

**RESPONSES TO
OHIO ENVIRONMENTAL PROTECTION AGENCY
COMMENTS ON THE BORROW AREA NRRDP
WETLAND MITIGATION PHASE III**

**FERNALD CLOSURE PROJECT
FERNALD, OHIO**

JULY 2005

U.S. DEPARTMENT OF ENERGY

part of the final wetland delineation to be completed at the end of the required wetland monitoring period.

Action: None required.

4. Commenting Organization: Ohio EPA Commentor: DSW/401
Section #: General Pg #: NA Line #: NA Code: C
Original Comment #: 4

Comment: A map should be provided to show the area expected to meet the three wetland criteria. I assume the outer boundary of the wetland will be at or immediately below the base of the berm.

Response: Subareas 3, 4, and 8 have been designed to maximize wetland acreage, while balancing cut and fill within the project footprint. It is expected that all area below elevation 576 feet msl in Subarea 3 and 4 and all area below elevation 577 feet msl in Subarea 8 will meet the criteria required for wetland creation. Since the wetlands in the borrow area are designed to fluctuate seasonally, an exact wetland acreage is difficult to determine until monitoring is complete. DOE is confident that more than 15 acres of new wetlands will be created in Subareas 3, 4, and 8 alone, more than meeting the outstanding mitigation requirements. Monitoring and the final wetland delineation will determine the exact wetland acreage created.

Action: None required.

5. Commenting Organization: Ohio EPA Commentor: DSW/401
Section #: General Pg #: NA Line #: NA Code: C
Original Comment #: 5

Comment: A map should be provided to show the depths of water in the area with the water level at the top of unperforated section of the vertical riser pipe at the outlet. What is the elevation of the top of the unperforated section of the vertical riser pipe?

Response: The bottom perforations in the riser pipe in Subarea 2 are at an elevation of 569.79 feet msl. Most of Subarea 2 is at an elevation of 569, with some deeper areas present in the area near the riser pipe. Approximately one foot of water has been present in the majority of Subarea 2 since construction was complete. Please refer to: "Grading Plan for Accelerated Restoration Plan of the OSDF Borrow Area" submitted to the Agencies and NRTs in November 2002 for more detail on the design of Subareas 1 and 2.

Action: None required.

6. Commenting Organization: Ohio EPA Commentor: DSW/401
Section #: General Pg #: NA Line #: NA Code: C
Original Comment #: 6

Comment: For amphibian habitat, pond areas should have shallows. Some of these ponds appear to be fairly deep. This could provide habitat for fish, which would hamper the development of an amphibian population.

Response: The wetland areas to be created in the borrow area will have abundant shallow areas to promote amphibian development. There are some very small ponds that are 3 to 4 feet in depth. The wetland areas generally have shallow areas (i.e., less than one foot) and very gradual slopes and should be very conducive to the development of amphibian life.

Action: None required.

7. Commenting Organization: Ohio EPA Commentor: DSW
Section #: 1.3 Pg #: 1-5 Line #: NA Code: C
Original Comment #: 7

Comment: There is no description of restoration for the area between the steep slope on the west side of the excavation and the south access road. This area is currently vegetated with fescue and white pine trees. Is this area outside the scope of this restoration and if so under what restoration plan will it fall?

Response: The referenced area is outside of the scope of the borrow area restoration project. The road and the adjacent mowed strip on each side of the road (including the pine trees) will be maintained in its current configuration post closure. The road will be the main access route into the site and no change to the planted pine trees is planned as part of restoration of the site.

Action: None required.

8. Commenting Organization: Ohio EPA Commentor: DSW/401
 Section #: 2.0 Pg #: NA Line #: NA Code: C
 Original Comment #: 8

Comment: Planting rates-the planting rates for the shrubs appears to be at a rate of about 170 plants per acre which equates to a 16x16 foot spacing. Planting rates for shrubs should be at least at a 6x6 foot spacing, which equates to about 1200 plants per acre.

Response: DOE and the NRTs have been in agreement for many years on the planting densities to be used in restoration of the FCP as documented in the Natural Resource Restoration Plan and numerous NRRDPs. The planting densities are focused on forest restoration projects and not wetland restoration projects. For example, the A1PI and A6PI wetland mitigation projects each had woody vegetation planted as part of the project, but neither followed the planting densities used in the forest restoration projects. Woody vegetation in the wetlands are designed to add habitat and food sources for wildlife and increase overall diversity. The planting density used in forest restoration at the FCP is 160 saplings, 90 shrubs and 400 seedlings per acre. Assuming approximately 50% mortality of the seedlings, the goal is 450 plants per acre.

Action: None required.

9. Commenting Organization: Ohio EPA Commentor: DSW/401
 Section #: 2.2 Pg #: NA Line #: NA Code: C
 Original Comment #: 9

Comment: Soils-I recommend that once the topsoils are placed they be required to do a simple agronomic test to determine whether average values of the following soil chemistry parameters are equalled or exceeded:

| Soil parameter | greater than or equal to |
|-------------------------|--------------------------|
| % Nitrogen | 0.50% |
| % Carbon | 6% |
| % Total Organic Matter* | 13.5% |
| Bulk Density** | 0.5 |

*calculated from value for %Carbon
 **equals 75th percentile of values for natural wetlands; all others equal to 25th percentile

Response: This test can be done just once after construction. Topsoil will be surface applied to complete restoration of the borrow area. Although the design allows for the option of soil amendment, it is not anticipated that this approach will be used in the borrow area. DOE is confident that the topsoil used will meet the basic agronomic parameters listed above, given the past agricultural practices and vegetative history in the areas where the topsoil was taken. Topsoil will be checked for pH, but the above listed parameters have not been part of the routine sampling done on restoration projects on the FCP and is not planned for the borrow area.

Action: None required.

18. Commenting Organization: Ohio EPA Commentor: DSW
 Section #: 2.2 Pg #: 2-9 Line #: NA Code: C
 Original Comment #: 18
 Comment: The depth of the compost layer is not prescribed here. Note that it should be described as a minimum of six inches of topsoil or compost.
 Response: See response to Comment #10.
 Action: None required.
19. Commenting Organization: Ohio EPA Commentor: DSW
 Section #: 2.2 Pg #: NA Line #: NA Code: C
 Original Comment #: 19
 Comment: Nowhere is there a description of high and low water levels in the wetlands. More detail is needed for ponds, wetlands, open/vegetated water areas.
 Response: See response to Comment #2.
 Action: None required.
20. Commenting Organization: Ohio EPA Commentor: DSW
 Section #: 2.3 Pg #: 2-12 Line #: NA Code: C
 Original Comment #: 20
 Comment: Soil stockpiles should not be located in restored areas.
 Response: Soil stockpiles currently in Areas 5, 6 and 7 are to be used for construction of the OSDF cap and are outside of restored areas. The referenced stockpiles will be removed before any restoration work begins. Once restoration is complete, no further stockpiling of soil will occur.
 Action: None required.
21. Commenting Organization: Ohio EPA Commentor: DSW
 Section #: 2.4 Pg #: 2-15 Line #: NA Code: C
 Original Comment #: 21
 Comment: This and later (e.g., 3.2.3) sections state that the Borrow Area Haul Road will be removed, but the drawings (e.g., Figure 1-1, note #6) state that the haul road will be retained for future access/ potential trails. This needs to be resolved and detail for the final use included.
 Response: The rock that is currently on the haul road will be removed as discussed in Section 3.2.3. Use of the road will continue for monitoring and maintenance access. Once the rock is removed and road is seeded, occasional mowing may be required to maintain the access path.
 Action: None required. Figure 1-1 was the conceptual design and is included for references.
22. Commenting Organization: Ohio EPA Commentor: DSW
 Section #: 2.4 Pg #: 2-16 Line #: NA Code: C
 Original Comment #: 22
 Comment: Here and later in the document (e.g. Section 3.2.5), glyphosate is described as two applications. Previous efforts at using glyphosate roundup to eliminate cool season grasses have not been successful enough to establish good stand of native vegetation. Without effective kill off of the existing cool season grasses establishment of native vegetation will be extremely difficult, if not impossible, and require continuous monitoring and maintenance. Proper initial preparation is key to establishing the native vegetation. Two applications may not be sufficient, and native vegetation planting should not occur until greater than 90%, and preferably 100%, of existing vegetation has been killed.
 Response: Glyphosate applications were successful in the Spring of 2005 in killing cool season grasses in Area 8, Phase III and Area 2, Phase III prior to seeding. A new herbicide contractor has been hired and past problems of inconsistent applications or ineffective applications are not anticipated any longer.
 Action: None required.

