

JOINT LAND USE STUDY

LETTERKENNY ARMY DEPOT
Franklin County, Pennsylvania



MARCH, 2005

Prepared by:



martin and martin, incorporated

37 South Main Street, Suite A
Chambersburg, PA 17201-2251

Phone: 717-264-6759 Fax: 717-264-7339

email: martinmartin@innernet.net

for

LETTERKENNY ARMY DEPOT
JLUS Committee

EXECUTIVE SUMMARY

The Joint Land Use Study for the Letterkenny Army Depot is prepared in the context of the recognized need to provide coordinated land use planning policies between the adjacent, or impacted, civilian community and U.S. military installations

The objective of the JLUS program is twofold:

- 1) Encourage cooperative land use planning between military installations and the surrounding communities so that further community growth and development are compatible with the training or operational missions of the installation.
- 2) Seek ways to reduce the operational impacts on adjacent land. The JLUS program should encourage communities and the neighboring military installation to study the issues of incompatibility in an open forum, taking into consideration both community and military viewpoints.

It is intended that the recommendations in this study be used to guide local jurisdictions in the development and implementation of appropriate land use controls. Such controls should ensure that future development around LEAD will be compatible with both the military mission and the development needs of its host community.

Project Structure

The project has been facilitated through a close working relationship that exists among the Project Sponsor, the Policy Committee and the Grant Administration, and that encompasses the subject geographic areas. The composition of these groups is as follows:

Grantee and Project Sponsor:

Franklin County Board of Commissioners

Policy Committee:

L. Michael Ross, Chair, Franklin County Area Development Corporation

John Van Horn, Executive Director, Letterkenny Industrial Development Authority

Bob Thomas, Franklin County Commissioner

C. David Jamison, Chair, Greene Township Board of Supervisors

Michael Kessinger, Chair, Hamilton Township Board of Supervisors
Charles Myers, Chair, Letterkenny Township Board of Supervisors
Eric Oyer, Manager, Borough of Chambersburg
Dr. John Gray, Deputy Commander, Letterkenny Army Depot
Colonel Andy Smith, Director of Public Works, Letterkenny Army Depot
Jerry Warnement, LEAD-Appointed Civilian

Project Oversight and Grant Administration:

Letterkenny Industrial Development Authority (LIDA)

The Technical Committee has been lead by Martin & Martin, Incorporated, a Chambersburg Planning and Consulting firm, which assigned the following principal researchers:

Martin and Martin, Inc., Planning Consultants

Charles M. Sioberg, A.I.C.P.

Timothy C. Cormany, A.I.C.P.

Scott Schildt, Planner

Findings

During the course of investigation, geographic conditions, aerial photography, environmental records, and existing land uses were examined, and representatives from LEAD, LIDA, and the surrounding municipalities were interviewed in order to determine existing and potential areas of incompatibility. The investigation resulted in the conclusion that the Depot is ideally located due to the relatively rural, undeveloped surrounding areas. Existing conflicts between LEAD and the surrounding communities were minimal. The groundwater pollution issue has been identified, and an ongoing remediation program has yielded successful results. The noise issue from ordinance detonation has also been addressed, and the number of annual complaints has been significantly reduced.

Four other potential concerns were identified during this planning exercise. The first of these is related to the protection and security of operations occurring at LEAD, referred to as Force

Protection. The second has to do with certain radar testing missions that are being conducted at the Depot. The third issue that raises concern from the community leadership is traffic, and in particular the routing of truck traffic from LEAD and the Cumberland Valley Business Park to Interstate 81 at Scotland. The fourth issue is related to the Greene Township Zoning Ordinance 2004-1 concerning the Chambersburg Municipal Airport and associated height limitations.

The purpose of Force Protection is to prevent/deter aggressors, such as terrorists, from attacking the vital military operations at the Depot, and if an attack occurs, minimizing the resulting damage. The location of sensitive missions within the Depot, their relation to surrounding outside land uses, and the accessibility to those missions need to be analyzed to determine the best methods of protection. Due to the proximity of operations occurring within the Depot, surrounding communities, and Business Park, as well as common traffic arteries, it is recommended that Greene Township, Letterkenny Township, LIDA and LEAD maintain a dialog concerning planning and methodology to achieve the greatest level of Force Protection and ensure that there is no incompatible use of community land that threatens the safety and mission viability of the depot.

Testing of the Hawk and Patriot Radar Systems occurs in relatively close proximity to property controlled by LIDA. Obstructions in the testing zones can present problems with the testing of these radar systems. Also, electronic interference from sources in the field of view of the radar can cause test results to be invalid. Frequency bands where possible interference can exist are UHF (941-1427 MNz) “L-band”, SHF (5250-5925 MHz) “C-band”, and SHF (10-12.7 GHz) “X-band” designated for Radio Navigation and Radio Location by the National Telecommunications and Information Administration (NTIA). It is recommended that in the course of the development of the Cumberland Valley Business Park that LIDA, being the area most impacted by the LEAD Radar Test Missions, co-ordinate future construction activities located in the “active” radar testing direction with LEAD in order to minimize or eliminate potential sources of interference with the radar testing mission. Special attention should be directed to the height of new construction in the radar zones outlined in Figures 19 and 20 of this report.

Vehicular traffic attempting to connect between the Scotland interchange at I-81 and entrances to LEAD and the Cumberland Valley Business Park has led to some concern about the functionality of the intersection at Route 11 (Molly Pitcher Highway) and SR 433 (Sunset Pike). LIDA and the Franklin County Area Development Corporation (FCADC) are currently attempting to solicit state and federal funds to study the Route 11 and SR 433 intersection and consider traffic signalization.

Greene Township Ordinance 2004-1, adopted on February 24, 2004, amended the Greene Township Zoning Ordinance to create a number of Airport Zones and related Allowable Height Formulas. These zones establish maximum height limitations for man-made and naturally occurring objects in order to minimize potential problems for aircraft utilizing the Chambersburg Municipal Airport.

It is anticipated that development surrounding the Depot will largely be controlled by the rural nature of the land. While Hamilton and Letterkenny Townships do not have zoning ordinances, The abundance of agricultural and state land combined with the lack of public water and sewer facilities will most likely limit development to relatively low-density residential uses. It is expected that there will be little if any encroachment occurring in the foreseeable future. Development of the Cumberland Valley Business Park will be controlled by the Greene Township Zoning Ordinance and use and performance standards established by LIDA. Based on the existence of these controls, any development is unlikely to encroach or impact negatively on any Depot mission.

Recommendations for Consideration:

Consider initiating and implementing the following practices and policies:

- 1) Enhance community relations and education programs to ensure that citizens of the affected areas are kept informed through direct contact about the changes that may result from revisions or additions to mission plans at LEAD and changes in the municipalities (including LIDA) which may affect LEAD.
- 2) Maintain a library of data about this JLUS that can be made available to both LEAD and the study area municipalities. This digital library will be maintained in the offices of the consultant, Martin and Martin, Incorporated.

- 3) The surrounding municipalities should consider requiring notations on subdivision plans advising property buyers of the potential of negative externalities generated by mission activities at LEAD. By requiring such a note on subdivision plans the notification becomes accessible through title search process and buyers are advised of the potential impact.
- 4) Monitor growth and change in the impacted municipalities in an effort to have early detection of potential encroachments on LEAD missions.
- 5) Maintain continuing lines of communication between the leadership of the study area municipalities, LIDA, and LEAD. Local governments (including LIDA) should be encouraged to notify LEAD of specific proposals that may affect base missions. Such notification would allow LEAD to submit comments for consideration by local officials. LEAD should also be encouraged to notify local governments (including LIDA) concerning new missions that could impact or be impacted by adjacent land or land uses in order to address any potential issues. This will allow parties to provide comment at the concept stages and work together to develop best-fit solutions that are mutually agreeable.
- 6) It is recommended that LIDA, LEAD, and Greene Township work closely together to pursue intersection improvements at the intersection of SR443 and Route 11 in order to improve traffic routing between LEAD and Cumberland Valley Business Park and the interchange of I-81 at Scotland.

TABLE OF CONTENTS

Chapter 1	Introduction, Study Objectives and Joint Land Use Planning Process	
	Introduction.....	1
	Joint Land Use Study Objectives.....	2
	Joint Land Use Planning Process.....	3
	Study Region.....	4
	Project Structure.....	5
Chapter 2	Letterkenny Army Depot	
	History of Letterkenny Army Depot.....	6
	1995 Base Realignment and Closure (BRAC).....	9
	The Cumberland Valley Business Park.....	9
	Current and Proposed Future Military Operations and Missions at LEAD.....	18
	Environmental Review.....	28
	Summary of Environmental Review.....	34
Chapter 3	The Study Area, Economic and Demographic Trends and Projections, and Sub-Regional Land Use	
	The Study Area.....	36
	Population Growth.....	38
	Economic and Demographic Trends and Projections.....	41
Chapter 4	Existing Land Use in Potentially Impacted Area	
	Definition of Impacted Area.....	44
	Existing Land Uses.....	44
	Land Use Controls and State Regulatory Environment.....	45

TABLE OF CONTENTS (continued)

Chapter 5 Current and Projected Negative Externalities and Land Use Conflicts Caused by Base Missions

Municipal Interviews.....48

Noise Issues.....51

Force Protection.....52

Radar Testing.....53

Traffic.....55

Chapter 6 Current and Projected Land Use Encroachments.....56

Chapter 7 Recommendations for Consideration.....58

TABLE OF ILLUSTRATIONS

NOTE: A digital library of all illustrations contained herein, along with all background mapping developed in the course of this planning study will be maintained in the offices of the consultant, Martin and Martin, Inc.

Figure 1 – Joint Land Use Study Region.....4

Figure 2 – JLUS Study Area.....follows page 9

Figure 3 – Business Park Tenants.....14

Figure 4 – CVBP Land Available for LEAD Expansion.....follows page 27

Figure 5A – Groundwater Operable Units.....follows page 29

Figure 5B – Groundwater Sampling Locations..... follows page 29

Figure 6 – Open Burn/Open Detonation Areas..... follows page 31

Figure 7 – JLUS Study Area..... follows page 37

Figure 8 – Letterkenny Army Depot JLUS Total Population Table.....38

Figure 9 – Total Population 1960-2000.....39

Figure 10 – Aerial Orthographic..... follows page 44

Figure 11 – Detailed Aerial Orthographic of Old Gate 6..... follows page 44

TABLE OF ILLUSTRATIONS (continued)

NOTE: A digital library of all illustrations contained herein, along with all background mapping developed in the course of this planning study will be maintained in the offices of the consultant, Martin and Martin, Inc.

Figure 12 – Small Watersheds..... follows page 44

Figure 13 – Surface Geology..... follows page 44

Figure 14 – Agricultural Features..... follows page 45

Figure 15 – State Land..... follows page 45

Figure 16 – General Land Uses..... follows page 45

Figure 17 – LEAD Buildable Acreage..... follows page 45

Figure 18 – Municipal Interview Log.....48

Figure 19 – Patriot Radar Maximum Recommended Structure Elevations.. follows page 54

Figure 20 – Hawk Radar Maximum Recommended Structure Elevations... follows page 54

Figure 21 – Important Traffic Areas..... follows page 55

Figure 22 – Greene Township Zoning Map..... follows page 57

CHAPTER 1

**Introduction,
Study Objectives**

And

Joint Land Use Planning Process

Introduction

The background for undertaking a Joint Land Use Study (JLUS) for the Letterkenny Army Depot (LEAD) closely parallels the concern of the Department of Defense (DoD) about public health, safety and welfare when it established the program in 1985 by stating:

“Most military installations were originally located in remote areas, distant from urban areas due largely to the availability of land and for defense and security purposes. Over time however, installations drew people and businesses closer and closer to take advantage of civilian job opportunities offered by the installation and to provide the goods and services to support the installation’s operations. As urban growth and development increased near and around military installations land use conflicts between base operations and civilian development increased.

“Conversely, urban development near the perimeter of active military bases impacts operational effectiveness, training, and readiness missions.”

In response, the JLUS program was developed as “a cooperative land use planning effort between affected local government and the military installation.”

The objective of the JLUS program is twofold:

- 1) Encourage cooperative land use planning between military installations and the surrounding communities so that further community growth and development are compatible with the training or operational missions of the installation.
- 2) Seek ways to reduce the operational impacts on adjacent land. The JLUS program should encourage communities and the neighboring military installation to study the issues of incompatibility in an open forum, taking into consideration both community and military viewpoints.

It is intended that the recommendations in this study be used to guide local jurisdictions in the development and implementation of appropriate land use controls. Such controls should ensure that future development around LEAD will be compatible with both the military mission and the development needs of its host community.

This Joint Land Use Study is prepared in the context of the recognized need to provide coordinated land use planning policies between the adjacent, or impacted, civilian community and U.S. military installations. Patrick J. O'Brien, Director, Office of Economic Adjustment, has stated, "Incompatible urban development can constrain military installation mission activities and threaten national defense readiness. It also can unnecessarily expose residents adjacent to military installations to unacceptable noise levels and hazards... Joint Planning activities can help resolve current incompatibility issues and avoid future conflicts."

The design of this document is based on multiple meetings and discussions with the Letterkenny Industrial Development Authority (LIDA), local officials who comprise the policy committee and representatives of LEAD and has been prepared in the context of the Department of Defense's "Joint Land Use Study Program Guidance Manual."

Joint Land Use Study Objectives

The JLUS is prepared with the purpose of creating a resultant work product, which will promote a desired quality of life in communities adjacent to or impacted by LEAD, while fostering existing and proposed military operations and missions at LEAD. The objective has been summarized based on multiple discussions and documents prepared by LIDA, local officials and representatives of LEAD as follows:

To enhance the communication between community and Depot officials to ensure a harmonious and mutually beneficial coexistence that promotes regional land use compatibility, economic stability, and environmental quality while allowing LEAD to efficiently and flexibly fulfill its military missions with minimum negative impacts to surrounding areas.

The following objectives have formed the basis of this JLUS effort:

- Identify and document for regional officials the current and proposed future military operations and missions at LEAD;
- Document and assess regional land use, economic and demographic trends in the region, and project future changes;
- Document and assess existing land uses in potentially impacted areas, along with land use controls/regulations;
- Document and assess the current negative externalities of Depot operations and potentials for future conflict based upon proposed military missions and regional development/preservation trends;
- Document and assess the state regulatory environment as it relates to development/preservation issues in the region;
- Document and review environmental and safety issues at LEAD as they relate to contiguous municipalities;
- Identify appropriate regulatory and non-regulatory actions to make sure of future land use compatibility between local governments and military operations;
- Foster increased communications among LEAD and the surrounding local governments and communities;
- Build a credible sub-regional database in order to continue to conduct thorough analysis of the development activities and growth patterns of the study area.

Joint Land Use Planning Process

Based on multiple meetings with representatives of both the study sponsor and policy committee, it has been determined that the most important work product resulting from the JLUS is the documentation and amalgamation of a wide range of existing information from disparate sources into a single document. To this end, this plan focuses on a close collaboration with both community officials and representatives of LEAD, both for data collection as well as to ensure that the voices of the community have been heard.

Study Region

It was determined that the study area should not be fixed for all aspects of the JLUS. Preliminary meetings with members of the Policy / Working Committees suggested that an important outcome of the study would be a better definition of precisely what spatial areas are impacted by Depot operations. The study area is therefore best considered a set of nesting geographic areas that include at the broadest level Franklin County; at the sub-regional level townships contiguous with the Depot (Greene, Hamilton, and Letterkenny, plus the Borough of Chambersburg – the nearest significant population node and the county seat) (see Figure 1); also at the sub-regional level, a variable distance-based on the buffer of land surrounding the Depot grounds; and, at a micro level, specific parcels of land. These geographies have been employed variously as needed.

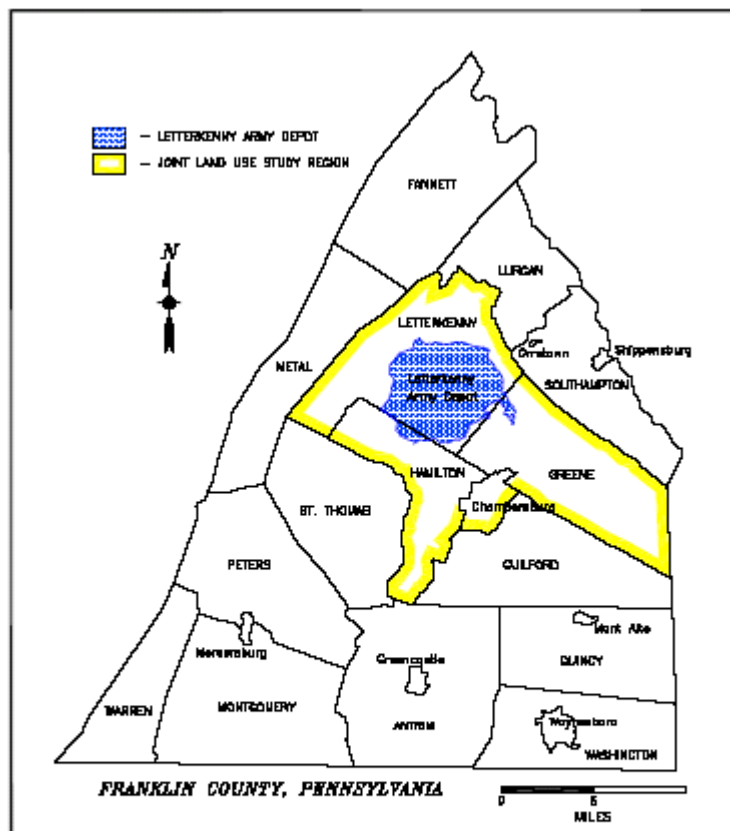


FIGURE 1
LETTERKENNY ARMY DEPOT JOINT LAND USE STUDY
MARCH 31, 2005

Prepared by:  **east and north regional**
67 south main street - suite 2
harrisburg, pennsylvania - 17101
phone (717) 261-6700

Project Structure

The project has been facilitated through a close working relationship that exists among the Project Sponsor, the Policy Committee and the Grant Administration, and that encompasses the subject geographic areas. The composition of these groups is as follows:

Grantee and Project Sponsor:

Franklin County Board of Commissioners

Policy Committee:

L. Michael Ross, Chair, Franklin County Area Development Corporation

John Van Horn, Executive Director, Letterkenny Industrial Development Authority

Bob Thomas, Franklin County Commissioner

C. David Jamison, Chair, Greene Township Board of Supervisors

Michael Kessinger, Chair, Hamilton Township Board of Supervisors

Charles Myers, Chair, Letterkenny Township Board of Supervisors

Eric Oyer, Manager, Borough of Chambersburg

Dr. John Gray, Deputy Commander, Letterkenny Army Depot

Colonel Andy Smith, Director of Public Works, Letterkenny Army Depot

Jerry Warnement, LEAD Appointed Civilian

Project Oversight and Grant Administration:

Letterkenny Industrial Development Authority (LIDA)

The Technical Committee has been lead by Martin & Martin, Incorporated, a Chambersburg Planning and Consulting firm, which assigned the following principal researchers:

Martin and Martin, Inc., Planning Consultants

Charles M. Sioberg, A.I.C.P.

Timothy C. Cormany, A.I.C.P.

Scott Shildt, Planner

CHAPTER 2

Letterkenny Army Depot

History of Letterkenny Army Depot

During the early years of World War II the War Department began planning multiple large new ordinance depots to control and distribute the growing deluge of war materials. The sites were chosen based on their characteristics with regard to distribution. On December 18, 1941 the Secretary of War ordered the purchase of the land for what was to become the Letterkenny Army Depot. It was selected due to its proximity to the eastern seaboard and Washington, D.C., the nearby confluence of two major rail lines, adequate power and water, and the reputed work ethic of the people in the region. Construction commenced in early 1942 and the first shipments of ammunition arrived on September 23, 1942.

As may be expected, there was an element of public concern over the loss of nearly 21,000 acres of agricultural land and the displacement of some 1,000 residents. Actual objections abated rapidly, however, in the growing support for the World War II effort following the bombing of Pearl Harbor. The Letterkenny Army Depot, which derived its name from the Township from which the land came, would have the mission of reducing the surplus of forthcoming war material and storing and shipping ammunition, trucks, parts and other supplies.

The following is a brief outline of the years at Letterkenny Army Depot from its inception in 1942 to the current period. This history has been published by the Letterkenny Public Affairs Office.

“Construction began immediately with 798 underground igloos, 12 aboveground magazines and 17 warehouses. In 1956, an additional 104 igloos were constructed bringing today’s total to 902. At the beginning, a large number of buildings were remodeled farmhouses, barns and chicken houses. The first shipment of ammunition arrived by train on September 23, 1942, three weeks ahead of schedule. More than three million tons of supplies were moved during the war years. As

men were called to service, staffing problems became acute. The depot drained the countryside of manpower needed for agriculture. Women, Commandos, Minute Men, even Italian prisoners of war filled the jobs. Regular employees worked 7 days a week and blitzes were common. With ingenuity and devotion, Letterkennians completed seemingly impossible tasks to keep ordnance material flowing constantly to 70 theaters of war. Letterkenny was one of the largest depots of its kind and was called the Springboard of Invasion in 1944.

After WWII, Letterkennians had hardly become adjusted to the idea that the war was over when they found themselves caught up in the new missions of peace. Even before these missions became official, combat vehicles began rolling into the depot for storage. An enormous amount of ammunition was being returned from overseas, some of which was unserviceable and had to be destroyed.

At the time of the Korean conflict, July 1950, Letterkenny Ordnance Depot was in much better condition to meet the emergency than back in WWII. However, the gears had to be shifted from peacetime drive to high war-time production and the work force swelled to 6,500 persons, with as many as 50 new employees coming each day. Letterkenny's mission of receiving, processing, storing and shipping vehicles was strong. In 1946, experimental long-term dehumidified storage tanks were built to "can" or preserve vehicles. With the demands for ordnance materiel, the process was soon tested and deemed a success as vehicle after vehicle came out of the 169 petroleum storage tanks—all in excellent condition.

The 50's were a time of growth as new technologies in electronics and guided missile maintenance increased the depot's workload. Employees were trained in these fields and began working on NIKE missile components in 1953. Letterkenny became a pilot depot for the implementation of the Depot Command Management System and SPEEDEX (System-wide Project for Electronic Equipment at Depots Extended). In 1955, Major Item Supply Management Agency (MISMA), which provided control functions on a worldwide basis, became a tenant of Letterkenny. It evolved into the U.S. Army Depot System Command, Letterkenny's immediate higher headquarters.

With the growth in operations came the need for expanded physical facilities. Renovation and the replacement of outdated machinery was needed to modernize some existing buildings, but major construction projects lead the way in the 1950's to meet the depot's new needs. Letterkenny became a permanent military installation on July 1, 1954. The ordnance depot was renamed Letterkenny Army Depot in August 1962, and command and control of the depot fell under the

U.S. Army Materiel Command. The 28th Ordnance Detachment relocated to Letterkenny from Fort Meade, MD in the 1960's. With the war in Vietnam, Letterkenny's missions increased.

In the 1970's, command of Savanna Army Depot Activity, Ill. fell under Letterkenny. Although Letterkenny's growth seemed to slow during the decade, the depot still played a vital role. An ammunition washout facility was built and the Northeast Area Flight Detachment moved to Letterkenny. The U.S. Army Depot System Command was established in 1976 and headquartered at Letterkenny. The 2-star command remained at Letterkenny until 1995 when it became the Industrial Operations Command at Rock Island, IL – today's Operations System Command.

The 1980's and early 1990's saw the depot evolving into its present form. New facilities and modernization projects, such as the Automatic Storage and Retrieval System-Plus, were constructed. Letterkenny's mission became three fold; supply, maintenance and ammunition. Paladin, PATRIOT and HAWK work made Letterkenny a Center for Technical Excellence. With the Department of Defense's reorganization, Letterkenny's supply mission moved to New Cumberland, PA under Defense Logistics Agency. In 2001, a smaller Directorate of Supply and Transportation was reestablished at Letterkenny.

Letterkenny's future was reshaped in the 1990's by the tactical missile consolidation and DoD's downsizing, reorganization and realignments. The five-year Paladin howitzer upgrade partnership completed 950 Paladins in 1999 and artillery work moved to other depots.

In 2002, Letterkenny celebrated 60 years of supporting soldiers and the Army. The depot has unique tactical missile repair capabilities repairing a variety of Defense Department missile systems including PATRIOT ground support and radar equipment. Comprising over 17,500 acres, a large land portion of the depot is used to conduct maintenance, modification, storage and demilitarization operations on tactical missiles and ammunition. The depot remains among the top three employers in Franklin County, PA fueling an economic engine that propels over ¼ billion dollars annually into the region through payroll, contracts and retiree annuities.

Since World War II, Korea and Vietnam, through Operation Desert Storm (Iraq) and Operation Just Cause (Panama), Letterkenny is proud to serve the soldier serving anywhere in the world.”

1995 Base Realignment and Closure (BRAC) ♦

The Franklin County community responded to the 1995 Base Realignment and Closure (BRAC) decision by the Department of Defense to reduce the capacity of the Letterkenny Army Depot (see accompanying Figure 2). Approximately 1,460 acres of land with nearly 4 million square feet of buildings were considered excess property by the realignment. This also included the privatization of the electrical, water, sanitary sewer utilities, and the railroad system.

The Cumberland Valley Business Park

The Franklin County Commissioners established a 45-member committee of interested and skilled volunteers to begin the process of evaluating the property being disposed by the DoD. The Franklin County Reuse Committee considered the issues of transportation, business market, environmental and quality of life issues during this process. The committee was aided by a team of consultants selected through a nationwide request for proposals. The consultants and the committee completed a detailed review of the property and prepared a strategic plan for the community to consider. Public meetings were held throughout the process to gain local insight into the development of the facilities. The Reuse Plan called for creation of a public authority to act as the agent to receive the Army property. The County Commissioners accepted the reuse plan, and created two separate public entities; the Letterkenny Industrial Development Authority (LIDA) to accept real estate and administer the electrical utility, and the Franklin County General Authority (FCGA) to administer the water, sanitary sewer and railway systems. A common staff of five professionals acts on behalf of both authorities, operating a modern, fully equipped, industrial development property known as “The Cumberland Valley Business Park.”

- ♦ **John Van Horn, Executive Director of LIDA, contributed to the history of the 1995 BRAC and subsequent emergence of LIDA and the Cumberland Valley Business Park**

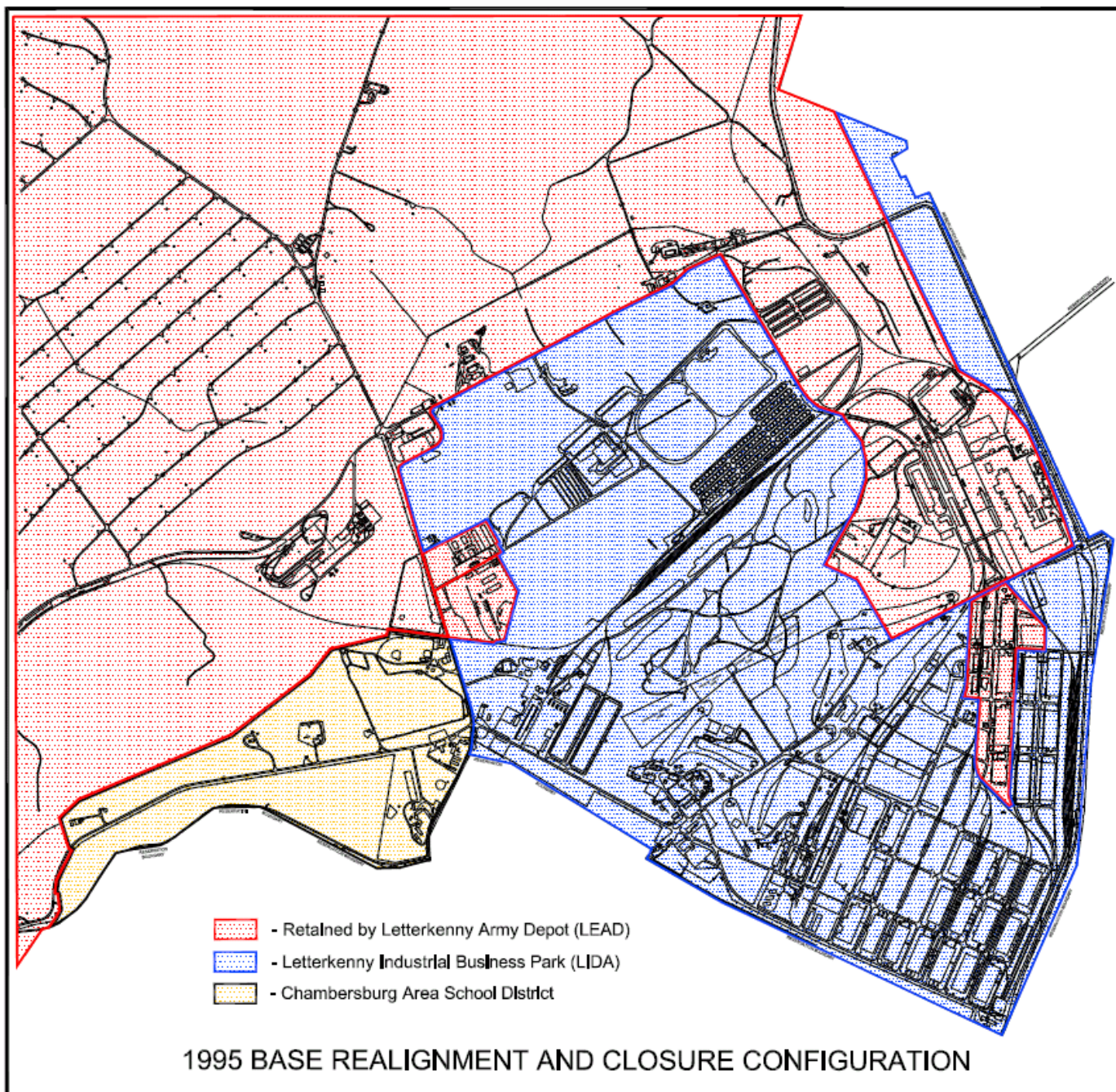


FIGURE 2
 LETTERKENNY ARMY DEPOT JOINT LAND USE STUDY
 MARCH 31, 2005

Prepared by: **M/M** martin and martin incorporated
 37 south main street • suite A
 chambersburg, pennsylvania . 17201
 phone: (717) 264-6759

The community began requesting property for reuse in 1997 through an interim lease from the Department of the Army. The establishment of private businesses within the Army Depot began. Faced by numerous challenges such as access, jurisdiction, and emergency response, the incoming industries teamed with the Letterkenny Army Depot to jointly address the needs of both parties.

Environmental “drives the train!”

To begin accepting property from the Department of the Army, LIDA utilized a Rural (no-cost) Economic Development Conveyance mechanism via a quitclaim deed. The first phase of property transfer took place in 1998 and included 233 acres of land and buildings. This property was transferred to LIDA with full protections from the U.S. Army, with concurrence from the Environmental Protection Agency (EPA) and the Pennsylvania Department of Environmental Protection (PaDEP) that any environmental issues were the responsibility of the previous owner and there would be no liability to the new owner. These covenants and protections allowed LIDA to sell and redevelop the property rapidly. The rationale for providing these covenants was that any soils issues were already addressed and that any remaining groundwater contamination would not be remediated on these specific parcels.

Subsequent to the Phase I transfer, the environmental regulators determined that the ground water remedy needed to be in place and operating satisfactorily before any additional land could be transferred. Concerned about delays in further transfers of property, LIDA immediately requested a review of the groundwater contamination in the large central district within the excess area that was underlain by Martinsburg Shale. Due to the impermeable properties of this

lithology, it was doubtful that the area would be infiltrated by the nearby contaminated groundwater in the limestone formations. Eleven groundwater wells were installed and a two-year sampling protocol began for this area.

At the same time, the community asked the Department of the Army to define the areas of the excess property that had no soil contamination but were suspected to be underlain by contaminated groundwater. A comprehensive review of water level data for the previous 20 years was then undertaken by LIDA staff and consultants, which resulted in the establishment of reasonable, safe seasonal high groundwater table levels. These levels were used to establish that the property horizontally above this level was clean and transferable. The remaining property, below the seasonal high groundwater table, was accepted by LIDA in a lease in furtherance of conveyance until the groundwater remediation is completed.

This unique limited depth transfer method provided for the transfer of 327 acres of property (Phase II) in May of 2002. Parcels were transferred to a safe depth of eight feet below existing grade to provide for construction and installation of necessary utilities. A considerable amount of the Phase II property captured the nearly seven-mile network of paved roadways that served the Depot industrialized area. The transfer was preceded by a \$4.2M project to upgrade the roadway and related storm water systems to municipal standards so that they could be dedicated to the local municipalities immediately after transfer. Both Greene and Letterkenny Townships accepted the roadways and began maintaining them as public roads for the park.

Upon sampling, validation and review by the regulators, the park's central district (see above) was ready for transfer. There were no findings of groundwater contamination under the Martinsburg Shale lithology. The public regulators were willing to provide similar protections and covenants for this 201 acres, known as the Phase III transfer, as for the first transfer of property. In April of 2004 this property was accepted by LIDA for immediate redevelopment free of any use restrictions.

During the year prior to the Phase III transfer, LIDA proceeded with master planning, parcelization and proposed layouts of facilities within a 5 to 15 acre parcel mix to provide flexibility for the development of raw land in the Central "Hills" district. LIDA also invested nearly \$1.5M in utility installation, including potable water, natural gas, and electrical and telecommunications conduits. The local community and the Commonwealth of Pennsylvania provided tax incentives to attract development to this area. Because there is no soil or groundwater contamination, the Phase III property is considered protective of human health and the environment and, as a result, is not restricted for any use.

To date, of the 1,462 acre declared excess by the BRAC decision of 1995, roughly 1,000 acres (68%) has been leased or transferred to LIDA. Of that, 240 acres have been sold to incoming park tenants and 60 acres are retained by the Letterkenny Army Depot for continued mission use. The remaining 460+ acres cannot be transferred until a final determination is made of the groundwater remedy. It is anticipated that this final transfer will take place in four separate phases with the last phase projected for late 2009.

Buildings develop faster than raw land

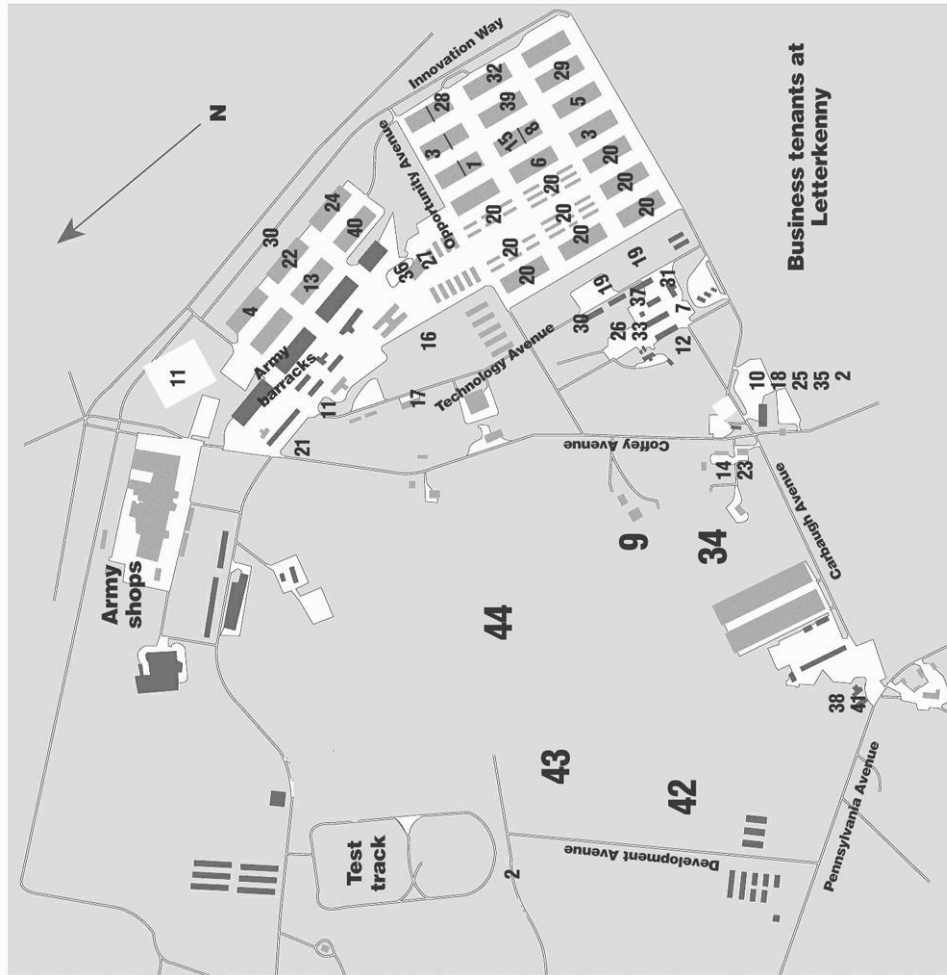
Since the beginning of community redevelopment within the excess area, LIDA has been fortunate to have considerable interest from local and regional businesses in expanding into the excess depot facilities. Although plagued with low ceilings, inconvenient structural supports, and limited parking, the “bricks and mortar” of the warehouse area developed considerable interest for low-cost space. Bulk commodity storage filled the non-heated facilities and light manufacturing (woodwork and assembly) adapted to the heated warehouse buildings.

Office space renovations have drawn various companies interested in sharing the skilled workforce afforded by the adjacent Army Depot. LIDA continues to bring transferred facilities into code compliance and make “B” level renovations to meet market demand. Nearly \$2M has been reinvested into “roofs, ramps, and rails” on various office and light industrial facilities within the park.

In 2005, LIDA reached a milestone in having no further building space available for sale or lease. The “new frontier” of park redevelopment may involve LIDA in the construction, and possible speculative construction, of new facilities. The reuse plan of 1997 fully anticipated this stage of the park development as part of the implementation plan and financing strategy. The Central “Hills” district will be the likely location of small to medium office/admin and assembly facilities of 10 thousand to 20 thousand square feet with adequate parking and loading areas. The 30 to 50 acre parcels in the North “Heartland” district will be reserved for large footprint manufacturing and distribution facilities. A current list of Business Park Tenants is shown in Figure 3.

Business Park tenants

1	Advanced Recycling Technology 1080 Opportunity Ave. precious metals recycling
2	Alec C. Ferguson Inc. (AFCO) and Shawwood Labs 5000 Letterkenny Road and off Development Avenue maker of disinfectants for food industry
3	American Promotional Events Inc. 1160 Superior Ave. fireworks distribution
4	American Signs and Cabinetry 5172 Innovation Way manufacturer of stairs, cabinets and countertops
5	Applegate Manufacturing 1050 Superior Ave. maker of insulation, hydro-seed mulch and absorbents
6	Capell 5042 Overcash Ave. horizontal blended feed mill
7	Classics Craftsman Design 1445 Excel Ave. customized wood products
8	Dominion Resources Inc. 1045 Superior Ave. distribution center
9	Earth Tech 554 Coffey Ave. water and sewer operator for the park
10	Electronic Data Systems (EDS) 5000 Letterkenny Road computer information systems
11	Franklin County Area Development Corp. Coffey and Advantage avenues under development
12	Franklin County government warehouses
13	Graphics Universal Inc. 5155 Innovation Way printing/fulfillment
14	Mark Green & Associates LLC 5121B Coffey Ave. certified public accountant
15	Greentech Corp. 10045 Superior Ave. specialty tires and wheels
16	H.C. Gable Inc. 5128 Technology Ave. transportation and warehousing
17	High Tread International Ltd. 5118 Technology Ave. tire recycling
18	Holder Technology Group 5000 Letterkenny Road technology sales and service
19	Industrial Realty Group Opportunity and Superior avenues warehouse leasing
20	Ingersoll-Rand 1280 Superior Ave. assembly of road machinery
21	J.S.H. Industries 5110 Technology Ave. coatings and treatments for bearings
22	LamTech Inc. (Merblux) 5150 Innovation Way maker of countertops
23	Letterkenny Industrial Development Corp. 5121A Coffey Ave. developer of the park
24	Lower Tier Project Office of Raytheon Aerospace 5118 Innovation Way Defense contractor
25	MANTEC 5000 Letterkenny Road industrial resource support
26	Misner & Co. 360 New York Ave. general contractor
27	North Bergen Rex 5128 Technology Ave. warehouse
28	National Book Network based in Blue Ridge Summit book warehouse
29	On Campus Marketing 980 Superior ave. distribution of collegiate supplies
30	Pennsylvania and Southern Railway based in Newton, Mass. rail service in the park
31	Professional Billing and Management



32	5550 Technology Ave. medical invoicing
33	P.O.D.S. 975 Superior Ave. mobile storage units
34	Rausch Electronics USA 370 New York Ave. electronic leak detection
35	Science Applications International Corp. (SAIC) 5000 Letterkenny Road computer and technology services
36	S&T Logistics 1225 Opportunity Ave. trucking company
37	Squires Appliances 5230 Technology Ave. warehouse and distribution
38	Stouffer Mechanical Contractor LLC
39	2185 Carbaugh Ave. commercial plumbing and heating
40	The Woods Co. 985 Superior Ave. maker of hardwood flooring
41	Tom James Co. 5121 Innovation Way clothing distribution center
42	Warrior Roofing Manufacturing of Penn- sylvania 323 Development Ave. maker of roofing paper
43*	Penn-Mar Ethanol Development Avenue maker of ethanol fuel
44*	Franklin County Prison off Coffey Avenue 440-bed prison

Figure 3

Source: Reprinted from "Public Opinion"

Utility development

As the excess property grows into a major regional industrial park, utility investment into unserved areas will diminish. The utility operational costs will stabilize and a defined customer base will be established. LIDA, responsible for the electrical distribution system, will create a reasonable business plan that quantifies the capital improvements necessary to operate a reliable utility. The value of ownership of the utility to facilitate economic development will decrease as the park is built out. LIDA may consider selling the system to an adjacent provider of this service as an addition to their service area.

In the future, similar considerations could be made of the water and sanitary sewer utilities, however it is anticipated that these services would be best provided under the current municipal authority structure (Franklin County General Authority) and need to provide for the existing and anticipated needs of the park. Also incorporated into the FCGA responsibilities is the leasing of the railway system to the Pennsylvania and Southern Railway as the park's short line operator. The current long-term lease of the rail system provides for a reimbursement to FCGA. Therefore it is very probable that FCGA will continue to provide long-term services to the park tenants.

Jurisdiction and Land Use Controls

As the excess property transfers to the community, service provision is also transferred from the federal government to the jurisdiction of the Commonwealth of Pennsylvania and its municipalities to provide private property owners with emergency services and enforcement of traffic and related laws. Also, this jurisdictional change provides for local municipal oversight and control of land use for the parcels.

There are two local municipalities that encompass the excess property. Approximately seventy-five percent of the park will be within Greene Township and the remaining 25% in Letterkenny Township. Of the two municipalities only Greene Township has existing land use controls (zoning) in place by ordinance. Currently the business park is considered a Heavy Industrial District. Specifically the Greene Township zoning ordinance provides for 44% of the property to be used for heavy industrial uses, up to 88% in light industrial uses and at least 11% in outlying areas to be used for highway commercial uses. This mix and flexibility provides for reasonable redevelopment of the park while respecting the adjacent land uses of the surrounding community.

The two municipalities have been very involved in the planning and subsequent transfer of property out of Federal jurisdiction and into the public domain. Both municipalities are cognizant of the importance of the realigned Letterkenny Army Depot to the local economy and quality of life. Each municipality has made every effort to work with LIDA and the incoming park tenants to assure proper protections to their constituency.

As property continues to transfer from the Department of the Army to the community and redevelopment of the park follows the market demand for the property, each municipality will be involved in the review process for the new construction. The requirement for building permits, subdivision plans, and land development plan approvals will provide for community awareness and control of the park's growth.

In yet another layer of protection for park tenants, LIDA established the Cumberland Valley Business Park Association (CVBPA) for oversight within the park. The CVBPA has adopted a Declaration of Covenants, Conditions, and Restrictions (CCR), which pertain only to the tenants and landowners within the park. The CCRs provide a structure to address permitted and prohibited uses, common area needs of the park, performance standards for operations, and design guidelines for facilities constructed within the park. The most noted restriction regarding land use within the CCRs is the prohibition of residential use. This came as a result of the reuse planning and environmental review levels (industrial and commercial use) in anticipation of the first land transfer.

Military and Community

Since the BRAC 1995 decision, many changes have taken place that have caused the military and the community to resolve challenges and provide solutions to problems never anticipated. The ongoing military mission and environmental remediation of the excess property has affected the timetable for land to be transferred to the community. Market demand for available raw property decreased with global market change. Force protection requirements for Department of the Army facilities resulted in the need to develop secure military compounds within public areas while maintaining vehicle access to private property. There were also significant increases and expansions to military missions that required the community to adjust their business planning, and to provide certain excess facilities needed once again by LEAD. A significant partnership has evolved between the military and the community to address the changes that are inevitable.

Current and Proposed Future Military Operations and Missions at LEAD

The Letterkenny Army Depot (LEAD) has tremendous opportunities to expand in the next 10 years. LEAD has aggressively pursued new missions to support joint service operations in the Global War on Terrorism and have opened new opportunities in support of Homeland Defense initiatives. If the 2005 Base Realignment and Closure (BRAC) does not significantly alter LEAD's growth path, jobs could increase by 750 to 1,000 in the next decade. The forecast for growth is expected to occur in the following areas:

Tactical Vehicles

In early 2001, LEAD performed work on a small number of tactical vehicles. Since September 11, 2001, the tactical vehicle workload has dramatically increased. In 2005, LEAD began rebuilding/modifying high mobility multi-wheel vehicles (HMMWVs) for the Army, Navy, Marines and Air Force. The current workload of approximately 50 vehicles per month could easily grow to 150-200 per month. There are over 100,000 HMMWVs in the inventory that will require rebuild/modification.



- ◆ Jerry Warnement contributed to this section on current and proposed military operations and missions at LEAD

There are also thousands and thousands of Army trucks currently deployed in South West Asia (SWA), which are driving more in one month than Army planners initially thought the vehicles would drive in a year. The vast majority of these vehicles will require rebuild. LEAD is poised to assume this new Army mission.

There appears to be sufficient facilities to perform this additional workload at LEAD. If construction is required to support this mission, there is land available on LEAD property or on the adjacent 234 acres the Letterkenny Industrial Development Authority (LIDA) temporarily made available for additional facilities. There are also sufficient utilities available to meet this mission requirement.

Generators

This LEAD mission, which began in 2003, has grown to approximately 600 generators per year, and could grow to 1,000 per year. There are over 50,000 generators in the inventory that may require rebuilding in the next five to ten years. The current power requirement in South West Asia is putting a strain on military generators, and if constant power is not returned to Iraq the strain on generators will increase. Letterkenny is currently leasing Building 37 to perform the



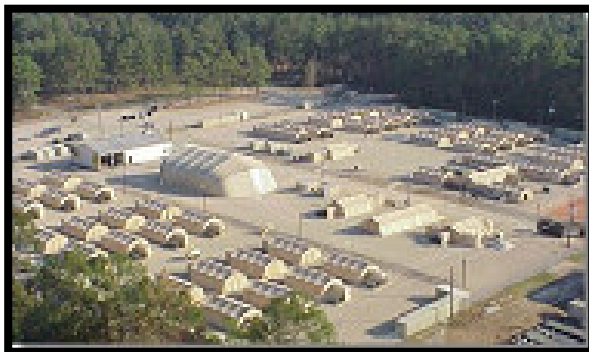
generator repair mission. If Letterkenny goes to 2 or 3 shifts this facility has the capacity to support the expanded mission.

Fork Lifts and Material Handling Equipment

The military material handling equipment fleet is wearing out due to excessive use in South West Asia. LEAD will begin a new mission repairing 7.5-ton cranes in 2005, and has submitted a bid to rebuild 10,000-pound rough terrain forklifts. This effort will introduce LEAD to an entirely new family of vehicles, and growth for this mission is anticipated.

Force Provider Systems

Force Provider is invaluable to the morale and welfare of joint service troops deployed in a combat zone by providing climate-controlled billeting, latrine, shower, laundry and welfare facilities to the forward deployed Soldier. Every Force Provider System in the Army has been intensively used in support of the war in South West Asia. These systems are deteriorating through extensive use in combat conditions and all 36 Force Provider modules require rebuilding. Each Force Provider System requires 25 truckloads to move and includes an extensive list of major end items. LEAD has completed work on the prototype module and is beginning initial work to rebuild complete systems. Additional facilities have been leased from



IRG to perform much of the Force Provider work and the depot is in the process of hiring personnel to accomplish this new mission. The Air Force has systems similar to Force Provider, which could be rebuilt at LEAD. Facilities are available to support this expanded mission.

Homeland Defense Missions

LEAD has taken on additional missions to support Homeland Defense. A partnership agreement with Lockheed Martin was entered into in 2003 to produce dry filter units and provide other unique support for bio-detection systems. The innovative systems have a wide range of capabilities and are used by many different customers. These systems have also been used in a wide range of high visibility events such as the Salt Lake City Olympics and the recent Presidential inauguration. It is anticipated that LEAD will play a wider role in the support of Homeland defense and the Global War on Terrorism.

LEAD is also now engaged in new workloads involving Biological Integrated Detection Systems production and Portal Shield production. Portal Shield is a fixed site detection system that has both military and civilian applications.



Avenger

The Avenger short-range air defense system is seeing extensive use in SWA in a new convoy protection role, which is causing extensive wear to the vehicles well ahead of schedule. LEAD has undertaken this critical new mission to repair/rebuild these important vehicles for combat forces. It is anticipated that this mission will continue for years after the war in SWA is finished due to the extensive use of the Avenger systems.



Mobile Kitchen Trailers (MKTs)



Long-term deployments require hot food to be prepared under combat conditions. This military need is met with mobile kitchen trailers (MKT's), which are self-contained units used by Army cooks to prepare nutritious, warm meals under the most adverse conditions. After three years in the field, many of the Army's MKTs are worn out and require extensive repair/rebuild. LEAD began a

pilot rebuild program in 2004 and has expanded the program in 2005. LEAD is currently projected to rebuild 294 MKTs in 200, and it is anticipated that this initiative will grow to meet

field requirements. LEAD is also currently rebuilding components of the MKT (i.e. burner units). After that the program will be reduced, but there should always be a need to rebuild a smaller number of mobile kitchens.

Electronic Shop Vans

LEAD began this new mission with a 4-unit pilot in 2004, and it has been expanded to 50-units in 2005. It is anticipated that this mission will remain constant for the foreseeable future.

Missile Support Workload

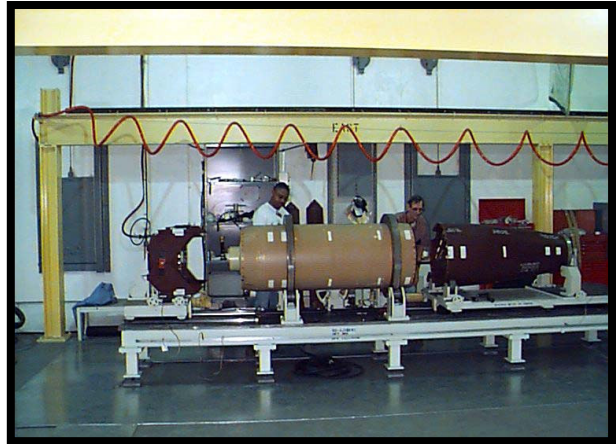
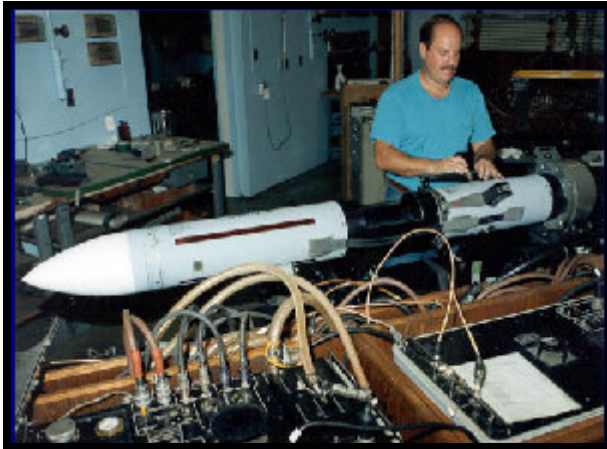
While LEAD does not see a significant increase in missile support workload, it appears that the current workload will remain constant. Current facilities and equipment are available to meet this requirement.



Letterkenny Munitions Center (LEMC) Missions

LEMC receives, stores, maintains, renovates, issues, and demilitarizes military munitions on approximately 16,000 acres. Currently over \$6.1 billion in joint munitions are stored on the Letterkenny Army Depot. LEMC is the Army's only depot for the Army Tactical Missile System (ATACMS) and supports some of the most advanced Air Force and Navy missiles.

During initial operations in SWA, LEMC shipped out over 9,000 short tons of munitions. While the mix of munitions at the depot may change, there is no anticipated significant volume change at LEMC unless the BRAC closes down other munitions centers and their ordnance is moved to LEAD. This consolidation could result in a 25-30% mission increase if LEMC's current storage capacity is increased to 95-100%.



Armor Doors and Armored Truck Cabs

This unique mission was not in LEAD's projected workload, but was undertaken due to emergency military needs. The war in SWA created an immediate requirement for armor doors



for tactical vehicles and armored truck cabs. LEAD was able to produce and deliver these unique items ahead of schedule and within budget. It is anticipated that the state-of-the-art machine shop at LEAD will be used to meet similar requirements in the future.

Army Reserve Operations at Letterkenny

The 99th Regional Readiness Command (RRC) runs Army Reserve operations in Pennsylvania, West Virginia, Virginia, Maryland, Delaware and Washington, DC. The command is comprised of over 200 units and more than 23,000 soldiers. In the last three years the RRC has consolidated several logistics operations and training opportunities on Letterkenny. The RRC is in the process of leasing a 90,000 square foot building from IRG to further consolidate their supply and maintenance operations. They have recently leased a building from LIDA to serve as a unit headquarters and they have built three facilities on the installation since 2002. The RRC will be using in-place infrastructure that was previously used by LEAD for similar programs.



Many RRC units/soldiers have been activated to fight in the ongoing war in SWA. These activations have led to reduced field training requirements on Letterkenny land. It is expected that after the RRC soldiers return to their home stations, they will again use Letterkenny land and facilities.

Defense Information System Agency (DISA)

DISA has recently reorganized on Letterkenny, but it is primarily a white collar, administrative operation.

Computer Sciences Corporation (CSC)

CSC at Letterkenny is a former government system design organization that was outsourced in 2000 under the Logistics Modernization Program. CSC leases space from LEAD to conduct their worldwide operation.

Other LEAD Tenants

LEAD has a host of other tenants, but all of their operations are administrative or light industrial in nature. Tenants include: Patriot Liaison Office, Defense Automated Printing Service, Defense Reutilization Marketing Office, CECOM Industrial Logistics System Center, US Army Health Clinic, Test Measurement & Diagnostic Support Region and Support Center, Raytheon Service Company, L-3, Ram-Tech, Inc., US Army Installation Support Management Agency-National Capital Region Field Office, and US Army Material Systems Analysis Agency.

Potential use of Letterkenny Industrial Development Authority (LIDA) Land

LIDA has temporarily taken 234 acres off the market in the Cumberland Valley Business Park for possible defense-related expansions directly adjacent to the Depot (see Figure 4). This land, which has access to utilities and roads, was part of LEAD but was declared excess as a result of previous Base Realignment and Closure (BRAC) actions. There are no approved plans for the LIDA land, however the property is being considered for possible office or industrial use with close proximity to the adjacent depot.

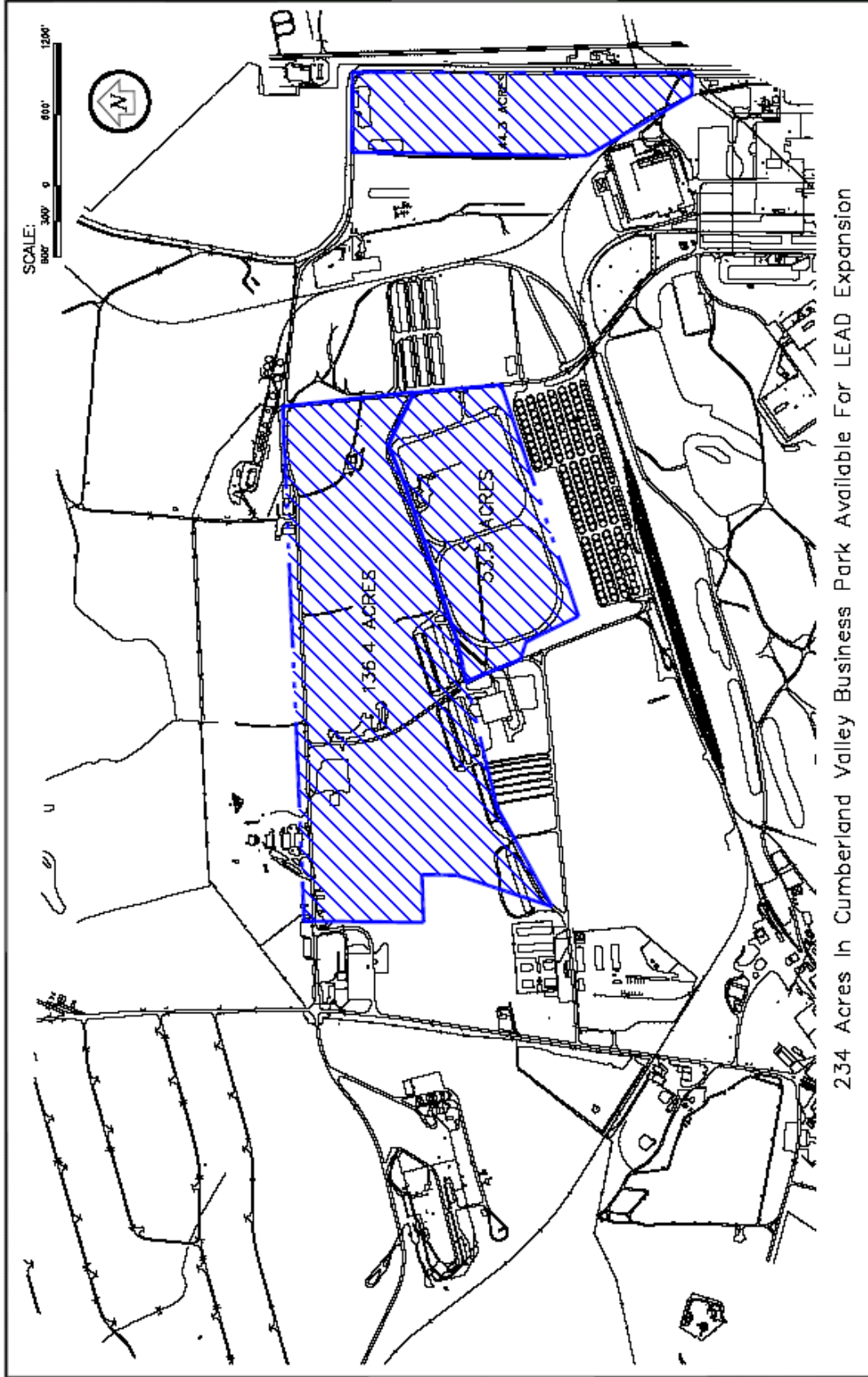


FIGURE 4
 LETTERKENNY ARMY DEPOT JOINT LAND USE STUDY
 MARCH 31, 2005

Prepared by: **MMI** martin and martin incorporated
 37 south main street • suite A
 cumbersburg, pennsylvania • 17201
 phone: (717) 264-8758

Environmental Review

General activities at the Depot since its establishment in 1942 have included ammunition storage, overhauling and rebuilding of wheeled and tracked vehicles, maintenance, demilitarization and modification of ammunition, and open burning and open detonation of munitions and explosives. Some of these activities involved the use of trichloroethylene, other solvents, lubricants, corrosives, and various metals. Various industrial operations included cleaning and stripping, plating, lubrication, chemical, and petroleum storage and transfer.

The Depot also “reconditions” and tests various radar systems, the most current being the Hawk and Patriot Radar systems.

Prior to construction of the Industrial Waste Treatment Plant and storage lagoons, runoff from the various industrial areas was collected in storm drains and would have been carried off-site through stormwater drainage channels.

Prior to the use of burn pans in the Open Burning Area, burning operations were conducted on ground.

Open detonation, due to the nature of the activity, is conducted in ground, resulting in the disturbance of large areas of soil.

This environmental section of the JLUS report briefly discusses the various activities, the areas where they occurred, off-site contamination that has resulted from these operations, and the various environmental remediation activities conducted by LEAD, past, present and future.

In order to obtain the information for this section of the report, interviews were conducted with various staff from the Pennsylvania Department of Environmental Resources in the Waste Management, Environmental Clean-up, Water Management, and Air Quality Programs.

Various staff members were also interviewed from LEAD environmental offices and the Letterkenny Industrial Development Authority (LIDA).

The attached Figures 5A and 5B illustrate the Current Layout of Groundwater Operable Units (OUs).

1. **Industrial Waste Treatment Plant (IWTP) and Facilities.**

A one million-gallon unlined lagoon was constructed as part of the IWTP between 1954 and 1957. In 1967, leakage was detected from the lagoon. The lagoon was excavated and replaced with two concrete lined lagoons. Cracks were discovered in these lagoons in 1986. Use of the lagoons was totally discontinued in 1988.

The activities of the IWTP and lagoons caused off-site groundwater contamination to the East and Northeast of the Depot (SE OU 11). The underlying geology of the site, as well as off the Depot, is limestone. Limestone is prone to sinkholes and solution channeling, making groundwater recovery and treatment very difficult.

LEGEND:

Drainage
Major Watershed Divide
Subbasin Drainage Divide
Shade/Limestone Boundary
Enclaves Area
SE OU 9B: Area Upgradient of VOC Contamination Source in SE OU 3A
SE OU 3A: Disposal Area VOC-Contaminated Groundwater
SE OU 10: Southern Southeast Industrial Area VOC-Contaminated Groundwater South of Gate 6 (Conococheague Drainage System)
SE OU 10 (DM-Post)
SE OU 11: Northern Southeast Industrial Area VOC-Contaminated Groundwater North of Gate 6
SE OU 6
PDO OU 2: PDO Area Groundwater and Surface Water
PDO OU 4: Groundwater Associated with the PDO 001 Burn Pit
PDO OU 7: Southeast Martinsburg Shale Region (SMSR) Groundwater
SE OU 19

Note: SE OU 8 (entire area shown) is SE Area DM-Post VOC-Contaminated Groundwater (beyond boundaries of SE OU 8 and SE OU 11)

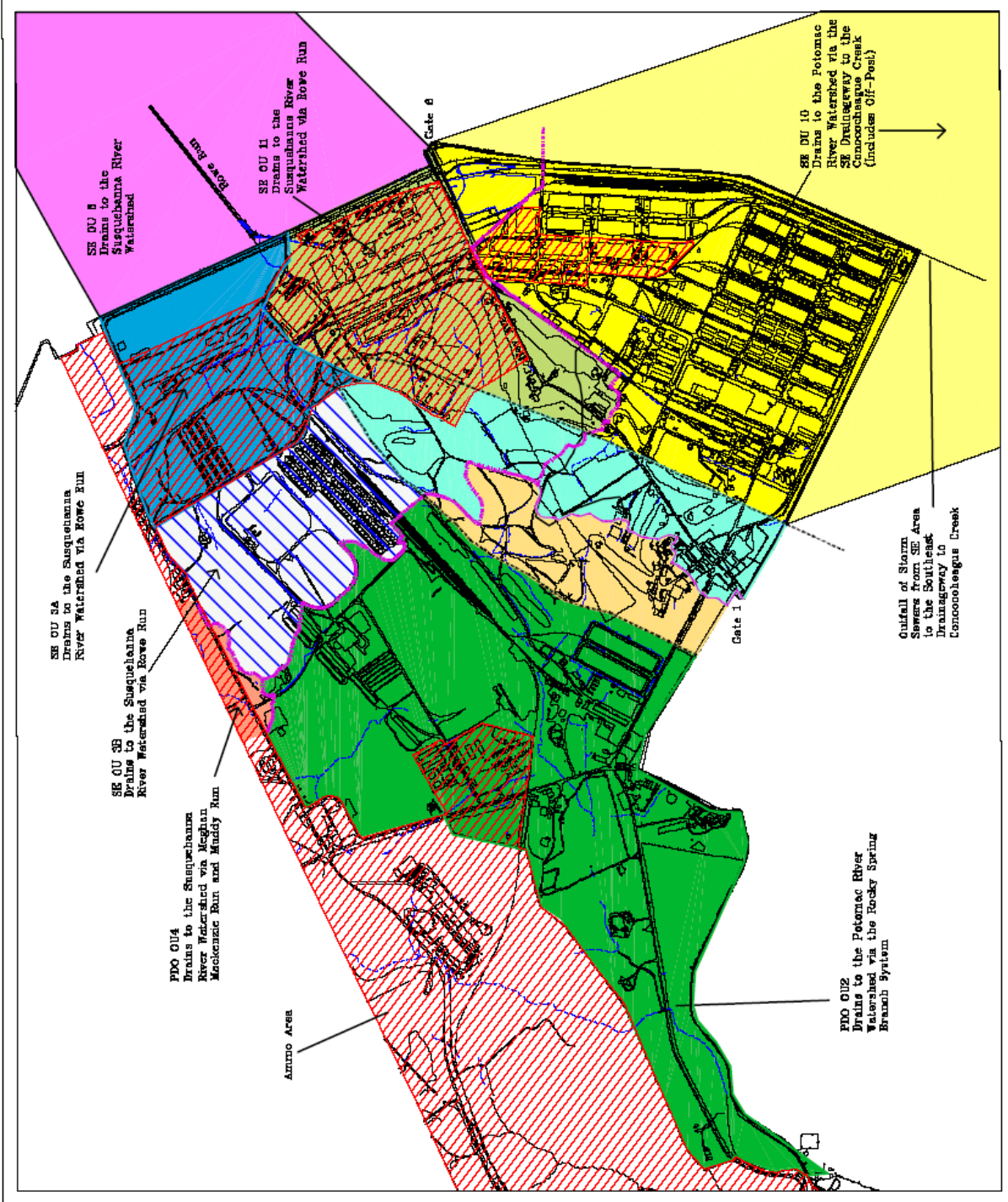
0 1300 2600 Feet

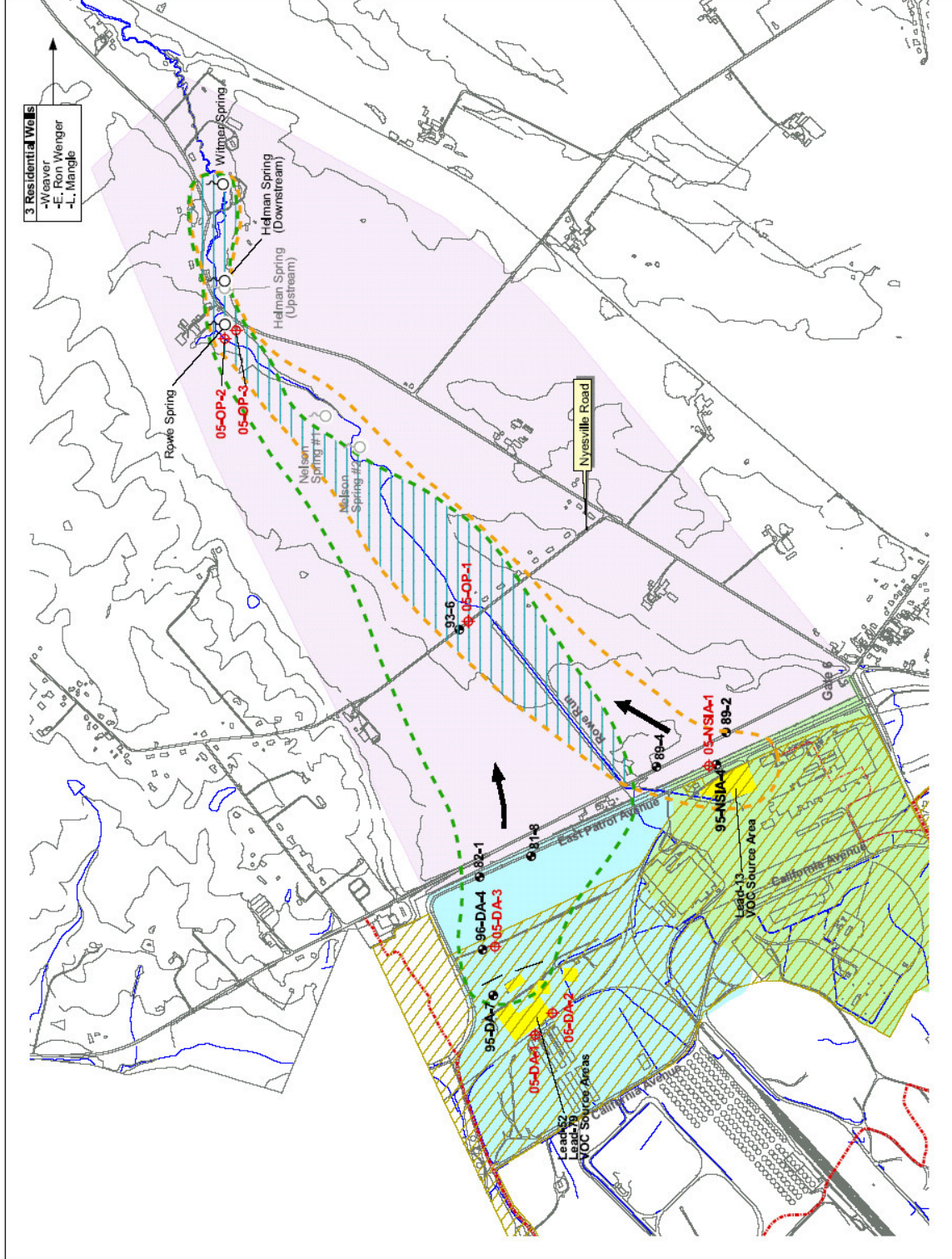
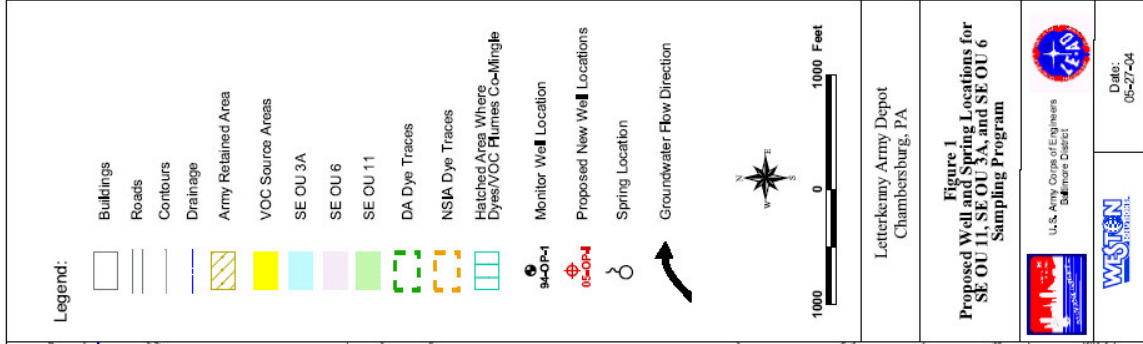
Letterkenny Army Depot
Chambersburg, PA

Figure 2
Current Layout of
Groundwater
Operable Units (OUs)

WESTERN
VIA FINEST COURSE OF BUSINESS
Baltimore, MD 21201

Date:
12-20-08





All areas utilizing well water supplies that exhibit contamination above the maximum concentration levels (MCL) have had public water (Guilford Water Authority) extended into those areas to serve homes. Additionally, other homes without contaminated wells along the line have been able to connect to public water.

During the early 1990's the IWTP lagoons were closed, VOC contaminated soils were excavated, thermally treated, backfilled, and capped as required under the RCRA and CERCLA hazardous waste closure requirements of EPA and the PaDEP. Contaminated soil has been removed from storm drains with follow-up confirmation sampling.

Solvents are no longer discharged to the IWTP. Wastes previously stored in the lagoons are contained in the various process tanks. The wastes are pumped out by a hazardous waste contractor and hauled off-site for proper treatment and disposal. Various other hazardous wastes produced at the depot are stored in roll-offs or drums and are also picked up and hauled off-site by the hazardous waste contractor.

The Phase III property was transferred in 2003 with no environmental restriction, and the SE OU 10 area will be transferred to LIDA approximately at the end of 2006. LEAD has been conducting "enhanced bio-remediation" of the groundwater in this area and will continue for approximately 12 months followed by approximately 5 years of groundwater monitoring, which will also be conducted by LEAD. According to LEAD and PaDEP, the levels of contaminants appear to be decreasing in the SE OU 10 area.

a. SE OU 3 / SE OU 11 – areas on the depot.

SE OU 6 – area off-depot in the Rowe Run area

Further groundwater investigation is continuing in these areas to determine the vertical delineation (depth) of contaminants.

Additionally, as a result of the potential for seepage of volatiles into homes in the Rowe Run and Rowe Spring area, vapor intrusion investigation will be conducted by LEAD in the latter part of 2005. If vapor intrusion is discovered in homes, radon-type venting systems can be installed.

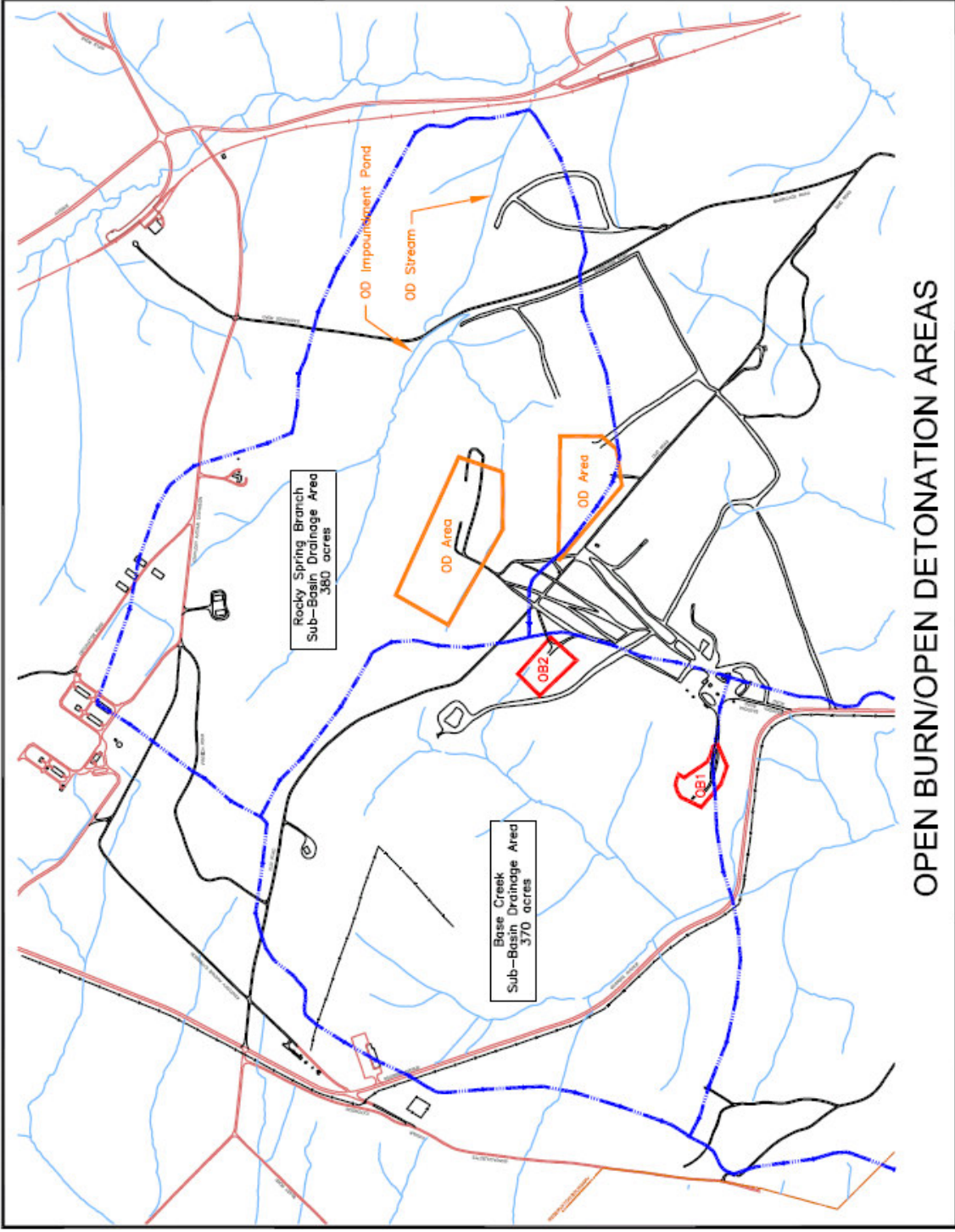
b. PDO OU2 – Southern area

(Rocky Spring Area and Rocky Spring Lake)

Groundwater flow is in a southwesterly direction off-site. Although there currently is groundwater contamination on-site, there is no contamination off-site. LEAD is conducting on-going groundwater monitoring off the depot including the Rocky Spring Area and Lake.

2. Open Burning / Open Detonation Areas (OB/OD)

The OB/OD areas were constructed in 1945 and have been in operation since that time. OB activities are conducted in burn pans, burn cages, or rocket motor static firing tubes. After treatment the areas are inspected, residues are then collected and treated or disposed of at the next burning. See Figure 6.



OPEN BURN/OPEN DETONATION AREAS

FIGURE 6
 LETTERKENNY ARMY DEPOT JOINT LAND USE STUDY
 MARCH 31, 2005

Prepared by: **MMI** martin and martin incorporated
 37 south main street • suite A
 chambersburg, pennsylvania • 17201
 phone: (717) 264-6759



OPEN DETONATION



OPEN BURNING

OD activities are conducted in-ground. Contaminants from these activities may be released through runoff, or erosion into surface waters, or in groundwater. Contaminants may also be emitted directly into the air. However, there has been no indication that contamination release, if it does in fact occur, is in excess of allowable standards.

LEAD conducted a groundwater-sampling program in 2001, which indicated that concentrations in the samples were below the MCLs for groundwater protection. No explosives were detected in the groundwater samples. Although the results indicated that

groundwater has not been impacted, LEAD will develop and conduct an on-going groundwater monitoring program. Nearby wetlands have been delineated in order to maintain adequate isolation distances from activities.

OB Area – additional controls include diversion of surface water run-on, down gradient diversion dikes, silt fences and sediment traps.

OD Area – a new sedimentation impoundment has been constructed to trap and collect sediment down gradient of the OD area. An NPDES permit for stormwater discharge from the basin has been issued by PaDEP and will be monitored by LEAD. Additional controls included revegetation of portions of the area, reduction in size, creating buffer zones, and construction of berms to reduce erosion and sediment runoff.

LEAD currently has an application under review by PaDEP to permit the OB/OD areas with environmental improvements to be considered installed and/or proposed. The application includes a request to increase the volume for the OB area from 500 lbs to 1,000 lbs. The request for the volume in the OD area has been reduced from 1,500 lbs to 500 lbs. It is believed that this reduction will result in less off-site noise.

SUMMARY OF ENVIRONMENTAL REVIEW

On-going environmental issues that have impacted areas off base include groundwater contamination from the closed hazardous waste lagoons and potential for vapor intrusion from volatiles into homes and buildings. Public water has been extended into these areas, and groundwater remediation is on-going. Additional studies will be conducted to determine the vertical extent (depth) of contamination and potential for vapor intrusion and to determine the kinds of remediation necessary.

Soil erosion and sediment run-off from the OB/OD areas have been controlled as described in the discussion on the OB/OD areas such as the installation of a new sedimentation basin, reduced detonation area, etc.

There has been a significant reduction in complaints from the open detonation of munitions at the Letterkenny Army Depot. However, current programs will generate the need for open detonation far into the future. If the residential land adjacent to LEAD is developed into residential or commercial properties, there could be noise issues in the future.

Off depot noise and vibrations from activities conducted in the OB/OD area are expected to continue to some degree. LEAD has attempted to control off-site noise by following restrictions based on weather conditions as described. LEAD has installed an on-site weather station to provide more accurate weather conditions. Due to concern during the public meeting process, LEAD has reduced their application from 1500 lbs to 500 lbs per open detonation.

There is a continuous and well-documented record of rapid and effective response to environmental issues. Examples include:

- The Phase III property was transferred with no environmental restrictions.
- The Army removed contaminated soil and installed monitoring wells on the Phase III Parcel in order to environmentally clear the parcel for subsequent transfer in January 2004. Environmental investigation cleared both the groundwater and soil for unrestricted reuse.
- The Phase IV property will be transferred in late 2005 with no environmental restrictions. Environmental investigations cleared both the soil and groundwater for unrestricted reuse.
- There has been a significant reduction in noise complaints from 2002-2003 to present.
- LEAD excavated the old IWTP Lagoon in the early 1990's. The Army has been conducting pilot studies on various groundwater remedial technologies and a remedial action plan is expected to be chosen within the next 2 years.
- The Army excavated the old K Area Lagoon in the early 1990's and has been conducting pilot studies on various groundwater remedial technologies. A remedial action plan is expected to be chosen within the next 2 years.
- The Army has successfully transitioned the in-situ enhanced biodegradation pilot into a full-scale groundwater remedy. Off-post spring and well VOCs are below MCL's, and on-post well VOCs have significantly decreased.
- The Army removed lead contaminated soil from the Lot 48 ingot storage area.

These and other environmental activities on the part of LEAD have created a sense of responsiveness and the perception of appropriateness in the community as a whole.

CHAPTER 3

The Study Area, Economic and Demographic Trends and Projections, and Sub-Regional Land Use

The Study Area

The specific physical features of the four-municipality study area would indicate that the actual area impacted by the Letterkenny Army Depot is somewhat less than the total area of the four municipalities. The northwestern boundary of the Depot is bordered by Broad Mountain, which offers a natural and significant topographic buffer area. This section of Broad Mountain is heavily forested, and the majority is designated as State Land.

The lands to the north and east are mainly used for agricultural purposes. The majority of the soils in these areas are considered Prime Agricultural Soils, and a significant number of the properties adjacent to the Depot have been designated as Agricultural Security Areas. The small villages of Upper Strasburg and Pleasant Hall are the only residential communities located within these agricultural areas. A small number of farms and residences are scattered along State Routes 553 and 997, which run along the Depot's northern and eastern borders.

The southern boundary of the Depot is bordered by State Game Lands #235 and sparsely populated, largely agricultural land. The only residential area directly adjacent to the depot in this area is the village of Cheesetown. The Borough of Chambersburg is located further south and is a significant population center.

The Cumberland Valley Business Park is located on former Depot land to the southeast of LEAD and is designated mainly for industrial use. Residential uses are prohibited within the confines of

the Cumberland Valley Business Park, and it subsequently serves as a buffer for activities at the Depot. The villages of Culbertson and Greenvillage are located to the southeast of the Depot and the industrial park.

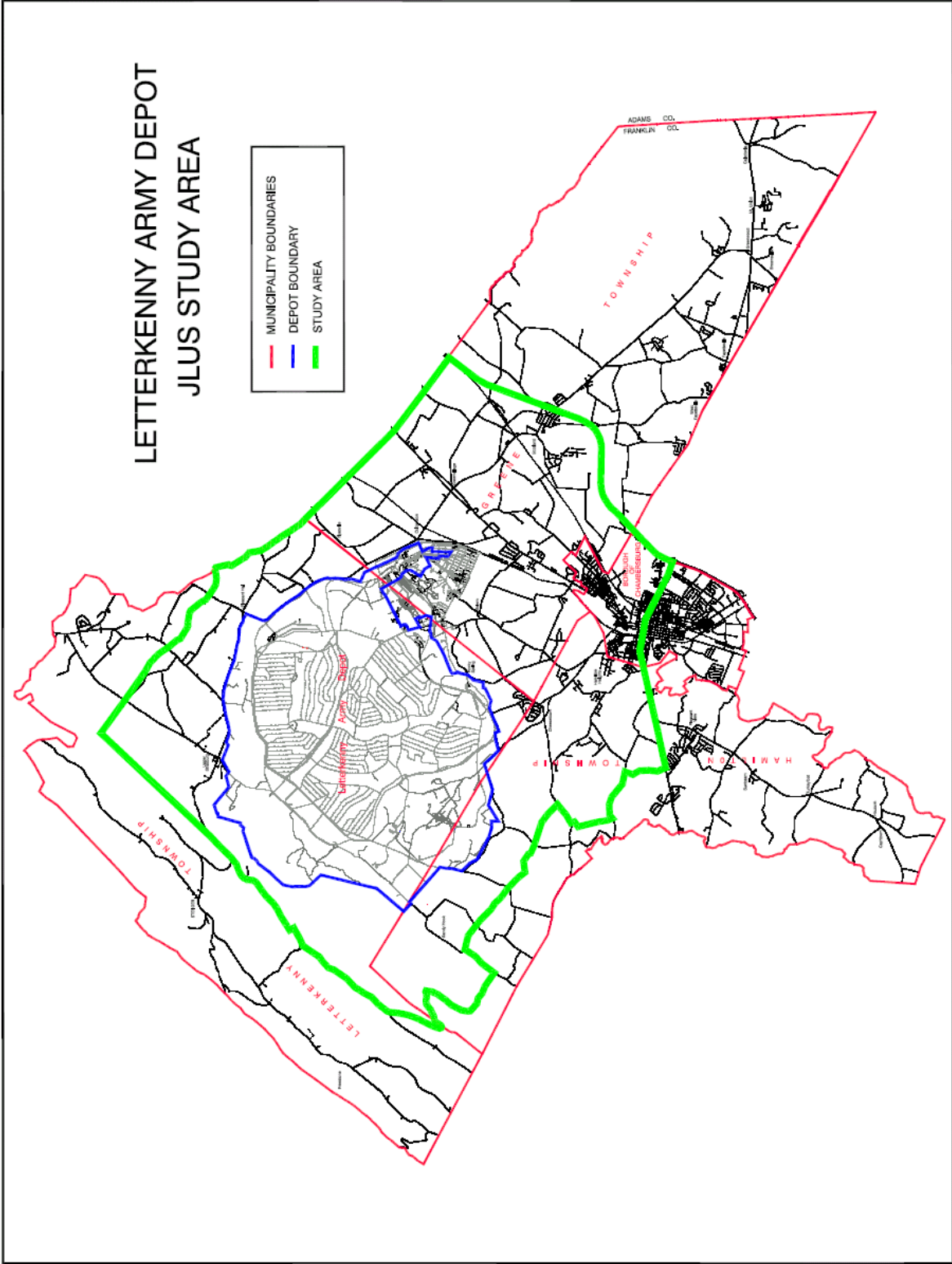
The 19,500-acre Depot itself is bounded to the northwest by mountainous state forest and game lands, while the areas to the north, south, east and west exhibit a decreasing impact with linear distance. As is illustrated on the accompanying Figure 7 entitled, “JLUS Study Area,” the impacted area is as follows:

- To the north a logical geographic boundary for the sub-regional study area would be northerly municipal boundaries of Letterkenny and Greene Townships.
- To the east, the potential impact from Letterkenny Army Depot diminishes to nearly zero at Interstate 81.
- To the south the Borough of Chambersburg and the Township of Hamilton are only significantly impacted in the areas north of Route 30.

Based on the above geographical reasoning, this study has reduced its focus to the outlined area.

FIGURE 7: JLUS STUDY AREA
 LETTERKENNY ARMY DEPOT JOINT LAND USE STUDY
 MARCH 31, 2005

Prepared by: **MMI** north and north Incorporated
 27 South Main Street, Suite 410
 Chambersburg, Pennsylvania 17003
 Phone (717) 364-7700



Population Growth

Historically Franklin County has had a growth rate somewhat less than the United States as a whole, but a significantly faster rate than that of Pennsylvania. The recently completed report entitled “The Economic Impact of Base Closure: Letterkenny Army Depot in Franklin County” characterized the population patterns as follows:

“From 1969 to 1984 the average population growth rates of Franklin County were nearly identical to that of the U.S.A. at approximately 1.1%. However, since that time, growth rates have diverged dramatically. During the 1985 to 2001 period, average growth rates in the County were just over 0.67% compared with 1.13% for the nation. Thus, Franklin County has clearly faired better than Pennsylvania in terms of population growth. However, the larger trend points to a county that is quickly diverging from the national population growth rates toward the slower growth rate of Pennsylvania as a whole.”

Franklin County Population Trends & Projections

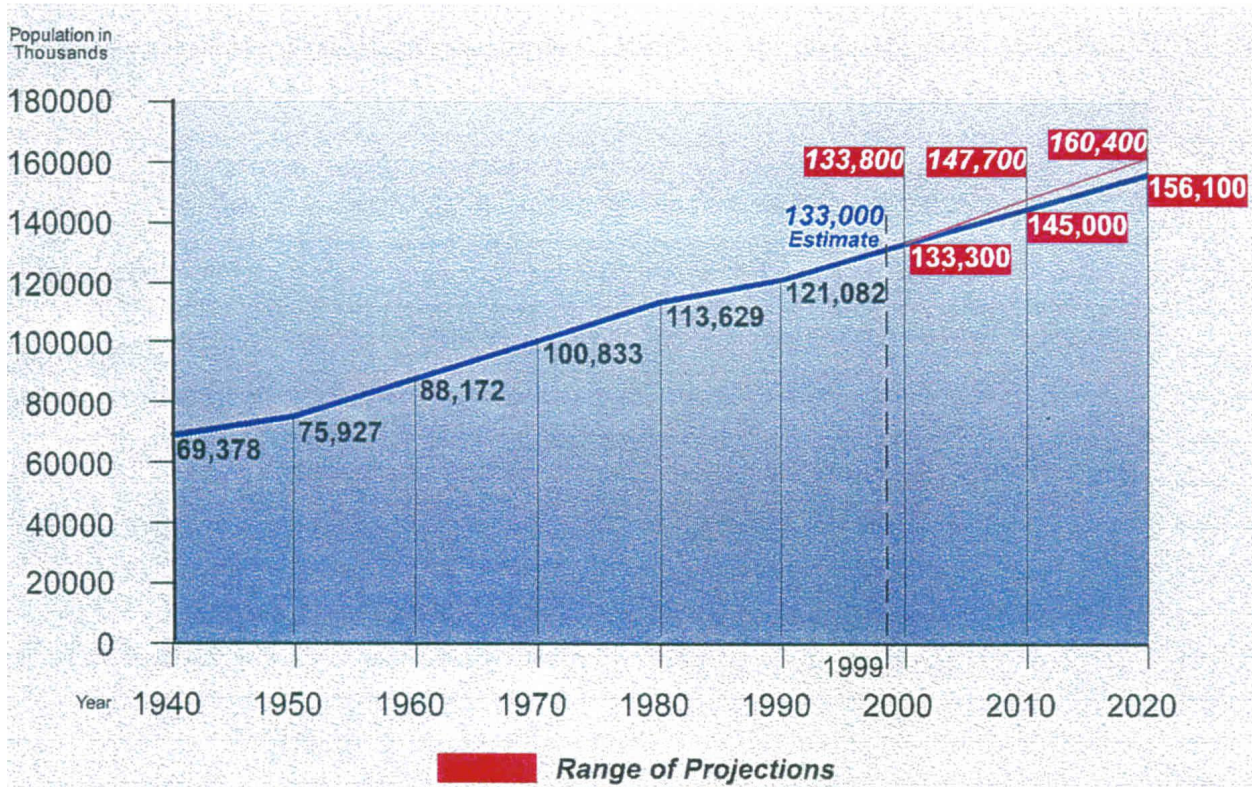


FIGURE 8

Source: Franklin County Comprehensive Plan, July 1999

As illustrated in Figure 8, the population of Franklin County as a whole has grown steadily over the last three decades, rising from under 100,000 at the end of the 1960's to 130,406 in 2001.

<u>AREA</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>
Pennsylvania	11,248,665	11,766,412	11,864,720	11,881,961	12,281,054
Franklin County	88,172	100,833	113,629	121,082	129,313
Borough of Chambersburg	17,670	17,315	16,174	16,647	17,862
Greene Township	6,953	9,504	11,470	11,930	12,284
Hamilton Township	3,077	4,921	6,504	7,745	8,949
Letterkenny Township	1,208	1,419	1,960	2,251	2,074

FIGURE 9: TOTAL POPULATION 1960-2000

Note: The 1990 figures listed on this table may be different than other 1990 figures as they represent the latest adjustments made by the Census Bureau as of May, 1993.

Source: U.S. Department of Commerce, Bureau of the Census, 1960-1990 Census of Population and Housing, STF 1; and Population Estimates.

Figure 9 illustrates the population characteristics of the four municipalities under study. It is clear from reviewing this data that growth is occurring in Greene and Hamilton Townships at a more rapid rate than the older, nearly filled Borough of Chambersburg and the more rural, minimally developed Letterkenny Township.

A unique characteristic of the population within the study communities is exhibited in age composition. This characteristic exhibits itself throughout Franklin County and in the four municipalities and is the subject of the report “The Economic Impact Of Base Closure: Letterkenny Army Depot In Franklin County Report”, which comments on the age composition characteristics of Franklin County as follows:

“We examined the age structure of Franklin County’s population in 2000 by comparing the percentage of the county’s population in various age cohorts with similar data for both the United States and Pennsylvania... Compared with the United States, Franklin County has a smaller percentage of residents in every cohort between 0-44 years of age. Conversely, the county has a larger percentage of residents in every cohort from 45 years of age and older. Although the pattern is slightly weaker, the same general arrangement is also evident when comparing Franklin County with Pennsylvania. With the exceptions of the 0-5 and 25-29 year old cohorts, the county has an equal or lower percentage of older cohort. It is obvious that Franklin County is a disproportionately “gray” population. More specifically, 20.7% of Franklin County’s population was over the age of 60, compared with 16.2% for the U.S.A. and 19.8% for Pennsylvania.”

The aging characteristic of Franklin County’s population has interesting and much discussed economic impacts. For the purposes of this Land Use Study, however, certain other conclusions may be drawn. Specifically, this “gray” population may well be attracted to Franklin County because of the Pennsylvania state tax structure and its proximity to the large metropolitan areas of Baltimore and Washington, D.C. In the past few years a dynamic has emerged, driven by enhanced development controls in Maryland and Virginia and the dramatically lower cost of housing in Franklin County, which is causing a rapid expansion of housing development. While the overall population studies may not evidence this phenomenon, it may be concluded that land development will continue to occur and may increase in its rate. This development will logically be housed in the areas served by transportation routes and utilities, and in some instances will cost, at the developers expense, enhancement of those facilities. In any event, it can be expected that the area of developed land within the study area will be expanding at an ever-increasing rate. As this expansion occurs, it can be expected that an increasing number of Franklin County residents will be living within the area of influence of the Letterkenny Army Depot.

Economic and Demographic Trends and Projections

The study area for this joint land use study is comprised of Letterkenny Township, Greene Township, Hamilton Township and the Borough of Chambersburg. These areas encompass some 170 square miles and a residential population of over 41,000 persons.

The historic perspective tells us that this portion of Franklin County, along with a wider multi-county area in both Pennsylvania and Maryland, has been and remains a predominantly agricultural community, with the significant non-residential development concentrating in the Borough of Chambersburg. During the last several decades growth has occurred in an outward direction from Chambersburg along the major traffic routes to the west and north in Hamilton and Greene Townships. These townships are gradually transforming themselves into suburban, bedroom communities. Letterkenny Township, however, due to its physical distance from the major population concentrations and transportation routes, and the lack of available central sewer and water, has remained predominantly agricultural.

Non-residential development initially and historically occurred largely in the borough, but in the past decade has associated itself almost exclusively with Route 30 and Interstate 81 and, to a lesser degree, Route 11. Employment opportunities have in recent years grown significantly in the logistics and distribution sector, stimulated by the regional location of the Franklin County area, the growth of activity on Interstate 81, and the existence of the intersection of two major railroads in Chambersburg.

The industrial and business development occurring in the Cumberland Valley Business Park under the direction of LIDA represents one of the few examples of business and industrial development occurring in a location not directly associated with the major transportation routes in the county.

The recently completed economic impact analysis, which studied the potential impact of the closure of Letterkenny Army Depot as prepared by the Center for Land Use at Shippensburg University, attempts to frame the local and regional significance of the economic linkages between the Base and the Franklin County economy. The study pointed out that the Depot is responsible for some 2,261 jobs, \$141 million dollars of gross regional product, and \$82 million dollars of personal income. Additionally, economic activity generated at the Letterkenny Army Depot acts to:

- 1) Reduce the out migration of people in their most productive years, thereby slowing the trend toward a disproportionately “gray” population.
- 2) Slow the shift of industry and employment toward a greater percentage of low wage jobs and adds training opportunities, which expands human capital and enhance employment productivity.
- 3) Reduce the local trend toward a wage pattern, which has fallen to 84% of the national average.
- 4) Keep resident’s jobs in the county, reducing the degree to which Franklin County has become a net exporter of employees.
- 5) Provide an employment structure in the manufacturing sector in the face of the county’s increasing service and retail oriented economy.

It is largely acknowledged by the community's leadership that the Letterkenny Army Depot is a spur to many aspects of the local economy ranging from personal income and gross regional product, to supporting a more youthful demographic trend. The report prepared by the Center for Land Use at Shippensburg University concludes:

“If one looks only at recent unemployment rates which are very low, one might be sanguine about the economic future of Franklin County in the absence of LEAD. However, allowing for the quality of jobs that would be lost and the income or wage differentials, and the additional multiplier impacts of expected expenditure reduction, the importance of the Depot as a significant, relatively high-wage, anchor for the regional economy becomes compelling. If closure does occur, the past realignment effort will acquire greater significance, and ongoing redevelopment efforts will warrant a greater commitment of resources.”

CHAPTER 4

Existing Land Use

in

Potentially Impacted Area

Definition of Impacted Area

The study area and its geographical configuration have been illustrated earlier in the report on Figure 7. As discussed earlier, the impacts that may be felt from activities at the Letterkenny Army Depot and, vice versa, impacts from land development impacting on the activities of the Depot are constrained to a geographical area where distance acts to bring actual perceived impacts to at or near zero along the perimeter of the defined study area.

Existing Land Uses

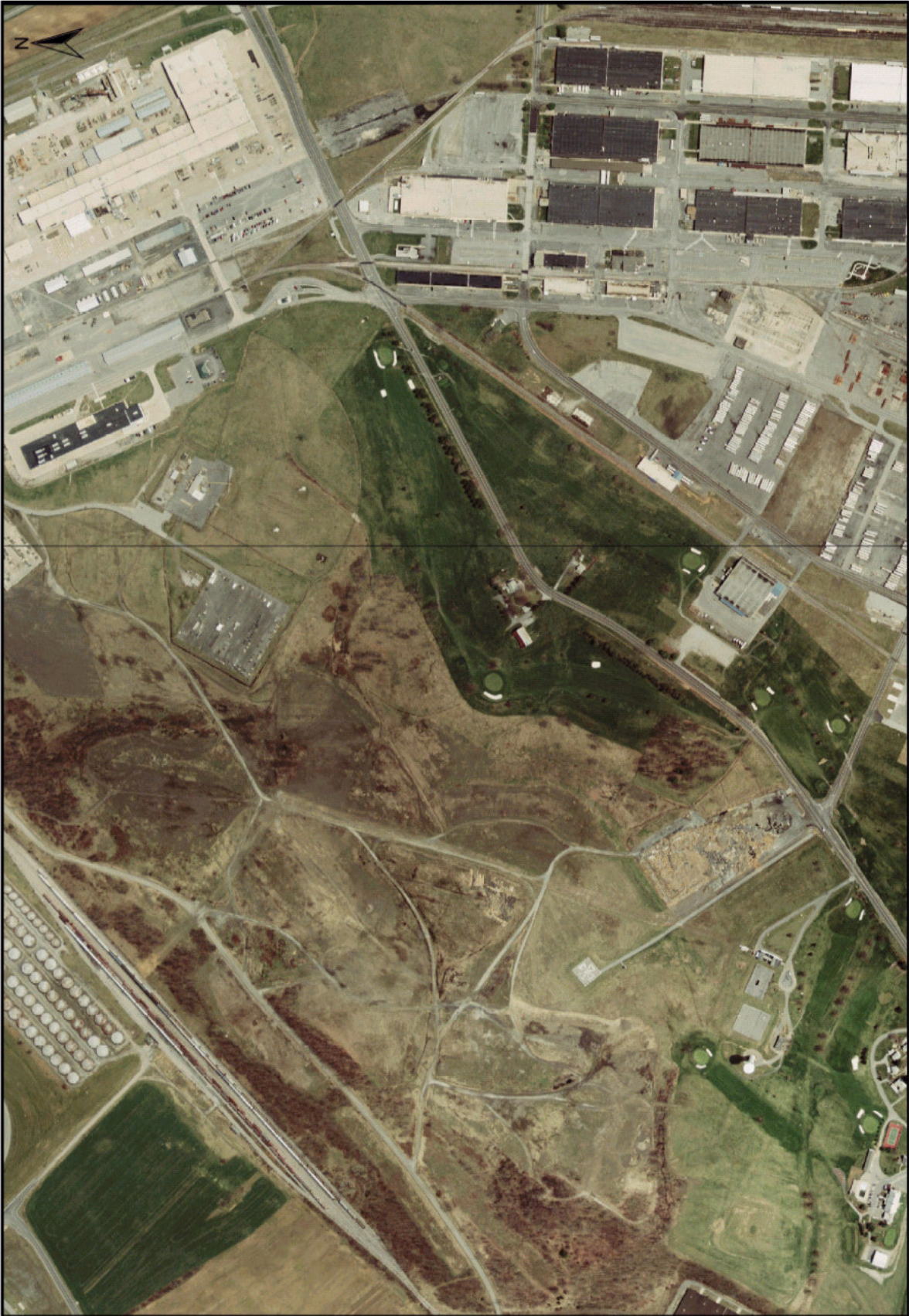
An analysis of existing land uses within the study area and surrounding Letterkenny Army Depot was conducted. The major tool for this analysis was recent aerial photography, a wide scale (1" = 1 mile) example of which is contained on Figure 10. This aerial photography is based on a series of aerial flights conducted within the last few years and provides detail that allows scrutiny of land use configurations with a high degree of accuracy. An example of the detail and quality of the aerial photography used in this analysis is contained on Figure 11 in the form of a photographic panel in the area of "old gate six" at a scale of one inch equals ten thousand feet. At this scale land uses as detailed as sand traps on the LIDA golf course are readily discernable. Additionally, mapping illustrating watersheds, flood plains, streams and roadways as illustrated on Figure 12 and geological characteristics as illustrated on Figure 13 were created using publicly available data.

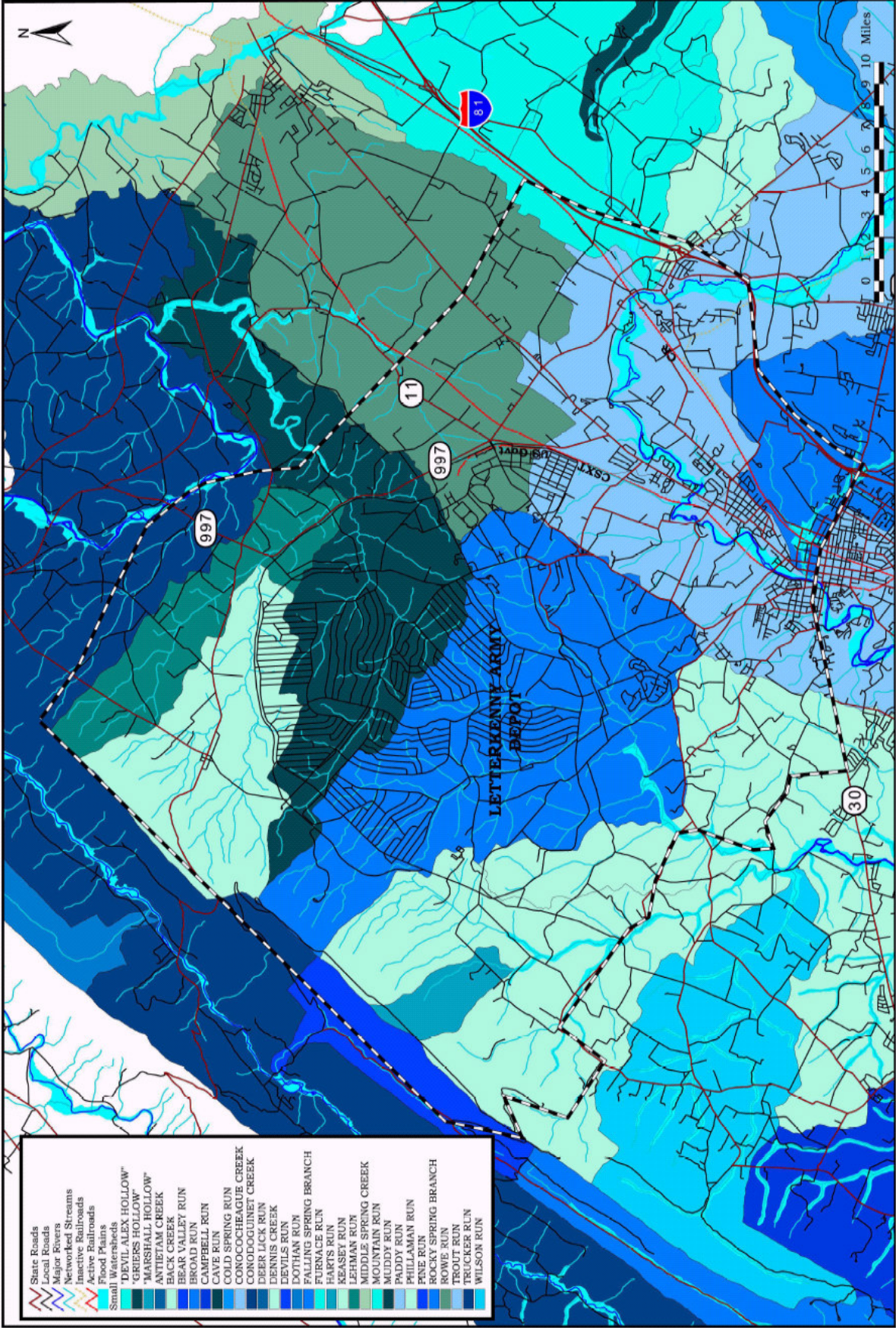
FIGURE 10: JLUS AERIAL ORTHOGRAPHIC
LETTERKENNY ARMY DEPOT JOINT LAND USE STUDY
MARCH 31, 2005

MMI
north and north horizontal
page 177
3d southern street - scale A
chambersburg, pennsylvania - 17201



FIGURE 11: DETAILED AERIAL ORTHOGRAPHIC OF OLD GATE #6
LETTERKENNY ARMY DEPOT JOINT LAND USE STUDY
MARCH 31, 2005





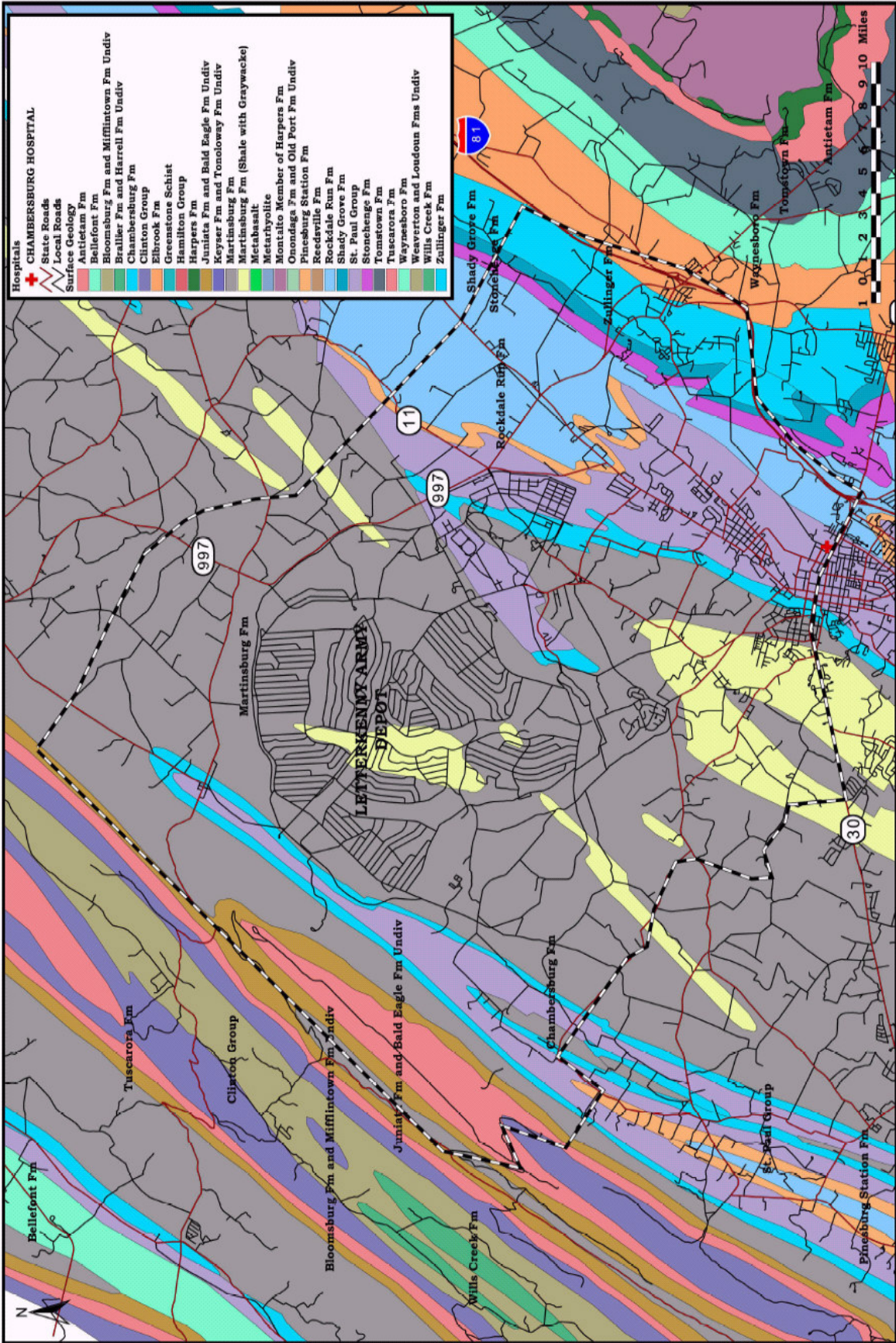


FIGURE 13: SURFACE GEOLOGY

LETTERKENNY ARMY DEPOT JOINT LAND USE STUDY

MARCH 31, 2005

MVA north and north incorporated
 sheet 173
 37 south main sheet - suite A
 chamberburg pennsylvania - 17201

Mapping from the Townships and Franklin County Planning Commission provided the basis for the illustrations of prime agricultural soils, agricultural security areas, and land preserved by agricultural easements. It is the land use assumption of this analysis that the prime agricultural soils and the soils that are encompassed by some form of agricultural preservation are usually the least likely and last to be developed. Figure 14 illustrates these agricultural features and to a large degree shows that vast portions of the study area will be slow to develop in the context of the assumption that prime agricultural land will remain viable for agricultural purposes for longer periods of time than lands with less desirable agricultural characteristics. Additionally, a large area State Forest Lands exists along the entire northwestern boundary of the study area as illustrated on Figure 15. The result of the land use analysis discussed above and illustrated on the attached illustrations are summarized on Figure 16, which graphically illustrates the general land uses existing in the study area surrounding the Letterkenny Army Depot. Much open space is available and as pressures for residential developments grow, it can be expected that the land use pattern will change from agricultural to residential. The exception to this expectation is the Cumberland Valley Business Park, which can be expected to grow and fill in with business and manufacturing uses.

Land uses within the Depot itself consist of largely industrial areas in the southeast corner of the Depot and vast munitions storage areas and buildable acreage on the preponderance of the total base. The mapping on Figure 17 illustrates the buildable acreages and the open space areas consumed by munitions storage activities and wetlands. It can be assumed that these buildable areas and the 234 acres noted in Figure 4 of this study could be utilized to house expanded or new missions at LEAD.

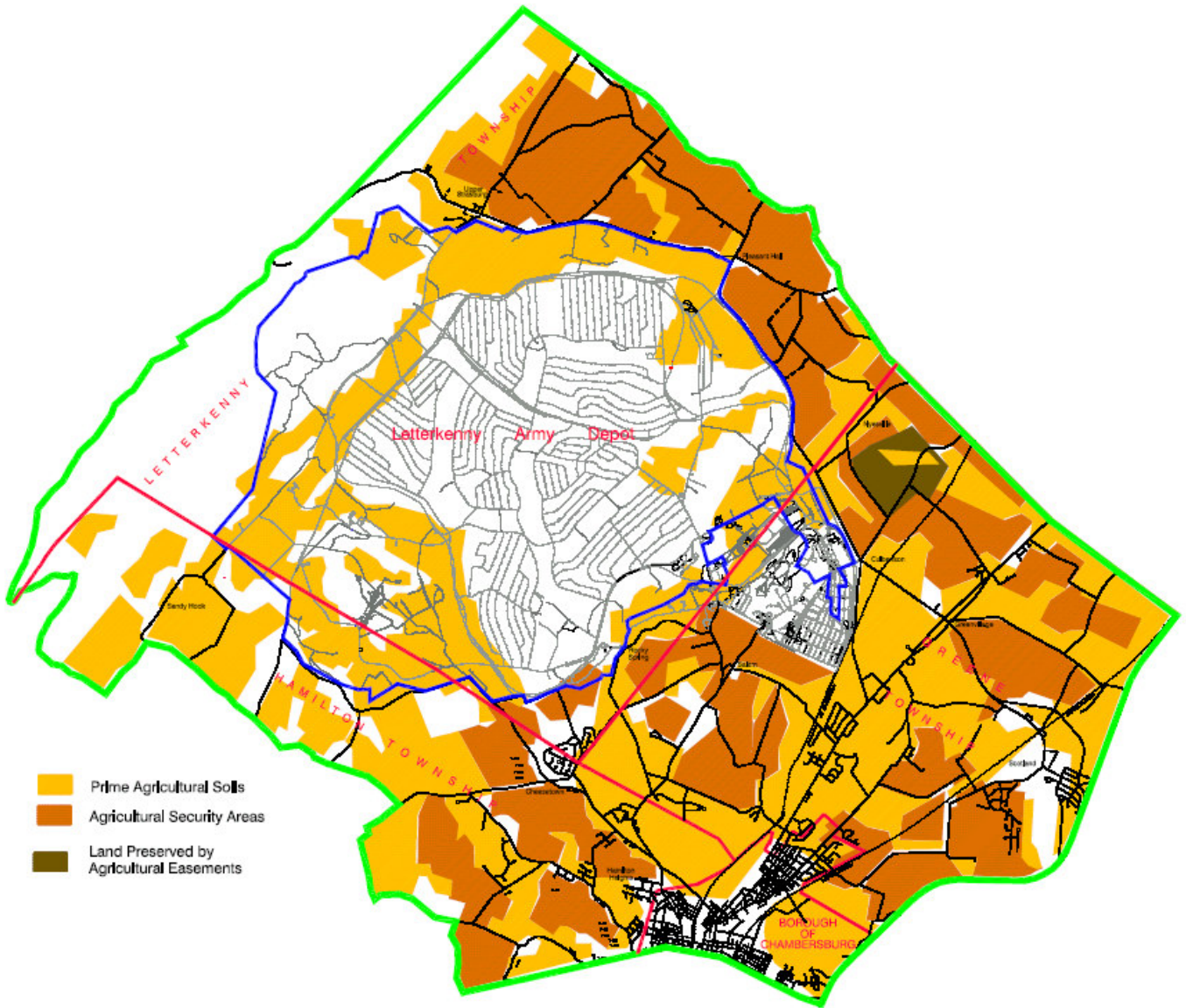


FIGURE 14: AGRICULTURAL FEATURES

LETTERKENNY ARMY DEPOT JOINT LAND USE STUDY
MARCH 31, 2005

Prepared by: **MMI** martin and martin Incorporated
37 south main street suite A
chambersburg, pennsylvania . 17201
phones: (717) 264-6759

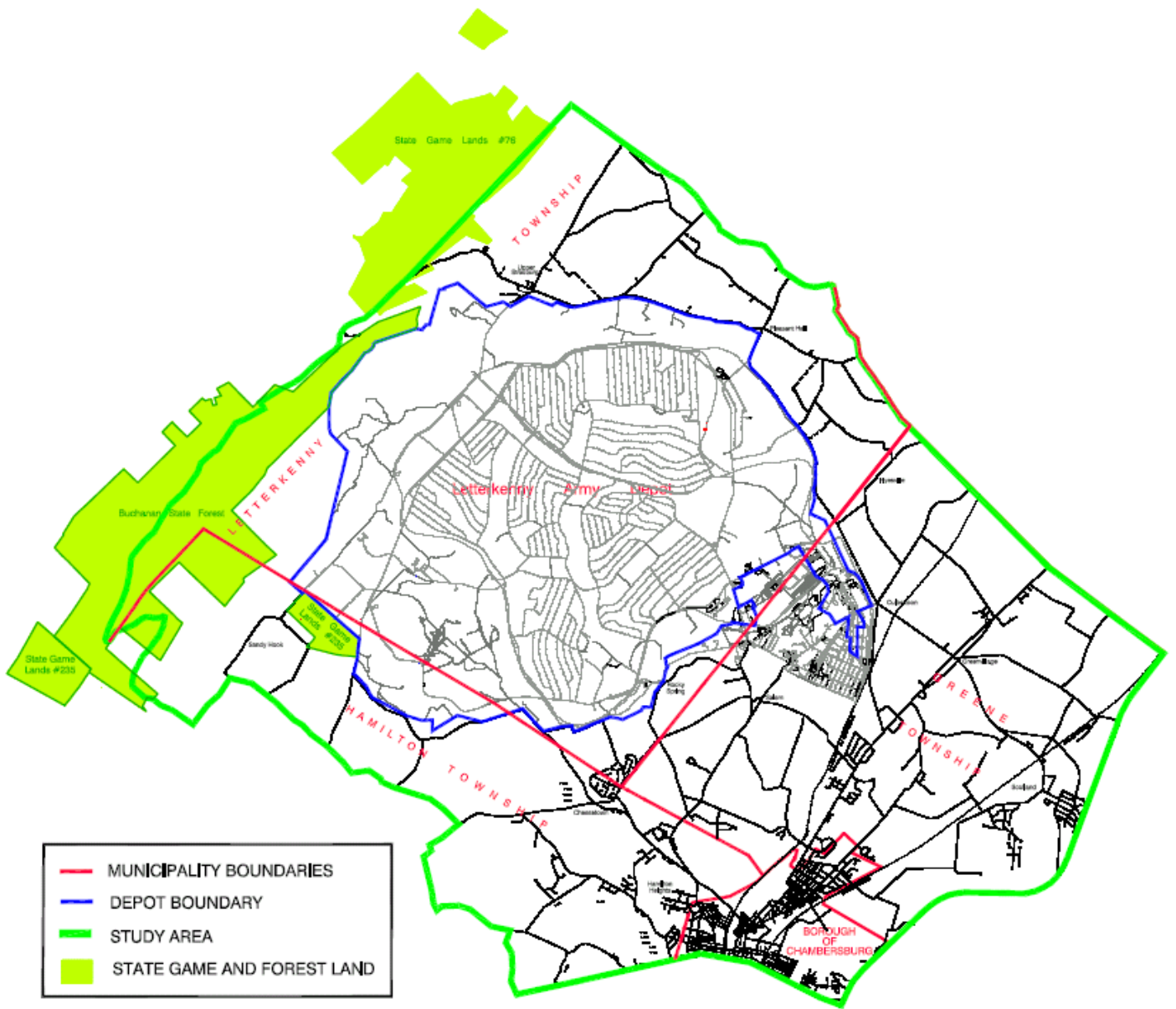


FIGURE 15: STATE LAND
LETTERKENNY ARMY DEPOT JOINT LAND USE STUDY
MARCH 31, 2005

Prepared by: **MMI** martin and martin incorporated
 37 south main street suite A
 chambersburg, pennsylvania . 17201
 phone: (717) 264-6788

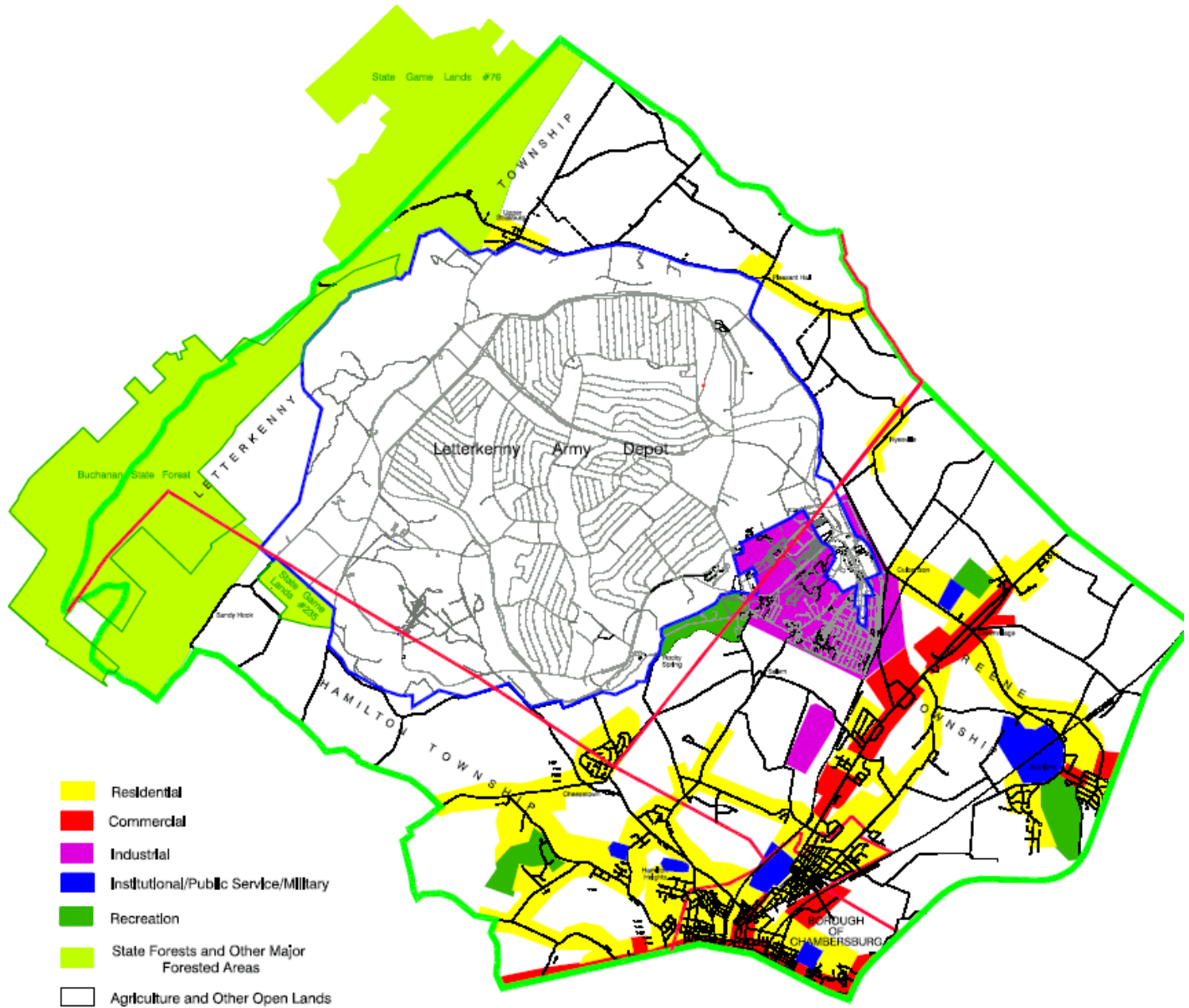


FIGURE 16: GENERAL LAND USES
LETTERKENNY ARMY DEPOT JOINT LAND USE STUDY
MARCH 31, 2005

Prepared by: **NMI** marlin and marlin Incorporated
 37 south main street suite A
 chambersburg, pennsylvania . 17201
 phones (717) 264-8759

Land Use Controls and State Regulatory Environment

The impacted municipalities surrounding the Letterkenny Army Depot control land uses in various ways. Greene Township and the Borough of Chambersburg maintain sophisticated and well established zoning ordinances, administered by professional zoning officers and predicated on well thought out comprehensive plans. Hamilton Township and Letterkenny Township, because of their less developed character and more rural culture, do not have zoning. These two Townships control development through the “subdivision and land development” process. Hamilton Township has in place a comprehensive plan, and Letterkenny Township is currently finalizing a joint comprehensive plan with two adjacent municipalities. In as much as Greene Township and the Borough of Chambersburg control the usage of land and apply zoning control through certain performance standards, any impact of a future development in the township or borough on activities at LEAD is unlikely. In the cases of Letterkenny and Hamilton Townships, where large areas of agricultural land occur that have limited access to utilities such as sewer and water, the subdivision control mechanism is adequate for the purposes of controlling land development. It can be expected that all four municipalities will actively administrate the land use controls available to them. However, growth will occur, and it will increasingly locate in areas of potential interaction with activities at LEAD.

The State Regulatory environment enters into the picture of land use control via controls such as the permitting of environmentally sensitive uses such as quarries, sanitary landfills, or waste disposal facilities. Also, the state of Pennsylvania, through its Act 537 procedures, controls the growth of residential development in areas where no central sanitary sewer system exists. This

process acts to force development around existing sanitary sewer lines and to slow the development of areas not served by the existing utilities. Additionally, PaDEP administers a permitting procedure for air emissions that offers a level of control over existing and potential manufacturing uses that may locate in the Cumberland Valley Business Park.

CHAPTER 5

Current and Projected Negative Externalities and Land Use Conflicts Caused by Base Missions

Municipal Interviews

In addition to observation and review of all available documentation regarding any negative externalities caused in the context of Land Use Conflicts, the consultant conducted interviews of the leadership in each of the study area municipalities. The results of this interview process are contained in Figure 18. The thrust of the interviews was to discern any adverse impacts of activities at LEAD. As can be seen by reviewing the attached interview logs, the only adverse impacts that repeatedly emerged had to do with the occasional sound of munitions demolition.

FIGURE 18: MUNICIPAL INTERVIEW LOG Interviews Conducted by Martin & Martin, Inc.

Municipality:	Borough of Chambersburg
Date:	1/28/05
Interview Setting:	Borough Office
Attendees:	Phil Wolgemuth, Borough Planner
Interviewers:	S. Shildt
Issues discussed:	
1. Adverse impacts of activities at LEAD	
• Occasional sound of munitions demolition – No complaints.	
2. Commitment:	
• The Borough of Chambersburg has agreed to consider the study recommendations and their implementation to the extent that the recommendations are feasible and practical in the opinion of the Borough.	

FIGURE 18: MUNICIPAL INTERVIEW LOG (continued)

Municipality:	Franklin County Planning Commission
Date:	1/26/05
Interview Setting:	Office of Martin and Martin, Inc.
Attendees:	Phil Tarquino
Interviewers:	C. Sioberg S. Schildt

Issues discussed:

1. Adverse impacts of activities at LEAD
 - Occasional sound of munitions demolition .
 - Occasional dust plume associated with munitions demolition.
 - Existing and future potential traffic issues
2. Commitment:
 - LEAD is a valuable asset to the economic health of Franklin County. The County Planning Commission has committed itself to assist in addressing any existing or potential conflicts in order to achieve compatibility recommendations resulting from the JLUS Plan.

Municipality:	Greene Township
Date:	1/27/05
Interview Setting:	Telephone
Attendees:	Dave Jamison, Supervisor
Interviewers:	S. Schildt

Issues discussed:

1. Adverse impacts of activities at LEAD
 - Occasional sound of munitions demolition – Very few, if any, complaints.
 - Occasional dust plume associated with munitions demolition.
2. Commitment:
 - Greene Township has agreed to consider the study recommendations and their implementation in Greene Township to the extent that, in the sole judgment of the Supervisors of Greene Township, the recommendations are feasible and practical for implementation in Greene Township.

FIGURE 18: MUNICIPAL INTERVIEW LOG (continued)

Municipality:	Hamilton Township
Date:	1/21/05
Interview Setting:	Township Municipal Building
Attendees:	Michael K. Kessinger, Supervisor Randall E. Negley, Supervisor James C. Hollenshead, Supervisor
Interviewers:	C. Sioberg S. Schildt
Issues discussed:	
1. Adverse impacts of activities at LEAD	
• Occasional sound of munitions demolition. Constituent calls are usually from the Kensington Heights neighborhood and are primarily curiosity. Calls have reduced in recent years along with apparent change in demolition methodology at LEAD.	
• Occasional dust plume associated with munitions demolition. No citizen complaints.	
2. Commitment:	
• Hamilton Township commits to a good faith effort to implement the recommendations made by the Joint Land Use Study Committee to the extent that the recommendations are feasible, practical, and as agreed to by the Board of Supervisors.	

Municipality:	Letterkenny Township
Date:	1/20/05
Interview Setting:	Telephone Interview
Attendees:	Charles Myers, Supervisor
Interviewers:	S. Schildt
Issues discussed:	
3. Adverse impacts of activities at LEAD	
• Occasional sound of munitions demolition.	
• Occasional dust plume associated with munitions demolition.	
4. Commitment:	
• Letterkenny Township commits to a good faith effort to implement the recommendations made by the Joint Land Use Study Committee to the extent that the recommendations are feasible, practical, and as agreed to by the Board of Supervisors.	

Noise Issues

As a result of the responses in the interviews, an investigation was conducted of the munitions demolition issue. The findings indicate that complaints have been received from neighbors around LEAD as a result of the open detonation activities. During the public meeting process for the OB/OD application under review by PaDEP, most of the concerns expressed by the public related to the proposed increase in detonation capacity from 500 lbs to 1500 lbs. However, since that public meeting, the application has been revised and the proposed detonation capacity reduced to 500 lbs.

As evident in the following chart, there has been a significant reduction in noise complaints from open detonation at Letterkenny Army Depot over the last four years.

NOISE COMPLAINTS AT LETTERKENNY ARMY DEPOT

Year	Noise Complaints
2002	50 complaints
2003	23 complaints
2004	6 complaints
2005	1 complaint through February

Since weather conditions affect the potential for off-site noise as well as air emissions, an on-site weather station has been installed to provide more accurate and up-to-date weather conditions, which may adversely affect OB/OD activities.

LEAD follows an established set of weather condition restrictions that determine whether a detonation can occur. Conditions such as precipitation, electrical thunderstorms, wind speed and

direction, cloud cover, and cloud ceiling are determined in an effort to limit the potential for off-site noise and emissions.

In addition to negative externalities raised in the interview process, three other potential concerns have been identified as a result of this planning exercise. The first of these is related to the protection and security of operations occurring at LEAD. The second has to do with certain radar testing missions that are occurring at the Depot. The third issue that raises concern from the community leadership is traffic, and in particular the routing of truck traffic from LEAD and the Cumberland Valley Business Park to Interstate 81 at Scotland. The review of these three issues reveals the following.

Force Protection

Due to the terrorist attacks against the United States on September 11, 2001, the country as a whole has needed to be more vigilant, especially concerning those areas that present high-profile or logistically critical targets. Force Protection is an important element to the security of the Letterkenny Army Depot and the United States Army. The purpose of Force Protection is to prevent/deter aggressors, such as terrorists, from attacking the vital military operations at the Depot, and if an attack occurs, minimizing the resulting damage. The location of sensitive missions within the Depot, their relation to surrounding outside land uses, and the accessibility to those missions need to be analyzed to determine the best methods of protection.

It is recommended that Greene and Letterkenny Townships, which control the industrial area in closest proximity to the Depot activities, LIDA, which markets the property in the Cumberland

Business Park, and LEAD maintain a dialog concerning planning and methodology to make every effort to ensure that there is no incompatible use of community land that threatens the safety and mission viability of the depot.

Radar Testing

LEAD is currently testing Patriot and Hawk Radar Systems. Radar systems are reconditioned and tested prior to reuse. A 120m-safety zone has been established for the Patriot System and approximately a 400ft x 400ft area for the Hawk System, which rotates 360°. Testing zones of distance greater than required have already been established. LEAD is currently moving to a Configuration III System. The safety zone fence for this configuration has already been installed.



Concerns related to radar testing involve potential development in areas in the direction of “active” radar testing. Currently this is in a southeasterly direction toward SE OU 10. As stated previously, the SE OU 10 area will be transferred to LIDA possibly in 2006. The safety zone fenced area will remain in control of LEAD. However, future construction in areas of the “active” test direction beyond the fence represents a potential non-safety concern. This concern

could result from the height of buildings, or the type of machinery or operations which may be located in the test direction, particularly machinery or equipment, which might operate in the same frequency as radar. The location of such operations and facilities could negatively impact on LEAD radar testing and operation of incoming industry equipment.

The following is quoted from portions of a memorandum from the record prepared by Sid Kohr, dated February 8, 2005 and titled, "Land Use Impact to LEAD Radar Test Site":

"Electrical interference from sources in the field of view of the radar under test can cause test results to be invalid. Frequency bands where possible interference can exist are UHF (941-1427 MNz) "L-band", SHF (5250-5925 MHz) "C-band", and SHF (10-12.7 GHz) "X-band" designated for Radio Navigation and Radio Location by the National Telecommunications and Information Administration (NTIA)...Patriot is sensitive to interference from C and L band emissions... HAWK radar are sensitive to emissions in the X band."

"Passive" testing of the radar units is conducted in a more southwesterly direction toward the ridge area above the golf course and would present less likelihood of any conflicting future land uses. Martin and Martin, Incorporated, as a function of this JLUS Study, has prepared three-dimensional illustrations included herewith of the Radar Test Patterns. These illustrations are attached hereto as Figures 19 and 20.

It has been suggested in the course of the development of the Cumberland Valley Business Park, that LIDA, being the area most impacted by the LEAD Radar Test Missions, co-ordinate future construction activities located in the "active" radar testing direction with LEAD. Such



FIGURE 19
 PATRIOT RADAR MAXIMUM
 RECOMMENDED STRUCTURE ELEVATIONS
 LETTERKENNY ARMY DEPOT JOINT LAND USE STUDY
 MARCH 31, 2005

Prepared by: **NMI** martin and martin incorporated
 37 south main street - suite A
 chambersburg, pennsylvania . 17201
 phone: (717) 264-8769

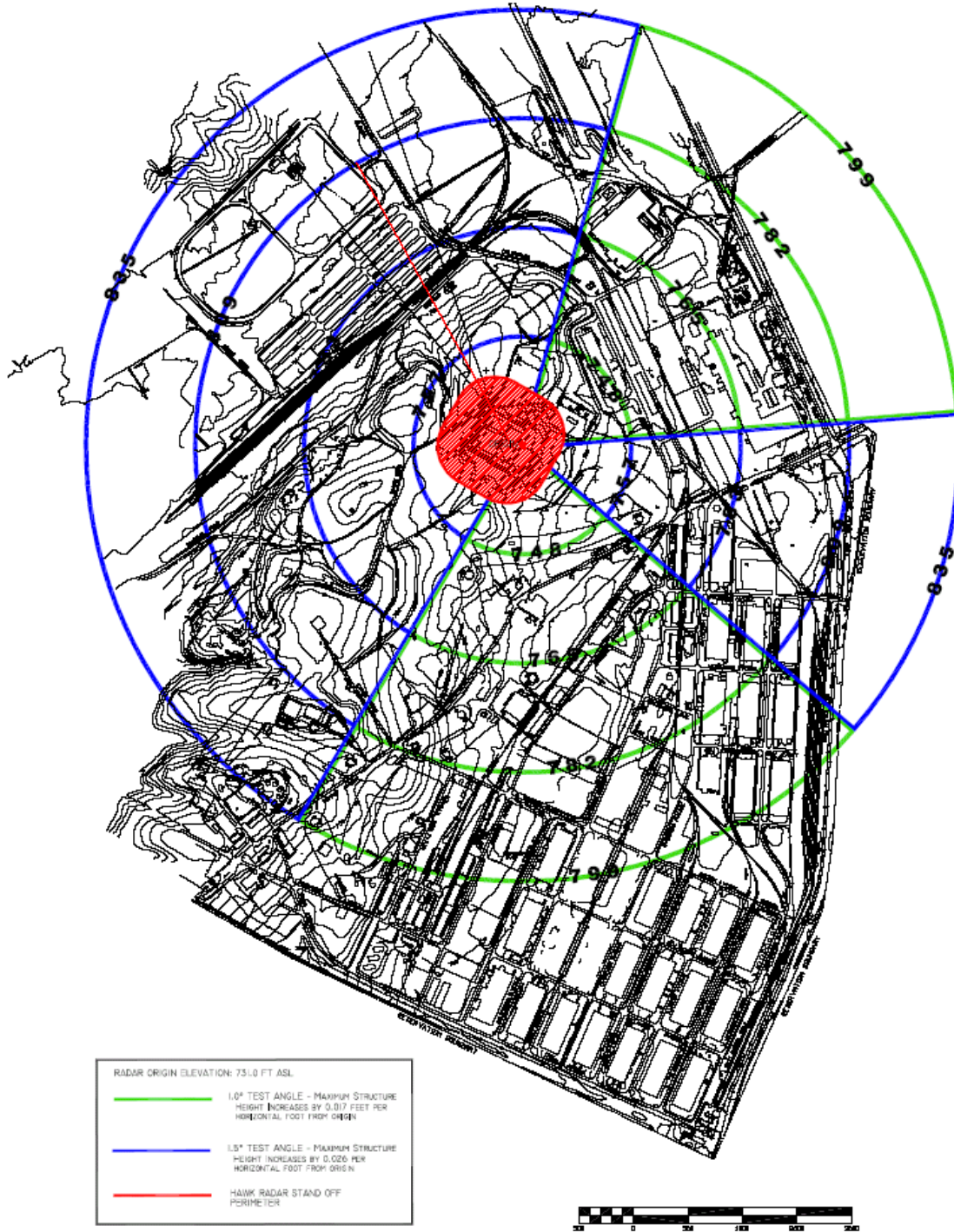


FIGURE 20
 HAWK RADAR MAXIMUM
 RECOMMENDED STRUCTURE ELEVATIONS
 LETTERKENNY ARMY DEPOT JOINT LAND USE STUDY
 MARCH 31, 2005

Prepared by: **MMI** martin and martin incorporated
 37 south main street, suite A
 Chambersburg, pennsylvania - 17201
 phone: (717) 264-8728

coordination will allow property developers to consider alternatives that could avoid future encroachment issues.

Traffic

A tertiary issue that has surfaced with regard to negative externality has to do with vehicular traffic attempting to connect between the Scotland interchange at I-81 and old gates numbered six and five, now entrances to LEAD and the Cumberland Valley Business Park. Truck traffic, in an effort to protect the residential communities in the villages of Culbertson and Green Village, has been directed to utilize SR433 (Sunset Pike) and Route 11 (Molly Pitcher Highway). This has led to some concern about the functionality of the intersection at Molly Pitcher Highway and Sunset Pike. This intersection and the truck traffic route are illustrated on the attached Figure 21. LIDA and the Franklin County Area Development Corporation (FCADC) are currently attempting to solicit state and federal funds to study the subject intersection with an eye to reconstructing it with traffic signalization. It would appear that should this be accomplished, many of the issues regarding this routing of traffic will have been resolved.

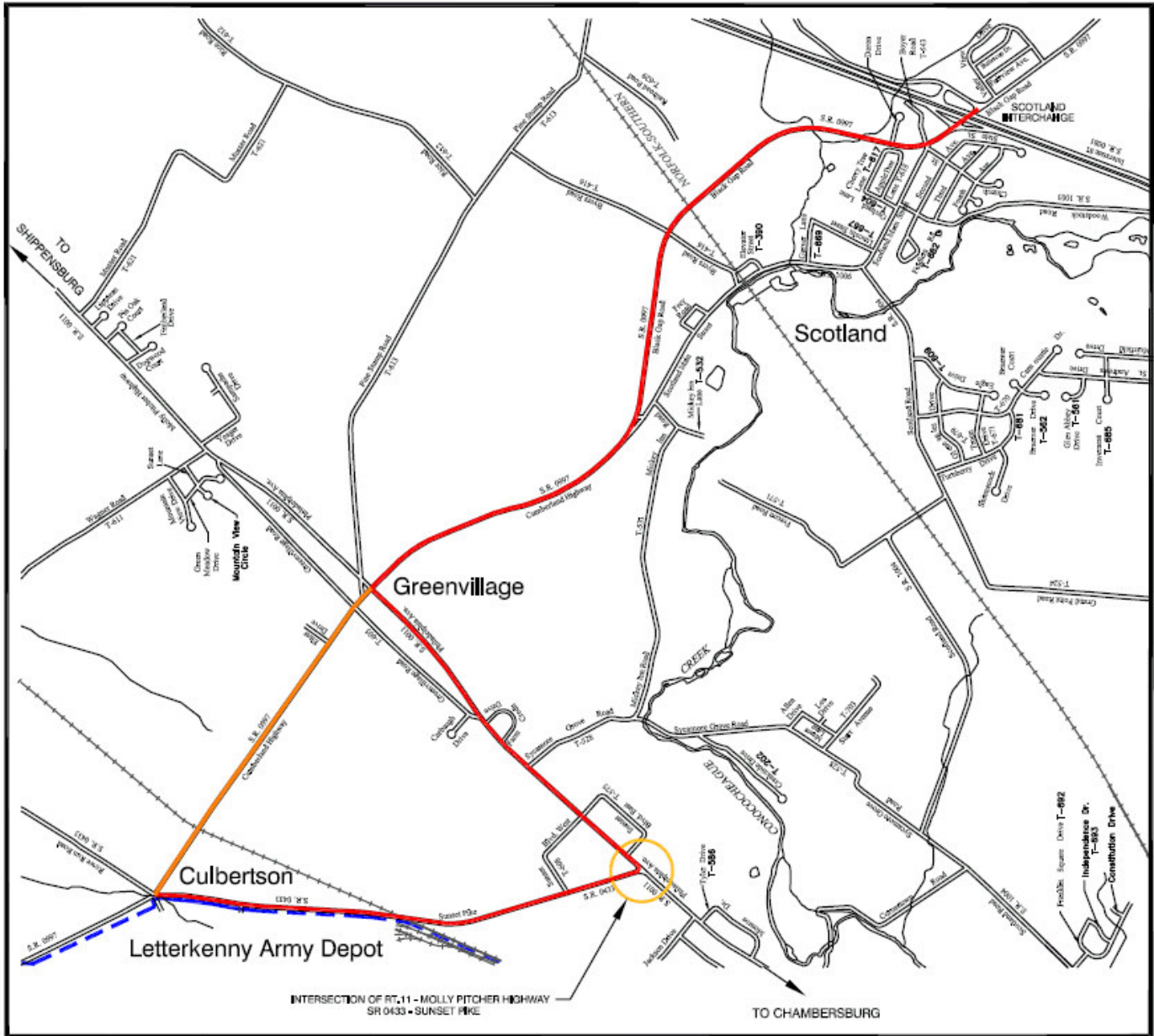


FIGURE 21: TRAFFIC CONSIDERATIONS
 LETTERKENNY ARMY DEPOT JOINT LAND USE STUDY
 MARCH 31, 2005

Prepared by: **MMI** martin and martin incorporated
 37 south main street suite A •
 chambersburg, pennsylvania . 17201
 phone: (717) 264-6759

CHAPTER 6

Current and Projected Land Use Encroachments

Current and Projected Land Use Encroachments

This review of land use conditions as they currently exist, and as are now projected, has revealed one potential outside encroachment on LEAD mission activities. Greene Township adopted Ordinance 2004-1 on February 24, 2004, which amends the Greene Township Zoning Ordinance Chapter 105, Article III, Section 105-15 entitled Chambersburg Municipal Airport Zoning District. This amendment created a number of Airport Zones and related Allowable Height Formulas. These zones establish maximum height limitations for man-made and naturally occurring objects in order to minimize potential problems for aircraft utilizing the Chambersburg Municipal Airport. The attached Figure 22 shows the relevant portion of the Greene Township Zoning Map, which illustrates the various Airport Zones and the Allowable Height Formulas. The zones on this map are shown to extend beyond the borders of Greene Township, covering portions of the Letterkenny Army Depot, Letterkenny Township, Hamilton Township, Chambersburg Borough, and Guilford Township.

Aside from the airport issue, no other potential outside encroachments or impacts were identified. The development that has occurred and is likely to occur in the future is in the form of relatively low-density residential uses, which are gradually overtaking the existing agricultural land use base. In as much as the mission activities at LEAD generate very little that can be considered negative externalities, and the mission assignments that LEAD is currently pursuing or is likely to pursue in the future, are such that they are well contained within the boundaries of the Depot. It is expected that there will be little if any encroachment occurring in the foreseeable future. Therefore, little or no impact on the Depot missions will occur as a result of the projected continued growth.

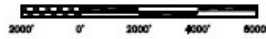
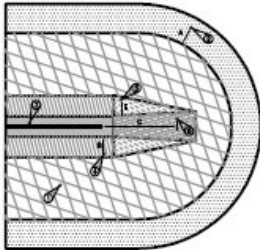
The single area where significant development will occur, other than the low-density residential conversion of portions of the surrounding agricultural land, is in the area of the Cumberland Valley Business Park. The plans to develop a business and manufacturing area have, as of today, produced no encroachments on the Depot's missions. However, as development occurs in this area, two factors are important to the character of said development. First, the Greene Township Zoning Ordinance will control any development activities through performance standards. Specifically, the Greene Township Zoning Ordinance states "No land or building in any district in the Township shall be used or occupied in such a manner so as to create any dangerous or objectionable elements as to adversely effect the surrounding area or premises". All uses of land or buildings shall initially and continuously comply with a detailed list of applicable performance standards contained in the Greene Township Zoning Ordinance, and established by Federal and State Agencies.

Secondly, in addition to this zoning control there exists independent use and performance controls established by LIDA. These standards for development of the Business Park are in place, professionally administered, and legally binding to all property holders. Based on the existence of these controls and Greene Township Zoning Ordinance, any development, existing or projected in the LIDA Cumberland Valley Business Park, is unlikely to encroach or impact negatively on any Depot mission.

AIRPORT ZONES

ALLOWABLE HEIGHT FORMULAS

LOCATION ZONE	FORMULA
1 Horizontal Surface	Allowable Height = (Established Airport Elevation + 687.5) + (150) - (Ground Elevation)
2 Conical Surface	Allowable Height = (Established Airport Elevation + 687.5) + (150) + (A + 20) - (Ground Elevation)
3 Primary Surface	Allowable Height = (Elevation of the Runway Perpendicular to the Location Point) + (Ground Elevation)
4 Transitional Surface	Allowable Height = (Elevation of the Primary Surface along the Runway Centerline Perpendicular to the Location Point) + (B + 7) - (Ground Elevation)
5 Transitional Surface	Allowable Height = (Elevation of the Approach Surface along the Runway Centerline Perpendicular to the Location Point) + (E + 7) - (Ground Elevation)
6 Approach Surface	Allowable Height = (Runway End Elevation) + ((C + 200) + 20) - (Ground Elevation)



Zoning District	Description
AR	AGRICULTURAL RESIDENTIAL
CC	COMMUNITY COMMERCIAL
HC	HIGHWAY COMMERCIAL
HI	HEAVY INDUSTRIAL
LI	LIGHT INDUSTRIAL
R-1	LOW-DENSITY RESIDENTIAL
R-2	MEDIUM-DENSITY RESIDENTIAL
	STATE OWNED PARK AND FOREST LANDS

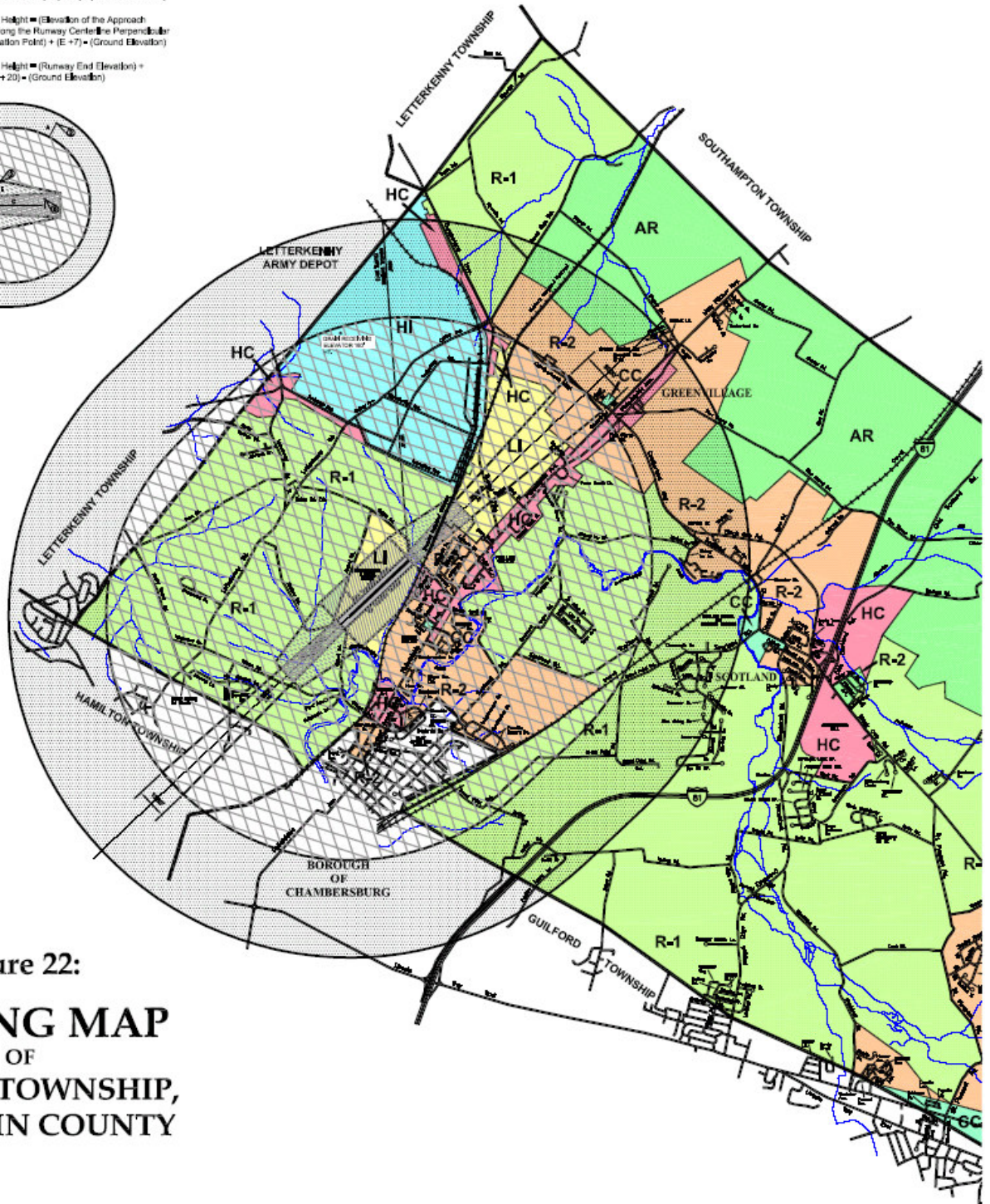


Figure 22:

ZONING MAP OF GREENE TOWNSHIP, FRANKLIN COUNTY

CHAPTER 7

Recommendations

for

Consideration

Recommendations

As a result of the combination of research into what other jurisdictions have done, what local governments in conjunction with LIDA and LEAD are already accomplishing in this location, and in the context of constructive suggestions from the leadership in the community as well as the advise of the Policy and Technical Committees, several recommendations have been developed. The usefulness and ultimate success of this plan and the inter-relationships that occur between subject communities and the Letterkenny Army Depot will depend on whether the recommendations become a reality. The following are the recommended practices and policies resulting from this analysis that the relevant parties should consider initiating and implementing:

- 1) Enhance community relations and education programs to ensure that citizens of the affected areas are kept informed through direct contact about the changes that may result from revisions or additions to mission plans at LEAD and changes in the communities (including LIDA) which may affect LEAD.
- 2) Maintain a library of data about this JLUS consisting of digital material such as mapping, which can be made available to both LEAD and the study area municipalities. This digital library will be maintained in the offices of the consultant, Martin and Martin, Incorporated.
- 3) The surrounding municipalities, particularly in the detailed study area, should consider requiring notations on subdivision plans advising property buyers of the potential of negative externalities generated by mission activities at LEAD. Specifically, one such externality may be the noise generated by munitions demolitions. By requiring such a note on subdivision plans the notification becomes accessible through the title search process and buyers would be advised of the potential.
- 4) Monitor growth and change in the impacted municipalities in an effort to have early detection of potential encroachments on LEAD missions.
- 5) Maintain continuing lines of communication between the leadership of the study area municipalities, LIDA, and LEAD. Local governments (including LIDA)

should be encouraged to notify LEAD of specific proposals that may affect base missions. Such notification would allow LEAD to submit comments for consideration by local officials. LEAD should also be encouraged to notify local governments (including LIDA) concerning new missions that could impact or be impacted by adjacent land or land uses in order address any potential issues. This will allow parties to provide comment at the concept stages and work together to develop best-fit solutions that are mutually agreeable.

- 6) It is recommended that LIDA, LEAD, and Greene Township work closely together to pursue intersection improvements at the intersection of SR443 and Route 11 in order to improve truck traffic routing between LEAD and Cumberland Valley Business Park and the interchange of I-81 at Scotland.

As is stated in the Joint Land Use Study Program outline as published by the Office of Economic Adjustment, Department of Defense:

“An important venue of a successful JLUS is building community consensus. If the JLUS has positive results the participating jurisdictions and military installation must agree to make good faith pledge to implement controls to achieve compatibility.... Experience from these studies has shown a high success rate and a generous effort can benefit both the jurisdiction and the installation by:

- Protecting the health and safety of residents living and working in the military installation.
- Preserving long-term land use compatibility between installation and the surrounding community.
- Promoting comprehensive community planning.
- Encouraging a cooperative spirit between local base command and local community officials.
- Integrating local jurisdiction’s comprehensive plans with the installation’s plans.”