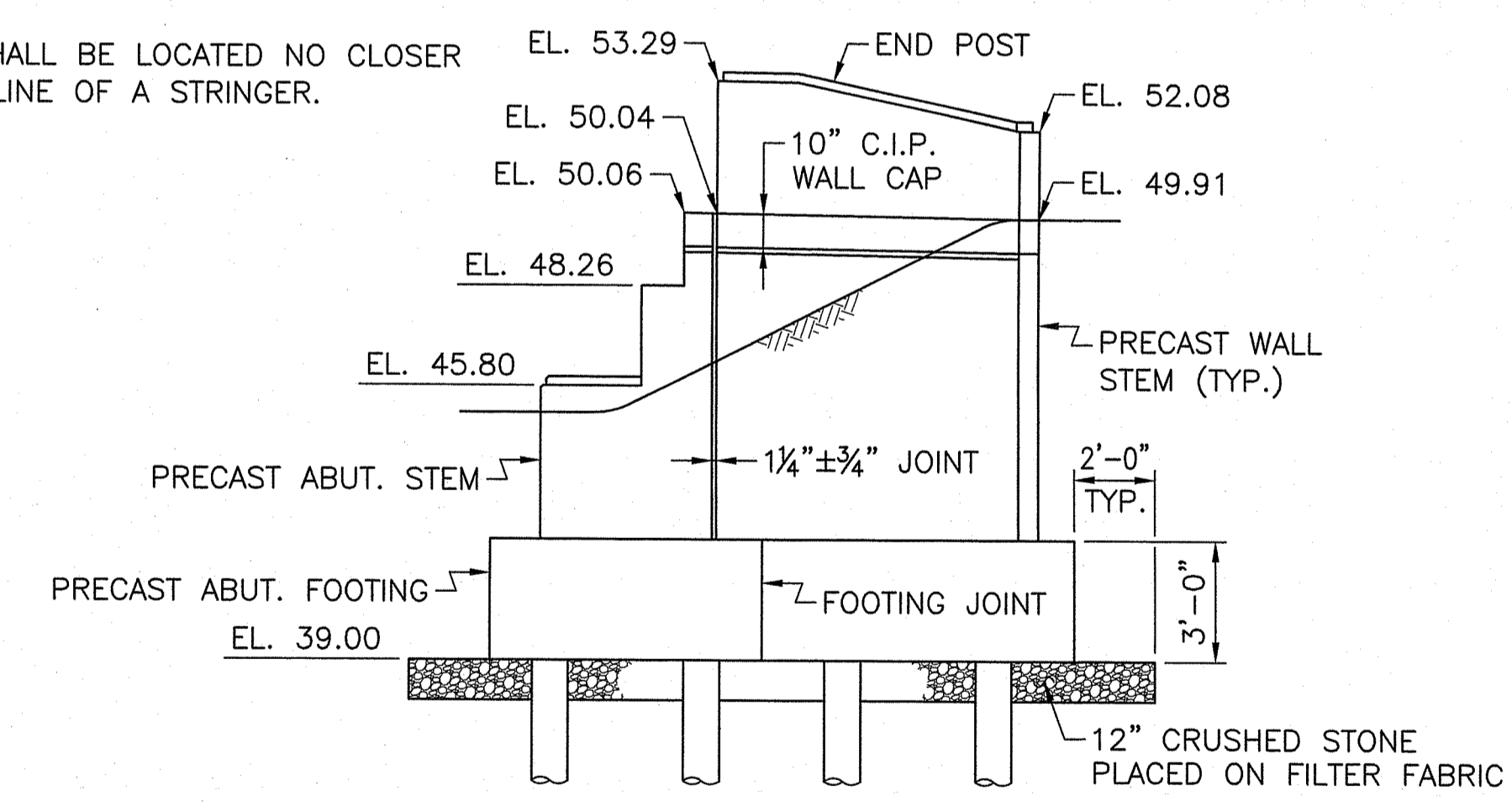
SOUTH ABUTMENT PLAN
 SCALE: 1/4" = 1'-0"

PRECAST JOINT NOTES

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2. ABUTMENT STEM SEGMENTS SHALL BE SUCH THAT EACH SEGMENT SPANS NO LESS THAN TWO CROSS MEMBERS IN THE PRECAST FOOTING SEGMENTS AND SHALL BE NO LESS THAN 8'-0" LONG.
3. ABUTMENT STEM JOINTS SHALL BE LOCATED NO CLOSER THAN 18" TO THE CENTERLINE OF A STRINGER.



SOUTH ABUTMENT ELEVATION
 SCALE: 1/4" = 1'-0"



**SOUTHWEST WALL ELEVATION
 SOUTHEAST WALL ELEVATION - OPPOSITE HAND**
 SCALE: 1/4" = 1'-0"

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 DEPARTMENT OF TRANSPORTATION

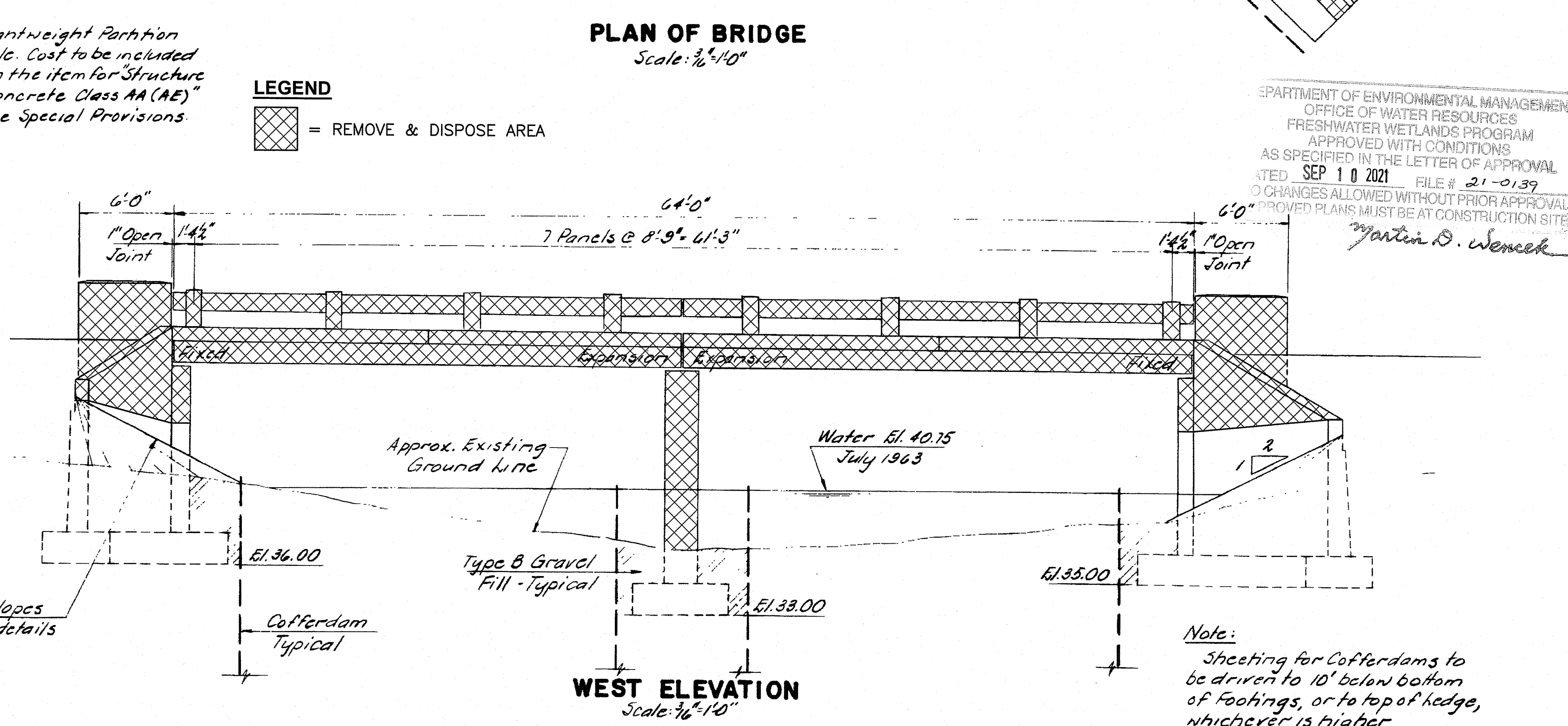
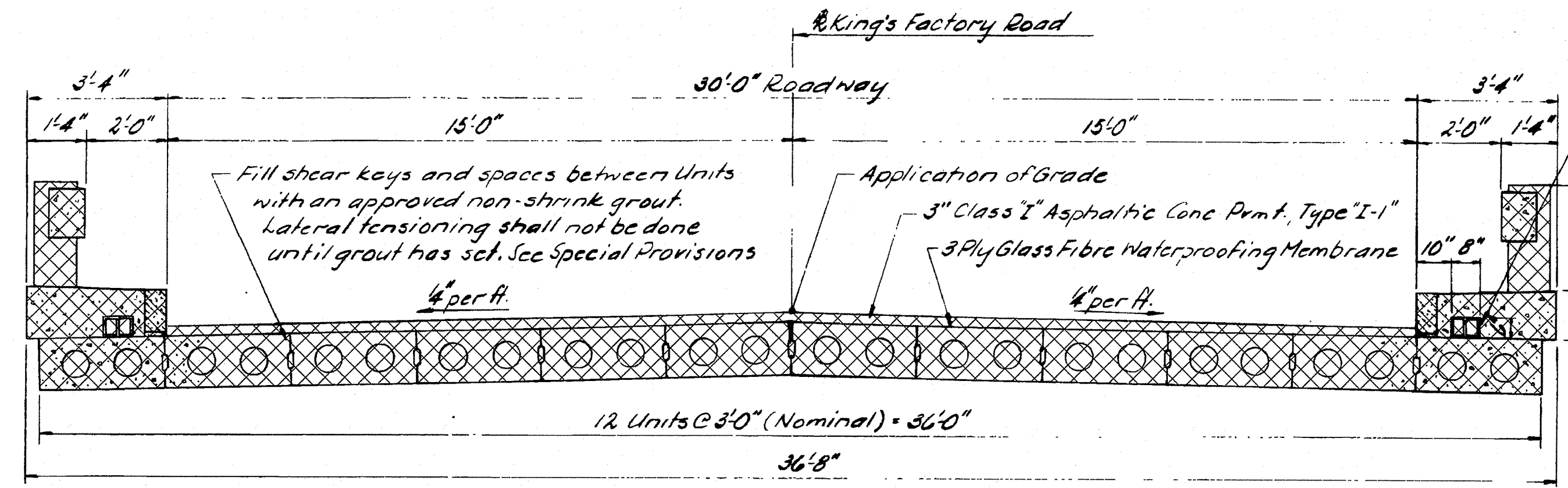
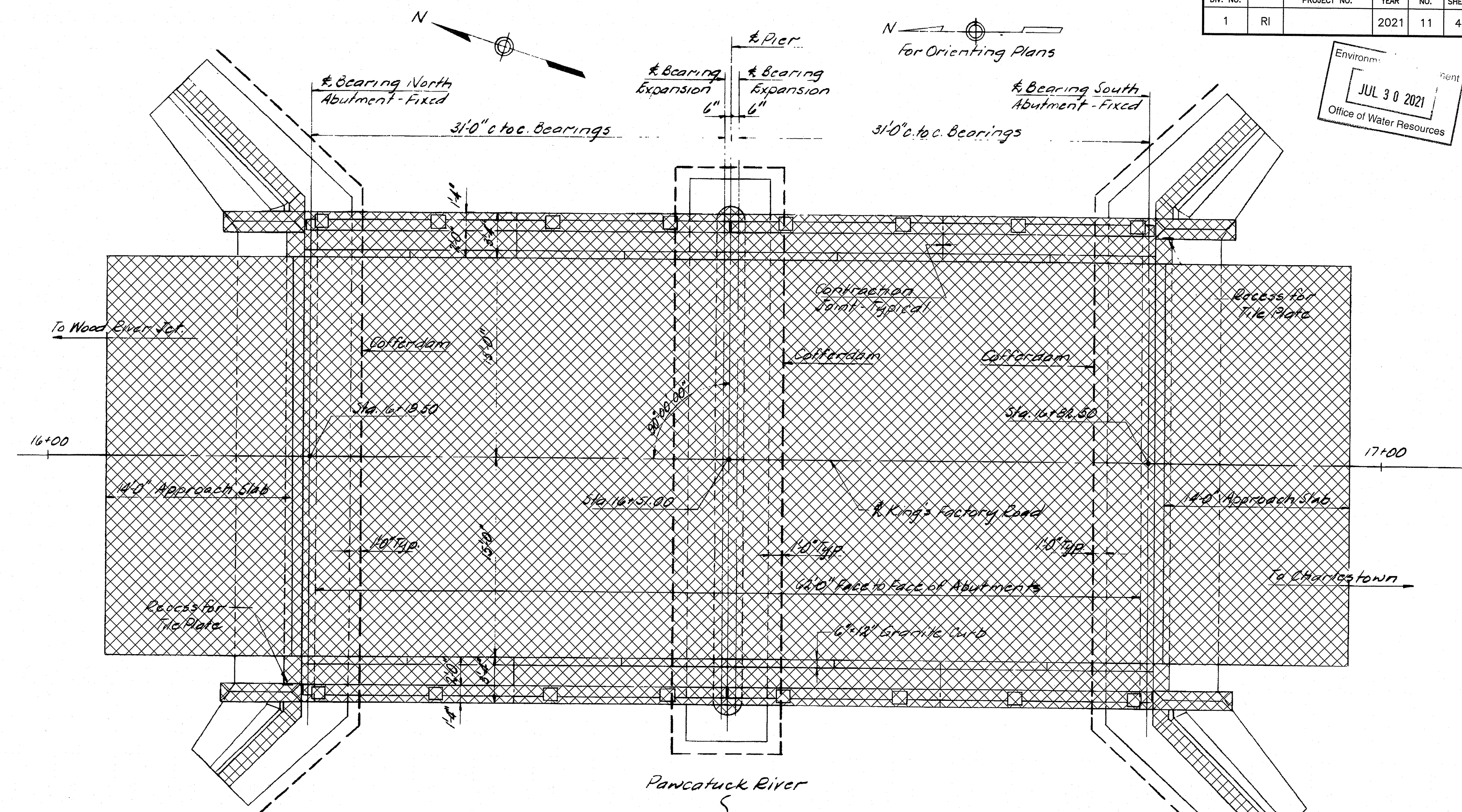
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BRIDGE GROUP 45B_H - KINGS FACTORY
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 CHARLESTOWN & RICHMOND
 RHODE ISLAND
SOUTH ABUTMENT

Environment
JUL 30 2021
Office of Water Resources

DEMOLITION NOTES

- EXISTING DETAILS, DIMENSIONS AND ELEVATIONS SHOWN HEREIN HAVE BEEN OBTAINED FROM THE ORIGINAL CONSTRUCTION PLANS (RHODE ISLAND CONTRACT NO. 6382) AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL CONDUCT HIS OWN INDEPENDENT EXAMINATION OF SITE CONDITIONS AND TAKE MEASUREMENTS OF EXISTING FEATURES FOR THE PURPOSE OF BIDDING AND DEMOLITION ASSOCIATED WITH THIS PROJECT. ANY RECOURSE UPON INFORMATION MADE AVAILABLE BY THE ENGINEER SHALL BE AT THE CONTRACTOR'S RISK.
- THE BASE OF LEVELS FOR THE ORIGINAL CONSTRUCTION PLANS IS MEAN SEA LEVEL WHICH HAS BEEN DETERMINED TO BE APPROXIMATELY 1.13' ABOVE NAVD 88.
- ACTUAL BELOW GRADE CONDITIONS ARE UNKNOWN.



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
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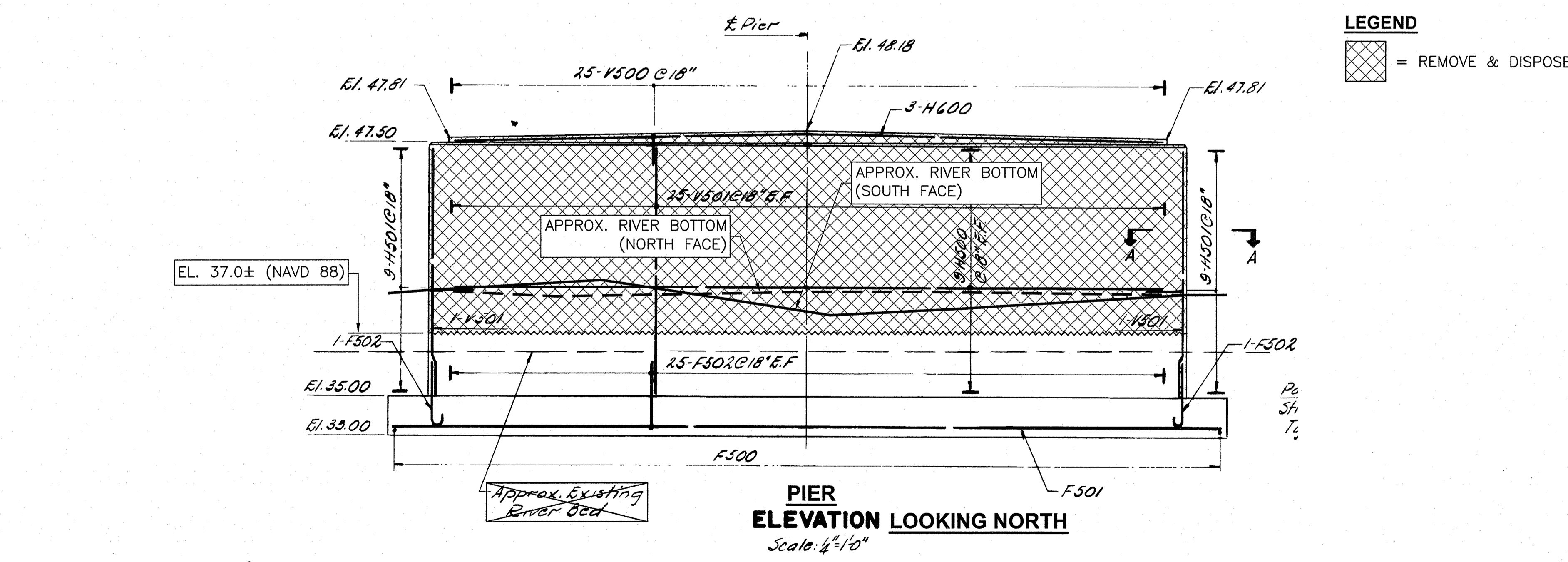
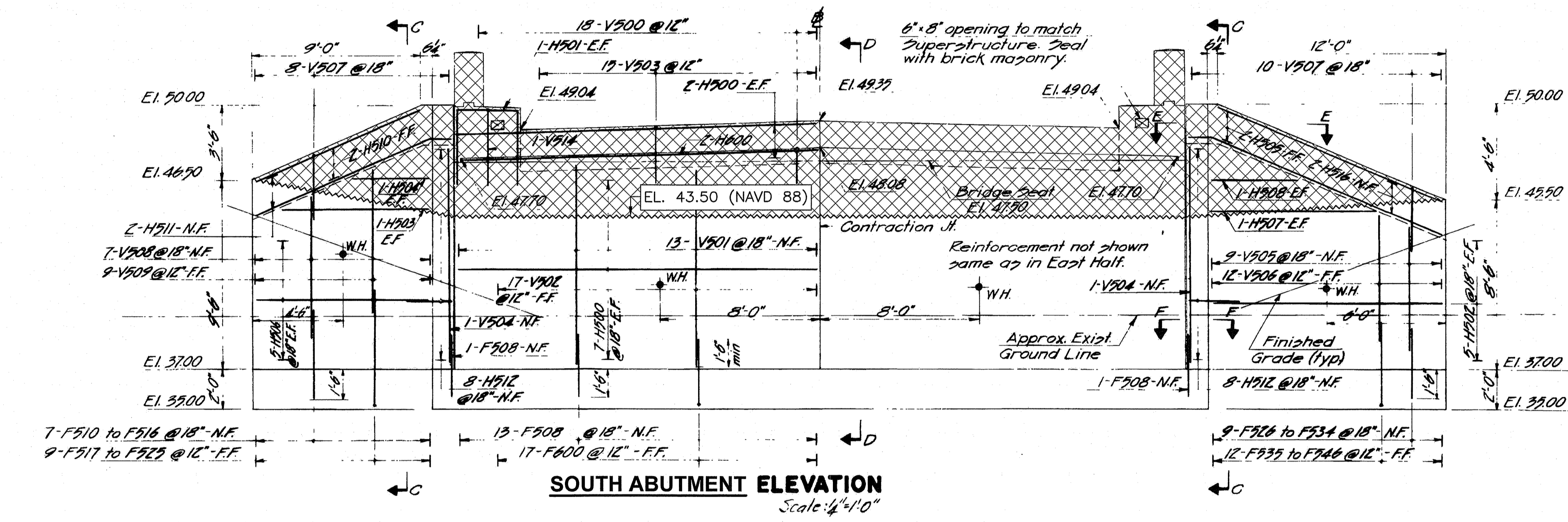
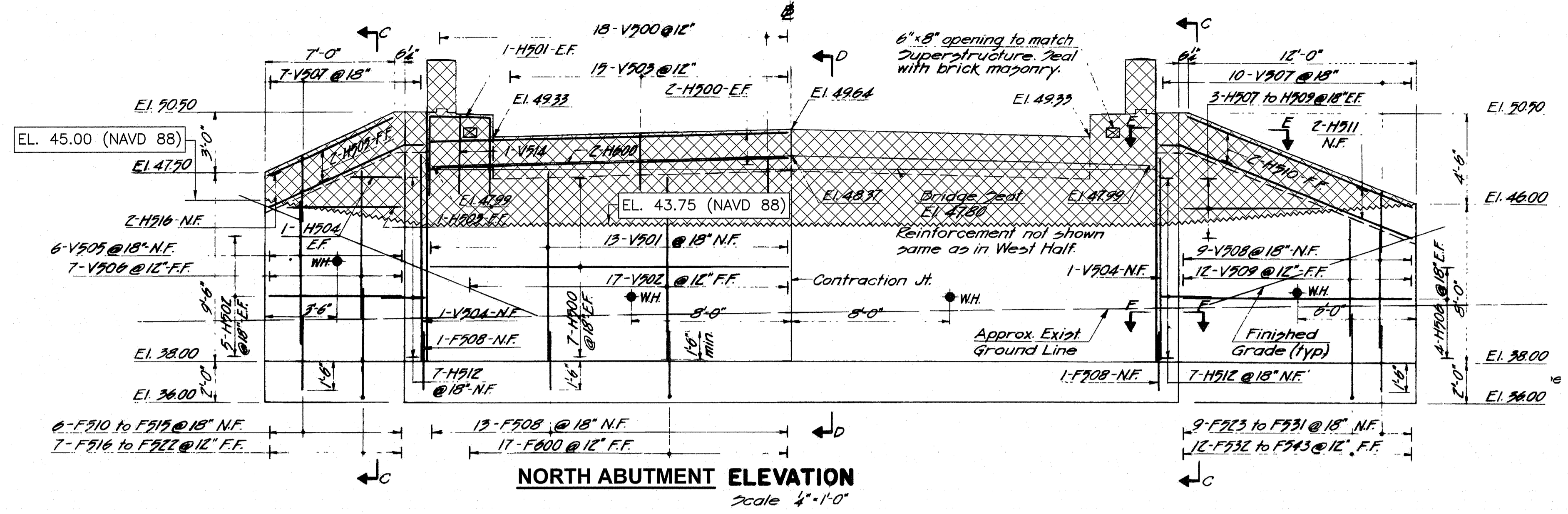
BRIDGE GROUP 45B_H - KINGS FACTORY
REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542
CHARLESTOWN & RICHMOND
RHODE ISLAND

DEMOLITION DETAILS - 1

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Environmental Management
JUL 30 2021
 Office of Water Resources



LEGEND
 = REMOVE & DISPOSE AREA

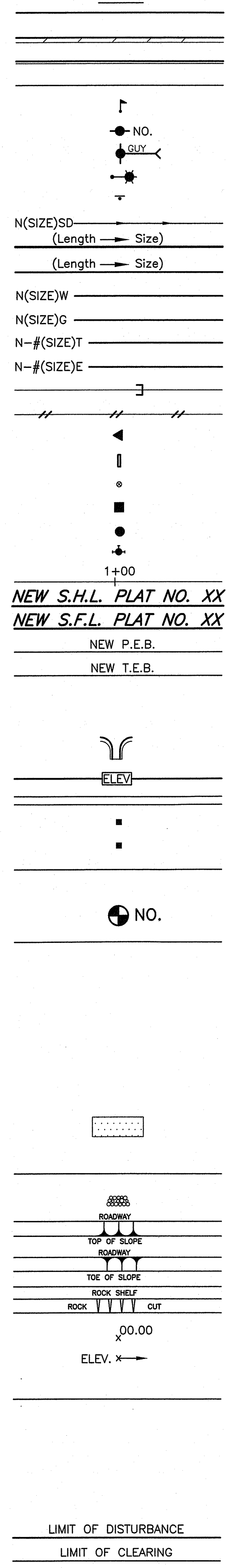
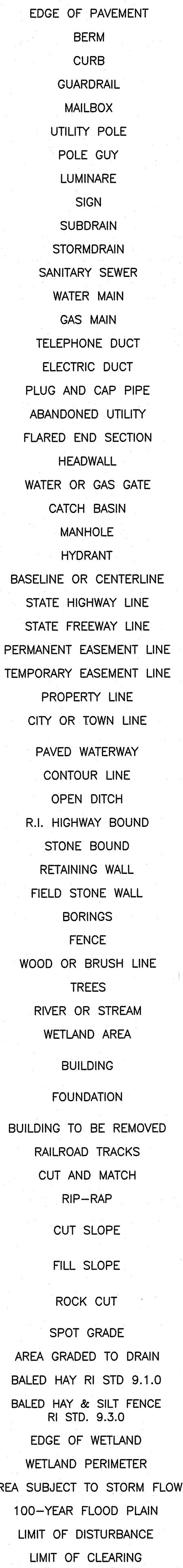
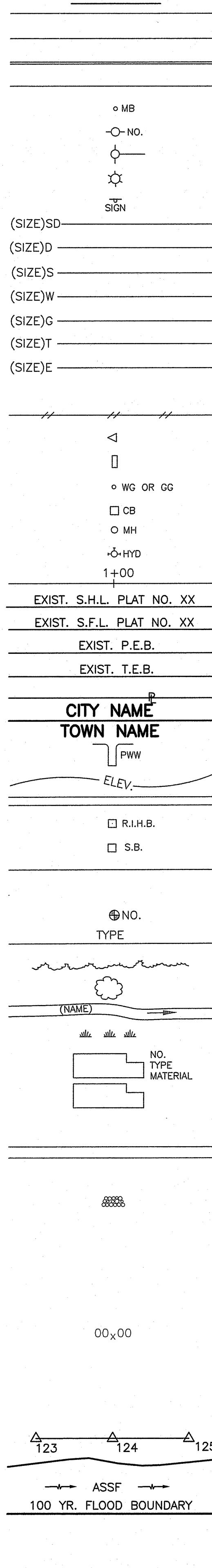
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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 Gordon R. Archibald, Inc. Civil and Environmental Engineers Pawtucket, Rhode Island	 RHODE ISLAND DEPARTMENT OF TRANSPORTATION	DESIGNED BY: JSC CHECKED BY: JPW DATE: 5/13/21 SHEET: OF:	REVISIONS <table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>BY</th> <th>NO.</th> <th>DATE</th> <th>BY</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DATE	BY	NO.	DATE	BY							BRIDGE GROUP 45B_H - KINGS FACTORY REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542 CHARLESTOWN & RICHMOND RHODE ISLAND
		NO.	DATE	BY	NO.	DATE	BY									
DEMOLITION DETAILS - 2																

Environmental Management
JUL 30 2021
BQX Water Resources

EXISTING

NEW



- 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 SLOPED 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
- BPS 3" BITUMINOUS CONCRETE TYPE 1-2 8" GRAVEL BORROW SUBBASE COURSE
- CCB BUILD NEW STRUCTURE OVER EXISTING PIPE
- CCP CLEAN CATCH BASIN
- CCF CUT AND CAP PIPE WITH RESTRAINT (ALL SIZES)
- CG CLEAN AND FLUSH PIPE
- CMH CLEARING AND GRUBBING
- CP CLEAN MANHOLE
- CP (DEPTH) COLD PLANE
- CPP STEEL BEAM BRIDGE CONNECTION APPROACH END (W/O NESTED RAIL)
- DB STEEL BEAM BRIDGE CONNECTION TRAILING END (W/NESTED RAIL)
- DC REMOVE AND DISPOSE BITUMINOUS CURB
- DCB REMOVE AND DISPOSE CONCRETE CURB
- 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
- 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

THIS PLAN SHALL NOT BE ALTERED

Martin B. Senek
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 1 0 2021 FILE # 21-0139
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

TODD A. TRAVELLE
5928
REGISTERED PROFESSIONAL ENGINEER



RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGNED BY: JSC
CHECKED BY: JPW
DATE: 5/13/21
SHEET: OF:

REVISIONS			REVISIONS		
NO.	DATE	BY	NO.	DATE	BY
1	6/07	TRB			

BRIDGE GROUP 45B_H - KINGS FACTORY
REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542
CHARLESTOWN & RICHMOND
RHODE ISLAND

STANDARD PLAN SYMBOLS & STANDARD LEGEND

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	Ri		2021	14	42

GENERAL NOTES:

- 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.
- 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.
- 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.
- ALL R.I. STD. 9.9.0 CONSTRUCTION ACCESS ROADS SHALL BE CONSTRUCTED PRIOR TO ANY ROADWAY ACCEPTING CONSTRUCTION TRAFFIC.
- THE FREQUENCY AND APPLICATION RATES FOR THE DUST CONTROL ITEMS WILL BE AS DIRECTED BY THE ENGINEER.
- ALL SIDEWALK AND DRIVEWAYS DESIGNATED FOR REPLACEMENT SHALL BE CUT AND MATCHED AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- ASPHALT EMULSION TACK COAT SHALL BE PLACED PRIOR TO PAVEMENT PLACEMENT ON THE CONCRETE BASE OR COLD PLANNED 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."
- 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 SHALL 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.
- UNDER NO CIRCUMSTANCE WILL THE CONTRACTOR BE ALLOWED TO STOCKPILE REMOVED PAVEMENT MATERIALS WITHIN THE PROJECT LIMITS.
- 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.
- PRIOR TO INSTALLATION, ALL SIGNS, MOUNTINGS AND LOCATIONS SHALL BE APPROVED OR MODIFIED BY THE ENGINEER.
- THE COORDINATE SYSTEM, IF SHOWN, IS THE RHODE ISLAND STATE PLANE COORDINATE SYSTEM.
- 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.
- 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.
- 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.
- 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 PLANNING OPERATIONS.
- 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.
- 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.
- 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).
- 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).
- 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.
- 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:

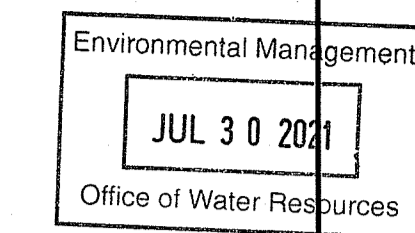
- FOR ALL PROJECTS WITH AT LEAST ONE(1) ACRE OF SOIL DISTURBANCE. R.I.D.O.T. IS REQUIRED TO DEVELOP AND ENFORCE A SITE SPECIFIC STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ORDER TO REMAIN IN COMPLIANCE WITH THE RIPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES. 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).
- 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.
- 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.
- 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.
- 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.
- SEEDING ON ALL SLOPES 3 TO 1 OR STEEPER SHALL CONSIST OF THE FOLLOWING APPLICATIONS UNLESS CHANGED IN THE CONTRACT.
 - SEEDING TYPE I.
 - ADHESIVE MULCH STABILIZER
- UNVEGETATED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR PERIODS IN EXCESS OF 2 WEEKS OR THROUGH THE INACTIVE WINTER SEASON.
- 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.
- ALL DRAINAGE AND UTILITY STRUCTURES WITHIN THE PAVED ROADWAY SHALL BE ADJUSTED TO GRADE WITH THE SURROUNDING PAVEMENT PRIOR TO THE WINTER SHUTDOWN.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL THROUGHOUT THE WORK AREA.
- 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.
- PROVISIONS FOR CLEARING TO ACCESS OUTFALLS DURING THE CLEANING AND FLUSHING OF THE CLOSED DRAINAGE SYSTEM SHALL BE KEPT TO A MINIMUM.
 - ANY VEGETATIVE CLEARING SHALL BE LIMITED TO BRUSH AND TREES LESS THAN 3" DIAMETER.
 - NO HEAVY EQUIPMENT MAY ENCROACH UPON VEGETATED PERIMETER OR RIVERBANK WETLANDS AS WELL AS BIOLOGICAL WETLANDS.
- 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.
- 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.
- 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):

- 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.
- 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.
- 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.
- 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.
- 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.
- THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE SPECIFIED IN SUBSECTION L.02.03 OF THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
- 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:

- 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.
- 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.
- ALL EXISTING UTILITIES TO BE ABANDONED SHALL BE CAPPED.
- EXISTING WATER SERVICES SHALL BE RECONNECTED TO THE NEW WATER MAINS.
- UTILITY SERVICE CONNECTIONS SHALL BE MAINTAINED TO ALL EXISTING FACILITIES TO REMAIN.
- FIRE HYDRANTS SHALL NOT BE REMOVED FROM SERVICE WITHOUT WRITTEN AUTHORIZATION FROM THE FIRE DEPARTMENT OR THE WATER AUTHORITY.
- ALL NEW WATER LINES SHALL BE DISINFECTED TO THE SATISFACTION OF THE WATER AUTHORITY IN ACCORDANCE WITH THE SPECIFICATIONS.
- 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 SEP 10 2021 FILE # 21-039
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Justin S. Senack

THIS PLAN SHALL NOT BE ALTERED

<p>Gordon R. Archibald, Inc. Civil and Environmental Engineers Pawtucket, Rhode Island</p>	<p>RHODE ISLAND DEPARTMENT OF TRANSPORTATION</p>	DESIGNED BY: JSC CHECKED BY: JPW DATE: 5/13/21 SHEET: OF:	<table border="1"> <tr> <th colspan="3">REVISIONS</th> <th colspan="3">REVISIONS</th> </tr> <tr> <th>NO.</th> <th>DATE</th> <th>BY</th> <th>NO.</th> <th>DATE</th> <th>BY</th> </tr> <tr> <td>1</td> <td>4/07</td> <td>TRB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>3/10</td> <td>RBH</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>4/14</td> <td>MLP</td> <td></td> <td></td> <td></td> </tr> </table>	REVISIONS			REVISIONS			NO.	DATE	BY	NO.	DATE	BY	1	4/07	TRB				2	3/10	RBH				3	4/14	MLP				<p>BRIDGE GROUP 45B_H - KINGS FACTORY REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542 CHARLESTOWN & RICHMOND RHODE ISLAND</p> <p>STANDARD NOTES - 1</p>
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FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2021	15	42

Environmental Management
JUL 30 2021
Office of Water Resources

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.


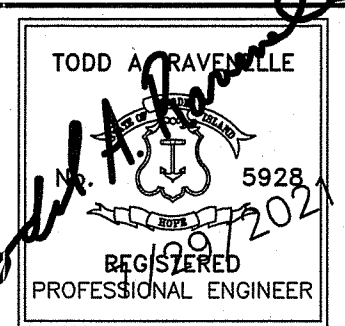

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:

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-PLANE AND NEW ROADWAY SURFACES THAT WILL BE OPENED TO TRAFFIC AT THE END OF THE SHIFT.

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AS SPECIFIED IN THE LETTER OF APPROVAL
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Martin W. Wenczek

THIS PLAN SHALL NOT BE ALTERED

 Gordon R. Archibald, Inc. Civil and Environmental Engineers Pawtucket, Rhode Island	 TODD A. RAVENTILLE 5928 REGISTERED PROFESSIONAL ENGINEER	 RHODE ISLAND DEPARTMENT OF TRANSPORTATION	DESIGNED BY: JSC CHECKED BY: JPW DATE: 5/13/21 SHEET: OF:	<table border="1"> <thead> <tr> <th colspan="3">REVISIONS</th> <th colspan="3">REVISIONS</th> </tr> <tr> <th>NO.</th> <th>DATE</th> <th>BY</th> <th>NO.</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>4/07</td> <td>TRB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>11/07</td> <td>TRB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>3/10</td> <td>RBH</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	REVISIONS			REVISIONS			NO.	DATE	BY	NO.	DATE	BY	1	4/07	TRB				2	11/07	TRB				3	3/10	RBH				BRIDGE GROUP 45B_H - KINGS FACTORY REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542 CHARLESTOWN & RICHMOND RHODE ISLAND
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2	11/07	TRB																																	
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			STANDARD NOTES - 2																																

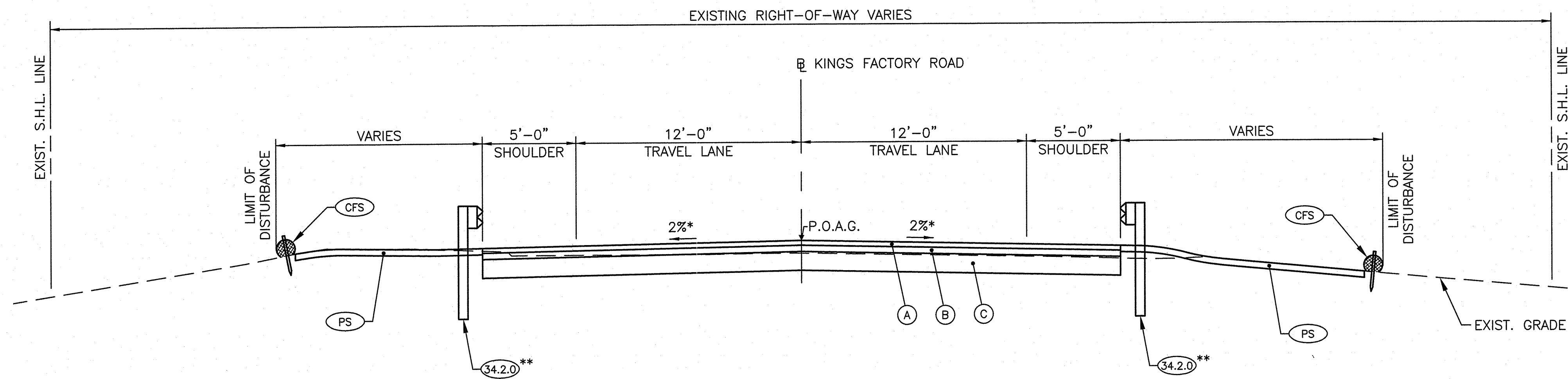
LEGEND

- (A) 3" MODIFIED CLASS 9.5 HMA FOR BRIDGE DECKS(TWO LIFTS)
- (B) 4" CLASS 19.0 (1 LIFT)
- (C) 12" GRAVEL BORROW SUBBASE
- (PS) 4" PLANTABLE SOIL AND SEED
- P.O.A.G. POINT OF APPLICATION OF CENTERLINE PROFILE GRADE (SEE DETAIL)

Environmental Management
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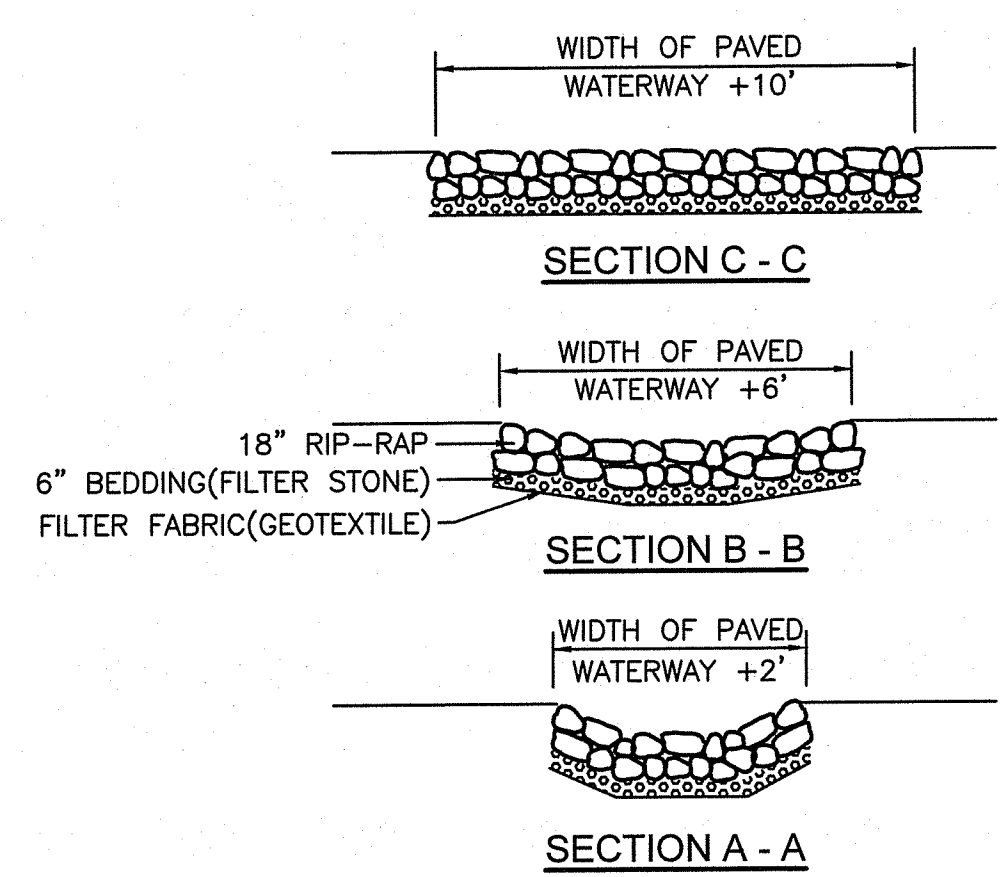
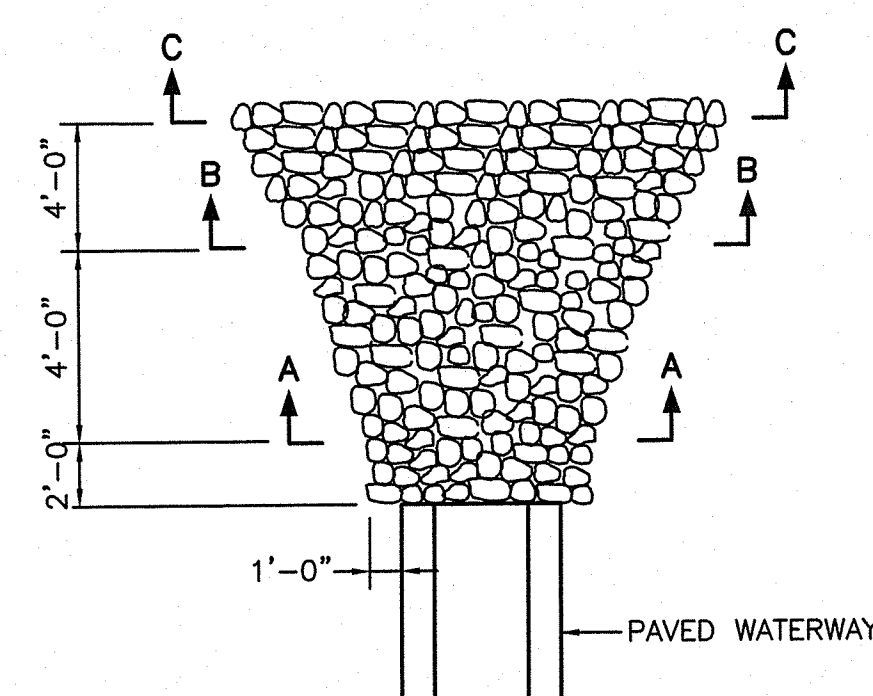
JOB SPECIFIC LEGEND

- (CBP) CATCH BASIN INLET PROTECTION
- (CDT) CUT AND DISPOSE TREE AND STUMP
- (CFS) COMPOST FILTER SOCK
- (MBG) MILLINGS BENEATH GUARDRAIL
- (NUP) NEW UTILITY POLE (BY OTHERS)
- (NGY) NEW UTILITY POLE GUY ANCHOR (BY OTHERS)
- (PW) PAVED WATERWAY
- (RRP) RIP-RAP PAD (SEE DETAIL)
- (SB) STONE BAFFLE (SEE DETAIL)
- (SFM) SAND FILTER MEDIA
- ** ALL GUARDRAIL SHALL BE MASH COMPLIANT



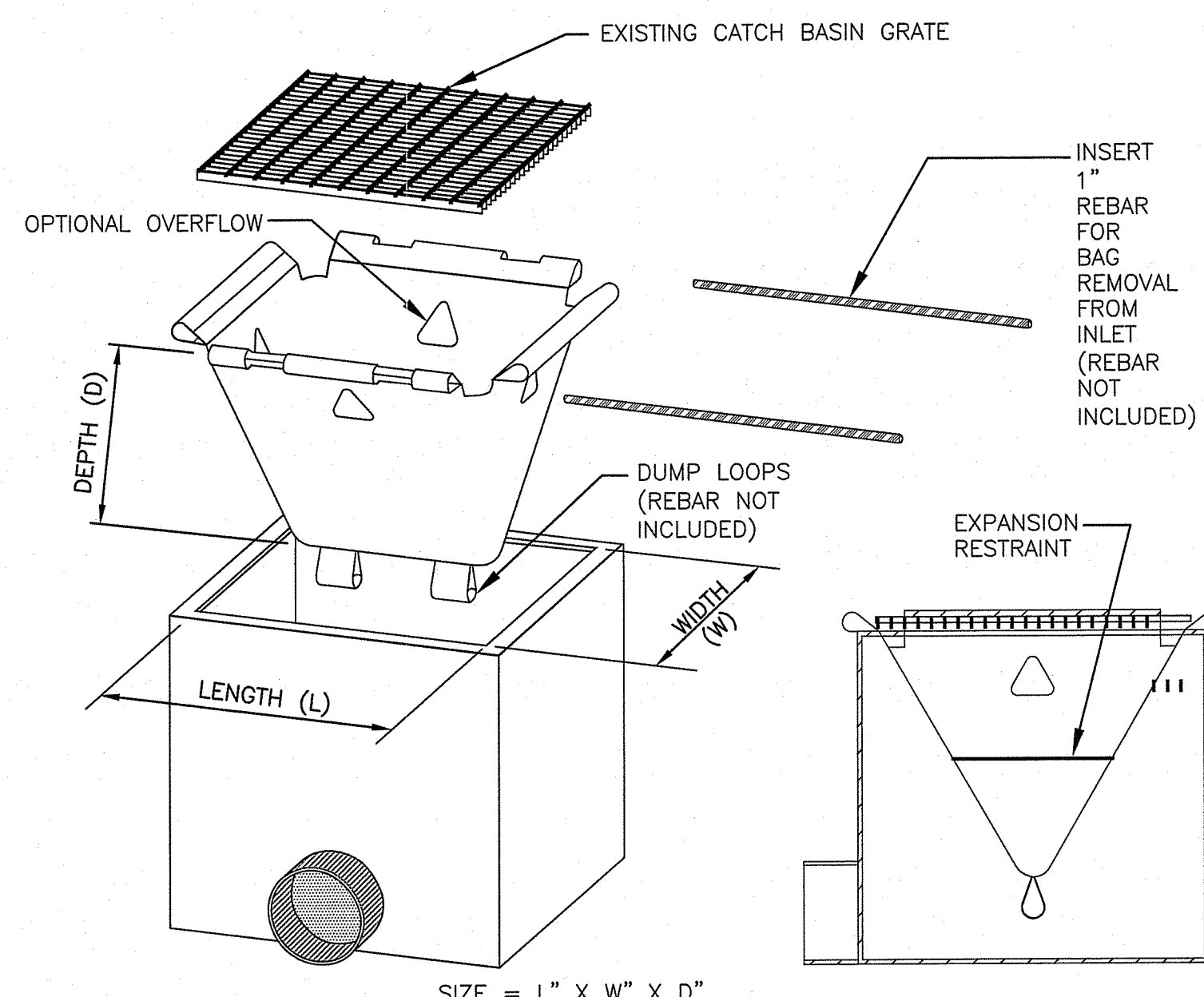
NEW KINGS FACTORY ROAD
 STA. 31+50± TO STA. 32+87±
 KINGS FACTORY ROAD
 STA. 15+36± TO STA. 15+92±
 STA. 17+10± TO STA. 19+50±
 SCALE : 1"=4'

* SEE GENERAL PLAN FOR
 TRANSITION/SUPERELEVATION
 SLOPES AND LIMITS

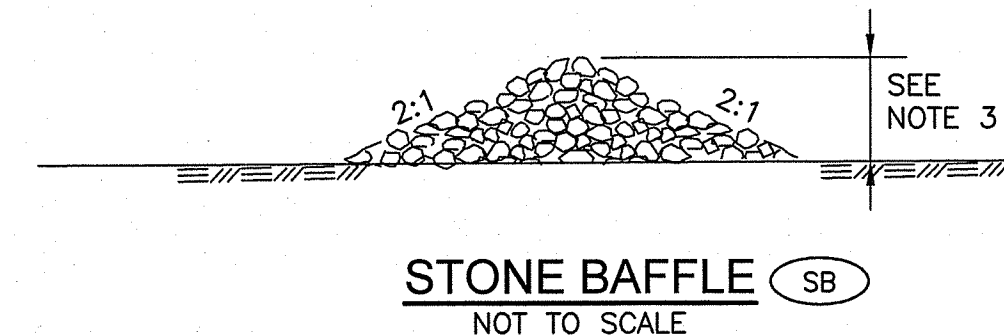


RIP-RAP PAD DETAIL (RRP)
 NOT TO SCALE

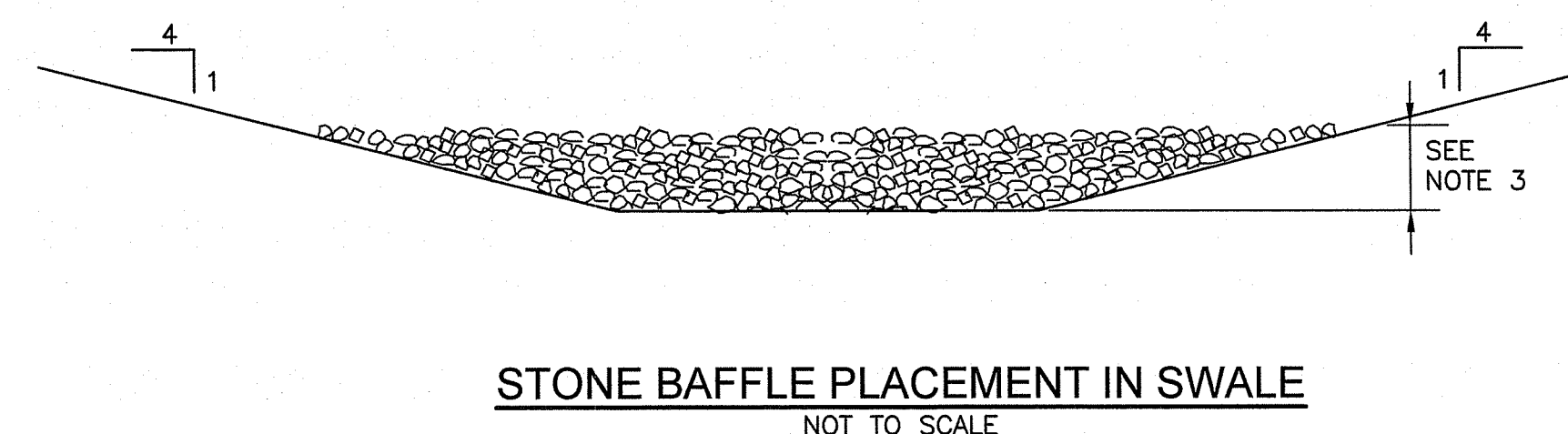
- NOTES:**
- RIP-RAP AND BEDDING SHALL BE IN ACCORDANCE WITH SECTION M.10 OF THE RI STD. SPECIFICATIONS FOR BRIDGE AND HIGHWAY. RIP-RAP SHALL BE MODIFIED NSA NO. R-4, BEDDING SHALL BE MODIFIED NSA NO. FS-2.
 - DIMENSIONS MAY BE MODIFIED BY ENGINEER TO MEET FIELD CONDITIONS.
 - UNLESS OTHERWISE SPECIFIED, DUMPED RIP-RAP SHALL BE USED.



CATCH BASIN INLET PROTECTION (CBP)
 NOT TO SCALE

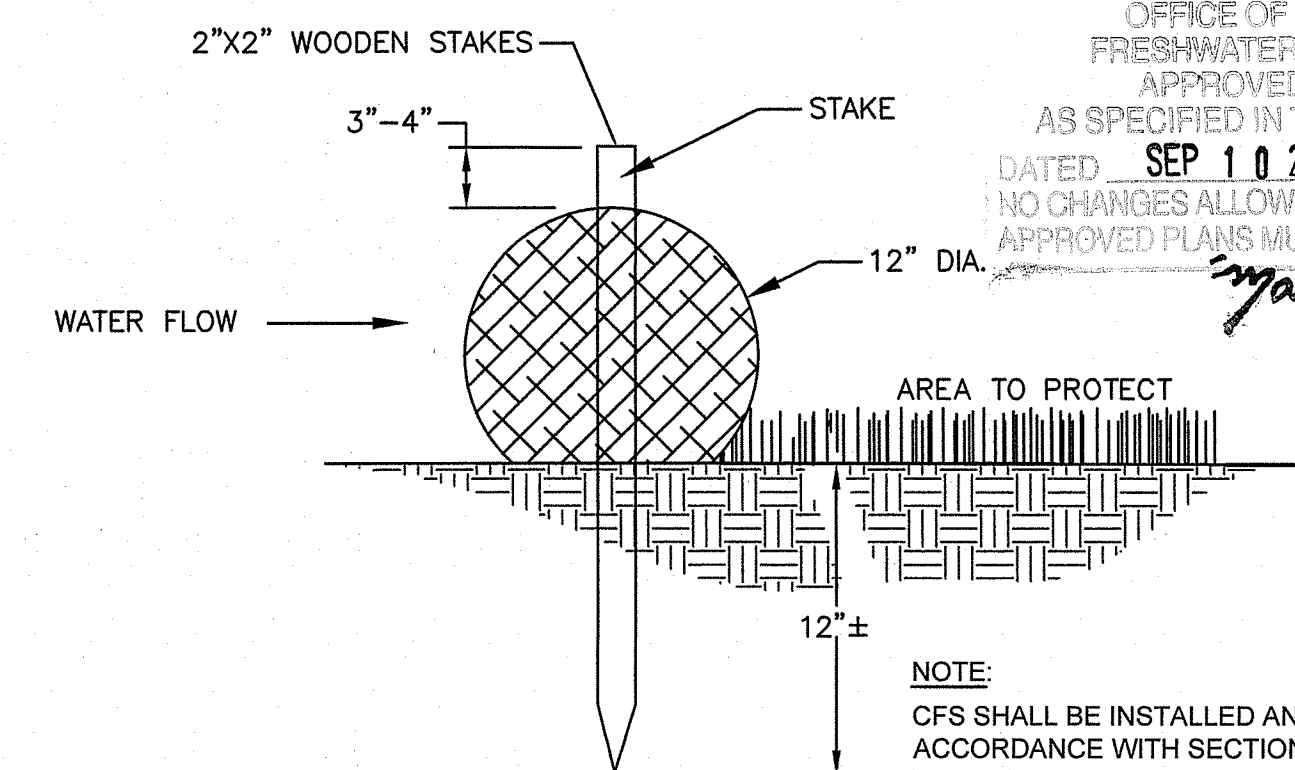


STONE BAFFLE (SB)
 NOT TO SCALE



STONE BAFFLE PLACEMENT IN SWALE
 NOT TO SCALE

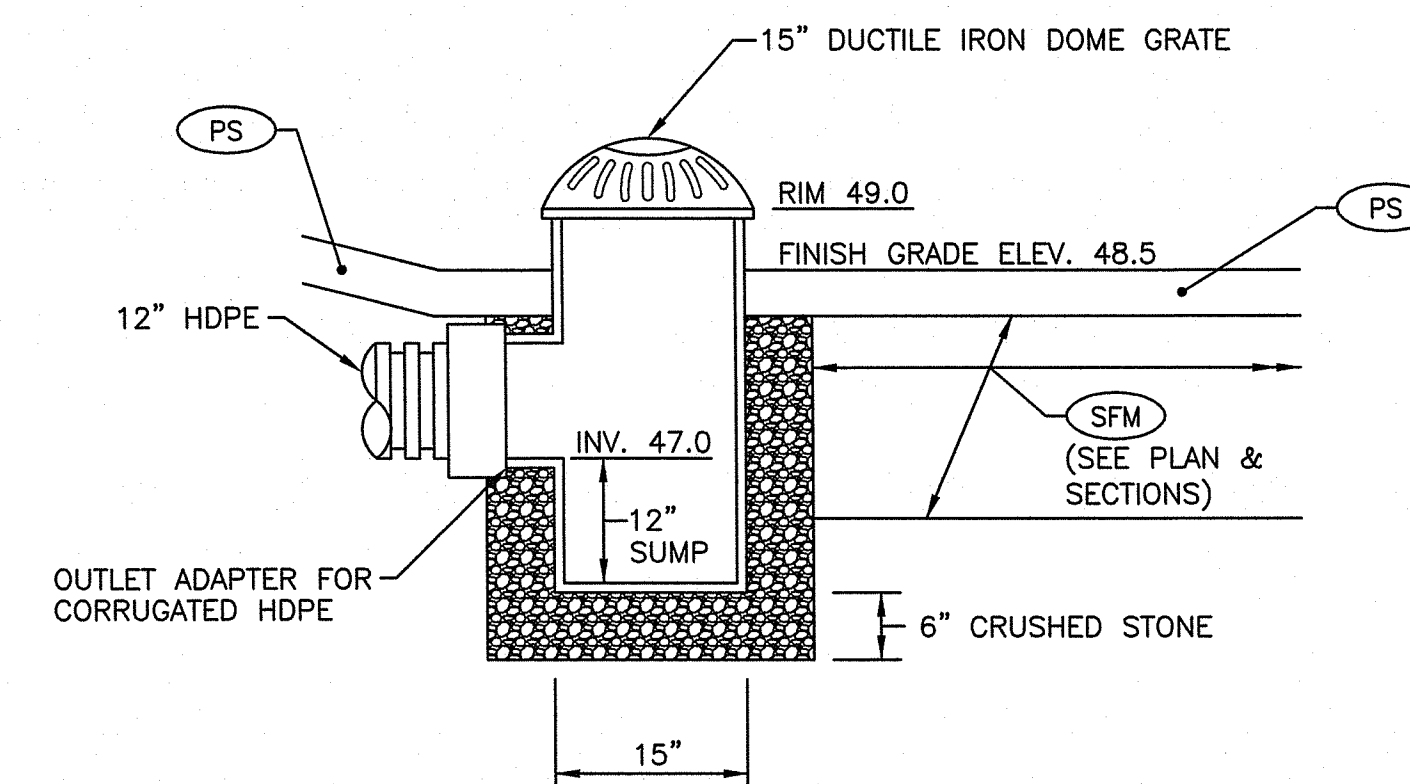
- NOTES:**
- STONE SHALL MEET THE REQUIREMENTS FOR CRUSHED STONE IN SECTION M.01 BORROW AND AGGREGATES OF THE RIDOT STANDARD SPECIFICATION OR CONSIST ENTIRELY OF 2"-3" STONE.
 - HAND OR MECHANICAL PLACEMENT WILL BE NECESSARY TO CONSTRUCT BAFFLE.
 - HEIGHT OF STONE BAFFLE SHALL BE 9".



12" COMPOST FILTER SOCK (CFS)
 NOT TO SCALE

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Walter D. Wenczek

NOTE:
 CFS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH SECTIONS 206 AND 212 OF THE RIDOT STANDARD SPECIFICATIONS.



15" DIA. PVC RISER WITH DOME GRATE
 NOT TO SCALE

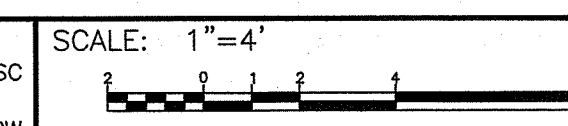
Gordon R. Archibald, Inc.
 Civil and Environmental Engineers
 Pawtucket, Rhode Island

TODD A. TRAVELLE
 5928
 REGISTERED PROFESSIONAL ENGINEER



RHODE ISLAND
 DEPARTMENT OF TRANSPORTATION

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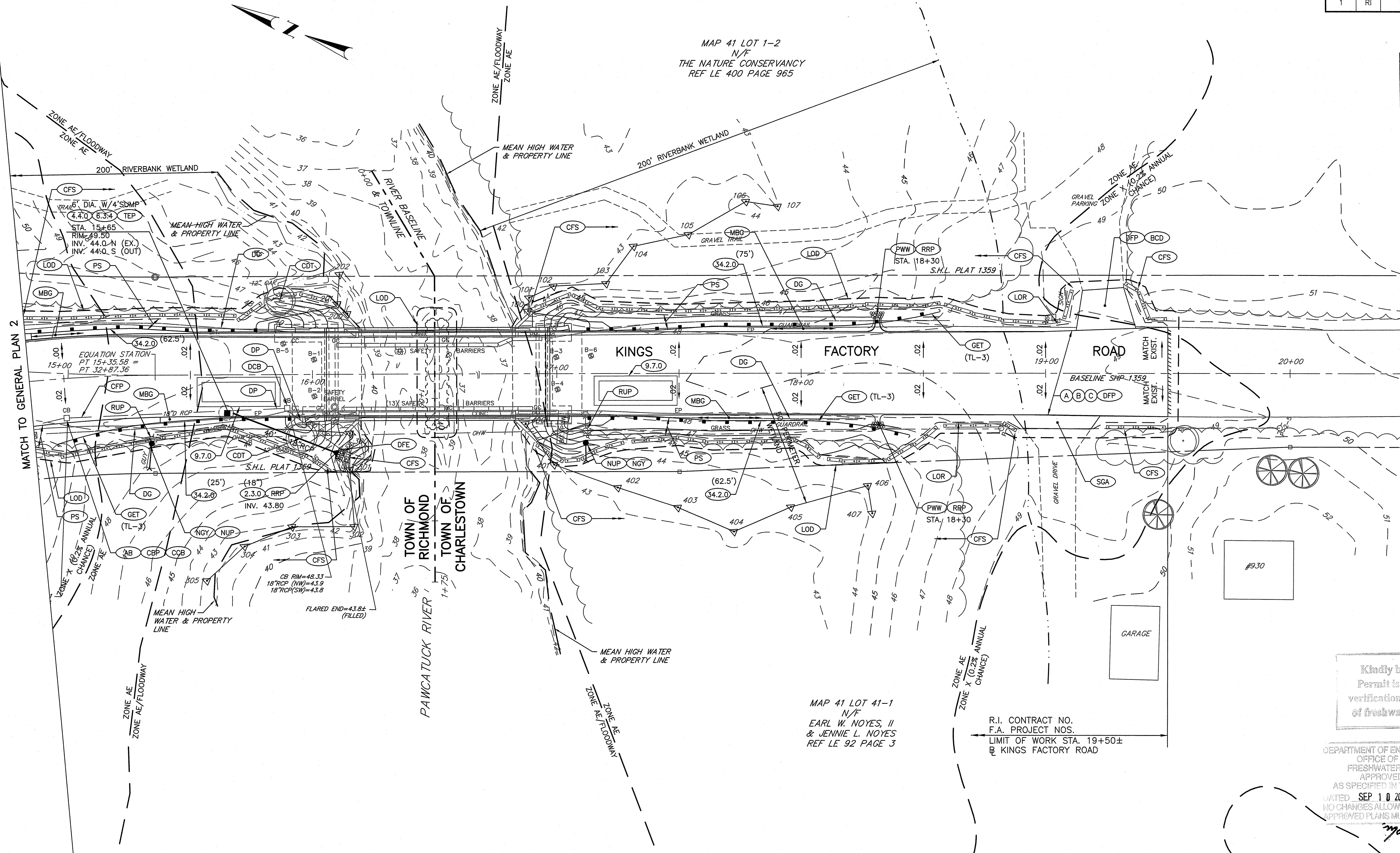
BRIDGE GROUP 45B_H - KINGS FACTORY
 REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542
 CHARLESTOWN & RICHMOND
 RHODE ISLAND

TYPICAL SECTIONS

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2021	18	42

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MAP 41 LOT 1-2
 N/F
 THE NATURE CONSERVANCY
 REF LE 400 PAGE 965



MATCH TO GENERAL PLAN 2

PAWCATUCK RIVER
 TOWN OF RICHMOND
 TOWN OF CHARLESTOWN

MAP 41 LOT 41-1
 N/F
 EARL W. NOYES, II
 & JENNIE L. NOYES
 REF LE 92 PAGE 3

R.I. CONTRACT NO.
 F.A. PROJECT NOS.
 LIMIT OF WORK STA. 19+50±
 @ KINGS FACTORY ROAD

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

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NOTE:
 SPECIAL FLOOD HAZARD AREA BOUNDARIES
 SHOWN ON THIS PLAN TAKEN FROM FEMA
 NATIONAL FLOOD HAZARD LAYER GEOSPATIAL
 DATA FOR WASHINGTON COUNTY, RHODE ISLAND
 AND DEPICT EFFECTIVE FLOOD HAZARD AREAS
 FOR THIS LOCATION (FIRM PANEL
 44009C0162J, EFFECTIVE 4/3/2020).

Gordon R. Archibald, Inc.
 Civil and Environmental Engineers
 Pawtucket, Rhode Island

TODD A. TRAVELLE
 5928
 REGISTERED
 PROFESSIONAL ENGINEER

RI DOT RHODE ISLAND
 DEPARTMENT OF TRANSPORTATION

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SCALE: 1"=20'

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BRIDGE GROUP 45B_H - KINGS FACTORY
 REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542
 CHARLESTOWN & RICHMOND RHODE ISLAND
GENERAL PLAN - 2

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STA. 32+87.36 @ RELOC. KINGS FACTORY ROAD =
 STA. 15+35.58 @ KINGS FACTORY ROAD

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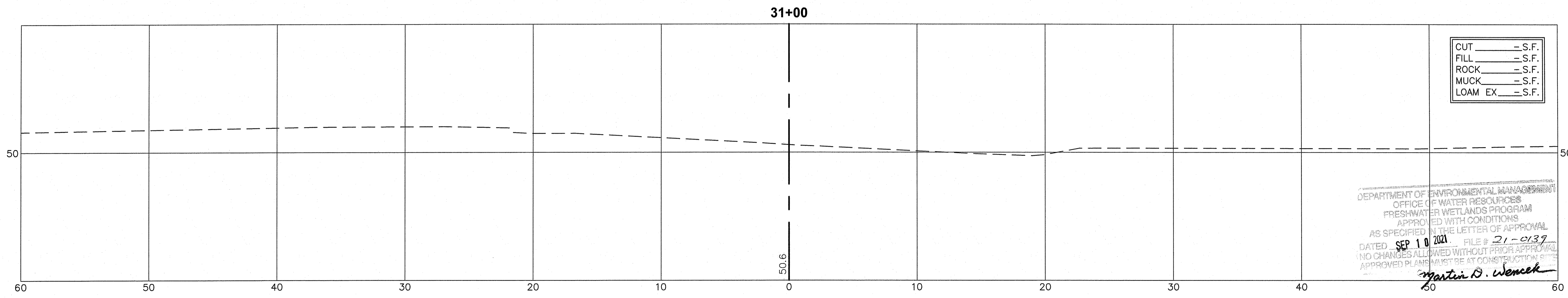
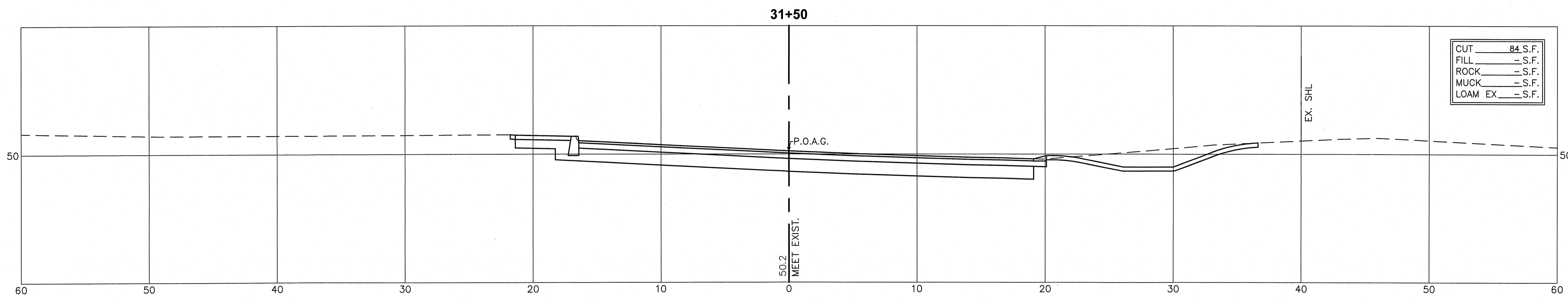
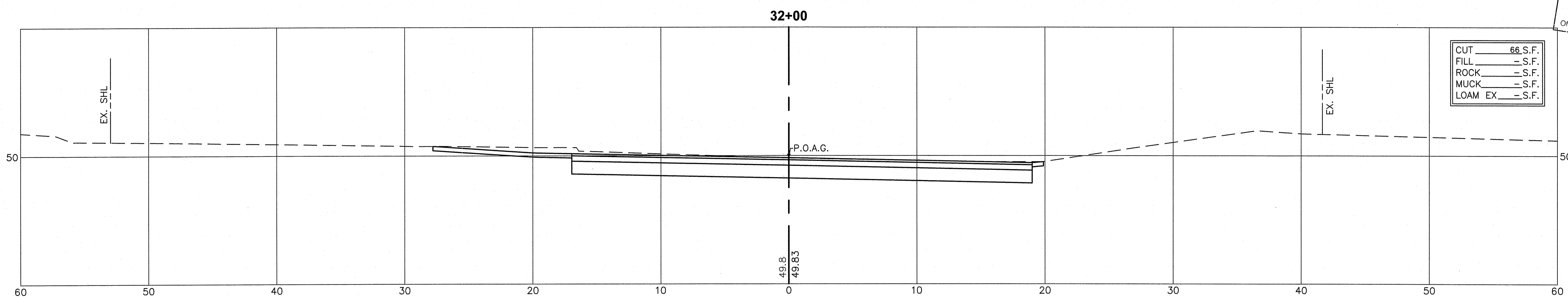
BRIDGE GROUP 45B_H - KINGS FACTORY
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PROFILE

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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RELOCATED KINGS FACTORY ROAD

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Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

TODD A. TRAVENELLE
5928
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RI DOT
RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

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OF:

SCALE: 1"=4'

REVISIONS			REVISIONS		
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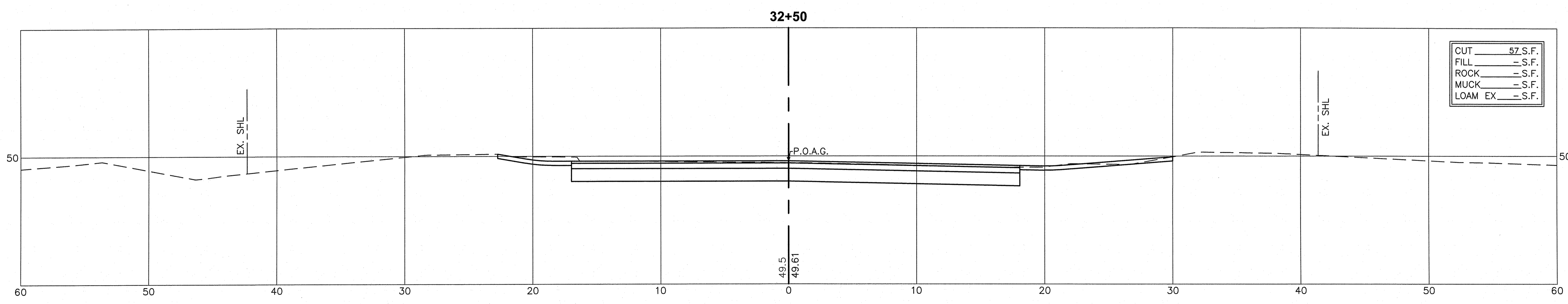
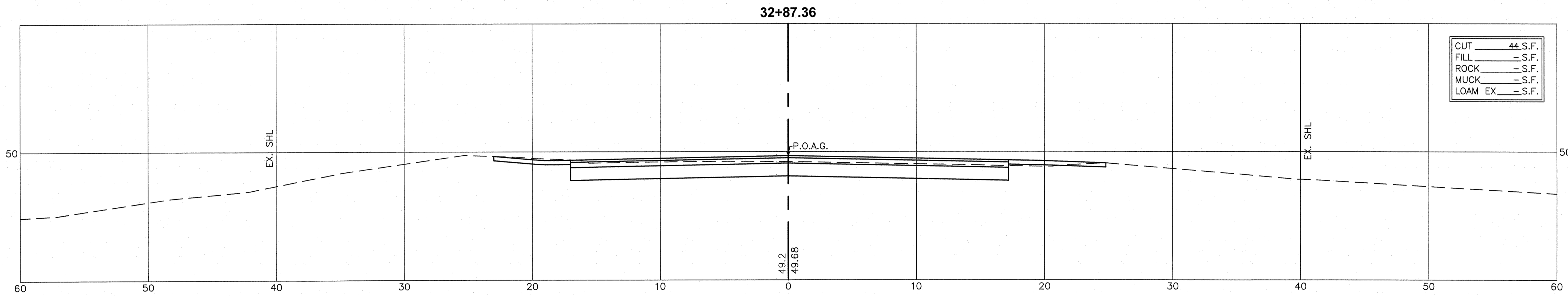
BRIDGE GROUP 45B_H - KINGS FACTORY
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CHARLESTOWN & RICHMOND
RHODE ISLAND

CROSS SECTIONS - 1

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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RELOCATED KINGS FACTORY ROAD



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Martin D. Wenczek

GRI
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Civil and Environmental Engineers
Pawtucket, Rhode Island

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5928
REGISTERED PROFESSIONAL ENGINEER

RI DOT
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RHODE ISLAND

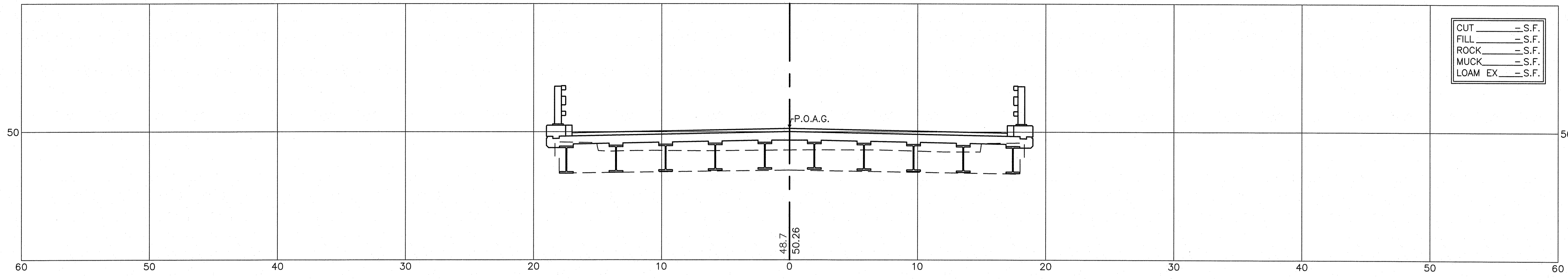
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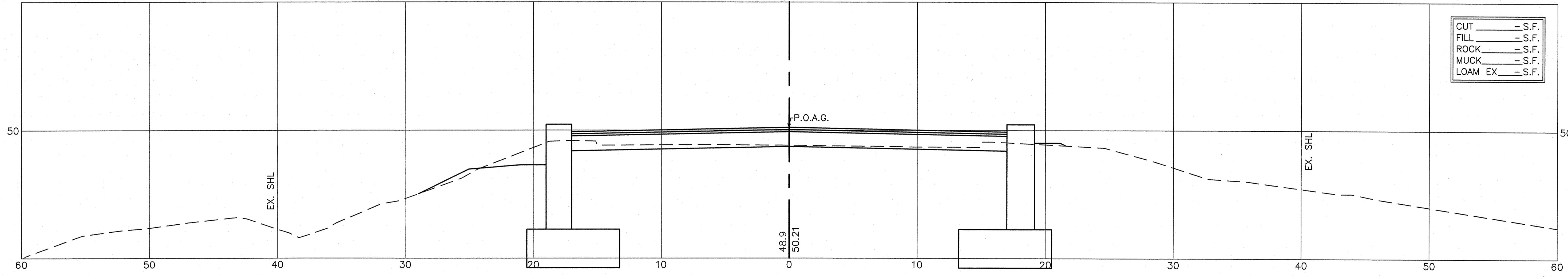
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KINGS FACTORY ROAD

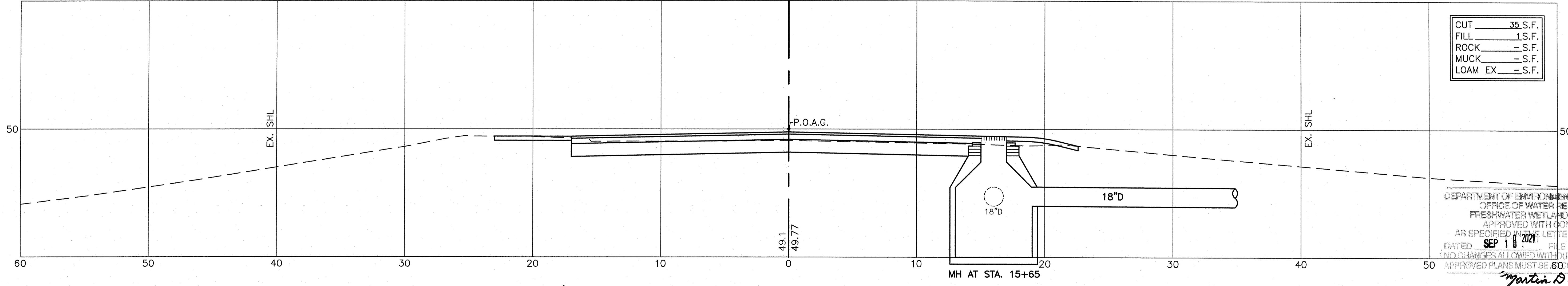
16+50



16+00



15+50



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Gordon R. Archibald, Inc.
 Civil and Environmental Engineers
 Pawtucket, Rhode Island

TODD A. CRAVENELLE
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RI DOT RHODE ISLAND
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SCALE: 1"=4'

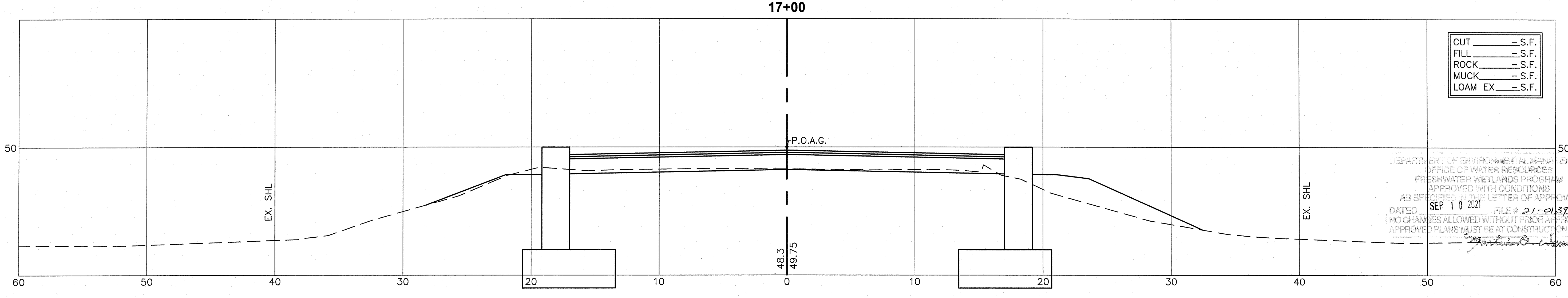
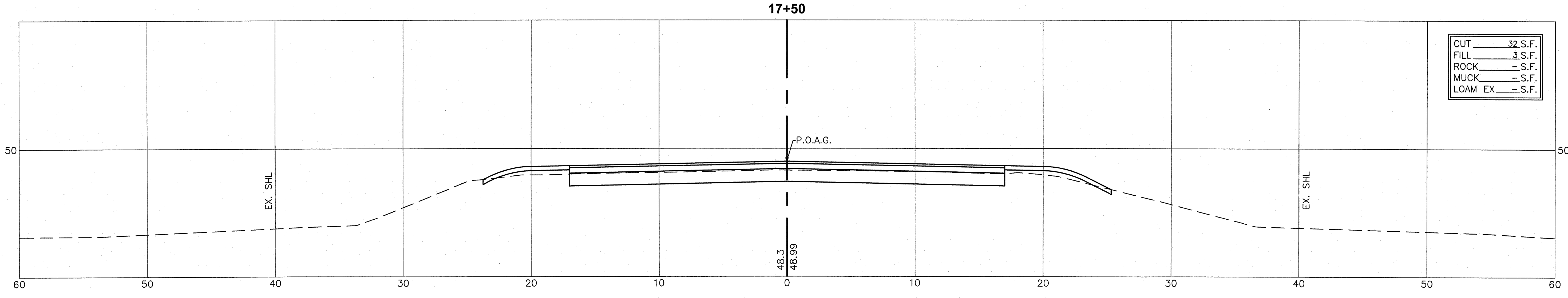
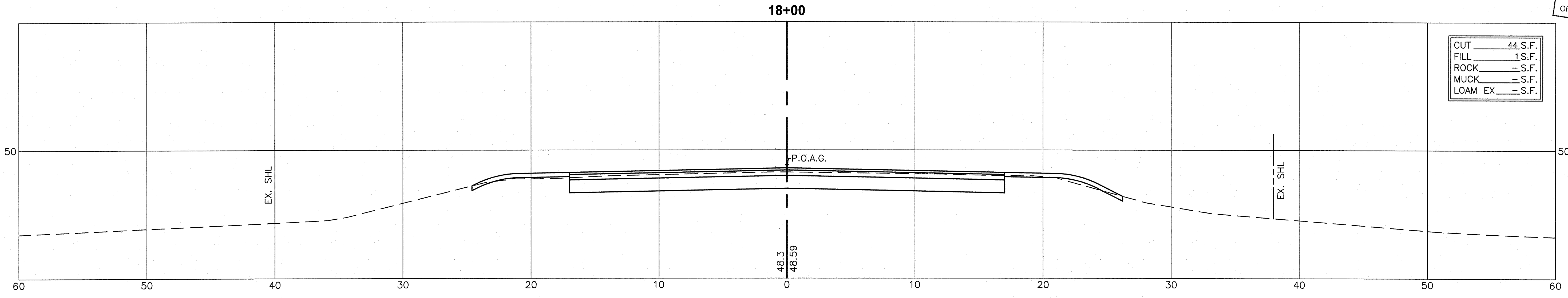
REVISIONS			REVISIONS		
NO.	DATE	BY	NO.	DATE	BY

BRIDGE GROUP 45B_H - KINGS FACTORY
 REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542
 CHARLESTOWN & RICHMOND
 RHODE ISLAND
CROSS SECTIONS - 3

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2021	24	42

KINGS FACTORY ROAD

Environmental Management
JUL 30 2021
Office of Water Resources



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 10 2021 FILE # 21-0137
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

TODD A. TRAVELLE
5928
REGISTERED PROFESSIONAL ENGINEER

RI DOT
RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGNED BY: JSC
CHECKED BY: JPW
DATE: 5/13/21
SHEET:
OF:

SCALE: 1"=4'

REVISIONS			REVISIONS		
NO.	DATE	BY	NO.	DATE	BY

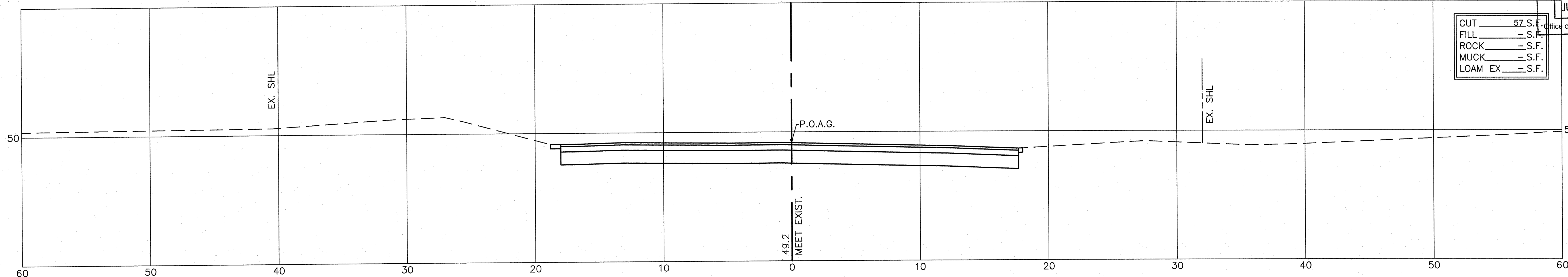
BRIDGE GROUP 45B_H - KINGS FACTORY
REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542
CHARLESTOWN & RICHMOND
RHODE ISLAND

CROSS SECTIONS - 4

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2021	25	42

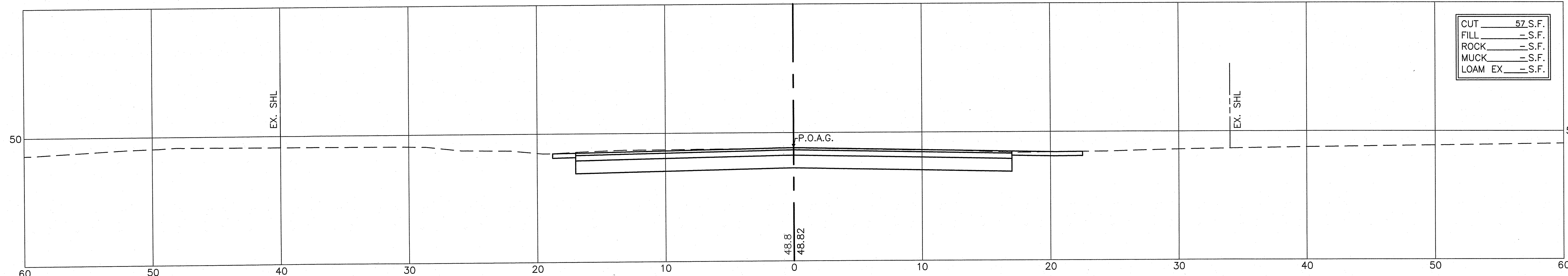
KINGS FACTORY ROAD

19+50

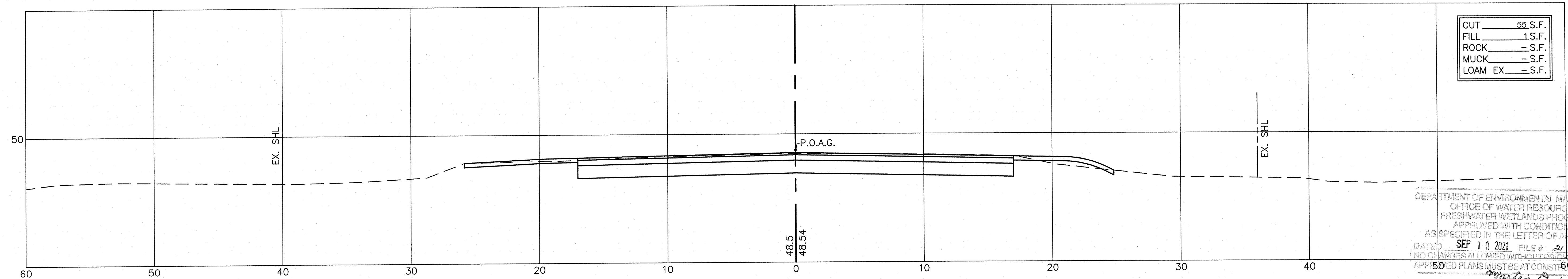


Environmental Management
JUL 30 2021
Office of Water Resources

19+00



18+50



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 10 2021 FILE # 21-0139
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Martin D. Weneck

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

TODD A. RAVENHILL
5928
REGISTERED PROFESSIONAL ENGINEER



RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGNED BY: JSC
CHECKED BY: JPW
DATE: 5/13/21
SHEET:
OF:

SCALE: 1"=4'

REVISIONS					
NO.	DATE	BY	NO.	DATE	BY

BRIDGE GROUP 45B_H - KINGS FACTORY
REPLACEMENT OF KINGS FACTORY ROAD BRIDGE NO. 542
CHARLESTOWN & RICHMOND
RHODE ISLAND

CROSS SECTIONS - 5