

**APPENDIX A – AGREEMENT BETWEEN JOHNSONVILLE FOSSIL PLANT AND THE
KENTUCKY WATERSHED TEAM FOR PERPETUAL USE OF THE WETLAND MITIGATION TRACT**

Page intentionally blank

Division of Responsibilities Between Kentucky Watershed Team and Johnsonville Fossil Plant For Use of Land on Kentucky Reservoir for Wetlands Mitigation

Background

Johnsonville Fossil Plant (JOF) needs more storage space for its coal ash, a by-product of coal combustion. JOF plans to place the ash in an expansion of a current ash monofill in Bivens Industrial Park (BIP), Benton County, Tennessee. The expansion of the monofill will affect approximately three acres of low-quality wetlands. The regulations of the Tennessee Department of Environment and Conservation (TDEC) and the U.S. Army Corps of Engineers (USACE) require that loss of wetlands be mitigated. JOF desires to use 22 acres of existing TVA property adjacent to Kentucky Reservoir ("reservoir property") to create the wetlands necessary to fulfill TDEC and USACE mitigation requirements. This document memorializes the understandings between JOF and the Kentucky Watershed Team (KWT) for JOF's use of the reservoir property for wetlands mitigation.

Site Description and Location

The reservoir property is located along White Oak Creek embayment on Kentucky Reservoir, near Tennessee River Mile 81R, (McKinnon quadrangle, 29-SW). It is also shown in Attachment 1. A D-stage map showing the location of the proposed wetlands along White Oak Creek is presented in Attachment 2. Attachment 3 shows an aerial photo of the conceptual design of the constructed wetlands at the wetland mitigation tract. The Wetland Mitigation Plan is provided in Attachment 4. The coordinates of the polygon delineating the boundary of the wetland mitigation area are provided in Attachment 5.

Division of Responsibilities

Fuel By-Products (FBP) will act on behalf of JOF in the division of responsibilities.

FBP will be responsible for the creation and maintenance of wetlands on the 22-acre reservoir property.

FBP will be responsible for obtaining all necessary and other regulatory approvals for creating and maintaining the subject wetlands.

FBP will bear all costs accrued in the conduct of activities necessary to create, maintain and preserve the subject wetlands, including but not limited to the following:

- Creation
- Operation
- Monitoring
- Internal and External Reporting
- Maintenance
- Repair
- Signage

FBP will coordinate with KWT all activities undertaken at the 22-acre site that involve public use restrictions or the placement of signs.

KWT will maintain a Zone 3 (Sensitive Resources) or equivalent designation for the 22-acre site in land plans developed for the Kentucky Reservoir lands.

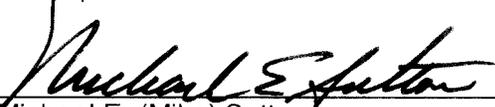
The wetlands mitigation will be undertaken by TVA pursuant to the requirements under state and federal law to minimize the impacts of projects on wetlands. Accordingly, this will be a permanent commitment, requiring that the wetlands created be maintained *in perpetuity*. All future activities and actions undertaken by JOF and KWT will be cognizant of this permanent commitment.

Special Conditions

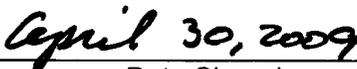
- Any future development proposed within the limits of the 100-year floodplain, elevation 375.0 will be consistent with the requirements of Executive Order 11988
- Creation of the wetland and any additional future development will be consistent with the requirements of TVA's Flood Control Storage Loss Guideline
- TVA reserves the right to flood this tract as needed during flood control operations

Points of Contact

The representative for JOF and FBP is:



Michael E. (Mike) Sutton
Specialist, Fuel By-products & Marketing
Tennessee Valley Authority
1101 Market Street, LP 5G
Chattanooga, TN 37402
Phone: (423) 751-3539
Fax: (423) 751-9523

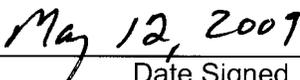


Date Signed

The representative for KWT is



Don W. Allsbrooks
Manager, Kentucky Watershed Team
Tennessee Valley Authority
2835-A Eastwood Street
Paris, TN 38242-5948
Phone: (731) 641-2003
Fax: (731) 642-2091



Date Signed

Documents Incorporated by Reference

State of Tennessee Section 401 Water Quality Certification; NRS 08.205 – Bivens Industrial Park – Ash Monofill Expansion, Camden, Benton County, Tennessee

Attachments

Attachment 1. Location of the Wetland Mitigation Tract Along White Oak Creek, Kentucky Reservoir (Proposed Wetland Mitigation Area 2)

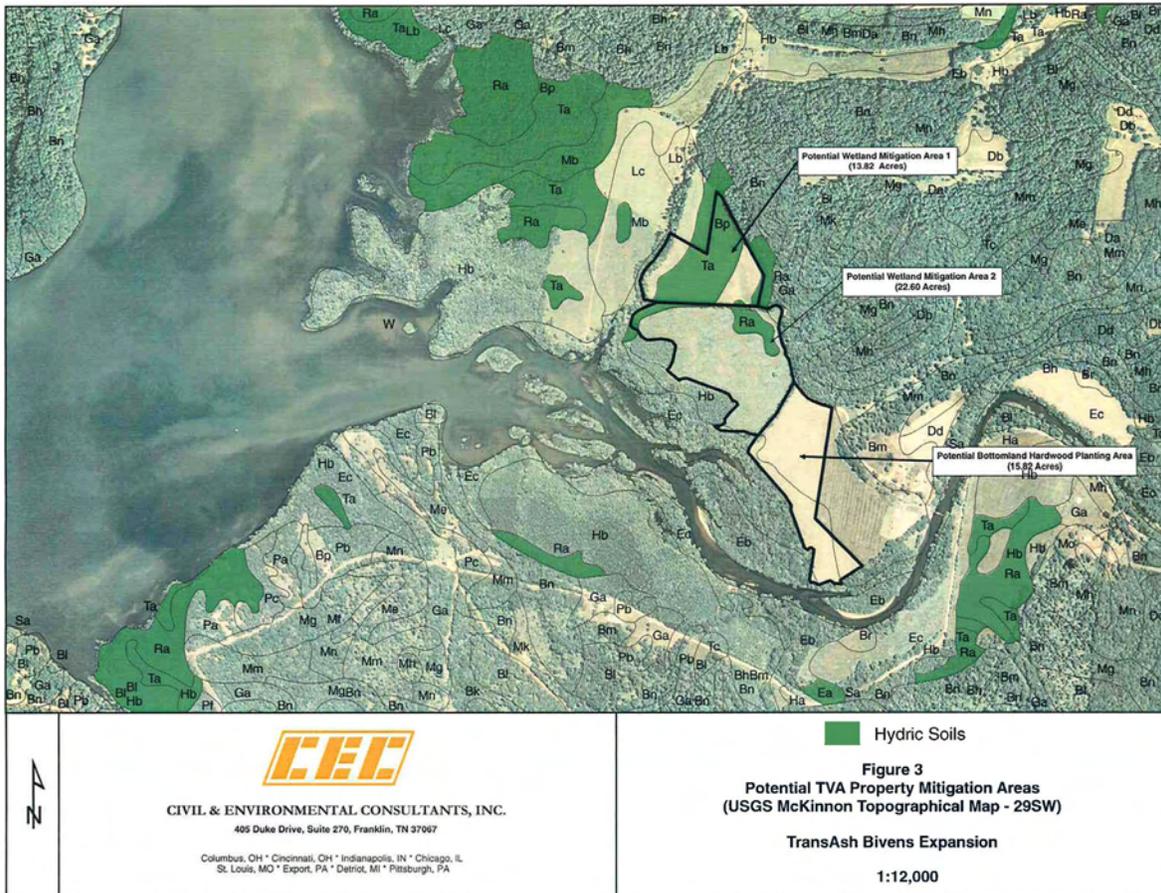
Attachment 2. The Approximate Boundary of the Wetland Mitigation Cell

Attachment 3. Conceptual Design of Wetland Mitigation Cell

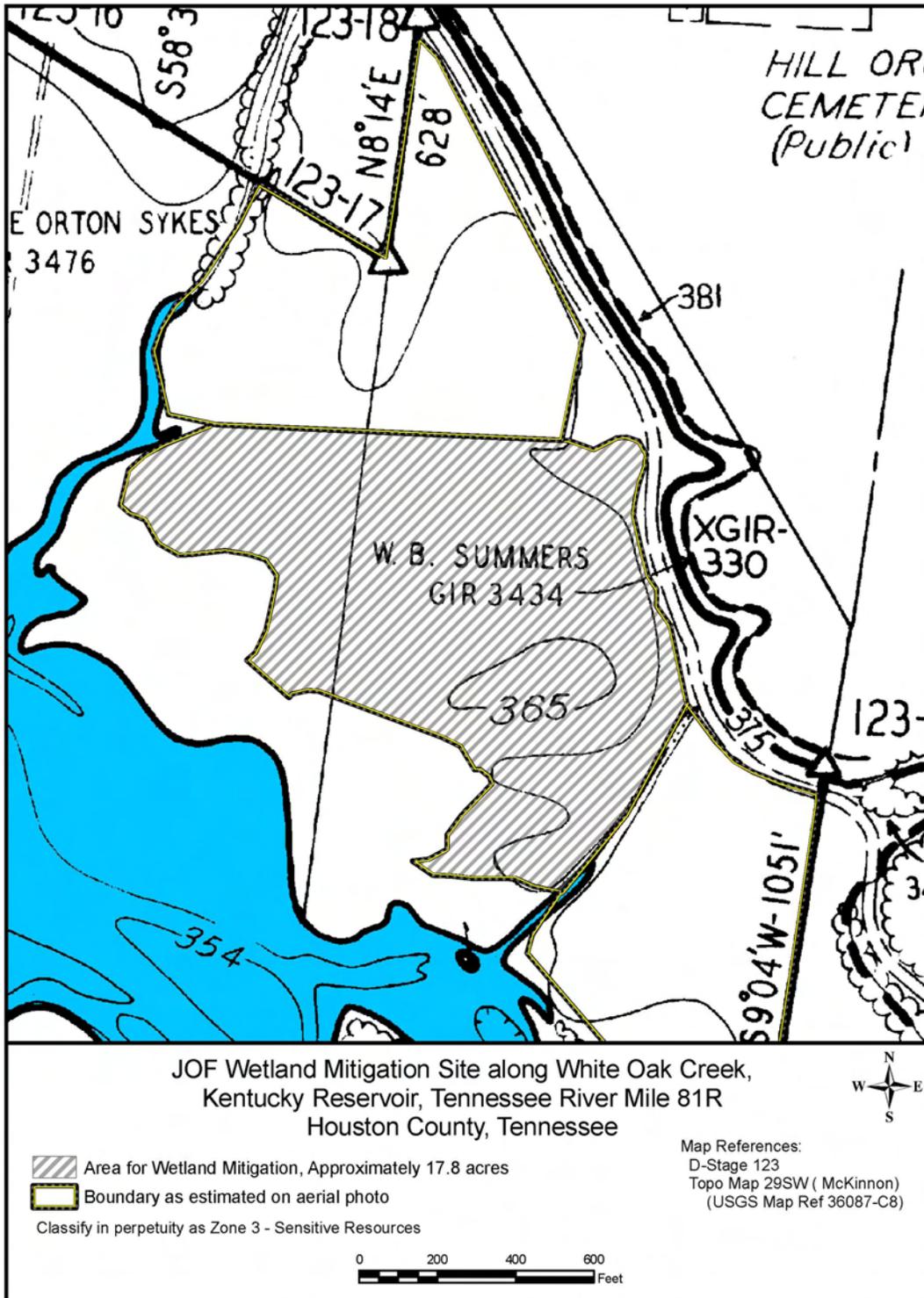
Attachment 4. Mitigation Plan for Wetland Mitigation Tract on Kentucky Reservoir

Attachment 5. Polygon Coordinates for the Wetland Mitigation Cell

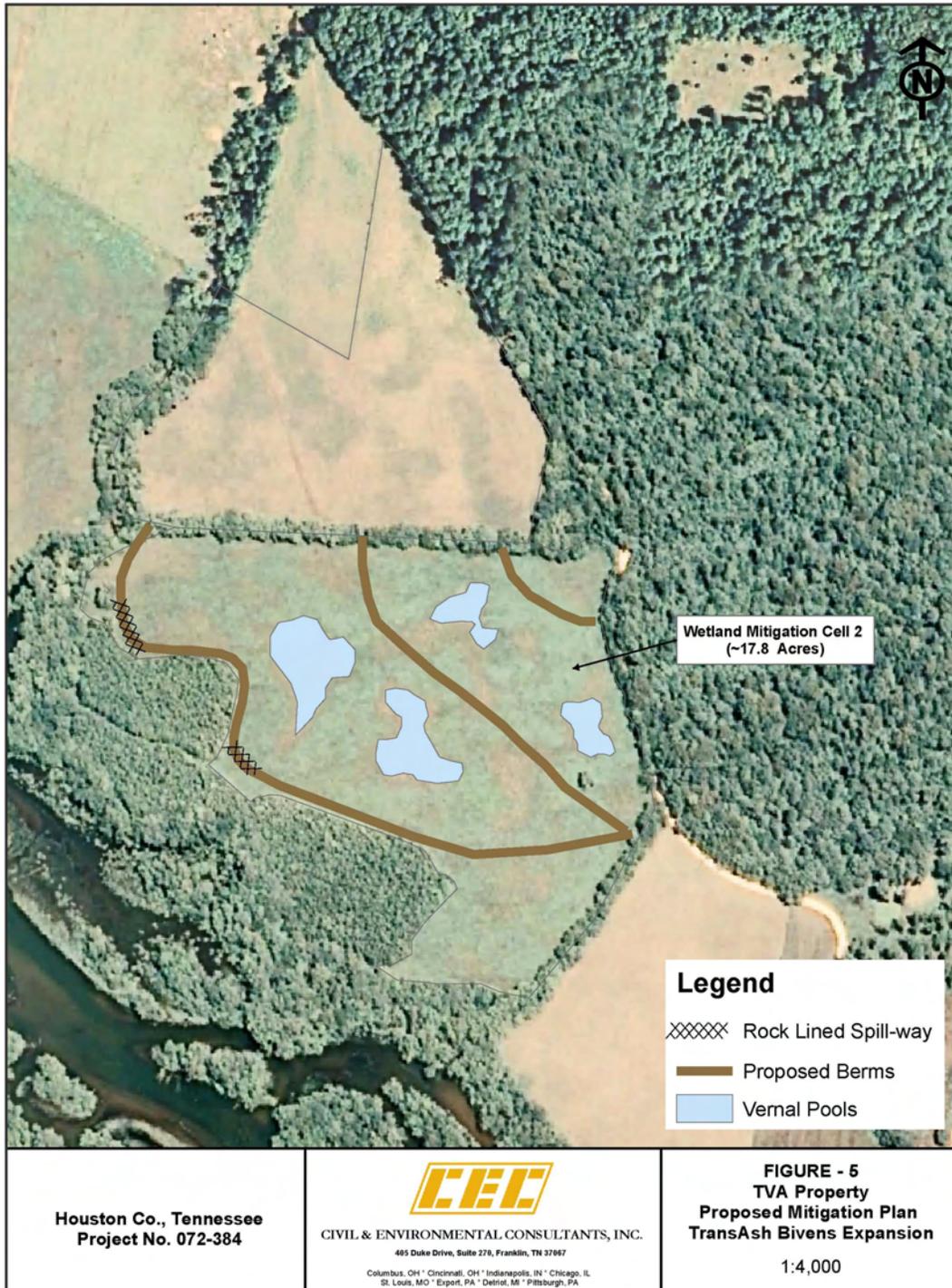
Attachment 1. Location of the Wetland Mitigation Tract Along White Oak Creek, Kentucky Reservoir (Proposed Wetland Mitigation Area 2)



Attachment 2. The Approximate Boundary of the Wetland Mitigation Cell



Attachment 3. Conceptual Design of Wetland Mitigation Cell



**Houston Co., Tennessee
Project No. 072-384**



CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
465 Duke Drive, Suite 270, Franklin, TN 37067
Columbus, OH * Cincinnati, OH * Indianapolis, IN * Chicago, IL
St. Louis, MO * Export, PA * Detroit, MI * Pittsburgh, PA

**FIGURE - 5
TVA Property
Proposed Mitigation Plan
TransAsh Bivens Expansion**

1:4,000

Attachment 4. Mitigation Plan for Wetland Mitigation Tract on Kentucky Reservoir



Supplement to TransAsh Bivens Expansion Permit Application
TVA Mitigation Site
Houston County, Tennessee
DA application 2008-01332 and TDEC NRS 08.205

Proposed Mitigation Plan

The proposed mitigation site is located on TVA property within the White Oak Creek embayment of Kentucky Lake in Houston County (Figure 1). The site is downriver from the proposed TransAsh expansion site. Straight line distance between the two sites is 18.3 miles and both sites are within the Kentucky Lake watershed (HUC 06040005).

As can be seen in the high resolution aerial photography (Figure 2), the site consists of 3 open fields with some areas of early successional growth. The property is currently in the TVA Agricultural Lease Program but the current landowner agreement will expire December 31, 2008. The southern field (15.82 acres) is not suitable for wetland mitigation and is currently in hay production. The northern field (13.82 acres) is suitable for future mitigation work. The middle field (22.60 acres) will be the focus of the mitigation plan for the TransAsh Bivens Expansion in Benton County. TransAsh is proposing to convert about 17.8 acres of this field into a jurisdictional wetland. Both TDEC and the USACE agreed upon the suitability of the selected site at an agency site review meeting conducted on September 17, 2008.

There are two hydric or hydric inclusion soils listed in the site (Figure 3), Taft silt loam (Ta) and Robertsville silt loam (Ra). The predominant soil type is Humphreys silt loam (Hb). Although Hb soils are typically moderately well drained, field inspection of the area mapped Hb revealed numerous depressional pockets that contain wetland vegetation (i.e. buttonbush, rosemallow, soft rush, path rush, black willow, and fox sedge). Wetland type hardwood seedlings such as sycamore, sweetgum, honey locust, river birch, and pin oak are also colonizing the site. Figure 4 depicts the mitigation site on the McKinnon USGS topographical quadrangle (29-SW).



Figure 5 presents the proposed mitigation plan for the middle field. A Phase I Archaeological Survey revealed an area of potential significance that would require further investigation; therefore, the proposed mitigation area was reduced to avoid this site. The resultant potential wetland mitigation for this site is 17.80 acres and is considered creation, which is given a 4:1 ratio. The total wetland impact at the Bivens Expansion site is 2.39 acres, resulting in a need for 9.56 acres to provide compensatory wetland mitigation for the proposed impacts. The TVA mitigation site provides more than enough acreage to off-set the proposed impacts. The site will yield approximately 8.24 acres of additional wetland creation that could be reserved for use in mitigating wetland impacts from future TVA projects.

The basic plan is to ring the southern and western perimeter of the field with a small berm to retain surface water runoff and backwater flooding from the river. This berm will be constructed such that the top is a maximum of 1 ft. above the existing high grade elevation and will be 12' across with two rock lined spillways recessed 0.5 ft. below top of berm. Two smaller terrace type berms will be constructed across the center of the field running from north to southeast as depicted on Figure 5. These berms will be constructed similar to contour terracing in an agriculture field and will be an average of 1 ft. high and will not have rock lined spillways. All berms and disturbed soils will be seeded with native grasses (i.e. deertongue grass, Virginia wild rye, Chufa, and Illinois bundleflower). Final elevation of berms will be determined by a site survey and will be coordinated with the regulatory agencies.

Several vernal pools / emergent wetland areas will be created in the fields to add diversity of habitat and provide for amphibian reproduction pools. The soil borrowed from these pools will be used to create the berms.

Since much of the site currently contains herbaceous and shrubby wetland vegetation, rapid colonization of hydrophytic plants should occur. Buttonbush, rosemallow, and black willow are fairly prevalent across the site and should readily spread once the site becomes wetter.



Light seeded trees will also rapidly colonize the site. Several species of seedlings were observed during the site review including river birch, sycamore, green ash, sweetgum, and honey locust. Heavier seeded species such as red oak and white oak are also present. It is proposed that supplemental plantings be conducted to include bottomland hardwood trees and a few shrub species as detailed in Table 1 (substitute species may be approved by the wetland biologist depending on availability). All trees and shrubs will be bare root seedlings or container grown stock.

**Table 1
Proposed Vegetation Plan**

Species	Common Name	Number
<i>Taxodium distichum</i>	Bald Cypress	300
<i>Quercus bicolor</i>	Swamp White Oak	300
<i>Quercus michauxi</i>	Swamp Chestnut Oak	300
<i>Quercus palustris</i>	Pin Oak	300
<i>Quercus phellos</i>	Willow Oak	300
<i>Amorpha fruticosa</i>	False Indigobush	500
<i>Cornus amomum</i>	Silky dogwood	200
<i>Itea virginica</i>	Virginia Sweetspire	200
	TOTAL	2400

Planting and hydrologic modifications can commence once the site is removed from the agricultural lease program on December 31, 2008. The field will first be bush hogged so that the “lay of the land” can be observed and the low lying areas and drainage swales can be surveyed. This will allow for the proper placement of the berms. Construction of the berms can take place in the spring or summer of 2009 with tree and shrub plantings occurring after November 15, 2009.



According to the Aquatic Resource Alteration Permit Application in Section 11.3, no net loss of resource value should be realized by the proposed project impacts and mitigation. The on-site wetlands are not considered Tennessee Exceptional Waters and were created as a result of the past gravel mining operation. The wetlands identified at the Bivens Expansion site are of low quality and consists of shallow open waters areas and mixed emergent beds. The mitigation provided both on-site (stream and wetland) and off-site (TVA wetland mitigation site) adequately compensates for the impacted resource values as detailed in the mitigation plan. The portion of the mitigation being performed off-site is only within the same watershed and across the river from the impact site. The off-site mitigation is a large tract of land that will be protected in perpetuity by TVA via deed restrictions. The on-site mitigation areas will also be protected in perpetuity by TDEC Notice of Land Use Restrictions. The long-term protection measures, close proximity of the mitigation, amount of mitigation provided, and type of mitigation provided adequately off-sets the impacts and results in an overall no net loss of resource value.

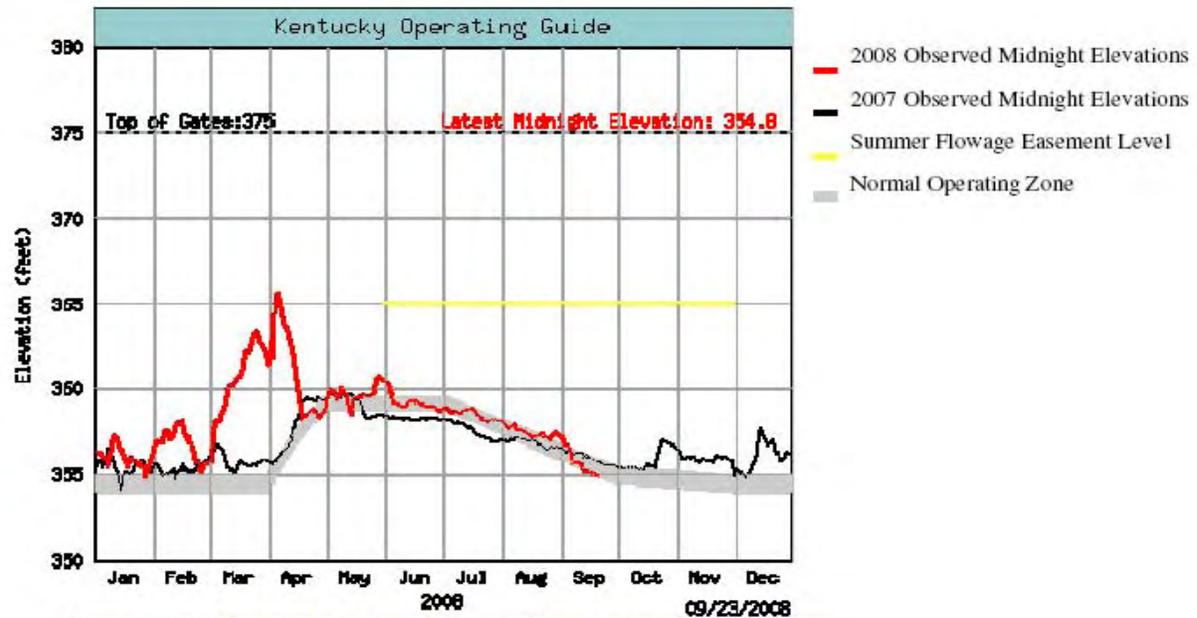
According to Gary Jenkins, Fisheries Biologist with the Kentucky Watershed Team in Paris, Tennessee, the pool elevations for Kentucky Lake, are as follows:

Normal Pool elevation	359 ft.
Winter Pool elevation	354 ft.
Highest recorded elevation	369 ft.
Site elevation	363 ft.

Presented below is data retrieved from TVA's website on Lake Operating Guides that provides data on the hydrological input to the proposed mitigation site in Houston County, Tennessee.



Kentucky Lake Operating Guide



Observed midnight elevation

Observed midnight elevations are shown for two years: last year and the current year to date. These are the actual elevations of the reservoir immediately upstream of the dam, measured at midnight of each day.

Normal operating zone

These lines depict the zone of normal operation for power production and summer mosquito control. During high flow periods, the top of the normal operating zone may be exceeded for the regulation of flood flows.

Flowage easement levels

These are elevations to which TVA can raise water levels on Kentucky Reservoir. A flowage easement is the legal right retained by TVA to flood privately owned shorelands up to a specific elevation as part of its reservoir operations. The summer flowage easement (June 1 to



November 30) at Kentucky Dam is elevation 365. The winter flowage easement (December 1 to May 31) is elevation 375. These flowage easements can vary depending on the location.

As indicated in the above TVA graph, the proposed mitigation site was flooded during late March and early April of 2008, which was confirmed by Gary Jenkins. Mike Lee (TDEC) also indicated he observed evidence of flooding during a spring 2008 site review. It does not appear that the site flooded in 2007, which was the extreme drought year. This year is a more normal hydrologic pattern. Based on the elevations of the lake and site, flooding should be fairly recurrent at the proposed mitigation site.

Monitoring Plan

Monitoring of the mitigation site shall closely follow the Army Corps of Engineers *Regulatory Guidance Letter No. 06-03, Subject: Minimum Monitoring Requirements for Compensatory Mitigation Projects Involving the Creation, Restoration, and/or Enhancement of Aquatic Resources*. Until the mitigation work is demonstrated to be successful to the Army Corps and TDEC for five consecutive years, annual reports of no more than 10 pages (with photo documentation) will be submitted to the Nashville Engineer District and TDEC's Water Pollution Control Division beginning the first year after completion of the mitigation. Monitoring protocol and performance criteria shall be defined as follows:

- (1) Trees and shrubs planted for mitigation shall be guaranteed at a 75% survival rate after 5 years,
- (2) Primary and secondary hydrological indicators documented,
- (3) Wildlife observations, tracks, and other signs of wildlife usage will be documented, and
- (4) Wetland creation sites must maintain characteristics that define them as jurisdictional wetlands as defined by the Army Corps' 1987 Manual. The created sites will be monitored for the three parameters defined in the 1987 Manual, i.e. hydrologic vegetation, hydric soils, and the appropriate hydrology.

Attachment 5. Polygon Coordinates for the Wetland Mitigation Cell

Polygon	Acres	ORIG_FID	POINT_X	POINT_Y	X_DMS	Y_DMS	Datum	Order	Note
Area for wetland mitigation	22.6	4	-87.889535083	36.261895580	87 53 22.3	36 15 42.8	WGS_1984	1	1st point
Area for wetland mitigation	22.6	4	-87.889672585	36.261936429	87 53 22.8	36 15 43	WGS_1984	2	
Area for wetland mitigation	22.6	4	-87.889757454	36.261996529	87 53 23.1	36 15 43.2	WGS_1984	3	
Area for wetland mitigation	22.6	4	-87.889722325	36.262113790	87 53 23	36 15 43.6	WGS_1984	4	
Area for wetland mitigation	22.6	4	-87.889687489	36.262243331	87 53 22.9	36 15 44.1	WGS_1984	5	
Area for wetland mitigation	22.6	4	-87.889553352	36.262343713	87 53 22.4	36 15 44.4	WGS_1984	6	
Area for wetland mitigation	22.6	4	-87.889388300	36.262420007	87 53 21.8	36 15 44.7	WGS_1984	7	
Area for wetland mitigation	22.6	4	-87.889124973	36.262510122	87 53 20.8	36 15 45	WGS_1984	8	
Area for wetland mitigation	22.6	4	-87.888959482	36.262567994	87 53 20.3	36 15 45.2	WGS_1984	9	
Area for wetland mitigation	22.6	4	-87.885878474	36.262505551	87 53 09.2	36 15 45	WGS_1984	10	
Area for wetland mitigation	22.6	4	-87.885657130	36.262447578	87 53 08.4	36 15 44.8	WGS_1984	11	
Area for wetland mitigation	22.6	4	-87.885461892	36.262530480	87 53 07.7	36 15 45.1	WGS_1984	12	
Area for wetland mitigation	22.6	4	-87.885378633	36.262537922	87 53 07.4	36 15 45.1	WGS_1984	13	
Area for wetland mitigation	22.6	4	-87.885271752	36.262508876	87 53 07	36 15 45	WGS_1984	14	
Area for wetland mitigation	22.6	4	-87.885201321	36.262417834	87 53 06.7	36 15 44.7	WGS_1984	15	
Area for wetland mitigation	22.6	4	-87.885214440	36.262331631	87 53 06.8	36 15 44.4	WGS_1984	16	
Area for wetland mitigation	22.6	4	-87.885264740	36.262214135	87 53 07	36 15 44	WGS_1984	17	
Area for wetland mitigation	22.6	4	-87.885292148	36.262090853	87 53 07.1	36 15 43.5	WGS_1984	18	
Area for wetland mitigation	22.6	4	-87.885304974	36.261992369	87 53 07.1	36 15 43.2	WGS_1984	19	
Area for wetland mitigation	22.6	4	-87.885239205	36.261778400	87 53 06.9	36 15 42.4	WGS_1984	20	
Area for wetland mitigation	22.6	4	-87.885165999	36.261570690	87 53 06.6	36 15 41.7	WGS_1984	21	
Area for wetland mitigation	22.6	4	-87.885087987	36.261479767	87 53 06.3	36 15 41.3	WGS_1984	22	
Area for wetland mitigation	22.6	4	-87.885085212	36.261363098	87 53 06.3	36 15 40.9	WGS_1984	23	
Area for wetland mitigation	22.6	4	-87.884968414	36.261235923	87 53 05.9	36 15 40.4	WGS_1984	24	
Area for wetland mitigation	22.6	4	-87.884811356	36.260691671	87 53 05.3	36 15 38.5	WGS_1984	25	
Area for wetland mitigation	22.6	4	-87.885316110	36.259909813	87 53 07.1	36 15 35.7	WGS_1984	26	
Area for wetland mitigation	22.6	4	-87.885856736	36.259360817	87 53 09.1	36 15 33.7	WGS_1984	27	
Area for wetland mitigation	22.6	4	-87.886107961	36.259399894	87 53 10	36 15 33.8	WGS_1984	28	
Area for wetland mitigation	22.6	4	-87.886268496	36.259452673	87 53 10.6	36 15 34	WGS_1984	29	
Area for wetland mitigation	22.6	4	-87.886442880	36.259449950	87 53 11.2	36 15 34	WGS_1984	30	
Area for wetland mitigation	22.6	4	-87.886640010	36.259446872	87 53 11.9	36 15 34	WGS_1984	31	
Area for wetland mitigation	22.6	4	-87.886829996	36.259462335	87 53 12.6	36 15 34.1	WGS_1984	32	
Area for wetland mitigation	22.6	4	-87.886981781	36.259466106	87 53 13.1	36 15 34.1	WGS_1984	33	

Polygon	Acres	ORIG_FID	POINT_X	POINT_Y	X_DMS	Y_DMS	Datum	Order	Note
Area for wetland mitigation	22.6	4	-87.887166086	36.259561512	87 53 13.8	36 15 34.4	WGS_1984	34	
Area for wetland mitigation	22.6	4	-87.887022323	36.259576042	87 53 13.3	36 15 34.5	WGS_1984	35	
Area for wetland mitigation	22.6	4	-87.8868664709	36.259646074	87 53 12.7	36 15 34.7	WGS_1984	36	
Area for wetland mitigation	22.6	4	-87.8868667049	36.259744321	87 53 12.7	36 15 35.1	WGS_1984	37	
Area for wetland mitigation	22.6	4	-87.886741518	36.259887564	87 53 12.3	36 15 35.6	WGS_1984	38	
Area for wetland mitigation	22.6	4	-87.886488848	36.260106505	87 53 11.4	36 15 36.4	WGS_1984	39	
Area for wetland mitigation	22.6	4	-87.886512763	36.260155273	87 53 11.4	36 15 36.6	WGS_1984	40	
Area for wetland mitigation	22.6	4	-87.886589752	36.260203212	87 53 11.7	36 15 36.7	WGS_1984	41	
Area for wetland mitigation	22.6	4	-87.886642826	36.260202384	87 53 11.9	36 15 36.7	WGS_1984	42	
Area for wetland mitigation	22.6	4	-87.886768085	36.260366281	87 53 12.4	36 15 37.3	WGS_1984	43	
Area for wetland mitigation	22.6	4	-87.886928769	36.260425200	87 53 12.9	36 15 37.5	WGS_1984	44	
Area for wetland mitigation	22.6	4	-87.888005438	36.260727803	87 53 16.8	36 15 38.6	WGS_1984	45	
Area for wetland mitigation	22.6	4	-87.888096569	36.260732522	87 53 17.1	36 15 38.6	WGS_1984	46	
Area for wetland mitigation	22.6	4	-87.888232460	36.260705826	87 53 17.6	36 15 38.5	WGS_1984	47	
Area for wetland mitigation	22.6	4	-87.888262203	36.260680791	87 53 17.7	36 15 38.5	WGS_1984	48	
Area for wetland mitigation	22.6	4	-87.888632286	36.260933002	87 53 19.1	36 15 39.4	WGS_1984	49	
Area for wetland mitigation	22.6	4	-87.888557782	36.260989451	87 53 18.8	36 15 39.6	WGS_1984	50	
Area for wetland mitigation	22.6	4	-87.888470456	36.261144383	87 53 18.5	36 15 40.1	WGS_1984	51	
Area for wetland mitigation	22.6	4	-87.888401366	36.261428029	87 53 18.2	36 15 41.1	WGS_1984	52	
Area for wetland mitigation	22.6	4	-87.888388543	36.261526513	87 53 18.2	36 15 41.5	WGS_1984	53	
Area for wetland mitigation	22.6	4	-87.888489744	36.261635500	87 53 18.6	36 15 41.9	WGS_1984	54	
Area for wetland mitigation	22.6	4	-87.888634682	36.261670090	87 53 19.1	36 15 42	WGS_1984	55	
Area for wetland mitigation	22.6	4	-87.888839985	36.261691452	87 53 19.8	36 15 42.1	WGS_1984	56	
Area for wetland mitigation	22.6	4	-87.889127521	36.261662386	87 53 20.9	36 15 42	WGS_1984	57	
Area for wetland mitigation	22.6	4	-87.889241105	36.261654468	87 53 21.3	36 15 42	WGS_1984	58	
Area for wetland mitigation	22.6	4	-87.889417397	36.261731567	87 53 21.9	36 15 42.2	WGS_1984	59	ending point same
Area for wetland mitigation	22.6	4	-87.889535083	36.261895580	87 53 22.3	36 15 42.8	WGS_1984	60	as 1st point

Note!! These coordinates are only approximate. They were digitized from a hand-tracing of the boundary on an aerial photo prior to construction of the wetland mitigation cell. An accurate boundary should be obtained during a site survey once the wetland is constructed.