

<b>Landsford Tract Final Permittee-Responsible Mitigation Site</b>		
<b>Response to Agency Comments from Conceptual Mitigation Plan Stage</b>		
<b>USACE</b>	<b>SCDNR</b>	<b>Response</b>
	1	
	2	The lateral affect model was not well suited due to the narrow nature of the hydrologically impaired wetland. Two groundwater monitoring wells were installed for baseline monitoring, one that is in the direct vicinity of the ditch and one that is not in an area that is affected by the ditch. See Section(s) 4.48, 4.8 and Appendix I.
	3	Credit calculations have been adjusted accordingly. Please see Section 4.5 and Appendix N.
	4	Section 4.6 Mitigation Work Plan has been updated.
	5	Upland and Riparian Buffers are twice the minimum width according to the 2010 Guidelines for Preparing a Mitigation Plan. A detailed planting plan with proposed densities and planting techniques in included in Section 4.6.3 and in Appendix O Sheets 37 to 44.
	6	The new roads and roads to be maintained are included in Figures 4 and 14. They are also included in the Conservation Easement Boundary Plat found in Appendix B.
	7	A list of invasive species found within the site can be found in Section 4.6.5.
	8	See Section 4.7. The maintenance plan for access roads and gates primarily is referring to the monitoring period
	9	Access to the Mitigation Site is addressed in the Conservation Easement in Appendix B.
	10	If beaver depredation occurs at all, trapping or depredation activities will only occur in areas that threaten the success criteria of Mitigation Units 2 and 3.
	11	Performance standards for all mitigation units are included in Section 4.8.
	12	Stream performance standards can be found in Section 4.8.
	13	Reference stream conditions are included in Section 4.8.
	14	Wetland performance standards can be found in Section 4.8.
	15	Hydrological reference condition comparison is addressed in Section 4.8.
	16	Baseline stream data collection is included in Section 4.4.7.
	17	Vegetation baseline data collection is included in Appendix R.
	18	Stream monitoring plan is included in Section 4.9.3.
	19	Post Construction monitoring is addressed in Section 4.9.3.
	20	The long-term management plan is included in Section 4.10.
	21	The Conservation Easement and a Plat depicting the boundary is included in Appendix B.
	22	Financial assurances are addressed in Section 4.12.
	23	Force Majeure is addressed in the Conservation Easement in Appendix DD.
	24	All figures have been updated and are attached.
25		Finished compensatory mitigation plan is attached
26		A cultural resource study and report was completed on the Landsford Tract. The cultural resource report is attached in Appendix A.

# South Carolina Department of Natural Resources

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Alvin A. Taylor  
Director  
Lorianne Riggan  
Director, Office of  
Environmental Programs

December 20, 2019

## *Electronic Submission*

Dr. Richard L. Darden  
U.S. Army Corps of Engineers  
Charleston Regulatory Office  
69-A Hagood Avenue  
Charleston, South Carolina 29403

Mr. Charles Hightower  
South Carolina Department of  
Health & Environmental Control  
2600 Bull Street  
Columbia, South Carolina 29201

RE: P/N SAC-2019-00924, South Carolina Department of Commerce and  
DT Real Estate Holdco, LLC, York County

Dear Dr. Darden and Mr. Hightower:

Personnel with the South Carolina Department of Natural Resources (SCDNR) have reviewed the proposed project, evaluated its impact on natural resources and offer the following comments.

### **Project Inspector Description**

The proposed work consists of the construction of a world-class professional sports and training facility and corporate headquarters in Rock Hill, South Carolina. In detail, this project would involve the placement of fill material within 0.87 acre of wetlands and 4,991 linear feet of freshwater tributaries to accomplish phased construction of a mixed-use, pedestrian-friendly community anchored by the National Football League's Carolina Panthers practice/training facilities and corporate headquarters with emphasis on retail, entertainment, research and development, residential dwellings, commercial offices, medical facilities, recreation, and open space uses. According to the applicant, the project purpose is to develop, construct, and operate a world-class professional sports practice and training facility along with a state-of-the-art corporate headquarters in northern South Carolina as well as additional mixed-use development on a property that has sufficient contiguous acreage, proximity to Charlotte, direct interstate highway frontage and/or access, and is located close to a major airport.

The Project Area is known as the Hutchinson Site located approximately 2.5 miles northeast of Rock Hill in York County. The Project Area is adjacent to and bounded on the east and west sides by Interstate 77, south of Eden Terrace, and east of Mt. Gallant Road. No current interchange exists to provide direct access to the Hutchinson Site from Interstate 77; however, a

partial cloverleaf interchange is proposed that would be located approximately 1.1 miles south of Interstate 77 Exit 82 (U.S. Highway 21) and approximately 1.3 miles north of Interstate 77 Exit 79 (SC Highway 122/Dave Lyle Boulevard). The total size of the Project Area (Proposed Project boundary) is approximately 278 acres, with approximately 234 acres being developed for the Panthers practice/training facilities and headquarters and additional mixed-use development. The remainder of the Project Area primarily east of Interstate 77 will be for the construction of the new interchange.

### **SCDNR Comments on the Individual Permit Application**

#### **3.0 Proposed Project Area**

The permit application indicates that a partial cloverleaf interchange will be constructed to access the site via Interstate 77; however, the permit drawings provided indicate that the interchange layout, grading and drainage plans are to be designed by the South Carolina Department of Transportation. If the interchange is to be permitted under the same permit as the proposed facilities additional, more detailed design plans will be required for review.

#### **4.1 Project Phases**

During the Environmental Stakeholders Meeting on December 11, 2019 it was stated that a 30-year permit would be preferred by the applicant. The description of the project phases states that Phase I is planned from 2020 through 2022 and Phase II will take place over a seven-year time frame following Phase I. What is planned to occur during the remaining time frame?

#### **7.2.1 Surface Waters**

More information should be provided on the streams on the project site. This information should include the Rosgen classification of the streams proposed for impacts and a more detailed description of the existing impairments.

#### **7.2.3 Floodplains**

Please include a copy of FEMA FIRM Panel 4501930328F for the project area in the permit application.

#### **Appendix II – Permit Exhibits**

The design plans indicate on Sheets 6 and 7 that Wetland B, Wetland C and Stream NWW-1 are proposed to be filled for an area identified as an open space and park. Can all or portions of these wetlands/streams be incorporated into the design? If not, please provide a justification.

#### **Appendix VII – Alternative Analysis**

The Alternative Analysis considers eight potential alternatives under a Level 1 screening. This Level 1 screening also considered a no action alternative. A Level 2 analysis further considered three of the eight alternatives and the no action alternative. Please quantify the environmental impacts as a part of the site selection process in the Alternative Analysis. Additionally, the Blanchard Blackwell Site is approximately 31 miles from the Bank of America Stadium and 31.6 miles from Charlotte Douglas International Airport, just slightly passed the 30 miles required. Please provide further documentation as to why this site was not chosen versus the Hutchinson Site in the Alternative Analysis.

## **Proposed Compensatory Mitigation**

The applicants have proposed to mitigate for impacts to wetlands and/or waters of the United States by implementing a Permittee-Responsible Mitigation (PRM) plan on a 484.16-acre parcel in Chester County known as the Landsford Tract (a portion of Parcel Identification Number 162-00-00-001-000). Proposed mitigation activities would include a combination of preservation, enhancement, and restoration to 19,840 linear feet of stream channels and 1.5-3.0 acres of associated wetlands within the Catawba River watershed.

Personnel from the SCDNR have reviewed the Landsford Tract PRM Plan included as Appendix VI of the permit application package and submit the following comments.

### **1 4.3 Site Protection**

The Mitigation Unit Map (Figure 4) indicates that only the streams and the adjacent buffered areas (114.62 acres) are to be placed under a conservation easement. The SCDNR recommends that the entire 484.16-acre parcel be protected by a conservation easement held by an accredited land trust. However, if the applicant chooses to retain the existing coverage for the mitigation area under a conservation easement, the SCDNR asks that a secondary easement be placed on the remainder of the parcel. The agency's preference is for the entire parcel to be placed under a conservation easement.

### **2 4.4.5 Hydrology**

The SCDNR recommends that more than one groundwater monitoring well be installed in case of equipment malfunctions or technical failures. The SCDNR staff recommend the lateral ditch effects model be considered instead of multiple wells to establish baseline hydrology. Please note that well data will still be required to assist in calibrating the model.

### **3 4.5 Determination of Credits**

The credit schedule factors in the mitigation worksheet currently state that the mitigation will occur concurrent with the impact site development. In the Environmental Stakeholders Meeting on December 11, 2019, the applicant stated that the goal was to begin construction as early as March 2020. Please adjust the credit schedule factors as appropriate if impacts occur to waters of the United States prior to completion of the restoration work outlined in the final PRM plan.

### **4 4.6 Mitigation Work Plan**

The mitigation work plan submitted is very conceptual and lacks details needed to fully evaluate the proposed mitigation site. In the following subsections of 4.6 Mitigation Work Plan, the SCDNR submits the following recommendations for developing a complete PRM plan.

### **5 4.6.2 Riparian and Upland Buffer Enhancement**

- As previously mentioned, the SCDNR prefers the protection of the entire parcel under a conservation easement. Regardless, the SCDNR recommends that the proposed 150-foot riparian or upland buffers for all streams be extended to 300 feet.
- A detailed planting plan should be provided that includes a list of native species to be planted, as well as proposed planting densities.

### **6 4.6.3 Access Road**

The construction of a new access road should occur prior to any mitigation activities. A map of the new road and all roads to be maintained onsite should be included in the PRM plan.

#### 7 4.6.4 Invasive Species Management

A list of invasive species on the site should be included in the PRM plan.

#### 4.7 Maintenance Plan

- 8 • This Access Road and Gate Section states that “When necessary, recommendations for maintaining the access road and gate will be provided in the long-term management report.” This would be more appropriate covered during the monitoring period and not something that is used in reference to long-term management.
- 9 • This section also states that “Vehicular travel within the Landsford Tract will be strictly prohibited except along the proposed access road.” Will this restriction be possible without a conservation easement placed on the entire parcel?
- 10 • The Wildlife Management Section implies that beaver depredation may occur on the project site. Please note that no traps or depredation activities can occur on the areas of UT 1 that is property currently held by SCDNR without SCDNR permission.

#### 11 4.8 Performance Standards

Performance standards should be clearly stated and should include measures (quantitative/qualitative) that are reproducible by others. Further, the performance standards should be based on the goals of the mitigation plan and should be detailed for each management unit based on aquatic resource type (stream, wetland, etc.) and mitigation method (restoration, enhancement, or preservation). The SCDNR suggests the following be considered in the development of performance standards. Please note these may differ depending on the details provided in the final PRM plan.

#### 12 *Streams*

Streams should demonstrate a stable channel, pattern and profile in accordance with stream morphology Natural Channel Design criteria ranges (Rosgen stream type, drainage area, bankfull mean velocity, width to depth ratio, riffle max depth ratio, bank height ratio, meander length ratio, radius of curvature ratio, meander width ratio, sinuosity, valley slope, riffle slope ratio, run slope ratio, glide slope ratio, pool slope ratio, pool max depth ratio, pool width ratio, pool-to-pool spacing ratio and entrenchment ratio) following two bankfull events (documented by crest gages).

- BEHI for streams should be maintained from very low to low.
- Water quality data (dissolved oxygen, temperature, conductivity, pH, turbidity and fecal coliform) should demonstrate that parameter values are maintained or improved.
- Macroinvertebrate data should demonstrate that number and diversity of species are maintained or improved.
- Plantings should include a diversity of species similar to those found in a suitable reference area. Planting should occur during the dormant season to maximize survival. An initial stocking density of a minimum of 450 trees per acre (~10' x 10' spacing) is recommended with a target density of 320 trees alive and growing at the end of three growing seasons and 260 alive and growing after five growing seasons. The natural recruitment of tree and shrub species can be factored into vegetative success, provided recruits are comparable to reference site native species and invasive species should not dominate and make up more than 5% of the site. Vegetative success criteria should in addition to survival rate include that seedlings show a consistent increase in height, lateral growth and root collar diameter throughout the monitoring period. Bottomland

herbaceous species seeded should be native species only. Planted tree species should average between five to seven feet at the end of the five year monitoring period.

- Bankfull frequency and duration should not be comparable to the reference reaches if they are located a considerable distance offsite, such as another state or ecoregion, where climate and topography influence the stream. Bankfull frequency and duration should be comparable with a stable riffle either upstream/downstream of the restoration activity or a similar Rosgen Type stream nearby.

### 13 *Reference Streams*

Note that stream references for dimension, pattern and profile and design criteria can come from past projects or formed based upon a series of stable riffle cross sections upstream of the project site or at another similar Rosgen stream type within the watershed. References for stream conditions, such as woody debris or vegetation, if used, must come from a stream of similar Rosgen type. Reference streams for comparison of condition for water quality and benthos, if used, should be a stream within the same ecoregion and pristine in nature—stable stream with high water quality parameters and good diversity of macroinvertebrates. Comparison of water quality and benthos condition should demonstrate and quantify how much functional lift has been gained from restoration/enhancement efforts. Stream morphology data and cross sections of the reference streams should be provided.

### 14 *Wetlands*

- For areas involving vegetative restoration, plantings should include a diversity of species similar to those found in a suitable reference area. Planting should occur during the dormant season to maximize survival. An initial stocking density of a minimum of 450 trees per acre (~10' x 10' spacing) is recommended with a target density of 320 trees alive and growing at the end of three growing seasons and 260 alive and growing after five growing seasons. The natural recruitment of tree and shrub species can be factored into vegetative success, provided recruits are comparable to reference site native species and invasive species should not dominate and make up more than 5% of the site. Vegetative success criteria should in addition to survival rate include that seedlings show a consistent increase in height, lateral growth and root collar diameter throughout the monitoring period. Planted tree species should average between five to seven feet at the end of the five-year monitoring period.

### 15 *Reference Wetlands*

Reference wetlands should be located within the same ecoregion and of similar Cowardin type and soils of target wetlands proposed for restoration/enhancement. Vegetation data from reference wetlands only needs to be collected at baseline if vegetative enhancement are proposed for the wetland area.

## 4.9.2 Monitoring Parameters

### Baseline Data Collection

In order to include a sufficient level of detail in the proposed PRM plan, the SCDNR suggests following the guidance referenced below in developing a baseline monitoring plan. Include representative photographs of each of the aquatic features described. Please note these are

suggestions and that the baseline data required may differ depending on the details provided in the final PRM plan.

## 16 *Streams*

In order to provide quantitative measures to prove channel stability and floodplain connectivity, Bank Erosion Hazard Index (BEHI) and entrenchment ratios should be collected. Baseline data for streams should include data on stream geomorphology, water quality, riparian buffers and macroinvertebrates.

- Geomorphology data should include: basemapping (planform, longitudinal profiles and cross sections), typical instream structure drawings, and morphometry parameters (Rosgen stream type, drainage area, bankfull mean velocity, width to depth ratio, riffle max depth ratio, bank height ratio, meander length ratio, radius of curvature ratio, meander width ratio, sinuosity, valley slope, riffle slope ratio, run slope ratio, glide slope ratio, pool slope ratio, pool max depth ratio, pool width ratio, pool-to-pool spacing ratio and entrenchment ratio).
- Water quality baseline data collection should include: dissolved oxygen, temperature, conductivity, pH, hardness, and turbidity at a minimum of four times in one year.
- Macroinvertebrates sampling should be collected in accordance with the standards set forth by SCDHEC and include biotic index, abundance, diversity, and species composition.
- Riparian buffer information should include the width and extent of buffers and a description of the vegetative community if present (species composition, density, forest age and approximate density or presence of invasive plant species).

## 17 *Vegetation Plots*

The location and placement of vegetation plots for yearly monitoring should be identified and shown on a map. In areas where vegetation restoration/enhancement is occurring, there should be a minimum of 3-5 vegetation plots (10 x 10 meter plots) per habitat/community type or location to ensure representativeness of the data. Additional vegetation plots may be required on a case-by-case basis depending on the size and configuration of the site.

### 4.9.3 Monitoring Plan

## 18 *Streams*

The following should be collected annually for the monitoring plan:

- Rosgen stream type, bankfull mean velocity, width to depth ratio, riffle max depth ratio, bank height ratio, meander length ratio, radius of curvature ratio, meander width ratio, sinuosity, valley slope, riffle slope ratio, run slope ratio, glide slope ratio, pool slope ratio, pool max depth ratio, pool width ratio, pool-to-pool spacing ratio and entrenchment ratio; BEHI; basemapping (planform, longitudinal profiles and cross sections). Between 3 and 6 permanent cross sections should be placed (one in riffle and one in pool) within each Rosgen stream classification type and additionally in any areas (one in a riffle and one in pool) above and/or below structures placed for major instability issues.
- Riparian Buffer Vegetation: Monitoring should occur between July 1 and leaf drop. Data should include count, height, root collar diameter and lateral growth in addition to

density of all trees by species including natural regeneration. When recording, include number and species noted on tag. Species composition and estimated coverage of shrub and herbaceous species should also be included. The location and density (estimated coverage) of invasive species should be identified and quantified. In areas where vegetation restoration/enhancement is occurring, there should be a minimum of 3-5 vegetation plots (10 x 10-meter plots) per habitat/community type or location to ensure representativeness of the data. Additional vegetation plots may be required on a case-by-case basis depending on the size and configuration of the site. Water quality data collection should include dissolved oxygen, temperature, conductivity, pH, hardness, turbidity and fecal coliform (tested by a certified lab) collected at a minimum of four times in one year.

- Macroinvertebrates should be collected based on SCDHEC standards at least one time a year. Biotic index, abundance, diversity, and the species list for each station should be listed in the monitoring report.

## 19 *Post Construction - Streams*

- Following construction, stream as-built design criteria should be provided to include the following: Rosgen stream type, bankfull mean velocity, width to depth ratio, riffle max depth ratio, bank height ratio, meander length ratio, radius of curvature ratio, meander width ratio, sinuosity, valley slope, riffle slope ratio, run slope ratio, glide slope ratio, pool slope ratio, pool max depth ratio, pool width ratio, pool-to-pool spacing ratio and entrenchment ratio; two bankfull events documented by crest gages; bedform diversity; BEHI; basemapping (planform, longitudinal profiles and cross sections). Between 3 and 6 permanent cross sections should be placed (one in riffle and one in pool) within each Rosgen stream classification type and additionally in any areas (one in a riffle and one in pool) above and/or below structures placed for major instability issues
- It is recommended that geomorphology data for the baseline condition, the design criteria and the results of the cross sections for the as-built/post-construction or monitoring years be included in one table for each stream that has channel manipulations (restoration/enhancement).

## 20 **4.10 Long-Term Management Plan**

- The SCDNR looks forward to continuing discussions to clarify the long-term stewardship role and to work with the consultant and Katawba Valley Land Trust to finalize conservation easement language that protects the integrity of the aquatic features on site, but also allows for wildlife management to occur on the property.

## 21 **4.10.3 Identification of Conservation Easement Holder**

As previously mentioned, the SCDNR recommends that the entire parcel be placed under a conservation easement.

## 22 **4.12 Financial Assurances**

The justification for the level of funding needed should provide assurance estimates to include planning (design & engineering), construction and planting, monitoring and maintenance, adaptive management, legal and administrative and long-term management costs. This can be supplied in a simple spreadsheet that shows the activity, level of effort, cost, frequency of the activity and an estimated annual cost.



A helpful tool for financial assurances is the TNC Stewardship Calculator:  
<https://www.conservationgateway.org/ConservationPlanning/ToolsData/Pages/stewardshipcalculator.aspx>

**23 Force Majeure**

Please add a section defining force majeure. The applicant must notify the USACE following damage from such an event.

**24 Figures 4 & 8**

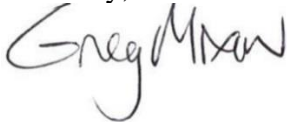
- UT 3 Section 4 appears to include UT 4 and UT 5 based on the labeling on the map. Please provide a more detailed map of that area or use color coding to better differentiate the reaches.
- The labeling of UT 2 Section 2 and UT 2 Section 3 indicates two separate reaches of both of these sections of UT 2. We suggest a nomenclature of UT 2 Section 2a for the 1,097 LF section, UT 2 Section 2b for the 931 LF section, UT 2 Section 3a for the 1,597 LF section and UT 2 Section 3b for the 799 LF section to limit confusion since the proposed treatments also differ.
- The buffer indicated for Wetland enhancement Unit 4 appears to overlap portions of the proposed buffer along the Catawba River. Please note that wetland credits may only be captured once for either the wetland or river. This should be clarified in the Final Mitigation Unit Map, as well as within the narrative of the Mitigation Work Plan.

The SCDNR requests a site visit to further review the Landsford Tract Mitigation Site after receipt of additional data needed to review a final PRM plan.

The SCDNR does not anticipate any objections to the proposed development of the Hutchinson Site provided that the additional permit application information requested above is provided. However, the SCDNR recommends that the permit be held in abeyance until the final PRM plan can be reviewed and approved following the site visit.

Thank you for the opportunity to review this project and provide comments. Should you have any questions or need more information, please do not hesitate to contact me by email at [mixong@dnr.sc.gov](mailto:mixong@dnr.sc.gov) or by phone at 803.734.3282.

Sincerely,



Greg Mixon  
Office of Environmental Programs

C: Kelly Laycock – USEPA  
Mark Caldwell – USFWS  
Rusty Wenerick - SCDHEC



**DEPARTMENT OF THE ARMY**  
**CHARLESTON DISTRICT CORPS OF ENGINEERS**  
**69A HAGOOD AVENUE**  
**CHARLESTON, SC 29403**

13 January 2020

Regulatory Division

Mr. Chris Daves  
S&ME, Inc.  
134 Suber Road  
Columbia, South Carolina 29210  
[cdaves@smeinc.com](mailto:cdaves@smeinc.com)

Dear Mr. Daves:

This office issued a public notice (SAC-2019-00924) on November 26, 2019, for an overall project known as Project Inspector. The proposed project is located on unnamed tributaries to Manchester Creek at a location along the east and west sides of Interstate 77 in Rock Hill, York County, South Carolina (Latitude: 34.956 °, Longitude: -80.982°). The purpose of this notice is to solicit the views of interested State and Federal agencies, and other parties either interested in, or affected by, the work. As indicated in the public notice, your project is subject to the Department of the Army (DA) permit requirements under Section 404 of the Clean Water Act (33 U.S.C. 1344).

The decision whether to issue a DA permit will be based on an evaluation of the probable impacts of your project, including cumulative impacts of the proposed activity. The review of your proposed project will also include the application of guidelines promulgated by the Administrator of the Environmental Protection Agency, "Guidelines for Specification of Disposal Sites for Dredged or Filled Material," (Guidelines) [40 CFR 230], in conjunction with the Secretary of the Army under authority of Section 404(b) of the Clean Water Act. The Guidelines are attached for your reference.

The Guidelines state that no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. An alternative is considered practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall project purpose. An area not presently owned by the applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered a practicable alternative.

For the purposes of conducting the alternatives analysis, we have determined that the overall purpose of your project is:

to develop, construct, and operate a professional sports practice and training facility and corporate headquarters in northern South Carolina as well as additional mixed-use development on a property that has sufficient contiguous acreage, proximity to Charlotte, interstate highway frontage and/or access, and is located close to a major airport.

A determination of whether the proposed discharge of dredged or fill material is water dependent is part of the Corps' review process under the Guidelines. This determination of water dependency must be preceded by a clear understanding of the basic purpose of the project. For non-water dependent discharges, practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise. Non-water dependent discharges are those associated with activities which do not require access or proximity to or siting within the special aquatic site to fulfill their basic purpose.

In addition, for both water dependent and non-water dependent discharges, all practicable alternatives to the proposed discharge which do not involve a discharge into a special aquatic site are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise.

The basic purpose of your proposed discharges of dredged or fill material is:

to build a commercial development

and is therefore considered to be non-water dependent.

This letter affords you an opportunity to clearly demonstrate, in writing, that there are no practicable alternatives to the proposed discharge which would otherwise fulfill the overall project purpose of the proposed work. You must rebut the following presumptions that are inherent in a non-water dependent determination, as referenced in the Guidelines:

1. That "practicable alternatives" which do not involve special aquatic sites are available;

and

2. That all "practicable alternatives" which do not involve a discharge into a special aquatic site have less adverse impact on the aquatic ecosystem.

Additionally, we are forwarding copies of public notice responses we received from the U.S. Environmental Protection Agency, National Marine Fisheries Service, U.S. Fish and Wildlife Service, and Cherokee Nation, as well as Catawba Indian Nation and the State Historic Preservation Office (received prior to the public notice). For your information, the Corps is the sole Federal agency responsible for making a decision on the merits of your DA permit application. In accordance with our regulations governing the Regulatory Program of the Corps, we are attaching these comments for your information and to give you an opportunity to provide any views you may wish to offer (33 Code of Federal Regulations [CFR] 325.2(a)(3)). Additionally, if we receive any further comments to our public notice, we will provide them to you upon receipt.

The Corps also requests that you address the following issues and provide additional information necessary to complete the processing of your permit application:

1. Plan sheets 11 and 12 show piping impacts to two segments of tributary NWW-2A as 218 and 532 linear feet. The impact summary text box on Sheet 12 shows this total as 755 lf. Note that the total appears to actually be 750 lf. This would result in the TOTAL entry for NWW-2A being 770 lf (not 775 lf). Revised plans and summary tables on Sheet 15 should reflect this correction.

2. Based on the tributary impact numbers shown on all plan sheets, including the 5 lf adjustment noted above, the total tributary impacts appears to be 4,986 lf instead of the 4,991 lf entered in Block 37 of the permit application. Revised plans/application form should reflect this correction.

3. Plan Sheets 2A and 2B depict the locations of proposed roads and interchange, sub-station, and future development. Each of these project elements is noted on the plan sheets as “conceptual” and subject to change. For those project elements which will involve impacts to wetlands and/or tributaries, please provide additional design detail (location, impact acreage) as part of revised plans.

25 4. It is our understanding that design work is continuing on the compensatory mitigation plan provided in Appendix VI of the permit application. Please provide the finished compensatory mitigation plan along with the completed site protection documents as part of the final revised plan set for this project.

26 5. Please provide a revised final document that includes results of cultural resources investigation for the Landsford Tract compensatory mitigation site. This information is necessary to allow conclusion of consultation with the State Historic Preservation Officer under Section 106 of the National Historic Preservation Act.

6. The Level 2 Conclusion of the Alternatives Analysis asserts that “there are no practicable alternatives...that do not include impacts on special aquatic sites.” However, the alternatives analysis does not present any assessment of impacts to special aquatic sites at any of the locations, including the proposed site or alternative locations. If a comparison of impacts to special aquatic sites is relevant to the alternatives analysis, please provide the information on which this assertion was based.

A DA permit will not be granted if the District Engineer determines it would be contrary to the public interest based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest (33 CFR 320.4(a)(1)). Provisions under the NEPA require consideration of reasonable alternatives, which would allow the project to be accomplished based on the project purpose and need.

Should you fail to provide a response to this letter within 15 days from the date of this letter with the requested information or a justification why additional time is necessary, we will consider your application to be withdrawn from further processing or we will make a final decision on your DA permit application based on any information presently available to us.

In all future correspondence, please refer to file number SAC 2019-00924. A copy of this letter is forwarded to State and/or Federal agencies for their information. If you have any

questions, please contact Richard L. Darden, Ph.D., Project Manager, at (843) 329-8043, or by email at [Richard.L.Darden@usace.army.mil](mailto:Richard.L.Darden@usace.army.mil).

Sincerely,

Amanda L. Heath  
Chief, Special Projects Branch

Attachments:  
40 CFR 230 Guidelines  
Comment Letters

Copies Furnished:

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# **CFR 40 Part 230 Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material**

## **Subpart B--Compliance With the Guidelines**

### **Sec. 230.10 Restrictions on discharge.**

Note: Because other laws may apply to particular discharges and because the Corps of Engineers or State 404 agency may have additional procedural and substantive requirements, a discharge complying with the requirement of these Guidelines will not automatically receive a permit.

Although all requirements in Sec. 230.10 must be met, the compliance evaluation procedures will vary to reflect the seriousness of the potential for adverse impacts on the aquatic ecosystems posed by specific dredged or fill material discharge activities.

(a) Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.

(1) For the purpose of this requirement, practicable alternatives include, but are not limited to:

(i) Activities which do not involve a discharge of dredged or fill material into the waters of the United States or ocean waters;

(ii) Discharges of dredged or fill material at other locations in waters of the United States or ocean waters;

(2) An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. If it is otherwise a practicable alternative, an area not presently owned by the applicant, which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered.

(3) Where the activity associated with a discharge which is proposed for a special aquatic site (as defined in subpart E) does not require access or proximity to or sighting within the special aquatic site in question to fulfill its basic purpose (i.e., is not "water dependent"), practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise. In addition, where a discharge is proposed for a special aquatic site, all practicable alternatives to the proposed discharge, which do not involve a discharge into a special aquatic site are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise.

(4) For actions subject to NEPA, where the Corps of Engineers is the permitting agency, the analysis of alternatives required for NEPA environmental documents, including supplemental Corps NEPA documents, will in most cases provide the information for the evaluation of alternatives under these Guidelines. On occasion, these

NEPA documents may address a broader range of alternatives than required to be considered under this paragraph or may not have considered the alternatives in sufficient detail to respond to the requirements of these Guidelines. In the latter case, it may be necessary to supplement these NEPA documents with this additional information.

(5) To the extent that practicable alternatives have been identified and evaluated under a Coastal Zone Management program, a section 208 program, or other planning process, such evaluation shall be considered by the permitting authority as part of the consideration of alternatives under the Guidelines. Where such evaluation is less complete than that contemplated under this subsection, it must be supplemented accordingly.

(b) No discharge of dredged or fill material shall be permitted if it:

(1) Causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable State water quality standard;

(2) Violates any applicable toxic effluent standard or prohibition under section 307 of the Act;

(3) Jeopardizes the continued existence of species listed as endangered or threatened under the Endangered Species Act of 1973, as amended, or results in likelihood of the destruction or adverse modification of a habitat which is determined by the Secretary of Interior or Commerce, as appropriate, to be a critical habitat under the Endangered Species Act of 1973, as amended. If an exemption has been granted by the Endangered Species Committee, the terms of such exemption shall apply, in lieu of this subparagraph;

(4) Violates any requirement imposed by the Secretary of Commerce to protect any marine sanctuary designated under title III of the Marine Protection, Research, and Sanctuaries Act of 1972.

(c) Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of the waters of the United States. Findings of significant degradation related to the proposed discharge shall be based upon appropriate factual determinations, evaluations, and tests required by subparts B and G, after consideration of subparts C through F, with special emphasis on the persistence and permanence of the effects outlined in those subparts. Under these Guidelines, effects contributing to significant degradation considered individually or collectively, include:

(1) Significantly adverse effects of the discharge of pollutants on human health or welfare, including but not limited to effects on municipal water supplies, plankton, fish, shellfish, wildlife, and special aquatic sites.

(2) Significantly adverse effects of the discharge of pollutants on life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration, and spread of pollutants or their byproducts outside of the disposal site through biological, physical, and chemical processes;

(3) Significantly adverse effects of the discharge of pollutants on aquatic ecosystem diversity, productivity, and stability. Such effects may include, but are not limited to, loss of fish and wildlife habitat or loss of the capacity of a wetland to assimilate nutrients, purify water, or reduce wave energy; or

(4) Significantly adverse effects of discharge of pollutants on recreational, aesthetic, and economic values.

(d) Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem. Subpart H identifies such possible steps.

#### **Sec. 230.11 Factual Determinations.**

The permitting authority shall determine in writing the potential short-term or long-term effects of a proposed discharge of dredged or fill material on the physical, chemical, and biological components of the aquatic environment in light of subparts C through F. Such factual determinations shall be used in Sec. 230.12 in making findings of compliance or non-compliance with the restrictions on discharge in Sec. 230.10. The evaluation and testing procedures described in Sec. 230.60 and Sec. 230.61 of subpart G shall be used as necessary to make, and shall be described in, such determination. The determinations of effects of each proposed discharge shall include the following:

(a) Physical substrate determinations. Determine the nature and degree of effect that the proposed discharge will have, individually and cumulatively, on the characteristics of the substrate at the proposed disposal site. Consideration shall be given to the similarity in particle size, shape, and degree of compaction of the material proposed for discharge and the material constituting the substrate at the disposal site, and any potential changes in substrate elevation and bottom contours, including changes outside of the disposal site which may occur as a result of erosion, slumpage, or other movement of the discharged material. The duration and physical extent of substrate changes shall also be considered. The possible loss of environmental values (Sec. 230.20) and actions to minimize impact (subpart H) shall also be considered in making these determinations. Potential changes in substrate elevation and bottom contours shall be predicted on the basis of the proposed method, volume, location, and rate of discharge, as well as on the individual and combined effects of current patterns, water circulation, wind and wave action, and other physical factors that may affect the movement of the discharged material.

(b) Water circulation, fluctuation, and salinity determinations. Determine the nature and degree of effect that the proposed discharge will have individually and cumulatively on water, current patterns, circulation including downstream flows, and normal water fluctuation. Consideration shall be given to water chemistry, salinity, clarity, color, odor, taste, dissolved gas levels, temperature, nutrients, and eutrophication plus other appropriate characteristics. Consideration shall also be given to the potential diversion or obstruction of flow, alterations of bottom contours, or other significant changes in the hydrologic regime. Additional consideration of the possible loss of environmental values (Secs. 230.23 through 230.25) and actions to minimize impacts (subpart H), shall be used in making these determinations. Potential significant effects on the current patterns, water circulation, normal water fluctuation and salinity shall be evaluated on the basis of the proposed method, volume, location, and rate of discharge.



(c) Suspended particulate/turbidity determinations. Determine the nature and degree of effect that the proposed discharge will have, individually and cumulatively, in terms of potential changes in the kinds and concentrations of suspended particulate/turbidity in the vicinity of the disposal site. Consideration shall be given to the grain size of the material proposed for discharge, the shape and size of the plume of suspended particulates, the duration of the discharge and resulting plume and whether or not the potential changes will cause violations of applicable water quality standards. Consideration should also be given to the possible loss of environmental values (Sec. 230.21) and to actions for minimizing impacts (subpart H). Consideration shall include the proposed method, volume, location, and rate of discharge, as well as the individual and combined effects of current patterns, water circulation and fluctuations, wind and wave action, and other physical factors on the movement of suspended particulates.

(d) Contaminant determinations. Determine the degree to which the material proposed for discharge will introduce, relocate, or increase contaminants. This determination shall consider the material to be discharged, the aquatic environment at the proposed disposal site, and the availability of contaminants.

(e) Aquatic ecosystem and organism determinations. Determine the nature and degree of effect that the proposed discharge will have, both individually and cumulatively, on the structure and function of the aquatic ecosystem and organisms. Consideration shall be given to the effect at the proposed disposal site of potential changes in substrate characteristics and elevation, water or substrate chemistry, nutrients, currents, circulation, fluctuation, and salinity, on the recolonization and existence of indigenous aquatic organisms or communities. Possible loss of environmental values (Sec. 230.31), and actions to minimize impacts (subpart H) shall be examined. Tests as described in Sec. 230.61 (Evaluation and Testing), may be required to provide information on the effect of the discharge material on communities, or populations of organisms expected to be exposed to it.

(f) Proposed disposal site determinations.

(1) Each disposal site shall be specified through the application of these Guidelines. The mixing zone shall be confined to the smallest practicable zone within each specified disposal site that is consistent with the type of dispersion determined to be appropriate by the application of these Guidelines. In a few special cases under unique environmental conditions, where there is adequate justification to show that widespread dispersion by natural means will result in no significantly adverse environmental effects, the discharged material may be intended to be spread naturally in a very thin layer over a large area of the substrate rather than be contained within the disposal site.

(2) The permitting authority and the Regional Administrator shall consider the following factors in determining the acceptability of a proposed mixing zone:

- (i) Depth of water at the disposal site;
- (ii) Current velocity, direction, and variability at the disposal site;
- (iii) Degree of turbulence;
- (iv) Stratification attributable to causes such as obstructions, salinity or density profiles at the disposal site;

- (v) Discharge vessel speed and direction, if appropriate;
  - (vi) Rate of discharge;
  - (vii) Ambient concentration of constituents of interest;
  - (viii) Dredged material characteristics, particularly concentrations of constituents, amount of material, type of material (sand, silt, clay, etc.) and settling velocities;
  - (ix) Number of discharge actions per unit of time;
  - (x) Other factors of the disposal site that affect the rates and patterns of mixing.
- (g) Determination of cumulative effects on the aquatic ecosystem.
- (1) Cumulative impacts are the changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material. Although the impact of a particular discharge may constitute a minor change, in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems.
- (2) Cumulative effects attributable to the discharge of dredged or fill material in waters of the United States should be predicted to the extent reasonable and practical. The permitting authority shall collect information and solicit information from other sources about the cumulative impacts on the aquatic ecosystem. This information shall be documented and considered during the decision-making process concerning the evaluation of individual permit applications, the issuance of a General permit, and monitoring and enforcement of existing permits.
- (h) Determination of secondary effects on the aquatic ecosystem.
- (1) Secondary effects are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Information about secondary effects on aquatic ecosystems shall be considered prior to the time final section 404 action is taken by permitting authorities.
- (2) Some examples of secondary effects on an aquatic ecosystem are fluctuating water levels in an impoundment and downstream associated with the operation of a dam, septic tank leaching and surface runoff from residential or commercial developments on fill, and leachate and runoff from a sanitary landfill located in waters of the U.S. Activities to be conducted on fast land created by the discharge of dredged or fill material in waters of the United States may have secondary impacts within those waters which should be considered in evaluating the impact of creating those fast lands.

#### **Sec. 230.12 Findings of compliance or non-compliance with the restrictions on discharge.**

- (a) On the basis of these Guidelines (subparts C through G) the proposed disposal sites for the discharge of dredged or fill material must be:
- (1) Specified as complying with the requirements of these Guidelines; or
  - (2) Specified as complying with the requirements of these Guidelines with the inclusion of appropriate and practicable discharge conditions (see subpart H) to minimize pollution or adverse effects to the affected aquatic ecosystems; or
  - (3) Specified as failing to comply with the requirements of these Guidelines where:

- (i) There is a practicable alternative to the proposed discharge that would have less adverse effect on the aquatic ecosystem, so long as such alternative does not have other significant adverse environmental consequences; or
- (ii) The proposed discharge will result in significant degradation of the aquatic ecosystem under Sec. 230.10(b) or (c); or
- (iii) The proposed discharge does not include all appropriate and practicable measures to minimize potential harm to the aquatic ecosystem; or
- (iv) There does not exist sufficient information to make a reasonable judgment as to whether the proposed discharge will comply with these Guidelines.

(b) Findings under this section shall be set forth in writing by the permitting authority for each proposed discharge and made available to the permit applicant. These findings shall include the factual determinations required by Sec. 230.11, and a brief explanation of any adaptation of these Guidelines to the activity under consideration. In the case of a General permit, such findings shall be prepared at the time of issuance of that permit rather than for each subsequent discharge under the authority of that permit.

### **Subpart C--Potential Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem**

**Note: The effects described in this subpart should be considered in making the factual determinations and the findings of compliance or non-compliance in subpart B.**

#### **Sec. 230.20 Substrate.**

- (a) The substrate of the aquatic ecosystem underlies open waters of the United States and constitutes the surface of wetlands. It consists of organic and inorganic solid materials and includes water and other liquids or gases that fill the spaces between solid particles.
- (b) Possible loss of environmental characteristics and values: The discharge of dredged or fill material can result in varying degrees of change in the complex physical, chemical, and biological characteristics of the substrate. Discharges which alter substrate elevation or contours can result in changes in water circulation, depth, current pattern, water fluctuation and water temperature. Discharges may adversely affect bottom-dwelling organisms at the site by smothering immobile forms or forcing mobile forms to migrate. Benthic forms present prior to a discharge are unlikely to recolonize on the discharged material if it is very dissimilar from that of the discharge site. Erosion, slumping, or lateral displacement of surrounding bottom of such deposits can adversely affect areas of the substrate outside the perimeters of the disposal site by changing or destroying habitat. The bulk and composition of the discharged material and the location, method, and timing of discharges may all influence the degree of impact on the substrate.

#### **Sec. 230.21 Suspended particulates/turbidity.**

(a) Suspended particulates in the aquatic ecosystem consist of fine-grained mineral particles, usually smaller than silt, and organic particles. Suspended particulates may enter water bodies as a result of land runoff, flooding, vegetative and planktonic breakdown, resuspension of bottom sediments, and man's activities including dredging and filling. Particulates may remain suspended in the water column for variable periods of time as a result of such factors as agitation of the water mass, particulate specific gravity, particle shape, and physical and chemical properties of particle surfaces.

(b) Possible loss of environmental characteristics and values: The discharge of dredged or fill material can result in greatly elevated levels of suspended particulates in the water column for varying lengths of time. These new levels may reduce light penetration and lower the rate of photosynthesis and the primary productivity of an aquatic area if they last long enough. Sight-dependent species may suffer reduced feeding ability leading to limited growth and lowered resistance to disease if high levels of suspended particulates persist. The biological and the chemical content of the suspended material may react with the dissolved oxygen in the water, which can result in oxygen depletion. Toxic metals and organics, pathogens, and viruses absorbed or adsorbed to fine-grained particulates in the material may become biologically available to organisms either in the water column or on the substrate. Significant increases in suspended particulate levels create turbid plumes which are highly visible and aesthetically displeasing. The extent and persistence of these adverse impacts caused by discharges depend upon the relative increase in suspended particulates above the amount occurring naturally, the duration of the higher levels, the current patterns, water level, and fluctuations present when such discharges occur, the volume, rate, and duration of the discharge, particulate deposition, and the seasonal timing of the discharge.

#### **Sec. 230.22 Water.**

(a) Water is the part of the aquatic ecosystem in which organic and inorganic constituents are dissolved and suspended. It constitutes part of the liquid phase and is contained by the substrate. Water forms part of a dynamic aquatic life-supporting system. Water clarity, nutrients and chemical content, physical and biological content, dissolved gas levels, pH, and temperature contribute to its life-sustaining capabilities.

(b) Possible loss of environmental characteristics and values: The discharge of dredged or fill material can change the chemistry and the physical characteristics of the receiving water at a disposal site through the introduction of chemical constituents in suspended or dissolved form. Changes in the clarity, color, odor, and taste of water and the addition of contaminants can reduce or eliminate the suitability of water bodies for populations of aquatic organisms, and for human consumption, recreation, and aesthetics. The introduction of nutrients or organic material to the water column as a result of the discharge can lead to a high biochemical oxygen demand (BOD), which in turn can lead to reduced dissolved oxygen, thereby potentially affecting the survival of many aquatic organisms. Increases in nutrients can favor one group of organisms such as algae to the detriment of other more desirable types such as submerged aquatic vegetation, potentially causing adverse health effects, objectionable tastes and odors, and other problems.

### **Sec. 230.23 Current patterns and water circulation.**

(a) Current patterns and water circulation are the physical movements of water in the aquatic ecosystem. Currents and circulation respond to natural forces as modified by basin shape and cover, physical and chemical characteristics of water strata and masses, and energy dissipating factors.

(b) Possible loss of environmental characteristics and values: The discharge of dredged or fill material can modify current patterns and water circulation by obstructing flow, changing the direction or velocity of water flow, changing the direction or velocity of water flow and circulation, or otherwise changing the dimensions of a water body. As a result, adverse changes can occur in: Location, structure, and dynamics of aquatic communities; shoreline and substrate erosion and deposition rates; the deposition of suspended particulates; the rate and extent of mixing of dissolved and suspended components of the water body; and water stratification.

### **Sec. 230.24 Normal water fluctuations.**

(a) Normal water fluctuations in a natural aquatic system consist of daily, seasonal, and annual tidal and flood fluctuations in water level. Biological and physical components of such a system are either attuned to or characterized by these periodic water fluctuations.

(b) Possible loss of environmental characteristics and values: The discharge of dredged or fill material can alter the normal water-level fluctuation pattern of an area, resulting in prolonged periods of inundation, exaggerated extremes of high and low water, or a static, non-fluctuating water level. Such water level modifications may change salinity patterns, alter erosion or sedimentation rates, aggravate water temperature extremes, and upset the nutrient and dissolved oxygen balance of the aquatic ecosystem. In addition, these modifications can alter or destroy communities and populations of aquatic animals and vegetation, induce populations of nuisance organisms, modify habitat, reduce food supplies, restrict movement of aquatic fauna, destroy spawning areas, and change adjacent, upstream, and downstream areas.

### **Sec. 230.25 Salinity gradients.**

(a) Salinity gradients form where salt water from the ocean meets and mixes with fresh water from land.

(b) Possible loss of environmental characteristics and values: Obstructions which divert or restrict flow of either fresh or salt water may change existing salinity gradients. For example, partial blocking of the entrance to an estuary or river mouth that significantly restricts the movement of the salt water into and out of that area can effectively lower the volume of salt water available for mixing within that estuary. The downstream migration of the salinity gradient can occur, displacing the maximum sedimentation zone and requiring salinity-dependent aquatic biota to adjust to the new conditions, move to new locations if possible, or perish. In the freshwater zone, discharge operations in the

upstream regions can have equally adverse impacts. A significant reduction in the volume of fresh water moving into an estuary below that which is considered normal can affect the location and type of mixing thereby changing the characteristic salinity patterns. The resulting changed circulation pattern can cause the upstream migration of the salinity gradient displacing the maximum sedimentation zone. This migration may affect those organisms that are adapted to freshwater environments. It may also affect municipal water supplies.

Note: Possible actions to minimize adverse impacts regarding site characteristics can be found in subpart H.

## **Subpart D--Potential Impacts on Biological Characteristics of the Aquatic Ecosystem**

**Note: The impacts described in this subpart should be considered in making the factual determinations and the findings of compliance or non-compliance in subpart B.**

### **Sec. 230.30 Threatened and endangered species.**

(a) An endangered species is a plant or animal in danger of extinction throughout all or a significant portion of its range. A threatened species is one in danger of becoming an endangered species in the foreseeable future throughout all or a significant portion of its range. Listings of threatened and endangered species as well as critical habitats are maintained by some individual States and by the U.S. Fish and Wildlife Service of the Department of the Interior (codified annually at 50 CFR 17.11). The Department of Commerce has authority over some threatened and endangered marine mammals, fish and reptiles.

(b) Possible loss of values: The major potential impacts on threatened or endangered species from the discharge of dredged or fill material include:

(1) Covering or otherwise directly killing species;

(2) The impairment or destruction of habitat to which these species are limited.

Elements of the aquatic habitat which are particularly crucial to the continued survival of some threatened or endangered species include adequate good quality water, spawning and maturation areas, nesting areas, protective cover, adequate and reliable food supply, and resting areas for migratory species. Each of these elements can be adversely affected by changes in either the normal water conditions for clarity, chemical content, nutrient balance, dissolved oxygen, pH, temperature, salinity, current patterns, circulation and fluctuation, or the physical removal of habitat; and

(3) Facilitating incompatible activities.

(c) Where consultation with the Secretary of the Interior occurs under section 7 of the Endangered Species Act, the conclusions of the Secretary concerning the impact(s) of the

discharge on threatened and endangered species and their habitat shall be considered final.

**Sec. 230.31 Fish, crustaceans, mollusks, and other aquatic organisms in the food web.**

(a) Aquatic organisms in the food web include, but are not limited to, finfish, crustaceans, mollusks, insects, annelids, planktonic organisms, and the plants and animals on which they feed and depend upon for their needs. All forms and life stages of an organism, throughout its geographic range, are included in this category.

(b) Possible loss of values: The discharge of dredged or fill material can variously affect populations of fish, crustaceans, mollusks and other food web organisms through the release of contaminants which adversely affect adults, juveniles, larvae, or eggs, or result in the establishment or proliferation of an undesirable competitive species of plant or animal at the expense of the desired resident species. Suspended particulates settling on attached or buried eggs can smother the eggs by limiting or sealing off their exposure to oxygenated water. Discharge of dredged and fill material may result in the debilitation or death of sedentary organisms by smothering, exposure to chemical contaminants in dissolved or suspended form, exposure to high levels of suspended particulates, reduction in food supply, or alteration of the substrate upon which they are dependent. Mollusks are particularly sensitive to the discharge of material during periods of reproduction and growth and development due primarily to their limited mobility. They can be rendered unfit for human consumption by tainting, by production and accumulation of toxins, or by ingestion and retention of pathogenic organisms, viruses, heavy metals or persistent synthetic organic chemicals. The discharge of dredged or fill material can redirect, delay, or stop the reproductive and feeding movements of some species of fish and crustacean, thus preventing their aggregation in accustomed places such as spawning or nursery grounds and potentially leading to reduced populations. Reduction of detrital feeding species or other representatives of lower trophic levels can impair the flow of energy from primary consumers to higher trophic levels. The reduction or potential elimination of food chain organism populations decreases the overall productivity and nutrient export capability of the ecosystem.

**Sec. 230.32 Other wildlife.**

(a) Wildlife associated with aquatic ecosystems are resident and transient mammals, birds, reptiles, and amphibians.

(b) Possible loss of values: The discharge of dredged or fill material can result in the loss or change of breeding and nesting areas, escape cover, travel corridors, and preferred food sources for resident and transient wildlife species associated with the aquatic ecosystem. These adverse impacts upon wildlife habitat may result from changes in water levels, water flow and circulation, salinity, chemical content, and substrate characteristics and elevation. Increased water turbidity can adversely affect wildlife species which rely upon sight to feed, and disrupt the respiration and feeding of certain aquatic wildlife and

food chain organisms. The availability of contaminants from the discharge of dredged or fill material may lead to the bioaccumulation of such contaminants in wildlife. Changes in such physical and chemical factors of the environment may favor the introduction of undesirable plant and animal species at the expense of resident species and communities. In some aquatic environments lowering plant and animal species diversity may disrupt the normal functions of the ecosystem and lead to reductions in overall biological productivity.

Note: Possible actions to minimize adverse impacts regarding characteristics of biological components of the aquatic ecosystem can be found in subpart H.

## **Subpart E--Potential Impacts on Special Aquatic Sites**

**Note: The impacts described in this subpart should be considered in making the factual determinations and the findings of compliance or non-compliance in subpart B. The definition of special aquatic sites is found in Sec. 230.3(q-1).**

### **Sec. 230.40 Sanctuaries and refuges.**

(a) Sanctuaries and refuges consist of areas designated under State and Federal laws or local ordinances to be managed principally for the preservation and use of fish and wildlife resources.

(b) Possible loss of values: Sanctuaries and refuges may be affected by discharges of dredged or fill material which will:

- (1) Disrupt the breeding, spawning, migratory movements or other critical life requirements of resident or transient fish and wildlife resources;
- (2) Create unplanned, easy and incompatible human access to remote aquatic areas;
- (3) Create the need for frequent maintenance activity;
- (4) Result in the establishment of undesirable competitive species of plants and animals;
- (5) Change the balance of water and land areas needed to provide cover, food, and other fish and wildlife habitat requirements in a way that modifies sanctuary or refuge management practices;
- (6) Result in any of the other adverse impacts discussed in subparts C and D as they relate to a particular sanctuary or refuge.

### **Sec. 230.41 Wetlands.**

(a)(1) Wetlands consist of areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

(2) Where wetlands are adjacent to open water, they generally constitute the transition to upland. The margin between wetland and open water can best be established by



specialists familiar with the local environment, particularly where emergent vegetation merges with submerged vegetation over a broad area in such places as the lateral margins of open water, headwaters, rainwater catch basins, and groundwater seeps. The landward margin of wetlands also can best be identified by specialists familiar with the local environment when vegetation from the two regions merges over a broad area.

(3) Wetland vegetation consists of plants that require saturated soils to survive (obligate wetland plants) as well as plants, including certain trees, that gain a competitive advantage over others because they can tolerate prolonged wet soil conditions and their competitors cannot. In addition to plant populations and communities, wetlands are delimited by hydrological and physical characteristics of the environment. These characteristics should be considered when information about them is needed to supplement information available about vegetation, or where wetland vegetation has been removed or is dormant.

(b) Possible loss of values: The discharge of dredged or fill material in wetlands is likely to damage or destroy habitat and adversely affect the biological productivity of wetlands ecosystems by smothering, by dewatering, by permanently flooding, or by altering substrate elevation or periodicity of water movement. The addition of dredged or fill material may destroy wetland vegetation or result in advancement of succession to dry land species. It may reduce or eliminate nutrient exchange by a reduction of the system's productivity, or by altering current patterns and velocities. Disruption or elimination of the wetland system can degrade water quality by obstructing circulation patterns that flush large expanses of wetland systems, by interfering with the filtration function of wetlands, or by changing the aquifer recharge capability of a wetland. Discharges can also change the wetland habitat value for fish and wildlife as discussed in subpart D. When disruptions in flow and circulation patterns occur, apparently minor loss of wetland acreage may result in major losses through secondary impacts. Discharging fill material in wetlands as part of municipal, industrial or recreational development may modify the capacity of wetlands to retain and store floodwaters and to serve as a buffer zone shielding upland areas from wave actions, storm damage and erosion.

#### **Sec. 230.42 Mud flats.**

(a) Mud flats are broad flat areas along the sea coast and in coastal rivers to the head of tidal influence and in inland lakes, ponds, and riverine systems. When mud flats are inundated, wind and wave action may re-suspend bottom sediments. Coastal mud flats are exposed at extremely low tides and inundated at high tides with the water table at or near the surface of the substrate. The substrate of mud flats contains organic material and particles smaller in size than sand. They are either un-vegetated or vegetated only by algal mats.

(b) Possible loss of values: The discharge of dredged or fill material can cause changes in water circulation patterns which may permanently flood or dewater the mud flat or disrupt periodic inundation, resulting in an increase in the rate of erosion or accretion. Such changes can deplete or eliminate mud flat biota, foraging areas, and nursery areas. Changes in inundation patterns can affect the chemical and biological exchange and

decomposition process occurring on the mud flat and change the deposition of suspended material affecting the productivity of the area. Changes may reduce the mud flat's capacity to dissipate storm surge runoff.

#### **Sec. 230.43 Vegetated shallows.**

(a) Vegetated shallows are permanently inundated areas that under normal circumstances support communities of rooted aquatic vegetation, such as turtle grass and eelgrass in estuarine or marine systems as well as a number of freshwater species in rivers and lakes.

(b) Possible loss of values: The discharge of dredged or fill material can smother vegetation and benthic organisms. It may also create unsuitable conditions for their continued vigor by:

- (1) Changing water circulation patterns;
- (2) releasing nutrients that increase undesirable algal populations;
- (3) releasing chemicals that adversely affect plants and animals;
- (4) increasing turbidity levels, thereby reducing light penetration and hence photosynthesis; and
- (5) changing the capacity of a vegetated shallow to stabilize bottom materials and decrease channel shoaling. The discharge of dredged or fill material may reduce the value of vegetated shallows as nesting, spawning, nursery, cover, and forage areas, as well as their value in protecting shorelines from erosion and wave actions. It may also encourage the growth of nuisance vegetation.

#### **Sec. 230.44 Coral reefs.**

(a) Coral reefs consist of the skeletal deposit, usually of calcareous or siliceous materials, produced by the vital activities of anthozoan polyps or other invertebrate organisms present in growing portions of the reef.

(b) Possible loss of values: The discharge of dredged or fill material can adversely affect colonies of reef building organisms by burying them, by releasing contaminants such as hydrocarbons into the water column, by reducing light penetration through the water, and by increasing the level of suspended particulates. Coral organisms are extremely sensitive to even slight reductions in light penetration or increases in suspended particulates. These adverse effects will cause a loss of productive colonies which in turn provide habitat for many species of highly specialized aquatic organisms.

#### **Sec. 230.45 Riffle and pool complexes.**

(a) Steep gradient sections of streams are sometimes characterized by riffle and pool complexes. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. Pools are characterized by a slower stream velocity, a steaming

flow, a smooth surface, and a finer substrate. Riffle and pool complexes are particularly valuable habitat for fish and wildlife.

(b) Possible loss of values: Discharge of dredged or fill material can eliminate riffle and pool areas by displacement, hydrologic modification, or sedimentation. Activities which affect riffle and pool areas and especially riffle/pool ratios, may reduce the aeration and filtration capabilities at the discharge site and downstream, may reduce stream habitat diversity, and may retard repopulation of the disposal site and downstream waters through sedimentation and the creation of unsuitable habitat. The discharge of dredged or fill material which alters stream hydrology may cause scouring or sedimentation of riffles and pools. Sedimentation induced through hydrological modification or as a direct result of the deposition of unconsolidated dredged or fill material may clog riffle and pool areas, destroy habitats, and create anaerobic conditions. Eliminating pools and meanders by the discharge of dredged or fill material can reduce water holding capacity of streams and cause rapid runoff from a watershed. Rapid runoff can deliver large quantities of flood water in a short time to downstream areas resulting in the destruction of natural habitat, high property loss, and the need for further hydraulic modification.

Note: Possible actions to minimize adverse impacts on site or material characteristics can be found in subpart H.

## **Subpart F--Potential Effects on Human Use Characteristics**

Note: The effects described in this subpart should be considered in making the factual determinations and the findings of compliance or non-compliance in subpart B.

### **Sec. 230.50 Municipal and private water supplies.**

(a) Municipal and private water supplies consist of surface water or ground water which is directed to the intake of a municipal or private water supply system.

(b) Possible loss of values: Discharges can affect the quality of water supplies with respect to color, taste, odor, chemical content and suspended particulate concentration, in such a way as to reduce the fitness of the water for consumption. Water can be rendered unpalatable or unhealthy by the addition of suspended particulates, viruses and pathogenic organisms, and dissolved materials. The expense of removing such substances before the water is delivered for consumption can be high. Discharges may also affect the quantity of water available for municipal and private water supplies. In addition, certain commonly used water treatment chemicals have the potential for combining with some suspended or dissolved substances from dredged or fill material to form other products that can have a toxic effect on consumers.

### **Sec. 230.51 Recreational and commercial fisheries.**

(a) Recreational and commercial fisheries consist of harvestable fish, crustaceans, shellfish, and other aquatic organisms used by man.

(b) Possible loss of values: The discharge of dredged or fill materials can affect the suitability of recreational and commercial fishing grounds as habitat for populations of consumable aquatic organisms. Discharges can result in the chemical contamination of recreational or commercial fisheries. They may also interfere with the reproductive success of recreational and commercially important aquatic species through disruption of migration and spawning areas. The introduction of pollutants at critical times in their life cycle may directly reduce populations of commercially important aquatic organisms or indirectly reduce them by reducing organisms upon which they depend for food. Any of these impacts can be of short duration or prolonged, depending upon the physical and chemical impacts of the discharge and the biological availability of contaminants to aquatic organisms.

#### **Sec. 230.52 Water-related recreation.**

(a) Water-related recreation encompasses activities undertaken for amusement and relaxation. Activities encompass two broad categories of use: consumptive, e.g., harvesting resources by hunting and fishing; and non-consumptive, e.g. canoeing and sight-seeing.

(b) Possible loss of values: One of the more important direct impacts of dredged or fill disposal is to impair or destroy the resources, which support recreation activities. The disposal of dredged or fill material may adversely modify or destroy water use for recreation by changing turbidity, suspended particulates, temperature, dissolved oxygen, dissolved materials, toxic materials, pathogenic organisms, quality of habitat, and the aesthetic qualities of sight, taste, odor, and color.

#### **Sec. 230.53 Aesthetics.**

(a) Aesthetics associated with the aquatic ecosystem consist of the perception of beauty by one or a combination of the senses of sight, hearing, touch, and smell. Aesthetics of aquatic ecosystems apply to the quality of life enjoyed by the general public and property owners.

(b) Possible loss of values: The discharge of dredged or fill material can mar the beauty of natural aquatic ecosystems by degrading water quality, creating distracting disposal sites, inducing inappropriate development, encouraging unplanned and incompatible human access, and by destroying vital elements that contribute to the compositional harmony or unity, visual distinctiveness, or diversity of an area. The discharge of dredged or fill material can adversely affect the particular features, traits, or characteristics of an aquatic area which make it valuable to property owners. Activities which degrade water quality, disrupt natural substrate and vegetational characteristics, deny access to or visibility of the resource, or result in changes in odor, air quality, or noise levels may reduce the value of an aquatic area to private property owners.

**Sec. 230.54 Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves.**

(a) These preserves consist of areas designated under Federal and State laws or local ordinances to be managed for their aesthetic, educational, historical, recreational, or scientific value.

(b) Possible loss of values: The discharge of dredged or fill material into such areas may modify the aesthetic, educational, historical, recreational and/or scientific qualities thereby reducing or eliminating the uses for which such sites are set aside and managed.

Note: Possible actions to minimize adverse impacts regarding site or material characteristics can be found in subpart H.

**Subpart G--Evaluation and Testing**

**Sec. 230.60 General evaluation of dredged or fill material.**

The purpose of these evaluation procedures and the chemical and biological testing sequence outlined in Sec. 230.61 is to provide information to reach the determinations required by Sec. 230.11. Where the results of prior evaluations, chemical and biological tests, scientific research, and experience can provide information helpful in making a determination, these should be used. Such prior results may make new testing unnecessary. The information used shall be documented. Where the same information applies to more than one determination, it may be documented once and referenced in later determinations.

(a) If the evaluation under paragraph (b) indicates the dredged or fill material is not a carrier of contaminants, then the required determinations pertaining to the presence and effects of contaminants can be made without testing. Dredged or fill material is most likely to be free from chemical, biological, or other pollutants where it is composed primarily of sand, gravel, or other naturally occurring inert material. Dredged material so composed is generally found in areas of high current or wave energy such as streams with large bed loads or coastal areas with shifting bars and channels. However, when such material is discolored or contains other indications that contaminants may be present, further inquiry should be made.

(b) The extraction site shall be examined in order to assess whether it is sufficiently removed from sources of pollution to provide reasonable assurance that the proposed discharge material is not a carrier of contaminants. Factors to be considered include but are not limited to:

(1) Potential routes of contaminants or contaminated sediments to the extraction site, based on hydrographic or other maps, aerial photography, or other materials that show watercourses, surface relief, proximity to tidal movement, private and public roads, location of buildings, municipal and industrial areas, and agricultural or forest lands.

(2) Pertinent results from tests previously carried out on the material at the extraction

site, or carried out on similar material for other permitted projects in the vicinity. Materials shall be considered similar if the sources of contamination, the physical configuration of the sites and the sediment composition of the materials are comparable, in light of water circulation and stratification, sediment accumulation and general sediment characteristics. Tests from other sites may be relied on only if no changes have occurred at the extraction sites to render the results irrelevant. (3) Any potential for significant introduction of persistent pesticides from land runoff or percolation;

(4) Any records of spills or disposal of petroleum products or substances designated as hazardous under section 311 of the Clean Water Act (See 40 CFR part 116);

(5) Information in Federal, State and local records indicating significant introduction of pollutants from industries, municipalities, or other sources, including types and amounts of waste materials discharged along the potential routes of contaminants to the extraction site; and

(6) Any possibility of the presence of substantial natural deposits of minerals or other substances which could be released to the aquatic environment in harmful quantities by man-induced discharge activities.

(c) To reach the determinations in Sec. 230.11 involving potential effects of the discharge on the characteristics of the disposal site, the narrative guidance in subparts C through F shall be used along with the general evaluation procedure in Sec. 230.60 and, if necessary, the chemical and biological testing sequence in Sec. 230.61. Where the discharge site is adjacent to the extraction site and subject to the same sources of contaminants, and materials at the two sites are substantially similar, the fact that the material to be discharged may be a carrier of contaminants is not likely to result in degradation of the disposal site. In such circumstances, when dissolved material and suspended particulates can be controlled to prevent carrying pollutants to less contaminated areas, testing will not be required.

(d) Even if the Sec. 230.60(b) evaluation (previous tests, the presence of polluting industries and information about their discharge or runoff into waters of the U.S., bio-inventories, etc.) leads to the conclusion that there is a high probability that the material proposed for discharge is a carrier of contaminants, testing may not be necessary if constraints are available to reduce contamination to acceptable levels within the disposal site and to prevent contaminants from being transported beyond the boundaries of the disposal site, if such constraints are acceptable to the permitting authority and the Regional Administrator, and if the potential discharger is willing and able to implement such constraints. However, even if tests are not performed, the permitting authority must still determine the probable impact of the operation on the receiving aquatic ecosystem. Any decision not to test must be explained in the determinations made under Sec. 230.11. Sec. 230.61 Chemical, biological, and physical evaluation and testing.

Note: The Agency is today proposing revised testing guidelines. The evaluation and testing procedures in this section are based on the 1975 section 404(b)(1) interim final Guidelines and shall remain in effect until the revised testing guidelines are published as final regulations.

(a) No single test or approach can be applied in all cases to evaluate the effects of proposed discharges of dredged or fill materials. This section provides some guidance in determining which test and/or evaluation procedures are appropriate in a given case. Interim guidance to applicants concerning the applicability of specific approaches or procedures will be furnished by the permitting authority.

(b) Chemical-biological interactive effects. The principal concerns of discharge of dredged or fill material that contain contaminants are the potential effects on the water column and on communities of aquatic organisms.

(1) Evaluation of chemical-biological interactive effects. Dredged or fill material may be excluded from the evaluation procedures specified in paragraphs (b) (2) and (3) of this section if it is determined, on the basis of the evaluation in Sec. 230.60, that the likelihood of contamination by contaminants is acceptably low, unless the permitting authority, after evaluating and considering any comments received from the Regional Administrator, determines that these procedures are necessary. The Regional Administrator may require, on a case-by-case basis, testing approaches and procedures by stating what additional information is needed through further analyses and how the results of the analyses will be of value in evaluating potential environmental effects. If the General Evaluation indicates the presence of a sufficiently large number of chemicals to render impractical the identification of all contaminants by chemical testing, information may be obtained from bioassays in lieu of chemical tests.

(2) Water column effects.

(i) Sediments normally contain constituents that exist in various chemical forms and in various concentrations in several locations within the sediment. An elutriate test may be used to predict the effect on water quality due to release of contaminants from the sediment to the water column. However, in the case of fill material originating on land which may be a carrier of contaminants, a water leachate test is appropriate.

(ii) Major constituents to be analyzed in the elutriate are those deemed critical by the permitting authority, after evaluating and considering any comments received from the Regional Administrator, and considering results of the evaluation in Sec. 230.60. Elutriate concentrations should be compared to concentrations of the same constituents in water from the disposal site. Results should be evaluated in light of the volume and rate of the intended discharge, the type of discharge, the hydrodynamic regime at the disposal site, and other information relevant to the impact on water quality. The permitting authority should consider the mixing zone in evaluating water column effects. The permitting authority may specify bioassays when such procedures will be of value.

(3) Effects on benthos. The permitting authority may use an appropriate benthic bioassay (including bioaccumulation tests) when such procedures will be of value in assessing ecological effects and in establishing discharge conditions.

(c) Procedure for comparison of sites.

(1) When an inventory of the total concentration of contaminants would be of value in comparing sediment at the dredging site with sediment at the disposal site, the permitting authority may require a sediment chemical analysis. Markedly different concentrations of contaminants between the excavation and disposal sites may aid in making an environmental assessment of the proposed disposal operation. Such differences should be

interpreted in terms of the potential for harm as supported by any pertinent scientific literature.

(2) When an analysis of biological community structure will be of value to assess the potential for adverse environmental impact at the proposed disposal site, a comparison of the biological characteristics between the excavation and disposal sites may be required by the permitting authority. Biological indicator species may be useful in evaluating the existing degree of stress at both sites. Sensitive species representing community components colonizing various substrate types within the sites should be identified as possible bioassay organisms if tests for toxicity are required. Community structure studies should be performed only when they will be of value in determining discharge conditions. This is particularly applicable to large quantities of dredged material known to contain adverse quantities of toxic materials. Community studies should include benthic organisms such as microbiota and harvestable shellfish and finfish. Abundance, diversity, and distribution should be documented and correlated with substrate type and other appropriate physical and chemical environmental characteristics.

(d) Physical tests and evaluation. The effect of a discharge of dredged or fill material on physical substrate characteristics at the disposal site, as well as on the water circulation, fluctuation, salinity, and suspended particulates content there, is important in making factual determinations in Sec. 230.11. Where information on such effects is not otherwise available to make these factual determinations, the permitting authority shall require appropriate physical tests and evaluations as are justified and deemed necessary. Such tests may include sieve tests, settleability tests, compaction tests, mixing zone and suspended particulate plume determinations, and site assessments of water flow, circulation, and salinity characteristics.

## **Subpart H--Actions To Minimize Adverse Effects**

Note: There are many actions which can be undertaken in response to Sec. 203.10(d) to minimize the adverse effects of discharges of dredged or fill material. Some of these, grouped by type of activity, are listed in this subpart.

### **Sec. 230.70 Actions concerning the location of the discharge.**

The effects of the discharge can be minimized by the choice of the disposal site. Some of the ways to accomplish this are by:

- (a) Locating and confining the discharge to minimize smothering of organisms;
- (b) Designing the discharge to avoid a disruption of periodic water inundation patterns;
- (c) Selecting a disposal site that has been used previously for dredged material discharge;
- (d) Selecting a disposal site at which the substrate is composed of material similar to that being discharged, such as discharging sand on sand or mud on mud;



(e) Selecting the disposal site, the discharge point, and the method of discharge to minimize the extent of any plume;

(f) Designing the discharge of dredged or fill material to minimize or prevent the creation of standing bodies of water in areas of normally fluctuating water levels, and minimize or prevent the drainage of areas subject to such fluctuations.

**Sec. 230.71 Actions concerning the material to be discharged.**

The effects of a discharge can be minimized by treatment of, or limitations on the material itself, such as:

(a) Disposal of dredged material in such a manner that physiochemical conditions are maintained and the potency and availability of pollutants are reduced.

(b) Limiting the solid, liquid, and gaseous components of material to be discharged at a particular site;

(c) Adding treatment substances to the discharge material;

(d) Utilizing chemical flocculants to enhance the deposition of suspended particulates in diked disposal areas.

**Sec. 230.72 Actions controlling the material after discharge.**

The effects of the dredged or fill material after discharge may be controlled by:

(a) Selecting discharge methods and disposal sites where the potential for erosion, slumping or leaching of materials into the surrounding aquatic ecosystem will be reduced. These sites or methods include, but are not limited to:

(1) Using containment levees, sediment basins, and cover crops to reduce erosion;

(2) Using lined containment areas to reduce leaching where leaching of chemical constituents from the discharged material is expected to be a problem;

(b) Capping in-place contaminated material with clean material or selectively discharging the most contaminated material first to be capped with the remaining material;

(c) Maintaining and containing discharged material properly to prevent point and nonpoint sources of pollution;

(d) Timing the discharge to minimize impact, for instance during periods of unusual high water flows, wind, wave, and tidal actions.

**Sec. 230.73 Actions affecting the method of dispersion.**

The effects of a discharge can be minimized by the manner in which it is dispersed, such as:

- (a) Where environmentally desirable, distributing the dredged material widely in a thin layer at the disposal site to maintain natural substrate contours and elevation;
- (b) Orienting a dredged or fill material mound to minimize undesirable obstruction to the water current or circulation pattern, and utilizing natural bottom contours to minimize the size of the mound;
- (c) Using silt screens or other appropriate methods to confine suspended particulate/turbidity to a small area where settling or removal can occur;
- (d) Making use of currents and circulation patterns to mix, disperse and dilute the discharge;
- (e) Minimizing water column turbidity by using a submerged diffuser system. A similar effect can be accomplished by submerging pipeline discharges or otherwise releasing materials near the bottom;
- (f) Selecting sites or managing discharges to confine and minimize the release of suspended particulates to give decreased turbidity levels and to maintain light penetration for organisms;
- (g) Setting limitations on the amount of material to be discharged per unit of time or volume of receiving water.

#### **Sec. 230.74 Actions related to technology.**

Discharge technology should be adapted to the needs of each site. In determining whether the discharge operation sufficiently minimizes adverse environmental impacts, the applicant should consider:

- (a) Using appropriate equipment or machinery, including protective devices, and the use of such equipment or machinery in activities related to the discharge of dredged or fill material;
- (b) Employing appropriate maintenance and operation on equipment or machinery, including adequate training, staffing, and working procedures;
- (c) Using machinery and techniques that are especially designed to reduce damage to wetlands. This may include machines equipped with devices that scatter rather than mound excavated materials, machines with specially designed wheels or tracks, and the use of mats under heavy machines to reduce wetland surface compaction and rutting;

(d) Designing access roads and channel spanning structures using culverts, open channels, and diversions that will pass both low and high water flows, accommodate fluctuating water levels, and maintain circulation and faunal movement;

(e) Employing appropriate machinery and methods of transport of the material for discharge.

#### **Sec. 230.75 Actions affecting plant and animal populations.**

Minimization of adverse effects on populations of plants and animals can be achieved by:

(a) Avoiding changes in water current and circulation patterns which would interfere with the movement of animals;

(b) Selecting sites or managing discharges to prevent or avoid creating habitat conducive to the development of undesirable predators or species which have a competitive edge ecologically over indigenous plants or animals;

(c) Avoiding sites having unique habitat or other value, including habitat of threatened or endangered species;

(d) Using planning and construction practices to institute habitat development and restoration to produce a new or modified environmental state of higher ecological value by displacement of some or all of the existing environmental characteristics. Habitat development and restoration techniques can be used to minimize adverse impacts and to compensate for destroyed habitat. Use techniques that have been demonstrated to be effective in circumstances similar to those under consideration wherever possible. Where proposed development and restoration techniques have not yet advanced to the pilot demonstration stage, initiate their use on a small scale to allow corrective action if unanticipated adverse impacts occur;

(e) Timing discharge to avoid spawning or migration seasons and other biologically critical time periods;

(f) Avoiding the destruction of remnant natural sites within areas already affected by development.

#### **Sec. 230.76 Actions affecting human use.**

Minimization of adverse effects on human use potential may be achieved by:

(a) Selecting discharge sites and following discharge procedures to prevent or minimize any potential damage to the aesthetically pleasing features of the aquatic site (e.g. viewscapes), particularly with respect to water quality;

(b) Selecting disposal sites which are not valuable as natural aquatic areas;

- (c) Timing the discharge to avoid the seasons or periods when human recreational activity associated with the aquatic site is most important;
- (d) Following discharge procedures which avoid or minimize the disturbance of aesthetic features of an aquatic site or ecosystem;
- (e) Selecting sites that will not be detrimental or increase incompatible human activity, or require the need for frequent dredge or fill maintenance activity in remote fish and wildlife areas;
- (f) Locating the disposal site outside of the vicinity of a public water supply intake.

**Sec. 230.77 Other actions.**

- (a) In the case of fills, controlling runoff and other discharges from activities to be conducted on the fill;
- (b) In the case of dams, designing water releases to accommodate the needs of fish and wildlife;
- (c) In dredging projects funded by Federal agencies other than the Corps of Engineers, maintain desired water quality of the return discharge through agreement with the Federal funding authority on scientifically defensible pollutant concentration levels in addition to any applicable water quality standards;
- (d) When a significant ecological change in the aquatic environment is proposed by the discharge of dredged or fill material, the permitting authority should consider the ecosystem that will be lost as well as the environmental benefits of the new system.

**Subpart I--Planning To Shorten Permit Processing Time**

**Sec. 230.80 Advanced identification of disposal areas.**

- (a) Consistent with these Guidelines, EPA and the permitting authority, on their own initiative or at the request of any other party and after consultation with any affected State that is not the permitting authority, may identify sites which will be considered as:
  - (1) Possible future disposal sites, including existing disposal sites and non-sensitive areas; or
  - (2) Areas generally unsuitable for disposal site specification;
- (b) The identification of any area as a possible future disposal site should not be deemed to constitute a permit for the discharge of dredged or fill material within such area or a specification of a disposal site. The identification of areas that generally will not be available for disposal site specification should not be deemed as prohibiting applications for permits to discharge dredged or fill material in such areas. Either type of

identification constitutes information to facilitate individual or General permit application and processing.

(c) An appropriate public notice of the proposed identification of such areas shall be issued;

(d) To provide the basis for advanced identification of disposal areas, and areas unsuitable for disposal, EPA and the permitting authority shall consider the likelihood that use of the area in question for dredged or fill material disposal will comply with these Guidelines. To facilitate this analysis, EPA and the permitting authority should review available water resources management data including data available from the public, other Federal and State agencies, and information from approved Coastal Zone Management programs and River Basin Plans;

(e) The permitting authority should maintain a public record of the identified areas and a written statement of the basis for identification.



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Office of the Chief

**Chuck Hoskin Jr.**  
*Principal Chief*

**Bryan Warner**  
*Deputy Principal Chief*

November 5, 2019

Richard Darden  
United States Army Corps of Engineers  
Charleston District  
69A Hagood Avenue  
Charleston, South Carolina 2940-5107

Re: SAC 2019-00924, Professional Sports Training Facility

Dr. Richard Darden:

The Cherokee Nation (Nation) is in receipt of your correspondence about and related report for **SAC 2019-00924**, and appreciates the opportunity to provide comment upon this project. Please allow this letter to serve as the Nation's interest in acting as a consulting party to this proposed project.

The Nation maintains databases and records of cultural, historic, and pre-historic resources in this area. Our Historic Preservation Office reviewed this project, cross referenced the project's legal description against our information, and found no instances where this project intersects or adjoins such resources. Thus, the Nation does not foresee this project imparting impacts to Cherokee cultural resources at this time.

However, the Nation requests that the United States Army Corps of Engineers (USACE) halt all project activities immediately and re-contact our Offices for further consultation if items of cultural significance are discovered during the course of this project.

Additionally, the Nation requests that USACE conduct appropriate inquiries with other pertinent Tribal and Historic Preservation Offices regarding historic and prehistoric resources not included in the Nation's databases or records.

If you require additional information or have any questions, please contact me at your convenience. Thank you for your time and attention to this matter.

Wado,

Elizabeth Toombs, Tribal Historic Preservation Officer  
Cherokee Nation Tribal Historic Preservation Office  
elizabeth-toombs@cherokee.org  
918.453.5389

CC: Michelle Zulauf, USACE



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Office of the Chief

**Chuck Hoskin Jr.**  
*Principal Chief*

**Bryan Warner**  
*Deputy Principal Chief*

December 23, 2019

Richard L. Darden  
United States Army Corps of Engineers  
Regulatory Division  
69A Hagood Avenue  
Charleston, SC 29403

Re: P/N SAC-2019-00924, South Carolina Department of Transportation

Mr. Richard L. Darden:

The Cherokee Nation (Nation) is in receipt of your correspondence about **P/N SAC-2019-00924**, and appreciates the opportunity to provide comment upon this project. Please allow this letter to serve as the Nation's interest in acting as a consulting party to this proposed project.

The Nation maintains databases and records of cultural, historic, and pre-historic resources in this area. Our Historic Preservation Office reviewed this project, cross referenced the project's legal description against our information, and found no instances where this project intersects or adjoins such resources. Thus, the Nation does not foresee this project imparting impacts to Cherokee cultural resources at this time.

However, the Nation requests that the United States Army Corps of Engineers (USACE) halt all project activities immediately and re-contact our Offices for further consultation if items of cultural significance are discovered during the course of this project.

Additionally, the Nation requests that USACE conduct appropriate inquiries with other pertinent Tribal and Historic Preservation Offices regarding historic and prehistoric resources not included in the Nation's databases or records.

If you require additional information or have any questions, please contact me at your convenience. Thank you for your time and attention to this matter.

Wado,

Elizabeth Toombs, Tribal Historic Preservation Officer  
Cherokee Nation Tribal Historic Preservation Office  
elizabeth-toombs@cherokee.org  
918.453.5389

**From:** [Darden, Richard L CIV USARMY CEHQ \(USA\)](#)  
**To:** [Elizabeth Toombs](#)  
**Subject:** RE: PN SAC-2019-00924 York County Project Inspector  
**Date:** Monday, December 30, 2019 9:41:00 AM

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Good morning Ms. Toombs,

Thanks for your letter and comments. For information in response to your requests: We have reached out to all other pertinent Tribal and Historic Preservation Offices regarding the project and will include a special condition (in any permit that may be issued) to stop work immediately to allow further consultation if items of cultural significance are discovered during any construction for this project.

Respectfully,  
Richard Darden

Richard L. Darden, Ph.D.  
US Army Corps of Engineers  
Regulatory Division  
69-A Hagood Avenue  
Charleston, SC 29403

(843) 329-8043

-----Original Message-----

From: Elizabeth Toombs [<mailto:elizabeth-toombs@cherokee.org>]  
Sent: Monday, December 23, 2019 10:47 AM  
To: Darden, Richard L CIV USARMY CEHQ (USA) <[Richard.L.Darden@usace.army.mil](mailto:Richard.L.Darden@usace.army.mil)>  
Subject: [Non-DoD Source] FW: PN SAC-2019-00924 York County Project Inspector

Good Morning, Mr. Darden:

Attached is Cherokee Nation's response to the proposed undertaking. Please let me know if there are any questions or concerns.

Wado,

Elizabeth Toombs, Tribal Historic Preservation Officer Cherokee Nation Tribal Historic Preservation Office PO  
Box 948 Tahlequah, OK 74465-0948  
918.453.5389

-----Original Message-----

From: owner-ls-sc-publicnotice@lst.usace.army.mil <[owner-ls-sc-publicnotice@lst.usace.army.mil](mailto:owner-ls-sc-publicnotice@lst.usace.army.mil)> On Behalf Of  
Bracey, Wiley C CIV USARMY CESAC (US)  
Sent: Tuesday, November 26, 2019 11:40 AM  
To: [ls-sc-publicnotice@lst.usace.army.mil](mailto:ls-sc-publicnotice@lst.usace.army.mil)  
Subject: <EXTERNAL> USACE-Notice PN SAC-2019-00924 York County Project Inspector

PLEASE DO NOT REPLY TO THIS EMAIL.

IF YOU HAVE COMMENTS REGARDING THE PERMIT APPLICATION, YOUR RESPONSE SHOULD BE



PROVIDED TO THE PROJECT MANAGER LISTED IN THE PUBLIC NOTICE.

U.S. Army Corps of Engineers  
Charleston District Public Notice

PROJECT NAME: Project Inspector

COUNTY: York County

WATERWAY & LOCATION: The project is located on unnamed tributaries to Manchester Creek at a location east and west of Interstate 77 in Rock Hill, York County, South Carolina (Latitude: 34.956°, Longitude: -80.982°).

PROPOSED WORK: The proposed work consists of the construction of a professional sports and training facility and corporate headquarters in Rock Hill, South Carolina. In detail, this project would involve the placement of fill material within 0.87 acre of wetlands and 4,991 linear feet of freshwater tributaries to accomplish phased construction of a mixed-use, pedestrian-friendly community anchored by the National Football League's Carolina Panthers practice/training facilities and corporate headquarters with emphasis on retail, entertainment, research and development, residential dwellings, commercial offices, medical facilities, recreation, and open space uses. The applicants have proposed to mitigate for impacts to wetlands and/or waters of the United States by implementing a permittee-responsible mitigation plan on a 484.16-acre parcel in Chester County known as the Landsford Tract (a portion of Parcel Identification Number 162-00-00-001-000). Proposed mitigation activities would include a combination of preservation, enhancement, and restoration to 19,840 linear feet of stream channels and 1.5-3.0 acres of associated wetlands within the Catawba River watershed.

Please either click on the following link or copy and paste it into your web browser to access the public notice:  
Blocked[https://www.sac.usace.army.mil/Portals/43/docs/regulatory/publicnotices/Nov\\_2019\\_PN/SAC-2019-00924\\_York\\_County\\_Project\\_Inspector.pdf?ver=2019-11-26-123358-147](https://www.sac.usace.army.mil/Portals/43/docs/regulatory/publicnotices/Nov_2019_PN/SAC-2019-00924_York_County_Project_Inspector.pdf?ver=2019-11-26-123358-147)

If you have comments regarding the permit application described above, please do not reply to this email. Your response should be provided to the project manager as described in the text of the notice.

If you wish to be added or removed from receiving these notices, please visit our website:  
Blocked<http://www.sac.usace.army.mil/Missions/Regulatory/PublicNotices>



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
**NATIONAL MARINE FISHERIES SERVICE**  
Southeast Regional Office  
263 13<sup>th</sup> Avenue South  
St. Petersburg, Florida 33701-5505  
<https://www.fisheries.noaa.gov/region/southeast>

(Sent via Electronic Mail)

December 2, 2019

Lt. Colonel Rachel Honderd, Commander  
USACE Charleston District  
69A Hagood Avenue  
Charleston, South Carolina 29403-5107

Dear Lt. Colonel Honderd:

NOAA's National Marine Fisheries Service (NMFS) reviewed the projects described in the public notices listed below. Based on the information in the public notices, the proposed projects would **NOT** occur in the vicinity of essential fish habitat (EFH) designated by the South Atlantic Fishery Management Council, Mid-Atlantic Fishery Management Council, or the NMFS. Present staffing levels preclude further analysis of the proposed work and no further action is planned. This position is neither supportive of nor in opposition to authorization of the proposed work.

Notice No.	Applicant(s)	Notice Date
SAC-2019-00924	SC Department of Commerce and DT Real Estate Holdco LLC; Carolina Panthers	November 26, 2019
SAC-2019-01910	Horry County Government; Independent Republic Heritage Wetland Mitigation Bank	November 21, 2019
SAC-2015-01080	SCDOT; Carolina Crossroads	November 26, 2019

Please note these comments do not satisfy consultation responsibilities under section 7 of the Endangered Species Act of 1973, as amended. If an activity "may effect" listed species or critical habitat under the purview of the NMFS, please initiate consultation with the Protected Resources Division at the letterhead address.

Sincerely,

for

Virginia M. Fay  
Assistant Regional Administrator  
Habitat Conservation Division





October 4, 2019

Amanda L. Heath  
Chief, Special Projects Branch  
Department of the Army  
Charleston District, Corps of Engineers  
69A Hagood Avenue  
Charleston, South Carolina 29403-5107

Re: Project Inspector  
(SAC-2019-00924)  
York County, South Carolina  
SHPO Project No. 19-KL0350

Dear Amanda Heath:

Thank you for your letter of September 19, 2019 regarding the subject-referenced project. We also received the draft report, *Cultural Resources Intensive Survey Project Inspector, York County, South Carolina* as supporting documentation for this undertaking. The State Historic Preservation Office (SHPO) is providing comments to the U.S. Army Corps of Engineers (Corps) pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR 800. Consultation with the SHPO is not a substitution for consultation with Tribal Historic Preservation Offices, other Native American tribes, local governments, or the public.

As noted in your letter, the Corps and the Federal Highway Administration (FHWA) are assisting the South Carolina Department of Commerce (SCDOC) with the federal permit application process for this project and the Corps will be leading consultation with our office. The Corps will review all cultural resources reports and documentation prepared for the project and evaluate historic significance and National Register eligibility of identified properties in consultation with SHPO and any tribes that attach religious or cultural significance to the properties.

The Corps and FHWA have reviewed the draft report and found it to be sufficient for SHPO review. The Corps notes, however, that they will not make or request concurrence with any formal determination of effect for the project until a completed permit application is received. The Corps asks that SHPO review the report and provide any relevant comments.

The intensive cultural resources survey of the approximately 256 acre project area resulted in the identification of six newly recorded archaeological sites (38YK0607-38YK0612), three isolated finds, and three newly recorded above-ground resources (SHPO Site Nos. 3920-3922).

Additionally, one previously evaluated above-ground resource, Arrowhead Dairy (SHPO Site No. 3919), was revisited. Sites 38YK0607-38YK0612, SHPO Site Nos. 3920-3922, and the three isolated finds are recommended as not eligible for listing in the National Register of Historic Places (NRHP). Two stone barns associated with Arrowhead Dairy (SHPO Site No. 3919) were determined to be eligible for listing in the NRHP by our office in 2018.

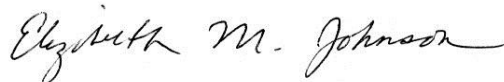
Our office recommends recording and evaluating Arrowhead Dairy as a district and/or complex. See the Historic District Methodology and Site Numbering sections in our Survey Manual. SHPO site number 3919 should be used to represent and describe the district and/or complex on a new survey form, with District being checked under the Category field on the form. The house, the other stone barn recorded by S&ME, the previously determined eligible 1927 milk barn and 1931 hay barn, and any other above-ground architectural or historic resources (including landscapes) should be recorded as sub-numbers and evaluated for the potential to contribute or not contribute to the district and/or complex. The resource name Arrowhead Dairy vs Arrowhead Dairy Farm needs to be reconciled.

We recommend consulting with the owner of Arrowhead Dairy pursuant to 36 CFR 800.3(f). Permission to enter the private property must be granted before further survey efforts begins. We also recommend that copies or summaries of any views provided by consulting parties and the public regarding the undertaking be provided to our office pursuant to 36 CFR 800.11(e).

Our office asks that the attached technical comments in a revised final report to be submitted to this office. Revised survey forms and photographs should be submitted as separate PDF and image files and do not need to be appended to the revised final report.

Please refer to SHPO Project Number 19-KL0350 in any future correspondence regarding this project. If you have any questions, please contact me at (803) 896-6181 or [KLewis@scdah.sc.gov](mailto:KLewis@scdah.sc.gov).

Sincerely,



Elizabeth M. Johnson  
Director, Historical Services, D-SHPO  
State Historic Preservation Office

## **Technical Comments**

Where Arrowhead Dairy is discussed in the report we recommend use of “previously evaluated” instead of “previously recorded”. SHPO site number 3919 is newly assigned, and the Arrowhead Dairy resources recorded by this survey, the house and another stone barn, were not included in the Preliminary Information Form (PIF) submittal to this office and have not been previously evaluated for National Register eligibility.

Above-ground architectural or historic resources should be referred to throughout the report as, for example, “SHPO site number 3919”, instead of just “3919”. Sub-numbers should be referred to throughout the report and on survey forms as, for example, “.01”, instead of just “.1”. Please correct.

Hutchinson Place: Please provide a map in Section 5.2 of the potential district’s boundaries as part of the survey report. Survey maps should include street names, show lot lines, and compass orientation. Each recorded resource in the district should be outlined on the map or a dot can indicate their locations.

p. 36, Section 5.0 Results- “three newly recorded aboveground resources (3920 through 3922 and 1857) were identified”. Please remove 1857 or clarify why it was included here as it is not referenced throughout the remainder of the report.

Figure 5.9- Three positive shovel tests are cited at site 38YK0607, and included in the Artifact Catalog, but four are depicted in this figure. Additionally, the central shovel test in the figure is not labeled. Please correct and clarify the correct number of shovel tests.

Figure 5.9- Please provide additional context regarding the Phase I STPs and the CRIS STPs as depicted here. Does CRIS stand for Cultural Resources Intensive Survey? If so, how does this differ from the Phase I? Please provide additional information regarding the methodology used for the CRIS as compared to the Phase I.

p. 42, Section 5.1.1, Site 38YK607- Stated previously that “three artifacts were collected from the surface of the site and the remaining eight came from between 0-20 cmbs” (p. 36) and in the concluding paragraph that “Given the artifacts were recovered from the surface of the site.” Please clarify as it is indicated that the majority of artifacts were from subsurface contexts at the site here and in the Artifact Catalog.

p. 57, Section 5.2.1- TYPO: “~~Vanessa~~ Virginia Harness”. Please correct.

Artifact Catalog- Please include photograph of the projectile points (i.e. from 38YK0609, IF-1). As stated in the *South Carolina Standards and Guidelines for Archaeological Investigations*, “important artifacts should be illustrated either as line drawings or photographs.” (p. 27).

## Survey Forms--

You may enter a recommended eligibility determination on survey forms in the SHPO National Register Determination of Eligibility field.

Enter the name of the Cultural Resource Survey report title, author, and date that is associated with the property recorded on the survey form in the Sources of Information field.

Please ensure all Digital Photo IDs view fields are completed for each photo provided.

SHPO site number 3919: This resource can be re-numbered to a sub-number. The Historic Name field should read Arrowhead Dairy; House. Please try to complete all fields more accurately or state in the Description field the reasons this information is unknown or not visible.

SHPO site number 3919.01: The Historic Name field should read Arrowhead Dairy; Barn (enter a barn type or name if possible). The Property Description fields need to be revisited. For example, the Historic Core Shape field should be Rectangular, the Stories field should be 1 story (as described in the Description field), the Construction field should be Masonry, the Foundation field should be Stone, the Roof Material field should be Raised Seam Metal, and there appears to be no porch.

SHPO site number 3920: The Category field should be District. The Property Description fields need to be revisited. These are not essential for the District form, but it is fine for “Other” to be selected for these entries, with “multiple” used as you have done.

Please use one survey form to describe one resource. For example, 2770 Blossom Drive and 967 Arrowhead Drive each need to be recorded on their own form. Add “House” in the Historic Name field on each sub-number form after the typology.

SHPO site number 3921: Please recheck the Property Description fields such as Historic Core Shape, Stories, and Porch Width.

SHPO site number 3922: Enter an Address/Location in accordance with our Survey Manual instructions. The Category field should be Structure. The Use fields should be Transportation. Please clear the Property Description fields if not applicable.





## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

176 Croghan Spur Road, Suite 200  
Charleston, South Carolina 29407



December 16, 2019

Lt. Colonel Rachel A. Honderd  
District Engineer  
US Army Corps of Engineers  
69A Hagood Avenue.  
Charleston, SC 29403-5107

Attn: Richard Darden

Re P/N SAC-2019-00924, SC Department of Commerce – DT Real Estate Holdco, LLC,  
York County, SC, FWS Log No. 2020-CPA-0013

Dear Colonel Honderd:

The U.S. Fish and Wildlife Service (Service) has reviewed the above-referenced public notice dated November 26, 2019. The SC Department of Commerce (SCDOC) and DT Real Estate Holdco, LLC, has requested a Department of the Army (Department) permit pursuant to sections 401 and 404 of the Clean Water Act (33 U.S.C 1344), to place fill in wetlands in York County, South Carolina. This report is submitted in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and section 7 of the Endangered Species Act, as amended (16 U.S.C. 1531 et seq.) (ESA). This report is also to serve as official comments to the South Carolina Department of Health and Environmental Control.

The proposed project will involve the placement of fill material within 0.87 acre of wetlands and 4,991 linear feet of freshwater tributaries to accomplish phased construction of a mixed-use, pedestrian-friendly community including a sports training facility, retail, entertainment, research and development, residential dwellings, commercial offices, medical facilities, recreation, and open space uses. Compensation for the proposed impacts will be accomplished through a permittee-responsible mitigation plan on a 484.16-acre parcel in Chester County known as the Landsford Tract. Mitigation activities will include a combination of preservation, enhancement, and restoration to 19,840 linear feet of stream channels and 1.5-3.0 acres of associated wetlands within the Catawba River watershed.

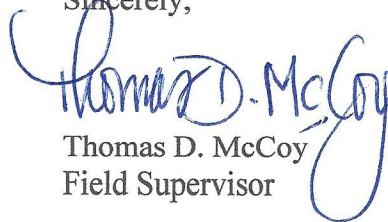
The Service offers no objection to the project. However, nearly 5,000 feet of stream habitat will be impacted because of the project. We recommend that SCDOC utilize best management practices (BMP) to prevent downstream sedimentation throughout the corridor, if the project is permitted. These BMPs must be regularly maintained throughout the construction timeframe

and upgraded as necessary to prevent loss of containment. Further, the planned mitigation for the stream and wetland impacts should occur concurrent or prior to the proposed impacts taking place.

The Department determined that the proposed project may affect, but is not likely to adversely affect the northern long-eared bat. The proposed work is consistent the NELB Programmatic Biological Opinion and 4(d) rule. The Service concurs with your determination. Please note that obligations under section 7 of the ESA must be reconsidered if (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner which was not considered in this assessment, or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

The Service appreciates the opportunity to review and provide comments on the proposed project. If you should need further assistance, please contact Mr. Mark Caldwell at (843) 727-4707 ext. 215 and reference FWS Log No. 2020-CPA-0013.

Sincerely,

A handwritten signature in blue ink that reads "Thomas D. McCoy". The signature is stylized with a large, looping "T" and "M".

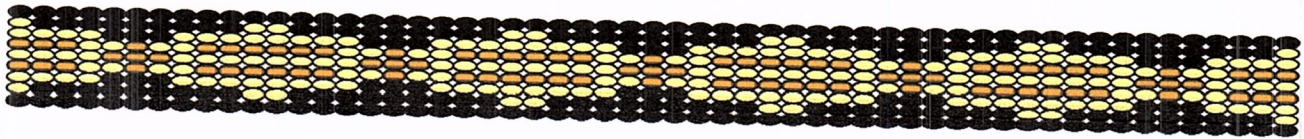
Thomas D. McCoy  
Field Supervisor

TDM/MAC



Catawba Indian Nation  
Tribal Historic Preservation Office  
1536 Tom Steven Road  
Rock Hill, South Carolina 29730

Office 803-328-2427  
Fax 803-328-5791



October 24, 2019

Attention: Michelle R. Zulauf  
Charleston District, Corps of Engineers  
69 A Hagood Avenue  
Charleston, SC 29403-5107

Re. THPO #	SAC #	Project Description
2020-1-2	2019-00924	Cultural Resources Intensive Survey Project – Rock Hill, York County

Dear Ms. Zulauf,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas\*. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**

\*Due to the sensitive nature of the project area and the possibility of an inadvertent discovery, we request that an archaeologist be on site during initial ground disturbance.

If you have questions please contact Caitlin Rogers at 803-328-2427 ext. 226, or e-mail [caitlinh@ccppcrafts.com](mailto:caitlinh@ccppcrafts.com).

Sincerely,

Wenonah G. Haire  
Tribal Historic Preservation Officer

**From:** [Laycock, Kelly](#)  
**To:** [Darden, Richard L CIV USARMY CEHQ \(USA\)](#)  
**Subject:** [Non-DoD Source] RE: SAC 2019-00924 Project Inspector - Environmental Stakeholders Meeting  
**Date:** Monday, December 16, 2019 10:12:30 AM

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Richard,

The EPA has no comments on the project as currently proposed. We believe the conceptual mitigation plan has the potential to generate credits to offsite unavoidable impacts to Water of the US. However, the conceptual plan is lacking some detail therefore we request to see the final plan when the sponsor submits it and would like to reverse the ability for additional comments at that time.

Thanks,  
Kelly Laycock  
Wetlands Regulatory Section  
U.S. Environmental Protection Agency  
61 Forsyth St.  
Atlanta GA, 30303  
phone 404 562 9132

-----Original Message-----

From: Darden, Richard L CIV USARMY CEHQ (USA) <Richard.L.Darden@usace.army.mil>  
Sent: Thursday, December 12, 2019 11:05 AM  
To: ellenbke@dhec.sc.gov; RigginL@dnr.sc.gov; Christopher Handley <chandley@smeinc.com>; jhancock@scprt.com; 'Chad N. Johnston (cjohnston@willoughbyhoefer.com)' <cjohnston@willoughbyhoefer.com>; Brawley, Mandy <mbrawley@sccommerce.com>; kvit@comporium.net; Chris Daves <CDaves@smeinc.com>; Marty Baltzegar <MBaltzegar@smeinc.com>; mixong@dnr.sc.gov; John@catawbariverkeeper.org; mike.ruhe@duke-energy.com; Kimberly Jean Nagle <KNagle@smeinc.com>; 'Elizabeth Johnson (EJOHNSON@SCDAH.sc.gov)' <EJOHNSON@SCDAH.sc.gov>; Emerson, W. Eric <EEmerson@scdah.sc.gov>; Sylvest, John <JSylvest@scdah.sc.gov>; pconnell@sme.inc; Tommy Cousins <tcousins@palustrinegroup.com>; Laycock, Kelly <Laycock.Kelly@epa.gov>; Noel Fletcher, Jennifer <jfletcher@sccommerce.com>; Raleigh.West@sccbanc.sc.gov; ccarter@palustrinegroup.com; Hightower, Charles <HIGHTOCW@dhec.sc.gov>; Clark, Alex <aclark@sccommerce.com>  
Cc: Heath, Amanda L CIV USARMY CESAC (USA) <Amanda.L.Heath@usace.army.mil>; Hughes, Travis G CIV USARMY CESAC (USA) <Travis.G.Hughes@usace.army.mil>  
Subject: SAC 2019-00924 Project Inspector - Environmental Stakeholders Meeting

Good morning all,

Just a note to say thank you to all who participated in yesterday's meeting, including in the conference center, in the field, behind the scenes, etc. I think the opportunity to learn more details about the proposed project as a group is very helpful. Hearing the questions and comments of others always helps us to better understand the project and our perspectives on potential impacts and solutions.

Hopefully everyone benefitted from seeing the proposed impact streams/wetlands for comparison to the proposed compensatory mitigation streams. Not to mention that a chance to get into the field on a nice day always beats reading about it from the office...and the slick clay driving practice was kind of fun!

Please feel free to share any follow-up thoughts and/or comments you may have over the next few days.

Thanks again,  
Richard

Richard L. Darden, Ph.D.  
US Army Corps of Engineers

Regulatory Division  
69-A Hagood Avenue  
Charleston, SC 29403

(843) 329-8043