US Army Corps of Engineers ®
Nashville District

TN Mining InterAgency Workgroup

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Agenda

- TN Interagency Workgroup
- Coordinated Jurisdictional Determination Process
- Coordinated Pre-Application Process
- Coordinated Mitigation Process
- Future Goals for Integration

Goals of the Workgroup

- Improve Communication & Coordination
- Identify Consistent Permit Requirements
- Develop Coordinated JD/Pre-App process
- Implement Concurrent Reviews
- Reduce Permit Revisions
- Education/Awareness
- Compliance Responsibilities

Local Interagency Working Agreement for Coal Mining Permitting, Compliance and Enforcement Actions in Tennessee Under the Clean Water Act, SMCRA and the Endangered Species Act. 12/20/2010

Standard Operating Procedures for Evaluating Mitigation/Restoration Proposals for Mining Project in TN

signed
12/20/2010

Agency Mitigation Requirements

- Corps/EPA Mitigation Rule

  33 CFR 332.4(c)/40 CFR 230.92.4 (c)
- TDEC Rules
  - ▸ General Water Quality Criteria 1200-4-3
  - ▸ Aquatic Resource Alteration Permit 1200-4-7
    - "no net loss of water resource value"
  - ▸ TN Stream Mitigation Guidelines (2004)
- SMCRA

12 Components of Compensatory Mitigation Plan

1. Objectives
2. Site Section
3. Protection Instrument
4. Baseline Information
5. Credit Determination
6. Mitigation Work Plan
7. Maintenance Plan
8. Performance Standards
9. Monitoring Requirements
10. Long-Term Management
11. Adaptive Management
12. Financial Assurances

1. Mitigation Objectives

- General discussion including:
  - A description of the resource type(s) and amount(s) that will be provided.
  - The method of compensation (restoration, establishment, preservation, etc)
  - How the anticipated functions of the mitigation project will address watershed needs

2. Site Selection

- Description of the factors considered during the site selection process including:
  - ▶ Watershed needs
    - Trend in headwater stream loss in mining areas
  - ▶ On-site Alternatives
    - Practicability of accomplishing an ecologically self-sustaining aquatic resource
    - OSM and TDEC requirement for on-site replacement

Site Selection (cont.)

- Additional Corps Requirements
  - Off-site for temporal loss
  - Off-site for functional replacement
  - Tennessee Stream Mitigation Program (ILF)

  - TDEC Stream Mitigation Guidelines
    - Preference to same Level III Ecoregion
    - Streams within one stream order as impacted stream
    - Consistent watershed type (e.g. rural or urban)
    - ILF program not accepted for mining projects in TN

3. Site Protection Instrument

- Description of the legal arrangements (including site ownership) that will be used to ensure long-term protection of the mitigation project site
- “Shall be protected in perpetuity through a conservation easement, deed transfer or other legally binding agreement” (TNSMG)

Site Protection Instrument (cont.)

- Surface owner refuses perpetual easement
  - ▶ Review PMLU – is mitigation compatible
  - ▶ Review landowner agreements
  - ▶ Evaluate risk to protection of mitigation site
    - Fencing, signage to prohibit uses, etc.
  - ▶ Add additional mitigation as appropriate
  - ▶ Refuse credit for mitigation site

4. Baseline Information

- Description of the ecological characteristics of the impact site and proposed mitigation site (delineation)
- Environmental Resources Map
  - One map for all agency use (JD, alt, mit)
- Physical Characteristics
- Biological Characteristics
- Chemical Characteristics

Baseline Information (cont.)
Physical Characteristics

- Pre-disturbance Impact site Characteristics
  - Pre-impact stream length
  - Pre-impact flow and duration
  - Pre-impact stream assessment data
    - Habitat assessment data sheet for high/low gradient streams
    - Provide description of each Habitat Parameter
  - Gradient of existing stream channel
  - Valley form of existing stream channel
  - Identify and describe flow up gradient of the impact/mitigation reach
    - Identified seep or spring indicating groundwater influence
  - Photos of stream conditions within reach of proposed alterations
  - Environmental Resources Map depicting existing stream locations

Baseline Information (cont.)
Biological Characteristics (P/I)

- Biological assessment using the most recent version of TDEC, Division of Water Pollution Control QSSOP for Macroinvertebrate Surveys
  - Quality System Standard Operating Procedure (QSSOP) for Macroinvertebrate Stream Surveys
- Provide information to determine if the stream is meeting use support.
- Headwater streams that are not of appropriate watershed size to collect Semi-Quantitative In-Stream Habitat (SQH) evaluation sample.
- One option is to proceed downstream of the project area to the appropriate watershed or stream order. The QSSOP protocol requires a comparison of biology of existing stream to a designated reference stream to determine appropriate status of biological use support or TDEC reference stream.

Baseline Information (cont.)
Chemical Characteristics

- Provide numeric water quality data
  - ► pH, DO, Temp, and Specific Conductance
- Test for Metals, Total Phenols, Fe, Mn, and Sulfates using appropriate EPA methodology
- If the data submitted indicates the need for additions or changes in permit effluent limitations or permit conditions to protect the classified uses of the receiving streams, the SMCRA and NPDES permit shall be modified or revoked and reissued to accomplish those changes.

5. Determination of Credits

- Permittee-responsible
  - ▶ Corps – RBP functional replacement/lift
  - ▶ TDEC
    - Restoration to natural reference conditions – 1.5:1
    - Enhancement II - up to 3:1
    - Enhancement I – 4:1 to 6:1
    - Preservation – 10:1 to 60:1
  - ▶ OSM

6. Mitigation Work Plan

- Applicant provides detailed written specifications and work descriptions for each compensatory mitigation site including:
  - Geographic boundary and stream lengths proposed for restoration
  - Construction methods and timing
  - Timing and sequence schedule
  - Sources of water and hydrological connections
  - Channel stability status
  - Methods of plant community establishment , survival rates, and invasive control in riparian zone
  - Soil/erosion stabilization techniques
- Mitigation Work Plan shall also require planform geometry, channel form and alignment, watershed size based natural channel design, and in-stream habitat attributes.

Mitigation Work Plan (cont.)

A. Stream Reconstruction Plan shall identify the following for each site (e.g. Stream 1) describing the proposed physical attributes of each stream to be constructed:

1. Length of stream proposed for restoration
2. Channel alignment
3. Channel gradient'
4. Channel valley form
5. Channel lining/integrity
6. Channel dimension
7. In-stream habitat
8. Channel stability status
9. Particle size distribution for proposed new channel within reference range
10. source of water, connection upstream, etc.
11. Plan to maintain continuous flow
12. Proposed ephemeral flow
13. Proposed intermittent flow
14. Species and planting rates to be used in riparian corridor.

Mitigation Work Plan (cont.)

B. Construction methods:

- describe type of equipment to be used and how each item in reconstruction plan will be performed
- describe stabilization techniques
- describe steps to be employed to maintain flow
- describe sequencing of all proposed stream alterations include links to/with SMCRA mining and reclamation plan

C. Schedule of work:

- 1. describe sequence of work plan
- 2. describe timing of work plan

7. Maintenance Plan

- Applicant provides a description and schedule of maintenance requirements to ensure the continued viability of the resource once initial construction is completed.

8. Ecological Performance Standards

- Ecologically-based standards that will be used to determine whether the mitigation project is achieving desired objectives
- Performance standards must be:
  - Objective
  - Verifiable
  - Able to be measured in practicable manner
  - Based on initial and predicted functional assessment after construction.

Ecological Performance Standards (cont.)

A. Provide the predicted habitat assessment data sheet for high/low gradient streams for end of 5 year monitoring period
B. Provide documentation regarding if the restored stream reaches meet the numeric and narrative water quality standards.
C. Provide a discussion describing if the restored stream reaches meet the terms and conditions of the permit. If not, the permittee must provide remedial actions with specific timeframes for correction measures.

9. Monitoring requirements

- A description of parameters monitored to determine if project is meeting performance standards
- Adaptive management plan if project is not on track to meet performance standards
- Schedule for monitoring and reporting

10. Long-term Management Plan

- Description of how the project will be managed after performance standards have been achieved
  - ►Ensure sustainability
  - ►Financing
  - ►Responsible party

11. Adaptive Management Plan

- Management strategy to address unforeseen changes in site conditions or other components of the mitigation project
- Include party responsible for implementing adaptive management plan
- Describe contingency plan if performance standards not met
- Identify off-site restoration or out-of-kind mitigation.

12. Financial Assurances

- Description of financial assurances that will be provided
- Shall be sufficient enough to ensure high level of confidence that project will be successfully completed, in accordance with the performance standards

Questions and Discussion

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