US Army Corps
Of Engineers ®
Nashville District

Permittee-Responsible Stream Mitigation Guidance for PRM Projects within Tennessee November 2018

This Permittee-Responsible Mitigation (PRM) document has been developed to provide guidance on the required elements of a compensatory mitigation (CM) plan that is compliant with 33 CFR 332. This guidance document is applicable to all type of permittee-responsible compensatory mitigation, including on-site and off-site mitigation. As stated in 33 CFR 332.3(c)(3)(iii) and 230.93(c)(3)(iii), the level of information and analysis contained in a mitigation plan must be commensurate with the scope and scale of the authorized impacts and functions lost. Please provide the following information with the submittal of a permittee-responsible mitigation plan:

A. Basic Information

1. **DA Permit Number.** Provide the Department of the Army (DA) permit number for which PRM is proposed as well as other past or current permits from state or federal agencies.

2. **Applicant.** Provide contact information for the applicant, landowner(s), and agent(s).

3. **Agent**. Identify consultants or experts to be involved in design of the mitigation site, and list their qualifications and experience in designing and implementing mitigation projects.

4. **Impact Site**. Identify the resource type(s) and amount(s) of waters of the U.S. to be impacted by the project for which PRM is proposed. Please specify whether impacts will be temporary or permanent. For temporary impacts, please include an estimated schedule outlining when restoration of the temporary impacts would occur.

    a. List the impact site(s) location from the nearest intersection of roads. List the nearest town, county, state, 8 and 12-digit Hydrologic Unit Code (HUC), U.S. Environmental Protection Agency (EPA) ecoregion (Level III), provide the impact site(s) coordinates in decimal degrees (North American Datum - NAD 83), and any associated available shapefiles relating to the proposed impact site.

    b. Describe and quantify the aquatic resource type and functions that will be lost at the proposed impact site (e.g. TN SQT Overall Existing Condition Score and TN Debit Tool Debit Calculator[1]). Please fill out applicable items 6(b), (c), (d)(ii) –(v) in the "Baseline Information" section for proposed stream relocations.

    c. Describe existing aquatic resource concerns in the watershed (e.g. flood storage, water quality, habitat, etc.) and how the impact site currently contributes to overall watershed/regional functions.

[1] https://www.lrn.usace.army.mil/Missions/Regulatory/Mitigation/

B. Components of a Compensatory Mitigation (CM) Plan

1. **Executive Summary**. Provide a brief, narrative overview of the mitigation plan (approximately one page). The narrative should summarize the amount, aquatic resource type (e.g. Cowardin, HGM, ecological, and/or Rosgen stream classification), and functional capacity of both the aquatic resources proposed for impact and those proposed for mitigation credit. The narrative should also explain how the CM work would replace aquatic resource functions that would be lost as a result of the proposed project.

2. **Project Goals**. Describe the purpose and goals of the project. Provide a description of any physical, chemical, and/or biological degradation occurring within the proposed mitigation site. The purpose and goals should explain the need for improvement to specific physical, chemical, and/or biological functions on the proposed mitigation site. Additionally, project goals should be reported on the Project Assessment tab within the TN SQT Workbook.

3. **Objectives**. A description of the resource type(s) and amount(s) that will be provided, and the manner in which the resource functions of the mitigation project will address the needs of the watershed, ecoregion, physiographic province, or other geographic area of interest. (33 CFR 332.4(c)(2)) Additionally, project objectives should be reported on the Project Assessment tab within the TN SQT Workbook.

    a. Identify the 8-digit HUC and ecoregion (Level III) for the mitigation site. Describe how the regional proximity (8-digit HUC) and ecological similarity (ecoregion and classification) relate to the impact site.

    b. Describe the objectives of the project. The objectives should explain what specific physical, chemical, and/or biological functions will be addressed, and how they will be improved quantitatively.

4. **Site Selection**. A description of the factors considered during the site selection process. This should include consideration of watershed needs, on-site alternatives where applicable, and practicability of accomplishing ecologically self-sustaining aquatic resource improvements at the mitigation project site. (CFR 332.4(c)(3))

    a. *Watershed Assessment Form.* Provide a completed *Watershed Assessment Form* (Appendix A). Include a narrative description of watershed size, historic and existing land uses, sources of impairment, development trends, percent impervious surfaces, etc.

    b. *Site Constraints*. Describe all constraints that would limit the restoration potential of the project. This should include a description of any watershed, physical, chemical, or biological constraints that would limit upland buffer width, construction methodology, site protection, stream and/or wetland function, etc. Examples of constraints include, but are not limited to: adjacent land uses, roadways, utility lines, stormwater outfalls, liens, easements, or encumbrances on the property, inability to acquire property and/or long-term protection, presence of threatened or endangered species (state and federal), and historic properties. Identify any portion of the project that would occur on public lands and the public entity that owns the land.

c. *Additional Site Selection Criteria*. List any other site selection criteria that were used to identify the proposed project. Site selection criteria could include watershed plans, State Wildlife Action Plans prepared for the watershed, plans under Section 319 Clean Water Act grants, and any other watershed scale assessments.

5. **Site Protection Instrument**. A description of the legal arrangements (e.g. conservation easement, deed restriction, etc.) and instrument including site ownership that will be used to ensure the long-term protection of the mitigation project site. (CFR 332.4(c)(4))

a. The site protection mechanism must provide long-term protection of the compensatory mitigation site and to the extent appropriate and practicable, prohibit incompatible uses that might otherwise jeopardize the objectives of the compensatory mitigation project. Prohibited uses may include but are not limited to:

- Clearing, cutting, and mowing of native vegetation;
- Earthmoving, grading, filling, topography change;
- Construction of permanent or temporary structures;
- Mining, drilling;
- Draining, diking;
- Diverting or affecting the flow of surface or subsurface waters;
- Spraying with herbicides or pesticides for reasons other than for controlling invasive species;
- Grazing or use by domesticated animals;
- Use of off-road vehicles and motor vehicles; and
- Utility lines.

b. The *Property Assessment and Warranty* must be completed and returned to the Corps with all attachments included after a public notice has been issued for the permit application, or, if public notice is not required, upon receipt of a proposed detailed mitigation plan. (Appendix B)

6. **Baseline Information**. A description of the ecological characteristics of the proposed mitigation project site. Provide the TN SQT Overall Existing Condition Score and individual parameters for each stream reach. Information on stream reach break criteria and the SQT User Manuals can be found on the Nashville District Mitigation webpage[2]. The baseline information should also include descriptions of historic and existing plant communities, historic and existing hydrology, soil conditions, a map showing the locations of the impact and mitigation site(s), the geographic coordinates for those site(s), and other characteristics appropriate to the type of resource proposed as compensation.

a. *Jurisdictional Delineation*. The baseline information should include a delineation of waters of the United States on the proposed mitigation project site. (CFR 332.4(c)(5)). Delineations must be prepared in accordance with the *1987 Corps of Engineers Wetlands Delineation Manual* and appropriate Regional Supplement. See Appendix C titled "Components of a Complete Waters of the U.S. Delineation Report" for more information.

[2] https://www.lrn.usace.army.mil/Missions/Regulatory/Mitigation/

b. *Location Description*. List the project area in acres (wetlands) and linear feet (streams) and location from the nearest intersection of roads. List the nearest town, county, state, HUC-8 watershed, ecoregion (Level III), and provide project coordinates in decimal degrees (NAD 83).

c. *Maps*.
   i. Provide a plat or land ownership map and digital shapefile or KMZ file.
   ii. Provide a map showing the boundaries of all existing aquatic resources within the mitigation property boundary and a digital shapefile or KMZ file.
   iii. Provide a Natural Resources Conservation Service (NRCS) soil map[3] with the site boundary clearly identified. Include a table identifying the soil taxonomy for each soil type within the project boundary.
   iv. Provide a National Wetlands Inventory (NWI)[4] map with the site boundary clearly identified.
   v. Provide a U.S. Geological Survey (USGS) topographic map and a map with recent aerial imagery that includes the following information/layers on each:
      - Boundaries of the proposed mitigation site;
      - Clearly identified stream reaches and wetland areas;
      - Transportation layer; and
      - Maintained easement locations (e.g. powerline right-of-way, sewerline easements, pipeline easements, etc.).
   vi. Provide historical aerial imagery overlain with proposed mitigation project boundaries with at least one image per decade throughout the available period of record.

d. *Baseline Stream Assessment.*
   i. *Existing and Proposed Conditions.* Provide a completed TN SQT Workbook for each stream within the project. More than one assessment will often be necessary to adequately characterize the variable conditions along a single stream. Provide at least one complete *TN SQT and Debit Tool Rapid Assessment Form* (Appendix D) for each unique stream reach within the project area. To delineate the unique stream reaches, consider significant changes in drainage area, breaks at major confluences, changes in gradient, Rosgen classification stream type, floodplain connectivity, lateral stability, riparian vegetation, and bedform diversity. Complete additional forms as necessary. Refer to the *TN SQT Rapid Data Collection Manual*[5] for details on reach break criteria and other supporting information to complete the form.
   ii. *Biological Data*. Provide information on the biological scores for the waterbodies within the project boundaries. Contact TDEC[6] to obtain any pre-existing biological scores for the waterbody at or near the proposed project reach. If this information does not exist or is determined to no longer be valid, the state may elect to evaluate the site to establish existing biological conditions. In consultation with the TDEC, the applicant may provide biological scores following the standardized protocols found in TDEC's *Quality System Standard*

[3] https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm
[4] https://www.fws.gov/wetlands/
[5] https://www.lrn.usace.army.mil/Missions/Regulatory/Mitigation/
[6] https://www.tn.gov/environment/contacts/about-field-offices.html

Operating Procedure for Macroinvertebrate Stream Surveys[7]. Depending on site conditions and proposed treatments, biological scores may be requested for each unique stream within the project area.

iii. *Site Photos*. Provide photographs of the stream reaches within the proposed project area. Provide a photograph location map that clearly identifies the location and orientation of the photographs.

iv. *Adjacent land uses surrounding the project site*. Discuss reasonable expected development of the site (if mitigation activities were not implemented) and the surrounding area.

e. *Additional factors to consider during baseline data collection.*

i. Include relevant discussion on the presence of special biological resources and how these were evaluated (e.g., endangered species/critical habitat, special aquatic sites, etc.).

ii. Include relevant discussion on the presence of any Historic/Cultural Resources which may occur within the project site and/or within one-half mile.

iii. Include relevant discussion on the presence of on any Hazardous/Toxic Waste issues that may exist on the site.

7. **<u>Determination of Credits</u>**. A description of the number of credits to be provided including a brief explanation of the rationale for this determination. (CFR 332.4(c)(6)) This should include an explanation of how the mitigation project will provide the required compensation for unavoidable impacts to aquatic resources resulting from the permitted activity.

a. *Mitigation Summary*. Provide the Stream Summary table from the SQT Workbook - Project Assessment tab.

b. *Functional Lift*. Explain how the proposed project will increase specific stream functions above the pre-project levels. Use data collected and information from the TN SQT Workbook to describe how the proposed project will improve stream functions within each reach. Identify stream reference reach(es) and provide a brief description of the reach(es).

8. **<u>Mitigation Work Plan</u>**. Detailed written specifications and work descriptions for the mitigation project, including, but not limited to, the geographic boundaries of the project; construction methods, timing, and sequence. (CFR 332.4(c)(7))

a. General Work Plan Considerations

i. *Soil Compaction.* If soil compaction and/or nutrient incompatibilities were identified as potential problems during baseline data collection, or if mass grading is planned for the proposed mitigation area(s), describe how soil compaction, loss of soil fertility, changes in soil character, (e.g. removing the surface soil horizons), etc. will be addressed (e.g. disking/topsoil management, soil amendments, mulching, addition of large woody debris) in the proposed wetland and/or stream buffer mitigation work plan.

ii. *Soil Suitability*. Describe the soil fertility and soil chemistry suitable for the riparian buffer.

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[7] TDEC's Quality System Standard Operating Procedure for Macroinvertebrate Stream Surveys - https://www.tn.gov/content/dam/tn/environment/water/documents/DWR-PAS-P-01-Quality_System_SOP_for_Macroinvertebrate_Stream_Surveys-081117.pdf

iii. *Land Disturbance*. Describe the extent of grading necessary to accomplish the goals of the proposed mitigation project. If applicable, describe where excess fill material will be placed. Describe how the topsoil will be managed during grading activities.

b. Stream Mitigation
   i. The mitigation plan must describe:
      - Hydraulic assessments that were performed (stream velocity, shear stress and stream power shown in relation to stage and discharge);
      - Identification and verification of bankfull (refer to Section 3.2 Bankfull Verification of the *TN SQT Rapid Data Collection Manual*[8]). Applicants may choose to establish site-specific regional curves based on watershed conditions. If site specific regional curves are developed, site selection criteria, data, and analysis methods should be provided with the linear regression equations; and
      - Sediment transport analysis (if necessary).
   ii. The mitigation work plan should include information such as planform geometry, channel form (e.g., typical channel cross-sections), typical drawings of in-stream structures, riparian area plantings, and plans to control invasive plant species.
   iii. *Work Approach*. Description of planned mitigation approach for each stream reach.

c. Planted Vegetation
   i. *Planting List.* Provide a planting list spreadsheet to include common name, scientific name, seedling/sapling size, wetland indicator status (OBL, FACW, FAC, FACU, UPL), planting density (stems/acre) and percent composition of each species planted.
   ii. *Source.* Identify the source of native plant species (salvaged from impact site, local source, seed bank) and stock type (bare root, potted, seed).
   iii. *Natural Regeneration*. Describe any expected natural regeneration from existing seed bank, plantings, and natural recruitment.
   iv. *Species Composition*. Describe how richness and density of species within the reference target has been considered in the plan.
   v. *Species Selection*. Describe how each area (upland, riparian buffer zone, etc.) will be planted with suitable native herbaceous, shrub, and tree species.

9. **<u>Maintenance Plan</u>**. A description and schedule of maintenance requirements to ensure the continued viability of the resource once initial construction is completed. (CFR 332.4(c)(8))

a. *Responsible Party*. Party responsible and their role for performing maintenance.

b. *Maintenance Activities*. Identify specific maintenance activities planned and anticipated schedule. Maintenance activities include, but are not limited to supplemental planting, invasive species treatment, erosion control, fencing, in-stream structures, water control structures, etc.

10. **<u>Performance Standards</u>**. Ecologically-based standards that will be used to determine whether the mitigation project is achieving its objectives. (CFR 332.4(c)(9))

[8] https://www.lrn.usace.army.mil/Missions/Regulatory/Mitigation/

a. *Performance Standards*. Provide list of interim and final performance standards that objectively evaluate the project's trajectory toward final mitigation success and achievement of stated project goals and objectives. Projects that use the TN SQT quantitative assessment method to establish existing and proposed conditions will incorporate the metrics proposed for improvement as performance standards, along with pre-project existing conditions, to document the stream function improvements that will occur as a result of the proposed project. Additional performance standards may be required to evaluate the project's success.

b. *Format*. Ecological performance standards should be listed in table format and clearly document the interim and final performance requirements of the mitigation site.

11. <u>Monitoring Requirements</u>. A description of parameters to be monitored in order to determine if the mitigation project is on track to meet performance standards and if adaptive management is needed. A schedule for monitoring and reporting monitoring results to the District Engineer (DE) must be included. (CFR 332.4(c)(10))

a. *Monitoring Plan*. Provide a table that lists proposed monitoring parameters, frequency of specific monitoring, and length of monitoring period. In accordance with federal requirements, all monitoring of mitigation sites must adhere to the minimum standards provided in Regulatory Guidance Letter (RGL) 08-03 (Appendix E).

b. *Responsible Party.* Identify the party responsible for monitoring the mitigation site.

c. *Reporting*. Propose the frequency for submitting annual monitoring reports.

d. *Reporting Format*. Describe the format for reporting monitoring data and assessing the mitigation site. Applicants may use the monitoring tabs within the TN SQT Workbook as a format for reporting monitoring data.

12. <u>Long-Term Management Plan</u>. A description of how the mitigation project will be managed after performance standards have been achieved to ensure the long-term sustainability of the resource, including long-term financing mechanisms and the party responsible for long-term management. (CFR 332.4(c)(11))

a. *Long-Term Management Needs*. Description of long-term management needs, annual cost estimates for these needs, and identify the funding mechanism that will be used to meet these needs. The long-term management activities shall be performed by the responsible party and adequate funding shall be provided by the applicant.

<u>Long-Term Management Activities Include</u>:
Maintenance of Signage
Conservation Easement Enforcement
Access / Gate Maintenance
Fencing
Non-native Invasive Species Management
Taxes
Property Insurance
Reporting
Other project specific items as listed in the mitigation plan

b. *Responsible Party & Contact Information*. Provide the name and contact information of the person(s) who will manage the site after the mitigation effort is deemed successful. The responsible party may include, but is not limited to the applicant, federal, tribal, state, or local resource agencies, non-profit conservation organizations, or private land managers.

c. *Cost*. Estimated long-term management costs shall be provided in a format consistent with Appendix F. The costs include estimates of time and funding needed to conduct the long-term management activities. The table will include the itemized management activities by task and will be summarized as an annual cost. Administration fees, contingency fees, and current annual estimated capitalization rate shall be identified. Additionally, the total endowment cost shall be identified in the table. Property Analysis Record (PAR) (Center for Natural Lands Management), Long-term Stewardship Calculator (The Nature Conservancy), or similar methods may be used for determining the amount of principal required to fully fund the long-term management fund.

d. *Funding*. Long-term management funding shall be placed into a non-wasting endowment fund. Other long-term financing mechanisms including trusts, contractual arrangements with responsible parties, and other appropriate financial instruments may be considered by the Corps on a case-by-case basis.

13. <u>Adaptive Management Plan</u>. A management strategy to address unforeseen changes in site conditions or other components of the mitigation project, including the party or parties responsible for implementing adaptive management measures. (CFR 332.4(c)(12))

a. *Responsible Party.* Identify the responsible parties who will identify the problem and contact the Corps to develop appropriate corrective measures.

b. *Potential Problem*s. Potential problems that may trigger adaptive management.

c. *Corrective Measures*. Discussion of potential corrective measures.

d. *Timing*. Time frame for implementing corrective actions.

14. <u>Financial Assurances</u>. A description of financial assurances that will be provided and how they are sufficient to ensure a high level of confidence that the mitigation project will be successfully completed, in accordance with its performance standards. (CFR 332.4(c)(13))

a. *Financial Assurance.* For construction phase, maintenance, monitoring, remedial measures, and project success, identify: party responsible to establish and manage the financial assurance, the specific type of financial instrument (e.g., performance bonds, irrevocable trusts, escrow accounts, casualty insurance, letters of credit, etc.), the method used to estimate assurance amount, the date of establishment, and the release and forfeiture conditions. In order to ensure the financial assurances are adequate, an itemized spreadsheet listing costs associated with construction, planting, and maintenance of the mitigation site through the monitoring period (including potential adaptive management measures) should be prepared and included with the mitigation plan (See Appendix G).

b. *Review*. Identify the schedule by which financial assurances will be reviewed and adjusted to reflect current economic factors.

15. <u>Other Information</u>: The district engineer may require additional information as necessary to determine the appropriateness, feasibility, and practicability of the mitigation project.

a. *Access to Property*. Provide written permission from the property owner to access the proposed mitigation site.

b. *Section 7 Consultation*. To fulfill our obligations required under the Endangered Species Act (ESA), the Corps, through consultation with the U.S. Fish and Wildlife Service (USFWS), must evaluate the potential impact of the proposed work on listed species. You must contact the USFWS to determine the listed or proposed species that may be present in your project area. An official species list (pursuant to 50 CFR 402.12) can be obtained from the U.S. Fish and Wildlife Services' IPAC website: http://ecos.fws.gov/ipac. Include any additional relevant discussion on the presence of special biological resources and how these were evaluated (e.g., critical habitat, special aquatic sites, etc.).

c. *Section 106 Consultation.* A statement regarding the presence of cultural, archaeological, and or historic resources is required (your narrative should include the name of the resources consulted, a website printout, and/or a survey report). Information regarding cultural resources and the National Historic Preservation Act can be found on the National Park Service's website: http://www.nps.gov/nr/. Include relevant discussion on the presence of any Historic/Cultural Resources which may occur within the project site and/or within one-half mile.

C. Environmentally Preferable Considerations

(332.3(a)(1), 332.3(b)(2)-(6), and 332.4(c)(2)-(14)) The following criteria must be evaluated by the district engineer to determine if the proposed mitigation is environmentally preferable. In making this determination, the district engineer must assess the likelihood for ecological success and sustainability, the location of the compensation site relative to the impact site and their significance within the watershed, and the costs of the compensatory mitigation project. For each consideration listed below (e.g. uncertainty and risk, size and ecological value, etc.), a description is provided from the Mitigation Rule that demonstrates why mitigation banks and in-lieu fee (ILF) are generally preferred. Using this information, provide a justification for each consideration that describes how your site compares to the benefits of the bank and/or ILF in that service area. These criteria will be used to determine if the proposed permittee responsible mitigation site is environmentally preferable when compared to mitigation banks and/or ILF.

1. Uncertainty and Risk [*Uncertainty – the element associated with whether the CM will successfully offset project impacts. Risk – the element associated with the potential for the proposed CM plan to fail*]:

Mitigation Bank: Mitigation bank credits are not released for debiting until specific milestones associated with the mitigation bank site's protection and development are achieved, thus use of mitigation bank credits reduce risk that mitigation will not be fully successful. Released credits represent a mitigation project that has undergone a specific program of data collection documenting the physical, chemical, and biological characteristics of the mitigation site (monitoring), and has

fully met established ecological performance standards or displays a continuous and appropriate positive trend toward ecological success.

In-Lieu Fee: In contrast to mitigation banks, in-lieu fee programs generally initiate CM projects only after collecting fees, and there has often been a substantial time lag between permitted impacts and implementation of CM projects.

Additionally, in-lieu fee programs have not generally been required to provide the same financial assurances as mitigation banks. For all of these reasons, there is greater risk and uncertainty associated with in-lieu fee programs regarding the implementation of the CM project and its adequacy to compensate for lost functions and services.

Permittee-responsible: Discuss how aspects of the permittee-responsible CM address this issue. Describe the availability of bank and in-lieu fee credits and the status of the available bank and in-lieu fee mitigation providers.

2. **Size and Ecological Value of Parcel; Watershed Approach** [*how the site is ecologically suitable for providing desired functions – consider the physical characteristics, watershed scale features, size, and location; compatibility with adjacent land uses; and, likely effects on important resources*]:

   Mitigation Bank: The bank site consists of a larger, consolidated mitigation parcel providing more ecological value to the watershed. The bank evaluation reflected a watershed approach that uses a landscape perspective that places primary emphasis on site selection through consideration of landscape attributes that will help provide the desired aquatic resource types and ensure they are self-sustaining. The watershed approach also considers how other landscape elements (e.g., other natural resources and developments) interact with CM project sites and affect the functions they are intended to provide.

   In-Lieu Fee: In-lieu fee projects typically involve larger, more ecologically valuable parcels, and more rigorous scientific and technical analysis, planning and implementation than permittee-responsible mitigation. They also devote significant resources to identifying and addressing high-priority resource needs on a watershed scale, as reflected in their compensation planning framework.

   Permittee-responsible: Discuss how aspects of the permittee-responsible CM plan address this issue.

3. **Temporal loss** [*the time between the initiation of the mitigation plan and the maturation of anticipated ecological functions at a CM site*]:

   Mitigation Bank: Availability of credits indicates that the mitigation project has undergone a close regulatory review, and has been determined to have a high likelihood to develop into a self-sustaining, functional ecosystem. In most cases mitigation activities have been implemented, and the project has reached at least some interim milestones and satisfied interim performance standards."

In-Lieu Fee: In-lieu fee programs generally initiate CM projects only after collecting fees, and there is often a lag time between permitted impacts and implementation of CM projects.

Permittee-responsible: Discuss how aspects of the permittee-responsible CM plan address this issue. Include discussions about the timing of mitigation implementation relative to the impacts to waters of the U.S., the anticipated time of ecological response to the proposed mitigation activities, etc.

4. **Scientific/Technical Analysis, Planning, and Implementation** [*as commensurate with the amount and type of impact, the level of scientific/technical evaluation required to appropriately and adequately assess the likelihood for ecological success and sustainability; the location of the compensation site and the significance in the watershed; and, other factors presented in a complete mitigation plan*]:

   Mitigation Bank/In-Lieu Fee: Development of a bank or ILF project involves extensive review by the Interagency Review Team (IRT), an assemblage of agency representatives with varying and specific scientific/technical expertise. The IRT adopts a consensus based approach in evaluating all aspects of the mitigation plan and the mitigation banking instrument, ensuring the plan takes into consideration the needs of the watershed and an understanding of the ecological processes that drive the functions in that watershed. The IRT ensures the site is appropriately located within the landscape, is sustainable, and has a high likelihood of ecological success. They ensure mitigation performance standards are based on objective and verifiable attributes that measure functional capacity; they ensure there is a management strategy that anticipates likely challenges and provides for the implementation of adaptive management measures to address those challenges and they evaluate any proposed modifications to the components of the mitigation plan and the banking/in-lieu fee instrument.

   Permittee-responsible: Discuss how aspects of the permittee-responsible CM plan address this issue.

5. **Long-Term Viability of Mitigation/Mitigation Site** [*how the CM project will be managed after performance standards have been achieved to ensure long-term sustainability of the resource*]:

   Mitigation Bank/In-Lieu Fee: Long-term management plans, along with the real estate protection instrument and financial assurances, ensure the long-term viability of the mitigation site. The long-term management plan establishes a plan of action and associated timetable to implement actions to establish and maintain desired habitat conditions/functional gain within the bank or in-lieu fee projects. Representative management actions include but are not limited to, water level manipulation, herbicide use, and mechanical plant removal, prescribed burning signage maintenance, fence repair, etc. The party responsible for the long-term management of the site was identified and evaluated to ensure capability of successfully managing the property.

   Permittee-responsible: Discuss how aspects of the permittee-responsible CM plan address this issue.

6. **Site Protection** [*aquatic habitats, riparian areas, buffers, and uplands that comprise the overall CM must be provided long-term protection through real estate instruments or other available mechanisms, as appropriate*]:

Mitigation Bank/In-Lieu Fee: Site protection has been ensured through an approved real estate mechanism that is held by an appropriate third party; and, has undergone Office of Counsel review and approval. Existing restrictions, easements, rights of ways, or other encumbrances associated with the property have been extinguished or evaluated to ensure consistency/compatibility with the mitigation activities and long-term management of the property.
Permittee-responsible: Discuss how aspects of the permittee-responsible CM plan address this issue.

7. **Financial Assurances** [*description of financial assurances that will be provided and how they are sufficient to ensure a high level of confidence that the CM project will be successfully completed, as well as annual cost estimates for the long-term management needs of the site and the funding mechanism that will meet those needs*]:

   Mitigation Bank: Financial assurances for bank implementation and long term management of the mitigation site have been established to ensure that a sufficient amount of money would be available for use to complete or replace the mitigation provider's obligations to implement the mitigation project and meet specified ecological performance standards in the event that the provider proves unable or unwilling to meet those obligations. The financial assurances considered the size and complexity of the mitigation project. The assurances are held by an approved entity; and, have undergone Office of Counsel review. Any modification, disbursement, or release of the assurances requires COE notification.

   In-Lieu Fee: The district engineer has required sufficient financial assurances to ensure a high level of confidence that the CM will be successfully completed, in accordance with applicable performance standards.

   Permittee-responsible: Discuss how aspects of the permittee-responsible CM plan address this issue.

8. **Other relevant factors** [*additional information contributing to the appropriateness, feasibility, or practicability of the mitigation project (ESA, wildlife corridor, unique habitat, State 401 water quality certification, etc.)*] *State 401 water quality certifications which authorize impacts to water resources and require compensatory mitigation may require an evaluation of the water resource status by the TN Department of Environment and Conservation in order to properly apply TDEC's Anti-Degradation rule. For streams, this evaluation determines (in part) if the resource currently fails to adequately support fish and aquatic life due to habitat impairment. If the resource is habitat impaired the proposed compensatory mitigation must be "in-system", which, under normal circumstances is the same HUC-8 in which the impacts occur.*

   Mitigation Bank/In-Lieu Fee: Contributions by IRT members with specific technical expertise provide input to ensure site selection and development are focused on maximizing benefits to water quality, wildlife, and specific species requirements. Watershed approach and size of mitigation site provide opportunity for wider array of ecological and direct species benefits.

   Permittee-responsible: Discuss how aspects of the permittee-responsible CM plan address this issue.

Watershed Assessment Form

Overall Watershed Condition	POOR	Rater(s):
Discussion:		Date:

Purpose: This form is used to aid in the site selection process and gage a stream's restoration potential. The form includes descriptions of watershed processes and stressors that exist outside of the stream, can limit the restoration potential, and **will not** be addressed as part of the proposed project. The "watershed" is a combination of both the **catchment** draining to the stream project area and the **lateral drainage area** containing the stream. The **catchment** is the area draining to the stream's upper boundary above the project. The **lateral drainage area** is the areas draining to the stream from either side of the channel within the project boundary. Therefore, the watershed is equal to the catchment and the lateral drainage area.

WATERSHED ASSESSMENT

	Categories	Description of Watershed Condition			Rating (P/F/G)
		Poor	Fair	Good	
1	Impervious cover in Watershed (Hydrology)	Greater than 20%	Between 10% and 20%	Less than 10%	
2	Percent Land Use Change in Watershed (Hydrology)	Rapidly urbanizing/urban. Impervious cover in watershed increased by more than 5% in 5 years.	Single family homes/suburban. Impervious cover in watershed increased by less than 5% but more than 2.5% in 5 years.	Rural communities and/or slow growth area or primarily forested. Impervious cover in watershed increased by less than 2.5% in 5 years.	
3	Road Density in Watershed (Hydrology)	Roads located in or adjacent to lateral drainage area and/or throughout catchment and/or major roads proposed in 10 year DOT plans. Road Density > 2.5 miles of road length per square mile of watershed drainage area.	No roads in or adjacent to the lateral drainage area, some roads in catchment. No more than one major road proposed in 10 year DOT plans. Road Density between 1.5 and 2.5 miles of road length per square mile of watershed drainage area.	No roads in watershed. No proposed roads in 10 year DOT plans. Road Density < 1.5 miles of road length per square mile of watershed drainage area.	
4	Percent Forested in Catchment (Hydrology)	Less than 20%	Between 20% and 70%	Greater than 70%	
5	Catchment Impoundments (Hydrology) These include small dams, farm ponds, and large impoundments which are greater than 20 feet in height or structures with the capacity to have 30 acre feet in storage. These features will remain in place.	Large impoundment on the main stem or tributaries directly tied to project and/or multiple small impoundments; these impoundments limit flow in tributaries and/or the main stem throughout catchment.	No impoundments on the main stem; small impoundments on tributaries that limits flow and may affect the main stem.	No impoundments in catchment area.	
6	Catchment Forested Riparian Corridor (Geomorphology)	<50% of streams (including tributaries) within catchment has > 25 feet corridor width.	50-80% of streams (including tributaries) within catchment has > 25 feet corridor width.	>80% of contributing streams (including tributaries) within catchment has > 25 feet corridor width.	
7	Fine Sediment Deposition in Lateral Drainage Area (Geomorphology and Physicochemical)	>60% of bottom substrate affected by recent deposition; significant amount of fine material accumulating in pools, bends, bars and benches.	30-60% of bottom substrate affected by recent deposition; fine material in pools, bends and some on bars and benches.	< 30% of bottom substrate affected by recent deposition; small amount of deposition on bars and benches, little to no deposition in pools	
8	Streams within the Catchment Area Currently Assessed as Impaired (Physicochemical)	> 30% of stream miles in catchment on 303(d) list	< 30% of stream miles in catchment on 303(d) list.	No streams within catchment on 303(d) list.	
9	Agricultural Land Use in Catchment (Physicochemical)	Livestock access to stream and/or intensive cropland immediately upstream of project reach.	Livestock access to stream and/or intensive cropland upstream of project reach. A sufficient reach of stream is between agricultural land use and project reach.	There is little to no agricultural land uses or livestock and cropland within catchment causes no impact to water quality or biology.	
10	Process Wastewater Outfalls in Watershed (Physicochemical)	At least one major and several minor PWOs within the watershed and less than one mile of project reach.	A few NPDES permits within drainage area and none OR a minor one within one mile of project reach.	No NPDES permits within the lateral drainage area and none within one mile of project reach.	
11	Aquatic Organism Barriers in Watershed (Biology)	Aquatic organism barriers (including impoundment(s)) located within 1 mile upstream or downstream of project area has a negative effect on aquatic organism passage.	Barrier exists but does not adversely affect aquatic organism passage OR a small blockage exists that is creating a minor fish passage barrier.	No barrier within watershed OR barriers provide beneficial effect on project area and allows for aquatic organism passage.	
12	Organism Recruitment from Catchment (Biology)	No potential sources for organismal recruitment from upstream of project stream reach.	Potential sources for organismal recruitment 1km to 5km upstream of project stream reach.	Potential sources for organismal recruitment within 1km upstream of project stream reach.	
13	Other				

NOTE: ***The following Property Assessment and Warranty is provided by the U.S. Army Corps of Engineers, Nashville District, as a standard template document for compensatory mitigation projects. The Property Assessment and Warranty must be completed and returned to the Corps with all attachments included after a public notice has been issued for the permit application, mitigation bank prospectus or in-lieu fee project proposal, or, if public notice is not required, upon receipt of a proposed detailed mitigation plan. The Property Assessment and Warranty, including the attachments and documents incorporated by reference in it and any amendments thereto, must be attached as an exhibit to the final mitigation plan or mitigation banking instrument, as applicable. Any modifications to this template must be identified using track changes or other electronic comparison and explained in an attached addendum. This template should not be construed or relied upon as legal advice or opinion on any specific facts or circumstances. (Template Version Date: January 29, 2018)***

PROPERTY ASSESSMENT AND WARRANTY

This Property Assessment and Warranty ("Property Assessment") is made as of this ___ day of _____, 20__, by ***[insert full legal name(s) of property owner(s)]*** ("Property Owner"), for the benefit of the ***[insert if an in-lieu fee program or mitigation bank:*** Interagency Review Team ("IRT") chaired by the***/*** Nashville District of the U.S. Army Corps of Engineers ("Corps"). Property Owner acknowledges that this Property Assessment and the statements in it may be conclusively relied upon by ***[choose the former if permittee-responsible mitigation; the latter if an ILF program or mitigation bank:*** the Corps ***or*** the IRT***/*** in approving ***[choose one:*** the permit application for the _____ Project ***or*** the Department of the Army Permit No. _____ ***or*** the _____ Project as an amendment to the _____ In-Lieu Fee (Stream/Wetland) Mitigation Program ***or*** the Mitigation Banking Instrument ("MBI") for the _____ Bank***/***.

This Property Assessment provides a summary and explanation of each recorded or unrecorded lien or encumbrance on, or interest in, the Protected Property (as defined below), including, without limitation, each exception listed in the Preliminary Report issued by ***[insert title company name]***, ***[insert title report date]***, ***[insert title report number]*** (the "Preliminary Report"), covering the Protected Property, as described in **Attachments 1 and 2** attached hereto and incorporated by this reference. Specifically, this Property Assessment includes a narrative explaining each lien, encumbrance, interest or other exception to title and the manner in which it may affect the conservation easement to be recorded against the Protected Property (the "Conservation Easement") pursuant to the ***[choose one:*** approved mitigation plan ***or*** MBI***/***.

Property Owner covenants, represents, and warrants to ***[choose one:*** the Corps ***or*** each of the IRT members***/*** as follows:

1. Property Owner is the sole owner in fee simple of certain real property containing approximately _____ acres located at ***[insert address]*** in _____ County, State of _____, designated as Assessor's Parcel Number(s) ***[insert parcel number(s)]*** (the

"Protected Property"), as legally described in the Preliminary Report. Property Owner has, and, upon the recordation of the Conservation Easement, Property Owner will have, good, marketable and indefeasible fee simple title to the Protected Property subject only to any exceptions approved in advance of recordation, in writing, by the ***[choose one:*** the Corps ***or*** the IRT***]***.

2. The Protected Property is available to be burdened by the Conservation Easement for the conservation purposes identified in the Conservation Easement, in accordance with the ***[choose one:*** approved mitigation plan ***or*** MBI***]***.

3. The Protected Property includes legal access to and from ***[insert name of public street or road]***. ***[Note: if special access rights are required to reach the Protected Property, those access rights must also be addressed in this Property Assessment.]***

4. A true, accurate and complete listing and explanation of each recorded or unrecorded lien or encumbrance on, or possessory or non-possessory interest in, the Protected Property is set forth in **Attachment 3**, attached to and incorporated by reference in this Property Assessment. Except as disclosed in **Attachment 3**, there are no outstanding mortgages, liens, encumbrances or other interests in the Protected Property (including, without limitation, mineral interests). **Attachment 4**, attached hereto and incorporated in this Property Assessment by reference, depicts all relevant and plottable property lines, easements, dedications, etcetera, on the Protected Property.

5. Prior to recordation of the Conservation Easement, Property Owner will certify to the ***[choose one:*** the Corps ***or*** the IRT***]*** in writing that this Property Assessment remains true, accurate and complete in all reports.

6. Property Owner has no knowledge or notice of any legal or other restrictions upon the use of the Protected Property for conservation purposes, or affecting its Conservation Values, as described in the Conservation Easement, or any other matters that may adversely affect title to the Protected Property or interfere with the establishment of a mitigation ***[choose one:*** project ***or*** bank***]*** thereon.

7. Property Owner has not granted any options, or committed or obligated to sell the Protected Property or any portion thereof, except as disclosed in writing to and agreed upon in writing by the ***[choose one:*** the Corps ***or*** the IRT***]***.

8. The following attachments are incorporated by reference in this Property Assessment.
    a. Attachment 1 – Preliminary Report;
    b. Attachment 2 – Encumbrance Documents;
    c. Attachment 3 – Summary and Explanation of Encumbrances; and
    d. Attachment 4 – Map(s)

[Note: Attachment 2 must include copies from the official records of the office of the county register of deeds setting forth all recorded exceptions to title (e.g., leases or easements). Attachment 4 must include (a) map(s) illustrating the area of the Protected Property affected by each exception to title.]

PROPERTY OWNER

_____ _____

[Insert property owner full legal name(s)] Date

[*Include notary information, stamp and signature*.]

ATTACHMENT 3
Sample format for the Summary and Explanation of Encumbrances

MONETARY LIENS

Note: Any deeds of trust or other monetary lien(s) must be released or subordinated to the Conservation Easement by a recorded subordination agreement approved by the Corps for permittee-responsible mitigation or the IRT for an in-lieu fee project or mitigation bank.

- Preliminary Report Exception or Exclusion No.:
- Amount or obligation secured:
- Term:
- Date:
- Trustor:
- Trustee:
- Beneficiary:
- Description:
- ____ acres of Protected Property subject to lien
- ____ acres of Protected Property *not* subject to lien

EASEMENTS AND RIGHTS OF WAY

- Preliminary Report Exception or Exclusion No.:
- Date:
- Grantor:
- Grantee:
- Holder (if different than Grantee):
- Description:
- Analysis: [*whether or how this exception will affect the Conservation Easement or the Conservation Values of the Protected Property*]
- ____ acres of Protected Property subject to easement
- ____ acres of Protected Property *not* subject to easement

LEASES

- Preliminary Report Exception or Exclusion No.:
- Date:
- Landlord/Lessor:
- Tenant/Lessee:
- Premises:
- Term:
- Description:
- Analysis: [*whether or how this exception will affect the Conservation Easement or the Conservation Values of the Protected Property*]
- ____ acres of Protected Property subject to lease

- ____ acres of Protected Property *not* subject to lease

COVENANTS, CONDITIONS, RESTRICTIONS AND RESERVATIONS

- Preliminary Report Exception or Exclusion No.:
- Dated:
- Grantor or Declarant:
- Grantee (if applicable):
- Description:
- Analysis: [*whether or how this exception will affect the Conservation Easement or the Conservation Values of the Protected Property*]
- ____ acres of Protected Property subject to exception/exclusion
- ____ acres of Protected Property *not* subject to exception/exclusion

OTHER INTERESTS (INCLUDING MINERAL OR OTHER SEVERED INTERESTS)

- Holder:
- Description: [*must address whether or not the interest includes any surface rights and, if applicable, a description of those rights*]
- Analysis: [*whether or how this exception will affect the Conservation Easement or the Conservation Values of the Protected Property*]
- ____ acres of Protected Property subject to interest
- ____ acres of Protected Property *not* subject to interest

US Army Corps of Engineers ®
Nashville District

Components of a Complete Waters of the U.S. Delineation Report

February 2017

In Nashville District, wetland delineations submitted to the U.S. Army Corps of Engineers (USACE) shall be conducted in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual* and the appropriate supplement for the project site, either the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, Version 2.0 (April 2012),* or *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region, Version 2.0 (November 2010).* The applicable Regional Supplements for the Nashville District can be downloaded at:

http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/reg_supp.aspx

Please submit a complete *Nashville District Request for a Jurisdictional Determination Worksheet* (Appendix 1) with the delineation report.

A complete waters of the U.S. delineation report should include:

1. Current property owner contact information, the person(s) who authorized the delineation, and the person(s) who conducted the delineation.
2. The purpose the delineation was conducted (i.e. residential development).
3. Date of the site visit(s) with information on tasks performed on those dates.
4. Recent weather conditions and conditions during the delineation.
5. A vicinity map showing the project location and text identifying the street address, latitude/longitude, and section/township/range (A 7.5-minute USGS Quadrangle basemap is preferred).
6. Wetland Determination Data Forms: The most current wetland determination data forms from the appropriate Regional Supplement should be used.
    a. At least one paired sampling plot located close enough to either side of the wetland boundary should be prepared for each wetland to substantiate the delineated wetland boundary location.
    b. If the study area does not contain wetlands, at least one data form should be completed in each of the lowest topographic areas or other locations most likely to contain wetlands to document site conditions.
    c. Use binomial names of plants (vs. only using common names on the data forms).
7. A site map (both on USGS Quadrangle and aerial imagery) identifying the delineated water boundaries and the locations of all sampling plots (for large and/or complex projects, a large scale [1":400' to 1":100'] with overlays displaying site property and water boundaries is helpful).
    a. North arrow, title block with date, scale, drawing number, revision dates, roads, and waterway names.
    b. Survey area boundary and size (e.g. 50 acres) for the delineation should be clearly depicted on the map.
    c. Each separate water labeled (e.g. Wetland A, Stream 1, etc.) on the map and in the report text.
    d. Streams should be labeled with transition points; ephemeral/intermittent transition points should be labeled as E/I, intermittent/perennial transition points labeled as I/P. Provide longitude and latitude in decimal degrees (NAD 83) for each stream transition point.
    e. Clearly show location and extent of all areas potentially meeting the criteria for waters of the U.S., including special aquatic sites (e.g., wetlands, sanctuaries and refuges, mudflats, vegetated shallows, and riffle and pool complexes), and/or navigable waters. Each type of boundary (e.g., ordinary high water mark [OHWM], wetlands or other special aquatic sites) must be clearly annotated and/or symbolized to ensure they are distinct on the map.
8. A completed waters table (see Appendix 2). A table with stream lengths, widths (distances between OHWMs), and acres, wetland acreage, and longitude and latitude in decimal degrees (NAD 83) indicating the center point for wetlands and transition points and the beginning (headwaters point) of jurisdiction for streams, and special aquatic sites. Total stream lengths for each flow regime, ponds/impoundments acreage and names of receiving streams are required.

9. Describe the wetland delineation methodology used (e.g. routine, comprehensive, or atypical), or if "Difficult Wetland Situations" procedures were used and why.
10. Describe the approach used to delineate the streams, special aquatic sites[1], and other waters of the U.S.
    a. The memorandum *"Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States*[2]" provides guidance implementing the Supreme Court's decision in the consolidated cases Rapanos v. United States and Carabell v. United States.
    b. Regulatory Guidance Letter (RGL) 05-05[3] provides a list of physical characteristics which should be considered when making an OHWM determination.
11. Photographs representative of each aquatic resource on-site. Up and down stream photographs should be provided at each flow regime break for streams. More than one photograph should be provided if a wetland is characterized by more than one (1) vegetative community. Photographs should be clearly labeled with captions to include the date, location of photograph, direction of view (i.e. looking upstream/downstream), and precisely what the photograph is intended to depict.
12. A description of the site including mapped and observed vegetation, soils, hydrologic characteristics, and topography. This should include all waterbodies (e.g., ditches, streams, rivers, ponds, lakes, wetlands, etc.)
13. A summary of information used in making the wetland determination. Information sources consulted should be listed in a "References Cited" section of the report. The following are examples of potential sources of information:
    - Aerial photos
    - Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps
    - Local experts
    - Local wetland inventories and soil surveys
    - National Wetland Inventory (NWI) map (see USFWS website: http://www.fws.gov/wetlands/)
    - Plant Lists (preferably a wetland plant list with the indicator status)
    - Precipitation records (see WETS table data on the NRSC website: http://www.wcc.nrcs.usda.gov/)
    - Previous site documentation and analysis (e.g., environmental checklist, prior delineation, etc.)
    - Scientific literature
    - Stream and tidal gage data
    - USGS land use and land cover maps
    - USGS quadrangle map (or other topographic map of the area)
14. A narrative description of results and conclusions, including characteristics and acreage of each area of wetland and non-wetland waters and the rationale for the wetland boundary line/s.

The following items should be submitted/completed before the field site visit*:

1. Written Permission from the current landowner to access the property for the purpose of making the jurisdictional determination.
2. Flag the beginning and end of each "water" and provide coordinates. For wetlands, the boundaries of the wetland should be flagged and each sample plot point should be flagged.
3. For streams: Flag flow regime transition points and the beginning (headwaters point) of jurisdiction (Must have coordinates of beginning and end of OHWM of each tributary.)
4. Label streams with numbers; unique identifiers. Wetlands should be identified with letters (i.e. wetland A-wetland Z).

*The person(s) who performed the delineation should be available for the field verification.

[1] The definition of special aquatic sites is found in 40 CFR §230.3(q–1) and includes sanctuaries and refuges, wetlands, mud flats, vegetated shallows, coral reefs and riffle pool complexes.
[2] http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/cwa_guide/cwa_juris_2dec08.pdf
[3] http://www.usace.army.mil/Portals/2/docs/civilworks/RGLS/rgl05-05.pdf

US Army Corps of Engineers ®
Nashville District

Appendix 1
Nashville District Request for a Jurisdictional Determination Worksheet

February 2017

If you are interested in requesting a jurisdictional determination, please supply the information requested in Appendix 1 - "Request for Corps Jurisdictional Determination (JD)," and the supporting documents described below. It must be signed by the property owner to be considered a formal request. We require original signatures; faxes are not acceptable. Submitting this request authorizes the U.S. Army Corps of Engineers (USACE) to field inspect the property site, if necessary, to help in the determination process. The USACE may also request a delineation of water resources on a property to be submitted. The printed "Request for Corps jurisdictional determination" worksheet and supporting documents should be mailed to:

U.S. Army Corps of Engineers
Nashville District
Regulatory Division
3701 Bell Road
Nashville, TN 37214
Phone: (615) 369-7500

MAPS: Please provide a map or plat (aerial photo, city or county map, soil survey photo, USGS Quad map, etc.) that accurately identifies the physical boundaries of the property. If the property is farmland, it may be necessary for you to contact the Natural Resources Conservation Service for a wetland delineation before you can request a jurisdictional determination.

If you are considering doing work on the property, please identify on a map or in a separate drawing the footprint, location, type of potential work, and water resources. This information will assist us in the determination process and reduce unnecessary delays of processing subsequent permits, if required.

OPTIONAL DOCUMENTATION: Photographs can greatly assist in the review process and often make a field visit unnecessary. We must see complete coverage of the property and/or the water resource in question, including the grass and trees. If the property and/or the water resource in question are to be surveyed or delineated, we suggest waiting for the survey or delineation to be completed and include a copy with your request. Any other data you can include may help, such as land use or cropping history for the past five years, drainage improvements, etc.

Preliminary Jurisdictional Determinations (PJDs) and Approved Jurisdictional Determinations (AJDs) are tools used by the USACE to help implement Section 404 of the Clean Water Act (CWA) and Sections 9 and 10 of the Rivers and Harbors Act of 1899 (RHA). Both types of JDs specify what geographic areas will be treated as subject to regulation by the USACE under one or both statutes.

Regulatory Guidance Letter (RGL) 16-01[4] issued October 2016, explains the differences between these two types of JDs and provides guidance to the field and the regulated public on when it may be appropriate to issue a PJD as opposed to an AJD. Simply put, it encourages discussions between USACE districts and parties interested in obtaining the USACEs views on jurisdiction to ensure that all parties have a common understanding of the different options for addressing CWA and RHA geographic jurisdiction so that the most appropriate mechanism for addressing the needs of a person requesting a JD can be identified.

[4] http://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Guidance-Letters

Appendix 1 - REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)

To: U.S. Army Corps of Engineers, Nashville District, Regulatory Division

- I am requesting a JD on property located at: _____
  (Street Address)
  City/Township/Parish: _____ County: _____ State: _____
  Acreage of Parcel/Review Area for JD: _____
  Section: _____ Township: _____ Range: _____
  Latitude (decimal degrees): _____ Longitude (decimal degrees): _____
  (For linear projects, please include the center point of the proposed alignment.)

- Please attach a survey/plat map and vicinity map identifying location and review area for the JD.
  ☐ I currently own this property. ☐ I plan to purchase this property.
  ☐ I am an agent/consultant acting on behalf of the requestor.
  ☐ Other (please explain): _____

- Reason for request: (check as many as applicable)
  ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.
  ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
  ☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
  ☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
  ☐ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
  ☐ A Corps JD is required in order to obtain my local/state authorization.
  ☐ I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
  ☐ I believe that the site may be comprised entirely of dry land.
  ☐ Other:): _____

- Type of determination being requested:
  ☐ I am requesting an approved JD.
  ☐ I am requesting a preliminary JD.
  ☐ I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.
  ☐ I am unclear as to which JD I would like to request and require additional information to inform my decision.

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

*Signature: _____ Date: _____

- Typed or printed name: _____

  Company name: _____

  Address: _____

  _____

  Daytime phone no.: _____

  Email address: _____

***Authorities**: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.
Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.
Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.
Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

Appendix 2
Waters of the U.S. Delineation Report
Waters Table

US Army Corps of Engineers ®
Nashville District

February 2017

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable	Type of aquatic resource (i.e. wetland vs. non-wetland)	Receiving Water	Notes
Stream 1 – Ephemeral	35.61596	- 85.34222	Length: 354 lf Width: 1 foot Acres: 0.008 ac	Non-wetland	UT to Cane Creek	Riverine - Ephemeral; Beginning of jurisdiction
Stream 1- Intermittent	35.61910	- 85.33398	Length: 894 lf Width: 3 foot Acres: 0.06 ac	Non-wetland	UT to Cane Creek	Ephemeral to intermittent transition point
Stream 1- Perennial	35.62252	- 85.32990	Length: 1,261 lf Width: 6 foot Acres: 0.17 ac	Non-wetland	UT to Cane Creek	Intermittent to perennial transition point
Special Aquatic Site; Stream 1- Pool and Riffle Complex	35.62461	- 85.32681	NA	Non-wetland	UT to Cane Creek	Pool and Riffle Complex – 80 lf
Wetland A	35.62384	- 85.31891	NA	Wetland	Cane Creek	Palustrine Forested
Pond / Impoundment A	35.60577	- 85.35458	6.4 ac	Non-wetland	Meadow Creek	Impoundment of Meadow Creek
Special Aquatic Site; Impoundment A - Vegetated Shallows	35.60521	-85.36042	Length: 150 lf Width: 8 foot Acres: 0.02 ac	Non-wetland	Meadow Creek	Vegetated Shallows in Impoundment A

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.0 November 2018

I. Reach Information and Stratification

Project Name:	
Reach ID:	
Upstream Latitude:	
Upstream Longitude:	
Downstream Latitude:	
Downstream Longitude:	
Ecoregion:	
Drainage Area (sq. mi.):	
Stream Reach Length (ft):	
Flow Type:	
Valley Type:	

Shading Key
Desktop Value
Field Value
Calculation

II. Reach Walk

A.

Length of Armoring on banks (ft)							
Total (ft)							
Percent Armoring (%)							

B.

Difference between BKF stage and WS (ft)	Describe the bankfull indicator

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.0 November 2018

III. Bankfull Verification and Stable Riffle Cross Section

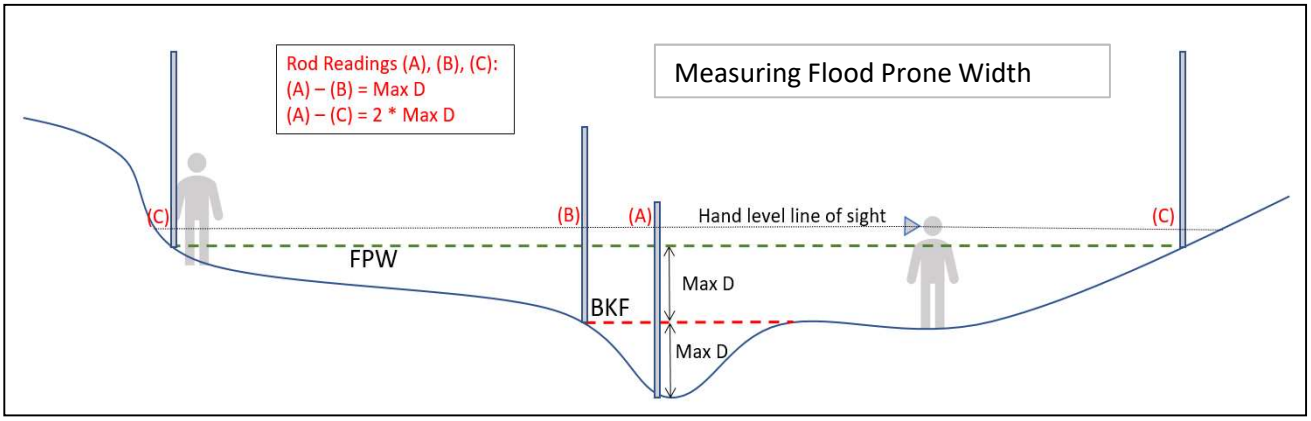
A.	Difference between BKF stage and WS (ft) *Average or consensus value from reach walk.*	
B.	Bankfull Width (ft)	
C.	Bankfull Mean Depth (ft) = Average of depth measurements	
D.	Bankfull Area (sq. ft.) Width * Mean Depth	
E.	Regional Curve Bankfull Width (ft)	
F.	Regional Curve Bankfull Mean Depth (ft)	
G.	Regional Curve Bankfull Area (sq. ft.)	
H.	Curve Used	

I.	Flood Prone Width (FPW; ft)	
J.	Entrenchment Ratio (ER)	
K.	Width Depth Ratio (WDR)	
L.	Stream Type	

Cross Section Measurements Depth measured from bankfull			
Station	Depth	Station	Depth

Quick Rosgen Stream Classification Guide (Rosgen, 1996)				
ER < 1.4		1.4 < ER < 2.2	ER > 2.2	
WDR < 12	WDR > 12	WDR > 12	WDR < 12	WDR > 12
A or G	F	B	E	C

Rosgen, D.L., 1996. Applied River Morphology, Wildland Hydrology Books, Pagosa Springs, Colorado.



Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.0 November 2018

IV. Riffle Data (Floodplain Connectivity & Bed Form Diversity)

A.

Assessment Segment Length At least 20 x the Bankfull Width			20*Bankfull Width	

B. Bank Height & Riffle Data

	R1	R2	R3	R4	R5	R6	R7	R8
Begin Station (Distance along tape)								
End Station (Distance along tape)								
Low Bank Height (ft)								
Bankfull Max Depth (ft)								
Bankfull Width (ft)								
Flood Prone Width (ft)								
Bankfull Mean Depth (ft)								
Riffle Length (ft) *Including Run*								
Bank Height Ratio (BHR) Low Bank H / BKF Max D								
BHR * Riffle Length (ft)								
Entrenchment Ratio (ER)								
ER * Riffle Length (ft)								
WDR BKF Width / BKF Mean D								

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.0 November 2018

IV. Riffle Data (Continued)

C.	Total Riffle Length (ft)	
D.	**Weighted BHR** $\frac{\Sigma(Bank\ Height\ Ratio_i \times \text{Riffle Length}_i)}{\Sigma Riffle\ Length}$	
E.	**Weighted ER**	
F.	**Maximum WDR**	
G.	**Percent Riffle (%)**	

V. Slope

A.

	Begin	End	Difference	Slope (ft/ft)
Station along tape (ft)				
Stadia Rod Reading (ft)				

VI. Stream Type Classification

		Assessment Segment
A.	Entrenchment Ratio (ft/ft)	
B.	Width Depth Ratio (ft/ft)	
C.	Channel Material Estimate	
D.	Stream Type (Rosgen, 1996)	

VII. Pool Data (Bed Form Diversity)

A.

	P1	P2	P3	P4	P5	P6	P7	P8
Geomorphic Pool?								
Station At maximum pool depth								
P-P Spacing (ft)	X							
Pool Spacing Ratio Pool Spacing / BKF Width	X							
Pool Depth (ft) Measured from Bankfull								
Pool Depth Ratio Pool depth/BKF mean D								

B.	Average Pool Depth Ratio		C.	Median Pool Spacing Ratio	

Date:
Investigators:

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Version 1.0 November 2018

VIII. Large Woody Debris

A.	Number of Pieces per 100m	

IX. Lateral Migration

A. Bank Data

BEHI/NBS Score	Bank Length (ft)	BEHI/NBS Score	Bank Length (ft)

B.	Dominant BEHI/NBS Score	
C.	Total Eroding Bank Length (ft)	
D.	Total Bank Length (ft)	
E.	Percent Streambank Erosion (%) Total Eroding Bank Length/ Total Bank Length	

X. Riparian Vegetation

A.

Buffer Width	Buffer Width Measurements (ft)							Avg.
	1	2	3	4	5	6	7	
Left (looking downstream)								
Right (looking downstream)								

XI. Sinuosity

A.	Stream Length (ft)	
B.	Valley Length (ft)	
C.	Sinuosity	

Date:
Investigators:

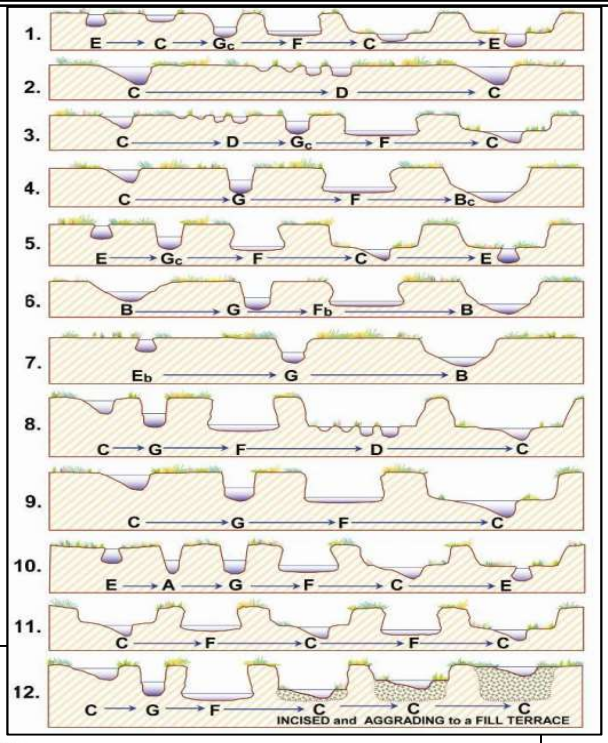
TN SQT and Debit Tool Rapid Assessment Form

Version 1.0 November 2018

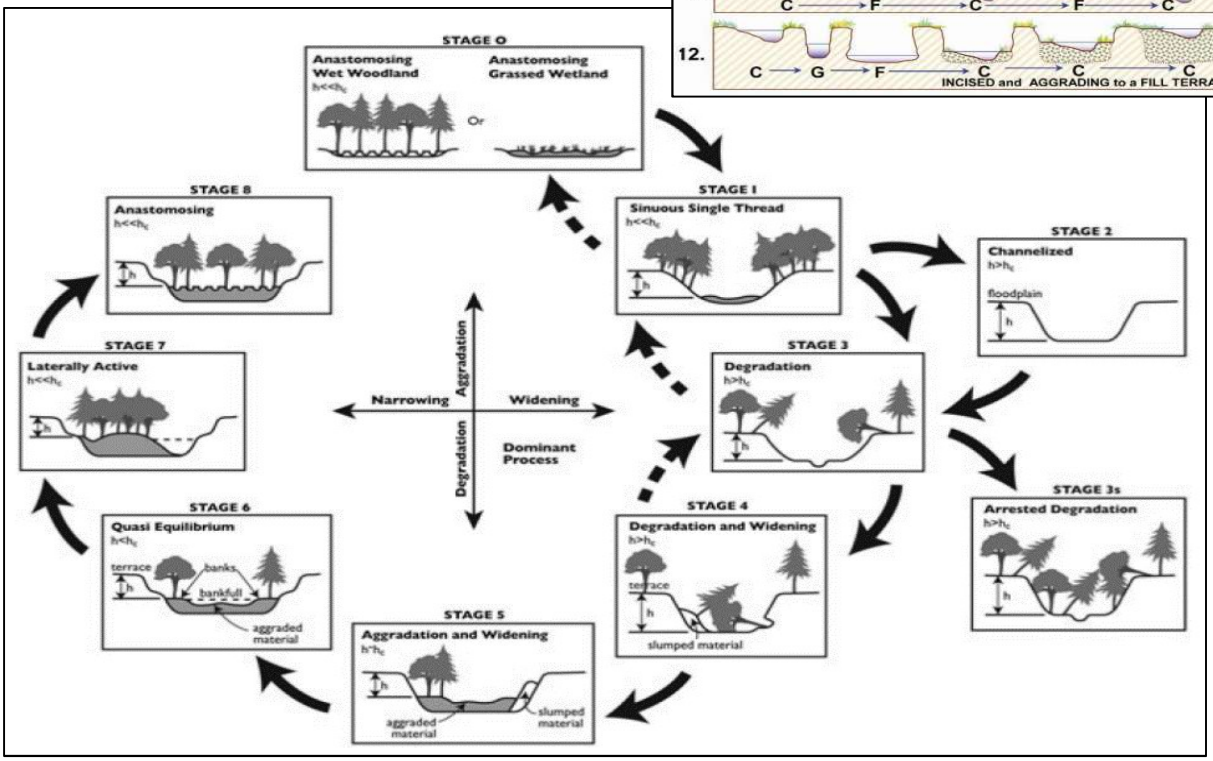
XII. Channel Evolution

A.	Rosgen Channel Type Succession	
	Simon Channel Evolution Model (Stage)	

Rosgen Channel Type



Stream Evolution Model



1 *Figure 7-48, Watershed Assessment of River Stability and Sediment Supply (WARSSS),* by David L. Rosgen, Wildland Hydrology, 2009, p. 7-175.

2 B. Cluer, C. Thorne. "A Stream Evolution Model Integrating Habitat and Ecosystem Benefits." *River Research and Applications.* 2013.

Date:
Investigators:

TN SQT and Debit Tool
BEHI/NBS Field Form

Reach ID:
Valley Type:
Bed Material:

			Bank Erosion Hazard Index (BEHI)									
Station ID	Bank Length (Ft)	Study Bank Height (ft)	BKF Height (ft)	Root Depth (ft)	Root Density (%)	Bank Angle (degrees)	Surface Protection (%)	Bank Material Adjustment	Stratification Adjustment	BEHI Total/ Category	NBS Ranking	Notes

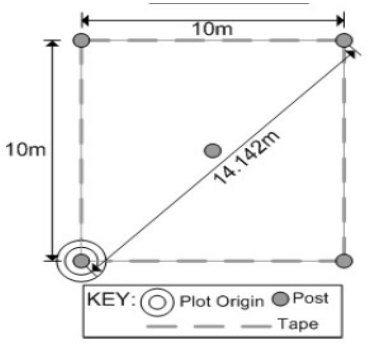
Date:
Investigators:
Project Name:

TN SQT and Debit Tool
Riparian Vegetation Rapid Plots

Plot ID	Native Cover		Saplings DBH (cm)		Trees DBH (cm)								
	Herbaceous Strata	Shrub Strata	0 - 1	1 -2.5	2.5 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	≥40
Latitude: Long:			Notes:										
Latitude: Long:			Notes:										
Latitude: Long:			Notes:										
Latitude: Long:			Notes:										

Strata	Height Range (m)	Description
Herb	0-1	Can also include shrubs within height class
Shrub	1 to 5	Shrubs only, no tree saplings

Tally Method						
	= 1	= 2	= 3	= 4	= 5	= 6
	= 7	= 8	= 9	= 10	= 11	= 12, etc.



Note: Latitude and Longitude should be recorded for the point of origin (double circle) of each plot in decimal degrees

Data forms and protocol are modified from the Carolina Vegetation Survey (CVS) protocol (Lee et al. 2008)
Plot IDs must correspond to plots indentified on a map of the project area.

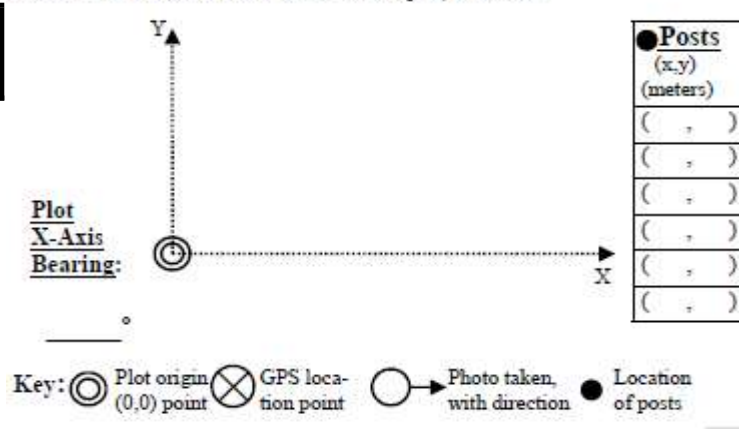
Date:
Investigators:
Project Name:

TN SQT and Debit Tool
Riparian Vegetation Rapid Plots

Plot ID

PLOT DIAGRAM:

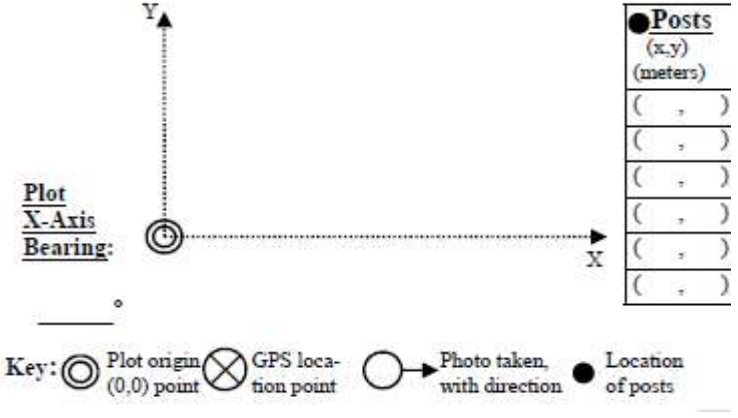
Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



Plot ID

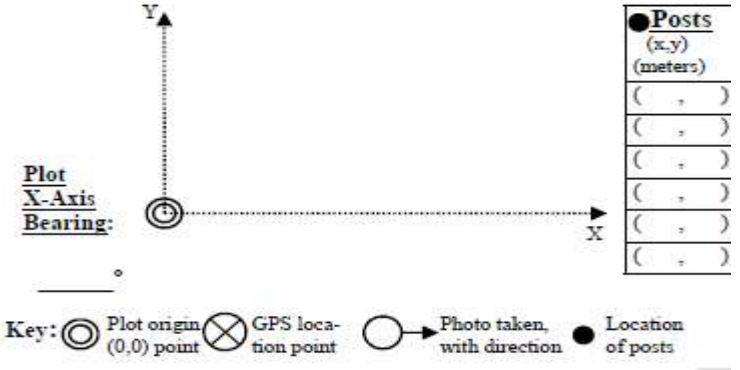
PLOT DIAGRAM:

Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



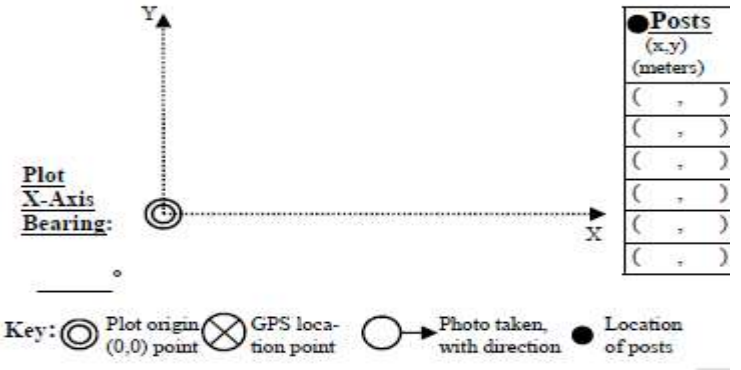
PLOT DIAGRAM:

Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



PLOT DIAGRAM:

Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



Data forms and protocol are modified from the Carolina Vegetation Survey (CVS) protocol (Lee et al. 2008)
Plot IDs must correspond to plots indentified on a map of the project area.

US Army Corps of Engineers®

REGULATORY GUIDANCE LETTER

No. 08-03 **Date: 10 October 2008**

SUBJECT: Minimum Monitoring Requirements for Compensatory Mitigation Projects Involving the Restoration, Establishment, and/or Enhancement of Aquatic Resources.

1. Purpose and Applicability

a. Purpose. This Regulatory Guidance Letter (RGL) provides the Districts and regulated public guidance on minimum monitoring requirements for compensatory mitigation projects, including the required minimum content for monitoring reports. This RGL replaces RGL 06-03.

b. Applicability. The final Mitigation Rule published on April 10, 2008, states that the submission of monitoring reports to assess the development and condition of compensatory mitigation projects is required, but the content and level of detail for those reports must be commensurate with the scale and scope of the compensatory mitigation projects as well as the compensatory mitigation project type (see 33 CFR 332.6(a)(1)).

This RGL applies to all Department of the Army (DA) permit authorizations under Section 404 of the Clean Water Act and Sections 9 and 10 of the Rivers and Harbors Act that contain special conditions requiring compensatory mitigation provided through aquatic resource restoration, establishment and/or enhancement. This guidance also applies to monitoring reports that are prepared for mitigation bank sites and in-lieu-fee project sites.

This RGL supports the Program Analysis and Review Tool (PART) program goals for the Regulatory Program. Specifically, this RGL supports the PART performance measures for mitigation site compliance and mitigation bank/ in-lieu-fee compliance. These measures apply to active mitigation sites, mitigation banks, and in-lieu-fee project sites that still require monitoring.

2. Background

Recent studies by the Government Accountability Office (GAO) and National Research Council (NRC) indicated that the U.S. Army Corps of Engineers (Corps) was not providing adequate oversight to ensure that compensatory mitigation projects were successfully replacing the aquatic resource functions lost as a result of permitted activities. For example, the GAO study determined that many project files requiring

mitigation lacked monitoring reports despite the fact that such reports were required as a condition of the permit. Similarly, the NRC study documented that a lack of clearly stated objectives and performance standards in the approved compensatory mitigation proposals made it difficult to ascertain whether the goal of no net loss of wetland resources was achieved.

On April 10, 2008, the Corps and Environmental Protection Agency published the "Compensatory Mitigation for Losses of Aquatic Resources: Final Rule" (Mitigation Rule) which governs compensatory mitigation for activities authorized by permits issued by the Department of the Army (33 CFR Parts 325 and 332). This RGL complements and is consistent with the final Mitigation Rule.

3. Discussion

Inconsistent approaches to monitoring compensatory mitigation projects are one of several factors that have affected the ability of Corps project managers (PMs) to adequately assess achievement of the performance standards of Corps-approved mitigation plans. Standardized monitoring requirements will aid PMs when reviewing compensatory mitigation sites, thereby allowing the Corps to effectively assess the status and success of compensatory mitigation projects.

This RGL addresses the minimum information needed for monitoring reports that are used to evaluate compensatory mitigation sites. Monitoring requirements are typically based on the performance standards for a particular compensatory mitigation project and may vary from one project to another.

Monitoring reports are documents intended to provide the Corps with information to determine if a compensatory mitigation project site is successfully meeting its performance standards. Remediation and/or adaptive management used to correct deficiencies in compensatory mitigation project outcomes should be based on information provided in the monitoring reports and site inspections.

4. Guidance

a. Monitoring guidelines for compensatory mitigation.

i. Performance Standards. Performance standards, as defined in 33 CFR 332.2, and discussed in more detail at 33 CFR 332.5, will be consistent with the objectives of the compensatory mitigation project. These standards ensure that the compensatory mitigation project is objectively evaluated to determine if it is developing into the desired resource type and providing the expected functions. The objectives, performance standards, and monitoring requirements for compensatory mitigation projects required to offset unavoidable impacts to waters of the United States must be provided as special conditions of the DA permit or specified in the approved final mitigation plan (see 33 CFR 332.3(k)(2)). Performance standards may be based on functional, conditional, or other suitable assessment methods and/or criteria and may be incorporated into the

special conditions to determine if the site is achieving the desired functional capacity. Compensatory mitigation projects offset the impacts to diverse types of aquatic resources, including riverine and estuarine habitats. Special conditions of the DA permits will clearly state performance standards specific to the type and function of the ecosystem in relation to the objectives of the compensatory mitigation project.

ii. Monitoring Timeframe. The special conditions of the DA permit (or the mitigation plan as referenced in the special conditions) must specify the length of the monitoring period (see 33 CFR 332.6(a)(1)). For mitigation banks, the length of the monitoring period will be specified in either the DA permit, mitigation banking instrument, or approved mitigation plan. For in-lieu fee projects, the length of the monitoring period will be specified in either the DA permit or the approved in-lieu fee project plan.

The monitoring period must be sufficient to demonstrate that the compensatory mitigation project has met performance standards, but not less than five years (see 33 CFR 332.6(b)). The District determines how frequently monitoring reports are submitted, the monitoring period length, and report content. If a compensatory mitigation project has met its performance standards in less than five years, the monitoring period length can be reduced, if there are at least two consecutive monitoring reports that demonstrate that success. Permit conditions will support the specified monitoring requirement and include deadlines for monitoring report submittal. Longer monitoring timeframes are necessary for compensatory mitigation projects that take longer to develop (see 33 CFR 332.6(b)). For example, forested wetland restoration may take longer than five years to meet performance standards.

Annual monitoring and reporting to the Corps is appropriate for most types of compensatory mitigation projects, though the project sponsor may have to monitor progress more often during the project's early stages. Certain compensatory mitigation projects may require more frequent monitoring and reporting during the early stages of development to allow project managers to quickly address problems and/or concerns. Annual monitoring can resume once the project develops in accordance with the approved performance standards. In cases where monitoring is required for longer than five years, monitoring may be conducted on a less than annual timeframe (such as every other year), though yearly monitoring is recommended until the project becomes established as a successful mitigation project. In this case, off-year monitoring should include some form of screening assessment such as driving by the mitigation site, telephone conversations regarding condition of the mitigation site, etc. On-site conditions, the complexity of the approved mitigation plan, and unforeseen circumstances will ultimately determine whether the monitoring period should be extended beyond the specified monitoring time frame for a particular project. Complex and/or ecologically significant compensatory mitigation projects should have higher priority for site visits.

As discussed above, the remaining monitoring requirements may be waived upon a determination that the compensatory mitigation project has achieved its performance standards. The original monitoring period may be extended upon a determination that

performance standards have not been met or the compensatory mitigation project is not on track to meet them (e.g., high mortality rate of vegetation). Monitoring requirements may also be revised in cases where adaptive management or remediation is required.

iii. Monitoring Reports. Monitoring requirements, including the frequency for providing monitoring reports to the District Commander and the Interagency Review Team (IRT), will be determined on a case-by-case basis and specified in either the DA permit, mitigation banking instrument, or approved mitigation plan. The content of the monitoring reports will be specified in the special conditions of the DA permit so that the requirements are clearly identified for the permittee or third-party mitigation sponsor. In addition, the monitoring reports should comply with the timeframes specified in the special conditions of the DA permit. Monitoring reports will not be used as a substitute for on site compliance inspections. The monitoring report will provide the PM with sufficient information on the compensatory mitigation project to assess whether it is meeting performance standards, and to determine whether a compliance visit is warranted. The party responsible for monitoring can electronically submit the monitoring reports and photos for review.

Visits to mitigation sites will be documented in the administrative record and will count toward District performance goals. An enforcement action may be taken if the responsible party fails to submit complete and timely monitoring reports.

b. Contents of Monitoring Reports. Monitoring reports provide the PM with a convenient mechanism for assessing the status of required compensatory mitigation projects. The PM should schedule a site visit and determine potential remedial actions if problems with the compensatory mitigation project are identified in a monitoring report.

The submittal of large bulky reports that provide mostly general information should be discouraged. While often helpful as background, reiteration of the mitigation and monitoring plan content, lengthy discussions of site progress, and extensive paraphrasing of quantified data are unnecessary. Monitoring reports should be concise and effectively provide the information necessary to assess the status of the compensatory mitigation project. Reports should provide information necessary to describe the site conditions and whether the compensatory mitigation project is meeting its performance standards.

Monitoring reports will include a Monitoring Report Narrative that provides an overview of site conditions and functions. This Monitoring Report Narrative should be concise and generally less than 10 pages, but may be longer for compensatory mitigation projects with complex monitoring requirements. Monitoring Report Narratives may be posted on each District's Regulatory web site.

Monitoring reports will also include appropriate supporting data to assist District Commanders and other reviewers in determining how the compensatory mitigation project is progressing towards meeting its performance standards. Such supporting data may include plans (such as as-built plans), maps, and photographs to illustrate site

conditions, as well as the results of functional, condition, or other assessments used to provide quantitative or qualitative measures of the functions provided by the compensatory mitigation project site.

c. Monitoring Report Narrative:

i. Project Overview (1 page)

(1) Corps Permit Number or Name of the Mitigation Bank or In-Lieu Fee Project
(2) Name of party responsible for conducting the monitoring and the date(s) the inspection was conducted.
(3) A brief paragraph describing the purpose of the approved project, acreage and type of aquatic resources impacted, and mitigation acreage and type of aquatic resources authorized to compensate for the aquatic impacts.
(4) Written description of the location, any identifiable landmarks of the compensatory mitigation project including information to locate the site perimeter(s), and coordinates of the mitigation site (expressed as latitude, longitudes, UTMs, state plane coordinate system, etc.).
(5) Dates the compensatory mitigation project commenced and/or was completed.
(6) Short statement on whether the performance standards are being met.
(7) Dates of any recent corrective or maintenance activities conducted since the previous report submission.
(8) Specific recommendations for any additional corrective or remedial actions.

ii. Requirements (1 page)

List the monitoring requirements and performance standards, as specified in the approved mitigation plan, mitigation banking instrument, or special conditions of the DA permit, and evaluate whether the compensatory mitigation project site is successfully achieving the approved performance standards or trending towards success. A table is a recommended option for comparing the performance standards to the conditions and status of the developing mitigation site.

iii. Summary Data (maximum of 4 pages)

Summary data should be provided to substantiate the success and/or potential challenges associated with the compensatory mitigation project. Photo documentation may be provided to support the findings and recommendations referenced in the monitoring report and to assist the PM in assessing whether the compensatory mitigation project is meeting applicable performance standards for that monitoring period. Submitted photos should be formatted to print on a standard 8 ½" x 11" piece of paper, dated, and clearly labeled with the direction from which the photo was taken. The photo location points should also be identified on the appropriate maps.

iv. Maps and Plans (maximum of 3 pages)

Maps should be provided to show the location of the compensatory mitigation site relative to other landscape features, habitat types, locations of photographic reference points, transects, sampling data points, and/or other features pertinent to the mitigation plan. In addition, the submitted maps and plans should clearly delineate the mitigation site perimeter(s), which will assist PMs in locating the mitigation area(s) during subsequent site inspections. Each map or diagram should be formatted to print on a standard 8 ½" x 11" piece of paper and include a legend and the location of any photos submitted for review. As-built plans may be included.

v. Conclusions (1 page)

A general statement should be included that describes the conditions of the compensatory mitigation project. If performance standards are not being met, a brief explanation of the difficulties and potential remedial actions proposed by the permittee or sponsor, including a timetable, should be provided. The District Commander will ultimately determine if the mitigation site is successful for a given monitoring period.

d. Completion of Compensatory Mitigation Requirements. For permittee-responsible mitigation projects, compensatory mitigation requirements will not be considered fulfilled until the permittee has received written concurrence from the District Commander that the compensatory mitigation project has met its objectives and no additional monitoring reports are required. PMs will review the final monitoring reports to make this determination. A final field visit should be conducted to verify that on-site conditions are consistent with information documented in the monitoring reports.

e. Special Condition. The following condition should be added to all DA permits that require permittee-responsible mitigation. This condition does not apply to mitigation banks or in-lieu-fee programs:

Your responsibility to complete the required compensatory mitigation as set forth in Special Condition X will not be considered fulfilled until you have demonstrated compensatory mitigation project success and have received written verification of that success from the U.S. Army Corps of Engineers.

5. Duration

This guidance remains in effect unless revised or rescinded.

STEVEN L. STOCKTON, P.E.
Director of Civil Works

Appendix F: Estimated Long-Term Management Costs (Example)

Task	Expenditure	Labor/ Source	Specification	Unit	Number of Units Project ($38/hr.)	Number of Units Biologist ($30/hr	Item	Cost/ Item	Total Cost	Recurrence Interval (per	Total Annual Cost
Inspect boundary lines	annual	staff	Boundary line inspection and maintenance	L. hours		8	0.00	$30.00	$240.00	2	$480.00
Repaint boundary lines	annual	staff	Paint and mark boundary lines	L. hours		8	0.00	$30.00	$240.00	1	$240.00
Replace signs	annual	staff	Replace signs	L. hours		8	0.00	$30.00	$240.00	1	$240.00
Undesirable vegetation control	annual	contr.	Exotic and invasive vegetation control	Acres			5.00	$250.00	$1,250.00	1	$1,250.00
Annual Monitoring Report	annual	staff	Prepare annual monitoring report for IRT	L. hours	8		0.00	$38.00	$304.00	1	$304.00
Project Management	annual	staff	Project Management	L. hours	8		0.00	$38.00	$304.00	12	$3,648.00
Monthly General Inspections	annual	staff	General Inspections	L. hours		8	0.00	$30.00	$240.00	12	$2,880.00
Beaver Control	annual	staff	Monitor and control adverse beaver activity	L. hours		8	0.00	$30.00	$240.00	6	$1,440.00
Road Maintenance	annual	contr.	clipping side of roads, repair erosion, etc.	Miles			3.00	$500.00	$1,500.00	1	$1,500.00
									Annual Maintenance Cost		$11,982.00
									10% Administration Fee		
									22% Contingency Fee		$2,636.04
Total Fund Deposit	$525,456.48								***Total Annual Cost***		***$14,618.04***
									Endowment starting Principle		$525,456.48
Contigency Fee	22%										
Net Interest Rate*	3.01%										
* Net interest is interest less inflation											
Note: Property tax is not calculated in the formula because XXXXXdoes not pay property tax as a non profit.											

Appendix G: Estimated Financial Assurances (Example)

Task	Expenditure	Labor/ Source	Specification	Unit	Number of Units: Project Coord. ($38 Per Hr.)	Number of Units: Biologist ($30/hr.)	Cost/Item	Item No.	Total Cost	Recurrence Interval (per yr.)	No. Years	Total Cost
Construction of road	one time	staff	Entrance Road to Site	L. hours			$5000.00	1	$5000.00	1	1	$5000.00
Grading of wetland site	one time	staff	Construction of initial hydrologic modifications	L. hours			$200000.00	1	$200000.00	1	1	$200000.00
Planting of site (labor)	one time	staff	Initial tree planting & any additional plantings needed	L. hours			$750.00	75	$56250.00	1	1	$56250.00
Planting of Site (trees)	annual	contr.	Tree purchase and delivery	Acres			$1000.00	70	$70,000.00	1	1	$70,000.00
Undesirable vegetation control	annual	contr.	Exotic and invasive vegetation control	Acres			$250.00	70	$17,500.00	1	7	$122,500.00
Annual Monitoring Report	annual	staff	Prepare annual monitoring report for IRT	L. hours	8		$38.00	8	$304.00	1	7	$2128.00
Project Management	annual	staff	General oversight over project activities	L. hours	200		$38.00	200	$7600.00	1	7	$53,200.00
Monthly General Inspections	annual	staff	Inspections of site development	L. hours		8	$30.00	8	$240.00	12	7	$20,160.00
Installation of water monitoring wells	one time	staff	Installation of wells	L. hours		8	$30.00	8	$240.00	1	1	$240.00
Road Maintenance	annual	contr.	Clearing and maintenance of entrance road	Miles			$500.00	0.5	$250.00	1	7	$1,750.00
									Combined Costs			$531,228.00
									22% Contingency Fee (Adaptive Management, Unforeseen Events, Inflation, etc.)			$116,870.16
									Total Project Cost			***$648,098.16***
									Total Fund Deposit			**$648,098.16**