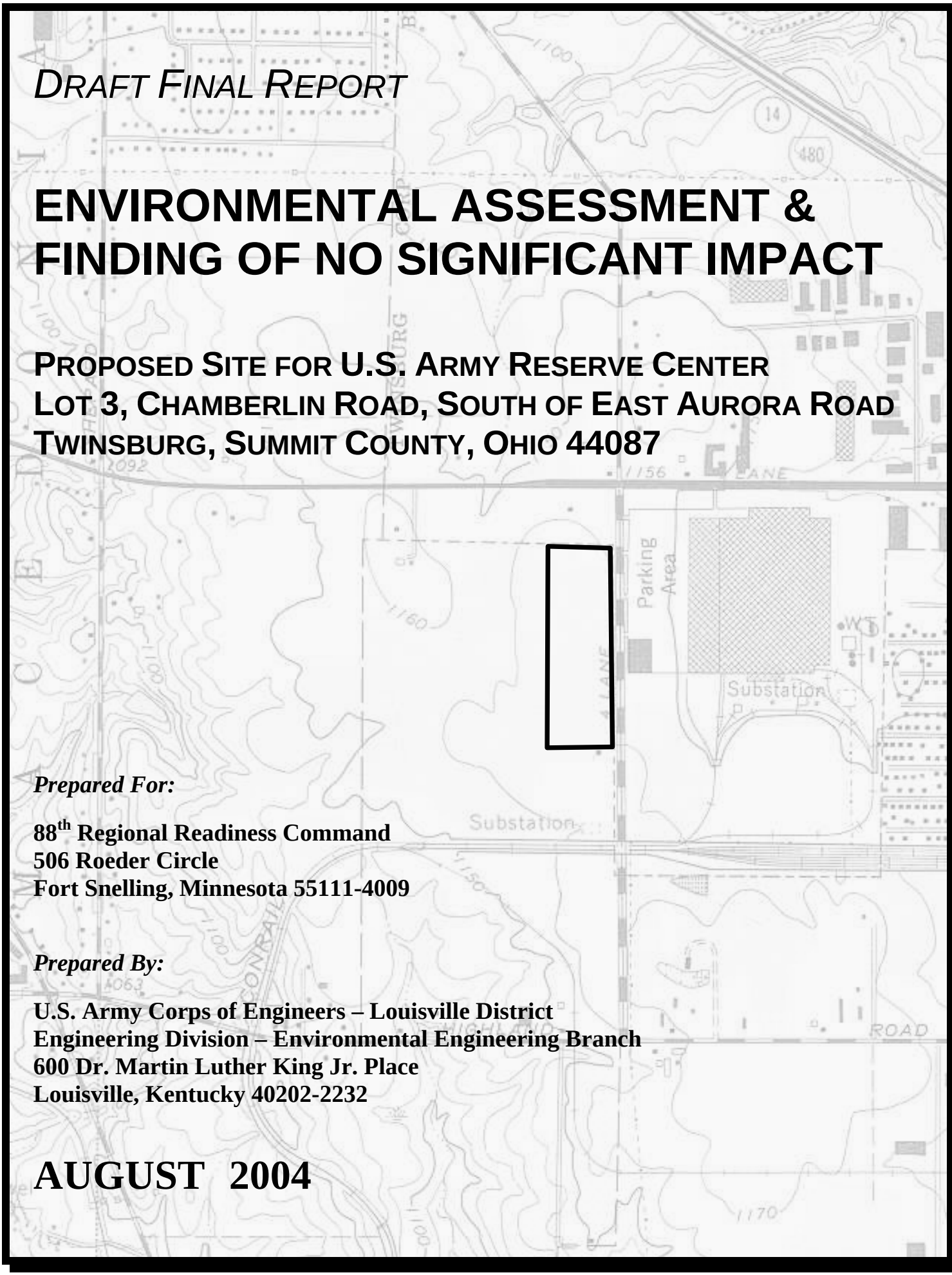
DRAFT FINAL REPORT

ENVIRONMENTAL ASSESSMENT & FINDING OF NO SIGNIFICANT IMPACT

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF EAST AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO 44087



Prepared For:

88th Regional Readiness Command
506 Roeder Circle
Fort Snelling, Minnesota 55111-4009

Prepared By:

U.S. Army Corps of Engineers – Louisville District
Engineering Division – Environmental Engineering Branch
600 Dr. Martin Luther King Jr. Place
Louisville, Kentucky 40202-2232

AUGUST 2004

FINDING OF NO SIGNIFICANT IMPACT

PROPOSED U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF EAST AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO 44087

AUGUST 2004

Pursuant to the Council on Environmental Quality regulations (40 CFR 1500-1508) for implementing the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C 4321 et seq.) and 32 CFR Part 651 (*Environmental Analysis of Army Actions*), the U.S. Army Reserve, 88th Regional Readiness Command, performed an Environmental Assessment (EA) of the potential environmental and human health effects associated with the construction and operation of a new U.S. Army Reserve Center on a 24-acre parcel of land in Twinsburg, Summit County, Ohio.

DESCRIPTION OF PROPOSED ACTION

The proposed action consists of the acquisition of approximately 24 acres of undeveloped land near the southwest corner of Chamberlin Road and East Aurora Road in Twinsburg, Summit County, Ohio, and the construction and operation of a new 900-member Army Reserve Center on this Site. The new Army Reserve Center would consist of an 88,000-square foot administrative and training building, a combined 11,000-square foot Organizational Maintenance Shop (OMS) and Area Maintenance Support Activity (AMSA), a 5,500-square foot unheated storage building, privately-owned vehicle (POV) and military equipment parking (MEP) areas, a covered vehicle/equipment wash platform, a designated medical deployment (DEPMED) training area, and other associated site improvements.

The new Center would be constructed to provide properly-equipped, integrated training facilities for 16 Army Reserve units in the Cleveland regional area that are currently housed at six separate facilities. These six facilities include: 1) the Kingston H. Mote Army Reserve Center, located at 5301 Hauserman Road in Parma; 2) the 2LT William S. Huisman Army Reserve Center, located at 25445 Harvard Road in Beachwood; 3) the 428th Warehouse, located at 23550 Commerce Parkway in Beachwood; 4) the Brooklyn Army Reserve Center, located at 11500 Brookpark Road in Brooklyn; 5) the AMSA #123, located at 371 East Aurora Road in Macedonia; and 6) the Elyria Guard facility. Under the proposed action, these existing facilities would be closed and the affected units, along with associated military equipment, would be moved to the new Center. In addition, the possible real property exchange of an existing facility, the 2LT William S. Huisman Army Reserve Center, for all or a portion of the proposed construction Site, which would be purchased by the City of Beachwood, is included in the proposed action. The City of Beachwood would gain the 4.65-acre Huisman Army Reserve Center, which contains two primary buildings and vehicle parking and staging areas. Detailed information concerning the proposed action may be found in the attached EA.

ALTERNATIVES CONSIDERED

Alternatives to the proposed action that were considered included: continuing operations at the existing Army Reserve centers (i.e., No-Action alternative); integrating the assigned units into another existing facility in the surrounding area; or acquire different tracts of land in the Cleveland area for construction of the proposed Army Reserve Center.

The No-Action alternative would result in no new facilities being constructed. This alternative would adversely impact future operations of the Army Reserve units in the Cleveland area, as the existing

facilities are substandard, overcrowded, old, and very expensive to maintain/lease. The Office of the Chief of the Army Reserve (OCAR) has determined that the No-Action alternative is not satisfactory for the following reasons: the leases are too costly; the existing facilities do not meet the training needs of the units; and the facilities do not meet security standards.

As a second alternative to the proposed action, existing National Guard and Army Reserve centers in the surrounding area were evaluated as potential locations for joint use potential. Based upon mission requirements, operational considerations, and the locations of these facilities, it was determined that these existing facilities are not compatible for integration with the assigned Army Reserve units. As such, this alternative is not viable and was eliminated from further consideration within the EA.

As a third type of alternative, a total of six tracts of land were evaluated as potential building sites for the new Army Reserve Center. The attached EA describes each of the six tracts that were evaluated. During site evaluation, five of the six building sites were eliminated from further consideration due to one or more of the following reasons: purchase price was too expensive; poor site access; remote location; local opposition; and the additional cost associated with installation of new utilities. The remaining site was selected as the proposed building site.

POTENTIAL ENVIRONMENTAL IMPACTS

The attached EA describes the environmental characteristics that may possibly be affected by the proposed action, and determines the significance of the impact to each of the characteristics. The EA concluded that the proposed construction of a new Army Reserve Center on the 24-acre parcel of land in Twinsburg, Summit County, Ohio would not have a significant adverse impact, either direct or cumulative, on the natural or human environment in the area of potential effect for this action. The proposed action would provide the necessary training facilities, including adequate administrative, training, assembly, supply storage areas, and maintenance areas to support all assigned unit requirements and operations. The proposed action would also provide a public benefit by providing the City of Beachwood with property that is in a desirable location for municipal use.

Three necessary mitigation measures were identified in the EA that would require follow-up action during the design and construction phase of the proposed project. First, the proposed Site lies within a region having a predicted average indoor radon concentration that exceeds the Federal radon action level of 4.0 picoCuries per liter. As such, the site design must include provisions for a radon collection system. Based upon post-construction radon monitoring, an exhaust system would be installed, if necessary. Secondly, unless a site survey is conducted and confirms the absence of the endangered Indiana bat, tree removal activities must be limited to a timeframe between mid-September and mid-April in order to avoid impacting a habitat for the Indiana bat. Finally, an anticipated 2.91 acres of regulated wetlands would be lost under the proposed action. Wetland mitigation in accordance with the Federal Section 404 permitting program and the State Section 401 permitting program must be conducted to mitigate wetland impacts; it is anticipated that 7.3 acres of new wetlands would be financially funded under the proposed action.

NEPA CONSIDERATIONS

Based upon the analysis of potential impacts, which are documented in the attached EA, it has been determined that the proposed action does not constitute a major Federal action affecting the quality of human health or the environment. Because there would be no significant impact resulting from the implementation of the proposed action, the next higher level of environmental impact investigation under NEPA for this action, an Environmental Impact Statement, is not required.

PUBLIC REVIEW AND COMMENT

A copy of the EA will be made available for review on the Internet at www.usarc.army.mil/88thrrc/ and at the public libraries that are closest to the affected existing facilities and the proposed construction Site, which include the Akron-Summit County Public Library - Nordonia Hills Branch, the Twinsburg Public Library, the Cleveland Public Library – Brooklyn Branch, the Cuyahoga County Public Library – Beachwood Branch and Parma-Ridge Branch, and the Elyria Main Library. Public comment will be invited for a period of thirty days after publication of a Notice of 30-Day Period for Public Comment in seven local newspapers, the Cleveland Plain Dealer, the Akron Beacon Journal, the Twinsburg Sun, the Beachwood Sun Press, the Brooklyn Sun Journal, the Parma Sun Post, and the Elyria Chronicle Telegram. The Notice will provide specific information identifying the project proponent and lead agency, a brief description of the project, where to find the EA, and how and when to provide comments. The public will be instructed to send written comments to the U.S. Army Corps of Engineers, P.O. Box 59, ATTN: CELRL-ED-EB (Nora Keel), Louisville, KY 40201-0059, or via electronic mail to nora.l.keel@lrl02.usace.army.mil, or via facsimile to 502-315-6309.

SIGNATURES

Approved by: _____

FOR THE COMMANDER
JAMES A. LUNDELL
Deputy, Management and Support
88th Regional Readiness Command

Recommended By: _____

KURT F. ZACHARIAS
Chief, Environmental Division
88th Regional Readiness Command

Reviewed By: _____

LISA GULBRANSON
Environmental Planner
TAD-PGS Contractor, 88th Regional Readiness Command

Prepared By: _____

NORA L. KEEL, P.E.
Environmental Engineer
U.S. Army Corps of Engineers, Louisville District

DRAFT FINAL REPORT

ENVIRONMENTAL ASSESSMENT

PROPOSED U.S. ARMY RESERVE CENTER
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TWINSBURG, SUMMIT COUNTY, OHIO 44087

Prepared For:

88th Regional Readiness Command
506 Roeder Circle
Fort Snelling, Minnesota 55111-4009

Prepared By:

U.S. Army Corps of Engineers – Louisville District
Engineering Division – Environmental Engineering Branch
600 Dr. Martin Luther King, Jr. Place
Louisville, Kentucky 40202-2232

AUGUST 2004

ENVIRONMENTAL ASSESSMENT
SIGNATURE SHEET

Approved by:

FOR THE COMMANDER **Date**
JAMES A. LUNDELL
Deputy, Management and Support
88th Regional Readiness Command

Recommended By:

KURT F. ZACHARIAS **Date**
Chief, Environmental Division
88th Regional Readiness Command

Reviewed By:

LISA GULBRANSON **Date**
Environmental Planner
TAD-PGS Contractor, 88th Regional Readiness Command

Prepared By:

NORA L. KEEL, P.E. **Date**
Environmental Engineer
U.S. Army Corps of Engineers, Louisville District

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LIST OF ABBREVIATIONS & ACRONYMS

AMSA	Area Maintenance Support Activity
AR	Army Regulation
ARAQMD	Akron Regional Air Quality Management District
BE	Biological Evaluation
bls	below land surface
BMPs	best management practices
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
City	City of Beachwood, Ohio
dB	decibels
DEPMED	designated medical deployment
DNL	day-night average sound level
EA	environmental assessment
EBS	environmental baseline survey
ESA	Endangered Species Act
HVAC	heating ventilation / air conditioning
MEP	military equipment parking
msl	mean sea level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OCAR	Office of the Chief Army Reserve
Ohio DNR	Ohio Department of Natural Resources
Ohio EPA	Ohio Environmental Protection Agency
OHPO	Ohio Historic Preservation Office
OHS	Ohio Historical Society State Library and Archives
OMS	organizational maintenance shop
PCB	polychlorinated biphenyl
pCi/l	picoCuries per liter of air
POV	privately owned vehicles
RRC	Regional Readiness Command
Site	24-acre parcel of land in Twinsburg, Summit County, Ohio
SWP3	storm water pollution prevention plan
T&E	threatened and endangered
UAW	United Auto Workers
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Survey
UST	underground petroleum storage tank

SECTION 1
INTRODUCTION

1.1 GENERAL

This Environmental Assessment (EA) has been prepared for the 88th Regional Readiness Command (RRC) of the U.S. Army Reserve to address the effects of construction and operation of an 900-member U.S. Army Reserve Center on a 24-acre parcel of land ("Site") in Twinsburg, Summit County, Ohio. The Site is located along western right-of-way of Chamberlin Road, approximately 500 feet south of East Aurora Road (State Route 82), and abuts the eastern municipal boundary of the City of Macedonia. This EA has been prepared in accordance with the National Environmental Policy Act (NEPA), Section 102(2)(C); the Council on Environmental Quality "Regulations for Implementing the Procedural Provisions of NEPA"; 40 Code of Federal Regulations (CFR), Parts 1500 through 1508; and 32 CFR 651, "Environmental Analysis of Army Actions."

The objective of this EA is to determine the magnitude of the environmental impacts of the proposed action. If such impacts are found to be relatively minor, a Finding of No Significant Impact document would be prepared and the proposed action would proceed. If the environmental impacts are found to be significant according to Council on Environmental Quality criteria (40 CFR 1508.27), a Notice of Intent would be published and an Environmental Impact Statement would be prepared before deciding whether or not to implement the proposed action.

1.2 PURPOSE AND NEED

The proposed Army Reserve Center would be constructed to provide properly-equipped, integrated training facilities for assigned Army Reserve units that are currently housed at three separate leased facilities and two other substandard, government-owned facilities in the Cleveland, Ohio metropolitan area. The proposed Army Reserve Center would also provide necessary storage facilities, as current storage space consists of substandard capacity that is borrowed from the National Guard at a location 50 miles away, in Elyria, Ohio. Current Army Reserve facilities are overcrowded, old, and very expensive to maintain/lease. Existing training space is not adequate and is not well utilized, due to its dysfunctional configuration and remote storage of training equipment. With regard to the current leased facilities, the leased facility in Elyria, Ohio is not situated in a desirable location, as it is a considerable distance from where most of the soldiers live. With regard to the two government-owned facilities, renovations are required to accommodate continued use, but sufficient land is not available for the needed expansion.

1.3 PUBLIC INVOLVEMENT

The NEPA process is designed to involve the public in federal decision-making. Public involvement and intergovernmental coordination and consultation are recognized as essential elements in the development of an EA. Formal notification and opportunities for public participation, as well as informal coordination with government agencies and planners, have and will continue to occur throughout the EA process.

A copy of the EA will be made available for review on the Internet at www.usarc.army.mil/88thrrc/ and at the public libraries that are closest to the affected existing facilities and the proposed construction Site, which include the Akron-Summit County Public Library - Nordonia Hills Branch, the Twinsburg Public Library, the Cleveland Public Library – Brooklyn Branch, the Cuyahoga County Public Library – Beachwood Branch and Parma-Ridge Branch, and the Elyria Main Library. Public comment will be invited for a period of thirty days after publication of a Notice of 30-Day Period for Public Comment in seven local newspapers, the Cleveland Plain Dealer, the Akron Beacon Journal, the Twinsburg Sun, the Beachwood Sun Press, the Brooklyn Sun Journal, the Parma Sun Post, and the Elyria Chronicle Telegram. The Notice will provide specific information identifying the project proponent and lead agency, a brief description of the project, where to find the EA, and how and when to provide comments. The public will be instructed to send written comments to the U.S. Army Corps of Engineers, P.O. Box 59, ATTN: CELRL-ED-EB (Nora Keel), Louisville, KY 40201-0059, or via electronic mail to nora.l.keel@lrl02.usace.army.mil, or via facsimile to 502-315-6309.

SECTION 2

ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1 GENERAL

It is the objective of the 88th RRC to construct and operate an integrated U.S. Army Reserve Center on a 24-acre parcel of land ("Site"), located along western right-of-way of Chamberlin Road, approximately 500 feet south of East Aurora Road (State Route 82), in Twinsburg, Summit County, Ohio. The Army Reserve Center would serve the Cleveland, Ohio metropolitan area and would provide properly-equipped and properly-secured facilities for readiness training of members assigned to the affected Army Reserve units.

2.2 VIABLE COURSES OF ACTION OR ALTERNATIVES

The U.S. Army Reserves reviewed the following three optional courses of action or alternatives for meeting the objective of the 88th RRC: (1) continue operations at the existing facilities (i.e., No-Action alternative); (2) integrate the assigned units into another existing facility in the surrounding area; or (3) purchase new property in the Cleveland area and build a new Army Reserve Center. The following subsections discuss each of these alternatives and provide the viability of each alternative. The proposed action was subsequently chosen based upon the viability of the various alternatives that were evaluated.

2.2.1 No-Action Alternative

This alternative would include the continued lease at the three existing leased facilities and the continued operation and maintenance of the two government-owned facilities. The present lack of adequate training, storage, maintenance, and administrative space would continue to impair the attainment of required mobilization readiness levels under the No-Action alternative. Operational costs would also continue to escalate, which would continue to drain an already strained operation and maintenance budget, and would preclude much needed maintenance and repair of other Army Reserve facilities. According to the Fiscal Year 2004 Military Construction report, the current facilities are substandard, overcrowded, old, and very expensive to maintain/lease. The Office of the Chief Army Reserve (OCAR) has determined that the No-Action alternative is not satisfactory for the following reasons: the leases are too costly; the existing facilities do not meet the training needs of the units; and the facilities do not meet security standards.

2.2.2 Integration of Assigned Units with another Existing Facility in the Area

This alternative would consist of relocating the assigned Army Reserve units to another existing facility or facilities in the Cleveland area. Other facility locations that were evaluated were other active National Guard and Army Reserve installations in the Cleveland area. The facilities considered and their corresponding distance from the proposed site location, are as follows:

a) An existing Army Reserve Center in Beachwood, Ohio, within ten miles of the Site;

b) An existing U.S. Naval Base in Cleveland, Ohio, within five miles of the Site;

c) An existing National Guard Armory in Cleveland, Ohio, within 15 miles of Site;

d) An existing Army Reserve Center in Brooklyn, Ohio, within ten miles of the Site; and

e) An existing Army Reserve Center in Parma, Ohio, within 20 miles of the Site.

The facilities listed above were examined by the OCAR. The Deputy Assistant to the Secretary of the Army (Installation and Housing) has certified that this project was considered for joint use potential. However, the mission requirements, operational considerations, and locations of the alternative facilities were determined to be incompatible for integration with the assigned Army Reserve units. As such, the OCAR has determined that this alternative is not viable.

2.2.3 Purchase Property for Construction of a New Reserve Center

Under this alternative, the U.S. Army Reserves would acquire land, and construct and operate a new Army Reserve Center in the Cleveland area, and dispose of the two existing government facilities. If new land were to be acquired via a fee purchase, then the cost of the land acquisition would be incurred in addition to the cost of constructing a new Army Reserve Center. If new land were to be acquired via the Army Reserve Real Estate Exchange Program, then existing Army Reserve property would be exchanged for new land that can be built upon, and the cost of land acquisition would not be incurred. Long-term cost savings with regard to operation and maintenance of a new, energy-efficient and space-efficient facility would be realized.

The U.S. Army Reserve Command, 88th RRC, and Installation Management Agency – Army Reserve Division evaluated a total of six available building locations for the proposed Army Reserve Center. The criteria used to evaluate the alternative building locations are the considerations of efficient military operations, OCAR criteria, as outlined in the Department of the Army Architectural and Engineering Design Criteria, dated 3 July 1994, and the Architect-Engineer Design Guide for Military Construction, dated February 2, 1995. These considerations consist of: property cost, land development costs, availability of services and utilities, adequate development area, proximity to floodplain, and visibility. The following subsections present the alternative building locations that were evaluated for possible purchase and associated construction limitations. Figure 1 in Appendix A provides the locations of these six sites relative to each other.

2.2.3.1 Building Location A – 35 Acres in Bedford Heights, Ohio

This building location consisted of 35 acres of land in Bedford Heights, at 24700 Miles Road. The property was open, vacant land with no vegetative cover, but once contained a manufacturing building. The former building was demolished and the seller disclosed that there had been some environmental testing and cleanup performed on site. The ground surface over the front half of this property had small asphalt and concrete fragments. Adjacent land uses included a Coca Cola bottling plant and a Lowe's Hardware store. This property was fairly level with a slight downgrade to the rear of the property. At the rear of the property was a small ditch. There were some old abandoned 55-gallon drums present on one side of the property during the November 2001 site visit. This location was eliminated from further consideration due to the price of the property.

2.2.3.2 Building Location B – 20+ Acres in Middleburg Heights, Ohio

This building location consisted of 20+ acres of land in the back portion of a small, relatively new industrial/business park, the Commerce Center of Middleburg Heights. The entire area of this property was used for the dumping of construction debris that primarily consisted of concrete rubble piles. A creek was situated in the rear of the property, where old tires have been dumped. There was a concrete recycling facility abutting the property on one side. Existing vegetative cover was primarily woodlands,

but also consisted of a mix of grasses and shrubs. The creek at the rear of the property, along with the ditch and a sewer line that were situated along one side of the property, reduced the useable amount of land. Potential environmental concern was associated with past disposal activities on this property, while the ditch and creek raised geotechnical concerns. This location was eliminated from further evaluation due to poor access to and from the property and the price of the property.

2.2.3.3 Building Location C – 20+ Acres in Strongsville, Ohio

This building location consisted of 20+ acres of land in the back portion of a new industrial/business park, the Strongsville Business Park. Two parcels of land (Parcels 1 and 3) would have been combined to provide sufficient land for the proposed Army Reserve Center. This property was stripped of topsoil and had no vegetative cover. The existing soil cover appeared to be glacial till. The ground surface was fairly level with a small natural ditch at the rear of the property. This property did not appear to pose any environmental or geotechnical concerns. However, this location was eliminated from further consideration due to its poor access and its remote location (i.e., outside the "boundary" of the geographic area that was being investigated for the proposed facility).

2.2.3.4 Building Location D – 20 Acres in Macedonia, Ohio

This building location consisted of 20 acres of land along North Freeway Drive in Macedonia. This property was located at the top of a small hill, was wooded with various-sized trees, and contained a small pond near the center of the property. As reported, existing wetlands had been mitigated on the property; however, written documentation to support this determination was not obtained. The local municipality was currently planning to build a new road and to install utilities to the property. There was a high-tension power line and a railroad line at the rear of the property. The property had a 15- to 20-foot grade change and there had been some environmental and geotechnical drilling done on site, which produced favorable results. However, this location was eliminated from further consideration due to price of the property and the additional cost associated with installation of new utilities.

2.2.3.5 Building Location E – 22 Acres in Boston Heights, Ohio

This building location consisted of 22 acres of land situated just south of the intersection of East Hines Hill Road and Olde Eight Road within the Village of Boston Heights. This property is located at the top of a hill and is relatively level. The front half of the property is a grassy field and the rear half is wooded with some dense growth. Field observations indicated that the ground appeared to be glacial till with visible rock outings in an adjacent toll road cut. This property does not appear to pose any environmental or geotechnical concerns. Abutting land uses include a golf course/driving range. The property has fairly good access. This property was originally the preferred building site for the proposed Army Reserve Center and was purchased for such use in 2002. However, this property was later eliminated from further consideration due to local opposition to the use of this property for Federal (non-taxable) purposes and the inability to acquire the necessary utility easements.

2.2.3.6 Building Location F – 24.09 Acres in Twinsburg, Summit County, Ohio

This building location consists of 24.09 acres of undeveloped, wooded land, located along western right-of-way of Chamberlin Road, approximately 500 feet south of East Aurora Road (State Route 82). This property contains no building structures, is heavily forested, and is zoned for industrial use. This property gently slopes toward the southwest and northwest, falling approximately six feet, and contains 4.27 acres of regulated wetland areas. This property is bordered by undeveloped forested parcels and a union hall. This property has good access and available utility connections.

2.3 DESCRIPTION OF THE PROPOSED ACTION

As presented in the preceding subsections, a total of 12 optional courses of action were evaluated with regard to providing necessary facilities for the 16 assigned U.S. Army Reserve units. Overall, ten of the eleven alternatives considered are not viable based upon OCAR requirements. The only viable alternative is the acquisition of a portion of Building Location F and construction of a new Army Reserve Center. Accordingly, the existing Army Reserve centers would be closed and the personnel and military equipment would be moved to the new facility. The Joint Service Reserve Component Facility Board unilaterally recommended construction of a new Army Reserve Center at the 24-acre tract of land on Chamberlin Road in Twinsburg, which is located in Summit County, for the following reasons:

1. This property is within the RRC jurisdictional area;
2. This property met the OCAR criteria for siting; and
3. This property met the Architect –Engineer Design Guide for Military Construction with respect to considerations for efficient military operations.

2.3.1 Land Acquisition

Under the proposed action, the 88th RRC of the U.S. Army Reserve would purchase approximately 24 acres of undeveloped, forested land along the western right-of-way of Chamberlin Road, just south of East Aurora Road, in Twinsburg, Summit County, Ohio, and would construct and operate a new 900-member Army Reserve Center. Twinsburg lies approximately seven miles southeast of the city limits of Cleveland, Ohio, and approximately 20 miles from downtown Cleveland and Lake Erie. Figures 2 and 3 in Appendix A show the general location and boundary of the proposed Site. The proposed Site contains no building structures, is heavily forested, and is zoned for industrial use. The proposed Site gently slopes toward the southwest and northwest, falling approximately six feet, and contains 4.27 acres of regulated wetland areas. Adjacent land parcels include: an undeveloped, forested industrial tract to the north; the Daimler Chrysler Twinsburg Stamping Plant to the east, beyond Chamberlin Road; the United Auto Workers (UAW) Local 122 meeting facility to the south; and an undeveloped, forested tract to the west, which is part of Longwood Park, the City of Macedonia's largest park. Figure 4 in Appendix A provides a 2001 aerial photograph of the proposed Site and surrounding properties, which depicts current land use.

During the planning stages of selecting and acquiring new land, the possibility of entering a proposed military construction project into the Army Reserve Real Estate Exchange Program is routinely evaluated. Within this Program, the Army Reserve identifies a prospective exchange partner that is interested in exchanging land for an existing, occupied Army Reserve property. Entering a proposed military construction project into this Program reduces the capital needed to acquire the new land for the proposed construction project. In return, the exchange partner gains property that is in a desirable location and immediately available for re-use, once the Army Reserve has completed the construction project on the new land. If no prospective exchange partners are identified for a given project, then land is acquired via a fee purchase.

A prospective exchange partner, the City of Beachwood, has expressed interest in purchasing all or a portion of the proposed Site on Chamberlin Road in Twinsburg in exchange for the 2 LT William S. Huisman U.S. Army Reserve Center, located at 25445 Harvard Road, which is located in the extreme southern portion of the City in Cuyahoga County, Ohio. Figure 5 in Appendix A provides the location of

this Army Reserve Center in relation to the City of Beachwood municipal boundary. The Huisman Army Reserve Center is currently occupied by the 428th Quarter Master Company and the 319th Quarter Master Battalion, which are Army Reserve units that would be relocated to the new Army Reserve Center, once it is operational. This Center occupies 4.65 acres of land and contains two building structures, an administration building and a maintenance building, and vehicle parking and staging areas. According to Mr. Paul Levin, the Assistant Law Director for the City of Beachwood, the City has not formulated any specific plans for the buildings or the property. However, among the possible uses that have been discussed are using the property as a service department facility, which might include maintenance of City vehicles and equipment, for City administrative purposes (administrative offices), or as a fire station. The Army Reserve Center is surrounded by undeveloped property that is zoned for commercial development. Since the exchange of real estate with the City of Beachwood is a viable alternative, the various aspects of this exchange have been incorporated into the proposed action.

2.3.2 Construction of a New Army Reserve Center

The proposed Army Reserve Center would include the following structures: a 88,000-square foot administrative and training building, a 15,000-square foot maintenance building, a 5,500-square foot unheated storage building**,** and site improvements, including paved access roads and parking areas. A pervious, designated medical deployment (DEPMED) training area would also be constructed, along with necessary utility installation. Figure 6 in Appendix A provides a conceptual site layout for the proposed construction. This conceptual site layout is subject to change over the course of the architectural and engineering design. However, for the purposes of environmental assessment of the proposed action, this plan provides the pertinent information required to assess potential environmental impacts of the proposed action.

The training building would provide administrative, assembly, education, storage, special training, and support areas for U.S. Army Reserve personnel assigned to the Army Reserve Center. A kitchen and arms vault would also be located within the training building. The maintenance building, referred to as a combined organizational maintenance shop (OMS) and area maintenance support activity (AMSA), would provide space to accomplish organizational maintenance activities on military equipment and vehicles (i.e., topping off fluids, oil changes, etc.) and general maintenance support (i.e., rebuilding of major logistical components) by Army Reserve units. The OMS/AMSA would consist of eight vehicle/equipment work bays, a welding area, administrative areas, tool and parts storage areas, a battery and equipment storage room, a flammable storage area, a controlled waste storage room, necessary restrooms, and mechanical/custodial areas. Up to four covered, outdoor vehicle/equipment wash pads, equipped with oil/water separators would also be constructed adjacent to the OMS/AMSA. The unheated storage facility would provide unit and individual storage areas, and a staging area.

Other associated site improvements would include the following: interior and exterior telecommunications systems; paving; security lighting; utility services; storm drainage; and site signage. The project would include energy efficient lighting, automated building heating/ventilation/air conditioning and lighting system controls, and a fire suppression sprinkling system. An intrusion detection system would be provided for the arms vault inside the training building. Force Protection (physical security) measures would be incorporated into the design and would include maximum feasible standoff distances from roads, parking areas, and vehicle loading areas, as well as berms, heavy landscaping, and bollards to prevent access when standoff distances cannot be maintained.

2.3.3 Closure of Existing Army Reserve Facilities & Relocation of Assigned Units

Under the proposed action, the six existing facilities in the Cleveland metropolitan area would be closed and the affected units, along with associated military equipment, would be moved to the new Center. These six facilities include: 1) the Kingston H. Mote Army Reserve Center, located at 5301 Hauserman Road in Parma; 2) the 2LT William S. Huisman Army Reserve Center, located at 25445 Harvard Road in Beachwood; 3) the 428th Warehouse, located at 23550 Commerce Parkway in Beachwood; 4) the Brooklyn Army Reserve Center, located at 11500 Brookpark Road in Brooklyn; 5) the AMSA #123, located at 371 East Aurora Road in Macedonia; and 6) the Elyria Guard facility. Figure 7 in Appendix A shows the locations of these six existing facilities. Figure 8 in Appendix A provides photographic views of each of these existing facilities.

2.3.4 Operations at the New Army Reserve Center

The 16 U.S. Army Reserve units assigned to the new facility would include five psychological operations units, four medical units, two supply units, and one unit in each of the following five areas: dental, legal military intelligence, and civil affairs. Although an estimated 950 Army Reserve personnel would be assigned to the Center, occupation of the Site would inherently occur over the weekends (Friday evening through Sunday) by the reservists. It is anticipated that only 80 full-time personnel would occupy the Army Reserve Center during the five-day workweek. These full-time personnel would serve an administrative function, with the exception of ten AMSA automotive engineers that would perform maintenance activities. Aside from privately-owned vehicle (POV) traffic, other vehicles entering the Site during the workweek would include those typical of business operations, including U.S. mail delivery and receipt of supplies and equipment.

Approximately 870 U.S. Army reservists, who would be primarily administrative and support personnel, would serve at the Site during the first three weekends of every month. The population expected to occupy the Site during any given weekend would range from 280 to 300 reservists. Of the weekend reservists assigned to the Army Reserve Center, 20 to 30 reservists would occupy the OMS as automotive mechanics; ten mechanics on any of the given drill weekends. The military vehicles and equipment assigned to the Army Reserve Center would include 166 military vehicles (light-duty and heavy-duty trucks); 164 trailers; and 67 crew-served weapons. Military vehicles and equipment would be staged inside a secured military equipment parking (MEP) area. Most activities at the new Center would be conducted indoors. Some outdoor activities that would occur include physical training, individual soldier skills training (e.g., first aid, land navigation, radio communications, etc.), small unit-level training (involving 20 people or less), vehicle repositioning, vehicle washing on the covered outdoor wash platforms, and DEPMEDs training, where medical personnel would practice setting up tent-enclosed temporary medical facilities.

SECTION 3

EXISTING ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND MITIGATION

This section describes the existing environment that could potentially be affected by the proposed action. Information gathered from site visits, interviews, documentation received, and contacts made with Federal, State, and local agencies were used to characterize the existing environment. Section 5 of this report includes publications used as references and names of persons and agencies contacted.

This section also identifies the environmental consequences of the proposed action and the No-Action alternative, as related to land use, site geology and topography, water resources, air quality, natural resources, cultural resources, noise, parks and recreation, visual resources, transportation, traffic, utility infrastructure, solid waste and hazardous materials management, public services, and environmental justice. Any mitigation activities that would be implemented in order to prevent or minimize potential impacts to the environment are also presented and discussed within this section.

3.1 LAND USE

3.1.1 Existing Environment

Figure 4 in Appendix A provides a September 2001 aerial view of the proposed construction Site and surrounding properties. The Site encompasses 24.095 acres of land that is rectangular in shape and heavily forested. The Site is zoned for industrial use, but is undeveloped and contains no building structures. The Site is relatively flat, with a gentle slope downward from the southwest corner of the Site to the northern end of the Site. The Site is located in a mixed-use area of Summit County, Ohio, and is currently bordered on the north and west by woodlands. The parcel to the north of the Site is an undeveloped industrial parcel, which is currently on the market for sale. The land to the west is within the City of Macedonia and is part of the adjacent Longwood Park, a general recreational area. Beyond Chamberlin Road to the east lies the 2.4-million square-foot Daimler Chrysler Twinsburg Stamping Plant, which employs approximately 2,145 employees and produces large sheet metal stampings and assemblies for minivans and trucks. The parcel to the south of the Site is developed and contains the UAW Local 122 building, which is one of the two unions that operate at the Stamping Plant. This parcel contains one building, which is situated in close proximity to the southern boundary of the Site, paved parking areas, manicured lawn areas, and a picnic area.

Figure 9 in Appendix A provides a September 2001 aerial view of the active Huisman Army Reserve Center and surrounding properties. This property encompasses approximately 4.65 acres of land that is rectangular in shape. There are two primary structures on the property: a 28,950-square foot, two-story administration building that was constructed in 1962; and a 6,580-square foot, five-bay maintenance building (OMS) that was constructed in 1963. The central portion of the property is covered by asphalt parking areas for military vehicles and POVs. A chain-link security fence surrounds the OMS and MEP areas. The remainder of the property consists of grassy, landscaped areas surrounding the buildings, and a sparse population of deciduous and coniferous trees around the buildings and along the property boundaries. Currently, the Army Reserve Center is bordered to the north, east, and west by undeveloped,

commercial property that is owned by Chagrin Highlands Development Company. The Cuyahoga Community College is located directly south of the Army Reserve Center, beyond Harvard Road.

3.1.2 Environmental Consequences of the Proposed Action

The proposed construction Site has been zoned by both the Twinsburg Township and the City of Twinsburg as an industrial parcel. Use of the Site as an Army Reserve Center, including administrative, storage, and maintenance functions, would fall within the permitted uses of industrial parcels. As part of the site design for the proposed action, coordination with the Township and City zoning and development agencies would occur. Proposed site plans, as depicted in Figure 6 in Appendix A, would meet all applicable building requirements, which include: 1) a 50-foot front yard set-back for buildings and parking areas; 2) a 25-foot backyard and side yard set-back for buildings; 3) a 35-foot maximum building height (without the requirement for additional yard setbacks); 4) no on-street parking requirements; and 5) 15-foot perimeter landscape buffers for parking lots, which can be located within the building setback areas.

The proposed action would provide a 900-member Army Reserve Center with administrative, assembly, education, storage, special training, maintenance, and support areas for 16 Army Reserve units. The 16 U.S. Army Reserve units assigned to the new facility would include five psychological operations units, four medical units, two supply units, and one unit in each of the following five areas: dental, legal military intelligence, and civil affairs. The intended image to be created by the developed parcel would be comparable to a good-quality contemporary office building. The training building would essentially function as an administrative and training/educational facility, as approximately 70 administrative personnel would occupy the building. Approximately 10 full-time mechanics will occupy the OMS. A total of approximately 870 reservists would serve at the Army Reserve Center during three weekends per month, with a maximum of 300 soldiers present on site at one time. With the exception of a physical readiness area (exercise and physical fitness area), vehicle repositioning, vehicle washing on the covered outdoor wash platforms, and the DEPMED area, where medical personnel would practice setting up tent-enclosed temporary medical facilities, all activities conducted at the Site would occur indoors.

With respect to possible future use of the Huisman Army Reserve Center by the City of Beachwood, the City has not formulated any specific plans for the buildings or the property. However, among the possible uses that have been discussed are using the property as a service department facility, which might include maintenance of City vehicles and equipment, for City administrative purposes (administrative offices), or as a fire station. Any of these uses would be similar in nature to the past use of the property by the U.S. Army Reserves and would provide a public benefit by providing the City with property that is in a desirable location.

Overall, given the zoning designation for the proposed Site, along with the land use of the surrounding properties and nature of the proposed Army Reserve activities on site, the proposed action would not create any adverse land-use consequences with regard to site construction. In addition, since any reasonably foreseeable future use of the Huisman Army Reserve Center by the City of Beachwood would be similar in nature to past use, this proposed action is also not expected to adversely impact land use.

3.1.3 Environmental Consequences of the No-Action Alternative

The No-Action alternative would not create any reasonably foreseeable short-term adverse impacts on land use. The proposed construction Site would not be developed and the Huisman Army Reserve Center and other existing facilities in the Cleveland area would remain active. However, additional property or

action would still be required to address existing operation deficiencies with the existing Army Reserve facilities, and any associated land-use impacts would require assessment once a suitable property or action were identified.

3.2 SOILS AND TOPOGRAPHY

3.2.1 Existing Environment

The proposed construction Site is relatively flat, with a gentle slope downward from the southwest corner of the Site to the northern end of the Site. Relief across the Site is less than 10 feet, ranging from an elevation of 1,160 feet above mean sea level (msl) in the southeast portion of the Site to 1,154 feet above msl along the northern edge of the Site. Figures 10 and 11 in Appendix A provide detailed and general topographic maps of the proposed construction Site. According to the U. S. Department of Agriculture (USDA) *Soil Conservation Service Soil Survey of Summit County Ohio*, the predominant soil type at the Site is the Mahoning (zero to two percent slope) silt loam, which occurs in areas between drainage ways. This type of soil has a low permeability with slow runoff, which promotes seasonal ponding. A second, minor soil type at the Site is Trumbull silt loam, which occurs along the western edge of the Site, and has an even greater tendency for slow runoff and ponding during wet seasons. Topsoil at the Site is underlain by soils consisting of silty clay, clayey silt, sand, and sandy silt, containing varying degrees of gravel, organics, wood fragments, rock fragments, and coal fragments. These soils range from 7.5 to 11.5 feet below land surface (bls) at the Site. The Site's bottommost subsurface formation consists of firm to hard, weathered sandstone to sandstone.

Figure 12 in Appendix A provides a 1996 topographic map for the vicinity of the Huisman Army Reserve Center. The Center lies in a gently rolling area with a gradual downward gradient towards the east. According to USDA Soil Conservation Service data, the prominent soil type at the Center is also Mahoning silt loam, which is characterized as having slow infiltration rates, a high water table, and low hydraulic conductivity. Depth to bedrock is greater than five feet bls.

3.2.2 Environmental Consequences of the Proposed Action

The proposed action would require disturbance to the existing site soils and topography at the proposed construction Site in order to provide site access and to meet the needs of the proposed facility function. In addition to the installation of storm water detention basins, the grade differential on the Site would require excavation and filling operations to achieve site grades that allow construction of the proposed structures, driveways, and parking facilities. Although some topsoil material would be stockpiled on site for future finish work, the proposed level of site development would likely necessitate the removal of the majority of the topsoil material from the Site. Implementation of site planning, design, and construction procedures, including soil erosion controls and prompt soil stabilization, and re-vegetation measures would avoid significant adverse impacts to the soils during and following construction. Compliance with applicable Federal, State, and local regulations regarding soil disturbance activities would be achieved.

Overall, as long as proper procedures are followed during construction, no significant adverse impacts to the environmental conditions of the geology at the Site are anticipated. The operation of the proposed facility itself would not result in further soil disturbance, as long as vehicular travel and parking areas are properly stabilized, and routine landscape maintenance is performed.

The operation of the proposed Army Reserve Center would not result in disturbance to soil or geology, provided vehicular travel and parking areas are properly stabilized, and routine landscape maintenance is performed. Any activities that may alter the topography of the Site following building and grounds construction would be small-scale and conducted such that surface water runoff patterns would not be affected.

Possible future use of the Huisman Army Reserve Center by the City of Beachwood for municipal purposes is not expected to adversely impact area soils or topography. Renovation of the building could occur; however, site demolition or excavation is not planned.

3.2.3 Environmental Consequences of the No-Action Alternative

The No-Action alternative would not create any reasonably foreseeable short-term adverse impacts to topography or site geology. The proposed construction Site would not be developed and the Huisman Army Reserve Center and other existing facilities in the Cleveland area would remain active. However, additional property or action would still be required to address existing operation deficiencies with the existing Army Reserve facilities, and any associated impacts to geology or topography would require assessment once a suitable property or action were identified. In addition, it is likely that the proposed Site would eventually be developed for industrial purposes under the No-Action alternative and impacts to soils or topography could occur. Hence, any long-term impacts to the proposed Site cannot be determined at this time.

3.3 WATER RESOURCES

3.3.1 Existing Environment – Surface Water Characteristics

Both the proposed construction Site in Twinsburg and the Huisman Army Reserve Center are located within the 813-square mile Cuyahoga River Watershed. As shown in the corresponding USGS topographic maps (Figures 11 and 12 in Appendix A), no significant watercourses are present on either property.

Surface water drainage exiting the proposed construction Site to the north is captured by the municipal storm water conveyance network via surface ditches and underground conveyance piping along East Aurora Road and Chamberlin Road. Surface water drainage routed north is discharged into Tinkers Creek or unnamed tributaries of Tinkers Creek. Tinkers Creek is located approximately 1.5 miles northeast of the Site and meanders to the north and west, until it reaches the Cuyahoga River. Surface water drainage exiting the proposed construction Site to the southwest would eventually discharge into an unnamed tributary of Brandywine Creek. This Creek is located approximately 1.5 miles southwest of the Site and meanders to the north and west, until it reaches the Cuyahoga River. Surface water drainage from Huisman Army Reserve Center generally flows southeast in the direction of an unnamed tributary of Tinkers Creek, located approximately 2,500 feet southeast of the Center. This unnamed tributary flows southward for approximately five miles until it enters Tinkers Creek. Ultimate surface water discharge is to Lake Erie.

3.3.2 Existing Environment – Storm Water Management

Overland storm water runoff is the only surface water flow that would occur at either the proposed construction Site or the Huisman Army Reserve Center. The general direction of runoff from the

southern half of the proposed construction Site would be to the west, from the northwest portion of the Site to the northwest, and from the northeast portion of the Site to the northeast. However, due to the relatively low relief and the presence of poorly drained soils at the Site, ponding of water on the Site versus off-site runoff of storm water is more likely to occur. Due to the relative elevations of the Site and adjacent properties, surface water from adjacent properties would not flow onto the Site.

The general direction of runoff from the Huisman Army Reserve Center would be to the southeast. Due to the relative elevations of the Huisman Center and adjacent properties, surface water from adjacent parcels to the north and west could flow onto the property, while parcels to the south and east would not.

3.3.3 Existing Environment – Flood Plain Boundaries

According to the Environmental Systems Research Institute, Inc./Federal Emergency Management Agency (ESRI/FEMA) Flood Hazard Map, neither the proposed construction Site nor the Huisman Army Reserve Center are within the 100-year flood zone. The nearest flood zone area is associated with Tinkers Creek. Although not classified as a flood prone area, the presence of wetland areas on the proposed construction Site is conducive to saturated and ponded surface conditions.

3.3.4 Existing Environment – Wetland Areas

A natural resources survey of the Huisman Army Reserve Center identified no wetland areas on or in the immediate vicinity of the property.

During the April 2004 EA site inspection and during previous site inspections, standing water was and has been observed in the low-lying areas of the proposed construction Site. In 2002, a survey of the Site for wetland areas was conducted. The survey concluded that the Site contained nine wetland areas (Areas A – I) that covered a total of 2.17 acres. The wetland areas were classified as Palustrine Forest wetlands (2.05 acres) and Palustrine Scrub/Shrub wetlands (0.12 acres). Verification of the delineated wetland areas was conducted in April 2004 by USACE Buffalo District Regulatory Branch personnel. The USACE verification expanded the boundaries of the wetland areas and identified a hydraulic connection between Wetland Areas A and B and Wetland Areas G and H. As such, the total acreage of wetlands on the Site, as verified by the USACE, is 4.27 acres, with the additional acreage being classified as Palustrine Forest wetlands. Figure 13 in Appendix A shows the locations of Wetland Areas A through I. Appendix C provides the May 2004 USACE wetland verification letter.

3.3.5 Existing Environment – Groundwater

During the April 2004 subsurface exploration at the proposed construction Site, perched subsurface water was encountered in the extreme northwest boring at 0.5 feet and eight feet bls. Subsurface perched water or groundwater was not encountered in the other seven site borings, which were advanced to depths ranging from 8.7 to 18.6 feet bls. The actual depth of groundwater in the area could not be determine, as no groundwater wells were identified within a one-mile radius of the Site.

3.3.6 Environmental Consequences of the Proposed Action

With regard to the possible future use of the Huisman Army Reserve Center by the City of Beachwood, no impacts to water resources are expected, provided that the City adheres to established and applicable surface water discharge regulatory requirements. Any reasonably foreseeable future use of the Huisman Center by the City would be similar in nature to past use.

With regard to the proposed construction Site, no impacts to floodplain boundaries or groundwater are expected under the proposed action. However, a change in surface water runoff characteristics and the loss of wetland areas would occur at the Site under the proposed action. With regard to storm water management, the proposed site development would include provisions for proper handling and treatment of storm water runoff in accordance with Federal, State, and local regulations. Preliminary design plans show the installation of storm water detention basins that would facilitate solids settling and uniform discharge. Discharge from the on-site detention basins would occur at pre-development rates and would enter existing drainage water courses. As such, run-off from the eastern portion of the Site would still drain to an in place three-foot by three-foot box culvert that is routed north and goes under East Aurora Road. Run-off from the western portion of the Site would still drain to an in place 36-inch culvert that is situated along Chamberlin Road and is routed east under the road.

The City of Twinsburg owns and maintains the existing municipal storm water infrastructure. As such, an erosion and sedimentation control plan would be submitted to the Twinsburg Public Works Department, in addition to the Summit County Soil and Water Conservation District, as required. The storm sewer plans would also be submitted to the City Building commission. A National Pollutant Discharge Elimination System (NPDES) permit would also be required from the Ohio Environmental Protection Agency (EPA). A discharge permit would also be required from the City of Cleveland Division of Water to allow treated water from the on-site oil/water separators, which would be associated with the covered vehicle and equipment wash platforms, to discharge into the municipal wastewater conveyance and treatment system. No construction would be initiated until all plans and permits were approved by the respective agencies.

During construction and operation of the new Army Reserve Center, potential downstream effects to Tinkers Creek associated with erosion and sedimentation, and pollutants associated with accidental spills, would be avoided or minimized by implementation of a storm water pollution prevention plan (SWP3). Following construction, all disturbed areas would be re-vegetated and the Site would be planted and landscaped. Surface runoff during facility operations would be captured via curbs and catch basins and directed to the on-site detention basins. Due to the nature of the of the proposed facility's vehicle operation and maintenance, oil and grease from paved areas could migrate in storm water runoff from the Site during significant rainfall events. However, through the use of vehicle drip pans, hooded catch basin inlets and wet detention systems, adequate treatment of runoff would be attained.

Construction of the new facility would result in the loss of approximately 2.91 acres of wetlands. To minimize pollutants entering the remaining portion of the wetland during construction, the contractor would adhere to Best Management Practices (BMPs) described in the SWP3. The current design footprint avoids the wetland to the fullest extent practicable; the entire developed area was shifted southward to avoid the jurisdictional wetland areas (Federally regulated) in the northern portion of the Site. The loss of wetlands would require mitigation measures. As such, a wetland mitigation evaluation was conducted in order to identify and evaluate available mitigation opportunities and methods. Appendix C provides a copy of a report, titled *Preliminary Wetland Mitigation Proposal*, which was generated as part of the EA process. The most viable mitigation alternative for the proposed action appears to be off-site mitigation within the Cuyahoga watershed via an established wetland mitigation bank, which would result in the creation of 7.3 acres of new wetlands.

Overall, through necessary coordination with local, State, and Federal agencies, adherence with applicable regulatory permitting processes and operating requirements, implementation of BMPs and other SWP3 requirements, no adverse impacts to surface water or groundwater quality are anticipated during construction or operation of the proposed facility. Although an anticipated 2.91 acres of wetlands

would be lost under the proposed action, it is anticipated that 7.3 acres of new wetlands would be financially funded. The cumulative effects of incremental increases in water pollution for development are identified through regional monitoring and addressed through changes in laws, regulation and permits/licensing for activities that impact these resources. It is anticipated that the proposed action would not have measurable effects on area water resources.

3.3.7 Environmental Consequences of the No-Action Alternative

The No-Action alternative would not create any reasonably foreseeable short-term adverse impacts to water resources. The proposed construction Site would not be developed and the Huisman Army Reserve Center and other existing facilities in the Cleveland area would remain active. However, additional property or action would still be required to address existing operation deficiencies with the existing Army Reserve facilities, and any associated impacts to water resources would require assessment once a suitable property or action were identified. In addition, it is likely that the proposed Site would eventually be developed for industrial purposes under the No-Action alternative and impacts to water resources could occur. Hence, any long-term impacts to the proposed Site cannot be determined at this time.

3.4 AIR QUALITY

3.4.1 Existing Environment

The Clean Air Act (CAA) required that the U.S. Environmental Protection Agency (USEPA) establish National Ambient Air Quality Standards (NAAQS). NAAQS are benchmarks for the establishment of air emission limitations by states for pollutants that USEPA determines may be harmful to public health or the environment. Two classes of NAAQS have been established: (1) primary standards, which protect public health including the most sensitive of populations, and (2) indirect standards, which protect public welfare. USEPA has defined NAAQS for six principal pollutants: carbon monoxide, nitrogen dioxide, ozone, sulfur oxides measured as sulfur dioxide, lead, and particulate matter with an aerodynamic diameter less than or equal to ten micrometers (PM_{10}).

According to the USEPA report of Designated Nonattainment Areas for All Criteria Pollutants, the Cleveland-Akron-Lorain metropolitan area (Cuyahoga County) is shown as being in attainment for all criteria pollutants except sulfur dioxide. Summit County is not shown on this report, which represents attainment for all criteria pollutants. However, upon review of USEPA NAAQS monitoring data for Calendar Years 2002 and 2003, air quality exceedances for ozone and particulate matter have occurred. In addition, no exceedance of the sulfur dioxide standards occurred in Cuyahoga County. The proposed construction Site is located in Summit County within an Intrastate Air Quality Control Region, based on information supplied by the Akron Regional Air Quality Management District (ARAQMD). The ARAQMD is the governing body that oversees air quality for Medina, Portage, and Summit Counties and for the area of the Site.

Since the proposed construction Site is undeveloped, there are no sources of pollutant air emissions at the Site. Sources of air emissions in the vicinity of the proposed construction Site primarily consist of fugitive fuel combustion emissions from industrial operations and vehicle traffic, fugitive emissions from the use of organic chemicals and process equipment at nearby manufacturing properties, and emissions from heating, ventilation, and air conditioning (HVAC) systems from building structures. Sources of air emissions at the existing Huisman Army Reserve Center include fugitive emissions from the use of volatile organic products during vehicle and facility maintenance operations, fugitive fuel combustion emissions from military vehicles and POVs, and from the building's HVAC system.

3.4.2 Environmental Consequences of the Proposed Action

Construction of the proposed Army Reserve Center would have a temporary minor impact on overall air quality at the Site. The operation of heavy construction equipment and its associated exhaust would increase diesel exhaust emissions and would suspend dust and other construction related particles in the air. Temporary impacts to air quality during construction would be minimized through implementation of mitigation measures, including limiting equipment idling times, dust control measures, and properly maintaining equipment. Construction activities are not expected to violate applicable air quality control regulations (NAAQS).

Operations at the existing Army Reserve centers in the Cleveland area do not currently require air quality control permits, and similar activities would occur at the proposed Army Reserve Center in Twinsburg. Use of the proposed OMS and MEP area for vehicle and equipment maintenance and staging operations would increase fuel combustion emissions at the proposed Site compared to current levels. The HVAC and associated gas boiler that would be installed at the proposed Center would also be a source of fuel combustion emissions. Additionally, the use of volatile organic chemicals inside the OMS would generate fugitive organic emissions. However, the types of air emissions sources operated at the proposed Center would not increase the level of ambient air pollutant concentrations to levels that would exceed corresponding NAAQS.

The proposed action is not expected to measurably add to the increasing air pollution in Summit County, given overall development in the area and associated traffic levels. Effects of air pollution for area development are identified through regional monitoring and addressed through changes in laws, regulation and permits/licensing for activities that impact these resources. Overall, there would be no net increase in air emissions from the proposed action, because the proposed operations would be equivalent to emissions from operations already occurring at the existing Army Reserve centers in the regional area. Moreover, under the proposed action, combined emissions for the integrated Army Reserve activities could actually decrease over the long term due to the integration of units into one facility and the operation of energy-efficient building structures. As such, air quality impacts are anticipated to be insignificant.

With regard to the possible future use of the Huisman Army Reserve Center by the City of Beachwood, no impacts to air quality are expected. Any reasonably foreseeable future use of the Huisman Center by the City would be similar in nature to past use.

3.4.3 Environmental Consequences of the No-Action Alternative

The No-Action alternative would not create any reasonably foreseeable short-term adverse impacts to air quality. The proposed construction Site would not be developed and the Huisman Army Reserve Center and other existing facilities in the Cleveland area would remain active. It is likely that the proposed Site would eventually be developed for industrial purposes under the No-Action alternative and impacts to air quality could occur. Hence, any long-term impacts to the proposed Site cannot be determined at this time.

3.5 NATURAL AND BIOLOGICAL RESOURCES

3.5.1 Existing Environment

According to natural resources survey of the Huisman Army Reserve Center, no threatened or endangered (T&E) species or habitats necessary to support these species occur on the property. The majority of the

Center is covered by impervious structures and parking areas and the remaining land consists of grassy, landscaped areas surrounding the buildings, and a sparse population of deciduous and coniferous trees around the buildings and along the property boundaries.

The proposed construction Site in Twinsburg is undeveloped and contains two main natural communities; forested wetland and mixed hardwood forest. The entire Site contains a mosaic of these two natural communities with the forested wetlands occurring in the numerous depressions and low-lying areas scattered throughout the Site. The Site provides habitat for a variety of wildlife; however, due to the overall small size of the forest fragment that contains the Site, and because it is partially surrounded by industrial, recreational, and roadway developments, the Site might not support species that are area sensitive or overly sensitive to human disturbance. Federally listed species that are known to occur in Summit County include the Indiana bat (endangered), bald eagle (threatened), and the northern monkshood (threatened). Based upon information from the Ohio Department of Natural Resources (DNR), no records exist for rare species on or in the vicinity of the Site.

A May 2004 natural resources survey of the Site concluded that the Site provides a suitable habitat for Indiana bat roosting and foraging. In addition, bats (of undetermined species) were observed foraging over and within the canopy of the forest during a May 10, 2004 general visual bat survey of the Site. There is no potential for the presence of the Indiana bat during winter months, since no caves or mines are present at the Site. During the May 2004 natural resources survey of the Site, no suitable habitat for the bald eagle or the northern monkshood were found on the Site. Bald eagles prefer to inhabit areas in the vicinity of large bodies or water that are not in close proximity to developed areas. The Site does not contain any cliff faces, talus slopes, or wooded ravines, which provide the cold air drainage or cold groundwater flowage that is required as a habitat for the northern monkshood, a plant species.

3.5.2 Environmental Consequences of the Proposed Action

With regard to the possible future use of the Huisman Army Reserve Center by the City of Beachwood, no impacts to natural or biological resources are expected. Any reasonably foreseeable future use of the Huisman Center by the City would be similar in nature to past and current use by the U.S. Army Reserves.

Based upon the expected size and type of activities to be conducted and the existing forested areas at the proposed construction Site, it is anticipated that the proposed action would have some minor measurable changes on area biological resources at the Site. These affects would not be significant and would primarily consist of a loss of vegetation. Construction of the proposed improvements would require clearing of trees within the limits of construction. This clearing operation would be partially mitigated by the implementation of a landscape and planting plan that meets landscape buffer requirements noted in the zoning regulations and in the U.S. Army Reserve design guidelines. The landscaping would be designed to improve site aesthetics and provide plant species that are compatible with the surrounding area and that create greater biodiversity through more varied habitats. The species planted would be those indigenous to the site location and region. Whenever possible, efforts would be made to incorporate resource management practices and to preserve existing stands of mature trees. The wildlife species likely to be present are those that are common in urban/suburban areas. Since these species are accustomed to living along side human activity, the potential impacts are not expected to be significant. The proposed activity would reduce the overall size of the natural wooded area, reducing the space available for wildlife habitation. The adaptable nature of the urban/suburban wildlife species would likely help to mitigate any impacts. Species might possibly migrate to nearby wooded and open space areas.

In accordance with the Army Regulation (AR) 200-1, AR 200-2, AR 200-3, the National Environmental Policy Act, Section 7 of the Endangered Species Act (ESA), and the Fish and Wildlife Coordination Act, a determination of the potential impacts associated with implementing the proposed action was made. As such, a Biological Evaluation (BE) of the proposed action was conducted as part of the EA process, and the findings of the BE are provided in a report, titled Biological Evaluation for *Proposed Construction of a U.S. Army Reserve Center, Twinsburg, Summit County, Ohio*, which is provided in Appendix D.

The proposed action would result in clearing and permanent loss of approximately 20 acres of hardwood forest and forested wetlands. According to the BE of the proposed action, the Site provides a suitable habitat for Indiana bat roosting and foraging (an endangered species); bats (of undetermined species) were observed foraging over and within the canopy of the forest during a May 10, 2004 general visual bat survey of the Site. If the presence of the Indiana bat on the Site was confirmed, then clearing of suitable roost trees during the non-hibernating season would likely result in bats being killed or injured. As such, all tree clearing at the Site would have to occur during the hibernation season (i.e., September 15 through April 15) in order to avoid death or injury to Indiana bats, assuming the confirmed present of this species on the Site. Overall, the total permanent loss of possible roost trees and foraging habitat at the proposed construction Site would not be considered a significant loss, given the other similar habitat available to Indiana bats in Summit County. In addition, riparian areas in the general vicinity of the Site likely provide higher quality roosting and foraging habitat than the Site itself. The BE concluded that the proposed action may affect, but is not likely to adversely affect the Indiana bat, provided that seasonal limits on tree clearing are implemented; this assumes that the Indiana bat is present on the Site. If a survey of the Site was conducted and did not confirm the presence of the bat species on the Site, then seasonal limits on tree clearing would not be necessary and the proposed action would not adversely affect this endangered species. The proposed action would have no effect on the bald eagle or the northern monkshood, since the Site does not provide a suitable habitat for these species.

In accordance with Section 7 of the Endangered Species Act, the 88th RRC sent a coordination letter, along with the BE, to the U.S. Dept of the Interior, Fish and Wildlife Service (USFWS) Reynoldsburg Field Office to request concurrence with regard to the determinations made in the BE and to request input concerning any biological concerns regarding the proposed action, such as the known occurrence of any T&E species and any critical habitats at the Site, which would require further biological assessment and Section 7 consultation. Appendix D provides a copy of the May 27, 2004 coordination letter that was sent to the USFWS, along with the subsequent response letter, dated June 23, 2004. With regard to T&E species, the June 2004 USFWS response letter provided concurrence with the “no effect” determination for the bald eagle and northern monkshood, but requested that a mist net survey be completed to document usage of the Site by the Indiana bat.

As requested, a mist netting survey was conducted between July 21 and 23, 2004 to determine the occurrence of the Indiana bat at the Site. Appendix D provides a summary report that documents the findings of the mist net survey. During the survey, no Indiana bats were captured. One alternate species of bat, a juvenile male northern long-eared bat, was captured, but is not considered rare or a species of special concern by Federal or State authorities. The final mist net survey report was not available at the time of publication of this draft final report. The 88th RRC is currently engaging the USFWS in Endangered Species Act Section 7 consultation to achieve project parameters that will allow the proposed project to occur with either no impact to the Indiana bat, or the least possible impact to the species and its habitat. Section 7 consultation would be completed to the satisfaction of the USFWS prior to initiating site development activities.

3.5.3 Environmental Consequences of the No-Action Alternative

The No-Action alternative would not create any reasonably foreseeable short-term adverse impacts to natural and biological resources. The proposed construction Site would not be developed and the Huisman Army Reserve Center and other existing facilities in the Cleveland area would remain active. However, additional property or action would still be required to address existing operation deficiencies with the existing Army Reserve facilities, and any associated impacts to natural resources would require assessment once a suitable property or action were identified. In addition, it is likely that the proposed Site would eventually be developed for industrial purposes under the No-Action alternative and impacts to air quality could occur. Hence, any long-term impacts to the proposed Site cannot be determined at this time.

3.6 CULTURAL RESOURCES

3.6.1 Existing Environment

The active Huisman Army Reserve Center was inventoried in accordance with Section 110 of the National Historic Preservation Act (NHPA) to assess the cultural significance of the property. The Section 110 Inventory of the Huisman Center, conducted by the Fort McCoy Archaeology Laboratory, determined that that there are no known archaeological sites located within a one-mile radius of the property and that the building structures do not meet the criteria for inclusion in the National Register of Historic Places (NRHP). Appendix E provides a copy of the pertinent excerpt from the Fort McCoy Section 110 Inventory for Ohio facilities.

A Phase I archaeological survey of the proposed construction Site was conducted to identify any cultural resources at the Site. The survey consisted of an intensive background records search and field survey at the Site. Background research at the Ohio State Preservation Office (OHPO), the Ohio DNR, and the Ohio Historical Society State Library and Archives (OHS) revealed no recorded archeological sites within a two-mile radius, but one recorded architectural resource, located approximately 0.5-mile south of the Site, beyond the electrical substation property and railroad. In May 2004, archaeologists conducted an intensive surface and subsurface survey of the proposed Site, which consisted of performing 251 shovel tests across the Site. No cultural materials were recovered or observed during shovel testing. Appendix E provides a copy of a *Detailed Management Summary* for the Phase I archaeological survey that was conducted at the proposed construction Site.

3.6.2 Environmental Consequences of the Proposed Action

Section 106 of the NHPA requires Federal agencies to identify whether any historic or cultural resources that is listed, or potentially eligible for listing, on the NRHP could be affected by the proposed action. The NRHP is an index of America's historic places and identifies sites, districts, buildings, structures, and objects that are significant with regard to American history, architecture, engineering, and culture. The U.S. Army Reserve has determined that no archaeological resources or structures eligible for inclusion on the NRHP would be affected by the proposed action. In accordance with Section 106 of the NHPA, a coordination letter was sent to the OHPO on May 21, 2004 to request concurrence with the "no historic properties affected" determination. In accordance with 36 CFR Part 800.2(d) and Part 800.3(c), federally-recognized native American tribal communities in the Ohio region were also notified of the proposed action. The OHPO provided written concurrence with the "no historic properties affected" determination on July 6, 2004 with regard to the proposed action. Appendix E provides a copy of the Section 106 and tribal coordination and response letters.

3.6.3 Environmental Consequences of the No-Action Alternative

The No-Action alternative would not create any reasonably foreseeable short-term adverse impacts to cultural resources. The proposed construction Site would not be developed and the Huisman Army Reserve Center and other existing facilities in the Cleveland area would remain active. However, additional property or action would still be required to address existing operation deficiencies with the existing Army Reserve facilities, and any associated impacts to cultural resources would require assessment once a suitable property or action were identified.

3.7 NOISE

3.7.1 Existing Environment

No sources of noise are currently located at the proposed construction Site. Sources of noise in the vicinity include manufacturing and transportation activities, including roadway traffic, industrial air handling equipment, and commuter traffic. Neither Twinsburg Township nor Summit County have noise ordnances other than those associated with vehicular muffler noise and vehicular sound equipment noise. The City of Twinsburg has established a noise ordinance for construction noises that limits the hours of operation of heavy construction equipment to the following: (1) no operation between sunset and 7:30 a.m., Monday through Friday, and 8:00 a.m. on Saturday; and (2) no operation on Sunday. No decibel limits have been enacted.

The primary source of noise generation at the existing Huisman Army Reserve Center is from heavy-duty U.S. Army Reserve vehicles, which are maintained and staged at the Center. However, these vehicles are typically equipped with mufflers. Noise from these vehicles is similar to the noise produced by large commercial vehicles supporting local commercial or industrial operations. A minimal level of noise is also produced during the maintenance of equipment.

3.7.2 Environmental Consequences of the Proposed Action

The U.S. Army regulates noise at military operations, assessing noise generated through the use of zone maps. The following describes each noise zone (Chapter 7 of U.S. Army Regulation 200-1):

- Noise Zone I – Areas where the day-night average sound level (DNL) is less than 65 dB
- Noise Zone II – Areas where DNL is between 65 and 75 dB
- Noise Zone III – Areas where DNL is greater than 75 dB

During construction activities, some impacts to noise levels can be expected in the vicinity of the proposed Site. The movement of heavy construction equipment and general construction sound would temporarily increase noise levels. To mitigate this impact, the construction contractor would be required to maintain his construction equipment in accordance with manufacturer's specifications and keep unnecessary noise impacts to a minimum. Compliance with the City limitation on the hours of operation for site construction would be maintained.

Noise associated with the day-to-day operations at the new Army Reserve Center would also increase over baseline site levels. However, the sources of noise would primarily be limited to the operation of light-duty and heavy-duty vehicles that would enter and exit the premises. The noise created by these

vehicles would be consistent with nearby industrial and commercial parcels. While on site, the military vehicles and equipment would primarily be inactive, with the exception of movement of the vehicles for maintenance purposes. Vehicular maintenance operations would be performed inside the maintenance garage, and idling of vehicles in the MEP area would be restricted.

Overall, based upon the typical size and type of operation for the proposed Army Reserve Center, it is anticipated that the proposed action would not cause a measurable increase in area noise. Any impacts would be slight and a vegetated buffer zone would be maintained along the property boundaries to mitigate such impacts. Noise levels created by the operation of the proposed Army Reserve Center would not exceed Noise Zone I and it is expected that the proposed action would comply with all locally established noise ordinances. With regard to the possible future use of the Huisman Army Reserve Center by the City of Beachwood, no noise impacts are expected. Any reasonably foreseeable future use of the Huisman Center by the City would be similar in nature to past use.

3.7.3 Environmental Consequences of the No-Action Alternative

The No-Action alternative would not create any reasonably foreseeable short-term adverse noise impacts. The proposed construction Site would not be developed and the Huisman Army Reserve Center and other existing facilities in the Cleveland area would remain active. However, it is likely that the proposed Site would eventually be developed for industrial purposes under the No-Action alternative and noise impacts could occur. Hence, any long-term impacts to the proposed Site cannot be determined at this time.

3.8 PARKS AND RECREATION

3.8.1 Existing Environment

The Ohio Department of Natural Resources, the Metro Parks system of Summit County, Cleveland Metro parks, and neighboring cities of Macedonia and Twinsburg have parks and recreational areas within Cuyahoga and Summit counties. No local, State, or National parks or recreational areas are in close proximity to the Huisman Army Reserve Center. Similarly, there is no State or National park or recreational area within five miles of the proposed construction Site. However, the proposed Site is immediately adjacent to the City of Macedonia's Longwood Park. Longwood Park property abuts the western boundary of the Site and is a general recreational area. Longwood Park is Macedonia's largest park and is located on the former estate of Colonel William Frew Long, the first Mayor of the City of Macedonia. This 292-acre area, which is accessed off of East Aurora Road (State Route 82) offers many recreational opportunities, including baseball and soccer fields, sand volleyball, playgrounds, picnic shelters with modern restroom facilities, an orchard, hiking trails, festival area, old style Tudor Manor House, and a stocked three-acre lake. This park is also home to the Macedonia Family Recreation Center, a 55,000-square foot facility with pools, track, and exercise equipment.

3.8.2 Environmental Consequences of the Proposed Action

With regard to the possible future use of the Huisman Army Reserve Center by the City of Beachwood, no impacts to parks or recreational areas are expected. There are no such areas in close proximity to the Center and any reasonably foreseeable future use of the Huisman Center by the City would be similar in nature to past use.

Construction of the Army Reserve Center would occur on property that is adjacent to a city park. However, as shown in Figure 4 in Appendix A, the eastern portion of Longwood Park, which abuts the western boundary of the Site, is not developed and is heavily forested. In addition, conceptual site plans include the maintenance of a minimum 30-foot vegetative buffer between the developed portion of the Site and the park property. As such, and given the size and type of operations associated with the proposed Army Reserve Center, the proposed action is not expected to have an adverse impact on the quality of Longwood Park.

3.8.3 Environmental Consequences of the No-Action Alternative

The No-Action alternative would not create any reasonably foreseeable short-term adverse impacts to parks or recreational areas. The proposed construction Site would not be developed and the Huisman Army Reserve Center and other existing facilities in the Cleveland area would remain active. However, it is likely that the proposed Site would eventually be developed for industrial purposes under the No-Action alternative and impacts could occur. Hence, any long-term impacts to the proposed Site cannot be determined at this time.

3.9 VISUAL RESOURCES

3.9.1 Existing Environment

As depicted in the aerial photograph of the proposed construction Site (Figure 4 in Appendix A), the Site is heavily vegetated and due to the density of the vegetation and the size of the parcel, it is not possible to view parcels that are on the opposite sides of the Site. The Site is bordered by Chamberlin Road, a four-lane roadway, to the east, by woodlands to the north and west, and by the UAW Local 122 property to the south. Beyond Chamberlin Road is the 2.4-million square-foot Daimler Chrysler Twinsburg Stamping Plant.

The Huisman Army Reserve Center consists of a two-story, 28,950-square foot administration building, a 6,580-square foot, five-bay OMS, and asphalt parking areas on 4.65 acres of land. The remainder of the property consists of grassy, landscaped areas surrounding the buildings, and a sparse population of deciduous and coniferous trees around the buildings and along the property boundaries. Currently, the Army Reserve Center is bordered to the north, east, and west by undeveloped, commercial property that is owned by Chagrin Highlands Development Company. The Cuyahoga Community College is located directly south of the Army Reserve Center, beyond Harvard Road.

3.9.2 Environmental Consequences of the Proposed Action

New development changes the appearance of areas through construction of buildings and reduction of open space and vegetation. All constructed site features at the proposed Army Reserve Center would be visible from Chamberlin Road and adjacent parcels. In accordance with local zoning requirements for industrial parcels, site development would meet all established buildings setback distances, which include a 50-foot setback for the front of the property and a 25-foot setback for all other sides of the property. In addition, the minimum 15-foot perimeter landscape buffer for parking lots would be met. The proposed training building would be less than 35 feet in height, keeping it below the existing tree canopy height and within the height limitations of the zoning regulations. Retention of existing wooded areas along the perimeter of the Site would serve as a buffer to help in screening the developed land from view by

neighboring properties. The front of the facility would be landscaped, to help soften the visual effect of any proposed buildings.

The proposed buildings would be designed in keeping with neighboring structures and the terrain in which they would be placed. Building style and colors would be selected to compliment the site location and offset visual impacts. In keeping with design guidelines, the exterior image of the Army Reserve Center would reflect military values and provide an atmosphere that would promote feelings of pride and ownership. The level of finish and detail in the architecture of the training building would be appropriate for an office building of good quality with a focus on durability and maintainability. The project would have its own identity based on input from the 88th RRC and would respect local and regional influences.

Overall, based upon the typical size and type of operation for the proposed Army Reserve Center, and through adherence to established U.S. Army Reserve design guidelines, which dictate that vegetation be maintained as a buffer around site developments, the proposed Center would not be expected to detract from the existing visual resources of the area. With regard to the possible future use of the Huisman Army Reserve Center by the City of Beachwood, no impacts to visual resources are expected. Any reasonably foreseeable future use of the Huisman Center by the City would be similar in nature to past use.

3.9.3 Environmental Consequences of the No-Action Alternative

The No-Action alternative would not create any reasonably foreseeable short-term adverse impacts to visual resources. The proposed construction Site would not be developed and the Huisman Army Reserve Center and other existing facilities in the Cleveland area would remain active. However, it is likely that the proposed Site would eventually be developed for industrial purposes under the No-Action alternative and impacts could occur. Hence, any long-term impacts to the proposed Site cannot be determined at this time.

3.10 TRANSPORTATION AND TRAFFIC

3.10.1 Existing Environment

There is currently no traffic to or from the Site and no on-site parking areas. The Site is bound to the east by Chamberlin Road, which is a four-lane divided highway with a median and shoulders. This roadway is currently used by the adjacent 2.4-million square-foot Daimler Chrysler Twinsburg Stamping Plant, and by other nearby commercial and industrial operations for distribution purposes. As shown in Figure 2 in Appendix A, East Aurora Road intersects Chamberlin Road and Highland Road intersects Chamberlin Road to the south. Each of these roads has direct access to Interstate 480, the major thoroughfare in the area.

Currently, 20 to 30 Army Reserve personnel occupy the Huisman Army Reserve Center on a full-time basis. Aside from POV traffic, other vehicles entering the Site during the workweek would include those typical of business operations, including U.S. mail delivery and receipt of supplies and equipment. Army Reserve personnel enter and exit the property from Harvard Road, adjacent to the southern property boundary. The two Army Reserve units that occupy the Center during the second weekend of every month consist of approximately 200 reservists. Of the weekend reservists assigned to the Army Reserve Center, approximately 5 occupy the OMS as automotive mechanics. The military vehicles and equipment assigned to the Army Reserve Center include 58 military vehicles (light-duty and heavy-duty trucks) and 48 trailers.

3.10.2 Environmental Consequences of the Proposed Action

Since there is currently no traffic to or from the proposed construction Site, an increase in traffic would occur. The new Army Reserve Center would increase POV traffic by approximately 80 per day during the workweek. Receipt of U.S. mail and miscellaneous supply deliveries would also occur during the workweek. Weekend POV traffic would increase by approximately 280 to 300 vehicles. There would be two driveway entrances to the Site for the proposed project according to conceptual layout for the proposed action. Vehicular access to the Site would be from Chamberlin Road. Assigned Army Reserve personnel would access Chamberlin Road from either East Aurora Road or East Highland Road, which provide direct access to I-480, the major thoroughfare for the area.

During the design phase of the proposed action, coordination with the local transportation office would occur in order to maintain the current vehicle safety rate in the vicinity of the Site. According to personnel with Summit County and the City of Twinsburg, the municipality that controls Chamberlin Road, no traffic study would be required for the proposed action. The increase in the number of daily/weekly vehicles to Chamberlin Road would be limited to the relatively small number of employees who would access the Site for work. Large vehicle and truck traffic would be minimal and be limited to weekend and intermittent special operations. No significant impact to the area's transportation systems would be expected.

Sufficient parking would be provided at the Site to accommodate the requirements of the proposed action. Parking spaces for all assigned U.S. Army Reserve personnel, as well as for all assigned military vehicles and equipment has been incorporated into the conceptual site design. Parking places are to be provided for the employees and unit members during maximum use training periods. On-street and public parking is not required and will not be constructed under the proposed action.

With regard to the possible future use of the Huisman Army Reserve Center by the City of Beachwood, no impacts to transportation or traffic are expected. Any reasonably foreseeable future use of the Huisman Center by the City would be similar in nature to past use, with the exception of weekend use by reservists.

3.10.3 Environmental Consequences of the No-Action Alternative

The No-Action alternative would not create any reasonably foreseeable short-term adverse impacts on current transportation or traffic patterns. The proposed construction Site would not be developed and the Huisman Army Reserve Center and other existing facilities in the Cleveland area would remain active. However, additional property or action would still be required to address existing operation deficiencies with the existing Army Reserve facilities, and any associated impacts to transportation or traffic would require assessment once a suitable property or action were identified. In addition, it is likely that the proposed Site would eventually be developed for industrial purposes under the No-Action alternative and impacts could occur. Hence, any long-term impacts to the proposed Site cannot be determined at this time.

3.11 UTILITY INFRASTRUCTURE

3.11.1 Existing Environment

No utilities currently service the proposed construction Site. However, utility infrastructure exists in close proximity to the Site. The City of Cleveland, Division of Water, provides potable water service to

the area. According to information obtained from their office, a 12-inch water main is situated along the east side of Chamberlin Road, across from the Site, and extends along the entire frontage of the Site. The City of Twinsburg Public Works Engineering Department provides sanitary sewer service to the area. According to information obtained from their office, an eight-inch sanitary sewer line runs along East Aurora Road, approximately 500 feet north of the Site. Natural gas service for the surrounding area is supplied by the Dominion East Ohio Gas Company in Cleveland. According to information provided by this utility company, an eight-inch, high-density plastic gas line is located along the west side of Chamberlin Road, adjacent to the Site. Ohio Edison in Akron, Ohio supplies electrical power via overhead primary distribution line that runs along Chamberlin Road.

With regard to the Huisman Army Reserve Center, the City of Beachwood supplies the Center with potable water and sanitary sewer service. First Energy provides electricity and East Ohio Gas supplies the Center with natural gas.

3.11.2 Environmental Consequences of the Proposed Action

Electric, gas, telephone, sanitary sewer, and domestic water are all available immediately adjacent or in close proximity to the Site. The design engineers would coordinate the utility loads and service requirements with the respective utility companies once the design is advanced sufficiently to justify this action. All utility connections would be performed in accordance with the requirements of the respective utility companies and local building officials. The Site would not require any special utility needs beyond those of a standard light industrial/commercial operation. Based upon preliminary design planning, there would also be no requirements for upgrading the utilities infrastructure. As such, the proposed action is not expected to have a significant impact on local utilities.

With regard to the possible future use of the Huisman Army Reserve Center by the City of Beachwood, no impacts to utility infrastructure or services are expected. Any reasonably foreseeable future use of the Huisman Center by the City would be similar in nature to past use.

3.11.3 Environmental Consequences of the No-Action Alternative

The No-Action alternative would not create any reasonably foreseeable short-term adverse impacts on local utility infrastructure or services. The proposed construction Site would not be developed and the Huisman Army Reserve Center and other existing facilities in the Cleveland area would remain active. However, additional property or action would still be required to address existing operation deficiencies with the existing Army Reserve facilities, and any associated impacts to utilities would require assessment once a suitable property or action were identified. In addition, it is likely that the proposed Site would eventually be developed for industrial purposes under the No-Action alternative and impacts could occur. Hence, any long-term impacts to the proposed Site cannot be determined at this time.

3.12 SOLID WASTE AND HAZARDOUS MATERIALS

3.12.1 Existing Environment at the Proposed Construction Site

An environmental baseline survey (EBS) of the proposed construction Site was conducted in April and May 2004 in order to assess the environmental baseline condition of the Site. The associated EBS report is presented in Appendix F. Findings of the EBS were based upon available environmental information, including visual observations, site records, and Federal and State database and file information, related to

the storage, release, treatment, or disposal of hazardous substances or petroleum products or derivatives on or in the vicinity of the Site.

Overall, no evidence of potential environmental liabilities related to the release or threatened release of hazardous substances was identified or observed during the EBS of the proposed Site. There are signs of past surface and shallow subsurface disposal of waste materials at the Site, and it is possible that certain discarded containers could have contained hazardous chemicals, such as petroleum products, paints, and solvents. However, given the nature of the dumping of product containers (surface only), the quantity of materials that could have been released, and the age of the release, it is not likely that this past activity poses a current threat to human health or the environment. Discarded materials will require disposal at a permitted solid waste disposal facility prior to future land development.

Although not currently applicable to the Site, Summit County lies within the highest Federal priority zone for indoor radon, Zone 1, which has a predicted average indoor screening level greater than the Federal action level of 4.0 picoCuries per liter of air (pCi/l). Federal and State monitoring data for indoor radon within the Site's Zip Code, 44087, indicate that the average activity in the vicinity of the Site is 3.1 and 2.7 pCi/l, respectively. Based upon this published monitoring data, it appears that the Federal designation as Zone 1 may be conservative for the Site, since average measurements fall within the Zone 2 designation (2 and 4 pCi/l).

3.12.2 Existing Environment at the Huisman Army Reserve Center

An EBS of the Huisman Army Reserve Center was conducted in February and March 2004 in order to assess the environmental baseline condition of the Army Reserve Center. The associated EBS report is presented in Appendix G. Findings of the EBS were based upon available environmental information, including visual observations, site records, and Federal and State database and file information, related to the storage, release, treatment, or disposal of hazardous substances or petroleum products or derivatives on or in the vicinity of the Site.

Overall, no evidence of potential environmental liabilities related to the release or threatened release of Comprehensive Environmental Restoration, Compensation, and Liability Act (CERLCA) hazardous substances was identified or observed during the EBS of the Site. However, asbestos-containing material and lead-based paint are present at the Center and a release of waste oil from a 550-gallon underground waste oil storage tank (UST) occurred. Remedial action with regard to the UST was conducted in 1998 and the UST and impacted soils were removed from the Center. Confirmatory soil analysis conducted after the excavation indicated that soil concentrations of total petroleum hydrocarbons were below the applicable regulatory action level. Subsequently, the Department of Commerce Division of Leaking USTs issued a no further remedial action letter for the Center.

3.12.3 Environmental Consequences of the Proposed Action

During the construction of the proposed Army Reserve Center, no hazardous or toxic substances would be generated. No known chemical spills or hazardous materials, which would require remedial action, are known to exist at the Site. Petroleum products, such as motor fuels and lubricants, would be used at the Site during construction activities. Potential impacts to the Site associated with spills or releases of these substances would be avoided or minimized through the development and implementation of an SWP3.

Although it is not believed that any hazardous substances-related activity as defined by the CERCLA would occur once the proposed Army Reserve Center were operational, chemicals that contain CERCLA

hazardous substances would be used and stored at the OMS to support maintenance activities at the Site. Table 1 in Appendix B provides a list of products typically used in a facility similar to the proposed Army Reserve Center. The list not only includes CERCLA hazardous substances, but petroleum products and products defined as hazardous chemicals according to Occupational Safety and Health Administration (OSHA) regulations.

Small quantities of regulated waste materials associated with maintenance activities would be generated and managed at the proposed Army Reserve Center once it is operational. However, there would be no expected net increase in the generation of waste oils and fluids, as these activities are currently occurring at the existing Army Reserve facilities. Moreover, the total volume of waste materials generated at the integrated Army Reserve Center could actually decrease under the proposed action due to the inherent efficiencies associated with integration of units into one facility. Whenever possible, waste materials, such as used oil and maintenance fluids, would be reclaimed or recycled.

Regulated wastes would be disposed of on a regular basis through an outside contracted hazardous materials hauler in accordance with applicable Federal and State waste management regulations. No long-term storage of these materials would occur. In addition, no on-site disposal of materials would occur. Staff would be trained in proper spill prevention and spill handling and containment. Containment and clean-up equipment and materials would be available on site. Since both municipal and hazardous wastes would be removed from the Army Reserve Center by licensed handlers and disposed of at appropriate off-site locations, there would be no impact caused by the generation of solid wastes at the Center. The volume of both municipal and hazardous wastes generated would not place a measurable burden on regional disposal sites.

Oily wastewater could be generated during equipment maintenance and use of the vehicle/equipment wash platform. However, oil would be separated from the wastewater in an underground oil/water separator. Discharges from the oil/water separator would be ultimately discharged to the municipal sanitary sewer system subsequent to meeting local permitting requirements. The oil/water separator would be inspected periodically and oily residue would be removed when necessary, to ensure proper operation of the unit. The waste material would be removed from the Site by a licensed handler and disposed of or reclaimed at an appropriate off-site location.

Overall, the anticipated management of hazardous materials and regulated wastes at the proposed Army Reserve Center is not expected to negatively impact human health or the environment. Conversely, natural radon concentrations in the subsurface environment could potentially impact human health after development of the Site. As such, the site design would include provisions for the installation of a radon collection system. Based upon post-construction radon monitoring, an exhaust system would also be installed, if necessary.

With regard to the possible future use of the Huisman Army Reserve Center by the City of Beachwood, no impacts with regard to hazardous materials management or waste generation are expected, as long as applicable State and Federal waste management requirements are met. Any reasonably foreseeable future use of the Huisman Center by the City would be similar in nature to past use. The areas of potential environmental concern identified at the existing Center include the past release of petroleum from the former waste oil UST, the presence of asbestos-containing material and lead-based paint, and the possible presence of polychlorinated biphenyl (PCB)-containing light ballasts. The petroleum release was remedied and a No Further Action determination was granted by the Ohio Department of Commerce. Therefore, future use of the Center by the City for administrative and other public uses would not negatively impact human health or the environment. In addition, as long as management of the Center continues in accordance with applicable State and Federal regulations regarding PCB-containing

equipment, asbestos management, and lead-based paint, these potential environmental and human health hazards would be mitigated. As such, future use of the existing Center by the City would not negatively impact human health or the environment as long as the City adheres to applicable environmental regulations.

3.12.4 Environmental Consequences of the No-Action Alternative

The No-Action alternative would not create any reasonably foreseeable short-term adverse impacts with regard to hazardous materials management or waste generation. The proposed construction Site would not be developed and the Huisman Army Reserve Center and other existing facilities in the Cleveland area would remain active. However, it is likely that the proposed Site would eventually be developed for industrial purposes under the No-Action alternative and impacts could occur. Hence, any long-term impacts to the proposed Site cannot be determined at this time.

3.13 PUBLIC SERVICES

3.13.1 Existing Environment

Police and fire services for the proposed construction Site are provided by the Summit County Sheriff and the Twinsburg Fire Department, respectively. The nearest hospital or medical centers are the Cleveland Clinic Health System, located approximately three miles southeast of the Site at 2365 Edison Boulevard, and Innovative Health Systems, located approximately two miles northwest of the Site at 9247 Forest Point Circle. There are no day care facilities or public schools located within two miles of the Site. The nearest schools are located northeast of the Site along Ravenna Road (Twinsburg schools) and northwest of the Site along Shepard Road (Macedonia).

3.13.2 Environmental Consequences of the Proposed Action

The proposed action would not have a significant impact on public services in the region. No significant additional load is expected to be placed on the fire or police agencies, medical facilities, or school systems. During weekend operations, Army Reserve first aid-trained staff would be on scene to handle minor injuries. Use of other public or community services by the proposed Army Reserve Center is not expected. With regard to the possible future use of the Huisman Army Reserve Center by the City of Beachwood, no impacts to public services are expected. Any reasonably foreseeable future use of the Huisman Center by the City would be similar in nature to past use.

3.13.3 Environmental Consequences of the No-Action Alternative

The No-Action alternative would not create any reasonably foreseeable short-term adverse impacts to public services. The proposed construction Site would not be developed and the Huisman Army Reserve Center and other existing facilities in the Cleveland area would remain active. However, it is likely that the proposed Site would eventually be developed for industrial purposes under the No-Action alternative and impacts could occur. Hence, any long-term impacts to the proposed Site cannot be determined at this time.

3.14 ENVIRONMENTAL JUSTICE

3.14.1 Existing Environment

In 1994, Executive Order 12898, *Federal Actions to Address Environmental Justice (EJ) in Minority and Low-Income Populations*, was issued to focus attention of Federal agencies on human health and environmental conditions in minority and low-income communities, and to ensure that disproportionately high and adverse human health or environmental effects on these communities are identified and addressed. In 1992, Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, was issued to direct federal agencies to identify and assess environmental health and safety risks, which may disproportionately affect children. In order to comply with these Orders, data needed for this analysis were collected from the *U.S. Census Bureau, State and County QuickFacts web site.* Since the proposed construction Site lies on the border of Twinsburg Township, the City of Twinsburg, and the City of Macedonia, the radius of influence for the proposed action encompasses all or a portion of each of these municipalities. Economic and demographic data for Zip Codes 44087 and 44056, which encompass the radius of influence for the proposed action, were obtained.

According to U.S. Census Data, in 2000 the estimated population in the vicinity of the Site is 27,544. With respect to race, the area surrounding the Site was 99.0% non-Hispanic and 1.0% Hispanic in 2000. The breakdown on the County, State, and National level show similar or higher Hispanic percentages, 0.9%, 1.9%, and 12.5%, respectively. The surrounding area's breakdown of population, by race, in 2000 was estimated as follows: 85.0% white; 11.1% African American; 2.4% Asian; and 1.5% other or mixed races. When compared to the racial breakdown for the County, State, and Nation, the area surrounding the Site has a similar or lower percentage of minority races.

In the surrounding area, the median annual family income in 2000 was $73,330, with an average per capita income of $27,300. In 2000, the types of occupations for the labor force surrounding the Site largely consisted of management, professional, sales, office, and other related occupations. Manufacturing, educational, health, and social services, along with retail trade, and professional services were the predominant industries of employment. The unemployment rate in the vicinity of the Site was 3.0% in 2000. In comparison, median annual family incomes and average per capita incomes in the County, State, and Nation were lower in 2000. In 2000, 2.6% of the families in the area surrounding the proposed action had incomes below the poverty level, which is a much lower percentage than for the County, State, and Nation.

3.14.2 Environmental Consequences of the Proposed Action

To comply with the Executive Orders discussed in the previous subsection, ethnicity, poverty, and population by age in the vicinity of the Site were examined and compared to regional, state, and national data to determine if any minority, low-income communities, or children could potentially be disproportionately affected by implementation of the proposed action. Evaluation of the pertinent socioeconomic indicators for the surrounding community indicate that the demographics of the community surrounding the Site are either similar to or lower than group averages for the rest of Summit County, the State of Ohio, and the Nation, and that the population of minority, low-income communities in the area are not disproportionate. In addition, no schools, daycare facilities, or other predominantly child-occupied facilities are located in the vicinity of the Site.

A decrease in area jobs is not anticipated under the proposed action. Additionally, neither the closure of the six existing Army Reserve facilities, nor the construction and operation of the new integrated Center would create any significant socioeconomic impacts. The proposed action would not create

disproportionately high or adverse human health or environmental impacts on minority or low-income populations of the surrounding community.

3.14.3 Environmental Consequences of the No-Action Alternative

The No-Action alternative would not affect any minority, low-income communities, or children.

SECTION 4
CONCLUSIONS

There are three categories of potential impacts that were evaluated: direct, cumulative, and secondary impacts. A direct impact is the result of direct action to the built and natural environment. A cumulative impact results from the incremental or collective impact to the built and natural environment by the proposed action or project when combined with other past, present and planned actions. A secondary impact affects the natural and built environment beyond the "footprint" of the project. Secondary impacts include reasonable and foreseeable land use changes that may occur as an indirect result of implementing the project. Secondary impacts result in change (beneficial and adverse) in project area features such as traffic volumes, population, employment, tax base, and other land use changes that may follow implementation of the project.

4.1 SIGNIFICANT DIRECT IMPACTS IDENTIFIED

While implementation of the proposed action would directly affect several environmental resources, including existing site vegetation and wetlands, wildlife, topography, soils, existing traffic conditions, noise levels, air quality, and visual resources, all of the impacts are considered temporary, minor, or negligible. Impact avoidance and minimization measures have been incorporated into the proposed facility design. They include: minimizing impacts to existing site vegetation and wetlands by minimizing the footprint of the facility, where feasible, and by shifting the proposed development to the south of the Site to avoid additional wetland impacts; limiting construction activities to day-time hours to minimize noise impacts; dust control measures to minimize temporary air quality impacts; designing the proposed Army Reserve Center to resemble the local architecture design and appearance of other commercial/residential developments in the project vicinity; creating on-site retention basins to minimize flooding and water quality impacts; and adhering to Federal, State, and local ordinances and BMPs during construction and operation of the facility to maintain site buffers, control storm water runoff, and reduce spill potential. No significant direct impacts to the quality of the human environment in association with the proposed action have been identified.

Similarly, no significant direct impacts would occur under the No-Action alternative. However, additional property or action would still be required to address existing operation deficiencies with the existing Army Reserve facilities, and any associated direct impacts would require assessment once a suitable property or action were identified. In addition, it is likely that the proposed Site would eventually be developed for industrial purposes under the No-Action alternative and impacts could occur. Hence, any future direct impacts to the proposed Site cannot be determined at this time.

4.2 SIGNIFICANT CUMULATIVE/SECONDARY IMPACTS IDENTIFIED

Changes with regard to existing site vegetation, wildife, wetlands, topography, soils, existing traffic conditions, noise levels, air quality, and visual resources are expected with implementation of the proposed action. However, no significant indirect or cumulative impacts to these resources would result from the proposed action. The proposed construction Site lies within a region that has a predicted average indoor radon concentration that exceeds the Federal radon action level of 4.0 pCi/l. As such, the site

design would include provisions for the installation of a radon collection system. Based upon post-construction radon monitoring, an exhaust system would also be installed, if necessary.

No significant cumulative or secondary impacts would occur under the No-Action alternative. However, additional property or action would still be required to address existing operation deficiencies with the existing Army Reserve facilities, and any associated impacts would require assessment once a suitable property or action were identified. In addition, it is likely that the proposed Site would eventually be developed for industrial purposes under the No-Action alternative and impacts could occur. Hence, any future impacts to the proposed Site cannot be determined at this time.

4.3 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Table 2 in Appendix B provides a summary of the impacts and associated site design/mitigation measures that are integral to the proposed action. For each of the resources evaluated in this EA, impacts were determined to be either minor or negligible. Site design/mitigation measures discussed in the previous subsections have been developed by the U.S. Army Reserves to avoid or minimize impacts to the human environment resulting from the proposed action. Mitigation measures described in Section 3.0 are important in the conclusions reached regarding effects of the proposed action.

4.4 NEPA DETERMINATION

Based upon the findings of this EA, the implementation of the proposed action would not have a significant adverse or beneficial direct, cumulative, or secondary impact on the quality of the environment, either human or natural, in the area of potential effect for this action. The proposed action would provide the necessary training facilities, including adequate administrative, training, assembling, supply storage areas, and maintenance areas to support all assigned unit requirements and operations. The proposed action would also provide a public benefit by providing the City of Beachwood with property that is in a desirable location for municipal use.

The proposed action would not affect public health or safety; the Site is not located in a unique geographic area and it would not involve impacts to historic or cultural resources, park lands, prime farmlands, wild and scenic rivers, or ecologically unique areas. The project would not cause effects that would generate controversy. Although an anticipated 2.91 acres of wetlands would be lost under the proposed action, it is anticipated that 7.3 acres of new wetlands would be financially funded and the proposed alteration can be permitted under the USACE Section 404 permitting program and the State's Section 401 permitting program. Therefore, impacts are not considered significant.

Effects of the proposed action on the human environment are not highly uncertain, and the proposed action does not involve unique or unknown risks; nor is the project excepted to establish a precedent for future actions with significant effects. The proposed action would not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, or cause loss or destruction of significant scientific, cultural, or historical resources. The Site provides a suitable roosting and foraging habitat for the endangered Indiana bat (*Myotis sodalis*), which is known to occur in Summit County; however, during a July 2004 mist net survey, the presence of an Indiana bat on the Site was not confirmed (i.e., none were captured). The 88th RRC is currently engaging the USFWS in Endangered Species Act Section 7 consultation to achieve project parameters that will allow the proposed project to occur with either no impact to the Indiana bat, or the least possible impact to the species and its habitat. Section 7 consultation would be completed prior to initiating site development activities. The

proposed action would not threaten or violate Federal, State, or local law or requirements imposed for the protection of the environment.

Based upon the analysis of potential impacts, it has been determined that the proposed action does not constitute a major Federal action affecting the quality of human health or the environment. Because there would be no significant impact resulting from the implementation of the proposed action, a Finding of No Significant Impact has been prepared to accompany this EA and concludes that the next higher level of environmental impact investigation under NEPA for this action, an Environmental Impact Statement, is not required.

SECTION 5

LIST OF PREPARERS & REFERENCES

5.1 PREPARERS

- **Primary Author(s):** Nora L. Keel, P.E. Environmental Engineer, Andrew Coleman, Geologist, Craig Coombs, Environmental Scientist, U.S. Army Corps of Engineers – Louisville District.
- **Significant Contributions Made By:** RSP Architects, Minneapolis, Minnesota; Ernie Seckinger, Cultural Resources Support, USACE Mobile District; Lisa Gulbranson, Environmental Planner, TAD/PGS, 88th RRC; Carrie Schafer, Cultural/Natural Resources Program Manager, TAD/PGS, 88th RRC; EVS, Inc., Eden Prairie, Minnesota.
- **Primary Reviewer(s):** Brooks Evens and Craig Coombs, U.S. Army Corps of Engineers – Louisville District; 88th RRC, Fort Snelling, Minnesota; Installation Management Agency Army Reserve Division, Fort McPherson, Georgia.

5.2 PERSONS AND AGENCIES CONTACTED

- Summit County Soil & Water Conservation District
- Twinsburg Fiscal Office
- City of Cleveland Division of Water
- Summit County Department of Environmental Services
- Summit County Auditor's Office
- ODNR Division of Water
- Summit County Health Department, Environmental Health Section
- Twinsburg Township Zoning Office
- U.S. Fish and Wildlife Service, Reynoldsburg Field Office
- Ohio Department of Natural Resources, Division of Wildlife
- Ohio Historic Preservation Office

5.3 RESOURCES CONSULTED

- *Land Title Survey*, prepared for W&M Properties and Quality Title Agency, Inc., prepared by Land Design Consultants, August 29, 2002
- Fiscal Year 2004 Guard and Reserve Military Construction DD Form 1390S/1, Proposed USACR/OMS/AMSA, Cleveland, Ohio, January 2002
- Fiscal Year 2004 Military Construction Project Data DD Form 1391, Cleveland MCAR Project, Cleveland, Ohio, October 2003
- *Available Site Identification and Validation Report, Proposed USARC Sites, Cleveland Ohio*, November 27-28, 2001
- *Design Analysis for the Cleveland, Ohio AR Center/OMS/AMSA/UHS*, RSP Architects, May 18, 2004

Resources Consulted *(continued)*

- *Preliminary Wetland Mitigation Proposal*, EVS, Inc., May 20, 2004
- *Draft Phase I Environmental Site Assessment, 24.09-Acre Vacant Parcel*, Chamberlin Road, Twinsburg, Summit County, Ohio, Partners Environmental Consulting, Inc., May 14, 2002
- *Wetland Delineation Report for Heritage Development Company Parcel 3*, Beak Consultants Incorporated, October 2002
- *Wetland Evaluation Report for Heritage Development Company Parcel 3*, Beak Consultants Incorporated, October 2002
- *Environmental Baseline Survey, Huisman United States Army Reserve Center (OH 066)*, Installation Management Agency, Army Reserve Division, March 31, 2004
- *Ohio Section 110 Inventory, excerpt for Warrensville Heights, Ohio 2nd LT William S. Huisman USARC*, Fort McCoy Archaeology Laboratory, 1997
- *Detailed Management Summary for Phase I Archaeological Survey of the Proposed Twinsburg USARC Facility*, Brockington and Associates, Inc., 2004
- *Draft Biological Evaluation for Proposed Construction of a U.S. Army Reserve Center,Twinsburg Township, Summit County, Ohio*, 88th RRC, May 20, 2004
- *Draft 88th RRC Natural Resources Surveys – Ohio*, May 2004
- Micosoft TerraServer, http://terraserver.homeadvisor.msn.com
- Yahoo Maps website, www.maps.yahoo.com
- MapQuest, www.mapquest.com
- Aerial photographs obtained from MicroDot, Inc., for years 1938, 1951, 1962, 1970, 1991, 2001
- U.S. Geological Survey (USGS) topographic quadrangle maps for years 1908, 1953, 1963, 1970, 1979, 1984, and 1996, obtained from Environmental Data Resources, Inc.
- United States Department of Agriculture *Soil Conservation Service Soil Survey of Summit County Ohio*, 1990
- USEPA Surf Your Watershed website, http://cfpub.epa.gov
- Environmental Systems Research Institute, Inc. (ESRI) Federal Emergency Management Agency (FEMA) digitized Flood Hazard Map website, http://mapserver2.esri.com
- USEPA Map of Radon Zones website, http://www.epa.gove/iaq/radon/zonemap
- USEPA Safe Drinking Water Information System website, http://oaspub.epa.gov/enviro/
- Rivers, Trails, and Conservation Assistance Program, National Park Service, www.ncrc.nps.gov
- U.S. Fish and Wildlife Service Threatened and Endangered Species System, October 2002, www.ecos.fws.gov
- National Park Service National Wild and Scenic Rivers System, www.nps.gov/rivers
- USGS TerraServer mapping website, www.terraserver.homeadvisor.msn.com
- National Park Service website, www.nps.gov
- U.S. Department of Agriculture, National Resources Conservation Service Ohio Watershed and Soils websites, www.oh.nrcs.usda.gov/waterres/ and www.oh.nrcs.usda.gov/soil_survey/
- U.S Census Bureau American FactFinder website, www.factfinder.census.gov
- USEPA Nonattainment Area Map, http://www.epa.gov/oar/oaqps/greenbk/mapnpoll.html
- USEPA National Ambient Air Quality Standards, http://www.epa.gov/airs/criteria.html
- USEPA AirData Monitor Summary Report website, http://oaspub.epa.gove/airsdata/
- Executive Order 12898, http://www.ujamaa.freeservers.com/exe12898.htm
- Executive Order 13045, http://www.epa.gov/fedrgstr/EPA-PEST/1997/April/Day-23/p10695.htm
- The Ohio State University Extension website, http://ohioline.osu.edu
- Ohio Department of Natural Resources (ODNR), Ohio Division of Geological Survey websites, http://www.dnr.state.oh.us/geo_survey

Resources Consulted *(continued)*

- Environmental Data Resources, Inc., NEPACheck® regulatory report, including the following searches
  - National Register of Historic Places database
  - FEMA Q3 Flood Data database
  - USFWS National Wetlands Inventory database
  - Ohio Department of Natural Resources Endangered Species Natural Heritage Database
  - Ohio Department of Natural Resources Coastal Zones records
  - Federal Communications Commission and Federal Aviation Administration records
- The Ohio Geological Society website, http://www.ohio.dnr.com/geosurvey
- ODNR Division of Water website, http://www.dnr.state.oh.us
- Ohio DNR State Parks website, www.dnr.state.oh.us/parks
- Ohio DNR Division of Natural Areas and Preserves website, www.dnr.state.oh.us/dnap
- Ohio Department of Natural Resources Division of Water, Water Well Log and Drilling Report database, www.dnr.state.oh.us/water/maptechs/wellogs/
- Ohio Department of Health website, www.odh.state.oh.us/
- City of Cleveland Water System website, http://www.clevelandwater.com
- Summit County, Ohio website, http://www.summitoh.net
- Twinsburg Township website, http://twinsburgtwp.com/
- City of Twinsburg website, www.twinsburg.oh.us
- Summit County Soil & Water Conservation District, www.summitswcd.org
- City of Macedonia Department of Parks and Recreation website, www.macrec.com
- City of Beachwood website, www.beachwoodohio.com
- Summit County Metro Parks website, www.neo.rr.com/MetroParks/
- Daimler Chrysler Twinsburg Stamping Plant webpage, www.daimlerchrysler.com
- Summit County Engineer, www.engineer.co.summit.oh.us/cgi-bin/displayContent.pl?type=section&id=1
- Akron Regional Air Quality Management District, www.156.63.18.80/

APPENDIX A

FIGURES

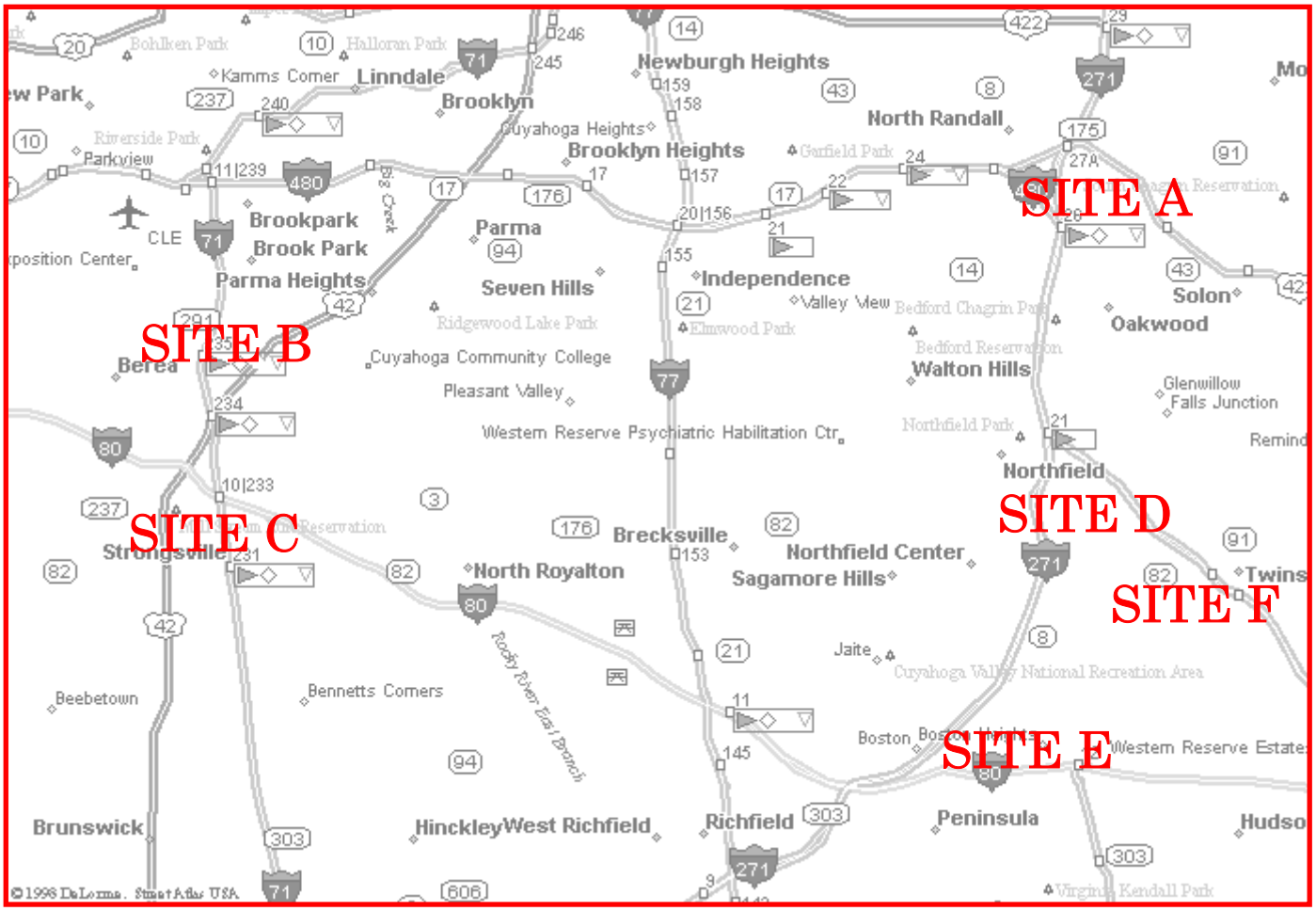

FIGURE 1

LOCATIONS OF BUILDING SITES EVALUATED

U.S. ARMY
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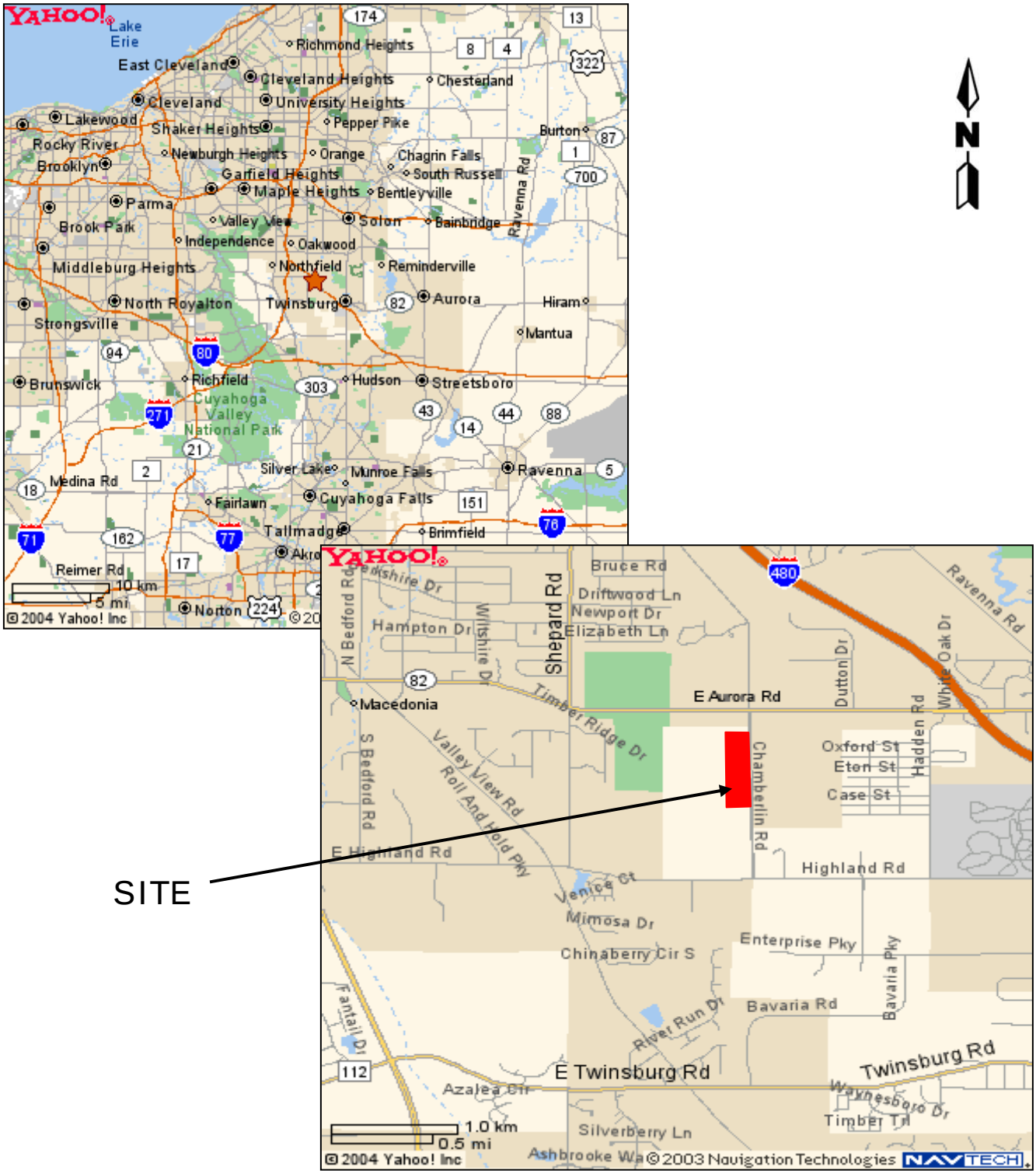
ENGINEERING DIVISION

ENVIRONMENTAL ASSESSMENT
PROPOSED U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



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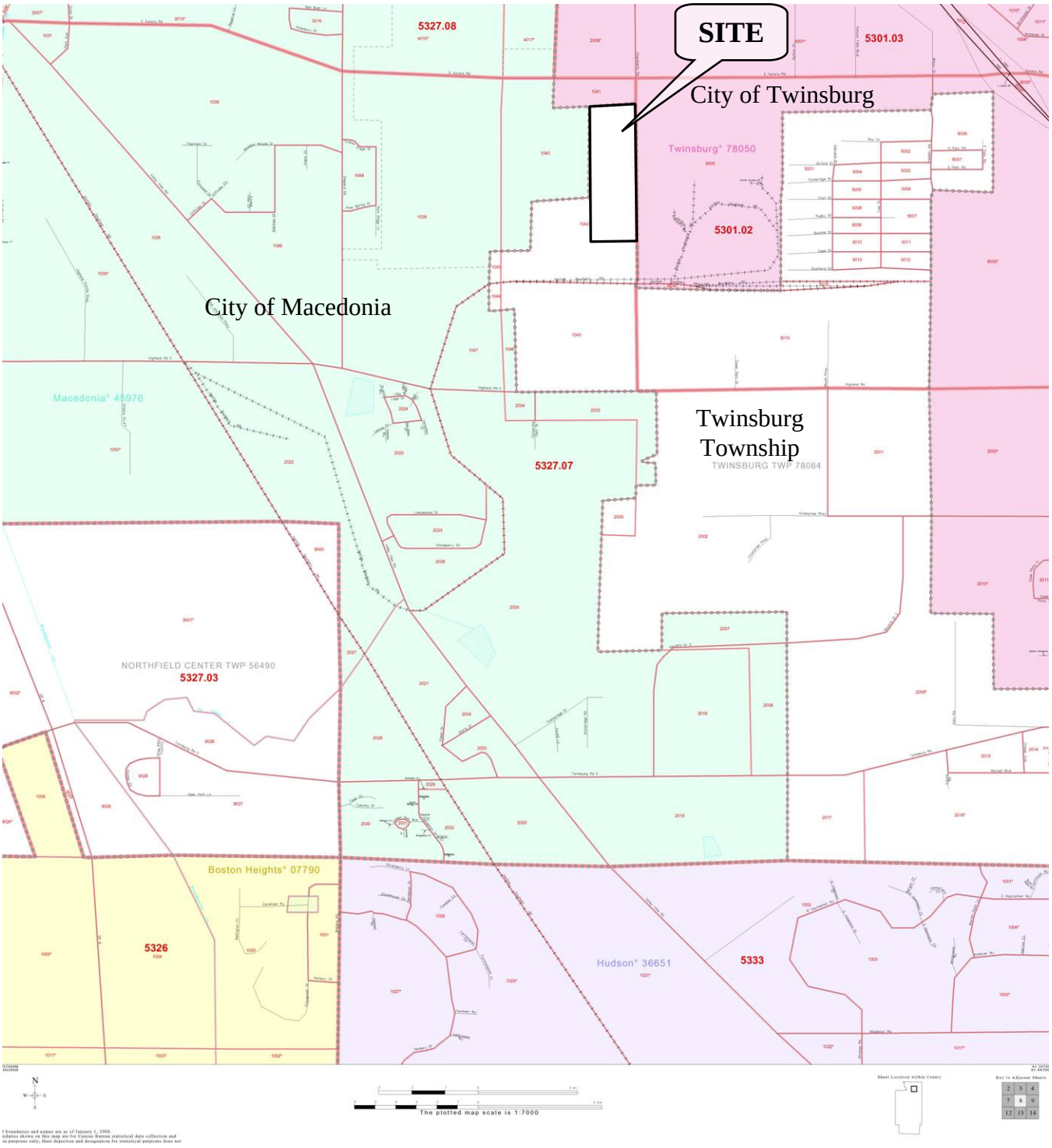
LOUISVILLE DISTRICT
ENGINEERING DIVISION

FIGURE 2

GENERAL SITE LOCATION MAP FOR THE PROPOSED CONSTRUCTION SITE

ENVIRONMENTAL ASSESSMENT
PROPOSED U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



U.S. ARMY
CORPS OF ENGINEERS
LOUISVILLE DISTRICT
ENGINEERING DIVISION

FIGURE 3

TWINSBURG TOWNSHIP
MUNICIPALITY BOUNDARY MAP

ENVIRONMENT ASSESSMENT
PROPOSED U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO

U.S. ARMY
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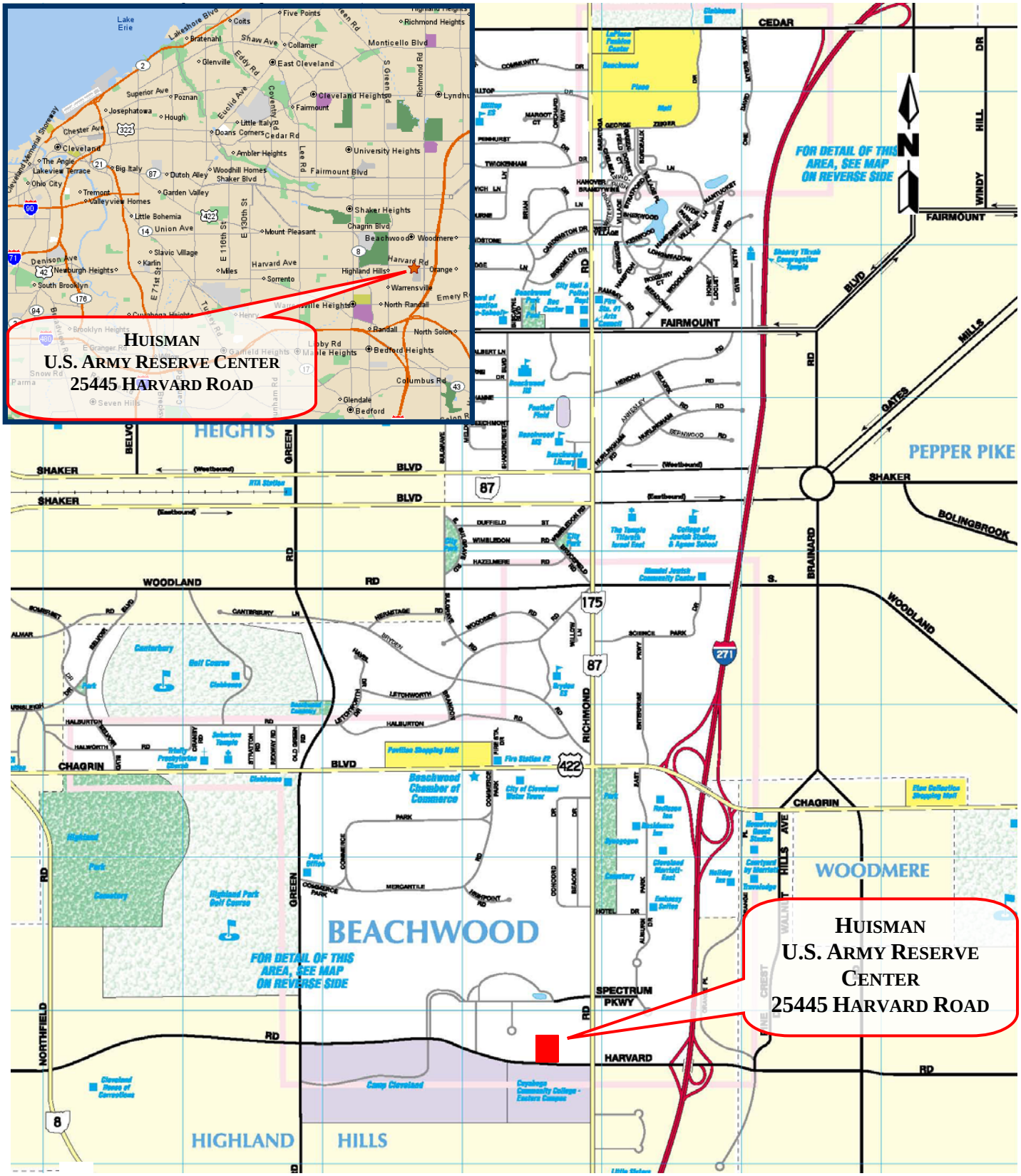
ENGINEERING DIVISION

FIGURE 4

SEPTEMBER 2001 AERIAL VIEW OF THE PROPOSED CONSTRUCTION SITE & VICINITY

ENVIRONMENTAL ASSESSMENT
PROPOSED U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



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LOUISVILLE DISTRICT
ENGINEERING DIVISION

FIGURE 5

CITY OF BEACHWOOD GENERAL LOCATION MAP

ENVIRONMENTAL ASSESSMENT
PROPOSED U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO

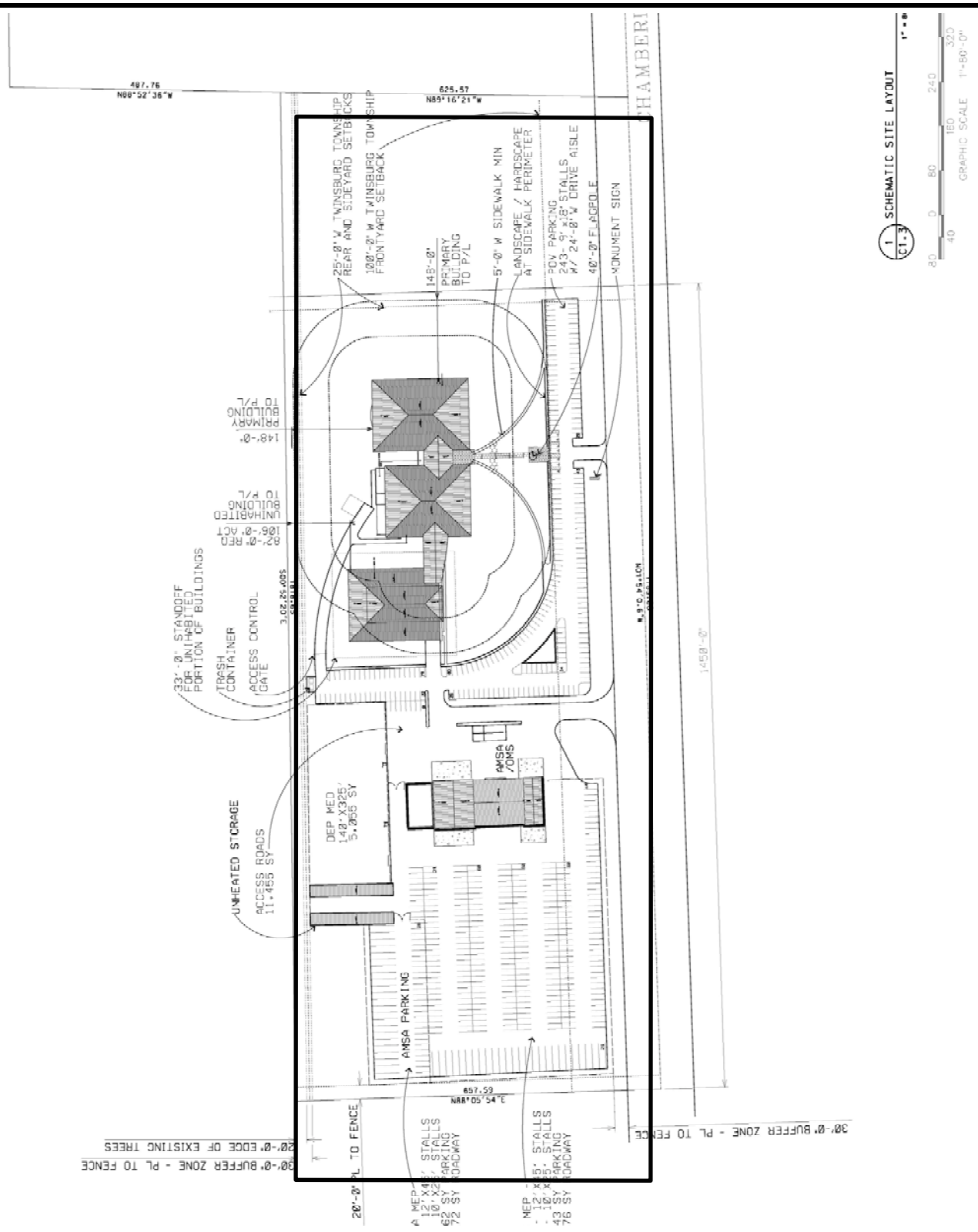

FIGURE 6

U.S. ARMY
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ENGINEERING DIVISION

CONCEPTUAL SITE LAYOUT FOR THE PROPOSED U.S. ARMY RESERVE CENTER

ENVIRONMENTAL ASSESSMENT
PROPOSED U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO

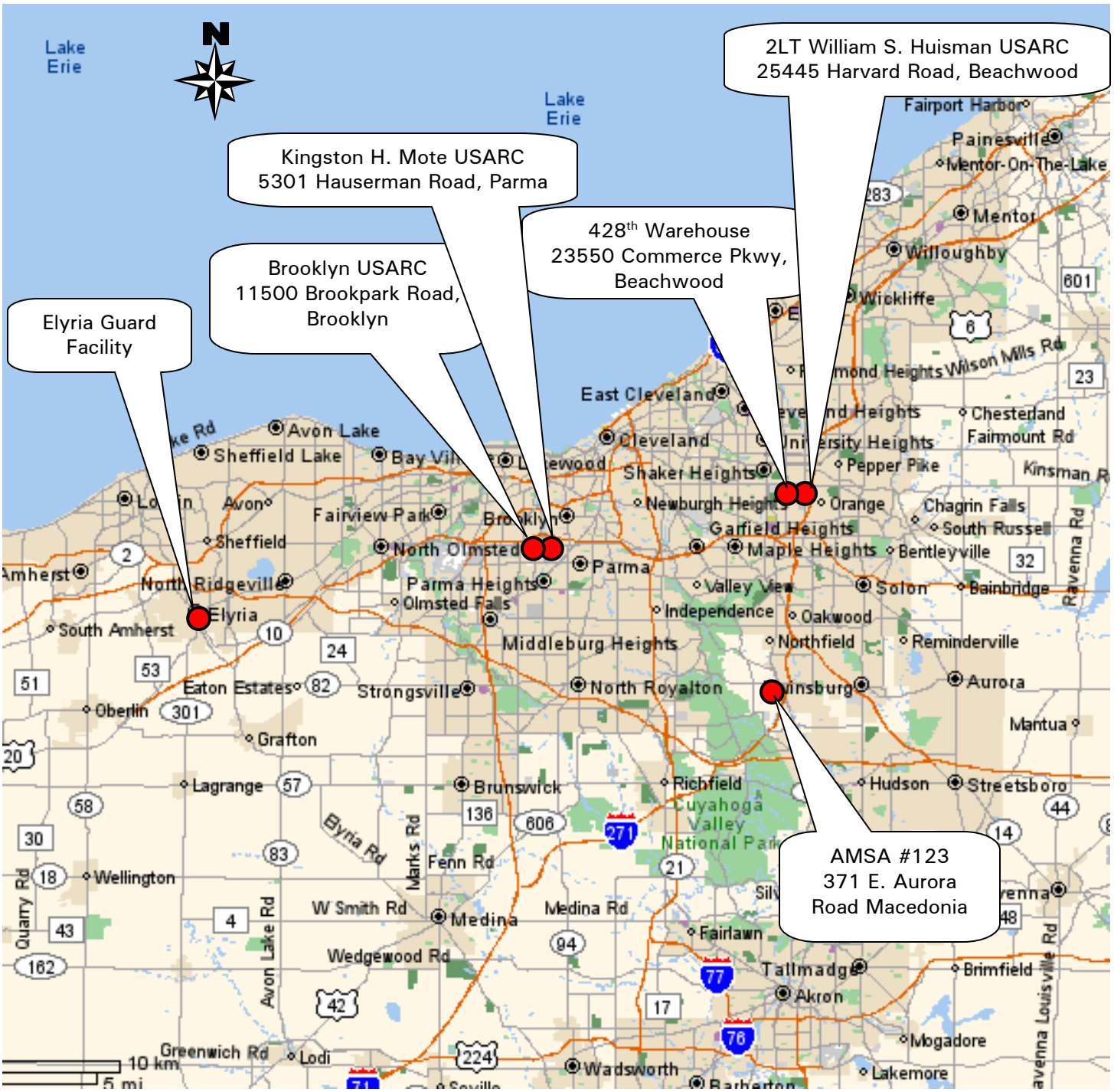

FIGURE 7

LOCATIONS OF EXISTING ARMY RESERVE FACILITIES

U.S. ARMY
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ENGINEERING DIVISION

ENVIRONMENTAL ASSESSMENT
PROPOSED U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO

Huisman Center, Harvard Road, Beachwood

AMSA #123, East Aurora Road, Macedonia

Mote Center, Hauserman Road, Parma

428th Warehouse, Commerce Parkway, Beachwood

Brooklyn Center, Brookpark Road, Brooklyn

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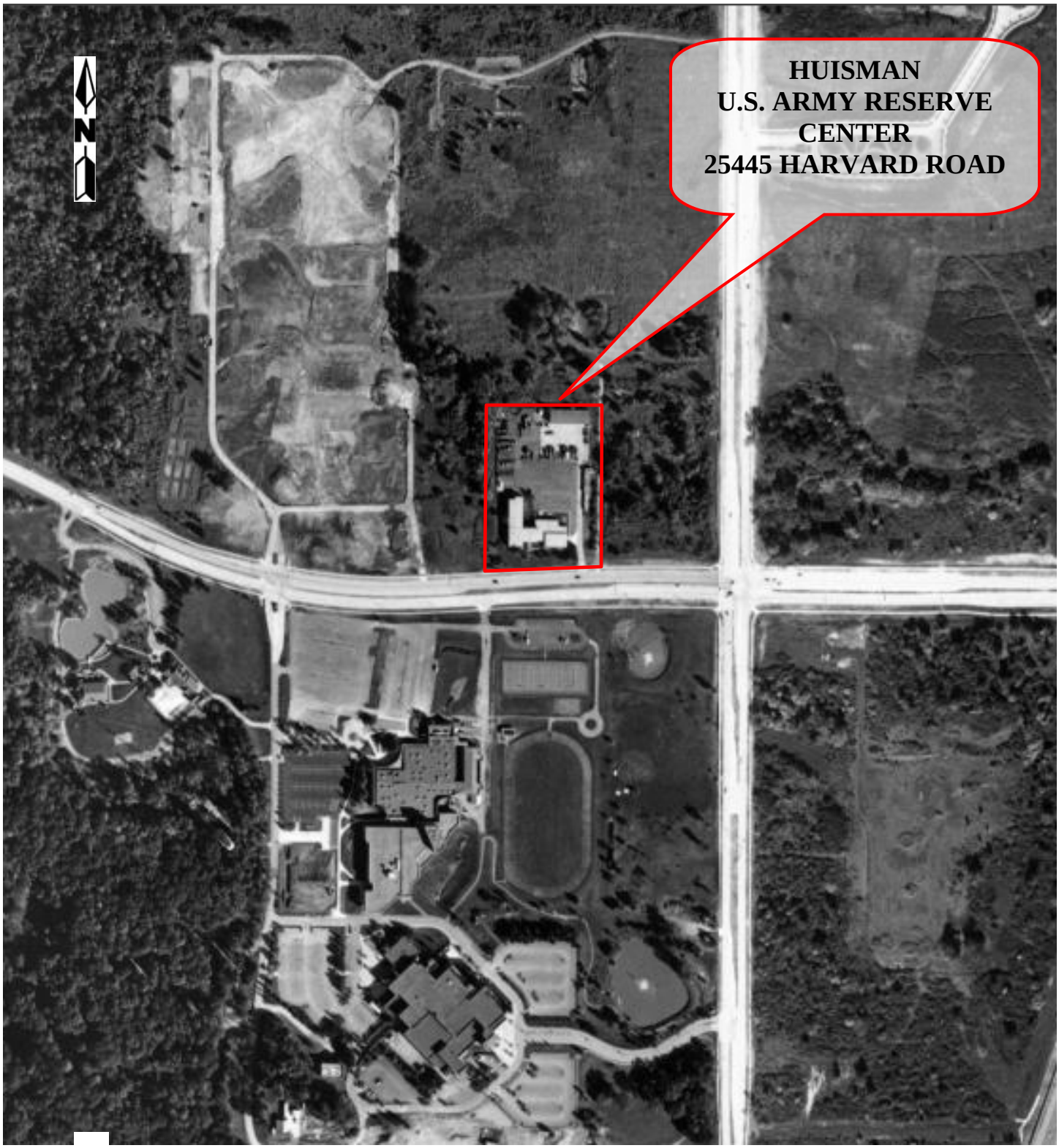
ENGINEERING DIVISION

FIGURE 8

PHOTOGRAPHIC VIEWS OF THE EXISTING ARMY RESERVE FACILITIES IN THE CLEVELAND AREA

ENVIRONMENTAL ASSESSMENT
PROPOSED U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



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ENGINEERING DIVISION

FIGURE 9

SEPTEMBER 2001 AERIAL VIEW OF THE HUISMAN U.S. ARMY RESERVE CENTER & VICINITY

ENVIRONMENTAL ASSESSMENT
PROPOSED U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO

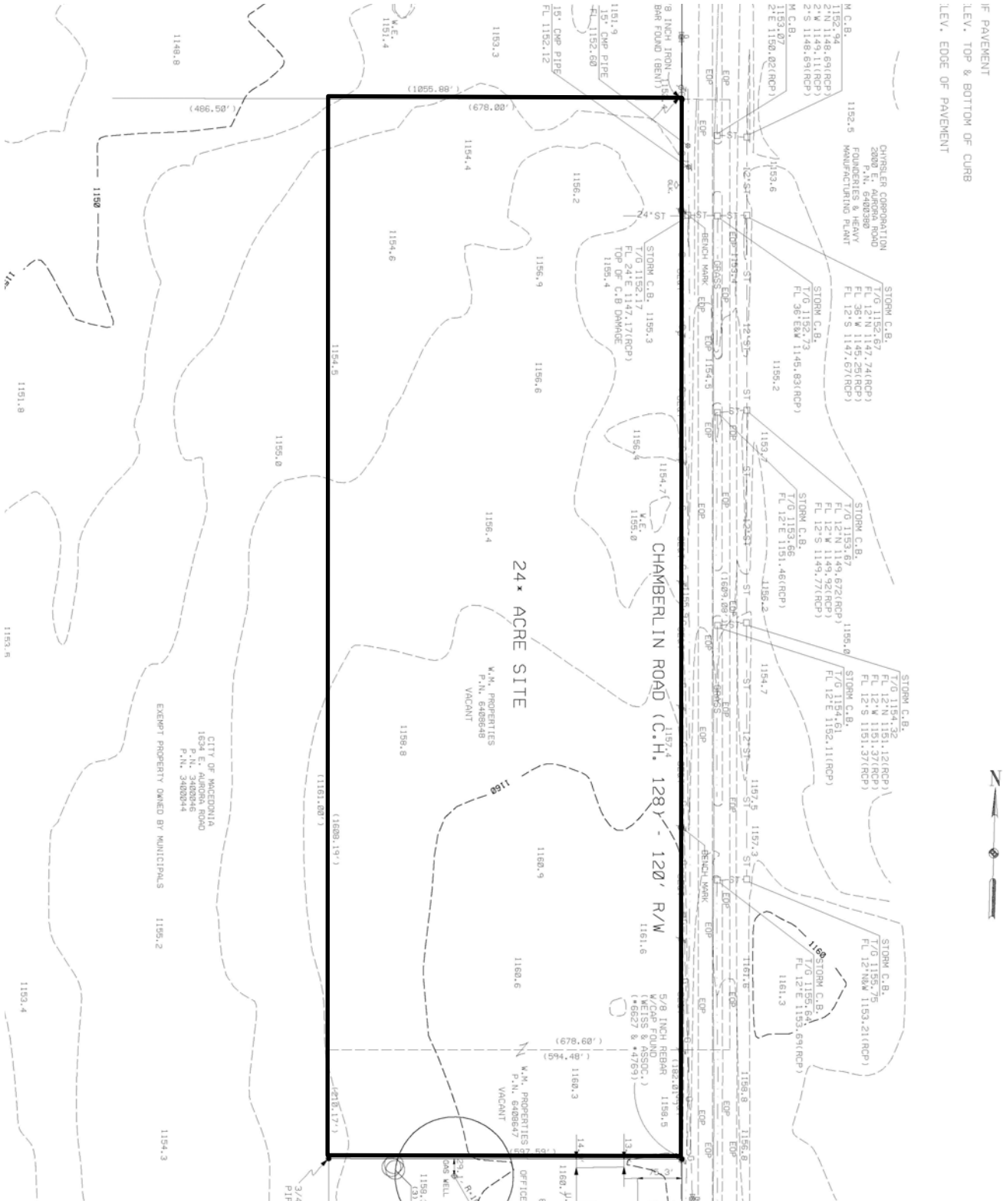

FIGURE 10

TOPOGRAPHIC CONTOUR MAP OF THE PROPOSED CONSTRUCTION SITE

U.S. ARMY
CORPS OF ENGINEERS
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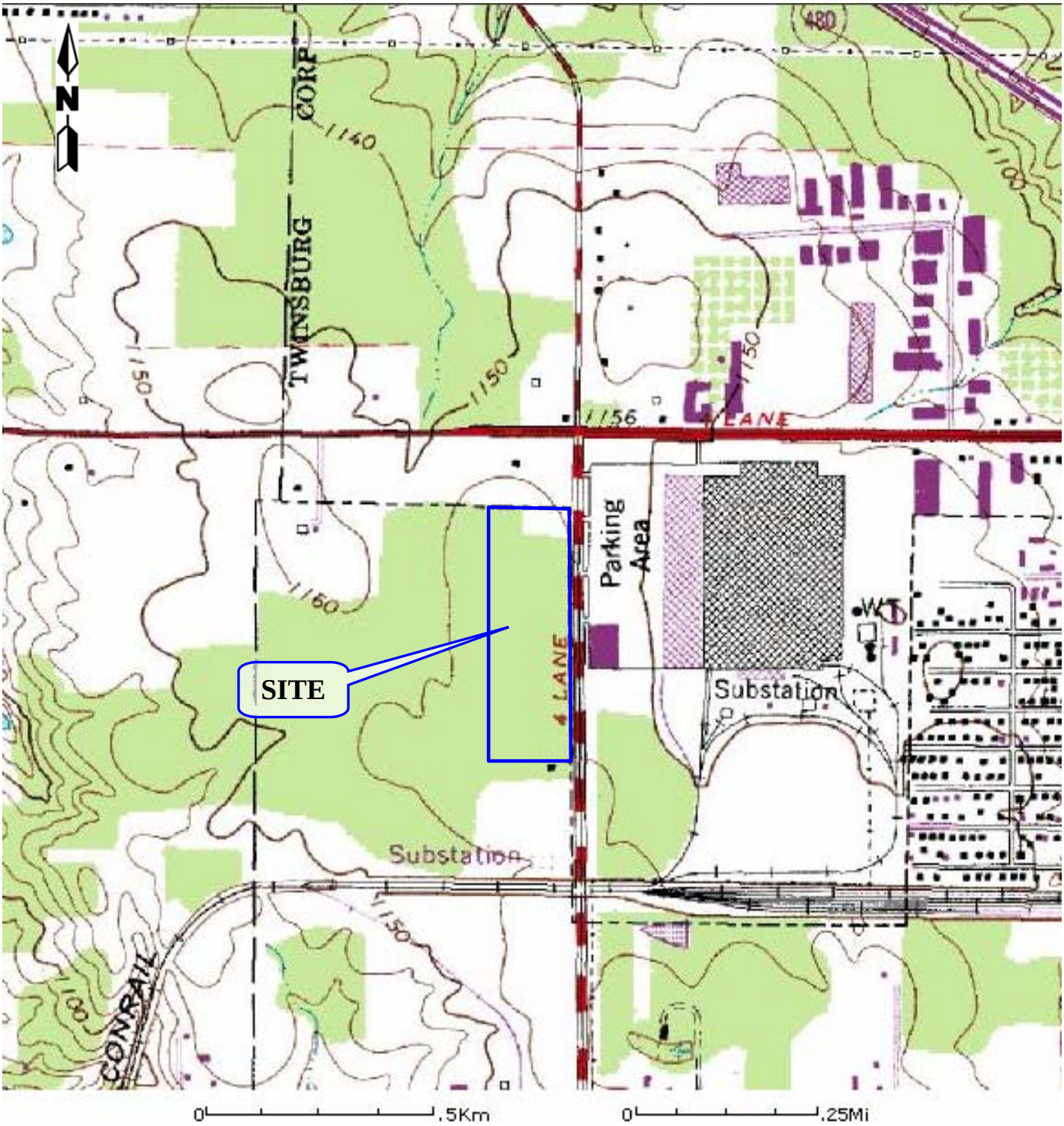
ENGINEERING DIVISION

ENVIRONMENTAL ASSESSMENT
PROPOSED U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO

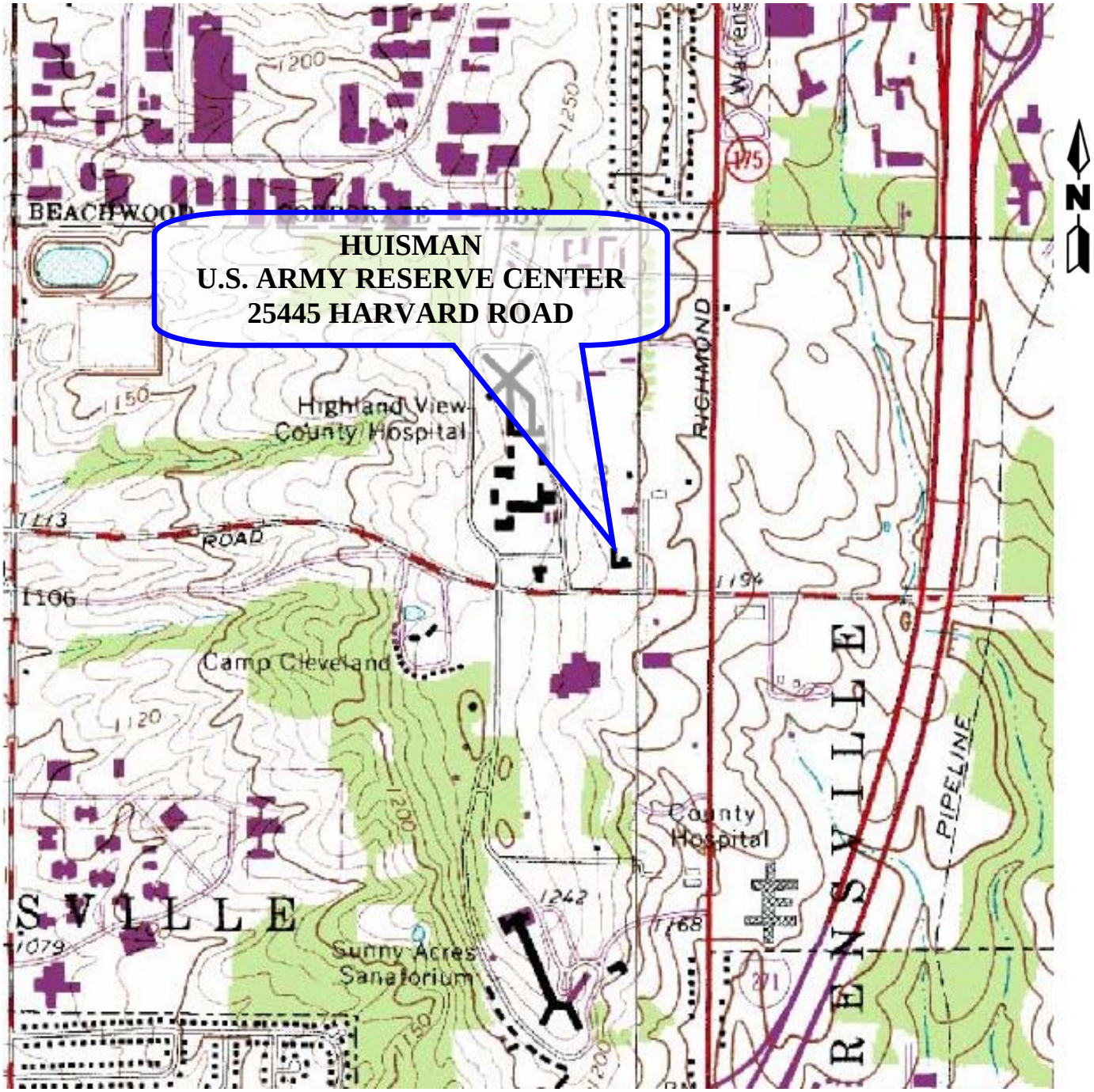


U.S. ARMY
CORPS OF ENGINEERS
LOUISVILLE DISTRICT
ENGINEERING DIVISION

FIGURE 11

1996 USGS TOPOGRAPHIC MAP OF THE PROPOSED CONSTRUCTION SITE & VICINITY

ENVIRONMENTAL ASSESSMENT
PROPOSED U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



U.S. ARMY
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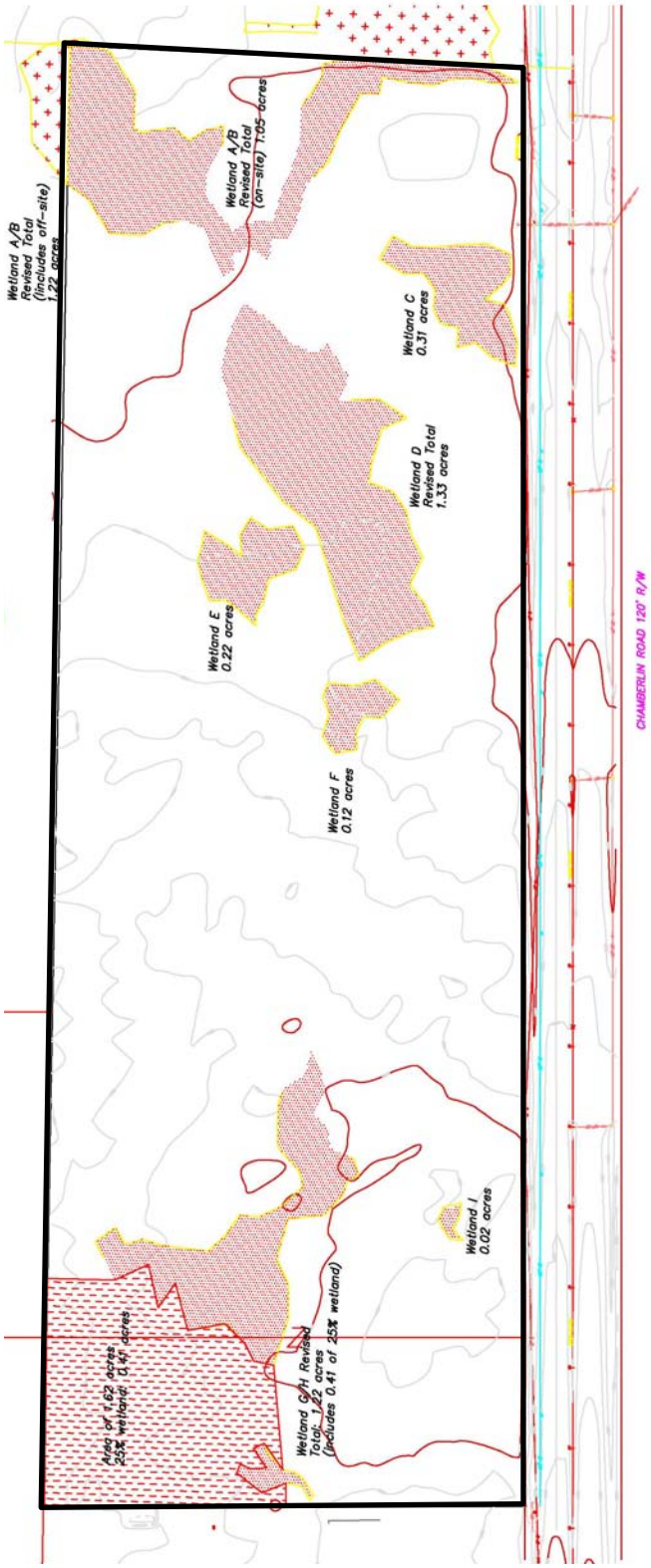
LOUISVILLE DISTRICT
ENGINEERING DIVISION

FIGURE 12

1994 USGS TOPOGRAPHIC MAP IN THE VICINITY OF THE HUISMAN U.S. ARMY RESERVE CENTER

ENVIRONMENTAL ASSESSMENT
PROPOSED U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



U.S. ARMY
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LOUISVILLE DISTRICT
ENGINEERING DIVISION

FIGURE 13

LOCATIONS OF REGULATED WETLAND AREAS ON THE PROPOSED CONSTRUCTION SITE

ENVIRONMENTAL ASSESSMENT
PROPOSED U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO

APPENDIX B

TABLES

TABLE 1

SUBSTANCES LIKELY STORED AT THE SITE [1,2,3]

Solvent-based cleaners	Solder/Flux
Aqueous cleaners / degreasers	Dry cell batteries
Household cleaners	Lithium batteries
Paints	Wet cell lead acid batteries
Primer	Kerosene
Lacquer thinner / mineral spirits	Propane
Sealant	Diesel fuel
Epoxy resin	Gasoline
Insect repellant	Oil
Starter fluid	Hydraulic fluid
Inhibitor	Gear oil
Antifreeze	Grease
Transmission fluid	Tire and rim lubricant
Brake fluid	Used oil / oil filters
Power steering fluid	Denatured alcohol
Fuel additive	Isopropyl alcohol
Refrigerant	Methanol
Refrigeration lubricant	Acetone
Sulfuric acid	Xylene (paint component)

(1) Storage of these chemicals would be rotational in nature to support maintenance activities at the Site.

(2) Substances listed above represent OSHA hazardous chemicals, petroleum products, and CERCLA hazardous substances.

(3) Any chemicals containing CERCLA hazardous substances would be stored at quantities that are below corresponding CERCLA Activity Thresholds.

TABLE 2

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact Category	Degree of Impact				Proposed Mitigation/Approval Requirements
	Severe	Moderate	Minor	Negligible	
Land Use				X	Site is undeveloped forested area and is currently zoned for light industrial use. Proposed action is consistent with zoned uses.
Soils and Topography			X		The proposed action would require disturbance to the existing site soils and topography at the proposed construction Site in order to provide site access and to meet the needs of the proposed facility function. In addition to the installation of storm water detention basins, the grade differential on the Site would require excavation and filling operations to achieve site grades that allow construction of the proposed structures, driveways, and parking facilities. Although some topsoil material would be stockpiled on site for future finish work, the proposed level of site development would likely necessitate the removal of the majority of the topsoil material from the Site. Implementation of site planning, design, and construction procedures, including soil erosion controls and prompt soil stabilization, and re-vegetation measures would avoid significant adverse impacts to the soils during and following construction. Compliance with applicable Federal, State, and local regulations regarding soil disturbance activities would be achieved.
Water Resources			X		An anticipated 2.91 acres of wetlands would be lost, but it is anticipated that 7.3 acres of new wetlands would be financially funded through an off-site mitigation process. Through necessary coordination with local, State, and Federal agencies, adherence with applicable regulatory permitting processes and operating requirements, implementation of BMPs and other SWP3 requirements, no adverse impacts to surface water or groundwater quality are anticipated during construction or operation of the proposed facility. Site development would include provisions for proper handling and treatment of storm water runoff in accordance with Federal, State, and local regulations. Preliminary design plans show the installation of storm water detention basins that would facilitate solids settling and uniform discharge. Discharge from the on-site detention basins would occur at pre-development rates and would enter existing drainage water courses.

Impact Category	Degree of Impact				Proposed Mitigation/Approval Requirements
	Severe	Moderate	Minor	Negligible	
Air Quality			X		Dust control measures would be implemented at the Site during construction. The proposed action is not expected to measurably add to the increasing air pollution in Summit County, given overall development in the area and associated traffic levels. There would be no net increase in air emissions from the proposed action, because the proposed operations would be equivalent to emissions from operations already occurring at the existing Army Reserve centers in the regional area. Moreover, under the proposed action, combined emissions for the integrated Army Reserve activities could actually decrease over the long term due to the integration of units into one facility and the operation of energy-efficient building structures.
Natural and Biological Resources			X		The proposed action would result in clearing and permanent loss of approximately 20 acres of hardwood forest and forested wetlands. Highly mobile wildlife species in the area would likely migrate to surrounding forested areas during construction. Among commons species of wildlife, some direct mortality may occur to immobile or young individuals during construction, but the proposed action is not likely to adversely affect local wildlife populations. The Site provides a suitable roosting and foraging habitat for the endangered Indiana bat (*Myotis sodalis*), which is known to occur in Summit County; however, during a July 2004 mist net survey, the presence of an Indiana bat on the Site was not confirmed (i.e., none were captured). The 88th RRC is currently engaging the USFWS in Endangered Species Act Section 7 consultation to achieve project parameters that will allow the proposed project to occur with either no impact to the Indiana bat, or the least possible impact to the species and its habitat. Section 7 consultation would be completed prior to initiating site development.
Cultural Resources				X	No cultural resources or areas of religious or cultural significance have been identified as occurring on, or associated with, the Site. In the event that any archaeological artifacts are discovered during construction the proposed action, immediate coordination with appropriate State and tribal agencies would occur.
Noise			X		Construction activities would occur during daytime hours. Proper maintenance and operation of construction and military equipment and machinery would be completed so as to minimize noise associated with the operation of this equipment.
Parks and Recreation				X	Construction of the Army Reserve Center would occur on property that is adjacent to a wooded, undeveloped portion of a city park. Conceptual site plans include the maintenance of a minimum 30-foot vegetative buffer between the developed portion of the Site and the park property.
Visual Resources			X		Removal of vegetation would be required to construct the Center. Site development would be consistent with characteristics of surrounding properties. Adherence to local regulations during facility design (e.g., including the creation and maintenance of forested buffers along the Site's property boundaries) would offset impacts to this resource.

Impact Category	Degree of Impact				Proposed Mitigation/Approval Requirements
	Severe	Moderate	Minor	Negligible	
Transportation and Traffic				X	Traffic to the Site would increase, but negative impacts to roadways and traffic patterns are not expected.
Utility Infrastructure				X	All necessary utilities are all available immediately adjacent or in close proximity to the Site. Design engineers would coordinate the utility loads and service requirements with the respective utility companies once the design is advanced sufficiently to justify this action. All utility connections would be performed in accordance with the requirements of the respective utility companies and local building officials. The Site would not require any special utility needs beyond those of a standard light industrial/commercial operation. Based upon preliminary design planning, there would also be no requirements for upgrading the utilities infrastructure.
Hazardous Materials				X	Implementation of a SWP3 would contain BMPs to prevent and minimize impacts to water resources associated with accidental spills during facility construction. Hazardous materials used during facility operation would be disposed of on a regular basis through an outside contracted hazardous materials hauler in accordance with applicable Federal and state waste management regulations. Oil from wastewater during equipment maintenance and use of a vehicle/equipment wash rack would be removed through an underground oil/water separator prior to discharge to the municipal sanitary sewer system. No on-site disposal of waste materials would occur. Staff would be trained in proper spill prevention, handling and containment. Containment and clean-up equipment and materials would be available on site. The facility design includes provisions for the installation of a radon collection system, if based upon post-construction radon monitoring, this equipment is needed to mitigate potential health impacts to building occupants. With regard to the possible future use of the Huisman Army Reserve Center by the City of Beachwood, no impacts with regard to hazardous materials management or waste generation are expected, as long as applicable State and Federal waste management requirements are met. As long as management of the Center continues in accordance with applicable State and Federal regulations regarding PCB-containing equipment, asbestos management, and lead-based paint, these potential environmental and human health hazards would be mitigated.
Public Services				X	Construction and operation of the proposed Center are not expected to impact police, fire, or medical services in the area, as no significant additional demand is expected to be placed on these service agencies and facilities.
Environmental Justice and Socioeconomics				X	The proposed action would not result in disproportionately high and adverse human health or environmental effects on low-income or minority populations.

APPENDIX C

SUPPORTING WETLAND DELINEATION AND MITIGATION DOCUMENTATION

DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

REPLY TO
ATTENTION OF

Regulatory Branch

May 11, 2004

MEMORANDUM FOR

Louisville District - Corps of Engineers (CELRL-ED-E-C), ATTN: Nora Keel, P.O. BOX 59, Louisville, Kentucky 40201-0059

SUBJECT: Jurisdictional Determination and Verification of Wetland Delineation, No. 2004-01125(0)

1. This is in reference to your request for a jurisdictional determination and verification of a wetland delineation for a property owned by the Heritage Development Company in Summit County, Ohio. The property is located in Twinsburg Township along the west side of Chamberlin Road south of State Road 82.

2. On January 9, 2001, the U.S. Supreme Court issued a ruling that affected the Corps of Engineers authority to regulate isolated, non-navigable, intrastate waters under the Clean Water Act (Solid Waste Agency of Northern Cook County v. the U.S. Army Corps of Engineers, No. 99-1178). Specifically, the case involved statutory and constitutional challenges to the assertion of Clean Water Act jurisdiction over isolated, non-navigable, intrastate waters where use of the site by migratory birds established the necessary interstate commerce connection. The U.S. Supreme Court found that use of the site by migratory birds alone is **not** sufficient to establish Federal jurisdiction over isolated wetlands, and that such areas are not waters of the United States and are **not** subject to regulation under Section 404 of the Clean Water Act.

3. In light of the recent Supreme Court decision, we have reviewed various maps and the administrative record for the project. Based on this review, we have determined that Wetlands D, E, F, and I on the subject project site are isolated, non-navigable, intrastate waters that are not subject to regulation under Section 404 of the Clean Water Act. These wetlands total 1.69 acres. Heritage Development Company would not need Department of the Army authorization under Section 404 of the Clean Water Act to commence with work affecting these four wetlands.

4. The other three wetlands on the site (Wetlands AB, C, and GH, totaling 2.58 acres) are waters of the United States subject to regulation under Section 404 of the Clean Water Act. Department of the Army authorization would be required for placement of dredged or fill material in these wetlands.

5. Finally, we are hereby confirming that the wetland boundaries, as shown on the attached drawings, were properly identified and delineated under the 1987 Corps of Engineers Wetland Delineation Manual and will remain valid for a period of five years from the date of this correspondence. At the end of this period, a new delineation may be required.

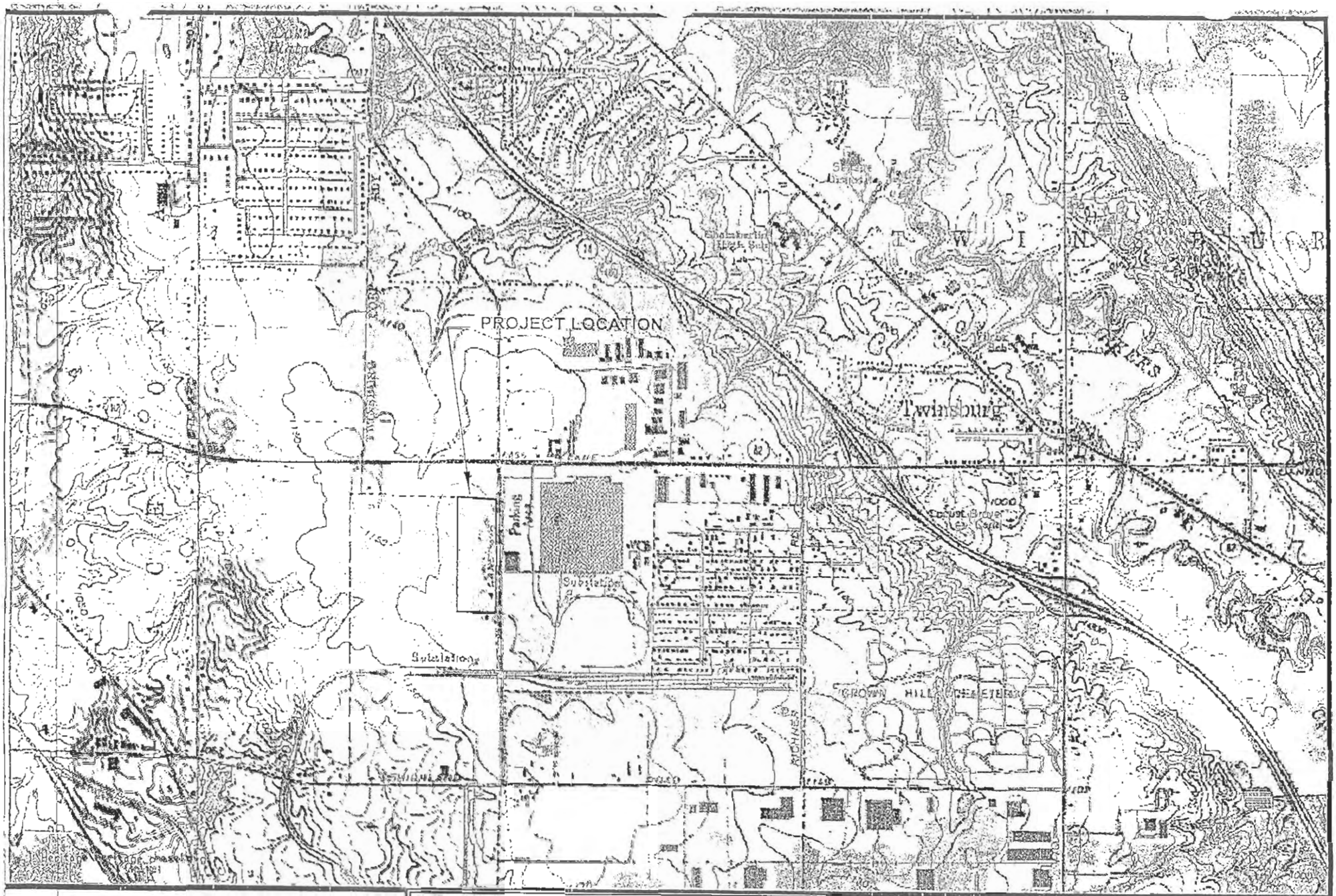
6. Anyone proposing work on this site should contact the appropriate state and local governmental agencies, including the Ohio Environmental Protection Agency (OEPA), to insure that the proposed work complies with their requirements. OEPA, Division of Surface Water, can be reached at (614) 644-2001.

7. Questions pertaining to this matter should be directed to Mark E. Gronceski at (440) 437-5847, by writing to the following address: U.S. Army Corps of Engineers, 33 Grand Valley Avenue, or by email to Mark.E.Gronceski@lrb01.usace.army.mil

FOR THE COMMANDER

Enc

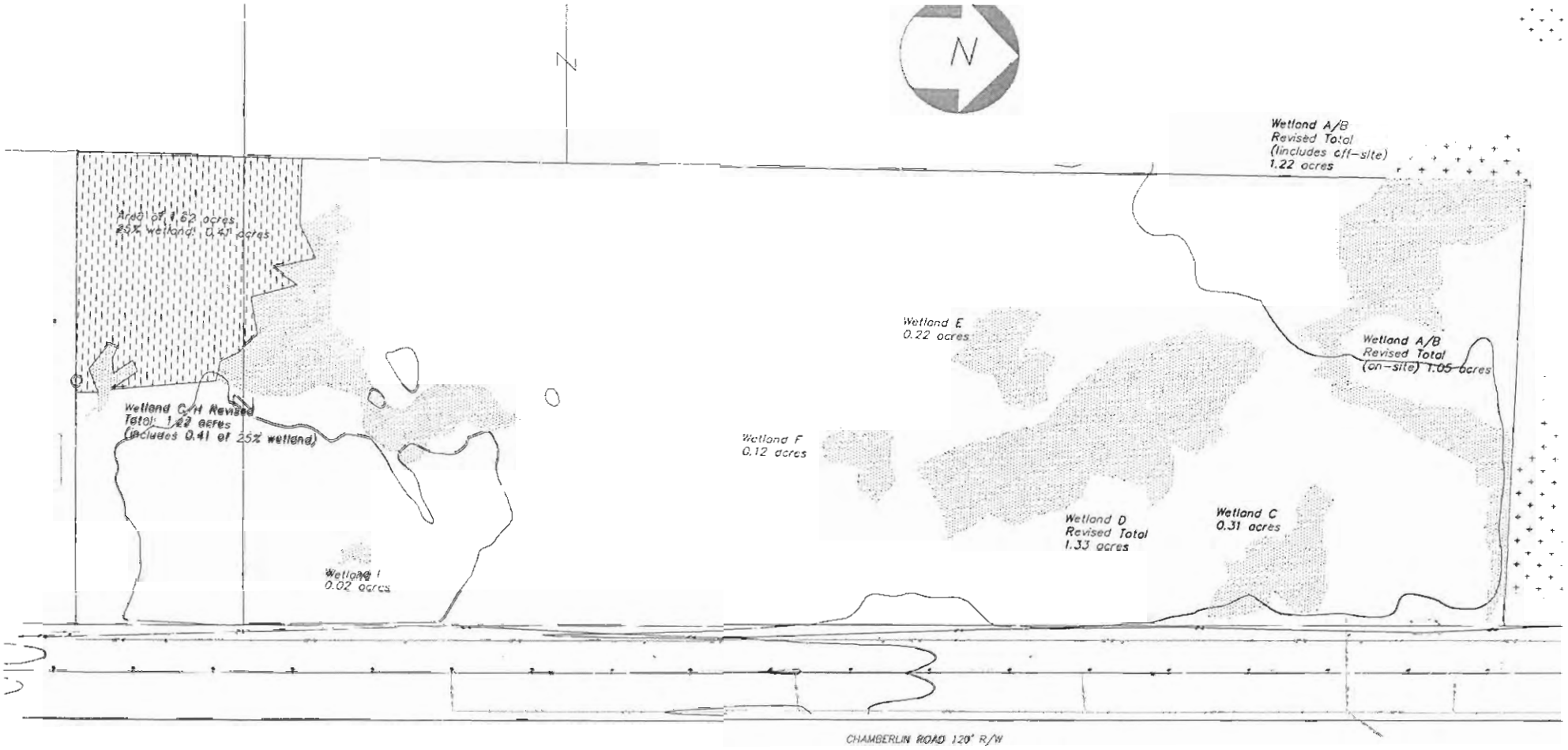
Alan H. Sisselman
Chief, Ohio Application Evaluation Section



BEAK CONSULTANTS INCORPORATED

LOUISVILLE DISTRICT
D/A Processing No. 2004-01125(0)
Summit County, Ohio Quad: TWINSBURG
Sheet 1 of 2 - Location Map

PROJECT LOCATION
U.S. DEPT. OF THE INT. GEOLOGICAL SURVEY
TWINSBURG QUADRANGLE
OHIO - SUMMIT COUNTY
7.5 MINUTE SERIES (TOPOGRAPHIC)



Received 28 April 2004

Parcel 3
Revised Wetland Delineation

LOUISVILLE DISTRICT
D/A Processing No. 2004-01125(0)
Summit County, Ohio Quad: TWINSBURG
Sheet 2 of 2 - Wetland Delineation

ENGINEERING | SURVEYING | ENVIRONMENTAL | PLANNING

Preliminary Wetland Mitigation Proposal

Prepared For:

Department of the Army
U.S. Army Corps of Engineers
Louisville District
Louisville, KY

Prepared By:

EVS, Inc.
10200 Valley View Rd
Suite 151
Eden Prairie, MN 55344

May 20, 2004

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Executive Summary

This project will provide a facility for 15 Army Reserve units. This Center will provide necessary administrative, training and storage areas required to achieve proficiency in required training tasks for these Army Reserve units. Special attention is focused on providing training areas for tactical equipment. The OMS/AMSA will provide the required administrative, tool and parts storage, and shop space to accomplish maintenance for the assigned military equipment. This project will provided the required military equipment and private-owned vehicle parking areas.

Nine wetland basins were identified on-site, by the *Wetland Delineation Report* (October 2002 by Beak Consultants, Inc) and a field review in 2004. The *Wetland Evaluation Report* (October 2002 by Beak Consultants, Inc) utilized the Ohio Rapid Assessment Method to assign each basin a category number. As stated in the *Evaluation Report* Wetland A was rated at category 1 while the remaining basins were approximately category 2. Based upon the information presented in the aforementioned reports, field reviews, and the current site layout, an estimated six wetland basins will be impacted totaling approximately 2.91 acres of Category 2 wetland. However, since this project is Design-Build the precise wetland impacts will not be know until construction.

The information in both reports was used to determine measures to avoid, minimize, and compensate wetlands for the wetland permitting process and this *Preliminary Wetland Mitigation Proposal*. The purpose of this *Preliminary Wetland Mitigation Proposal* is to describe and document the project, the probable wetland impacts, and an overview of the mitigation strategies that may be employed. This plan provides a reasonable estimate of wetland mitigation needed for the permitting and completion of Cleveland US Army Reserve Center (USARC) based on the proposed wetland impacts.

This proposal is intended to be conceptual, a preliminary view of wetland impacts, mitigation needs, and mitigation methods. Since this project is Design-Build the precise wetland impacts will not be know until construction. In addition, a monitoring plan, site protection plan, maintenance and contingency plans, and implementation schedule will not be developed as part of this plan. These aspects may be included in a Contractor's Final Mitigation Plan.

As required by the Wetland Antidegredation rules, a replacement wetland should replace the same functions and values provided by the impacted wetland. It may be possible to mitigate some wetland impacts with restoration of an existing or impacted basin and in-kind replacement. When mitigation opportunities within the project ROW are depleted, off-site mitigation opportunities will be used to compensate for the balance of wetland impacts on the USARC site. Four possible on-site mitigation opportunities exist and one off-site.

The site development will result in impacts to approximately 2.91 acres of wetlands. For the classification of wetlands on the USARC site, Ohio Wetland Antidegredation rules requires a 2.0:1 mitigation ratio for on-site mitigation and 2.5:1 mitigation ratio for off-site mitigation. The mitigation opportunities presented in this report represent roughly 0.30 acres that may be feasible to attain within the site. Mitigation of the additional approximately 7 acres will most likely

occur outside of the project limits. Depending upon the on-site and off-site mitigation plan developed by the Government Contractor, the total mitigation effort will result in approximately 7.2 to 7.3 acres.

Project Description

Purpose

Units are currently located in three leased facilities and two government owned substandard facilities. Additional storage space, also substandard, is borrowed from the National Guard at a site 50 miles away. These facilities are overcrowded, old and very expensive to maintain and/or lease. Little training space is available, and is not well utilized because of its dysfunctional configuration and the training equipment is stored so far away. The leased facility in Elyria is over 50 miles from where most of the soldiers live. The government owned facilities require renovations to accommodate continued use, and sufficient land is not available for expansion.

This project will provide a facility for 15 Army Reserve units. The combined strength of these units is 873 soldiers. This Center will provide necessary administrative, training and storage areas required to achieve proficiency in required training tasks for these Army Reserve units. Special attention is focused on providing training areas for tactical equipment. The OMS/AMSA will provide the required administrative, tool and parts storage, and shop space to accomplish maintenance for the assigned military equipment. This project will provided the required military equipment and private-owned vehicle parking areas.

Project Location

The project area (as stated in the Wetland Delineation Report) is located at the Parcel 3 site, an approximate 26-acre parcel located in Twinsburg Township, Summit County, Ohio. Aurora Road (State Route 82) borders the project area to the north, to the east is Chamberlain Road and a parking/substation area, to the south is Highland Road, and to the west is woodland and a city park.

Introduction

Construct a new 800-member Army Reserve Training Center (ARC), an Organizational Maintenance Shop (OMS)/ Area Maintenance Support Activity (AMSA), and an unheated storage building. The buildings will be permanent construction with reinforced concrete foundations and floor slabs, structural steel framing masonry veneer exterior walls, standing seam metal roofing, mechanical and electrical systems. Supporting facilities will include land acquisition of approximately 20 acres, paving, fencing, covered wash rack with oil/water separator, site improvements, Deployable Medical System (DEPMEDS) site and extension of utilities to service the project. The ARC and OMS/AMSA will be protected by fire and intrusion alarm system. Force protection (physical security) measures will be incorporated into design including maximum feasible standoff distance from roads, parking areas, and vehicle unloading areas. Berms, heavy landscaping and bollards will be used to prevent access when standoff distance cannot be maintained.

Upon completion of the wetland delineation and evaluation, an examination of the proposed site plan indicated that approximately 2.91 acres of wetland would be directly impacted. No impacts to the adjacent basins from cut or fill sections have been estimated as a part of this proposal. Cut and fill sections of a project typically impact the hydrology of a basin, by either decreasing or increasing surface flow. Complete avoidance of wetlands for the proposed project is not feasible

because the Army Reserve wanted to buy just enough land for the facility and the occupied building needs Force Protection. Force Protection is a total clear area surrounding the building for an approximate 150-foot radius.

The objectives of this preliminary wetland mitigation proposal are:

1. To provide a reasonable estimate of wetland mitigation needs.
2. To outline on-site mitigation opportunities first as wetland restoration then wetland creation,
3. To list off-site wetland mitigation banking.

This plan is intended to be conceptual, a preliminary view of mitigation needs and mitigation methods both within the project area and off-site. This project is Design-Build thus precise wetland impacts will not be know until construction.

Ecological Assessment of Impact Site

Wetland Delineation of Impact Area

A wetland assessment of the project area was conducted in June 2002 and the *Wetland Delineation Report* was released in October 2002 by Beak Consultants, Inc. Within the project area, nine jurisdictional wetlands were delineated. The *Wetland Delineation Report* inventories each water feature, and for wetlands this includes the three required criteria to be considered wetlands (soils, hydrology, and vegetation).

The Corps of Engineer (COE) conducted a field review on April 5, 2004. At the time of this field review, the COE expanded to size of some basins. Table 1, below, presents a summary of the wetlands, illustrating the plant community, isolated or adjacent, and total acreage.

Table 1: Summary Water Features from the *Wetland Delineation Report* and previous field reviews

Wetland ID	Plant Community	Isolated or Connected	Area from Delineation Report (ac)	Area from April 5, 2004 Field Review
Wetland A	Palustrine Scrub/Shrub	Connected	0.12	0.12
Wetland B	Palustrine Forest	Connected	0.38	0.93
Wetland C	Palustrine Forest	Connected	0.31	0.31
Wetland D	Palustrine Forest	Isolated	0.30	1.33
Wetland E	Palustrine Forest	Isolated	0.22	0.22
Wetland F	Palustrine Forest	Isolated	0.12	0.12
Wetland G	Palustrine Forest	Connected	0.65	1.22
Wetland H	Palustrine Forest	Connected	0.05	
Wetland I	Palustrine Forest	Isolated	0.05	0.02
Total:			2.17	4.27

Wetland Evaluation Analysis

A wetland assessment using Ohio Rapid Assessment Method - Version 5.0 (ORAM) was conducted on the nine delineated jurisdictional wetlands. The assessment attempts to determine the ecological quality and the level of function of a particular wetland. The *Wetland Evaluation Report* (October 2002) submitted by Beak Consultants, Inc. details the ORAM quantitative and Category rating scores.

Table 2: Summary of Wetland Rating from the *Wetland Evaluation Report*

Wetland ID	Plant Community	Area from Delineation Report (ac)	Area from April 5, 2004 Field Review	Quantitative Rating	Beak Category Assignment
Wetland A	Palustrine Scrub/Shrub	0.12	0.12	29.5	1
Wetland B	Palustrine Forest	0.38	0.93	41.5	Modified 2
Wetland C	Palustrine Forest	0.31	0.31	40.5	Modified 2
Wetland D	Palustrine Forest	0.30	1.33	49.5	2
Wetland E	Palustrine Forest	0.22	0.22	48	2
Wetland F	Palustrine Forest	0.12	0.12	48.5	2
Wetland G	Palustrine Forest	0.65	1.22	44.5	Modified 2
Wetland H	Palustrine Forest	0.05		33.5	1 or 2 Gray Zone
Wetland I	Palustrine Forest	0.05	0.02	41	Modified 2
Total:		2.17	4.27		

Wetland Impacts

Alternative Analysis

In order to comply with Wetland Antidegradaton rules (Ohio Administrative Code 3745-1-54), Paragraph B (1) states that "wetland avoidance, minimization, and compensatory mitigation" (Paragraph (D)) and "Compensatory mitigation ratio, replacement category, and mitigation location requirements" (Paragraph (E)) must be followed to ensure that impacts to wetlands do not result in the net loss of wetland acreage or functions. Wetland avoidance, minimization, and compensatory mitigation of Category 2 wetlands (Paragraph (D)(1)(b)) as outlined:

a) Avoidance;
b) Minimize;
c) The lowering of water quality is necessary to accommodate important social or economic development in the area in which the water body is located;
d) Storm water and water quality controls will be installed in accordance with paragraph (D)(3) of this rule;
e) Compensatory mitigation.

Wetland Impact Avoidance

A detailed evaluation of the existing USAR facilities was conducted. Due to the age, substandard, and overcrowded conditions of the existing facilities new facilities are required. This project consolidated USAR activities from six currently dispersed facilities. Rebuilding is not an option on three of these facilities because they are leased. The current site was selected and approximately three site layout schematic plans were developed. The current, selected site layout (as revised on March 22, 2004) has the second lowest impact on wetlands.

The Army Reserve Command evaluated a total of five available building sites for the proposed Army Reserve Center. The siting criteria used to evaluate the alternative building sites are the considerations of efficient military operations, OCAR criteria, as outlined in the Department of the Army Architectural and Engineering Design Criteria, dated 3 July 1994, and the Architect-Engineer Design Guide for Military Construction, dated February 2, 1995. These considerations consist of: property cost, site development costs, availability of services and utilities, adequate development area, proximity to floodplain, and visibility. The following subsections present the alternative building sites that were evaluated for possible purchase and associated siting limitations.

<u>Building Site A - 35 Acres in Bedford Heights, Ohio</u>

This building site consists of 35 acres of land in Bedford Heights, at 24700 Miles Road. The property is open, vacant land with no vegetative cover, but once contained a manufacturing building. The former building was demolished and the seller has disclosed that there has been some environmental testing and cleanup performed on site. The ground surface over the front half of this building site has small asphalt and concrete fragments. Adjacent land uses include a Coca Cola bottling plant and a Lowe's Hardware store. This site is fairly level with a slight downgrade to the rear of the property. At the rear of the property is a small ditch. There were some old abandoned 55-gallon drums present on one side of the site during the November 2001 site visit. This site was eliminated from further consideration due to the price of the property.

Building Site B - 20+ Acres in Middleburg Heights, Ohio

This building site consists of 20+ acres of land in the back portion of a small, relatively new industrial/business park, the Commerce Center of Middleburg Heights. The entire area of this site was used for the dumping of construction debris that primarily consisted of concrete rubble piles. A creek is situated in the rear of the site, where old tires have been dumped. There is a concrete recycling facility abutting the site on one side. Existing vegetative cover is primarily woodlands, but also consists of a mix of grasses and shrubs. The creek at the rear of the property and the ditch and a sewer line that is situated along one side of the property reduce the useable amount of land. Potential environmental concern is associated with past disposal activities at this site, while the ditch and creek raise geotechnical concerns. This site was eliminated from further evaluation due to poor access to and from the property, the nature of surrounding land use (i.e., industrial), and the price of the property.

Building Site C - 20+ Acres in Strongsville, Ohio

This building site consists of 20+ acres of land in the back portion of a new industrial/business park, the Strongsville Business Park. Two parcels of land (Parcels 1 and 3) would be combined to provide sufficient land for the proposed Army Reserve Center. This building site has been stripped of topsoil and has no vegetative cover. The existing soil cover appears to be glacial till. The ground surface is fairly level with a small natural ditch at the rear of the property. This site does not appear to pose any environmental or geotechnical concerns. However, this site was eliminated from further consideration due to its poor access and its remote location (i.e., outside the "boundary" of the geographic area that was being investigated for the proposed facility).

Building Site D - 20 Acres in Macedonia, Ohio

This building site consists of 20 acres of land along North Freeway Drive in Macedonia. This site is located at the top of a small hill, is wooded with various-sized trees, and contains a small pond near the center of the property. As reported, existing wetlands have been mitigated at the Site; however, written documentation to support this determination was not obtained. The local municipality is currently planning to build a new road and to install utilities to the property. There is a high-tension power line and a railroad line at the rear of the site. The site has a 15- to 20-foot grade change and there has been some environmental and geotechnical drilling done on site, which produced favorable results. Originally, this site was the preferred building site for the proposed Army Reserve Center. However, the site was later eliminated due to price, potential wetland issues, and the additional cost associated with installation of new utilities.

Building Site E - 32.2 Acres in Boston Heights, Ohio

This building site consists of 32.2 acres of land situated at 105 East Hines Hill Road in Village of Boston Heights. This site is located at the top of a hill and is relatively level. The front half of the property is a grassy field and the rear half is wooded with some dense growth. Field observations indicated that the ground appeared to be glacial till with visible rock outings in an adjacent toll road cut. This site does not appear to pose any environmental or geotechnical concerns. Abutting land uses include a golf course/driving range. The site has fairly good access. Acquisition of the entire 32.2 acres of land would be too costly; however, the landowner is amenable to subdividing the parcel. The landowner proposes to split the property into a ten-acre tract along East Hines Hill Road (northern one-third of the property), which would remain

available for sale, and a 22-acre tract along Olde Eight Road and Interstate 80 (southern two-thirds of the property) for the proposed Army Reserve Center building site. Note: This parcel was purchased, but became "un-buildable" due to local sentiment.

Wetland Impact Minimization

During the preliminary design process, the proposed site layouts were adjusted, to the extent possible within the parcel, to minimize the impact to wetlands. The Army Reserve wanted to purchase just enough land to accommodate the project. Under current regulations every occupied building on-site is required to be surrounded by a 150-foot force protection zone. In addition, the Reserve wanted to leave a thirty foot tree swath along the west side of the project.

Originally the site was planned to be at the northern extent of the parcel, where all nine wetland basins were impacted. Now the site has been shifted to the southern portion of the parcel, this shift created a no impact determination on Wetland A, B and C. Previously the DEP MED area was thinner in width and extended to the southern boundary of the parcel. The footprint has been changed to take up less area, by shortening length and widening the width. This change allows a possible stormwater pond and wetland mitigation area to be located in the southeast corner. A combination of Best Management Practices (BMP's) and low impact engineering techniques may be utilized in the preliminary design to minimize unavoidable wetland impacts. These may include the following:

- Rapid re-vegetation of disturbed land with established restoration techniques to minimize siltation impacts to wetlands
- Properly constructed and maintained silt fences - specifications of which will incorporated into site plan sheets
- Establishment of construction staging areas in areas away from wetlands

Compensatory Mitigation Ratio

As outlined in the Wetland Mitigation Table (OAC 3745-1-54 paragraph (F)(1)), since all impacted wetlands were classified in Wetland Category 2 by the ORAM and all are forested basins, the mitigation ratio for on-site is 2:1 and off-site is 2.5:1. Additionally the replacement wetland should be in Category 2 and 3, and take place in within the same watershed.

Summary of Wetland Impacts

The proposed project limits (as of 3/22/2004) were examined to determine the potential direct impacts on the individual wetland basins. An assumption was also made that the contractor would use some care, in accordance with the NPDES requirements, to prevent unnecessary damage to the wetland.

Using the site layout, an estimated 2.91 acres of wetland will be destroyed within the parcel. This estimate was calculated by Stantec Consulting using the wetland acreage and impact acreage from the April 5, 2004 COE field review. No Category 3 wetlands were destroyed. Below is a table showing the acres of direct wetland impacts.

Table 3: Wetland Impacts

Wetland ID	Size (ac)	Amount Impacted (ac)
Wetland A	0.12	No impacts
Wetland B	0.93	No impacts
Wetland C	0.31	No impacts
Wetland D	1.33	1.33
Wetland E	0.22	0.22
Wetland F	0.12	0.12
Wetland G/H	1.22	1.22
Wetland I	0.02	0.02
Totals	4.27	2.91

Wetland Mitigation Guidelines

Mitigation Considerations

As noted earlier, it is not the intent of this report to prepare specific wetland construction specifications for each mitigation area. OEPA requires that, to the extent possible, the impacted wetlands should be replaced in kind. The mitigation location shall be on-site, if off-site then within the same watershed as the impacted wetland, or within an acceptable wetland mitigation bank. The OEPA director may require the applicant to conduct ecological monitoring of the compensatory mitigation project and submit annual reports detailing the monitoring for a period of five years. Lastly, the applicant must demonstrate that the compensatory mitigation site will be protected in perpetuity and that appropriate management measures are, or will be, in place to restrict harmful activities that may jeopardize the mitigation wetland. To accomplish this, wetlands will have to be restored, enhanced, or created. The following concerns must be addressed in the establishment of each wetland compensation basin.

General Principles of Wetland Mitigation Design

The approach of the project team was to locate mitigation sites that would potentially emulate and maximize the expression of natural wetland functions. Wetland restoration rather than wetland creation was favored as compensation for wetland impacts. Wetland restoration generally occurs on drained hydric soils whereas wetland creation generally involves excavation and amendment of upland soils.

Wetland restoration is often considerably more cost-effective and ecologically functional than wetland creation. In many cases, effective wetland restoration can be accomplished with a smaller investment in heavy equipment than with wetland creation.

General Restoration Techniques

This report is intended to propose guidelines for the establishment of mitigation wetlands. The final mitigation plan will include more detailed construction drawings, plans, schedules, monitoring methods, and maintenance and contingency plans.

Hydrology

For a wetland to be functional, it must receive and retain appropriate amounts of water for the specific wetland type during appropriate times of the year. The depth and duration of flooding is critical to the establishment of specific wetland types. Hydrologic studies of existing or potential wetland systems may be relatively simple and require only a few assumptions and estimates; however, some wetlands may be so complex that they require the services of a hydraulic engineer. An examination of the water budget, the relationship between the water budget and the hydroperiod, and the flow characteristics within a wetland are necessary to understand wetland hydrology. Some hydrology practices include:

- Restore to drained wetland
- Remove, fill, or plug ditch and/or draintile
- Berms, dams, dikes, and levees to impound water
- Water control structures – spillways, pipes, and stoplogs
- Ditching

- Excavation
- Excavation down to the water table
- Water quality treatment area overflow
- Diversions
- Recontouring

Soils
Hydric soils are associated with the existence of all types of wetlands. The presence of these soils is critical to the establishment and maintenance of the necessary vegetative cover. Typically, hydric soils develop redox depletions or concentration over time depending on the hydrology of the watershed. Soils form under the hydromophic regimes of:

1) ponding (surface runoff collects in depressions),
2) flooding (existing water body rises and inundates adjacent areas),
3) or saturation (air space between soil grains is replaced by water perched or non-perched).

Impacted wetland soils can be used as donor soils for wetland restoration where invasive species are not present in the original wetland. If these species are present, the soil is unacceptable for use as a donor soil without sterilization. This restoration technique maximizes the chance that a viable seed bank and suitable substrate are transferred to the restoration site.

Stockpiling of wetland donor soils must be avoided to maximize restoration success. Ideally, the upper ~ 2 feet of the soil profile should be stripped from the impacted site and kept separate from excavated subsoil. The topsoil layer, rich in organic matter and viable propagules, should be trucked immediately to a pre-prepared restoration site. The restoration site should be over-excavated to accommodate the depth of the rich donor soil. The subsoil from the impacted wetland site is generally not beneficial as a donor soil and should be disposed of as excess soil. Where needed, existing donor seed banks will be augmented with native, non-evasive plant propagules and seeds.

In areas where the wetland has been drained for a significant period of time, the hydric nature of the soils can be lost and must be redeveloped. This can be assisted by the incorporation of humus (organic matter) into the soil surface.

Vegetation
The presence of specific species of vegetation is the most visible aspect of wetlands and plays an important role in the establishment of successful wildlife habitat. Both submerged and emergent vegetation requires specific water depths, inundation frequency, nutritional requirements, and shoreland slopes. Establishing native vegetation also plays a role in ensuring the long-term sustainability of wetlands. Successful establishment of native vegetation from the outset, in combination with an aggressive management plan, will significantly reduce the likelihood of invasion by exotic species. Since the impact of invasive species is not fully understood, reducing their presence in wetland restorations is prudent. Site inspections of recently restored and created wetlands are necessary to identify erosion problems, spot invasions of exotic species, and determine which component of the desired vegetation is missing. Methods of controlling weeds include hand weeding, mowing herbicide use, cutting and crushing, prescribed burns, watering, and flooding. As a result, wetlands typically require some type of planting strategy. Criteria

have been established for the successful planting of wetland species. These guidelines should be followed. The typical wetland vegetation establishment includes:

- Leave existing plant communities intact (not feasible with non-native and/or evasive vegetation)
- Rely on the native seed bank
- Rely on colonization from other wetlands
- Planting seed
- Planting rootstock
- Planting trees and shrubs
- Upland plantings

Topography

The drainage area for a wetland has an impact on the amount of runoff reaching the wetland and the duration of flooding. In addition, the topographic nature of the bottom of the wetland will have an impact on the type of wetland vegetation that becomes established. Grading of the wetland bottom should provide the depth appropriate for the type of wetland being created.

Buffers

Buffer areas are permanent native and non-invasive dominated vegetative cover established or preserved on upland areas adjacent and contiguous to the replacement wetlands. These areas have shown to be of great benefit to the replacement wetland by filtering surface water flow and providing a wildlife habitat. Ideally the buffer areas should be as large as possible, particularly in areas of contrasting land use, such as roads, houses, and steep slopes.

On-Site Mitigation Opportunities

On-site mitigation for unavoidable wetland impacts will be used to the extent feasible. There appears to be one area on the current site layout where wetland mitigation may be possible. Due to the Force Protection requirements the site will have to be clear cut of all trees and shrubs, thus in-kind wetland mitigation would be very challenging. In-kind wetland type mitigation would not be feasible, because the vegetation parameter would not be met. The compensatory mitigation basin may have to be of a different wetland type and possible category. The current vegetation profile is Palustrine Forest, as stated in the *Wetland Delineation Report*. This community type possesses difficulties with wetland mitigation, because it would require an extensive planting plan of trees and shrubs. In addition, the site may require a rigorous maintenance plan to keep invasive and/or exotic species at bay.

<u>Option 1:</u>
A potential wetland creation site may exist in the area directly north of the primary building. This would be a portion of the northern part of delineated Wetland D. This basin could be created as a Type 3 shallow marsh or Type 4 deep marsh, approximately 0.3 acres in size. Restoring a Type 6 shrub swamp or Type 7 wooded swamp would be unfeasible at this site, because no trees or cover of any type are allowed within the Force Protection area. In addition a water quality pond, approximately three-quarters of an acre in size, would be located adjacent to the basin on the east side. The water quality pond could be the first cell in the mitigation, with "overflow" going in the mitigation basin to supply hydrology.

Soils from the previous wetland could remain in place or be replaced, thus hydric soils conditions would not need to be established. Also, off-site soils would not need to be trucked on-site risking the spread of exotic and/or invasive vegetation. The existing soils may also contain some native plant species that are desirable. The native seed bank within the soil could be supplemented with native seed plantings and plug plantings.

<u>Option 2:</u>
Another option would be to enhance Wetlands A, B, and C. One stipulation is that these basins must be owned in order for enhancement to take place. These basins also have the potential to be expanded into adjacent lower areas. Enhancement of these basins would require the following:

- Removing all of the miscellaneous debris and trash,
- Smoothing or lowing of the debris heaps into the existing contours,
- Removing and continuously controlling the evasive vegetation, such as buckthorn and poison ivy,
- Establish an upland buffer zone.

It appears at first sight that hydrology and soils are in good condition and would not need enhancement. Removing the debris heaps may re-establish hydrology connectivity throughout the site and increase the wetland size. Another key to this enhancement proposal would be to treat all storm water prior to flowing into the wetland basin. In addition to preserving the wetland into perpetuity.

Option 3:
Establish a non-wetland upland buffer adjacent to Wetlands A, B, and C. As the third bullet states a non-wetland buffer could be used to reduce the mitigation requirements, this may best be used in conjunction with an enhancement project. Generally speaking buffers protect the water quality within the basins and assist in keeping evasive vegetation out of the project area.

- The non-wetland buffer and the wetland are preserved in perpetuity;
- The non-wetland buffer consists of natural vegetation which is not maintained through mowing, application of herbicide or other means which would result in deleterious effects to either the non-wetland buffer or the adjacent wetland;
- When non-wetland buffers are a component of acceptable compensatory mitigation, the buffers shall not be considered to fulfill more than 0.5 units of the required mitigation ratio. For example, non-wetland buffers could be used to reduce the mitigation requirements from 2.0:1 to 1.5:1.

Option 4:
Two water quality treatment ponds will be constructed on-site to retain and treat surface water runoff. These ponds will assist in water quality control and may serve as the first cell in a wetland mitigation project. One pond located in the south-west corner may be able to have a wetland "shelve" around the perimeter that could be worth mitigation credits. There is no adjacent land to this pond in which a wetland could be restored or created. The second pond is located in the north-western portion of the site may be better suited for mitigation purposes, because there is an existing wetland complex to the east. This pond could become the first cell in a wetland creation, by "supplying" hydrology to the created basin. The adjacent wetland/upland area can be created as a mitigation basin, see Option 1 above.

Off-Site Mitigation Opportunities

In this case, off-site wetland banking may prove to be of greater ecosystem benefit and more cost effective method to fulfill the mitigation requirements. Wetland banking benefits include:

- More cost effective mitigation and reduce uncertainty and delays for qualified projects, especially when the project is associated with a comprehensive planning effort;
- Successful mitigation can be ensured since the wetlands can be functional in advance of project impacts;
- Banking eliminates the temporal losses of wetland values that typically occur when mitigation is initiated during or after the development impacts occur;
- Consolidation of numerous small, isolated or fragmented mitigation projects into a single large parcel may have greater ecological benefit;
- A mitigation bank can bring scientific and planning expertise and financial resources together, thereby increasing the likelihood of success in a way not practical for individual mitigation efforts.

The *Ohio Wetland Restoration and Mitigation Strategy Blueprint* listed approved wetland mitigation banks within the state of Ohio. The US Army Corps of Engineers has already made contact with the Panzner Brothers Wetland Bank. Correspondence concerning off-site mitigation is included as Attachment A to this report.

According to the Panzner Brothers Wetland Bank (PWWR) website (www.panznerland.com), the PWWR is located near the Cuyahoga River/Tuscarawas River watershed divide. Located on a tributary of Wolf Creek within the Tuscarawas (Ohio River) watershed, the PWWR is an authorized site for compensatory mitigation within the Tuscarawas River watershed and Summit County portions of the Cuyahoga River watershed.

The PWWR will serve multiple purposes. First and foremost is the development of a Category 2 wetland environment for mitigation purposes. This environment will then serve as a wetland wildlife preserve, where the wetland habitat developed for mitigation will foster the propagation of native wildlife. The preserve will also serve as a living laboratory to be monitored and analyzed by local schools and nearby universities.

This site appears as an ideal bank because historically it was a natural kettle bog. To this day it retains the following features:

- Most of the natural hydrology associated with a wetland habitat is already in place,
- PWWR's soils are *carlisle muck* – a natural bog soil,
- An existing seed bank, viable seeds of many wetland species exists in the soils.

Additional wetland mitigation banks may being explored for banking credit feasibility.

Conclusion

The current site development will impact 2.91 acres of Category 2 wetlands, according to the *Wetland Delineation Report* and *Wetland Evaluation Report* (October 2002). Depending upon the on-site and off-site mitigation plan developed by the Government Contractor, the total mitigation effort will result in approximately 7.2 to 7.3 acres. The mitigation opportunities presented in this report represent roughly 0.30 acres of created wetland (Option 1 under the On-Site Mitigation Opportunities) that may be feasible to attain within the site. The 0.30 acres was calculated at the 2.0:1 ratio (on-site), if this mitigation option is considered then approximately 0.15 acres of impacted wetland would be mitigated. The remaining balance between 2.91 acres and 0.15 acres equals 2.76 acres. This difference may need to be mitigated at the 2.5:1 (off-site) ratio, which equals approximately 7 acres. Mitigation of the additional approximately 7 acres will most likely occur within a wetland mitigation bank outside of the project limits.

Appendix A

Brian Hunker

From: Keel, Nora L LRL02 [Nora.L.Keel@lrl02.usace.army.mil]

Sent: Friday, March 19, 2004 10:26 AM

To: Keel, Nora L LRL02; 'Mark Stousland'; 'Jim Fitzhugh'; 'Naccarato, Andrea Ms IMAAR CONT EEI'; 'David Quivey'; Preston, Jackie L LRL02

Cc: Daryl Zuelke; Terry Huntrods; 'Mike Lee'; Gates, Joseph G LRL02; Just, Mary Ann LRL02; 'Gulbranson, Lisa R (TAD PGS Contr 88 ENGR)'

Subject: RE: Ohio EPA Regulatory Contact & Status

Information regarding the Panzner Brothers Wetland Bank: The Bank offers one-acre credits for $25,000/each. Worst Case: If all 2.25 acres are Category 2, then the cost for mitigation would be $140,625 (2.25 x 2.5:1 x 25,000 or $62,500 per acre). I don't think it would be this high, as the replacement ratio could be lower if the quality of wetland is less, but this is worst case. Since the developer did not have the contractor assign a category for the wetland areas, the 2.5:1 ratio is the most appropriate number to use with regard to property appraisal. Once Ohio EPA conducts a site visit in mid/late April, then we'll know exactly what will be needed. Mr. Panzner said he would be honored to reserve credits for this project, given the type of project that it is (i.e., construction of an Army Reserve center).

I'm still checking into the other two Banks.

-----Original Message-----
From: Keel, Nora L LRL02
Sent: Friday, March 19, 2004 9:46 AM
To: 'Mark Stousland'; Jim Fitzhugh; Naccarato, Andrea Ms IMAAR CONT EEI; Keel, Nora L LRL02; David Quivey
Cc: Daryl Zuelke; Terry Huntrods; Mike Lee; Gates, Joseph G LRL02; Just, Mary Ann LRL02; Gulbranson, Lisa R (TAD PGS Contr 88 ENGR)
Subject: Ohio EPA Regulatory Contact & Status

Per discussions yesterday, here is what I've found out thus far with regard to Ohio EPA coordination.

Lisa, can you forward this to David and Carrie?

Laura Fay with the Ohio EPA is the regulator that will be reviewing any permit application we submit. Several times during our discussion, she commented that the program is a very complicated one and that she would instruct us along the way with what is required. She said we are on track with coordinating with USACE and obtaining a certification letter from them. She said to contact her after the USACE determination and she would schedule a visit to the Site to assess what categories the wetland areas are. This is great that she'll give us direct confirmation on the category, in lieu of a contractor categorizing the areas and then having Ohio EPA verify it. This could occur in mid-April.

The path forward depends on the quality of the wetland areas. There are separate applications for different categories and for low-acreage areas (< 3 acres). For example, she said a Category 2 (medium quality area) wetland under three acres doesn't require the full Section 401 permit. She said there are three wetland banks that are viable, but that the Panzner Bank would be best as it is in the same watershed as the Site. I have a call into the owner of this Bank and am awaiting his call. I'll send more information once it is obtained. I'll also attempt to obtain information from the other banks, just in case the Panzner Bank is outrageously high.

That's it for now,

Nora

Brian Hunker

From: Terry Huntrods
Sent: Monday, May 17, 2004 4:16 PM
To: Nora L Keel (E-mail); Lisa Gulbranson (E-mail); Joseph Gates (E-mail)
Cc: Mark Stousland (E-mail); Brian Hunker
Subject: Cleveland USARC - Wetland Update

Attached are our minutes from the meeting last week with Laura Fay of the OEPA at the Twinsburg site. Based on our conversation with Laura, we believe that we have the potential to gain some on-site wetland credits depending on the size of the acquisition. We agreed that we would submit a draft permit application to Laura at OEPA and receive her comments on the proposed wetland impact and mitigation requirements. These documents would then be attached to the RFP. Laura understands that the Contractor will be the one who makes the actual permit application. We expect to have most of the document completed and ready for review by early next week.

We have also learned that OEPA thought the Panzer wetland bank was "broke" and had no available credits. Laura believed that Panzer was applying for an additional 50 acres of credits, but they had not been approved yet. She also mentioned a Metro Park and or Pond Brook Bank. She will forward information on these banks. Nora, I wasn't certain if you had already contacted these banks. We are also working with the local OEPA representative, Kelvin Rogers, who knows some of the local agencies who have potential mitigation sites. These will be included in our mitigation report and permit application.

Laura also raised one point that she said needed to be addressed in the permit. We need to justify the selection of this site as opposed to some of the others that have been examined. If there is some existing language in the site selection documentation, we would like to use it in the permit. Are you aware of any?

If you have any questions, please contact me.

Terry Huntrods, P.E.
Environmental/Water Resources Section Manager
EVS, Inc.
10200 Valley View Rd. Suite 151
Eden Prairie, MN 55344-3531
(952)646-0236; FAX (952) 646-0290
Direct Number: (952) 646-0241
thuntrods@evs-eng.com
www.evs.eng.com

Brian Hunker

From: Brian Hunker
Sent: Monday, May 17, 2004 4:10 PM
To: 'kelvin.rogers@epa.state.oh.us'; 'Laura Fay'
Cc: Terry Huntrods; Brian Hunker
Subject: Wetland mitigation bank contact info. for the Army Reserve Training Center

Good Afternoon Kelvin and Laura,

It was nice to meet both of you last week during the site visit. During our discussion of mitigation banking, Kelvin mentioned that that Panzner Bank may not have available credits whereas the Metro Park and/or Pond Brook Banks may have available credits. I'm wondering if you could forward contact information for both of these banks, as we would like to check credit availability and send this info to our client. If you have any additional information regarding these banks or other banks within the watershed, could forward that information also?

Thank You,
Brian

Brian Hunker
Environmental Scientist
EVS, Inc.
952.646.0274
bhunker@evs-eng.com
10200 Valley View Rd, Ste. 151
Eden Prairie, MN 55344-3531
www.evs-eng.com

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10200 Valley View Rd • Suite 151
Eden Prairie, MN 55344
952.646.0236
Fax 952.646.0290
www.evs-eng.com

APPENDIX D

NATURAL RESOURCES COORDINATION LETTERS & SUPPORTING DOCUMENTATION

SUMMARY OF MIST NETTING SURVEY

US ARMY RESERVE; 88TH RRC TWINSBURG, OHIO

BHE Environmental, Inc. (BHE) completed a mist net survey to determine the occurrence of the federally endangered Indiana bat (*Myotis sodalis*) at the proposed U.S. Army Reserve 88th RRC site located in Twinsburg, Summit County, Ohio. BHE surveyed two sites during July 21 – 23, 2004. Methods followed recommendations of the Indiana Bat Recovery Team (FWS 1999)

No Indiana bats were captured. One juvenile male northern long-eared bat (*Myotis septentrionalis*) was captured during the survey. The northern long-eared bat is considered fairly common in Ohio and is not afforded any legal protection beyond that provided to common species of wildlife. No other species recognized by federal or state authorities as rare or of special concern were captured during the mist net survey.

Using aerial photographs of the proposed project area, BHE identified areas for possible mist net site placement. Actual mist net sites were selected during field reconnaissance. Mist net site selection was based upon extent of canopy cover, presence of an open flyway, and accessibility of the site to survey crews. To the extent practicable, mist net sites were distributed so as to sample forested habitat throughout the proposed project area. Due to lack of forested roads or stream corridors within the project area, mist net sites were placed in areas of the woodlot that provided the most favorable conditions for capturing bats.

The habitat surrounding the mist net sites was dominated by cottonwood (*Populous deltoides*), green ash (*Fraxinus pennsylvanica*), and black walnut (*Juglans nigra*) in the overstory. Understory species included green ash, cottonwood and red elm (*Ulmus rubra*). Average dbh of overstory and understory trees was approximately 16 inches and 3 inches respectively. Density of understory vegetation varied from moderate to clear at the mist net sites.

Nightly temperatures were within seasonal norms during the survey period, ranging from 54° to 75°F, and were within the range recommended by the survey protocol (FWS 1999). During mist netting, conditions ranged from clear to cloudy, with occasional fog. Light rain occurred briefly during one evening but did not result in cancellation of mist netting activities. During the

survey, the moon was generally in the quarter phase and was visible at net sites. Temperature, wind speed and direction, percent cloud cover, and moon phase (if visible) were recorded approximately every hour during the survey. A standard thermometer was used to record temperature. Wind speed, percent cloud cover, and moon phase were estimated.

The timing of the survey and conditions in the field were appropriate for investigating presence of Indiana bats during the maternity season. The level of effort was appropriate to identify presence of the Indiana bat. The presence of Indiana bats was not confirmed by the survey.

Literature Cited

U.S. Fish and Wildlife Service (FWS). 1999. Agency Draft: Indiana Bat (*Myotis sodalis*) Recovery Plan. Prepared by the Indiana Bat Recovery Team. Region 3, U.S. Fish and Wildlife Service, Ft. Snelling, Minnesota. 53 pp.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
6950 Americana Parkway, Suite H
Reynoldsburg, Ohio 43068-4127

(614) 469-6923
Fax: (614) 469-6919

June 23, 2004

Ms. Carrie Schafer
Department of the Army
Headquarters, 88th Regional Readiness Command
506 Roeder Circle
Fort Snelling, MN 55111-4009

Dear Ms. Schafer:

This is in response to your May 26, 2004 Biological Evaluation for Proposed Construction of a U.S. Army Reserve Center, Twinsburg Township, Summit County, Ohio. The proposed project involves the construction of a new U.S. Army Reserve Complex, including an administration building, Area Maintenance Support Activity, and an unheated equipment storage building, as well as associated military and privately owned vehicle parking.

Currently, the 25-acre site is composed of mature hardwood forests, with wetlands and wet areas scattered throughout. The dominant forest species include: red maple, American beech, northern red oak, sugar maple, American elm, and shagbark hickory. All of the forests on the site are relatively dense, have good species diversity, and well-developed canopies, sub-canopies, and understories. Large trees with cavities and/or exfoliating bark exist on the site.

The wetlands on the site total 5 acres, and are generally forested. Wetlands totaling 1.69 acres are isolated, and subject only to State jurisdiction, while the remaining 2.58 acres are connected to navigable waters and are therefore regulated by the U.S. Army Corps of Engineers. Much of the site is poorly drained, allowing water to pond for long periods, especially in depressions. The forested wetlands appear to be relatively mature and have good functional value due mainly to their important wildlife value.

On May 10, 2004, a general visual bat survey was conducted in the evening to document the presence or absence of any bat species in or near the site. The survey was conducted in the open field located just south of the site on the western portion of the adjacent property. At dusk, at least four individual bats were observed foraging over and within the canopy of the forest onsite and in the small open field just south of the site. Some of the bats appeared to have come from the direction of the site when first observed. It was not possible to positively identify the bat species using the visual survey method, however it is likely that they were a small *Myotis* species.

The Service questions the suitability of this site for development. The Biological Evaluation notes that the forest habitat onsite has good species diversity and good functional value due mainly to its important wildlife value. Furthermore, the 5 acres of forested wetlands onsite considered in conjunction with the juxtaposed undisturbed upland habitat create a mosaic of diverse and important habitat that likely supports a very diverse wildlife community. Wetlands provide a variety of important environmental functions, including stormwater retention, water purification, nutrient cycling, ground water recharge, and important wildlife habitat. Approximately 43% of all federally listed threatened or endangered species, including the Indiana bat, rely directly or indirectly on wetlands for their survival. Ohio has lost over 90% of its wetlands since the 1780's, and an Ohio Environmental Protection Agency (OEPA) Report indicates that 40-60% of wetlands currently being lost in Ohio are forested. Furthermore, data from the Indiana Department of Environmental Management indicate that mitigation wetlands designed to replace the functional values of forested wetlands fail 71% of the time. OEPA further demonstrated that amphibian species associated with forested wetlands are extremely rare or completely absent from replacement wetlands. All of this

information exemplifies that impacts to high quality forested wetlands cannot be adequately mitigated. The Service strongly recommends that avoidance and minimization of individual wetlands and wetland/upland complexes be seriously considered when selecting project locations. Summit County is a rapidly developing part of the state, and it is likely that more suitable development parcels with less impacts to wildlife, including Federally listed species (see additional information below), are located in close proximity to the project area.

ENDANGERED SPECIES COMMENTS: The proposed project lies within the range of the **Indiana bat** (*Myotis sodalis*), a Federally listed endangered species. Summer habitat requirements for the species are not well defined but the following are thought to be of importance:

1. Dead or live trees and snags with peeling or exfoliating bark, split tree trunk and/or branches, or cavities, which may be used as maternity roost areas.

2. Live trees (such as shagbark hickory) which have exfoliating bark.

3. Stream corridors, riparian areas, and upland woodlots which provide forage sites.

The project lies within 2 miles of Pond Brook Park, an area known to support Indiana bats, and a suspected Indiana bat hibernaculum. Within a five mile radius of a hibernaculum, data indicate that Indiana bats area present year-round. Suitable habitat within the five-mile radius is especially important for fall swarming and spring staging activities. During swarming, Indiana bats move in and out of hibernacula from dusk to dawn with most continuing to roost in trees during the day. Swarming is a critical time period for Indiana bats for breeding and increasing winter fat storage for hibernation. Spring staging is a stressful period for Indiana bats because their fat reserves are low from their recent hibernation, food resources in the surrounding environment are still scarce, and their upcoming migration to summer habitat may be hazardous. In addition, male Indiana bats often stay near hibernacula throughout the entire summer and can be assumed to be present in small numbers within a 10-mile radius.

The Biological Evaluation contained an Indiana bat habitat assessment, and documented that suitable Indiana bat roosting and foraging habitat exists onsite. In addition, multiple individual bats, suspected to be of the genus *Myotis*, the same as the Indiana bat, were documented using the site for foraging this spring. Based on the close proximity of the site to documented Indiana bat capture locations and a suspected hibernaculum, the presence of suitable Indiana bat habitat onsite, and the presence of *Myotis* species identified onsite, the Service cannot concur with your determination that the project is not likely to adversely affect the Indiana bat. The Service requests that a mist net survey be completed onsite to document the bat usage within the project area, and to detect potential maternity colonies. The survey should be designed and conducted in coordination with the endangered species coordinator for this office, and should follow the Service's Indiana bat mist netting guidelines. The results of the survey must be coordinated with this office so that we may determine whether there may be any impacts to this species. A list of approved Indiana bat surveyors is included with this letter for your reference. We strongly advise that no project-related on-site work occur until Section 7 consultation for the Indiana bat has been concluded.

The project lies within the range of the bald eagle and northern monkshood, federally listed threatened species. Due to the project type and location, we concur with your determination that the project, as proposed, will have no effect on these species. Relative to these species, this precludes the need for further action on this project as required by the 1973 Endangered Species Act, as amended. **Please note that a mist net survey for the Indiana bat must be completed, and the results of the survey coordinated with this office prior to concluding Section 7 consultation on this project.**

Should additional information on listed or proposed species or their critical habitat become available or if new information reveals effects of the action that were not previously considered, this determination may be reconsidered. If project plans change or if portions of the proposed project were not evaluated, it is our recommendation that you contact our office for further review.

This technical assistance letter is submitted in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C.661 et seq.), the Endangered Species Act of 1973,

as amended, and is consistent with the intent of the National Environmental Policy Act of 1969, and the U.S. Fish and Wildlife Service's Mitigation Policy.

If you have questions, or if we may be of further assistance in this matter, please contact Megan Seymour at extension 16 in this office.

Sincerely,

for Mary Knapp, Ph.D.
Supervisor

cc: ODNR, DOW, SCEA Unit, Columbus, OH
US Army Corps of Engineers, Buffalo District, 1776 Niagra St., Buffalo, NY 14207

Indiana Bat Consultants

Hal Bryan Ecotech Frankfort, KY (502) 695-806	Bob Madej *R.D. Zande & Associates* Columbus, OH (614) 486-4383
Virgil Brack, Jr. *Environmental Solutions* and Innovations, LLC 781 Neeb Road Cincinnati, OH 45233 (513) 451-1777	Mike Johnson *Independent Consultant* 816 Arcadia Avenue Cuyahoga Falls, OH 44221 (330) 472-7013 fieldbiologist34@hotmail.com
Russ Romme *BHE Environmental* 11733 Chesterdale Rd. Cincinnati, OH 45246 (513) 326-1500 rromme@bheenv.com	Eric R. Britzke *Department of Biology* Box 5063 Tennessee Tech. University Cookeville, TN 38505
Dr. Allen Kurta *Dept. of Biology* Eastern Michigan University Ypsilanti, MI 48197 (313) 487-4242	John O. Whitaker, Jr. *Dept. Life Sciences* Indiana State University Terre Haute, *IN 47809* (812) 237-2383
Robert G. Mies Organization for Bat Conservation *Cranbrook Institute of Science* 39221 Woodward Avenue P.O. Box 801 Bloomfield Hill, MI 48303-0801	*Phillip C. Mullins* Appalachian Technical Services, Inc. *P.O. Box, 3537* 6741 Indian Creek Road Wise, Virginia *24293* (276) 328-4200
William D. Hendricks 1785 Symsonia Highway *WDH Ecological Services* Symsonia, KY 42082	*Leslie S. Meade* Third Rock Consultants, LLC *2514 Regency Rd, Suite 104* Lexington, KY 40503
Timothy Carter 2136 Elm Street *Murphysboro, IL 62966*	Merrill Tawse 4191 Hastings Newville Road Lucas, OH 44843 (419) 892-3626

updated 6/15/04

DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL READINESS COMMAND
506 ROEDER CIRCLE
FORT SNELLING, MINNESOTA 55111-4009

May 27, 2004

Deputy Chief of Staff Engineer

U.S. Fish and Wildlife Service
Reynoldsburg Ecological Services Field Office
Mary Knapp, Ph.D., Field Supervisor
6950 Americana Parkway, Suite H
Reynoldsburg, OH 43608-4127

Dear Dr. Knapp:

The United States Army Reserve (USAR), 88th Regional Readiness Command (RRC) is requesting written concurrence from the U.S. Fish and Wildlife Service (USFWS) on the proposed construction action described within the enclosed Biological Evaluation (BE). (Enclosure 1) This proposed federal action would occur on approximately 24 acres of undeveloped land in Twinsburg, Summit County, Ohio and construction would begin in the physical year of 2005. The Twinsburg property is located at Chamberlin Road, south of Aurora Road (State Route 82).

Under the mandates of Section 7 of the Endangered Species Act of 1973, as amended, and based on the analysis presented in Section 3 of this BE, the 88th RRC has reached the following determinations regarding effects of the proposed action to federally listed species:

(1) Indiana bat- The proposed action may effect, but is not likely to adversely affect the Indiana bat;
(2) Bald eagle- The proposed action would have no effect on the bald eagle; and
(3) Northern monkshood- The proposed action would have no effect on northern monkshood.

All tree clearing will be conducted between September 15 and April 15 to ensure that potential roost trees for the Indiana bat are not removed at a time when the trees might be used by this federally listed species.

The 88th RRC requests that if the USFWS has any comments on this letter or the BE that these be provided along with the concurrence response. If you have any questions about this project, or require additional assistance, please contact Ms. Carrie Schafer at Carrie.Schafer.@us.army.mil, or (612) 713-3825. Please address any correspondence to Ms. Schafer at the above address.

Sincerely,

KURT F. ZACHARIAS
Environmental Division Chief

ENCL

BIOLOGICAL EVALUATION FOR PROPOSED CONSTRUCTION OF A U.S. ARMY RESERVE CENTER, TWINSBURG TOWNSHIP, SUMMIT COUNTY, OHIO

Prepared by:

U.S. Army Reserve
88th Regional Readiness Command
506 Roeder Circle
Fort Snelling, MN 55111-4009

Submitted to:

U.S. Fish and Wildlife Service
Reynoldsburg Ecological Services Field Office
6950 Americana Parkway, Suite H
Reynoldsburg, OH 43068-4127

May 26, 2004

BIOLOGICAL EVALUATION FOR PROPOSED CONSTRUCTION OF A U.S. ARMY RESERVE CENTER, TWINSBURG TOWNSHIP, SUMMIT COUNTY OHIO

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SECTION 1

INTRODUCTION

1.1 PROJECT DESCRIPTION

This Biological Evaluation (BE) has been prepared by the U.S. Army Reserve, 88th Regional Readiness Command (RRC) to support informal consultation with the U.S. Fish and Wildlife Service (USFWS) in accordance with Section 7 of the Endangered Species Act. The 88th RRC proposes to consolidate three U.S. Army Reserve Centers in the Cleveland area into one new complex at a site in Twinsburg Township, Summit County, Ohio (Figure 1-1). The proposed action would include construction of a new U.S. Army Reserve Center on a 25-acre undeveloped parcel of land. Construction would include an administration building, an Area Maintenance Support Activity (AMSA, military vehicle maintenance shop), and an unheated equipment storage building, as well as associated military and privately owned vehicle parking. The center would be a training and maintenance facility for approximately 873 soldiers from 15 reserve units. Approximately 70 full time personnel would staff the facility. Reservists would primarily use the facility during drill weekends.

A conceptual site plan for the new center is provided in Figure 1-2. The total project area and area of disturbance would consist of approximately 20 acres. Tree clearing and grading would occur within this 20-acre area to accommodate the new construction. The construction would create approximately 449,061 square feet (SF) (10.3 acres) of new impervious surfaces including 85,360 SF of building footprint and 363,701 SF of parking, access roads, and sidewalks. All tree clearing would be conducted between September 15 and April 15 to ensure that potential roost trees for the Indiana bat (*Myotis sodalis*) are not removed at a time when the trees might be used by this federally listed endangered species.

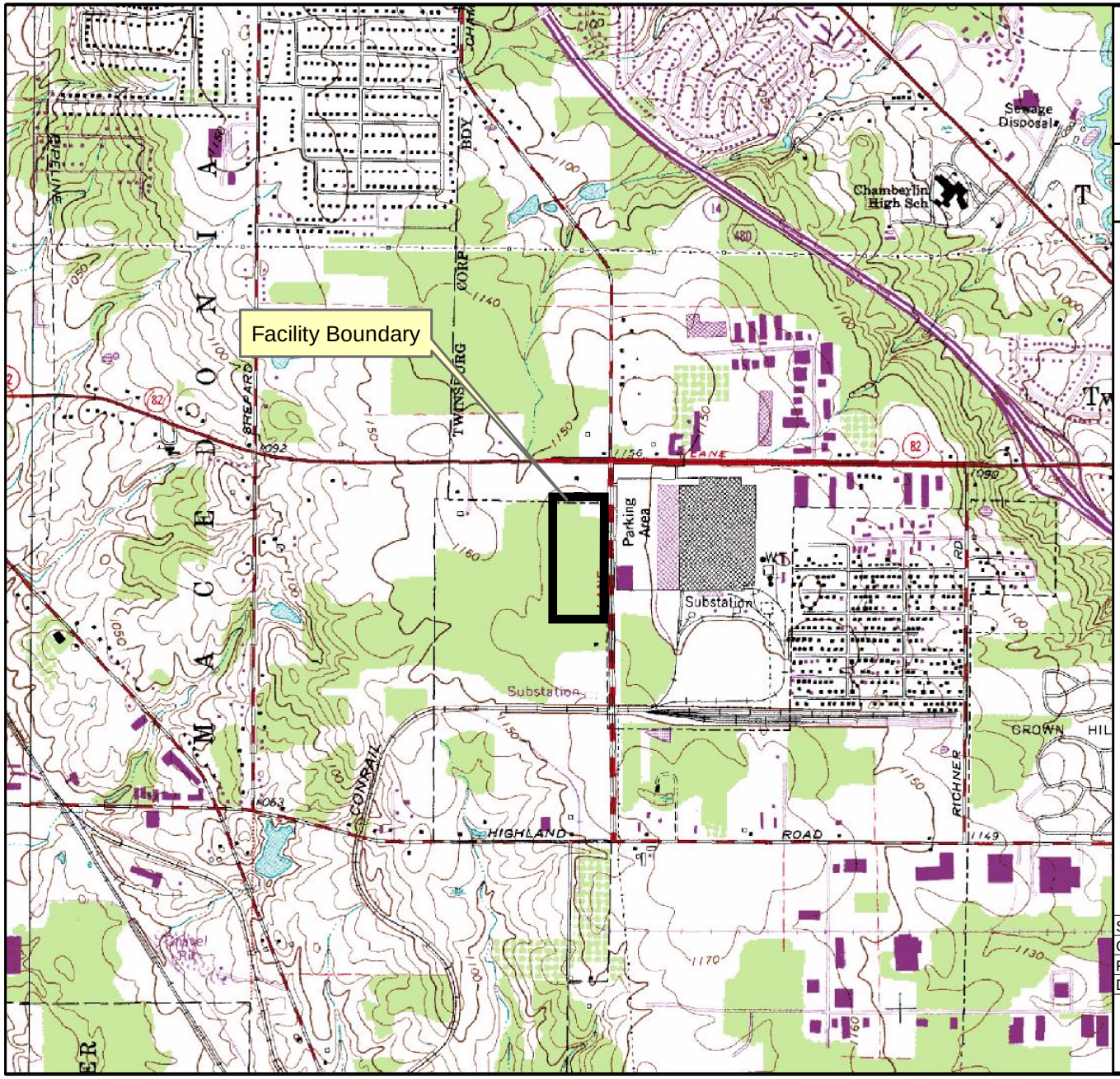

Figure 1-1
OH051 Location Map
Twinsburg Site

88th Regional Readiness Command
Twinsburg, Ohio
Summit County

Legend

Facility Boundary

Data Sources:
Facility--88th RRC Facility Boundary Drawings

N
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Meters

Scale:	1:25,000
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File:	Twinsburg_Location.mxd
Date:	5/2004

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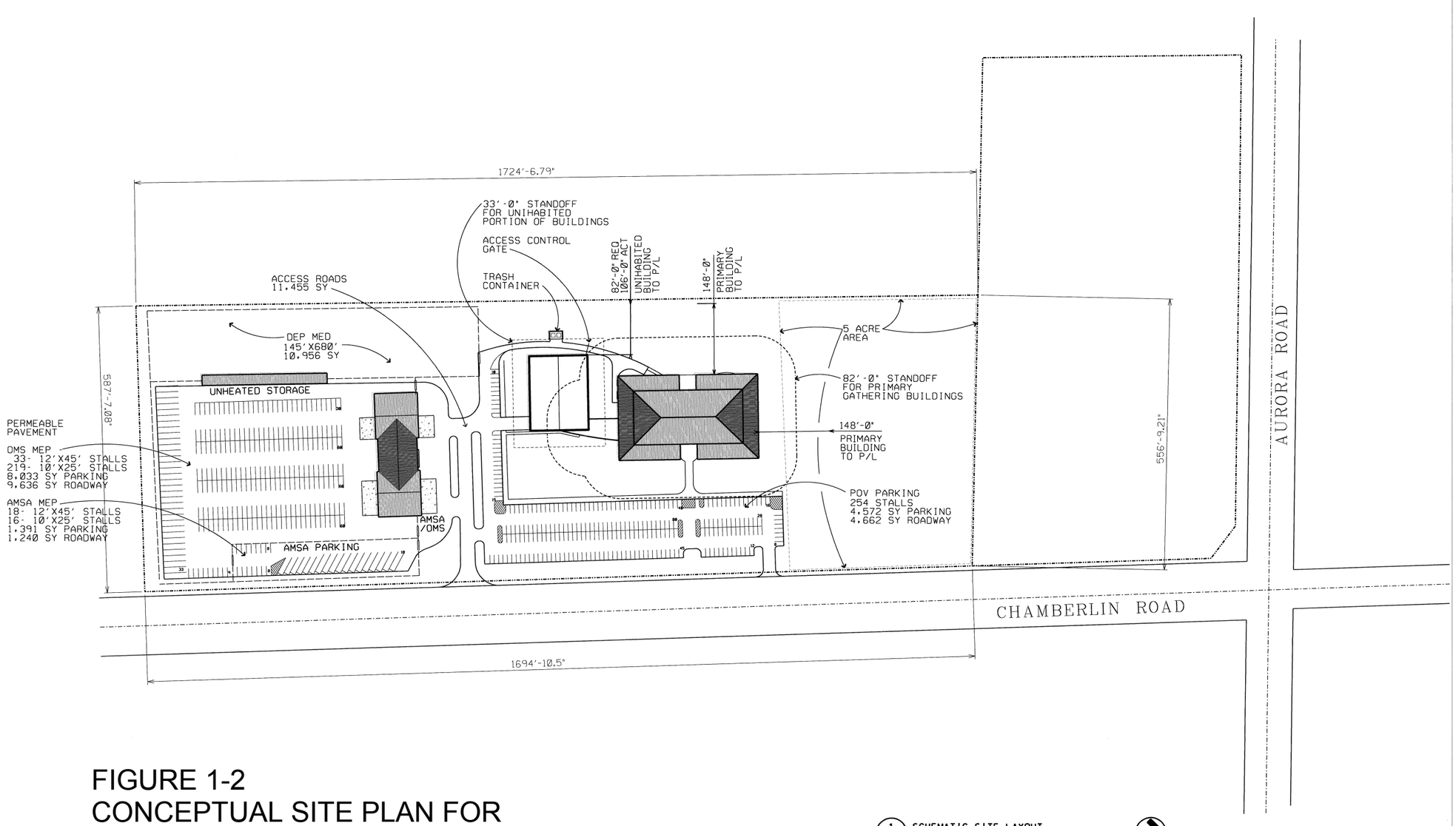

FIGURE 1-2
CONCEPTUAL SITE PLAN FOR
PROPOSED 88th REGIONAL READINESS COMMAND
U.S. ARMY RESERVE CENTER
TWINSBURG TOWNSHIP, SUMMIT COUNTY, OHIO

1 / C1 SCHEMATIC SITE LAYOUT
1" = 80'-0"

80 0 80 240 400
40 160 320
GRAPHIC SCALE 1"=80'-0"

US Army Corps of Engineers
Louisville District

SYMBOL	DESCRIPTION	DATE	APPR.
	REVISIONS		

Date: 03 JAN 2004
Rev.
Design file no.
Drawing code:
File name:
Plot date:
Plot scale:

Designed by: Mike Lee
Drn by: Mike Lee
Ckd by: Mike Lee
Reviewed by: Mark Stoaland
Submitted by: Jim Fitzhugh

RSP Architects, Ltd.
1700 Pillsbury Ave
Minneapolis, MN 55403
612-677-7100

SITE LAYOUT
SCHEMATIC PLAN

PROJECT: CLEVELAND, OHIO
AR CENTER / AMSA / OMS / STORAGE
CAR 04 - 10809 FY 2004

C1

PRE-DESIGN SUBMITTAL

1.2 SCOPE OF THE BIOLOGICAL EVALUATION

This BE addresses potential effects of the proposed action on federally listed species that are known to occur in Summit County, Ohio:

- Indiana bat (*Myotis sodalis*) - endangered;
- Bald eagle (*Haliaeetus leucocephalus*) - threatened; and
- Northern monkshood (*Aconitum noveboracense*) - threatened.

1.3 ORGANIZATION OF BIOLOGICAL EVALUATION

The remainder of this BE is organized by the following sections:

- Section 2 – Affected Environment: Describes current baseline conditions at the Twinsburg site;
- Section 3 – Effects of the Action: Presents species biology and an analysis of potential impacts of the proposed action to the species addressed by this BE;
- Section 4 – Conservation Measures: Describes 88th RRC proposed protective measures to minimize effects to federally listed species;
- Section 5 – Conclusions: Provides effect determinations for each species;
- Section 6 – References and List of Contacts/Preparers;
- Appendix A – Flora and Fauna Lists;
- Appendix B – Agency Correspondence; and
- Appendix C – Site Photographs.

SECTION 2

AFFECTED ENVIRONMENT

2.1 NATURAL RESOURCES SURVEYS CONDUCTED

Two biologists from Parsons conducted a natural resources survey at the Twinsburg site on May 10 and 11, 2004. The surveys were conducted to assess the existing natural resources present on the site including identifying the natural communities present and listing the flora and fauna observed in each. In addition, habitats were assessed to determine their suitability for threatened and endangered species listed for Summit County, Ohio. Detailed presence/absence surveys for threatened and endangered species were not conducted. In addition, Beak Consultants and EVS previously conducted wetland delineations at the site, and a representative from the U.S. Corps of Engineers, Buffalo District conducted a verification site visit.

2.2 GENERAL SITE DESCRIPTION

The site is located west of Chamberlin Road and south of State Route 82 (Aurora Road) in Twinsburg Township, Summit County, Ohio (Figures 1-1 and 2-1). The site consists of an approximately 25-acre parcel of primarily forested land that remains relatively undisturbed. Only a small portion of the site in the northeast corner appears to have been substantially disturbed in the past. This area contains filled areas, piles of rocks and concrete, and exposed metal bars likely used to strengthen the concrete now piled there. A few small dirt roadways are scattered throughout the site, some of which appear to have been driven on recently.

The site is surrounded by a combination of developed and undeveloped lands. A large Daimler Chrysler assembly facility and its associated paved parking lot are located just east of the site across Chamberlin Road. North of the site, a narrow band of relatively young hardwood forest and forested wetlands separate the site from State Route 82. The forest and forested wetlands to the west and southwest are more extensive and consist of mature

Figure 2-1
OH051 Facility Map
Twinsburg Site

88th Regional Support Command
Twinsburg, Ohio
Summit County

Legend

- Streams
- Facility Boundary
- Roads

Data Sources:
Buildings--USGS Orthophoto, DOQQ 1996
Facility--88th RSC Facility Boundary Drawings
Floodplains--FEMA, Q3 Flood Data, 1998
Streams and Lakes--NHD, 2002
Streets--TIGER Data 2000

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0 100 200 400
Meters

Scale:	1:10,000
Created By:	Parsons
File:	Twinsburg_facility.mxd
Date:	5/2004

PARSONS

hardwood trees. The City of Macedonia's Longwood Park and other recreational and residential areas lie adjacent to the west side of that forest. To the south of the site, a narrow band of mature forest and forested wetlands separate the site from a building that houses a United Auto Workers (UAW) group. A small open grass field and parking lot associated with the UAW property also occur in this area. An electrical substation lies just to the south of the UAW property.

2.3 GEOLOGICAL RESOURCES

2.3.1 Physiography and Geology

The Twinsburg site is located within the Glaciated Appalachian Plateau. Geologic features 'softened' by glaciation characterize this province. Evidence of this region's glacial past includes bogs, kettle lakes, and small hills of sand and gravel called "Kames". The geological structures in this area are characterized as Pennsylvanian and Mississippian.

2.3.2 Soils

Soils in the project area belong to the Mahoning-Canfield-Rittman-Chili soil region, which consists of soils developed in areas having gently sloping to level lands (0-20 percent slope) and average annual precipitation of approximately 41 inches. These soils developed on the Glaciated Appalachian Plateau following glacial retreat. They are generally thin soils, with relatively low fertility. Native vegetation is mixed deciduous hardwood forest.

As shown in Figure 2-2, four soil mapping units occur at the site. Trumbull silt loam, 0% slopes (Tr) are poorly drained hydric soils. Mahoning silt loam, 0 – 2% slopes (MgA) and Wadsworth silt loam, 0 – 2% slopes (WaA) are both somewhat poorly drained non-hydric soils with hydric inclusions. Urban Land (Ur) consists of fill soils or soils that have otherwise been subjected to extensive human disturbance.

2.3.3 Topography

The site is relatively flat, with elevations ranging from 1,152 feet above mean sea level (AMSL) in the northwestern corner to 1,160 feet AMSL in the southeastern corner.

Figure 2-2
OH051 Soils Map
Twinsburg Site

88th Regional Readiness Command
Twinsburg, Ohio
Summit County

Legend

Facility Boundary
Streets

Soil

Mahoning Silt Loam, 0-2% slopes
Trumbull Silt Loam, 0% slope
Urban Lands
Wadsworth Silt Loam, 0-2% slope

Data Sources:
Facility--88th RRC Facility Boundary Drawings
Soils--Ohio DNR
Streets--TIGER Data 2000

N
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0 100 200 400 600
Feet

Scale:	1:3600
Created By:	Parsons
File:	Twinsburg_Soils.mxd
Date:	5/2004

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2.4 WATER RESOURCES

2.4.1 Watershed and Surface Waters

The site lies within the Cuyahoga River watershed and is approximately 20 miles southeast of Lake Erie. No streams, ponds, or tributaries are located on the property. The site appears to drain to a small, unnamed tributary to Tinkers Creek north of the site. Tinkers Creek, a tributary to the Cuyahoga River is approximately two miles to the east. Indian Creek and Brandywine Creek, which is also drain to the Cuyahoga River, are located approximately two miles to the west and southwest, respectively.

2.4.2 Floodplains

A review of on-line floodplain data produced by the Federal Emergency Management Agency (FEMA) indicated that the site is not located within a 100- or 500-year floodplain (ESRI and FEMA, 2004). The closest floodplains are associated with Tinkers Creek, approximately two miles east of the site.

2.5 BIOLOGICAL RESOURCES

2.5.1 Land Cover and Ecological Communities

The site contains two main natural communities including forested wetland and mixed hardwood forest. The entire site contains a mosaic of these two natural communities with the forested wetlands occurring in the numerous depressions and low-lying areas scattered throughout the site. The Land Cover Map (Figure 2-3) for the site includes three land cover types: hardwood forest, forested wetlands, and hardwood forest with 25% forested wetland inclusions. The wetland coverage is based on wetland delineations conducted at the site by Beak Consultants and EVS (see wetland section below for further discussion of these wetland delineations). The remaining areas are mapped as hardwood forest. However, numerous small wet areas occur within the area mapped as hardwood forest. As summarized in Table 2.1, approximately 75% of the site is mapped as hardwood forest, 18.5% as forested wetlands, and 6.4% as hardwood forest with 25% wetland inclusions.

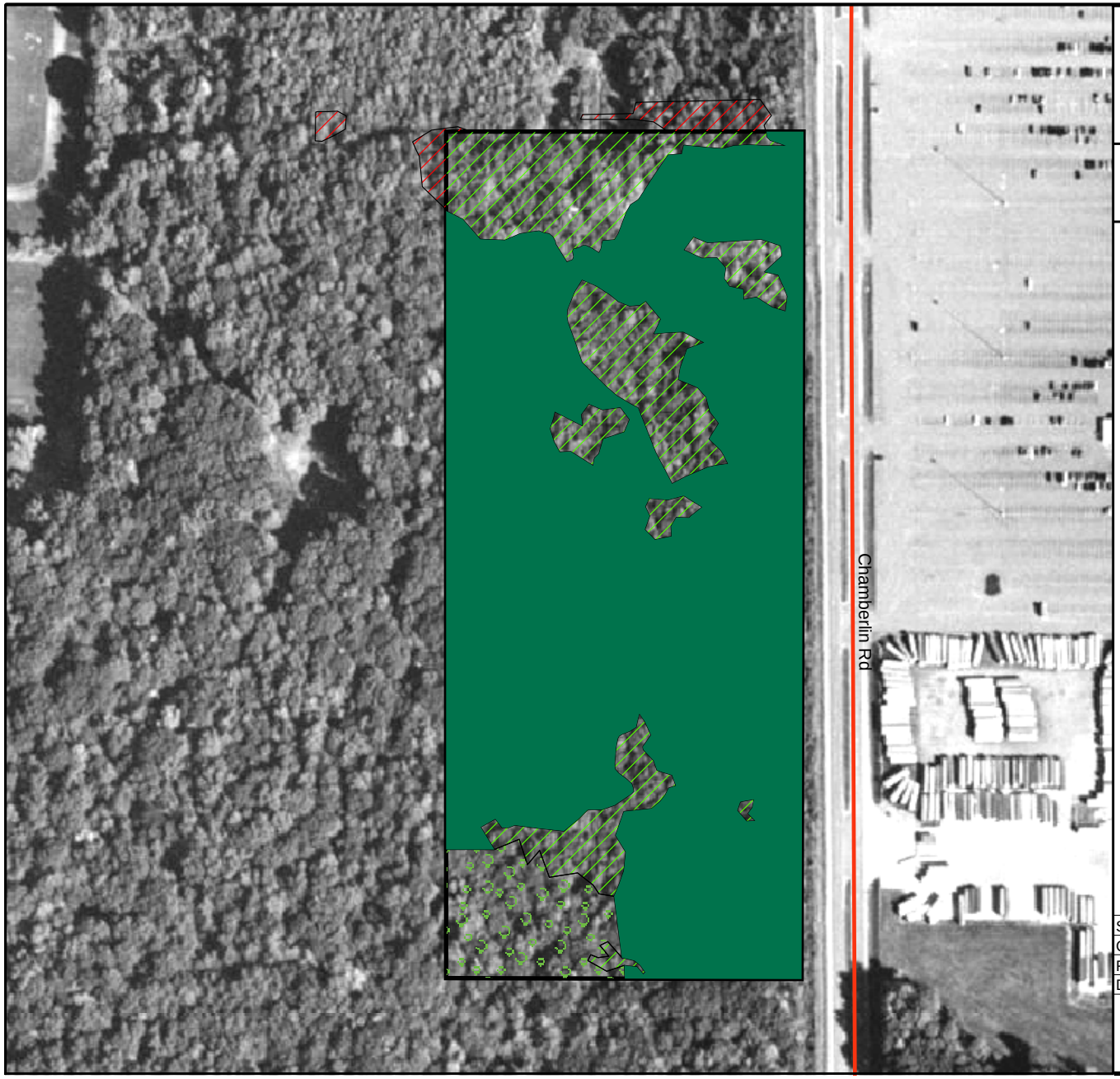

Figure 2-3
OH051 Land Cover Map
Twinsburg Site

88th Regional Readiness Command
Twinsburg, Ohio
Summit County

Legend

Facility Boundary
Roads

Land Cover

Forested Wetlands
25% Wetlands
Adjacent Wetlands
Hardwood Forest

Data Sources:
Facility--88th RRC Facility Boundary Drawings
Buildings--USGS Orthophoto, DOQQ 1996
Wetlands--88th RRC Delineation
Streets--TIGER Data 2000
Streams and Lakes--NHD, 2002
Floodplains--FEMA, Q3 Flood Data, 1998

N
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0 25 50 100 150
Meters

Scale:	1:3,600
Created By:	Parsons
File:	Twinsburg_land.mxd
Date:	5/2004

PARSONS

TABLE 2.1

LAND COVER AND ECOLOGICAL COMMUNITIES AT THE TWINSBURG SITE

Land Cover and Ecological Communities	Acres	Percent of Installation
Hardwood Forest	18.7	75.1
Forested Wetlands	4.6	18.5
Hardwood Forest with 25% Forested Wetland Inclusions	1.6	6.4

All of the forests on the site are relatively dense, have good species diversity, and well-developed canopies, sub-canopies, and understories. Many of the trees on the site are at an appropriate harvestable stage and appeared to be in good health. Ground cover varies from relatively dense in the non-wetland portions of the forest to relatively bare in the wetland areas. The entire forest floor contains a high amount of litter ranging from large fallen snags and tree limbs down to small branches and leaves. Appendix A contains a complete list of the flora and fauna observed within the forests on the site during the May 10-11, 2004 survey.

The forest on the southern two-thirds of the site consists of a red maple/American beech (*Fagus grandifolia*) dominated forest with other species such as northern red oak (*Quercus rubra*), sugar maple (*Acer saccharum*), and American elm (*Ulmus americana*) scattered within. The forest on the northern one-third of the site consists of a red maple/shagbark hickory (*Carya ovata*) dominated forest with American elm, American beech, sugar maple, and red oaks scattered within. The understory in both types of hardwood forests consists of glossy buckthorn, spicebush, Virginia creeper (*Parthenocissus quinquefolia*), and poison ivy (*Toxicodendron radicans*). The herbaceous layer contains a variety of species including may apple (*Podophyllum peltatum*), wild geranium (*Geranium malculatum*), and dogtooth violet (*Erythronium americanum*).

Ten random 10-meter diameter sample plots were surveyed to provide a general characterization of the forests within the site. Information collected at each plot included a listing of the woody species present, diameter at breast height (DBH) of all woody species present, % canopy cover, % ground cover, and other general characteristics such as whether the plot was in an area likely considered wetland. Table 2.2 shows the data collected at each plot.

TABLE 2.2

FOREST PLOT CHARACTERIZATION DATA FOR THE 88TH REGIONAL READINESS COMMAND TWINSBURG SITE, TWINSBURG TOWNSHIP, SUMMIT COUNTY. OHIO, MAY 10 AND 11, 2004

Plot ID	Ave. DBH[1] (cm)	Max. DBH (cm)	% Canopy Cover	# of Woody Stems <1 cm DBH	% Ground Cover	Community Affiliation	Tree and Shrub Species Present
1	21.45	49.9	99	6	30	MHF	Red Maple, Sugar Maple, Tulip Poplar, American Hornbeam, Black Cherry, Green Ash
2	17.25	54.2	85	0	15	MHF/FW	Pin Oak, Sugar Maple, Red Maple, American Hornbeam
3	14.38	39.2	70	7	15	MHF/FW	Red Maple, Shagbark Hickory, American Hornbeam, Red Oak, Black Cherry
4	18.6	52.5	99	5	5	FW	American Beech, Eastern Basswood, American Hornbeam, Red Maple
5	13.16	46.8	95	2	5	MHF	American Beech, Red Oak, American Hornbeam, American Elm
6	32.53	95.0	99	0	5	MHF	Red Maple, Sugar Maple, American Beech, Red Oak
7	19.27	41.5	80	1	20	MHF	Red Maple, Sugar Maple, American Beech, Green Ash
8	22.93	80.0	90	15	2	MHF	Red maple, Red Oak, American Beech, Black Cherry, Shagbark Hickory
9	27.56	43.9	70	18	2	MHF	Red Maple, Sugar Maple Spice Bush, Black Cherry
10	16.26	69.0	75	5	5	MHF	Red Maple, Sugar Maple Shagbark Hickory, Spice Bush, American Hornbeam, Black Oak

[1]Shrubs and saplings with woody stems <1 cm DBH were excluded from the average DBH calculations to give a better representation of actual tree sizes within the forest plots. The # of woody stems < 1 cm DBH column gives a general representation of density of woody stems < 1 cm DBH.
MHF = Mixed hardwood forest
FW = Forested wetland

2.5.2 Wetlands

A wetland delineation was performed by Beak Consultants for the Heritage Development Company at the site in June 2002. The Wetland Delineation Report dated October 2002 contains maps showing the location of the areas mapped as forested wetlands at that time (Beak Consultants, Inc., 2002). Since then, a revised wetlands map, which shows additional wetland areas, was developed based on a site visit conducted by EVS and the U.S. Army Corps of Engineers, Buffalo District in April 2004. The Buffalo District issued a Jurisdictional Determination and Verification of Wetland Delineation (No. 2004-01125(0)) on May 11, 2004 (Appendix A). This document confirms the wetland boundaries as shown in the revised wetland map. The Buffalo Corps determined that 1.69 acres of wetlands (D, E, F, and I) at the site are isolated, non-navigable, intrastatic waters that are not subject to regulation under Section 404 of the Clean Water Act. They also determined that 2.58 acres of wetlands (AB, C, and GH) are waters of the Untied States subject to regulation under Section 404 of the Clean Water Act.

The wetlands shown in the Land Cover Map (Figure 2-3) are based on the revised wetland map produced by EVS. This mapping indicates that wetlands make up approximately 25% (5 acres) of the site. The surveys conducted for this project also noted isolated wet areas scattered throughout the site. Some of these areas are not considered wetlands based on the wetland delineation and verification by the Buffalo Corps. It appears that much of the site is poorly drained allowing water to pond for long periods, especially in depressions. The forested wetlands appear to be relatively mature and have good functional value due mainly to their important wildlife value.

Common canopy tree species within the forested wetland areas are red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*), and pin oak (*Quercus palustris*). The common understory tree species are American hornbeam (*Carpinus caroliniana*), spicebush (*Lindera benzoin*), and glossy buckthorn (*Rhamnus frangula*). Common herbaceous species include sedges (*Carex sp.*), poison ivy (*Toxicodendron radicans*), spotted touch-me-not (*Impatiens capensis*), and sensitive fern (*Onoclea sensibilis*).

2.5.3 Wildlife

The forested wetlands and hardwood forests on the site provide important habitat for a variety of wildlife species. The mature forests that cover the site contain good plant species diversity and good structural diversity to provide a multitude of microhabitat situations able to support a diverse wildlife community. Wildlife observed within the forested wetlands and hardwood forests on the site include mammals such as white-tailed deer (*Odocoileus virginianus*), raccoons (*Procyon lotor*), bats (*Myotis* sp.), and chipmunks (*Eutamias minimus*); birds including many species of neotropical migrants such as warblers, vireos, and thrushes, and non-migratory species such as woodpeckers; amphibians such as American toads (*Bufo americanus*); and reptiles such as eastern garter snakes (*Thamnophis sirtalis*). Appendix A contains a complete list of the flora and fauna observed on the site during the May 10-11, 2004 survey.

In addition to the species observed during the two-day site visit, it is likely that several other species use the site on a regular basis. However, due to the overall small size of the forest fragment that contains the site and because the site is partially surrounded by industrial, recreational, residential, and roadway developments, the site might not support species that are area sensitive or overly sensitive to human disturbance.

SECTION 3

EFFECTS OF THE ACTION

3.1 GENERAL

Federally listed species that are known to occur in Summit County include the Indiana bat (endangered), bald eagle (threatened), and the northern monkshood (threatened). Based on information received from the Ohio Department of Natural Resources (ODNR), no records exist for rare species within the project area (Appendix B). One record for the state endangered plant, drooping wood sedge (*Carex arctata*), was found within a one-mile radius of the site.

3.2 INDIANA BAT

3.2.1 Species Biology and Habitat Requirements

The Indiana bat is federally listed as endangered throughout its range. Critical habitat has been designated for this species in Illinois, Indiana, Kentucky, Missouri, Tennessee, and West Virginia. Critical habitat has not been designated for this species in Ohio. There are two distinctive types of habitat for the Indiana bat: hibernation sites during the winter, and roosting and foraging areas during the summer. Hibernation sites are in caves or mines that satisfy their highly specific needs for cold, but not freezing, temperatures during hibernation. Although wintering Indiana bats have been documented in Ohio, most Indiana bats that summer in Ohio migrate to winter in caves south of the state, most probably in Kentucky. The first known hibernaculum in Ohio was not discovered until the winter of 1995/1996. Indiana bats generally hibernate from October through April depending on local weather conditions (USFWS, 1999 and Ohio DNR, 2003).

Floodplain and riparian forests have traditionally been considered the primary roosting and foraging habitats used in the summer by this species, and these forest types unquestionably are important. However, upland forests are also used for roosting, and upland forests, old fields, and pastures with scattered trees also provide foraging habitat. A key summer habitat

requirement is natural roost structures, which primarily consist of standing dead or living trees with loose bark. Trees with cavities are also used for roosting, but to a lesser extent. The suitability of any tree as a roost site is determined by: (1) its condition (dead or alive), (2) the quality of the loose bark, (3) the tree's solar exposure and relation to other trees, and (4) the tree's spatial relationship to water sources and foraging areas (USFWS, 1999 and Ohio DNR, 2003).

During summer months, females establish maternity roosts in riparian, floodplain, and upland forests under loose bark or in the cavities of dead trees. Common trees species for roost sites include American elm, shagbark hickory, northern red oak, white oak (*Quercus alba*), and green ash. Females establish primary roost sites, located in areas heated by sunlight, and alternate maternity roost sites, located in forest interiors for cooler temperatures and protection from severe weather. Males will roost alone or in small groups near maternity roosts during summer months. Indiana bats forage for insects within floodplains, along wooded streams, and in or near well-developed forests. Streams, associated floodplain forests, and impounded bodies of water (e.g., ponds, wetlands, reservoirs) are preferred foraging areas for pregnant and lactating Indiana bats, some of which may fly up to 1.5 miles from upland roosts (USFWS, 1999 and Ohio DNR, 2003a).

3.2.2 Habitat Assessment

Based on the May 2004 survey, the Twinsburg site is considered to contain suitable habitat for Indiana bat roosting and foraging. The site contains several large diameter trees with cavities and/or exfoliating bark including northern red oak, red maple, shagbark hickory, and greed ash. Two of the largest diameter trees (DBH >35 inches) that contained cavities are located near the western boundary of the site. The average DBH's for the ten plots surveyed in the forested areas, shown in Table 2.2 above, further support that the forests on the site may contain potential Indiana bat roosting habitat.

In addition to roosting habitat, the site contains potential foraging habitat due to the amount of mature forests with closed canopies that occur on the site. No streams are located on the site. However, standing water occurs in the wetlands throughout the site at least seasonally. Other potentially suitable foraging habitat is located in proximity to the site. A small open pond is located in Longwood Park immediately west of the site. This area would provide potential foraging habitat with limited human disturbance as the park closes at dusk when the

bats begin to forage. There is a small intermittent stream located 720 feet to the north of the site. This is a tributary to the perennial Tinkers Creek located approximately 1.9 miles east of the site. Small intermittent tributaries to Brandywine Creek are located 2,200 feet to the southwest and 1,700 feet to the west of the site. Brandywine Creek is located 2.2 miles to the southwest.

During the evening of May 10, 2004, a general visual bat survey was conducted adjacent to the site to determine the presence or absence of any bat species in or near the site. The survey was conducted in the open field located just south of the site on the western portion of the UAW facility property. This location was chosen because it provided a good view of the forest edge to observe any bats that flew outside the forest. At dusk, at least four individuals of a *Myotis* species were observed foraging over and within the canopy of the forest and in the small open field just south of the site. Some of the bats appeared to have come from the direction of the site when first observed. It was not possible to positively identify the bat species using the visual survey method. However, it is likely that they were a small *Myotis* species.

As mentioned, USFWS literature indicates that Indiana bats occur in Summit County, Ohio. However, information provided by the Ohio DNR indicates that there are no records for this species within one mile of the Twinsburg site. It should be noted that the lack of documented occurrences could be due to a lack of survey effort in the area. The Ohio DNR database indicates that the closest record is on the North Chagrin Reservation, which is located in Cuyahoga County in the Mayfield Heights quadrangle (approximately two quadrangles north of the site). A female Indiana bat was recorded at this location in 1997 (personal communication, Debbie Woischke, Ohio DNR, May 20, 2004).

Results of the site surveys and information provided by Ohio DNR suggest that there is potential for the Indiana bat to roost and forage at the Twinsburg site during the summer season. The site and surrounding areas contain suitable roosting and foraging habitat, a *Myotis* species was observed during the surveys, and Ohio DNR has a record for the Indiana bat in the general vicinity. However, there is no potential for the Indiana bat to winter at the site due to lack of suitable hibernacula (e.g., caves or mines). Detailed presence/absence surveys (i.e., mist netting) would need to be conducted by a recognized qualified Indiana bat surveyor to definitively determine if Indiana bats roost and/or forage at the site.

3.2.3 Effects of the Proposed Action

The Twinsburg site consists of approximately 25 acres of forested uplands and forested wetlands that are considered suitable roosting and foraging habitat for the Indiana bat, but the site lacks suitable wintering habitat. Currently, adequate surveys have not been conducted to definitively determine if Indiana bats roost and/or forage at the site. The proposed action would result in clearing and permanent loss of approximately 20 acres of hardwood forest and forested wetlands. Clearing of suitable roost trees during the non-hibernating season would likely result in bats being killed or injured, if bats were present in the trees at the time of cutting. However, the 88th RRC plans to conduct all tree clearing during the hibernating season (i.e., September 15 through April 15), when bats would not be present. Therefore, tree clearing under the proposed action would not result in direct death or injury to Indiana bats.

Clearing of trees during the hibernation season could result in the loss of some traditional summer roost trees, including maternity trees, if such trees exist at the site. Female Indiana bats establish traditional summer ranges that they return to annually. Loss of traditional roost trees could require females to expend more energy locating new roosting habitat and increase stresses that could lead to lower reproductive success and/or lower survival of juvenile bats. Tree clearing during the hibernation season and subsequent construction on the site could also result in a permanent loss of foraging habitat. The total permanent loss of possible roost trees and foraging habitat would be limited to 20 acres, which is a very small area when considered in the context of other similar habitat available to Indiana bats in Summit County. In addition, riparian areas in the general vicinity of the site likely provide higher quality Indiana bat roosting and foraging habitat than the site itself.

If Indiana bats use the undeveloped portions of the site or adjacent forested areas following construction, Reserve Center operations could have the potential to disturb roosting bats. Operations at the proposed Reserve Center would be limited to the proposed new developed areas. Activities would primarily consist of administrative functions, classroom training, and military vehicle maintenance. These operations would not be likely to disturb roosting or foraging Indiana bats. The site lacks suitable hibernacula; therefore, disturbance during fall swarming and hibernation is not a concern.

In summary, the proposed action may affect, but is not likely to adversely affect the Indiana bat. Seasonal limits on tree clearing would effectively avoid direct effects or take of

the species. The loss of suitable roosting and foraging habitat would be insignificant based on the relatively small area of habitat lost. Potential effects associated with facility operations would be discountable and extremely unlikely to occur.

3.3 BALD EAGLE

3.3.1 Species Biology and Habitat Requirements

The bald eagle is federally listed as threatened in the lower 48 states. Critical habitat has not been designated for this species. The bald eagle is highly associated with and attracted to large bodies of water surrounded by undeveloped expanses. They are dependent on aquatic food sources and habitats for their survival. During both breeding and wintering seasons, bald eagles are most frequently observed using riverine or lacustrine habitats, particularly those with large trees in proximity. Prey availability, isolation from human disturbance, roosting and nesting trees, and other important ecological components are required for bald eagle survival (Ohio DNR, 2003b).

3.3.2 Habitat Assessment/Effects of the Proposed Action

The habitat on the site would not be considered good bald eagle habitat as no large bodies of water occur in the general vicinity and developed areas surround portions of the site. The nearest potential high quality habitat is located approximately 4.5 miles northeast of the site at Aurora Pond. No bald eagles were observed during the two-day site visit. Other than an occasional transient individual, bald eagles would not be expected to use habitats at the Twinsburg site. Therefore, the proposed action would have no effect on the bald eagle.

3.4 NORTHERN MONKSHOOD

3.4.1 Species Biology and Habitat Requirements

Northern monkshood is federally listed as threatened throughout its range. Critical habitat has not been designated for this species. Northern monkshood is a plant species noted for its very distinctive, blue hood-shaped flowers. This species is typically associated with cool, moist, shaded cliff faces, algific talus slopes in wooded ravines, or near cool streams or

seeps. All of these areas typically have cool soil conditions, cold air drainage, or cold groundwater flowage. The plant flowers from June through September (USFWS, 1994).

3.4.2 Habitat Assessment/Effects of the Proposed Action

No individuals of this species were observed during the two-day site visit. However, the surveys were not conducted during the flowering season. Based on the above habitat requirements, the habitat on the site did not appear to be suitable for this species to occur. The site is relatively flat and lacks cliff faces, talus slopes, and wooded ravines. The site does not contain any of the appropriate features that would provide the cold air drainage or cold groundwater flowage required. Based on the lack of suitable habitat, there is no potential for Northern monkshood to occur at the site. Therefore, the proposed action would have no effect on Northern monkshood.

SECTION 4

CONSERVATION MEASURES

The 88th RRC is proposing to implement the following project-specific conservation measures for construction at the Twinsburg site:

- Tree clearing would be limited to the hibernating season for the Indiana bat (September 15 through April 15);
- To the extent practicable a forested buffer would be maintained between the developed portions of the Reserve Center and the Longwood Park property boundary located west of the site; and
- Disturbance and filling of isolated wetlands would be avoided and minimized. Unavoidable impacts would be compensated for through mitigation in accordance with Ohio Environmental Protection Agency's isolated wetland permitting program.

In addition, several general environmental measures and best management practices are implemented on all U.S. Army Reserve construction sites, including environmental briefings for on-site construction personnel and implementation of sediment and erosion control plans.

SECTION 5

CONCLUSIONS

Based on the analysis presented in Section 3 of this BE, the 88th RRC has reached the following determinations regarding effects of the proposed action to federally listed species:

- Indiana bat – The proposed action may effect, but is not likely to adversely affect the Indiana bat;
- Bald eagle – The proposed action would have no effect on the bald eagle; and
- Northern monkshood – The proposed action would have no effect on northern monkshood.

SECTION 6

REFERENCE AND LIST OF CONTACTS/PREPARERS

6.1 REFERENCES

Beak Consultants, Inc. 2002. *Wetland Delineation Report for Heritage Development Company, Parcel 3*. Prepared for Heritage Development Company, Moreland Hills, OH by Beak Consultants, Inc., Lancaster, NY.

ESRI and FEMA. 2004. *Flood Hazard Areas for Twinsburg, Ohio*. http://www.esri.com/hazards/makemap.html.

Ohio DNR. 2003a. *Life History Notes: Indiana Bat*. Ohio DNR, Division of Wildlife. http://www.dnr.state.oh.us/wildlife/Resources/wildnotes/pub370.htm.

Ohio DNR. 2003b. *Life History Notes: Bald Eagle*. Ohio DNR, Division of Wildlife. http://www.dnr.state.oh.us/wildlife/Resources/wildnotes/pub383.htm.

USFWS. 1999. *Indiana Bat (Myotis sodalis) Revised Recovery Plan, Agency Draft*. Prepared for the USFWS Region, Fort Snelling, MN by the Indiana Bat Recovery Team.

USFWS. 1994. *Endangered Species Fact Sheet, Northern Monkshood*. USFWS Region 3, Division of Endangered Resources, Fort Snelling, MN. http://midwest.fws.gov/Endangered/plants/monkshoo.html.

6.2 LIST OF CONTACTS

Debbie Woischke, Data Specialist
Ohio Department of Natural Resources
Division of Natural Areas and Preserves
1889 Fountain Square, Building F-1
Columbus, OH 43224

6.3 LIST OF PREPARERS

Carrie Schafer, Sr. Environmental Planning Specialist
88th Regional Readiness Command
506 Roeder Circle
Fort Snelling, MN 55111

Mark Collins, Project Manager
David Hulka, GIS Analyst
Parsons
10521 Rosehaven Street
Fairfax, VA 22030

Joel Budnik, Biologist
Chris Deil, Biologist
Parsons
400 Woods Mill Road
Chesterfield, MO 63017

APPENDIX A

FLORA AND FAUNA OBSERVED AT THE 88TH REGIONAL READINESS COMMAND TWINSBURG SITE (OH051)

APPENDIX A
FLORA AND FAUNA OBSERVED AT THE 88TH REGIONAL READINESS COMMAND TWINSBURG SITE (OH051), TWINSBURG TOWNSHIP, SUMMIT COUNTY, OHIO, MAY 10 AND 11, 2004

Common Name	Scientific Name	Community Affiliation	Stratum
Plants			
Bitternut Hickory	*Carya cordiformis*	MHF	C
Black Oak	*Quercus velutina*	MHF	C
Black Willow	*Salix nigra*	FW	C
Eastern Cottonwood	*Populus deltoides*	MHF/FW	C
Green Ash	*Fraxinus pennsylvanica*	MHF/FW	C
Pin Oak	*Quercus palustris*	MHF/FW	C
Tulip Poplar	*Liriodendron tulipifera*	MHF	C
American Beech	*Fagus grandifolia*	MHF/FW	C/S
American Elm	*Ulmus americana*	MHF	C/S
Black Cherry	*Prunus serotina*	MHF	C/S
Red Maple	*Acer rubrum*	MHF/FW	C/S
Shagbark Hickory	*Carya ovata*	MHF	C/S
Sugar Maple	*Acer saccharum*	MHF	C/S
American Hornbeam	*Carpinus caroliniana*	MHF	S
Glossy Buckthorn	*Rhamnus frangula*	MHF	S
Multiflora Rose	*Rosa multiflora*	MHF	S
Spicebush	*Lindera bezoin*	MHF/FW	S
Poison Ivy	*Toxicodendron radicans*	MHF	S/H
Cinnamon Fern	*Osmunda cinnamomea*	MHF/FW	H
Cinquefoil	*Potentilla simplex*	MHF	H
Dogtooth Violet	*Erythronium americanum*	MHF	H
Fern	*Dryopteris sp.*	MHF/FW	H
Jack in the Pulpit	*Arisaema triphyllum*	MHF	H
May Apple	*Podophyllum peltatum*	MHF	H
Sedges	*Carex sp.*	MHF/FW	H
Solomen's Seal	*Polygonatum commutatum*	MHF	H
Spike Rushes	*Eleocharis sp.*	FW	H
Spotted touch-me-not	*Impatiens capensis*	MHF/FW	H
Spring Beauty	*Claytonia virginica*	MHF	H
Violet	*Viola sp.*	MHF	H
Wild Geranium	*Geranium malculatum*	MHF	H
Mammals			
Bats	*Myotis sp.*	MHF/FW	AC/C
Chipmunk	*Eutamias minimus*	MHF/FW	C/S/H
Raccoon	*Procyon lotor*	MHF/FW	C/S/H
White-tailed Deer	*Odocoileus virginiana*	MHF/FW	S/H

APPENDIX A (CONTINUED)
FLORA AND FAUNA OBSERVED AT THE 88TH REGIONAL READINESS COMMAND TWINSBURG SITE (OH051), TWINSBURG TOWNSHIP, SUMMIT COUNTY, OHIO, MAY 10 AND 11, 2004

Birds			
American Goldfinch	*Carduelis tristis*	MHF/FW	C/S
American Robin	*Turdus migratorius*	MHF/FW	C/S/H
Black-and-white Warbler	*Mniotilta varia*	MHF/FW	C/S
Black-capped Chickadee	*Poecile atricapillus*	MHF/FW	C/S
Blue Jay	*Cyanocitta cristata*	MHF/FW	C/S
Brown-headed Cowbird	*Molothrus ater*	MHF/FW	C/S
Chestnut-sided Warbler	*Dendroica pensylvanica*	MHF/FW	C/S
Chimney Swift	*Chaetura pelagica*	MHF/FW	AC
Eastern Towhee	*Pipilo erythrophthalmus*	MHF/FW	S
Eastern Wood Pewee	*Contopus virens*	MHF/FW	C/S
Gray Catbird	*Dumetella carolinensis*	MHF/FW	S/H
Hermit Thrush	*Catharus guttatus*	MHF/FW	S/H
Northern Cardinal	*Cardinalis cardinalis*	MHF/FW	C/S
Northern Flicker	*Colaptes auratus*	MHF/FW	C/S
Northern Oriole	*Icterus galbula*	MHF/FW	C
Philadelphia Vireo	*Vireo philadelphicus*	MHF/FW	C
Red-bellied Woodpecker	*Melanerpes carolinus*	MHF/FW	C
Red-Eyed Vireo	*Vireo olivaceus*	MHF/FW	C
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	MHF/FW	C/S
Summer Tanager	*Piranga rubra*	MHF/FW	C
Tufted Titmouse	*Parus bicolor*	MHF/FW	C/S
Wood Thrush	*Hylocichla mustelina*	MHF/FW	C/S
Yellow-rumped Warbler	*Dendroica coronata*	MHF/FW	C
Amphibians			
American Toad	*Bufo americanus*	MHF/FW	H
Reptiles			
Eastern Garter Snake	*Thamnophis sirtalis*	MHF edge/OF	H
Insects			
Bald-faced Hornet	*Dolichovespula maculata*	MHF/FW	C/S
Mosquito	*Coquillettidia perturbans*	MHF/FW	S/H
Mosquito	*Aedes sp.*	MHF/FW	S/H

Key:
MHF = Mixed hardwood forest
FW = Forested wetland
OF = Old field
C = Canopy
AC = Above canopy
S = Shrub
H = Herbaceous

APPENDIX B

AGENCY CORRESPONDENCE

Ohio Department of Natural Resources

BOB TAFT, GOVERNOR | SAMUEL W. SPECK, DIRECTOR

Division of Natural Areas and Preserves
Nancy Strayer, Acting Chief
1889 Fountain Square, Bldg. F-1
Columbus, OH 43224-1388
Phone: (614) 265-6453; Fax: (614) 267-3096

May 7, 2004

Mark Collins
Parsons Corp.
10521 Rosehaven St.
Fairfax, VA 22030

Dear Mr. Collins:

I have reviewed our Natural Heritage maps and files for the U.S. Army Reserve 88th Regional Readiness Command Twinsburg project area, including a one mile radius, on the Twinsburg Quad in Summit County, Ohio (743350.07000). We have no records for rare or endangered species directly within the project area, however, we have one record within the one mile radius. The location for Drooping Wood Sedge (*Carex arctata*), a state endangered plant, is marked with a red circle on the attached map. The 1999 record further describes the plant as being on the edges of sandstone ledges above a ravine. About 25 plants were counted in a quarter acre area.

There are no existing or proposed state nature preserves or scenic rivers at the project site. We are also unaware of any unique ecological sites, geologic features, breeding or non-breeding animal concentrations or state parks, forests or wildlife areas in the project vicinity.

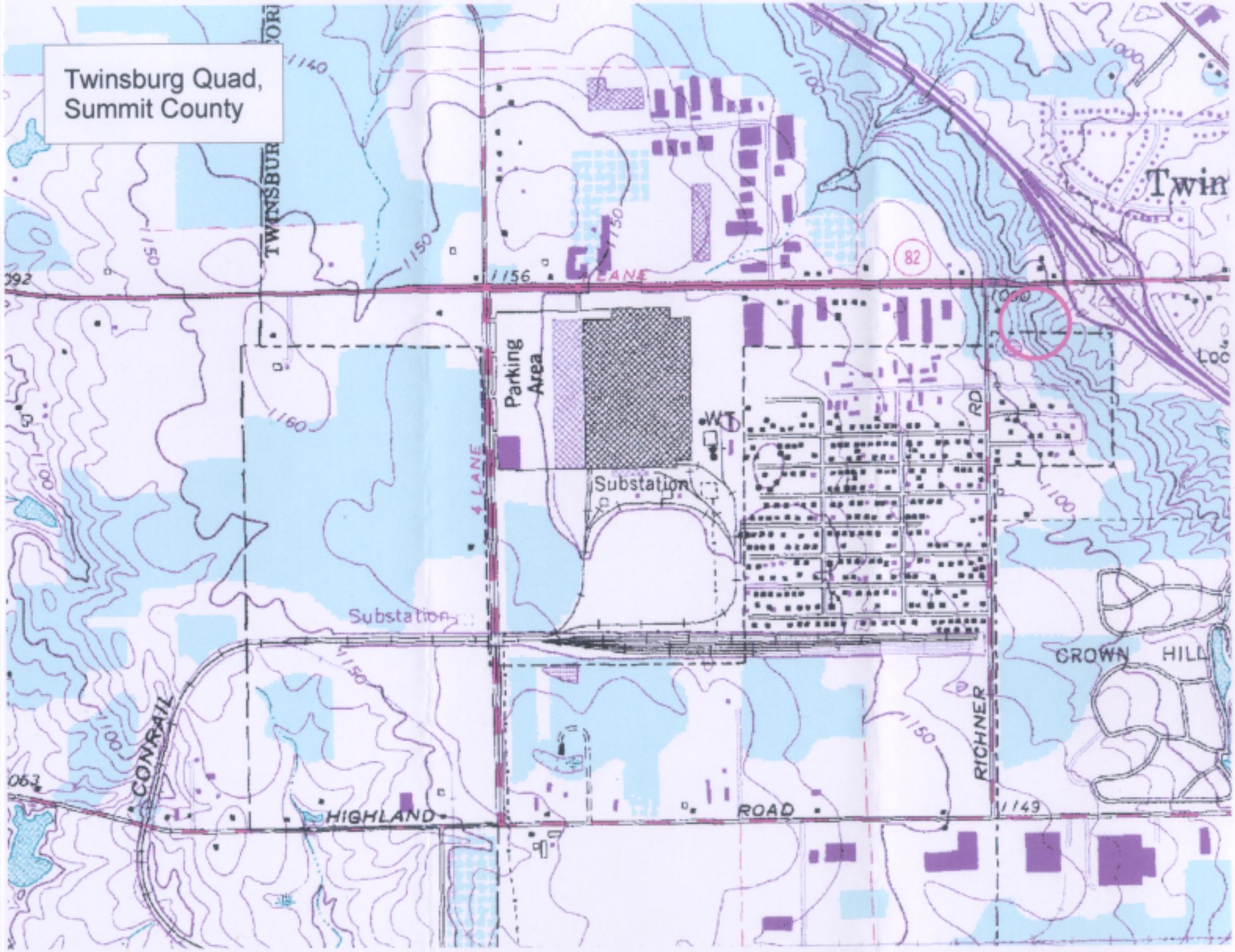
Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Please note that although we inventory 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.

Sincerely,

Debbie Woischke

Debbie Woischke, Data Specialist
Support Services Group


Twinsburg Quad,
Summit County
TWINSBURG
4 LANE
1156
82
Parking
Area
Substation
Substation
WT
RD
CROWN HILL
RICHNER
CONRAIL
HIGHLAND
ROAD
1149
1140
1150
1160
1100
1000
Twin

DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

REPLY TO
ATTENTION OF

Regulatory Branch

May 11, 2004

MEMORANDUM FOR

Louisville District - Corps of Engineers (CELRL-ED-E-C), ATTN: Nora Keel, P.O. BOX 59, Louisville, Kentucky 40201-0059

SUBJECT: Jurisdictional Determination and Verification of Wetland Delineation, No. 2004-01125(0)

1. This is in reference to your request for a jurisdictional determination and verification of a wetland delineation for a property owned by the Heritage Development Company in Summit County, Ohio. The property is located in Twinsburg Township along the west side of Chamberlin Road south of State Road 82.

2. On January 9, 2001, the U.S. Supreme Court issued a ruling that affected the Corps of Engineers authority to regulate isolated, non-navigable, intrastate waters under the Clean Water Act (Solid Waste Agency of Northern Cook County v. the U.S. Army Corps of Engineers, No. 99-1178). Specifically, the case involved statutory and constitutional challenges to the assertion of Clean Water Act jurisdiction over isolated, non-navigable, intrastate waters where use of the site by migratory birds established the necessary interstate commerce connection. The U.S. Supreme Court found that use of the site by migratory birds alone is **not** sufficient to establish Federal jurisdiction over isolated wetlands, and that such areas are not waters of the United States and are **not** subject to regulation under Section 404 of the Clean Water Act.

3. In light of the recent Supreme Court decision, we have reviewed various maps and the administrative record for the project. Based on this review, we have determined that Wetlands D, E, F, and I on the subject project site are isolated, non-navigable, intrastate waters that are not subject to regulation under Section 404 of the Clean Water Act. These wetlands total 1.69 acres. Heritage Development Company would not need Department of the Army authorization under Section 404 of the Clean Water Act to commence with work affecting these four wetlands.

4. The other three wetlands on the site (Wetlands AB, C, and GH, totaling 2.58 acres) are waters of the United States subject to regulation under Section 404 of the Clean Water Act. Department of the Army authorization would be required for placement of dredged or fill material in these wetlands.

5. Finally, we are hereby confirming that the wetland boundaries, as shown on the attached drawings, were properly identified and delineated under the 1987 Corps of Engineers Wetland Delineation Manual and will remain valid for a period of five years from the date of this correspondence. At the end of this period, a new delineation may be required.

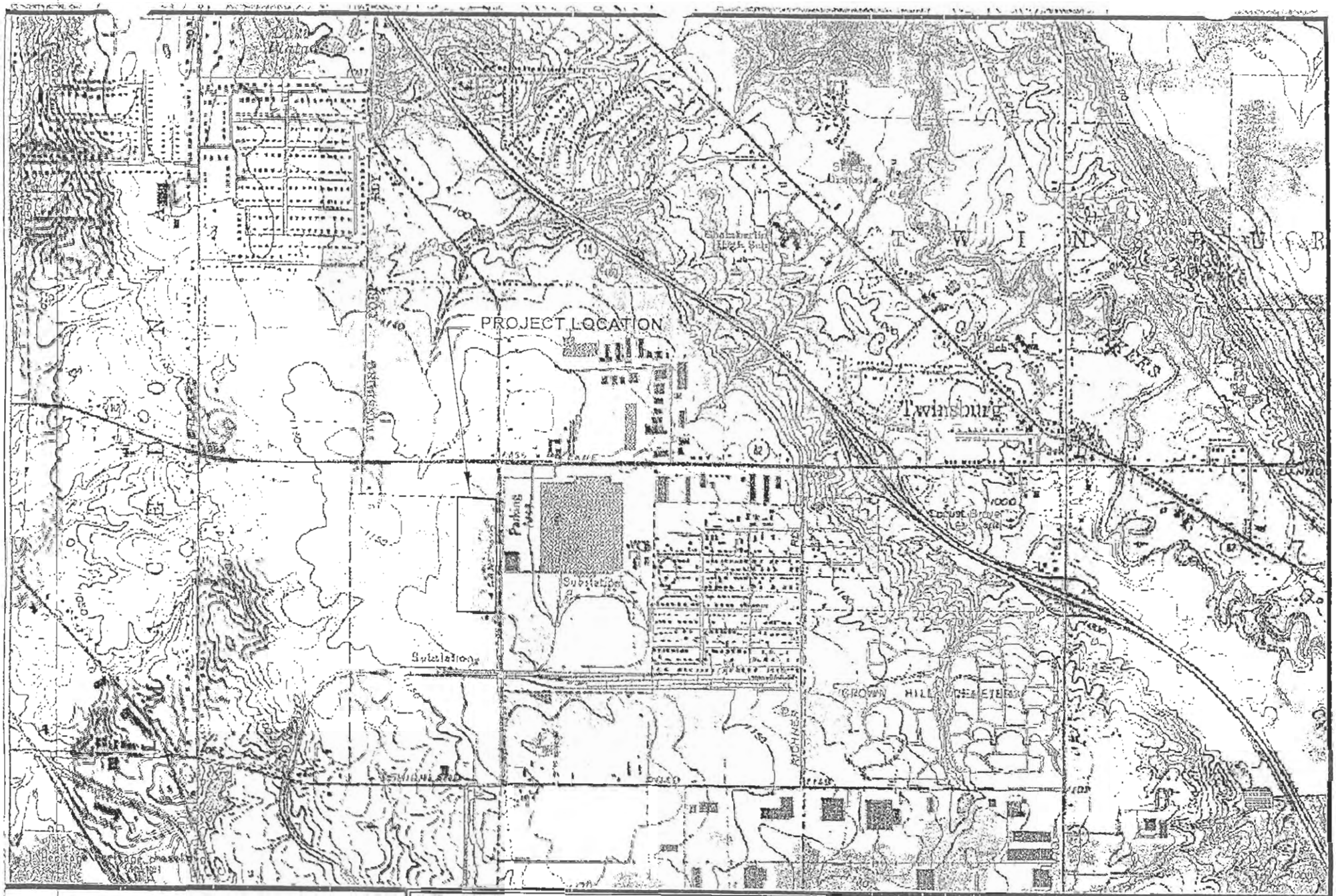
6. Anyone proposing work on this site should contact the appropriate state and local governmental agencies, including the Ohio Environmental Protection Agency (OEPA), to insure that the proposed work complies with their requirements. OEPA, Division of Surface Water, can be reached at (614) 644-2001.

7. Questions pertaining to this matter should be directed to Mark E. Gronceski at (440) 437-5847, by writing to the following address: U.S. Army Corps of Engineers, 33 Grand Valley Avenue, or by email to Mark.E.Gronceski@lrb01.usace.army.mil

FOR THE COMMANDER

Enc

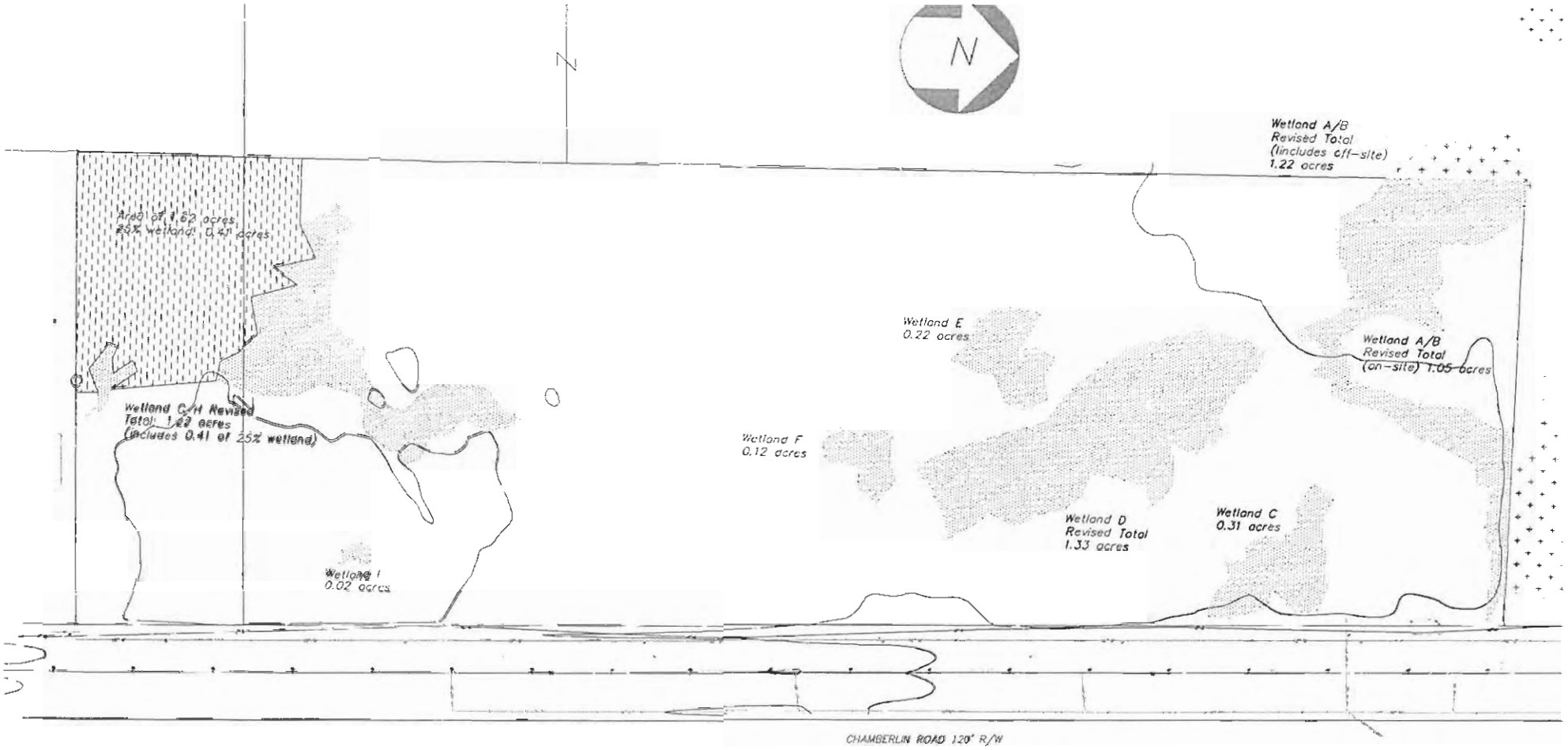
Alan H. Sisselman
Chief, Ohio Application Evaluation Section



BEAK CONSULTANTS INCORPORATED

LOUISVILLE DISTRICT
D/A Processing No. 2004-01125(0)
Summit County, Ohio Quad: TWINSBURG
Sheet 1 of 2 - Location Map

PROJECT LOCATION
U.S. DEPT. OF THE INT. GEOLOGICAL SURVEY
TWINSBURG QUADRANGLE
OHIO - SUMMIT COUNTY
7.5 MINUTE SERIES (TOPOGRAPHIC)



Received 28 April 2004

Parcel 3
Revised Wetland Delineation

LOUISVILLE DISTRICT
D/A Processing No. 2004-01125(0)
Summit County, Ohio Quad: TWINSBURG
Sheet 2 of 2 - Wetland Delineation

APPENDIX C

SITE PHOTOGRAPHS

Photo 1: View of hardwood forest near the north border of site (5/11/04).

Photo 2: Typical view of mixed hardwood forest in northeast portion of site (5/11/04).

Photo 3: Typical view of mixed hardwood forest near the center of the site (5/11/04).

Photo 4: Typical view of the mixed hardwood forest in the southeast portion of the site (5/11/04).

Photo 5: View of one of the many small forested wetlands scattered throughout the site (5/11/04).

Photo 6: View of one of the forested wetlands near the east border of the site (5/11/04).

Photo 7: View of the forest canopy in the south portion of the site (5/11/04).

Photo 8: View of the forest canopy in the west central portion of the site (5/11/04).

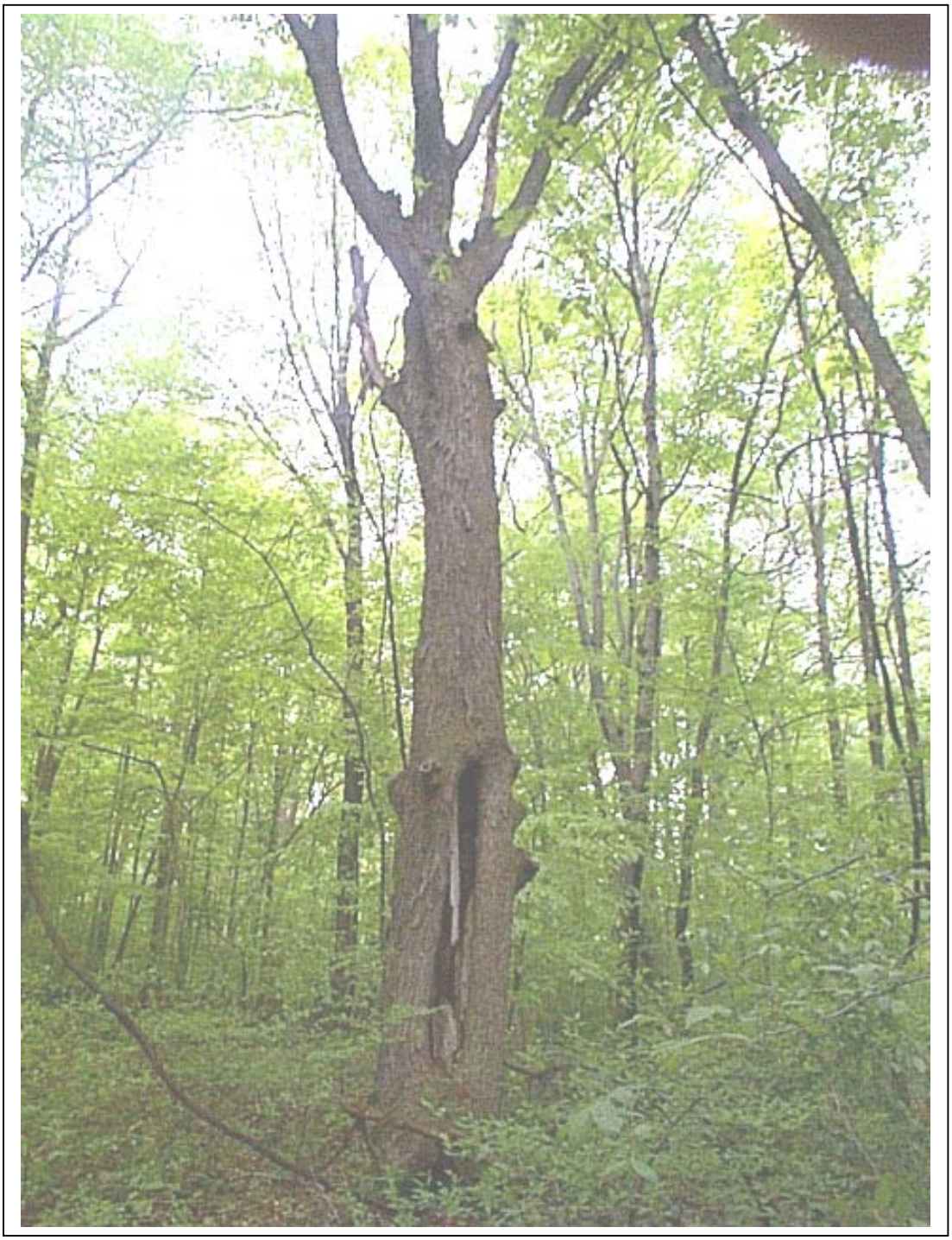


Photo 9: View of a potential Indiana bat tree located near the center of the west border of the site. The tree had large cavities both low and high on the trunk (5/11/04).

Photo 10: View of a large potential Indiana bat roost tree near the west border of the site. Notice the cavities in the dead portion of tree (5/11/04).

APPENDIX E

CULTURAL RESOURCES COORDINATION LETTERS & SUPPORTING DOCUMENTATION

Ohio Historic Preservation Office

567 East Hudson Street
Columbus, Ohio 43211-1030
614/ 298-2000 Fax: 614/ 298-2037

Visit us at www.ohiohistory.org

OHIO
HISTORICAL
SOCIETY
SINCE 1885

July 6, 2004

Carrie Schafer
Environmental Division
Headquarters, 88th Regional Support Command
506 Roeder Circle
Fort Snelling, MN 55111-4009

Re: Transfer of real property, Harvard Road, Warrensville Heights, Cuyahoga County, Ohio
Acquisition and development of land on Chamberlin Road, Twinsburg, Summit County, Ohio

Dear Ms. Schafer,

This is in response to correspondence from your office dated May 21, 2004 (received May 24) regarding the above referenced projects. The comments of the Ohio Historic Preservation Office (OHPO) are submitted in accordance with provisions of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]).

The first of the two undertakings includes the transfer from the U.S. Army Reserves 88th Regional Readiness Command a 4.6 acre parcel that is located at 25445 Harvard Road. The parcel is the location of the 2nd LT William S. Huisman USARC (Center), constructed in 1963. The Center encompasses three buildings. Immediately northwest of the Center is the location of the former Highland State Hospital Complex. Although now mostly demolished, the state hospital complex played an important role in the development of state policies towards the treatment of mentally retarded and developmentally disabled persons. Given the demolition of the state hospital and the date of construction of the Center, we agree that the three buildings comprising the Center don't meet the criteria for National Register eligibility and that there will be no historic properties affected by the proposed transfer.

The second of the two undertakings is the acquisition and development of 24 acres of vacant land. Previously this office agreed to provide comments from a management summary of recently completed archaeological investigations. No archaeological sites were identified. We concur with the extent of field work conducted to look for archaeological deposits in the 24 acre tract. We also agree that although the Longwood Park buildings are of interest that they are well removed from the proposed development. Based on the information presented in the management summary we concur with your findings that there will be no historic properties affected by the proposed acquisition and development of this tract.

Any questions concerning this matter should be addressed to David Snyder at (614) 298-2000, between the hours of 8 am. to 5 pm. Thank you for your cooperation.

Sincerely,

David Snyder

David Snyder, Archaeology Reviews Manager
Resource Protection and Review

DMS/ds (OHPO Serial Number 102283)

DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL READINESS COMMAND
506 ROEDER CIRCLE
FORT SNELLING, MINNESOTA 55111-4009

May 21, 2004

Deputy Chief of Staff Engineer

Ohio Historic Preservation Office
Resource Protection and Review
Mr. Mark Epstein, Department Head
567 East Hudson St.
Columbus, OH 43211-1030

Dear Mr. Epstein:

The 88th Regional Readiness Command (RRC) proposes the transfer of real property at Warrensville Heights, Cuyahoga County, Ohio, (to include 4.65 acres of land and associated facilities) currently owned by the U.S. Army Reserve to a private company in exchange for the acquisition of approximately 24 acres of undeveloped land in Twinsburg, Summit County, Ohio. The Warrensville Heights Reserve Center is located at 25445 Harvard Road, Warrensville Heights, OH, 44122. The Twinsburg property is located at Chamberlin Road, south of Aurora Road (State Route 82). The property abuts the City of Macedonia Park.

The U. S. Army Reserve plans to construct a U. S. Army Reserve Center (USARC), an Organizational Maintenance Shop (OMS), and associated parking infrastructure on the Twinsburg site. (Enclosure 1) Construction of the new facility would involve the transfer of personnel from existing Warrensville Heights facility and would include the closing of that facility. We have determined that the area of potential effects (APE) for the undertaking at Twinsburg is as shown on the enclosed site plan.

An archaeological survey was completed at the Twinsburg property the week of 3 May 2004. This Survey was coordinated thru our Contractor, Brockington & Associates, and Mobile Corps of Engineers, with David Snyder, Ohio Historic Preservation Office, Archaeology Reviews Manager. The enclosed Detailed Management Summary provides results of our intensive background research and field survey. (Enclosure 2) A full report providing detailed documentation of our investigation methods and results, including relevant natural and cultural (prehistoric and historic) context for this tract, will be provided to your office when it is finalized.

Enclosed is a copy of our study of historic structures at the Warrensville Heights property that was coordinated with your office in 1997, by the Fort McCoy Archaeology Laboratory, on our behalf. (Enclosure 3) This study was carried out pursuant to Section 110(a)(1) of the National Historic Preservation Act. The Reserve Center was constructed in 1963. According to the National Register of Historic Places, no historic properties or archaeological sites are known to exist near the APE.

It is our determination that no historic properties will be affected by these undertakings. Pursuant to 36 CFR 800.4(a)(ii), we would appreciate your comments on our determination for this undertaking. If we do not hear from you within thirty (30) days, we will assume that you concur with our determination and will proceed as discussed above. If you have any questions about this project, or require additional assistance, please contact Ms. Carrie Schafer at (612) 713-3825. Please address any correspondence to Ms. Schafer at the above address.

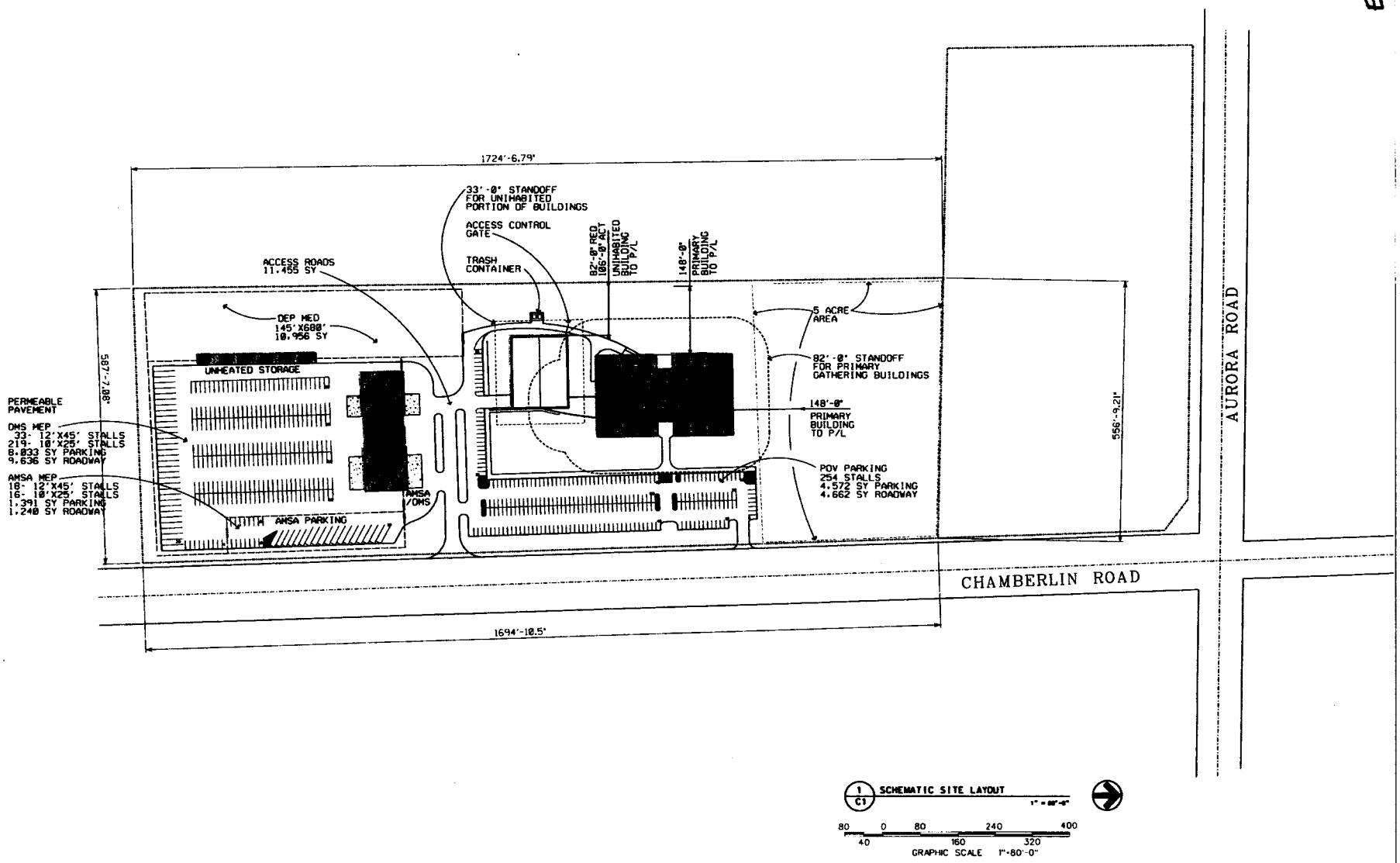
Sincerely,

ENCL

KURT F. ZACHARIAS
Environmental Division Chief

CF:
Dave Snyder (w/encl)
Ernie Seckinger, U.S. Army Corps of Engineers- Mobile (w/encl)
Jeff Gardner, Brockington and Associates, Inc. (w/encl)

ENCL. 1



1 C1 SCHEMATIC SITE LAYOUT

1" = 80'-0"

80 0 80 240 400

40 160 320

GRAPHIC SCALE 1"=80'-0"

US Army Corps of Engineers Louisville District

REVISIONS

SYMBOL	DESCRIPTION	DATE	APPR.

Designed by: Mark Lee
Date: 03 JAN 2004
Drawing no.
Rev.
Dwn by: Mark Lee
Chd by: Mark Lee
Reviewed by: Mark Stoutland
Submitted by: Jim Fitzwater
Drawing code: Fire alarm / Fire detect / Sec. camera

RST Architects, LLC
1220 Market Street NE
Albuquerque, NM 87102
(505) 277-7100

SITE LAYOUT
SCHEMATIC PLAN

PROJECT: CLEVELAND, OHIO
AR CENTER / AMSA / OMS / STORAGE

CAR 04 - 10809 FY 2004

C1

PRE-DESIGN SUBMITTAL

Detailed Management Summary for
Phase I Archaeological Survey of the Proposed Twinsburg
USARC Facility,
Twinsburg Township, Summit County, Ohio

Contract No. DACA01-02-D-0001
Task Order No. 51

Prepared for the

US Army Corps of Engineers, Mobile District
Mobile, Alabama

and

U.S. Army Reserve 88th Regional Readiness Command
Fort Snelling, Minnesota

Submitted by

Jeffrey W. Gardner
Contracting Project Manager and Author

Brockington and Associates, Inc.
Atlanta Charleston Raleigh
2004

In November 2003, the U.S. Army Reserve 88th Regional Readiness Command (88th RRC) contracted with the U.S. Army Corps of Engineers, Mobile District (USACE, Mobile) to conduct Phase I archaeological investigations at the location of a proposed U.S. Army Reserve Center (USARC) in Twinsburg Township (Summit County), Ohio. Development of this 24-acre tract is an undertaking, as defined by the National Historic Preservation Act (NHPA). The 88th RRC initiated the Section 106 process which requires investigation of the archaeological potential of this tract to apply the criteria of effect.

The project tract is located in northeastern Ohio, near the northern border of Summit and Cuyahoga Counties, between Macedonia and Twinsburg (Figure 1). This flat, wooded property is bounded to the north by a small tract at the intersection of State Route 82 and Chamberlin Road, to the east by Chamberlin Road, to the south by United Auto Workers Local 122 Union Hall, and to the west by Longwood Park.

The USACE, Mobile subcontracted this work to Brockington and Associates, Inc., (Norcross, Georgia). Under this task order, Brockington and Associates was responsible for completing the following tasks:

- Background research on the project tract, focusing on identifying previously documented archaeological sites and developing prehistoric and historic contexts;
- Intensive archaeological field survey of the Twinsburg tract;
- Completion of Ohio Archaeological Inventory (OAI) and isolated artifact forms for all archaeological resources encountered during survey;
- Completion of a detailed management summary;
- Completion of a Phase I survey report and all other project documentation following the Ohio Historic Preservation Office (OHPO) format; and
- Development of archaeological resource management recommendations, as appropriate.

All work under this task order was conducted in compliance with Sections 110 and 106 of the NHPA and its implementing regulations (36 CFR 800). All research, data analysis, and reporting associated with this project conforms to the standards and guidance set forth in *Archaeology Guidelines* (1994), developed by the Ohio Historic Preservation Office.

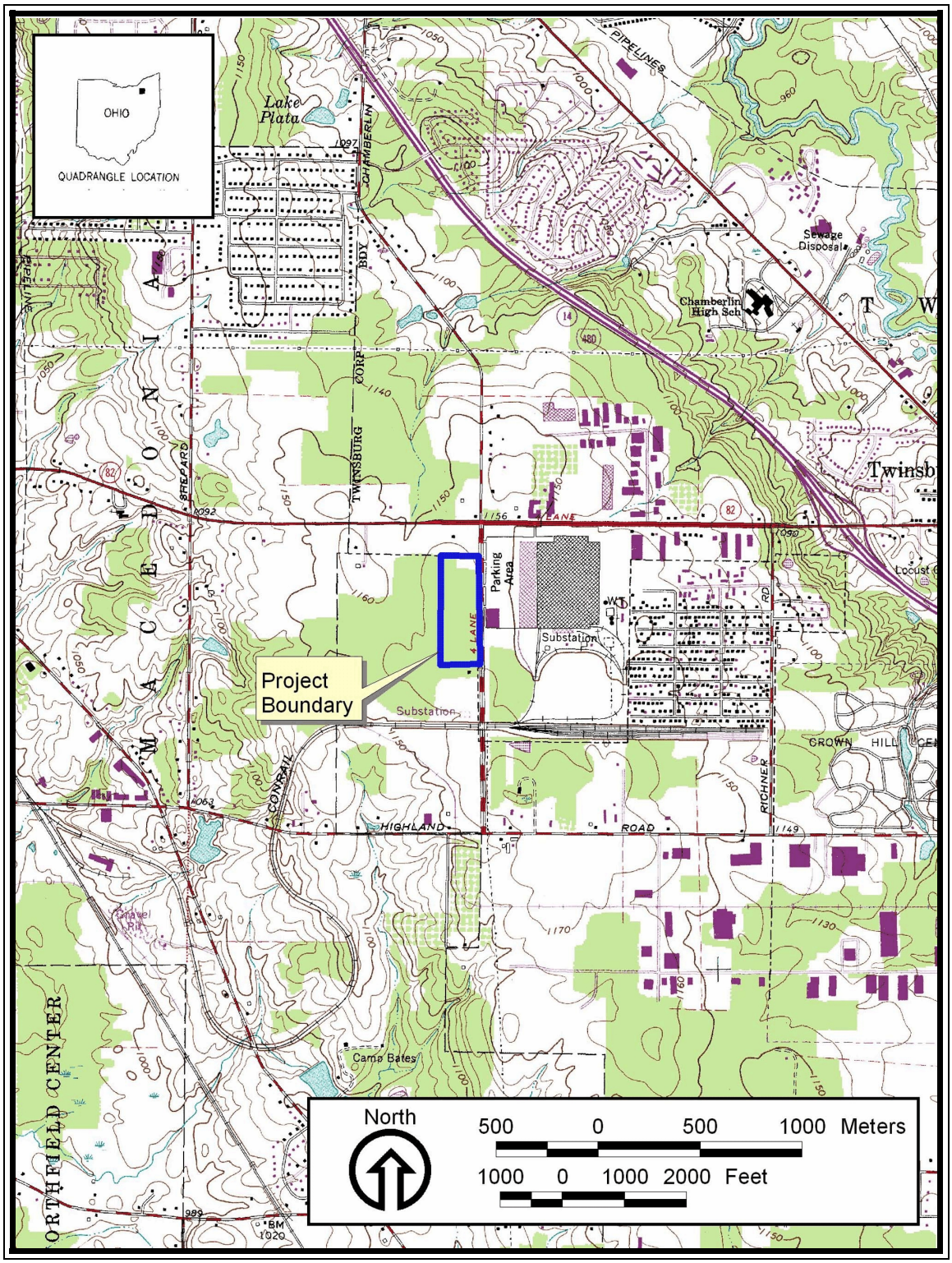


Figure 1. Location of Twinsburg project tract (USGS 7.5 minute *Twinsburg, OH* quadrangle).

In December 2003, the Principal Investigator (PI) conducted background research at the Ohio State Historic Preservation Office (OHPO), the Ohio Department of Natural Resources (ODNR), and the Ohio Historical Society State Library and Archives (OHS) in Columbus, Ohio. No previously recorded archaeological sites are present within the project tract or within an approximately 2-mile radius. One previously recorded architectural resource (SUM162402) is located approximately ½ mile south of the tract on Highland Road, on the opposite site of a substation and a railroad.

Historical research resulted in recovery of a series of maps documenting property ownership from the middle nineteenth century through the early twentieth century. In the middle 1850s, the tract (located in the NE 1/4 of Section 3, IM, Township 5N, Range 10E) was part of a larger property owned by Deacon Junia North, a prominent resident of Twinsburg who moved to the area from Litchfield, Connecticut in 1824. By the early 1870s, the property had passed to his son-in-law, Nathaniel H. Reed. The first map to show a structure on the property was made in 1891, during Nathaniel Reed's tenure. This building is shown in the vicinity of a demolition debris dump in the northeast corner of the tract (see below). Reed probably owned the property until just prior to his death in 1907, when his son, Henry Reed became the owner. No structure is shown on the property on the 1905 atlas map, the 1908 USGS quadrangle (1/62500 scale), or the current USGS quad (see Figure 1). This ownership sequence will be more fully examined in the report.

The PI conducted a field visit to the project tract with Mr. David Snyder (OHPO Staff Archaeologist) and Mr. Ernie Seckinger (Mobile District Archaeologist) on 4 December 2003. During this visit, we noted the presence of a previously unrecorded farm complex, to the west of the project tract, in adjacent Longwood Park. This complex consists of several apparently agricultural outbuildings and a large brick house. Existing signs and subsequent research identified the house as Longwood, constructed ca. 1924 by Colonel William Frew Long. The current setting includes a soccer field and picnic areas, as well as a dense forest buffer between this complex and the project tract.

The tract is located within the Killbuck-Glaciated Pittsburgh Plateaus of the Glaciated Allegheny Pleateaus. According to *Physiographic Regions of Ohio* by C. Scott Brockman (1998), this area consists of

> Plateaus and flat ridges generally above 1200', covered with thin drift and dissected by steep valleys; valley segments alternate between broad drift-filled and narrow rock-walled reaches. [Elevations range between] 600'-1505', [with] moderate relief (200').

The tract is on a flat ridge top (approximately 1160' above mean sea level). During the December field visit, ground surface conditions on the western portion of the tract were examined and observers noted waterlogged soils (with scattered areas of standing water) and mature hardwoods with broad-based (wetland tolerant) root systems within the tract. Observers discussed potential for recent changes in drainage patterns, possibly caused by construction of the extensive Daimler-Chrysler plant (constructed in 1957 on the tract immediately east of the project tract, across Chamberlin Road) and an associated railroad siding (extending west to east approximately 0.15 miles south of the project tract). Map analysis and subsequent reconnaissance indicate that drainage of the ridge top project tract is to the north (toward Tinker's Creek) and to the south, southwest (to Brandywine Creek). We found no drainage impediments to the north, and the nearly level railroad grade to the south does not appear to inhibit runoff. Construction of the extensive Daimler-Chrysler plant and its paved parking area also does not appear to have had a significant effect on tract drainage.

According to the 1974 county soil survey, soils within the survey tract fall within the Mahoning-Ellsworth soil association, considered nearly level to gently sloping and somewhat poorly drained, with slow runoff and potential for seasonal ponding. These soils were formed in the silty clay loam of Wisconsin glacial till. Specifically, the tract is covered in Mahoning (0-2% slope) silt loam with a small area of associated Trumbull silt loam along its western edge. Mahoning silt loam occurs in areas between drainageways. In these soils, seasonal wetness is considered to be a severe limitation for cultivated crops and for nonagricultural use. Trumbull soils, usually found in association with Mahoning soils, are also silt loams (or silty clay loam in plow zones), with an even greater tendency for slow runoff and ponding during wet seasons. In general, these soil types are saturated in the winter and spring, unless drained artificially, due to slow permeability of the glacial till subsoil. Typical vegetation in wooded areas of Mahoning silt loam consists of wetland oaks (red oak, black oak), upland poplars, tulip poplars, white ash, sugar maple, red maple, and

white pine. Trumbull silt loam supports the same species, with the addition of sweet gum, pin oak, and sycamore.

In May 2004, archaeologists conducted an intensive surface and subsurface survey of the proposed Twinsburg USARC tract. The crew consisted of the PI/Field Director and three technicians. Survey methods consisted of 15 meter interval coverage of the entire tract. Survey transects were aligned parallel with Chamberlin Road, at approximately eight degrees west of north. The tract required seven transects with an average of 35 shovel test/surface observation points per transect (total of 251 points) for complete, systematic coverage. Transects were paired (i.e., Transects 1 and 2 heading grid south, Transects 3 and 4 heading grid north, etc.) and were covered by teams of two investigators. Survey coverage of the tract required three crewdays.

Shovel test units (50 by 50 cm) across the majority of the tract encountered shallow soils that varied from saturated to extremely poorly drained. Soil consisted of 5 to 15 cm of dark grayish brown silty loam (Ap, plow zone) over light brownish gray to grayish brown silty loam subsoil (B1 to B21tg). Nearly all of the shovel test units began to fill with water during or immediately after excavation. In areas of standing water (30-35% of the tract), surface conditions were noted in field notebooks. Field notes and photographs (film and digital) recorded conditions across the tract. With the exception of a large, recent, demolition-debris dump noted in the northeast corner of the tract (cleared area in Figure 1), no cultural materials were recovered or observed during the survey.

Phase I archaeological survey of the 24-acre Twinsburg project tract found no archaeological sites. Based on results of our intensive background research and field survey, we recommend cultural resources clearance for the proposed Twinsburg USARC tract. We found no evidence of significant archaeological deposits within the tract boundaries and conditions indicate that potential for the presence of such deposits is extremely poor. Our full report will provide detailed documentation of our investigation methods and results, including relevant natural and cultural (prehistoric and historic) context for the tract.

Warrensville Heights, Ohio
2nd LT William S. Huisman USARC

Identification Information:	Identification Number: OH066/39857 2LT William S. Huisman USARC 25445 Harvard Road, Warrensville Heights, Cuyahoga County, Ohio 44122-6201 Telephone Number: (216) 464-7045 Shaker Heights Quadrangle, Ohio, USGS 7.5 Minute Series, T7N R11W[1] (Figure 524) UTM: Z17, 458282E, 4589024N Present Owner/Occupant: The facility is owned by the United States Government and controlled by the 88th RSC.
Setting and Landscape:	The 2LT William S. Huisman USARC consists of three buildings located on ten acres of land (C4090) in a residential/commercial area of Warrensville Heights, Ohio (Figure 525). The facility is landscaped with grass, trees, and shrubs.
Archaeological Resources:	An archaeological records search at the Ohio State Historic Preservation Office determined that there are no known archaeological sites located within a one-mile radius of the 2LT William S. Huisman USARC.
Historical Information:	The 2LT William S. Huisman USARC was constructed in 1963.[2] The 88th RSC assumed control of the facility in 1996.[3] There appear to have been no significant additions or alterations to the buildings since their original construction.
Security:	Security measures at the 2LT William S. Huisman USARC include chain-link fencing topped with barbed wire surrounding the a military vehicle parking area and the south, east, and west sides of the Organizational Maintenance Shop. High intensity lighting is also present to illuminate the military and civilian vehicle parking areas.

Architectural Information:	The 2LT William S. Huisman USARC consists of two concrete block buildings with red brick veneers, and a red brick building. The buildings do not appear to exhibit historical or architectural character or merit that significantly contributes to the historic context of the period associated with their construction.
Building Descriptions:	**Reserve Center** (C4076) The Reserve Center functions as an administrative office and drill hall for the 2LT William S. Huisman USARC. Constructed in 1963[4], it is a multiple-level irregular-shaped building consisting of a one-story administration section, two two-story administration sections, and a two-story drill hall connected with an enclosed corridor. The Reserve Center rests upon a concrete foundation with concrete block walls and a red brick veneer. A recessed entrance containing a pair of glass pedestrian doors with two light sidelights and single light transom lead into a foyer on the south wall of the building (Figure 526). A concrete and metal awning covers the entry. Two additional recessed entrances with pairs of metal pedestrian doors with three light central windows and a single light transom are located on the north and west walls (Figure 527). Metal pedestrian doors are located on the north and east sides of the building. A metal overhead retractable bay door is located on the east wall (Figure 528). A series of one-over-three light fixed and awning windows with plain slip concrete sills, three-over three fixed and awning windows with plain slip concrete sills, and three-over-four light fixed and awning windows with concrete slip sills are located around the perimeter of the building (Figures 529 & 530). An external chimney with a concrete cap is attached to the north wall. A low-pitched gable roof covers the south end of the building, and a flat roof covers other building sections (Figure 531). **Organizational Maintenance Shop** (C4077) The Organizational Maintenance Shop functions as a vehicle maintenance facility for the 2LT William S. Huisman USARC. Constructed in 1963[5], is a one-story rectangular building that rests upon a concrete foundation with concrete block walls and a red brick veneer. Five metal overhead retractable bay doors with metal panel lintels are located on the south wall (Figure 532). Additional entrances include metal pedestrian doors located on the east and west sides of the building (Figure 533). A three-over-three light fixed and awning ribbon window with a continuous plain slip metal sill and a metal panel lintel is located near the roof eaves along the north wall (Figure 534). A moderate-pitch gable roof covers the structure (Figure 535).

	Utility Building (OH066/39857) The Utility Building functions as a storage facility for mechanical equipment used by electrical and water systems serving the 2LT William S. Huisman USARC. Constructed in 1963[6], it is a half-story square building that rests upon a concrete foundation with concrete block walls and a red brick façade (Figure 536). A pair of metal pedestrian doors is located on the west side of the building. A low-pitch shed roof with an overhanging eaves covers the structure (Figure 537).
Eligibility:	None of the buildings located at the 2LT William S. Huisman USARC meet the criteria for the National Register of Historic Places (NRHP), under Criterion A, B, C, or D, and thus are not recommended for nomination to the NRHP. A documentary and architectural investigation conducted at the facility determined there is no direct relationship between the facility and prehistoric or historic events in the Warrensville Heights area (criterion A), there is no association with significant persons involved in prehistoric or historic events (criterion B), buildings on the facility are not architecturally or technologically significant (criterion C), and the facility is unlikely to hold future research potential (criterion D).
Recommendations:	No additional review under Section 110 is recommended until the existing buildings at the 2LT William S. Huisman USARC reach the 50 year eligibility requirement for the NRHP in 2013, or unless specific undertakings require compliance with Section 106 of the National Historic Preservation Act (36 CFR 800).
Sources:	"Annual Utilization Survey-USAR Real Estate Authority: 2LT William Samuel Huisman." 83rd RSC Real Estate Division. 6 Mar 1989. "Chagrin Falls Quadrangle." USGS 7.5 Minute Series Map. Reston, Virginia: United States Geological Survey. "Environmental Audit of Huisman U.S. Army Reserve Center." Lexington, Kentucky: Howard K. Bell, Consulting Engineers, Inc. 1991. "Shaker Heights Quadrangle." USGS 7.5 Minute Series Quadrangle Map. Reston, Virginia: United States Geological Survey. 1963, photorevised 1979.

"Transfer and Acceptance of Military Real Property." 88th RSC DSCEN Real Estate Division. Fort Snelling, Minnesota.

Notes:

[1] "Shaker Heights Quadrangle," USGS 7.5 Minute Series Quadrangle Map, (Reston, Virginia: United States Geological Survey), 1963, photorevised 1979. The Shaker Heights Quadrangle is not delineated with Township and Range section lines because the "entire area lies within the Connecticut Western Reserve."

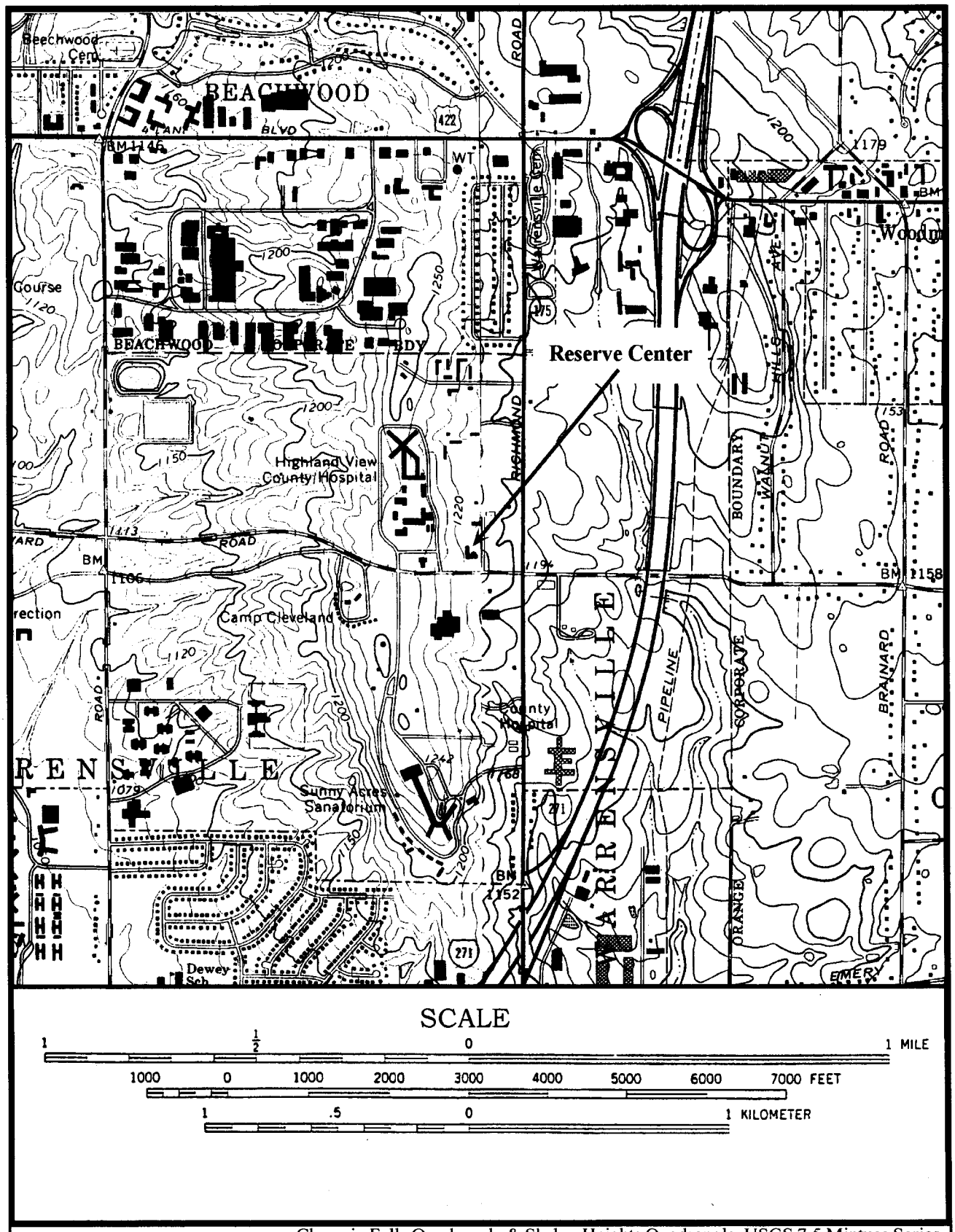
[2] "Annual Utilization Survey-USAR Real Estate Authority: 2LT William Samuel Huisman," 83rd RSC Real Estate Division, 6 Mar 1989, p. 1. A copy of this report is on file at the 88th RSC DSCEN Real Estate Division Office, Fort Snelling, Minnesota.

[3] "Transfer and Acceptance of Military Real Property," 88th RSC DSCEN Real Estate Division, Fort Snelling, Minnesota. A copy of this document is located in files maintained at the 88th RSC Real Estate Division Office, Fort Snelling, Minnesota.

[4] Ibid.

[5] Ibid.

[6] Ibid.



Chargrin Falls Quadrangle & Shaker Heights Quadrangle, USGS 7.5 Mintues Series

Figure 524. Location of the 2LT William S. Huisman USARC.

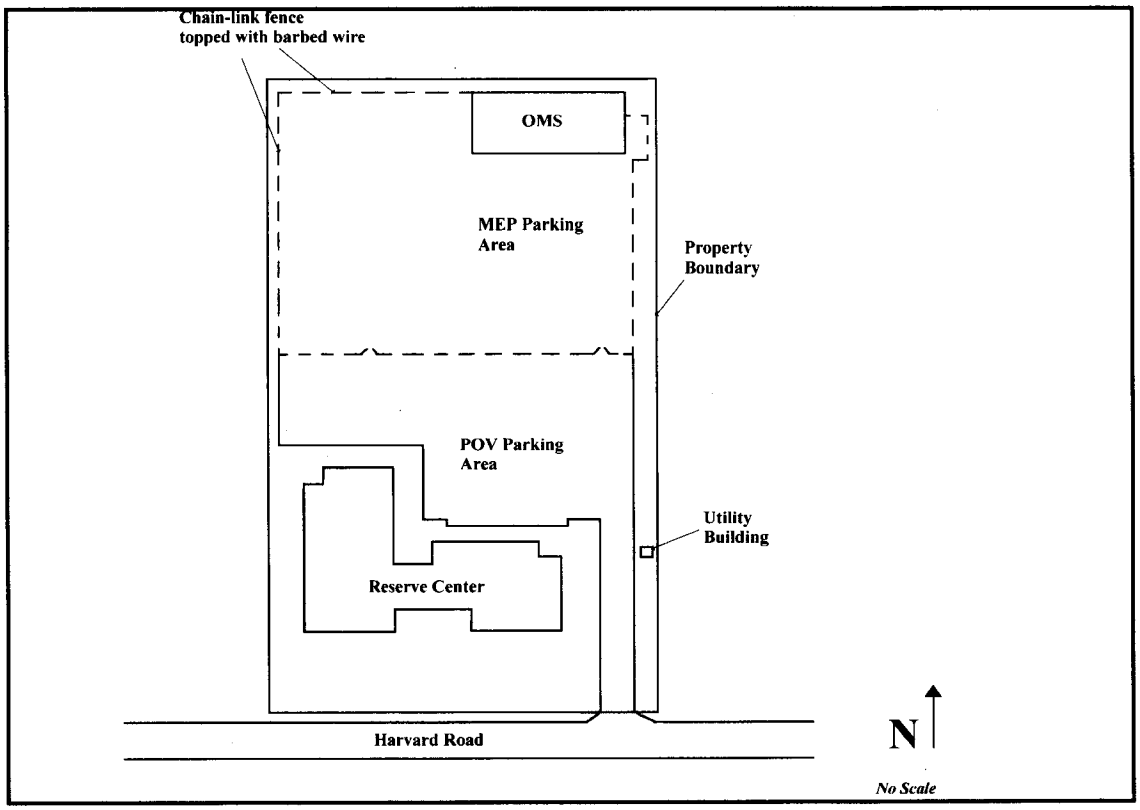


Figure 525. Map of the 2LT William S. Huisman USARC (map modified from "Environmental Audit of Huisman U.S. Amry Reserve Center," Howard K. Bell, Consulting Engineers, Inc., Attachment No. 1).

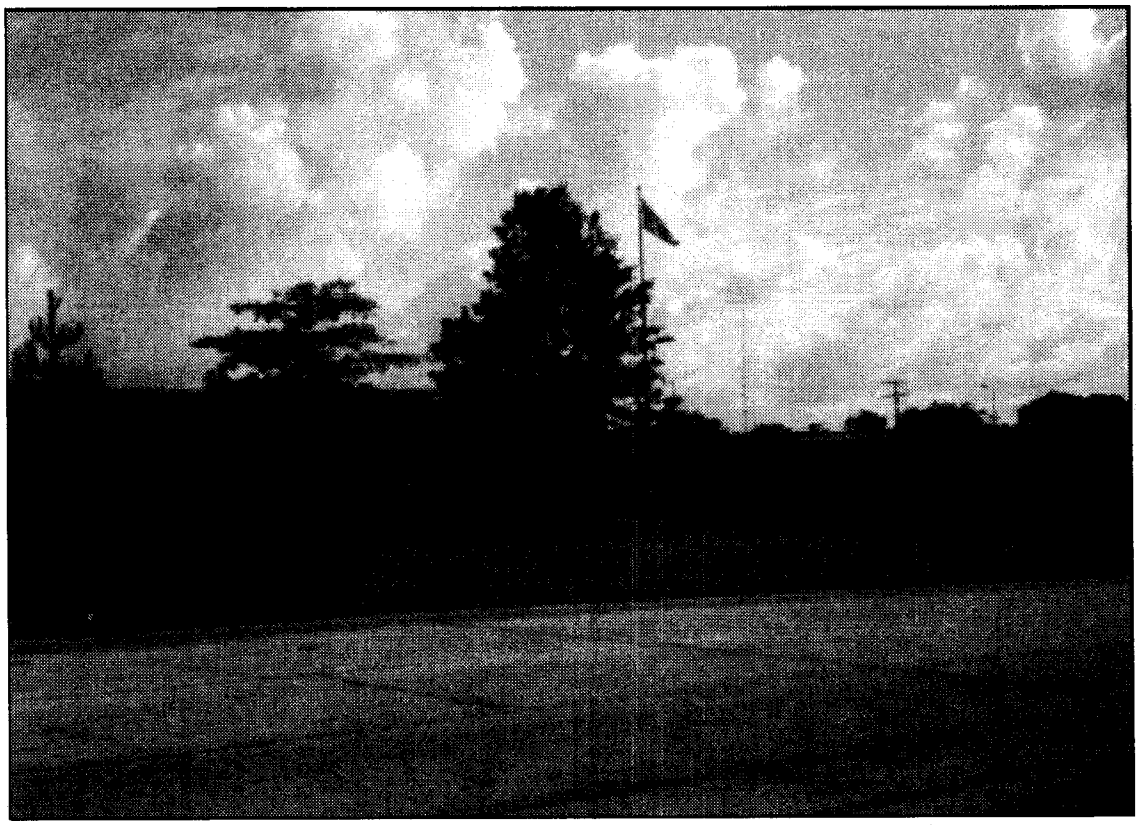


Figure 526. 2LT William S. Huisman USARC Reserve Center, facing northeast.

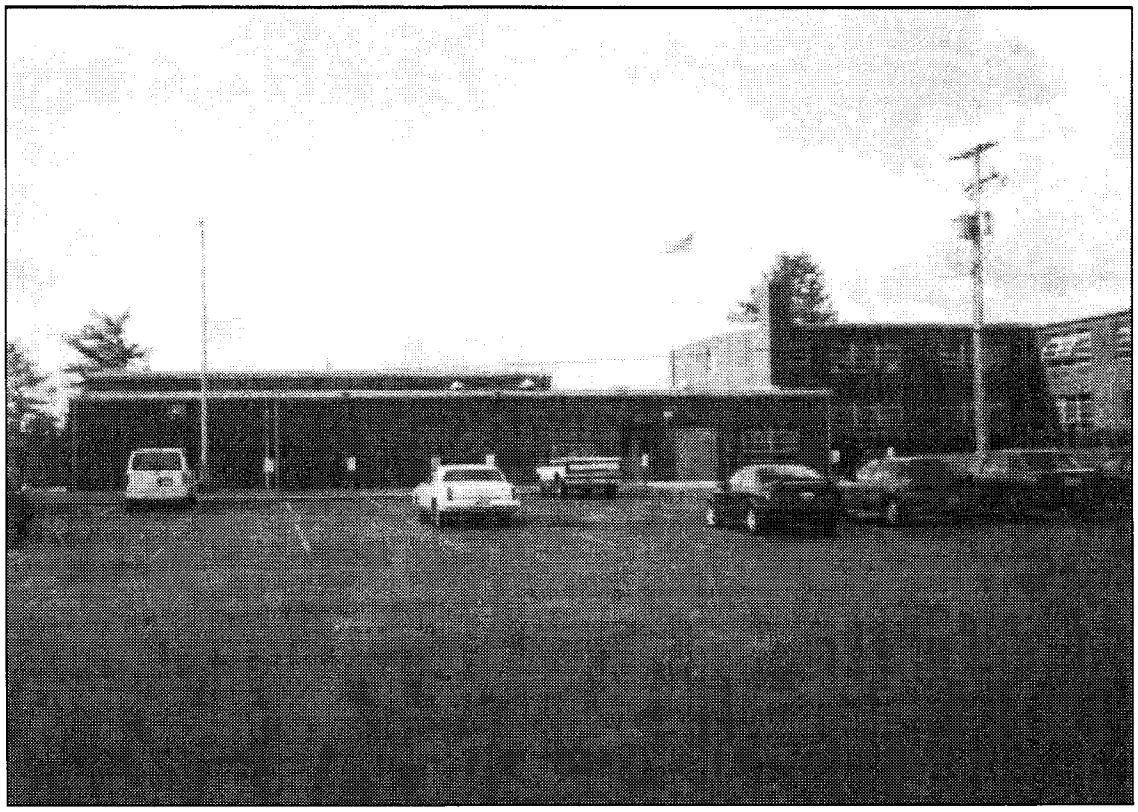


Figure 527. 2LT William S. Huisman USARC Reserve Center, facing southwest.

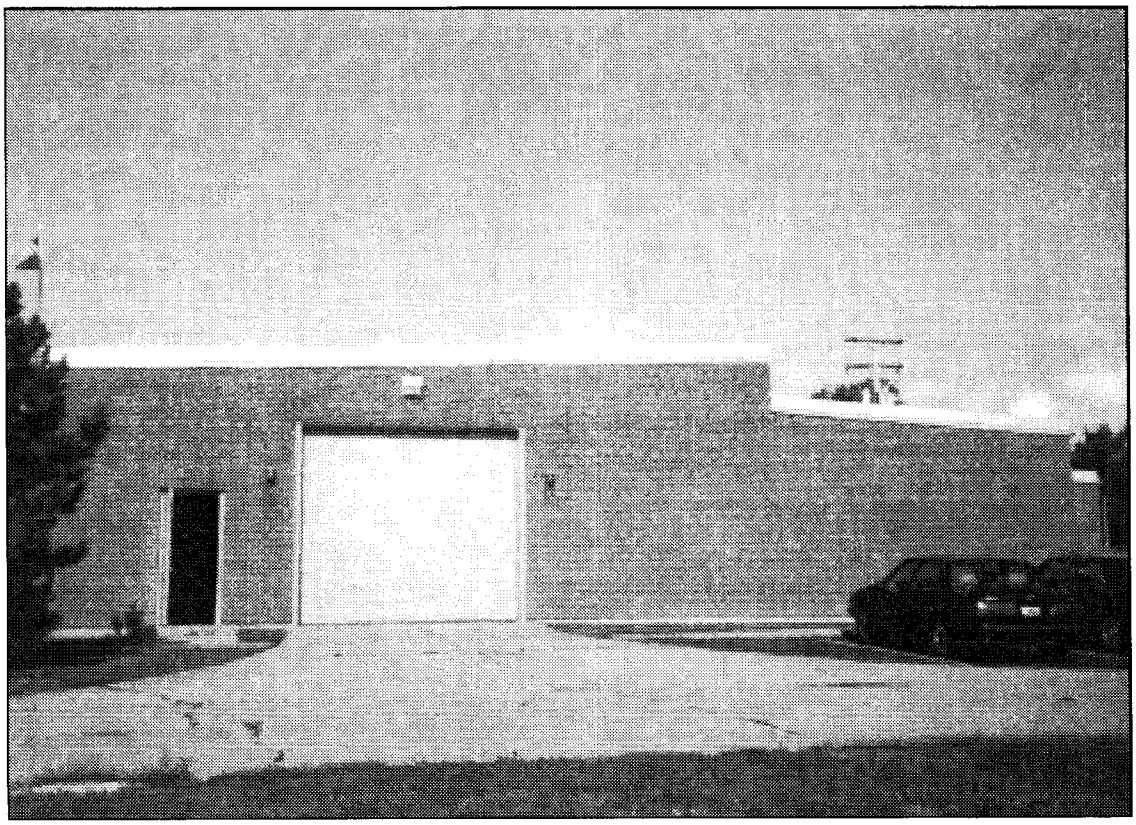


Figure 528. 2LT William S. Huisman USARC Reserve Center, facing west (south section).

Figure 529. 2LT William S. Huisman USARC Reserve Center, facing northeast.

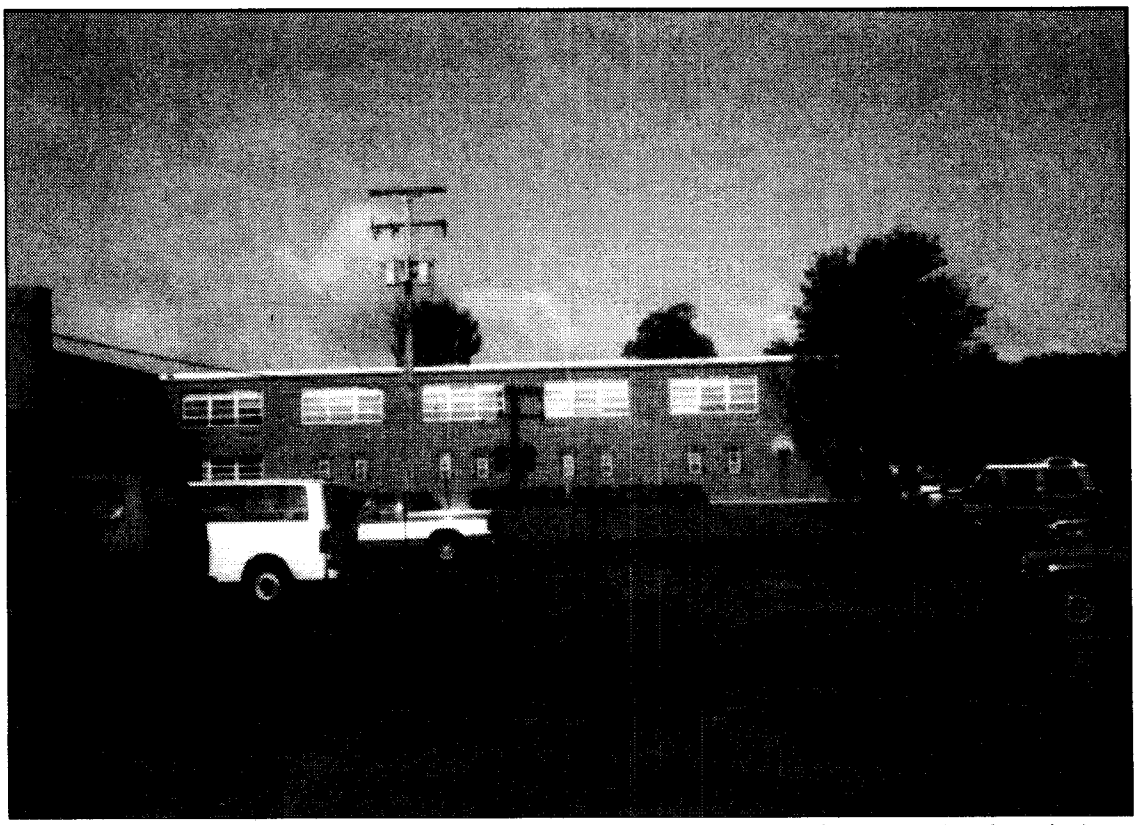


Figure 530. 2LT William S. Huisman USARC Reserve Center, facing west (north section).

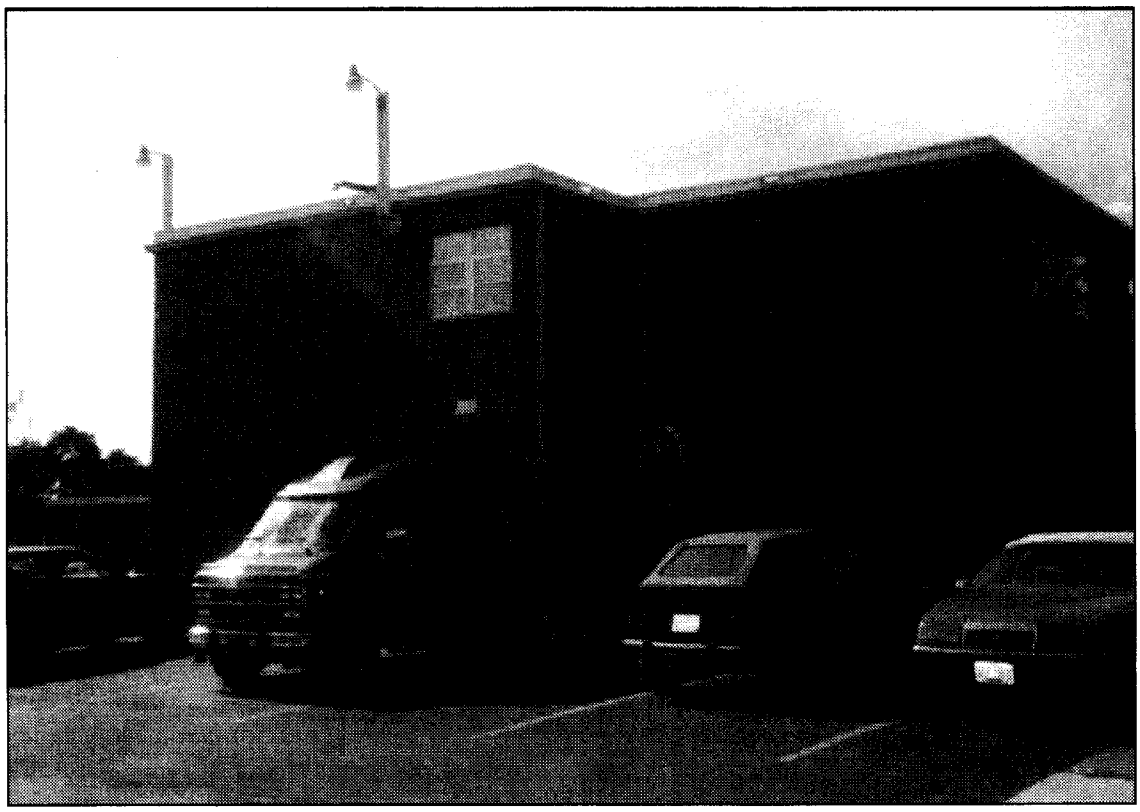


Figure 531. 2LT William S. Huisman USARC Reserve Center, facing southeast.

Figure 532. 2LT William S. Huisman USARC Organizational Maintenance Shop, facing northeast.

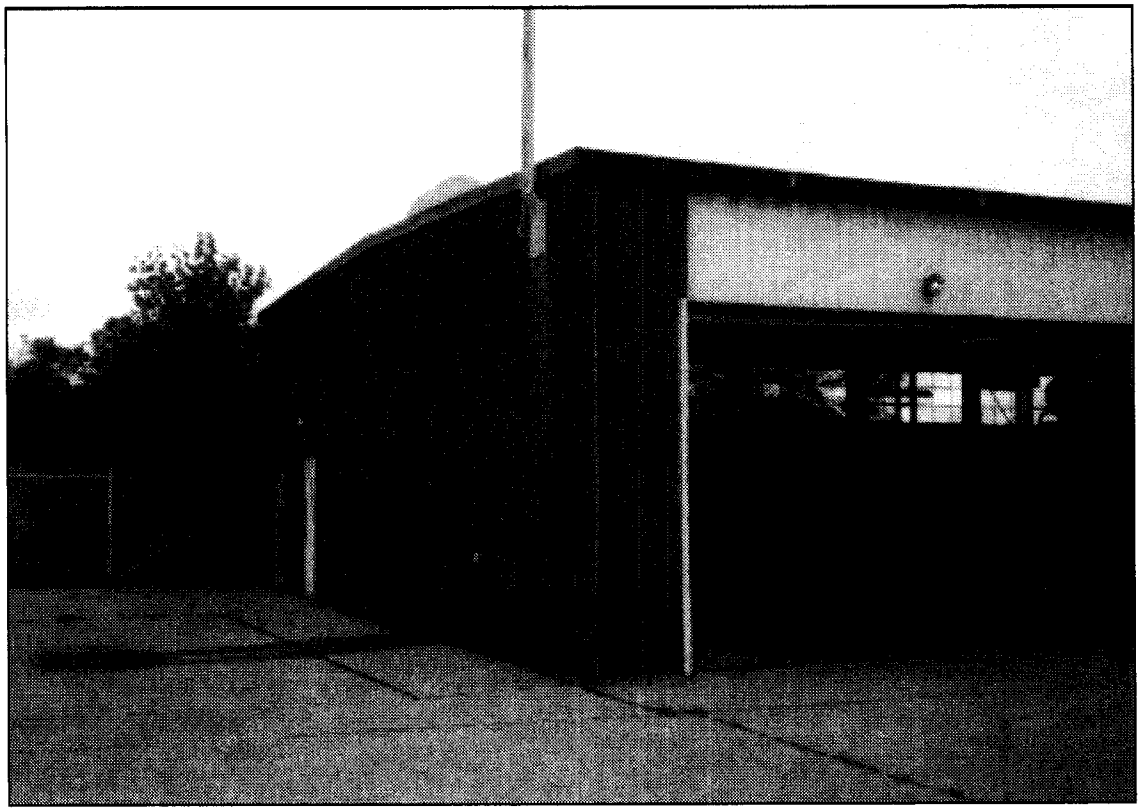


Figure 533. 2LT William S. Huisman USARC Organizational Maintenance Shop, facing northeast.

Figure 534. 2LT William S. Huisman USARC Organizational Maintenance Shop, facing southwest.

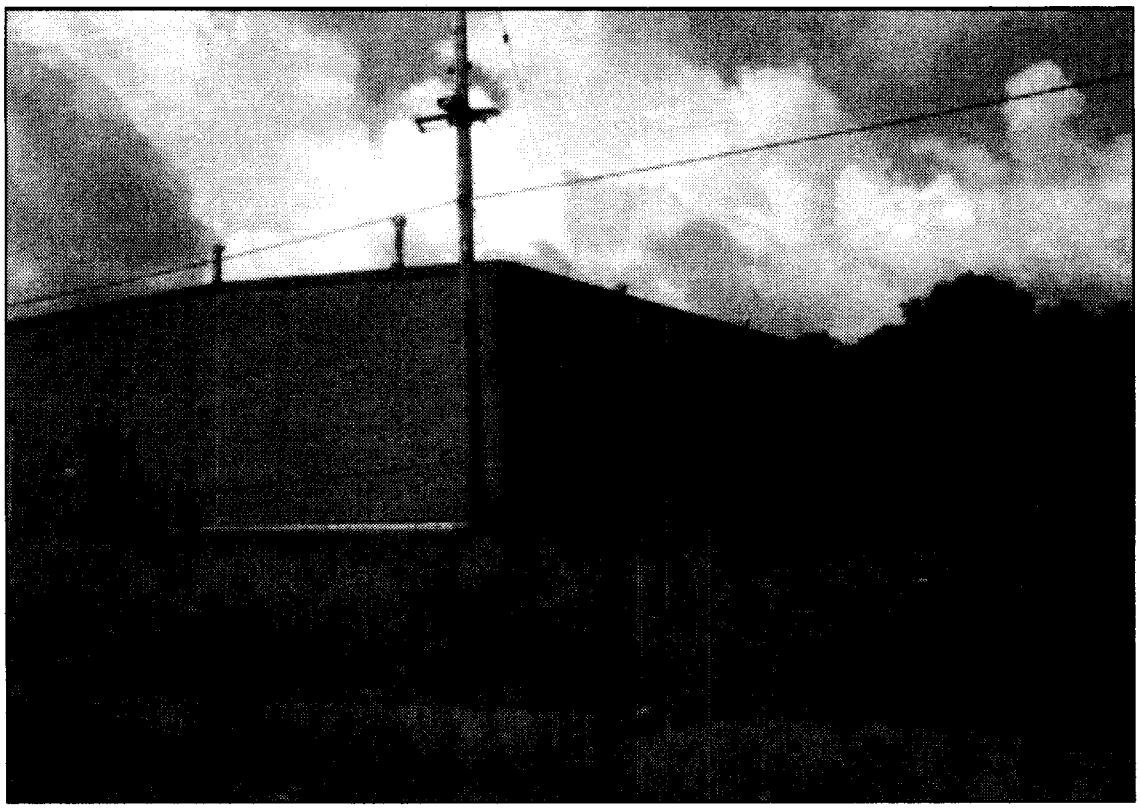


Figure 535. 2LT William S. Huisman USARC Organizational Maintenance Shop, facing southeast.

Figure 536. 2LT William S. Huisman USARC Utility Building, facing southeast.

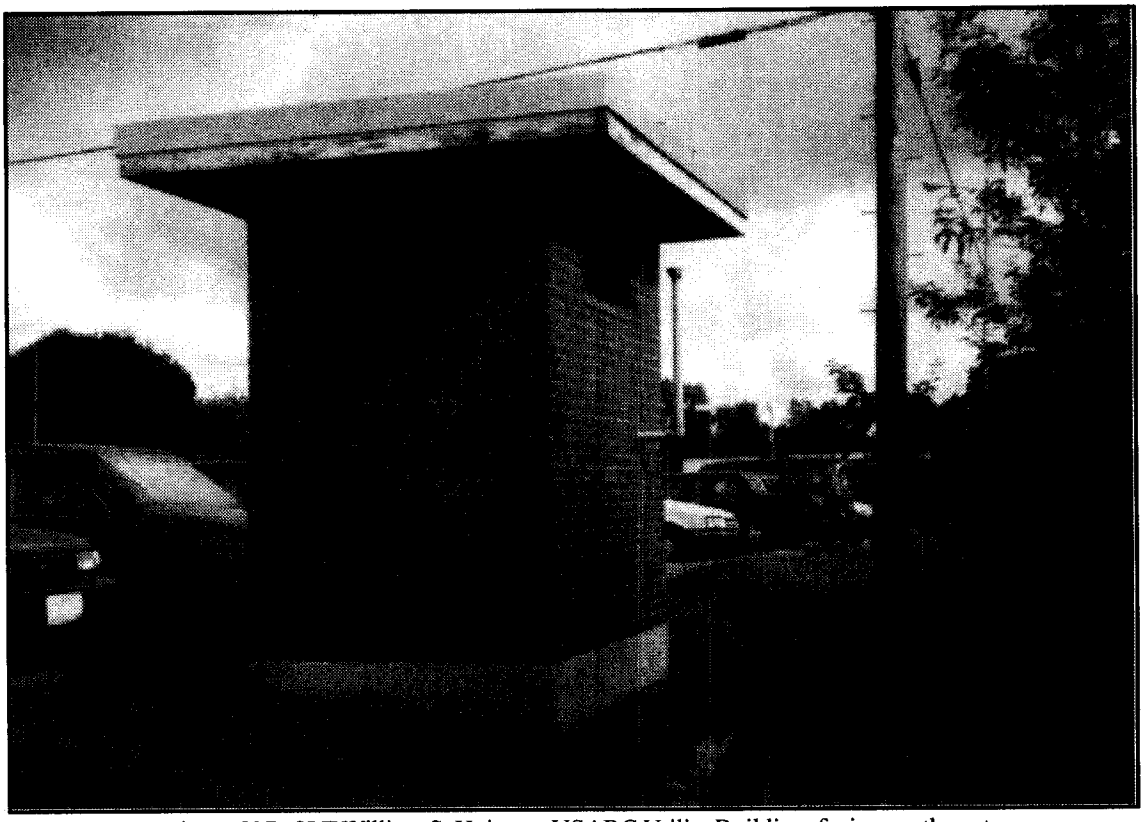


Figure 537. 2LT William S. Huisman USARC Utility Building, facing northwest.

DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL READINESS COMMAND
506 ROEDER CIRCLE
FORT SNELLING, MINNESOTA 55111-4009

REPLY TO
ATTENTION OF:

March 19, 2004

Deputy Chief of Staff Engineer

Seneca-Cayuga Tribe of Oklahoma
Attn: Mr. LeRoy Howard
P.O. Box 1283
Miami, OK 74355

Dear Chief Howard:

I am writing to inform you that the 88th Regional Readiness Command (RRC) is proposing the transfer of real property at Warrensville Heights, Summit County, Ohio, (to include 4.65 acres of land and associated facilities) currently owned by the U.S. Army Reserve to a private company in exchange for the acquisition of approximately 24 acres of undeveloped land in Twinsburg, Cuyahoga County, Ohio. The Warrensville Heights Reserve Center is located at 25445 Harvard Road, Warrensville Heights, OH, 44122. The Twinsburg property is located at Chamberlin Road south of Aurora Road (State Route 82). The property abuts the City of Macedonia park.

The U. S. Army Reserve plans to construct a U. S. Army Reserve Center (USARC), an Organizational Maintenance Shop (OMS), and associated parking infrastructure on the Twinsburg site. Construction of the new facility would involve the transfer of personnel from existing Warrensville Heights facility and would include the closing of that facility. We have determined that the area of potential effects (APE) for the undertaking at Twinsburg is as shown on the enclosed site plan. An archaeological survey will be completed at the Twinsburg property in May 2004.

Also, enclosed is a copy of our study of historic structures for the Warrensville Heights property that was conducted on our behalf by the Fort McCoy Archaeology Laboratory in 1997. The APE does not contain any known historic or archaeological resources. According to the National Register of Historic Places, no historic properties or archaeological sites are known to exist near the APE.

Please accept this correspondence as notification, as required by The National Historic Preservation Act of 1966 (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. Per the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed construction.

DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL READINESS COMMAND
506 ROEDER CIRCLE
FORT SNELLING, MINNESOTA 55111-4009

REPLY TO
ATTENTION OF:

March 19, 2004

Deputy Chief of Staff Engineer

Seneca Nation of Indians
Attn: Mr. Cyrus Schindler
1490-Rte. 438
Irving, NY 14081

Dear President Schindler:

I am writing to inform you that the 88th Regional Readiness Command (RRC) is proposing the transfer of real property at Warrensville Heights, Summit County, Ohio, (to include 4.65 acres of land and associated facilities) currently owned by the U.S. Army Reserve to a private company in exchange for the acquisition of approximately 24 acres of undeveloped land in Twinsburg, Cuyahoga County, Ohio. The Warrensville Heights Reserve Center is located at 25445 Harvard Road, Warrensville Heights, OH, 44122. The Twinsburg property is located at Chamberlin Road south of Aurora Road (State Route 82). The property abuts the City of Macedonia park.

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL READINESS COMMAND
506 ROEDER CIRCLE
FORT SNELLING, MINNESOTA 55111-4009

REPLY TO ATTENTION OF:

March 19, 2004

Deputy Chief of Staff Engineer

Ottawa Tribe of Oklahoma
Attn: Mr. Charles Todd
P.O. Box 110
Miami, OK 74355

Dear Chief Todd:

I am writing to inform you that the 88th Regional Readiness Command (RRC) is proposing the transfer of real property at Warrensville Heights, Summit County, Ohio, (to include 4.65 acres of land and associated facilities) currently owned by the U.S. Army Reserve to a private company in exchange for the acquisition of approximately 24 acres of undeveloped land in Twinsburg, Cuyahoga County, Ohio. The Warrensville Heights Reserve Center is located at 25445 Harvard Road, Warrensville Heights, OH, 44122. The Twinsburg property is located at Chamberlin Road south of Aurora Road (State Route 82). The property abuts the City of Macedonia park.

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL READINESS COMMAND
506 ROEDER CIRCLE
FORT SNELLING, MINNESOTA 55111-4009

REPLY TO ATTENTION OF:

March 19, 2004

Deputy Chief of Staff Engineer

Miami Tribe of Oklahoma
Attn: Mr. Floyd Leonard
P.O. Box 1326
Miami, OK 74355

Dear Chief Leonard:

I am writing to inform you that the 88th Regional Readiness Command (RRC) is proposing the transfer of real property at Warrensville Heights, Summit County, Ohio, (to include 4.65 acres of land and associated facilities) currently owned by the U.S. Army Reserve to a private company in exchange for the acquisition of approximately 24 acres of undeveloped land in Twinsburg, Cuyahoga County, Ohio. The Warrensville Heights Reserve Center is located at 25445 Harvard Road, Warrensville Heights, OH, 44122. The Twinsburg property is located at Chamberlin Road south of Aurora Road (State Route 82). The property abuts the City of Macedonia park.

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL READINESS COMMAND
506 ROEDER CIRCLE
FORT SNELLING, MINNESOTA 55111-4009

REPLY TO ATTENTION OF:

March 19, 2004

Deputy Chief of Staff Engineer

Forest County Potawatomi Community of Wisconsin
Attn: Mr. Harold Frank
P.O. Box 340
Crandon, WI 54520

Dear Chairman Frank:

I am writing to inform you that the 88th Regional Readiness Command (RRC) is proposing the transfer of real property at Warrensville Heights, Summit County, Ohio, (to include 4.65 acres of land and associated facilities) currently owned by the U.S. Army Reserve to a private company in exchange for the acquisition of approximately 24 acres of undeveloped land in Twinsburg, Cuyahoga County, Ohio. The Warrensville Heights Reserve Center is located at 25445 Harvard Road, Warrensville Heights, OH, 44122. The Twinsburg property is located at Chamberlin Road south of Aurora Road (State Route 82). The property abuts the City of Macedonia park.

The U. S. Army Reserve plans to construct a U. S. Army Reserve Center (USARC), an Organizational Maintenance Shop (OMS), and associated parking infrastructure on the Twinsburg site. Construction of the new facility would involve the transfer of personnel from existing Warrensville Heights facility and would include the closing of that facility. We have determined that the area of potential effects (APE) for the undertaking at Twinsburg is as shown on the enclosed site plan. An archaeological survey will be completed at the Twinsburg property in May 2004.

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL READINESS COMMAND
506 ROEDER CIRCLE
FORT SNELLING, MINNESOTA 55111-4009

REPLY TO ATTENTION OF:

March 19, 2004

Deputy Chief of Staff Engineer

Eastern Shawnee Tribe of Oklahoma
Attn: Mr. Charles D. Enyart
P.O. Box 350
Seneca, MO 64865

Dear Chief Enyart:

I am writing to inform you that the 88th Regional Readiness Command (RRC) is proposing the transfer of real property at Warrensville Heights, Summit County, Ohio, (to include 4.65 acres of land and associated facilities) currently owned by the U.S. Army Reserve to a private company in exchange for the acquisition of approximately 24 acres of undeveloped land in Twinsburg, Cuyahoga County, Ohio. The Warrensville Heights Reserve Center is located at 25445 Harvard Road, Warrensville Heights, OH, 44122. The Twinsburg property is located at Chamberlin Road south of Aurora Road (State Route 82). The property abuts the City of Macedonia park.

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL READINESS COMMAND
506 ROEDER CIRCLE
FORT SNELLING, MINNESOTA 55111-4009

REPLY TO ATTENTION OF:

March 19, 2004

Deputy Chief of Staff Engineer

Eastern Band of Cherokee Indians
Attn: Mr. Leon Jones
P.O. Box 455
Cherokee, NC 28719

Dear Principle Chief Jones:

I am writing to inform you that the 88th Regional Readiness Command (RRC) is proposing the transfer of real property at Warrensville Heights, Summit County, Ohio, (to include 4.65 acres of land and associated facilities) currently owned by the U.S. Army Reserve to a private company in exchange for the acquisition of approximately 24 acres of undeveloped land in Twinsburg, Cuyahoga County, Ohio. The Warrensville Heights Reserve Center is located at 25445 Harvard Road, Warrensville Heights, OH, 44122. The Twinsburg property is located at Chamberlin Road south of Aurora Road (State Route 82). The property abuts the City of Macedonia park.

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL READINESS COMMAND
506 ROEDER CIRCLE
FORT SNELLING, MINNESOTA 55111-4009

REPLY TO ATTENTION OF:

March 19, 2004

Deputy Chief of Staff Engineer

Delaware Nation
Attn: Mr. Bruce Gonzalez
P.O. Box 825
Anadarko, OK 73005

Dear President Gonzalez:

I am writing to inform you that the 88th Regional Readiness Command (RRC) is proposing the transfer of real property at Warrensville Heights, Summit County, Ohio, (to include 4.65 acres of land and associated facilities) currently owned by the U.S. Army Reserve to a private company in exchange for the acquisition of approximately 24 acres of undeveloped land in Twinsburg, Cuyahoga County, Ohio. The Warrensville Heights Reserve Center is located at 25445 Harvard Road, Warrensville Heights, OH, 44122. The Twinsburg property is located at Chamberlin Road south of Aurora Road (State Route 82). The property abuts the City of Macedonia park.

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL READINESS COMMAND
506 ROEDER CIRCLE
FORT SNELLING, MINNESOTA 55111-4009

REPLY TO ATTENTION OF:

March 19, 2004

Deputy Chief of Staff Engineer

Cherokee Nation of Oklahoma
Attn: Mr. Chadwick Smith
P.O. Box 948
Tehlequah, OK 74820

Dear Principle Chief Smith:

I am writing to inform you that the 88th Regional Readiness Command (RRC) is proposing the transfer of real property at Warrensville Heights, Summit County, Ohio, (to include 4.65 acres of land and associated facilities) currently owned by the U.S. Army Reserve to a private company in exchange for the acquisition of approximately 24 acres of undeveloped land in Twinsburg, Cuyahoga County, Ohio. The Warrensville Heights Reserve Center is located at 25445 Harvard Road, Warrensville Heights, OH, 44122. The Twinsburg property is located at Chamberlin Road south of Aurora Road (State Route 82). The property abuts the City of Macedonia park.

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL READINESS COMMAND
506 ROEDER CIRCLE
FORT SNELLING, MINNESOTA 55111-4009

REPLY TO ATTENTION OF:

March 19, 2004

Deputy Chief of Staff Engineer

Hannahville Indian Community, Michigan
Attn: Mr. Kenneth Meshiguad
N14911 Hannahville B 1 Road
Wilson, MI 49896-9728

Dear Chairperson Meshiguad:

I am writing to inform you that the 88th Regional Readiness Command (RRC) is proposing the transfer of real property at Warrensville Heights, Summit County, Ohio, (to include 4.65 acres of land and associated facilities) currently owned by the U.S. Army Reserve to a private company in exchange for the acquisition of approximately 24 acres of undeveloped land in Twinsburg, Cuyahoga County, Ohio. The Warrensville Heights Reserve Center is located at 25445 Harvard Road, Warrensville Heights, OH, 44122. The Twinsburg property is located at Chamberlin Road south of Aurora Road (State Route 82). The property abuts the City of Macedonia park.

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL READINESS COMMAND
506 ROEDER CIRCLE
FORT SNELLING, MINNESOTA 55111-4009

REPLY TO ATTENTION OF:

March 19, 2004

Deputy Chief of Staff Engineer

Cayuga Nation of Indians
Attn: Mr. Vernon Isaac
P.O. Box 11
Versailles, NY 14168

Dear Chief Isaac:

I am writing to inform you that the 88th Regional Readiness Command (RRC) is proposing the transfer of real property at Warrensville Heights, Summit County, Ohio, (to include 4.65 acres of land and associated facilities) currently owned by the U.S. Army Reserve to a private company in exchange for the acquisition of approximately 24 acres of undeveloped land in Twinsburg, Cuyahoga County, Ohio. The Warrensville Heights Reserve Center is located at 25445 Harvard Road, Warrensville Heights, OH, 44122. The Twinsburg property is located at Chamberlin Road south of Aurora Road (State Route 82). The property abuts the City of Macedonia park.

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL READINESS COMMAND
506 ROEDER CIRCLE
FORT SNELLING, MINNESOTA 55111-4009

REPLY TO ATTENTION OF:

March 19, 2004

Deputy Chief of Staff Engineer

Absentee-Shawnee Tribe of Indians of Oklahoma
Attn: Mr. James "Lee" Edwards, Jr.
2025 South Gordon Cooper Drive
Shawnee, OK 74801-9381

Dear Governor Edwards:

I am writing to inform you that the 88th Regional Readiness Command (RRC) is proposing the transfer of real property at Warrensville Heights, Summit County, Ohio, (to include 4.65 acres of land and associated facilities) currently owned by the U.S. Army Reserve to a private company in exchange for the acquisition of approximately 24 acres of undeveloped land in Twinsburg, Cuyahoga County, Ohio. The Warrensville Heights Reserve Center is located at 25445 Harvard Road, Warrensville Heights, OH, 44122. The Twinsburg property is located at Chamberlin Road south of Aurora Road (State Route 82). The property abuts the City of Macedonia park.

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HEADQUARTERS, 88TH REGIONAL READINESS COMMAND
506 ROEDER CIRCLE
FORT SNELLING, MINNESOTA 55111-4009

REPLY TO ATTENTION OF:

March 19, 2004

Deputy Chief of Staff Engineer

Wyandotte Tribe of Oklahoma
Attn: Mr. Leaford Bearskin
P.O. Box 250
Wyandotte, OK 74370

Dear Chief Bearskin:

I am writing to inform you that the 88th Regional Readiness Command (RRC) is proposing the transfer of real property at Warrensville Heights, Summit County, Ohio, (to include 4.65 acres of land and associated facilities) currently owned by the U.S. Army Reserve to a private company in exchange for the acquisition of approximately 24 acres of undeveloped land in Twinsburg, Cuyahoga County, Ohio. The Warrensville Heights Reserve Center is located at 25445 Harvard Road, Warrensville Heights, OH, 44122. The Twinsburg property is located at Chamberlin Road south of Aurora Road (State Route 82). The property abuts the City of Macedonia park.

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If the 88th RRC activities were to impact cultural resources not previously identified, we will immediately proceed to inform you of the discovery and to invite you to assist the 88th RRC in the development of procedures for minimizing adverse impacts to the newly discovered cultural resources.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in Ohio to invite them to consult with us on this issue.

I look forward to working with you or your designated representative. If we do not hear from your office within 30 days, we intend to proceed with this project. If you have any questions about this project, or require additional assistance, please contact Ms. Carrie Schafer at (612) 713-3825 or by email at Carrie.Schafer@us.army.mil. Please address any correspondence to Ms. Schafer.

Sincerely,

James A. Lundell
Deputy for Management and Support

Enclosures

APPENDIX F

2004 ENVIRONMENTAL BASELINE SURVEY OF THE PROPOSED CONSTRUCTION SITE

DRAFT FINAL REPORT

ENVIRONMENTAL BASELINE SURVEY

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF EAST AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO 44087

Prepared For:

88th Regional Readiness Command
506 Roeder Circle
Fort Snelling, Minnesota 55111-4009

Prepared By:

U.S. Army Corps of Engineers – Louisville District
Engineering Division – Environmental Engineering Branch
600 Dr. Martin Luther King Jr. Place
Louisville, Kentucky 40202-2232

JUNE 2004

DRAFT FINAL REPORT

ENVIRONMENTAL BASELINE SURVEY

PROPOSED SITE FOR NEW U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF EAST AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO 44087

Prepared For:

88th Regional Readiness Command
506 Roeder Circle
Fort Snelling, Minnesota 55111-4009

Prepared By:

U.S. Army Corps of Engineers – Louisville District
Engineering Division – Environmental Engineering Branch
600 Dr. Martin Luther King, Jr. Place
Louisville, Kentucky 40202-2232

JUNE 2004

EXECUTIVE SUMMARY

The U.S. Army Corps of Engineers (USACE) Louisville District Engineering Division was authorized by the 88th Regional Readiness Command of the U.S. Army Reserve to conduct an environmental baseline survey (EBS) of a parcel of land ("Site") located along the west side of Chamberlin Road, just south of East Aurora Road, in Twinsburg, Summit County, Ohio. This EBS was developed in general conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Designation D6008-96, *Standard Practice for Conducting Environmental Baseline Surveys*, the ASTM Designation E1527-00, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, and Army Regulation 200-1, *Environmental Quality, Environmental Protection and Enhancement*, Chapter 15-6 (21 February 1997, last modified 20 March 2000). The site inspection and area reconnaissance conducted in support of this EBS was performed on April 6, 2004.

This Executive Summary provides a brief description of the current and former uses of the Site and areas of potential environmental concern that were evaluated during the EBS process. Detailed information associated with the summary presented below is provided in the remaining portion of this document.

SITE DESCRIPTION & HISTORICAL USE

The Site is situated on approximately 24 acres of undeveloped, wooded land in Twinsburg, Summit County, Ohio. Twinsburg lies approximately seven miles southeast of the city limits of Cleveland, Ohio, and approximately 20 miles from downtown Cleveland and Lake Erie. The Site is rectangular in shape and is located along western right-of-way of Chamberlin Road, approximately 500 feet south of East Aurora Road (State Route 82). The Site contains no building structures, is heavily forested, and is zoned for industrial use. The Site gently slopes toward the southwest and northwest, falling approximately six feet, and contains 4.27 acres of regulated wetland areas. A review of historical photographs and maps dating back to 1908 indicates that the Site has never been developed. However, site clearing occurred in the northeast corner of the Site in the late 1950s and corresponds to the construction of the adjacent Chamberlin Road. This area of the Site was most likely used by construction contractors as a staging area during the construction of Chamberlin Road in the late 1950s and early 1960s.

AREAS EVALUATED FOR POTENTIAL ENVIRONMENTAL CONCERN

- No evidence was found to suggest that hazardous materials were used or stored at the Site. However, several piles and mounds of construction-related debris are present in the northeastern quadrant of the Site and piles of discarded materials, more consistent with household trash, are present near the southern edge of the Site. Certain materials discarded on the surface of the Site, including rusted containers and canisters, are present in these two areas of the Site and could have contained limited quantities of hazardous chemicals, such as petroleum products, paints, and solvents, when they were placed on the Site. Given the nature of the dumping of product containers (surface only), the quantity of materials that could have been released, and the age of the release, it is not likely that this past activity poses a current threat to human health or the environment. Discarded materials will require disposal at a permitted solid waste disposal facility prior to future land development.
- A review of State and Federal regulatory database information and historical aerial photographs did not indicate that any solid waste landfills are located on or near the Site. In addition, no evidence of buried wastes (i.e., partially buried material) was observed during the April 2004 site inspection.

However, advancement of a soil boring in the northeast corner of the Site during the April 2004 subsurface exploration event revealed fill material, consisting of gravel and asphalt, and trace topsoil and sand, between the interval of ten inches and 2.5 feet below land surface (bls). The location of these buried materials corresponds to the area that was cleared in the early 1950s during the construction of Chamberlin Road. The materials encountered in the shallow subsurface are not considered to pose a threat to human health or the environment.

- No site features that have the potential to impact the environment, including petroleum storage tanks, pits, sumps, drywells, catch basins, septic systems, polychlorinated biphenyl-containing equipment, asbestos-containing material, or lead-containing materials, are known to have ever existed at the Site.
- Based upon a review of historical aerial photography, interviews, visual observations, and Federal and State regulatory database information, it is not likely that any surrounding properties have negatively impacted or present a current threat to the environmental conditions of the Site.
- Although not currently applicable to the Site, Summit County lies within the highest Federal priority zone for indoor radon, Zone 1, which has a predicted average indoor screening level greater than the Federal action level of 4.0 picoCuries per liter (pCi/l). Federal and State monitoring data for indoor radon within the Site's Zip Code, 44087, indicate that the average activity in the vicinity of the Site is 3.1 and 2.7 pCi/l, respectively. Based upon this published monitoring data, it appears that the Federal designation as Zone 1 may be conservative for the Site, since average measurements fall within the Zone 2 designation (2 and 4 pCi/l).

CONCLUSIONS

Findings of the EBS are based on existing environmental information, including visual observations, site records, and Federal and State database and file information, related to the storage, release, treatment, or disposal of hazardous substances or petroleum products or derivatives on the property. Overall, no evidence of environmental liabilities related to the release or threatened release of hazardous substances was identified or observed. There are signs of past surface and shallow subsurface disposal of waste materials at the Site, and it is possible that certain discarded containers could have contained hazardous chemicals, such as petroleum products, paints, and solvents. However, given the nature of the dumping of product containers (surface only), the quantity of materials that could have been released, and the age of the release, it is not likely that this past activity poses a current threat to human health or the environment. Discarded materials will require disposal at a permitted solid waste disposal facility prior to future land development.

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LIST OF ABBREVIATIONS AND ACRONYMS

ACM	asbestos-containing material
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
bls	below land surface
CERCLA	Comprehensive Environmental Restoration, Compensation, and Liability Act
CERCLIS	CERCLA Information System
EBS	environmental baseline survey
EDR	Environmental Data Resources, Inc.
msl	mean sea level
PCBs	polychlorinated biphenyls
pCi/l	picoCuries per liter of air
RCRA	Resource Conservation and Recovery Act
Site	24-acre parcel of undeveloped, wooded land in Twinsburg
UAW	United Auto Workers Local 122
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	underground storage tank

1.0 INTRODUCTION

The USACE Louisville District Engineering Division was authorized by the 88th Regional Readiness Command of the U.S. Army Reserve to conduct an EBS of a parcel of land ("Site") located along the west side of Chamberlin Road, just south of East Aurora Road, in Twinsburg, Summit County, Ohio. In support of this EBS, a visual inspection of the Site was conducted on April 6, 2004 by Mr. Andrew Coleman of the USACE Louisville District, Environmental Engineering Branch. The purpose of the inspection was to visually obtain information indicating the likelihood of recognized environmental conditions in connection with the Site. This report was prepared by Mr. Andrew Coleman and reviewed by Ms. Nora Keel of the USACE Louisville District.

1.1 PURPOSE OF EBS

This EBS represents a survey of real property based on all existing environmental information made available to the author(s) concerning the storage, release, treatment, or disposal of hazardous substances or petroleum products or derivatives on the property to determine or discover the obviousness of the presence or likely presence of a release or threatened release of any hazardous substances or petroleum product. The purpose of this EBS is to obtain information needed to support acquisition and development of the Site by the U.S. Army Reserve.

1.2 SCOPE OF SERVICES

In accordance with the Scope of Services, the objectives of this EBS were to: (1) Identify the presence, storage, release, or threat of release, of any hazardous substance or petroleum products affecting the Site; (2) Establish a baseline of environmental conditions for historic and comparative purposes; and (3) Reduce uncertainty regarding recognized environmental conditions. This EBS report was developed in general conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Designation D6008-96, *Standard Practice for Conducting Environmental Baseline Surveys*, the ASTM Designation E1527-00, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, and Army Regulation 200-1, *Environmental Quality, Environmental Protection and Enhancement*, Chapter 15-6 (21 February 1997, last modified 20 March 2000). Although this EBS was designed to reduce the uncertainty regarding the potential for recognized environmental conditions to the minimum practicable level, it does not eliminate the uncertainty altogether.

2.0 SITE LOCATION AND PHYSICAL DESCRIPTION

2.1 SITE LOCATION

The Site is located along western right-of-way of Chamberlin Road, approximately 500 feet south of East Aurora Road (State Route 82). The Site is located in Twinsburg, which is in the northern portion of Summit County, Ohio. Twinsburg lies approximately seven miles southeast of the city limits of Cleveland, Ohio, and approximately 20 miles from downtown Cleveland and Lake Erie. Figures 1 and 2 in Appendix A provide a general site location map and a municipality boundary map, respectively. The Site is located adjacent to the eastern boundary of the City of Macedonia.

2.2 ASSET INFORMATION

Facility Name and Address:	Proposed Site for a New U.S. Army Reserve Center Lot 3, Chamberlin Road, South of East Aurora Road Twinsburg, Ohio 44087
Current Owner & Use:	W&M Properties; vacant, undeveloped parcel
Zoning:	I-1 (Limited Industrial District)
County, State:	Summit, Ohio
USGS Quadrangle(s):	Twinsburg, Ohio
Township/Range:	Township 5N, Range 10W
Latitude/longitude:	41° 18’ 28.8”, 81° 28’ 25.0”
Legal description of property:	See Appendix C of this report.

2.3 PHYSICAL DESCRIPTION

The Site encompasses 24.095 acres of land that is rectangular in shape and heavily forested. The Site is zoned I-1 (Limited Industrial District), but is undeveloped and contains no building structures. Figure 3 in Appendix A provides a September 2001 aerial view of the Site, which depicts the degree of vegetation that is present. Appendix B provides photographs depicting visual observations made during the April 2004 site inspection. The Site is relatively flat, with a gentle slope downward from the southwest corner of the Site to the northern end of the Site. Figures 4 and 5 in Appendix A provide detailed and general topographic maps of the Site.

During the April 2004 site inspection, standing water and saturated surface conditions were observed throughout the Site. A previous field evaluation of the Site determined that 4.27 acres of wetlands are present on site. Figure 6 in Appendix A provides the locations of the wetland areas that occur at the Site.

During the April 2004 site inspection, several piles and mounds of construction-related debris were observed in the northeastern quadrant of the Site. Photographs provided in Appendix B depict these areas, which primarily consist of concrete, rip rap, steel piping, rebar, scrap metal, asphalt, and a few empty containers (five-gallon or less). Discarded waste materials were also observed near the southern

edge of the Site, but appear to be more consistent with general household trash, such as bottles, plastic, cans, paper, lumber, tires, and a muffler assembly. Two five-gallon plastic buckets were also observed; no markings were visible on these canisters and each was sealed. Photographs in Appendix B represent the types of discarded materials that are present on the Site. No evidence of buried wastes (i.e., partially buried material) was observed during the April 2004 site inspection.

2.4 SITE HYDROLOGY AND GEOLOGY

2.4.1 Surface Water Characteristics

The Site lies within the Tinkers Creek Watershed, which is encompassed by the larger, 813-square mile Cuyahoga River Watershed. As shown on the 1996 USGS topographic map (Figure 5 in Appendix A), no significant watercourses are present on the Site. Relief across the Site is less than 10 feet, ranging from an elevation of 1,160 feet above mean sea level (msl) in the southeast portion of the Site to 1,154 feet above msl along the northern edge of the Site. Overland storm water runoff is the only surface water flow that would occur at the Site and the general direction of runoff from the southern half of the Site would be to the west, from the northwest portion of the Site to the northwest, and from the northeast portion of the Site to the northeast. However, due to the relatively low relief at the Site, ponding of water on the Site versus off-site runoff of storm water is more likely to occur. Due to the relative elevations of the Site and adjacent properties, surface water from adjacent properties would not flow onto the Site.

During the April 2004 EBS site inspection and during previous site inspections, standing water was and has been observed in the low-lying areas of the Site. In 2002 a survey of the Site for wetland areas was conducted. The survey concluded that the Site contained nine wetland areas (Areas A – I) that covered a total of 2.17 acres. The wetland areas were classified as Palustrine Forest wetlands (2.05 acres) and Palustrine Scrub/Shrub wetlands (0.12 acres). Verification of the delineated wetland areas was conducted in April 2004 by USACE Buffalo District Regulatory Branch personnel. The USACE verification expanded the boundaries of the wetland areas and identified a hydraulic connection between Wetland Areas A and B and Wetland Areas G and H. As such, the total acreage of wetlands on the Site, as verified by the USACE, is 4.27 acres, with the additional acreage being classified as Palustrine Forest wetlands. Figure 6 in Appendix A shows the locations of Wetland Areas A through I.

Surface water drainage exiting the Site to the north is captured by the municipal storm water conveyance network via surface ditches and underground conveyance piping along East Aurora Road and Chamberlin Road. Storm water routed north is discharged into Tinkers Creek or unnamed tributaries of Tinkers Creek. Tinkers Creek is located approximately 1.5 miles northeast of the Site and meanders to the north and west, until it reaches the Cuyahoga River. Surface water drainage exiting the Site to the southwest would eventually discharge into an unnamed tributary of Brandywine Creek. This Creek is located approximately 1.5 miles southwest of the Site and meanders to the north and west, until it reaches the Cuyahoga River. Ultimate surface water discharge is to Lake Erie.

2.4.2 Geological Characteristics

According to the United States Department of Agriculture *Soil Conservation Service Soil Survey of Summit County Ohio*, the Site lies within the Mahoning-Ellsworth soil association. These soils were formed in the silty-clay loam of Wisconsin-age glacial till and are somewhat poorly drained, with slow runoff and potential for seasonal ponding. The predominant soil type at the Site is the Mahoning (zero to two percent slope) silt loam, which occurs in areas between drainage ways. This type of soil has a slow permeability that promotes seasonal wetness, which severely limits land use for cultivating crops and other non-agricultural uses. A second, minor soil type at the Site is Trumbull silt loam, which occurs

along the western edge of the Site. Trumbull soils have an even greater tendency for slow runoff and ponding during wet seasons, which results in saturated conditions in the winter and spring.

In April 2004, a subsurface exploration was conducted at the Site to assess geological conditions at the Site. During the field work, eight test borings were advanced to depths ranging from 8.7 to 18.6 feet, until bedrock refusal was encountered. A layer of topsoil, containing organic material created by decay of vegetation and natural weathering processes, was observed at depths ranging from two to ten inches below land surface (bls). Topsoil at the Site is underlain by soils consisting of silty clay, clayey silt, sand, and sandy silt, containing varying degrees of gravel, organics, wood fragments, rock fragments, and coal fragments. These soils reached depths ranging from 7.5 to 11.5 feet bls. Advancement of the boring in the northeast corner of the Site revealed fill material, consisting of gravel and asphalt, and trace topsoil and sand, between the interval of ten inches and 2.5 feet bls. No other borings exhibited this type of fill material. The Site's bottommost subsurface formation consisted of firm to hard, weathered sandstone to sandstone.

A review of the *Physiographic Regions of Ohio*, which was prepared by the USGS, indicates that the Site is underlain by Killbuck-Glaciated Pittsburg Plateaus of the Glaciated Allegheny Plateaus, which is a region described as containing plateaus and flat ridges that are covered with thin drift and are dissected by steep valleys. These valleys alternate between broad drift-filled reaches and narrow rock-walled reaches. The majority of the Site, from the southwest corner throughout the middle portion of the Site, rests upon a flat ridge.

2.4.3 Groundwater Characteristics

During the April 2004 subsurface exploration at the Site, perched subsurface water was encountered in the extreme northwest boring at 0.5 feet and eight feet bls. Subsurface perched water or groundwater was not encountered in the other seven site borings, which were advanced to depths ranging from 8.7 to 18.6 feet bls. The actual depth of groundwater in the area could not be determine, as no groundwater wells were identified within a one-mile radius of the Site.

2.5 AREA UTILITIES

Water Service – The City of Cleveland, Division of Water, services the area. According to information obtained from their office, a 12-inch water main is situated along the east side of Chamberlin Road, across from the Site, and extends along the entire frontage of the Site.

Sanitary Sewer System - The City of Twinsburg Public Works Engineering Department provides sanitary sewer service to the area. According to information obtained from their office, an eight-inch sanitary sewer line runs along East Aurora Road, approximately 500 feet north of the Site.

Natural Gas & Electric Service – Natural gas service for the surrounding area is supplied by the Dominion East Ohio Gas Company in Cleveland. According to information provided by this utility company, an eight-inch, high-density plastic gas line is located along the west side of Chamberlin Road, adjacent to the Site. Ohio Edison in Akron, Ohio supplies electrical power via overhead primary distribution line that runs along Chamberlin Road.

3.0 SITE HISTORY

3.1 HISTORY OF OWNERSHIP

A deed search conducted at the Summit County Auditor's office identified four warranty deeds related to the Site. The most recent deed, dated July 3, 1986, was associated with the purchase of the Site, described as Lot 3, Tract 1-M, by W&M Properties, an Ohio partnership, from the S.M.S. Realty Company. The Auditor's fiscal database also confirms that W&M Properties is the current owner of the Site. Deed records show that the S.M.S. Realty Company purchased the Site on February 17, 1981, from the Chrysler Corporation. The Chrysler Corporation acquired the Site, along with other parcels of land, from an individual, Cyril Mitkoff, on January 19, 1956. On December 7, 1953, Cyril Mitkoff had acquired the property from John J. Marek and Josephine C. Marek. Despite an exhaustive search by USACE and County personnel, no earlier deeds related to the acquisition of the Site, including acquisition of the land by the Mr. and Mrs. Marek, could be located. Based upon the deed search, it appears that the Site was owned by individuals until 1953 when the Chrysler Corporation acquired it. Chrysler Corporation held the land for 15 years, until it was sold to a realty company, and later by a land development company.

One easement was found during the deed search, dated April 10, 1981, which grants Ohio Edison Company a ten-foot right-of-way and easement along Chamberlin Road for the purpose of operating an overhead power line. No leases of, or environmental liens on the Site were found during the deed search.

3.2 PAST USES AND OPERATIONS

Historical aerial photographs and topographic maps were the primary source of information on the past use and operations at the Site. Local government agencies, including the Twinsburg City Hall and the Summit County Historical Society, were contacted regarding past land use; however, no site-specific details regarding historical use during specific time periods could be obtained.

A 1908 U.S. Geological Survey (USGS) topographic map of the area shows no disturbed topography at the Site and no building structures or roadways on or in close proximity to the Site. East Aurora Road is present to the north of the Site, but Chamberlin Road is not yet constructed (Figure 7 in Appendix A). A 1938 aerial photograph of the area (Figure 8 in Appendix A) shows the Site to be heavily forested with agricultural or forested areas on adjacent properties.

A 1951 aerial photograph of the Site (Figure 9 in Appendix A) is similar to the 1938 photograph, showing the Site as an undeveloped forested parcel. A 1953 USGS topographic map of the area (Figure 10 in Appendix A) also shows the Site to be completely forested with no structures present. Chamberlin Road still did not exist in 1953.

A 1962 aerial photograph is of poor quality and has not been provided as a figure in Appendix A; however, the photo does depict the Site as undeveloped and forested, and partial construction of Chamberlin Road is evident. However, the northeast corner of the Site appears to have been cleared. A 1963 USGS topographic map of the area (Figure 11 in Appendix A) shows the Site as forested with the exception of the northeast corner of the Site. The 1963 map also shows that construction of the four-lane Chamberlin Road is complete.

Figure 12 in Appendix A provides a 1970 aerial view of the Site, which depicts the Site as forested with the exception of the northeast corner of the Site, where clearing has occurred. This appears to be the same cleared area that was evident in the 1962 aerial photograph and 1963 topographic map. No vehicles or apparent use of this cleared area is evident in the aerial photograph. However, this area of the Site was most likely used by construction contractors as a staging area during the construction of Chamberlin Road and installation of associated utilities along this road. This cleared area corresponds to the areas where construction debris, such as concrete, steel piping, rebar, and asphalt, have been discarded. Figures 13, 14, and 15 in Appendix A provide 1970, 1979, and 1984 USGS topographic maps, which depict site characteristics that are identical to the 1963 topographic map.

Figure 16 in Appendix A provides a 1991 aerial view of the Site, which shows full forestation of the Site, with the exception of the northeast corner. By 2001 (Figure 3 in Appendix A), this cleared area in the northeast corner of the Site had become re-forested.

Overall, a review of historical photographs and maps indicates that the Site has never been developed. Site clearing occurred in the northeast corner of the Site and corresponds to the construction of the adjacent Chamberlin Road. The presence of construction-related debris in that portion of the Site is most likely a result of the use of the cleared area for construction staging purposes. No indication of the burial of debris in this area was evident during the review of historical photographs and maps, or during the 2004 EBS site inspection. However, advancement of a soil boring in the northeast corner, during the April 2004 subsurface exploration at the Site, revealed fill material, consisting of gravel and asphalt, and trace topsoil and sand, between the interval of ten inches and 2.5 feet bls.

3.3 PREVIOUS ENVIRONMENTAL ASSESSMENTS OF THE SITE

One report pertaining to the Site was found during the EBS data gathering process. A Phase I Environmental Site Assessment, which is similar in nature to this EBS, was conducted at the Site in 2002. This environmental assessment concluded that: 1) isolated wetlands were potentially present on the Site; 2) multiple piles of construction debris and a pile of approximately 150 rubber tires were identified, but no surface staining, distressed vegetation, or odor in the vicinity of the piles was observed; and 3) the southeast corner of the Site might have been developed for residential use in the 1960s. The pile of rubber tires, which was reported to occur in the northwestern corner of the Site, was not observed during the 2004 EBS site inspection. It is possible that these tires were removed subsequent to the 2002 inspection, or that they actually occur off site, on an adjacent parcel. Further analysis of the aerial photographs provided in the 2002 Phase I report do not substantiate the presence of a residence in the southeast corner of the Site. The structure shown is actually the United Auto Workers (UAW) Local 122 building that is on the adjacent parcel to the south of the Site. The 2002 Phase I report has not been appended to this EBS report, since it is referenced as a draft document and is subject to copyright restrictions.

3.4 PAST USE, STORAGE, AND DISPOSAL OF HAZARDOUS MATERIALS

Based upon a review of historical aerial photographs and a search of Federal and State regulatory databases, there is no evidence to suggest that hazardous materials were used or stored at the Site, or that landfilling activities occurred at the Site. However, during the April 2004 site inspection, several piles and mounds of construction-related debris were observed in the northeastern quadrant of the Site. Photographs provided in Appendix B depict these areas, which primarily consist of concrete, rip rap, steel piping, rebar, scrap metal, asphalt, and a few empty containers (five-gallon or less). Based upon a review of historical aerial photographs, it appears that the northeast corner of the Site was possibly used as an

equipment staging area during the construction of Chamberlin Road in the late 1950s and early 1960s. No evidence of buried wastes (i.e., partially buried material) was observed during the April 2004 site inspection. However, advancement of a soil boring in the northeast corner, during the April 2004 subsurface exploration at the Site, revealed fill material, consisting of gravel and asphalt, and trace topsoil and sand, between the interval of ten inches and 2.5 feet bls.

Discarded waste materials were also observed near the southern edge of the Site, but appear to be more consistent with general household trash, such as bottles, plastic, cans, paper, lumber, tires, and a muffler assembly. Two five-gallon plastic buckets were also observed; no markings were visible on these canisters and each was sealed. Photographs in Appendix B represent the types of discarded materials that are present on the Site. Certain materials discarded on the surface of the Site, including rusted containers, canisters, and buckets, could have contained limited quantities of hazardous chemicals, such as petroleum products, paints, and solvents, when they were placed on the Site. However, given the nature of the dumping of product containers (surface only), the quantity of materials that could have been released, and the age of the release, it is not likely that this past activity poses a current threat to human health or the environment.

3.5 WATER SUPPLY WELLS & SEPTIC SYSTEMS

A review of available local, State, and Federal records, along with visual observations, indicate that no water supply wells or septic systems are, or were ever, present at the Site. Water well information for the area surrounding the Site was obtained from the Ohio Department of Natural Resources, Division of Water. This Division maintains databases that contain physical and geographical information for private, public, industrial, and commercial wells installed in Ohio. A search of these databases identified no private water supply wells within a one-half-mile radius of the Site. No public supply water wells were identified within the search radius distance.

4.0 ADJACENT PROPERTIES

4.1 CURRENT USE OF ADJACENT PROPERTIES

The Site is located in a mixed-use area of Summit County, Ohio. Figure 3 in Appendix A provides a 2001 aerial view of the Site and surrounding properties. The Site is currently bordered on the north and west by woodlands. The parcel to the north of the Site is an undeveloped industrial parcel, which is currently on the market for sale. The land to the west is within the City of Macedonia and is part of the adjacent Longwood Park, a general recreational area. Longwood Park is Macedonia's largest park and is located on the former estate of Colonel William Frew Long, the first Mayor of the City of Macedonia. This 292-acre area, which is accessed off of East Aurora Road (State Route 82) offers many recreational opportunities, including baseball and soccer fields, sand volleyball, playgrounds, picnic shelters with modern restroom facilities, an orchard, hiking trails, festival area, old style Tudor Manor House, and a stocked three-acre lake (Photograph 14 in Appendix B). This park is also home to the Macedonia Family Recreation Center, a 55,000-square foot facility with pools, track, and exercise equipment.

Beyond Chamberlin Road to the east lies the 2.4-million square-foot Daimler Chrysler Twinsburg Stamping Plant, located at 2000 East Aurora Road. This plant occupies 165 acres of land and employs approximately 2,145 employees. This plant produces large sheet metal stampings and assemblies for minivans and trucks, which include roofs, lift gates, floors, door assemblies, cross-members, and miscellaneous assembly products.

The parcel to the south of the Site is developed and contains the UAW Local 122 building, which is one of the two unions that operate at the Stamping Plant. This parcel contains one building, which is situated in close proximity to the southern boundary of the Site, paved parking areas, manicured lawn areas, and a picnic area. Two aboveground petroleum storage tanks (ASTs) are also located adjacent to the southern boundary of the Site and are operated by the Local 122 (Photograph 15 in Appendix B). Both ASTs are contained within an earthen berm. During the April 2004 site inspection, no oily sheen was visible on the surface of the standing water within the bermed area, and no staining or other signs of an oil release were observed in the vicinity of the ASTs. Beyond the UAW property to the south, is an electrical substation (Photograph 16 in Appendix B).

4.2 PAST USE OF ADJACENT PROPERTIES

Historical aerial photographs and topographic maps were the primary source of information on the past use of the properties that are adjacent to the Site. The 1908 USGS topographic map of the area shows no disturbed topography or building structures on adjacent properties (Figure 7 in Appendix A). The 1938 aerial photograph of the area (Figure 8 in Appendix A) shows forested areas to the south and west of the Site and agricultural fields to the north and east. The estate of Colonel Long is visible to the north and west of the Site, beyond the woodland area.

The 1951 aerial photograph of the Site (Figure 9 in Appendix A) is similar to the 1938 photograph, but a residence is now visible on the parcel to the north of the Site. The 1953 USGS topographic map of the area (Figure 10 in Appendix A) shows the northern residence and the Long Estate and wooded or open land to the south and east of these residences.

A 1962 aerial photograph is of poor quality and has not been provided as a figure in Appendix A; however, the photo shows the development of the Stamping Plant and Chamberlin Road to the east of the Site. The Plant was reportedly built in 1957. The 1962 aerial does now show the adjacent parcel to the south of the Site, but the 1963 topographic map shows the presence of the Local 122 building (Figure 11 in Appendix A).

Figure 12 in Appendix A provides a 1970 aerial view of the Site, which depicts the Stamping Plant to the east, a residence to the north, woodland and the Long Estate to the west, and the UAW building to the south. The construction of the electrical substation further south of the UAW property is also evident. Figures 13, 14, and 15 in Appendix A provide 1970, 1979, and 1984 USGS topographic maps, which depict adjacent property characteristics that are identical to the 1963 topographic map.

Figure 16 in Appendix A provides a 1991 aerial view of the Site, which shows changes to the north and northwest of the Site. The parcel to the north no longer appears to be in use and is re-forested. The Long Estate to the northwest has been converted to the Longwood Park, with recreational areas visible. The developed portion of the park is still separated from the Site by a large forested strip of land. The 2001 aerial photograph (Figure 3 in Appendix A) shows further forestation of the parcel to the north and further development of Longwood Park to the west.

Overall, a review of historical photographs and maps indicates that surrounding properties were residential, agricultural, or woodlands until 1957, when the Stamping plant was constructed. Development of the parcel to the south appears to have always been for UAW use. No environmentally-significant features, such as landfills, were identified on surrounding parcels during the review of historic maps and photographs.

5.0 SITE REGULATORY INFORMATION

A component of the EBS is a review of all reasonably obtainable Federal, State, and local government records for nearby properties that are within established ASTM search radius distances, and where there has been a release or likely release of any hazardous substance or any petroleum product, which is likely to cause or contribute to a release or threatened release of any hazardous substance or any petroleum product on the federal real property. For a portion of this review, a regulatory database summary was acquired from Environmental Data Resources (EDR). The regulatory database summary consolidates standard Federal and State environmental record sources based upon ASTM recommended minimum search distances from the Site.

5.1 FEDERAL AND STATE ENVIRONMENTAL RECORDS

The regulatory information presented below was obtained from a site assessment report that EDR compiled on April 13, 2004. A copy of the complete EDR report is included in Appendix D.

5.1.1 National Priorities List (NPL) Sites within 1.0 Mile

According to the EDR report, there are no NPL sites located within the corresponding ASTM search radius distance of one mile.

5.1.2 Federal CERCLA Information System (CERCLIS) Sites within 0.5 Mile

According to the EDR report, there are no CERCLIS sites located the corresponding ASTM search radius distance of one-half mile.

5.1.3 Federal RCRA Corrective Action Sites within 1.0 Mile

According to the EDR report, there are no RCRA Corrective Action Sites (CORRACTS) within the corresponding ASTM search radius distance of one mile. One CORRACTS site, the Aerosol Systems, Incorporated, is located just outside the one-mile radius, and is southwest of the Site, at 9150 Valley View Road. This Site has a history of compliance violations and enforcement actions. A consent decree was issued to the site in July 1990, following civil action and monetary penalties. It appears that this site is subject to groundwater monitoring requirements. Given the relative location of this CORRACTS property, it is unlikely that any environmental issues at this property would negatively impact the Site, since the property is topographically and hydrologically downgradient of the Site.

5.1.4 Federal RCRA Treatment/Storage/Disposal Facilities within 0.5 Mile

According to the EDR report, there are no RCRA-permitted treatment, storage, and disposal facilities (TSDFs) located within the corresponding ASTM search radius distance of one-half mile.

5.1.5 Federal RCRA Small and Large Quantity Generators List

According to the EDR report, neither the Site nor adjoining properties are RCRA-registered small or large quantity generators of hazardous waste.

5.1.6 Federal Emergency Response Notification System (ERNS) List

According to the EDR database, no releases of hazardous substances have been reported within the ERNS database for the Site or adjacent properties.

5.2 STATE AND LOCAL ENVIRONMENTAL RECORDS

The regulatory information presented below was obtained from a site assessment report that EDR compiled on April 13, 2004. A copy of the complete EDR report is included in Appendix D. Supplemental information was also provided via telephone conversations with local and State agency representatives.

5.2.1 State-Equivalent Priority List (SPL) Sites within 1.0 Mile

According to the EDR report, there are no SPL sites within the corresponding ASTM search radius distance of one mile.

5.2.2 State-Equivalent CERCLIS (SCL) Sites within 0.5 Mile

According to the EDR report, there are no SCL sites within the corresponding ASTM search radius distance of one-half mile.

5.2.3 State-Registered Landfill or Solid Waste Disposal Sites within 0.5 Mile

According to the EDR report, there are no state-registered solid waste landfills, incinerators, or transfer stations located within the corresponding ASTM search radius distance of one-half mile.

5.2.4 State-Registered Leaking Underground Storage Tank (UST) Sites within 0.5 Mile

According to the EDR report, there are three Leaking UST site within the ASTM search radius distance of one-half mile. The adjacent Chrysler Twinsburg Stamping Plant reported a release from a regulated petroleum UST in December 1996 and a No Further Action letter was subsequently issued by the State for the facility. AGA Gas, Inc., located at 2045 East Aurora Road, east of the Site, also reported a petroleum release from a UST and has obtained a No Further Action determination from the State. Given the regulatory status of these Leaking UST incidents (No Further Action required), it is not likely that the leaking USTs that were removed from these two facilities have negatively impacted the environmental conditions at the Site.

The third Leaking UST property is Longwood Park to the west of the Site. The release from one leaking UST was reported in January 1994 and still shows as an active incident (i.e., a No Further Action determination has not been obtained). This property is located topographically downgradient of the Site and it is not likely that migration of contamination, if it has occurred, could reach the Site given the hydrogeologic relationship between the Site and the Park.

5.2.5 State-Registered USTs and Aboveground Storage Tanks (ASTs) within 0.5 Mile

According to the EDR report, there is one state-registered UST within the corresponding ASTM search radius of one-half mile. No properties containing registered ASTs were identified within the search radius distance. AGA Gas, Inc., located at 2045 East Aurora Road, east of the Site, operates a 550-gallon diesel UST, which was installed in September 1985. This UST is constructed of fiberglass-reinforced plastic and no leak or release from this UST has been reported. As such, it is not likely that the use of this UST has negatively impacted the environmental conditions at the Site.

Although not included in the State AST database, two ASTs were observed just south of the Site's southern boundary, on UAW property. Photograph 15 in Appendix B provides a view of these ASTs. Both ASTs are contained within an earthen berm and during the April 2004 site inspection, no oily sheen was visible on surface of the standing water within the bermed area, and no staining or other signs of an oil release were observed in the vicinity of the ASTs.

5.2.6 State Spills List Sites

According to the EDR report, no releases of hazardous substances have been listed in the State Spills List for the Site or adjacent properties.

5.2.7 Records of Contaminated Public Wells

The Summit County Health Department, Environmental Health Section, was contacted regarding the presence or absence of contaminated groundwater in the area. According to Bob Hasenyager with the Health Department, there are no known sources of groundwater contamination in the immediate vicinity of the Site. According to Mr. Hasenyager, the closest sources of potential groundwater contamination are located approximately two miles from the Site. Given the distance of these potential sources from the Site and their hydrologic relationships to the Site, it is not likely that these properties have negatively impacted the environmental conditions at the Site.

5.3 SUMMARY OF PROPERTIES EVALUATED TO DETERMINE RISK TO THE SITE

To summarize Subsections 5.1 through 5.3, five properties were evaluated as potential risk properties. These properties were identified as a result of information obtained during area reconnaissance, regulatory database searches, and regulatory agency interviews. "High risk" properties are those that exhibit environmental conditions that have the probability to adversely affect the environmental condition at another site. Overall, based upon an evaluation of available site information, none of the properties evaluated are considered "high risk." A map providing the locations of these properties, relative to the Site, is provided in Appendix D.

6.0 SITE INVESTIGATION AND REVIEW OF HAZARDS

6.1 UNDERGROUND & ABOVEGROUND STORAGE TANKS (USTS & ASTS)

During the EBS records review process and site inspection, no evidence was found to suggest that USTs or ASTs were ever operated at the Site. A search of Federal and State regulatory databases also support this finding. Two ASTs were observed just south of the Site's southern boundary, on UAW property. Photograph 15 in Appendix B provides a view of these ASTs. Both ASTs are contained within an earthen berm and during the April 2004 site inspection, no oily sheen was visible on surface of the standing water within the bermed area, and no staining or other signs of an oil release were observed in the vicinity of the ASTs.

6.2 INVENTORY OF CHEMICALS / HAZARDOUS SUBSTANCES

During the March 2004 site inspection, no chemicals or hazardous substances were observed at the Site. However, several piles and mounds of construction-related debris are present in the northeastern quadrant of the Site and piles of discarded materials, more consistent with household trash, are present near the southern edge of the Site. Certain materials discarded on the surface of the Site, including rusted containers, canisters, and buckets, were observed in these two areas of the Site and could have contained limited quantities of hazardous chemicals, such as petroleum products, paints, and solvents, when they were placed on the Site. Any labels or markings on the discarded containers were worn and no longer legible. Given the nature of the dumping of product containers (surface only), the quantity of materials that could have been released, and the age of the release, it is not likely that this past activity poses a current threat to human health or the environment. Discarded materials will require disposal at a permitted solid waste disposal facility prior to future land development.

The Phase I environmental assessment conducted at the Site in 2002 reported a pile of approximately 150 used tires in the northwest corner of the Site. However, during the April 2004 site inspection, no evidence of these tires was observed. It is possible that these tires were removed subsequent to the 2002 inspection, or that they actually occur off site, on an adjacent parcel.

6.3 LANDFILLS

According to the EDR regulatory search report and a review of historical aerial photographs, it does not appear that any solid waste landfills are located on or near the Site. As reported in previous subsections, discarded materials, primarily consisting of construction debris and miscellaneous household refuse, are present on the ground surface of the Site. No indication of the burial of debris at the Site was evident during the review of historical photographs and maps, or during the 2004 EBS site inspection. However, advancement of a soil boring in the northeast corner of the Site, during the April 2004 subsurface exploration event, revealed fill material, consisting of gravel and asphalt, and trace topsoil and sand, between the interval of ten inches and 2.5 feet bls. The materials encountered in the shallow subsurface are not considered to pose a threat to human health or the environment.

6.4 PITS, SUMPS, DRYWELLS, AND CATCH BASINS

No pits, sumps, drywells, or catch basins were observed on the Site. One storm water catch basin was observed within the right-of-way of Chamberlin Road, along the eastern edge of the Site. Photograph 17

in Appendix B provides a view of this catch basin. Litter was observed around this basin, but no environmental items of concern were observed.

6.5 POLYCHLORINATED BIPHENYLS (PCBS)

No sources of PCBs were observed at the Site.

6.6 RADON

No structures that could accumulate radon gas are present at the Site. Although not currently applicable to the Site, the U.S. Environmental Protection Agency (USEPA) Map of Radon Zones was reviewed to determine the potential for radon gas accumulation inside building structures. According to the USEPA radon map for Ohio, Summit County lies within the highest priority zone, Zone 1, which has a predicted average indoor screening level greater than 4 picoCuries per liter (pCi/l). Federal and State monitoring data for indoor radon within the Site's Zip Code, 44087, indicate that the average activity in the vicinity of the Site is 3.1 and 2.7 pCi/l, respectively. Based upon this published monitoring data, it appears that the Federal designation as Zone 1 may be conservative for the Site, since average measurements fall within the Zone 2 designation, 2 and 4 pCi/l.

6.7 ASBESTOS-CONTAINING MATERIAL (ACM)

No sources of asbestos were observed at the Site.

6.8 LEAD

No sources of lead were observed at the Site.

6.9 UNEXPLODED ORDNANCE

No indications were found during the April 2004 site inspection or records review to indicate the presence of unexploded ordnance at the Site.

6.10 RADIOLOGICAL SOURCES

No radiological sources were observed at the Site.

6.11 100-YEAR FLOOD ZONE

According to the Environmental Systems Research Institute, Inc./Federal Emergency Management Agency (ESRI/FEMA) Flood Hazard Map, Community Panel Number 3907810005B, the Site is not within the 100-year flood zone. The nearest flood zone area is associated with Tinkers Creek and is approximately one-half to one mile northeast of the Site. Although not classified as a flood prone area, the presence of wetland areas on the Site is conducive to saturated and ponded surface conditions.

7.0 CONCLUSIONS

The USACE Louisville District Engineering Division was authorized by the 88th Regional Readiness Command of the U.S. Army Reserve to conduct an EBS of a parcel of land ("Site") located along the west side of Chamberlin Road, just south of East Aurora Road, in Twinsburg, Summit County, Ohio. The Site is situated on approximately 24 acres of undeveloped, forested land, is zoned for industrial use, and contains 4.27 acres of regulated wetland areas.

Findings of this EBS are based on existing environmental information, including visual observations, site records, and Federal and State database and file information, related to the storage, release, treatment, or disposal of hazardous substances or petroleum products or derivatives on the property. The following paragraphs present a summary of the findings of the EBS as related to areas of potential environmental concern that were evaluated.

- *Past Use of Property* – A review of historical photographs and maps dating back to 1908 indicates that the Site has never been developed. However, site clearing occurred in the northeast corner of the Site in the late 1950s and corresponds to the construction of the adjacent Chamberlin Road. This area of the Site was most likely used by construction contractors as a staging area during the construction of Chamberlin Road in the late 1950s and early 1960s.

- *Use, Storage, Release, & Disposal of Hazardous Substances* - No evidence was found to suggest that hazardous materials were used or stored at the Site. However, several piles and mounds of construction-related debris are present in the northeastern quadrant of the Site and piles of discarded materials, more consistent with household trash, are present near the southern edge of the Site. Certain materials discarded on the surface of the Site, including rusted containers and canisters, are present in these two areas of the Site and could have contained limited quantities of hazardous chemicals, such as petroleum products, paints, and solvents, when they were placed on the Site. Given the nature of the dumping of product containers (surface only), the quantity of materials that could have been released, and the age of the release, it is not likely that this past activity poses a current threat to human health or the environment. Discarded materials will require disposal at a permitted solid waste disposal facility prior to future land development.

- *Landfilling Activities* - A review of State and Federal regulatory database information and historical aerial photographs did not indicate that any solid waste landfills are located on or near the Site. In addition, no evidence of buried wastes (i.e., partially buried material) was observed during the April 2004 site inspection. However, advancement of a soil boring in the northeast corner of the Site during the April 2004 subsurface exploration event revealed fill material, consisting of gravel and asphalt, and trace topsoil and sand, between the interval of ten inches and 2.5 feet bls. The location of these buried materials corresponds to the area that was cleared in the late 1950s during the construction of Chamberlin Road. The materials encountered in the shallow subsurface are not considered to pose a threat to human health or the environment.

- *Other Environmental Features of Concern* - No site features that have the potential to impact the environment, including petroleum storage tanks, pits, sumps, drywells, catch basins, septic systems, polychlorinated biphenyl-containing equipment, asbestos-containing material, or lead-containing materials, are known to have ever existed at the Site.

- *Adjacent Properties of Concern* - Based upon a review of historical aerial photography, interviews, visual observations, and Federal and State regulatory database information, it is not likely that any

surrounding properties have negatively impacted or present a current threat to the environmental conditions of the Site.

- *Radon* - Although not currently applicable to the Site, Summit County lies within the highest Federal priority zone for indoor radon, Zone 1, which has a predicted average indoor screening level greater than the Federal action level of 4.0 pCi/l. Federal and State monitoring data for indoor radon within the Site's Zip Code, 44087, indicate that the average activity in the vicinity of the Site is 3.1 and 2.7 pCi/l, respectively. Based upon this published monitoring data, it appears that the Federal designation as Zone 1 may be conservative for the Site, since average measurements fall within the Zone 2 designation (2 and 4 pCi/l).

Overall, no evidence of environmental liabilities related to the release or threatened release of hazardous substances was identified or observed. There are signs of past surface and shallow subsurface disposal of waste materials at the Site, and it is possible that certain discarded containers could have contained hazardous chemicals, such as petroleum products, paints, and solvents. However, given the nature of the dumping of product containers (surface only), the quantity of materials that could have been released, and the age of the release, it is not likely that this past activity poses a current threat to human health or the environment. Discarded materials will require disposal at a permitted solid waste disposal facility prior to future land development.

8.0 REFERENCES

Agencies Contacted / Consulted

- Summit County Soil & Water Conservation District
- Twinsburg Fiscal Office
- City of Cleveland Division of Water
- Summit County Department of Environmental Services
- Summit County Auditor's Office
- ODNR Division of Water
- Summit County Health Department, Environmental Health Section

Resources Consulted

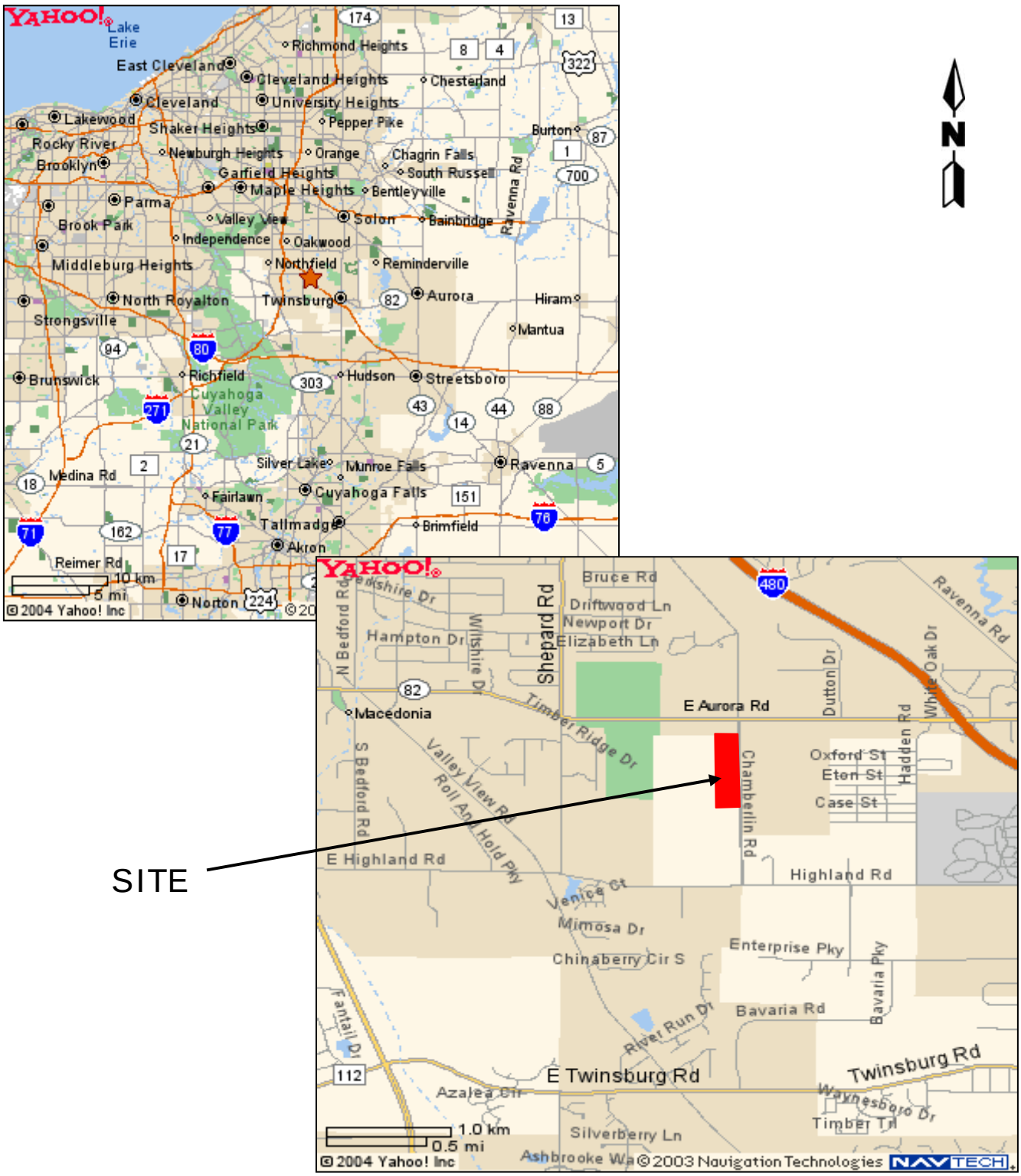
- *Draft Phase I Environmental Site Assessment, 24.09-Acre Vacant Parcel*, Chamberlin Road, Twinsburg, Summit County, Ohio, Partners Environmental Consulting, Inc., May 14, 2002
- *Wetland Delineation Report for Heritage Development Company Parcel 3*, Beak Consultants Incorporated, October 2002
- *Wetland Evaluation Report for Heritage Development Company Parcel 3*, Beak Consultants Incorporated, October 2002
- *Preliminary Wetland Mitigation Proposal*, EVS, Inc., May 20, 2004
- *Design Analysis for the Cleveland, Ohio AR Center / OMS / AMSA / UHS*, RSP Architects, May 18, 2004
- Aerial photographs obtained from MicroDot, Inc., for years 1938, 1951, 1962, 1970, 1991, 2001
- U.S. Geological Survey (USGS) topographic quadrangle maps for years 1908, 1953, 1963, 1970, 1979, 1984, and 1996, obtained from Environmental Data Resources, Inc.
- Ohio Department of Natural Resources (ODNR), Ohio Division of Geological Survey websites, http://www.dnr.state.oh.us/geo_survey
- The Ohio Geological Society website, http://www.ohio.dnr.com/geosurvey
- ODNR Division of Water website, http://www.dnr.state.oh.us
- United States Department of Agriculture *Soil Conservation Service Soil Survey of Summit County Ohio*, 1990
- The Ohio State University Extension website, http://ohioline.osu.edu
- City of Cleveland Water System website, http://www.clevelandwater.com
- Micosoft TerraServer, http://terraserver.homeadvisor.msn.com
- USEPA Surf Your Watershed website, http://cfpub.epa.gov
- Environmental Systems Research Institute, Inc. (ESRI) Federal Emergency Management Agency (FEMA) digitized Flood Hazard Map website, http://mapserver2.esri.com
- USEPA Map of Radon Zones website, http://www.epa.gove/iaq/radon/zonemap
- Summit County, Ohio website, http://www.summitoh.net
- Twinsburg Township website, http://twinsburgtwp.com/
- City of Twinsburg website, www.twinsburg.oh.us
- Summit County Soil & Water Conservation District, www.summitswcd.org
- City of Macedonia Department of Parks and Recreation website, www.macrec.com
- Daimler Chrysler Twinsburg Stamping Plant webpage, www.daimlerchrysler.com
- USEPA Safe Drinking Water Information System website, http://oaspub.epa.gov/enviro/
- Rivers, Trails, and Conservation Assistance Program, National Park Service, www.ncrc.nps.gov

Resources Consulted *(continued)*

- U.S. Fish and Wildlife Service Threatened and Endangered Species System, October 2002, www.ecos.fws.gov
- National Park Service National Wild and Scenic Rivers System, www.nps.gov/rivers
- Federal Regulatory Databases
  - National Priorities List (Superfund), January 29, 2004
  - Proposed National Priorities List Sites, January 7, 2004
  - CERCLA Information System (CERCLIS), February 26, 2004
  - CERCLIS No Further Remedial Action Planned (NFRAP), February 26, 2004
  - Resource Conservation and Recovery Information System (RCRIS) Corrective Action Sites (CORRACTS), December 18, 2004
  - RCRIS, March 9, 2004
  - Emergency Response Notification System, December 31, 2002
  - Biennial Reporting System, December 1, 2001
  - Superfund (CERCLA) Consent Decrees
  - Records of Decision, January 9, 2004
  - Facility Index System/Facility Identification Initiative Program Summary Report, February 9, 2004
  - Hazardous Materials Information Reporting System, December 18, 2003
  - Material Licensing Tracking System, January 15, 2004
  - Mines Master Index File, November 25, 2003
  - Federal Superfund Liens, October 15, 1991
  - PCB Activity Database System, December 30, 2003
  - Department of Defense Sites, October 1, 2003
  - Storm Water General Permits
  - Indian Reservations, October 1, 2003
  - A Listing of Brownfields Sites, July 15, 2003
  - Risk Management Plans
  - RCRA Administrative Action Tracking System, April 17, 1995
  - Toxic Chemical Release Inventory System, December 31, 2001
  - Toxic Substances Control Act, December 31, 2002
  - FIFRA/TSCA Tracking System, January 21, 2004
  - Oil/Gas Pipelines/Electrical Transmission Lines, USGS, 1994
  - USEPA Office of Drinking Water Public Water Systems Database
  - Public Water Systems & Public Water Systems Violation and Enforcement Data
  - U.S. Geological Survey National Water Resource Information Tracking System
- State Regulatory Databases
  - Ohio Environmental Protection Agency (EPA) Licensed Solid Waste Facilities, March 11, 2004
  - Ohio Department of Commerce Leaking Underground Storage Tank File, December 14, 2003
  - Ohio Department of Commerce Underground Storage Tank File, December 14, 2003
  - OEPA Division of Emergency & Remedial Response Database, December 17, 2003
  - Ohio EPA Voluntary Action Program Sites, January 30, 2004
  - Ohio EPA Master Sites List, March 1, 1999
  - Ohio EPA Emergency Response Database, December 31, 2002
  - Ohio EPA Old Solid Waste Landfill Database, January 1, 1980
  - Ohio EPA Division of Emergency & Remedial Response Towngas Database, July 28, 1992
  - Ohio EPA Sites with Institutional Engineering Controls database, October 28, 2003

APPENDIX A

FIGURES

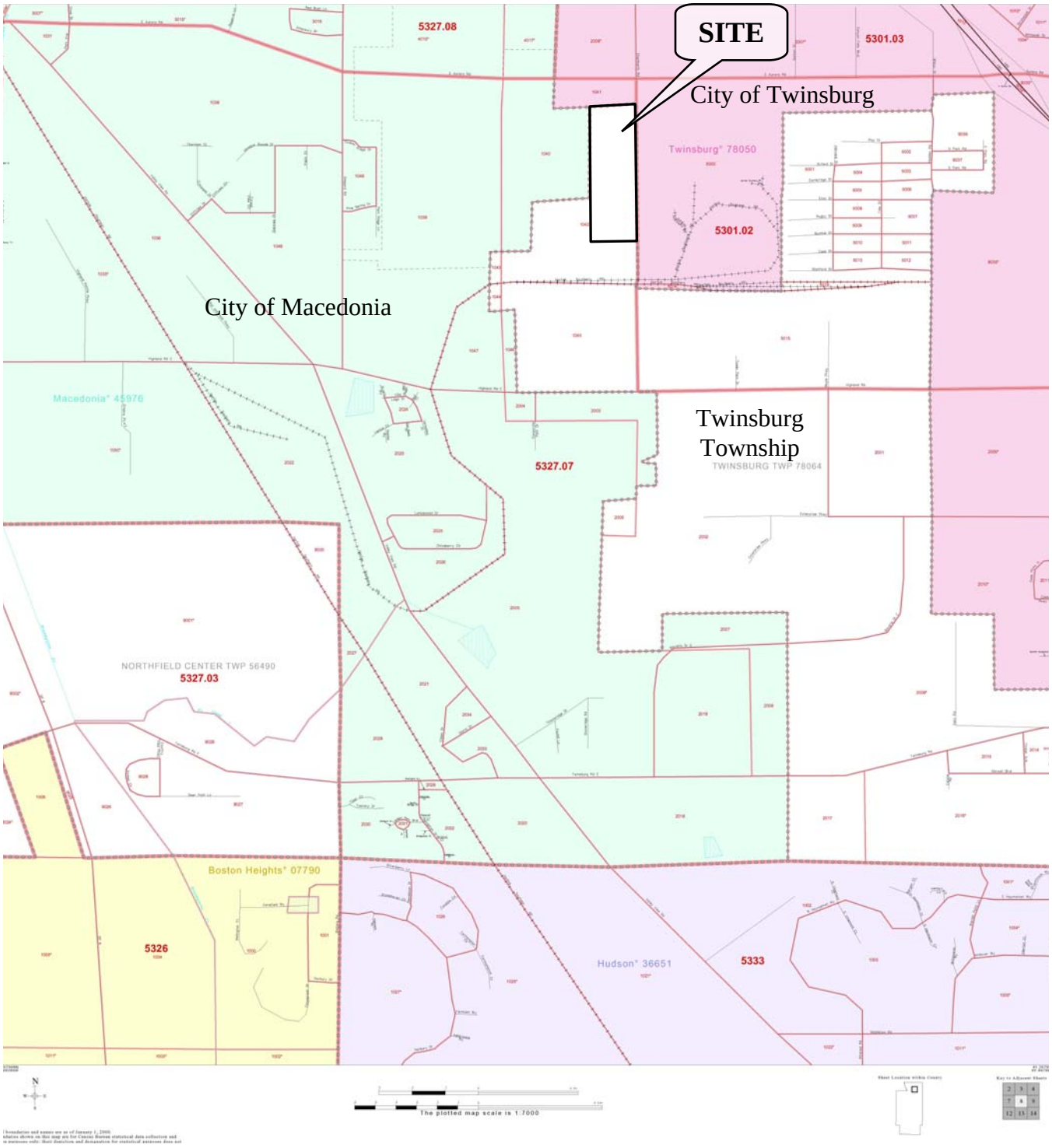


U.S. ARMY
CORPS OF ENGINEERS
LOUISVILLE DISTRICT
ENGINEERING DIVISION

FIGURE 1

GENERAL SITE LOCATION MAP

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



U.S. ARMY
CORPS OF ENGINEERS
LOUISVILLE DISTRICT
ENGINEERING DIVISION

FIGURE 2

MUNICIPALITY BOUNDARY MAP

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO

U.S. ARMY
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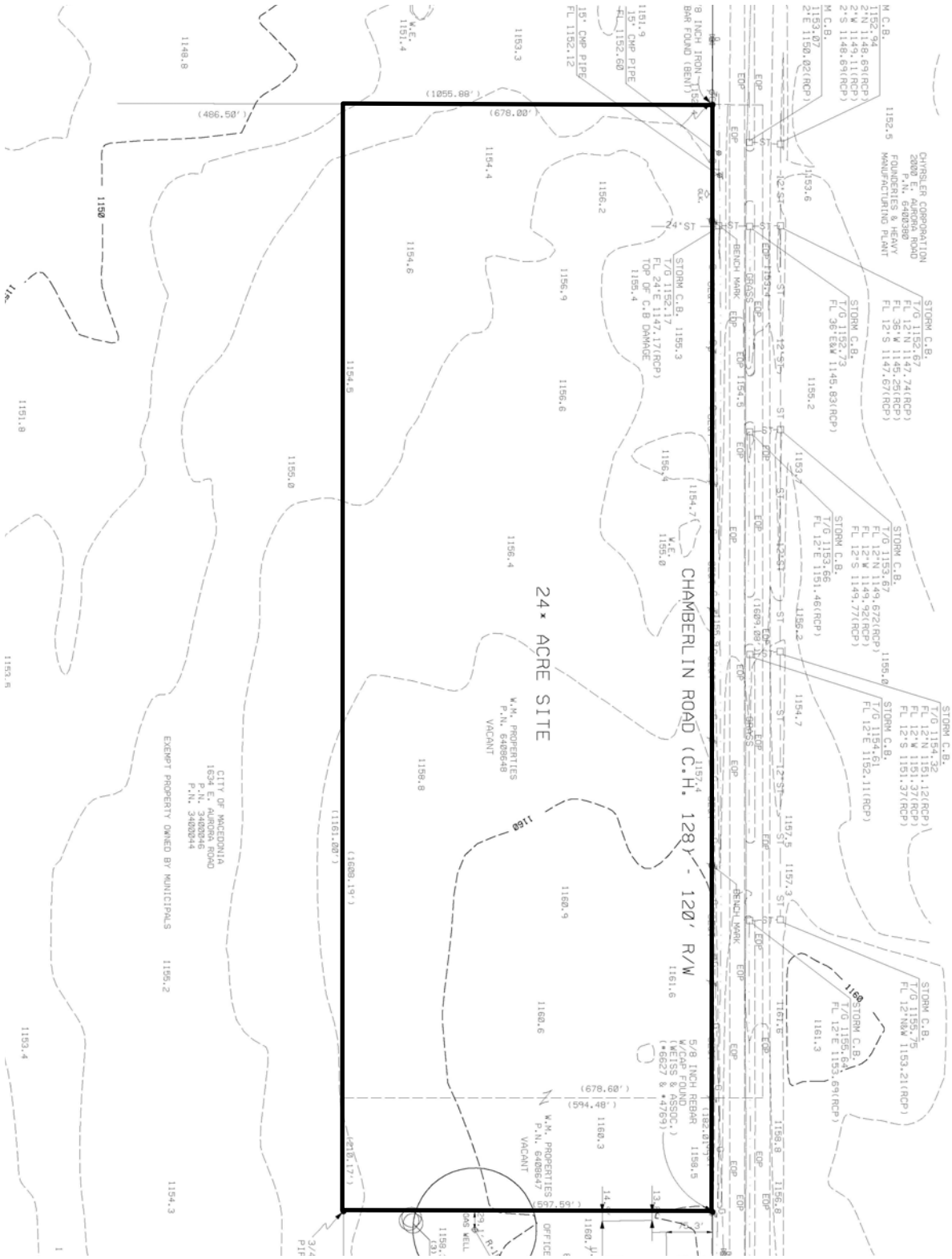
ENGINEERING DIVISION

FIGURE 3

SEPTEMBER 2001 AERIAL VIEW OF THE SITE & VICINITY

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



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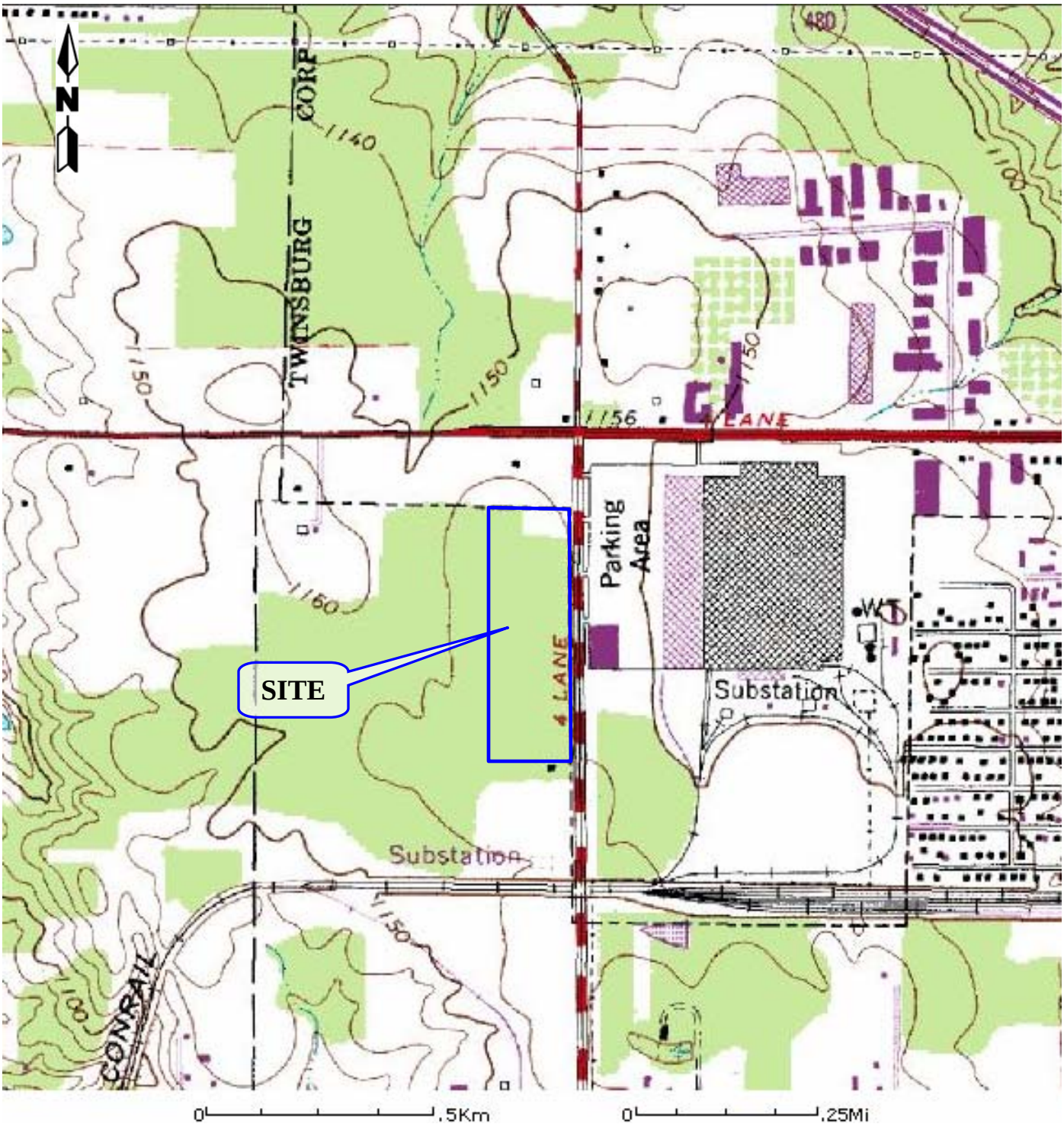
LOUISVILLE DISTRICT
ENGINEERING DIVISION

FIGURE 4

TOPOGRAPHIC CONTOUR MAP OF THE SITE

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



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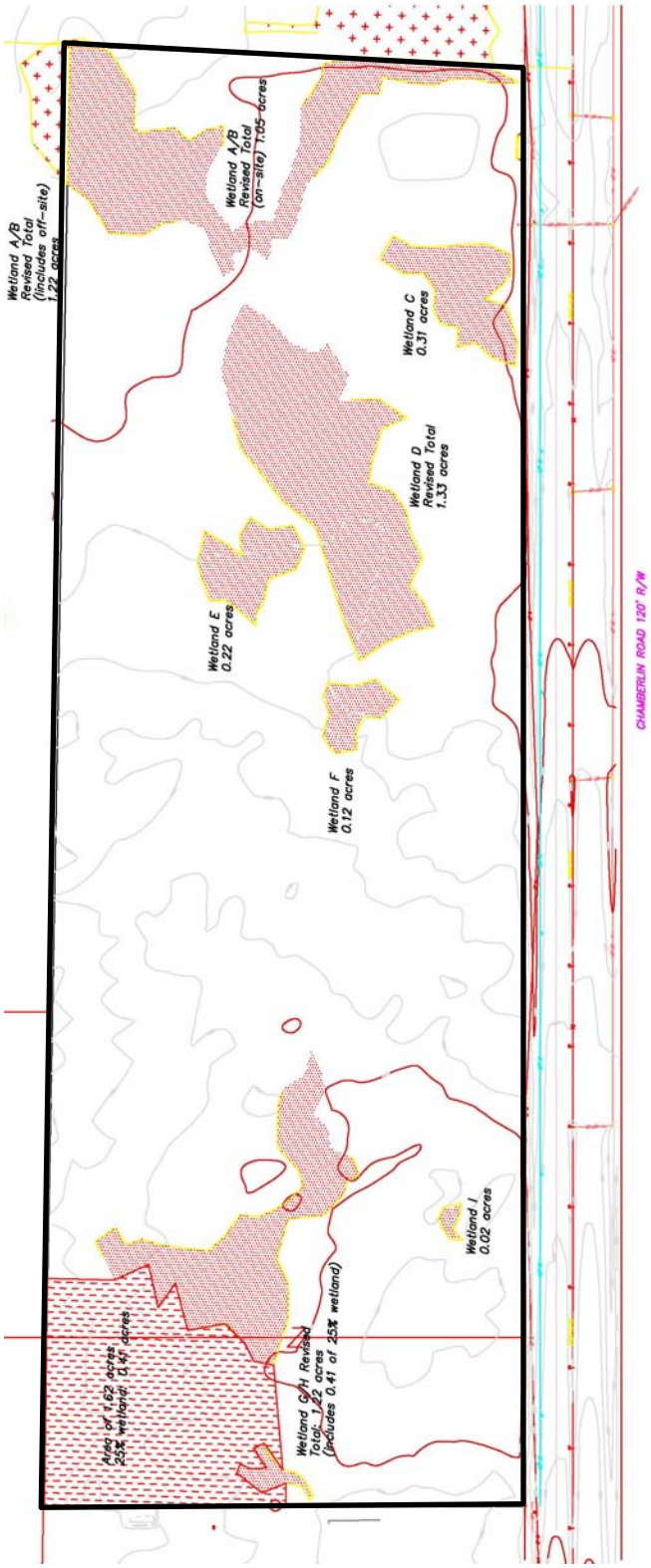
ENGINEERING DIVISION

FIGURE 5

1996 USGS TOPOGRAPHIC MAP

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



U.S. ARMY
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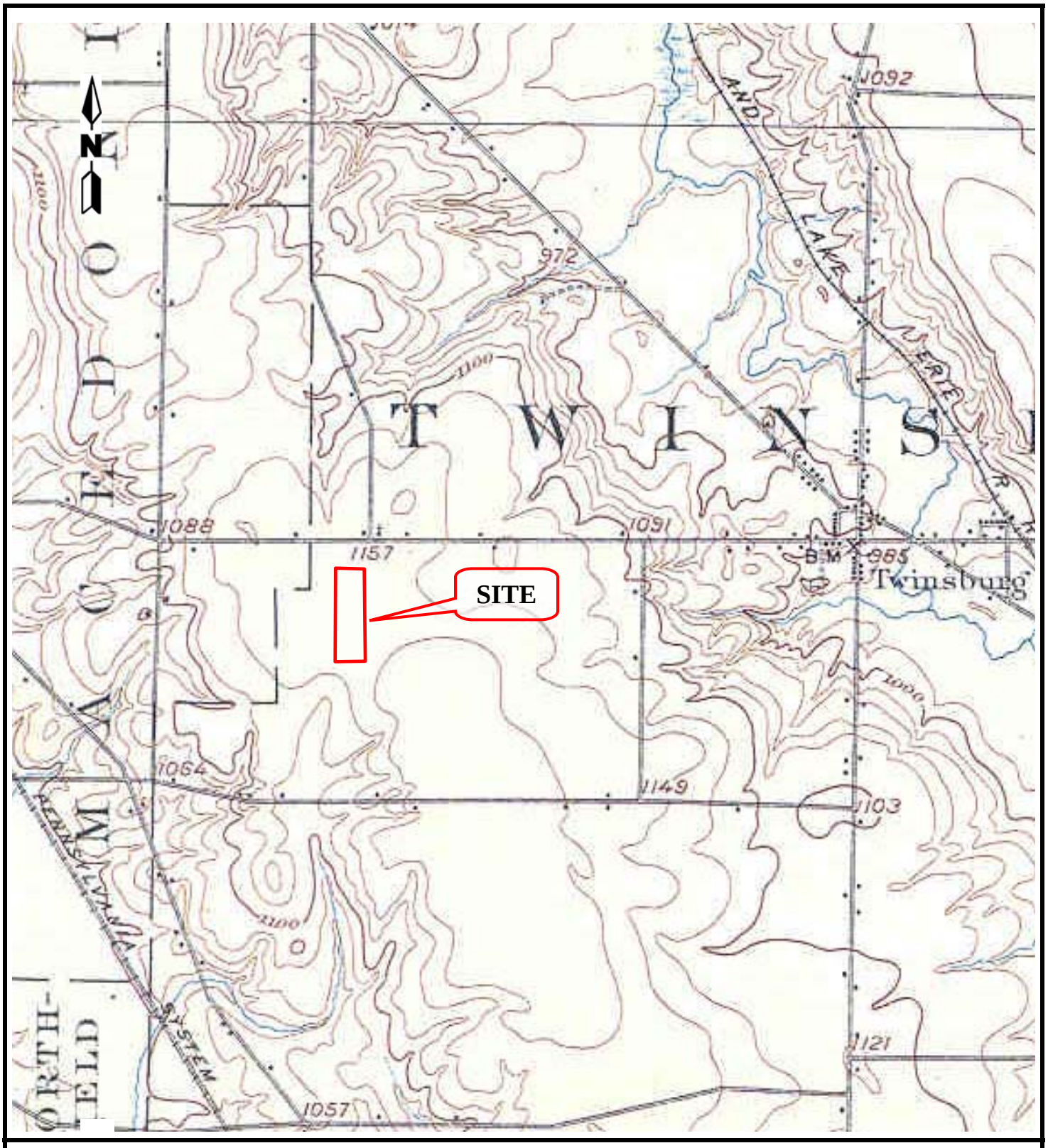
LOUISVILLE DISTRICT
ENGINEERING DIVISION

FIGURE 6

LOCATIONS OF REGULATED WETLAND AREAS ON THE SITE

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



U.S. ARMY
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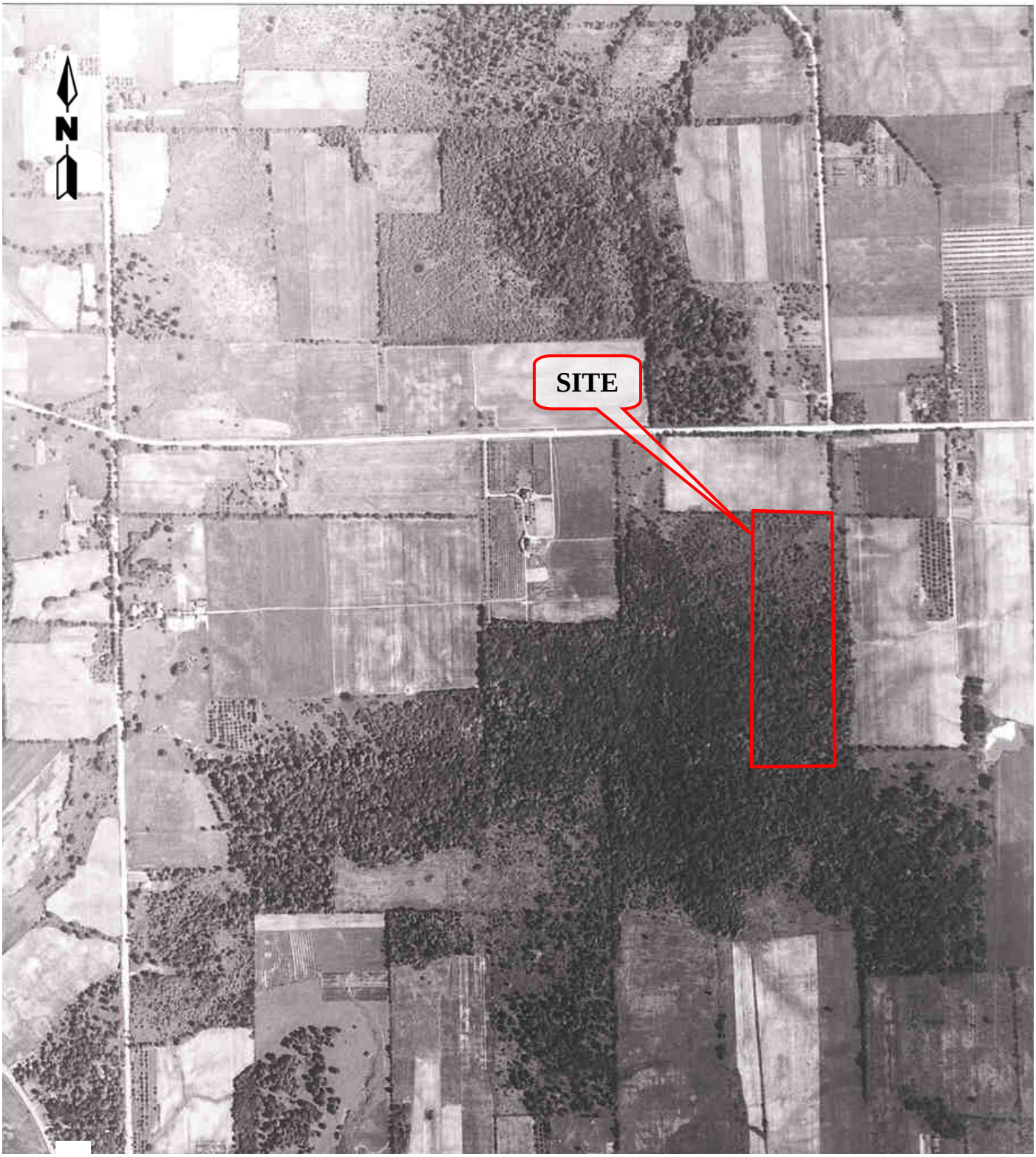
ENGINEERING DIVISION

FIGURE 7

1908 USGS TOPOGRAPHIC MAP OF THE SITE & VICINITY

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



U.S. ARMY
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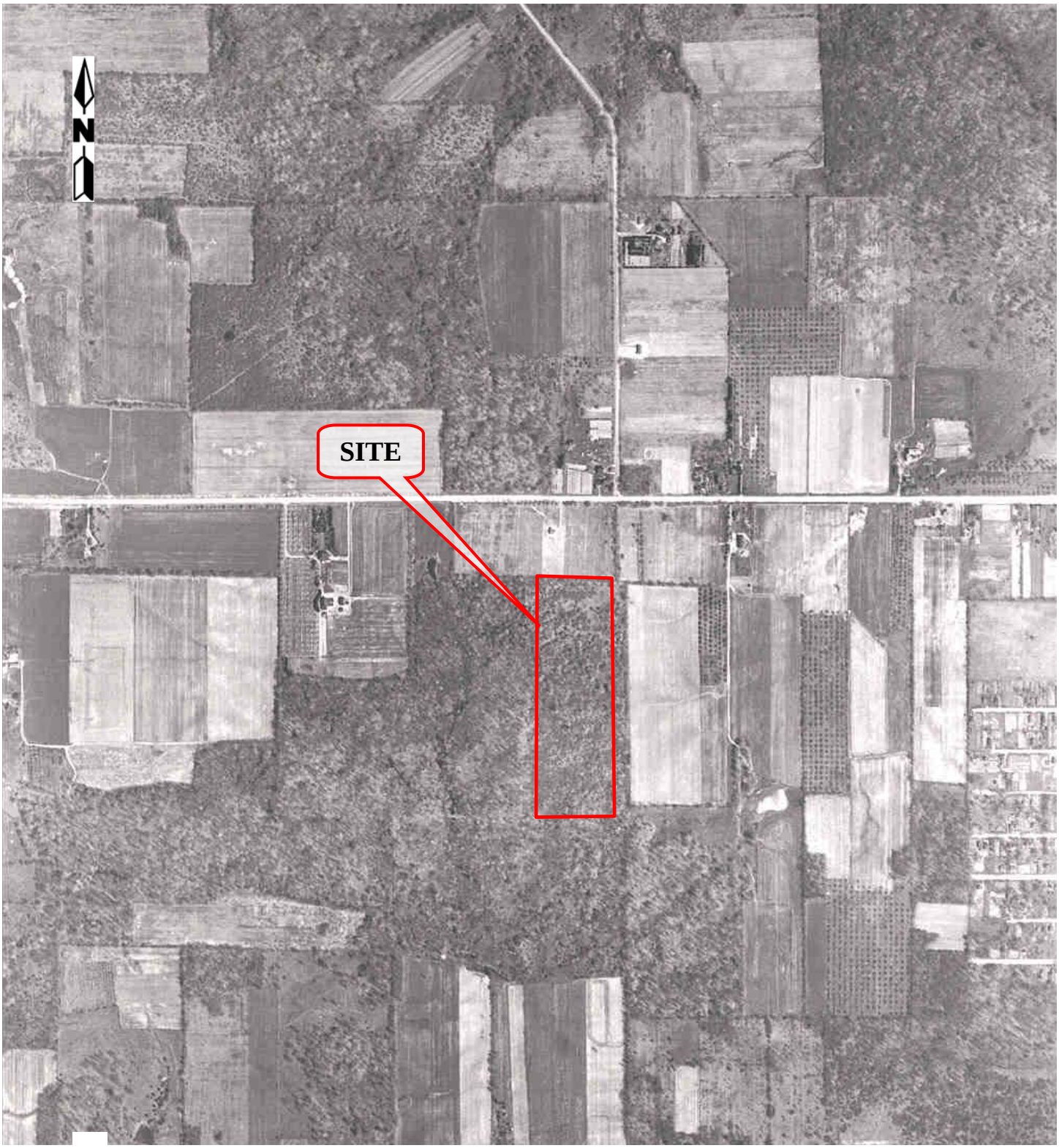
ENGINEERING DIVISION

FIGURE 8

1938 AERIAL PHOTOGRAPH OF THE SITE & VICINITY

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



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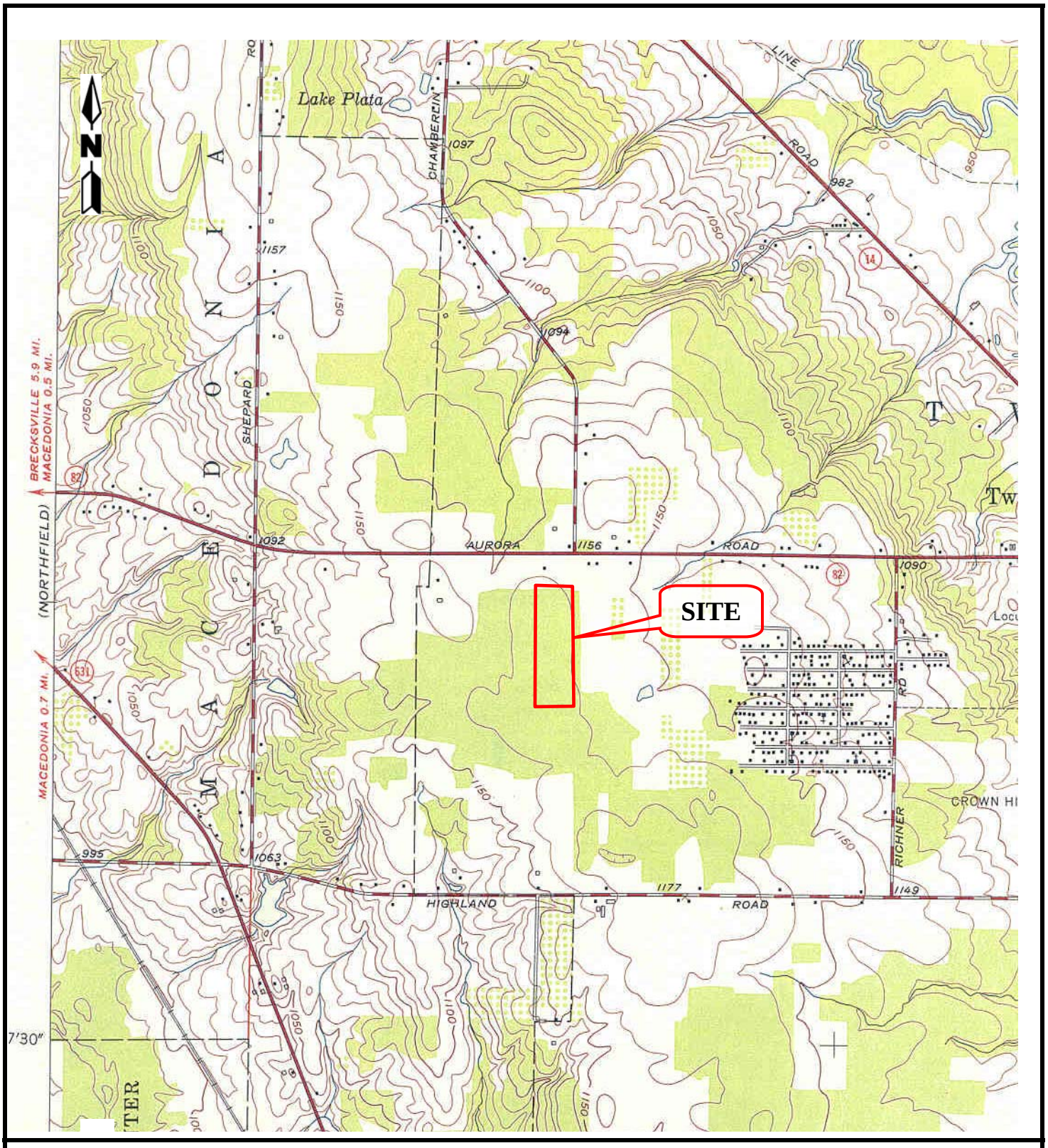
LOUISVILLE DISTRICT
ENGINEERING DIVISION

FIGURE 9

1951 AERIAL PHOTOGRAPH OF THE SITE & VICINITY

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



U.S. ARMY
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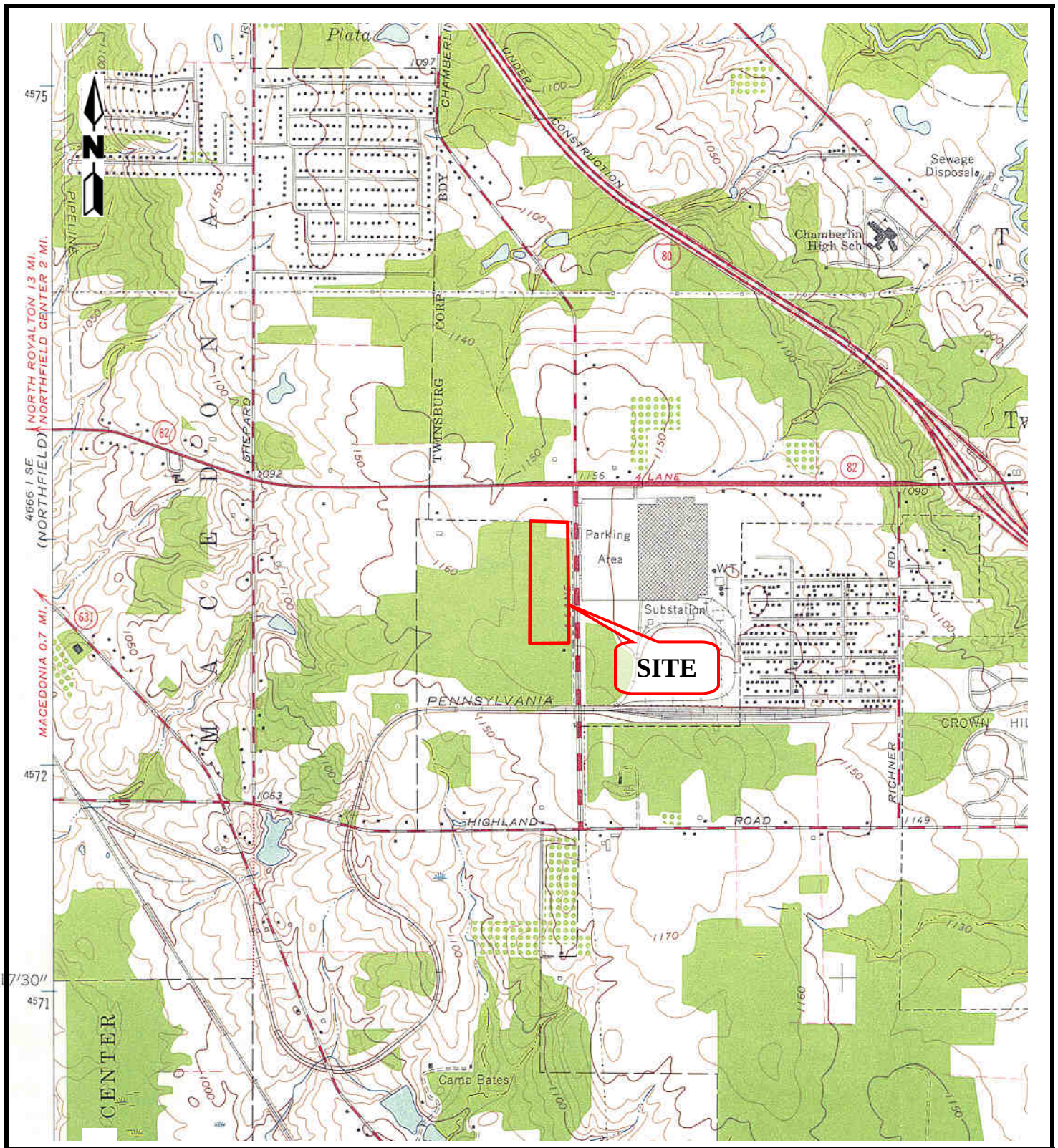
LOUISVILLE DISTRICT
ENGINEERING DIVISION

FIGURE 10

1953 USGS TOPOGRAPHIC MAP OF THE SITE & VICINITY

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



U.S. ARMY
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LOUISVILLE DISTRICT
ENGINEERING DIVISION

FIGURE 11

1963 USGS TOPOGRAPHIC MAP OF THE SITE & VICINITY

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO

U.S. ARMY
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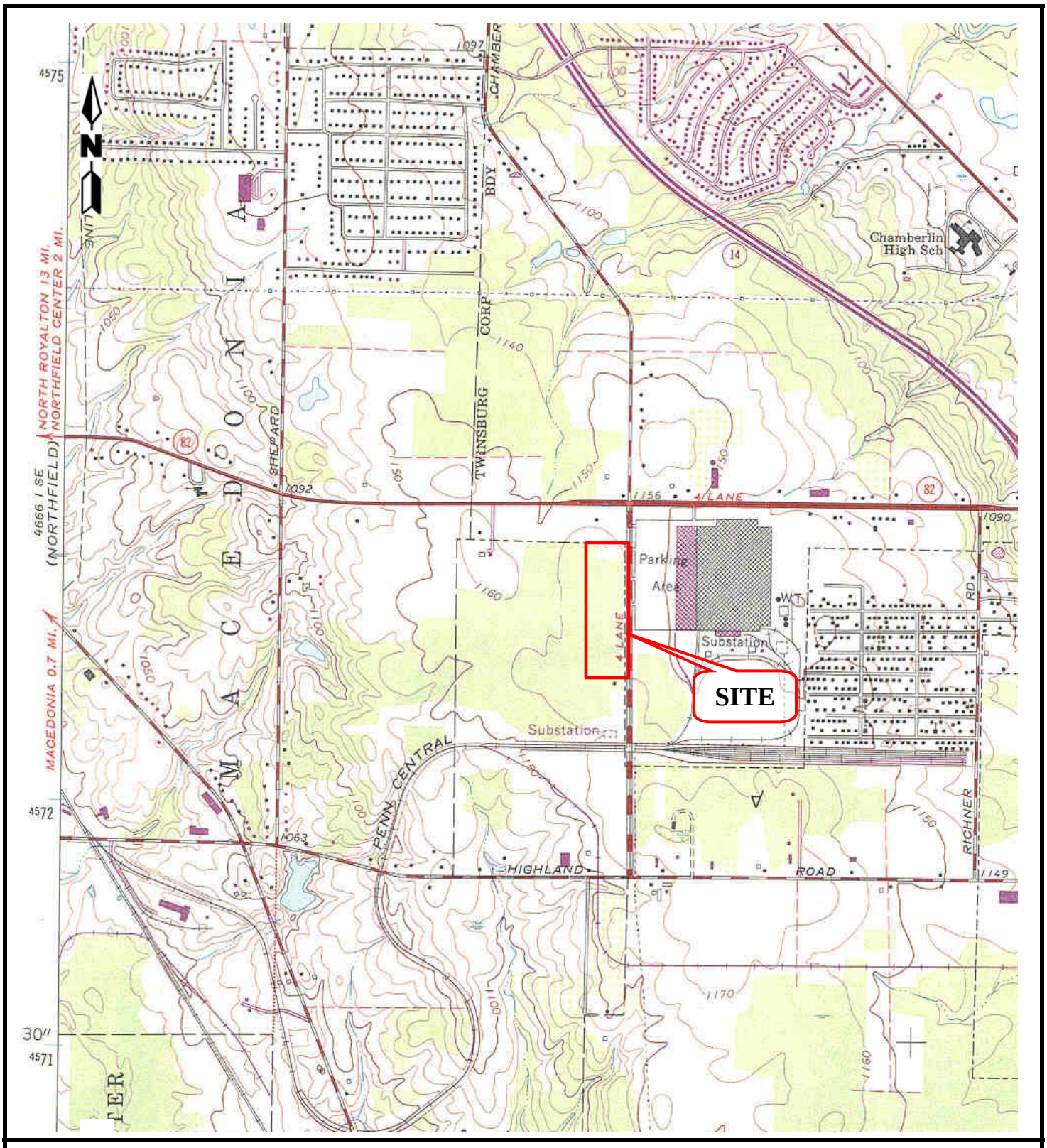
LOUISVILLE DISTRICT
ENGINEERING DIVISION

FIGURE 12

1970 AERIAL PHOTOGRAPH OF THE SITE & VICINITY

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



U.S. ARMY
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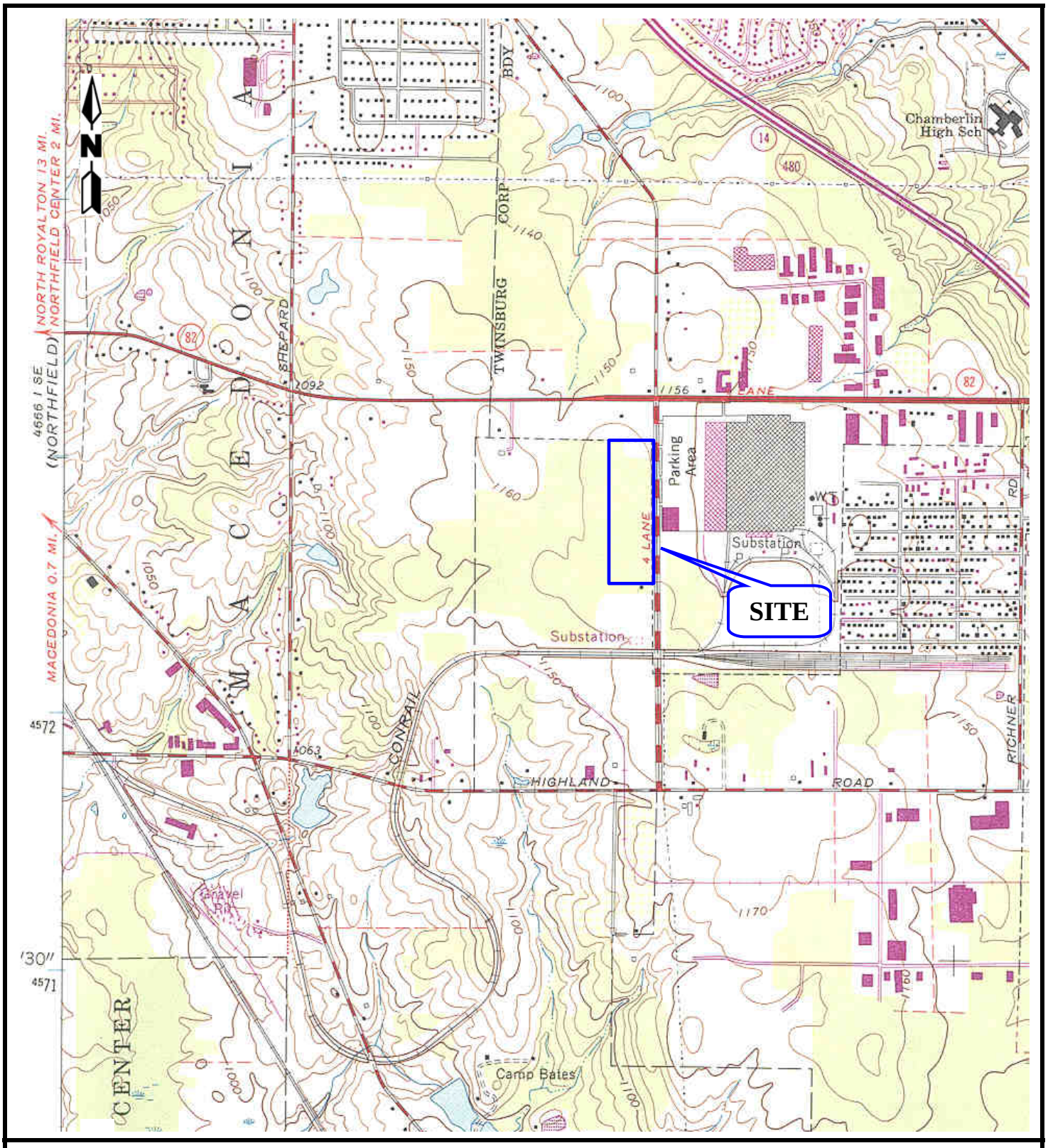
LOUISVILLE DISTRICT
ENGINEERING DIVISION

FIGURE 13

1970 USGS TOPOGRAPHIC MAP OF THE SITE & VICINITY

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



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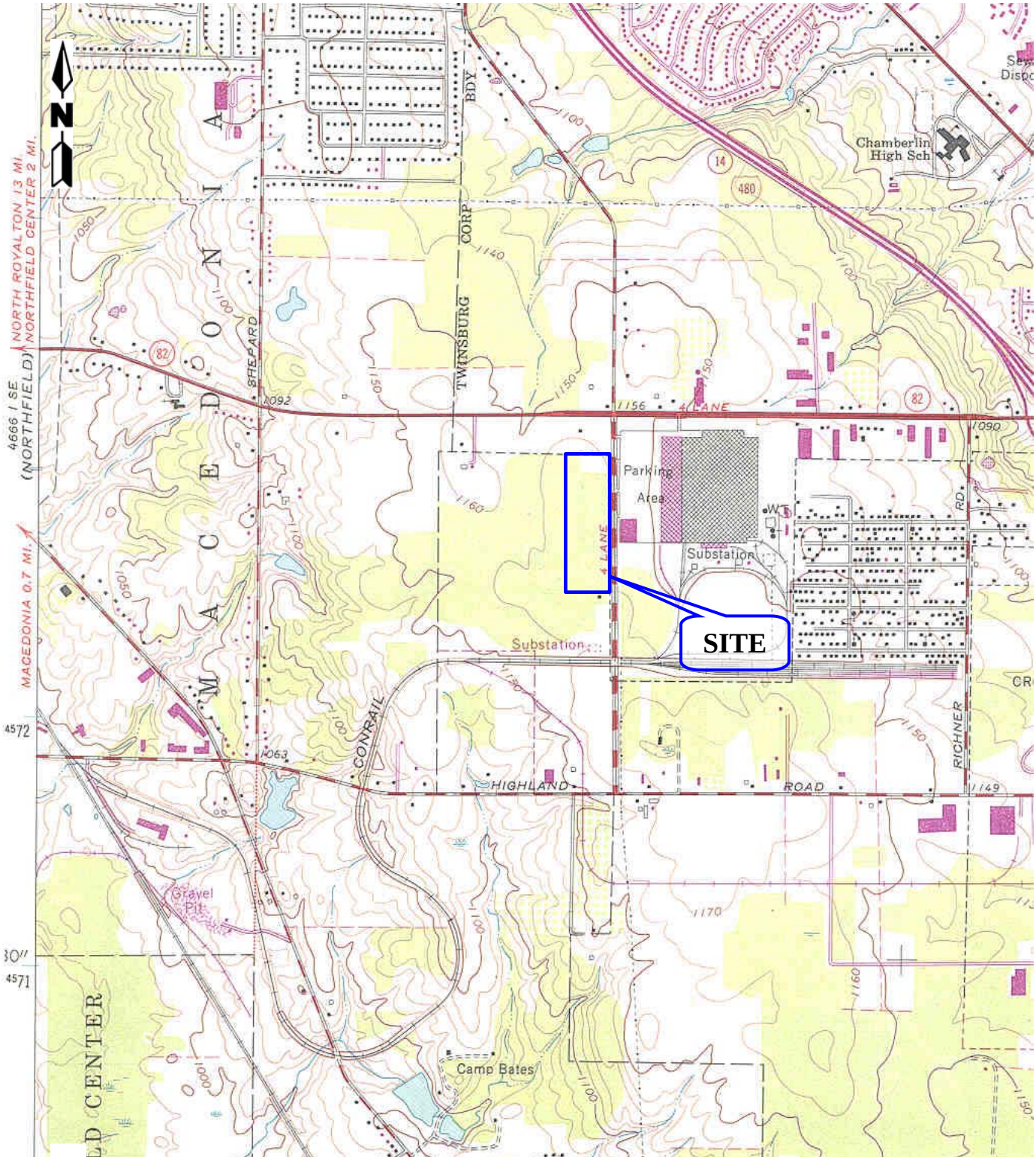
ENGINEERING DIVISION

FIGURE 15

1984 USGS TOPOGRAPHIC MAP OF THE SITE & VICINITY

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



U.S. ARMY
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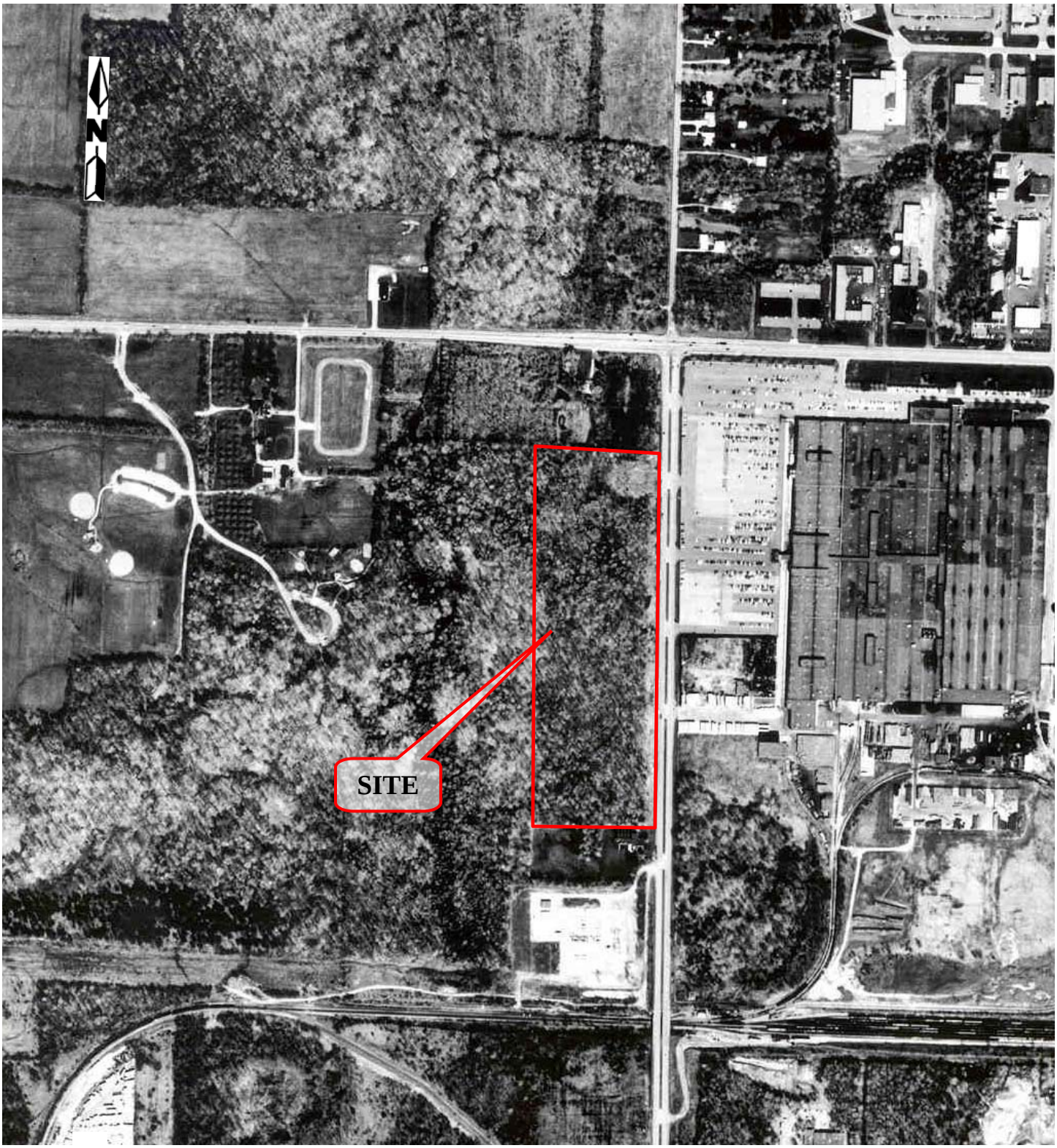
LOUISVILLE DISTRICT
ENGINEERING DIVISION

FIGURE 14

1979 USGS TOPOGRAPHIC MAP OF THE SITE & VICINITY

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO



U.S. ARMY
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LOUISVILLE DISTRICT
ENGINEERING DIVISION

FIGURE 16

1991 AERIAL PHOTOGRAPH OF THE SITE & VICINITY

PROPOSED SITE FOR U.S. ARMY RESERVE CENTER
LOT 3, CHAMBERLIN ROAD, SOUTH OF AURORA ROAD
TWINSBURG, SUMMIT COUNTY, OHIO

APPENDIX B

SITE RECONNAISSANCE PHOTOGRAPHS

Photograph 1: View of the northern boundary of the Site and the right-of-way for Chamberlin Road, looking north.

Photograph 2: Typical view of the vegetation, ground cover, and regulated wetland areas that are on site.

Photograph 3: View of a construction debris pile located in the northeast corner of the Site.

Photograph 4: View of a construction debris pile located in the northeast corner of the Site.

Photograph 5: View of a construction debris pile located in the northeast corner of the Site.

Photograph 6: View of a construction debris mound located in the northeast corner of the Site.

Photograph 7: View of a steel piping located in the north central portion of the Site.

Photograph 8: View of debris pile located near the southern boundary of the Site. The picnic area on the adjacent UAW property can be seen in the background.

Photograph 9: View of debris pile located near the southern boundary of the Site. The asphalt parking lot on the adjacent UAW property can be seen in the background.

Photograph 10: Muffler assembly and various debris located near the southern boundary of the Site.

Photograph 11: Five-gallon plastic bucket in the southeast corner of the Site; the bucket is sealed, but no labeling was found.

Photograph 12: Three-gallon plastic, un-labeled bucket near the southern boundary of the Site. A gazebo at the neighboring UAW picnic area can be seen in the background.

Photograph 13: View of an empty, 55-gallon drum on the southern boundary of the Site. No visual or olfactory signs of a release were observed. The northern wall of the UAW building can be seen in the background.

Photograph 14: View of the three-acre lake and picnic area within Longwood Park, west of the Site.

Photograph 15: View of the two aboveground petroleum storage tanks along the northern boundary of the UAW property, directly south of the Site. An earthen berm surrounds the tanks as secondary containment.

Photograph 16: View of the electrical substation property south of the Site and the UAW property.

Photograph 17: View of the municipal storm water catch basin, which has been damaged, located along the western right-of-way of Chamberlin Road.

APPENDIX C

REAL ESTATE DOCUMENTATION

7279/961

86

John A. Donofrio
Fiscal Officer, County of Summit
Note: This is a live file and is subject to constant change.
IAS4 - INTEGRATED ASSESSMENT SYSTEM REVIEW DOCUMENT
Summit County Auditor Division, OH - Tax Year 2004

Print
Glossary of Abbreviation

BASIC INFORMATION FOR PARCEL 6408648

PARCEL	6408648	**ALT_ID** TW0002101068000	**NO CARDS** 0
OWNER	PROPERTIES W M		**INFO**
OWNER			**---LISTER---**
DESC.	TR IM LOT 3 W OF CHAMBERLIN RD		817 01-JAN
DESC.			
DESC.		**LUC** 300 I - INDUSTRIAL, VACANT LAND	
ADDR.	CHAMBERLIN RD		**CLS** I
SPEC FLAG			**NBR** 30900401
HOMESTEADN			
DISTRICT	64 TWNSBRG CITY TWNSBRG		**INTER-COUNTY**

LAND FOR PARCEL 6408648

CODE	ACRES	CLASS	EXMP	UNIT	INCR/DECR	INFLUENCE	INFLU%
09	21.552		8750	8750	8750/8750		

ACRE CODE: 09 = BALANCE OF LAND

SUMMARY ALL CARDS FOR PARCEL 6408648

LAND:	188580	**BUILDING:**	0	**TOTAL:**	
ASSESSED LAND:	66000	**ASSESSED BLDG:**	0	**ASSESSED TOTAL:**	

NOTES

AA14

CA12
CORRECT ACREAGE PER SURVEY #54728276
4-8-03 PCL ANNEX FROM 6200193

NOTES

AA14

CA12
CORRECT ACREAGE PER SURVEY #54728276
4-8-03 PCL ANNEX FROM 6200193

FOR CURRENT TAX INFORMATION (TAX YEAR 2003), CLICK HERE.

GENERAL INFORMATION

JOHN A. DONOFRIO
FISCAL OFFICER, COUNTY OF SUMMIT
175 SOUTH MAIN ST.
AKRON, OHIO 44308

PLEASE DIRECT INQUIRIES CONCERNING PROPERTY VALUES TO

(330)-643-2645	**SPECIAL ASSESSMENTS**
(330)-643-2710	**APPRAISAL INFORMATION**
(330)-643-2661	**HOMESTEAD**
(330)-643-2638	**GENERAL REAL ESTATE**

PLEASE DIRECT INQUIRIES ABOUT YOUR TAX BILL INFORMATION TO

32875

WARRANTY DEED.—No. 104 D. (To a Corporation.) OHIO LEGAL BLANK CO., CLEVELAND

Know all Men by these Presents, *That*

I, CYRIL MITKOFF (unmarried) *the Grantor*,

for the consideration of Ten - *Dollars,*

($ 10.00) *received to* my *full satisfaction of* CHRYSLER CORPORATION, a Delaware

corporation whose last known address is, and whose tax mailing address will be,

341 Massachusetts Avenue, Detroit 31, Michigan, *the Grantee do give, grant, bargain,*

sell and convey unto the said Grantee, its successors and assigns, the following described premises, situated partially in the Village *of* Twinsburg, *County of* Summit

and State of Ohio: and partially in the Township of Twinsburg, County of Summit and State of Ohio:

Situated partially in the Village of Twinsburg and partially in the Township of Twinsburg, County of Summit and State of Ohio and known as being part of lot 12, tract 1-N and part of lot 3, tract 1-M in original Twinsburg Township and more fully described as follows:

Beginning at an iron pipe at the northeast corner of said lot 3, tract 1-M;

Thence N. 89° 16' W., along the north line of said lot 3, 34.31 feet to the southwest corner of land owned in 1955 by Michael Langer and Ruth Langer;

Thence N. 1° 00' 50" W., along said Langers' west line, 559.41 feet to the center line of Aurora Road (State Route 82);

Thence S. 89° 19' W., along the center line of said Aurora Road, 29.69 feet to the west line of said lot 12, tract 1-N and the northeast corner of land owned in 1955 by Elsie M. Bilek;

Thence S. 0° 58' 55" E., along the west line of said lot 12, being also Elsie M. Bilek's east line, 558.67 feet to the southwest corner of said lot 12 and in the north line of said lot 3, tract 1-M and south line of lot 13, tract 1-N of said original Twinsburg Township;

Thence N. 89° 16' W., along the north line of said lot 3 and the south line of said lot 13, 613.65 feet;

Thence S. 0° 52' 20" E., parallel with the east line of said lot 3, 1608.19 feet;

Thence S. 89° 11' 30" E., 678.00 feet to the east line of said lot 3;

Thence N. 0° 52' 20" W., along the east line of said lot 3, 1609.08 feet to the place of beginning and containing, as surveyed in December 1955 by S. G. Swigart & Son, 25.4104 Acres of land, of which 25.0273 Acres are in lot 3, tract 1-M and 0.3831 of an Acre is in lot 12, tract 1-N, but subject to the rights of the public to use that part of the above described premises within the bounds of Aurora Road (State Route 82) as a public highway.

(The deed from John J. Marek and Josephine C. Marek to the Grantor herein dated December 7, 1953 and recorded in Volume 3102, Page 682 of the Summit County, Ohio, Deed Records, is the next preceding recorded instrument by or through which Grantor herein claims title.)

VOL 6507 PAGE 556

35802

EASEMENT

KNOW ALL MEN BY THESE PRESENTS, That S. M. S. REALTY, an Ohio partnership, claiming title by virtue of Instrument No. 35801, Summit County Deed Records, the GRANTOR, for and in consideration of the sum of One Dollar ($1.00) and other good and valuable considerations, the receipt of which is hereby acknowledged, does hereby grant unto OHIO EDISON COMPANY, an Ohio corporation, the GRANTEE, its successors and assigns, an easement and right of way, with the rights and privileges hereinafter set forth, for lines for the transmission and distribution of electric current, including telephone and telegraph, upon, over, under and across the following described premises:

Situated in the Township of Twinsburg, County of Summit, State of Ohio, and being a part of Lots 3 and 12.

The right of way above referred to is described as follows:

A strip of land 10 feet wide, abutting, parallel to and extending the entire length along and westerly of the westerly limits of Chamberlin Road (120'), C.H. 128, and further described as follows:

Said strip of land enters Grantor's premises from the lands of Local Union #122 U.A.W. Bldg. Corp. and extends in a general northerly direction across Grantor's premises approximately 1,792 feet to the lands now or formerly owned by W. S. Sogg, Trustee.

Also the right to install the necessary guy wires, anchors and appurtenances within or adjacent to said strip of land wherever necessary.

The easement and rights herein granted shall include the right to erect, inspect, operate, replace, relocate, repair, patrol and permanently maintain upon, over, under and along the above-described right of way across said premises all necessary structures, wires, cables and other usual fixtures and appurtenances used for or in connection with the transmission and distribution of electric current, including telephone and telegraph, and the right of reasonable ingress and egress upon, over and across said premises for access to and from said right of way, and the right to trim, cut, remove or control by any other means at any and all times such trees, limbs and underbrush within or adjacent to said right of way as may interfere with or endanger said structures, wires or appurtenances or their operation.

04134

TRANSFER NOT NECESSARY
SEC. 319.202 REV. CODE COMPLIED WITH
EXEMPT
Conveyance
JOHN PODA JR.
County Auditor
BY
Deputy Auditor

COUNTY OF SUMMIT
No. 3847
CERTIFICATE OF PARTNERSHIP
FILED 4-16 1981
Recorded - Vol. Pg.
RALPH JAMES
Recorder
County of Summit
Date 4-10-81 By Dep. T. Sayler

LIMITED WARRANTY DEED

35801

THIS DEED, made this 17th day of February, 1981, by and between CHRYSLER CORPORATION, a corporation of the State of Delaware, hereinafter called Grantor, and S.M.S. REALTY CO., an Ohio General Partnership, whose tax mailing address is 5060 Richmond Road, Bedford Heights, Ohio 44146, hereinafter called Grantee, witnesseth:

THAT for and in consideration of the payment of the sum of One Hundred Seventy Five Thousand Dollars ($175,000.00) and other good and valuable considerations the receipt whereof is hereby acknowledged, Grantor does hereby grant, bargain, sell, and convey, with limited warranty covenants, to Grantee, Grantee's successors and assigns, all that certain piece, parcel or lot of land situate in the Township of Twinsburg, County of Summit, State of Ohio, and known as being part of Lot No. 3, Tract 1M in said Township, more particularly described as follows:

> Commencing at the intersection of the center line of Chamberlin Road (C.H. #128) with the center line of Highland Road (C.H.#111); thence N.1° 54' 06" W., along the center line of Chamberlin Road, 2625.00 feet to a point; thence S. 88° 41' 43" W., 60.00 feet to a point in the West line of said Chamberlin Road and the true Place of Beginning of land, hereby described; thence continuing N. 1° 54' 06" W., 1792.05 feet along the West line of Chamberlin Road to a point; thence N. 89° 16' W., 565.52 feet to an iron pipe; thence S. 0° 52' 20" E., 1800.36 feet to an iron pipe; thence N. 88° 05' 54" E., 597.59 to a point on the West line of Chamberlin Road and true Place of Beginning. Containing approximately 24.091 acres of land.
>
> Cyril Mitkoff, unmarried, conveyed all his right, title, and interest in the property to Chrysler Corporation, by Deed dated January 19, 1956 and recorded in Volume 3305, Page 682 of the Summit County, Ohio Deed Records.

TOGETHER with all and every of the rights, alleys, ways, waters, privileges, appurtenances and advantages to the same belonging, or in anywise appertaining.

TO HAVE AND TO HOLD the premises aforesaid, with the privileges and appurtenances thereunto belonging, to Grantee, Grantee's successors and assigns forever; SUBJECT, however, to reservations, conditions, limitations, restrictions, and/or easements of record, to zoning ordinances, if any, and to real estate taxes and assessments both general and special, currently a lien but not yet due and payable.

64079

62-00192 (680-TW-0021-02-006.000)
62-00193 (680-TW-0021-02-007.000)

TRANSFERRED IN COMPLIANCE WITH SEC. 319.202 REV. CODE
$175,000.00 Consideration $700.00 FEE
JOHN PODA JR. County Auditor BY S. Rice Deputy Auditor

VOL 6507 PAGE 553

SDWA

SEYMOUR D. WEISS & ASSOCIATES, INC.
Consulting Engineers/Surveyors

5380 Naiman Parkway • Suite G
Solon, Ohio 44139
(216) 349-3400

June 23, 1986
File No: P 8606-1626 TT

LEGAL DESCRIPTION OF A 24.095 ACRE PARCEL
LOCATED ON THE WEST SIDE OF CHAMBERLIN ROAD
SOUTH OF AURORA ROAD
TWINSBURG TOWNSHIP, OHIO

Situated in the Township of Twinsburg, County of Summit, State of Ohio, and known as being part of Original Twinsburg Township Lot No. 3, Tract 1-M, further bounded and described as follows:

Beginning at an iron pin found at the intersection of the center line of Highland Road, 60.00 feet wide, (C.H. 111), and the center line of Chamberlin Road, 120.00 feet wide, (C.H. 128); thence N-01° 54' 06"-W, along said center line of Chamberlin Road, 2,625.71 feet to a point therein; thence S-88° 05' 54"-W, 60.00 feet to an iron pin set in the Westerly line of said Chamberlin Road, said point also being the Northeasterly corner of a parcel of land conveyed to Union Building Corporation, by deed dated June 10, 1960 and recorded in Volume 3891, Page 651 of the Summit County Records, said point also being the principal place of beginning;

thence N-01° 54' 06"-W, along said Westerly line of Chamberlin Road, 1,792.42 feet to an iron pin set therein, said point also being the Southeasterly corner of a parcel of land conveyed to Wilton S. Sogg, Trustee, by deed dated November 30, 1978 and recorded in Volume 6186, Page 13 of the Summit County Records, said point also being in the Northerly line of Original Twinsburg Township Lot No. 3, Tract 1-M, said line further being the Southerly Corporation line of the City of Twinsburg;

thence N-89° 16' 21"-W, along said Northerly line of Original Twinsburg Township Lot No. 3 and the Southerly Corporation line of the City of Twinsburg and along the Southerly line of said land so conveyed to Wilton S. Sogg, Trustee, 565.51 feet to a point therein, said point also being in the Easterly line of land conveyed to The City of Macedonia by deed dated August 16, 1984 and recorded in Volume 6928, Page 667 of the Summit County Records;

thence S-00° 52' 20"-E, along said Easterly line of land so conveyed to The City of Macedonia, 1,818.65 feet to an iron pin set therein, said point being the Northwesterly corner of the aforementioned land conveyed to Union Building Corporation;

thence N-88° 05' 54"-E, along the Northerly line of said land so conveyed to Union Building Corporation, 597.59 feet to the principal place of beginning and containing 24.095 Acres, be the same more or less but subject to all legal highways and easements of record and being according to a survey dated June 21, 1986 made by Leslie P. Kent, Professional Surveyor No. 6626 of Seymour D. Weiss & Associates, Inc., Consulting Engineers and Surveyors.

LPK/jf

EXHIBIT "A"

RALPH JAMES, RECORDER
County of Summit

RALPH JAMES, RECORDER
County of Summit

275426

WARRANTY DEED — From a Corporation — (No. 104a)

The Ohio Legal Blank Co., Cleveland

Know all Men by these Presents:

That S.M.S. Realty Co., an Ohio general partnership

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX the Grantor, who claims title by or through instrument ___, recorded in Volume ___, Page ___, County Recorder's Office, for the consideration of Ten and 00/100 --------------------------- Dollars ($ 10.00) received to its full satisfaction of W & M Properties, an Ohio partnership, the Grantee, whose TAX MAILING ADDRESS will be 34555 Chagrin Blvd., Moreland Hills, Ohio 44022

do give, grant, bargain, sell and convey unto the said Grantee, its successors ~~heirs~~ and assigns, the following described premises situated in Township of Twinsburg County of Summit and State of Ohio:

and being described in Exhibit "A" attached hereto and made a part hereof.

62-00193; TW-0021-01-068
62-00192; TW-0021-01-067

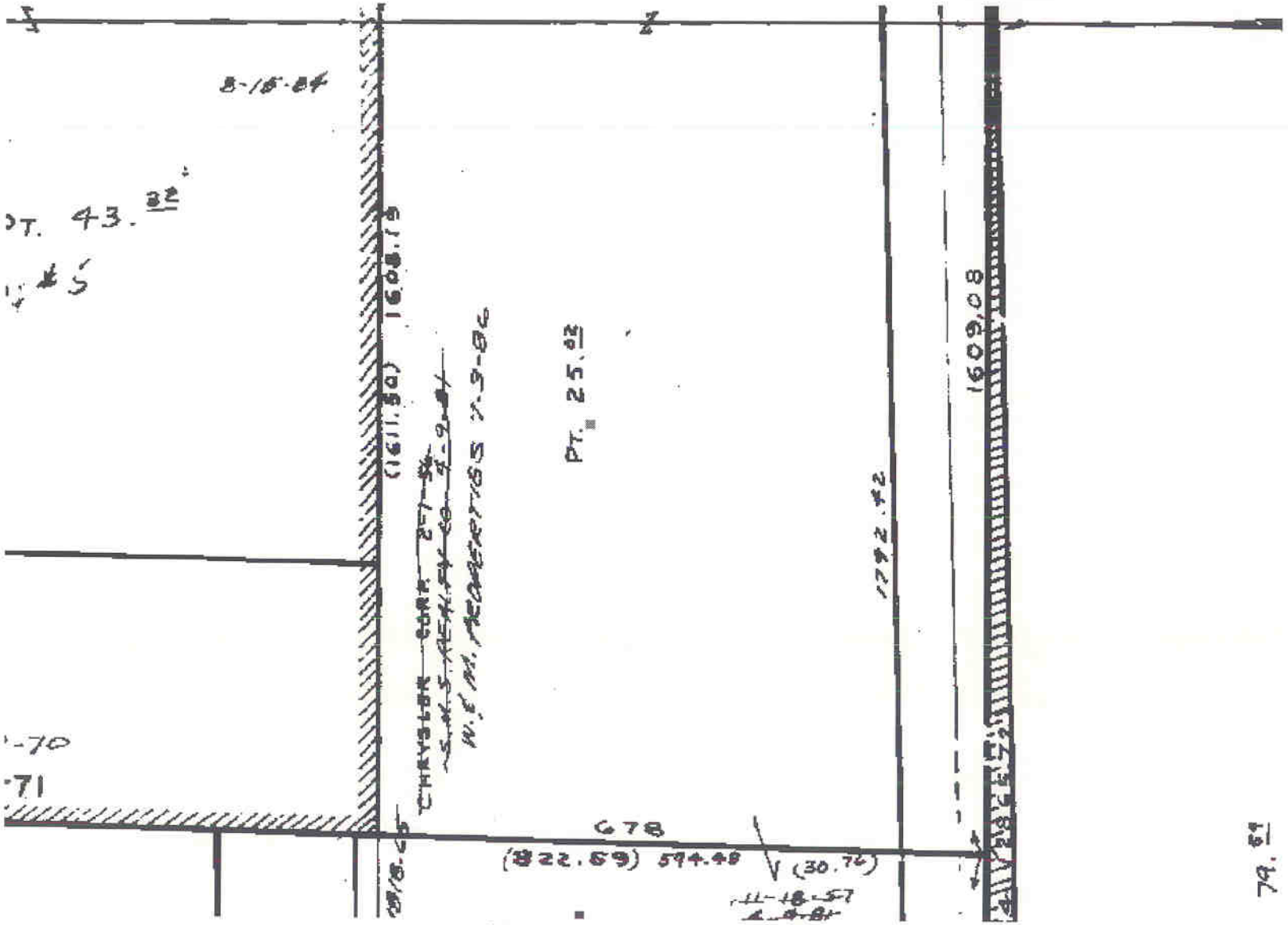
TRANSFERRED IN COMPLIANCE WITH
$ 24,973.73 $ 98.70 FEE
TIM DAVIS
BY [signature]

COUNTY OF SUMMIT
No. 3847-A
CERTIFICATE OF PARTNERSHIP
FILED 4-10 1981
Recorded - Vol. 16 Pg 811
RALPH JAMES
Recorder
County of Summit
7-3-86 Dep. T. Jate

COUNTY OF SUMMIT
No. 5070
CERTIFICATE OF PARTNERSHIP
FILED 7-3 1986
Recorded - Vol. Pg.
RALPH JAMES
Recorder
County of Summit
7-3-86 Dep. T. Jater

VOL 7279 PAGE 961

Auditor Tax Map Print



Selected AltID(s) = TW-00021-01-068.000

Date Printed 4/7/2004

GIS Public Access Web Services Version 2 - Microsoft Internet Explorer

Map Viewer | Parcel Search | Other Info | Help | Disclaimer

Home
New Query

Parcel
6408648

Current Tax Year

Tax Info

NBHD Sales

Previous Tax Years

1996
Tax Hist
Pay Hist

TAX RELATED INFORMATION FOR PARCEL 6408648

STUB	64164783	HOMESTEAD	N
BANK CODE	034 DEVELOPERS DIVERSIFIED REALTY CORP	CAUV	N
TREASURER CODE		FOREST	N
MONEY IN ESCROW		2.5%	N
MONEY IN PRETAX		CERT DLQ	N

2003 TAX BILL SUMMARY FOR PARCEL 6408648

MAILING ADDRESS
PROPERTIES W M
34555 CHAGRIN BLVD
CHAGRIN FALLS, OH 44022

NOTICE:
IF THE TAXES ARE NOT PAID WITHIN ONE YEAR FROM THE DATE THEY ARE DUE, THE PROPERTY IS SUBJECT TO FORECLOSURE FOR TAX DELINQUENCY.

Phone: 330-643-2587
Toll Free Ohio Only: 1-800-582-2699

	First Half Charges	Second Half Charges
Realestate	1601.87	1601.87
Special Assessment	0.00	0.00
Total	1601.87	1601.87

	DELQ	1st HALF	2nd HALF
TOTAL REAL ESTATE AND SPECIAL CHARGES	0.00	1601.87	1601.87
PAYMENTS	0.00	-1601.87	0.00
AMOUNT DUE	0.00	0.00	1601.87
		TOTAL AMOUNT DUE:	1601.87

2003 TAX BILL DETAILS FOR PARCEL 6408648

DATE	SETTLE	PROJ. #	ACTION /CODE	1st HALF	2nd HALF

Start | 1:03 PM

Transferred,

Received Dec. 28, 1953 at 11:35 A.M.

Recorded Jan. 13, 1954

Recorder's fee $ 2.10 Frank W. Kroeger
Recorder

WARRANTY DEED—No. 102A

949841

The Ohio Legal Blank Co. Cleveland
Publishers and Dealers Since 1883

Know all Men by these Presents

That, John J. Marek and Josephine C. Marek (husband and wife)

who claim title by or through instrument, recorded in Volume, Page, County Recorder's Office, for the consideration of Ten Dollars and no/100 - - - - - - - - - - - - - - and Other Valuable Consideration - - - - - - - - - *Dollars* ($10.00 - - -) *received to* their *full satisfaction of* Cyril Mitkoff

the Grantors,

whose TAX MAILING ADDRESS will be 2789 East 120th Street

the Grantee,

do **Give, Grant, Bargain, Sell and Convey** *unto the said Grantee*, his *heirs and assigns, the following described premises, situated in the* Township of Twinsburg, *County of* Summit *and State of Ohio:*

and known as being a part of Original Lot No. 12, Tract No. 1, North, and is bounded and described as follows:

Beginning at a point on the center line of the Macedonia--Twinsburg Road (60 ft. wide) at the Westerly line of said Original Lot No. 12;

Thence N-89-19-E along said center line, 30.00 ft.;

Thence S.-1-0-30-E, parallel with the westerly line of Original lot No. 12, 560.61 ft. to the southerly line thereof;

Thence N-88-20-15-W, along said southerly line, 30.02 ft. to said westerly line of original lot No. 12;

Thence N-1-0-30-W, along said westerly line, 559.38 ft. to the place of beginning and containing 0.3857 Acres of land as surveyed by the Accurate Survey Co. be the same more or less, but subject to all legal highways.

Parcel No. 2

Situated in the County of Summit, State of Ohio and known as being a part of Original Lot No. 3, Champion Tract, Twinsburg Township, and is bounded and described as follows:

Beginning at the northeasterly corner of said Original Lot No. 3.

Thence S-1-07-15-E, along the Easterly line of Original Lot No. 3, 1608 ft. to the northerly line of land formerly owned by William T. Maxam;

Thence N-89-25-55-W, along said northerly line, 678 ft.;

Thence N-1-07-15-W, parallel with the easterly line of Original lot No. 3, 1611.5 ft. to the northerly line of Original lot No. 3;

Thence easterly, along said northerly line, 678 ft. to the place of beginning and containing 25.056 Acres of land as survey by the Accurate Survey Company be the same more or less, but subject to all legal highways.

APPENDIX D

REGULATORY DATABASE SUMMARY

The EDR Radius Map
with GeoCheck®

Cleveland/Twinsburg MCAR Project
Chamberlin Road/Aurora Road
Twinsburg, OH 44087

Inquiry Number: 01170356.1r

April 13, 2004

EDR™ Environmental Data Resources Inc

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06460

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

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Detail Map	3
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Map Findings	6
Orphan Summary	47
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting Source Map	A-7
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Physical Setting Source Records Searched	A-9

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

CHAMBERLIN ROAD/AURORA ROAD
TWINSBURG, OH 44087

COORDINATES

Latitude (North):	41.308000 - 41˚ 18' 28.8''
Longitude (West):	81.473600 - 81˚ 28' 25.0''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	460354.4
UTM Y (Meters):	4572844.5
Elevation:	1160 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	41081-C4 TWINSBURG, OH
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL ..... National Priority List
Proposed NPL ..... Proposed National Priority List Sites
CERCLIS ..... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP ..... CERCLIS No Further Remedial Action Planned
RCRIS-TSD ..... Resource Conservation and Recovery Information System
RCRIS-LQG ..... Resource Conservation and Recovery Information System
ERNS ..... Emergency Response Notification System

STATE ASTM STANDARD

SHWS ..... This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

EXECUTIVE SUMMARY

SWF/LF ..... Licensed Solid Waste Facilities
UST ..... Underground Storage Tank Tank File
DERR ..... Division of Emergency & Remedial Response's Database
VCP ..... Voluntary Action Program Sites

FEDERAL ASTM SUPPLEMENTAL

CONSENT ..... Superfund (CERCLA) Consent Decrees
ROD ..... Records Of Decision
Delisted NPL ..... National Priority List Deletions
FINDS ..... Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS ..... Hazardous Materials Information Reporting System
MLTS ..... Material Licensing Tracking System
MINES ..... Mines Master Index File
NPL Liens ..... Federal Superfund Liens
PADS ..... PCB Activity Database System
INDIAN RESERV ..... Indian Reservations
US BROWNFIELDS ..... A Listing of Brownfields Sites
DOD ..... Department of Defense Sites
RAATS ..... RCRA Administrative Action Tracking System
TRIS ..... Toxic Chemical Release Inventory System
TSCA ..... Toxic Substances Control Act
SSTS ..... Section 7 Tracking Systems
FTTS INSP ..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

MSL ..... Master Sites List
OH Spills ..... Emergency Response Database
TOWNGAS ..... DERR Towngas Database
UNREG LTANKS ..... Ohio Leaking UST File
HIST LF ..... Old Solid Waste Landfill
INST CONTROL ..... Sites with Institutional Engineering Controls
ENG CONTROLS ..... Sites with Engineering Controls

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas ..... Former Manufactured Gas (Coal Gas) Sites

BROWNFIELDS DATABASES

US BROWNFIELDS ..... A Listing of Brownfields Sites
VCP ..... Voluntary Action Program Sites

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

FEDERAL ASTM STANDARD

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 12/18/2003 has revealed that there is 1 CORRACTS site within approximately 1.25 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
AEROSOL SYSTEMS INCORPORATED	***9150 VALLEY VIEW ROAD***	***1 - 2 WSW***	***13***	***13***

RCRIS: Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs): generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs): generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs): generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRIS-SQG list, as provided by EDR, and dated 03/09/2004 has revealed that there are 5 RCRIS-SQG sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
HAR TAL SERVICE INC	***1927 E AURORA RD***	***1/4 - 1/2 NE***	***A1***	***6***
MAVAL MACHINE INC	***1937 E AURORA RD***	***1/4 - 1/2 NE***	***A2***	***6***
STEINELS AUTOWERKS INC	***1947 E AURORA RD***	***1/4 - 1/2 NE***	***A3***	***6***
JH INDUSTRIES INC	***1981 E AURORA RD***	***1/4 - 1/2 ENE***	***B4***	***7***
THE APTHORP	***2000 E AURORA RD***	***1/4 - 1/2 ENE***	***B6***	***8***

STATE ASTM STANDARD

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Commerce Division of State Fire Marshal's List of Reported Petroleum Underground Storage Tank Release Incidents.

A review of the LUST list, as provided by EDR, and dated 12/14/2003 has revealed that there are 7 LUST sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
MEDINA SUPPLY CO.	***1516 HIGHLAND RD***	***1/2 - 1 SSE***	***11***	***12***

Lower Elevation	Address	Dist / Dir	Map ID	Page
TWINSBURG STAMPING PLANT	2000 E AURORA RD	1/4 - 1/2 ENE	B5	7
AGA GAS INCORPORATED	***2045 E. AURORA ROAD***	***1/2 - 1 ENE***	***7***	***9***

EXECUTIVE SUMMARY

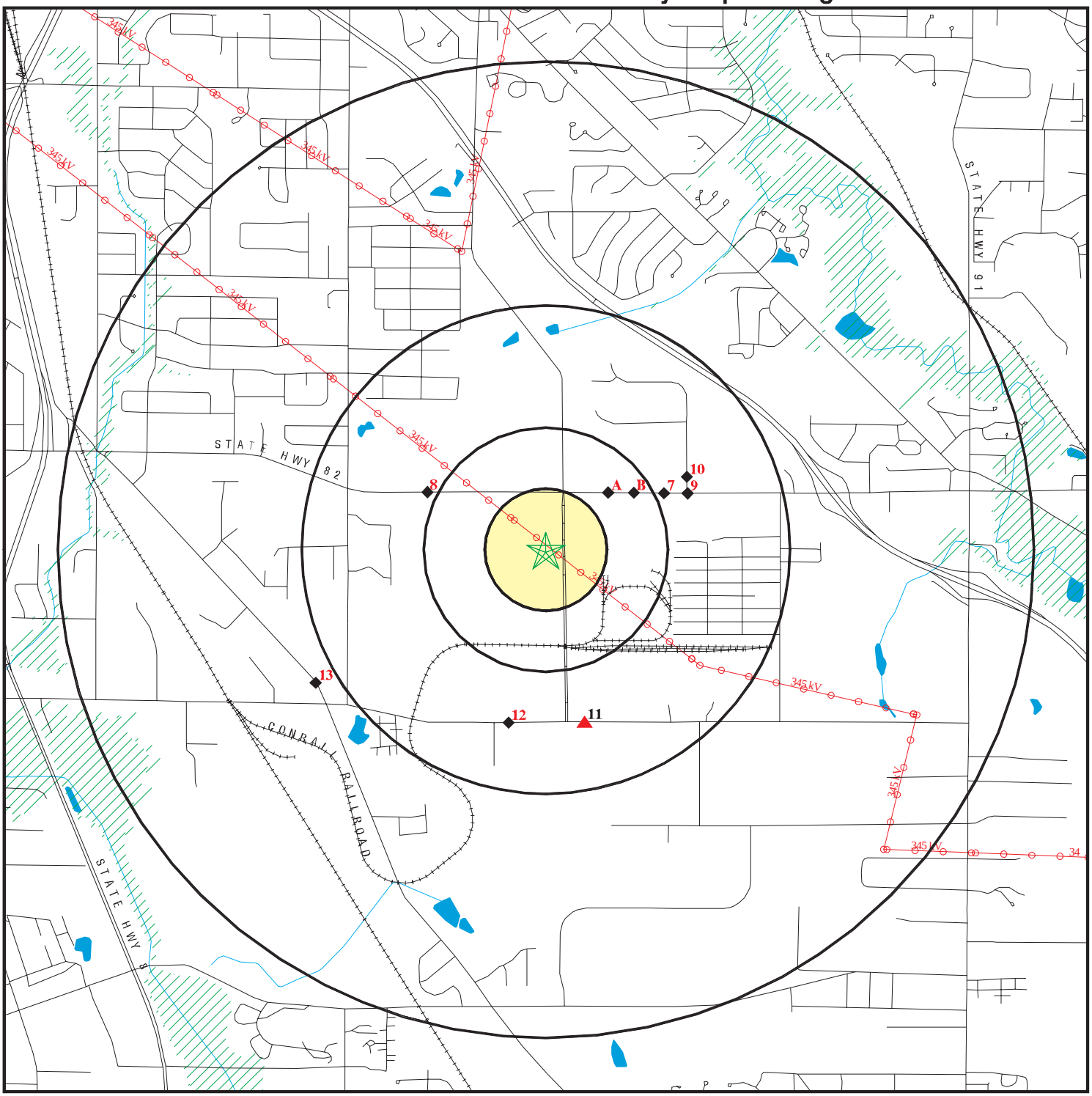
Lower Elevation	Address	Dist / Dir	Map ID	Page
LONGWOOD PARK	1566 AURORA RD E	1/2 - 1 WNW	8	11
VISUAL MARKING SYSTEMS	2097 E AURORA RD	1/2 - 1 ENE	9	11
NEAT LINE CO INC	***9004 DUTTON DR***	***1/2 - 1 ENE***	***10***	***11***
JT EATON & CO	1393 E HIGHLAND RD	1/2 - 1 SSW	12	13

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
COCA-COLA BOTTLING CO	LUST
CLEVELAND DIV OF WATER PARMA CONTROL CTR	RCRIS-SQG, FINDS
SPEEDWAY 1138	RCRIS-LQG
TWINSBURG AUTO SERVICE CENTER, INC.	FINDS
ALLTEL TWINSBURG EXCHANGE	FINDS

OVERVIEW MAP - 01170356.1r - U.S. Army Corps of Engineers



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites

0 1/2 1 2 Miles

- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone

N

TARGET PROPERTY:	Cleveland/Twinsburg MCAR Project	CUSTOMER:	U.S. Army Corps of Engineers
ADDRESS:	Chamberlin Road/Aurora Road	CONTACT:	Nora Keel
CITY/STATE/ZIP:	Twinsburg OH 44087	INQUIRY #:	01170356.1r
LAT/LONG:	41.3080 / 81.4736	DATE:	April 13, 2004 1:36 pm

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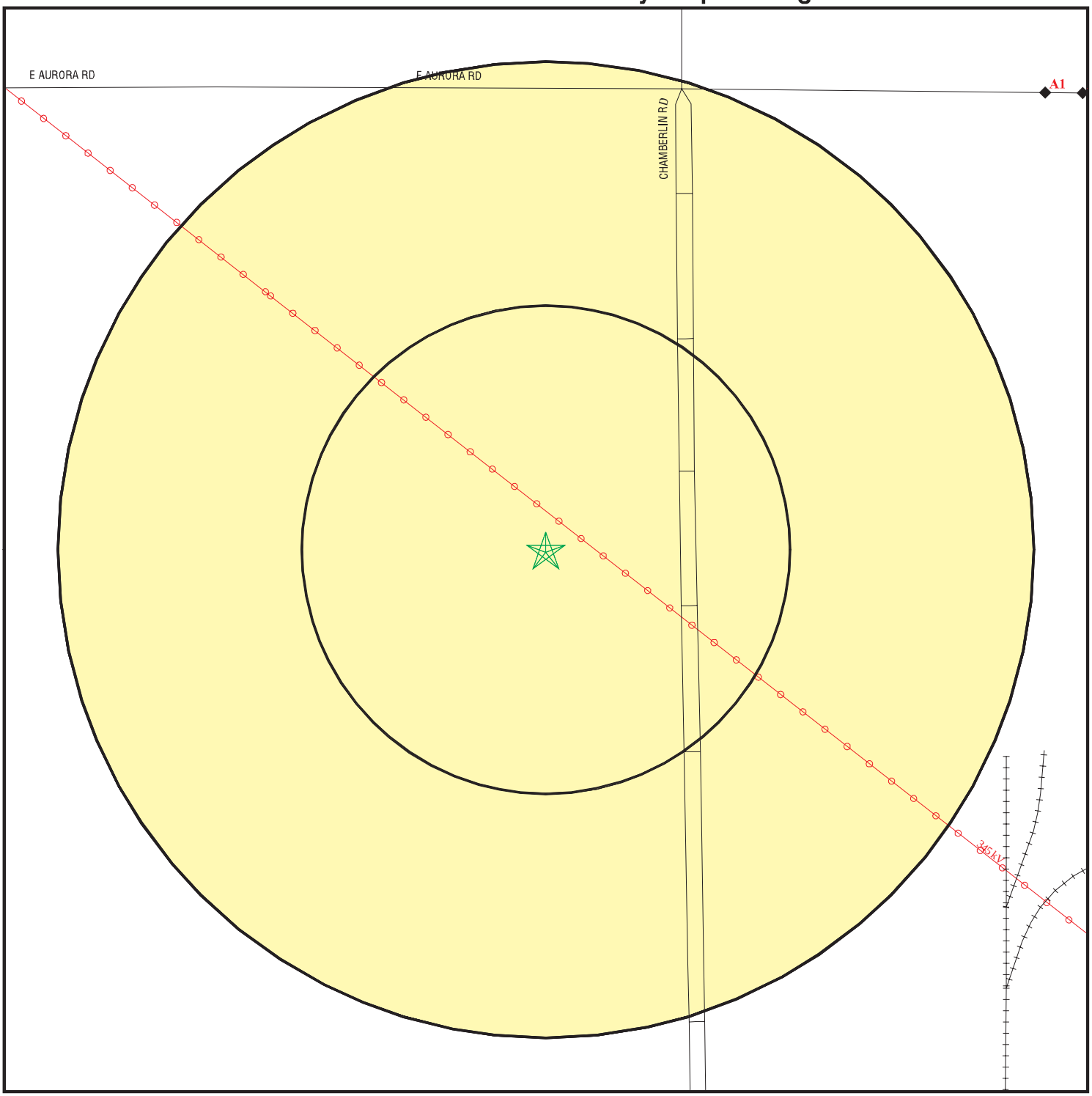
DETAIL MAP - 01170356.1r - U.S. Army Corps of Engineers



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone

0 1/16 1/8 1/4 Miles

N

TARGET PROPERTY:	Cleveland/Twinsburg MCAR Project	CUSTOMER:	U.S. Army Corps of Engineers
ADDRESS:	Chamberlin Road/Aurora Road	CONTACT:	Nora Keel
CITY/STATE/ZIP:	Twinsburg OH 44087	INQUIRY #:	01170356.1r
LAT/LONG:	41.3080 / 81.4736	DATE:	April 13, 2004 1:37 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.250	0	0	0	0	0	0
Proposed NPL		1.250	0	0	0	0	0	0
CERCLIS		0.750	0	0	0	0	NR	0
CERC-NFRAP		0.500	0	0	0	NR	NR	0
CORRACTS		1.250	0	0	0	0	1	1
RCRIS-TSD		0.750	0	0	0	0	NR	0
RCRIS Lg. Quan. Gen.		0.500	0	0	0	NR	NR	0
RCRIS Sm. Quan. Gen.		0.500	0	0	5	NR	NR	5
ERNS		0.250	0	0	NR	NR	NR	0
STATE ASTM STANDARD								
State Haz. Waste		N/A	N/A	N/A	N/A	N/A	N/A	N/A
State Landfill		0.750	0	0	0	0	NR	0
LUST		0.750	0	0	1	6	NR	7
UST		0.500	0	0	0	NR	NR	0
DERR		1.000	0	0	0	0	NR	0
VCP		0.750	0	0	0	0	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
INDIAN RESERV		1.000	0	0	0	0	NR	0
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
MSL		1.000	0	0	0	0	NR	0
OH Spills		TP	NR	NR	NR	NR	NR	0
TOWNGAS		1.000	0	0	0	0	NR	0
UNREG LTANKS		0.500	0	0	0	NR	NR	0
HIST LF		0.500	0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INST CONTROL		0.250	0	0	NR	NR	NR	0
ENG CONTROLS		0.250	0	0	NR	NR	NR	0
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1.000	0	0	0	0	NR	0
BROWNFIELDS DATABASES								
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
VCP		0.750	0	0	0	0	NR	0

NOTES:

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

N/A = This State does not maintain a SHWS list. See the Federal CERCLIS list.

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

A1
NE
1/4-1/2
1831 ft.

Relative:
Lower

Actual:
1148 ft.

HAR TAL SERVICE INC
1927 E AURORA RD
TWINSBURG, OH 44087

RCRIS-SQG **1000133276**
FINDS **OHD986979268**

Site 1 of 3 in cluster A

RCRIS:
Owner: JAMES S TALARICO
(216) 543-8661
EPA ID: OHD986979268

Contact: JAMES S TALARICO
(216) 425-8177

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Resource Conservation and Recovery Act Information system (RCRAINFO)

A2
NE
1/4-1/2
1906 ft.

Relative:
Lower

Actual:
1148 ft.

MAVAL MACHINE INC
1937 E AURORA RD
TWINSBURG, OH 44087

RCRIS-SQG **1000147984**
FINDS **OHD177351228**

Site 2 of 3 in cluster A

RCRIS:
Owner: DOUGHERTY JOHN
(312) 555-1212
EPA ID: OHD177351228

Contact: JOHN DOUGHERTY
(216) 425-9080

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Resource Conservation and Recovery Act Information system (RCRAINFO)

A3
NE
1/4-1/2
1985 ft.

Relative:
Lower

Actual:
1145 ft.

STEINELS AUTOWERKS INC
1947 E AURORA RD
TWINSBURG, OH 44087

RCRIS-SQG **1000256496**
FINDS **OHD981785330**

Site 3 of 3 in cluster A

STEINELS AUTOWERKS INC (Continued) **1000256496**

RCRIS:
Owner: STEINEL ERIC
(216) 425-8582
EPA ID: OHD981785330

Contact: ERIC STEINEL
(216) 425-8582

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Resource Conservation and Recovery Act Information system (RCRAINFO)

B4 **JH INDUSTRIES INC** **RCRIS-SQG** **1000345720**
ENE **1981 E AURORA RD** **FINDS** **OHD004199238**
1/4-1/2 **TWINSBURG, OH 44087**
2266 ft.

Site 1 of 3 in cluster B

Relative:
Lower

Actual:
1139 ft.

RCRIS:
Owner: NAME NOT REPORTED
(312) 555-1212
EPA ID: OHD004199238

Contact: THOMAS CASELLA
(216) 963-4105

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

NY MANIFEST
Additional detail is available in NY MANIFEST. Please contact your EDR Account Executive for more information.

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Ohio Core database (OH_CORE)
Resource Conservation and Recovery Act Information system (RCRAINFO)

B5 **TWINSBURG STAMPING PLANT** **LUST** **S103703264**
ENE **2000 E AURORA RD** **N/A**
1/4-1/2 **TWINSBURG, OH 44087**
2440 ft.

Site 2 of 3 in cluster B

Relative:
Lower

Actual:
1139 ft.

LUST:
Owner: CHRYSLER CORP.
Facility Status: Inactive
LTF Status: 1 SUS/CON from regulated UST
Release Number: 77002117-N00001
Owner Address: 2000 E AURORA RD
TWINSBURG, OH 44087
FR Status: No Further Action letter issued
Old Facility Id: 182117
Former Lust Release Number: 771062701
Release Date: 12/17/1996 0:00

TWINSBURG STAMPING PLANT (Continued) **S103703264**

B6 **THE APTHORP** **PADS** **1000319886**
ENE **2000 E AURORA RD** **RCRIS-SQG** **OHD004206009**
1/4-1/2 **TWINSBURG, OH 44087** **FINDS**
2440 ft. **OH Spills**

Site 3 of 3 in cluster B

Relative:
Lower

Actual:
1139 ft.

RCRIS:

Owner: CHRYSLER CORPORATION
(312) 555-1212
EPA ID: OHD004206009

Contact: S JONES
(216) 467-7151

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: Violations exist

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 06/20/1989
Actual Date Achieved Compliance: 10/16/1989

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/27/1989
Penalty Type: Not reported

Regulation Violated: 40 CFR 268
Area of Violation: GENERATOR-LAND BAN REQUIREMENTS
Date Violation Determined: 06/20/1989
Actual Date Achieved Compliance: 03/02/1990

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 10/15/1986
Actual Date Achieved Compliance: 12/15/1986

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 11/04/1986
Penalty Type: Not reported

There are 3 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19891016
Other Evaluation	GENERATOR-LAND BAN REQUIREMENTS	19900302
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19861215

NY MANIFEST
Additional detail is available in NY MANIFEST. Please contact your EDR Account Executive for more information.

FINDS:

Other Pertinent Environmental Activity Identified at Site:
AIRS/AIRS Facility Subystem (AIRS/AFS)
Biennial Reporting System (BRS)
National Emissions Trends (NET)
National Toxics Inventory (NTI)
Ohio Core database (OH_CORE)
Permit Compliance System (PCS)
Resource Conservation and Recovery Act Information system (RCRAINFO)
Toxic Chemical Release Inventory System (TRIS)

THE APTHORP (Continued) **1000319886**

SPILLS:

Facility ID:	19962--482
Spill Date:	2/1996
Date Reported :	02/06/96 14:13
Spill Number:	9602-77-482
Size of Spill:	Unknown
Priority :	No Response by Emergency Response
Cause:	Permit Violation
Reason:	Undefined
Affected Area:	Post-88 surface water
Material:	WASTE WATER
Type:	Waste Water ie: noncontact cooling water, service water
Units:	Not reported
Waterway Affctd:	TINKERS CREEK
Spill Source:	Fixed Facility, Business, Waste system
Reportable Qnty:	Not reported

Name of Company or person that had spill: Not reported

Suspected Spiller:

CHRYSLER
2000 E AURORA RD
TWINSBURG, OH 44087

Carrier: Not reported

---

7 ENE 1/2-1 2836 ft. | **AGA GAS INCORPORATED** | **RCRIS-SQG** | **1000115087**
2045 E. AURORA ROAD | **FINDS** | **OHD981803190**
TWINSBURG, OH 44087 | **LUST**
OH Spills
UST

Relative: Lower

Actual: 1134 ft.

RCRIS:

Owner:	AGA GAS INC (312) 555-1212
EPA ID:	OHD981803190
Contact:	DAVE SASEK (216) 425-3989
Classification:	Small Quantity Generator
TSDF Activities:	Not reported

Violation Status: Violations exist

Regulation Violated:	3734.02(F)
Area of Violation:	TSD-OTHER REQUIREMENTS (OVERSIGHT)
Date Violation Determined:	02/02/1995
Actual Date Achieved Compliance:	03/11/1996
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	02/06/1995
Penalty Type:	Not reported

There are 1 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Other Evaluation	TSD-OTHER REQUIREMENTS (OVERSIGHT)	19960311

AGA GAS INCORPORATED (Continued) **1000115087**

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Ohio Core database (OH_CORE)
Resource Conservation and Recovery Act Information system (RCRAINFO)
Toxic Chemical Release Inventory System (TRIS)

LUST:
Owner: HENRY WALLING
Facility Status: Active
LTF Status: 1 SUS/CON from regulated UST
Release Number: 77000218-N00001
Owner Address: PO BOX 94737
CLEVELAND, OH 44101
FR Status: No Further Action letter issued
Old Facility Id: 770218
Former Lust Release Number: 772144800
Release Date: Not reported

SPILLS:
Facility ID: 9312-77-5163
Spill Date: 12/93
Date Reported : 12/23/93 12:35
Spill Number: 9312-77-5163
Size of Spill: Small
Priority : Respond When Possible or Convenient
Cause: Improper Connection
Reason: Accident
Affected Area: Land or land surface impact
Material: DIESEL FUEL
Type: Hydrocarbon ie: crude oil, natural gas, gasoline, waste oil
Units: gallons
Waterway Affctd: Not reported
Spill Source: Fixed Facility, Industry, Other
Reportable Qnty: Not reported
Name of Company or person that had spill:
AGA GAS
2045 EAST AURORA RD
TWINSBURG, OH 44087
Suspected Spiller: Not reported
Carrier: Not reported

UST:
Facility ID: 77000218 Tank ID: T00001
Owner: AGA GAS, INC.
Owner Address: PO BOX 94737
CLEVELAND, OH 44101
Capacity: 550 Tank Status: Currently In Use
Install Date: 08/01/85
Content: Used Oil-Petroleum
Tank Type: Fiberglass Reinforced Plastic

AGA GAS INCORPORATED (Continued) **1000115087**

Facility ID:	77000218	Tank ID:	T00002
Owner:	AGA GAS, INC.		
Owner Address:	PO BOX 94737 CLEVELAND, OH 44101		
Capacity:	10000	Tank Status:	Currently In Use
Install Date:	09/01/85		
Content:	Diesel		
Tank Type:	Fiberglass Reinforced Plastic		

---

8 WNW 1/2-1 2849 ft. **LONGWOOD PARK** **LUST** **S104518806**
1566 AURORA RD E **N/A**
MACEDONIA, OH 44056

Relative: Lower

Actual: 1152 ft.

LUST:

Owner:	CITY OF MACEDONIA
Facility Status:	Active
LTF Status:	1 SUS/CON from regulated UST
Release Number:	77002006-N00001
Owner Address:	9699 VALLEY VIEW RD MACEDONIA, OH 44056
FR Status:	A possible incident is reported
Old Facility Id:	772006
Former Lust Release Number:	773251200
Release Date:	1/21/1994 0:00

---

9 ENE 1/2-1 3301 ft. **VISUAL MARKING SYSTEMS** **LUST** **S104270490**
2097 E AURORA RD **N/A**
TWINSBURG, OH 44087

Relative: Lower

Actual: 1131 ft.

LUST:

Owner:	VISUAL MARKING SYSTEMS
Facility Status:	Inactive
LTF Status:	6 Closure of regulated UST
Release Number:	77010051-N00001
Owner Address:	2097 E AURORA RD TWINSBURG, OH 44087
FR Status:	No Further Action letter issued
Old Facility Id:	0
Former Lust Release Number:	770281600
Release Date:	Not reported

---

10 ENE 1/2-1 3436 ft. **NEAT LINE CO INC** **RCRIS-SQG** **1000392634**
9004 DUTTON DR **FINDS** **OHD004554184**
TWINSBURG, OH 44087 **LUST**

Relative: Lower

Actual: 1119 ft.

NEAT LINE CO INC (Continued) **1000392634**

RCRIS:
Owner: GREEN MICHAEL E
(312) 555-1212
EPA ID: OHD004554184

Contact: MICHAEL GREEN
(216) 425-2707

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Resource Conservation and Recovery Act Information system (RCRAINFO)

LUST:
Owner: NEAT LINE COM INC
Facility Status: Inactive
LTF Status: 6 Closure of regulated UST
Release Number: 77000886-N00001
Owner Address: 10423 DANNER DR
STREETSBORO, OH 44241
FR Status: No Further Action letter issued
Old Facility Id: 770886
Former Lust Release Number: 772276900
Release Date: Not reported

---

11 **MEDINA SUPPLY CO.** **LUST** **U000896132**
SSE **1516 HIGHLAND RD** **UST** **N/A**
1/2-1 **TWINSBURG, OH 44087**
3810 ft.

Relative:
Higher

Actual:
1170 ft.

LUST:
Owner: MEDINA SUPPLY CO.
Facility Status: Active
LTF Status: 1 SUS/CON from regulated UST
Release Number: 77004828-N00001
Owner Address: 230 E SMITH RD - PO BX 249
MEDINA, OH 44258
FR Status: Release is Confirmed
Old Facility Id: 774828
Former Lust Release Number: 779013400
Release Date: 1/15/1999 0:00

UST:
Facility ID: 77004828 Tank ID: T00001
Owner: MEDINA SUPPLY CO.
Owner Address: 230 E SMITH RD - PO BX 249
MEDINA, OH 44258
Capacity: 10000 Tank Status: Currently In Use
Install Date: / /
Content: Diesel
Tank Type: Steel

12 SSW 1/2-1 3829 ft. | **JT EATON & CO** | **LUST** | **S104261482** | **N/A**
1393 E HIGHLAND RD
TWINSBURG, OH 44087

Relative: Lower

Actual: 1137 ft.

LUST:
Owner: JT EATON & CO
Facility Status: Inactive
LTF Status: 6 Closure of regulated UST
Release Number: 77010080-N00001
Owner Address: 1393 E HIGHLAND RD
TWINSBURG, OH 44087
FR Status: No Further Action letter issued
Old Facility Id: 0
Former Lust Release Number: 771073300
Release Date: Not reported

---

13 WSW > 1 5752 ft. | **AEROSOL SYSTEMS INCORPORATED** | **RCRIS-SQG** | **1000342359**
9150 VALLEY VIEW ROAD | **FINDS** | **OHD050387802**
MACEDONIA, OH 44056 | **OH Spills**
RCRIS-TSD
DERR
CORRACTS
CERC-NFRAP
MSL

Relative: Lower

Actual: 1051 ft.

CERCLIS-NFRAP Classification Data:
Site Incident Category: Not reported
Non NPL Code: NFRAP
Ownership Status: Other
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL

CERCLIS-NFRAP Assessment History:

Assessment:	DISCOVERY	Completed:	08/01/1980
Assessment:	PRELIMINARY ASSESSMENT	Completed:	08/01/1984
Assessment:	ARCHIVE SITE	Completed:	08/01/1984

CERCLIS-NFRAP Alias Name(s):
AEROSOL SYSTEMS INC

CORRACTS Data:

EPA Id: OHD050387802
Region: 5
Area Name: ENTIRE FACILITY
Actual Date: 09/27/1991
Corrective Action: CA075ME - CA Prioritization, Facility or area was assigned a medium corrective action priority
2002 NAICS Title: Not Reported

EPA Id: OHD050387802
Region: 5
Area Name: ENTIRE FACILITY
Actual Date: 04/23/1991
Corrective Action: CA050 - RFA Completed
2002 NAICS Title: Not Reported

EPA Id: OHD050387802
Region: 5
Area Name: ENTIRE FACILITY
Actual Date: 04/23/1991
Corrective Action: CA070YE - RFA Determination Of Need For An RFI, RFI is Necessary
2002 NAICS Title: Not Reported

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

RCRIS Corrective Action Summary:
Event: CA Prioritization, Facility or area was assigned a medium corrective action priority.
Event Date: 09/27/1991

Event: RFA Completed
Event Date: 04/23/1991

Event: RFA Determination Of Need For An RFI, RFI is Necessary;
Event Date: 04/23/1991

RCRIS:
Owner: NAME NOT REPORTED
(312) 555-1212
EPA ID: OHD050387802

Contact: Not reported

Classification: TSDF
TSDF Activities: Not reported

Violation Status: Violations exist

Regulation Violated: 3745-65-93(D)(4)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 06/23/2003
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 08/04/2003
Penalty Type: Not reported

Regulation Violated: 3745-65-93(D)(7)(a)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 06/23/2003
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 08/04/2003
Penalty Type: Not reported

Regulation Violated: 3745-66-43
Area of Violation: TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined: 12/11/2001
Actual Date Achieved Compliance: Not reported

Regulation Violated: 3745-66-42
Area of Violation: TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined: 12/11/2001
Actual Date Achieved Compliance: Not reported

Regulation Violated: 3745-66-42(B) & CO 5(b)
Area of Violation: TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined: 12/11/2001
Actual Date Achieved Compliance: Not reported

Regulation Violated: 3745-66-47
Area of Violation: TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined: 12/11/2001
Actual Date Achieved Compliance: Not reported

Regulation Violated: 3745-66-43(A)(2) & CO 5(c)
Area of Violation: TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined: 12/11/2001

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Actual Date Achieved Compliance: Not reported

Regulation Violated: 3745-65-37
Area of Violation: TSD-CONTINGENCY PLAN REQUREMENTS
Date Violation Determined: 06/20/2001
Actual Date Achieved Compliance: 08/28/2001

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/2001
Penalty Type: Not reported

Regulation Violated: 3745-52-20(B)
Area of Violation: GENERATOR-MANIFEST REQUIREMENTS
Date Violation Determined: 06/20/2001
Actual Date Achieved Compliance: 08/28/2001

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/2001
Penalty Type: Not reported

Regulation Violated: 3745-66-73(A)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/20/2001
Actual Date Achieved Compliance: 07/09/2001

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/2001
Penalty Type: Not reported

Regulation Violated: 3745-52-41
Area of Violation: GENERATOR-GENERAL REQUIREMENTS
Date Violation Determined: 06/20/2001
Actual Date Achieved Compliance: 08/28/2001

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/2001
Penalty Type: Not reported

Regulation Violated: 3745-270-07(A)(2)
Area of Violation: TSD-LAND BAN REQUIREMENTS
Date Violation Determined: 06/20/2001
Actual Date Achieved Compliance: 08/28/2001

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/2001
Penalty Type: Not reported

Regulation Violated: 3745-52-34(C)(1)(b)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/20/2001
Actual Date Achieved Compliance: 07/09/2001

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/2001
Penalty Type: Not reported

Regulation Violated: 3745-65-16(B)
Area of Violation: TSD-GENERAL STANDARDS
Date Violation Determined: 06/20/2001
Actual Date Achieved Compliance: 08/28/2001

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/2001
Penalty Type: Not reported

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Regulation Violated: 3745-65-35
Area of Violation: TSD-PREPAREDNESS/PREVENTION REQUIREMENTS
Date Violation Determined: 06/20/2001
Actual Date Achieved Compliance: 08/28/2001

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/2001
Penalty Type: Not reported

Regulation Violated: 3745-52-11
Area of Violation: GENERATOR-GENERAL REQUIREMENTS
Date Violation Determined: 06/07/2000
Actual Date Achieved Compliance: 08/02/2000

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/20/2000
Penalty Type: Not reported

Regulation Violated: 3745-65-92(A)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 11/02/1999
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 11/02/1999
Penalty Type: Not reported

Regulation Violated: 3745-65-93(D)(4)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 11/02/1999
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 11/02/1999
Penalty Type: Not reported

Regulation Violated: 3745-66-42
Area of Violation: TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined: 09/03/1999
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/15/1999
Penalty Type: Not reported

Regulation Violated: 3745-66-43
Area of Violation: TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined: 09/03/1999
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/15/1999
Penalty Type: Not reported

Regulation Violated: consent order 5(b)&5(c)
Area of Violation: TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined: 09/03/1999
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/15/1999
Penalty Type: Not reported

Regulation Violated: 3745-66-47

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Area of Violation: TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined: 09/03/1999
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/15/1999
Penalty Type: Not reported

Regulation Violated: 3745-65-92(A)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 07/08/1999
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/08/1999
Penalty Type: Not reported

Regulation Violated: 3745-65-93(D)(4)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 07/08/1999
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/08/1999
Penalty Type: Not reported

Regulation Violated: 3745-65-16(C)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/21/1999
Actual Date Achieved Compliance: 10/12/1999

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/29/1999
Penalty Type: Not reported

Regulation Violated: 3745-65-31
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/21/1999
Actual Date Achieved Compliance: 12/07/1999

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/29/1999
Penalty Type: Not reported

Regulation Violated: 3745-65-15(D)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/21/1999
Actual Date Achieved Compliance: 10/12/1999

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/29/1999
Penalty Type: Not reported

Regulation Violated: orc 3734.02
Area of Violation: GENERATOR-OTHER REQUIREMENTS
Date Violation Determined: 06/21/1999
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 12/07/1999
Penalty Type: Not reported

Regulation Violated: 3745-52-34(A)(4)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Date Violation Determined: 06/21/1999
Actual Date Achieved Compliance: 12/07/1999

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 12/07/1999
Penalty Type: Not reported

Regulation Violated: 3745-65-54
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/21/1999
Actual Date Achieved Compliance: 12/07/1999

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 12/07/1999
Penalty Type: Not reported

Regulation Violated: 3745-65-52(E)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/21/1999
Actual Date Achieved Compliance: 12/07/1999

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 12/07/1999
Penalty Type: Not reported

Regulation Violated: 3745-59-07(A)(7)
Area of Violation: GENERATOR-LAND BAN REQUIREMENTS
Date Violation Determined: 06/21/1999
Actual Date Achieved Compliance: 10/12/1999

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/29/1999
Penalty Type: Not reported

Regulation Violated: 3745-52-42
Area of Violation: GENERATOR-MANIFEST REQUIREMENTS
Date Violation Determined: 06/21/1999
Actual Date Achieved Compliance: 10/12/1999

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/29/1999
Penalty Type: Not reported

Regulation Violated: 3745-52-34(A)(4)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/21/1999
Actual Date Achieved Compliance: 12/07/1999

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/29/1999
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 12/07/1999
Penalty Type: Not reported

Regulation Violated: 3745-65-92(A)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 05/22/1999
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/30/1999
Penalty Type: Not reported

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Regulation Violated: 3745-65-91
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 05/22/1999
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/30/1999
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/08/1999
Penalty Type: Not reported

Regulation Violated: 3745-65-93(D)(4)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 03/15/1999
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 03/15/1999
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/30/1999
Penalty Type: Not reported

Regulation Violated: 3745-66-42(E)
Area of Violation: TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined: 11/25/1998
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 11/30/1998
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR AIR EMISSIONS SUBPART AA BB CC
Date Violation Determined: 06/03/1998
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 11/29/1988
Penalty Type: Final Monetary Penalty

Enforcement Action: CIVIL ACTION FOR COMPLIANCE
Enforcement Action Date: 07/09/1990
Penalty Type: Final Monetary Penalty

Enforcement Action: FINAL CONSENT DECREES
Enforcement Action Date: 07/09/1990
Penalty Type: Final Monetary Penalty

Regulation Violated: 3734.02
Area of Violation: TSD-OTHER REQUIREMENTS
Date Violation Determined: 06/03/1998
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/24/1998
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 12/08/1998
Penalty Type: Not reported

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/29/1999
Penalty Type: Not reported

Regulation Violated: 3745-52-34(A)(4)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/03/1998
Actual Date Achieved Compliance: 10/13/1998

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/24/1998
Penalty Type: Not reported

Regulation Violated: 3745-52-34(A)(4)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/03/1998
Actual Date Achieved Compliance: 10/13/1998

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/24/1998
Penalty Type: Not reported

Regulation Violated: 3745-65-15(D)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/03/1998
Actual Date Achieved Compliance: 10/13/1998

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/24/1998
Penalty Type: Not reported

Regulation Violated: 3745-66-74(B)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/03/1998
Actual Date Achieved Compliance: 10/13/1998

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/24/1998
Penalty Type: Not reported

Regulation Violated: 3745-65-33(B)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/03/1998
Actual Date Achieved Compliance: 10/13/1998

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/24/1998
Penalty Type: Not reported

Regulation Violated: 3745-52-34(A)(4)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/03/1998
Actual Date Achieved Compliance: 10/13/1998

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/24/1998
Penalty Type: Not reported

Regulation Violated: 3745-52-34(C)(1)(b)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/03/1998
Actual Date Achieved Compliance: 06/03/1998

Enforcement Action: WRITTEN INFORMAL

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Enforcement Action Date: 06/24/1998
Penalty Type: Not reported

Regulation Violated: 3745-65-51(A)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/03/1998
Actual Date Achieved Compliance: 12/08/1998

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/24/1998
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/13/1998
Penalty Type: Not reported

Regulation Violated: 3745-65-31
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/03/1998
Actual Date Achieved Compliance: 12/08/1998

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/24/1998
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/13/1998
Penalty Type: Not reported

Regulation Violated: 3745-52-34(A)(4)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/03/1998
Actual Date Achieved Compliance: 12/08/1998

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/24/1998
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/13/1998
Penalty Type: Not reported

Regulation Violated: 3745-52-32(B)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/03/1998
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/24/1998
Penalty Type: Not reported

Regulation Violated: 3745-59-07(A)(6)
Area of Violation: GENERATOR-LAND BAN REQUIREMENTS
Date Violation Determined: 06/03/1998
Actual Date Achieved Compliance: 12/08/1998

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/24/1998
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/13/1998
Penalty Type: Not reported

Regulation Violated: 3745-66-77

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/03/1998
Actual Date Achieved Compliance: 12/08/1998

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/24/1998
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/13/1998
Penalty Type: Not reported

Regulation Violated: 3745-66-73(B)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/03/1998
Actual Date Achieved Compliance: 10/13/1998

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/24/1998
Penalty Type: Not reported

Regulation Violated: 3745-52-34(A)(2)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/03/1998
Actual Date Achieved Compliance: 06/03/1998

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/24/1998
Penalty Type: Not reported

Regulation Violated: 3745-65-35
Area of Violation: TSD-PREPAREDNESS/PREVENTION REQUIREMENTS
Date Violation Determined: 04/25/1997
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Regulation Violated: 3745-65-15(C)
Area of Violation: TSD-GENERAL STANDARDS
Date Violation Determined: 04/25/1997
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Regulation Violated: 3745-65-15(D)
Area of Violation: TSD-GENERAL STANDARDS
Date Violation Determined: 04/25/1997
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1997
Penalty Type: Not reported

Regulation Violated: 3745-65-15(A)
Area of Violation: TSD-GENERAL STANDARDS
Date Violation Determined: 04/25/1997
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1997
Penalty Type: Not reported

Regulation Violated: 3745-66-74(B)
Area of Violation: TSD-CONTAINERS REQUIREMENTS
Date Violation Determined: 04/25/1997
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1997
Penalty Type: Not reported

Regulation Violated: 3745-65-33(B)
Area of Violation: TSD-PREPAREDNESS/PREVENTION REQUIREMENTS
Date Violation Determined: 04/25/1997
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1997
Penalty Type: Not reported

Regulation Violated: 3745-65-16(A)
Area of Violation: TSD-GENERAL STANDARDS
Date Violation Determined: 04/25/1997
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Enforcement Action Date: 09/12/1997
Penalty Type: Not reported

Regulation Violated: 3745-59-50
Area of Violation: GENERATOR-LAND BAN REQUIREMENTS
Date Violation Determined: 04/25/1997
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/31/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1997
Penalty Type: Not reported

Regulation Violated: 3745-65-33(A)
Area of Violation: TSD-PREPAREDNESS/PREVENTION REQUIREMENTS
Date Violation Determined: 04/25/1997
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Regulation Violated: 3734.02
Area of Violation: GENERATOR-GENERAL REQUIREMENTS
Date Violation Determined: 06/14/1996
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/31/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1997
Penalty Type: Not reported

Regulation Violated: 3745-52-34(A)(2)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/14/1996
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Regulation Violated: 3745-52-34(A)(3)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Date Violation Determined: 06/14/1996
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Regulation Violated: 3745-52-34(C)(1)(a) & 66-73
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/14/1996
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/31/1997
Penalty Type: Not reported

Regulation Violated: 3745-65-32(B) & 65-34
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/14/1996
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/31/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Regulation Violated: 3745-66-74(A)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/14/1996
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Regulation Violated: 3745-52-34(C)(1)(b)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/14/1996
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Regulation Violated: 3745-66-73(A)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/14/1996
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Regulation Violated: 3745-65-93(D)(4)

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 05/22/1996
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/18/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 05/22/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 12/17/1997
Penalty Type: Not reported

Regulation Violated: 3745-65-75
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 05/22/1996
Actual Date Achieved Compliance: 05/22/1997

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/18/1996
Penalty Type: Not reported

Regulation Violated: 3745-65-31
Area of Violation: TSD-PREPAREDNESS/PREVENTION REQUIREMENTS
Date Violation Determined: 01/31/1996
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/31/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1997
Penalty Type: Not reported

Regulation Violated: 3745-66-42 and -43
Area of Violation: TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined: 08/09/1995
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 08/21/1995
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/30/1997
Penalty Type: Not reported

Regulation Violated: 3734.03
Area of Violation: GENERATOR-GENERAL REQUIREMENTS

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Date Violation Determined: 06/23/1995
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/31/1996
Penalty Type: Not reported

Regulation Violated: 3745-65-92(A)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 09/23/1994
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/23/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Regulation Violated: 3745-65-93(D)(3)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 09/23/1994
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/23/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 04/23/1996
Penalty Type: Not reported

Regulation Violated: 3745-52-34(A)(2)(3)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: 09/19/1994

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/31/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Regulation Violated: 3745-59-07(A)(1) & (7)
Area of Violation: GENERATOR-LAND BAN REQUIREMENTS
Date Violation Determined: 06/23/1994

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Regulation Violated: 3745-52-11
Area of Violation: GENERATOR-GENERAL REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/31/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1997
Penalty Type: Not reported

Regulation Violated: 3734.02
Area of Violation: TSD-OTHER REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/31/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/29/1999
Penalty Type: Not reported

Regulation Violated: 3745-59-40(A) & (C)

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Area of Violation: GENERATOR-RECORDKEEPING REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/31/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1997
Penalty Type: Not reported

Regulation Violated: 3745-52-34(A)(4)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/31/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Regulation Violated: 3745-65-54
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/31/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/29/1999
Penalty Type: Not reported

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Regulation Violated: 3745-65-53(A)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: 07/01/1994

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Regulation Violated: 3745-65-52(F)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Regulation Violated: 3745-65-52(D)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Regulation Violated: 3745-65-32(C)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/31/1997
Penalty Type: Not reported

Regulation Violated: 3745-65-16(A)(B)(C)(D)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/31/1997
Penalty Type: Not reported

Regulation Violated: 3745-65-35
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1994

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Regulation Violated: 3745-65-15(D)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/31/1997
Penalty Type: Not reported

Regulation Violated: 3745-66-74(B)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Regulation Violated: 3745-66-73(B)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Regulation Violated: 3745-66-71
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Regulation Violated: 3745-52-34(C)(1)(b)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: 09/19/1994

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Regulation Violated: 3745-52-34(C)(1)(a) & 66-73(A2
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: 09/19/1994

Enforcement Action: WRITTEN INFORMAL

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Regulation Violated: 3745-65-51(B)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/31/1997
Penalty Type: Not reported

Regulation Violated: 3745-66-73(A)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1994
Actual Date Achieved Compliance: 09/19/1994

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Regulation Violated: 3745-66-73(A)(B)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1993
Actual Date Achieved Compliance: 02/28/1994

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/01/1993
Penalty Type: Not reported

Regulation Violated: 3745-52-34
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1993
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/01/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 02/28/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1997
Penalty Type: Not reported

Regulation Violated: 3745-65-51(A)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1993
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Enforcement Action Date: 07/01/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 02/28/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1997
Penalty Type: Not reported

Regulation Violated: 3745-65-55
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1993
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/01/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 02/28/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Regulation Violated: 3745-65-52(C) & (E)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1993
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/01/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 02/28/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1994
Penalty Type: Not reported

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/31/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1997
Penalty Type: Not reported

Regulation Violated: 3745-52-20(A) & (B)
Area of Violation: GENERATOR-MANIFEST REQUIREMENTS
Date Violation Determined: 06/23/1993
Actual Date Achieved Compliance: 02/28/1994

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/01/1993
Penalty Type: Not reported

Regulation Violated: 3745-65-33 (B)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1993
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/01/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 02/28/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/05/1997
Penalty Type: Not reported

Regulation Violated: 3745-65-35
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1993

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Actual Date Achieved Compliance: 02/28/1994

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/01/1993
Penalty Type: Not reported

Regulation Violated: 3745-59-07(A)(1)(b)
Area of Violation: GENERATOR-LAND BAN REQUIREMENTS
Date Violation Determined: 06/23/1993
Actual Date Achieved Compliance: 02/28/1994

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/01/1993
Penalty Type: Not reported

Regulation Violated: 3745-65-37(A)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1993
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/01/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 02/28/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/19/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Regulation Violated: 3745-65-32(C)
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1993
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/01/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 02/28/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/09/1996
Penalty Type: Not reported

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1997
Penalty Type: Not reported

Regulation Violated: 3745-65-34
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/23/1993
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/01/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 02/28/1994
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/12/1997
Penalty Type: Not reported

Regulation Violated: 3745-65-90(A)(B)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 08/07/1992
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/30/1992
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/15/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Regulation Violated: 3745-65-92(A)(3)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 08/07/1992
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/30/1992
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/15/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Regulation Violated: 3745-65-91(A)(1)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 08/07/1992
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Enforcement Action Date: 10/30/1992
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/15/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Regulation Violated: 3745-65-93(D)(3)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 08/07/1992
Actual Date Achieved Compliance: 10/15/1993

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/30/1992
Penalty Type: Not reported

Regulation Violated: 3745-65-93(D)(3)(F)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 08/07/1992
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/30/1992
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/15/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Regulation Violated: 3745-65-93(D)(7)(A)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 08/07/1992
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/30/1992
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/15/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Regulation Violated: 3745-65-94(B)(2)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 08/07/1992
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/30/1992
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/15/1993

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Regulation Violated: 3745-65-75
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 08/07/1992
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/30/1992
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/15/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/15/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Regulation Violated: 3745-65-94(B)(1)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 08/07/1992
Actual Date Achieved Compliance: 10/15/1993

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/30/1992
Penalty Type: Not reported

Regulation Violated: 3745-65-93(D)(4)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 08/07/1992
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/30/1992
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/15/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/13/1995
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 12/17/1997
Penalty Type: Not reported

Regulation Violated: 3745-65-93(D)(3)
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 08/07/1992
Actual Date Achieved Compliance: 10/15/1993

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/30/1992
Penalty Type: Not reported

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Regulation Violated: 3745-65-52(e)
Area of Violation: TSD-CONTINGENCY PLAN REQUREMENTS
Date Violation Determined: 10/01/1991
Actual Date Achieved Compliance: 11/14/1991

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/08/1991
Penalty Type: Not reported

Regulation Violated: 268.9(a)
Area of Violation: TSD-LAND BAN REQUIREMENTS
Date Violation Determined: 10/01/1991
Actual Date Achieved Compliance: 11/14/1991

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/08/1991
Penalty Type: Not reported

Regulation Violated: 3745-66-73(B)
Area of Violation: TSD-CONTAINERS REQUIREMENTS
Date Violation Determined: 10/01/1991
Actual Date Achieved Compliance: 11/14/1991

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/08/1991
Penalty Type: Not reported

Regulation Violated: 268.7(a)(1)(ii)
Area of Violation: TSD-LAND BAN REQUIREMENTS
Date Violation Determined: 10/01/1991
Actual Date Achieved Compliance: 11/14/1991

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/08/1991
Penalty Type: Not reported

Regulation Violated: 3745-66-43, -42
Area of Violation: TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined: 07/22/1991
Actual Date Achieved Compliance: 09/22/1992

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 07/24/1991
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-OTHER REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 04/16/1991
Actual Date Achieved Compliance: 05/20/1991

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 04/18/1991
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-OTHER REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 09/19/1990
Actual Date Achieved Compliance: 12/03/1990

Enforcement Action: FINAL CONSENT DECREES
Enforcement Action Date: 07/09/1990
Penalty Type: Final Monetary Penalty

Enforcement Action: WRITTEN INFORMAL

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Enforcement Action Date: 09/24/1990
Penalty Type: Final Monetary Penalty

Regulation Violated: 40 CFR 268
Area of Violation: GENERATOR-LAND BAN REQUIREMENTS
Date Violation Determined: 09/19/1990
Actual Date Achieved Compliance: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-LAND BAN REQUIREMENTS
Date Violation Determined: 09/19/1990
Actual Date Achieved Compliance: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-CLOSURE/POST-CLOSURE REQUIREMENTS
Date Violation Determined: 09/14/1988
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 11/29/1988
Penalty Type: Final Monetary Penalty

Enforcement Action: CIVIL ACTION FOR COMPLIANCE
Enforcement Action Date: 07/09/1990
Penalty Type: Final Monetary Penalty

Enforcement Action: FINAL CONSENT DECREES
Enforcement Action Date: 07/09/1990
Penalty Type: Final Monetary Penalty

Regulation Violated: Not reported
Area of Violation: TSD-OTHER REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 09/14/1988
Actual Date Achieved Compliance: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 11/29/1988
Penalty Type: Final Monetary Penalty

Enforcement Action: CIVIL ACTION FOR COMPLIANCE
Enforcement Action Date: 07/09/1990
Penalty Type: Final Monetary Penalty

Enforcement Action: FINAL CONSENT DECREES
Enforcement Action Date: 07/09/1990
Penalty Type: Final Monetary Penalty

There are 134 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Compliance Evaluation Inspection	TSD-GOUNDWATER MONITORING REQUIREMENTS	
	TSD-GOUNDWATER MONITORING REQUIREMENTS	
Financial Record Review	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	
	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	
	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	
	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	
	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	
Compliance Evaluation Inspection	TSD-CONTINGENCY PLAN REQUREMENTS	20010828
	GENERATOR-MANIFEST REQUIREMENTS	20010828
	GENERATOR-GENERAL REQUIREMENTS	20010828
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	20010709
	TSD-LAND BAN REQUIREMENTS	20010828

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

	TSD-PREPAREDNESS/PREVENTION REQUIREMENTS	20010828
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	20010709
	TSD-GENERAL STANDARDS	20010828
Compliance Evaluation Inspection	GENERATOR-GENERAL REQUIREMENTS	20000802
Other Evaluation	TSD-GOUNDWATER MONITORING REQUIREMENTS	
	TSD-GOUNDWATER MONITORING REQUIREMENTS	
Financial Record Review	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	
	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	
	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	
	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	
Other Evaluation	TSD-GOUNDWATER MONITORING REQUIREMENTS	
	TSD-GOUNDWATER MONITORING REQUIREMENTS	
Compliance GW Monitoring Evaluation	TSD-GOUNDWATER MONITORING REQUIREMENTS	
	TSD-GOUNDWATER MONITORING REQUIREMENTS	
	TSD-GOUNDWATER MONITORING REQUIREMENTS	
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS (OVERSIGHT)	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	TSD-OTHER REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19991012
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19991012
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19991207
	GENERATOR-LAND BAN REQUIREMENTS	19991012
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19991207
	GENERATOR-MANIFEST REQUIREMENTS	19991012
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19991207
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19991207
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19991207
	GENERATOR-OTHER REQUIREMENTS	
Other Evaluation	TSD-GOUNDWATER MONITORING REQUIREMENTS	
	TSD-GOUNDWATER MONITORING REQUIREMENTS	
Financial Record Review	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	
Compliance Evaluation Inspection	GENERATOR AIR EMISSIONS SUBPART AA BB CC	
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19981013
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19981013
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19981013
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19981013
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19981013
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19981013
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19980603
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19980603
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19981013
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19981208
	GENERATOR-LAND BAN REQUIREMENTS	19981208
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19981208
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19981208
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19981208
Other Evaluation	TSD-GOUNDWATER MONITORING REQUIREMENTS	
	TSD-GOUNDWATER MONITORING REQUIREMENTS	
Financial Record Review	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	
Compliance Evaluation Inspection	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19940919
	GENERATOR-RECORDKEEPING REQUIREMENTS	
	GENERATOR-GENERAL REQUIREMENTS	
	GENERATOR-GENERAL REQUIREMENTS	
	TSD-PREPAREDNESS/PREVENTION REQUIREMENTS	
	TSD-GENERAL STANDARDS	
	TSD-GENERAL STANDARDS	
	TSD-GENERAL STANDARDS	
	TSD-CONTAINERS REQUIREMENTS	
	TSD-PREPAREDNESS/PREVENTION REQUIREMENTS	
	TSD-PREPAREDNESS/PREVENTION REQUIREMENTS	
	GENERATOR-LAND BAN REQUIREMENTS	
	TSD-GENERAL STANDARDS	
Compliance Evaluation Inspection	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-LAND BAN REQUIREMENTS	
	GENERATOR-RECORDKEEPING REQUIREMENTS	
	GENERATOR-GENERAL REQUIREMENTS	
	TSD-PREPAREDNESS/PREVENTION REQUIREMENTS	
	GENERATOR-GENERAL REQUIREMENTS	
	TSD-GENERAL STANDARDS	
	TSD-GENERAL STANDARDS	
	TSD-GENERAL STANDARDS	
	TSD-PREPAREDNESS/PREVENTION REQUIREMENTS	
	TSD-PREPAREDNESS/PREVENTION REQUIREMENTS	
	GENERATOR-LAND BAN REQUIREMENTS	
	TSD-GENERAL STANDARDS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
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	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
Compliance GW Monitoring Evaluation	TSD-GOUNDWATER MONITORING REQUIREMENTS	
	TSD-GOUNDWATER MONITORING REQUIREMENTS	19970522
Financial Record Review	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	
Compliance Evaluation Inspection	TSD-PREPAREDNESS/PREVENTION REQUIREMENTS	
Compliance Evaluation Inspection	GENERATOR-GENERAL REQUIREMENTS	
Other Evaluation	TSD-GOUNDWATER MONITORING REQUIREMENTS	
	TSD-GOUNDWATER MONITORING REQUIREMENTS	
Compliance Evaluation Inspection	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19940919
	GENERATOR-LAND BAN REQUIREMENTS	
	GENERATOR-RECORDKEEPING REQUIREMENTS	
	GENERATOR-GENERAL REQUIREMENTS	
	TSD-OTHER REQUIREMENTS (OVERSIGHT)	
	TSD-PREPAREDNESS/PREVENTION REQUIREMENTS	
	GENERATOR-GENERAL REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19940919

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19940919
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19940919
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
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	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19940701
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
Compliance Evaluation Inspection	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19940228
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-MANIFEST REQUIREMENTS	19940228
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	19940228
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-LAND BAN REQUIREMENTS	19940228
Compliance GW Monitoring Evaluation	TSD-GOUNDWATER MONITORING REQUIREMENTS	
	TSD-GOUNDWATER MONITORING REQUIREMENTS	
	TSD-GOUNDWATER MONITORING REQUIREMENTS	
	TSD-GOUNDWATER MONITORING REQUIREMENTS	19931015
	TSD-GOUNDWATER MONITORING REQUIREMENTS	19931015
	TSD-GOUNDWATER MONITORING REQUIREMENTS	
	TSD-GOUNDWATER MONITORING REQUIREMENTS	
	TSD-GOUNDWATER MONITORING REQUIREMENTS	
	TSD-GOUNDWATER MONITORING REQUIREMENTS	19931015
	TSD-GOUNDWATER MONITORING REQUIREMENTS	
	TSD-GOUNDWATER MONITORING REQUIREMENTS	
Compliance Evaluation Inspection	TSD-CONTINGENCY PLAN REQUREMENTS	19911114
	TSD-LAND BAN REQUIREMENTS	19911114
	TSD-LAND BAN REQUIREMENTS	19911114
	TSD-CONTAINERS REQUIREMENTS	19911114
Financial Record Review	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	19920922
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS (OVERSIGHT)	19910520
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS (OVERSIGHT)	19901203
Other Evaluation	GENERATOR-LAND BAN REQUIREMENTS	
	TSD-LAND BAN REQUIREMENTS	
Compliance Evaluation Inspection	TSD-CLOSURE/POST-CLOSURE REQUIREMENTS	
	TSD-OTHER REQUIREMENTS (OVERSIGHT)	

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Biennial Reporting System (BRS)
National Compliance Database (NCDB)
National Toxics Inventory (NTI)
Permit Compliance System (PCS)
Resource Conservation and Recovery Act Information system (RCRAINFO)
Toxic Chemical Release Inventory System (TRIS)

OH MSL:
Facility ID: 277-0017
EPA ID: OHD050387802
Lat/Long: 41 18 03 / 81 29 00
Facility Type: None

SPILLS:
Facility ID: Not reported
Spill Date: 2003
Date Reported : 06/08/2000
Spill Number: 0300-00-0006-77-2115
Size of Spill: Large
Priority : No Response by Emergency Response
Cause: Undefined
Reason: Undefined
Affected Area: BUILDING INTERIOR
Material: MATERIAL UNK
Type: Waste Chemicals after the use cycle, generic groupings
Units: unknown
Waterway Affctd: N/A
Spill Source: FIXED FACILITY - INDUSTRY - OTHER
Reportable Qnty: Not reported
Name of Company or person that had spill: Not reported
Suspected Spiller: Not reported
Carrier: Not reported

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Facility ID: Not reported
Spill Date: 2003
Date Reported : 12/01/2000
Spill Number: 0300-00-0011-77-4394
Size of Spill: Small
Priority : Respond When Possible or Convenient
Cause: Undefined
Reason: Undefined
Affected Area: LAND OR LAND SURFACE IMPACT
Material: DIESEL FUEL
Type: Hydrocarbon ie: crude oil, natural gas, gasoline, waste oil
Units: gallons
Waterway Affctd: N/A
Spill Source: TRANSPORTATION - TRUCK - ENGINE OR FUEL SUPPLY
Reportable Qnty: Not reported
Name of Company or person that had spill: Not reported
Suspected Spiller: Not reported
Carrier: Not reported

Facility ID: 199710--4121
Spill Date: 10/1997
Date Reported : 10/10/97 11:02
Spill Number: 9710-77-4121
Size of Spill: Small
Priority : Respond When Possible or Convenient
Cause: Saddle Tanks
Reason: Undefined
Affected Area: Land or land surface impact
Material: DIESEL FUEL
Type: Hydrocarbon ie: crude oil, natural gas, gasoline, waste oil
Units: Not reported
Waterway Affctd: Not reported
Spill Source: Transportation, Truck, Engine or fuel supply
Reportable Qnty: Not reported
Name of Company or person that had spill: Not reported
Suspected Spiller:
AEROSOL SYSTEMS
9150 VALLEYVIEW RD
MACEDONIA, OH 44056
Carrier: Not reported

AEROSOL SYSTEMS INCORPORATED (Continued) **1000342359**

Facility ID: 199710--4326
Spill Date: 10/1997
Date Reported : 10/30/97 08:23
Spill Number: 9710-77-4326
Size of Spill: Small
Priority : No Response by Emergency Response
Cause: Cut or Break
Reason: Undefined
Affected Area: Air
Material: ISOBUTANE
Type: Chemicals prior to use in the use cycle, abandoned materials
Units: Not reported
Waterway Affctd: Not reported
Spill Source: Transportation, Truck, Tanker
Reportable Qnty: Not reported
Name of Company or person that had spill: Not reported
Suspected Spiller:
AEROSOL SYSTEMS
9150 VALLEY VIEW RD
MACEDONIA, OH 44056
Carrier: Not reported

DERR:
Facility Id: 277-0017
EPA Id: OHD050387802
Lat/Long: 41 18 03 / 81 29 00
Alias: Not reported
District: NEDO
Voluntary Action Program: Not reported
VAP Receiving Tech Assistance: Not reported
Applied / Recvd Funds From Clean Ohio Fund: Not reported

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MACEDONIA	1001818457	CLEVELAND DIV OF WATER PARMA CONTROL CTR	8155 HIGHLAND POINTE	44056	RCRIS-SQG, FINDS
SUMMITT	S104779377	COCA-COLA BOTTLING CO	1882 E HIGHLAND RD	44087	LUST
TWINSBURG	1006319862	TWINSBURG AUTO SERVICE CENTER, INC.	9315 DARROW ROAD	44087	FINDS
TWINSBURG	1005798052	ALLTEL TWINSBURG EXCHANGE	2684 ST RTE 82	44087	FINDS
TWINSBURG	1007113527	SPEEDWAY 1138	SUMMIT SR 91/SR 82	44087	RCRIS-LQG

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 01/29/04
Date Made Active at EDR: 02/27/04
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 02/06/04
Elapsed ASTM days: 21
Date of Last EDR Contact: 02/06/04

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 8
Telephone: 303-312-6774

EPA Region 4
Telephone 404-562-8033

Proposed NPL: Proposed National Priority List Sites
Source: EPA
Telephone: N/A

Date of Government Version: 01/07/04
Date Made Active at EDR: 02/27/04
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 02/06/04
Elapsed ASTM days: 21
Date of Last EDR Contact: 02/06/04

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/26/04
Date Made Active at EDR: 04/02/04
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 03/22/04
Elapsed ASTM days: 11
Date of Last EDR Contact: 03/22/04

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 02/26/04
Date Made Active at EDR: 04/02/04
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 03/22/04
Elapsed ASTM days: 11
Date of Last EDR Contact: 03/22/04

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/18/03
Date Made Active at EDR: 02/02/04
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 12/26/03
Elapsed ASTM days: 38
Date of Last EDR Contact: 03/08/04

RCRIS: Resource Conservation and Recovery Information System
Source: EPA
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs): generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs): generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs): generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/09/04
Date Made Active at EDR: 04/02/04
Database Release Frequency: Varies
Date of Data Arrival at EDR: 03/18/04
Elapsed ASTM days: 15
Date of Last EDR Contact: 01/19/04

ERNS: Emergency Response Notification System
Source: National Response Center, United States Coast Guard
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/03
Date Made Active at EDR: 03/12/04
Database Release Frequency: Annually
Date of Data Arrival at EDR: 01/26/04
Elapsed ASTM days: 46
Date of Last EDR Contact: 01/26/04

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/01/01
Database Release Frequency: Biennially
Date of Last EDR Contact: 03/16/04
Date of Next Scheduled EDR Contact: 06/14/04

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: N/A
Database Release Frequency: Varies
Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision
Source: EPA
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/09/04
Database Release Frequency: Annually
Date of Last EDR Contact: 01/06/04
Date of Next Scheduled EDR Contact: 04/05/04

DELISTED NPL: National Priority List Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 01/29/04
Database Release Frequency: Quarterly
Date of Last EDR Contact: 02/06/04
Date of Next Scheduled EDR Contact: 05/01/04

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/09/04
Database Release Frequency: Quarterly
Date of Last EDR Contact: 01/06/04
Date of Next Scheduled EDR Contact: 04/05/04

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/18/03
Database Release Frequency: Annually
Date of Last EDR Contact: 01/19/04
Date of Next Scheduled EDR Contact: 04/19/04

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/15/04
Database Release Frequency: Quarterly
Date of Last EDR Contact: 01/06/04
Date of Next Scheduled EDR Contact: 04/05/04

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 11/25/03
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 12/29/03
Date of Next Scheduled EDR Contact: 03/29/04

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 202-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91 | Date of Last EDR Contact: 03/12/04
Database Release Frequency: No Update Planned | Date of Next Scheduled EDR Contact: 05/24/04

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-564-3887
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 12/30/03 | Date of Last EDR Contact: 02/09/04
Database Release Frequency: Annually | Date of Next Scheduled EDR Contact: 05/10/04

DOD: Department of Defense Sites
Source: USGS
Telephone: 703-692-8801
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 10/01/03 | Date of Last EDR Contact: 02/02/04
Database Release Frequency: Semi-Annually | Date of Next Scheduled EDR Contact: 05/10/04

STORMWATER: Storm Water General Permits
Source: Environmental Protection Agency
Telephone: 202 564-0746
A listing of all facilities with Storm Water General Permits.

Date of Government Version: N/A | Date of Last EDR Contact: N/A
Database Release Frequency: Quarterly | Date of Next Scheduled EDR Contact: N/A

INDIAN RESERV: Indian Reservations
Source: USGS
Telephone: 202-208-3710
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 10/01/03 | Date of Last EDR Contact: 02/02/04
Database Release Frequency: Semi-Annually | Date of Next Scheduled EDR Contact: 05/10/04

US BROWNFIELDS: A Listing of Brownfields Sites
Source: Environmental Protection Agency
Telephone: 202-566-2777
Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become BCRLF cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 07/15/03 | Date of Last EDR Contact: 03/15/04
Database Release Frequency: Semi-Annually | Date of Next Scheduled EDR Contact: 06/14/04

RMP: Risk Management Plans
Source: Environmental Protection Agency
Telephone: 202-564-8600
When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: N/A
Database Release Frequency: N/A
Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 03/08/04
Date of Next Scheduled EDR Contact: 06/07/04

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-566-0250
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/01
Database Release Frequency: Annually
Date of Last EDR Contact: 03/23/04
Date of Next Scheduled EDR Contact: 06/21/04

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-5521
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/02
Database Release Frequency: Every 4 Years
Date of Last EDR Contact: 03/05/04
Date of Next Scheduled EDR Contact: 06/07/04

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA
Telephone: 202-564-2501

Date of Government Version: 01/21/04
Database Release Frequency: Quarterly
Date of Last EDR Contact: 03/22/04
Date of Next Scheduled EDR Contact: 06/21/04

SSTS: Section 7 Tracking Systems
Source: EPA
Telephone: 202-564-5008
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/01
Database Release Frequency: Annually
Date of Last EDR Contact: 01/19/04
Date of Next Scheduled EDR Contact: 04/19/04

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/30/04
Database Release Frequency: Quarterly
Date of Last EDR Contact: 03/22/04
Date of Next Scheduled EDR Contact: 06/21/04

STATE OF OHIO ASTM STANDARD RECORDS

SHWS: This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.
Source: EPA
Telephone: 703-413-0223
State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: N/A
Date Made Active at EDR: N/A
Database Release Frequency: N/A
Date of Data Arrival at EDR: N/A
Elapsed ASTM days: N/A
Date of Last EDR Contact: 07/23/03

SWF/LF: Licensed Solid Waste Facilities
Source: Ohio Environmental Protection Agency
Telephone: 614-644-2621
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 03/11/04
Date Made Active at EDR: 04/01/04
Database Release Frequency: Annually
Date of Data Arrival at EDR: 03/11/04
Elapsed ASTM days: 21
Date of Last EDR Contact: 02/09/04

LUST: Leaking Underground Storage Tank File
Source: Department of Commerce
Telephone: 614-752-7924
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 12/14/03
Date Made Active at EDR: 01/08/04
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 12/16/03
Elapsed ASTM days: 23
Date of Last EDR Contact: 06/16/04

UST: Underground Storage Tank Tank File
Source: Department of Commerce
Telephone: 614-752-7938
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 12/14/03
Date Made Active at EDR: 01/09/04
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 12/16/03
Elapsed ASTM days: 24
Date of Last EDR Contact: 03/16/04

DERR: Division of Emergency & Remedial Response's Database
Source: Ohio EPA, Div. of Emergency and Remedial Response
Telephone: 614-644-3538
The DERR database is an index of sites for which Ohio EPA maintains files. It includes sites with known or suspected contamination, but a site's inclusion in the database does not mean that it is now or has ever been contaminated.

Date of Government Version: 12/17/03
Date Made Active at EDR: 01/08/04
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 12/17/03
Elapsed ASTM days: 22
Date of Last EDR Contact: 03/15/04

VCP: Voluntary Action Program Sites
Source: Ohio EPA, Voluntary Action Program
Telephone: 614-644-2924
Site involved in the Voluntary Action Program.

Date of Government Version: 01/30/04
Date Made Active at EDR: 04/01/04
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 03/09/04
Elapsed ASTM days: 23
Date of Last EDR Contact: 03/09/04

STATE OF OHIO ASTM SUPPLEMENTAL RECORDS

MSL: Master Sites List
Source: Ohio Environmental Protection Agency
Telephone: 614-644-2068
Ohio EPA no longer maintains or publishes the MSL, which was a list of sites with known or suspected contamination. Please be advised that this report does not constitute a determination that any site identified in the report is or may be contaminated.

Date of Government Version: 03/01/99
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 03/08/04
Date of Next Scheduled EDR Contact: 06/07/04

SPILLS: Emergency Response Database
Source: Ohio EPA
Telephone: 614-644-2084
All reported incidents, spills or releases to the environment.

Date of Government Version: 12/31/02
Database Release Frequency: Varies
Date of Last EDR Contact: 03/08/04
Date of Next Scheduled EDR Contact: 06/07/04

TOWNGAS: DERR Towngas Database
Source: Ohio EPA
Telephone: 614-644-3749
The database includes 82 very old sites (circa 1895) which produced gas from coal for street lighting. Most visual evidence of these sites has disappeared, however the potential for buried coal tar remains. The database is no longer in active use.

Date of Government Version: 07/28/92
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 02/12/03
Date of Next Scheduled EDR Contact: N/A

HIST LF: Old Solid Waste Landfill
Source: Ohio EPA
Telephone: 614-644-3749
A list of about 1200 old abandoned dumps or landfills. This database was developed from Ohio EPA staff notebooks and other information dating from the mid-1970s

Date of Government Version: 01/01/80
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 06/26/03
Date of Next Scheduled EDR Contact: N/A

UNREG LTANKS: Ohio Leaking UST File
Source: Department of Commerce
Telephone: 614-752-7938
A suspected or confirmed release of petroleum from a non-regulated UST.

Date of Government Version: 08/25/99
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 08/01/03
Date of Next Scheduled EDR Contact: N/A

INST CONTROL: Sites with Institutional Engineering Controls
Source: Ohio Environmental Protection Agency
Telephone: 614-644-2324
A database that tracks properties with institutional controls.

Date of Government Version: 10/28/03
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 03/08/04
Date of Next Scheduled EDR Contact: 06/07/04

ENG CONTROLS: Sites with Engineering Controls
Source: Ohio EPA
Telephone: 614-644-2324
A database that tracks properties with engineering controls.

Date of Government Version: 01/12/04
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 03/24/04
Date of Next Scheduled EDR Contact: 06/07/04

EDR PROPRIETARY HISTORICAL DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

BROWNFIELDS DATABASES

VCP: Voluntary Action Program Sites
Source: Ohio EPA, Voluntary Action Program
Telephone: 614-644-2924
Site involved in the Voluntary Action Program.

Date of Government Version: 01/30/04
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 03/09/04
Date of Next Scheduled EDR Contact: 06/07/04

US BROWNFIELDS: A Listing of Brownfields Sites
Source: Environmental Protection Agency
Telephone: 202-566-2777
Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become BCRLF cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: N/A
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Child Day Care Facilities
Source: Department of Job & Family Services
Telephone: 614-466-6282

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CLEVELAND/TWINSBURG MCAR PROJECT
CHAMBERLIN ROAD/AURORA ROAD
TWINSBURG, OH 44087

TARGET PROPERTY COORDINATES

Latitude (North):	41.307999 - 41˚ 18' 28.8''
Longitude (West):	81.473602 - 81˚ 28' 25.0''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	460354.4
UTM Y (Meters):	4572844.5
Elevation:	1160 ft. above sea level

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

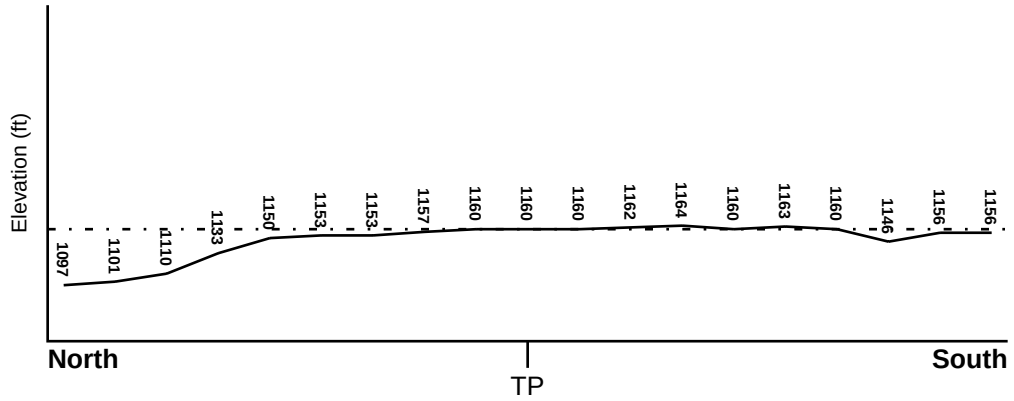
TOPOGRAPHIC INFORMATION

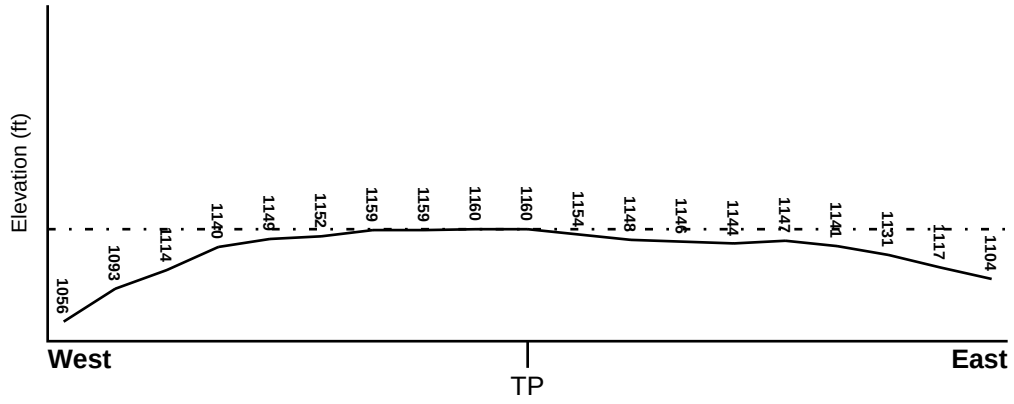
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

USGS Topographic Map:	41081-C4 TWINSBURG, OH
General Topographic Gradient:	General ENE
Source:	USGS 7.5 min quad index

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 1160 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
SUMMIT, OH	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property:	3907810005B
Additional Panels in search area:	3907500005A 3905340002C 3907500004A 3907810015B

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
TWINSBURG	Not Available

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Paleozoic
System:	Pennsylvanian
Series:	Atokan and Morrowan Series
Code:	PP1 *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	MAHONING
Soil Surface Texture:	silt loam
Hydrologic Group:	Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.
Soil Drainage Class:	Somewhat poorly. Soils commonly have a layer with low hydraulic conductivity, wet state high in profile, etc. Depth to water table is 1 to 3 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel:	HIGH
Depth to Bedrock Min:	> 60 inches
Depth to Bedrock Max:	> 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	9 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 2.00 Min: 0.60	Max: 7.30 Min: 4.50
2	9 inches	36 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.20 Min: 0.00	Max: 7.80 Min: 4.50
3	36 inches	60 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.20 Min: 0.00	Max: 8.40 Min: 7.40

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: loam

Surficial Soil Types: loam

Shallow Soil Types: silty clay loam
channery - loam

Deeper Soil Types: stratified
gravelly - loamy sand
silt loam
weathered bedrock

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

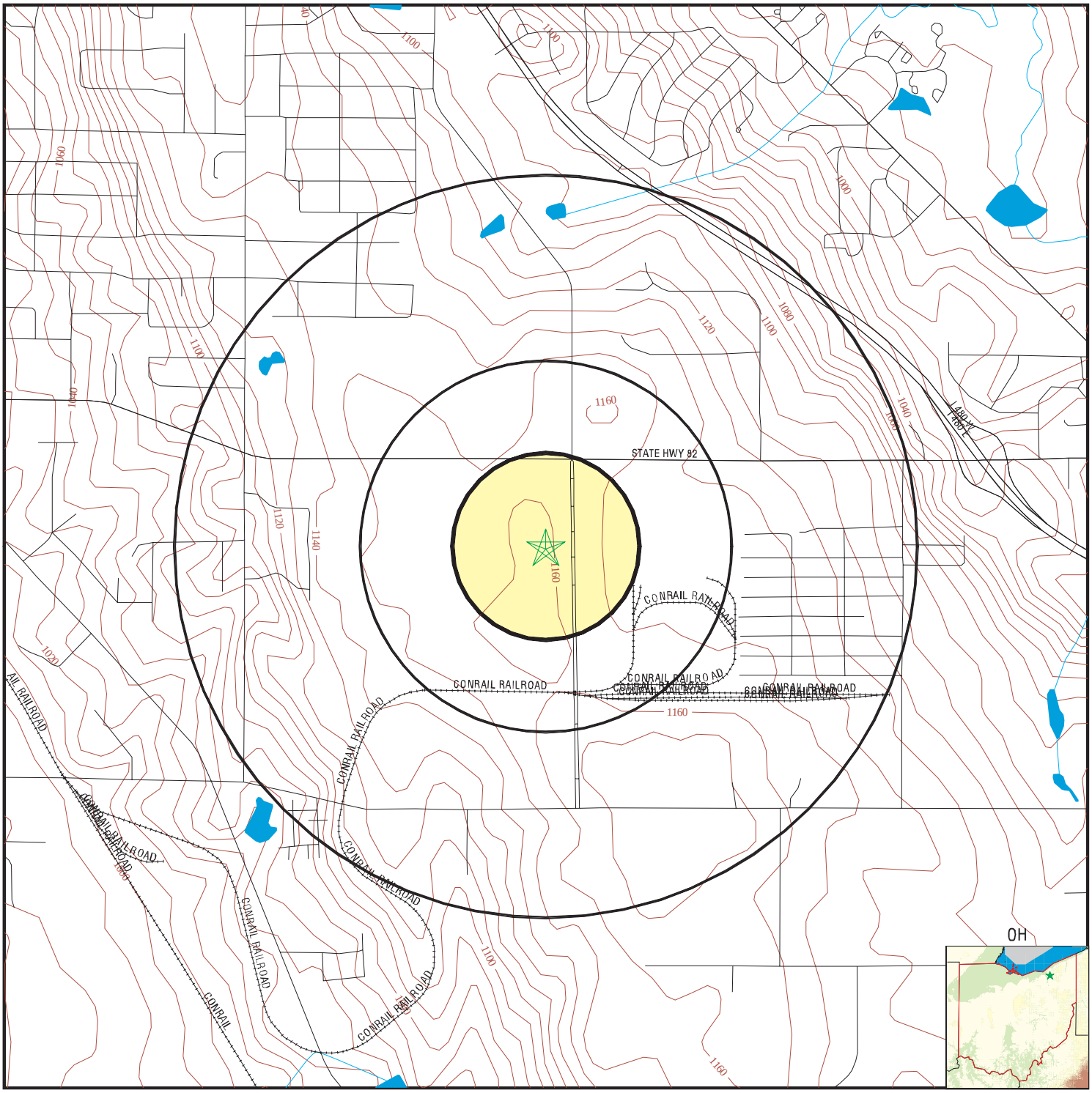
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 01170356.1r



County Boundary
Major Roads
Contour Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location

N

TARGET PROPERTY:	Cleveland/Twinsburg MCAR Project	CUSTOMER:	U.S. Army Corps of Engineers
ADDRESS:	Chamberlin Road/Aurora Road	CONTACT:	Nora Keel
CITY/STATE/ZIP:	Twinsburg OH 44087	INQUIRY #:	01170356.1r
LAT/LONG:	41.3080 / 81.4736	DATE:	April 13, 2004 1:37 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: OH Radon

Radon Test Results

Zip	Total Sites	Median	1st Quartile	3rd Quartile	Min.	Max.
44087	300	2.7	1.3	11.7	0.1	908.1

Federal EPA Radon Zone for SUMMIT County: 1

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 44087

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	Not Reported	Not Reported	Not Reported	Not Reported
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	3.100 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002. 7.5-Minute DEMs correspond to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

Public Water System Data
Source: Ohio Environmental Protection Agency
Telephone: 614-644-3677
The database includes community, transient noncommunity and nontransient noncommunity water wells; and source treatment unit locations.

RADON

State Database: OH Radon
Source: Department of Health
Telephone: 614-644-2727
Radon Statistics for Zip Code Areas

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

APPENDIX G

2004 ENVIRONMENTAL BASELINE SURVEY OF THE HUISMAN ARMY RESERVE CENTER

Installation Management Agency, Army Reserve Division

ENVIRONMENTAL BASELINE SURVEY

Huisman United States Army Reserve Center (OH 066)
25445 Harvard Road
Warrensville Heights, Ohio

Prepared For:

88th Regional Readiness Command
506 Roeder Circle
Fort Snelling, Minnesota 55111-4009

Prepared By:

Installation Management Agency, Army Reserve Division
1401 Deshler Street SW
Fort McPherson, Georgia 30330-2000

March 31, 2004

ENVIRONMENTAL BASELINE SURVEY
SIGNATURE SHEET

Prepared by:

Michael Dickinson **Date**
Hydrogeologist/Environmental Property Assessor
Engineering & Environment, Inc.

Reviewed by:

Lisa Gulbranson **Date**
TAD-PGS Contractor
Environmental Manager
88th RRC

Eric Johnson **Date**
TAD-PGS Contractor
State Environmental Manager
88th RRC

Approved by:

David Jennings **Date**
Environmental Engineer
Installation Management Agency, Army Reserve Division

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LIST OF ATTACHMENTS

ATTACHMENT

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SECTION 1.0
EXECUTIVE SUMMARY

1.1 INTRODUCTION

The Installation Management Agency, Army Reserve Division (IMA-ARD) has prepared this Environmental Baseline Survey (EBS) for the 88th Regional Readiness Command (RRC) at the 2 Lieutenant (LT) S. William Huisman United States Army Reserve Center (USARC), hereafter referred to as the "Property". The Property is located at 25445 Harvard Road in Warrensville Heights, Cuyahoga County, Ohio. The Property lies on the north side of the road, approximately 1,000 feet west of the intersection of Richmond Road and Harvard Road.

This EBS was developed in general conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Designation D6008-96, *Standard Practice for Conducting Environmental Baseline Surveys*, the ASTM Designation E1527-00, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, and Army Regulation 200-1, *Environmental Quality, Environmental Protection and Enhancement*, Chapter 15-6, and generally recognized industry practices.

This Executive Summary presents a description of the buildings on the Property, a brief description of historical Property use, and recognized environmental conditions or areas of environmental concern that could potentially impact the environmental condition of the Property. Other areas of potential environmental concern are outlined in the remainder of this document.

The Property evaluated during the course of this EBS encompasses approximately 4.65 acres. The USARC provides organizational and limited direct support maintenance, and technical assistance for Army Reserve units located in the region. Light maintenance at the Property includes support of military vehicles and military equipment. The Property is currently occupied by the 428th Quarter Master Company and 319th Quarter Master Battalion.

There are three buildings on the Property. A description of the structures on the Property follows:

- 2 LT William S. Huisman USARC. The 2LT William S. Huisman USARC facility is the predominant structure on the Property. It is approximately 28,950 square feet (sf) and functions mainly as offices, classrooms, and a drill hall. This building is a two-story, primarily U-shaped structure. The structure was constructed in 1962. The building is underlain with a concrete foundation. It is constructed of concrete block walls that have been finished with red bricks. Fluorescent lighting is used throughout the building. Floor covering is typically tile with the exception of finished concrete floors in the drill hall and caged storage areas.

- Organizational Maintenance Shop (OMS). The OMS on the Property is a rectangular, one-story cinder block building, with a red brick veneer. The building was constructed in 1963 and contains a slab-on-grade concrete foundation. The structure occupies approximately 6,576 sf and contains five metal overhead retractable bay doors, an administrative area, several caged storage areas, and two flammable-materials storage cabinets. The OMS is currently used to provide approximately 20% of the organizational level maintenance on equipment and vehicles that belong to the 428th and 319th, including "Level #1" vehicle maintenance (oil changes, tire changes, wheel bearing repacks, etc.). Major repairs such

as engine overhauls are referred to Area Maintenance Support Activity (AMSA) #123, located in Macedonia, Ohio. There are no floor drains in the OMS.

- Utility Building. This approximately 25 sf building functions as a storage facility for mechanical equipment used by East Ohio Gas, supplier of natural gas to the USARC. It is a half-story square building that rests on a concrete foundation with concrete block wall and a red brick facade. The building was constructed in 1962.

There is a sparse population of deciduous and coniferous trees around the main buildings and along the boundaries of the Property. Grassy, landscaped areas surround the main buildings. The central area of the Property is covered by asphalt parking areas for military and privately owned vehicles. A chain-link fence topped with barbed wire surrounds the OMS and Military Equipment Parking (MEP) area. Access to the buildings is only gained with proper identification.

Based on documents provided by the 88th RRC, the Property was purchased by the Department of the Army from the City of Cleveland in 1961. The 88th RRC is the current owner of the Property. Based on the legal description, the Property is situated in the Township of Warrensville, County of Cuyahoga, and the State of Ohio, and known as being part of the original Warrensville Township Lot No. 69, containing approximately 4.65 acres of land. The latitude/longitude of the Property is 41° 27' 0.0"N, 81° 30' 1.4"W. Adjacent properties are discussed in Section 4.0 of this report.

Based on the information revealed in this EBS, IMA-ARD identified **no recognized environmental conditions** that negatively impact the environmental condition of the Property. There were, however, two environmental concerns related to the Property. They are as follows:

Environmental Concerns

- Asbestos Containing Materials. An *Asbestos, PCB, Lead-Based Paint, and Radon Survey* (March 2004) was prepared by ITI of South Florida, Inc. (ITI) for the USARC and OMS on the Property. Asbestos Containing Materials (ACMs) were identified at the following locations:

  USARC

  Confirmed Asbestos
  - Thermal system insulation located through the building (pipes and fittings)
  - Water tank insulation and associated pipes in boiler room
  - 9" x 9" floor tile and mastic located throughout
  - Exterior expansioin joints between bricks

  Presumed Asbestos
  - Cloth expansion joints
  - Door putty
  - Fire doors
  - Electrical wiring

OMS

Presumed Asbestos

- Cloth wrap around flue pipe (6 inches) about bay door #2 (from left)
- Cloth expansion joint
- Exterior joint putty between bricks
- Fire doors
- Electrical wiring
- Roofing Materials

Localized damage of thermal system insulation was observed in some areas, especially at elbows and joints.

- Lead-Based Paint. An *Asbestos, PCB, Lead-Based Paint, and Radon Survey (March 2004)* was prepared by ITI for the USARC and OMS on the Property. Lead-Based Paint (LBP) was identified at the following locations:

USARC

- All metal door jambs located throughout, brown with red tint (good condition)
- All painted components of staircases, brown and cream on metal 9fair to damaged condition)
- All painted metal columns and beams and associated corrugated metal deck, cream color (good condition)
- Metal doors in the drill hall and copy entrance areas, brown with a red tint (fair condition)
- Chalk board in the drill hall (good condition)
- Exterior garage door frame/jamb, metal, grey (damaged condition)
- Ceramic tile walls in all restrooms, 1st and 2nd floor (good condition)
- Glazed block in room 209, janitor's closet (good condition)
- Green metal ladder in Rom 209, janitor's closet (good condition)

OMS

- Exterior metal door jambs on garage doors (damaged condition)
- Yellow paint on floor, west door (significantly damaged)
- All metal beams and columns, yellow and white in color (fair condition)

Environmental Condition of Property

This EBS classified the Property into one of seven Department of Defense (DoD) Environmental Condition of Property (ECP) categories as defined by ASTM Designation D5746-98 (2002), *Standard Classification of Environmental Condition of Property Area Types for Defense Base Closure and Realignment Facilities.* Property classification categories are defined in Section 2.3 of this EBS.

The Property has been classified as category Type 2. This category is defined as *"an area or parcel of real property where only the release or disposal of petroleum products or their derivatives has occurred."* This classification was selected based on the identification of petroleum-impacted soils during the removal and closure of a 550-gallon underground storage tank. Total Petroleum Hydrocarbons (TPH) were detected in one of the soil samples at 210 milligrams per kilogram (mg/kg), below the determined action level of 904 mg/kg (see Section 6.4.1).

SECTION 2.0
SCOPE OF SERVICES

2.1 OBJECTIVES AND METHODOLOGY

IMA-ARD prepared this EBS for the Property and all of the properties within the minimum search distances specified under ASTM E 1527-00, ASTM D 6008-96, and Army Regulation 200-1 standards.

The objective of the EBS was to identify *recognized environmental conditions* by reviewing the Property history, including review of: historical aerial photographs; city directories; regulatory agency records; and historical reports. Interviews with persons knowledgeable about the Property and a site reconnaissance were also conducted. A recognized environmental condition is defined as *the presence or likely presence of hazardous substances or petroleum products under conditions that indicate an existing release, a past release, or a material threat of a release on the surface of the Property, or into the ground, groundwater, or surface water of the property. The term* <u>*does not include*</u> *de minimis conditions that generally do not represent a material risk of harm to public health or the environment, and that generally would not be the subject of a regulatory enforcement action.*

This EBS was performed in a manner that allowed for the identification of recognized environmental conditions at the Property, those concerns ascertained through visual and physical observations, and information-gathering procedures.

The following tasks were performed during the course of this EBS:

- A site reconnaissance for evidence of hazardous materials handling, storage, or disposal, and other potential contaminants, or practices that may have affected the property.
- An evaluation of the surrounding properties within the designated ASTM radii, with respect to their potential to impact the environmental integrity of the Property. This evaluation was limited to (a) evidence readily observable without accessing the neighboring properties and (b) data that may be obtained from federal, state, and local regulatory agency files via use of an electronic database search supplied by Environmental Data Resources (EDR).
- Review of reasonably available historical data (e.g., historical environmental reports, aerial photographs, and city directories), topographical and hydrogeological information, and other information, as appropriate.
- Interviews with persons knowledgeable of the Property.

The site reconnaissance for this EBS was conducted on February 24, 2004, by Mr. Michael Dickinson, Hydrogeologist/Environmental Property Assessor contractor for IMA-ARD. Ms. Nikki Foster, State Environmental Manager TAD-PGS contractor for the 88th RRC, provided Property access.

2.2 INFORMATION SOURCES

IMA-ARD personnel reviewed the following applicable documents in the course of this EBS:

Document	Source
Road Map of the Area	Rand McNally.com
USGS 7.5-Min. Topographic Map – Shaker Heights, Ohio Quadrangle, 1979	Topozone.com
Aerial Photographs of the Property and Surrounding Area (1952, 1962, 1977, 1991, and 2002)	EDR, GlobExplorer.com
City Directories for the Property and the Surrounding Area (1967, 1976, 1997)	EDR
Legal Description of the Property	88th RRC
Condemnation Documents, USACOE, October 1999	88th RRC
Project Report – Range Cleanup – OH066, 88th RSC, Huisman USARC, Warrensville Heights, Ohio, IT Corporation, Feb	88th RRC
Ohio Section 110 Inventory Report, Fort McCoy Archaeology Laboratory, December 1999	88th RRC
Floor Plans of Buildings on the Property, 1987	88th RRC
Specifications for Oil/Water Separator Closure at Huisman USARC (OH066), Warrensville Heights, Ohio, Jones Technologies, Inc., October 2000	88th RRC
Final OWS System Closure Report, Huisman USARC (OH066), Warrensville Heights, Ohio, Jones Technologies, Inc., October 2001	88th RRC
Closure Assessment Report for Waste Oil Underground Storage Tank at 2 LT WM S Huisman USARC Facility, Warrensville Heights, Ohio, Harza Environmental Services, Inc., January 1999	88th RRC
Cross Connection/Backflow Prevention Program for the 88th RSC Facilities in Ohio, Dosson-Stilson, Inc., January 1997	88th RRC
Miscellaneous As-Built Drawings for the Property	88th RRC
Final Oil/Water Separator Evaluation Report, 88th RSC, Ohio, Jones Technologies, Inc., December 1998	88th RRC
Correspondence between Harza Environmental Services, Inc. and Division of State Fire Marshall, Bureau of Underground Storage Tank Regulations, May 1999	88th RRC

Document	Source
Environmental Compliance Assessment for 2 LT William S. Huisman USAR Center, Facility Engineering Team #1, 83rd ID Memorial USAR Center, October 2002	88th RRC
Asbestos Survey Report, Huisman USARC, Warrensville Heights, Ohio, RMT, November 1992	88th RRC
Environmental Survey Report – Asbestos, PCB, Lead Based Paint and Radon Survey, 88th Regional Support Command, Warrensville, Ohio (OH066)	88th RRC
Radon Survey Results, 83rd ARCOM, June 1993	88th RRC
Final Installation Spill Contingency Plan, Huisman USARC, Warrensville, Ohio, Jones Technologies, Inc., May 1998	88th RRC
Draft Boiler Surveys, Air Emission Inventories, and Hazardous Materials Inventories, U.S. Army Reserves, Columbus, Ohio, Dames & Moore, April 1994	88th RRC
Record of Environmental Consideration for Right-of-Way Easment, Huisman USARC, Warrensville, Ohio (OH066), September 1997	88th RRC
Excerpts from Draft 88th RRC Natural Resources Survey, February 2004	88th RRC
Geology, Hydrogeology, and Soils Data for the Property and Surrounding Area	EDR
Electronic Regulatory Agency File Database	EDR

With the exception of the as-built drawings, all environmental documents have been copied to an electronic disk and are included as an attachment in this report. In addition, substantive information about the Property and the surrounding area was obtained from interviews with the following persons:

- Ms. Lisa Gulbranson, 88th RRC, TAD-PGS Contractor
- Ms. Nikki Foster, 88th RRC, TAD-PGS Contractor
- Mr. Robert Healey, Supervisory Staff Administrator, 319th Quarter Master Battalion

2.3 ENVIRONMENTAL CONDITION OF THE PROPERTY CATEGORIES

The EBS classifies the Property into one of seven DoD Environmental Condition of Property (ECP) categories as defined by ASTM Designation D5746-98, *Standard Classification of Environmental Condition of Property Area Types for Defense Base Closure and Realignment Facilities.* The property classification categories are described in detail below:

- ECP Area Type 1: An area or parcel of real property where no release or disposal of hazardous substances or petroleum products or their derivatives has occurred (including no migration of these substances from adjacent properties).

- ECP Area Type 2: An area or parcel of real property where only the release or disposal of petroleum products or their derivatives has occurred.

- ECP Area Type 3: An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, but at concentrations that do not require a removal or remedial action.

- ECP Area Type 4: An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, and all remedial actions necessary to protect human health and the environment have been taken.

- ECP Area Type 5: An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred and removal or remedial actions, or both, are under way, but all required actions have not yet been taken.

- ECP Area Type 6: An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, but required response actions have not yet been initiated.

- ECP Area Type 7: An area or parcel of real property that is unevaluated or requires additional evaluation.

ECP Area Types 1 through 4 are suitable for lease or transfer by deed. ECP Area Types 5 and 6 are typically unsuitable for lease or transfer by deed because of ongoing or yet to be initiated remedial actions. ECP Area Type 7 is unevaluated or requires additional evaluations.

2.4 LIMITATIONS

This EBS was performed in accordance with ASTM E 1527-00, ASTM D 6008-96, and Army Regulation 200-1. This EBS included available historical sources, including previous environmental documents, historical aerial photographs, city directories, and interviews with persons knowledgeable about Property activities. It should be noted that the ground surface was partially snow covered at the time of the site reconnaissance, thereby reducing the effectiveness of personal observation of staining, spills, or stressed vegetation on the subject property.

Although this study has been a reasonably thorough attempt to identify the potential sources of contamination for the Property, there is always the possibility that some sources of contamination have escaped detection due to the limitations of this study, the inaccuracy of government records, or the presence of undetected and unreported environmental events. IMA-ARD environmental personnel have performed this EBS using the degree of care and skill

ordinarily exercised under similar conditions by other reputable environmental professionals practicing in this or similar localities.

SECTION 3.0
PROPERTY DESCRIPTION

3.1 PROPERTY NAME

2LT William S. Huisman USARC.

3.2 PROPERTY ADDRESS

The Property is located at 25445 Harvard Road in Warrensville Heights, Cuyahoga County, Ohio. The Property lies on the north side of the road, approximately 1,000 feet west of the intersection of Richmond Road and Harvard Road (see Attachments A and B – Property Location Map and Property Sketch). The mailing address for the facility is as follows:

2LT William S. Huisman USARC
25445 Harvard Road
Warrensville Heights, Ohio 44122

3.3 PROPERTY SIZE

Based on a review of the legal description provided by the 88th RRC, the Property encompasses approximately 4.65 acres.

3.4 CURRENT IMPROVEMENTS AND USES

The USARC currently provides organizational and limited direct support maintenance, and technical assistance for supported Army Reserve units located in the region. Light maintenance at the site includes support of military vehicles and military equipment. The Property is currently occupied by the 428th Quarter Master Company and 319th Quarter Master Battalion.

There are three buildings on the Property. A description of the structures on the Property follows:

- 2 LT William S. Huisman USARC. The 2LT William S. Huisman USARC facility is the predominant structure on the Property. It is approximately 28, 950 square feet (sf) and functions mainly as offices, classrooms, and a drill hall. This building is a two-story, primarily U-shaped structure. The structure was constructed in 1962. The building is underlain with a concrete foundation. It is constructed of concrete block walls that have been finished with red bricks. Fluorescent lighting is used throughout the building. Floor covering is typically tile with the exception of finished concrete floors in the drill hall and caged storage areas.

- Organizational Maintenance Shop (OMS). The OMS on the Property is a rectangular, one-story cinder block building, with a red brick veneer. The building was constructed in 1963 and contains a slab-on-grade concrete foundation. The structure occupies approximately 6,576 sf and contains five metal overhead retractable bay doors, an administrative area, several caged storage areas, and two flammable-materials storage cabinets. The OMS is currently used to provide approximately 20% of the organizational level maintenance on equipment and vehicles that belong to the 428th and 319th,

including "Level #1" vehicle maintenance (oil changes, tire changes, wheel bearing repacks, etc.). Major repairs such as engine overhauls are referred to Area Maintenance Support Activity (AMSA) #123, located in Macedonia, Ohio. There are no floor drains in the OMS.

- Utility Building. This approximately 25 sf building functions as a storage facility for mechanical equipment used by East Ohio Gas, supplier of natural gas to the USARC. It is a half-story square building that rests on a concrete foundation with concrete block wall and a red brick facade. The building was constructed in 1962.

There is a sparse population of deciduous and coniferous trees around the main buildings and along the boundaries of the Property (see Attachment C – Photographs). Grassy, landscaped areas surround the main buildings. The central area of the Property is covered by asphalt parking areas for military and privately owned vehicles. A chain-link fence topped with barbed wire surrounds the OMS and Military Equipment Parking (MEP) area. Access to the buildings is only gained with proper identification.

3.4.1 Utilities

According to Mr. Robert Healy, Supervisory Staff Administrator for the 319th Quarter Master Battalion, the City of Beachwood supplies the Property with potable water and sanitary sewer service. First Energy provides electricity to the Property and East Ohio Gas supplies the Property with natural gas. According to Mr. Healy, there are no septic tanks on the Property (see Attachment D – Record of Communication).

3.5 PROPERTY HISTORY

3.5.1 Previous Environmental Assessments of the Property

Based on a review of documents provided by the 88th RRC, a Phase I Environmental Assessment or EBS has not been performed for the Property previously. However, several site specific environmental documents were reviewed as part of this EBS. They have been included on an electronic disk in this report (see Attachment E – Research Documents).

3.5.2 Occupancy and Uses of the Property

IMA-ARD reviewed several sources of historical information with regard to the Property, including historical aerial photographs, city directories, and information supplied by interviews (see Attachment D).

Based on documents provided by the 88th RRC, the Property was purchased by the Department of the Army from the City of Cleveland in 1961. Prior to 1961, the Property was apparently vacant, open grassland, making up a portion of land used by the Department of the Army for NIKE missile operations.

A review of historical aerial photographs for the Property corroborates this information in that they show the Property as open grassland from the date of the earliest aerial photograph (1952). The next available aerial photograph is from 1962 and shows the USARC and OMS in generally the same locations as they exist today. The MEP area has not been constructed in the 1962 photograph and the asphalt drive has not been constructed. The 1977 and 1991 aerial photographs show the addition of the asphalt boundaries of the MEP and POV parking areas.

The 2002 aerial photograph shows the Property in generally the same condition as it exists today.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1967 through 1997. The Property is listed as the US Department of Defense Army Reserve Center from the earliest listing (1967). According to the city directories, the USARC has occupied the Property continuously until the last listing in 1997.

3.5.3 Occupancy and Uses of Nearby Land Use

At the present time, the land to the south is occupied by Cuyahoga Community College. Undeveloped commercial property, owned by Chagrin Highlands Development Company, borders the site to the north, east, and west (see Attachment B).

The 1952 aerial photograph of the area surrounding the Property to the north and east indicate the land was used for military support buildings (command rooms, commissary, living quarters, offices, etc.) as part of NIKE missile operations. Adjacent property to the west was occupied by a military hospital (closed in approximately 2000, according to Mr. Healey) in the 1952 photograph and open grasslands were observed to the south. The development of Harvard Road can be seen in the 1962 photograph, with adjacent properties remaining generally unchanged. In the 1977 aerial photograph, the military support buildings to the north and east have been demolished and construction of Cuyahoga Community College is apparent to the south. The 1991 aerial photograph shows the continued development of Cuyahoga Community College to the south. The military hospital is missing from the 2002 aerial photograph and surrounding properties are in generally the same condition as they exist today. A review of the city directories for surrounding properties identified the U.S. Department of Defense Army Area Supply Office (25950 Harvard Road), Cuyahoga Community College (25444 Harvard Road), and the Highland Hills Fire Department (25441 Harvard Road).

3.5.4 Review of Aerial Photographs

Available aerial photographic coverage of the Property included photographs dated 1952, 1962, 1977, 1991, and 2002. These aerial photographs are included in Attachments F-1 through F-5. A summary of the information obtained from an analysis of these photographs is as follows:

1952 Aerial Photograph EDR	This aerial photograph shows the Property as vacant open grassland. Surrounding properties to the north, northeast, and east house military buildings in support of the NIKE missile operation. Land to the south is vacant and a military hospital is present east of the Property (see Attachment F-1).
1962 Aerial Photograph EDR	This photograph shows the Huisman USARC and OMS on the Property in generally the same locations as they exist today. The development of Harvard road is visible to the south. Land use to the north, east and west has remained relatively unchanged since the 1952 photograph. The presence of the NIKE missile silos, southeast of the Property is evident in this photograph (see Attachment F-2).

1977 Aerial Photograph EDR	This photograph shows the Property in generally the same condition as the 1962 photograph with the exception of paving in the POV and MEP areas. Military housing to the north, east have been demolished and construction of the Cuyahoga Community College is evident to the south of Harvard Road (see Attachment F-3).
1991 Aerial Photograph EDR	With the exception of continued development of Cuyahoga Community College south of Harvard Road, the Property and surrounding areas have remained relatively unchanged since the 1977 photograph. The former NIKE missile silos, southeast of the Property were closed at the time this photograph was taken (see Attachment F-4).
2002 Aerial Photograph, GlobExplorer®	This photograph shows the Property and surrounding properties in generally the same condition as they exist today. The military hospital, formerly east of the Property has been removed. Undeveloped commercial property borders the site to the north, east, and west (see Attachment F-5).

SECTION 4.0
ADJACENT PROPERTIES

Attachment F-5 provides an aerial view of land that surrounds the Property. The Property is bounded to the north, east and west by undeveloped commercial property owned by Chagrin Highlands Development Company. Harvard Road borders the site to the south. Further south of Harvard Road is Cuyahoga Community College. The photographs below illustrate adjacent properties:

North

Undeveloped commercial land borders the Property to the north. The photograph to the right was taken from the northern portion of the MEP, viewing north.

South

Harvard Road borders the Property to the south. Cuyahoga Community College lies further south of Harvard Road. The photograph to the left shows Harvard Road with the Community College in the background

East

Undeveloped commercial land borders the Property to the east. The photograph to the left was taken from the east side of the OMS, viewing east. Further east is I-271.

West

Undeveloped commercial property borders the Property to the west. The photograph on the left shows the western fence line with the undeveloped commercial property in the background. The photograph on the right was taken viewing north and shows the western fence line of the MEP area and the undeveloped commercial property on the left side of the photograph.

SECTION 5.0
ENVIRONMENTAL SETTING

5.1 TOPOGRAPHY AND SURFACE WATER

The Property lies in a gently rolling area with a land surface elevation of approximately 1,216 feet above mean sea level, based on the National Geodetic Vertical Datum (NGVD) of 1929. Based on surface topography and a visual inspection of the Property, storm water generally flows towards the southeast in the direction of an unnamed tributary, located approximately 2,500 feet southeast of the Property. This unnamed tributary flows toward the south-southeast (see Attachment G – U.S.G.S. Topographic Quadrangle Map).

Adjacent properties to the north and west are topographically upgradient of the Property. Based on the fact that these properties are undeveloped and had no noticeable outside storage of liquid chemicals (e.g., drums or hazardous waste storage areas) at the time of the site reconnaissance, it does not appear that storm water runoff from these adjacent properties would negatively impact the environmental condition of the Property. Adjacent properties to the east and south are located topographically downgradient and would not drain stormwater onto the Property.

5.2 WETLANDS

The United States Army Corp of Engineers (USACE) and Environmental Protection Agency (EPA) jointly define wetlands as "*Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.*"

National Wetland Inventory coverage was not available for the Property. Based on a review of the Draft 88th RRC Natural Resources Survey completed for the Property, no wetlands were observed on or in the immediate vicinity of the Property. It should be noted that a wetlands delineation study was not conducted as part of this EBS.

5.3 100-YEAR FLOOD ZONE

A review of the Overview Map 1136980.3s indicates that the site does not lie inside the 100-year flood zone (see Attachment H – EDR Database Report)

5.4 GEOLOGIC INFORMATION

Based on a review of documents provided by the 88th RRC, most of Cuyahoga County geology was formed from Wisconsin-age glacial till, glacial outwash, beach deposits, lacustrine sediments, recent stream alluvium and locally accumulated organic material. According to the EDR, the Property overlies a stratified sequence of deposits of the Paleozoic Era, Mississippian System, Mississippian Series (see Attachment H).

5.5 HYDROGEOLOGIC INFORMATION

Groundwater flow direction has been estimated to be towards the southeast in the direction of an unnamed tributary, based on a review of the 7.5-minute U.S.G.S. topographic

map of the area. It should be noted that this groundwater flow direction is not known with certainty and cannot be determined without the installation ofl monitoring wells and/or piezometers on the Property.

5.6 SOIL CHARACTERIZATION

According to the U. S. Department of Agriculture's Soil Conservation Service data, the prominent soil type at the Property has been identified as MAHONING. This classification consists of silty loam that has very slow infiltration rates. Soils are clayey, have a high water table, and commonly have a layer with low hydraulic conductivity. Depth to water table is 1 to 3 feet. Depth to bedrock is greater than 60 inches (see Attachment H).

SECTION 6.0
SITE RECONNAISSANCE AND INTERVIEWS

6.1 SITE OBSERVATIONS

6.1.1 INSPECTOR/INSPECTION DATE

Environmental professional, Mr. Michael Dickinson performed the site reconnaissance on February 24, 2004. Mr. Dickinson is a Hydrogeologist/Environmental Property Assessor contractor for the IMA-ARDand has over ten years of experience in the environmental field. Ms. Nikki Foster, Ohio State Environmental Manager, TAD-PGS contractor for the 88th RRC, provided Property access.

6.1.2 Site Access and Egress

There is only one access drive leading to the Property (from Harvard Road). The MEP area is bound by a chain-link fence topped with barbed wire. Access to the buildings is restricted to personnel with proper identification.

6.1.3 Wells

6.1.3.1 Drinking and/or Irrigation Wells

There are no drinking wells or irrigation wells on the Property.

6.1.3.2 Dry Wells

No visual or physical evidence of dry wells was discovered on the Property.

6.1.4 Pits, Ponds, and Lagoons

Visual inspections for pits, ponds, and lagoons, particularly those used in connection with waste disposal or waste treatment, were conducted. None were noted at the time of the visual inspection of the Property. There was no visual evidence that the area was currently or had been used for waste disposal in the past.

6.1.5 Mounds or Depressions

A visual inspection was conducted to identify areas apparently filled or graded by other than natural means (or filled by unknown origins), mounds, or depressions suggesting trash or other solid waste disposal. No mounds or depressions were observed during the visual inspection of the Property.

6.1.6 Vegetation/Wooded Areas

The Property is approximately ten percent landscaped with grassy areas/native plants and decorative shrubs. MEP and POV parking areas, driveways, and building footprints occupy the remainder of the Property.

6.1.7 Buildings and Other Structures

The buildings on the Property have been previously discussed in Section 3.0.

6.1.8 Septic Systems

According to Mr. Robert Healey, Supervisory Staff Administrator for the 319th Quarter Master Battalion, the Property is serviced exclusively by sanitary sewer. Mr. Healey stated that there are no septic tanks on the Property.

6.1.9 Solid Waste Disposal

At the time of the visual inspection of the Property, there was one solid waste dumpster on the site. According to Mr. Healey, the solid waste dumpster is routinely emptied by BFI, Inc. No staining or unusual odors were observed in or around the solid waste dumpster.

6.1.10 Evidence of Air Emissions/Odors

No unusual odors were noted during the reconnaissance of the Property. Based on a review of the *Draft Boiler Surveys, Air Emission Inventories, and Hazardous Material Inventories*, the boiler at the Property is a natural gas fired boiler that is small enough (<10 MMBtu/hr heat input) to be exempt from Permit To Install (PTI) requirements pursuant to OAC 3745-31-03 (A) (1) (a). Permit to Operate (PTO) requirements pursuant to OAC 3745-35 mandate that a permit shall be obtained for any "air contaminant source", which is loosely defined as any physical facility that "emits or may emit any air pollutant". Though no "de minimis" value for PTO permitting requirements has been promulgated, a proposed rule that is being implemented in some of the OEPA district offices exempts any air contaminant source emitting less than 10 lb/day of any criteria air pollutant (per ORC 3704.111). The boiler on the Property falls well below the 10lb/day limit.

6.1.11 Evidence of Wastewater Discharge

No wastewater discharge, other than sanitary wastewater, was observed on or adjacent to the Property during the site reconnaissance. An oil/water separator (OWS) was previously located on the Property and is discussed below in Section 6.5.

6.1.12 Evidence of Monitoring Wells or Environmental Remedial Activities

No monitoring wells were observed on the Property during the site reconnaissance.

6.1.13 Evidence of Stained or Discolored Soil or Dead, Distressed, Discolored, or Stained Vegetation

No stained or discolored soil or distressed vegetation was observed during the site reconnaissance. It should be noted that the ground surface was partially snow covered at the time of the site reconnaissance, thereby reducing the effectiveness of observations of staining, spills, or distressed vegetation on the Property.

6.1.14 Evidence of Leachate or Seeps

None were observed during the site reconnaissance.

6.1.15 Evidence of Chemical/Petroleum Spills or Releases

No evidence of past chemical/petroleum spills or releases was observed during the site reconnaissance. The Final installation Spill Contingency Plan, Huisman USARC was available for review during the site reconnaissance. According to Mr. Healey, the methods outlined in the plan are enforced at the facility.

6.1.16 Hydraulic Equipment

No permanently installed hydraulic equipment was identified at the Property. According to Mr. Healey, the OMS was never equipped with a hydraulic lift.

6.1.17 Evidence of Farm Waste Concerns

No such evidence was observed.

6.1.18 Evidence of Excessive Use of Pesticides, Herbicides, Soil Conditioners, or Fertilizers

With the exception of minimal amounts of commercially-available products used by landscape/pest-control personnel, no excessive use of any of these chemicals were noted at the time of the site reconnaissance.

6.1.19 Other Concerns

None.

6.2 AREA RECONNAISSANCE

The Property and the properties immediately surrounding the site have been described previously. It should be noted that a former NIKE missile launch area was formerly located in the southeast quadrant of the intersection of Richmond Road and Harvard Road, approximately 1,500 feet southeast and downgradient of the Property. The former launch area can be seen in the 1962 and 1977 aerial photographs, but has been removed in the 1991 aerial photograph (see Attachment F).

6.3 HAZARDOUS SUBSTANCES AND PETROLEUM PRODUCTS IN CONNECTION WITH IDENTIFIED USES

Visual and physical inspections for hazardous substances and petroleum products were also conducted. The Property is listed under EPA's Resource Conservation and Recovery Information System (RCRIS) as a Small Quantity Generator (SQG), EPA ID# OH9210090040. A SQG is defined as a site which generates between 100 kilograms (kg) and 1,000 kg of hazardous waste per month.

Based on information supplied by the 88th RRC, the Property is listed as a SQG based on the generation of waste from vehicle maintenance at the OMS. Typical wastes noted during the site reconnaissance were: used oily rags, used fuel and oil filters, used fuel, lamps (used), paint cans, used antifreeze, used motor oil, and other vehicle maintenance waste. Chemicals stored at the OMS include: 5-gallon containers of fuel, motor oil, brake fluid, gear oil, lubrication oil, flux paste, silicone compound, multi-purpose grease, aerosol spray paints, as well as other typical vehicle maintenance fluids.

There is one hazardous material storage sheds at the site, adjacent to the OMS. In addition, there are two flammable storage cabinets located inside the OMS. All petroleum products and hazardous substances were properly stored in the hazardous material storage shed or flammable storage cabinets at the time of the inspection (see Attachments B and C).

No improper storage techniques or staining was noted in or around the hazardous materials storage sheds or flammable storage cabinets. In addition, no violations were noted in the EDR report relating to the facility's SQG hazardous waste permit. Based on a visual inspection, it appears that petroleum products and hazardous waste is being handled properly at the Property and the storage of these relatively small quantities does not appear to pose an environmental threat to the Property at this time.

6.4 STORAGE TANKS

6.4.1 On-Site AST/UST Systems

A visual inspection was undertaken to locate any aboveground storage tanks (ASTs) or underground storage tanks (USTs) on the Property. Evidence of USTs, including vent pipes, fill pipes, concrete pads, and access ways were investigated. Based on a visual inspection and an interview with Mr. Healey, Supervisory Staff Administrator for the 319th Quarter Master Battalion, there are no ASTs or USTs currently located on the Property. However, one waste oil UST existed on the Property in the past.

According to the *Closure Assessment Report for Waste Oil Underground Storage Tank as 2 LT WM S Huisman USARC Facility, Warrensville Heights, OH,* dated January 1999, one 550-gallon waste oil UST was located on the Property as part of an OWS system. Waste oil, collected after washing vehicles, drained into an OWS where the oil and water were separated by gravity and flotation. The oil, floating on top of water, flowed through a sloped PVC pie into the waste oil UST. The waste oil UST was removed by Harza Environmental Services, Inc. on October 29, 1998. Upon removal of the UST from the ground, the tank was observed in good condition and no holes were observed. A total of approximately 1,200 gallons of waste oil and water mixture, perched water in the excavation hole, sludge and rinsate were removed from the UST/excavation during removal activities.

Three soil samples were collected as part of the site assessment for permanent UST closure by removal. Two grab samples were collected from the excavation floor, one at each end of the UST, and one grab sample was collected from the excavated backfill material. All soil samples were analyzed for Volatile Organic Compounds (VOCs) using EPA Method 8260 and for Total Petroleum Hydrocarbons (TPH) using EPA Method 418.1R.

No VOCs were detected in any of the soil samples. TPH was detected in one of the soil samples at 210 mg/kg, below the action level of 904 mg/kg. According to the closure report, the action level of 904 mg/kg was determined using the Site Feature Scoring System (SFSS) Chart (see Attachment E).

Based on these laboratory results Harza Environmental Services, Inc. recommended no further action with regards to this UST. According to the Department

of Commerce, Leaking Underground Storage Tank database, a no further action letter was issued (see Attachment H). Based on this information it does not appear the former operation of this UST has negatively impacted the environmental condition of the Property.

6.4.2 Off-Site AST/UST Systems

A visual inspection was undertaken to locate any ASTs or USTs on properties adjacent to the Property. None were identified during the site reconnaissance of the adjacent properties.

6.5 OIL/WATER SEPARATORS

There is not an OWS system currently located on the Property. However, there was one OWS associated with the former wash rack, located adjacent to the OMS prior to February 2001. Based on a review of the *Final OWS System Closure Report, Huisman USARC (OH066), Warrensville Heights, Ohio*, dated October 2001, one 515 gallon OWS was removed by Jones Technologies, Inc. on February 6, 2001. The tank was constructed of steel and had several visible holes. After removal two soil samples were collected from the floor of the excavation and submitted for the following analyses:

- TPH (diesel range and gasoline range using EPA method 8015)
- VOCs (EPA method 8260)
- Metals – barium, cadmium, total chromium, lead, nickel, and zinc (EPA method 6010), and mercury (EPA method 7471)

No TPH or VOCs were detected in the soil above laboratory detection limits. Several metals were detected including arsenic (4.92 and 10.1 mg/kg), barium (5.22 and 23.7 mg/kg), total chromium (12.1 mg/kg), and lead (3.19 and 10.4 mg/kg). None of these metal concentrations exceeded the RCRA limits for soil. Jones Technologies, Inc. selected limits based on the most restrictive regulation because there is no specific regulation that covers flow-through devices such as an OWS.

Based on this information, it does not appear that the former operation of this OWS system negatively impacted the environmental condition of the Property.

6.6 TRANSFORMERS AND PCB-CONTAINING EQUIPMENT

Polychlorinated biphenyls (PCBs) were produced in the United States from 1929 to 1976, primarily for use as insulating material in electrical equipment such as transformers and lighting ballasts. Although PCBs are no longer being manufactured, electrical transformers, hydraulic equipment, and lighting ballasts containing PCBs may still be in service.

An *Asbestos, PCB, Lead Based Paint, and Radon Survey* was conducted in March 2004 for the Property by ITI of South Florida, Inc. (ITI). According to the survey, light ballasts in the USARC and OMS are assumed to contain PCBs based on several ballasts not having a "Non PCBs" label attached to it. The report stated that additional testing of the ballasts should be performed prior to disturbance or disposal.

The survey also identified three pole-mounted transformers behind the USARC. There were no markings on the pole-mounted transformers and they are presumed to contain PCBs. However, all transformers were noted in good condition and no leaks were evident from the units at the time of the inspection. According to Mr. Healey, the transformers are owned by First Energy and the oil in the units was replaced with non-PCB containing oil in the 1990s. The PCB survey concluded "an imminent PCB hazard was not present at the facility during the site visit". Based on this information, the operation of these transformers does not appear to negatively impact the environmental condition of the Property at this time.

6.7 RADON

According to the EPA Radon Zone for Cuyahoga County, areas tested were classified in Zone 2, defined as having an indoor average level equal to or greater than 2 pCi/L and less than or equal to 4 pCi/L. In June 1993, a radon survey was conducted for the facility by 83rd ARCOM. Results from this survey found radon levels < 4 pCi/L. In March 2004 an Asbestos, PCB, Lead Based Paint, and Radon Survey was conducted by ITI. Radon results were not available from this survey during the production of this EBS. According to the 88th RRC, the results would not be available until spring 2004. However, based on the information available, radon is not considered an environmental threat to the Property.

6.8 ASBESTOS CONTAINING MATERIAL

The 2004 Asbestos, PCB, Lead-Based Paint, and Radon Survey report was prepared for the USARC and OMS on the Property. Asbestos-containing Materials (ACMs) were identified at the following locations:

<u>USARC</u>

Confirmed Asbestos

- Thermal system insulation located through the building (pipes and fittings)
- Water tank insulation and associated pipes in boiler room
- 9" x 9" floor tile and mastic located throughout
- Exterior expansioin joints between bricks

Presumed Asbestos

- Cloth expansion joints
- Door putty
- Fire doors
- Electrical wiring

<u>OMS</u>

Presumed Asbestos

- Cloth wrap around flue pipe (6 inches) about bay door #2 (from left)
- Cloth expansion joint
- Exterior joint putty between bricks
- Fire doors

- Electrical wiring
- Roofing Materials

Localized damage of thermal system insulation was observed in some areas, especially at elbows and joints.

6.9 LEAD-BASED PAINT

The 2004 Asbestos, PCB, Lead-Based Paint, and Radon Survey was prepared for the USARC and OMS on the Property. Lead-Based Paint (LBP) was identified at the following locations:

USARC

- All metal door jambs located throughout, brown with red tint (good condition)
- All painted components of staircases, brown and cream on metal 9fair to damaged condition)
- All painted metal columns and beams and associated corrugated metal deck, cream color (good condition)
- Metal doors in the drill hall and copy entrance areas, brown with a red tint (fair condition)
- Chalk board in the drill hall (good condition)
- Exterior garage door frame/jamb, metal, grey (damaged condition)
- Ceramic tile walls in all restrooms, 1st and 2nd floor (good condition)
- Glazed block in room 209, janitor's closet (good condition)
- Green metal ladder in Rom 209, janitor's closet (good condition)

OMS

- Exterior metal door jambs on garage doors (damaged condition)
- Yellow paint on floor, west door (significantly damaged)
- All metal beams and columns, yellow and white in color (fair condition)

6.10 LEAD DUST

The Huisman USARC was equipped with an active indoor firing range (IFR) from the 1960s until the range was closed in 1991. According to the *Range Cleanup – OH066, 88th RSC, Huisman USARC, Warrensville Heights, Ohio, Final Report*, prepared by IT Corporation and dated February 2003, a four-position range with a manual target retrieval system was located on the first floor of the USARC. During the initial inspection in September 2001, the firing line partitions had been previously removed; the posts for the target retrieval system remained; sand was present in the bullet trap; no lead shot was observed; and the floor of the range was very dirty. IFR range cleanup activities commenced on May 13, 2002 and continued until July 3, 2002. Clearance wipe sampling was conducted on August 15, 2002. Analytical results from the clearance wipe sampling were summarized in the report as follows:

- After cleaning, the range had lead levels from <2.5 µg/sf (twelve ceiling and wall samples) to 82 µg/sf [firing line (floor), 003DT]. The floor outside the entrance door had a lead level of 78 µg/sf. These results indicate that the range floor lead levels were below the clearance criteria of 200 µg/sf.

A letter dated August 28, 2002 by IT Corporation certified that cleaning activities at the IFR successfully attained the project clearance objectives and the former range was approved for occupancy.

The Department of the Army has derived the value of 200 µg/sf to release former indoor firing ranges as rooms that can be reoccupied as non-lead work areas. Although the range has been cleaned to below 200 µg/sf, small amounts of lead dust may be present in the range. Any remodeling activities that may cause a release of dust on wall and floor surfaces should be undertaken in consideration of the Occupational Safety and Health Administration (OSHA) Construction Industry Standard for Lead (29 CFR 1926.62). This OSHA standard should be reviewed before any remodeling activities are conducted. The OSHA standard requires certain controls to reduce or maintain worker exposures less than the Permissible Exposure Limit (PEL) of 50 µg of lead per cubic meter. The employer must protect the worker from lead.

6.11 UNEXPLODED ORDNANCE

No indications were found during the site reconnaissance or records review to indicate the presence of unexploded ordnance at the Property.

6.12 RADIOACTIVE COMMODITIES

A locked storage area on the first floor of the USARC was designated "RADIOACTIVE". According to Mr. Healey, this area is for the storage of chemical agent monitors, IM-93s, radiological detectors, lensatic compasses, and wristwatches, which contain small amounts of radioactive material.

SECTION 7.0
ELECTRONIC DATABASE SEARCH AND REGULATORY REVIEW

An electronic database search of environmental records for the Property and surrounding properties was prepared by EDR. EDR focused on searching federal and state environmental databases and historical and current land uses to identify sites of potential environmental concern with addresses in the areas immediately surrounding the Property.

Based on a review of the 7.5-minute U.S.G.S. topographic map, groundwater flow in the vicinity of the Property is towards the southeast. It should be noted that this groundwater flow direction is not known with certainty and cannot be determined without the installation of monitoring wells and/or piezometers on the Property.

A review of the databases searched during the course of this investigation found that the subject property was listed on the inventory of Leaking Underground Storage Tanks (LUST). In addition, two other facilities were identified by the EDR database search as being within the ASTM-specified radii of the site. These sites are discussed below:

LUST — Three facilities, including the Property, were identified within the ½-mile ASTM search radius of the site on the inventory of leaking underground storage tanks (LUST). The Property was listed on the inventory due to the detection TPH in one of the soil samples collected during the permanent closure of the 550-gallon waste oil UST. According to the EDR report, a No Further Action letter has been issued for the Property (see Section 6.4.1). The remaining two facilities are related to the Cuyahoga Community College Campus, located at 4250 Richmond Road, and adjacent to the Property to the south. The Cuyahoga Community College Campus is located hydraulically downgradient from the Property (assuming a southeasterly groundwater flow direction in the vicinity of the subject site). Based on this information, it does not appear that a release from this facility poses an environmental threat to the Property at this time.

Full documentation of the EDR database review is provided in Attachment H.

SECTION 8.0
CONCLUSIONS

IMA-ARD prepared this EBS for the 88th RRC for the 2 LT William S. Huisman USARC (OH066). The Property is located at 25445 Harvard Road, on the north side of the road, approximately 1,000 feet west of the intersection of Richmond Road and Harvard Road, in Warrensville Heights, Cuyahoga County, Ohio. This EBS was developed in general conformance with the scope and limitations of ASTM Designation D6008-96, ASTM Designation E1527-00, and Army Regulation 200-1, and generally recognized industry practices. Any exceptions to, or deletions from, this practice are described in Section 2.3 of this report.

Based on the information revealed in this EBS, IMA-ARD identified **no recognized environmental conditions** that negatively impact the environmental condition of the Property. There were, however, two environmental concerns related to the Property. They are as follows:

Environmental Concerns

- Asbestos Containing Materials. An *Asbestos, PCB, Lead-Based Paint, and Radon Survey* (March 2004) was prepared by ITI of South Florida, Inc. (ITI) for the USARC and OMS on the Property. Asbestos-containing Materials (ACMs) were identified at the following locations:

  USARC

  Confirmed Asbestos
  - Thermal system insulation located through the building (pipes and fittings)
  - Water tank insulation and associated pipes in boiler room
  - 9" x 9" floor tile and mastic located throughout
  - Exterior expansioin joints between bricks

  Presumed Asbestos
  - Cloth expansion joints
  - Door putty
  - Fire doors
  - Electrical wiring

  OMS

  Presumed Asbestos
  - Cloth wrap around flue pipe (6 inches) about bay door #2 (from left)
  - Cloth expansion joint
  - Exterior joint putty between bricks
  - Fire doors
  - Electrical wiring
  - Roofing Materials

  Localized damage of thermal system insulation was observed in some areas, especially at elbows and joints.

- Lead-Based Paint. An *Asbestos, PCB, Lead-Based Paint, and Radon Survey (March 2004)* was prepared by ITI for the USARC and OMS on the Property. Lead-Based Paint (LBP) was identified at the following locations:

  USARC

  - All metal door jambs located throughout, brown with red tint (good condition)
  - All painted components of staircases, brown and cream on metal 9fair to damaged condition)
  - All painted metal columns and beams and associated corrugated metal deck, cream color (good condition)
  - Metal doors in the drill hall and copy entrance areas, brown with a red tint (fair condition)
  - Chalk board in the drill hall (good condition)
  - Exterior garage door frame/jamb, metal, grey (damaged condition)
  - Ceramic tile walls in all restrooms, 1st and 2nd floor (good condition)
  - Glazed block in room 209, janitor's closet (good condition)
  - Green metal ladder in Rom 209, janitor's closet (good condition)

  OMS

  - Exterior metal door jambs on garage doors (damaged condition)
  - Yellow paint on floor, west door (significantly damaged)
  - All metal beams and columns, yellow and white in color (fair condition)

Environmental Condition of Property

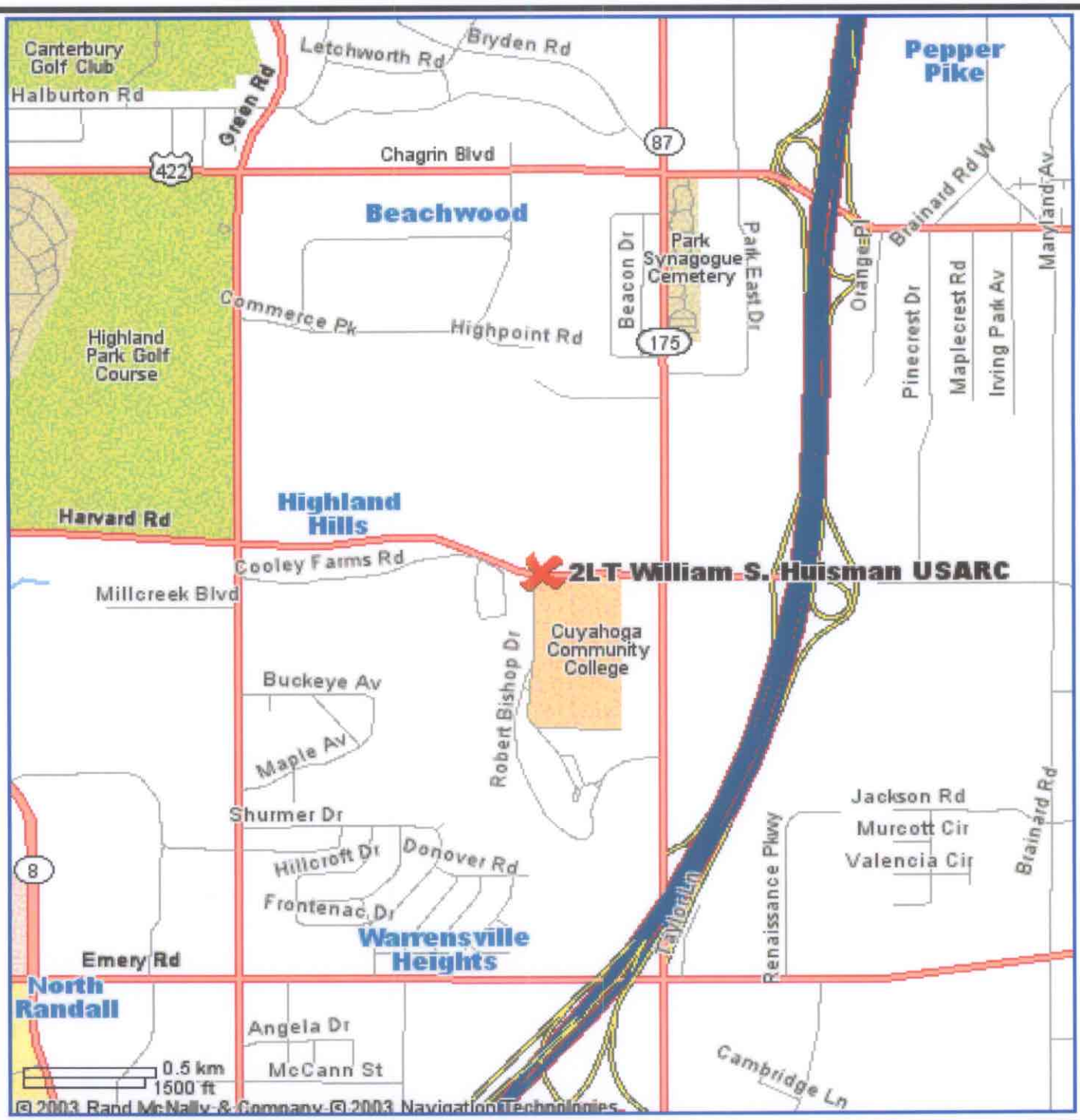
This EBS classified the Property into one of seven Department of Defense (DoD) Environmental Condition of Property (ECP) categories as defined by ASTM Designation D5746-98 (2002), *Standard Classification of Environmental Condition of Property Area Types for Defense Base Closure and Realignment Facilities.* Property classification categories are defined in Section 2.3 of this EBS.

The Property has been classified as category Type 2. This category is defined as *"an area or parcel of real property where only the release or disposal of petroleum products or their derivatives has occurred."* This classification was selected based on the identification of petroleum-impacted soils during the removal and closure of a 550-gallon UST. Total Petroleum Hydrocarbons (TPH) was detected in one of the soil samples at 210 milligrams per kilogram (mg/kg), below the determined action level of 904 mg/kg (see Section 6.4.1).

Michael P. Dickinson
IMA-ARD Contractor
Hydrogeologist/Environmental Property Assessor

ATTACHMENT A

Property Location Map



Prepared For:
88th RRC
506 Roeder Circle
Fort Snelling, MN 55111

Location of Property:
2LT William S. Huisman USARC, 25445 Harvard Road
Warrensville Heights, OH 44122

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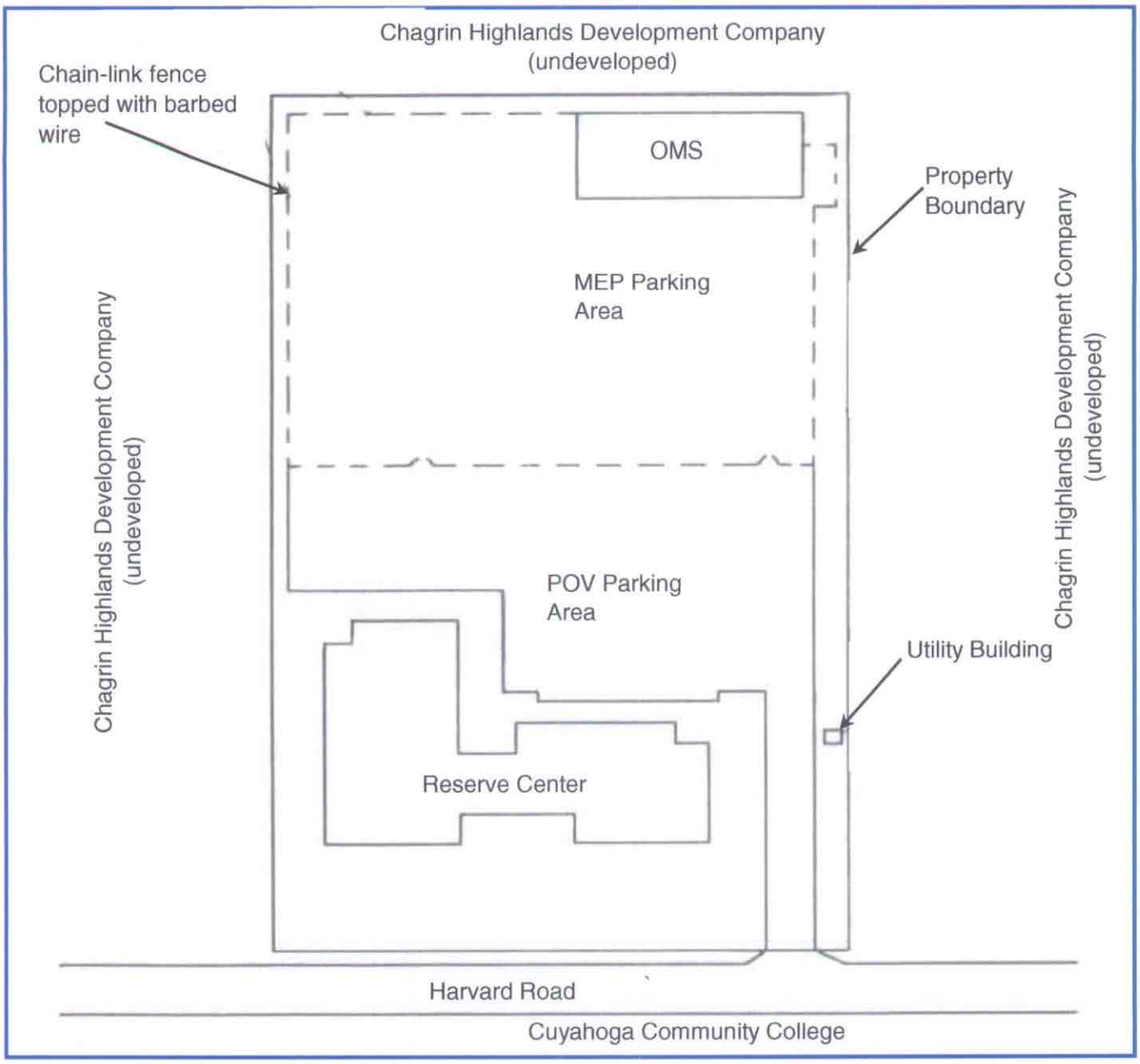
Installation Management Agency,
Army Reserve Division
1401 Deshler Street SW
Fort McPherson, GA 30330

Project #: 1401-11	Prepared By: MD	**Property Location Map**	Attachment
Scale: As Shown	Date: 2/23/2004		A

ATTACHMENT B

Property Sketch



Prepared For:
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Installation Management Agency,
Army Reserve Division
1401 Deshler Street SW
Fort McPherson, GA 30330

Project #: 1401-11	Prepared By: MD	**Property Sketch**	Attachment
Scale: NTS	Date: 2/23/2004		B

ATTACHMENT C

Photographs

South side of Huisman USARC.

Southwest corner of Huisman USARC.

Interior of USARC.

Former Indoor Firing Range area, converted to classroom.

Drill hall inside USARC.

Boiler room inside USARC.

South side of OMS.

Interior of OMS.

Flammable materials storage cabinet inside OMS.

Utility Building.

Interior of Utility Building.

Military Equipment Parking Area.

Hazardous Materials Storage Shed located west of OMS.

Interior of Hazardous Materials Storage Shed.

Storage trailers located along eastern property boundary.

Three pole-mounted transformers, located on north side of USARC.

Solid waste dumpster on the Property.

Radiological materials cabinet inside USARC.

ATTACHMENT D

Record of Communication

Installation Management Agency, Army Reserve Division

Record of Communication

Date:	February 24, 2004
Job No.	1401-11
Client:	88th RRC
Recorded By:	Michael Dickinson
Talked With:	Ms. Lisa Gulbranson, Environmental Manager
Of:	TAD-PGS Contractor for the 88th RRC
Nature of Interview:	Telephone Interview
Phone No.:	(612) 713-3752

Items Discussed

Ms. Gulbranson provided copies of all site related environmental documents related to the the Huisman USARC.

Installation Management Agency, Army Reserve Division

Record of Communication

Date:	February 24, 2004
Job No.	1401-11
Client:	88th RRC
Recorded By:	Michael Dickinson
Talked With:	Mr. Robert Healey, SSA
Of:	319th Quarter Master Battalion
Nature of Interview:	Telephone/On-site Interview
Phone No.:	(216) 595-0018

Items Discussed

Mr. Healy provided historical information with regards to the use of the Property. He escorted IMA-ARD around the Property during the site reconnaissance. Mr. Healy was contacted to help in the description of structures identified during the aerial photograph review. Mr. Healey stated that there were no septic tanks on the Property.

Installation Management Agency, Army Reserve Division

Record of Communication

Date:	February 24, 2004
Job No.	1401-11
Client:	88th RRC
Recorded By:	Michael Dickinson
Talked With:	Ms. Nikki Foster, Environmental Manager
Of:	TAD-PGS Contractor for the 88th RRC
Nature of Interview:	On-site Interview
Phone No.:	(330) 283-3584

Items Discussed

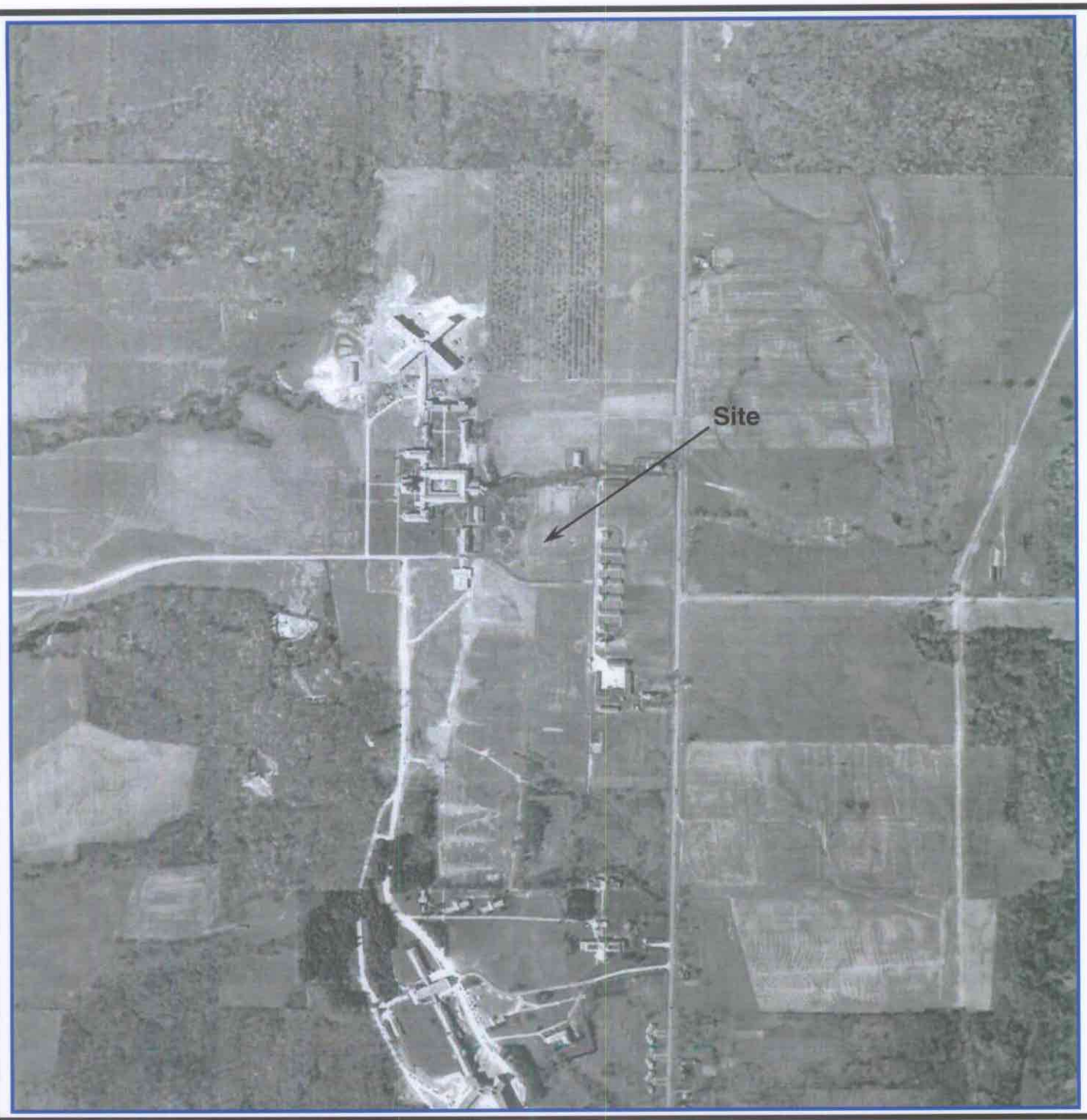
Ms. Foster escorted IMA-ARD around the Property during the site reconnaissance. Ms. Foster answered questions with regards to the small quanity generator permit and the facility's procedures for disposing of hazardous waste, POLs, etc. Ms. Foster also provided several site specific documents to IMA-ARD.

ATTACHMENT E

Research Documents

ATTACHMENT F

Aerial Photographs



Prepared For:
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Location of Property:
2LT William S. Huisman USARC, 25445 Harvard Road
Warrensville Heights, OH 44122

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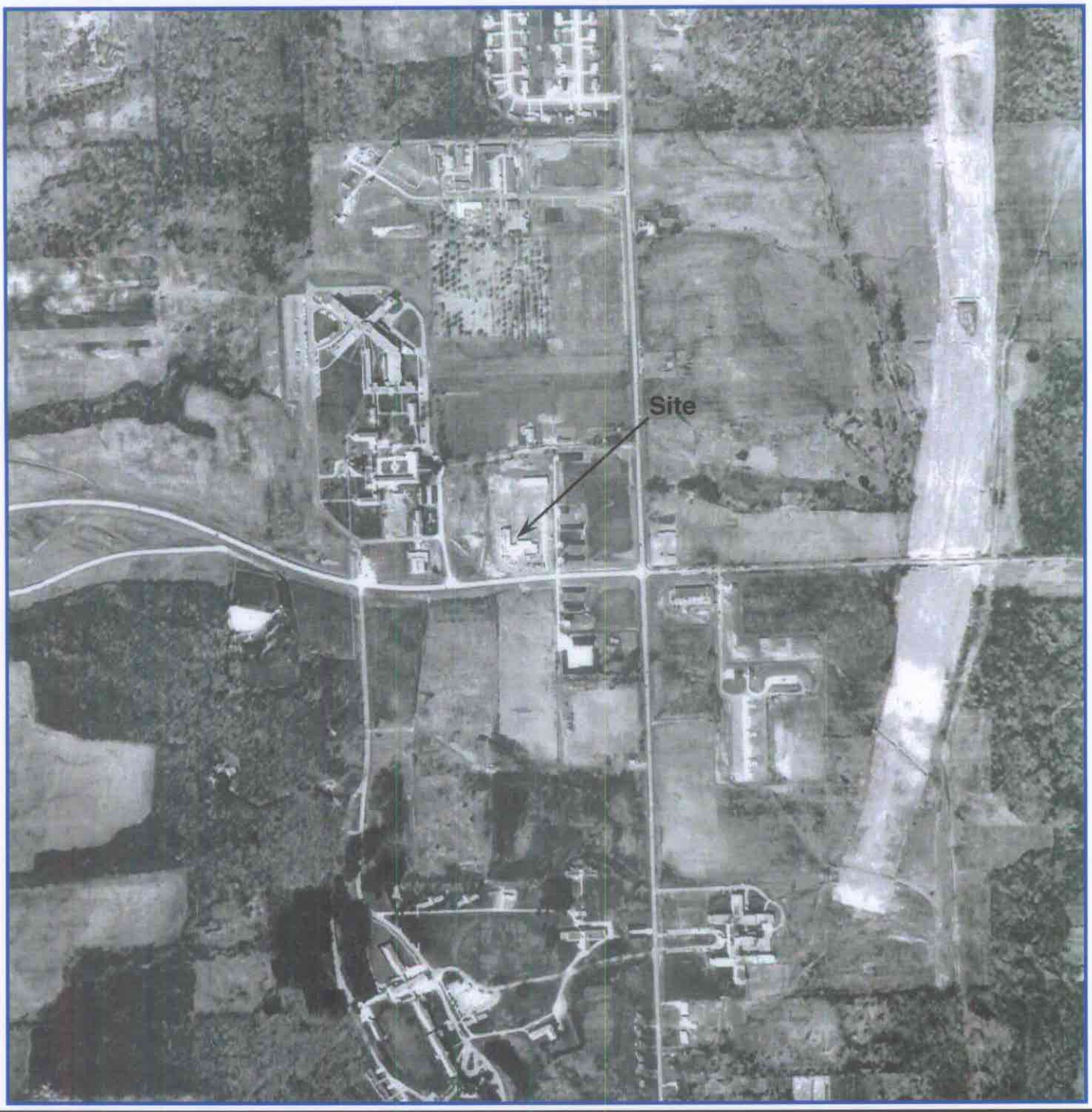
Installation Management Agency,
Army Reserve Division
1401 Deshler Street SW
Fort McPherson, GA 30330

Project #: 1401-11	Prepared By: MD	**Aerial Photograph** (1952)	Attachment
Scale: NTS	Date: 4/12/2004	Source: EDR	F-1



Prepared For:
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Location of Property:
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Warrensville Heights, OH 44122

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Installation Management Agency,
Army Reserve Division
1401 Deshler Street SW
Fort McPherson, GA 30330

Project #: 1401-11	Prepared By: MD	**Aerial Photograph** (1962)	Attachment
Scale: NTS	Date: 4/12/2004	Source: EDR	F-2

Prepared For:
88th RRC
506 Roeder Circle
Fort Snelling, MN 55111

Location of Property:
2LT William S. Huisman USARC, 25445 Harvard Road
Warrensville Heights, OH 44122

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Installation Management Agency,
Army Reserve Division
1401 Deshler Street SW
Fort McPherson, GA 30330

Project #: 1401-11	Prepared By: MD	**Aerial Photograph** (1977)	Attachment
Scale: NTS	Date: 4/12/2004	Source: EDR	F-3

Prepared For:
88th RRC
506 Roeder Circle
Fort Snelling, MN 55111

Location of Property:
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Installation Management Agency,
Army Reserve Division
1401 Deshler Street SW
Fort McPherson, GA 30330

Project #: 1401-11	Prepared By: MD	**Aerial Photograph** (1991)	Attachment
Scale: NTS	Date: 4/12/2004	Source: EDR	F-4

Prepared For:
88th RRC
506 Roeder Circle
Fort Snelling, MN 55111

Location of Property:
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Installation Management Agency,
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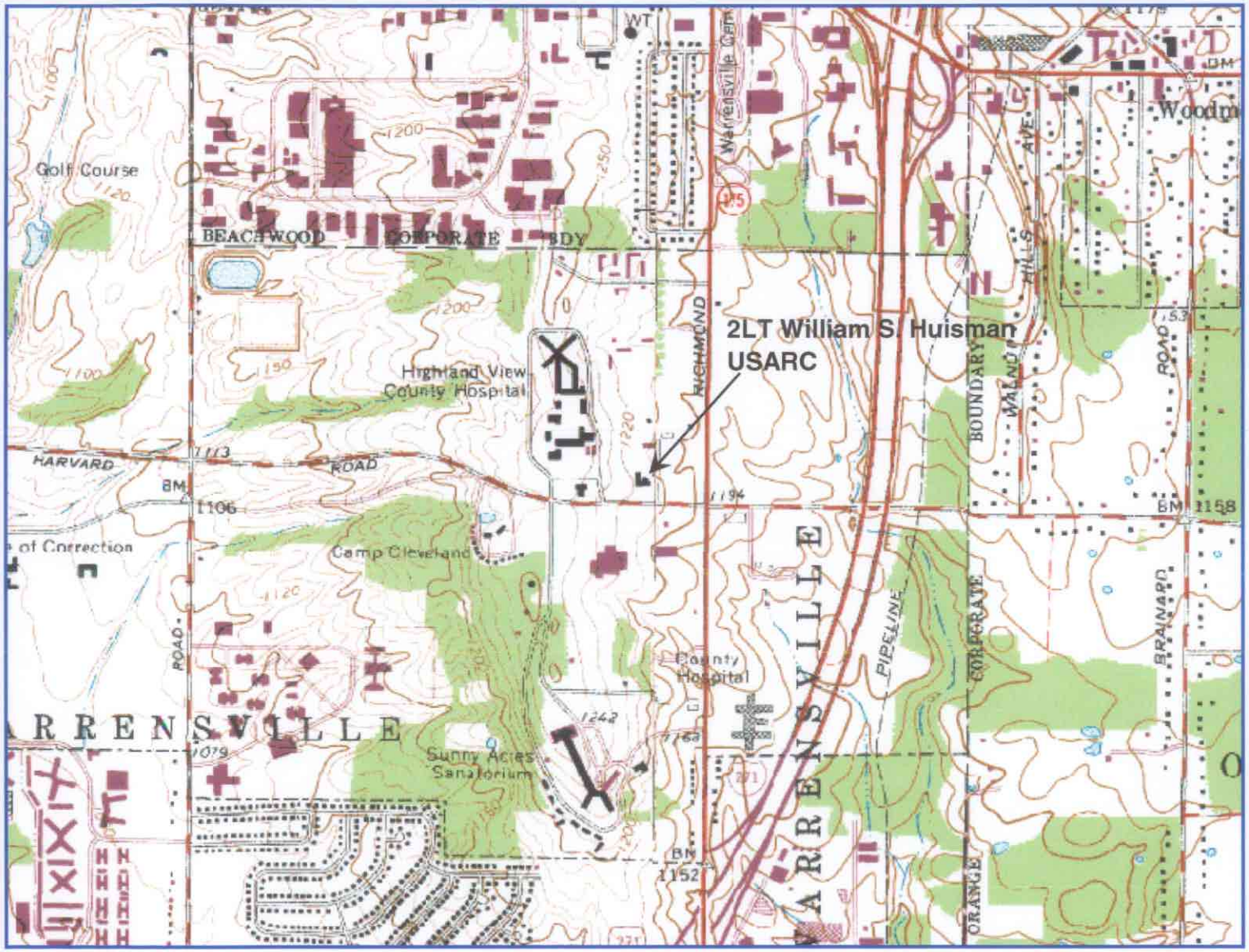
1401 Deshler Street SW
Fort McPherson, GA 30330

Project #: 1401-11	Prepared By: MD	**Aerial Photograph** (2002)	Attachment
Scale: NTS	Date: 2/23/2004	Source: GlobExplorer	F-5

ATTACHMENT G

USGS Topographic Quandrangle Map



Graphic Scale

2000 0 1000 2000 4000

1 inch = 2000ft

N
W E
S

Installation Management Agency, Army Reserve Division

Prepared for:
88th RRC
506 Roeder Circle
Fort Snelling, MN 55111

Location of Property:
2LT William S. Huisman USARC
25445 Harvard Road
Warrensville Heights, OH 44122

U.S.G.S Topographic Quadrangle Map

Source: Shaker Heights Quad, 1979
Contour Interval: 10 feet

Project # 1401-11

Scale: 1:24,000

Created by: MD

Date: 2/23/04

Attachment G

ATTACHMENT H

EDR Database Report

The EDR Radius Map
with GeoCheck®

Huisman USARC
25445 Harvard Road
Warrensville Heights, OH 44122

Inquiry Number: 1136980.3s

February 27, 2004

EDR® Environmental
Data Resources Inc

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06460

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-WIS

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GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
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Physical Setting Source Records Searched	A-10

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

25445 HARVARD ROAD
WARRENSVILLE HEIGHTS, OH 44122

COORDINATES

Latitude (North):	41.450000 - 41˚ 27' 0.0"
Longitude (West):	81.500400 - 81˚ 30' 1.4"
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	458201.9
UTM Y (Meters):	4588621.5
Elevation:	1216 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	41081-D5 SHAKER HEIGHTS, OH
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following government records. For more information on this property see page 6 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
2ND LT WILLIAM S. HUISMAN 25445 HARBARD RD WARRENSVILLE HTS, OH 44122	LUST	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP..... CERCLIS No Further Remedial Action Planned

EXECUTIVE SUMMARY

CORRACTS ..... Corrective Action Report
RCRIS-TSD ..... Resource Conservation and Recovery Information System
RCRIS-LQG ..... Resource Conservation and Recovery Information System
RCRIS-SQG ..... Resource Conservation and Recovery Information System
ERNS ..... Emergency Response Notification System

STATE ASTM STANDARD

SHWS ..... This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.
SWF/LF ..... Licensed Solid Waste Facilities
UST ..... Underground Storage Tank Tank File
DERR ..... Division of Emergency & Remedial Response's Database
VCP ..... Voluntary Action Program Sites

FEDERAL ASTM SUPPLEMENTAL

CONSENT ..... Superfund (CERCLA) Consent Decrees
ROD ..... Records Of Decision
Delisted NPL ..... National Priority List Deletions
FINDS ..... Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS ..... Hazardous Materials Information Reporting System
MLTS ..... Material Licensing Tracking System
MINES ..... Mines Master Index File
NPL Liens ..... Federal Superfund Liens
PADS ..... PCB Activity Database System
US BROWNFIELDS ..... A Listing of Brownfields Sites
DOD ..... Department of Defense Sites
RAATS ..... RCRA Administrative Action Tracking System
TRIS ..... Toxic Chemical Release Inventory System
TSCA ..... Toxic Substances Control Act
SSTS ..... Section 7 Tracking Systems
FTTS INSP ..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

MSL ..... Master Sites List
OH Spills ..... Emergency Response Database
TOWNGAS ..... DERR Towngas Database
UNREG LTANKS ..... Ohio Leaking UST File
HIST LF ..... Old Solid Waste Landfill
INST CONTROL ..... Sites with Institutional and/or Engineering Controls

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas ..... Former Manufactured Gas (Coal Gas) Sites

BROWNFIELDS DATABASES

US BROWNFIELDS ..... A Listing of Brownfields Sites
VCP ..... Voluntary Action Program Sites

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STATE ASTM STANDARD

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Commerce Division of State Fire Marshal's List of Reported Petroleum Underground Storage Tank Release Incidents.

A review of the LUST list, as provided by EDR, and dated 12/14/2003 has revealed that there are 2 LUST sites within approximately 0.5 miles of the target property.

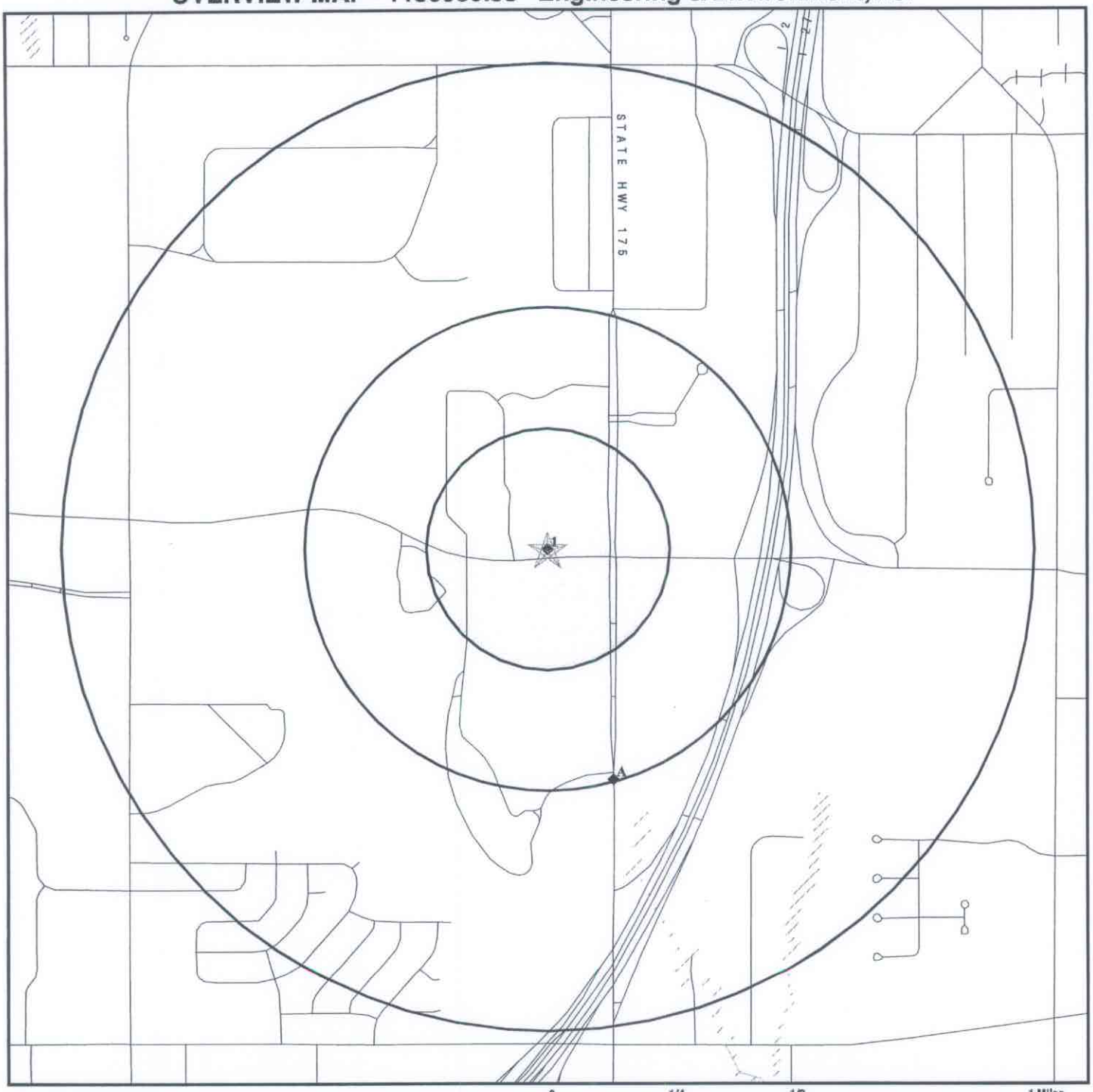
Lower Elevation	Address	Dist / Dir	Map ID	Page
EASTERN CAMPUS	4250 RICHMOND RD	1/4 - 1/2 SSE	A2	6
CUYAHOGA COMMUNITY COLLEGE E	***4250 RICHMOND RD***	***1/4 - 1/2 SSE***	***A3***	***6***

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
MCFARLAND'S CORNERS/UNKNOWN SOURCE	MSL
HIGHLAND VIEW HOSPITAL	LUST
BP OIL CO SITE 04009	RCRIS-SQG, FINDS
MCFARLAND'S CORNERS	DERR

OVERVIEW MAP - 1136980.3s - Engineering & Environment,Inc.



0 1/4 1/2 1 Miles

- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ♟ Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone

TARGET PROPERTY:	Huisman USARC	CUSTOMER:	Engineering & Environment,Inc.
ADDRESS:	25445 Harvard Road	CONTACT:	Michael Dickinson
CITY/STATE/ZIP:	Warrensville Heights OH 44122	INQUIRY #:	1136980.3s
LAT/LONG:	41.4500 / 81.5004	DATE:	February 27, 2004 12:49 pm

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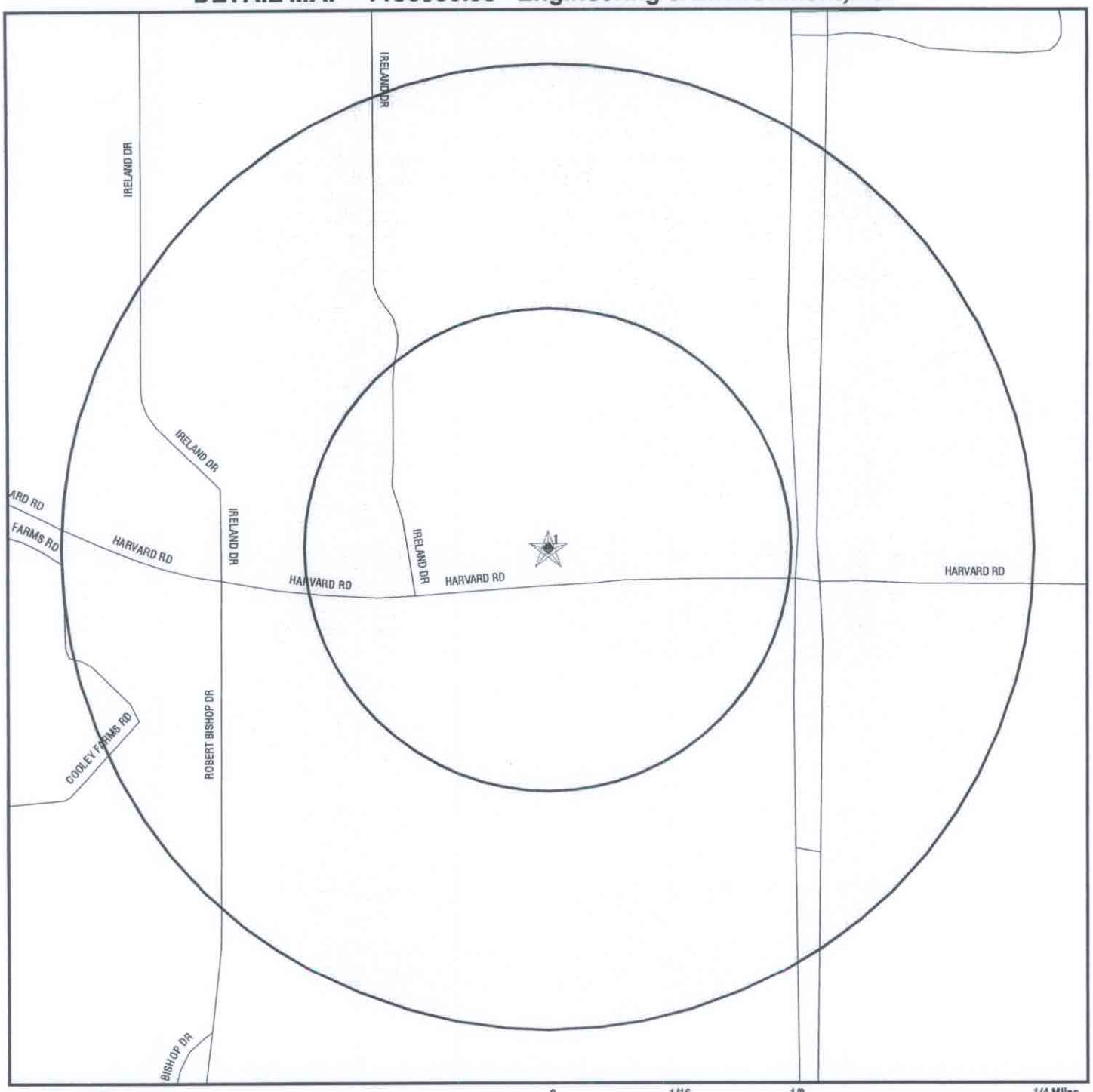
DETAIL MAP - 1136980.3s - Engineering & Environment,Inc.



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone

TARGET PROPERTY:	Huisman USARC	CUSTOMER:	Engineering & Environment,Inc.
ADDRESS:	25445 Harvard Road	CONTACT:	Michael Dickinson
CITY/STATE/ZIP:	Warrensville Heights OH 44122	INQUIRY #:	1136980.3s
LAT/LONG:	41.4500 / 81.5004	DATE:	February 27, 2004 12:50 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.250	0	0	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
STATE ASTM STANDARD								
State Haz. Waste		N/A	N/A	N/A	N/A	N/A	N/A	N/A
State Landfill		0.500	0	0	0	NR	NR	0
LUST	X	0.500	0	0	2	NR	NR	2
UST		0.250	0	0	NR	NR	NR	0
DERR		1.000	0	0	0	0	NR	0
VCP		0.500	0	0	0	NR	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
MSL		1.000	0	0	0	0	NR	0
OH Spills		TP	NR	NR	NR	NR	NR	0
TOWNGAS		1.000	0	0	0	0	NR	0
UNREG LTANKS		0.500	0	0	0	NR	NR	0
HIST LF		0.500	0	0	0	NR	NR	0
INST CONTROL		0.250	0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1.000	0	0	0	0	NR	0
BROWNFIELDS DATABASES								
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0

NOTES:

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

N/A = This State does not maintain a SHWS list. See the Federal CERCLIS list.

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

1
Target Property
Actual: 1215 ft.

2ND LT WILLIAM S. HUISMAN
25445 HARBARD RD
WARRENSVILLE HTS, OH 44122

LUST **S103422777**
N/A

LUST:
Owner: UNITED STATES ARMY RESERVE
Facility Status: Inactive
LTF Status: 6 Closure of regulated UST
Release Number: 18009733-N00001
Owner Address: 450 PENNSYLVANIA AVE
DELAWARE, OH 43015
FR Status: No Further Action letter issued
Old Facility Id: 189733
Former Lust Release Number: 188227700
Release Date: Not reported

A2
SSE
1/4-1/2
2611 ft.

EASTERN CAMPUS
4250 RICHMOND RD
WARRENSVILLE TWP, OH 44122

LUST **S104775808**
N/A

Site 1 of 2 in cluster A

Relative: Lower
Actual: 1168 ft.

LUST:
Owner: EASTERN CAMPUS
Facility Status: Inactive
LTF Status: 1 SUS/CON from regulated UST
Release Number: 18010582-N00001
Owner Address: 4250 RICHMOND RD
WARRENSVILLE TWP 44122
FR Status: No Further Action letter issued
Old Facility Id: 0
Former Lust Release Number: 18927500
Release Date: Not reported

A3
SSE
1/4-1/2
2611 ft.

CUYAHOGA COMMUNITY COLLEGE E
4250 RICHMOND RD
HIGHLAND HILLS, OH 44122

RCRIS-SQG **1000146456**
FINDS **OHD980824056**
UST
LUST

Site 2 of 2 in cluster A

Relative: Lower
Actual: 1168 ft.

RCRIS:
Owner: CUYAHOGA COMMUNITY COLLEGE
(312) 555-1212
EPA ID: OHD980824056
Contact: THOMAS SOMERVILLE
(216) 241-5966
Classification: Small Quantity Generator
TSDF Activities: Not reported

CUYAHOGA COMMUNITY COLLEGE E (Continued) **1000146456**

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Ohio Core database (OH_CORE)
Resource Conservation and Recovery Act Information system (RCRAINFO)

LUST:

Owner:	TOM SOMERVILLE
Facility Status:	Active
LTF Status:	6 Closure of regulated UST
Release Number:	18000688-N00001
Owner Address:	2900 COMMUNITY COLLEGE AVE CLEVELAND, OH 44115
FR Status:	A possible incident is reported
Old Facility Id:	180688
Former Lust Release Number:	0
Release Date:	2/4/2002 0:00

UST:

Facility ID:	18000688	Tank ID:	T00001
Owner:	CUYAHOGA COMMUNITY COLLEGE		
Owner Address:	2900 COMMUNITY COLLEGE AVE CLEVELAND, OH 44115		
Capacity:	2500	Tank Status:	Currently In Use
Install Date:	10/01/89		
Content:	Diesel		
Tank Type:	Fiberglass Reinforced Plastic		

Facility ID:	18000688	Tank ID:	T00002
Owner:	CUYAHOGA COMMUNITY COLLEGE		
Owner Address:	2900 COMMUNITY COLLEGE AVE CLEVELAND, OH 44115		
Capacity:	6000	Tank Status:	Currently In Use
Install Date:	01/01/93		
Content:	Gasoline		
Tank Type:	Fiberglass Reinforced Plastic		

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
BAINBRIDGE TWP	S103686244	MCFARLAND'S CORNERS/UNKNOWN SOURCE	SR 306 / US ROUTE 422	44022	MSL
BAINBRIDGE TWP	S105680788	MCFARLAND'S CORNERS	STATE RTE 306 / US RTE 422	44022	DERR
BEACHWOOD	S105849437	HIGHLAND VIEW HOSPITAL	IRELAND DRIVE	44122	LUST
BEACHWOOD	1004765478	BP OIL CO SITE 04009	25705 RICHMOND RD	44122	RCRIS-SQG, FINDS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 01/29/04
Date Made Active at EDR: 02/27/04
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 02/06/04
Elapsed ASTM days: 21
Date of Last EDR Contact: 02/06/04

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 8
Telephone: 303-312-6774

EPA Region 4
Telephone 404-562-8033

Proposed NPL: Proposed National Priority List Sites
Source: EPA
Telephone: N/A

Date of Government Version: 01/07/04
Date Made Active at EDR: 02/27/04
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 02/06/04
Elapsed ASTM days: 21
Date of Last EDR Contact: 02/06/04

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 11/17/03
Date Made Active at EDR: 02/02/04
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 12/22/03
Elapsed ASTM days: 42
Date of Last EDR Contact: 12/22/03

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 11/17/03
Date Made Active at EDR: 02/02/04
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 12/22/03
Elapsed ASTM days: 42
Date of Last EDR Contact: 12/22/03

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/18/03
Date Made Active at EDR: 02/02/04
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 12/26/03
Elapsed ASTM days: 38
Date of Last EDR Contact: 12/08/03

RCRIS: Resource Conservation and Recovery Information System
Source: EPA
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs): generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs): generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs): generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 01/12/04
Date Made Active at EDR: 02/10/04
Database Release Frequency: Varies

Date of Data Arrival at EDR: 01/19/04
Elapsed ASTM days: 22
Date of Last EDR Contact: 01/19/04

ERNS: Emergency Response Notification System
Source: National Response Center, United States Coast Guard
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/02
Date Made Active at EDR: 02/03/03
Database Release Frequency: Annually

Date of Data Arrival at EDR: 01/27/03
Elapsed ASTM days: 7
Date of Last EDR Contact: 01/26/04

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/01/01
Database Release Frequency: Biennially

Date of Last EDR Contact: 12/16/03
Date of Next Scheduled EDR Contact: 03/15/04

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: N/A
Database Release Frequency: Varies

Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision
Source: EPA
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/09/04
Database Release Frequency: Annually
Date of Last EDR Contact: 01/06/04
Date of Next Scheduled EDR Contact: 04/05/04

DELISTED NPL: National Priority List Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 01/29/04
Database Release Frequency: Quarterly
Date of Last EDR Contact: 02/06/04
Date of Next Scheduled EDR Contact: 05/01/04

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/23/03
Database Release Frequency: Quarterly
Date of Last EDR Contact: 01/06/04
Date of Next Scheduled EDR Contact: 04/05/04

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/18/03
Database Release Frequency: Annually
Date of Last EDR Contact: 01/19/04
Date of Next Scheduled EDR Contact: 04/19/04

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/15/04
Database Release Frequency: Quarterly
Date of Last EDR Contact: 01/06/04
Date of Next Scheduled EDR Contact: 04/05/04

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 11/25/03
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 12/29/03
Date of Next Scheduled EDR Contact: 03/29/04

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 202-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned

Date of Last EDR Contact: 11/21/03
Date of Next Scheduled EDR Contact: 02/23/04

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-564-3887
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/30/03
Database Release Frequency: Annually

Date of Last EDR Contact: 02/09/04
Date of Next Scheduled EDR Contact: 05/10/04

DOD: Department of Defense Sites
Source: USGS
Telephone: 703-648-5920
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 10/01/03
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 02/02/04
Date of Next Scheduled EDR Contact: 05/10/04

STORMWATER: Storm Water General Permits
Source: Environmental Protection Agency
Telephone: 202 564-0746
A listing of all facilities with Storm Water General Permits.

Date of Government Version: N/A
Database Release Frequency: Quarterly

Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

US BROWNFIELDS: A Listing of Brownfields Sites
Source: Environmental Protection Agency
Telephone: 202-566-2777
Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become BCRLF cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 07/15/03
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 12/17/03
Date of Next Scheduled EDR Contact: 03/15/04

RMP: Risk Management Plans
Source: Environmental Protection Agency
Telephone: 202-564-8600
When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: N/A
Database Release Frequency: N/A

Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned

Date of Last EDR Contact: 12/08/03
Date of Next Scheduled EDR Contact: 03/08/04

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-566-0250
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/01
Database Release Frequency: Annually

Date of Last EDR Contact: 12/22/03
Date of Next Scheduled EDR Contact: 03/22/04

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-5521
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/02
Database Release Frequency: Every 4 Years

Date of Last EDR Contact: 12/08/03
Date of Next Scheduled EDR Contact: 03/08/04

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA
Telephone: 202-564-2501

Date of Government Version: 10/16/03
Database Release Frequency: Quarterly

Date of Last EDR Contact: 12/22/03
Date of Next Scheduled EDR Contact: 03/22/04

SSTS: Section 7 Tracking Systems
Source: EPA
Telephone: 202-564-5008
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/01
Database Release Frequency: Annually

Date of Last EDR Contact: 01/19/04
Date of Next Scheduled EDR Contact: 04/19/04

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/16/03
Database Release Frequency: Quarterly

Date of Last EDR Contact: 12/22/03
Date of Next Scheduled EDR Contact: 03/22/04

STATE OF OHIO ASTM STANDARD RECORDS

SHWS: This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.
Source: EPA
Telephone: 703-413-0223
State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: N/A
Date Made Active at EDR: N/A
Database Release Frequency: N/A

Date of Data Arrival at EDR: N/A
Elapsed ASTM days: N/A
Date of Last EDR Contact: 07/23/03

SWF/LF: Licensed Solid Waste Facilities
Source: Ohio Environmental Protection Agency
Telephone: 614-644-2621
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/17/03
Date Made Active at EDR: 12/16/03
Database Release Frequency: Annually

Date of Data Arrival at EDR: 11/17/03
Elapsed ASTM days: 29
Date of Last EDR Contact: 02/09/04

LUST: Leaking Underground Storage Tank File
Source: Department of Commerce
Telephone: 614-752-7924
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 12/14/03
Date Made Active at EDR: 01/08/04
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 12/16/03
Elapsed ASTM days: 23
Date of Last EDR Contact: 12/16/03

UST: Underground Storage Tank Tank File
Source: Department of Commerce
Telephone: 614-752-7938
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 12/14/03
Date Made Active at EDR: 01/09/04
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 12/16/03
Elapsed ASTM days: 24
Date of Last EDR Contact: 12/16/03

DERR: Division of Emergency & Remedial Response's Database
Source: Ohio EPA, Div. of Emergency and Remedial Response
Telephone: 614-644-3538
The DERR database is an index of sites for which Ohio EPA maintains files. It includes sites with known or suspected contamination, but a site's inclusion in the database does not mean that it is now or has ever been contaminated.

Date of Government Version: 12/17/03
Date Made Active at EDR: 01/08/04
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 12/17/03
Elapsed ASTM days: 22
Date of Last EDR Contact: 12/16/03

VCP: Voluntary Action Program Sites
Source: Ohio EPA, Voluntary Action Program
Telephone: 614-644-2924
Site involved in the Voluntary Action Program.

Date of Government Version: 10/17/03
Date Made Active at EDR: 12/26/03
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 12/08/03
Elapsed ASTM days: 18
Date of Last EDR Contact: 12/08/03

STATE OF OHIO ASTM SUPPLEMENTAL RECORDS

MSL: Master Sites List
Source: Ohio Environmental Protection Agency
Telephone: 614-644-2068
Ohio EPA no longer maintains or publishes the MSL, which was a list of sites with known or suspected contamination. Please be advised that this report does not constitute a determination that any site identified in the report is or may be contaminated.

Date of Government Version: 03/01/99
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 12/08/03
Date of Next Scheduled EDR Contact: 03/08/04

SPILLS: Emergency Response Database
Source: Ohio EPA
Telephone: 614-644-2084
All reported incidents, spills or releases to the environment.

Date of Government Version: 12/31/02
Database Release Frequency: Varies
Date of Last EDR Contact: 12/08/03
Date of Next Scheduled EDR Contact: 03/08/04

TOWNGAS: DERR Towngas Database
Source: Ohio EPA
Telephone: 614-644-3749
The database includes 82 very old sites (circa 1895) which produced gas from coal for street lighting. Most visual evidence of these sites has disappeared, however the potential for buried coal tar remains. The database is no longer in active use.

Date of Government Version: 07/28/92
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 02/12/03
Date of Next Scheduled EDR Contact: N/A

HIST LF: Old Solid Waste Landfill
Source: Ohio EPA
Telephone: 614-644-3749
A list of about 1200 old abandoned dumps or landfills. This database was developed from Ohio EPA staff notebooks and other information dating from the mid-1970s

Date of Government Version: 01/01/80
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 06/26/03
Date of Next Scheduled EDR Contact: N/A

UNREG LTANKS: Ohio Leaking UST File
Source: Department of Commerce
Telephone: 614-752-7938
A suspected or confirmed release of petroleum from a non-regulated UST.

Date of Government Version: 08/25/99
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 08/01/03
Date of Next Scheduled EDR Contact: N/A

INST CONTROL: Sites with Institutional and/or Engineering Controls
Source: Ohio Environmental Protection Agency
Telephone: 614-644-2324
A database that tracks properties with institutional controls and/or engineering controls.

Date of Government Version: 10/28/03
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 11/07/03
Date of Next Scheduled EDR Contact: 03/08/04

EDR PROPRIETARY HISTORICAL DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

BROWNFIELDS DATABASES

VCP: Voluntary Action Program Sites
Source: Ohio EPA, Voluntary Action Program
Telephone: 614-644-2924
Site involved in the Voluntary Action Program.

Date of Government Version: 10/17/03
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 12/08/03
Date of Next Scheduled EDR Contact: 03/08/04

US BROWNFIELDS: A Listing of Brownfields Sites
Source: Environmental Protection Agency
Telephone: 202-566-2777
Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become BCRLF cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: N/A
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Child Day Care Facilities
Source: Department of Job & Family Services
Telephone: 614-466-6282

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

HUISMAN USARC
25445 HARVARD ROAD
WARRENSVILLE HEIGHTS, OH 44122

TARGET PROPERTY COORDINATES

Latitude (North):	41.450001 - 41˚ 27' 0.0"
Longitude (West):	81.500397 - 81˚ 30' 1.4"
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	458201.9
UTM Y (Meters):	4588621.5
Elevation:	1216 ft. above sea level

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

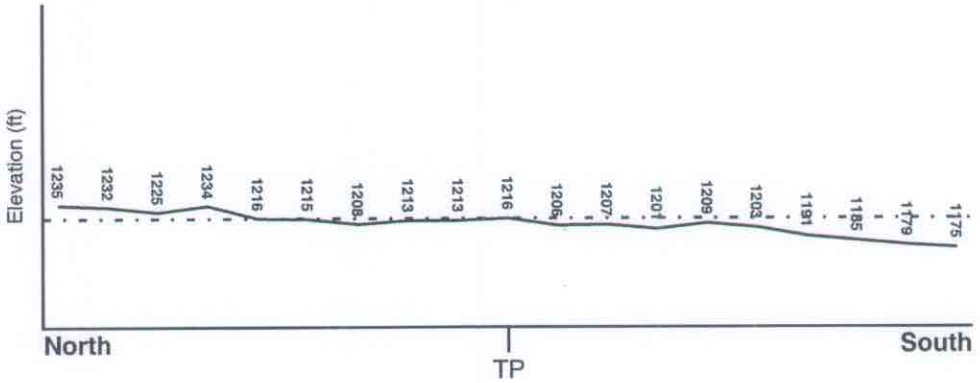
TOPOGRAPHIC INFORMATION

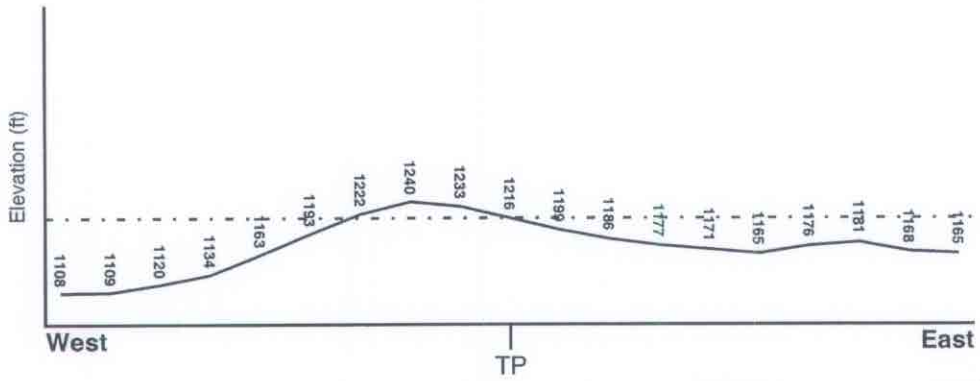
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

USGS Topographic Map:	41081-D5 SHAKER HEIGHTS, OH
General Topographic Gradient:	General ESE
Source:	USGS 7.5 min quad index

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 1216 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
CUYAHOGA, OH	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property:	3907660125B
Additional Panels in search area:	3900940001A 00000000000 3907370005A 3901350002B 3901350003B

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
SHAKER HEIGHTS	Not Available

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Paleozoic
System:	Mississippian
Series:	Mississippian
Code:	M *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	MAHONING
Soil Surface Texture:	silt loam
Hydrologic Group:	Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.
Soil Drainage Class:	Somewhat poorly. Soils commonly have a layer with low hydraulic conductivity, wet state high in profile, etc. Depth to water table is 1 to 3 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel:	HIGH
Depth to Bedrock Min:	> 60 inches
Depth to Bedrock Max:	> 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	9 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 2.00 Min: 0.60	Max: 7.30 Min: 4.50
2	9 inches	36 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.20 Min: 0.00	Max: 7.80 Min: 4.50
3	36 inches	60 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.20 Min: 0.00	Max: 8.40 Min: 7.40

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: loam

Surficial Soil Types: loam

Shallow Soil Types: silty clay loam
channery - loam

Deeper Soil Types: stratified
gravelly - loamy sand
silt loam
weathered bedrock

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

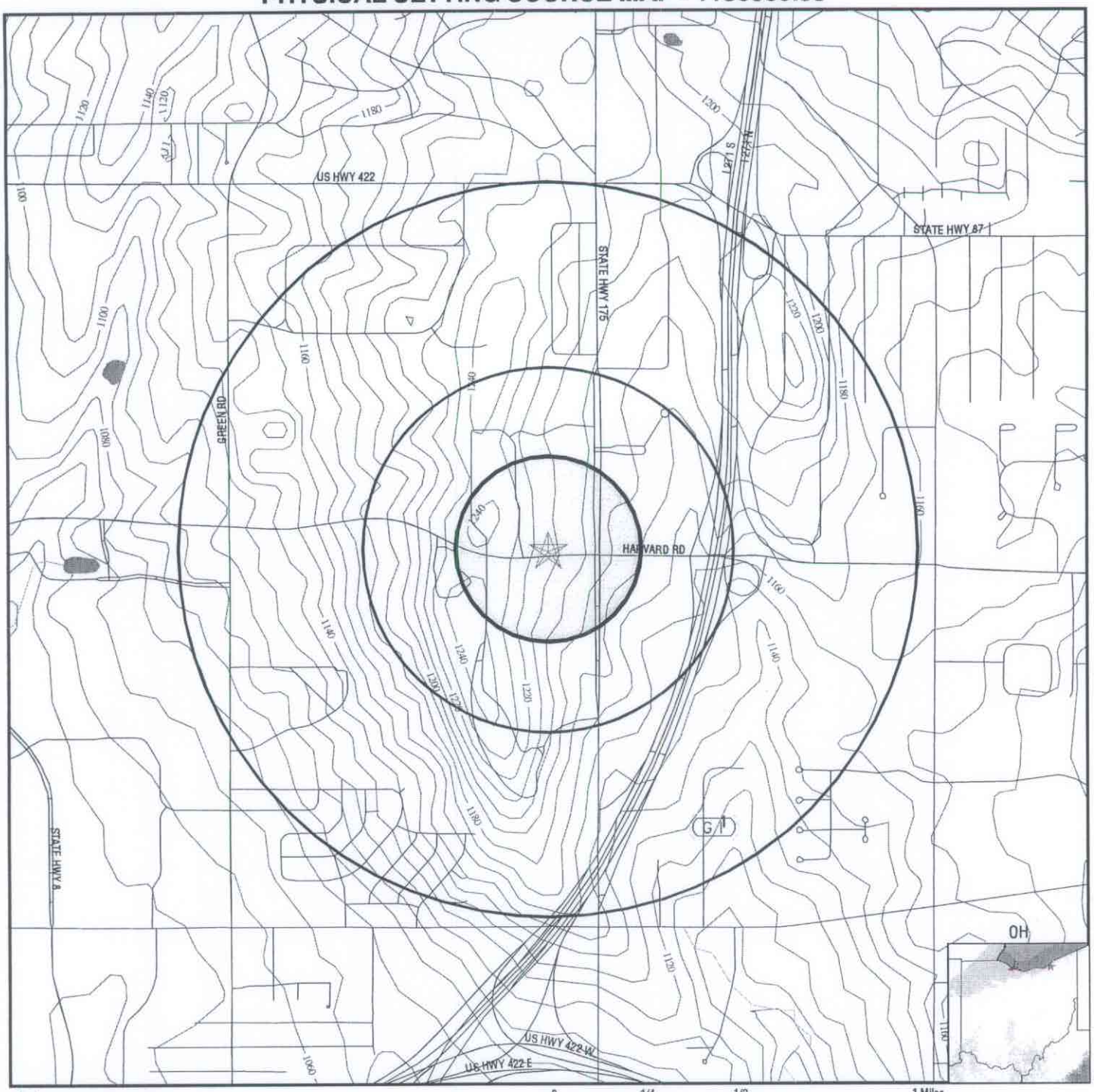
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 1136980.3s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- (GI) Indeterminate Groundwater Flow at Location
- (GV) Groundwater Flow Varies at Location

TARGET PROPERTY:	Huisman USARC	CUSTOMER:	Engineering & Environment,Inc.
ADDRESS:	25445 Harvard Road	CONTACT:	Michael Dickinson
CITY/STATE/ZIP:	Warrensville Heights OH 44122	INQUIRY #:	1136980.3s
LAT/LONG:	41.4500 / 81.5004	DATE:	February 27, 2004 12:50 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
1 **SSE** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	1851089-00 NOT REPORTED Not Reported Not Reported 8.0 7/96	**AQUIFLOW**	**14544**

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: OH Radon

Radon Test Results

Zip	Total Sites	Median	1st Quartile	3rd Quartile	Min.	Max.
44122	370	1.1	0.6	1.7	0.1	114.6

Federal EPA Radon Zone for CUYAHOGA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 44122

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	Not Reported	Not Reported	Not Reported	Not Reported
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	0.500 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002. 7.5-Minute DEMs correspond to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

Public Water System Data
Source: Ohio Environmental Protection Agency
Telephone: 614-644-3677
The database includes community, transient noncommunity and nontransient noncommunity water wells; and source treatment unit locations.

RADON

State Database: OH Radon
Source: Department of Health
Telephone: 614-644-2727
Radon Statistics for Zip Code Areas

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

APPENDIX H

REGULATORY & PUBLIC COMMENTS ON THE DRAFT FINAL EA