Public Notice

US Army Corps of Engineers
Huntington District

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Address comments to: US Army Corps of Engineers, Huntington District
502 Eighth Street
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Huntington, West Virginia 25701-2070

U.S. Army Corps of Engineers
Mitigation Guidelines
Checklist for the State of West Virginia

The U.S. Army Corps of Engineers (USACE), Huntington and Pittsburgh Districts, published Public Notice No. 200400008 dated January 30, 2004 and Public Notice No. 03-MAP1 dated December 15, 2003 respectively, requesting comments on proposed mitigation guidelines to be administered as part of the Corps' Regulatory Program. This effort is part of the National Mitigation Action Plan to improve the success of compensatory mitigation on a nationwide basis and to provide a measure of consistency in mitigation requirements and policy for the regulated community. Due to comments and concerns submitted by state and federal agencies and the general public, the Huntington and Pittsburgh Districts worked together and developed a final checklist for the state of West Virginia (attached).

This compensatory mitigation checklist was developed as a technical guide intended to clarify provisions within existing authorities and does not establish new requirements. This checklist shall be used in conjunction with the national Mitigation Plan Checklist and Supplement, the national guidance entitled "Incorporating the National Research Council's Mitigation Guidelines Into the Clean Water Act Section 404 Program" and the Regulatory Guidance Letter 02-02. This document provides a framework of the basic information required in preparing a compensatory mitigation plan. All information outlined in the checklist may not be required for each project. However, the Corps of Engineers will review all projects on a case-by-case basis and in some instances may request additional information.

Compensatory mitigation is not a substitute for compliance with the existing Memorandum of Agreement (MOA) between the United States Environmental Protection Agency and USACE concerning mitigation considered under Section 404 of the Clean Water Act (33 CFR Part 1344). The purpose of compensatory mitigation is to replace those aquatic ecosystem functions that would be lost or impaired as a result of a USACE authorized activity. The type and amount of compensatory mitigation required will be commensurate with the nature and extent of the activity's adverse impacts on aquatic functions. Compensatory mitigation may include the restoration, enhancement, creation, and/or preservation of streams, wetlands and other aquatic resources. Compensatory mitigation should generally be "in-kind" and occur as close to the site of the adverse impact as practicable in order to minimize losses to the local aquatic ecosystem. However, out-of-kind and/or off-site compensation may be appropriate when compensation either cannot reasonably be conducted in-kind and/or at the impact site or would be more beneficial to the aquatic ecosystem if conducted out-of-kind or at another location. If in-kind/out-of-kind mitigation can not be accomplished on-site or off-site, and all possibilities have

been exhausted or a greater environmental benefit would be realized, the applicant may use an approved mitigation bank or participate in an approved in-lieu fee arrangement if those opportunities are available.

Please be aware additional authorization and/or information may be required by the West Virginia Department of Environmental Protection (WVDEP). You may contact the WVDEP at:

Name: Lyle Bennett
Address: West Virginia Department of Environmental Protection
Division of Water Resources
1201 Greenbrier Street
Charleston, West Virginia 25311-1088
Phone: 304-558-6649

Appendices will be available by hard copy or online by October 30, 2004. Additional information concerning the mitigation plan checklist may be obtained by contacting:

HUNTINGTON DISTRICT
Sarah Workman
U.S. Army Corps of Engineers, Huntington District
502 Eighth Street
Huntington, West Virginia 25701-2070
304-399-5710

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Ginger Mullins, Chief
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U.S. Army Corps of Engineers
Compensatory Mitigation Guidelines
Final Checklist for the State of West Virginia

I. Overall Mitigation Goals and Objectives

The goals of mitigation must be clearly stated in the mitigation plan. The basic purpose of compensatory mitigation is the functional replacement of wetland or stream functions and values that are lost through construction of a permitted activity. Typically the objective is to provide a minimum of 1:1 functional replacement, i.e. no net loss of functions, with an adequate margin of safety to reflect anticipated success. Individual state requirements may differ. In some cases, a larger mitigation ratio may be needed to adequately replace the functions of those aquatic resources impacted by development. Goals of a mitigation site must be specific, measurable, and attainable within a specified timeframe.

A. Summarize the overall objectives in terms of the water regime, vegetation structure, and habitat features to be restored, created, or enhanced.

B. Summarize the overall functions lost at the impact site and overall functions to be gained at the proposed mitigation site.

C. Summarize the aquatic resource type and functions for which the mitigation project is intended to compensate.

II. Baseline Information of Proposed Impact Site and Proposed Mitigation Site

A. Location

1. Include a road map, USGS map, NWI map, NRCS County soil map, FEMA map, zoning or planning map and aerial photography/satellite imagery depicting the geographic relationship between the proposed impact site(s) and the proposed mitigation site(s).
2. Provide identification coordinates of proposed impact and mitigation site(s) in latitude/ longitude (decimal format), township, county and Hydrologic Unit Code (HUC).

B. Impact Site

1. Describe and quantify the aquatic resource type (i.e. acreage of wetlands/ponds, length of stream) proposed to be impacted. This should be detailed and should provide such information as whether a wetland is emergent, scrub-shrub, forested or a combination of two or more of these classes. Stream classifications should be provided based on Cowardin or Rosgen techniques or other forms of stream classifications. Include temporary and permanent impacts to the aquatic environment.
2. Describe both site specific and landscape level wetland or stream functions and values at each impact site using parameters in an approved functional

assessment method for the region. These described functions will dictate the minimum functions that must be replaced at the proposed mitigation site.

3. For all waters proposed to be impacted, provide a detailed discussion of the existing surrounding upland buffers. This description should document the width of buffers, as well as the quality and denseness of buffers (i.e. the percent cover of each vegetative stratum).

C. Overall Watershed Improvements

1. Describe aquatic resource concerns in the watershed (e.g. flooding, water quality, habitat) and how the impact site contributes to overall watershed/regional functions. When available, identify watershed or other regional plans that describe aquatic resource objectives.
2. Describe the contribution to overall watershed/regional functions that the mitigation site(s) is intended to provide.

D. Proposed Mitigation Site

1. Provide name, location and detailed drawing of the proposed mitigation site.
2. Provide names, addresses, and telephone numbers for all responsible parties including but not limited to: landowner(s), developer(s), consultant(s), and engineer(s).

E. Physical Attributes of Mitigation Site

1. Describe overall project including size, type, functions and amount of impact to aquatic and other resources. Provide a delineation of all aquatic resources present. Provide length of project reach.
2. Describe both site specific and landscape level wetland or stream functions and values to be enhanced or restored using parameters in an approved functional assessment method for the region. Assess the stream condition (aggrading, degrading, migrating excessively, excessive erosion, excess sediment in system, etc).
3. Describe existing soils through a soil profile description (e.g., soil survey classification and series) and/or stream substrate (locate soil samples on site map). Include results of standard soils analyses, including percent organic matter, structure, texture, and permeability.
4. Include photographs of aquatic resources in their current state, including upstream and downstream areas for streams.
5. Provide bed material type, sinuosity, valley slope, stream slope, thalweg details, pool to pool spacing, width to depth ratios, and other technical measurements or ranges, including watershed size and discharge of stream, if applicable.
6. Describe historic and current land use of proposed mitigation site and adjacent areas (i.e. prior converted cropland).
7. Describe watershed context/surrounding land use in terms of impairment status or type, general watershed land uses, landscape connectivity, and relative amount of aquatic resource area the site represents for the watershed and/or region.

8. Provide a plan view and section view drawings of existing conditions, and longitudinal profile.

III. Mitigation Site Selection & Justification

A. Existing Conditions

1. Describe location, including rationale for choice of mitigation site.
2. Indicate present property owner and availability of property.
3. Indicate distance from project site, if mitigation is offsite. Indicate if mitigation is in or out of the same watershed as impact site. If the proposed mitigation is off-site and/or out-of-kind, explain why on-site or in-kind options are not practicable or environmentally preferable.
4. Indicate history of previous land use and adjacent areas including development, field tiling, channelization, stream relocation, ditching, etc. Discuss non-native landscape plantings, pipelines, power lines, roads, distance and location to nearest structures, if any.
5. Provide any letters received from federal or state resource agencies in reference to the proposed site (i.e. U.S. Fish and Wildlife Service, DNR, SHPO, etc.).

B. Future Sustainability

1. Discuss future use of mitigation site and compatibility after project is complete.
2. Indicate any existing conservation easements, deed restrictions, encroachments, or rights-of-way. Demonstrate how any restrictions would be addressed.
3. Explain how the design is sustainable and self-maintaining.
4. Provide evidence that an adequate and reliable source of water exists. Can be described by means of a water budget or overall written description.
5. Indicate what entity, if any, controls the water flow and the water control structures to and/or from the site. Arrangements must be made by the applicant that guarantees appropriate water flow in the mitigation area during and after the establishment of the mitigation project. The agreement must be in writing and submitted to the Corps for review.

IV. Mitigation Work Plan

A. Site Preparation

1. Indicate parties responsible for construction.
2. Provide base topographic maps including project name, general location, application number, scale, elevations, north arrow, designer name, date of design, and existing features.
3. Provide representative cross-sections of mitigation site including elevations and scale.
4. Provide site preparation plan including permanent or temporary work areas, waste and structure removal, utility relocation, etc.
5. Describe Storm Water Pollution Prevention Plan, grading plan, and timing of construction to minimize impacts (i.e. seasonal). Work in waters must be

conducted during low flow, when practicable, to minimize the release of sediments.

6. Indicate type of equipment, construction techniques and protective barriers to be utilized. High visibility construction fencing should be placed along permit area perimeter and around existing resources to be protected during construction.
7. Include a description of techniques used to eradicate existing invasive vegetation. Describe method for disposal of excavated soil from mitigation site.
8. List other required permits for mitigation construction.
9. Provide plans to control site hydrology (i.e. cofferdam, dewatering, pumping, temporary drainage construction) during construction.

B. Timing

1. Describe timing of mitigation: before, concurrent or after authorized impacts. If mitigation is not in advance or concurrent with impacts, explain why it is not practicable and describe other measures to compensate for temporal losses.
2. Provide a description of the construction sequence indicating anticipated start date, duration and completion of construction.

C. Wetland Design Specifications and Characteristics

1. Provide plan view drawing including: topography, microtopography, basin depths, normal water elevation, area of cut and fill, berm construction, water control structures (if any), spillways, location of habitat structures, water quality improvement features and other features where applicable.
2. Provide typical cross sections including basin slopes, normal water depth, high water depth, typical features, etc.
3. Describe micro features and heterogeneous topography.
4. Indicate each inundation area and provide the depth and slope.
5. Identify vegetation zones and species placement corresponding with inundation area (i.e. seasonally saturated, permanently inundated, etc.)
6. Identify location of monitoring stations and photo location direction.
7. Identify watershed size and water budget, if necessary.
8. Identify any planned upland or wetland habitat features including large woody debris, rock mounds, etc.

D. Stream Design Specifications and Characteristics

1. Provide plan view drawing indicating normal water elevation, ordinary high water elevation, topographic features, thalweg, sinuosity measurements, habitat enhancement features, etc.
2. Provide (grade) profile drawing including gradient, grade controls, grade elevations, grade limitations, etc.
3. Provide cross sectional (dimension) drawings including bankfull width and depth, floodplain width, flood-prone width, entrenchment ratio, etc.

4. Describe design and habitat features including: riffles, root-wads, root-mats, deflectors, etc. Indicate total cut and fill needed to reconfigure or create new channel. Indicate total rock fill to be used for habitat/stabilization structures.
5. Indicate flow rate, hydrologic flow regime, storm event flow characteristics, wetted perimeter, and other applicable engineering information.
6. Include biogeochemical information.
7. Provide stabilization features and soil and bank erosion rates, if applicable.
8. Indicate expected or existing canopy cover.

E. Vegetation Plan

1. Describe vegetation plan methods and any bioengineering techniques used.
2. Describe any expected volunteer native vegetation included in mitigation planning.
3. Provide a list of species to be seeded and planted, identified by scientific name, common name and indicator status. Use the current Regional USFWS *National List of Plant Species That Occur in Wetlands*. Vegetation may not consist of exotic or hybrid nursery species.
4. Provide transplanting plan including storage method, duration and handling.
5. Provide a detailed description of proposed species location within each varying habitat zone (i.e. short-term saturation, long-term saturation, draw-down zone and permanently flooded zone.) The proposed species establishment should coincide closely with the proposed hydrologic conditions in each zone of the wetland area.
6. Provide an invasive species control and/or management plan that describes the strategy to recognize and respond to the invasion of exotic vegetation. Contact the Corps of Engineers regulatory office for a listing of exotic or nuisance species.

F. Soils

1. Describe soil profile, soil type, name, stability, organic matter content, nutrients, redox potential, particle size, depth to impervious layer, etc.
2. List source of soils, erosion control, topsoil segregation and soil compaction measures.
3. Identify color and chart used (Munsell or Earth Colors) and year published.

G. Hydrology

1. Describe any manipulation of hydrology required for construction of the site.
2. Identify source of water (precipitation, overbank flooding, groundwater and connection(s) to existing tributary system.
3. Describe the frequency and duration of inundation and saturation (hydrologic regime). Designs that manipulate natural wetland and stream processes with engineered structures requiring frequent maintenance should be avoided.
4. Indicate anticipated hydrologic changes, hydroperiod, and existing monitoring data.

H. Buffers

1. Include the proposed buffer areas to protect stream and/or wetland.
2. Specify plant species to be included in the buffer area (vegetation plan).
3. Identify area of proposed buffer including length, width and other special features.

V. Performance Standards

A. Identify clear, precise, quantifiable parameters that can be used to evaluate the status of desired functions. These parameters shall include but are not limited to hydrological, vegetative, fauna and soil measures. (i.e. wetland acreage, plant richness, percent vegetation cover, water inundation/saturation levels).

B. Describe how performance measures will be used to verify the objectives identified have been obtained.

C. Set target values or ranges for the parameters identified and deadline for establishment.

D. Provide a summary of goals.

VI. Site Protection and Maintenance

A. Responsible Parties

List parties responsible and their role (i.e. site owner, easement owner, maintenance implementation). If more than one party, identify primary party.

B. Legal Protection

Provide evidence of long-term legal protection instruments i.e. conservation easement, fee simple donation, management contract with federal, state, or local conservation organization.

C. Maintenance Plan and Schedule

1. Describe planned maintenance activities including plant replacement, non-native plant control, measures to control predation/grazing of mitigation plantings, and temporary irrigation for plant establishment.
2. Describe plans for water structure inspection, fertilization, erosion control, herbivore protection, trash removal, and/or any other maintenance activities.
3. Include protective measures such as signs, easements, land use management, fencing and access control.
4. Provide schedule for planned inspections and maintenance activities.

VII. Monitoring Plan

A. Monitoring Report Content

1. Provide a monitoring schedule.
2. List parties responsible for monitoring. If more than one, identify primary party.

3. Provide as-built plan including elevations in mitigation areas, water level elevations, and acreage of wetland/open water. Explain any deviations from the approved mitigation plan.
4. Provide maps identifying monitoring stations, transects, planting zones, etc., as appropriate.
5. Include analysis of all quantitative monitoring data (success, failure, and remedial action).
6. Include photos taken during each monitoring period. Photos shall be taken from the same vantage point and in the same direction every year, and shall reflect material discussed in the monitoring reports. When percent cover or other parameters are referenced, photographs should be taken of the sampling quadrants or transects.
7. Indicate results of any qualitative monitoring of site characteristics, functions, and values.
8. Report on performance standards success or failure.
9. Suggest remedial activities for characteristics functions or values that do not meet the success criteria (Adaptive Management Plan).

B. Timing: As-built plans shall normally be submitted within 60 days following completion of construction. The first monitoring report shall generally be due one year after completion of mitigation construction. The site will be normally be monitored for a minimum of five years and monitoring reports must be submitted yearly to the Corps. Failure to submit monitoring reports constitutes permit non-compliance.

C. Notification of Completion: Where appropriate, a current delineation of the mitigated wetland area or stream should be submitted with the final report. Following receipt of the final report, the Corps may require a site visit to verify the delineation and confirm completion of the mitigation effort.

VIII. Adaptive Management Plan

A. Identify responsible parties.
B. Identify remedial measures.
C. Initiate procedures for contingency measures.
D. Identify location for contingency mitigation.

IX. Financial Assurances

A. Financial assurances may be in the form of performance bonds, irrevocable trusts, escrow accounts, casualty insurance, letters of credit, or other approved instruments.
B. Financial assurances should be commensurate with the level of impact and the level of compensatory mitigation required. Financial assurances should be sufficient to cover contingency actions such as a default by the responsible party or a failure to meet performance standards.