

Environmental Red Flag Summary

Phase I - SR 32 Afton Corridor Clermont County, Ohio



Prepared for:



Office of Economic Development
2379 Clermont Center Drive
Batavia, Ohio 45103

Prepared by:



1848 SUMMIT ROAD
CINCINNATI, OHIO 45237-2804
513.761.1700 / FAX 513.761.1728

Engineering
Planning
Surveying
Environmental

July 2006

Table of Contents

1. Project Description	1
2. Project Setting	1
2.1. Existing Land Use.....	1
2.2. Transportation and Public Utilities	1
2.3. Population and Employment.....	2
2.4. Future Land Use and Infrastructure Improvements	2
3. Environmental Features and Red Flags	3
3.1. Physiography and Geology	3
3.2. Soils and Hydric Soils	3
3.3. Streams and Floodplains.....	4
3.4. Wetlands and Ponds.....	5
3.5. Threatened and Endangered Species	6
3.6. Aquifers and Public Water Supplies	7
3.7. Oil and Gas Wells.....	8
3.8. Woodlands	8
3.9. Farmland	8
3.10. Hazardous Materials Concerns	9
3.11. Cultural Resources.....	9
3.12. Parks and Potential Section 4(f)/6(f) Resources	10
3.13. Environmental Justice.....	10
3.14. Air Quality and Noise.....	10
4. Permitting Issues	11
5. Impact Minimization and Mitigation Opportunities	11

Figures

- Figure 1. Project Location Map
- Figure 2. Project Study Area and Key Existing Land Use Features
- Figure 3. Existing Transportation and Public Utilities
- Figure 4. Planned Development and Infrastructure Improvements
- Figure 5. Regional Environmental Features
- Figure 6. Hydric Soils
- Figure 7. Ecological Resources and Hazardous Materials
- Figure 8. CAUV Parcels
- Figure 9. Environmental Justice Populations
- Figure 10. Preliminary Mitigation Opportunities

Appendices

- Appendix A. Future Land Use Mapping (Clermont County Department of Community Planning and Development)

Appendix B.	Threatened and Endangered Species Database Search (ODNR)
Appendix C.	Environmental Site Assessment Database Search (FirstSearch Technology Corporation)
Appendix D.	Cultural Resources Database Search (OHPO)
Appendix E.	Red Flag Checklist (ODOT format modified)
Appendix F.	Project Area Photographs
Appendix G.	Wetland and Stream Field Data Forms (for Mitigation Opportunity Areas)
Appendix H.	GIS Files (DVD)

1.0 PROJECT DESCRIPTION

This Red Flag Summary presents the results of an inventory of environmental resources for a site along State Route (SR) 32 in central Clermont County identified for potential future economic development by Clermont County (see Figure 1). The approximately 800 acre study area, referred to as the SR 32 Afton Corridor, encompasses 30+ parcels and is located about three miles east of Batavia, generally along the north side of SR 32 between Batavia Road and Half Acre Road.

Data collection included review of secondary source materials and available mapping, and reconnaissance field survey, following Ohio Department of Transportation's Project Development Process (PDP) red flag guidelines for compliance with provisions of the National Environmental Policy Act (NEPA). This report summarizes known environmental resources occurring in the study area, and identifies features of concern that may warrant protection, require resource agency coordination, and/or that may offer opportunity for mitigation of environmental impacts. Detailed environmental study may be required for some features as this project further develops.

This information provides an understanding and awareness of the important environmental issues associated with the SR 32 Afton Corridor early in the planning process. In this way, resource protection can be fully considered as an integral part of future development of the site, as well as for other improvements within the study area associated with economic development, such as transportation and infrastructure improvements, and for right-of-way preservation for these future actions.

2.0 PROJECT SETTING

2.1. Existing Land Use

The project study area is located in Batavia and Williamsburg Townships of Clermont County,

between the villages of Batavia and Williamsburg, in the vicinity of the community of Afton. The area is a mix of agricultural, woodland and residential land uses to the north of SR 32, and a growing industrial, commercial, residential land use mix to the south of SR 32. The larger facilities in the area (south of SR 32) include the Batavia Transmissions (Ford) plant, Georgia Pacific Packaging Division, and Clermont County YMCA. The Batavia High School is located at the southwest edge of the study area at the intersection of Batavia Road and SR 32. These and other key existing land use features are shown on Figure 2.

2.2. Transportation and Public Utilities

Existing transportation and public utilities in the project area are shown on Figure 3. The SR 32 Afton Corridor study area is bordered by Batavia Road and Herold Road to the west, SR 276 to the north, Half Acre Road to the east, and SR 32 to the south. Front Wheel Drive parallels existing SR 32 on the south side between Batavia Road and Half Acre Drive, and provides local access to existing industrial and commercial facilities in this vicinity. SR 276 extends north from the project area to the Village of Owensville, and south from the project area to the Village of Williamsburg.

Batavia Road, Herold Road, SR 276, Half Acre Road and Front Wheel Drive are all Local Streets by current roadway functional classification, and SR 32 in the project vicinity is classified as Principal Arterial (source: 2006 Access Clermont). SR 32, which is a key east-west route through Clermont County, is also designated as a component of the Appalachian Development Highway System (ADHS).

The Norfolk Southern Railroad parallels existing SR 32 about one-half mile south of the project study area between Front Wheel Drive and Old SR 32. This line provides rail connections to southeast Indiana, southwest Ohio and other regional rail networks, and serves industrial facilities in the Afton area.

Public waterlines are located in the area along SR 276, Batavia Road and Half Acre Road right-of-way, and a public waterline also extends between SR 32 (at Batavia Road) and SR 276 along the west edge of the SR 32 Afton Corridor study area. A recently installed gravity sewer line is located to the north of SR 32 between Batavia Road and Half Acre Road, generally bisecting the SR 32 Afton Corridor study area (see Figure 3). Additional water and sewer utilities occur along portions of Herold Road, Old SR 32 and adjoining local streets to serve existing and planned residential and commercial/industrial development in the project vicinity.

Clermont County is also served by private utilities, providing cable, electric, natural gas, telephone and waste collection services (these utilities not located for this red flag).

2.3. Population and Employment

The population of Clermont County rose 6% between 2000 and 2004, and is currently 193,300 persons. Future projections for the county estimate 245,000 persons by the year 2030 (OKI, 2005), for an approximately 27% population increase over the next 25 years. Batavia Township's population (2000) is 17,503 persons, and is the third largest in the county. Williamsburg Township's population is 5,005 (OKI, 2002).

Key industries in Clermont County include consumer goods, financial services, manufacturing and health care services. Seven of the county's 25 largest private sector employers are located in Batavia and Williamsburg Townships (in the general SR 32 Afton Corridor vicinity), including: Batavia Transmissions – located along Front Wheel Drive just south of the SR 32 Afton Corridor study area; the Midland Company; Mercy Hospital-Clermont; American Micro Products; Sportsman's Market, Incorporated; Cincinnati Milacron; and Core Composites. Clermont County has approximately 850,000 workers

within a 45-minute drive of the county, and is projected to have the fifth fastest rate of employment growth in Ohio through 2025, with an estimated annual increase of 1.72% (source: Clermont County Office of Economic Development).

2.4. Future Land Use and Infrastructure Improvements

Future Land Use – Future land use mapping and recommendations for the Afton area were developed by the Clermont County Department of Community Planning and Development as part of the SR 32 Corridor Vision Plan (see excerpts in Appendix A). North of SR 32, future land use in the SR 32 Afton study area is proposed to change from its current agricultural use to light industrial, medium density residential, and mixed use non-residential development. South of SR 32, proposed land use is similar to current use, consisting of mostly industrial and commercial uses.

Planned subdivisions, currently in the active planning and design stages, are proposed along Herold Road just west of the SR 32 Afton study area, as depicted on Figure 4.

Planned Transportation Improvements – The 2006 Access Clermont (Official Clermont County 2006 Thoroughfare Plan Update) identified a tiered listing of transportation improvement projects based on status of plan development and funding, including the following projects located in the SR 32 Afton Corridor vicinity:

Tier 2 Projects (construction within 6-20 years):

- SR 32 Frontage Road II – new parallel frontage road on north side of SR 32 from Bauer Road to Batavia Road
- SR 32 Frontage Road III – new parallel frontage road on north side of SR 32 from Batavia Road to Half Acre Road
- Batavia Road – roadway extension from Batavia / Half Acre Road to SR 276

Tier 3 Projects (long-range plan):

- Herold Road / Bauer Road Area Interchange – construct grade-separated interchange at Herold Road / Bauer Road and SR 32
- Batavia Road / SR 32 – interchange modification (complete the existing interchange)

Locations of these planned transportation improvements relative to the SR 32 Afton Corridor study area are depicted on Figure 4.

3.0 ENVIRONMENTAL FEATURES AND RED FLAGS

This section of the red flag summary presents an inventory of known environmental resources occurring in the project area. Each resource description includes:

- a summary of the secondary source materials reviewed,
- description of existing conditions in the project area based on literature review and field survey, and
- discussion of red flag issues associated with that resource, as applicable (*italicized in text boxes*).

For some resources, red flag issues (such as the need for additional studies, agency coordination and/or permit approval) come into play when a “federal action” is involved. **Federal actions** typically include projects and programs entirely or partly financed, assisted, conducted, regulated, or approved by federal agencies (CEQ regulations, Section 1508.18).

Figure 5 presents a regional map of known environmental resources based on literature review and database searches conducted for this red flag study. Figures 6 through 9 present more detailed mapping for those features occurring within the immediate SR 32 Afton Corridor study area.

3.1. Physiography and Geology

Physiography and geology information was obtained through review of available materials from the U.S. Environmental Protection Agency (USEPA), the Ohio Department of Natural Resources (ODNR) Division of Geological Survey, and the U.S. Geological Survey (USGS) 7.5-minute topographic mapping.

The project is located in the Eastern Corn Belt Plains ecoregion as delineated by USEPA, and the Illinoian Till Plain physiographic region as delineated by ODNR. The region is characterized as a rolling glacial till plain, with soils derived from glacial materials, original natural vegetation consisting of beech-maple hardwood and elm-ash swamp forests, and predominant land uses consisting of agricultural, woodland and small to medium urban areas.

Topography in the vicinity of the SR 32 Afton Corridor is nearly level to gently sloping, with elevations generally between 900 and 910 feet above mean sea level. Geology consists of Ordovician-aged interbedded limestone and shale bedrock overlain by Illinoian-aged glacial drift composed of a mixture of sand, silt, clay and coarse fragments.

3.2. Soils and Hydric Soils

Soils information was obtained from review of materials from the U.S. Department of Agriculture Natural Resources Conservation Service (USDA-NRCS Soil Survey of Clermont County and related USDA website and mapping information).

Soils in the SR 32 Afton Corridor study area are part of the Avonburg-Clermont Association, consisting of deep, nearly level, poorly drained soils formed from glacial materials and occurring on broad flats and uplands. Clermont silt loam is the predominant soil, comprising 58% of the total study area, followed by Avonburg silt loam. Clermont soils occur along flat upland areas, and Avonburg soils occur as

narrow bands along small drainage features in the area. Both soils have a clayey subsoil, are poorly drained, and exhibit slow permeability, ponding, and slow runoff.

Minor soils in the project study area include Rossmoyne silt loam, with patchy occurrences along uplands, and Blanchester silt loam, with scattered occurrences along shallow drainage features. Rossmoyne soils are generally moderately well drained, and Blanchester soils are typically poorly drained.

Red Flag Summary for Soils

Hydric soils are poorly drained soils that may be associated with the occurrence of wetlands. Clermont silt loam, which comprises 58% of the SR 32 Afton Corridor study area, is listed on the USDA-NRCS National Hydric Soil List as a hydric soil occurring in Clermont County. Figure 6 shows the extent of hydric soils coverage within the project study area.

3.3. Streams and Floodplains

Stream information was obtained through review of reports and mapping, website information and other materials from the Ohio Environmental Protection Agency (OEPA) Division of Water, ODNR, USEPA, USGS topographic mapping, and Clermont County Office of Environmental Quality. Field survey was conducted from June 1-6, 2006 to assess on-site stream conditions. Floodplains were identified using Federal Emergency Management Agency (FEMA) National Flood Insurance Program mapping obtained from the county GIS database.

The project is located within the Little Miami River watershed, East Fork sub-watershed (Hydrological Unit Code 05090202-120). This sub-watershed is listed as a 303(d) Priority Impaired Water (Category 5) in OEPA's Final 2006 Integrated Water Quality Monitoring and Assessment Report. Key causes of impairment reported by OEPA include nutrients, siltation,

organic enrichment/dissolved oxygen, flow alteration and other direct habitat alternations. Watershed sources of impairment include municipal point sources, land development, urban runoff/storm sewers (non-point source), septic tank runoff, and channelization and flow modifications from development. An East Fork Little Miami River Action Plan, which includes the project area, has been endorsed by OEPA and ODNR. Clermont County is currently completing Total Maximum Daily Loads (TMDLs) for the East Fork watershed.

The northwest half of the study area is drained by an unnamed USGS headwater tributary in the Backbone Creek drainage, and the southeast half of the area is drained by unnamed USGS headwater tributaries to Slabcamp Run. A small portion of the area in the northeast corner (near the SR 276/Half Acre Road intersection) is drained by Kain Run headwaters. No FEMA-mapped floodplains occur within the SR 32 Afton Corridor study area.

Based on reconnaissance field survey, nine OHW features were observed within the project study area, including three USGS intermittent streams and six other minor channels/ditches (see Figure 7). Preliminary assessment indicates that all nine features are likely OEPA Modified Class I or II Primary Headwater features (limited quality streams).

Based on review of secondary source materials, no specific biological, physical or water quality assessments have been conducted for these features in the SR 32 Afton Corridor vicinity. The Clermont Office of Environmental Quality has collected biological, physical and water quality data in Backbone Creek and Kain Run further downstream in these drainages.

Red Flag Summary for Streams

Streams are typically natural corridors that provide habitat for fish and wildlife and greenspace and recreational opportunities for people. Surface features that have an "Ordinary High Water" (OHW) channel (definable stream bottom and banks) are under the jurisdiction of the U.S. Army Corps of Engineers and require a permit for filling and dredging activities under Section 404 of the Clean Water Act. Nine OHW features were identified in the SR 32 Afton Corridor study area. Actions involving these features may also require Section 401 water quality certification from OEPA and possible coordination with other agencies for fit with watershed action plans and TMDL initiatives. Impacts to streams require mitigation, usually at a 1:1 or 2:1 ratio. Stream corridors may also provide mitigation opportunities by preservation through conservation easement or other means. The OHW features in this study area, however, are biologically limited and, except for one feature (see Section 5), are not expected to warrant use as mitigation.

3.4. Wetlands and Ponds

U.S. Department of the Interior National Wetland Inventory (NWI) maps, USDA-NRCS soils information, and aerial photographs of the project area were reviewed to determine suspect wetland features. Field survey was conducted from June 1-6, 2006 to assess on-site wetland conditions. Wetland boundaries were estimated in the field based on observed vegetation, hydrology and soils conditions, and mapped using a Trimble hand-held GPS unit.

Wetland determinations using USACE 1997 methods and evaluation of wetland quality using OEPA rapid assessment methods (ORAM) were not conducted, except for those features identified as potential mitigation opportunities (see Section 5). The field data collected for this red flag are considered preliminary estimates of wetland conditions in the area, subject to more detailed investigation for determining final

jurisdictional status and size.

The SR 32 Afton Corridor study area is comprised of about 58% hydric soils, indicating potential for wetlands to occur. From reconnaissance field survey, an estimated 50 preliminary wetlands were identified within the study area boundaries, as shown on Figure 7. Most features are small in size and limited in quality, however several larger, higher quality features were also noted within the project boundaries. None of the features appear to be isolated wetlands by OEPA definition due to hydric soil connection to other surface waters. An overview of wetlands is presented below:

Overview of Wetlands in the Project Study Area (Preliminary)

Wetlands in Study Area by Size:

- <0.1 acre 21 features
- 0.1 to <0.3 acres 12 features
- 0.3 to <3 acres 11 features
- 3 to <10 acres 2 features
- 10 to <25 acres 2 features
- 25 to <50 acres 2 features

Wetlands in Study Area by Type:

- Forested 11 features
- Emergent ditch 25 features
- Emergent pond 2 features
- Emergent open field 12 features

Wetlands in Study Area by OEPA Category:

- Category 1 (limited quality) 42 features
- Category 2 (moderate quality) 8 features

The better quality wetlands identified in the area (8 total) are natural features associated with large woodland tracts, mapped hydric soils, and NWI-mapped wetlands. Typical vegetation consists of a red maple canopy and a clear understory due to early-season extended periods of standing water or saturation. Old, man-made channels were observed in several of the

wooded wetlands, indicative of past (historic) attempts to drain the features, although unsuccessfully. Adjacent agricultural fields (non-wetland) appear to be drained by man-made surface swales/ditching. It is not known if field tiles are in place, however, no tile outlets were observed during field surveys.

The smaller, limited quality wetlands observed in the study area (42 total) are mostly emergent features formed in man-made drainage ditches, such as along existing SR 32 and interchange ramps, or are associated with ponds and depressional areas in fields. These are typically narrow, linear wetlands dominated by cattails, sedges and other common emergent plants.

One pond occurs in the project study area boundaries (see Figure 7). This 9 acre feature was excavated for embankment materials for construction of existing SR 32 (circa 1980).

Red Flag Summary for Wetlands

Wetlands provide habitat for wildlife, help control floods, are natural groundwater filters, and can offer recreation and greenspace opportunities for people. Wetlands are special aquatic sites under the jurisdiction of the U.S. Army Corps of Engineers. Filling and dredging activities require a Section 404 permit from the Corps and may require Section 401 water quality certification from OEPA for compliance with the Clean Water Act. An estimated 50 wetlands, ranging in size from <0.1 acre to 45 acres, were noted in the project study area. For wetland impacts greater than 0.1 acre, a mitigation plan needs to be developed and approved by the U.S Army Corps of Engineers and OEPA. Wetlands are usually mitigated at a 1.5:1 or 2:1 ratio. Natural wetlands can also provide mitigation opportunities by preservation through conservation easement or other means. Several of the larger, forested wetlands in the study area may be considered for potential mitigation, as described in Section 5 of this red flag document.

3.5. Federal and State Threatened and Endangered Species

Information from the U.S. Fish and Wildlife Service and database search materials provided by ODNR Division of Natural Areas and Preserves were reviewed to assess the presence of federal and state-listed species in the SR 32 Afton Corridor study area.

U.S. Fish and Wildlife reports that Clermont County is within the known range of four federal listed species, including:

Federal endangered:

- Indiana bat (*Myotis sodalis*)
- running buffalo clover (*Trifolium stoloniferum*)

Federal candidate:

- sheepsnose mussel (*Plethobasus cyphus*)
- rayed bean (*Villosa fabalis*)

ODNR lists 20 state-listed species that have been reported from within 5 miles of the SR 32 Afton Corridor study area (see Figure 5 and Appendix B), including:

State endangered:

- little spectaclecase (*Villosa lienosa*)
- blue false indigo (*Baptisia australis*)
- screw-stem (*Bartonia paniculata*)
- northern harrier (*Circus cyaneus*)
- mountain madtom (*Noturus eleutherus*)

State threatened:

- fawnsfoot (*Truncilla donaciformis*)
- potato-dandelion (*Krigia dandelion*)
- southern woodrush (*Luzula bulbosa*)
- sparse lobed grape fern (*Botrychium biternatum*)
- kirtland's snake (*Clonophis kirtlandii*)
- bigear shiner (*Notropis boops*)

State potentially threatened:

- spring coral root (*Corallorhiza wisteriana*)
- floating pondweed (*Potamogeton natans*)
- southern wapato (*Sagittaria montevidensis*)
- Carolina willow (*Salix caroliniana*)
- prairie wake robin (*Trillium recurvatum*)
- netted chain fern (*Woodwardia areolata*)

State species of concern:

- wavy rayed lampmussel (*Lampsilis fasciola*)
- salamander mussel (*Simpsonaias ambigua*)
- river redhorse (*Moxostoma carinatum*)

None of these state listed species were reported from the immediate SR 32 Afton Corridor study area nor were any observed during reconnaissance field surveys. ODNR database records for these species are mostly from East Fork State Park, Stonelick State Park and the Cincinnati Nature Center.

None of the four federal listed species are known from the immediate project study area, although potential summer roosting habitat for Indiana bat was noted during reconnaissance field surveys conducted for this project. Potential summer habitat consists of trees with exfoliating bark and dead limbs/trunks with cavities. All of the woodlands in the study area possess some trees with suitable Indiana bat roosting habitat.

No potential habitat for running buffalo clover or for the two listed federal mussels was observed in the project study area.

Red Flag Summary for T&E Species

Species are listed as threatened or endangered when their numbers are low or declining due to direct destruction or loss or degradation of suitable habitat. The presence of a threatened or endangered species in an area indicates a good quality environment. The SR 32 Afton study area contains potential summer roosting habitat for the federal endangered Indiana bat, and activities involving the removal of trees may require coordination with the U.S. Fish and Wildlife Service for compliance with Section 7 of the Endangered Species Act of 1973 as amended, if federal actions are involved.

3.6. Aquifers and Public Water Supplies

Groundwater, aquifer, and information about public water supplies (PWS) were obtained through review of report materials, mapping and website information from USEPA, OEPA Division of Drinking and Groundwaters, and ODNR Division of Water.

The SR 32 Afton Corridor study area is not located within the boundaries of any USEPA-designated sole source aquifer, nor are there any OEPA public water supply wells located in the immediate vicinity. Class 2 portions of the Buried Valley Sole Source Aquifer (a USEPA-designated sole source aquifer) occur along mainstem East Fork downstream and outside of the project study area (see Figure 5).

Review of groundwater mapping from ODNR (Groundwater Resources of Clermont County, Walker, 1986) indicates that the project occurs in an area that is a poor source of groundwater. Yields seldom exceed three gallons per minute, and groundwater is generally inadequate for domestic water supplies. No water wells on file with ODNR Division of Water occur in the SR 32 Afton Corridor study area.

A small portion of the east edge of the study area occurs within the Source Water Protection area (SWA) of the Clermont County Public

Water System (see Figure 5), which uses surface water, primarily intakes along East Fork Reservoir, for public drinking water.

The SWA program, which was established out of the Safe Water Drinking Act as amended in 1996, is implemented at the local level. OEPA provides technical assistance to local communities to develop SWA protection plans for public drinking water sources.

SR 32 is an ODOT MS4 Phase 2 regulated state route in Clermont County (from Hamilton County to SR 276), and the area immediately south of the Afton Corridor (south of SR 32) is an ODOT MS4 Phase 2 Regulated Area.

Red Flag Summary for Aquifers and PWSs

Public drinking water in the project area is obtained from surface water (groundwater sources are generally limited), and the project study area occurs in part within the mapped boundaries of the Clermont County Source Water Protection Area (SWA). Activities in the study area may require coordination with Clermont County and possibly OEPA for compliance with local ordinances pertaining to the protection of drinking water or other initiatives associated with the SWA program.

3.7. Oil and Gas Wells

Oil and gas well locations in the project vicinity were obtained through review of mapping available from ODNR Division of Mineral Resources Management. No oil and gas wells registered with ODNR are located within the study area boundaries. The closest well is located along Sharps Cutoff Road, about 0.7 mile east of the project are (see Figure 5).

3.8. Woodlands

Information about terrestrial habitats in the project study area was obtained through review of database search materials provided by ODNR

Division of Natural Areas and Preserves and reconnaissance field survey conducted from June 1-6, 2006.

Several large woodland tracts occur within the project study area boundaries. Most of these are associated with forested wetlands and are described in Section 3.4 of this red flag document. Woodlands in the study area are also valuable in that they contain trees with potential Indiana bat roosting habitat (see Section 3.5). No high quality woodlands were reported by ODNR from the project study area, and no other important terrestrial habitats were noted during reconnaissance field surveys.

3.9. Farmland

Information concerning the locations of Agricultural Districts (AD) and Current Agricultural Use Value (CAUV) parcels in the project area was obtained from review of Clermont County GIS data and information obtained from the auditor's website.

An AD is an agricultural land enrollment program that provides landowners protection against nuisance suits over farm operations, deferment of tax assessments on land to build sewer and water lines, and under certain circumstances, allows for additional review if land is taken by eminent domain for a public purpose. Impact to AD parcels beyond an established threshold requires notification to the Ohio Department of Agriculture, as required by Ohio Revised Code 929.05(a).

The CAUV Program is a differential real estate tax assessment program which affords farmland owners the opportunity to have their parcels taxed according to their value in agriculture rather than full market value.

The SR 32 Afton Corridor study area is predominantly agricultural land use (row crop). No Agricultural Districts occur in the study area. About half of the parcels in the area, however, are included in the CAUV Program, as depicted

on Figure 8.

3.10. Hazardous Materials Concerns

Potential hazardous materials concerns in the project study area were determined by reviewing regulatory database records and by reconnaissance field survey conducted from June 1-6, 2006.

An environmental records database search for the project area was conducted on June 6, 2006 by FirstSearch Technology Corporation (see Appendix C). This search, which included review of 11 agency databases for a 1.25 mile radius area centered on the SR 32 Afton Corridor, identified 30 records encompassing about 20 sites (some sites with multiple database records), as shown on Figure 5. Three records were reported from within the SR 32 Afton Corridor study boundaries (see map in Appendix C). Field check, however, indicated that two of these sites, specifically the Front Wheel Drive BP Station and Northside Health Center, did not occur within the study area boundaries (addresses for these facilities were reported incorrectly in the database files).

The third site, Ford Motor Company, is partially within the study area boundaries (frontage property only). This facility is listed in three regulatory databases, including LUST, RCRA GEN, and REG UST/AST. The LUST record reports a suspected or confirmed release from a regulated UST, with closure of the UST and no further action recommended. The RCRA GEN record reports a small quantity generator on the Ford plant site. The REG UST/AST record reports four underground storage tanks on the site, (two gasoline, one diesel, and one kerosene). The proximity of these structures relative to the study area boundaries has not been determined.

During reconnaissance field survey conducted for this red flag study, an old above-ground fuel storage tank (AST) was noted along SR 276 near Half Acre Road. No other potential

hazardous materials concerns were observed.

Red Flag Summary for Hazardous Materials

No National Priority List or other substantial known hazardous materials concerns were identified from the database search and field reconnaissance. A detailed environmental site assessment (ESA) screening and phase I ESA investigation may be necessary to assess potential hazardous materials associated with an observed AST and similar features that may be within and adjacent to the study area.

3.11. Cultural Resources

Review of database search materials provided by the Ohio Historic Preservation Office (OHPO) and reconnaissance field survey was conducted to assess cultural resources in the project study area.

The database search by OHPO was conducted for a two-mile radius centered on the SR 32 Afton study area (see Appendix D). OHPO listed four previously recorded archeological sites (OAI), no previously recorded historic inventory sites (OHI), and no sites on or eligible for listing in the National Register of Historic Places within the two-mile radius area. None of four previously recorded OAI sites occur within the SR 32 Afton study area (see figure 5). OHPO also listed two previously surveyed areas in the vicinity (see Figure 5), including:

- “An Archaeological Assessment of the Proposed Multi-Service Center & Child Care Facility for the Eastern Division Community Chest and Council of the Cincinnati Area” (Genheimer, 1985), and
- “Preliminary Archaeological Survey of the Proposed Improvement of SR 32 Near Williamsburg, Clermont County, Ohio” (DeWert and Fairchild, 1978).

Neither of these two previous studies identified

cultural resources within their study areas.

During reconnaissance field survey conducted for this red flag study, several old (> 50 years) residences and agricultural outbuildings were noted along SR 276 and Half Acre Road. The historic significance of these structures has not been determined.

Red Flag Summary for Cultural Resources

The National Register of Historic Places is a list of properties determined significant in American history, architecture, archaeology, engineering or culture by virtue of design or architectural criteria, association with historical persons and events, and/or value for historic or prehistoric information. No known NR or NR eligible properties occur within the SR 32 Afton study corridor, although several potential historic resources were observed during reconnaissance field surveys. Activities in the study area may require detailed cultural studies and coordination with OHPO to determine the presence and extent of NR eligible resources occurring in the area for compliance with Section 106 of the Historic Preservation Act if federal actions are involved.

3.12. Parks and Potential Section 4(f)/6(f) Resources

Clermont County GIS data and information available from the ODN Land and Water conservation Fund (LWCF) website were reviewed to determine the presence of parks, greenspaces and any potential 6(f) facilities.

No public-owned parks, recreational areas, greenspaces or LWCF facilities occur in the SR 32 Afton study area. The Batavia High School, located at the corner of SR 32 and Batavia Road, is partly within the project boundaries. This portion of the high school property is a former ballfield area not currently in use.

Red Flag Summary for Potential Section 4(f)/6(f) Resources

Section 4(f) of the 1966 Department of Transportation Act applies when actions by FHWA involve impacts to public owned parks, recreational areas or cultural resources listed or eligible for listing on the National Register of Historic Places. If development in the SR 32 Afton study area includes transportation improvements using federal funds, and the Batavia High School or potential historic properties are involved, then Section 4(f) evaluation may be required. Section 6(f) of the Land and Water Conservation Fund Act applies when recreational facilities that have received LWCF funds are impacted. No LWCF facilities occur in the SR 32 Afton study area.

3.13. Environmental Justice

Executive Order 12898 states that low income and minority populations must be included in project planning to assure nondiscrimination in Federal programs. Environmental justice communities occurring in the project vicinity were determined from review of 2000 Census tract data for Clermont County.

No low income or minority populations were identified in the immediate SR 32 Afton Corridor study area. The closest environmental justice populations (low income) by census block group are located in Batavia and Williamsburg to the west and south of the project study area (see Figure 9).

3.14 Air Quality and Noise

Air quality and noise issues come into consideration if development in the SR 32 Afton Corridor includes transportation improvements using federal funds. Clermont County is located in the Cincinnati Air Quality Control Region under the jurisdiction of the OKI Regional Council of Governments. Transportation improvements using federal funds (if involved) would need to be included in

OKI's Transportation Improvement Plan (TIP) to be consistent with regional air quality goals.

Potential noise receptors in the area include scattered existing residential development along Herold Road, SR 276 and Batavia Road, planned residential development along Herold Road, and the Batavia High School at the corner of SR 32 and Batavia Road. If development in the SR 32 Afton Corridor involves transportation improvements using federal funds, then a noise analysis following FHWA guidelines may be required.

Red Flag Summary for Air Quality & Noise

Agency coordination and/or additional studies for air quality and noise may be required if development in the SR 32 Afton Corridor includes transportation improvements using federal funds.

4.0. PERMITTING ISSUES

Potential impacts to streams and wetlands due to development activities in the SR 32 Afton Corridor may require obtaining a Section 404 permit from the U.S. Army Corps of Engineers and Section 401 Water Quality Certification from OEPA. The type of 404 permit needed will depend on the type of activity and size of impacted area (different actions such as linear transportation crossings, utility line activities, and residential, commercial and institutional developments all have different impact thresholds under the 404 Nationwide Permit program).

Activities in the study area may also involve permitting issues related to stormwater runoff, point source discharges, and/or compliance with local ordinances pertaining to development, drinking water protection, or other forms of environmental protection.

No floodplain permit, U.S. Army Corps of Engineers Section 10 permit (pertaining to navigable waters), or U.S. Coast Guard Section 9 Bridge permit will be required.

5.0. IMPACT MINIMIZATION / MITIGATION OPPORTUNITIES

Findings from this red flag summary indicate that wetlands and, secondarily, streams are two key resources likely to be impacted by future development activities in the SR 32 Afton Corridor. Approximately 50 preliminary wetlands (jurisdictional field studies not yet conducted) and nine jurisdictional streams (OHW features) were identified in the study area boundaries. Cultural resources may also be important, however, additional studies are needed to determine their extent and significance.

This red flag information provides opportunity to fully consider resource protection and impact minimization as integral components during future development of the SR 32 Afton site. Preliminary resource protection measures include the following:

Summary of Preliminary Resource Protection Measures

- **Minimize loss of existing habitat and habitat fragmentation:** During site planning and development, take all practicable measures to avoid and minimize impacts to wetlands, stream corridors and woodlands by incorporating existing natural features into site layout and landscaping to the extent possible. Existing natural features may be incorporated into the site plan as buffers, required greenspace area, or may be preserved for on-site mitigation of impacts.
- **Stormwater runoff management:** From site planning to facility construction, develop and implement construction and post-construction stormwater management strategies, best management practices (BMP) for erosion control, and resource protection measures following guidelines outlined in the Clermont County Water Management and Sediment Control Regulations, the Clermont County 2003 Phase II Stormwater

Management Plan, and the Clermont County 2004 Subdivision Regulations.

Incorporate existing wetland, stream and other natural features into stormwater management strategies and BMP design to the extent practicable, such as using natural features as vegetated swales or buffers, or for use in stormwater retention or detention.

- **Landscaping:** Develop landscaping plans that compliment/link with existing natural corridors in and adjacent to the study area. Use native trees, shrubs and herbaceous plantings, and incorporate measures to control the spread of invasive species.
- **Determine presence of cultural resources:** For any development in the SR 32 Afton corridor involving a federal action, conduct all required historic and archaeological studies for compliance with Section 106 of the Historic Preservation Act, and avoid and minimize impacts to significant resources, if identified.
- **Environmental Mitigation:** Preserve by conservation easement or other means, existing good quality wetlands for on-site mitigation of impacts related to site development, and/or evaluate use of existing wetlands as a mitigation bank for other actions in the county requiring compensatory mitigation.

Summary of Preliminary Mitigation Opportunities

Potential on-site mitigation opportunities were evaluated as part of this red flag effort. Several opportunities and specific features/locations were identified, as shown on Figure 10 and summarized below.

Red Flag Summary for Mitigation and Banking Opportunities

Identified mitigation opportunities are preliminary only and suitability of these sites for mitigation or banking requires additional study and coordination and approval by the U.S. Army Corps of Engineers and OEPA and/or ODNR. Approved mitigation areas must comply with the U.S. Army Corps of Engineers "Mitigation Guidelines", September 23, 2004. Guidance for establishing mitigation banks is provided by the U.S. Army Corps of Engineers in: "Federal Guidance for the Establishment, Use and Operation of Mitigation Banks", December 28, 1995, and information regarding mitigation banking in Ohio can be found on ODNR's website: www.ohiodnr.com/wetlands/banking. Federal guidance notes that restoration should be the first option considered for mitigation/banking, and that preservation is preferably considered in combination with restoration, creation or enhancement activities.

- **Wetland Preservation:** Preservation of the existing larger forested wetlands and adjacent wooded buffers may offer an on-site mitigation or wetland banking opportunity within the SR 32 Afton Corridor. Four potential preservation sites are shown on Figure 10, ranging in size from 11 to 75 acres. U.S. Army Corps of Engineers Routine On-site wetland determinations and OEPA Rapid Assessment Methods (ORAM) were conducted for existing wetlands occurring on these four sites (see Appendix G for field forms – Wetlands 11, 15, 18 and 36). Existing wetlands on all four sites meet jurisdictional wetland criteria and all are classified as OEPA Category 2 features (moderate quality). Two of the existing forested wetlands also have small emergent areas (Wetlands 18 and 36; see Appendix G field forms).

One of the four preservation sites in particular has been identified as a primary

potential mitigation area. This portion of the study area is about 75 acres in size and consists of preserving an existing forested wetland (also partly an NWI-mapped wetland) with existing OHW channels and an adjacent open pond (see Figure 10). This combination of features provides greater habitat and vegetation diversity compared to the other forested wetland preservation opportunities.

- Wetland Restoration/Creation: Hydric soils dominate the SR 32 Afton Corridor study area. Opportunity may exist to restore or create wetlands in areas currently in agricultural use. This could involve blocking existing field drainage, creating low berms and/or shallow excavation. This opportunity may be used in conjunction with preserving a forested wetland to develop a mitigation area with greater habitat diversity, as depicted on Figure 10 (Note: boundaries on Figure 10 are conceptual and subject to additional study). Wetland creation may also be considered in conjunction with the development of stormwater management strategies for site development.
- Stream Restoration: Limited opportunities for stream mitigation occur in the project study area. Existing OHW features are mostly small, disturbed headwater features or roadway drainage ditches. One USGS blue line intermittent stream flows across the northwest corner of the study area. This feature has a heavily silted bottom and is bordered by a narrow, scrubby riparian corridor. It flows east to west through the study area from an existing culvert under SR 276 into a forested wetland just outside the study area boundaries. This USGS stream has a provisional OEPA classification of Class II Primary Headwater Habitat (limited quality; based on HHEI score; see Appendix G). Potential mitigation opportunity may include preservation of the existing stream corridor (3,200 lineal feet

within the study area boundaries), combined with channel restoration and stabilization and improvement of the riparian corridor. However, for the level of work required and limited ecological benefit is anticipated, *this opportunity is considered secondary to the wetland opportunities that exist on the site.*

FIGURES



Clermont County

Figure 1:
Project Location Map

*Environmental Red Flag Summary
Phase I - SR 32 Afton Corridor*

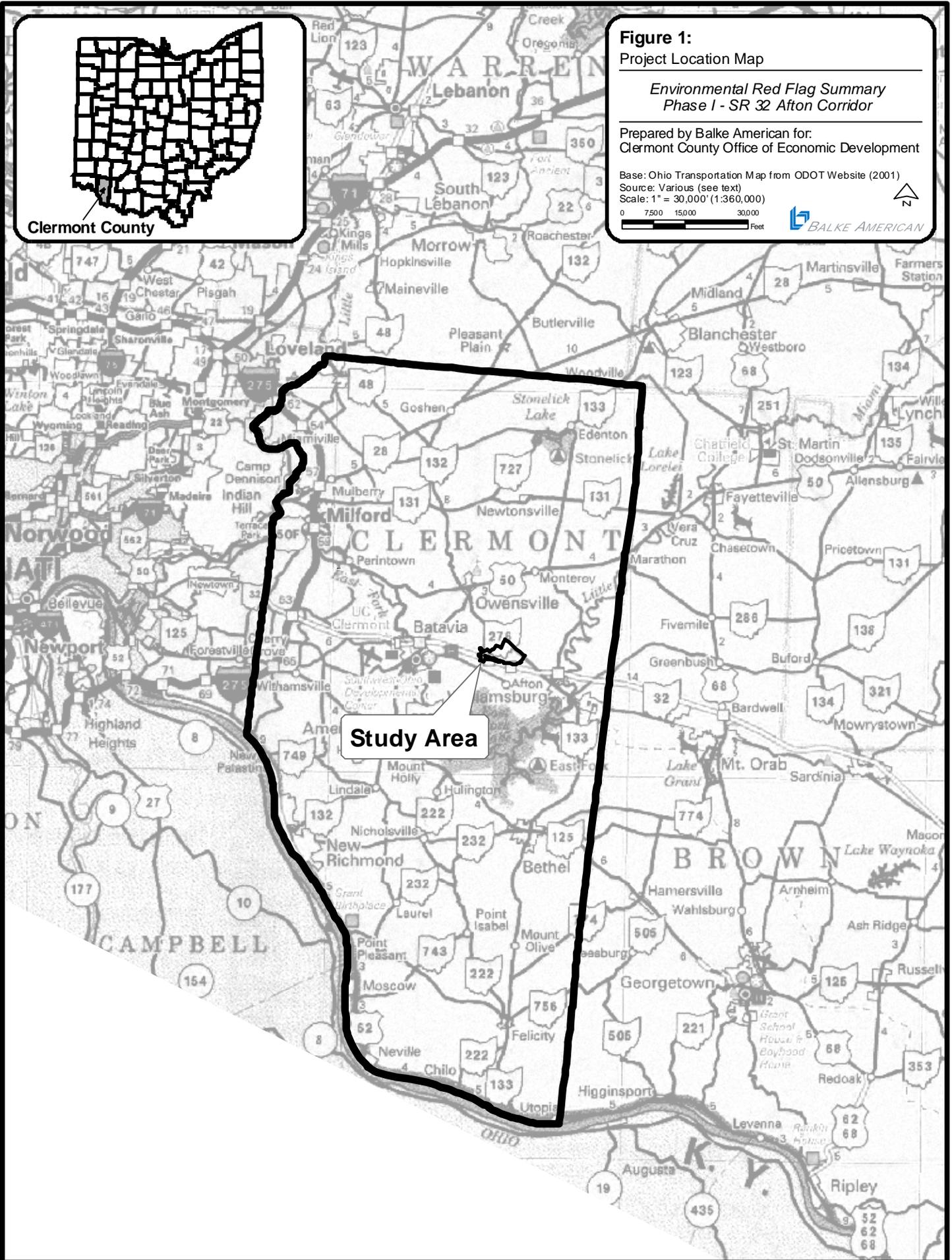
Prepared by Balke American for:
Clermont County Office of Economic Development

Base: Ohio Transportation Map from ODOT Website (2001)

Source: Various (see text)

Scale: 1" = 30,000' (1:360,000)

0 7500 15000 30000
Feet



Study Area

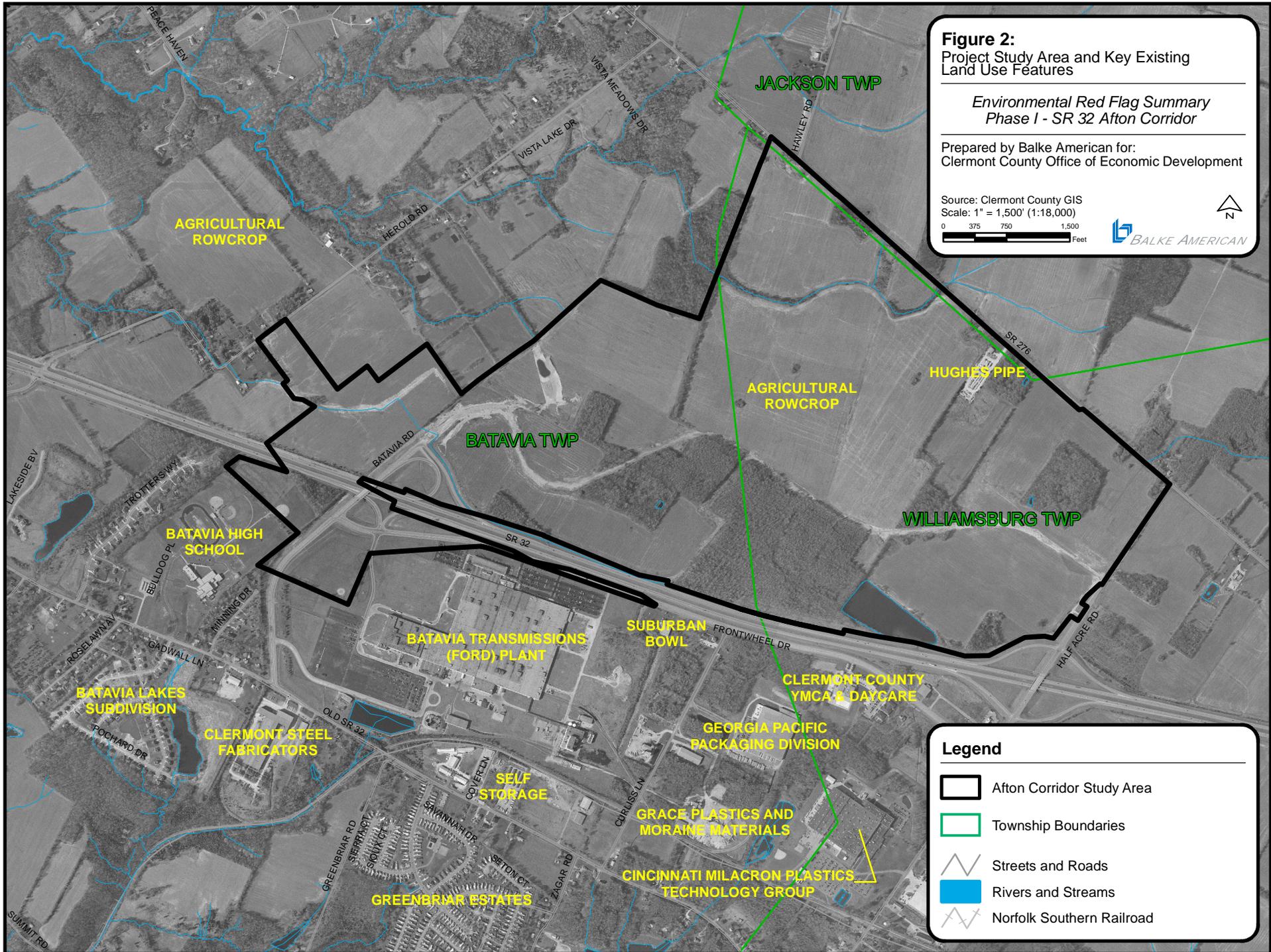


Figure 2:
 Project Study Area and Key Existing Land Use Features

*Environmental Red Flag Summary
 Phase I - SR 32 Afton Corridor*

Prepared by Balke American for:
 Clermont County Office of Economic Development

Source: Clermont County GIS
 Scale: 1" = 1,500' (1:18,000)

0 375 750 1,500 Feet

BALKE AMERICAN

Legend

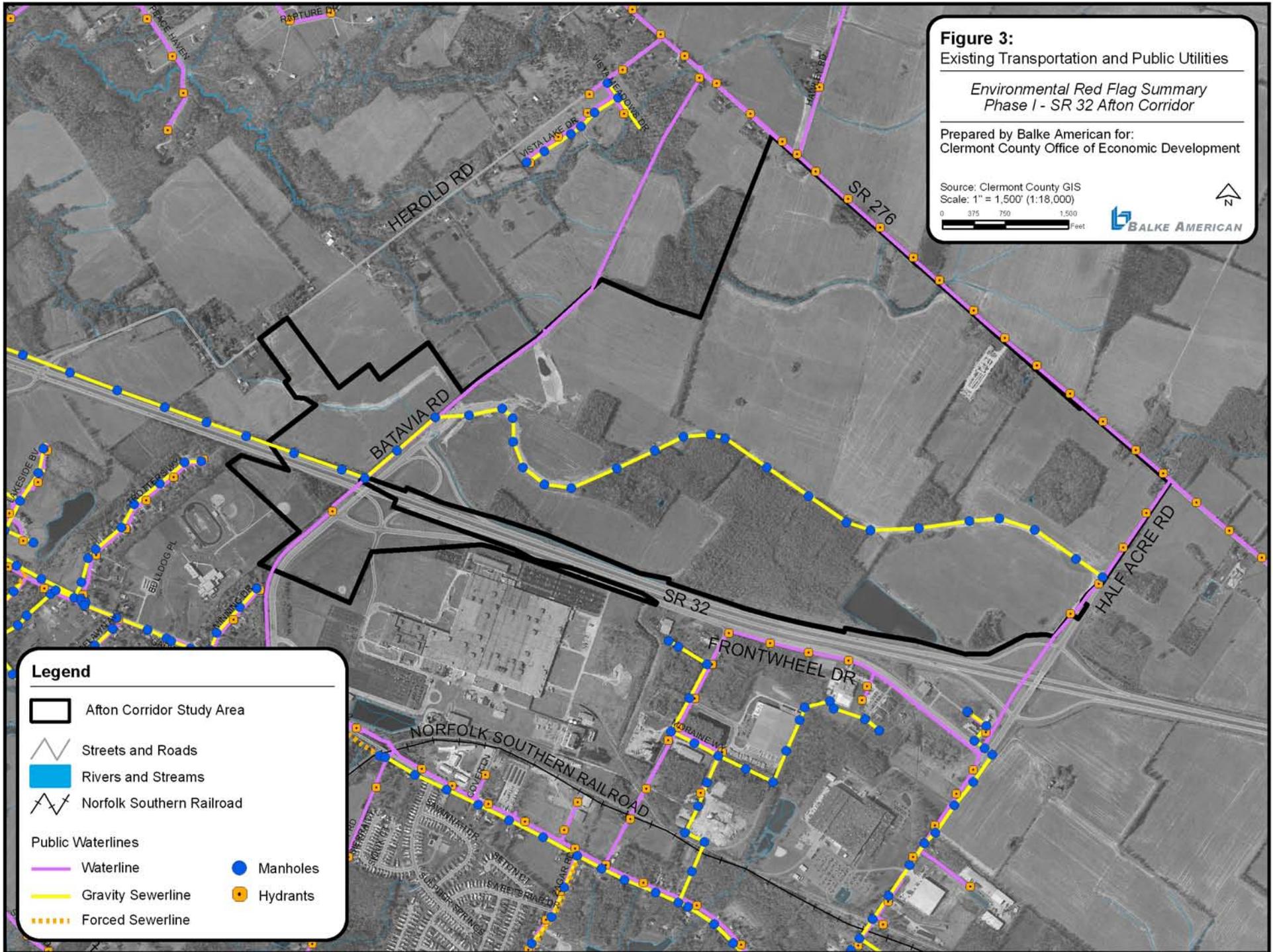
- Afton Corridor Study Area
- Township Boundaries
- Streets and Roads
- Rivers and Streams
- Norfolk Southern Railroad

Figure 3:
Existing Transportation and Public Utilities

*Environmental Red Flag Summary
Phase I - SR 32 Afton Corridor*

Prepared by Balke American for:
Clermont County Office of Economic Development

Source: Clermont County GIS
Scale: 1" = 1,500' (1:18,000)
0 375 750 1,500 Feet



Legend

- Afton Corridor Study Area
- Streets and Roads
- Rivers and Streams
- Norfolk Southern Railroad
- Public Waterlines**
- Waterline
- Gravity Sewerline
- Forced Sewerline
- Manholes
- Hydrants

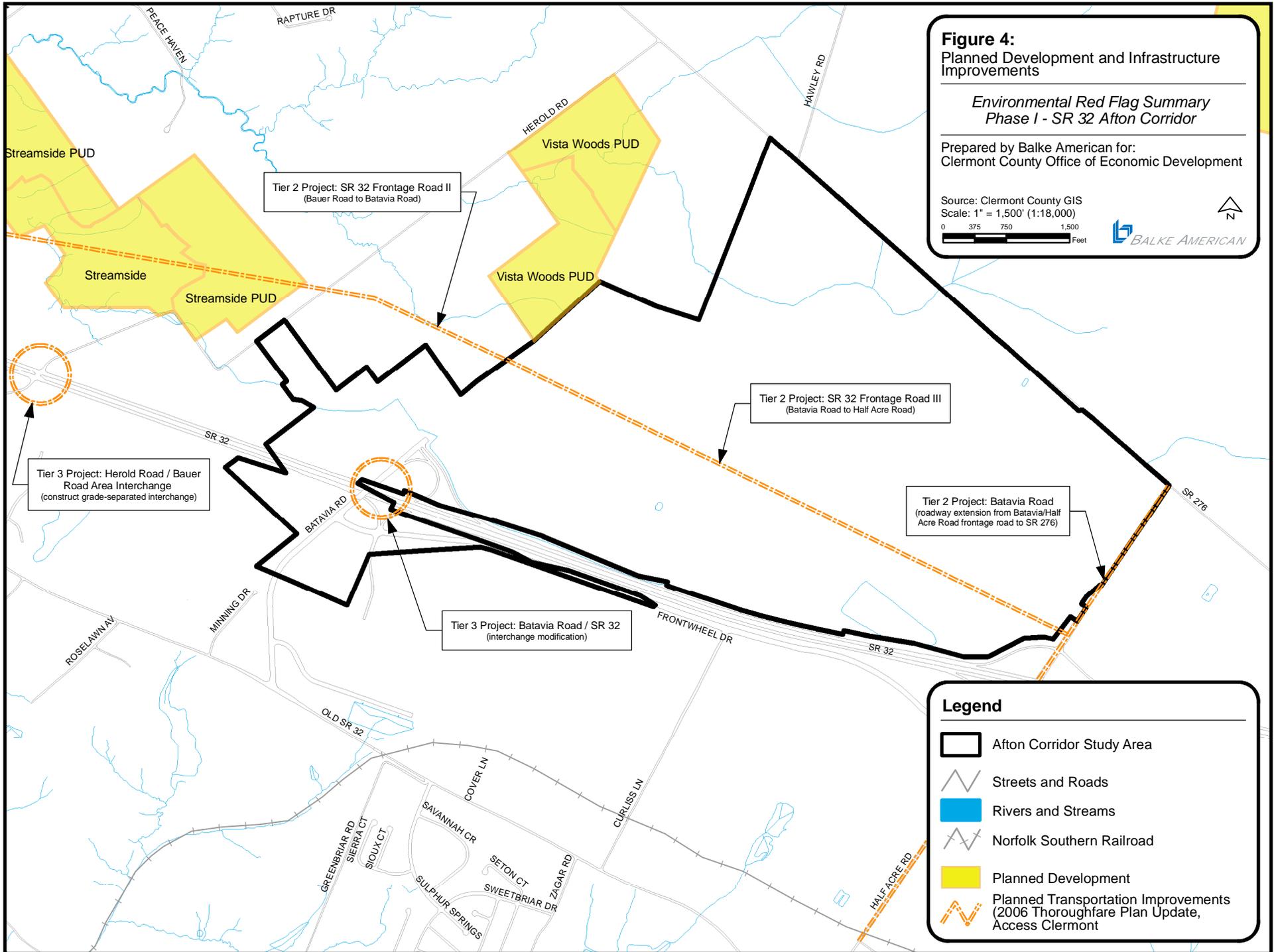
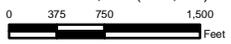


Figure 4:
 Planned Development and Infrastructure Improvements

*Environmental Red Flag Summary
 Phase I - SR 32 Afton Corridor*

Prepared by Balke American for:
 Clermont County Office of Economic Development

Source: Clermont County GIS
 Scale: 1" = 1,500' (1:18,000)



Legend

- Afton Corridor Study Area
- Streets and Roads
- Rivers and Streams
- Norfolk Southern Railroad
- Planned Development
- Planned Transportation Improvements (2006 Thoroughfare Plan Update, Access Clermont)

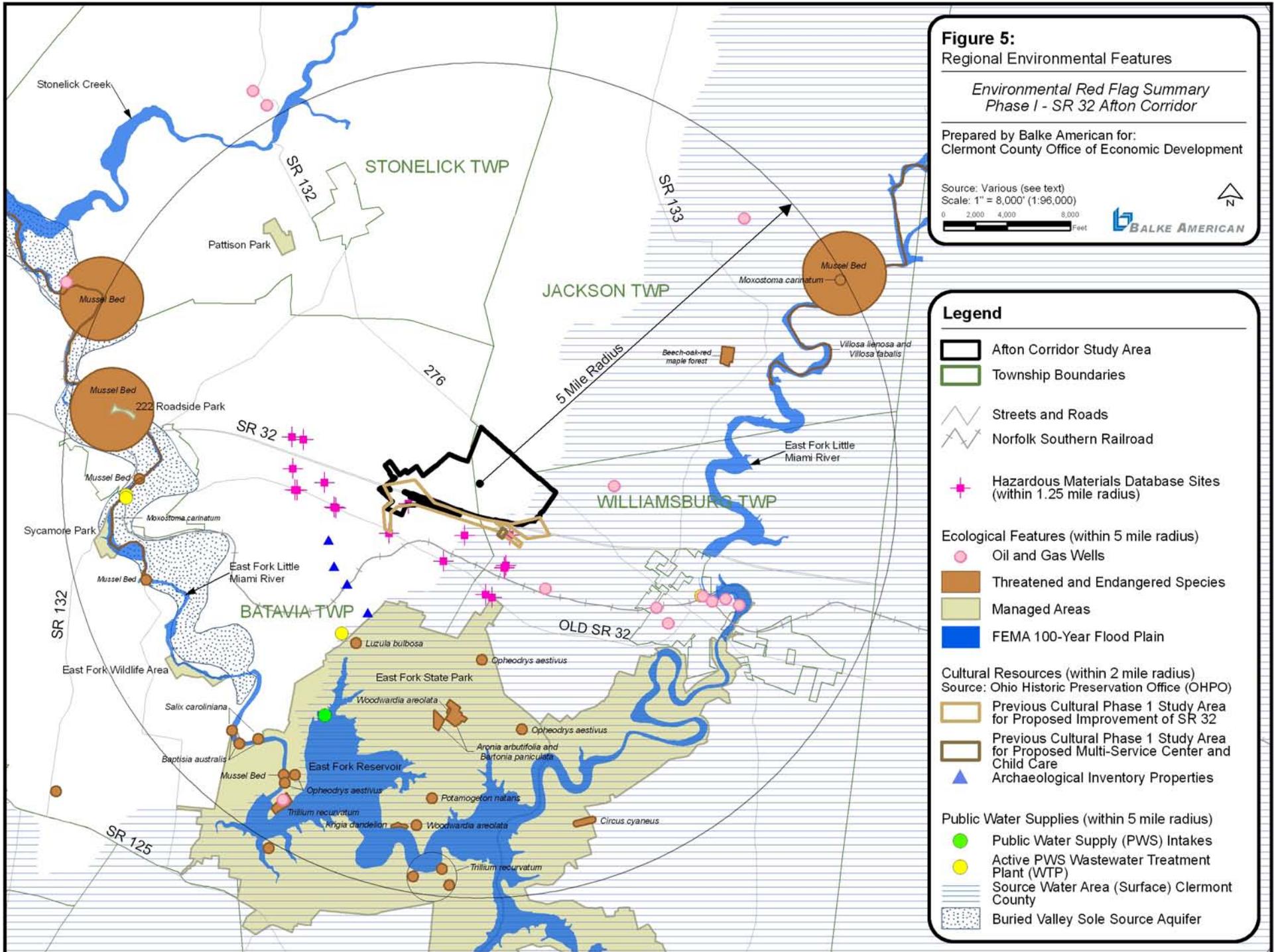


Figure 5:
Regional Environmental Features

*Environmental Red Flag Summary
Phase I - SR 32 Afton Corridor*

Prepared by Balke American for:
Clermont County Office of Economic Development

Source: Various (see text)
Scale: 1" = 8,000' (1:96,000)

0 2,000 4,000 8,000 Feet

BALKE AMERICAN

- Legend**
- Afton Corridor Study Area
 - Township Boundaries
 - Streets and Roads
 - Norfolk Southern Railroad
 - + Hazardous Materials Database Sites (within 1.25 mile radius)
- Ecological Features (within 5 mile radius)**
- Oil and Gas Wells
 - Threatened and Endangered Species
 - Managed Areas
 - FEMA 100-Year Flood Plain
- Cultural Resources (within 2 mile radius)**
Source: Ohio Historic Preservation Office (OHPO)
- Previous Cultural Phase 1 Study Area for Proposed Improvement of SR 32
 - Previous Cultural Phase 1 Study Area for Proposed Multi-Service Center and Child Care
 - ▲ Archaeological Inventory Properties
- Public Water Supplies (within 5 mile radius)**
- Public Water Supply (PWS) Intakes
 - Active PWS Wastewater Treatment Plant (WTP)
 - Source Water Area (Surface) Clermont County
 - Buried Valley Sole Source Aquifer

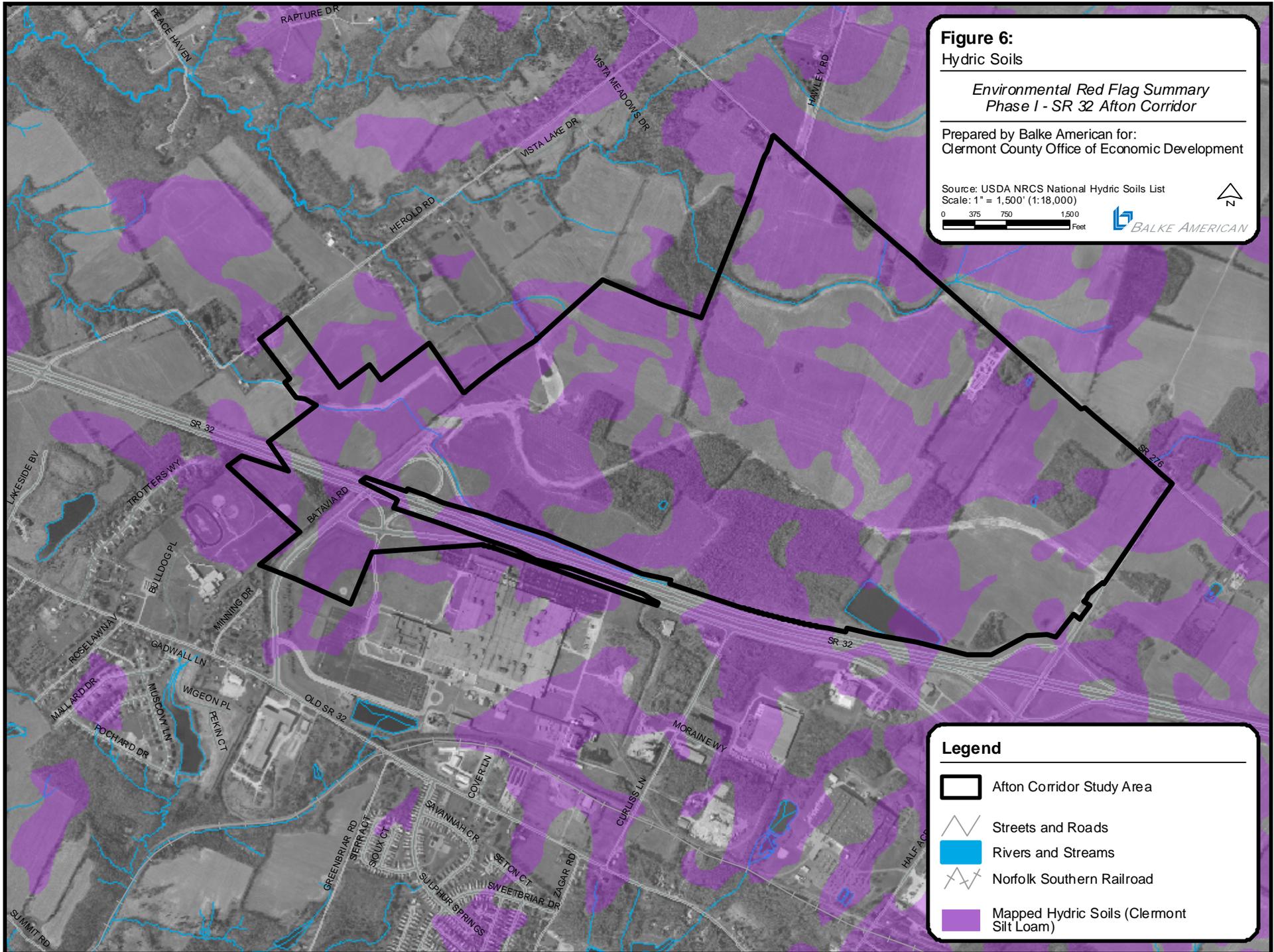


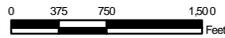
Figure 6:

Hydric Soils

*Environmental Red Flag Summary
Phase I - SR 32 Afton Corridor*

Prepared by Balke American for:
Clermont County Office of Economic Development

Source: USDA NRCS National Hydric Soils List
Scale: 1" = 1,500' (1:18,000)



Legend

-  Afton Corridor Study Area
-  Streets and Roads
-  Rivers and Streams
-  Norfolk Southern Railroad
-  Mapped Hydric Soils (Clermont Silt Loam)

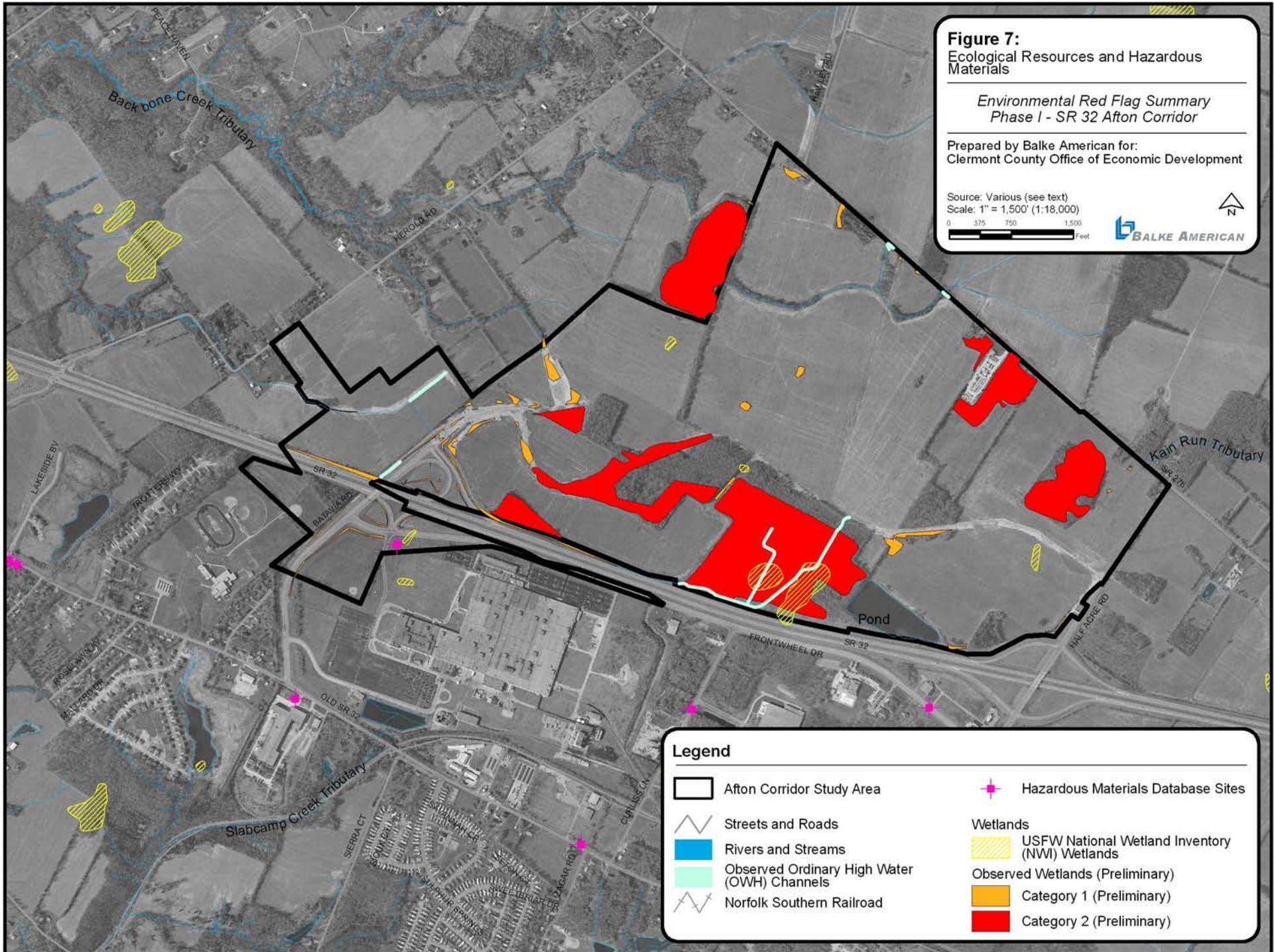


Figure 7:
 Ecological Resources and Hazardous Materials

*Environmental Red Flag Summary
 Phase I - SR 32 Afton Corridor*

Prepared by Balke American for:
 Clermont County Office of Economic Development

Source: Various (see text)
 Scale: 1" = 1,500' (1:18,000)

0 375 750 1500 Feet

BALKE AMERICAN

Legend

Afton Corridor Study Area	Hazardous Materials Database Sites
Streets and Roads	Wetlands
Rivers and Streams	USFW National Wetland Inventory (NWI) Wetlands
Observed Ordinary High Water (OWH) Channels	Observed Wetlands (Preliminary)
Norfolk Southern Railroad	Category 1 (Preliminary)
	Category 2 (Preliminary)

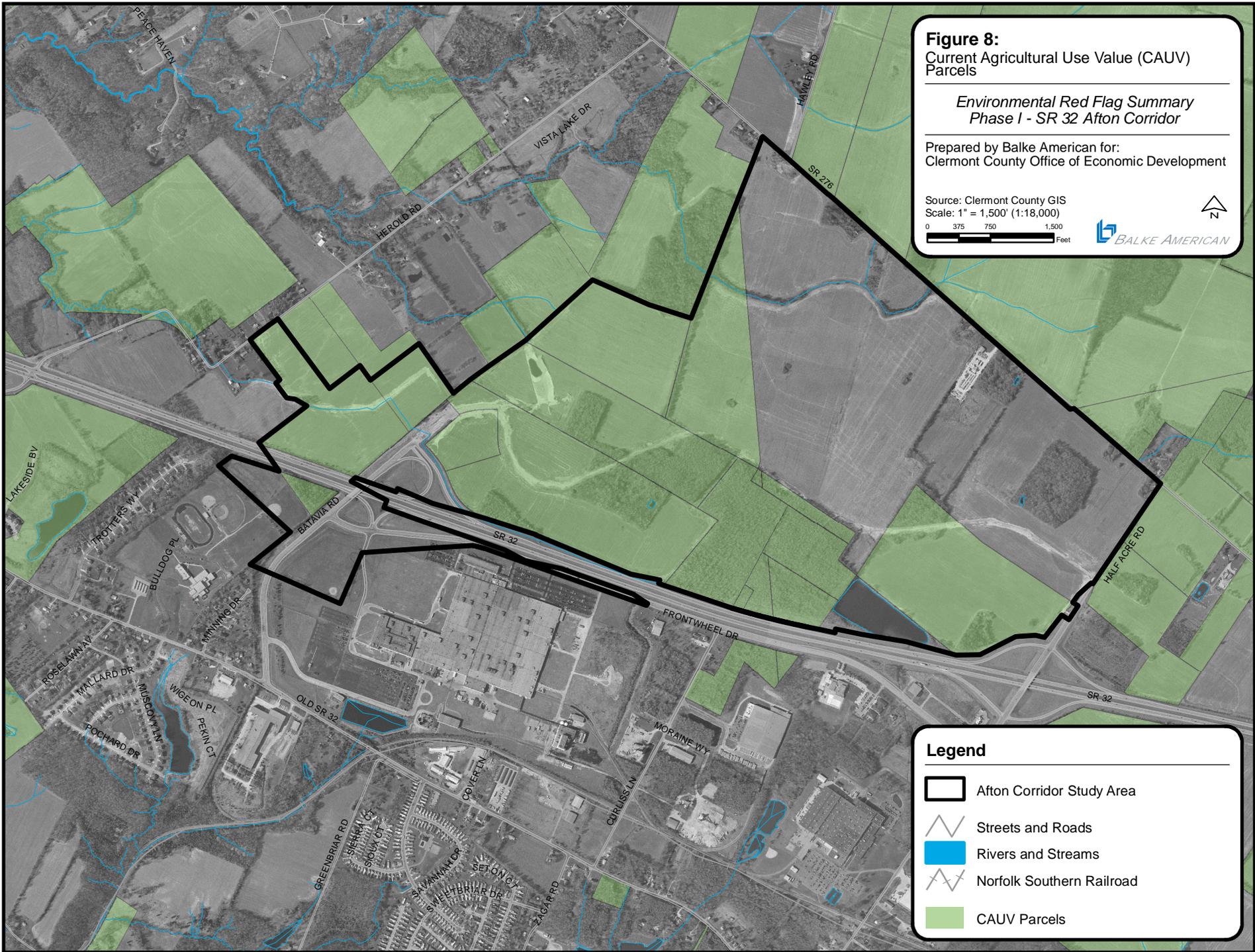


Figure 8:
 Current Agricultural Use Value (CAUV)
 Parcels

*Environmental Red Flag Summary
 Phase I - SR 32 Afton Corridor*

Prepared by Balke American for:
 Clermont County Office of Economic Development

Source: Clermont County GIS
 Scale: 1" = 1,500' (1:18,000)
 0 375 750 1,500
 Feet



Legend

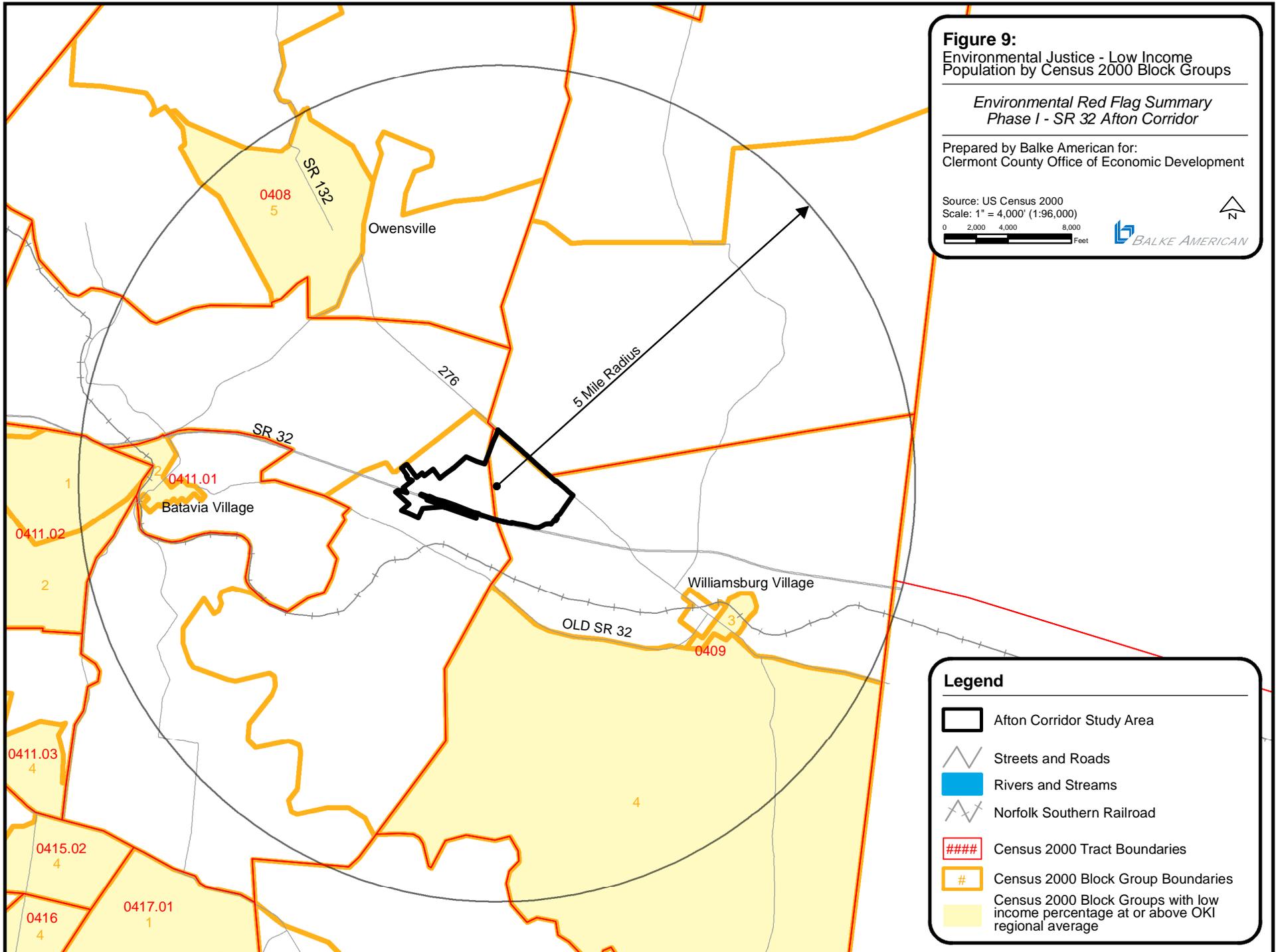
-  Afton Corridor Study Area
-  Streets and Roads
-  Rivers and Streams
-  Norfolk Southern Railroad
-  CAUV Parcels

Figure 9:
Environmental Justice - Low Income
Population by Census 2000 Block Groups

*Environmental Red Flag Summary
Phase I - SR 32 Afton Corridor*

Prepared by Balke American for:
Clermont County Office of Economic Development

Source: US Census 2000
Scale: 1" = 4,000' (1:96,000)
0 2,000 4,000 8,000
Feet



Legend

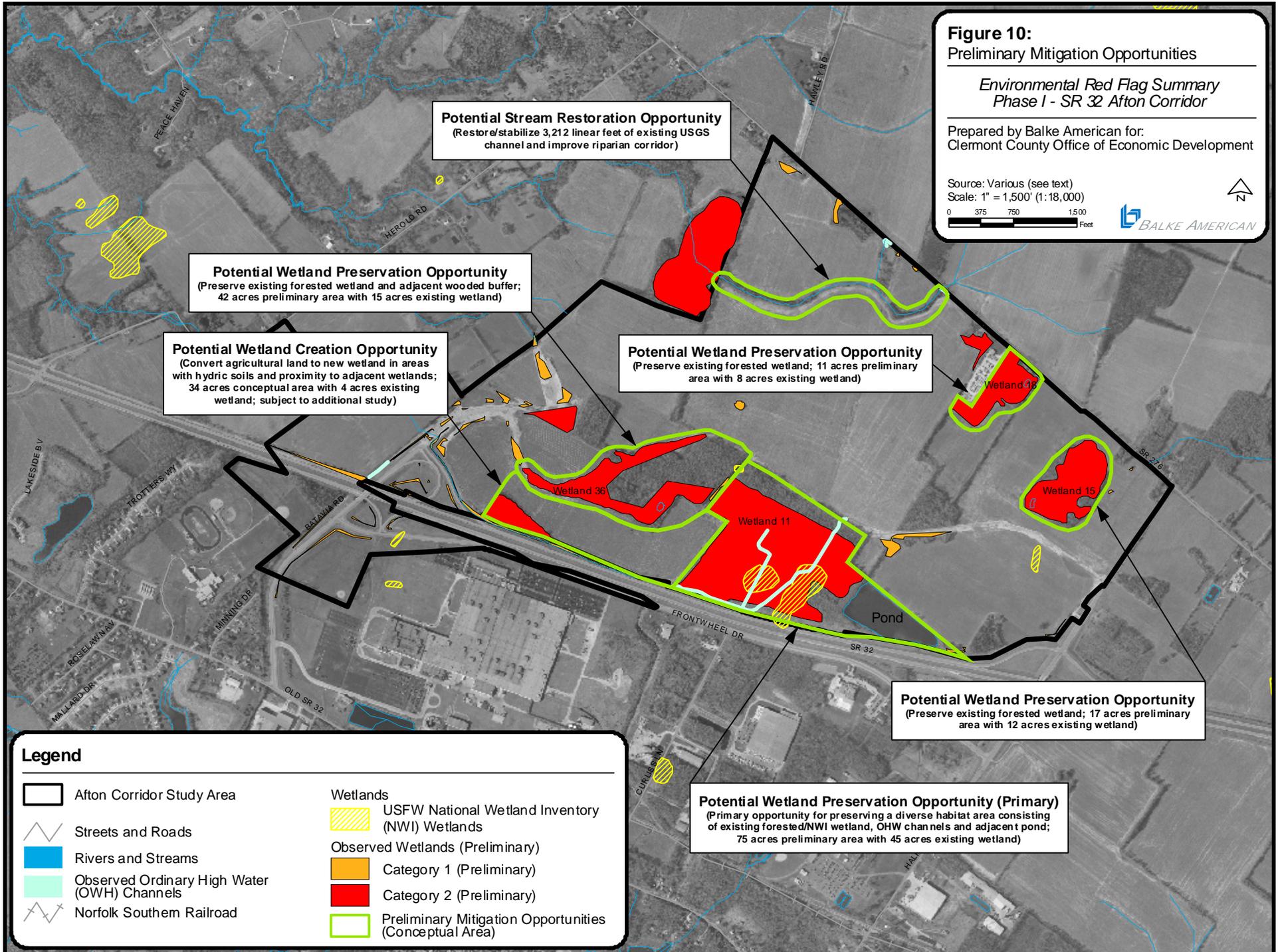
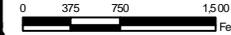
- Afton Corridor Study Area
- Streets and Roads
- Rivers and Streams
- Norfolk Southern Railroad
- Census 2000 Tract Boundaries
- Census 2000 Block Group Boundaries
- Census 2000 Block Groups with low income percentage at or above OKI regional average

Figure 10:
Preliminary Mitigation Opportunities

*Environmental Red Flag Summary
Phase I - SR 32 Afton Corridor*

Prepared by Balke American for:
Clemont County Office of Economic Development

Source: Various (see text)
Scale: 1" = 1,500' (1:18,000)



Potential Stream Restoration Opportunity
(Restore/stabilize 3,212 linear feet of existing USGS channel and improve riparian corridor)

Potential Wetland Preservation Opportunity
(Preserve existing forested wetland and adjacent wooded buffer; 42 acres preliminary area with 15 acres existing wetland)

Potential Wetland Creation Opportunity
(Convert agricultural land to new wetland in areas with hydric soils and proximity to adjacent wetlands; 34 acres conceptual area with 4 acres existing wetland; subject to additional study)

Potential Wetland Preservation Opportunity
(Preserve existing forested wetland; 11 acres preliminary area with 8 acres existing wetland)

Potential Wetland Preservation Opportunity
(Preserve existing forested wetland; 17 acres preliminary area with 12 acres existing wetland)

Potential Wetland Preservation Opportunity (Primary)
(Primary opportunity for preserving a diverse habitat area consisting of existing forested/NWI wetland, OWH channels and adjacent pond; 75 acres preliminary area with 45 acres existing wetland)

Legend

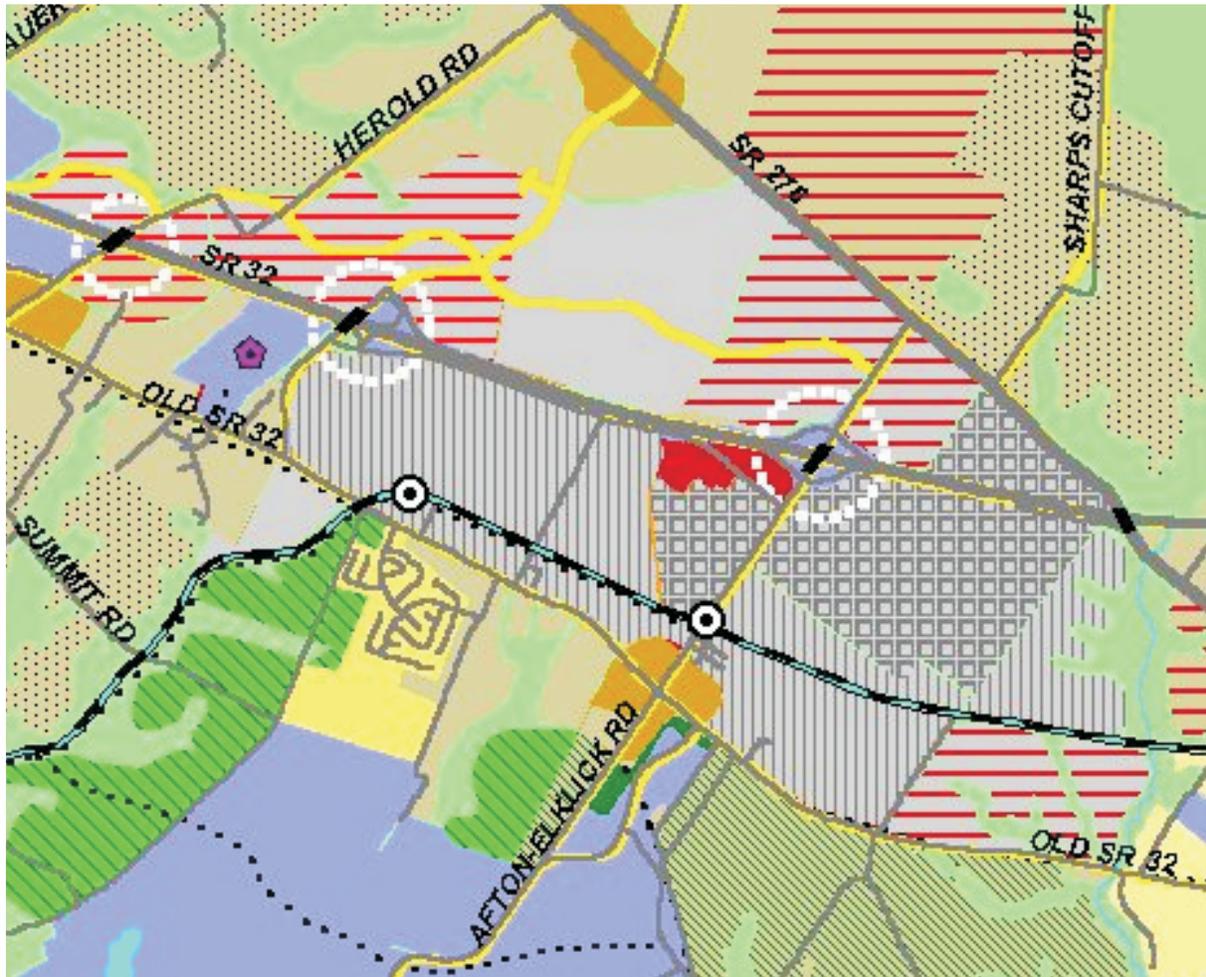
- | | |
|---|--|
| Afton Corridor Study Area | USFW National Wetland Inventory (NWI) Wetlands |
| Streets and Roads | Observed Wetlands (Preliminary) Category 1 (Preliminary) |
| Rivers and Streams | Category 2 (Preliminary) |
| Observed Ordinary High Water (OWH) Channels | Preliminary Mitigation Opportunities (Conceptual Area) |
| Norfolk Southern Railroad | |

APPENDICES

**Appendix A:
Future Land Use Mapping
(Clermont County Department of
Community Planning and Development)**

Appendix A1:

SR 32 Afton Corridor Focus Area Future Land Use/Improvements



Existing Features		
	Elementary School	
	High School	
	Intermediate School	
	Middle School	
		Rivers/Streams/Lakes

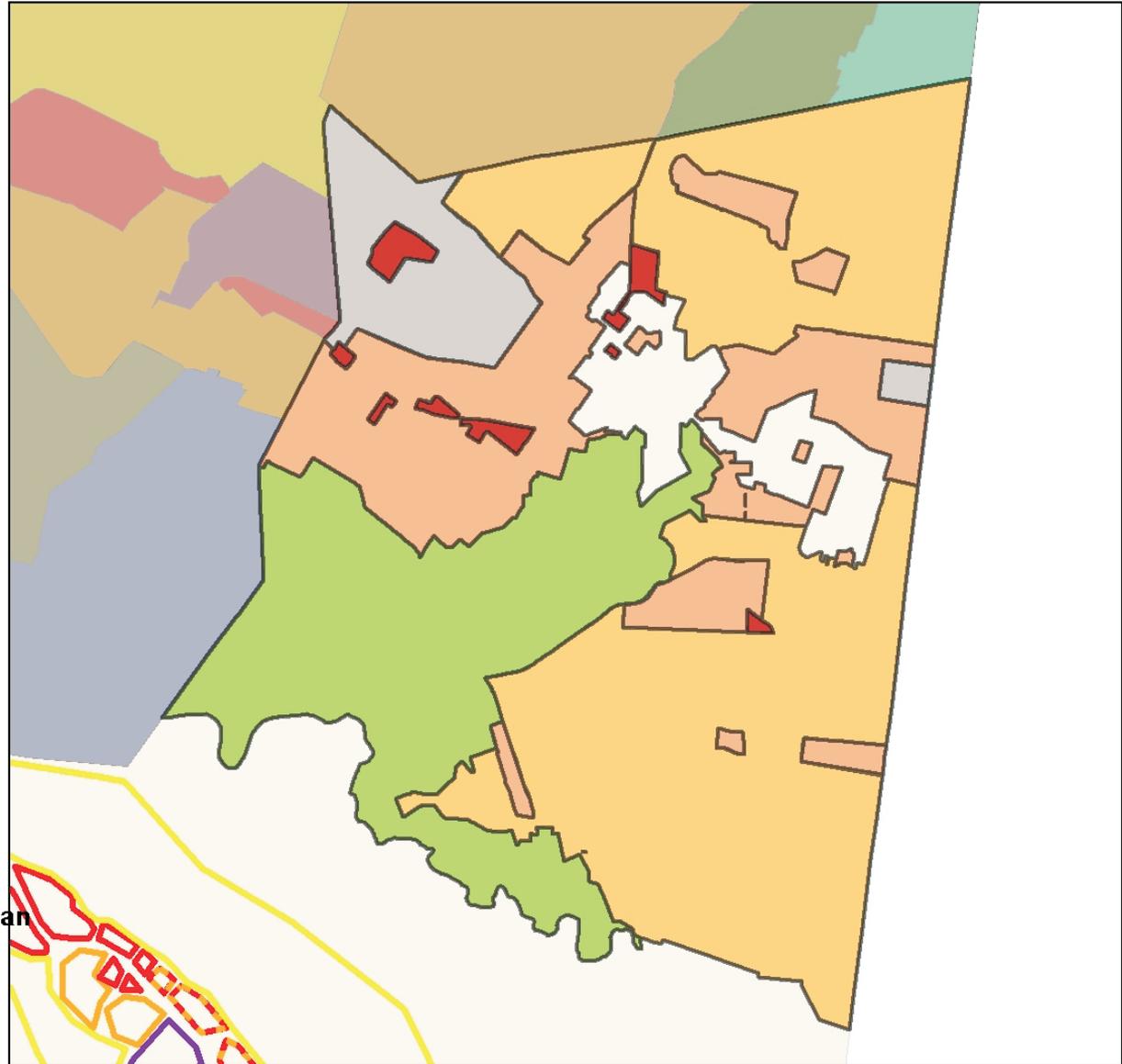
Proposed Features		
	Focus Areas	
	Potential Overpasses	
	Potential Rail Stations	
	Eastgate Personal Transit	
	Commuter Phase I	
	Commuter Phase II	
	Western Transit Alignment	
	Roads/Road Improvements	

Proposed Land Use		
	Agricultural	
	Airfield	
	Civic Institutional	
	Commercial	
	Existing Golf Course	
	Foreign Trade Zone	
	Light Industrial	
	Low Density Residential	
	Cluster Residential	
	Golf Course/Residential	
	Medium Density Residential	
	High Density Residential	

Source: SR 32 Corridor Vision Plan, Clermont County Department of Community Planning and Development

Appendix A3:

Williamsburg Township Land Use Plan



Williamsburg Township Land Use Plan

Land Use

-  A = Agriculture
-  B = Business
-  I = Industrial
-  P = Park
-  R = Residential



**Appendix B:
Threatened and Endangered Species Database Search -
ODNR Division of Natural Areas and Preserves**

From: Woischke, Debbie [Debbie.Woischke@dnr.state.oh.us]
Sent: Wednesday, May 31, 2006 1:33 PM
To: Leopold, William
Subject: Natural Heritage Data

Attachments: data.dbf; data.sbn; data.sbx; data.shp; data.shx; ma.dbf; ma.sbn; ma.sbx; ma.shp; ma.shx

Dear Mr. Leopold:

Per your request, I have e-mailed you a set of ArcView shape files with our Natural Heritage Database records for the SR 32 Afton Corridor Environmental Red Flag Summary project ('data'), in Clermont County and on the Williamsburg and Batavia Quads (project #6060005). The projection is NAD83 Ohio South. Records included may be for rare and endangered plants and animals, geologic features, high quality plant communities and breeding and non-breeding animal concentrations. Fields included are scientific and common names, state and federal statuses, as well as managed area, date of the most recent observation and feature ID and elcode. The feature ID and elcode fields are codes we use to differentiate between records of the same species. State and federal statuses are defined as: E = endangered, T = threatened, P = potentially threatened, SC = species of concern, SI = special interest, FE = federal endangered and FT = federal threatened.

Also included is a layer for managed areas ('ma'). The 'ma' layer includes state nature preserves, parks, forests and wildlife areas, national wildlife refuges, county metro parks, as well as sites owned by non-profit groups (such as The Nature Conservancy), museums (such as the Cleveland Museum of Natural History), and others. Please be aware that the managed areas layer may not be complete. We are continually updating this layer as additional information becomes available to us.

You may notice that some of the locations are represented by circles of two sizes. This represents the locational accuracy of the record, and can be translated as follows: an exact location = a circle with a 328 foot radius and a general location within a square mile = a circle with a half mile radius. As time allows, these circles will be edited into more appropriate shapes.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Please note that although we inventory all types of plant communities, we only maintain records on the highest quality areas. Also, we do not have data for all Ohio wetlands. For National Wetlands Inventory maps, please contact Madge Fitak in the Division of Geological Survey at 614-265-6576.

Please contact me at 614-265-6818 if I can be of further assistance. I will send a hard copy of this letter along with the invoice.

<<data.dbf>> <<data.sbn>> <<data.sbx>> <<data.shp>> <<data.shx>> <<ma.dbf>> <<ma.sbn>> <<ma.sbx>>
<<ma.shp>> <<ma.shx>>

Debbie Woischke, Ecological Analyst
Ohio Department of Natural Resources
Division of Natural Areas and Preserves

Ohio Natural Heritage Program
2045 Morse Rd., Bldg. F-1
Columbus, OH 43229-6605

phone: 614-265-6818

fax: 614-267-3096

e-mail: debbie.woischke@dnr.state.oh.us

FEATURE_ID	EO_ID	SCIENCE_NA	COMMON_NAM	EO_NUM	CATEGORY	MANAGED_AR	LAST_OBSER	STATE_STAT	FEDERAL_ST
25430	2166	Villosa fabalis	Rayed Bean	11	Invertebrate Animal		1990-07-07	E	
1738	2798	Mussel Bed		127	Animal Assemblage		1990-07		
9866	2785	Simpsonaias ambigua	Salamander Mussel	24	Invertebrate Animal		1990-07	SC	
25470	2562	Moxostoma carinatum	River Redhorse	16	Vertebrate Animal		1982-10-13	SC	
11772	4071	Mussel Bed		125	Animal Assemblage		1990-07		
12922	4843	Lampsilis fasciola	Wavy-rayed Lampmussel	16	Invertebrate Animal		1990-07	SC	
25620	4301	Villosa lienosa	Little Spectaclecase	1	Invertebrate Animal		1990-07-07	E	
14644	5915	Beech-oak-red maple forest		6	Plant Community		1980-11		
17394	7788	Truncilla donaciformis	Fawnsfoot	61	Invertebrate Animal		1990-07	T	
17514	7876	Mussel Bed		128	Animal Assemblage		1990-07		
18792	8743	Mussel Bed		124	Animal Assemblage		1990-07		
4754	10726	Mussel Bed		126	Animal Assemblage		1990-07		
4944	11220	Simpsonaias ambigua	Salamander Mussel	20	Invertebrate Animal		1973-05	SC	
21250	10338	Sagittaria montevidensis	Southern Wapato	16	Vascular Plant		1989-08-12	P	
21436	10470	Mussel Bed		122	Animal Assemblage		1990-07		
23230	11677	Moxostoma carinatum	River Redhorse	14	Vertebrate Animal		1982-09-28	SC	
20330	9735	Beech-oak-red maple forest		10	Plant Community		1990-07		
2266	4160	Circus cyaneus	Northern Harrier	1	Vertebrate Animal	EAST FORK WILDLIFE AREA	1976	E	
6788	759	Baptisia australis	Blue False Indigo	3	Vascular Plant	EAST FORK STATE PARK	1994-08-16	E	
6904	810	Trillium recurvatum	Prairie Wake-robin	12	Vascular Plant	EAST FORK STATE PARK	1989-05	P	
7168	975	Opheodrys aestivus	Rough Green Snake	21	Vertebrate Animal	EAST FORK STATE PARK	1996-08-09	SC	
7536	1212	Mussel Bed		123	Animal Assemblage	EAST FORK STATE PARK	1990-07		
9556	2585	Trillium recurvatum	Prairie Wake-robin	1	Vascular Plant	EAST FORK STATE PARK	1989-04	P	
10342	3110	Luzula bulbosa	Southern Woodrush	7	Vascular Plant	EAST FORK STATE PARK	1990-06-16	T	
11714	4036	Trillium recurvatum	Prairie Wake-robin	19	Vascular Plant	EAST FORK STATE PARK	1990-04	P	
11716	4037	Trillium recurvatum	Prairie Wake-robin	20	Vascular Plant	EAST FORK STATE PARK	1989-04	P	
14522	5835	Woodwardia areolata	Netted Chain Fern	10	Vascular Plant	EAST FORK STATE PARK	1989-10	P	
15292	6348	Opheodrys aestivus	Rough Green Snake	24	Vertebrate Animal	EAST FORK STATE PARK	1996-09-18	SC	
16384	7094	Opheodrys aestivus	Rough Green Snake	22	Vertebrate Animal	EAST FORK STATE PARK	1997-04-10	SC	
16564	7216	Corallorhiza wisteriana	Spring Coral-root	8	Vascular Plant	EAST FORK STATE PARK	1990-05	P	
18732	8700	Baptisia australis	Blue False Indigo	2	Vascular Plant	EAST FORK STATE PARK	1994-08-16	E	
19122	8948	Potamogeton natans	Floating Pondweed	17	Vascular Plant	EAST FORK STATE PARK	1991-07	P	
22686	11304	Salix caroliniana	Carolina Willow	6	Vascular Plant	EAST FORK STATE PARK	1991-07	P	
22754	11351	Salix caroliniana	Carolina Willow	14	Vascular Plant		1994-08-16	P	
22810	11396	Baptisia australis	Blue False Indigo	4	Vascular Plant		1994-05-29	E	
23828	12070	Opheodrys aestivus	Rough Green Snake	23	Vertebrate Animal	EAST FORK STATE PARK	1996-04-20	SC	
23972	12165	Woodwardia areolata	Netted Chain Fern	11	Vascular Plant	EAST FORK STATE PARK	1989-10	P	
19770	9342	Beech-oak-red maple forest		4	Plant Community	STONELICK LAKE STATE PAR	1980-11		
28392	4238	Noturus stigmosus	Northern Madtom	15	Vertebrate Animal		1998-10-14	E	

FEATURE_ID	EO_ID	SCIENCE_NA	COMMON_NAM	EO_NUM	CATEGORY	MANAGED_AR	LAST_OBSER	STATE_STAT	FEDERAL_ST
25702	5178	Notropis boops	Bigeye Shiner	1	Vertebrate Animal		1995-07-14	T	
27818	12388	Noturus eleutherus	Mountain Madtom	13	Vertebrate Animal		1993-09-02	E	
14396	5753	Krigia dandelion	Potato-dandelion	1	Vascular Plant	EAST FORK STATE PARK	2001-05-27	T	
14584	5880	Krigia dandelion	Potato-dandelion	3	Vascular Plant	EAST FORK STATE PARK	1990-06-16	T	
5524	12762	Trillium recurvatum	Prairie Wake-robin	18	Vascular Plant	EAST FORK STATE PARK	1990-05	P	
21360	10413	Trifolium stoloniferum	Running Buffalo Clover	14	Vascular Plant	CINCINNATI NATURE CENTER	2000-05-29	E	FE
25696	5031	Truncilla donaciformis	Fawnsfoot	62	Invertebrate Animal		2001-03-11	T	
38814	13775	Aronia arbutifolia	Red Chokeberry	1	Vascular Plant	EAST FORK STATE PARK	2003-11-15	A	
838	434	Clonophis kirtlandii	Kirtland's Snake	24	Vertebrate Animal		1998-04-13	T	
5608	12975	Botrychium biternatum	Sparse-lobed Grape Fern	3	Vascular Plant	STONELICK LAKE STATE PARK	1980-08-26	T	
38811	13774	Bartonia paniculata	Screw-stem	1	Vascular Plant	EAST FORK STATE PARK	2003-09-17	E	
5552	12832	Truncilla donaciformis	Fawnsfoot	25	Invertebrate Animal		1973-03	T	
1012	811	Circus cyaneus	Northern Harrier	2	Vertebrate Animal		1976	E	
4278	9476	Simpsonia ambigua	Salamander Mussel	15	Invertebrate Animal		1973-03	SC	
8354	1757	Ribes missouriense	Missouri Gooseberry	2	Vascular Plant		2002-04-25	T	
30447	0			0		647			

MACODE	FIRST_CONT	FEATURE_ID	MANAGED_AR	MANAGED__1
M.USOHHP*321	PARKS	30032	232	STONELICK LAKE STATE PARK
M.USOHHP*350	Cincinnati Nature Center	30166	366	CINCINNATI NATURE CENTER
M.USOHHP*395	PARKS	29987	187	EAST FORK STATE PARK
M.USOHHP*738	Clermont County Park District	30391	591	ALBERS PARK
M.USOHHP*743	Clermont County Park District	30447	647	222 ROADSIDE PARK
M.USOHHP*744	Clermont County Park District	30271	471	PATTISON PARK
M.USOHHP*745	PARKS	30312	512	SYCAMORE PARK
M.USOHHP*994	WILDLIFE-LEASED	34967	700	EAST FORK WILDLIFE AREA

**Appendix C:
Environmental Site Assessment Database Search -
FirstSearch Technology Corporation**

FirstSearch Technology Corporation

Environmental FirstSearch™ Report

TARGET PROPERTY:

BATAVIA OH 45103

Job Number: 45103

PREPARED FOR:

Balke American
1848 Summit Road
Cincinnati, OH 45237

06-06-06



Tel: (317) 823-3500

Fax: (317) 823-3535

Environmental FirstSearch Search Summary Report

Target Site:

BATAVIA OH 45103

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	04-10-06	1.25	0	0	0	0	0	0	0
CERCLIS	Y	03-08-06	1.25	2	0	0	0	0	0	2
NFRAP	Y	03-08-06	1.25	0	0	0	1	0	0	1
RCRA TSD	Y	02-16-06	1.25	0	0	0	1	0	0	1
RCRA COR	Y	02-16-06	1.25	0	0	0	0	0	0	0
RCRA GEN	Y	02-16-06	1.25	1	0	2	1	3	0	7
ERNS	Y	12-31-05	1.25	0	0	0	0	0	0	0
State Sites	Y	05-15-06	1.25	0	0	0	1	0	0	1
SWL	Y	02-23-06	1.25	0	0	0	0	0	0	0
REG UST/AST	Y	03-15-06	1.25	1	0	0	0	3	2	6
Leaking UST	Y	03-14-06	1.25	3	0	1	2	6	0	12
- TOTALS -				7	0	3	6	12	2	30

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to FirstSearch Technology Corp., certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in FirstSearch Technology Corp.'s databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

Although FirstSearch Technology Corp. uses its best efforts to research the actual location of each site, FirstSearch Technology Corp. does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of FirstSearch Technology Corp.'s services proceeding are signifying an understanding of FirstSearch Technology Corp.'s searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

***Environmental FirstSearch
Site Information Report***

Request Date: 06-06-06
Requestor Name: Pallab Ghosh Choudhuri/BalkeAmerican/cp
Standard: ASTM

Search Type: AREA
Job Number: 45103

Filtered Report

TARGET ADDRESS:

BATAVIA OH 45103

Demographics

Sites: 30	Non-Geocoded: 2	Population: NA
Radon: 0.2 - 10.7 PCI/L		

Site Location

	<u>Degrees (Decimal)</u>	<u>Degrees (Min/Sec)</u>		<u>UTMs</u>
Longitude:	-84.10906	-84:6:33	Easting:	750082
Latitude:	39.078824	39:4:44	Northing:	4329294.769
			Zone:	16

Comment

Comment:

Additional Requests/Services

Adjacent ZIP Codes: 0 Mile(s)

Services:

ZIP Code	City Name	ST	Dist/Dir	Sel

	Requested?	Date
Sanborns	No	
Aerial Photographs	No	
Historical Topos	No	
City Directories	No	
Title Search	No	
Municipal Reports	No	
Online Topos	No	

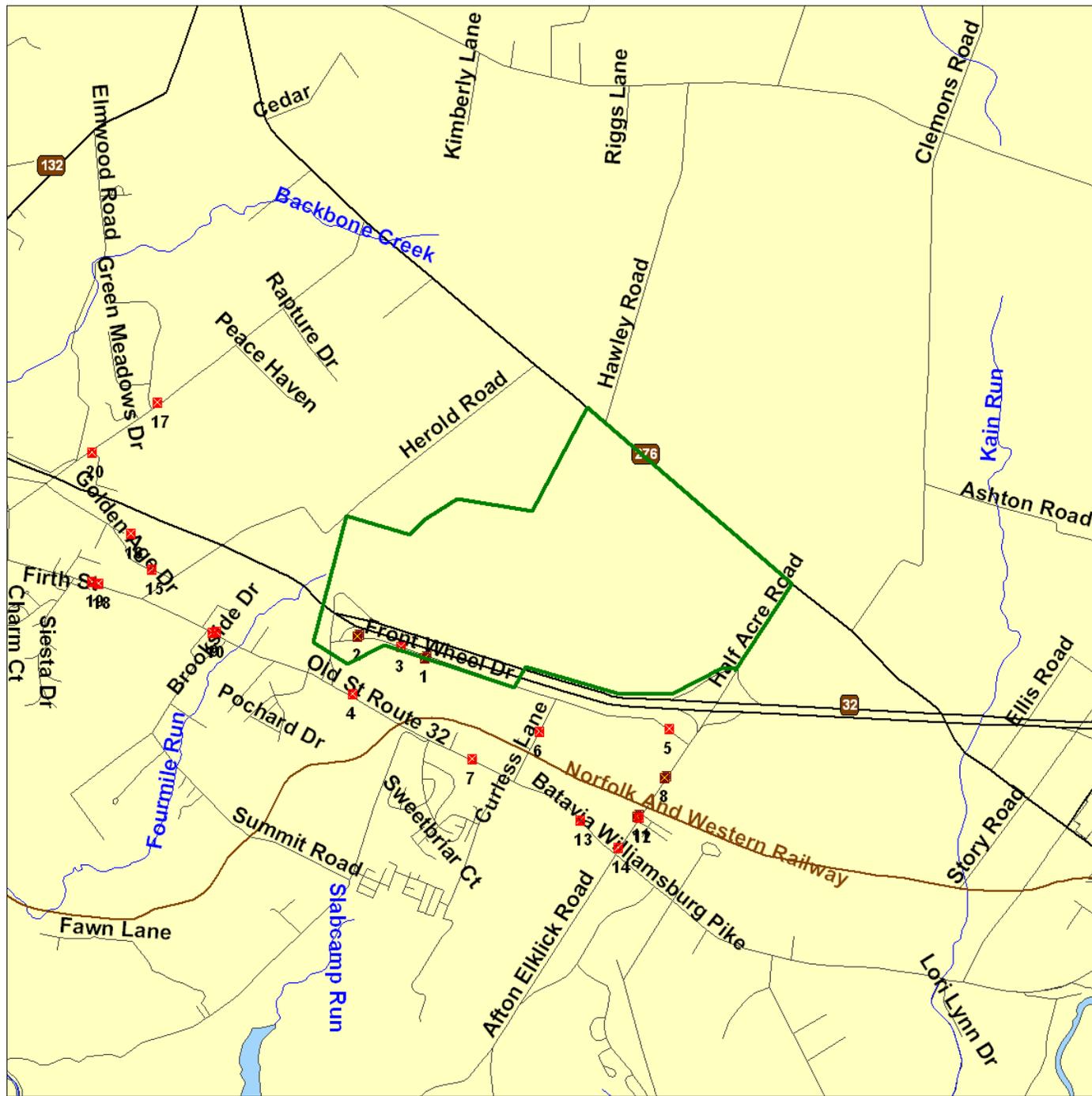


Environmental FirstSearch

1.25 Mile Radius from Area
ASTM: Multiple Databases

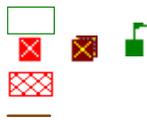


, BATAVIA OH 45103



Source: 2002 U.S. Census TIGER Files

- Area Polygon
- Identified Site, Multiple Sites, Receptor
- NPL, Brownfield, Solid Waste Landfill (SWL) or Hazardous Waste
- Railroads



Environmental FirstSearch Sites Summary Report

TARGET SITE:
BATAVIA OH 45103

JOB: 45103

TOTAL: 30 **GEOCODED:** 28 **NON GEOCODED:** 2 **SELECTED:** 0

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
1	CERCLIS	UNITED WAY MERCURY RESONSE OHN000510006/NOT PROPOSED	2035 FRONT WHEEL DRIVE BATAVIA OH 45103	0.00 --	1
1	CERCLIS	NORTHSIDE HEALTH CENTER MERCURY OHN000509960/NOT PROPOSED	2035 FRONT WHEEL DRIVE BATAVIA OH 45103	0.00 --	1
2	LUST	FORD MOTOR CO 132039601/NO FURTHER ACTION	1981 FRONT WHEEL (W OF GUAR BATAVIA OH 45103	0.00 --	2
3	LUST	FORD MOTOR CO BATAVIA PLANT 132039602/DEF	1981 FRONT WHEEL (E OF GUAR BATAVIA OH 45103	0.00 --	2
4	LUST	FORD MOTOR CO. 13000168-N00001/FACILITY INACTIVE	1981 FRONT WHEEL DR BATAVIA OH 45103	0.00 --	2
5	RCRAGN	BATAVIA TRANSMISSIONS LLC OHD093941565/SGN	1981 FRONT WHEEL DR BATAVIA OH 45103	0.00 --	2
7	UST	FRONT WHEEL DRIVE BP 13009680	2098 FRONT WHEEL DRIVE BATAVIA OH 45103	0.00 --	3
8	RCRAGN	CLERMONT STEEL FABRICATORS LLC OHD085513026/SGN	2565 OLD STATE ROUTE 32 BATAVIA OH 45103	0.14 SE	4
10	LUST	HIPORT DISTRIBUTING, INC. 13000170-N00001/FACILITY INACTIVE	2840 FRONT WHEEL DR BATAVIA OH 45103	0.16 SW	5
11	RCRAGN	GEORGIA-PACIFIC CORP BATAVIA OHIO OHR000101824/VGN	4225 CURLISS LN BATAVIA OH 45103	0.24 SE	6
12	RCRA	AYER ELECTRIC CO OHR000002428/TSD	2698 WILLIAMSBURG-BATVIA PI AFTON OH 45103	0.37 SW	7
13	NFRAP	BATAVIA DRUMS OHD987013349/NFRAP-N	4174 HALF ACRE ROAD BATAVIA OH 45103	0.38 SW	8
14	RCRAGN	CINCINNATI FIBERGLASS INC OHD052150703/SGN	4174 HALF ACRE RD BATAVIA OH 45103	0.38 SW	8
18	STATE	BATAVIA DRUMS DERR-513-1574/DERR DATABASE	4174 HALF ACRE RD BATAVIA OH 45103	0.38 SW	8
19	LUST	UNKNOWN (JOHNSON PROPERTY) 13009998-N00001/FACILITY ACTIVE	2419 BATAVIA WILLIAMSBURG P BATAVIA OH 45103	0.43 NW	9
19	LUST	KINCAIDS CARRYOUT 13010059-N00001/FACILITY ACTIVE	2415 OLD SR 32 BATAVIA OH 45103	0.44 NW	10
20	LUST	CINCINNATI MILACRON 132299900/REPORTED	4165 HALF ACRE RD BATAVIA OH 45103	0.56 SW	11
21	LUST	CINCINNATI MILACRON 132299901/CNR	4165 HALF ACRE RD BATAVIA OH 45103	0.56 SW	11
22	RCRAGN	MILACRON INC. (BATAVIA) OHD054443379/LGN	4165 HALF ACRE RD BATAVIA OH 45103	0.56 SW	11
25	RCRAGN	HOSEA INDUSTRIAL PACKING LLC OHR000042663/SGN	4160 HALF ACRE RD BATAVIA OH 45103	0.56 SW	12
27	UST	THE BOAR S HEAD 13009639	2818 WILLIAMSBURG-BATAVIA P BATAVIA OH 45103	0.60 SW	13

***Environmental FirstSearch
Sites Summary Report***

TARGET SITE: BATAVIA OH 45103

JOB: 45103

TOTAL: 30 **GEOCODED:** 28 **NON GEOCODED:** 2 **SELECTED:** 0

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
28	UST	CINCINNATI MILACRON 13007681	4105 HALF ACRE RD BATAVIA OH 45103	0.70 SW	14
29	LUST	BATAVIA NURSING & CONVALES 13009488-N00001/FACILITY ACTIVE	4000 GOLDEN AGE DR BATAVIA OH 45103	0.77 NW	15
30	RCRAGN	CLERMONT MERCY HOSPITAL OHD068948983/SGN	3000 HOSPITAL DR BATAVIA OH 45103	0.90 NW	16
32	UST	CLERMONT COUNTY COMMISSIONERS 13005768	2283 BAUER RD BATAVIA OH 45103	0.98 NW	17
32	LUST	HOBERG DISTRIBUTION CO. 13008764-N00001/FACILITY INACTIVE	2290 BATAVIA-WILLIAMSURG RD BATAVIA OH 45103	0.99 NW	18
33	LUST	FORMER MOSBACKER OIL CO 13010006-N00001/FACILITY INACTIVE	2284 BATAVIA WILILAMSBURG P BATAVIA OH 45103	1.01 NW	19
33	LUST	CLERMONT COUNTY COMMUNICATIONS C 13009334-N00001/FACILITY INACTIVE	2279 CLERMONT CENTER DR BATAVIA OH 45103	1.16 NW	20

***Environmental FirstSearch
Sites Summary Report***

TARGET SITE: BATAVIA OH 45103

JOB: 45103

TOTAL: 30 **GEOCODED:** 28 **NON GEOCODED:** 2 **SELECTED:** 0

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
34	UST	UNITED DAIRY FARMERS #006 13009441	2023 BATAVIA OH 45103	NON GC	
35	UST	CLERMONT COUNTY BOARD MR/DD 1-3000574/1 TANK LISTED	PO BX 156 BATAVIA OH 45103	NON GC	

Environmental FirstSearch Database Descriptions

NPL: *EPA* NATIONAL PRIORITY LIST - Database of confirmed, proposed or deleted Superfund sites.

CERCLIS: *EPA* COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM - Database of current and potential Superfund sites currently or previously under investigation.

NFRAP: *EPA* COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM ARCHIVED SITES - database of Archive designated CERCLA sites that, to the best of EPA's knowledge, assessment has been completed and has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

RCRA TSD: *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM TREATMENT, STORAGE, and DISPOSAL FACILITIES. - Database of facilities licensed to store, treat and dispose of hazardous waste materials.

RCRA COR: *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of RCRA facilities with reported violations and subject to corrective actions.

RCRA GEN: *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of facilities that generate or transport hazardous waste or meet other RCRA requirements. LGN - Large Quantity Generators SGN - Small Quantity Generators VGN – Conditionally Exempt Generator. Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List) facilities.

ERNS: *EPA/NRC* EMERGENCY RESPONSE NOTIFICATION SYSTEM - Database of emergency response actions. Data since January 2001 has been received from the National Response System database as the EPA no longer maintains this data.

STATE SITES: *OH EPA* DIVISION OF EMERGENCY AND REMEDIAL RESPONSE DATABASE (DERR) - database of basic information regarding name and status in the Voluntary Action Program, for potentially contaminated sites that are maintained by district offices in Ohio.

SWL: *OH EPA* WASTE FACILITIES - The Database of all Compost and Demolition Debris, Industrial and Residual Waste, Municipal Solid Waste Landfills and Municipal and Solid Waste Transfer Facilities are maintained by the Division of Solid and Infectious Waste Management.

REG UST/AST: *OH FMO* LIST OF ACTIVE REGISTERED FACILITIES - database of all registered underground storage tanks.

LEAKING UST: *OH FMO* FACILITIES WITH ACTIVE RELEASES FROM REGULATED TANKS - database of leaking underground storage tanks reported to the Ohio Fire Marshal's office.

RADON: *NTIS* NATIONAL RADON DATABASE - EPA radon data from 1990-1991 national radon project collected for a variety of zip codes across the United States.

Environmental FirstSearch
Street Name Report for Streets within 1 Mile(s) of Target Property

TARGET SITE: BATAVIA OH 45103

JOB: 45103

Street Name	Dist/Dir	Street Name	Dist/Dir
Afton-Elklick Rd	0.72 SW	Minning Rd	0.02 SW
Alexander Ln	0.93 SE	Muscovy Ln	0.26 SW
Ashton Rd	0.74 NE	Oak Tree Ln	0.54 SW
Batavia Rd	0.00 --	Old St Route 32	0.12 SW
Batavia-Williamsburg	0.62 SW	Old Way Dr	0.57 SW
Bauer Rd	0.90 NW	Peace Haven	0.53 NW
Brookside Dr	0.38 NW	Pekin Ct	0.25 SW
Bulldog Pl	0.05 SW	Plainville Dr	0.25 SE
Canvas Back Cir	0.31 SW	Pochard Dr	0.42 SW
Cherry Ln	0.22 SW	Rapture Dr	0.60 NW
Clark Dr	0.22 SE	Roselawn Ave	0.19 SW
Club House Dr	0.52 SW	Savannah Cir	0.44 SW
Corvette Ln	0.50 NW	Seneca Dr	0.78 SW
Cover Ln	0.27 SW	Seton Ct	0.56 SW
Curless Ln	0.10 SW	Shannon Cir	0.62 SW
Dixie Ln	0.57 SW	Shannon Ct	0.66 SW
Fox Run Ln	0.82 SW	Sharps Cutoff Rd	0.34 SE
Front Wheel Dr	0.00 --	Shepherds Way	0.99 NW
Gadwell Ln	0.16 SW	Sherwood Ct	0.63 SW
Golden Age Dr	0.68 NW	Sierra Ct	0.56 SW
Greenbriar Rd	0.34 SW	Sioux Ct	0.57 SW
Half-Acre Rd	0.01 SE	State Route 276	0.00 --
Haven Rd	1.00 NW	State Route 32	0.00 --
Hawley Rd	0.00 --	Sulfur Springs Dr	0.34 SW
Herold Rd	0.00 --	Summit Rd	0.47 NW
Hospital Dr	0.93 NW	Sweetbriar Ct	0.76 SW
Lakeshore Dr	0.37 NW	Sweetbriar Dr	0.62 SW
Lakeside Blvd	0.45 NW	Wigeon Pl	0.17 SW
Mallard Dr	0.13 SW	Winding Woods Ln	0.84 SW
Maple Dr	0.73 SE	Zagar Rd	0.39 SW
Milboro Springs Dr	0.71 SW		

**Appendix D:
Cultural Resources Database Search –
Ohio Historic Preservation Office**

Records Search for SR 32 Afton Corridor

From: Carrie Simmons [csimmons@ohiohistory.org]
Sent: Monday, June 05, 2006 12:53 PM
To: Osborne, Deborah
Subject: Records Search for SR 32 Afton Corridor

Attachments: quad907.jpg; aerial907.jpg; label907.jpg; table907.xls

Ms. Osborne,

In accordance with our scope of service, attached are the results of the Records Search for SR 32 Afton Corridor, received by our office on June 5, 2006. Included are three JPEG files, which show resources identified within the radius you requested, and one Microsoft Excel table, which lists site numbers, property names and property addresses, as applicable.

These data are provided with the understanding that they will be used in accordance with the signed "Conditions for Use of Digital Resource and Locational Data" submitted as part of your request. If you have any questions please contact me.

Carrie Simmons
Technical Assistant
Ohio Historic Preservation Office
567 East Hudson Street
Columbus, OH 43211
614-298-2000
csimmons@ohiohistory.org
<http://www.ohiohistory.org/>

<<quad907.jpg>> <<aerial907.jpg>> <<label907.jpg>> <<table907.xls>>

SR 32 Afton Corridor

Ohio Archaeological Inventory

NUMBER	SITE NAME	UTM ZONE	EASTING	NORTHING	NADB #
CT0215		16	747975	4327350	00000
CT0216		16	747580	4328180	00000
CT0219		16	748400	4326820	00000
CT0239		16	747710	4327675	00000

Ohio Historic Inventory

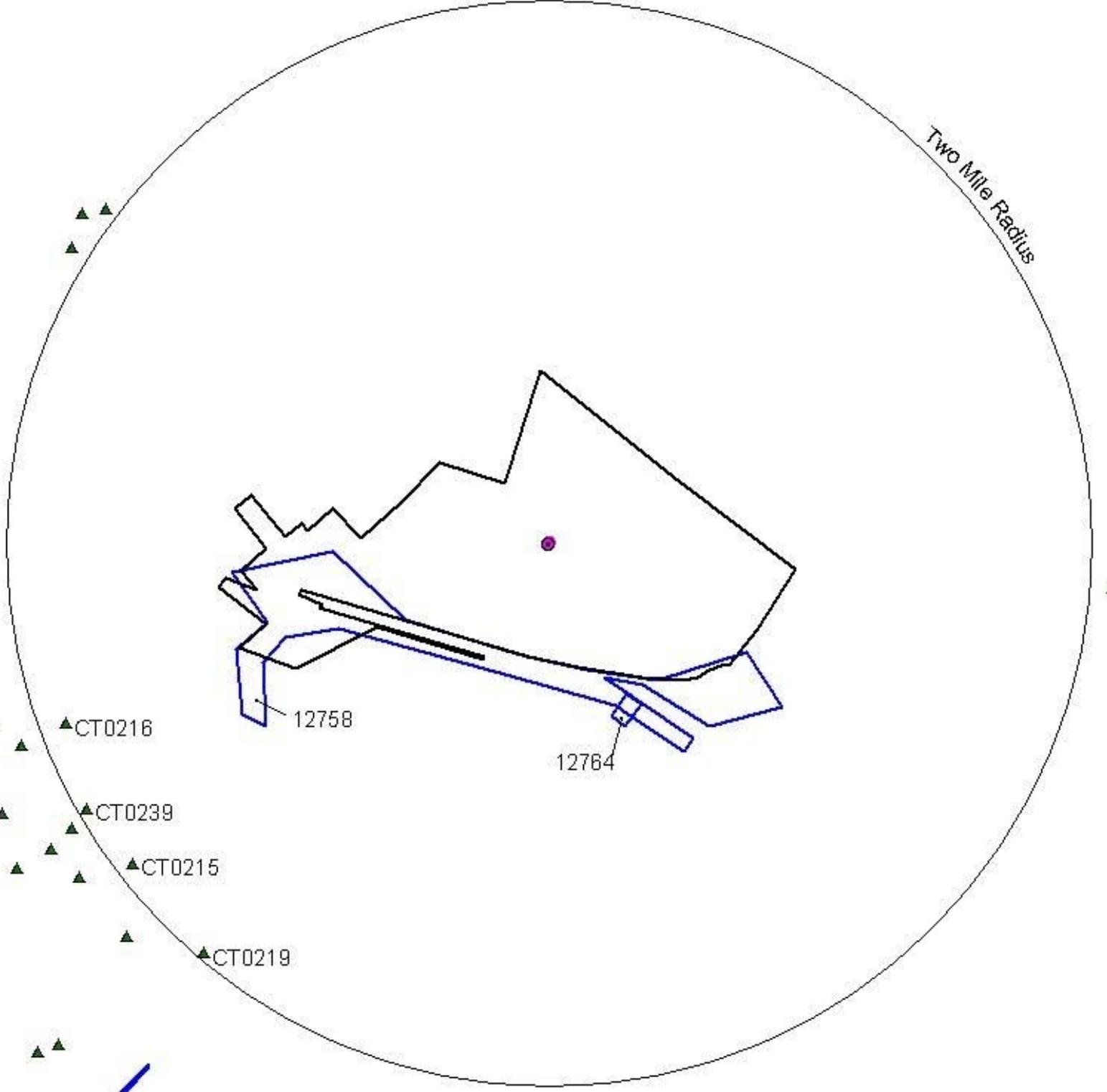
No resources found within radius

National Register of Historic Places

No resources found within radius

Previously Surveyed Areas

NADB #	AUTHOR	YEAR	TITLE
12764	Robert A Genheimer	1985	An Archaeological Assessment of the Proposed Multi-Service Center & Child Care Facility for the Eastern Division Community Chest & Council of the Cincinnati Area
12758	John B DeWert & Gary Fairchild	1978	Preliminary Archaeological Survey of the Proposed Improvement of SR 32 (CLE-32-10.50/10.52/12.16) Near Williamsburg, Clermont County, Ohio



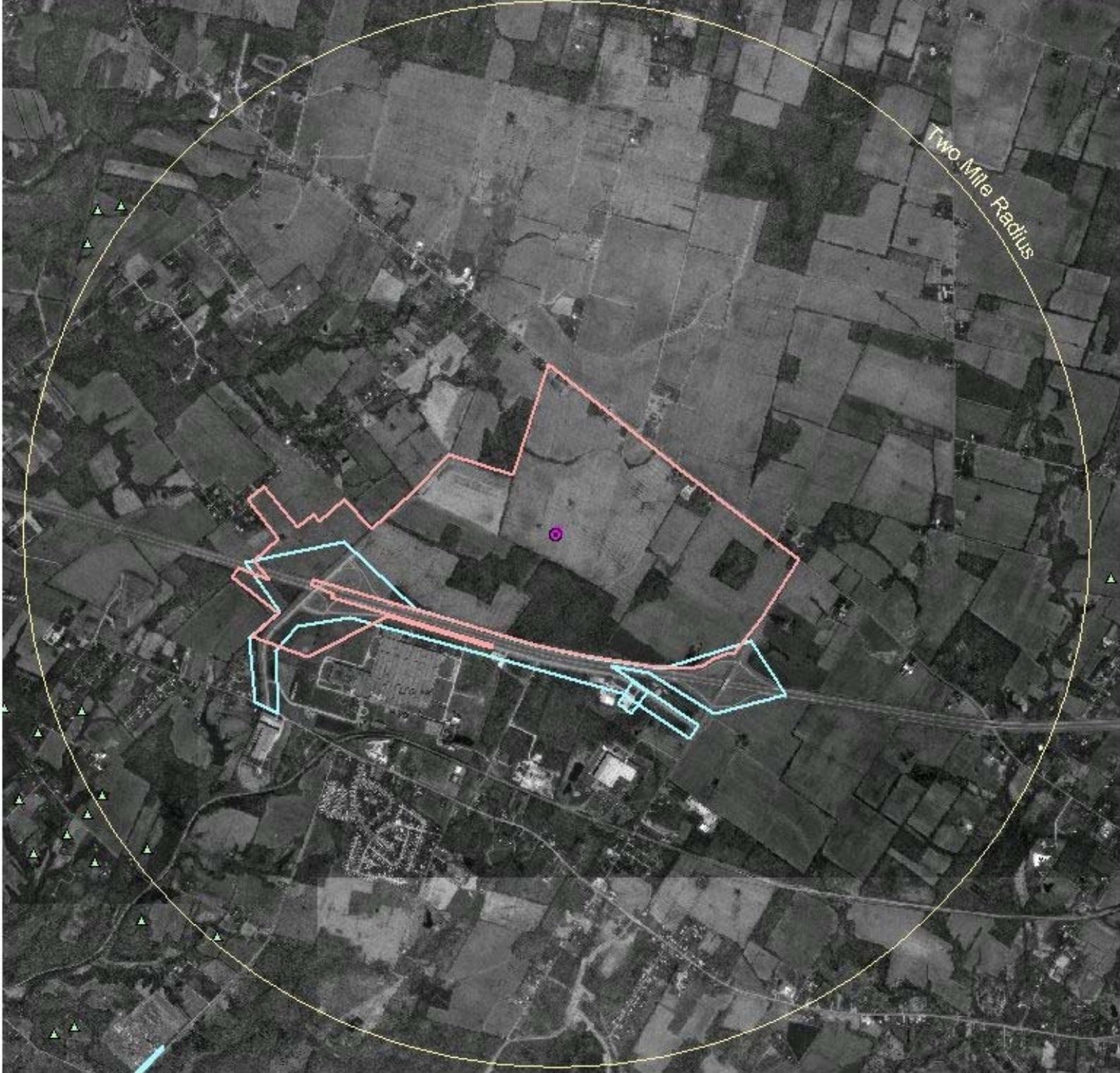
SR 32 Afton Corridor
Williamsburg & Batavia Quadrangles



June 5, 2006

- National Register Listed Properties
- ▲ Archaeological Inventory Properties
- Historic Inventory Properties
- National Register Listed Districts
- Phase 1 Survey Areas





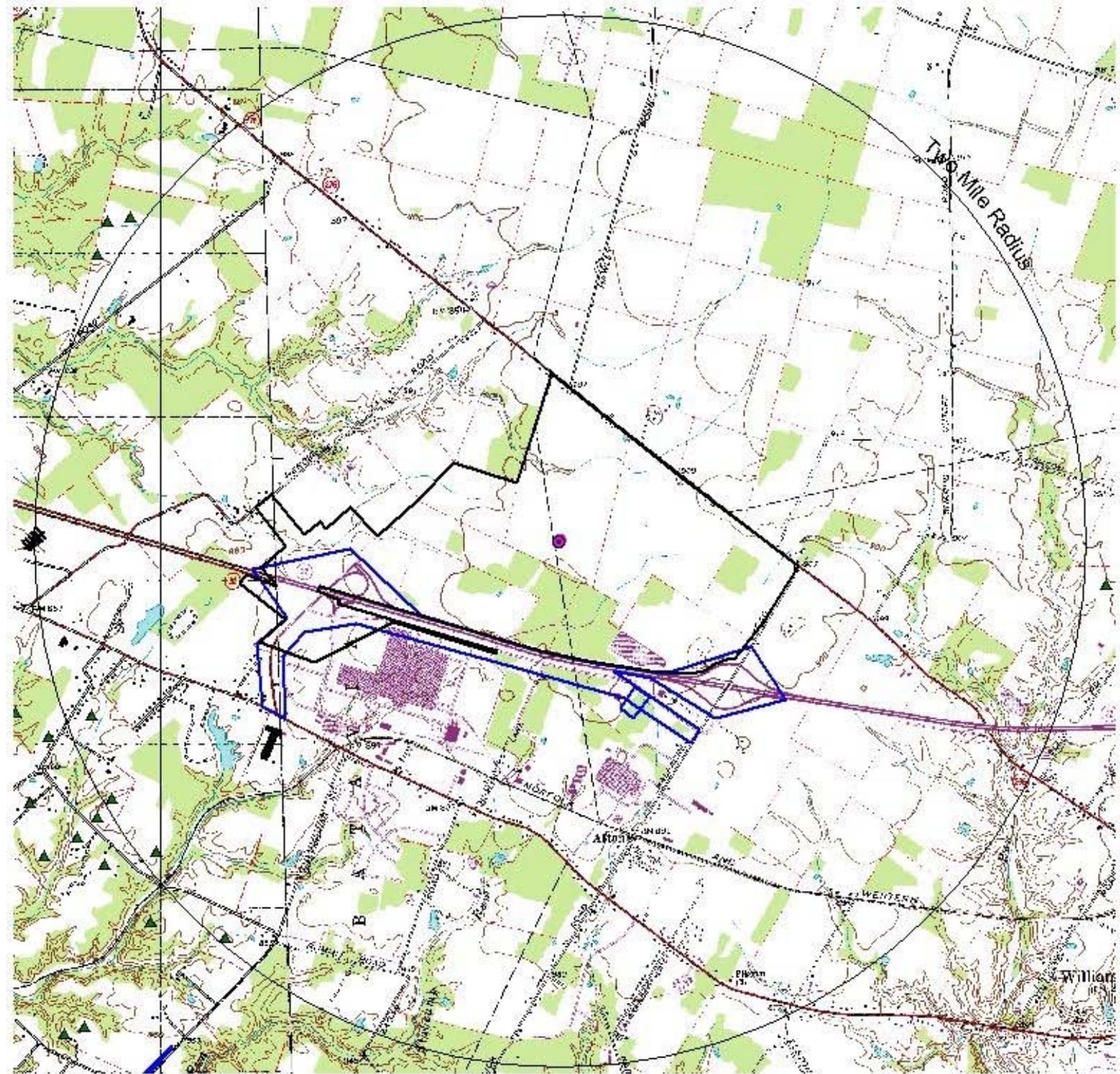
SR 32 Afton Corridor
Williamsburg & Batavia Quadrangles



June 5, 2006

- National Register Listed Properties
- ▲ Archaeological Inventory Properties
- Historic Inventory Properties
- National Register Listed Districts
- Phase 1 Survey Areas





SR 32 Afton Corridor
Williamsburg & Batavia Quadrangles



June 5, 2006

- National Register Listed Properties
- ▲ Archaeological Inventory Properties
- Historic Inventory Properties
- National Register Listed Districts
- ▭ Phase 1 Survey Areas



**Appendix E:
Red Flag Checklist
(ODOT format modified)**

RED FLAG SUMMARY

(NOTE: This form is modified from the Ohio Department of Transportation Red Flag Form version April 2005 to include environmental red flag information only [transportation geometrics, hydraulics, pavement, structure, traffic control, right-of-way/survey and miscellaneous issues excluded])

The purpose of this Red Flag Summary is to identify concerns that could cause revisions to the anticipated design and construction scope of work, the proposed project development schedule, the estimated project budget, or the potential impacts of the project on the surrounding area.

Date Red Flag Summary Completed: *June 2006*

District: *8*

Project Name (County, Route and Section): *Red Flag Summary: Phase I - SR 32 Afton Corridor, Clermont County, Ohio*

City, Township or Village Names(s): *Batavia and Williamsburg Townships*

PID: *NA*

Prepared by: *Balke American*

ODOT Project Manager: *NA*

GENERAL PROJECT PLANNING INFORMATION:

Project Description:
This Red Flag Summary presents the results of an inventory of environmental resources for a site along State Route (SR) 32 in central Clermont County identified for potential future economic development by Clermont County.

Project Limits/General Location
The approximately 800 acre study area, referred to as the SR 32 Afton Corridor, encompasses 30+ parcels and is located about three miles east of Batavia, generally along the north side of SR 32 between Batavia Road and Half Acre Road. The SR 32 Afton Corridor study area is bordered by Batavia Road and Herold Road to the west, SR 276 to the north, Half Acre Road to the east, and SR 32 to the south. Front Wheel Drive parallels existing SR 32 on the south side between Batavia Road and Half Acre Drive, and provides local access to existing industrial and commercial facilities in this vicinity. SR 276 extends north from the project area to the Village of Owensville, and south from the project area to the Village of Williamsburg.

ENVIRONMENTAL ISSUES:

Make a preliminary determination on whether the following resources will be affected by the proposed project.

Involvement	Environmental Resource	Comments
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Parkland, nature preserves and wildlife areas <i>None</i>	<i>One former ballfield that is part of the Batavia High School is located at the southwest corner of the study area at the intersection of SR 32 and Batavia Road</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Cemetery <i>None</i>	<i>None observed from field surveys or secondary sources</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Scenic River <i>See next column</i>	<i>The project occurs in the Little Miami River watershed – in the headwater portions of tributaries to the East Fork Little Miami River. The Little Miami River is a state scenic river and component of the national scenic river system, however the project is located about 12 miles from the mainstem.</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Public Facilities <i>Batavia High School</i>	<i>This facility is located at the corner of SR 32 and Batavia Road.</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Threatened and Endangered Species and/or habitat (e.g., Indiana bat trees, etc.) <i>The project is within the known range of 4 federal species and ODNR reported 20 state-listed species from within 5-miles of the project study area.</i>	<i>No species were reported or observed from within the study area boundaries, however, potential summer habitat for the federal-endangered Indiana bat (potential roosting trees) was noted during reconnaissance field surveys.</i>

Involvement	Environmental Resource	Comments
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Existing cat tails <i>Yes – see next column</i>	<i>Approximately 50 preliminary wetlands were identified from reconnaissance field surveys, including 39 emergent and 11 forested features. Most features are small (<1 acre) and limited in quality, however several larger, higher quality features were also noted, including 8 moderate quality forested wetlands.</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Existing wet areas <i>Yes – see above</i>	<i>See above</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Streams, rivers and watercourses <i>Nine OHW features were observed within the project study area, including three USGS intermittent streams and six other minor channels/ditches. Preliminary assessment indicates that all nine features are likely OEPA Modified Class I or II Primary Headwater features (limited quality streams).</i>	<i>The project is located within the Little Miami River watershed, East Fork sub-watershed (Hydrological Unit Code 05090202-120). The northwest half of the study area is drained by an unnamed USGS headwater tributary in the Backbone Creek drainage, and the southeast half of the area is drained by unnamed USGS headwater tributaries to Slabcamp Run. A small portion of the area in the northeast corner is drained by Kain Run headwaters.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible	Historic Building(s) <i>See next column</i>	<i>None noted from OHPO database search, however, several old (> 50 years) residences and agricultural outbuildings were noted along SR 276 and Half Acre Road during reconnaissance field survey conducted for this red flag study. The historic significance of these structures has not been determined.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Historic Bridge(s) <i>None</i>	<i>Based on review of ODOT historic bridge survey (9-29-05 update).</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Farmland <i>The study area is predominantly agricultural land use (row crop).</i>	<i>No Agricultural Districts occur in the study area. About half of the parcels in the area, however, are included in the CAUV Program.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Landfill(s) <i>None</i>	<i>Based on regulatory database search and reconnaissance field survey.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible	Total Maximum Daily Load (TDML) Streams <i>See next column</i>	<i>Clermont County is currently completing Total Maximum Daily Loads (TMDLs) for the East Fork watershed.</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	ODOT MS4 Phase 2 Regulated Areas <i>Yes</i>	<i>SR 32 is a regulated state route in Clermont County (from Hamilton County to SR 276 in Clermont County), and the area immediately south of the Afton Corridor study area (south of SR 32) is an ODOT MS4 Phase 2 Regulated Area.</i>

Involvement	Environmental Resource	Comments
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Evidence of hazardous materials <i>One database site and one feature noted during reconnaissance field surveys – see next column</i>	<p><i>Three regulatory database records were reported from within the study area boundaries. Field check indicated that two sites (Front Wheel Drive BP Station and Northside Health Center) did not occur within the study area boundaries (addresses were reported incorrectly in the database files).</i></p> <p><i>The third site, Ford Motor Company, is partially within the study area boundaries (frontage property only). An LUST record reports a suspected or confirmed release from a regulated UST, with closure and no further action recommended; a RCRA GEN record reports a small quantity generator; and a REG UST/AST record reports four underground storage tanks at this location. The proximity of these structures relative to the study area boundaries has not been determined.</i></p> <p><i>During reconnaissance field survey, an above-ground fuel storage tank was noted along SR 276 near Half Acre Rd.</i></p>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Sensitive environmental justice areas	<i>None occur in immediate project area.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Federal Emergency Management Agency (FEMA) floodplains <i>None</i>	<i>Based on review of FEMA 100-year floodplain mapping</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Lake Erie Coastal Management Area <i>NA</i>	<i>--</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Sole Source Aquifers <i>None – see next column</i>	<i>The study area does not occur within any USEPA-designated sole source aquifer boundaries, nor are there OEPA public water supply wells located in the immediate vicinity. Class 2 portions of the Buried Valley Sole Source Aquifer (a USEPA-designated sole source aquifer) occur along mainstem East Fork downstream and outside of the project study area.</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Wellhead Protection Areas <i>Yes – see next column</i>	<i>A small portion of the east edge of the study area occurs within the Source Water Protection area (SWA) of the Clermont County Public Water System, which uses surface water, primarily intakes along East Fork Reservoir, for public drinking water.</i>

Involvement	Environmental Resource	Comments
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible	Does it appear that noise abatement will be an issue for the project? <i>See next column</i>	<i>Potential noise receptors include scattered residential development along Herold Road, SR 276 and Batavia Road, planned residential development along Herold Road, and the Batavia High School at the corner of SR 32 and Batavia Road. If development in the SR 32 Afton Corridor involves transportation improvements using federal funds, then a noise analysis following FHWA guidelines may be required.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Other environmental issues <i>None noted</i>	--

GEOTECHNICAL ISSUES:

“Geotechnical Red Flag” features may include, but are not limited to, known or suspected geologic hazards (e.g., organic soils, karst, rockfalls, landslides, surface and underground mines, poor subgrade conditions, or difficulty in correcting existing surface or subsurface drainage problems).

GEOLOGY

Provide a brief geologic description of the project area

The project is located in the Eastern Corn Belt Plains ecoregion as delineated by USEPA, and the Illinoian Till Plain physiographic region as delineated by ODNR. The region is characterized as a rolling glacial till plain, with soils derived from glacial materials. Topography in the vicinity of the SR 32 Afton Corridor is nearly level to gently sloping, with elevations generally between 900 and 910 feet above mean sea level. Geology consists of Ordovician-aged interbedded limestone and shale bedrock overlain by Illinoian-aged glacial drift composed of a mixture of sand, silt, clay and coarse fragments.

Provide a description of the hydrogeologic setting

NA

Describe the characteristics of the soils

Soils in the study area are part of the Avonburg-Clermont Association, consisting of deep, nearly level, poorly drained soils formed from glacial materials and occurring on broad flats and uplands. Clermont soils occur along flat upland areas, and Avonburg soils occur as narrow bands along small drainage features in the area. Both soils have a clayey subsoil, are poorly drained, and exhibit slow permeability, ponding, and slow runoff. Clermont silt loam, which comprises 58% of the SR 32 Afton Corridor study area, is listed on the USDA-NRCS National Hydric Soil List as a hydric soil occurring in Clermont County.

Minor soils in the project study area include Rossmoyne silt loam, with patchy occurrences along uplands, and Blanchester silt loam, with scattered occurrences along shallow drainage features. Rossmoyne soils are generally moderately well drained, and Blanchester soils are typically poorly drained.

Describe the characteristics of the rock

NA

SUMMARY OF GEOTECHNICAL ISSUES

Based on the information compiled during this study indicate whether or not the following geotechnical issues are present or should be further considered during project development. Provide additional comments as needed.

	Geotechnical Issue	Comments
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of soil drainage problems (e.g., wet or pumping subgrade, standing water, the presence of seeps, wetlands, swamps, bogs)? <i>Yes – see next column</i>	<i>Clermont silt loam, which comprises 58% of the SR 32 Afton Corridor study area, is listed on the USDA-NRCS National Hydric Soil List as a hydric soil occurring in Clermont County. Approximately 50 preliminary wetlands (mostly small features) were observed in the study area during reconnaissance field surveys – see ‘Environmental Issues’ above for further description.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Is there evidence of any embankment or foundation problems (e.g., differential settlement, sag, foundation failures, slope failures, scours, evidence of channel migrations)?	--
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of any landslides?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of unsuitable materials (e.g., presence of debris or man-made fills or waste pits containing these materials, indications from old soil borings)?	<i>Not known</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of rock strata (e.g., presence of exposed bedrock, rock on the old borings)?	<i>Not known</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of active, reclaimed or abandoned surface mines?	<i>No evidence from secondary sources or field survey.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there information pertaining to the existence of underground mines?	<i>No evidence from secondary sources or field survey.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Are soil borings needed for pavement design, foundations (bridge, headwall, retaining wall, noise wall) or slopes?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Does an undercut appear to be needed?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Should the Office of Geotechnical Engineering be contacted to evaluate the project site?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any other geotechnical issues?	<i>Not known</i>

Provide a list of bulleted items referencing additional areas of concern or special notation.

NA

UTILITY ISSUES:

Indicate if the following utility issues are present or should be considered during project development. Provide additional comments as needed.

	Utility Issue	Comments
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Do existing utilities need to be relocated?	<i>Public waterlines occur along SR 276, Batavia Road and Half Acre Road, and between SR 32 and SR 276 along the west edge of the SR 32 Afton study area. A gravity sewer line is located to the north of SR 32, generally bisecting the study area. Additional water and sewer utilities occur along portions of Herold Road, Old SR 32 and adjoining local streets. Overhead electric power lines were noted along SR 32 and other local roads.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Is it impossible to minimize utility conflicts? (e.g., by careful placement of storm sewer and underdrains)?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Would the project benefit from subsurface utility engineering (SUE)?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Are there existing utilities on an existing structure that need to be relocated?	--
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any specific utility requirements or concerns?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there facilities that require a large lead time to relocate?	<i>Not known</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is additional right of way needed to accommodate utility relocations?	<i>Not known</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Are there water or sanitary lines that will be relocated as part of the ODOT contract?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any other utility issues?	<i>Not known.</i>

PERMIT ISSUES:

Indicate if the following permit issues are present or should be considered during project development. Provide additional comments as needed.

	Permit Issue	Comments
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will an individual Corps of Engineers/Environmental Protection Agency 404/401 permit be required?	<i>Site development involving impacts to existing wetlands and/or OHW channels may require a 404 permit from the USACE and/or 401 water quality certification from OEPA.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does it appear that the project can be constructed under a nationwide 404/401 permit? If so, which permit and what specific requirements apply?	<i>The type of permit needed will depend on the type of activity and size of impacted area (different actions such as linear transportation crossings, utility line activities, and residential, commercial and institutional developments all have different impact thresholds under the 404 Nationwide Permit program).</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will a Coast Guard permit be required?	<i>No navigable waters occur in the area.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is review by a local public agency or project sponsor required?	<i>Activities in the study area may involve permitting issues related to stormwater runoff, point source discharges, and/or compliance with local ordinances pertaining to development, drinking water protection, or other forms of environmental protection.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Is Airway/Highway clearance analysis required?	<i>--</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is Federal Emergency Management Agency (FEMA) approval required?	<i>No 100-year FEMA floodplains occur in the study area.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is railroad/railway coordination required?	<i>No railroads occur within the study area.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is State Historic Preservation Office (SHPO) coordination for work involving historic bridges or historic properties required?	<i>No known NR or NR eligible properties occur within the SR 32 Afton study corridor, although several potential historic resources were observed during reconnaissance field surveys. Activities in the study area may require detailed cultural studies and coordination with OHPO to determine the presence and extent of NR eligible resources occurring in the area for compliance with Section 106 of the Historic Preservation Act if federal actions are involved.</i>

	Permit Issue	Comments
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is coordination with ODNR for work involving State Scenic Rivers, State Wildlife Areas or State Recreational Areas required?	<i>The project occurs in the Little Miami River watershed – in the headwater portions of tributaries to the East Fork Little Miami River. The Little Miami River is a state scenic river and component of the national scenic river system, however the project is located about 12 miles from the mainstem.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Is coordination with any other agency required? (See Location and Design Manual, Figures 1402-2 through Figure 1402-7.)	--

RED FLAG MAPPING:

Is a map showing locations of red flag areas attached? Yes No

(A map showing locations of red flag areas is mandatory for Major Projects.)

* * *

**Appendix F:
Project Area Photographs**



Photo 1: Existing SR 32 with Batavia Road overpass at west edge of SR 32 Afton Corridor study area.



Photo 2: Batavia Transmission (Ford) plant along existing Front Wheel Drive just south of SR 32 Afton Corridor study area.



Photo 3: Clermont County YMCA along existing Front Wheel Drive just south of SR 32 Afton Corridor study area.



Photo 4: Existing residential development along Old SR 32 in SR 32 Afton Corridor vicinity.



Photo 5: Agricultural rowcrop is the predominant existing land use within the SR 32 Afton Corridor study boundaries.



Photo 6: Cincinnati Milacron Technologies Plastic Group along Half Acre Road just south of the SR 32 Afton Corridor study area.



Photo 7: Typical forested wetland in SR 32 Afton Corridor study area showing multi-stemmed red maple canopy (hydrology indicator).



Photo 8: Typical forested wetland showing bare groundcover from extended early season standing water or saturated conditions.



Photo 9: Typical forested wetland showing relatively young red maple canopy.



Photo 10: Typical forested wetland showing multi-stemmed canopy trees, buttressed bases and water marks (hydrology indicators).



Photo 11: Forested wetland showing depressional area (old pond in background) with standing water.



Photo 12: Existing man-made pond adjacent to forested wetland (combined habitats offer primary wetland preservation opportunity).



Photo 13: Emergent wetland formed in roadway ditch along south edge SR 32 Afton Corridor study area.



Photo 14: Typical emergent wetland swale in SR 32 Afton Corridor study area (cattail dominance).



Photo 15: Emergent wetland dominated by a rush / sedge mix.



Photo 16: Typical emergent wetland swale in SR 32 Afton Corridor study area.



Photo 17: USGS stream in northwest corner of SR 32 Afton study area showing silted bottom and scrubby riparian corridor (limited stream mitigation [restoration] opportunity).

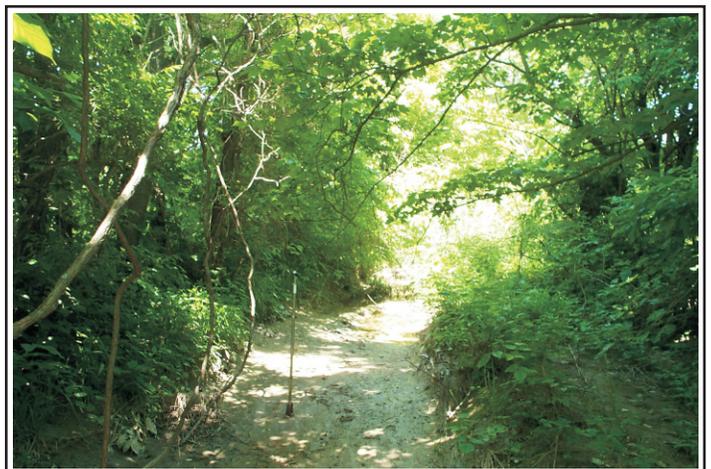


Photo 18: Typical non-USGS Ordinary High Water (OHW) channel in the SR 32 Afton Corridor study area boundaries.



Photo 19: Typical potential habitat for Federal endangered Indiana bat in SR 32 Afton study area - peeling bark of shagbark hickory.



Photo 20: Typical potential habitat for Federal endangered Indiana bat in SR 32 Afton study area - dead snags, holes, and peeling bark.



Photo 21: Potential historic property noted during reconnaissance field survey (building dated 1870; significance not determined).



Photo 22: Potential historic property noted during reconnaissance field survey (age and significance not determined).



Photo 23: Agricultural outbuildings noted during reconnaissance field surveys (age and significance not determined).

**Appendix G:
Wetland and Stream Field Data Forms
(for Mitigation Opportunity Areas)**

ORAM v. 5.0 Field Form Quantitative Rating

Rater: Balke American

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor
Wetland Site: Wetland 11 **State:** OH
Description: Forested

Date: 6/30/2006
County: Clermont
Location: SE corner of S.A.

5.0 5.0 Metric 1. Wetland Area (size)

Max (6) subtotal Select one size class and assign score

- >50 acres (>20.2 ha) (6 pts)
- 25 to <50 acres (10.1 to < 20.2 ha) (5 pts)
- 10 to <25 acres (4 to <10.1 ha) (4 pts)
- 3 to <10 acres (1.2 to <4 ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2 ha) (2 pts)
- 0.1 to <0.3 acres (0.04 to <0.12 ha) (1 pt)
- < 0.1 acres (0.04 ha) (0 pts)

3.0 8.0 Metric 2. Upland Buffers and Surrounding Land Use

Max (14) subtotal 2a. Calculate average buffer width. Select only one and assign score. Do not double check

- WIDE. Buffers average 50 m (164 ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25 m to <50 m (82 to <164 ft) around wetland perimeter (4)
- NARROW. Buffers average 10 m to <25 m (32 to <82 ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10 m (<32 ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction (1)

15.0 23.0 Metric 3. Hydrology

Max (30) subtotal 3a. Sources of water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest) complex (1)
- Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score

- >0.7 (27.6 in) (3)
- 0.4 to 0.7 m (15.7 to 27.6 in) (2)
- <0.4 m (<15.7 in) (1)

3d. Duration inundation/saturation. Score one or dbl check and av

- Semi-to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (non-stormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

15.0 38.0 Metric 4. Habitat Alteration and Development

Max (20) subtotal 4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

38.0

Subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Rater: Balke American

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor

Date: 6/30/2006

Wetland Site: Wetland 11

State: OH

County: Clermont

Description: Forested

Location: SE corner of S.A.

38.0

subtotal first page

0.0**38.0**

Metric 5. Special Wetlands

Max (10)

subtotal

Check all that apply and score as indicated

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

8.0**46.0**

Metric 6. Plant Communities, interspersions, microtopography

Max (20)

subtotal

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale.

- Aquatic bed
- 1 Emergent
- 1 Shrub
- 2 Forest
- Mudflats
- Open water
- Other

6b. Horizontal (plan view) Interspersion

Select only one.

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- X Low (1)
- None (0)

6c. Coverage of Invasive Plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage.

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- X Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale.

- 1 Vegetated hummocks/tussucks
- 1 Coarse woody debris >15 cm (6 in)
- 0 Standing dead >25 cm (10 in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

- | | |
|---|---|
| 0 | Absent or comprises <0.1ha (0.2471ac) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

- | | |
|------|--|
| low | Low spp diversity and/or predominance of non-native or disturbance tolerant native species |
| mod | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with non-native spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

- | | |
|---|--|
| 0 | Absent <0.1 ha (0.247 acres) |
| 1 | Low 0.1 to <1 ha (0.247 to 2.47 acres) |
| 2 | Moderate 1 to <4 ha (2.47 to 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |

Microtopography Cover Scale

- | | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

46.0**GRAND TOTAL (max 100 pts)**

ORAM v. 5.0 Field Form Quantitative Rating

Rater: Balke American

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor
Wetland Site: Wetland 15 **State:** OH
Description: Forested

Date: 6/30/2006
County: Clermont
Location: forested lot near SR 276/

4.0 4.0 Metric 1. Wetland Area (size)

Max (6) subtotal Select one size class and assign score

- >50 acres (>20.2 ha) (6 pts)
- 25 to <50 acres (10.1 to < 20.2 ha) (5 pts)
- 10 to <25 acres (4 to <10.1 ha) (4 pts)
- 3 to <10 acres (1.2 to <4 ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2 ha) (2 pts)
- 0.1 to <0.3 acres (0.04 to <0.12 ha) (1 pt)
- < 0.1 acres (0.04 ha) (0 pts)

1.0 5.0 Metric 2. Upland Buffers and Surrounding Land Use

Max (14) subtotal 2a. Calculate average buffer width. Select only one and assign score. Do not double check

- WIDE. Buffers average 50 m (164 ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25 m to <50 m (82 to <164 ft) around wetland perimeter (4)
 - NARROW. Buffers average 10 m to <25 m (32 to <82 ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10 m (<32 ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction (1)

16.0 21.0 Metric 3. Hydrology

Max (30) subtotal 3a. Sources of water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest) complex (1)
- Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score

- >0.7 (27.6 in) (3)
- 0.4 to 0.7 m (15.7 to 27.6 in) (2)
- <0.4 m (<15.7 in) (1)

3d. Duration inundation/saturation. Score one or dbl check and av

- Semi-to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (non-stormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

9.0 30.0 Metric 4. Habitat Alteration and Development

Max (20) subtotal 4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

30.0

Subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Rater: Balke American

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor
Wetland Site: Wetland 15
Description: Forested

Date: 6/30/2006
County: Clermont
Location: forested lot near SR 276/Half-Acre F

30.0

subtotal first page

0.0 **30.0** Metric 5. Special Wetlands

Max (10) subtotal Check all that apply and score as indicated

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6.0 **36.0** Metric 6. Plant Communities, interspersions, microtopography

Max (20) subtotal 6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale.

- Aquatic bed
- 0** Emergent
- Shrub
- 1** Forest
- Mudflats
- 0** Open water
- Other

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471ac) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

6b. Horizontal (plan view) Interspersion

Select only one.

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- X** Low (1)
- None (0)

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of non-native or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with non-native spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

6c. Coverage of Invasive Plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage.

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- X** Absent (1)

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.247 acres)
1	Low 0.1 to <1 ha (0.247 to 2.47 acres)
2	Moderate 1 to <4 ha (2.47 to 9.88 acres)
3	High 4 ha (9.88 acres) or more

6d. Microtopography

Score all present using 0 to 3 scale.

- 0** Vegetated hummocks/tussucks
- 1** Coarse woody debris >15 cm (6 in)
- 1** Standing dead >25 cm (10 in) dbh
- 1** Amphibian breeding pools

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

36.0

GRAND TOTAL (max 100 pts)

ORAM v. 5.0 Field Form Quantitative Rating

Rater: Balke American

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor
Wetland Site: Wetland 18 **State:** OH
Description: Forested/emergent

Date: 6/30/2006
County: Clermont
Location: adjacent to Hughes Supp

3.0 3.0 Metric 1. Wetland Area (size)

Max (6) subtotal Select one size class and assign score

- >50 acres (>20.2 ha) (6 pts)
- 25 to <50 acres (10.1 to < 20.2 ha) (5 pts)
- 10 to <25 acres (4 to <10.1 ha) (4 pts)
- 3 to <10 acres (1.2 to <4 ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2 ha) (2 pts)
- 0.1 to <0.3 acres (0.04 to <0.12 ha) (1 pt)
- < 0.1 acres (0.04 ha) (0 pts)

1.0 4.0 Metric 2. Upland Buffers and Surrounding Land Use

Max (14) subtotal 2a. Calculate average buffer width. Select only one and assign score. Do not double check

- WIDE. Buffers average 50 m (164 ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25 m to <50 m (82 to <164 ft) around wetland perimeter (4)
- NARROW. Buffers average 10 m to <25 m (32 to <82 ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10 m (<32 ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction (1)

10.0 14.0 Metric 3. Hydrology

Max (30) subtotal 3a. Sources of water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest) complex (1)
- Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score

- >0.7 (27.6 in) (3)
- 0.4 to 0.7 m (15.7 to 27.6 in) (2)
- <0.4 m (<15.7 in) (1)

3d. Duration inundation/saturation. Score one or dbl check and av

- Semi-to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/>	ditch
<input type="checkbox"/>	tile
<input type="checkbox"/>	dike
<input type="checkbox"/>	weir
<input type="checkbox"/>	stormwater input
<input type="checkbox"/>	point source (non-stormwater)
<input checked="" type="checkbox"/>	filling/grading
<input type="checkbox"/>	road bed/RR track
<input checked="" type="checkbox"/>	dredging
<input type="checkbox"/>	other

12.0 26.0 Metric 4. Habitat Alteration and Development

Max (20) subtotal 4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/>	mowing
<input type="checkbox"/>	grazing
<input type="checkbox"/>	clearcutting
<input type="checkbox"/>	selective cutting
<input type="checkbox"/>	woody debris removal
<input type="checkbox"/>	toxic pollutants
<input type="checkbox"/>	shrub/sapling removal
<input checked="" type="checkbox"/>	herbaceous/aquatic bed removal
<input type="checkbox"/>	sedimentation
<input checked="" type="checkbox"/>	dredging
<input type="checkbox"/>	farming
<input type="checkbox"/>	nutrient enrichment

26.0

Subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Rater: Balke American

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor

Date: 6/30/2006

Wetland Site: Wetland 18

State: OH

County: Clermont

Description: Forested/emergent

Location: adjacent to Hughes Supply (east/so)

26.0

subtotal first page

0.0 **26.0** Metric 5. Special Wetlands

Max (10) subtotal Check all that apply and score as indicated

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

9.0 **35.0** Metric 6. Plant Communities, interspersions, microtopography

Max (20) subtotal 6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale.

- 0** Aquatic bed
- 2** Emergent
- 1** Shrub
- 1** Forest
- 0** Mudflats
- 0** Open water
- Other

6b. Horizontal (plan view) Interspersion

Select only one.

- High (5)
- Moderately high (4)
- Moderate (3)
- X** Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of Invasive Plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage.

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- X** Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale.

- 0** Vegetated hummocks/tussucks
- 1** Coarse woody debris >15 cm (6 in)
- 1** Standing dead >25 cm (10 in) dbh
- 1** Amphibian breeding pools

Vegetation Community Cover Scale

- | | |
|---|---|
| 0 | Absent or comprises <0.1ha (0.2471ac) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

- | | |
|------|--|
| low | Low spp diversity and/or predominance of non-native or disturbance tolerant native species |
| mod | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with non-native spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

- | | |
|---|--|
| 0 | Absent <0.1 ha (0.247 acres) |
| 1 | Low 0.1 to <1 ha (0.247 to 2.47 acres) |
| 2 | Moderate 1 to <4 ha (2.47 to 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |

Microtopography Cover Scale

- | | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

35.0**GRAND TOTAL (max 100 pts)**

ORAM v. 5.0 Field Form Quantitative Rating

Rater: Balke American

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor
Wetland Site: Wetland 36 **State:** OH
Description: Forested/emergent

Date: 6/30/2006
County: Clermont
Location: forested lot SW corner of

4.0 4.0 Metric 1. Wetland Area (size)

Max (6) subtotal Select one size class and assign score

- >50 acres (>20.2 ha) (6 pts)
- 25 to <50 acres (10.1 to < 20.2 ha) (5 pts)
- 10 to <25 acres (4 to <10.1 ha) (4 pts)
- 3 to <10 acres (1.2 to <4 ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2 ha) (2 pts)
- 0.1 to <0.3 acres (0.04 to <0.12 ha) (1 pt)
- < 0.1 acres (0.04 ha) (0 pts)

7.0 11.0 Metric 2. Upland Buffers and Surrounding Land Use

Max (14) subtotal 2a. Calculate average buffer width. Select only one and assign score. Do not double check

- WIDE. Buffers average 50 m (164 ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25 m to <50 m (82 to <164 ft) around wetland perimeter (4)
- NARROW. Buffers average 10 m to <25 m (32 to <82 ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10 m (<32 ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction (1)

19.0 30.0 Metric 3. Hydrology

Max (30) subtotal 3a. Sources of water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest) complex (1)
- Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score

- >0.7 (27.6 in) (3)
- 0.4 to 0.7 m (15.7 to 27.6 in) (2)
- <0.4 m (<15.7 in) (1)

3d. Duration inundation/saturation. Score one or dbl check and av

- Semi-to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (non-stormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

10.5 40.5 Metric 4. Habitat Alteration and Development

Max (20) subtotal 4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input checked="" type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

40.5

Subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Rater: Balke American

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor
Wetland Site: Wetland 36
Description: Forested/emergent

Date: 6/30/2006
County: Clermont
Location: forested lot SW corner of S.A.

40.5

subtotal first page

0.0 **40.5** Metric 5. Special Wetlands

Max (10) subtotal Check all that apply and score as indicated

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

7.0 **47.5** Metric 6. Plant Communities, interspersions, microtopography

Max (20) subtotal 6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale.

- Aquatic bed
- 1** Emergent
- Shrub
- 2** Forest
- Mudflats
- 1** Open water
- Other

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471ac) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

6b. Horizontal (plan view) Interspersion

Select only one.

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- X** Low (1)
- None (0)

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of non-native or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with non-native spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

6c. Coverage of Invasive Plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage.

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- X** Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.247 acres)
1	Low 0.1 to <1 ha (0.247 to 2.47 acres)
2	Moderate 1 to <4 ha (2.47 to 9.88 acres)
3	High 4 ha (9.88 acres) or more

6d. Microtopography

Score all present using 0 to 3 scale.

- 0** Vegetated hummocks/tussucks
- 1** Coarse woody debris >15 cm (6 in)
- 1** Standing dead >25 cm (10 in) dbh
- 1** Amphibian breeding pools

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

47.5

GRAND TOTAL (max 100 pts)

DATA FORM
 ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor	Date: 6/30/2006
Wetland Site: Wetland 11	County: Clermont
Investigator: Balke American (MDV, BL)	State: OH

Do Normal Circumstances exist on the site? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Community ID: forested
Is the site significantly disturbed (Atypical Situation)? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Transect ID: - - -
Is the area a potential Problem Area? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Plot ID: - - -
(If needed, explain)	Location: point in

VEGETATION

Dominant Plant Species	Stratum	Indicator Status[1]	Dominant Plant Species	Stratum	Indicator Status
1. <i>Lycopodium complanati</i>	Herb	FACU-	7. <i>Acer rubrum</i>	Sap	FAC
2. <i>Leersia virginicum</i>	Herb	FACW	8.		
3. <i>Toxicodendron radicans</i>	Herb	FAC	9.		
4. <i>Acer rubrum</i>	Tree	FAC	10.		
5. <i>Quercus palustris</i>	Tree	FACW	11.		
6. <i>Ulmus americana</i>	Sap	FACW-	12.		

% Dominant Plant Species that are OBL, FACW or FAC (excluding FAC-): 86

Remarks: > 50% Dominant Plant Species present are Hydrophitic

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks)</p> <p><input type="checkbox"/> Stream, Lake, or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in upper 12 Inches</p> <p><input checked="" type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required)</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input checked="" type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: 0 (in.)</p> <p>Depth to Free Water in Pit: >16 (in.)</p> <p>Depth to Saturated Soil: 6 (in.)</p>	

Remarks: 3 Primary Indicators and 1 Secondary Indicator Present

SOILS

Map Unit Name (Series and Phase): Ct - Clermont silt loam	Drainage Class: _____
Taxonomy (Subgroup): _____	Field Observations Confirmed Mapped Type? Yes _____ No <input checked="" type="checkbox"/>

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Abundance/Size/Contrast	Tex./ Conc./Structure, etc.
0-1"		10YR2/2	- - -	- - -
2-6"		10YR5/1	10YR3/4	Mn
6-16"		10Y6/1	10YR5/6	- - -

Hydric Soil Indicators:	<input checked="" type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input checked="" type="checkbox"/> Gleyed or Low Chroma Colors <input type="checkbox"/> Other (Explain in Remarks)
-------------------------	--

Remarks: 2 Hydric Soil Indicators Present

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is this Sampling Point Within A Wetland?
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: 3 Wetland Indicators Present

[1] Indicator Status obtained either from the National List of Plant Species that occur in Wetlands: 1996 National Summary or 1988 National Summary; N/A indicates species is unidentifiable due to lack of distinguishing vegetative or reproductive characteristics at time of field survey.

WETLAND DATA FORM
VEGETATION AND DOMINANT SPECIES

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor
 Wetland Site: Wetland 11 State: OH
 Investigator: Balke American (MDV, BL)
 Description: forested

Date: 6/30/2006
 County: Clermont
 Location: point in

Herbaceous Species		Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1	<i>Lycopodium complanatum</i>	ground cedar (clubmoss, trailing)	FACU-	40	1*
2	<i>Leersia virginicum</i>	whitegrass (cutgrass)	FACW	30	2*
3	<i>Toxicodendron radicans</i>	ivy, poison	FAC	20	3*
4	<i>Carex squarrosa</i>	sedge, squarrose	FACW	5	4
5	<i>Rubus occidentalis</i>	raspberry, black	Not Listed	5	4
6	<i>Campsis radicans</i>	Trumpet-creeper	FAC	5	4
7	<i>Smilax rotundifolia</i>	greenbrier, common	FAC	5	4
8					
9					
10					
Sum of Percent Areal Cover				110	
0.5 X Sum of Percent Areal Cover				55	

Tree Species		Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1	<i>Acer rubrum</i>	Maple, red	FAC	60	1*
2	<i>Quercus palustris</i>	Oak, pin	FACW	20	2*
3					
4					
5					
Sum of Percent Areal Cover				80	
0.5 X Sum of Percent Areal Cover				40	

Shrub Species		Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1	---				
2					
3					
Sum of Percent Areal Cover				0	
0.5 X Sum of Percent Areal Cover				0	

Sapling Species		Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1	<i>Ulmus americana</i>	Elm, American	FACW-	20	1*
2	<i>Acer rubrum</i>	Maple, red	FAC	10	2*
3	<i>Quercus palustris</i>	Oak, pin	FACW	5	3
Sum of Percent Areal Cover				35	
0.5 X Sum of Percent Areal Cover				17.5	

Woody Vine Species		Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1					
2					
3					
Sum of Percent Areal Cover				0	
0.5 X Sum of Percent Areal Cover				0	

[1] Indicator status obtained either from the National List of Plant Species that Occur in Wetlands; 1996 National Summary or 1988 National Summary; N/A indicates the species is unidentifiable due to lack of distinguishing vegetative or reproductive characteristics at time of field survey.

[2] To determine the dominants, first rank the species by their percent areal cover. Then, cumulatively sum the percent areal covers of the ranked species until 50% of the total percent areal cover is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total percent areal cover should be considered dominants and marked with an asterisk

DATA FORM
 ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor	Date: 6/30/2006
Wetland Site: Wetland 15	County: Clermont
Investigator: Balke American (MDV, BL)	State: OH
Do Normal Circumstances exist on the site? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Community ID: forested
Is the site significantly disturbed (Atypical Situation)? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Transect ID: ---
Is the area a potential Problem Area? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Plot ID: ---
(If needed, explain)	Location: point in

VEGETATION

Dominant Plant Species	Stratum	Indicator Status[1]	Dominant Plant Species	Stratum	Indicator Status
1. <i>Lindera benzoin</i>	Herb	FACW-	7. <i>Toxicodendron radicans</i>	W. V.	FAC
2. <i>Carex squarrosa</i>	Herb	FACW	8.		
3. <i>Toxicodendron radicans</i>	Herb	FAC	9.		
4. <i>Acer rubrum</i>	Tree	FAC	10.		
5. <i>Ulmus americana</i>	Tree	FACW-	11.		
6. <i>Acer rubrum</i>	Sap	FAC	12.		

% Dominant Plant Species that are OBL, FACW or FAC (excluding FAC-): 100

Remarks: > 50% Dominant Plant Species present are Hydrophitic

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks)</p> <p><input type="checkbox"/> Stream, Lake, or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in upper 12 Inches</p> <p><input checked="" type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required)</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input checked="" type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: 0 - 36+ (in.) *</p> <p>Depth to Free Water in Pit: >16 (in.)</p> <p>Depth to Saturated Soil: >16 (in.)</p>	
Remarks: 1 Primary Indicators and 2 Secondary Indicators Present; * = 36+" surface water depth in small depression only	

SOILS

Map Unit Name	Drainage Class:			
(Series and Phase): Ct - Clermont silt loam	Field Observations			
Taxonomy (Subgroup):	Confirmed Mapped Type? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Profile Description:				
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Abundance/Size/Contrast	Tex./ Conc./Structure, etc.
0-1"		10YR3/1	---	---
1-16"		10YR4/1	10YR3/6 & 10YR4/6	---
Hydric Soil Indicators:				
<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions			
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils			
<input type="checkbox"/> Sulfuric Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils			
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List			
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List			
<input checked="" type="checkbox"/> Gleyed or Low Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)			
Remarks: 1 Hydric Soil Indicator Present				

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is this Sampling Point Within A Wetland?
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: 3 Wetland Indicators Present	

[1] Indicator Status obtained either from the National List of Plant Species that occur in Wetlands: 1996 National Summary or 1988 National Summary; N/A indicates species is unidentifiable due to lack of distinguishing vegetative or reproductive characteristics at time of field survey.

WETLAND DATA FORM
VEGETATION AND DOMINANT SPECIES

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor
 Wetland Site: Wetland 15 State: OH
 Investigator: Balke American (MDV, BL)
 Description: forested

Date: 6/30/2006
 County: Clermont
 Location: point in

Herbaceous Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 <i>Lindera benzoin</i>	Spicebush, northern	FACW-	20	1*
2 <i>Carex squarrosa</i>	Sedge, squarrose	FACW	10	2*
3 <i>Toxicodendron radicans</i>	Ivy, poison	FAC	10	2*
4 <i>Vinca minor</i>	Myrtle, creeping (periwinkle)	Not Listed	5	3
5 <i>Leersia virginica</i>	whitegrass (cutgrass)	FACW	5	3
6				
7				
8				
9				
10				
Sum of Percent Areal Cover			50	
0.5 X Sum of Percent Areal Cover			15	

Tree Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 <i>Acer rubrum</i>	Maple, red	FAC	60	1*
2 <i>Ulmus americana</i>	Elm, American	FACW-	30	2*
3				
4				
5				
Sum of Percent Areal Cover			90	
0.5 X Sum of Percent Areal Cover			45	

Shrub Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 ---				
2				
3				
Sum of Percent Areal Cover			0	
0.5 X Sum of Percent Areal Cover			0	

Sapling Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 <i>Acer rubrum</i>	Maple, red	FAC	10	1*
2 <i>Nyssa sylvatica</i>	Gum, black	FAC	5	2
3				
Sum of Percent Areal Cover			15	
0.5 X Sum of Percent Areal Cover			7.5	

Woody Vine Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 <i>Toxicodendron radicans</i>	Ivy, poison	FAC	5	1*
2				
3				
Sum of Percent Areal Cover			5	
0.5 X Sum of Percent Areal Cover			2.5	

[1] Indicator status obtained either from the National List of Plant Species that Occur in Wetlands; 1996 National Summary or 1988 National Summary; N/A indicates the species is unidentifiable due to lack of distinguishing vegetative or reproductive characteristics at time of field survey.

[2] To determine the dominants, first rank the species by their percent areal cover. Then, cumulatively sum the percent areal covers of the ranked species until 50% of the total percent areal cover is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total percent areal cover should be considered dominants and marked with an asterisk

DATA FORM
 ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor	Date: 6/30/2006
Wetland Site: Wetland 18	County: Clermont
Investigator: Balke American (MDV, BL)	State: OH
Do Normal Circumstances exist on the site? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Community ID: forested portion of Wetland 18
Is the site significantly disturbed (Atypical Situation)? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Transect ID: ---
Is the area a potential Problem Area? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Plot ID: ---
(If needed, explain)	Location: point in

VEGETATION

Dominant Plant Species	Stratum	Indicator Status[1]	Dominant Plant Species	Stratum	Indicator Status
1. <i>Lonicera mackii</i>	Herb	Not Listed	7.		
2. <i>Toxicodendron radicans</i>	Herb	FAC	8.		
3. <i>Acer rubrum</i>	Tree	FAC	9.		
4. <i>Sambucus canadensis</i>	Shrub	FACW-	10.		
5. <i>Rubus occidentalis</i>	Shrub	Not Listed	11.		
6. <i>Acer rubrum</i>	Sap	FAC	12.		

% Dominant Plant Species that are OBL, FACW or FAC (excluding FAC-): 67

Remarks: > 50% Dominant Plant Species present are Hydrophitic

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks)</p> <p><input type="checkbox"/> Stream, Lake, or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in upper 12 Inches</p> <p><input checked="" type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required)</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input checked="" type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: 0 - 36+ (in.) *</p> <p>Depth to Free Water in Pit: >16 (in.)</p> <p>Depth to Saturated Soil: >16 (in.)</p>	
Remarks: 2 Primary Indicators and 2 Secondary Indicators Present; * = 36" surface water depth in small depression only	

SOILS

Map Unit Name	Drainage Class:			
(Series and Phase): Ct - Clermont silt loam	Field Observations			
Taxonomy (Subgroup):	Confirmed Mapped Type? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Profile Description:				
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Abundance/Size/Contrast	Tex./ Conc./Structure, etc.
0-16"		10YR5/1	10YR45/6	Mn

Hydric Soil Indicators:				
<input type="checkbox"/> Histosol	<input checked="" type="checkbox"/> Concretions			
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils			
<input type="checkbox"/> Sulfuric Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils			
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List			
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List			
<input checked="" type="checkbox"/> Gleyed or Low Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)			
Remarks: 2 Hydric Soil Indicators Present				

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is this Sampling Point Within A Wetland?
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: 3 Wetland Indicators Present	

[1] Indicator Status obtained either from the National List of Plant Species that occur in Wetlands: 1996 National Summary or 1988 National Summary; N/A indicates species is unidentifiable due to lack of distinguishing vegetative or reproductive characteristics at time of field survey.

WETLAND DATA FORM
VEGETATION AND DOMINANT SPECIES

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor
 Wetland Site: Wetland 18 State: OH
 Investigator: Balke American (MDV, BL)
 Description: forested portion of Wetland 18

Date: 6/30/2006
 County: Clermont
 Location: point in

Herbaceous Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 <i>Lonicera mackii</i>	Honeysuckle, bush	Not Listed	3	1*
2 <i>Toxicodendron radicans</i>	Ivy, poison	FAC	2	2*
3				
4				
5				
6				
7				
8				
9				
10				
Sum of Percent Areal Cover			5	
0.5 X Sum of Percent Areal Cover			2.5	

Tree Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 <i>Acer rubrum</i>	Maple, red	FAC	90	1*
2				
3				
4				
5				
Sum of Percent Areal Cover			90	
0.5 X Sum of Percent Areal Cover			45	

Shrub Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 <i>Sambucus canadensis</i>	Elder, American	FACW-	10	1*
2 <i>Rubus occidentalis</i>	Raspberry, black	Not Listed	5	2*
3				
Sum of Percent Areal Cover			15	
0.5 X Sum of Percent Areal Cover			7.5	

Sapling Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 <i>Acer rubrum</i>	Maple, red	FAC	5	1*
2				
3				
Sum of Percent Areal Cover			5	
0.5 X Sum of Percent Areal Cover			2.5	

Woody Vine Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1				
2				
3				
Sum of Percent Areal Cover			0	
0.5 X Sum of Percent Areal Cover			0	

[1] Indicator status obtained either from the National List of Plant Species that Occur in Wetlands; 1996 National Summary or 1988 National Summary; N/A indicates the species is unidentifiable due to lack of distinguishing vegetative or reproductive characteristics at time of field survey.

[2] To determine the dominants, first rank the species by their percent areal cover. Then, cumulatively sum the percent areal covers of the ranked species until 50% of the total percent areal cover is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total percent areal cover should be considered dominants and marked with an asterisk

DATA FORM
 ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project Name: <u>Environmental Red Flag Summary - SR 32 Afton Corridor</u>	Date: <u>6/30/2006</u>
Wetland Site: <u>Wetland 18</u>	County: <u>Clermont</u>
Investigator: <u>Balke American (MDV, BL)</u>	State: <u>OH</u>

Do Normal Circumstances exist on the site? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Community ID: <u>emergent portion of Wetland 18</u>
Is the site significantly disturbed (Atypical Situation)? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Transect ID: <u>---</u>
Is the area a potential Problem Area? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Plot ID: <u>---</u>
(If needed, explain) _____	Location: <u>point in</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator Status[1]	Dominant Plant Species	Stratum	Indicator Status
1. <i>Juncus effesus</i>	Herb	FACW+	7. _____	_____	_____
2. <i>Sambucus canadensis</i>	Shrub	FACW-	8. _____	_____	_____
3. _____	_____	_____	9. _____	_____	_____
4. _____	_____	_____	10. _____	_____	_____
5. _____	_____	_____	11. _____	_____	_____
6. _____	_____	_____	12. _____	_____	_____

% Dominant Plant Species that are OBL, FACW or FAC (excluding FAC-): 100

Remarks: > 50% Dominant Plant Species present are Hydrophitic

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks)</p> <p><input type="checkbox"/> Stream, Lake, or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required)</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0 - 2</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	

Remarks: 3 Primary Indicators and 1 Secondary Indicators Present

SOILS

Map Unit Name (Series and Phase): <u>Ct - Clermont silt loam</u>	Drainage Class: _____
Taxonomy (Subgroup): _____	Field Observations Confirmed Mapped Type? Yes _____ No <input checked="" type="checkbox"/>

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Abundance/Size/Contrast	Tex./ Conc./Structure, etc.
0-1"		10YR4/2	---	---
1-16"		N5/1	10YR4/6	Mn

Hydric Soil Indicators:	<input checked="" type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input checked="" type="checkbox"/> Gleyed or Low Chroma Colors <input type="checkbox"/> Other (Explain in Remarks)
-------------------------	--

Remarks: 2 Hydric Soil Indicators Present

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is this Sampling Point Within A Wetland?
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: 3 Wetland Indicators Present

[1] Indicator Status obtained either from the National List of Plant Species that occur in Wetlands: 1996 National Summary or 1988 National Summary; N/A indicates species is unidentifiable due to lack of distinguishing vegetative or reproductive characteristics at time of field survey.

WETLAND DATA FORM
VEGETATION AND DOMINANT SPECIES

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor
Wetland Site: Wetland 18 State: OH
Investigator: Balke American (MDV, BL)
Description: emergent portion of Wetland 18

Date: 6/30/2006
County: Clermont
Location: point in

Herbaceous Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 <i>Juncus effesus</i>	Rush, soft	FACW+	60	1*
2 <i>Scirpus atrovirens</i>	Bulrush, green	OBL	20	2
3 <i>Ludwigia peploides</i>	Seedbox, floating	OBL	20	2
4 <i>Eleocharis obtusa</i>	Spikerush, blunt	OBL	10	3
5 <i>Typha latifolia</i>	Cattail, common	OBL	5	4
6				
7				
8				
9				
10				
Sum of Percent Areal Cover			115	
0.5 X Sum of Percent Areal Cover			57.5	

Tree Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 ---				
2				
3				
4				
5				
Sum of Percent Areal Cover			0	
0.5 X Sum of Percent Areal Cover			0	

Shrub Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 <i>Sambucus canadensis</i>	Elder, American	FACW-	5	1*
2 <i>Rubus occidentalis</i>	Raspberry, black	Not Listed	3	2
3				
Sum of Percent Areal Cover			8	
0.5 X Sum of Percent Areal Cover			4	

Sapling Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 ---				
2				
3				
Sum of Percent Areal Cover			0	
0.5 X Sum of Percent Areal Cover			0	

Woody Vine Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 ---				
2				
3				
Sum of Percent Areal Cover			0	
0.5 X Sum of Percent Areal Cover			0	

[1] Indicator status obtained either from the National List of Plant Species that Occur in Wetlands; 1996 National Summary or 1988 National Summary; N/A indicates the species is unidentifiable due to lack of distinguishing vegetative or reproductive characteristics at time of field survey.

[2] To determine the dominants, first rank the species by their percent areal cover. Then, cumulatively sum the percent areal covers of the ranked species until 50% of the total percent areal cover is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total percent areal cover should be considered dominants and marked with an asterisk

DATA FORM
 ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor	Date: 6/30/2006
Wetland Site: Wetland 36	County: Clermont
Investigator: Balke American (MDV, BL)	State: OH
Do Normal Circumstances exist on the site? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Community ID: forested portion of wetland 36
Is the site significantly disturbed (Atypical Situation)? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Transect ID: ---
Is the area a potential Problem Area? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Plot ID: ---
(If needed, explain)	Location: point in

VEGETATION

Dominant Plant Species	Stratum	Indicator Status[1]	Dominant Plant Species	Stratum	Indicator Status
1. <i>Toxicodendron radicans</i>	Herb	FAC	7.		
2. <i>Carex squarrosa</i>	Herb	FACW	8.		
3. <i>Acer rubrum</i>	Tree	FAC	9.		
4. <i>Quercus palustris</i>	Tree	FACW	10.		
5. <i>Acer rubrum</i>	Sap	FAC	11.		
6. <i>Toxicodendron radicans</i>	W. V.	FAC	12.		

% Dominant Plant Species that are OBL, FACW or FAC (excluding FAC-): 100

Remarks: > 50% Dominant Plant Species present are Hydrophitic

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks)</p> <p><input type="checkbox"/> Stream, Lake, or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in upper 12 Inches</p> <p><input checked="" type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required)</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: 0 - 48+ (in.) 8</p> <p>Depth to Free Water in Pit: >16 (in.)</p> <p>Depth to Saturated Soil: 10 (in.)</p>	
Remarks: 3 Primary Indicators and 1 Secondary Indicator Present; * = 48" surface water depth in small depression only	

SOILS

Map Unit Name	Drainage Class:			
(Series and Phase): AvA - Avonburg silt loam	Field Observations			
Taxonomy (Subgroup):	Confirmed Mapped Type? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Profile Description:				
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Abundance/Size/Contrast	Tex./ Conc./Structure, etc.
0-4"		10YR3/1	10YR3/6	---
4-8"		10YR4/1	10YR4/6	Mn
8-16"		10YR5/1	10YR5/6	---
Hydric Soil Indicators:				
<input type="checkbox"/> Histosol	<input checked="" type="checkbox"/> Concretions			
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils			
<input type="checkbox"/> Sulfuric Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils			
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List			
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List			
<input checked="" type="checkbox"/> Gleyed or Low Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)			
Remarks: 2 Hydric Soil Indicators Present				

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is this Sampling Point Within A Wetland?
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: 3 Wetland Indicators Present	

[1] Indicator Status obtained either from the National List of Plant Species that occur in Wetlands: 1996 National Summary or 1988 National Summary; N/A indicates species is unidentifiable due to lack of distinguishing vegetative or reproductive characteristics at time of field survey.

WETLAND DATA FORM
VEGETATION AND DOMINANT SPECIES

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor
 Wetland Site: Wetland 36 State: OH
 Investigator: Balke American (MDV, BL)
 Description: forested portion of wetland 36

Date: 6/30/2006
 County: Clermont
 Location: point in

Herbaceous Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 <i>Toxicodendron radicans</i>	Ivy, poison	FAC	40	1*
2 <i>Carex squarrosa</i>	Sedge, squarrose	FACW	15	2*
3 <i>Leersia virginica</i>	whitegrass (cutgrass)	FACW	10	3
4 <i>Impatiens capensis</i>	jewelweed (Touch-Me-Not, spotted)	FACW	5	4
5				
6				
7				
8				
9				
10				
Sum of Percent Areal Cover			70	
0.5 X Sum of Percent Areal Cover			35	

Tree Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 <i>Acer rubrum</i>	Maple, red	FAC	60	1*
2 <i>Quercus palustris</i>	Oak, pin	FACW	20	2*
3 <i>Ulmus americana</i>	Elm, American	FACW-	10	3
4				
5				
Sum of Percent Areal Cover			90	
0.5 X Sum of Percent Areal Cover			45	

Shrub Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 ---				
2				
3				
Sum of Percent Areal Cover			0	
0.5 X Sum of Percent Areal Cover			0	

Sapling Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 <i>Acer rubrum</i>	Maple, red	FAC	10	1*
2 <i>Ulmus americana</i>	Elm, American	FACW-	5	2
3 <i>Carya ovata</i>	Hickory, shagbark	FACU-	5	2
Sum of Percent Areal Cover			20	
0.5 X Sum of Percent Areal Cover			10	

Woody Vine Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 <i>Toxicodendron radicans</i>	Ivy, poison	FAC	5	1*
2				
3				
Sum of Percent Areal Cover			5	
0.5 X Sum of Percent Areal Cover			2.5	

[1] Indicator status obtained either from the National List of Plant Species that Occur in Wetlands; 1996 National Summary or 1988 National Summary; N/A indicates the species is unidentifiable due to lack of distinguishing vegetative or reproductive characteristics at time of field survey.

[2] To determine the dominants, first rank the species by their percent areal cover. Then, cumulatively sum the percent areal covers of the ranked species until 50% of the total percent areal cover is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total percent areal cover should be considered dominants and marked with an asterisk

DATA FORM
 ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor	Date: 6/30/2006
Wetland Site: Wetland 36	County: Clermont
Investigator: Balke American (MDV, BL)	State: OH
Do Normal Circumstances exist on the site? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Community ID: emergent portion of Wetland 36
Is the site significantly disturbed (Atypical Situation)? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Transect ID: ---
Is the area a potential Problem Area? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Plot ID: ---
(If needed, explain) _____	Location: point in

VEGETATION

Dominant Plant Species	Stratum	Indicator Status[1]	Dominant Plant Species	Stratum	Indicator Status
1. <i>Typha angustifolia</i>	Herb	OBL	7. _____	_____	_____
2. <i>Populus deltoides</i>	Sap	FAC	8. _____	_____	_____
3. <i>Salix nigra</i>	Sap	FACW	9. _____	_____	_____
4. _____	_____	_____	10. _____	_____	_____
5. _____	_____	_____	11. _____	_____	_____
6. _____	_____	_____	12. _____	_____	_____

% Dominant Plant Species that are OBL, FACW or FAC (excluding FAC-): **100**

Remarks: **> 50% Dominant Plant Species present are Hydrophitic**

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks)</p> <p><input type="checkbox"/> Stream, Lake, or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required)</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input checked="" type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-2</u> (in.)</p> <p>Depth to Free Water in Pit: <u>>16</u> (in.)</p> <p>Depth to Saturated Soil: <u>>16</u> (in.)</p>	
Remarks: 1 Primary Indicator and 2 Secondary Indicators Present	

SOILS

Map Unit Name (Series and Phase): Ct - Clermont silt loam	Drainage Class: _____			
Taxonomy (Subgroup): _____	Field Observations Confirmed Mapped Type? Yes _____ No <input checked="" type="checkbox"/>			
Profile Description:				
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Abundance/Size/Contrast	Tex./ Conc./Structure, etc.
0-16"		10Y6/1	10YR4/6 & 10YR6/8 & 10B4/1	Mn

Hydric Soil Indicators:				
<input type="checkbox"/> Histosol	<input checked="" type="checkbox"/> Concretions			
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils			
<input type="checkbox"/> Sulfuric Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils			
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List			
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List			
<input checked="" type="checkbox"/> Gleyed or Low Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)			
Remarks: 2 Hydric Soil Indicators Present				

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is this Sampling Point Within A Wetland?
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No _____
Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: 3 Wetland Indicators Present	

[1] Indicator Status obtained either from the National List of Plant Species that occur in Wetlands: 1996 National Summary or 1988 National Summary; N/A indicates species is unidentifiable due to lack of distinguishing vegetative or reproductive characteristics at time of field survey.

WETLAND DATA FORM
VEGETATION AND DOMINANT SPECIES

Project Name: Environmental Red Flag Summary - SR 32 Afton Corridor
 Wetland Site: Wetland 36 State: OH
 Investigator: Balke American (MDV, BL)
 Description: emergent portion of Wetland 36

Date: 6/30/2006
 County: Clermont
 Location: point in

Herbaceous Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 <i>Typha angustifolia</i>	cattail, narrow-leaf	OBL	70	1*
2 <i>Leersia virginica</i>	whitegrass (cutgrass)	FACW	20	2
3 <i>Juncus tenuis</i>	rush, slender	FAC-	15	3
4 <i>Carex vulpinoidea</i>	sedge, fox	OBL	10	4
5 <i>Bidens frondosa</i>	Beggar-ticks, devil's	FACW	5	5
6 <i>Carex frankii</i>	sedge, frank's	OBL	5	5
7 <i>Scirpus pedicellatus</i>	bulrush, stalked	OBL	5	5
8				
9				
10				
Sum of Percent Areal Cover			130	
0.5 X Sum of Percent Areal Cover			65	

Tree Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 ---				
2				
3				
4				
5				
Sum of Percent Areal Cover			0	
0.5 X Sum of Percent Areal Cover			0	

Shrub Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 ---				
2				
3				
Sum of Percent Areal Cover			0	
0.5 X Sum of Percent Areal Cover			0	

Sapling Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 <i>Populus deltoides</i>	cotton-wood, eastern	FAC	10	1*
2 <i>Salix nigra</i>	willow, black	FACW	5	2*
3				
Sum of Percent Areal Cover			15	
0.5 X Sum of Percent Areal Cover			7.5	

Woody Vine Species	Common Name	Indicator [1] Status	Percent Areal Cover	Rank [2]
1 ---				
2				
3				
Sum of Percent Areal Cover			0	
0.5 X Sum of Percent Areal Cover			0	

[1] Indicator status obtained either from the National List of Plant Species that Occur in Wetlands; 1996 National Summary or 1988 National Summary; N/A indicates the species is unidentifiable due to lack of distinguishing vegetative or reproductive characteristics at time of field survey.

[2] To determine the dominants, first rank the species by their percent areal cover. Then, cumulatively sum the percent areal covers of the ranked species until 50% of the total percent areal cover is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total percent areal cover should be considered dominants and marked with an asterisk

SITE NAME/LOCATION Environmental Red Flag Summary - SR 32 Afton Corridor/ Unnamed Tributary #6
 SITE NUMBER #6 RIVER BASIN East Fork Little Miami River DRAINAGE AREA (mi²) 0.55
 LENGTH OF STREAM REACH (ft) 200 LAT. 39°04'56" LONG. 84°05'54" RIVER CODE 2nd RIVER MILE 0.47
 DATE 6/06/06 SCORER Balke American (BL) COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

	TYPE	PERCENT	TYPE	PERCENT	
1.	<input type="checkbox"/> BLDR SLABS [16 pts]	0	<input checked="" type="checkbox"/> SILT [3 pts]	70	HHEI METRIC POINTS Substrate Max = 40 <div style="border: 1px solid black; width: 40px; height: 40px; margin: 5px auto; text-align: center; line-height: 40px;">9</div> A + B
	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	0	<input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	20	
	<input type="checkbox"/> BEDROCK [16 pts]	0	<input type="checkbox"/> FINE DETRITUS [3 pts]	10	
	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	0	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	0	
	<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	0	<input type="checkbox"/> MUCK [0 pts]	0	
	<input type="checkbox"/> SAND (<2 mm) [6 pts]	0	<input type="checkbox"/> ARTIFICIAL [3 pts]	0	
	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0%</u> (A)		(B)		
	SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6			TOTAL NUMBER OF SUBSTRATE TYPES: 3	
2.	Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check <i>ONLY</i> one box):				
	<input checked="" type="checkbox"/> > 30 centimeters [20 pts]		<input type="checkbox"/> > 5 cm - 10 cm [15 pts]		Pool Depth Max = 30 <div style="border: 1px solid black; width: 40px; height: 40px; margin: 5px auto; text-align: center; line-height: 40px;">20</div>
	<input type="checkbox"/> > 22.5 - 30 cm [30 pts]		<input type="checkbox"/> < 5 cm [5 pts]		
	<input type="checkbox"/> > 10 - 22.5 cm [25 pts]		<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]		
	COMMENTS _____			MAXIMUM POOL DEPTH (centimeters): 31	
3.	BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check <i>ONLY</i> one box):				
	<input type="checkbox"/> > 4.0 meters [30 pts]		<input type="checkbox"/> > 1.0 - 1.5 m [15 pts]		Bankfull Width Max = 30 <div style="border: 1px solid black; width: 40px; height: 40px; margin: 5px auto; text-align: center; line-height: 40px;">20</div>
	<input type="checkbox"/> > 3.0 m - 4.0 m [25 pts]		<input type="checkbox"/> ≤ 1.0 m [5 pts]		
	<input checked="" type="checkbox"/> > 1.5 m - 3.0 m [20 pts]				
	COMMENTS _____			AVERAGE BANKFULL WIDTH (meters): 2.0	

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆ NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)		(Most Predominant per Bank)		Conservation Tillage	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide > 10m		Mature Forest, Wetland		Urban or Industrial	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Open Pasture, Row Crop	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow < 5m		Residential, Park, New Field		Mining or Construction	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture			

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input type="checkbox"/> Dry Channel, no water (Ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Backbone Creek Distance from Evaluated Stream 4.2 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangel Name: Williamsburg NRCS Soil Map Page: 20 NRCS Soil Map Stream Order 2nd
County: Clermont Township / City Williamsburg

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 6/1/06 Quantity: 0.5 inches

Photograph Information: Photo #19 (6-15-06), facing downstream; Photos #48-upstream and #49-downstream (6-27-06)

Elevated Turbidity? (Y/N): N Canopy (% open): 60%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) N/A Dissolved Oxygen (mg/l) N/A pH (S.U.) N/A Conductivity (µmhos/cm) N/A

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: urban runoff (residential/roadway trash); surrounding agricultural fields (sedimentation from erosion)

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N

Frogs or Tadpoles Observed? (Y/N) Y Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: Small frogs and tadpoles present in plunge pool

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



**Appendix H:
GIS Files**

(separate DVD)