



Department of Energy

Ohio Field Office  
Fernald Closure Project  
175 Tri-County Parkway  
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JUL 25 2005

Mr. James A. Saric, Remedial Project Manager  
United States Environmental Protection Agency  
Region V, SR-6J  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

DOE-0290-05

Mr. Tom Schneider, Project Manager  
Ohio Environmental Protection Agency  
401 East 5<sup>th</sup> Street  
Dayton, Ohio 45402-2911

Mr. Bill Kurey  
United States Fish & Wildlife Service, Suite H  
6950 American Parkway  
Reynoldsburg, OH 43068

Dear Mr. Saric, Mr. Schneider, and Mr. Kurey:

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

- Reference:
- 1) Letter, W. Taylor to J. Saric, T. Schneider and B. Kurey, "Transmittal of the Borrow Area Natural Resource Restoration Design Plan Wetland Mitigation Phase III," dated November 3, 2004
  - 2) Letter, T. Schneider to W. Taylor, "Comments – Borrow Area NRRDP Wetland Mitigation Phase III," dated January 19, 2005

Enclosed, please find responses to Ohio Environmental Protection Agency (OEPA) comments on the Borrow Area Natural Resource Restoration Design Plan (NRRDP). Comments from U.S. EPA have not been received to-date. Restoration work in Subarea 7 and 8 of the Borrow Area is scheduled to start in the next few weeks. We believe the attached responses to comments resolve the outstanding issues related to the NRRDP and thus a revision to the complete NRRDP is not planned at this time.

Mr. James A. Saric  
Mr. Tom Schneider  
Mr. Bill Kurey

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DOE-0290-05

If you have any questions or require additional information, please contact Johnny Reising at (513) 648-3139.

Sincerely,



 William J. Taylor  
Director

FCP:Reising

Enclosure: As Stated

cc w/enclosures:

J. Craig, DOE-LM  
C. Jacobson, DOE-LM  
M. Lutz, Stoller  
J. Powell, DOE-LM  
J. Reising, OH/FCP  
E. Skintik, OH/FCP  
G. Stegner, OH/FCP  
T. Schneider, OEPA-Dayton (three copies of enclosures)  
G. Jablonowski, USEPA-V, SR-6J  
D. Bidwell, FCAB  
D. Sarno, FCAB  
F. Bell, ATSDR  
M. Cullerton, Tetra Tech  
M. Shupe, HSI GeoTrans  
R. Vandegrift, ODH  
AR Coordinator, Fluor Fernald, Inc./MS78

cc w/o enclosures:

K. Alkema, Fluor Fernald, Inc./MS1  
H. Bilson, Fluor Fernald, Inc./MS1  
J. Chiou, Fluor Fernald, Inc./MS88  
J. Homer, Fluor Fernald, Inc./MS90  
U. Kumthekar, Fluor Fernald, Inc./MS88  
L. McHenry, Fluor Fernald, Inc./MS90  
D. Nixon, Fluor Fernald, Inc./MS1  
D. Powell, Fluor Fernald, Inc./MS64  
H. Swiger, Fluor Fernald, Inc./MS90  
S. Walpole, Fluor Fernald, Inc./MS76  
E. Woods, Fluor Fernald, Inc./MS90

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**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 Subareas 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 75<sup>th</sup> percentile of values for natural wetlands; all others equal to 25<sup>th</sup> 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.



28. Commenting Organization: Ohio EPA Commentor: DSW/401  
 Section #: 4.2 Pg #: 4-2 Line #: NA Code: C  
 Original Comment #: 28  
 Comment: They should do VIBI monitoring to achieve a Category 2 rating or better. Consideration should be given to requiring an amphibian IBI monitoring to achieve a Category 2 wetland.  
 Response: Amphibian monitoring as part of functional monitoring and to evaluate the general health of wetland systems on the FCP has been performed by OEPA. Amphibian monitoring has not been a requirement of Implementation Monitoring on restored wetlands in the past.  
 Action: None required.
29. Commenting Organization: Ohio EPA Commentor: DSW/401  
 Section #: 4.2 Pg #: 4-2 Line #: NA Code: C  
 Original Comment #: 29  
 Comment: They should be required to do a wetland delineation according to the 1987 USACOE Wetland Delineation Manual at least at the end of five years if not during year 3 also.  
 Response: A wetland delineation will be completed at the end of the 5-year monitoring period.  
 Action: Complete a wetland delineation at the end of the required 5-year monitoring period.
30. Commenting Organization: Ohio EPA Commentor: DSW/401  
 Section #: 4.2 Pg #: 4-2 Line #: NA Code: C  
 Original Comment #: 30  
 Comment: There needs to be a goal of how many acres of wetlands meeting the three criteria they plan to establish.  
 Response: See response to Comment #4.  
 Action: None required.
31. Commenting Organization: Ohio EPA Commentor: DSW/401  
 Section #: 4.2 Pg #: 4-2 Line #: NA Code: C  
 Original Comment #: 31  
 Comment: They should have a goal of less than 5% invasive species as listed on the ORAM. Consideration should be given to requiring less than 5% of the upland buffer has invasive species as recognized by ODNR, DNAP.  
 Response: An herbicide contractor has been hired to minimize the amount of invasive species present on the FCP. The goal of 5% invasive species is considered reasonable and will be used as a target for the management of restored wetlands.  
 Action: Continue management efforts to minimize invasive species in restored wetlands.
32. Commenting Organization: Ohio EPA Commentor: DSW/401  
 Section #: 4.2 Pg #: 4-2 Line #: NA Code: C  
 Original Comment #: 32  
 Comment: They should have a goal such as 80% of the woody species will have survived at the end of five years.  
 Response: Section 4.2.2 outlines the requirements for implementation monitoring in the borrow area.  
 Action: None required.
33. Commenting Organization: Ohio EPA Commentor: DSW  
 Section #: 4.2.1 Pg #: 4-2 Line #: NA Code: C  
 Original Comment #: 33  
 Comment: Monitoring will have to meet both the requirements of our 401 section and the implementation and functional monitoring for site restoration projects as agreed upon with the Natural Resource Trustees.  
 Response: See response to Comment #32.  
 Action: None required.

