Permittee-Responsible Mitigation Plan Template

PROPOSED MITIGATION SITE
LOCATION
CITY, STATE

NAME OF PERMITTEE

SUBMITTED TO:
U.S. Army Corps of Engineers, Charleston District
U.S. Environmental Protection Agency, Region 4
U.S. Fish and Wildlife Service, Charleston Ecological Services
National Oceanic and Atmospheric Administration, National Marine Fisheries Service
US Department of Agriculture, Natural Resource Conservation Service
S.C. Department of Natural Resources
S.C. Department of Health and Environmental Control

PREPARED BY

SUBMISSION DATE

1.0 PROJECT DESCRIPTION

This section should include a general description of the proposed project and the specific activities that adversely impact waters of the United States and other aquatic resources on the project site. Prior to considering a proposed compensatory mitigation plan, the Corps must complete our evaluation of alternatives required by the 404(b)(1) Guidelines, and the permit applicant must avoid and minimize potential impacts to aquatic resources to the maximum extent practicable. Therefore, this section must include information about the alternatives that were considered during the evaluation of the proposed project. All applications for a standard DA permit must include information about other layouts on the project site and other project sites that would avoid and minimize potential impacts to aquatic resources. Pre-construction notifications for activities authorized by Nationwide Permits must address avoidance and minimization of potential adverse impacts on the project site.

2.0 AVAILABLE MITIGATION CREDITS

This section should include information about the number and type of mitigation credits that are available within the same watershed as the proposed project. This information may be obtained using the Regulatory In-Lieu Fee and Bank Information Tracking System (RIBITS) at http://216.83.232.125:443/pls/htmldb/f?p=101. RIBITS is an interactive web-based compensatory mitigation tracking system. The public is able to view information, including bank names, contact information, service area maps, and credits ledgers for the majority of the approved mitigation banks in South Carolina. Permit applicants should contact the individual mitigation banks and ILF programs whose service areas overlap the location of the proposed project for additional information about the availability of mitigation credits.

3.0 WATERSHED APPROACH

The goal of a watershed approach is to maintain and improve the quality and quantity of aquatic resources through the strategic selection of compensatory mitigation sites. Therefore, permit applicants should consider factors such as current trends in habitat loss or conversion; cumulative impacts of past development activities; and chronic environmental problems such as flooding or poor water quality within the same 8-digit Hydrologic Unit Code and the sub-watershed where the proposed project is located.

The information needed to support a watershed approach (33 CFR 332.3(c)) should be commensurate with the proposed impacts to aquatic resources. The Charleston District has identified several sources of information that may be useful for this purpose, and has posted this information on our website at www.usace.army.mil. The permit applicant should use and supplement this information to describe the existing condition of the 8-Digit HUC and the sub-watershed where the proposed project is located. If possible, the permit applicant should also identify the aquatic resource needs of the watershed where the proposed project is located.

This information should also be used below (Section 4.2 Site Selection) to identify and discuss potential mitigation alternatives that were considered during the development of a proposed mitigation plan.

4.0 PROPOSED COMPENSATORY MITIGATION PLAN

The components of a complete mitigation plan are identified in the Mitigation Rule (33 CFR 332.4(c). The following sections provide additional local guidance about the information that will be required to review and approve a PRM plan.

4.1 Goals and Objectives: *This section should include a statement regarding your intent to preserve, enhance, restore and/or create wetlands and/or tributaries of (include name of nearest blue-line stream) to provide compensatory mitigation for adverse impacts to wetlands, streams and/or other aquatic resources authorized by Department of the Army permit #XXXXX. Provide a description of each aquatic resource type and amount that will be provided, the method of compensation (i.e., restoration, establishment, enhancement, and/or preservation), and the manner in which the resource functions of the compensatory mitigation project will address the ecological needs of the watershed, ecoregion, physiographic province, or other geographic area of interest.*

4.2 Site Selection: *Provide a description of the factors considered during the site selection process. This should include consideration of watershed needs, onsite alternatives, where applicable, and the practicability of accomplishing ecologically self-sustaining aquatic resource restoration, establishment, enhancement, and/or preservation at the compensatory mitigation project site. In determining the ecological suitability of the compensatory mitigation project site, consideration must be given to the factors listed below:*

4.2.1 Hydrological conditions, soil characteristics, and other physical and chemical characteristics;
4.2.2 Watershed-scale features, such as aquatic habitat diversity, habitat connectivity, and other landscape scale functions;
4.2.3 The size and location of the compensatory mitigation site relative to hydrologic sources (including the availability of water rights) and other ecological features;
4.2.4 Compatibility with adjacent land uses and watershed management plans;
4.2.5 Reasonably foreseeable effects the compensatory mitigation project will have on ecologically important aquatic or terrestrial resources (e.g., shallow sub-tidal habitat, mature forests), cultural sites, or habitat for federal or state listed, threatened and endangered species; and
4.2.6 Other relevant factors including, but not limited to, development trends, anticipated land use changes, habitat status and trends, the relative locations of the impact and mitigation sites in the stream network, local or regional goals for the restoration or protection of particular habitat types or functions (e.g., re-establishment of habitat corridors or habitat for species of concern), water quality goals, floodplain management goals, and the relative potential for chemical contamination of the aquatic resources.

4.3 Site Protection: *Long-term protection of privately owned compensatory mitigation sites may be provided through real estate instruments such as a conservation easement or the transfer of title to a federal, tribal, state, or local resource agency, or a non-profit conservation organization. For government property, a Memorandum of Agreement or similar mechanism must prohibit incompatible land uses and establish a third party right of enforcement to ensure sufficient protection to the compensatory mitigation site. The method of site protection and the identity of the conservation easement holder, the party that will hold title to the property, or the government agency responsible for managing the property must be included in this section.*

The Charleston District's Model Conservation Easement and Model Restrictive Covenant are available at our website (http://www.sac.usace.army.mil). Any proposed changes to the model documents must be identified clearly using track changes or a similar method to facilitate review of these legal documents. Failure to identify changes may result in the document being returned to the bank sponsor without review.

4.4 Baseline Conditions:

4.4.1 Project Site: *Since the objective of compensatory mitigation is to offset adverse impacts to waters of the United States authorized by DA permits, every permit application must include information about the existing condition of aquatic resources (streams, open waters, wetlands, etc) located on the project site. This information is used to determine both the number and type of mitigation credits that will be required to offset adverse impacts associated with the proposed project. This information should include photographs and data sheets of the specific aquatic resources that will be impacted on the project site, and should support the Required Mitigation Credit Worksheets for the proposed project.*

4.4.2 Proposed Mitigation Site: *In order to describe the existing condition of the mitigation site, the permit applicant will need to research and describe historic conditions, any past modifications to the mitigation site, and any ongoing changes in response to natural disturbances or management practices. The following resources are examples of information that may be used to describe the mitigation site: maps showing the location and boundaries of the property, information on current soil conditions, historical and existing hydrologic conditions, historic and existing plant communities, historical and cultural information about the site including past, present and future uses of the property including impacts to resources, jurisdictional determination (provide copy of confirmation and reference appendix for associated data/maps), water quality (for impaired streams, please reference most recent 303D listing information and cause of impairment at http://www.scdhec.gov/environment/water/tmdl/index.htm), and a description of each aquatic resource type (Hydrogeomorphic Approach, Cowardin classification, Rosgen stream type, etc. as appropriate) and upland habitat type. The baseline information must be sufficient to support the development of the mitigation work plan. For example, longitudinal and cross-sectional data including entrenchment ratio, width/depth ratio, sinuosity, slope, and pebble count are necessary to evaluate the existing condition of a stream. Therefore, this information is required if stream restoration activities are proposed as part of the mitigation plan.*

4.4.3 Reference Site: *The baseline information gathered by the permit applicant for the reference site is used to identify the mitigation site potential and to assist in the development of appropriate performance standards. Therefore, a similar level of effort (see 4.4.2 above) is required to describe the existing condition of the reference site. The reference site should be located within the same watershed as the mitigation site. Since the reference site will be monitored throughout the life of the proposed project, it must be located in an area that will not be affected by the proposed restoration activities or future development of adjacent or nearby properties.*

4.5 Determination of Credits: *The permit applicant should use the most recent version of the Charleston District Guidelines for Preparing a Compensatory Mitigation Plan (Appendix C and D) to determine the number of mitigation credits required to offset a proposed project and to*

estimate the number of mitigation credits generated by a proposed mitigation plan. This section should include a copy of all worksheets and information that supports the values that were used in the worksheets.

4.6 Mitigation Work Plan: *This section should include (as applicable) detailed design plans for the proposed restoration and enhancement activities and a description of the proposed activities for each area including existing and proposed elevation and slopes, construction methods, construction schedules, construction sequence, source of water including connections to existing waters and uplands; hydroperiod (seasonal depth, duration, and timing of inundation and saturation), methods for establishing the desired plant community; plans to control invasive plant species; proposed native plant species composition, source of species, plant location map, plant spatial structure, expected natural regeneration, soil profile, source of soils, target soil characteristics, erosion and soil compaction control measures, planned habitat, planned buffer, interpretive signs, trails, and/or fences. For stream compensatory mitigation projects, the mitigation work plan may also include other relevant information such as planform geometry, channel form (e.g., typical channel cross-section), watershed size, design drainage, and riparian area plantings. For buffer enhancement, you must provide target vegetation composition, species list, cumulative density of plantings, and planting schedule. If removing impoundment structures or performing in-stream restoration, please provide detailed and specific information/design plans regarding proposed restoration techniques. The proposed mitigation activities should be clearly shown on a map of the mitigation site.*

4.7 Maintenance Plan: *A description and schedule of maintenance activities that are required to ensure the proposed mitigation site develops as expected once the initial construction is completed. This may include measures to control predation of mitigation plantings, temporary irrigation to facilitate plant establishment, procedures for conducting supplemental plantings and/or maintenance and repair of any water control or in-stream structures.*

4.8 Performance Standards: *Performance standards must be developed for each mitigation activity or management unit on the mitigation site. A management unit should not include more than one aquatic resource type (stream, wetland, etc.) or mitigation method (restoration, enhancement, establishment, or preservation). Performance standards should describe the mitigation activities that are being conducted and should establish criteria for documenting the degree of success and whether the mitigation site has achieved the desired objectives. The following are examples of acceptable performance standards:*

Forested Wetland - For areas involving vegetative restoration, plantings should include a diversity of species similar to those found in the reference site. An initial stocking density of 300 trees per acre (12' x 12' spacing) is recommended with a target density of 150-300 stems/acre and 85% canopy coverage after five years. In addition, planted species must show a consistent increase in height, lateral growth and root collar diameter throughout the monitoring period.

Hydrology - Wetlands would be considered successfully restored or enhanced when monitoring demonstrates that the degree and duration of flooding has increased over the baseline and is comparable to a suitable reference wetland. For effectively drained areas, success criteria should include quantitative criteria demonstrating the area meets jurisdictional criteria for vegetation and hydrology and that it is comparable to a reference area.

Stream Restoration - Following 5 years of monitoring and through two bank full events, the data demonstrates that the restored stream is in stable condition, stream parameters are comparable to the reference reach, and baseline conditions for stream biology and water quality have been maintained or improved. For units requiring riparian buffer plantings, including buffer enhancement units, 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.

Performance Standards may be based on functional, conditional, or other suitable assessment methods and/or criteria and may include hydrological, vegetative, faunal, and soil measures. This section of the approved mitigation plan should also describe how the performance standards will be used to verify that the mitigation site is meeting interim success criteria and the objectives have been attained. The target values or range of values for the parameters specified in the performance standards should be calibrated with the reference site(s).

4.9 Monitoring Requirements:

4.9.1 Monitoring Reports- (5-year minimum) Monitoring reports should be concise and provide information to describe the site conditions and whether the mitigation project is meeting its performance standards. The report should include a narrative that provides an overview of site conditions and function; design drawings, maps, and photographs to illustrate site conditions, and functional assessments used to provide quantitative or qualitative measures of the functions provided by the mitigation project. Photographs should be formatted to print on a standard 8.5 x 11 sheet of paper, dated, and clearly labeled with the direction from which the photo was taken. Maps should show the location of the mitigation site, habitat types, locations of photographic reference points, transects, sampling data points, and/or other features pertinent to the mitigation site. Additional components of the narrative are:

4.9.1.1 Name of party responsible for conducting the monitoring and the date(s) of the inspection.
4.9.1.2 A brief description of the approved compensatory mitigation plan and the dates when specific mitigation activities were commenced and/or were completed.
4.9.1.3 A paragraph describing whether the mitigation site is developing as expected. This summary should be supported by a detailed description of each management unit, and whether or not each management unit is developing as expected and meeting the necessary performance standards.
4.9.1.4 If one or more management units are not meeting the necessary performance standards, the permit applicant must submit a description of the existing condition, identify the reason(s) that the management unit is not meeting performance standards, and submit a proposal to conduct remedial actions and bring the management unit into compliance with the approved mitigation plan.
4.9.1.5 Dates of any corrective or maintenance activities conducted since the previous report submission.

4.9.2 Monitoring Parameters should include:

4.9.2.1 For stream restoration, channel stability should be monitored at permanently established monitoring stations located at the most upstream and downstream limits of the bank and at several cross sections at stations located

within restoration reaches. For each station, measurements should include photographic documentation, plan view, longitudinal profile, and pebble counts.
4.9.2.2 Vegetative monitoring, for all units involving planting, should include measurements of height, lateral growth, and root collar diameter in addition to density of all trees by species including regeneration; composition, density, DBH, and height of all planted trees to determine survivability and growth rate; density and/or estimated coverage of all exotic species; and composition and estimated coverage of shrub and herbaceous (dominant, 10% or greater coverage) species.
4.9.2.3 Benthic macroinvertebrates should be sampled in accordance with SCDHEC qualitative sampling protocols. This data should be collected and analyzed by a state certified lab at permanently established monitoring stations located at the most upstream and downstream limits of the bank and at additional stations within the bank located downstream of each restoration reach. Biotic index, abundance, diversity, and the species list for each station should be listed in the monitoring report.
4.9.2.4 Water quality data should include, but is not limited to, the following parameters: pH, dissolved oxygen, temperature, conductivity, hardness. This data should be collected and analyzed by a state certified lab at permanently established monitoring stations located at the most upstream and downstream limits of the bank and at additional stations within the bank located downstream of each restoration reach.
4.9.2.5 Hydrology data: Monitoring wells should have corresponding rain gauges to document response times and duration of saturation. For guidance on the installation of monitoring wells for wetland hydrology, please reference ERDC standards:

http://el.erdc.usace.army.mil/elpubs/pdf/tnwrap06-2.pdf

http://el.erdc.usace.army.mil/elpubs/pdf/tnwrap00-2.pdf

4.10 Long-term Management Plan: *This section describes activities that are expected to occur after all of the compensatory mitigation activities are completed and the mitigation plan is determined to be successful. Unlike maintenance activities that facilitate the development of the mitigation site during the operation of the mitigation bank, the long-term management plan should address activities that are required to ensure that the mitigation site continues to provide aquatic resource functions and services in perpetuity.*

4.10.1 Ownership of the Mitigation Site*: The long-term management plan should state whether the mitigation site will remain in private ownership or whether the existing property owner plans to convey the mitigation site to an appropriate conservation group or government agency, and the method for ensuring that the new property owner(s) understands their responsibility to protect the mitigation site in perpetuity (if applicable).*

4.10.2 Identity of Long-Term Steward: *Identify the name and contact information for the Long-Term Steward and a statement of their responsibilities.*

4.10.3 Identification of Long Term Management Activities: *Provide a list of activities,* such as burning, management of invasive species, etc. that are required to ensure that the mitigation site will continue to provide the desired aquatic resource functions and services.
4.10.4 Funding Mechanism: *Describe how the necessary management activities will be funded*
4.10.5 Justification for Level of Funding: The Long-Term Steward will be responsible for conducting the long-term management activities described above. The long-term management fund must provide a secure funding source for future maintenance, repair, and monitoring requirements. *This justification must be based on real world estimates of the money required to manage the site in perpetuity. Quotes gathered for the estimate of restoration/enhancement costs may be used to generate this number. Amount should include monies for habitat work, infrastructure, and monitoring requirements. Either the amount agreed to between the permit applicant and the Corps or the amount agreed to between the permit applicant and Long-Term Steward WHICHEVER IS HIGHER shall be used to fund the account.)*

4.11 Adaptive Management: In the event the approved mitigation plan, one or more mitigation activities, or one or more areas of the mitigation site fails to achieve the necessary performance standards as specified in the mitigation plan, the permit applicant shall notify the Corps immediately. Adaptive management activities may consist of corrective actions and additional monitoring of the approved mitigation site, implementation of an alternate PRM plan, or the purchase of mitigation credits from an approved mitigation bank or in-lieu fee program. Failure to actively pursue and implement an approved mitigation plan or to develop and implement an adaptive management plan may be grounds for modification, suspension or revocation of the associated Department of the Army authorization.

4.12 Financial Assurances: The permit applicant shall provide financial assurances in the form of a Performance Bond or Letter of Credit to ensure funding is available to implement the approved mitigation plan or to implement corrective measures if additional work is required to ensure the success of the mitigation activities. The amount of the bond or letter of credits shall be based on estimated construction costs and the Corps will release these financial assurances after documentation and approval of project success. The permit applicant must notify the Corps 120 days prior to termination of financial assurances.

Identify the party responsible for establishing and managing the financial assurance, the specific type of financial instrument, the method used to estimate assurance amount, the date of establishment, and the release and forfeiture conditions. Documentation of estimated construction costs must be provided in a separate appendix of this document.