DOE/EA-1445

ENVIRONMENTAL ASSESSMENT

For the Construction of a Child-Care Facility

United States Department of Energy
National Energy Technology Laboratory

September 2002

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National Environmental Policy Act (NEPA) Compliance
Cover Sheet

Proposed Action:

The U.S. Department of Energy (DOE) proposes to construct a child-care facility at the National Energy Technology Laboratory's (NETL's) Pittsburgh site in South Park Township, Allegheny County, PA. The proposed facility would be constructed on previously disturbed parcels of Federal property that were previously developed during the mid-1970's for installation of coal processing pilot plants. The new structure would border Wallace Road, which divides Federal Property at the Bruceton Research Center and divides South Park Township and Pleasant Hills Borough.

Type of Statement: Environmental Assessment

Lead Agency: U.S. Department of Energy; National Energy Technology Laboratory

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Abstract:

Under the proposed action, DOE would construct the child-care facility on a 2.1-acre, previously disturbed, grass and tree covered area containing fill material that was deposited during construction of coal processing pilot plants during the 1970s. Those plants were subsequently dismantled during the 1980s. The proposed facility would include paved parking, access from Wallace Road, an 8,600 ft^2, 1-story building, and outdoor development for play areas, storage, parking, landscaping, and buffer zones for a total of 51,400 ft^2.

The environmental analysis identified that the most notable changes to result from the proposed action would occur in the following areas: aesthetics and land use, vehicular traffic, water use and sanitary wastewater, cumulative effects, and construction-related impacts resulting from traffic, equipment emissions, fugitive dust, noise, and surface water runoff. No adverse environmental effects were identified in analyzing the potential consequences of these changes.

Public Participation:

DOE encourages public participation in the NEPA process. This draft Environmental Assessment (EA) was released for public review and comment. The public was invited to provide oral, written, or e-mail comments on the draft Environmental Assessment to the DOE by the close of the comment period on **September 18, 2002**. Copies of the draft EA were also distributed to corresponding Federal and State agencies. Comments received by the close of the comment

period were to be considered in preparing a final Environmental Assessment for the proposed DOE action.

No comments, oral written or email, were received from the public during the public review and comment period.

For more information regarding the public access to the draft Environmental Assessment and any comments made by the public at large or municipalities in the study area regarding the draft Environmental Assessment, please refer to Appendix D.

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LIST OF ACRONYMS

Ac	Acre
APE	Area of Potential Effect
ASTM	American Standards of Testing Materials
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
DOE	Department of Energy
EA	Environmental Assessment
E&S	Erosion & Sedimentation
ERDA	Energy Research and Development Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
Ft^2	Feet Squared
FY	Federal Year
GD	Ground Water Discharge
GPDU	Gas Process Development Unit
GSF	Gross Square Foot
ha	Hectare
HVAC	Heating, Ventilation, and Air Conditioning
LEED	Leadership in Energy and Environmental Design
m	meters
MRT	Monongalia River Trail
MUB	Morgantown Utility Board
NAAQ	National Ambient Air Quality
NEPA	National Environmental Policy Act
NETL	National Energy Technology Laboratory
NPDES	National Pollutants Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
PEM	Palustrine Emergent
PM	Particulate Matter
SF	Square Foot
SHPO	State Historic Preservation Office
STP	Shovel Test Pit
STR	Sediment/Toxicant Retention
US	United States
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WDA	Wildlife Diversity/Abundance
WET	Wetland Evaluation Technique
WV	West Virginia
WVDEP	West Virginia Division of Environmental Protection
WVDNR	West Virginia Department of Natural Resources
WVDOH	West Virginia Division of Highways
WVU	West Virginia University

EXECUTIVE SUMMARY

This environmental assessment (EA) addresses the potential environmental impacts from the construction of a new child-care facility at the Pittsburgh, Pennsylvania site of the National Energy Technology Laboratory (NETL). Refer to figures 1 and 2 for regional and local maps of the project site. The project consists of the construction of a one-story, 8,600 ft^2 Child-care building, the construction of a 8,500 ft^2 playground, and the construction of a 24,000 ft^2 parking area and driveway for the Child-care facility. Refer to figure 3 for the proposed site plan.

Primarily, the Child-care project is driven by the need to provide an attractive work environment that helps NETL recruit and retain a quality work force. Because Child-care is a major factor in the lives of many employees, employer-sponsored Child-care has become one of the "perks" that employers use to recruit and keep workers. It is also desirable to remedy the current non-parity with the sister Morgantown campus, which currently offers on-site Child-care. For employees with young children, the availability of on-site child-care results in fewer commuters driving (and therefore, less energy usage), less absenteeism, less distraction during work hours, and more job satisfaction. It also increases the potential for car-pooling during the work commute.

This Environmental Assessment has been prepared to satisfy requirements of the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321 *et seq*.) and its implementing regulations found in Title 40, Code of Federal Regulations (CFR), Parts 1500-1508 (Council on Environmental Quality) and Title 10, CFR, Part 1021 (Department of Energy).

Because the facility would be constructed upslope of Lick Run, construction would be a temporary source of pollution and sediment loading in the stream. This degradation in water quality could include the loss of aquatic habitat due to increased sediment loading, and a potential temporary change in chemical composition in the stream (i.e. fuel leaks, spills and chemical spills from construction materials, etc.). An approved erosion and control sedimentation control has been prepared and will be implemented.

These potential impacts would be minimized through regulatory channels and the use of best management practices. All permitting requirements involving the Clean Water Act § 404 would be implemented. The site currently maintains a stormwater discharge permit (National Pollutants Discharge Elimination System – NPDES permit).

1.0 INTRODUCTION

This environmental assessment (EA) addresses the potential environmental impacts from the construction of a new child-care facility at the Pittsburgh, Pennsylvania site of the National Energy Technology Laboratory (NETL). Refer to figures 1 and 2 for regional and local maps of the project site. The project consists of the construction of a one-story, 8,600-ft2 child-care building, the construction of a 8,500 ft^2 playground, and the construction of a 24,000 ft^2 parking area and driveway for the Child-care facility. Refer to figure 3 for the proposed site plan.

This study has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321 *et seq*.) and its implementing regulations found in Title 40, Code of Federal Regulations (CFR), Parts 1500-1508 (Council on Environmental Quality) and Title 10, Code of Federal Regulations (CFR), Part 1021 (Department of Energy).

The information in this EA is based on field investigations conducted during March, April and May of 2002; personal interviews with NETL officials; correspondence with regulatory agencies; a review of previous environmental documents at NETL; and a review of published literature.

1.1 Background

The Pittsburgh site of the NETL is located within the Bruceton Research Center, which dates back to 1944 when Congress authorized the U.S. Bureau of Mines to build research laboratories for the development of synthetic liquid fuels. During 1970, the facility was renamed as the Pittsburgh Energy Research Center, a part of the newly formed Energy Research and Development Administration (ERDA). With the creation of the U.S. Department of Energy during 1977, the facility was renamed as the Pittsburgh Energy Technology Center. In 1996, the DOE facility was merged with the Morgantown Energy Technology Center to create the Federal Energy Technology Center. And, in 1999, the Federal Energy Technology Center became the National Energy Technology Laboratory (NETL). Currently the Bruceton Research Center houses (1) NETL's Pittsburgh Campus, (2) branches of the National Institute of Occupational Safety and Health (NIOSH), and (3) the Pittsburgh Safety and Health Technology Center, which is part of the Department of Labor's Mine Safety and Health Administration (MSHA).

The Pittsburgh Campus of NETL employs approximately 510 people. NIOSH and MSHA additionally employ about 502 people. The entire Bruceton Research Center employs slightly over 1,000 people. Child care services have not been offered previously on-site.

The proposed project is part of a larger plan of facilities renovation. Subsequent projects may include the demolition of most or all the existing “900 Area” buildings, the construction of a new administrative office building within the 900 Area, and the possible construction of a storm-water retention pond. These other proposed projects, which would begin at a later date, would be considered in a subsequent environmental assessment.

When NETL first planned the facilities renovation project, the child-care facility would have moved into Building 900, after renovation of this building. Subsequent reconsideration of security issues, redesign of the footprint of the proposed administration building, and timing issues persuaded NETL officials to pursue a new stand-alone child-care facility outside the main fenced 900 and 920 Areas.

1.2 Description of Proposed Action

The NETL proposes to construct a child-care facility on government-owned land outside the main security fence for the laboratory complex. The child-care facility would consist of a one-story, 8,600 ft^2 building, an adjoining 8,500 ft^2 playground, a 24,000 ft^2 parking area and driveway for drop-off and pick-up of children, and 17,900 ft^2 of surrounding landscaped terrain that serves as buffer zones and setback. The parking area would connect directly with Wallace Road through an entrance separate from the entrances to the laboratory complex. The new facility would potentially accommodate 90 children, age's six weeks to 12 years (including the "After-School Program"). The entire facility would occupy approximately 51,400 ft^2 (1.2 acres). There is no pre-existing child-care facility that would require demolition or decommissioning.

The child-care building would be designed and constructed to minimize energy consumption and environmental impact. This should be accomplished by the installation of energy efficient building materials (roof and wall insulation, windows, etc), energy efficient HVAC systems, low-wattage lighting systems plus the effective use of daylight.

2.0 PURPOSE AND NEED FOR AGENCY ACTION

To enhance the NETL's stature and to posture it for the 21st Century as the 15th National Laboratory, the NETL has proposed a series of construction projects at the Pittsburgh campus. These actions constitute a part of the "NETL New Building Construction & Renovation Project", which includes the construction of a new administrative office building and a new Child-care facility. The key goals are to modernize the laboratory facilities, to improve the safety of employees and visitors, and to meet the facility requirements of the new research areas. This document will focus on the potential environmental impacts of the proposed Child-care facility. A subsequent document would address the proposed new administrative office building, which will probably be delayed by at least two to three years.

Primarily, the child-care project is driven by the need to provide an attractive work environment that helps NETL recruit and retain a quality work force. Because child-care is a major factor in the lives of many employees, employer-sponsored Child-care has become one of the "perks" that employers use to recruit and retain workers. It is also desirable to remedy the current non-parity with the sister Morgantown campus, which currently offers on-site child-care. For employees with young children, on-site Child-care results in less commuter driving (and therefore, less energy usage), less absenteeism, less distraction during work hours, and more job satisfaction. It also increases the potential for car-pooling during the work commute.

During the summer of 2001, the NETL conducted an employee survey to gauge the express demand for on-site, employer-supported Child-care. Three on-site participating Federal agencies (DOE, National Institute for Occupational Safety and Health, and the Mine Safety and Health Administration, which occupy the Bruceton Research Center), representing over 1000 Federal and on-site contractor employees, participated in this survey. The results of this survey manifested a need for a Child-care facility accommodating approximately 90 children. Based on the age and number distribution of potential attendees, the Child-care facility would require a staff of approximately 14. If the program is successful, it is expected that the demand for Child-care will grow through time as future employee/parents choose the convenience of the on-site program over other possible care providers.

Construction of the proposed Child-care facility would present both federal and on-site contractor employees with a safe, secure, and accessible Child-care environment that is in close proximity to their work. Although the Child-care facility would be located on NETL property, it would be separated from the main facility, thus maintaining the site security.

2.1 Scoping Process

Potential environmental impacts from the proposed actions have been identified or considered through two processes. One process involved the use of a comprehensive subject matter outline when drafting the EA. In this process, the EA writers and investigators were obligated to broadly review available information in the hope of including all potential impacts. The consulting firm employed to write the body of this EA performed this process. The second process involved responding to a broad-based

environmental questionnaire (Refer to Appendix C) in the hope of identifying most potential impacts. The NETL NEPA project manager performed this process. Review comments by other NETL employees and by members of the public have been incorporated into either the draft document (Refer to Appendix B) or the final document, respectively.

3.0 ALTERNATIVES, INCLUDING THE NO-ACTION ALTERNATIVE

The NETL has considered its alternatives to address the needs and problems identified in Section 2.0. While off-site alternatives have been briefly considered, primarily consideration was given to the following seven options for on-site child care:

1. Locate Child-care within the proposed new administrative office building. This would not be feasible due to the delay in construction of the facility. Construction of the new administrative office building is tentatively scheduled for FY05 leaving the center without a Child-care facility for an additional 2 years. The amount of space the Child-care facility would occupy in the new administrative office building is an unacceptably large fraction of the building. The Child-care facility would occupy approximately 18% of the new office building. Additionally the ancillary area needed for playgrounds and parking would increase the total area needed for the proposed new administrative office building.

2. Locate Child-care within space evacuated when the proposed new administrative office building is occupied.

   This would not be practical since the previously occupied space would come from various buildings throughout the site. There would be no single contiguous space sufficiently large to house the proposed child care facility. Significant amounts of nearby space would be required for the playgrounds and parking areas. Suitable combinations of vacated office space and adjoining playground space and parking space are not available.

3. Immediately locate Child-care within an existing building in the ”900 Area". To make space available for the new administrative building the "900 Area" is slated for future demolition. Therefore, based on future plans, this space may not be available.

4. Immediately locate Child-care within Building 141. As a former process/laboratory area, building 141 would require extensive renovations before a Child-care facility could be considered. Additionally consideration is being given to transferring ownership of this building to another on-site agency (NIOSH).

5. Build Child-care facility near the ball-field along Wallace Road. This is the preferred alternative. Sufficient space is available, and security issues will be resolved.

6. Build Child-care facility near 901 area while the proposed administrative office building is constructed (simultaneous construction). The 901 Area lacks sufficient space. Additionally, the new administrative office building is scheduled to begin construction in FY05 -- a two-year delay for the Child-care facility.

7. Build Child-care facility where salt-shed currently exists. It is anticipated that this area would be used for the new administrative office building (e.g., parking, landscaping, etc.).

With regard to issues of systems reliability, maintenance costs, operational costs, occupant safety, and asset security, NETL has determined that advantages of Option 5 far out-weigh any detriments and is the NETL's preferred alternative.

3.1 No-Action Alternative

The no-action alternative means that no Child-care services would be provided or supported by NETL. This action would involve no change in the status of environmental consequences related to NETL operations. While there would be no change in environmental consequences, it does mean that opportunities would be lost to reduce the commuting of employees who must use Child-care services at locations remote from the shortest route between their home and work. Generally, it also means that carpooling opportunities would be lost for these employees. Furthermore, the no-action alternative does not meet NETL's goals of creating a more attractive work environment that allows NETL to more effectively compete for exceptional employees.

3.2 Off-Site Lease

With regard to the Child-care facility, off-site leasing has not been specifically assessed as a part of this EA. However, it has been considered informally many times in the past as the issue of Child-care has been raised many times with the NETL's administration. NETL's experience with off-site leasing of office space (e.g., the leasing of space in the Collins Ferry Commerce Center in Morgantown) is that over the long term (i.e., 30 to 40 years) off-site leasing costs are approximately the same as on-site construction costs for equivalent quality facilities. While off-site construction costs are typically much lower, the profit add-on of the lessor and the interest add-on of a private developer's lender tend to raise the leasing costs to the same level as the costs of on-site construction.

3.3 Off-Site Purchase

With regard to the Child-care facility, an off-site purchase of a suitable facility has not been specifically assessed as a part of this EA. Like off-site leasing, an off-site purchase has been considered informally many times in the past, as the issue of Child-care has been raised many times with the NETL's administration. NETL has not identified any suitable off-site facilities that are currently available for purchase and that would be in sufficiently close proximity to the laboratory complex to serve the same purposes as on-site Child-care.

3.4 On-Site Construction

On-site Child-care is preferred over off-site leasing and off-site purchases, primarily because convenience for the employees is the essence of this "perk". Furthermore, proximity is required for energy conservation during employee commuting between home, job and the Child-care provider. The costs of on-site construction or renovation are comparable to the costs of leased office space on a unit area basis when compared over long time periods (i.e., 30 to 40 years). A pre-design construction cost estimate (Refer to Table 1) of $215/SF (including landscaping, playgrounds, security, architectural fees, etc.) has been developed for the proposed new Child-care facility. Keeping the Child-care facility on-site offers the additional advantage of extra security protection for the children when compared to typical off-site operations.

Table 1. Projected Unit Annual Costs for New Child-care Facility

Projected Unit Annual Costs for New Child-care Facility		
Estimated construction cost	finished cost, $	1,850,000.00
	net useable space, SF	8,600
	unit cost, $/SF/yr (40 yrs)	5.38
Operating costs, based on NETL buildings for FY 2000	utilities, $/SF (gross)	2.46
	maintenance, $/SF (gross)	3.64
	custodial, $/SF (gross)	1.49
	parking, $/SF (gross)	0.12
	grounds, $/SF (gross)	0.65
Total costs, $/SF/yr		**13.74**

The seven on-site alternatives were compared primarily on the basis of, in relative order of importance, (1) security of the children, (2) security of the laboratory complex, (3) timing of the Child-care project construction relative to funding and other construction/renovation projects, and (4) space utilization on the NETL owned property. Environmental impacts that would be produced by each of the on-site options were not considered to differ sufficiently to merit individual analysis. Generally, the renovation options would require significant demolition and construction leading to waste generation levels and resource utilization levels that would rival all new construction. Heavy equipment usage for site preparation would be less for the renovation options, and the consumption of new resources would be reduced by an estimated 30% to 50%. Noise, vibration and dusts experienced off-site as a result of the on-site activities would be lower for most renovation projects, but these factors are not considered to be significant for any of the seven alternatives. Overall, security concerns and timing issues outweigh the differences between these options regarding resource utilization, waste generation, pollution production, noise impacts, vibration impacts, and dusts impacts. The Child-care facility would be constructed on a grassy area near a little traveled road that is located away from site buildings. This location lessens the possibility of dust/noise impacting the site and/or public.

4.0 AFFECTED ENVIRONMENT and ENVIRONMENTAL CONSEQUENCES OF PROPOSED ACTION

This section will use the term "proposed action" in place of alternative 5, "On-Site Construction". The proposed action is the preferred alternative and is the focus of the following analysis. Appendix A (Project Resource Checklist) is intended to provide a brief summary of the resources discussed within this environmental assessment.

4.1 Socio-economic Environment

The existing and future social, economic, and land use conditions were evaluated by the use of primary and secondary methods. The primary methods consisted of coordination with the Southwestern Pennsylvania Commission (SPC) and the US Census Bureau. Secondary methods included a review of census and planning statistics/data from the SPC and the US Census Bureau. Also, project field views and consultations within the project area were conducted.

Social and economic trends are influenced by several regional and community growth factors. The following discussion reviews the proposed project's influence on economics and employment, population and housing, residential and commercial displacements, and environmental justice.

4.1.1 Economics and Employment

Employment trends in Allegheny County indicate a shift from "durable goods producing" industry (predominantly the primary metals industry) to the "retail trade" industry. The most recent employment trend indicates a shift from retail to the "service" industry. The service industry includes business services, health services, and educational services among others. In 1990, the retail trade employed 111,250 workers. The number of workers in retail increased to 129,191 workers in 2000. However, due to population and economic growth, the service industry far surpassed the retail trade employing 337,536 in the year 2000.

Additionally, the area has experienced steady job growth for the past several years. Allegheny County is expected to have continued economic growth as it evolves into a technology based economy. A list of some major employers within Allegheny County is provided in Table 2.

Table 2. Major Employers in Allegheny County

Employer
Giant Eagle
PPG Industries
North Allegheny School District
Wright Automotive Group
UPMC Passavant Hospital
Marconi

4.1.1.1 Construction

The proposed construction would not increase the size of the work force at the NETL facility. However, the construction may create a minor increase in the local and regional economies. The No Build Alternative would not change the economy or employment.

4.1.1.2 Operation

According to present plans, operation of the proposed facilities on the NETL property would have no affect on the local economy or employment status, except for the minor addition of employees working at the child-care center.

4.1.2 Population and Housing

The population of Allegheny County decreased over the last decade, from 1,336,449 persons in 1990 to 1,281,666 persons during 2000. However, the Township of South Park experienced a small increase from 14,292 persons during 1990 to 14,340 persons during 2000. The population of Jefferson Hills Borough, another adjacent community has experienced a stable population over that same time period, slightly gaining in population from 9,533 persons in 1990 to 9,666 persons during 2000.

There are 537,150 total occupied housing units in Allegheny County. These units consist of 360,036 owner-occupied units and 177,114 rental-housing units. There are a total of 46,496 vacant housing units in Allegheny County. There are 5,422 total occupied housing units in South Park Township, which consist of 4,188 owned units, and 1,234 rental housing units. There are a total of 194 vacant housing units in South Park. There are 3,781 total occupied housing units in the Jefferson Hills Borough. These units consist of 2,985 owned units and 796 rental-housing units. There are a total of 173 vacant housing units in the borough.

4.1.2.1 Construction

Construction of the proposed facility would not affect the existing population and housing in the immediate project area, the surrounding communities, and Allegheny County.

4.1.2.2 Operation

Operation of the proposed facility on the NETL property due to the proposed action should not affect the existing population and housing in the immediate project area, the surrounding communities, and Allegheny County.

4.1.3 Residential and Commercial Displacements

Analysis of the project area for the proposed action indicates that no residences or businesses would be affected as a result of proposed facility.

4.1.3.1 Construction

Construction of the proposed facility would result in no residential or business displacements.

4.1.3.2 Operation

Operation of the facilities on the NETL property due to the proposed action would result in no residential or business displacements.

4.1.4 Environmental Justice

Population data from the 2000 census was analyzed for the project area, and interviews were conducted during May 2002 with regional planning personnel and Allegheny County personnel to review environmental justice issues. Additionally, windshield survey observations related to identification of special population groups were conducted in April 2002. The 2000 census indicates that Allegheny County is 84.3% white and 15.7% other minority races; Jefferson Hills Borough is 96.8% white and 3.2% other minority races; and South Park Township is 95.2% white and 4.8% other minority races. Based on conducted interviews, observations, and data analysis, there are no identifiable pockets of minority population in the project area.

4.1.4.1 Construction

Construction of the proposed facility would not affect the existing population with regard to environmental justice issues.

4.1.4.2 Operation

Operation of the proposed facility on the NETL property should not have an effect on existing environmental justice issues in the project area, surrounding communities, or Allegheny County.

4.2 Land Use

Land use resources within the project area were determined from the combined use of a field survey and the United States Geological Survey (USGS) topographic mapping. The field survey was performed in April 2002. Land use type was classified to Level II in accordance with the *Anderson Land Use/Land Cover Classification System* (Anderson, et. al., 1976). The land use type of the project site is indicative of Mixed Urban or Built-

up Land. Land within the project area is used as open space for access to adjoining NETL areas.

4.2.1 Construction

Construction of the proposed facility would not impact land use in the surrounding area.

4.2.2 Operation

Operation of the proposed facility on the NETL property would not impact land use activities within the surrounding area.

4.3 Parks, Recreation Areas

The project area was reviewed for existing park, recreation areas and wildlife refuges during the project site investigation, by contacting local municipal and county authorities, and by reviewing existing information depicted on the United States Geologic Survey (USGS) 7.5-minute Glassport quadrangle. Public recreation facilities located near the project area in South Park Township and the Borough of Jefferson Hills include: Allegheny County – South Park County Park, South Park Township – Evans Park and Wilson Ball Field, and the Borough of Jefferson Hills – Gill Hall Park. No wildlife refuges are located near the project area.

4.3.1 Construction

Construction of the proposed facility would not affect local or regional parks, recreation areas, or wildlife refuges.

4.3.2 Operation

Operation of the proposed facility on the NETL property would not impact local or regional parks, recreation areas, or wildlife refuges.

4.4 Vegetation and Wildlife

Wildlife, vegetation, and habitat conditions were analyzed for the National Energy Technology Laboratory (NETL) site. Conditions were determined from the combined use of United States Geological Survey (USGS) topographic maps, research of existing documents, as well as field verification. The field investigation was performed in April 2002. Upland habitat types as well as land use types (i.e. Mixed Urban or Built-up Land) were classified to Level II in accordance with the *Anderson Land Use/Land Cover Classification System* (Anderson, et. al., 1976) (Refer to Section 4.2 Landuse). Wetland types were classified in accordance with the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et. Al., 1979) (Refer to Section 4.8 Wetlands

Vegetation on the affected part of the existing NETL site is comprised mostly of tolerant herbaceous plants, grasses, lichens, and tree species. Species observed include multiflora rose (*Rosa multiflora*), narrow-leaved cattail (*Typha angustifolia*), goldenrod species (*Solidago spp.*), common blackberry (*Rubus allegheniensis*), grass species, lichens species (*Cladonia spp.*), slippery elm (*Ulmus rubra*), and tree-of-heaven (*Ailanthus altissima*). Wildlife observed included white-tailed deer (*Odocoileus*

virginianus), raccoon (*Procyon lotor*), American robin (*Turdus migratorius*), black-capped chickadee (*Parus atricapillus*), European starling (*Sturnus vulgaris*), great blue heron (*Ardea herodias*), common crow (*Corvus brachyrhynchos*), and red-tailed hawk (*Buteo jamaicensis*).

4.4.1 Construction

Construction impacts on the existing NETL site would be negligible due to the lack of important wildlife habitat. During construction, mostly construction noise, vibration, and movement [i.e., white-tailed deer (Odocoileus virginianus) would affect large terrestrial mammals. Adverse effects due to the loss of forage and cover would be minor. Nesting habitat for birds and rodents on the NETL facility is also lacking and therefore adverse impacts would be negligible.

4.4.2 Operation

Operation of the facilities on the NETL property would not cause significant additional impacts over those initially caused by construction.

4.5 Threatened and Endangered Species

During 2002, requests for information concerning rare, threatened, and endangered species were made to the Pennsylvania Natural Diversity Inventory (PNDI), Pennsylvania Fish & Boat Commission (PFBC), Pennsylvania Game Commission (PGC), and the United States Department of the Interior, Fish and Wildlife Service (USFWS) in May 2002. According to the PNDI, PFBC, PGC, and USFWS there are no known records of any rare, threatened, or endangered species in the area (Refer Appendix B).

Coordination with state and federal agencies concerning threatened and endangered species revealed no potential impacts. These agencies include the Pennsylvania Natural Diversity Inventory (PNDI), Pennsylvania Fish & Boat Commission (PFBC), Pennsylvania Game Commission (PGC), and the United States Department of the Interior, Fish and Wildlife Service (USFWS) (Refer to Appendix B).

4.5.1 Construction

Currently, the proposed action would not impact any threatened or endangered species, as there are no known species of special concern that occur in the project area. The EA completes the Endangered Species Act (ESA) of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 *et seq*.), Section 7-consultation process. Should the proposed action change, or if additional information on listed and proposed species or species of concern becomes available, further ESA Section 7-consultation activities would be necessary.

4.5.2 Operation

The operation of the proposed facilities would not impact rare, threatened and endangered species because no species of special concern are known to occur in the project area.

4.6 Water Quality / Streams

On-site wastewater discharges are regulated under the Clean Water Act (CWA)(33 U.S.C. 1251 *et seq.*) and subsequent federal regulations (40 CFR Parts 121,122, 125, 136, 405-471). The NETL facility is regulated in Pennsylvania under National Pollutant Discharge Elimination System (NPDES) regulations as codified in 25 Pennsylvania Code Chapters 16, 91-95, 97, 101, and 102. The proposed new child-care facility's sanitary discharge will be routed to the Clairton Sewage Authority's treatment plant.

The perennial stream in the project area is Lick Run. Lick Run is located down slope approximately 1,000 feet from the project site and is a tributary to Peters Creek. Peters Creek is designated by the PADEP as a Trout Stocked Fishery. Because Lick Run is considered a part of Peters Creek, it would carry the same designated use. This designated use implies the maintenance of stocked trout from February 15 to July 31 and maintenance and propagation of fish species and additional flora and fauna, which are indigenous to a warm water habitat (25 Pennsylvania Code Chapter 93). Historically, there was an unnamed tributary to Lick Run that bisected the project site but this stream has since been culverted.

4.6.1 Permitted Discharge Areas

The NETL is authorized to discharge stormwater associated with industrial activity into Lick Run as Part I under the NPDES permit PA0025844 issued in 1996. The NETL facility has north and south outfalls (the main two outfalls to Lick Run) and an internal outfall that is maintained by National Institute of Occupational Safety and Health (NIOSH). This third outfall is permitted under a Part II permit 0297201. All monitored sample parameters were within permit limitations during 1999, 2000, and 2001 (Annual NETL Report, 2000). The NETL is authorized to discharge industrial wastewater into the PHA's sanitary sewer system.

Currently, no activities occur at the proposed project site. Stormwater generated on-site either percolates into the soil, evaporates on the surface, or runs-off to other down-slope locations (e.g., the Ball Field, Lick Run, etc.). No impacts from the proposed action are expected for water quality / streams given the implementation of an erosion and sedimentation control plan.

4.6.2 Construction

All permitting requirements involving the Clean Water Act § 404 and Pennsylvania State 401 Water Quality Certification would be reviewed and implemented. Contact with PADEP personnel indicated that the existing stormwater discharge permit (National Pollutant Discharge Elimination System – NPDES permit) would be sufficient for these construction activities.

In accordance with 25 PA code, chapter 102 an erosion and sedimentation plan has been prepared and will be submitted if required. Lick Run outside the project site may be indirectly impacted by construction of the proposed facility. The construction upslope from the stream would be a potential temporary source of pollution and sediment loading in the stream. This degradation in water quality could include the temporary loss of aquatic habitat due to increased sediment loading, and a temporary change in chemical

composition in the stream (i.e. fuel leaks, spills and chemical spills from construction materials, etc.).

Increased impervious area (due to heavy machinery used during construction) would cause an increase in surface water runoff. This increased runoff, along with the use of hazardous materials during construction would increase the amount of contaminants that are moved throughout the drainage system as surface water. This contaminant runoff can be minimized through the use of best management practices during construction. The no action alternative would not cause water quality / stream impacts.

If the day care facility is to be connected to the existing public sewage system (Clairton Sewer Authority), a PA Act 537 revision to the local municipality's official sewage plan may be necessary. This type of approval must be obtained prior to the issuance of a building permit by the local municipality.

4.6.3 Operation

The operation of the proposed facilities would impact the tributary with runoff from increased parking (impervious) area. However, it is anticipated that storm water management activities and other best management planning activities would minimize this.

4.7 Floodplains

The project area was inspected for the existence of floodplain during the project site investigation and by reviewing existing information depicted on the United States Geologic Survey (USGS) 7.5-minute Glassport quadrangle. The National Flood Insurance Program, Flood Insurance Rate Map (FIRM) was also reviewed to identify the base frequency (100-year) floodplains within the project area, and assess impact potential.

The assessment discovered no floodplains within the project site. The project site was filled and the previously existing unnamed tributary to Lick Run has been culverted below the fill material. A review of the Federal Emergency Management Agency's (FEMA) FIRM was conducted on the original topography of the area to determine any impacts to the floodplains and/or flood hazards. The FIRM community-panel number used was: 421165 0001 B.

4.7.1 Construction

The project site is located in Zone C on the FIRM. Areas in Zone C are areas of minimal flooding and are outside the 100-year and 500-year floodplain. For this reason, any construction on the site would not impact the 100 or 500-year floodplains.

4.7.2 Operation

The operation of the new facility would not affect floodplains associated with Lick Run.

4.8 Wetlands

Wetland investigations were conducted in April 2002. One palustrine emergent wetland within the project area was identified and delineated through the use of existing information and field investigation. Existing information utilized in the investigation included the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Allegheny County Soil Survey and U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI) mapping. Palustrine emergent wetland habitats identified were delineated utilizing the Corps of Engineers Wetlands Delineation Manual (Technical Report Y-087-1). The wetlands within the project study area were classified in accordance with the Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et al., 1979). Field investigations identified one jurisdictional palustrine emergent wetland in the project area. Refer to Figure 3 for wetland location. The functions and values of the project area wetland were assessed using parameters derived from the WET 2.0 predictive model. Wetland 1 received a high rating in the Groundwater Discharge category. Characteristics of the wetland are summarized in Table 5. The total area of wetland at the project site is 0.001 hectare (0.002 acre).

4.8.1 Construction

Construction of the proposed facility would not impact the palustrine emergent wetland identified within the project area. Should the final design of the proposed facility change, a review of wetland 1 may be necessary.

All permitting requirements involving the Clean Water Act § 404 and Pennsylvania State 401 Water Quality Certification would be reviewed and implemented if the final design would change. The no action alternative would not cause wetland impacts.

Table 3. Summary of Wetlands

Wetland	Classification	Location	Area ha (ac)	Impacted Area ha (ac)	WET 2.0 HIGH Functional Ratings
W1	PEM	NETL	0.001 (0.002)	0.000 (0.000)	GD
Total	____	____	**0.001 (0.002)**	**0.000 (0.000)**	____

GD = Groundwater Discharge PEM= Palustrine Emergent

4.8.2 Operation

Presently it has been determined that no wetland impacts would occur due to operation of the NETL proposed facility.

4.9 Groundwater

In 1995 a Site Sampling and Analysis Investigation (SSAI) was conducted by an outside engineering firm that examined several media including groundwater, surface water, stream sediments, and soils based on a potential points of contamination as well as from locations representative of regional background conditions. Upon evaluation contaminants of potential concern (COPCs) were identified in the surface water and sediment of Lick Run. The levels of organics and inorganics detected in the site soils were less than site background levels or available standards and criteria, including state medium-specific concentrations (MSCs) according to PADEP (1996).

The Pittsburgh NETL facility is located in the Appalachian Plateaus Province, Pittsburgh Low Plateau Section – Prototypical Area. This area is sharply defined along the west side of Chestnut Ridge and along the boundary with the Glaciated Pittsburgh Plateau section. This area forms a true plateau and has bedrock consisting of shale, sandstone, siltstone, and limestone. A dendritic pattern is generally expressed in headwater streams on upland surfaces. This area is noted as having broad, rolling interfluves separated by relatively narrow, steep-walled, moderately incised valleys (Shultz, 1999). The major sources of groundwater in Allegheny County are in alluvial deposits found along the Allegheny and Ohio River Valleys. Sandstone and limestone bedrock provides for lower yielding wells but is a widespread source of groundwater (USDA, 1981).
In 1984, Allegheny County had the highest average groundwater withdrawal by a county in Pennsylvania at 54Mgal/d (million gallons per day). This is for all groundwater use categories (i.e., irrigation, domestic and farm, public supply, and industrial). Throughout the last century, and entering to the present, an increasing temporal trend in groundwater withdrawals have been observed throughout Pennsylvania (Shultz, 1999).

The NETL Pittsburgh facility has two (2) groundwater flow patterns. The first groundwater flow pattern is associated with the shallowest aquifer found in the weathered bedrock that occurs over most of the site. This aquifer is recharged when rainfall percolates through the unconsolidated material before encountering bedrock of low permeability. There are nineteen (19) wells drilled in this aquifer; twelve (12) of those are in the valley fill area (which includes the 900 & 920 areas and the synthane plant). A second aquifer at the NETL site is one that is much deeper than the preceding aquifer.

According to the NETL - Annual Site Environmental Report for the Calendar Year 2001 (currently being prepared), there are twenty-three (23) groundwater-monitoring wells at various locations throughout the Pittsburgh facility. For the purpose of groundwater monitoring, the Pittsburgh facility is divided into three areas. The area where the proposed construction is to take place is known as the valley fill area.

The Pennsylvania-American Water Company (PAWC - formerly American Water Company) provides the majority of the water supply to the National Energy Technology Laboratory (NETL). The water provided by PAWC is drawn from and processed near the Monongahela River, then transported via pipeline to the site. NETL sampled and analyzed for seventeen (17) primary and secondary drinking water contaminants. All of the results were below the maximum contaminant levels (Annual NETL Report, 2000). Although this is the main water supply, there is also one ground water well that can be utilized for domestic use (potable water). This upstream well is within 1 mile of the NETL. Most likely, the well is completed in the Monongahela group but because of its

depth (140 ft.), it could be completed in the Conemaugh group. This well is north of NETL thus eliminating impacts to groundwater near the well. This is due to the southerly flow of groundwater under the Lick Run valley (towards Peters Creek). The information for this particular well was obtained from the computerized PADEP Water Well Inventory (Comprehensive Groundwater Protection Manual Program Plan, 1996).

The former synthane plant area contained several different waste handling and storage areas. Some of these were a drum storage area, a char dump area, two effluent holding tanks, a sewage treatment center, and an industrial waste sewer system. After the demolition of the site, portions of the sewer system remained along with its associated piping and the concrete foundations of the other structures. Because of high levels of hydrocarbons, benzene and methylphenols, a clean up program was implemented on September 7, 1994. The contaminated sediments were solidified and taken to BFI landfill in Imperial PA. The wastewater was taken to Petromax Ltd. for treatment and disposal (EA and Remediation of the Former Synthane Plant, 1997).

There are six (6) wells in the shallow aquifer beneath the former synthane plant site. Only one well is in the Valley Fill area and does not produce significant amounts of water (Comprehensive Groundwater Protection Manual Program Plan, 1996). The shallow bedrock aquifer has a flow that typically follows the topography of the area. This flow is directed toward Lick Run Valley, and adds to the base flow of Lick Run itself. Along the way, some of the water is discharged as springs in both hills and valleys. The deeper aquifer has an easterly flow direction and joins with the flow from the shallower aquifer (Annual Site Environmental Report 1999).

During 2001 groundwater samples collected at wells located in the proposed construction area were analyzed for contamination indicators, TPH (total petroleum hydrocarbons), and various metals and inorganics. No health-based standards were exceeded.

4.9.1 Construction

The use of hazardous materials during construction (i.e. fuel, cement curing aids, sealants, and fill used from other areas) may cause direct impacts to groundwater sources. Because the NETL site is not labeled as a wellhead protection area and does not provide a recharge area for water wells, the risks of impacts to humans using groundwater would be minimal.

The quantity of groundwater recharge at the project sites may also be impacted. Groundwater recharge would decrease due to increased impervious areas over the project sites soil. This (imperviousness) can be caused by the compaction effect of heavy machinery and/or materials used during construction. This increase in impervious area would have a low impact on the quantity of groundwater being recharged. This is attributed to the relatively small footprint at the high impact areas at the site.

4.9.2 Operation

The operation of the proposed NETL facilities would not significantly affect groundwater within the project area. The new building and parking lot that are built would decrease

the infiltration rate of rainwater. This impact is considered low, however, because the new facilities would not cover a large amount of important recharge area.

4.10 Public Facilities and Services

In consultation with the local municipal and county authorities, numerous public facilities and services were identified within the surrounding area of the project site in South Park Township and the Borough of Jefferson Hills, Allegheny County, Pennsylvania. Due to the suburban nature of the project area, these facilities are found within the proximity of the project area, but not directly adjacent to the NETL facility. These facilities include recreation areas, fire departments, emergency services, schools, libraries, and municipal facilities.

Public recreation facilities located near the project area in South Park Township and the Borough of Jefferson Hills include: Allegheny County (South Park Township) – South Park County Park, South Park Township – Evans Park and Wilson Ball Field, and the Borough of Jefferson Hills – Gill Hall Park.

The Broughton Fire Department in South Park Township and Gill Hall Fire Department in the Borough of Jefferson Hills provide fire protection to the project area. The South Park Township and Borough of Jefferson Hills provide emergency services to the project area.

The project area is serviced by the South Park and West Jefferson Hills School Districts. Local schools in the project area include: South Park School District – South Park High School and South Park Elementary Center; and West Jefferson Hills School District – Thomas Jefferson High School and Gill Hall Elementary School. No public libraries are located near the project area in South Park Township or the Borough of Jefferson Hills.

4.10.1 Construction

Construction of the proposed child-care facility would not impact the local or regional public facilities or services, since little or no traffic disruption is expected. However, coordination with local municipal and county planning officials would be conducted to inform the public with respect to the location of project improvements, and the anticipated schedule of the project implementation. This would minimize the potential for impact.

4.10.2 Operation

Operation of the proposed child-care facility on the NETL property would not affect local or regional public facilities or services in the project area.

4.11 Utilities

Some of the utility companies that may be affected by construction of the proposed action are: Allegheny Power, Columbia Gas Company, Clairton Sewer Authority, Pennsylvania-American Water Company (PAWC), and the U.S. Department of Energy controlled stormwater sewer and communication lines.

The electricity provided by Allegheny Power is located along Wallace Road and bisects the project site along the access gravel road. Natural gas lines and a metering station belonging to Columbia Natural Gas Company are found along Wallace Road. Sanitary sewage is discharged to the municipal sewage treatment system operated by the Clairton Sewer Authority. The NETL acquires water for domestic use from the PAWC which draws water from the Monogahela River. The PAWC waterlines are located along the western edge of the project site. NETL stormwater lines are located along Wallace Road. Site stormwater is discharged from an NETL facility outfall into Lick Run, where the outfall is monitored by NETL. USDOE owned communication lines (Internet/Communication port) are located along the western edge of the project site.

4.11.1 Construction

All potentially affected utility companies that service the NETL property project site would be notified before construction begins. Impacts to utilities during construction may involve relocation, rerouting or adding utility services for existing and proposed facilities.

4.11.2 Operation

No impacts are anticipated during normal operation of the proposed facilities.

4.12 Traffic

4.12.1 Construction

The immediate project area would experience an increase in traffic along Wallace Road during construction. This increase would be temporary, and in short duration as construction workers, deliveries, and equipment enter and exit the site. Traffic disruptions along Wallace Road during the construction phase would be minimized since most work would be conducted on NETL property. Wallace Road is owned and maintained by the federal government. When necessary coordination should occur with the Township of South Park and the Borough of Jefferson Hills, as applicable, to coordinate maintenance of traffic. Design phase partnering would be conducted during final design and construction in order to coordinate project activities and schedules.

4.12.2 Operation

Upon completion of the project, a minor increase in traffic would result from the employment of approximately 20 staff members and volunteers for the day care facility. All employees would utilize current routes to access the facility and would not result in an increase to traffic on other streets, or changes in traffic patterns. Since the facility would be specifically for NETL staff already traveling to the site, an overall increase in traffic with respect to patronage would not result. Ultimately, the only significant change in pattern would involve the drop-off and pick-up of children at the facility within the NETL site.

4.13 Air Quality

A review of air quality as regulated under the Clean Air Act (CAA) as amended (42 U.S.C. 7401– 7642) and 40 CFR 50 – 87 for the general project area and the Pittsburgh Metropolitan area was completed utilizing the National Ambient Air Quality (NAAQ)

database (http://homer.ornl.gov/oepa/data/showcity.cfm) maintained by the U. S. Environmental Protection Agency (USEPA, 2002). Additionally, the Pennsylvania Department of Environmental Protection (PADEP) (www.dep.state.pa.us/update/default.asp?ID=5356) website and the Allegheny County Health Department (ACHD) were contacted for specific information in regards to the attainment status of the NETL facility. In Pennsylvania, ACHD's Bureau of Air Quality Control regulates ambient air quality in Allegheny County via Air Pollution Control Article XXI and the Pennsylvania Air Pollution Control Regulations (25 PA Code Chapters 123, 127, 131, 135, and 139).

The NAAQ database was created in August 1999 and details whether the area in question is currently meeting or in attainment for air quality parameters. The NETL facility located in Pittsburgh, PA was not located. However, the near by U.S. Department of Defense Naval Reactors Office in West Mifflin, PA was found to be in attainment for all air quality parameters, which include ozone, carbon monoxide, PM-10, sulfur dioxide, nitrous oxide, and lead. The PADEP website states that Pittsburgh/Allegheny County is in attainment for ozone, carbon monoxide, nitrogen oxide, and lead. The website also indicated that portions of Allegheny County are in attainment for PM-10 and sulfur dioxide. The ACHD was contacted to gain further knowledge for these parameters and attainment status of the NETL facility. The ACHD officials stated that the NETL is in attainment for PM-10 and sulfur dioxide.

4.13.1 Permitted Areas

NETL's air permits for the facility are individually based as per specific projects. In 1999 NETL held three air permits issued by the ACHD: Building 922 - Cleaver Brooks Natural Gas Boiler (#7032056-000-00500), Building 922 – three RayPak Finned Coppertube Boilers (#7032056-000-00501), and Building 86 – gas and coal-fired research unit (#7023056-000-00800). NETL submitted an application for a Title V permit as part of ACHD Article XXI and to comply with the 1990 CAA Amendments (Annual NETL Report, 2000). The NETL site in 2002 continued to be a synthetic minor source under CAA Title V for synthetic gas derived from coal.

4.13.2 Construction

During construction, the project would have three major effects on air quality: an increase in emissions by heavy construction equipment, an increase in dust by construction activities, and an increase in particulate from the allowable burning of vegetation during land clearing. This project would require the use of earth-moving equipment. Dust and exhaust particulate emissions from heavy equipment operations would temporarily degrade air quality in the immediate construction zone. The increase in air particulates would be minimized by the performance of the work in compliance with the requirements of the *Prohibition of Certain Fugitive Emissions* (25 Pa. Code Section 123.1, as amended), *To Prevent and Control Particulate Matter, Air Pollution From 1) Construction or Demolition Sites; 2), Grading, Paving, and Maintenance of Roads and Streets; 3) Use of Roads and Streets; 4) Clearing of Land; 5) Stockpiling of Materials; 6) Open Burning Operations; 7) Blasting and Drilling Operations; 8) Coke Oven Batteries; 9) Sources and Classes of Sources Other Than Those Identified in 1-8*, and all other applicable state and local regulations.

4.13.3 Operation

None of the proposed structures at the project site are expected to have an impact on air quality during their normal operation.

4.14 Noise and Vibration

4.14.1 Construction

Construction activities may result in increased noise and vibration , would be temporary and of short duration. To minimize these potential impacts, the contractor would probably schedule most construction activities during normal daylight working hours and implement provisions included in 23 CFR, Part 772.19. These specifications require contractors to use equipment, which is adapted to operate with appropriate noise muffling devices resulting in the least possible noise. Every effort would be taken to minimize the noise levels including the mandatory use of construction equipment with operable mufflers. Although none is anticipated, if blasting is required, it would be controlled so that no property or structural damage would occur. Measures that may be taken include, but are not limited to, timing of work and laying blast mats.

4.14.2 Operation

An increase in noise and vibration levels is not expected after completion of the proposed facility.

4.15 Waste Site Evaluation

The 2000 Annual NETL Report states that during 1999 there was no Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) related activity in 1999 at the Pittsburgh facility.

Two (2) above ground storage tanks (ASTs) were noted in the Annual Report as still being in service (1,500-gallon caustic soda tank and 1,500-gallon ferric chloride tank). Two (2) other ASTs (950 gallon waste oil tank and 2,2200 gallon heating oil tank) were also noted to be at the NETL facility but were inactive. The 2, 2200 gallon tank is in the process of being permanently removed.

The management of polychlorinated biphenyls (PCBs), asbestos, and lead is codified and regulated by the Toxic Substances Control Act (TSCA) (15 U.S.C. 2601 – 2654, 40 CFR 61, Subpart M, and 29 CFR 1910.1001 and 1926.1101). All NETL facilities have been surveyed for asbestos. Abatement is to be completed as the buildings are renovated.

The management of pesticides is performed through regulations codified under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) 7 USCS §§ 136, *et seq*. and 40 CFR, Parts 162 and 171. All activities involving pesticides at NETL facilities are completed by outside qualified contractors in order to minimize the potential for spills.

The government would not provide for the storage and/or disposal of pesticides (Annual NETL Report, 2000).

A review by PADEP of their records indicates no permitted oil or gas wells on the NETL facility property.

A site reconnaissance and walkover of the project site was conducted in April 2002. The property has no structures. The sanitary sewer line bisects the project site along Wallace Road, as does a natural gas pipeline and metering station belonging to Columbia Natural Gas Company. The remainder of the property is mainly vegetated by grass and a few deciduous trees.

4.15.1 Construction

Based on the results of the site investigation and review of facility documents, there are no major sources of potential contamination on or in the vicinity of the project site.

4.15.2 Operation

Operations of the proposed facility would not have any associated impacts.

4.16 Cultural Resources

During October of 1995, Baker and Associates (Baker) were contracted to prepare a Cultural Resources Management Plan for the Pittsburgh campus of NETL. The work undertaken for the Cultural Resource Assessment was performed in compliance with the Antiquities Act of 1906: the National Historic Sites and Buildings Act of 1935; Section 106, 16 U.S.C. Section 470f of the National Historic Preservation Act of 1966 (as amended in 1980 and 1992); the Archaeological and Historic Preservation Act of 1974; the Archaeological Resources Protection Act of 1979, the Native American Reparation Act of 1991; the regulations of the Advisory Council on Historic Preservation (36 CFR 800); and the Environmental Guidelines for Development of Cultural Resource Management Plans (Working Draft for Comment) (DOE/EH-0376).

4.16.1 Historic Resources

According to Baker (1995), there are no historic structures within the NETL complex. However, as per correspondence with the Pennsylvania Historical and Museum Commission (PHMC), the clearance letter did not include sufficient information for PHMC to make a determination for historic structures. Located on the site currently used by NETL – Pittsburgh are resources associated with the Experimental Mine, U.S. Bureau of Mines, which was listed in the National Register of Historic Places (NRHP) in 1974. The Nomination form notes that the NRHP resource contains 38 acres of land. However, there is no verbal boundary description in the nomination form and no boundary drawn on the accompanying map.

A field view conducted of the site on June 18, 2002 revealed that the areas under consideration for the child-care and office building projects are located in areas removed from where the remaining resources associated with the mine are located. The projects are located in an area where much construction has occurred since 1976. No resources 50 years old or older would be harmed by the new projects. The area has been

previously disturbed by late twentieth century construction. The child-care center and office projects will occur in a valley. Topography and late twentieth century buildings would screen the view of the projects. Because of the uncertainty over the NRHP boundary, the disturbed nature of the project area, and the lack of a visual impact to historic resources, it is recommended that a Determination of Effect Report does not need to be completed for the child-care center and office projects. Since the 1995 Cultural Resource Management Plan, structures in the Area of Potential Effect (APE) may now meet the 50-year significance threshold and may therefore be eligible for the National Register. According to the registry, the facility was listed in 1974 (early listing on the registry). The listing contains no useful information for PHMC to make a determination of affect. Therefore, the registry needs to be updated so PHMC can make the determination. The process of updating the listing is to be completed utilizing the National Register forms provided for the project site. A list of contributing and non-contributing structures would be included in the National Register form(s) for the project site and then PHMC would be able to make the determination.

4.16.1.1 Construction

Construction of the proposed facility would not affect historic resources.

4.16.1.2 Operation

Operation of the proposed facility would not affect historic resources.

4.16.2 Archaeological Resources

According to Baker (1995), no previously recorded archaeological sites are identified within the boundaries of the NETL facility and none exist adjacent to its boundaries. Additionally, the April 24, 2002 correspondence from PHMC indicates that no prehistoric archaeological investigations are necessary for this project.

4.16.2.1 Construction

No previously recorded archaeological sites – listed or – eligible properties are present within the APE. Therefore, no further work is required for the construction of the proposed facility.

4.16.2.2 Operation

Since no previously recorded archaeological sites – listed or – eligible properties are present within the APE, no further work is required for the operation of the proposed facility and no mitigation would be necessary.

4.17 Visual Resources

Construction of the proposed facility would ultimately change the appearance of the existing project area landscape. This section assesses the existing and future visual resources of the area and makes conclusions based on aesthetic parameters and the overall visual quality of the structure, and the appearance from Wallace Road and surrounding properties. The visual quality was assessed through the interpretation of digital-orthophoto quarter quads (DOQQ), which have a 1-meter ground resolution,

engineering maps, and by field observations of the project area were also used in the aesthetic assessment.

4.17.1 Viewshed Analysis

The project site at the NETL facility is a vacant lot, which allows access to other portions of the NETL facility. The valley locate was filled with soil 20-30 years ago to permit construction of stormwater, sanitary, and gas utilities. Currently, there are no buildings on the project site. The area is mainly a grass field with a few deciduous trees scattered throughout and a gravel access road bisects the eastern portion of the site. Although the area is grassed and has some deciduous trees, the vegetation appears to be stressed due to poor soil conditions. Three (3) manhole covers for the storm sewer system and a fenced natural gas meter are visible. Additionally, the project site is fenced to prevent entry. The adjacent properties are all a part of the NETL facility and include the 900 area and Wallace Road (owned by the federal government). The surrounding area can be classified as an urban built-up area.

The proposed visual changes would be aesthetically pleasing and are considered to be a positive improvement. Based on the design height of the proposed structure and field observations, line-of-site analysis is not required.

As planned the child- care facility on the present grass field would be an attractive and safe location for employees (15), and the care and education of children (90). The architecture of this structure is of modern design and would enhance the local landscape. The parking area would not deter from the streetscape or surrounding community.

The general area continues to be impacted by residential development and activities. Because the physical conditions change as one drives along Wallace Road towards the project area, the changes in the visual resources would be described by the respective changes in physical conditions or parameters. The general project area has been broken into two areas that will be described in the following paragraphs.

The first area involves the general project area from the Wallace Road intersection with Cochrans Mill Road to the NETL facility. Currently in this area, numerous businesses and residences are located along Cochrans Mill Road, with mixed land cover types (i.e., residential, commercial, small-forested wood lots and small rangeland areas). The commercial and residential structures in this area would not be impacted by the construction of this project. No changes would occur to modify the physical appearance in this area. Overall, the viewshed in this area should not be affected.

The second area involves the project area at the NETL facility. Currently, this project area contains numerous facilities and associated buildings/structures. Some residential areas are in the process of being developed to the south of the project site and the 900 area. This residential development is not adjacent to the project site. Changes to the physical appearance in this area include the construction of the day care facility and parking area. Overall, the viewshed in this area should not change from what is currently observed.

The proposed child-care facility would not be visible from either area.

4.17.2 Construction

Given careful planning the overall visual impact of the proposed facility would be a positive improvement. Currently, the vegetation appears stressed and the landscape appears reclaimed; therefore, the construction of the proposed facility would enhance the present landscape. Where possible, disturbed areas would be revegetated with native plant materials to provide a natural and positive visual effect. In some instances, planting's could be introduced to serve as gardens, to enhance the existing wetland, or to buffer views of adjoining areas (i.e., roads, buildings,).

4.17.3 Operation

Normal operation of the proposed facility would include regular maintenance, which would preserve the aesthetics of the facility and surrounding viewshed. No adverse operational impacts are anticipated.

4.18 Right-of-Way Impacts

The proposed project site would utilize a previous project site (now a vacant lot) at the Pittsburgh NETL facility. No new right-of-ways will be required for either utilities or access. Existing utility right-of-ways will not be adversely impacted. As proposed, minimal construction impacts to adjacent property are anticipated.

4.18.1 Construction

Access to the project site for construction activities would require new driveways connected to Wallace Road, which is controlled by the federal government. No disturbance will be made to existing roadways because access to necessary utilities exists onsite.

4.18.2 Operation

No additional impacts are anticipated after construction of the facility.

4.19 Secondary Impacts

The potential for secondary development impacts associated with the proposed project was evaluated in accordance with 40 CFR 1508.8. Secondary impact evaluation for this project included the analysis of four major factors.

- Zoning within the study area
- Land suitability for development of surrounding area
- Local planning initiatives
- Continued private-sector development.

All major utilities and services service the area surrounding the project site; therefore growth is not restricted by the absence of any utilities. Land uses surrounding the project area are residential, commercial services, industrial, transportation and communications, and deciduous forest.

The project site is located within government property and does not need to be purchased. Thus, the project site is surrounded on all sides by government property. All properties adjoining the government property have zoning restrictions as set by the Township of South Park and the Borough of Jefferson Hills. Therefore, any future secondary development would be coordinated with the local zoning authority.

Properties adjacent to the government property are suitable for future development in terms of ownership, topography, utilities, access, land stability, etc. Based upon a review of on-going developmental activities in the project area, private sector development appears to be taking place adjacent to the NETL facility. At this time, growth and development appear to be occurring with the construction of new residential areas. Therefore, it is reasonable to believe that further development would take place near the project site. However, the proposed action in itself (being internally constructed for employee use only) should not cause or encourage further development. No secondary development would be prompted by the proposed action; however, private development will continue.

4.19.1 Construction

Secondary development impacts are not anticipated to occur as a result of the proposed construction activities. The no action alternative would not cause Secondary Development impacts.

4.19.2 Operation

Other than from the existence of the new facilities, operational activities are not expected to cause secondary impacts from the implementation of the proposed action. When necessary, NETL would coordinate with the Township of South Park and the Borough of Jefferson Hills in regards to any direct impacts caused by the proposed action, the location of project improvements, and the anticipated schedule of the project implementation.

4.20 Cumulative Impacts

Guidelines prepared by the Council on Environmental Quality (CEQ) for implementing NEPA, broadly define cumulative impacts as those “impacts which result from the incremental consequences of an action when added to other past and reasonably foreseeable future actions” (40 CFR 1508.8). Cumulative impacts are past, present and future impacts which when considered as a whole and in concert with other foreseeable developments and projects result in a combined effect which is greater than that expected from considering these components in isolation. Environmental impacts from development that may occur in the future combined with impacts from past development have cumulative effects on the environment.

Accumulated secondary effects and incremental growth from other inter-related projects can influence and result in cumulative effects. Past development trends in the project area were historically restricted to areas adjacent to and along Wallace Road and Cochrans Mill Road. This included a mixture of residential and commercial/industrial developments. For reasons provided in Section 4.19, current development trends are anticipated to continue. Based in part upon the conclusions of the secondary impacts

assessment, and the analysis of anticipated changes in development patterns, the NETL project would have some cumulative effects upon the general project area.

Future development is anticipated to occur to the south and west of the NETL site in the form of residential development. While past development impacts have had an effect on the local environment, this project and other future development may create other additional impacts on the local environment. In respect to the Township of South Park and the Borough of Jefferson Hills, the effect on the environment from the project related impacts are negligible.

4.20.1 Construction

No substantial cumulative impacts are anticipated for the proposed action. The no action alternative would not cause cumulative impacts.

4.20.2 Operation

Coordination with the Township of South Park and the Borough of Jefferson Hills planning officials with regard to the direct impacts of the proposed action, the location of project improvements, and the anticipated schedule of project implementation would be considered. Land use planning can control the type, density and location of development; however, these types of land use controls are implemented at the discretion of local officials.

4.21 Temporary Construction Impacts

Construction of the proposed facility would have short-term effects and benefits on the surrounding community. Short-term effects associated with construction would include but are not limited to increased noise, dust, and inconvenient traffic conditions. Short-term benefits would include increased construction employment. These temporary conditions would disappear when the construction is completed.

During construction, the project would have two major effects on air quality: an increase in engine emissions by heavy construction equipment and an increase in dust by construction activities.

This project would require the use of earth-moving equipment. The equipment used would emit peak noise levels greater than normal traffic noise levels. Dust and exhaust particulate emissions from heavy equipment operations would temporarily degrade air quality in the immediate construction zone.

APPENDIX A

PROJECT RESOURCE CHECKLIST

Environmental Assessment: Project Resource Checklist

	NOT PRESENT	PRESENT	IMPACTS	METHOD OF IDENTIFICATION
NATURAL RESOURCES				
Wetlands		X		Field Identification; Allegheny County Soil Survey: Hydric Soils List; and NWI Mapping.
Streams, Rivers & Watercourses	X			Field Identification; USGS Map Review.
Wild or Stocked Trout Streams		X		Pennsylvania Code - Chapter 93 listing.
Coastal Zones	X			USGS Map Review.
Groundwater Resources (i.e. wells, water supply)		X		Field Investigation; Consultation with Local and State Officials, and review of project mapping.
Floodplains/Floodways	X			FEMA Flood Insurance Rate Map Review.
Navigable Waterways	X			USACOE information review and field identification.
Other Surface Waters (e.g. lakes, ponds, reservoirs, etc.)	X			Field Investigation; USGS Map Review.
National/State Wild & Scenic Rivers and Streams	X			Federal and State listing review.
Threatened or Endangered Species	X			Agency Consultation and Field Investigation. (Refer to Appendix B for agency coordination)
Unique Geological Resources (i.e. sinkholes, caves, etc.)	X			Field Investigation.
Wildlife & Habitat	X			Field Investigation; USGS Map Review.
Sanctuaries/Refuges	X			Field Investigation; USGS Map Review.
Productive Agricultural Lands	X			Field Investigation; USGS Map Review.
National Natural Landmarks	X			USGS Map Review and Field Investigation.
State Game Lands, Forest or Parks	X			Municipal Coordination; USGS Map Review; State Gamelands Map Review and Field Investigation.
Sensitive Air Quality Sites	X			Field Identification and Agency Coordination.
Sensitive Noise Sites	X			Field Identification and Agency Coordination.
Sensitive Vibration Sites	X			Field Identification and Agency Coordination.
Known Waste Sites	X			Review of internal DOE/NETL documents, State & Federal Environmental Listings, & Field Investigation.
Potential Waste Sites	X			Review of internal DOE/NETL documents, State & Federal Environmental Listings, & Field Inv.

Environmental Assessment: Project Resource Checklist

	NOT PRESENT	PRESENT	IMPACTS	METHOD OF IDENTIFICATION
COMMUNITY RESOURCES				
Residences, Businesses or Farms	X			Field Investigation and Consulting Local Officials.
Public Facilities/Services	X			Field Investigation and Consulting Local Officials.
Visually Sensitive Areas	X			Field Investigation and Consulting Local Officials.
Low-income or Minority Population Areas	X			Field Investigation, 2000 U.S. Census Data, and Southwestern PA Commission Coordination.
Major Utilities		X		Field Investigation and Consulting Local Officials.
Community Cohesion	X			Field Investigation and Consulting Local Officials.
CULTURAL RESOURCES				
National Historic Landmarks	X			Field Investigation, Previous Studies and Consultation with PHMC.
National Register Sites/Districts	X			Field Investigation, Previous Studies and Consultation with PHMC.
Potentially Eligible Districts	X			Field Investigation, Previous Studies and Consultation with PHMC.
Potentially Eligible Sites	X			Field Investigation, Previous Studies and Consultation with PHMC
Rural Historic Landscape	X			Field Investigation, Previous Studies and Consultation with PHMC
Known Archaeological Sites	X			Field Investigation, Previous Studies and Consultation with PHMC
High Probability Archaeological Areas	X			Field Investigation, Previous Studies and Consultation with PHMC

APPENDIX B

AGENCY CORRESPONDENCE/LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS CONSULTED

LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS CONSULTED

- Jeanne Harris
  Environmental Review Specialist
  Pennsylvania Natural Diversity Inventory, Bureau of Forestry
  Pennsylvania Department of Conservation and Natural Resources

- Andrew Shields
  Leader – Nongame and Endangered Species Unit
  Pennsylvania Fish & Boat Commission

- Gary Camus
  Game Land Officer/Manager
  Bureau of Land Management, Pennsylvania Game Commission

- David Densmore
  Supervisor
  United States Fish and Wildlife Service

- Joseph Chnupa
  Assistant Regional Director, Southwest Regional Office
  Pennsylvania Department of Environmental Protection

- Kurt Carr
  Chief, Division of Archaeology and Protection
  Bureau of Historic Preservation
  Pennsylvania Historical and Museum Commission

- U.S. Environmental Protection Agency – NAAQS Website
  (http://homer.ornl.gov/oepa/data/showcity.cfm)

- Pennsylvania Department of Environmental Protection – Air Quality Attainment Website (www.dep.state.pa.us/update/default.asp?ID=5356)

- Jayme Graham
  Air Quality Specialist
  Allegheny County Health Department

- Staff
  South Park School District

- Staff
  South Park Township

- Staff
  Borough of Jefferson Hills

APPENDIX C

ENVIRONMENTAL QUESTIONNAIRES

APPENDIX D

PUBLIC PARTICIPATION

Personal correspondence with Elias George of the NETL's Pittsburgh facility provided the following information with regards to the location, times, and confirmation of the required public involvement activities for NEPA compliance.

1) A legal notice concerning Pittsburgh's child-care EA was published in the Pittsburgh Post-Gazette on 9/1, 9/9, and 9/16. This was confirmed by viewing a copy of the paper. Additionally, the Park News (local paper distributed monthly) published the notice in its 9/6 issue. This was confirmed by obtaining a copy of the paper.

2) 2 copies of the EA were placed into NETL's B83 library, and 3 copies placed (hand delivered) into local libraries (Pleasant Hills Borough Library and South Park Community Library) for public review. This was completed 8/27.

3) 2 copies of the EA were mailed on 8/27 to Mark Schroyer (South Park Twp. Mgr.) for the township review. Additionally, NETL's site operations division (construction group) conducted several meetings with the township zoning and planning boards.

4) PDF files of the EA/Questionnaire were emailed to the NETL site webmaster and appeared on the NETL external website 8/28.

Public comment was requested by 9/18. No comments were received.

APPENDIX E

REFERENCES

REFERENCES

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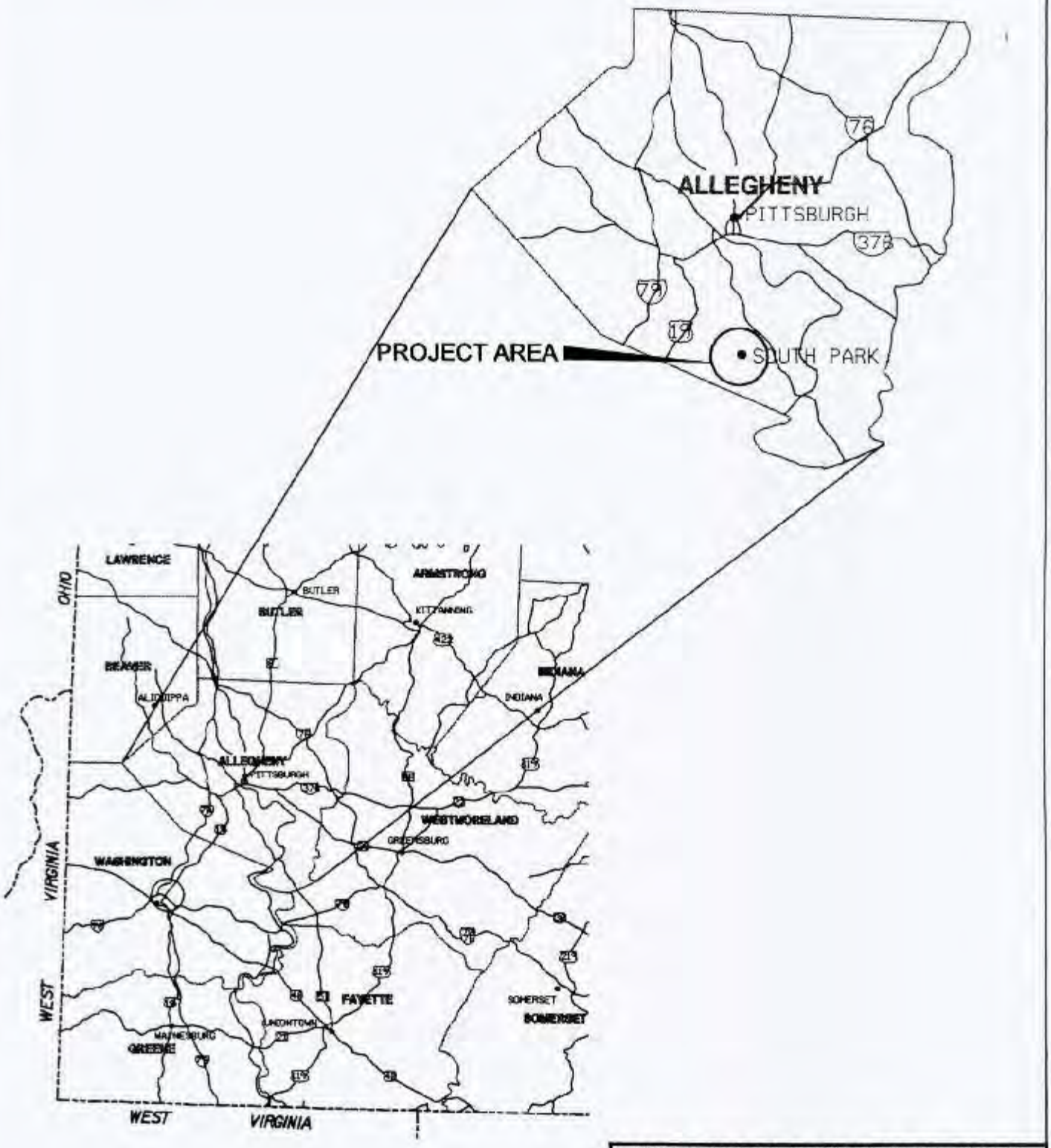
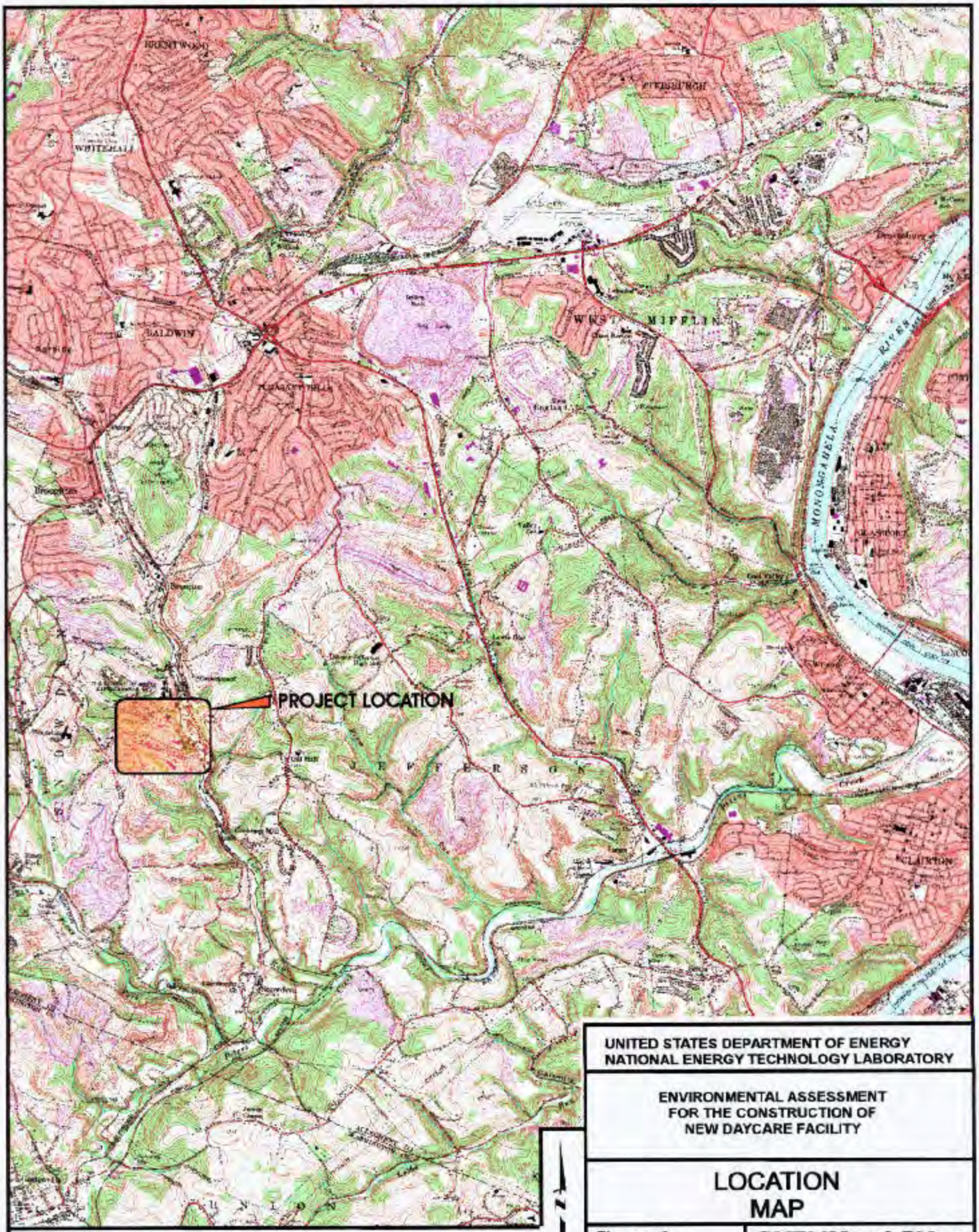


UNITED STATES DEPARTMENT OF ENERGY NATIONAL ENERGY TECHNOLOGY LABORATORY
ENVIRONMENTAL ASSESSMENT FOR THE CONSTRUCTION OF NEW DAYCARE CENTER
PROJECT REGION
FIGURE - 1 | SKELLY AND LOY, INC CONSULTANTS IN ENVIRONMENT - ENERGY ENGINEERING - PLANNING



UNITED STATES DEPARTMENT OF ENERGY
NATIONAL ENERGY TECHNOLOGY LABORATORY

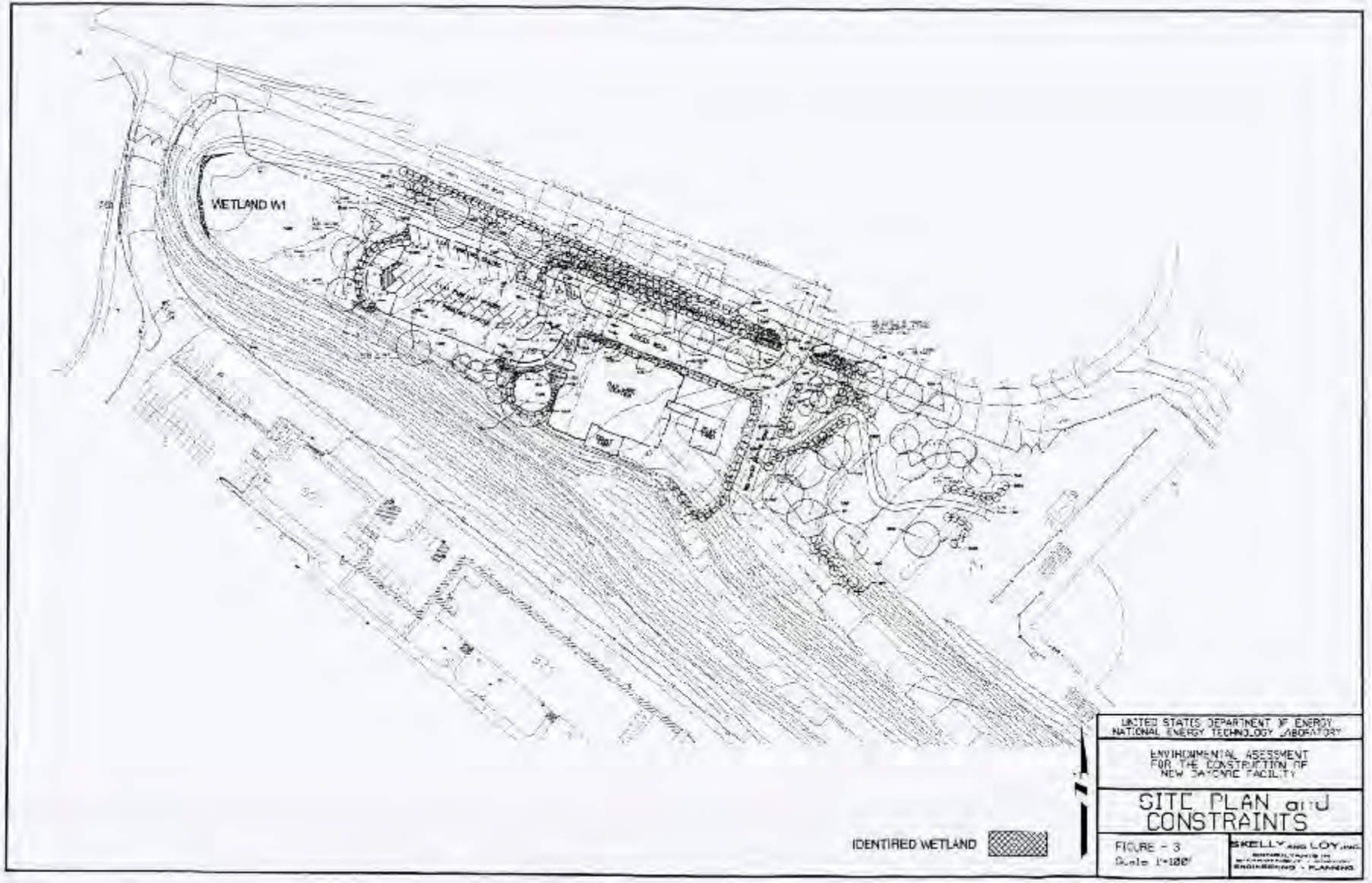
ENVIRONMENTAL ASSESSMENT
FOR THE CONSTRUCTION OF
NEW DAYCARE FACILITY

LOCATION MAP

Figure - 2

0 1000' 2000'

SKELLY AND LOY, INC.
ENGINEERS & CONSULTANTS
IN
ENVIRONMENT - ENERGY
ENGINEERING - PLANNING



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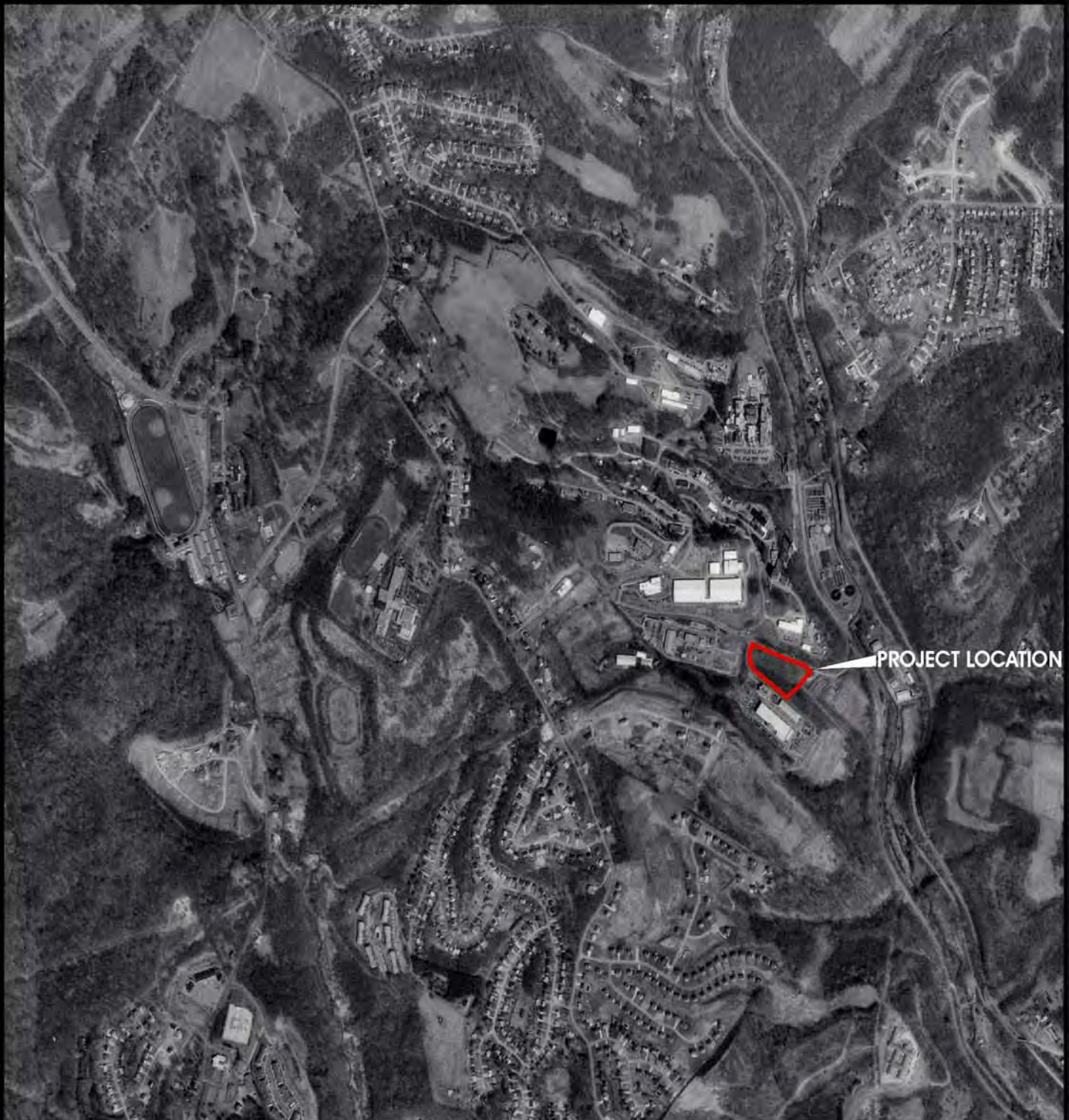
ENVIRONMENTAL ASSESSMENT
FOR THE CONSTRUCTION OF
NEW SAYCORE FACILITY

SITE PLAN and CONSTRAINTS

FIGURE - 3
Scale 1"=100'

SKELLY and LOY, INC.
ENGINEERING - PLANNING



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NATIONAL ENERGY TECHNOLOGY LABORATORY

ENVIRONMENTAL ASSESSMENT
FOR THE CONSTRUCTION OF
NEW DAYCARE FACILITY

DIGITAL AERIAL SITE PHOTO

IMAGE ACQUISITION: March 14, 1995

SOURCE: (PASDA) USGS/PAGS COORDINATE SYSTEM: UTM, NAD83

Figure - 4

0 200' 400'

SKELLY AND LOY, INC.
ENGINEERS-CONSULTANTS
IN
ENVIRONMENT - ENERGY
ENGINEERING - PLANNING