

# Permittee-Responsible Compensatory Mitigation Plan Guidance

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Temporary Stream Crossing near  
19<sup>th</sup> century bridge



Mill Creek HDD Hydraulic Fracture Clean-up

# Topics

- Overview of Permittee-Responsible Mitigation
- Review “Permittee-Responsible Mitigation Guidance” Document
- Review “Environmentally Preferable” Determination Considerations



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# Permittee-Responsible Mitigation – Overview

- Permittee retains responsibility for ensuring that required compensation activities are completed and successful.
- Can be located at or adjacent to the impact site or at another location generally within the same watershed as the impact site.
- A compensatory mitigation plan is required.



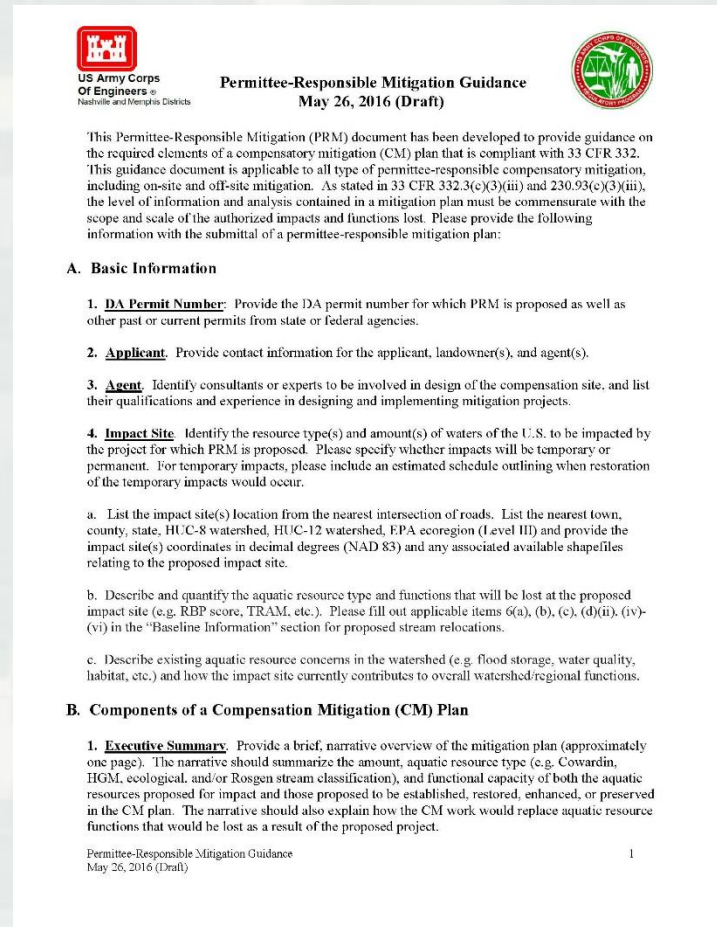
# “Permittee-Responsible Mitigation Guidance” Document

- **Purpose:** To provide guidance on the required elements of a compensatory mitigation plan that is compliant with 33 CFR 332.
- **Benefits:** To provide clear expectations to the public and a consistent and more efficient review that is rooted in sound science and is compliant with all applicable laws



# “Permittee-Responsible Mitigation Guidance” - Organization

- Basic Information
- Components of a Compensatory Mitigation Plan
- Environmentally Preferable Consideration



# Basic Information

- DA Number
- Applicant
- Agent
- Impact Site: location, characterize impacts and functions lost



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# Components of a Compensatory Mitigation Plan -12 Elements [33 CFR 332.4(c)]

- Objectives
- Site Selection
- Site Protection Instrument
- Baseline Information
- Credit Determination
- Mitigation Work Plan
- Maintenance Plan
- Performance Standards
- Monitoring Requirements
- Long-Term Management
- Adaptive Management
- Financial Assurances





# Components of a Compensatory Mitigation Plan

- **Executive Summary**

- ▶ Brief narrative overview: overview of plan, impact summary, how lost function will be replaced

- **Project Goals**

- ▶ Addresses improving specific physical, chemical, and/or biological functions at the proposed compensatory mitigation site.





# Components of a Compensatory Mitigation Plan (cont.)

- **Objectives**

- ▶ Resource type/amount to be provided
- ▶ Method of compensation (restoration, enhancement, etc.)
- ▶ Specific and quantitative

- **Site Selection**

- ▶ Watershed overview
- ▶ Site constraints
- ▶ Additional site selection criteria



# Site Selection [33 CFR 332.3(d)]



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# Components of a Compensatory Mitigation Plan (cont.)

## ■ Site Protection Instrument [33 CFR 332.7(a)]

- ▶ Conservation easement, restrictive covenant, deed restriction, etc.
- ▶ Should include prohibited uses (ATV use, cutting vegetation, grazing etc.)



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# Components of a Compensatory Mitigation Plan (cont.)

## ■ **Baseline Information**

- ▶ **Description of Ecological Characteristics**
  - Both impact site and mitigation site
  - Delineation of waters of the U.S.
- ▶ **Maps: Historic and Existing Conditions**
  - Plant communities, hydrology, soils
- ▶ **Baseline Stream/Wetland Assessment**
  - Data Forms, Habitat Assessments
- ▶ **Additional Factors**
  - ESA, Historic Properties, Toxic Waste, etc.





# Components of a Compensatory Mitigation Plan (cont.)

## ■ Determination of Credits [33 CFR 332.3(f)]

- ▶ Mitigation approach and crediting summary
- ▶ Functional lift to be provided and ratios utilized
- ▶ Explain how compensatory mitigation project will fully offset unavoidable impacts to aquatic resources.

Function-based Rapid Reach Level Stream Assessment				
Assessment Parameter	Measurement Method	Category		
		Functioning	Functioning-at-Risk	Not Functioning
<b>Stream Function Pyramid Level 1 Hydrology</b>				
Runoff	1. Concentrated Flow	No potential for concentrated flow/impairments from adjacent land uses	Some potential for concentrated flow/impairments to reach restoration site, however, measures are in place to protect resources	Potential for concentrated flow/impairments to reach restoration site and no treatments are in place
	Existing Condition			
	Proposed Condition			
	2. Fluctuosity	Non-fluctu flow regimes as a result of rainfall patterns, geology, and soils, impervious cover less than 5%	Semi-fluctu flow regimes as a result of rainfall patterns, geology, and soils, impervious cover 7 - 15%	Fluctu flow regimes as a result of rainfall patterns, geology, and soils, impervious cover greater than 15%
Existing Condition				
Proposed Condition				
If existing runoff is FAR or NF, provide description of cause(s) and stability trend and if F can not be potentially achieved, provide reason				
Runoff Overall EXISTING Condition		F	FAR	NF
Runoff Overall PROPOSED Condition		F	FAR	NF
<b>Stream Function Pyramid Level 1 Hydrology Overall EXISTING Condition</b>				
<b>Stream Function Pyramid Level 1 Hydrology Overall PROPOSED Condition</b>				
<b>Stream Function Pyramid Level 2 Hydraulics</b>				
Floodplain Connectivity (Vertical Stability)	3. Bank Height Ratio (BHR)	<1.0	1.1-1.50	>1.50
	Existing Condition			
	Proposed Condition			
	4. Entrenchment (The mean bank to stream in stream valley or fluvial channel)	>2.2	2.1-1.4	<1.4
	Existing Condition			
	Proposed Condition			
	4b. Entrenchment (The mean bank to stream in sedimentary or fluvial channel)	>1.4	1.3-1.1	<1.1
	Existing Condition			
	Proposed Condition			
	5. Floodplain Drainage	no concentrated flow, runoff is generally sheet flow, hillslopes < 10%, hillslopes >200 ft from stream.	runoff is equally sheet and concentrated flow (minor gully and rill erosion occurring), hillslopes 10 - 40%, hillslopes 50 - 200 ft from stream.	concentrated flow present (extensive gully and rill erosion), hillslopes >40%, hillslopes <50 ft from stream.
Existing Condition				
Proposed Condition				
6. Vertical Stability	Stable: < 5% of bottom affected by localized vertical channel down-cutting.	Localized instability: 5-50% of bottom affected by localized vertical stream channel down-cutting or scouring.	Widespread instability: > 50% of bottom affected by widespread vertical down-cutting, head cut, or erosion.	
Existing Condition	% incision	% incision	% incision	
Proposed Condition	% incision	% incision	% incision	
If existing floodplain connectivity is FAR or NF, provide description of cause(s) and stability trend and if F can not be potentially achieved, provide reason				
Floodplain Connectivity Overall EXISTING Condition		F	FAR	NF
Floodplain Connectivity Overall PROPOSED Condition		F	FAR	NF



# Components of a Compensatory Mitigation Plan (cont.)

- **Mitigation Work Plan:** Detailed written specifications and work descriptions
  - ▶ Project boundaries
  - ▶ Construction methods/ timing/ sequence
  - ▶ Planted vegetation and invasive plant species control
  - ▶ Grading plan, soil management, erosion control
  - ▶ Hydrologic assessments, reference site



# Components of a Compensatory Mitigation Plan (cont.)

## ■ **Maintenance Plan**

- ▶ A description and schedule of maintenance requirements to ensure the continued viability of the resource once initial construction is completed.
- ▶ Identify responsible party.

## ■ **Performance Standards (33 CFR 332.5)**

- ▶ Ecologically-based standards that will be used to determine whether the project is achieving its objectives.



# Components of a Compensatory Mitigation Plan (cont.)

- **Monitoring Requirements (33 CFR 332.6):**  
Description of parameters to be monitored in order to determine if the project is meeting performance standards and the need for adaptive management.
  - ▶ Monitoring plan with responsible party identified
  - ▶ Reporting format/timeframes





# Components of a Compensatory Mitigation Plan (cont.)

- **Long-term Management (LTM) Plan [33 CFR 332.7(d)]:** How the mitigation project will be managed after performance standards have been achieved to ensure long-term sustainability.
  - ▶ Describe LTM needs, annual cost estimate
  - ▶ Funding mechanism, responsible party
  - ▶ Appendix E of Guidance



# Components of a Compensation Mitigation Plan (cont.)

- **Adaptive Management Plan [33 CFR 332.7(c)]:** 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.
  - ▶ Identify potential risks and potential corrective measures



# Components of a Compensation Mitigation Plan (cont.)

- **Financial Assurances [33 CFR 332.3(n)]:** 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.
  - ▶ Appendix F of Guidance
  - ▶ Responsible party, type of financial instrument
  - ▶ IWR White Paper: Financial Assurances



# Components of a Compensatory Mitigation Plan (cont.)

- **Other Information:** The district engineer may require additional information as necessary to determine the appropriateness, feasibility, and practicability of the mitigation project.
  - ▶ Access to Property
  - ▶ TDEC in-system mitigation requirement (conditions unavailable / exceptional TN water)





# Environmentally Preferable Considerations

- DE must consider what will be environmentally preferable
- Specific criteria must be evaluated to determine if the proposed mitigation is the environmentally preferable option, which includes consideration of the preference hierarchy at 33 CFR 332.
- Preference hierarchy [33 CFR 332.3(b)(2)–(6)]



# Environmentally Preferable Considerations (Cont.)

- Uncertainty and Risk
- Size and Ecological Value of Parcel
- Temporal Loss
- Scientific/Technical Analysis
- Long-Term Viability of Mitigation
- Site Protection
- Financial Assurances
- Other Relevant Factors



# Environmentally Preferable Considerations (Cont.)

## ■ **Uncertainty and Risk**

- ▶ *Uncertainty: the element associated with whether the mitigation will successfully offset project impacts.*
- ▶ *Risk: the element associated with the potential for the proposed plan to fail.*



# Environmentally Preferable Considerations (Cont.)

- **Size and Ecological Value of Parcel; Watershed Approach**

- ▶ *The physical characteristics of the parcel, watershed scale features, size, and location; compatibility with adjacent land uses; and, likely effects on important resources will be considered to determine how the site is ecologically suitable for mitigation compared to mitigation bank and in-lieu fee.*





# Environmentally Preferable Considerations (Cont.)

## ■ Temporal Loss

- ▶ *The time between the initiation of the mitigation plan and the maturation of anticipated ecological functions at a CM site.*
- ▶ *Considers duration between impact start date and completion of mitigation activities.*



# Environmentally Preferable Considerations (Cont.)

- **Scientific/Technical Analysis, Planning, and Implementation**
  - ▶ *The level of scientific/technical evaluation required to appropriately and adequately assess the likelihood for ecological success and sustainability.*



# Environmentally Preferable Considerations (Cont.)

- **Long-Term Viability of Mitigation Site**
  - ▶ *How the CM project will be managed after performance standards have been achieved to ensure long-term sustainability of the resource*



# Environmentally Preferable Considerations (Cont.)

## ■ 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.*



# Environmentally Preferable Considerations (Cont.)

## ■ 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.*





# Environmentally Preferable Considerations (Cont.)

## ■ Other Relevant Factors

- ▶ *Additional information contributing to the appropriateness, feasibility, or practicability of the mitigation project (ESA, wildlife corridor, unique habitat, etc.)*



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# Permittee-Responsible Mitigation Plan Guidance - Summary

- Compensatory mitigation plans must address the 12 elements at 33 CFR 332.4(c).
- Specific criteria must be evaluated to determine if the proposed mitigation is the environmentally preferable option, with consideration of the preference hierarchy.
- The Guidance Document is intended to provide clear expectations to the public and a consistent and more efficient review that is rooted in sound science and is compliant with all applicable laws.



# Questions?



<http://www.lrn.usace.army.mil/Missions/Regulatory.aspx>



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