



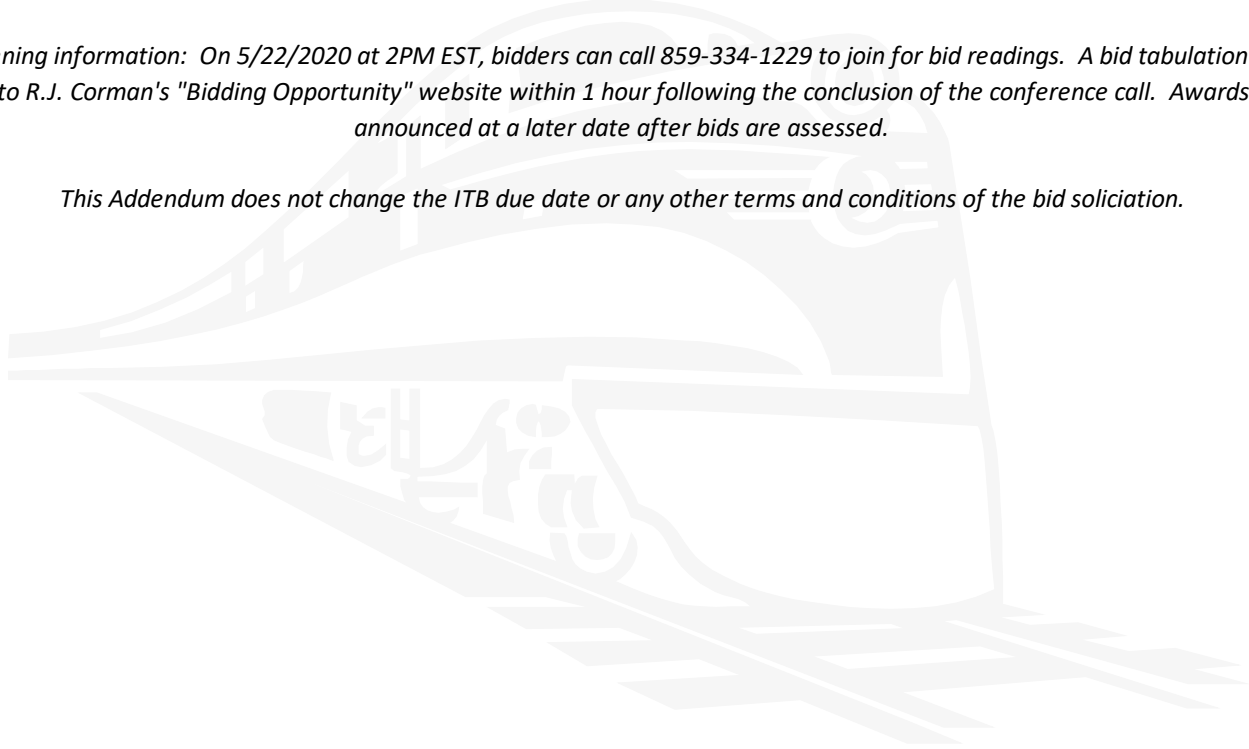
A Limited Liability Holding Company
101 Rj Corman Drive • PO Box 788 • Nicholasville, KY 40340-0788
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TO: ALL INTERESTED PARTIES
FROM: Jimmy Kelley, R.J. Corman Railroad Group
DATE: 5/14/2020
SUBJECT: Addendum #1 - 2016 TIGER Bridge Replacement - 12

This Addendum forms a part of the Invitation to Bid (ITB) for this project and modifies/amends/clarifies/adds to the original ITB documents as described below. Acknowledgement of receipt and inclusion of the effects of this addendum shall be included with each supplier's form of bid.

Bid opening information: On 5/22/2020 at 2PM EST, bidders can call 859-334-1229 to join for bid readings. A bid tabulation will be posted to R.J. Corman's "Bidding Opportunity" website within 1 hour following the conclusion of the conference call. Awards will be announced at a later date after bids are assessed.

This Addendum does not change the ITB due date or any other terms and conditions of the bid solicitation.



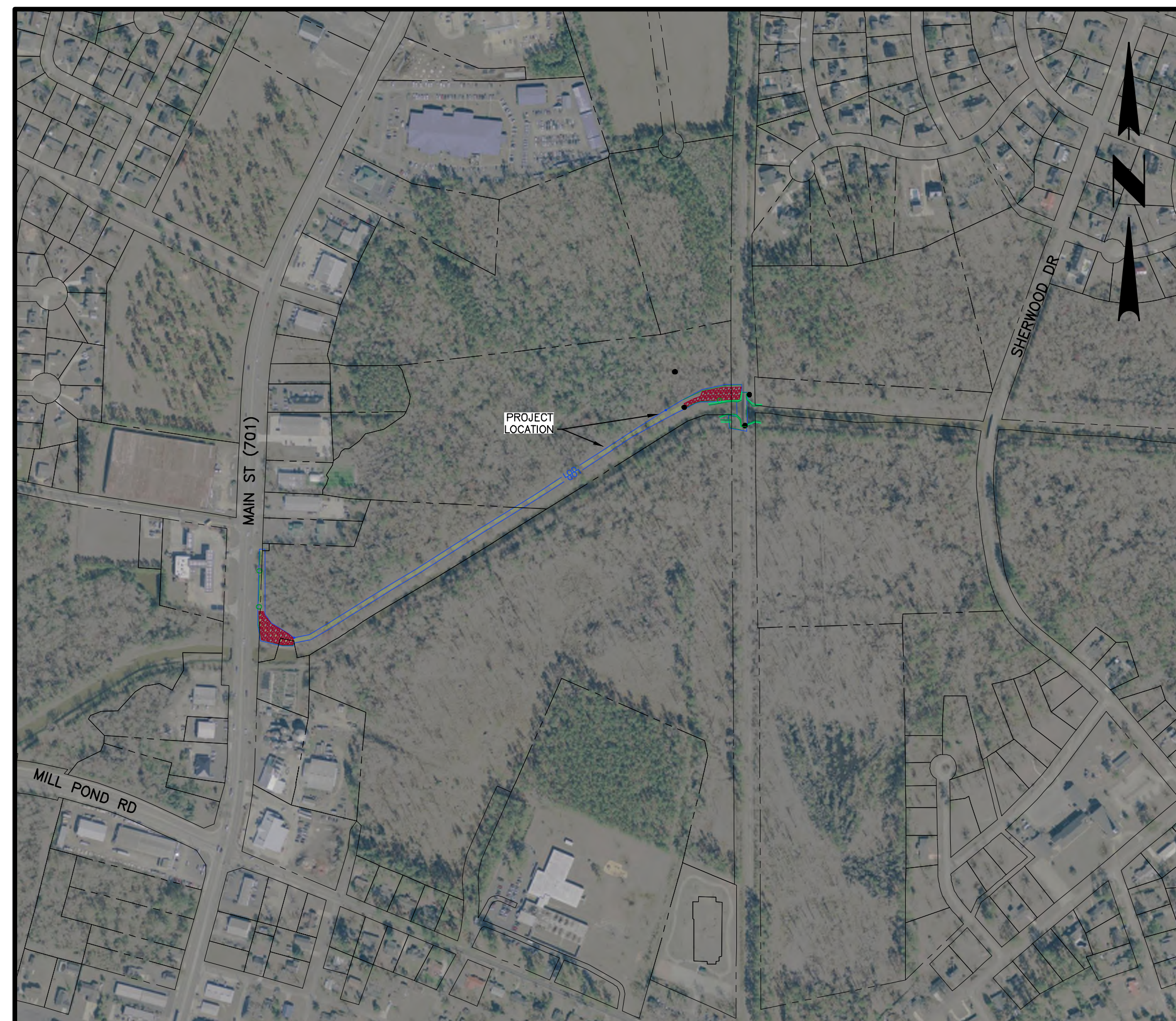
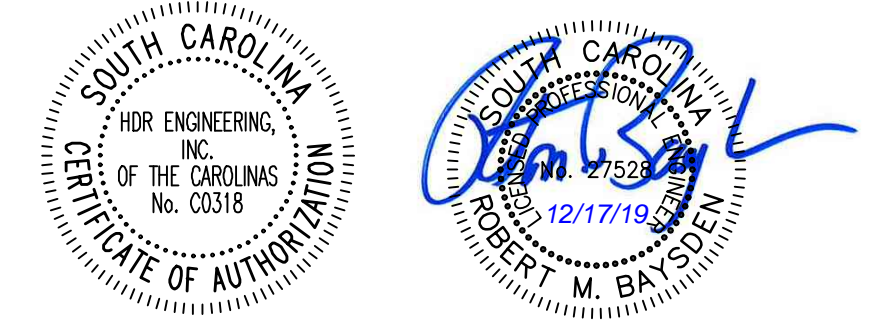
R. J. Corman Railroad/Ashland, LLC • R. J. Corman Railroad Company/Allentown Lines, Inc. • R. J. Corman Railroad Company/Bardstown Line
R. J. Corman Railroad Company/Carolina Lines, LLC • R. J. Corman Railroad Company/Central Kentucky Lines, LLC • R. J. Corman Railroad Company/Cleveland Line, Inc.
R. J. Corman Railroad Company/Nashville & Eastern Line • R. J. Corman Railroad Company/Nashville & Western Line • Old Hickory Transload, LLC • Transit Solutions Group, LLC
R. J. Corman Railroad Company/Memphis Line • R. J. Corman Railroad Company/Pennsylvania Lines, Inc. • R. J. Corman Railroad Company/Tennessee Terminal, LLC
R. J. Corman Railroad Company/Texas Lines, LLC • R. J. Corman Railroad Company/Western Ohio Line, Inc. • R. J. Corman Railroad Company/West Virginia Line

1	After looking through the documents I didn't see a hazardous materials (Asbestos & Lead-based Paint Assessment) performed on the bridge; that will be required by the State prior to demolition or renovation work on the bridge. Are we able to submit a proposal for this work?	The existing bridge (to be removed) is a timber structure. Cost to dispose of timber (creosote) shall be incidental to the demolition cost.
2	Plans - 334.5-02 & 334.5-05 Site Access Note 2 and Site Plan Note 1 state contractor is responsible for obtaining all permits and permissions for site access. Please confirm if Horry County and the City of Conway are aware of this project and the proposed staging/access via the pedestrian trail. If the County and/or City were to deny use of this property, would the contractor be compensated for alternative means of access?	Both entities are aware and have approved the access plan, DWG334.5-02 SITE ACCESS 1
3	Plans - General Notes Please clarify any onsite QC testing that is the contractors responsibility other than PDA testing (i.e. weld inspections, soil density, etc....) to be covered under Pay Item 106.	See detailed response to question No. 57
4	Plans - 334.5-04 Pile Surface Coating Note 1 states the top 30' of the upper section of pile shall be coated. Please clarify this is measured from cutoff elevation down.	The minimum required length of pile coating shall extend 2 feet below the mudline. The 30' length shown on the plans is to provide sufficient length of coating if the contractor choses to precoat the piles. Thus allowing the piles to be cut off with coating extending below the mudline as detailed above. At the contractors option, the coating may be placed after cutoff to 2 feet below the mudline. For bidding purposes assume 30' of coating per pile.
5	Plans/Permit Documents Please clarify if any BMP provisions (silt fence, etc.) are required. Neither the plans or permitting documents detail any.	BMPs are required and included wattles and a turbidity curtain. They are shown in plan view on Sheets 01C-01 (construction entrance and wattles) and 01C-02 (construction entrance, wattles, turbidity curtain). Erosion and Sediment Control Plans and the C-SWPPP are attached at the end of this document.
6	Plans - 334.5-03 Please confirm Box Beams do not require BASF Masterseal 581 on the exteriors.	Exposed surfaces of the concrete box beams shall have water repellent applied in accordance with AREMA, Chapter 8, Part 1.
7	Plans Please provide a pile-cap weld detail.	All around fillet weld is detailed on Drawing No. 334.5-07
8	Permit Documents Please clarify if a causeway is an acceptable means of temporary access. It is mentioned in the bid form but nowhere else in the plans or permits. If a causeway were to be installed we assume current flow rates would need to be maintained?	A temporary causeway within wetlands or waters of the US would require application for and issuance of a new Nationwide Permit. The contractor may investigate this option, but any additional permitting applications and approvals required would have to be prepared and submitted by the contractor. The currently approved permits only include the use of a construction trestle.
9	Bid Invitation - 3 of 4 Page 3 of 4 states equipment shall be at the project site within 10 days of the NTP however given material lead times this is not feasible. Please clarify.	Anticipated lead time of material and proposed schedule should be included with bid submission. We anticipate project not to exceed 270 days from notice to proceed.
10	Sample Contract - Section 3 Please clarify if the period of performance will be established using the schedule submitted at bid time.	Schedule should be provided with good faith understanding
11	The bridges design appears to utilize standard precast pieces used by multiple rail lines nationwide. Has RJ Corman or HDR utilized a precaster to produce these standard pieces on past projects?	Known suppliers: Forterra - Box Beams Conecuh Bridge & Engineering - Precast Elements
12	Will this bid submittal require a bid bond?	R. J. Corman will not require a bid bond
13	As it is understood, train traffic occurs on Monday and Friday. During the construction of the proposed bridge, scheduling of certain operations may require longer outages than what has been provided within the contract documents. Although the majority of the work will occur within these 3 day outages, would it be permissible for a single track outage on a concurrent Monday and Friday?	Contractor must provide a Conceptual Project Schedule which shows the total number of calendar days required to complete the work as well as the track time required for each task. The Contractor can anticipate 3 days without train traffic weekly, for project scheduling, but a couple cost efficient deviations may be consider up to a limited 6-7 day work window. The Contractor may perform work activities on active train traffic days under the direction of a flagman, but must not disrupt the passage of the anticipated 1-2 trains.
14	Please confirm the Contractor will be responsible for removing and replacing the ballast to clear an area to drive pile during this 3 day outage.	The Contractor will be responsible for any disturbance of track structure during pile driving, including ballast
15	Pay Items 103 and 104 reference the installation and removal of the temporary "Trestle/Causeway" for accessing the work. The PCN submitted to the USACE provided with the Permitting Documents seems to only reference the construction of a temporary trestle, and not a rock or other type of causeway. Please clarify if the use of a rock causeway will be allowed under the current permit requirements of if construction of a trestle will be required to make the temporary stream crossing.	A temporary causeway within wetlands or waters of the US would require application for and issuance of a new Nationwide Permit. The contractor may investigate this option, but any additional permitting applications and approvals required would have to be prepared and submitted by the contractor. The currently approved permits only include the use of a construction trestle.
16	Is there a detail on the cap to pile connections.	All around fillet weld is detailed on Drawing No. 334.5-07
17	How many 7 day outages will the contractor have, if would be better to have at least 2	Contractor must provide a Conceptual Project Schedule which shows the total number of calendar days required to complete the work as well as the track time required for each task. The Contractor can anticipate 3 days without train traffic weekly, for project scheduling, but a couple cost efficient deviations may be consider up to a limited 6-7 day work window. The Contractor may perform work activities on active train traffic days under the direction of a flagman, but must not disrupt the passes of an anticipated 1-2 trains.
18	Will the site be closed off to the public during construction?	Contractor should barricade with physical barrier and minimum signage, DWG334.5-02 SITE ACCESS 3
19	Who is responsible for the track removal?	Contractor will be responsible for removal of any material required to perform pile driving. the Railroad will be responsible for the removal track material and OTM before demolition of structure.
20	Who will be responsible for removing the ballast from the existing bridge deck? If the contractor removes the ballast can it be wasted along the shoulders on the approaching track?	Contractor will be responsible for the removal of ballast prior to replacing structure. The material may be wasted along the shoulders on the approaching track within railroad right of way
21	How much time will the Track crews take to remove the track and reconstruct the track, is this part of the 7 day outage?	Track removal and restoration will be concurrent with the train traffic outage.

22	To drive the center piles, access must be cut in the deck and though the stringers, is there a detail or limits of the amount of deck and stringers that can be removed. Also if the removed is there a plan how it will be reinforced for returning back to service.	Contractor shall be responsible for all modifications made to the existing bridge during construction. Analysis and stability of the existing structure is the responsibility of the Contractor. R.J. Corman has provided a recent Inspection report as part of the Bid Advertisement. Additional information may be requested upon Award of contract.
23	Will a permit be required to utilize a temporary work bridge?	A temporary work trestle is allowed within the permitted area, and must be constructed in accordance with General and Regional conditions of the Nationwide Permit program.
24	Is there a moratorium for in water work? If so what are the restrictions?	No
25	Is there any permitting or fees with the City or County?	Plans, NOI, SWPPP and fees were submitted to the City of Conway which is an MS4 with SCDHEC. Fees submitted covered erosion and sediment control and stormwater management.
26	Drawing No. 334.5-06 states "Existing Pedestrian Trail Bridge (Protect In Place)" What exactly does this mean?	There is an existing pedestrian bridge beneath the bridge. The structure will need to be removed for the project and protected within reason.
27	Will the greenway be closed to the public during the bridge replacement project?	Contractor should barricade with physical barrier and minimum signage, DWG334.5-02 SITE ACCESS 3
28	What are the limitations if any on a temporary work bridge across the swamp for our cranes and materials?	Temporary work trestle is allowed within the permitted area, and must be constructed in accordance with General and Regional conditions of the Nationwide Permit program.
29	Who is responsible for the removal of the existing ballast stone during the removal of the existing bridge?	Contractor will be responsible for the removal of ballast prior to replacing structure.
30	Has the cure time for the Membrane Waterproofing for the deck (top of box beams) been taken into account in the timeframe of the shutdown? The waterproofing process could slow construction.	Cold liquid applied elastomeric membrane may be applied to the top of the box beams prior to erection.
31	Will the storage area at the bridge site be large enough to store all the box beams for the bridge?	Contractor shall be responsible for estimating area required for storage of bridge materials. Contractor shall remain within the limits of the permits and the site plan.
32	Will the contractor be responsible for re-paving the existing walking trail after it is used as access for the bridge construction? The existing asphalt is currently in bad shape and will most likely be destroyed under our access.	See Note 15 under Proposed Construction Sequence on Drawing No. 334.5-04 "RETURN AREA TO EXISTING CONDITION OR BETTER"
33	Will the contractor be required to return the access areas to the same condition as present, or will there be betterment? This question pertains to both access areas called out on the plans.	See Note 15 under Proposed Construction Sequence on Drawing No. 334.5-04 "RETURN AREA TO EXISTING CONDITION OR BETTER"
34	Will time stop for "Acts of Nature"? Example flooding from Hurricane during shutdown stopping all work.	Contractor should communicate issues with the Railroad as quickly as possible should conditions become hazardous to life or property. Conditions resulting in modifications of the Agreement must be approved by the Railroad's Engineer or authorized representative.
35	Will contractor be responsible for any damage to existing Reinforced Concrete Pipe crosslines currently under greenway for drainage while using the greenway area as temporary access for the bridge site?	The contractor will be responsible for any damages occurring at the project site or along the access road. See Note 15 under Proposed Construction Sequence on Drawing No. 334.5-04 "RETURN AREA TO EXISTING CONDITION OR BETTER"
36	Will contractor be allowed to widen the access off US-701 to greenway entrance and parking area during construction to assist in mobilizing equipment and materials?	The contractor will be responsible for any damages occurring at the project site or along the access road, along with any permitting or fees associated with widening the access.
37	Are there any DBE requirements for this project?	The Contractor is required to make a good faith effort to include disadvantaged business enterprises. Although not mandatory, suppliers are encouraged to submit a percentage level of DBE commitment with their bid if able.
38	Is everything marked "Required Form" to be turned in with our bid? Can you give us a listing of exactly the forms required to be turned in with our bid?	All required forms are marked "Required Form." Required forms included Form E (Form of Non-Collusion Affidavit), Form F (Acknowledgement of Addenda), Form G (Anti-Lobbying), Form H (Certification Regarding Debarment, Suspension, and Other Responsibility Matters), Form I (Drug-Free Workplace Certification), and Form J (IRS Form W-9)
39	Is there a certain time of day the train passes on the three days there is train traffic on the bridge?	R. J. Corman does not publicly release train traffic information due to safety concerns. The Contractor can anticipate 3 uninterrupted days for work scheduling. The Contractor may perform work activities on active train traffic days under the direction of a flagman, but must not disrupt the passes of anticipated 1-2 trains.
40	Are there time restrictions on the hours of the day or on the days of the week we are allowed to work?	Safety is of the upmost importance to the Railroad. Contractor should use discretion when scheduling work activities to mitigate any potential safety risks.
41	What certifications will Welders need for welding on the bridge?	Welders shall be qualified for the weld procedure per American Welding Society (AWS).
42	Do you have any information on suppliers for the concrete box beams required for this bridge? We're having difficulty finding companies that manufacture this particular beam.	Known suppliers: Forterra - Box Beams Conecuh Bridge & Engineering - Precast Elements
43	I was told at my site visit that the outside H-Pile for the new bridge bents would be driven just outside the existing bridge and the center H-Pile would need to be driven through the center of the existing bridge but after studying the plans in detail all 3 H-Pile for the new bents go through the existing bridge, what methods of bracing and holding the ballast stone on the existing bridge are suggested for the new H-Pile installation? There will probably need to be 2 of the existing timber girders cut at each H-Pile location which means we will be cutting 6 of the existing timbers girders in each new bent location, this will weaken the existing structure significantly I would think, has this been considered in the design? Who would be responsible if there were a failure and we (the contractor) were following the provided plan for construction?	Contractor shall be responsible for all modifications made to the existing bridge during construction. Analysis and stability of the existing structure is the responsibility of the Contractor. R.J. Corman has provided a recent Inspection report as part of the Bid Advertisement. Additional information may be requested upon Award of contract.
44	Can you please clarify, which days the track is required to be in service.	R. J. Corman does not publicly release train traffic information due to safety concerns. Contractor must provide a Conceptual Project Schedule which shows the total number of calendar days required to complete the work as well as the track time required for each task. The Contractor can anticipate 3 days without train traffic weekly, for project scheduling, but a couple cost efficient deviations may be consider up to a limited 6-7 day work window. The Contractor may perform work activities on active train traffic days under the direction of a flagman, but must not disrupt the passes of an anticipated 1-2 trains.

45	Once the piles are driven, how many days can the track be out of service for the completion of the bridge. Or, is there a value associated with each day the track is out of service.	Contractor must provide a Conceptual Project Schedule which shows the total number of calendar days required to complete the work as well as the track time required for each task. The Contractor can anticipate 3 days without train traffic weekly, for project scheduling, but a couple cost efficient deviations may be consider up to a limited 6-7 day work window. The Contractor may perform work activities on active train traffic days under the direction of a flagman, but must not disrupt the passes of an anticipated 1-2 trains.
46	Can more detail be provided for the precast cap rebar and connections to the piles.	The precast cap reinforcing details are located on Drawing Nos. 334.5-15 & 16. The pile to cap connection is detailed as an "all around" weld shown on Drawing No. 334.5-07.
47	Is there a maximum number of days to complete the project or a value associated with each day for total contract time?	Project Completion date will be established based of the submitted schedule during contract negotiation. We anticipate project not to exceed 270 days from notice to proceed.
48	Will we be required to submit Crane Lift Plans for approval. If so can you provide details on what will be required in the submittals.	The Contractor shall submit a detailed procedure for erection. The procedure shall clearly indicate the capacity of cranes, location of cranes with respect to the tracks and calculated lifting loads. The erection procedure must be approved by R.J. Corman's construction engineer. All lifting equipment, rigging devices, and other load bearing elements shall have a rated (safe lifting) capacity that is greater than or equal to 150% of the load it is carrying, as a factor of safety. Supporting calculations shall be furnished to verify the minimum capacity requirement is maintained for the duration of the hoisting operation. For lifting equipment, the manufacturer's capacity charts, including crane, counterweight, maximum boom angle, and boom nomenclature is to be submitted. Dynamic hoisting operations are prohibited when carrying a load with the Potential to Foul. Cranes or other lifting equipment shall remain stationary during lifting.
49	Page 2 of Instructions To Bidders states "The Contractor may anticipate 3 day train traffic outages weekly for project scheduling." It is our understanding that the bridge is a remove & replace operation. Does the train traffic outages only apply prior to starting demolition?	Construction to be completed in-line with current structure and shall not disrupt train traffic operations. Contractor must provide a Conceptual Project Schedule which shows the total number of calendar days required to complete the work as well as the track time required for each task. The Contractor can anticipate 3 days without train traffic weekly, for project scheduling, but a couple cost efficient deviations may be consider up to a limited 6-7 day work window. The Contractor may perform work activities on active train traffic days under the direction of a flagman, but must not disrupt the passes of an anticipated 1-2 trains.
50	What are the limits of the temporary fencing? Specifically shall temporary fencing be installed on both the water and wooded side of the construction access road and staging areas?	The amount of fencing required to protect the site along with all materials and equipment, shall be determined by the contractor and shall be the amount required to satisfy the site security requirements specified on Drawing 334.5-02 under SITE ACCESS.
51	With the location of the battered exterior piles and location on the interior pile, is it the intent that the two exterior beams and the middle beam on the existing bridge be removed and the ballast secured so this work can be completed during the three day track times? If so, who completes the removals and securing the ballast?	Contractor will be responsible for the removal of ballast and the Contractor shall be responsible for all modifications made to the existing bridge during construction. Analysis and stability of the existing structure is the responsibility of the Contractor. R.J. Corman has provided a recent Inspection report as part of the Bid Advertisement. Additional information may be requested upon Award of contract.
52	If the piling work is completed per the above, is it the intent that track and ballast are removed, bridge completed, new ballast and rail installed in one three day track time?	It is the intent that work shall be completed in 3 day windows. The entire bridge need not be constructed in a single 3 day window, however, the track shall be back in service after each 3 day work window. Contractor must provide a Conceptual Project Schedule which shows the total number of calendar days required to complete the work as well as the track time required for each task
53	All testing to be included?	Certified copies of the manufacturer's test results, performed as required by the ASTM specifications for each type of material, shall be furnished the Engineer. Also, see detailed response to question No. 57.
54	All survey requirements to be included?	Yes. Any costs associated with survey work should be included with the contractor's bid. The contractor should outline the intent for all proposed survey work.
55	Calendar days should include working only the three days per week allowed track time?	Contractor must provide a Conceptual Project Schedule which shows the total number of calendar days required to complete the work as well as the track time required for each task. The Contractor can anticipate 3 days without train traffic weekly, for project scheduling, but a couple cost efficient deviations may be consider up to a limited 6-7 day work window. The Contractor may perform work activities on active train traffic days under the direction of a flagman, but must not disrupt the passes of an anticipated 1-2 trains.
56	Are the lateral analyses for the bridge foundations, lateral displacement limits, and/or lateral design loads available?	RFI's may be requested after award of Contract.
57	Is the contractor responsible for any QC testing outside of PDA testing?	<p>Visual inspection of all welding shall be performed by the Contractor's welding inspector qualified in accordance with AWS QC-1. Employ QC inspectors qualified in accordance with the Bridge Welding Code. Individuals assigned to production welding activities or processes and their supervisors are not acceptable for performing QC testing. Ensure a qualified QC welding inspector is present any time welding is in progress.</p> <p>The Contractor shall submit the proposed concrete mix design to the Engineer. After receiving approval for the mix design, the Contractor shall furnish a two (2) CY batch of concrete for the sole purpose of making test specimens. The Contractor shall make a minimum of eight (8) standard test cylinders and deliver them to an independent laboratory which shall conduct tests at 7, 14, and 28 days. No concrete shall be placed until satisfactory compressive strength for the mix design has been documented through the test results. Substandard shall mean anything less than the minimum compressive strength at 28 days as specified above, for that class of concrete. No reductions or tolerances will be recognized, regardless of ACI or other Association Standards for acceptance.</p> <p>For prestressed concrete, eight (8) standard test cylinders shall be made each day for each production line. Two (2) cylinders shall be used to determine the time after placing of concrete when stress may be released. Two (2) cylinders each shall be broken at 7 and 28 days. The two (2) remaining cylinders are to be used for determining stress release in case that the concrete has not attained required strength on the first two cylinders. When steam curing is used, the 7 day test may be omitted. Heavy steel molds with steel bottoms shall be used for the test cylinders and the Contractor shall furnish the cylinders and the labor to secure the samples.</p> <p>In addition, certified copies of the manufacturer's test results, performed as required by the ASTM specifications for each type of material, shall be furnished the Engineer.</p>

		Fill or backfill material at structures shall be placed in uniform horizontal loose lifts not exceeding six inches and be compacted to 95% of its maximum density and not to exceed 2% of its optimum moisture as determined by current ASTM Designation D1557 (Modified Proctor) or as shown on the Plans. Compaction shall be by means of approved mechanical or vibratory compacting equipment.
58	Is the contractor responsible for analyzing the structural stability of the existing trestle once stringers are cut to accommodate pile installation? If so, can RJ Corman or HDR provide as-built bridge plans and structural load ratings?	Contractor shall be responsible for all modifications made to the existing bridge during construction. Analysis and stability of the existing structure is the responsibility of the Contractor. R.J. Corman has provided a recent Inspection report as part of the Bid Advertisement. Additional information may be requested upon Award of contract.
59	Given the spacing and alternating, interlocked pattern of the timber stringers on the existing structure, is it the opinion of the engineer that the a minimum of 4 and as many as 6 of the timber stringers may be removed or structurally compromised in each span where piles are to be driven while keeping the track open to train traffic?	Contractor shall be responsible for all modifications made to the existing bridge during construction. Analysis and stability of the existing structure is the responsibility of the Contractor. R.J. Corman has provided a recent Inspection report as part of the Bid Advertisement. Additional information may be requested upon Award of contract.
60	Following the previous question, is shoring under the cut stringers required?	Contractor shall be responsible for all modifications made to the existing bridge during construction. Analysis and stability of the existing structure is the responsibility of the Contractor. R.J. Corman has provided a recent Inspection report as part of the Bid Advertisement. Additional information may be requested upon Award of contract.
61	Are crutch pilings for stringer shoring allowed on the opposite side of the tracks from where the work bridge is shown?	Additional work within wetlands or waters of the US would require application for and issuance of a new Nationwide Permit. This shall be avoided.
62	Is this waterway impacted by the Atlantic Sturgeon moratorium?	No
63	Are there any known wood stork rookeries in the project area?	There are no known wood stork rookeries in the project area.
64	GENERAL NOTES (2 OF 3): Under PRECAST REINFORCED CONCRETE, CONCRETE, #1: Should the "7 days" read "28 days".	Yes this should read "28 days", the Construction Plans will be updated.
65	1. GENERAL NOTES (3 OF 3): EMBEDDED STEEL: #2: Is galvanization required? Or can the plates be coated with Carbomastic 615 as shown in Note #4 under MISCELLANEOUS STEEL NOTES?	Galvanization of embedded steel plates is not required. Embedded plates may be coated with Carbomastic 615 after all field welding has been completed.
66	Is there a cross section like the one above, that shows how the proposed bridge fits under the existing bridge? Will the cap fit under the existing stringers? What is the anticipated clear headspace between the cap and the timber stringers.	Existing low chord elevation (as shown on Drawing No. 334.5-06) is 9.83ft. The top of cap elevation (as shown on Drawing No. 334.5-07) is 8.82ft. The Contractor shall be responsible for verifying all elevations prior to construction (see Specifications notes on Drawing No. 334.5-01.)
67	Is there a phasing sequence with proposed track outage windows?	There is a proposed construction sequence on the General Notes (3 of 3) drawing. The Contractor will be responsible for the coordinating the construction sequence with the R.J. Corman outage windows.
68	Are Background checks, Drug screening, and RWT training per FRA guidelines required for all employees and subcontractors on site?	The Contractor must comply with all FRA guidelines including 49 CFR Part 219, Control of Alcohol and Drug Use: Coverage of Maintenance of Way (MOW) and Retrospective Regulatory Review-Based Amendments and FRA Qualified - 49 CFR Part 214, Railroad Workplace Safety
69	What is the max speed on the track?	The maximum speed track speed is 10 mph
70	What type of track protection will be provided?	A qualified R. J. Corman Employee in-charge will provide track protection by means of exclusive track occupancy.
71	Please clarify approved deck waterproofing. Deck guard or Amsted RPS Ballast mats?	Any spray applied deck waterproofing shall be protected with a ballast mat or an equivalent system of protection. The contractor may submit any deck waterproofing material and protection system for review and approval.



VICINITY MAP
SCALE: 1" = 400'

Contract Drawings For

R.J. CORMAN BRIDGE AT MP 334.5 OVER CRABTREE CREEK

EROSION AND SEDIMENT CONTROL

Project No.
10188549

Conway, SC
December 2019

INDEX OF DRAWINGS

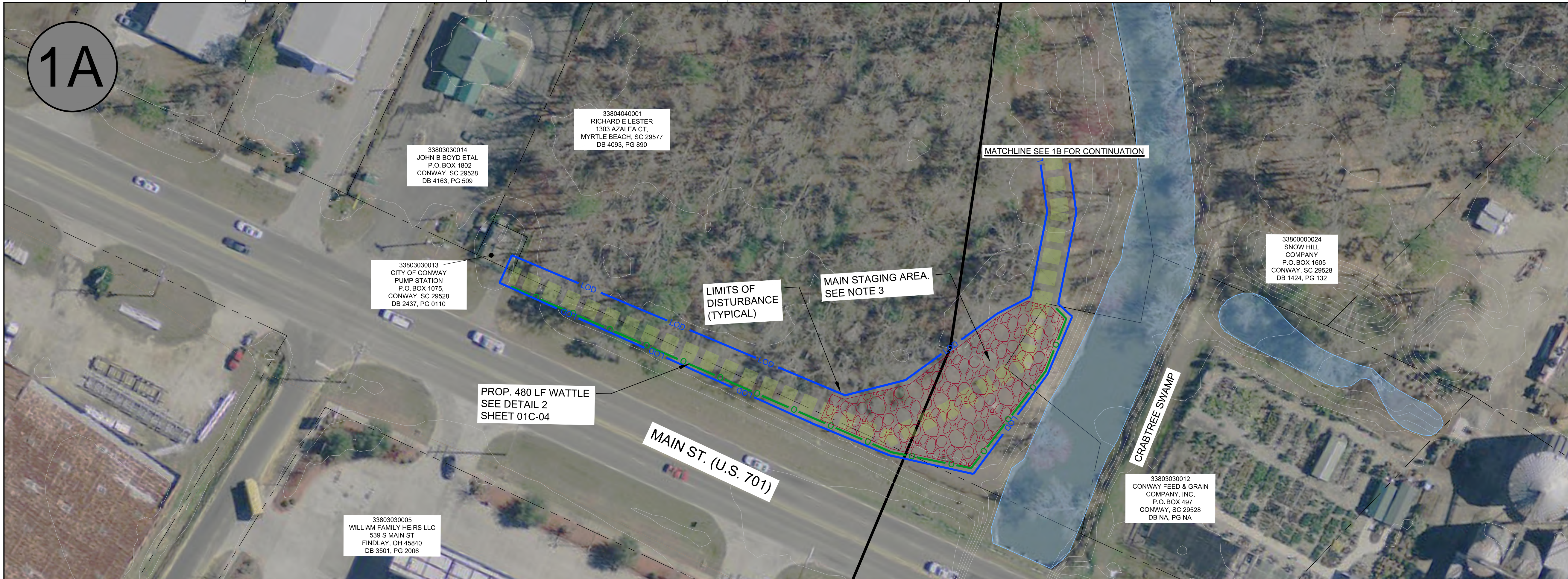
GENERAL

- 01C-01 - EROSION & SEDIMENT CONTROL PLAN
- 01C-02 - EROSION & SEDIMENT CONTROL PLAN
- 01C-03 - EROSION CONTROL NOTES
- 01C-04 - EROSION CONTROL DETAILS

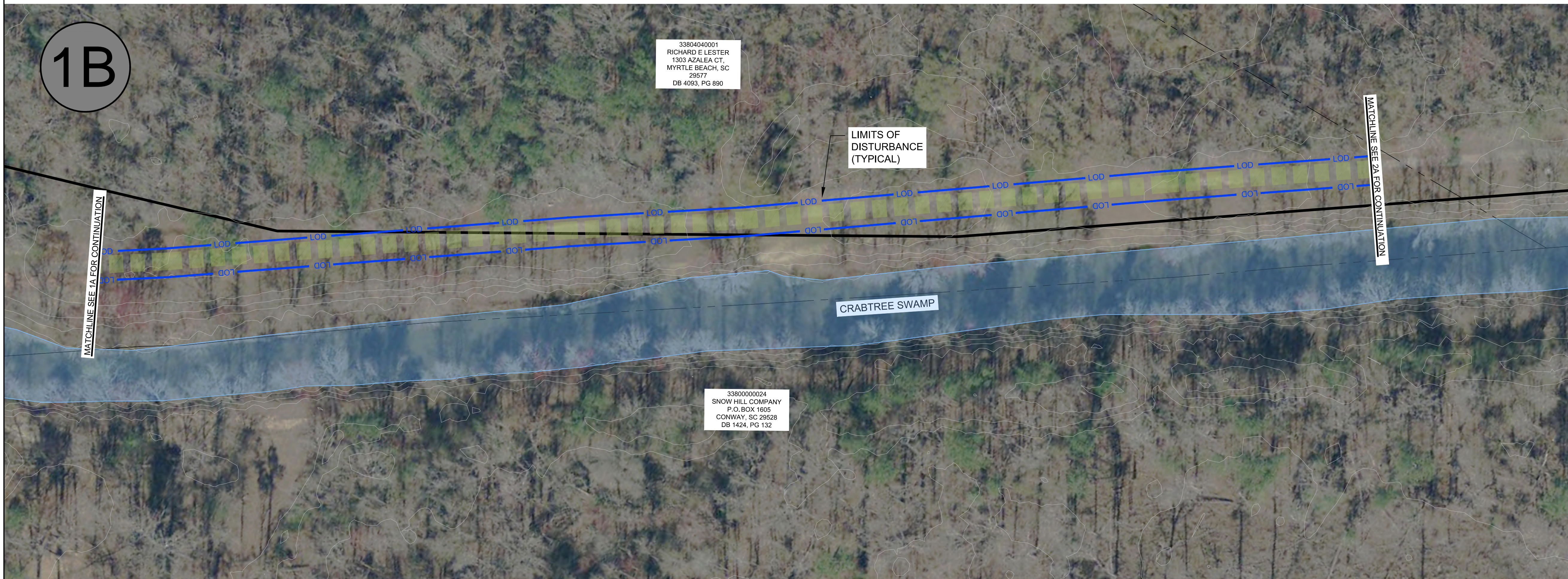


"I HAVE PLACED MY SIGNATURE AND SEAL ON THE DESIGN DOCUMENTS SUBMITTED SIGNIFYING THAT I ACCEPT RESPONSIBILITY FOR THE DESIGN OF THE SYSTEM. FURTHER, I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 14 OF THE CODE OF LAWS OF SC, 1976 AS AMENDED, PURSUANT TO REGULATION 72-300 ET SEQ. (IF APPLICABLE), AND IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SCR100000."

ROBERT M. BAYSDEN, PE
CIVIL SECTION MANAGER
HDR ENGINEERING INC. OF THE CAROLINAS



- GENERAL NOTES:
- 1) SEE SHEET 01C-03 FOR EROSION CONTROL NOTES AND 01C-04 FOR DETAILS.
 - 2) CONTRACTOR TO UTILIZE EXISTING GRAVEL DRIVE TO ACCESS THE WORK AREA. PROVIDE EROSION CONTROL MEASURES (SEDIMENT TUBES) ONLY IF AREAS NEED TO BE REPAIRED DUE TO RUTTING OR OTHER DAMAGE THAT MAY CREATE SEDIMENT RUN-OFF. GRAVEL DRIVE REPAIRS SHALL BE WITH COMPACTED AGGREGATE BASE COURSE OR APPROVED EQUAL INSTALLED PER SCDOT SPECIFICATIONS.
 - 3) CLEARING OF TREES IS NOT ALLOWED, STAGING AREA IS TO BE ESTABLISHED WITHIN THE EXISTING CLEARED AREA.



- EXISTING LEGEND
- CONTOUR (MAJOR)
- EROSION CONTROL LEGEND
- LIMITS OF DISTURBANCE
 - ACCESS ROAD (SEE NOTE 2)
 - PROPERTY LINES

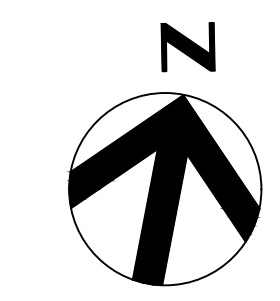
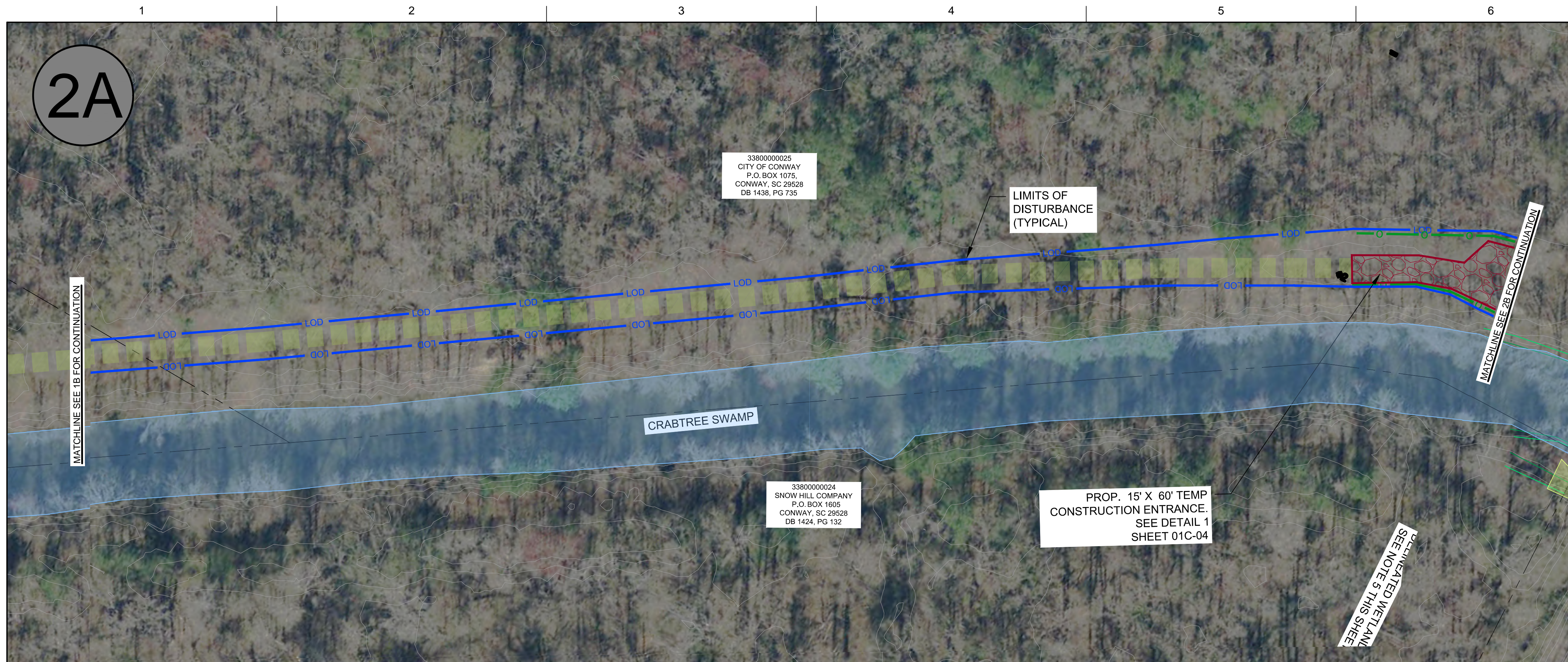
HDR Engineering, Inc. of the Carolinas

4400 LEEDS AVE
SUITE 450,
NORTH CHARLESTON, SC 29405

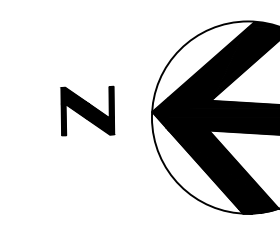
PROJECT MANAGER	JAMES MCCAUL	
PROJECT ENGINEER	R. BAYS DEN	
DRAFTER	K. REYNOLDS	
ISSUE	DATE	DESCRIPTION
PROJECT NUMBER	10188549	

ROBERT M. BAYS DEN
12/17/19

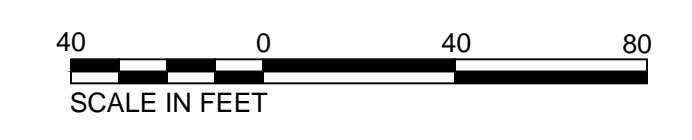
R.J. CORMAN BRIDGE
AT MP 334.5 OVER CRABTREE CREEK



- GENERAL NOTES:**
- 1) SEE SHEET 01C-03 FOR EROSION CONTROL NOTES AND 01C-04 FOR DETAILS.
 - 2) CONTRACTOR TO UTILIZE EXISTING GRAVEL DRIVE TO ACCESS THE WORK AREA. PROVIDE EROSION CONTROL MEASURES (SEDIMENT TUBES) ONLY IF AREAS NEED TO BE REPAIRED DUE TO RUTTING OR OTHER DAMAGE THAT MAY CREATE SEDIMENT RUN-OFF. GRAVEL DRIVE REPAIRS SHALL BE WITH COMPACTED AGGREGATE BASE COURSE OR APPROVED EQUAL INSTALLED PER SCDOT SPECIFICATIONS.
 - 3) CONTRACTOR SHALL WORK WITH RAILROAD OWNER TO ACCESS WORK AREA FROM BOTH TRACK DIRECTIONS.
 - 4) PLACE TURBIDITY CURTAIN ON DOWNSTREAM SIDE OF WORK.
 - 5) NO WORK IS TO BEGIN IN WoS UNTIL ALL NECESSARY USACOE PERMITS AND SCDHEC 401 CERTIFICATIONS HAVE BEEN OBTAINED AND ARE EFFECTIVE.



- EXISTING LEGEND**
- CONTOUR (MAJOR)
- EROSION CONTROL LEGEND**
- LOD - LIMITS OF DISTURBANCE
 - WATTLE
 - EROSION CONTROL MATTING
 - CONSTRUCTION ENTRANCE
 - ACCESS ROAD
 - PROPERTY LINES
 - TURBIDITY CURTAIN



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PROJECT MANAGER	JAMES MCCAUL
PROJECT ENGINEER	R.BAYSDEN
DRAFTER	K.REYNOLDS
ISSUE	DATE DESCRIPTION
PROJECT NUMBER	10188549



**R.J. CORMAN BRIDGE
AT MP 334.5 OVER CRABTREE CREEK**

EROSION & SEDIMENT CONTROL PLAN - 2

FILENAME	SHEET
SCALE	01C-02

PROJECT NARRATIVE:

THE PROPOSED CRABTREE SWAMP RAILROAD BRIDGE REPLACEMENT PROJECT WILL OCCUR ON THE RJC RAILROAD RIGHT-OF-WAY AT MP 334.5 WITHIN THE CITY OF CONWAY, Horry County.

PRIOR TO THE INSTALLATION OF BRIDGE IMPROVEMENTS THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES TO ENCOMPASS THE ANTICIPATED CONSTRUCTION LIMITS INCLUDING ALL LAYDOWN AREAS, THE EXISTING ACCESS ROAD IS A STABLE GRAVEL DRIVE; HOWEVER, IT IS INCLUDED WITHIN THE LIMITS OF DISTURBANCE IN CASE REPAIR WORK NEEDS TO BE DONE. PREDEVELOPMENT CONDITIONS WILL BE RESTORED AND THE AREA WILL BE STABILIZED PRIOR TO COMPLETION OF WORK AND EROSION CONTROL BMP REMOVALS. AN AVOIDANCE AND MINIMIZATION OF DISTURBANCE APPROACH HAS BEEN INCORPORATED INTO THE SITING OF THE EROSION CONTROL MEASURES BY UTILIZING A DIRECT ACCESS POINT, MATTING OF WETLANDS AND WATTLES TO LIMIT EXCAVATION TRENCHING AROUND SENSITIVE AREAS. EROSION CONTROL MEASURES ARE INDICATED HEREIN FOR PERMITTING USE ONLY BY THE CITY OF CONWAY, AND THE SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENT CONTROL (SCDHEC). THE INITIAL PROJECT DURATION IS ANTICIPATED TO BE TWO WEEKS FOR INSTALLATION OF THE EROSION CONTROL MEASURES WITH MAINTENANCE AS NEEDED THROUGH THE BRIDGE REPLACEMENT WORK.

LIMITS OF DISTURBANCE TOTAL AREA: 1.66 ACRES

CONSTRUCTION SEQUENCE:

ITEMS MUST OCCUR IN THE ORDER LISTED; ITEMS CANNOT OCCUR CONCURRENTLY UNLESS SPECIFICALLY NOTED.

- 1. COORDINATE WITH IMPACTED PROPERTY OWNERS PRIOR TO BEGINNING WORK.
2. RECEIVE PERMIT COVERAGE AND NPDES COVERAGE FROM THE CITY OF CONWAY AND SCDHEC.
3. PRE-CONSTRUCTION MEETING.
4. NOTIFY CITY OF CONWAY AT LEAST 3 DAYS PRIOR TO BEGINNING LAND DISTURBANCE.
5. INSTALLATION OF CONSTRUCTION ENTRANCE.
6. CLEARING AND GRUBBING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
7. INSTALLATION OF PERIMETER CONTROLS (E.G. SEDIMENT TUBES)
8. PRIOR TO CLEARING AND GRUBBING OF SITE OR DEMOLITION, SEDIMENT AND EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED.
9. INSTALLATION OF BRIDGE IMPROVEMENTS.
10. MAINTENANCE OF SEDIMENT AND EROSION CONTROL MEASURES MUST CONTINUE UNTIL THE SITE IS PERMANENTLY STABILIZED AND UNTIL THE CONTROLS ARE REMOVED.
11. PERMANENT / FINAL STABILIZATION
12. REMOVAL OF TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES AFTER ENTIRE AREA DRAINING TO BMPS FINALLY STABILIZED. (IT IS RECOMMENDED THAT THE PROJECT OWNER/OPERATOR HAVE THE SWPPP PREPARER OR REGISTRATION EQUIVALENT APPROVE THE REMOVAL OF TEMPORARY STRUCTURES)
13. SUBMIT NOTICE OF TERMINATION (NOT) TO CITY OF CONWAY AS APPROPRIATE.

INSPECTION AND MAINTENANCE NOTES:

CONSTRUCTION ENTRANCE (INCLUDING ACCESS ROAD SECTIONS REQUIRING STONE AND TEMPORARY CULVERT CROSSINGS)

- 1. THE KEY TO FUNCTIONAL CONSTRUCTION ENTRANCES IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.
2. REGULAR INSPECTIONS OF CONSTRUCTION ENTRANCES SHALL BE CONDUCTED ONCE EVERY CALENDAR WEEK AND, AS RECOMMENDED, WITHIN 24-HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES 1/2- INCH OR MORE PRECIPITATION.
3. DURING REGULAR INSPECTIONS, CHECK FOR MUD AND SEDIMENT BUILDUP AND PAD INTEGRITY. INSPECTIONS FREQUENCIES MAY NEED TO BE MORE FREQUENT DURING LONG PERIODS OF WET WEATHER.
4. RESHAPE THE STONE PAD AS NECESSARY FOR DRAINAGE AND RUNOFF CONTROL.
5. WASH OR REPLACE STONES AS NEEDED AND AS DIRECTED BY SITE INSPECTOR. THE STONE IN THE ENTRANCE SHOULD BE WASHED OR REPLACED WHENEVER THE ENTRANCE FAILS TO REDUCE THE AMOUNT OF MUD BEING CARRIED OFF-SITE BY VEHICLES. FREQUENT WASHING WILL EXTEND THE USEFUL LIFE OF STONE PAD.
6. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO ADJACENT IMPERVIOUS SURFACES BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED WHEN THE WATER CAN BE DISCHARGED TO A SEDIMENT TRAP OR BASIN.
7. DURING MAINTENANCE ACTIVITIES, ANY BROKEN PAVEMENT SHOULD BE REPAIRED IMMEDIATELY.
8. CONSTRUCTION ENTRANCES SHOULD BE REMOVED AFTER THE SITE HAS REACHED FINAL STABILIZATION. PERMANENT VEGETATION SHOULD REPLACE AREAS FROM WHICH CONSTRUCTION ENTRANCES HAVE BEEN REMOVED, UNLESS AREA WILL BE CONVERTED TO AN IMPERVIOUS SURFACE TO SERVE POST-CONSTRUCTION.

SEDIMENT TUBES

- 1. THE KEY TO FUNCTIONAL SEDIMENT TUBES IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.
2. REGULAR INZ E SPECTIONS OF SILT FENCE SHALL BE CONDUCTED ONCE EVERY CALENDAR WEEK AND, AS RECOMMENDED, WITHIN 24-HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES 1/2-INCH OR MORE PRECIPITATION.
3. ATTENTION TO SEDIMENT ACCUMULATIONS IN FRONT OF THE SEDIMENT TUBE IS EXTREMELY IMPORTANT. ACCUMULATED SEDIMENT SHOULD BE CONTINUALLY MONITORED AND REMOVED WHEN NECESSARY.
4. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES 1/3 THE HEIGHT OF THE SILT FENCE.
5. REMOVE SEDIMENT SHALL BE PLACED IN STOCKPILE STORAGE AREAS OR SPREAD THINLY ACROSS DISTURBED AREA. STABILIZE THE REMOVED SEDIMENT AFTER IT IS RELOCATED.
6. LARGE DEBRIS, TRASH, AND LEAVES SHOULD BE REMOVED FROM IN FRONT OF TUBES WHEN FOUND.
7. IF EROSION CAUSES THE EDGES TO FALL TO A HEIGHT EQUAL TO OR BELOW THE HEIGHT OF THE SEDIMENT TUBE, REPAIRS SHOULD BE MADE IMMEDIATELY TO PREVENT RUNOFF FROM BYPASSING TUBE.
8. SEDIMENT TUBES SHOULD BE REMOVED AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN COMPLETELY STABILIZED. PERMANENT VEGETATION SHOULD REPLACE AREAS FROM WHICH SEDIMENT TUBES HAVE BEEN REMOVED.

STANDARD NOTES

- 1. IF NECESSARY, SLOPES, WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS. IN ADDITION TO HYDROSEEDING, IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.
2. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW.
2.1. WHERE STABILIZATION BY THE FIFTH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
2.2. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.
3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY, OR INCORRECTLY, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION.
4. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE ANY SEDIMENTS BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE.
5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
5.1. REMOVE DEPOSITED SEDIMENT COLLECTED BY SEDIMENT CONTROL MEASURE (SILT FENCE, CHECK DAMS, SEDIMENT TUBES, ETC.) WHEN THE DEPOSITED SEDIMENT REACHES 1/3 THE HEIGHT OF THE ABOVE-GROUND PORTION OF THESE BMPS, OR BEFORE IT REACHES A LOWER HEIGHT BASED ON THE MANUFACTURER'S SPECIFICATIONS.
6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED ROADWAYS(S) FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.
7. RESIDENTIAL SUBDIVISIONS REQUIRE EROSION CONTROL FEATURES FOR INFRASTRUCTURE AS WELL AS FOR INDIVIDUAL LOT CONSTRUCTION. INDIVIDUAL PROPERTY OWNERS SHALL FOLLOW THESE PLANS DURING CONSTRUCTION OR OBTAIN APPROVAL OF AN INDIVIDUAL PLAN IN ACCORDANCE WITH S.C REG. 72-300 ET SEQ. AND SCR100000.
8. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.
9. ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CAN'T BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WOS. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WOS.
10. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
11. A COPY OF THE SWPPP, INSPECTION RECORDS, AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.
12. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.
13. MINIMIZE THE EXPOSURE OF BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS PRESENT ON THE SITE TO PRECIPITATION AND TO STORMWATER.
14. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM SPILLS AND LEAKS AND IMPLEMENT CHEMICAL SPILL AND LEAK PREVENTION AND RESPONSE PROCEDURES.
15. THE FOLLOWING DISCHARGES ARE PROHIBITED:
15.1. WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL;
15.2. WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS;
15.3. FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE; AND
15.4. SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.
16. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.
17. IF EXISTING BMPS NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT AND/OR SC'S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMPS MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.
18. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON-SITE SWPPP PRIOR TO IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON-LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE THIS CONFERENCE MUST BE HELD ON-SITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.
19. ALL EROSION CONTROL MEASURES INCLUDING SILT FENCE AND WATTLES SHALL BE PLACED WITHIN THE PERMITTED LIMITS OF DISTURBANCE.
20. CONSTRUCTION ENTRANCES TO BE PROVIDED AT ALL LOCATIONS WHERE CONSTRUCTION TRAFFIC ACCESSES A PAVED ROADWAY.
21. THE CONTRACTOR WILL PROVIDE A PORTABLE TOILET IN AN AREA THAT IS NOT ADJACENT TO A WATERWAY OR STORM DRAINAGE.
22. THE CONTRACTOR WILL PROVIDE A PLACE FOR CONCRETE TRUCKS TO WASHOUT AND THE WASHOUT IS TO BE BURIED ONSITE UNTIL CONSTRUCTION IS COMPLETE. WHEN CONSTRUCTION IS COMPLETE THE WASTE IS TO BE HAULED OFF TO A LANDFILL.
23. CONCRETE WASHOUT SHALL BE LOCATED WITHIN THE LIMITS OF DISTURBANCE.
24. THE INSTALLATION OF UTILITIES (CABLE, ELECTRICAL, NATURAL GAS, WATER, SEWER, ETC.) ARE TO BE WITHIN THE PERMITTED LIMITS OF DISTURBANCE AND THAT INSTALLATION OUTSIDE OF THESE AREAS WILL REQUIRE A MODIFICATION TO THE PERMIT.
25. INLET PROTECTION WILL BE PROVIDED AT ALL EXISTING INLETS THAT RECEIVED FLOWS FROM THE DISTURBED AREAS.
26. ALL OFF-SITE BORROW SITES MUST HAVE A SEPARATE NPDES PERMIT.
27. ANY POSSIBLE STOCKPILES, OFFSITE MATERIAL, WASTE, BORROW, OR CONSTRUCTION EQUIPMENT STORAGE/LAYDOWN SHALL BE LOCATED WITHIN THE LIMITS OF DISTURBANCE.
28. ALL CHANNELS ARE TO BE STABILIZED WITHIN 7 DAYS OF CONSTRUCTION.
29. ANY EXISTING CHANNELS DISTURBED DURING CONSTRUCTION SHALL BE RETURNED TO A LIKE OR BETTER CONDITION THAN PRE-CONSTRUCTION.

TEMPORARY SEEDING SCHEDULE:

Table with columns: DATE, TYPE, PLANTING RATE. Includes entries for AUG 15 - APRIL 15 (WINTER RYE) and APR 15 - AUG 15 (GERMAN MILLET).

- 1. TEMPORARY SEEDING ALONE DOES NOT CONSTITUTE STABILIZED GROUND COVER AS NURSE CROPS MAY TAKE LONGER THAN 7 CALENDAR DAYS TO ESTABLISH.
2. APPLY GROUND LIME AT THE RATE OF 3000 LB./AC. ONLY IF SOIL TEST SHOWS THAT SOIL NEEDS LIME.
3. APPLY 10-20-20 (N-P-K) COMMERCIAL FERTILIZER AT THE RATE OF 900 LB./AC.
4. APPLY STRAW MULCH AT THE RATE OF 75-100 LB./1000 SF.
5. HEAVILY MULCH WITH STRAW DURING JANUARY - MARCH PERIOD.

SEEDBED PREPARATION NOTES:

- 1. SURFACE WATER CONTROL MEASURES TO BE INSTALLED ACCORDING TO PLAN.
2. AREAS TO BE SEEDED SHALL BE RIPPED AND SPREAD WITH AVAILABLE TOPSOIL 3 INCH DEEP. TOTAL SEEDBED PREPARED DEPTH SHALL BE 4 INCH TO 6 INCH DEEP.
3. LOOSE ROCKS, ROOTS AND OTHER OBSTRUCTIONS SHALL BE REMOVED FROM THE SURFACE SO THAT THEY WILL NOT INTERFERE WITH ESTABLISHMENT AND MAINTENANCE OF VEGETATION. SURFACE FOR FINAL SEEDBED PREPARATION AT FINISHED GRADES SHOWN SHALL BE REASONABLY SMOOTH AND UNIFORM.
4. IF NO SOIL TEST IS TAKEN, FERTILIZER AND LIME TO BE ACCORDING TO SEEDING SPECIFICATIONS BELOW. IN ADDITION, PROVIDE 15 LBS 1000/ SF OF SUPERPHOSPHATE.
5. IF SOIL TEST IS TAKEN, PROVIDE LIME AND FERTILIZER ACCORDING TO SOIL TEST REPORT.
6. LIME AND FERTILIZER SHALL BE APPLIED UNIFORMLY AND MIXED WITH THE SOIL DURING SEEDBED PREPARATION. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DEPENDING ON FIELD CONDITION.
7. MULCH TO BE TACKED OR MECHANICALLY TIED DOWN IMMEDIATELY AFTER MULCH IS SPREAD.
8. ALL SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED WITH NORTH AMERICAN GREEN SC150 OR EQUIVALENT.

PERMANENT SEEDING SCHEDULE:

Table with columns: SEEDING SCHEDULE, SEED MIXTURES. Includes entries for NOVEMBER THROUGH FEBRUARY, MARCH THROUGH JUNE, JULY THROUGH OCTOBER, INTERMEDIATE SEED MIX, FALL - WINTER, and SPRING - SUMMER.

PERMANENT SEEDING SCHEDULE CONTINUED:

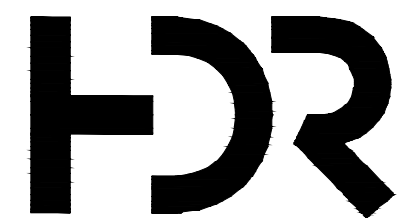
3. SEEDING MIXTURES FOR ALL OTHER AREAS SHALL BE TAILORED TO STATE-SPECIFIC CONDITIONS, STEEPNESS OF SLOPES, CLIMATE, LOCATION, AND ELEVATION. TYPICAL SEEDING GUIDELINES ARE AS FOLLOWS:

KENTUCKY-31 TALL FESCUE AT 100 LBS/ACRE
SERICEA LESPEDEZA AT 15 LBS/ACRE.

4. IN THE ABSENCE OF SOIL TEST, FERTILIZER AND LIME WILL GENERALLY BE APPLIED AT THE FOLLOWING RATES:

10-20-20 FERTILIZER 400 LB/ACRE
GROUND AGRICULTURAL LIME 2000 LB/ACRE

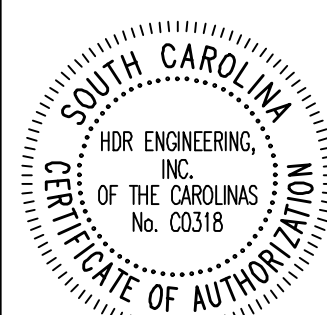
LIQUID LIME OR ALTERNATIVE FERTILIZERS MAY BE SUBSTITUTED IN VARIOUS SITUATIONS. MULCH, EROSION CONTROL BLANKETS, AND OR FLEXIBLE GROWTH MEDIUM SHALL BE APPLIED TO ALL SEEDED AREAS TO AID IN THE ESTABLISHMENT OF VEGETATION AND HELP IMPEDE EROSION. VEGETATIVE MULCH, TYPICALLY WHEAT OR OAT STRAW, SHALL BE APPLIED AT THE RATE OF 4000 LB/ACRE.



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HDR Engineering, Inc. of the Carolinas

Table with columns: PROJECT MANAGER, PROJECT ENGINEER, DRAFTER, PROJECT NUMBER. Includes names James MCCAUL, R. BAYS DEN, K. REYNOLDS and project number 10188549.



R.J. CORMAN BRIDGE
AT MP 334.5 OVER CRABTREE CREEK

EROSION CONTROL NOTES

FILENAME
SCALE

SHEET

01C-03

Comprehensive Stormwater Pollution Prevention Plan (C-SWPPP) For Construction Activities:

Project/Site Name:

R.J. Corman MP 334.5 Bridge Over
Crabtree Creek Project

Primary Permittee:

R.J. Corman

Project Address/Location:

Conway, SC
Horry County

Permittee/Owner Contact:

101 R.J. Corman Drive
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859-881-2699
Edward.Quillian@RJCorman.com

SWPPP Preparer:

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Day-to-Day Operator:

C-SWPPP Preparation Date:

12/2019

Modification Dates:

Modification I:

Modification II:

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¹ *OS-SWPPP is acronym for On-Site Storm Water Pollution Prevention Plan*

Section 1

PROJECT OVERVIEW

1.1 Narrative

Construction Activities and Best Management Practices (BMP) Summary

- Project Summary -

The proposed R.J. Corman MP 334.5 Bridge project is a replacement bridge structure located in Horry County within the town of Conway, South Carolina. The bridge structure will encompass a single track prestressed concrete box beam crossing over Crabtree Creek. The bridge will consist of eight 30 foot spans for a total bridge length of 240 feet. Limits of disturbance is 1.7 acres and includes an existing access drive just in case it has to be repaired during construction.

Prior to initiating temporary construction phases associated with the existing bridge removal and new bridge construction, a R.J. Corman construction contractor will install erosion control measures to encompass the anticipated limits of disturbance. An avoidance and minimization of disturbance approach has been incorporated into the siting of the erosion control measures by utilizing existing stabilized access points and stabilized right-of-way access routes, whenever possible. Erosion control measures are indicated herein for permitting use only by the town of Conway and South Carolina Department of Health and Environment Control (SCDHEC) via review by the City of Conway. The project construction duration is anticipated to be ten weeks for installation of the erosion control measures with maintenance as needed during the removal of the existing bridge structure as well as the construction of the new bridge structure.

Pre-Development Conditions

The project will take place in an existing railroad right-of-way. There are existing access drives bridge access that will be utilized and improved as necessary for project implementation and erosion control BMPs will be used to control sediment

Post-Development Conditions

Pre-Development/Existing conditions will be restored post-construction. Pre-existing contours will be restored and disturbed areas will be stabilized

sequentially as construction proceeds along the railroad right-of-way. Disturbed areas will be seeded and stabilized at the end of each work day.

Flooding Issues

The project area intersects a Zone AE Special Flood Hazard Area (SFHA), or flood zone. FEMA defines this as the area that will be inundated by a flood event that has a 1-percent chance of being equaled or exceeded in any given year. Even though the project area intersects a regulatory floodway, there is no requirement to investigate the project impact with a no-rise study since the new bridge will be constructed within the railroad right-of-way above the floodway within the same footprint as the existing bridge. The existing hydraulic opening will be maintained.

1.2 Stormwater Management and Sediment Control

Erosion Prevention BMPs

Surfaces that will be accessed with 1) >20% grades, 2) poorly drained soils, or 3) other potential problems may be resurfaced with gravel or aggregate base for stabilization as directed by the inspector. Temporary access will be installed and seeded with permanent vegetation following completion of the grading of the access. The temporary construction entrances will be resurfaced with gravel where construction traffic will exit the site and join with the public road. The entrances shall consist of 6-inch-deep, 2- to 3- inch-diameter washed ballast gravel and shall be in accordance with the minimum dimensions as described on the plan. The surface of the gravel entrance will be periodically top-dressed, as needed, to prevent transport of mud and sediment off-site. Sediment that is transported onto public or private pavement will be cleaned by the contractor.

Wattles are shown in the plans adjacent to all laydown and work areas to protect nearby wetlands or stream, if present, and to avoid additional disturbance which occurs from trenching of silt fence. Access roads are included within the limits of disturbance (LOD) calculation. Pre-existing contours and pre-existing runoff conditions will be restored and the area will be stabilized immediately upon removal of the access. The intent of this project is to have no grubbing, only clearing and mowing of the existing access.

Sediment Control BMPs

Sediment Control BMPs are designed to remove or retain a portion of the sediment that accumulates in stormwater runoff, to the extent practicable. These BMPs help prevent sediment impacts to adjacent properties and water bodies from stormwater discharge originating from construction sites.

The proposed placement of these BMP measures are depicted in the Sediment and Erosion Control plan set.

The Erosion and Sediment Control Plan was prepared using performance-based standards to trap greater than 85% of total suspended solids (TSS) and to control pollution and protect water quality during all stages of the project. As a result, the project will not result in a change in downstream water quality.

Structural Control BMPs and Floodplain Placement

BMPs of this type are not included in this project.

Construction Entrances and Dust Control

The use of a construction entrance BMP (i.e., gravel) will limit the amount of sediment transported by construction vehicles onto existing roadways or other impervious areas.

Temporary gravel construction entrances will be provided where traffic enters the right-of-way off US Highway 701. The gravel entrance shall consist of 6-inches deep, 2- to 3-inch washed ballast gravel and shall be in accordance with the minimum dimensions as described on the plan. The surface of the gravel entrance will be periodically top-dressed, as needed, to prevent off-site mud and sediment transport. Sediment that is transported onto public or private pavement will be cleaned by the contractor.

Water Quality BMPs During Construction

BMPs designed to protect water quality will be implemented as described above under the Sediment Control BMPs section.

A turbidity curtain has been detailed within Crab Tree Creek downstream of the work area to protect the stream from any sediment kick-up.

Post-Construction Water Quality

There are no post construction water quality devices associated with this project. The project will not result in a change in the physical, chemical, or biological integrity of downstream waters. All disturbance will be revegetated to existing or better than existing conditions.

Other Stormwater Management Procedures

Implementation of this project will adhere to appropriate stormwater management procedures based on the nature, conditions, and/or procedures associated with the construction site, as suggested by the SCDHEC requirements. These requirements are as follows:

- All construction debris must be stockpiled in designated areas, which have been provided with the proper BMPs, to prevent the discharge of pollutants from building or other similar materials off-site or into surface waters.
- Any additional waste material or stockpile material (i.e., soil, mulch, removed bridge material) must also be stored in the designated areas as shown on the Construction Site Plans or as the contractor responsible for day-to-day activities deems appropriate. Silt fencing or approved, equally efficient sediment-retaining BMP shall surround stockpiled materials.
- All parties conducting work at the construction site must be informed of and make note of pollutant sources, both industrial and construction, and must be informed of all controls and measures that will be implemented to prevent the discharge of these pollutants in stormwater runoff.

1.3 Sequence of Construction

Construction sequence:

1. Coordinate with R.J. Corman on contacting impacted property owners prior to beginning work.
2. Coordinate with SCDOT where appropriate for access entry off of State roads.
3. Receive permit coverage and NPDES coverage from SCDHEC and the City of Conway.
4. Pre-construction meeting
5. Notify the City of Conway at least 5 days prior to beginning land disturbance.
6. Installation of construction entrances and matting.

7. Install perimeter controls to support installation of staging areas. The primary staging area will be located on the east side of US Highway 701 for easy access. A temporary access road will be constructed following the path of the Crabtree Swamp Pedestrian Trail to the project site. A secondary staging area will be established adjacent to the bridge at the end of the Pedestrian trail for materials that are ready to be immediately installed.
8. Clearing and grubbing only as necessary for installation of perimeter controls of the project site.
9. Installation of perimeter controls (e.g. silt fence)
10. Clearing and grubbing of site or demolition (sediment and erosion control measures for these areas must already be installed).
11. The primary crane pad will be located adjacent to the secondary staging area so that material handling can be minimized. In order to access the south end of the bridge, a temporary construction trestle will be constructed within the railroad right-of-way on the west side of the bridge. The crane will move along the temporary construction trestle as required for construction. Minor improvements, such as placement of rock material, will be required in both staging areas as well as along the pedestrian trail to limit damage caused by heavy equipment and staging of materials.
12. Pile driving phase: All piles will be driven from land-based equipment or from equipment utilizing the temporary construction trestle. No barge will be used for this project. Once all piles are in place, the precast concrete caps will be placed and welded to the piles.
13. Existing bridge demolition: When a sufficient outage is permitted by the railroad, the existing bridge will begin to be removed and hauled away. Demolition will begin at the north end of the bridge. Once the first span is removed, the necessary grading will be performed around the proposed north abutment and riprap will be placed. All activities will occur within the railroad right-of-way. While demolition of the existing bridge is continuing, the new precast concrete beams will be placed using equipment placed on the crane pad or temporary construction trestle. Once the last span of the existing bridge is removed, the area around the proposed south abutment will be graded and riprap will be placed. Again, all activities will occur within the railroad right-of-way.
14. Final bridge construction and grading: After grading and riprap placement at the proposed south abutment has been completed, the remaining prestressed concrete beams will be placed. Once the bridge is complete, track improvements along the approaches will be made and ballasted

- track will be installed on the bridge. All track construction activities will occur within the railroad right of way.
15. Permanent and final stabilization: All temporary materials, fills, and construction trestles will be entirely removed after construction is complete. Affected areas will be returned to their pre-construction elevations and re-vegetated as required.
 16. Removal of temporary sediment and erosion control measures after entire area draining to the structure is finally stabilized (it is recommended that the project owner/operator have the SWPPP preparer or registration equivalent approve the removal of temporary structures).
 17. Submit Notice of Termination (NOT) to the City of Conway as appropriate

1.4 Non-Numeric Effluent Limits

Stormwater Volume and Velocity Control

During the implementation of construction activities, all parties performing work at the site whose work may affect the implementation of the Storm Water Pollution Prevention Plan (SWPPP) must be informed of and directed on how to comply with the Non-Numeric Effluent Limit, which requires the management of stormwater runoff **within** the construction site. The purpose of this requirement is to control the stormwater volume and velocity at locations within the site to minimize erosion.

Specifically, each responsible party should be made aware of the practices that have been or should be implemented at the construction site to accomplish these particular stormwater management practices. Below is a list of practices that are to be utilized within the disturbed area and at each outfall at the construction site to control stormwater volume and velocity:

Volume Control

- Limiting the amount of disturbed area and exposed soils;
- Staging and/or phasing of the construction sequence;
- Diverting off-site flow around the construction site;
- Controlling the drainage patterns within the Construction Site; and
- Temporary stabilization of disturbed areas.

Velocity Control

- Surface roughening and/or other slope stabilization practices;
- Riprap outlet protection velocity dissipation BMPs located at the

temporary culvert outfalls;

- Use of rock checks, sediment tubes, etc., in temporary diversion swales and ditches; and
- Use of erosion control blankets, turf reinforcement mats, and other non-vegetative BMPs that can be used to quickly stabilize disturbed areas.

The SWPPP Preparer/Engineer should approve any modifications (i.e., additional BMPs or changes to existing BMPs) to address the management of stormwater volume and velocity prior to implementation. All approved SWPPPs that were issued coverage under the Construction General Permit (CGP) should include ample BMPs and other control measures to address the site-specific Non-Numeric Effluent Limit.

Soil Exposure, Compaction and Preservation

Throughout construction activities, **the amount of soil exposed during construction should be kept to a minimum**. This may be accomplished by minimizing the amount the disturbed area within the permitted Limits of Disturbance (shown on the approved construction site plans) to only that which is necessary to complete the proposed work. For areas that have already been disturbed and where construction activities will not begin for a period of 14 days or more, temporary stabilization techniques must be implemented.

Prior to implementation of any major grading activities, **topsoil is to be preserved** by placing it in areas designated for stockpiling until final grades are reached. Each stockpile must be equipped with proper sediment and erosion controls to preserve the topsoil and protect adjacent areas from impacts. Once final grades have been reached, the preserved topsoil should be utilized to apply to areas identified for stabilization. Topsoil contains nutrients and organisms that aid in the growth of vegetation.

The **Compaction of Soil** should also be minimized to the degree practicable during grading activities. This is especially important during the replacement of topsoil to aid in a quick establishment of vegetative cover. Compaction of soil may also reduce rainfall's ability to infiltrate into the soil, increasing the amount of stormwater runoff.

Soil Stabilization

Throughout construction activities, soil stabilization techniques are to be initiated as soon as practicable whenever any clearing, grading, excavating, or other land-disturbing activities have permanently or temporarily ceased on any portion of the construction site and will not resume for a period exceeding 14

calendar days. For areas where initiating stabilization measures is infeasible, (e.g., where snow cover, frozen ground, or drought conditions preclude stabilization), initiate vegetative or non-vegetative stabilization measures as soon as practicable.

Steep Slopes (Slopes of 30% grade or greater)

All disturbed steep slopes (30% grade, ~3H:1V, or greater), and steep slopes to be created through grading activities must be managed in a fashion that limits the potential of erosion along the slopes. All parties whose work is/was responsible for the creation/disturbance of steep slopes must comply with the following items:

- **Minimize the Disturbance** of all steep slopes, when possible.
- **Divert Concentrated or Channelized Flows** of stormwater away from and around steep slope disturbances.
- **Use Specialized BMP Controls** including temporary and permanent seeding with soil binders, erosion control blankets, surface roughening, reducing continuous slope length with terracing or diversions, gradient terraces, interceptor dikes and swales, grass-lined channels, pipe slope drains, subsurface drains, level spreaders, check dams, seep berms, and triangular silt dikes to minimize erosion.
- **Initiate Stabilization Measures** as soon as practicable on any disturbed steep slope areas where construction activities have permanently or temporarily ceased, and will not resume for a period exceeding 7 calendar days.
- **A Vegetative and/or Non-Vegetative Cover** must be established within 3 working days from the time that stabilization measures were initiated.

Stabilization of steep slopes should be a priority for those performing work at the construction site. At the very least, runoff control BMPs should be implemented to transport stormwater runoff from the top of the slope to the toe of the slope. An example of this is to install diversion swales along the top of slope and direct the runoff towards pipe slopes drains to transports the runoff to the toe of the slope. All pipe slope drain outlets are to be equipped proper outlet protection.

Sediment Discharge Minimization

Permittees, Contractors, and all other parties responsible for conducting land-disturbing activities are required to install and maintain all erosion and

sediment BMPs that are identified on the approved construction site plans. These BMPs have been designed and approved to address such factors as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soils particle sizes expected to be present on the construction site. **Proper installation, inspection, and maintenance will allow these BMPs to operate at maximum efficiencies in order to minimize sediment discharges to the maximum extent practical.**

Pollutant Discharge Minimization

Permittees, Contractors, and all other parties responsible for conducting land-disturbing activities are required to install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, the following items must be implemented:

- **Minimize the discharge of pollutants from dewatering trenches and excavations** by managing runoff with the appropriate controls. Otherwise these discharges are prohibited;
- **Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters**. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
- **Minimize the exposure of building materials, building products, construction wastes, trash**, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater; and

Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

Prohibited Discharges

Permittees, Contractors, and all other responsible parties for conducting land-disturbing activities are prohibited to discharges, from the construction site, the following items:

- **Wastewater from washout of concrete**, unless managed by an appropriate control;
- **Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;**
- **Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;** and

- **Soaps or solvents used in vehicle and equipment washing.**

1.5 Buffer Zone Management

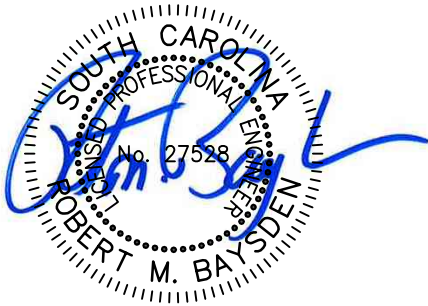
General Buffer Information

Buffer Zone Information

All construction sites that contain or are adjacent to surface waters must provide a vegetated buffer of at least 30 linear feet or 45 linear feet when the surface water is classified as Sensitive Waters (Section 3.2.4.C of South Carolina's CGP). The project is in the vicinity of Crab Tree Swamp and the MS4 for Conway, SC, but does not have a stream classification. Therefore, Compliance Option "A" – full-width 30-foot buffer for impaired waters will not be maintained for this project. Due to the replacement of an existing bridge, the project falls under Section 3.2.4.C.IV and the Buffer Zone requirements may be waived. BMPs within the LOD as well as matting locations have been shown in the project plans.

1.6 Certification Statement

"I have placed my signature and seal on the design documents submitted signifying that I accept responsibility for the design of the system. Further, I certify to the best of my knowledge and belief that the design is consistent with the requirements of Title 48, Chapter 14 of the Code of Laws of SC, 1976 as amended, pursuant to Regulation 72-300 et seq. (if applicable), and in accordance with the terms and conditions of SCR100000."



(Signature and Seal)

Name Robert Baysden

Title Civil Section
Manager

Date 12/5/19

Section 2

SITE FEATURES AND SENSITIVE AREAS

2.1 Sources of Pollution

Sources of Pollution

During construction activity, each permittee, contractor, and person responsible for conducting work must ensure that sources of pollution are managed to prevent their discharge from the construction site. Expected pollution sources during construction have been identified in **Table 2.1-A**, but due to the nature of construction activities, it is challenging to predict all potential pollution sources throughout the life of a construction project. For that reason, the **Table 2.1-A** has been provided to help those performing work at this construction site identify possible sources of pollution

Stormwater runoff subjected to the identified pollution sources must be treated by the appropriate BMPs as directed by this SWPPP.

In the event that any additional sources of pollution are identified during construction, the person(s) with day-to-day operational control at the site is to add the new source(s) to **Table 2.1-A** and consult with the SWPPP Preparer to properly address this source and to prevent the discharge of the pollutant through stormwater runoff.

Table 2.1-A: Potential Sources of Pollution

Source	Material or Chemical	Location	Appropriate Control Measures
Loose soil exposed/disturbed during clearing, grubbing, and grading activities	Sediment	All areas within the Limits of Disturbance	As directed by the construction Plans; including silt fence, sediment basins, and sediment traps
Material delivery and storage areas	Nutrients, pH, sediment, heavy metals, oils & grease	All areas used as storage areas	Silt fence and/or sediment dikes
Equipment fueling and maintenance areas	Metals, hydrocarbons, oils and greases	Areas surrounding fuel tanks	Provide secondary containments, locate in upland areas; repair leaking and broken hoses
Paints	Metal oxides, stoddard solvent, talc, calcium-carbonate, arsenic	Throughout site, primarily in areas of bridge construction	Wash water should be contained and is prohibited from being discharged

2.2 Surface Waters

Surface waters within the project site have been delineated on the figure included in Appendix A.

2.3 Impairments and TMDLs

- Sample Language -

Some Waters of the State (WoS) have been identified as not meeting the State's water quality standards for recreational swimming, fish consumption, aquatic life use, and/or shellfish harvesting for one or more pollutants even after controls for point and nonpoint source pollution have been put in place. These waterbodies have been classified as "impaired." Once these waterbodies have been identified, they are listed on the State's Clean Water Act §303(d) List of Impaired Waterbodies. South Carolina lists impairments as "stations" where samples were taken along a water body.

The most recently-approved §303(d) list can be found at the following link:

<http://www.scdhec.gov/HomeAndEnvironment/Water/ImpairedWaters/Overview/>

After a pre-determined period of time, DHEC is obliged to develop a Total Maximum Daily Load (TMDL) for the pollutant of concern for each impaired station listed on the §303(d) list. A TMDL is the amount of a single pollutant (such as bacteria, nutrients, metals) that can enter a water body on daily basis and that water body still meet water quality standards. The TMDL refers to both a calculation of a pollutant entering a water body as well as the document containing this calculation along with source assessments, watershed and land use information, reductions and allocations information, implementation and other relevant information, maps, figures, and pictures.

Once a TMDL has been developed and approved by the United States Environmental Protection Agency (EPA), the impaired WoS is removed from the §303(d) list. A separate list is maintained for WoS with approved TMDLs.

Any construction site whose discharges are released into a WoS listed on the §303(d) list or for which an EPA-approved TMDL has been developed, must address the specific pollutant set forth in the TMDL and/or potential pollutants

for the impairment. The SWPPP must include a description of BMPs to address these pollutants.

The primary permittee and/or contractor must ensure that the construction site discharges remain in compliance with the State's water quality standards. To do so, these parties must ensure the function of all approved BMPs to handle the specific pollutant.

Construction stormwater discharges that are expected to contain pollutants that contribute and/or can cause the following impairments to receiving waterbodies include: BIO (Macroinvertebrate Community), Turbidity, TP (Total Phosphorus), TN (Total Nitrogen), and CHLA (Chlorophyll-a). The presence of any of these impairments in receiving waters will require approval control of the site's construction stormwater discharges. Information on each of these impairments and how to treat stormwater runoff for these impairments is provided below.

Impairments Affected by Construction Site Discharge and Methods to Control Potential Pollutants Causing or Contributing to the Impairments

- 1. Turbidity:** Turbidity can be generally defined as the "cloudiness" of a water body and can be caused by the growth of aquatic phytoplankton or the presence of suspended solids in the water column. In South Carolina, a water quality standard for turbidity is applicable to all waters of the State (see R. 61-68 D. 11. for numeric targets by water body classification). Turbidity levels that exceed the water quality standard may reduce light penetration, thereby inhibiting aquatic flora growth, and may reduce the ability of fauna, such as fish, to absorb oxygen across their gills.

Resolution: Examples include limiting the amount of disturbed area, designing sediment control BMPs to remove or reduce the maximum amount of sediment possible, immediate stabilization of disturbed areas, and other practices may be utilized to control the discharge of sediment from construction sites.

Impairment Sources and Prevention

Construction sites can contribute to these impairments directly through the release of excess soil and/or nutrients in stormwater runoff. For this reason, proper sediment and erosion control BMPs should be implemented and the design of the stormwater management systems, during both construction and post-construction, should address the control of stormwater runoff. A reduction in the volume released or the rate at which this volume is released can

significantly improve the quality of stormwater runoff and limit the amount of the pollutants that contribute to the above listed impairments.

As an example, sediment basins and/or traps should be used during construction to allow for sedimentation of soils/nutrients, and to control the release of stormwater into the impaired water body. Caution is advised when using fertilizers to reach Final Stabilization; excess fertilizer can contribute to each of the above listed impairments.

Site-Specific Requirements

The discharge from this construction site drains into WoS that is not impaired or listed on the 303(d) list, however, a historic monitoring station (MD-158) is downstream along Crab Tree Swamp if needed.

Due to the possibility of pollutants in construction stormwater discharge from this site that may contribute to any of these impairments, the following must be conducted throughout the lifespan of all land-disturbing activities at this site:

- Monthly monitoring of construction site outfalls;
- Biweekly inspections of all the primary sediment control BMPs;
- Employee training/acknowledgement during the Pre-Construction Meeting;
- Installation of additional BMPs to meet the water quality standards (as directed by the SWPPP Preparer and as approved by the regulating agency)

Additionally, post-construction BMPs may be required once final stabilization is reached to address any established TMDL or Impairment once construction operations have been completed.

Section 3

Compliance Requirements

3.1 SWPPP Availability

SWPPP to be retained on-site. Location to be determined during the pre-construction conference.

3.2 Pre-Construction Conferences

TBD once the project has been bid and contract has been awarded.

3.3 Inspection Requirements

During the construction period all sediment and erosion control structures, disturbed areas, recently stabilized areas, and construction roads will be inspected by others either weekly or within 24 hours following a storm event producing 0.5 inches or more of precipitation. All problems resulting in off-site sedimentation will be corrected by the contractor. Rills, washes, and other eroded areas should be re-graded, smoothed, and re-seeded, as required, to provide long-term stabilization. On-site problems shall be corrected within seven calendar days.

3.4 Maintenance Requirements

Maintenance of all BMPs can be found on the approved construction documents.

3.5 Record Keeping

Logs will be located on-site.

3.6 Final Stabilization

Site shall be restored to original condition through the use of permanent seeding of impervious areas, and other permanent BMPs. Once final stabilization has been reached on all disturbed areas, the Notice of Termination will be submitted.

Appendix A

Site Maps

As part of this site-specific SWPPP, an assortment of site maps must be used, in addition to information from an on-site assessment, to develop an effective stormwater sediment and erosion control plan. The maps located in this appendix have been obtained from various sources, or have been developed by the SWPPP Preparer. Listed below are descriptions of the maps and sources found within this Appendix.

Location Map

A general location map is included to identify nearby waterbodies in proximity to other properties, and can be a useful tool to locate the site when from the road. This map includes the outlined project locations, labeled roadways, a north arrow, and a scale. SWPPP. This map can be found on the first sheet of the construction site plans in lieu of including it in this appendix.

Site Map (Figure 1)

A site map is included to show location as well as the limits of disturbance, stormwater flow directions, adjacent features (e.g., roads and water bodies).

Topographic Map (Figure 2)

A topographic map is included to show existing contours and drainage patterns at the project site. It also includes the project boundary outline, route of runoff from the site to the nearest water body, and adjacent road names.

Floodway Map (Figure 3)

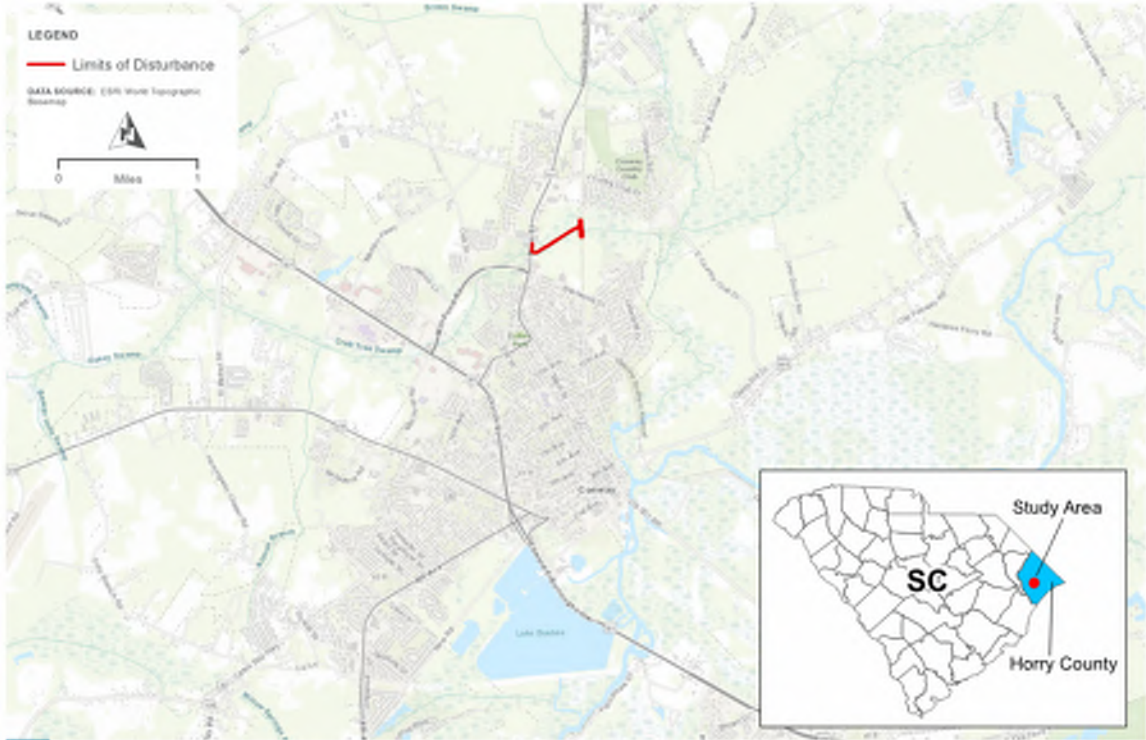
Several floodway maps are included to determine the location of the 100-yr floodplain adjacent to the project site. These maps were obtained from the Federal Emergency Management Agency (FEMA) (www.fema.gov). The Flood Insurance Rate Map (FIRM) panel and FEMA map is included in this Appendix as well. Source information for the FIRM panel is provided below.

Soils Map (Figure 4)

A soils map depicts the soil types and other soil characteristics that exist at the project site. Each soils map contains the predominant soil types at the site and adjacent areas. It was obtained from the National Resources Conservation Service (NRCS) (<http://soils.usda.gov>).

FEMA FIRM Panel

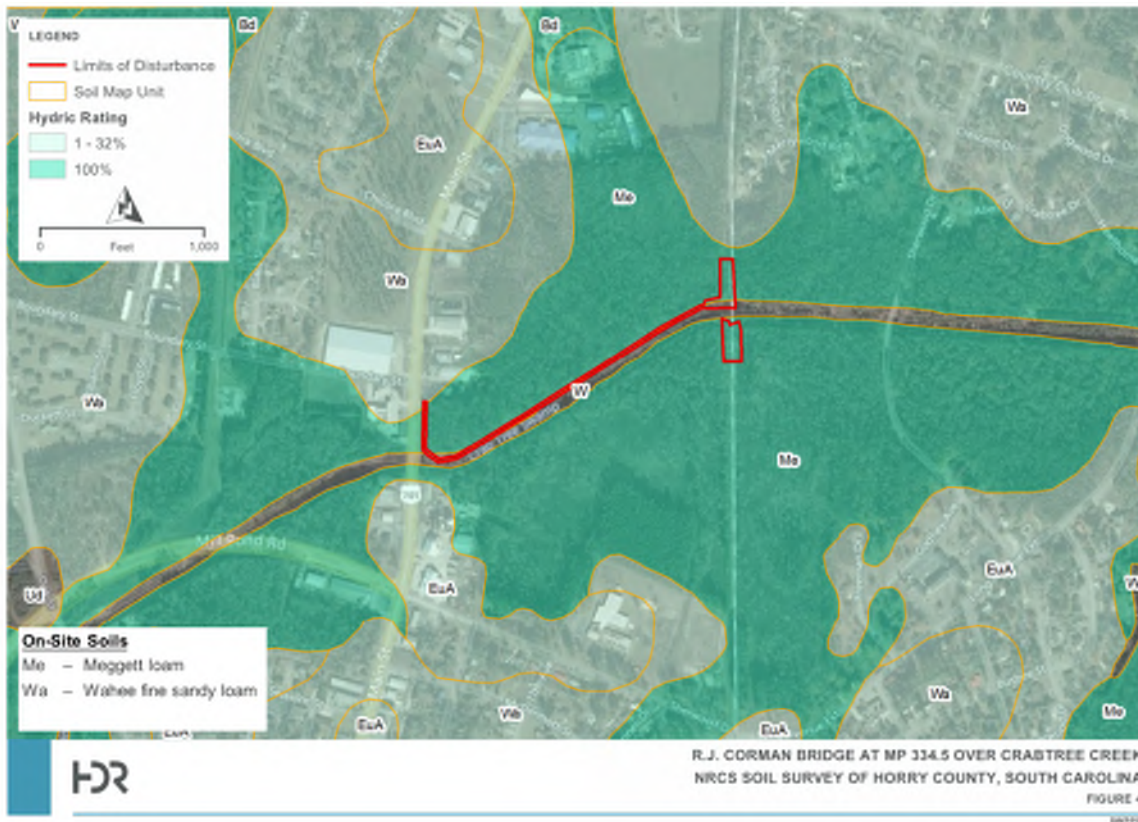
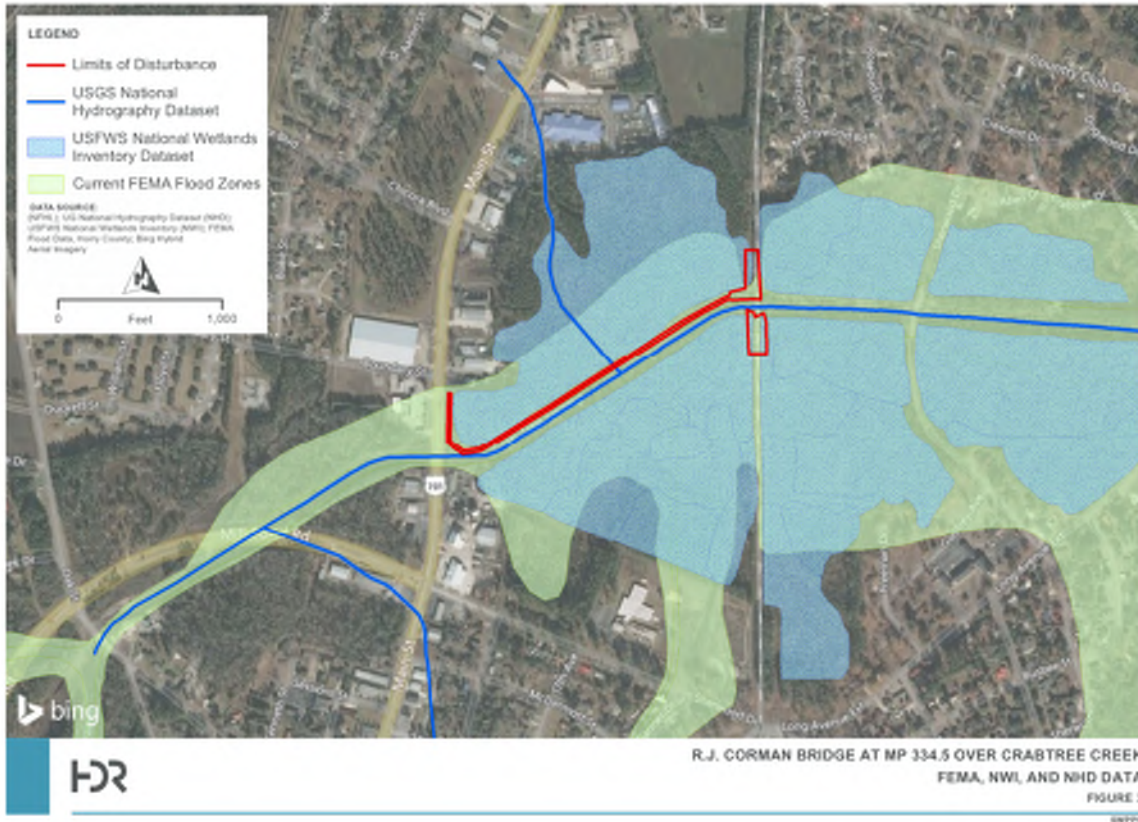
A FEMA FIRM Panel map has been provided at the end of this Appendix from the FEMA Flood Map Service Center (<https://msc.fema.gov/portal/home>).

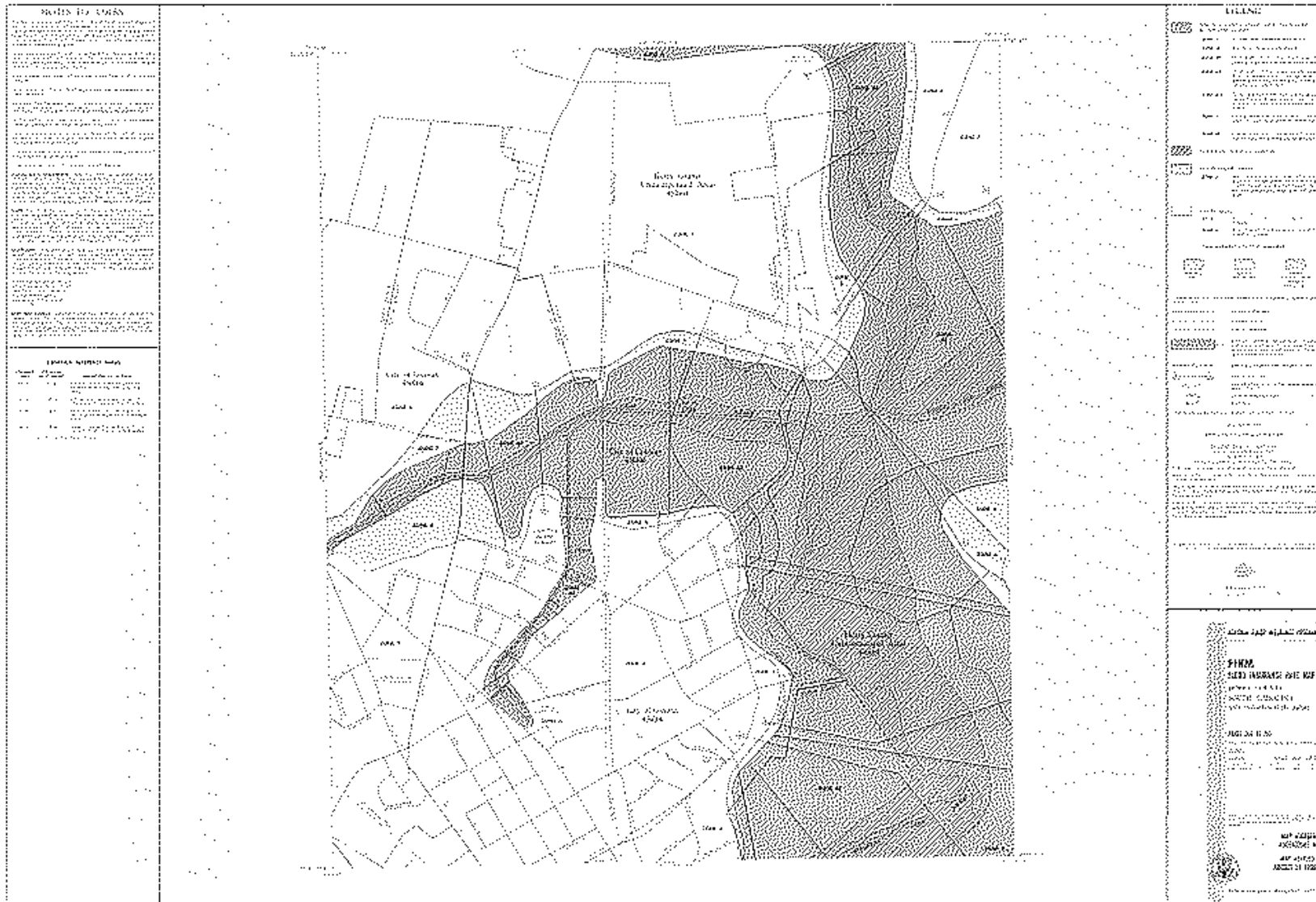


R.J. CORMAN BRIDGE AT MP 334.5 OVER CRABTREE CREEK
 PROJECT VICINITY
 FIGURE 1



R.J. CORMAN BRIDGE AT MP 334.5 OVER CRABTREE CREEK
 USGS TOPOGRAPHIC QUADRANGLE, CONWAY, 1:24K
 FIGURE 2





Appendix B

Drainage Calculations

There are no permanent / post-construction features associated with this project that differ from the pre-construction condition. As such, drainage calculations were not performed in the development of various phases of activity (i.e. pre-development conditions, construction conditions, and post-development conditions).

Appendix C

Additional Approvals/Certifications

Appendix C has been created to store additional correspondences that may be required to either obtain coverage under the current CGP or to implement land-disturbing activities at the construction site.

Examples and descriptions of such correspondences are listed below. All associated correspondences and approval for this site-specific SWPPP are located on the following pages. No other approvals, including FEMA or USACE 401/404 certifications, are applicable to this project.

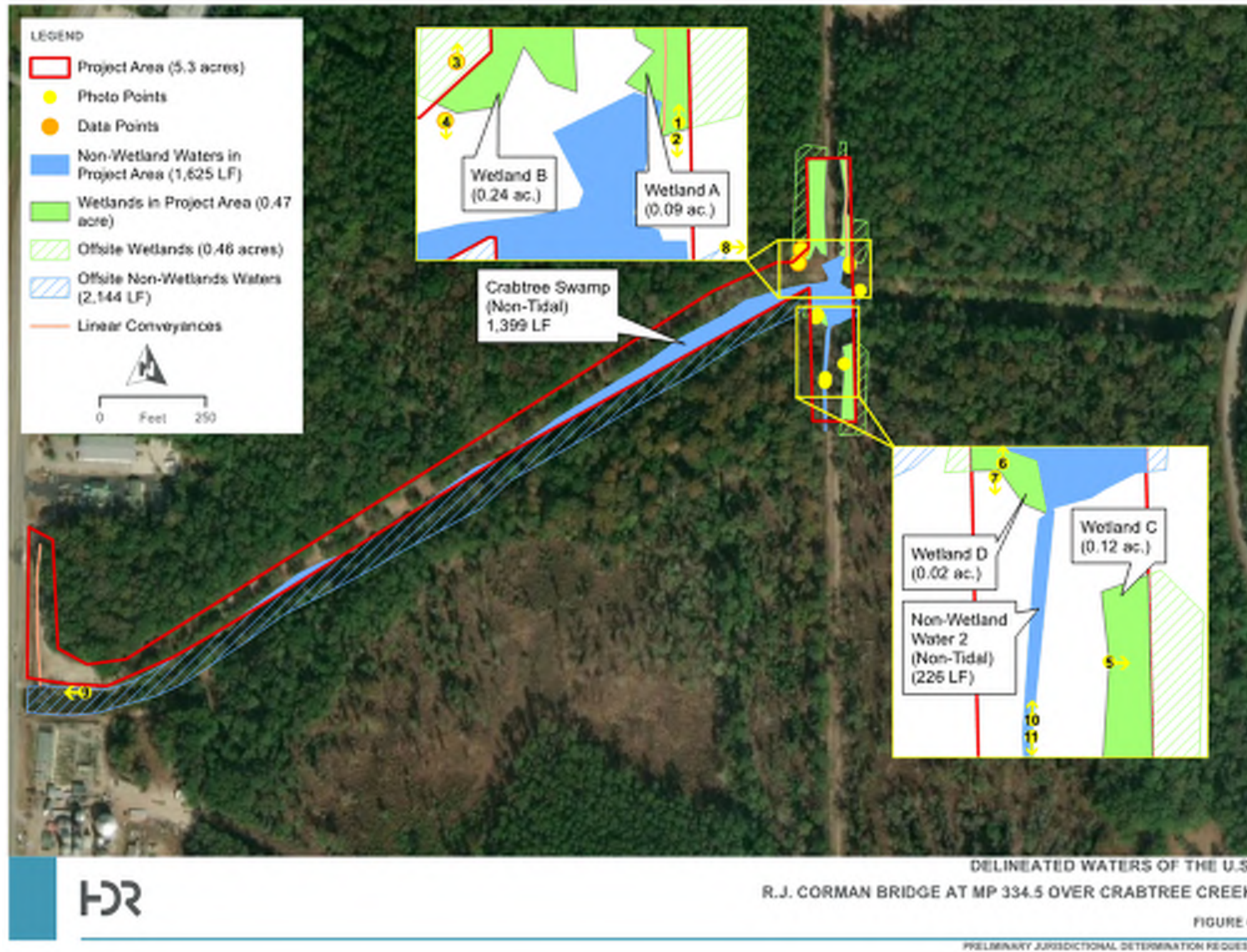
USACE's Jurisdictional Determinations

The procedure of identifying and locating jurisdictional waters of the U.S., regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act and Section 10 of the Rivers & Harbors Act of 1899, is commonly referred to as the "Jurisdictional Determination (JD) Process", a "wetland determination" or a "delineation". In general, these determinations are good for five years from the date the USACE gives written notification of accurate delineation of the jurisdictional features on the property in question.

This survey procedure establishes a line that identifies and separates the USACE-regulated areas from non-regulated areas. Regulated (i.e., jurisdictional) areas can include wetlands, stream channels, rivers, lakes, ponds and coastal and offshore waters.

The JD process is essential when investigating, planning, designing, or submitting an application for a permit from the USACE to determine if the proposed work will occur in wetlands or waters of the U.S. More information on Jurisdictional Determinations can be found at <http://www.sac.usace.army.mil/>.

This map was included within this appendix.



Appendix D

Inspection Log and Reports

SWPPP Inspection Log			
Name of Construction Site	Location of Construction Site		
Date of Inspection	Inspector Name	Does Inspection Report require maintenance of installed BMPs?	
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No

<i>SWPPP Inspection Log (Continued)</i>			
Date of Inspection	Inspector Name	Does Inspection Report require maintenance of installed BMPs?	
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
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		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No

Appendix E

Rainfall Log and Reports

SWPPP Rainfall Records (January - June)										Year:	
January	Rainfall	February	Rainfall	March	Rainfall	April	Rainfall	May	Rainfall	June	Rainfall
1		1		1		1		1		1	
2		2		2		2		2		2	
3		3		3		3		3		3	
4		4		4		4		4		4	
5		5		5		5		5		5	
6		6		6		6		6		6	
7		7		7		7		7		7	
8		8		8		8		8		8	
9		9		9		9		9		9	
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11		11		11		11		11		11	
12		12		12		12		12		12	
13		13		13		13		13		13	
14		14		14		14		14		14	
15		15		15		15		15		15	
16		16		16		16		16		16	
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19		19		19		19		19		19	
20		20		20		20		20		20	
21		21		21		21		21		21	
22		22		22		22		22		22	
23		23		23		23		23		23	
24		24		24		24		24		24	
25		25		25		25		25		25	
26		26		26		26		26		26	
27		27		27		27		27		27	
28		28		28		28		28		28	
29		29		29		29		29		29	
30				30		30		30		30	
31				31				31			

SWPPP Rainfall Records (July - December)										Year:	
July	Rainfall	August	Rainfall	September	Rainfall	October	Rainfall	November	Rainfall	December	Rainfall
1		1		1		1		1		1	
2		2		2		2		2		2	
3		3		3		3		3		3	
4		4		4		4		4		4	
5		5		5		5		5		5	
6		6		6		6		6		6	
7		7		7		7		7		7	
8		8		8		8		8		8	
9		9		9		9		9		9	
10		10		10		10		10		10	
11		11		11		11		11		11	
12		12		12		12		12		12	
13		13		13		13		13		13	
14		14		14		14		14		14	
15		15		15		15		15		15	
16		16		16		16		16		16	
17		17		17		17		17		17	
18		18		18		18		18		18	
19		19		19		19		19		19	
20		20		20		20		20		20	
21		21		21		21		21		21	
22		22		22		22		22		22	
23		23		23		23		23		23	
24		24		24		24		24		24	
25		25		25		25		25		25	
26		26		26		26		26		26	
27		27		27		27		27		27	
28		28		28		28		28		28	
29		29		29		29		29		29	
30		30		30		30		30		30	
31		31				31				31	

Appendix F

Additional Site Logs and Records

SWPPP Pre-Construction Conference Attendance Log

Date & Time	Description/Outline and Name of the Presenter of SWPPP and Site Requirements	
	Name	Signature

<i>SWPPP Contractor & Sub-Contractor Log</i>			
Name of Construction Site	Location of Construction Site		
Company/Individual Name	Work Responsibilities		
1.)			
Start Date:			
Completion Date:			
2.)			
Start Date:			
Completion Date:			
3.)			
Start Date:			
Completion Date:			
4.)			
Start Date:			
Completion Date:			
5.)			
Start Date:			
Completion Date:			
6.)			
Start Date:			
Completion Date:			
7.)			
Start Date:			
Completion Date:			
8.)			
Start Date:			
Completion Date:			
9.)			
Start Date:			
Completion Date:			
10.)			
Start Date:			
Completion Date:			

SWPPP Contractor & Sub-Contractor Log (Continued)	
11.)	
Start Date:	
Completion Date:	
12.)	
Start Date:	
Completion Date:	
13.)	
Start Date:	
Completion Date:	
14.)	
Start Date:	
Completion Date:	
15.)	
Start Date:	
Completion Date:	
16.)	
Start Date:	
Completion Date:	
17.)	
Start Date:	
Completion Date:	
18.)	
Start Date:	
Completion Date:	
19.)	
Start Date:	
Completion Date:	
20.)	
Start Date:	
Completion Date:	
21.)	
Start Date:	
Completion Date:	

SWPPP Modification Log		
Name of Construction Site		Location of Construction Site
Type of Modification		Description of Modification
<input type="checkbox"/> Major <input type="checkbox"/> Minor		
Start Date:		
Completion Date:		
Reason for Modifications:		Approved/Implemented By:
Type of Modification		Description of Modification
<input type="checkbox"/> Major <input type="checkbox"/> Minor		
Start Date:		
Completion Date:		
Reason for Modifications:		Approved/Implemented By:
Type of Modification		Description of Modification
<input type="checkbox"/> Major <input type="checkbox"/> Minor		
Start Date:		
Completion Date:		
Reason for Modifications:		Approved/Implemented By:
Type of Modification		Description of Modification
<input type="checkbox"/> Major <input type="checkbox"/> Minor		
Start Date:		
Completion Date:		
Reason for Modifications:		Approved/Implemented By:
Type of Modification		Description of Modification
<input type="checkbox"/> Major <input type="checkbox"/> Minor		
Start Date:		
Completion Date:		
Reason for Modifications:		Approved/Implemented By:
Type of Modification		Description of Modification
<input type="checkbox"/> Major <input type="checkbox"/> Minor		
Start Date:		
Completion Date:		
Reason for Modifications:		Approved/Implemented By:

SWPPP Modification Log (Continued)		
Name of Construction Site		Location of Construction Site
Type of Modification		Description of Modification
<input type="checkbox"/> Major <input type="checkbox"/> Minor		
Start Date:		
Completion Date:		
Reason for Modifications:		Approved/Implemented By:
Type of Modification		Description of Modification
<input type="checkbox"/> Major <input type="checkbox"/> Minor		
Start Date:		
Completion Date:		
Reason for Modifications:		Approved/Implemented By:
Type of Modification		Description of Modification
<input type="checkbox"/> Major <input type="checkbox"/> Minor		
Start Date:		
Completion Date:		
Reason for Modifications:		Approved/Implemented By:
Type of Modification		Description of Modification
<input type="checkbox"/> Major <input type="checkbox"/> Minor		
Start Date:		
Completion Date:		
Reason for Modifications:		Approved/Implemented By:
Type of Modification		Description of Modification
<input type="checkbox"/> Major <input type="checkbox"/> Minor		
Start Date:		
Completion Date:		
Reason for Modifications:		Approved/Implemented By:

SWPPP Soil Stabilization Log		
Name of Construction Site		Location of Construction Site
Type of Stabilization		Description of Stabilization
<input type="checkbox"/> Final <input type="checkbox"/> Temporary		
Initiate Date:		
Completion Date:		
Additional work proposed for this area:		Inspection Frequency for Stabilized Area:
Type of Stabilization		Description of Stabilization
<input type="checkbox"/> Final <input type="checkbox"/> Temporary		
Initiate Date:		
Completion Date:		
Additional work proposed for this area:		Inspection Frequency for Stabilized Area:
Type of Stabilization		Description of Stabilization
<input type="checkbox"/> Final <input type="checkbox"/> Temporary		
Initiate Date:		
Completion Date:		
Additional work proposed for this area:		Inspection Frequency for Stabilized Area:
Type of Stabilization		Description of Stabilization
<input type="checkbox"/> Final <input type="checkbox"/> Temporary		
Initiate Date:		
Completion Date:		
Additional work proposed for this area:		Inspection Frequency for Stabilized Area:
Type of Stabilization		Description of Stabilization
<input type="checkbox"/> Final <input type="checkbox"/> Temporary		
Initiate Date:		
Completion Date:		
Additional work proposed for this area:		Inspection Frequency for Stabilized Area:

SWPPP Modification Log (Continued)		
Name of Construction Site		Location of Construction Site
Type of Stabilization		Description of Stabilization
<input type="checkbox"/> Final <input type="checkbox"/> Temporary		
Initiate Date:		
Completion Date:		
Additional work proposed for this area:		Inspection Frequency for Stabilized Area:
Type of Stabilization		Description of Stabilization
<input type="checkbox"/> Final <input type="checkbox"/> Temporary		
Initiate Date:		
Completion Date:		
Additional work proposed for this area:		Inspection Frequency for Stabilized Area:
Type of Stabilization		Description of Stabilization
<input type="checkbox"/> Final <input type="checkbox"/> Temporary		
Initiate Date:		
Completion Date:		
Additional work proposed for this area:		Inspection Frequency for Stabilized Area:
Type of Stabilization		Description of Stabilization
<input type="checkbox"/> Final <input type="checkbox"/> Temporary		
Initiate Date:		
Completion Date:		
Additional work proposed for this area:		Inspection Frequency for Stabilized Area:
Type of Stabilization		Description of Stabilization
<input type="checkbox"/> Final <input type="checkbox"/> Temporary		
Initiate Date:		
Completion Date:		
Additional work proposed for this area:		Inspection Frequency for Stabilized Area:
Type of Stabilization		Description of Stabilization
<input type="checkbox"/> Final <input type="checkbox"/> Temporary		
Initiate Date:		
Completion Date:		
Additional work proposed for this area:		Inspection Frequency for Stabilized Area:

Appendix G

Construction General Permit SCR100000 and NOI

A copy of the Notice of Intent (NOI) is included herein. The NPDES General Permit for Stormwater Discharges from Construction Activities (SCR100000) can be found at the following address:

<http://www.scdhec.gov/environment/water/swater/docs/CGP-permit.pdf>