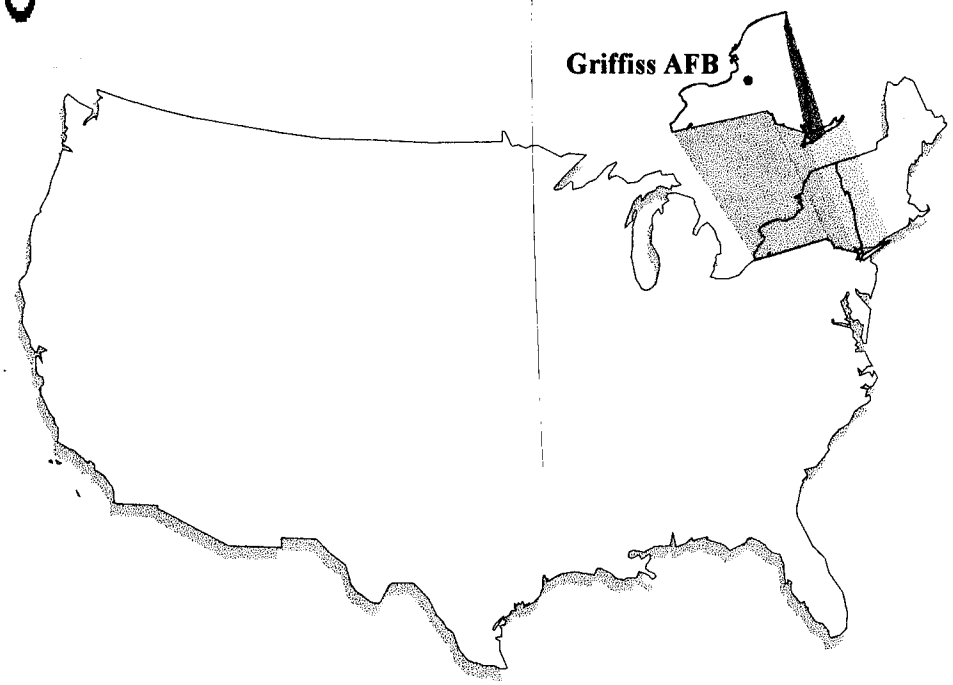
FINAL
ENVIRONMENTAL IMPACT STATEMENT

NOVEMBER 1995

DTIC
ELECTE
NOV 2 2 1995
G

19951121 048



DISPOSAL AND REUSE OF
GRIFFISS AIR FORCE BASE, NEW YORK

DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited

DTIC QUALITY INSPECTED 5

FINAL

ENVIRONMENTAL IMPACT STATEMENT

DISPOSAL AND REUSE OF GRIFFISS AIR FORCE BASE, NEW YORK

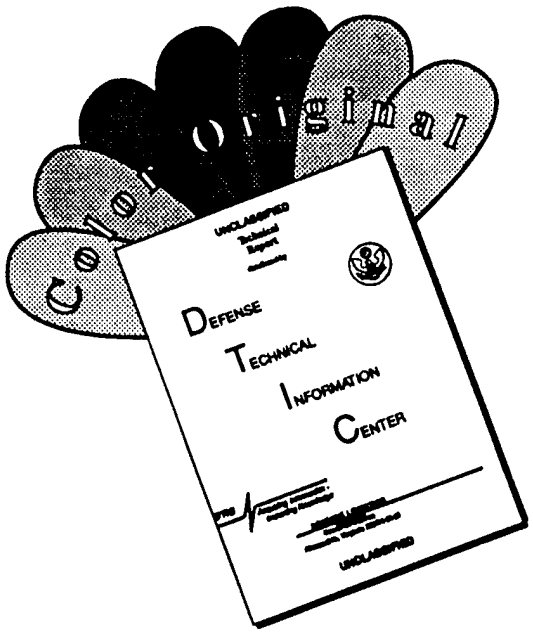
NOVEMBER 1995

Accesion For	
NTIS CRA&I	☒
DTIC TAB	☐
Unannounced	☐
Justification	
By	
Distribution /	
Availability Codes	
Dist	Avail and / or Special
A-1	

DISTRIBUTION STATEMENT A

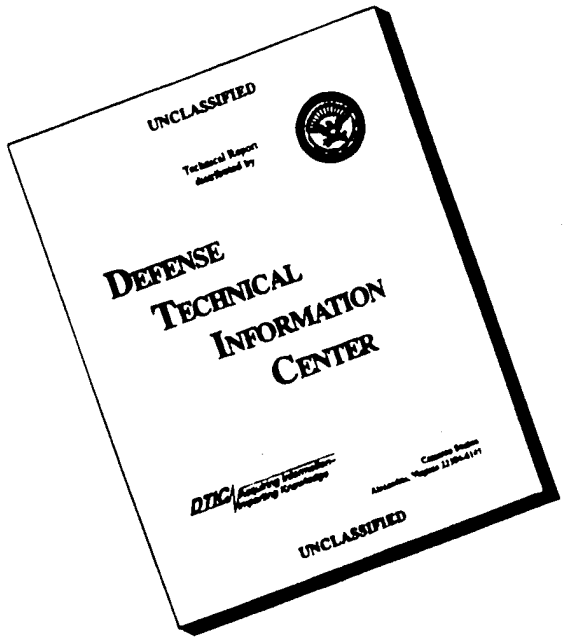
Approved for public release;
Distribution Unlimited

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF COLOR PAGES WHICH DO NOT REPRODUCE LEGIBLY ON BLACK AND WHITE MICROFICHE.

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

THIS PAGE INTENTIONALLY LEFT BLANK

COVER SHEET

FINAL ENVIRONMENTAL IMPACT STATEMENT
DISPOSAL AND REUSE OF GRIFFISS AIR FORCE BASE, NEW YORK

a. Lead Agency: U.S. Air Force

b. Cooperating Agency: Federal Aviation Administration

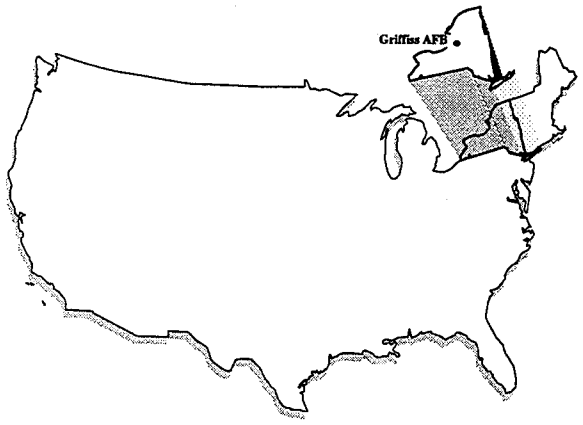
c. Proposed Action: Disposal and Reuse of Griffiss Air Force Base (AFB), Oneida County, New York

d. Inquiries on this document should be directed to: Mr. Jonathan D. Farthing, Chief, Environmental Analysis Division, HQ AFCEE/ECA, 8106 Chennault Road, Brooks AFB, TX, 78235-5318, (210) 536-3787.

e. Designation: Final Environmental Impact Statement (FEIS).

f. Abstract: Pursuant to the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510, Title XXIX), Griffiss AFB was realigned on September 30, 1995 in compliance with the 1993 Base Closure and Realignment decisions. Several Air Force and other Department of Defense functions were authorized to remain at the base on U.S. Government-retained property following realignment. These include Rome Laboratory (Rome Lab), an Air Force research and development (R&D) laboratory, and continued operation of the airfield at a minimum level to support deployment of U.S. Army troops from Fort Drum, New York. In addition, two other U.S. Government reuses, a Defense Accounting and Finance Service Center and a medical facility operated by the U.S. Department of Veterans Affairs, began operation prior to realignment on government-retained land. This EIS has been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of property disposal at the base in compliance with the 1993 BRAC decisions. This includes an analysis of potential impacts of the 1995 BRAC actions on the 1993 BRAC decisions in regards to property disposal. Although disposal will have few, if any, direct effects, future use by others will create indirect effects. This document, therefore, includes analyses of the potential impacts that a range of reasonably foreseeable alternative reuses may have on community setting, land use and aesthetics, transportation, utilities, hazardous substances, soils and geology, water resources, air quality, noise, biological resources, and cultural and paleontological resources. The reuse alternatives considered in this EIS, including the Proposed Action, focus on reuse of nongovernment-retained areas of the base for nonaviation uses consisting of varying mixes of R&D, office, commercial, industrial, education/training, residential, recreational, and open space uses. One alternative does consider joint reuse of the base airfield property for a civilian and military airport. Use of government-related facilities and lands was included in the baseline analysis of all reuse alternatives. Impacts of the No-Action Alternative are also considered. Potential environmental impacts associated with the Proposed Action include increased traffic in the vicinity of the base, traffic-related noise, small increases in air pollutant emissions, increased soil erosion, and some disturbance of native vegetation. Overall, impacts of the alternatives would be similar. Suggested mitigations include transportation planning and use of best management construction practices. Additional mitigations may include the Air Force placing specific restrictions in leases or covenants in deeds that would limit the use of the property and alert transferees to special environmental concerns prior to taking any actions affecting the property.

THIS PAGE INTENTIONALLY LEFT BLANK



SUMMARY

SUMMARY

PURPOSE AND NEED

Griffiss Air Force Base (AFB), New York, was on the list of bases recommended for closure or realignment by the 1993 Defense Base Closure and Realignment (BRAC) Commission. The Commission's recommendations were accepted by the President and submitted to Congress on July 2, 1993. Because Congress did not disapprove the recommendations in the time given under the Defense Base Closure and Realignment Act (DBCRA) of 1990 (Public Law 101-510, Title XXIX), the recommendations became law. Realignment of Griffiss AFB occurred on September 30, 1995.

The U.S. Air Force is required to comply with the National Environmental Policy Act (NEPA) in the implementation of base disposal and reuse. The Air Force will make a series of interrelated decisions concerning the disposition of excess and surplus base property. This Environmental Impact Statement (EIS) has been prepared to provide information on the potential impacts resulting from Air Force decisions regarding disposal and reuse of the base property. Several alternative reuse concepts have been studied to identify the range of potential direct and indirect environmental consequences of disposal and reuse.

Some existing organizations on the base, such as Rome Laboratory (Rome Lab), the Northeast Air Defense Sector (NEADS), and a regional Defense Reutilization and Marketing Office (DRMO), were authorized under DBCRA to remain at the base following realignment on September 30, 1995. In addition, continued operation of the airfield at a minimum level to support deployment of U.S. Army troops from Fort Drum, New York, was authorized. Operation and maintenance of the airfield will be performed by the New York Air National Guard. Subsequently, the Department of Defense (DOD) announced the establishment of the Defense Finance and Accounting Service (DFAS) Center at Griffiss AFB. In addition, the base hospital will be reused as a U.S. Department of Veterans Affairs (VA) outpatient clinic and nursing facility. The continuing presence of these organizations was considered in the development of each reuse plan.

On September 28, 1995, the 1995 BRAC list became final, requiring closure of the airfield portion of Griffiss AFB and deactivation of the 485th engineering Installation Group (EIG). These future actions could affect the reuse of Griffiss AFB based on the 1993 BRAC decisions. Therefore, this EIS, although focusing on the impacts arising from the 1993 decisions, includes an analysis of potential impacts of the 1995 actions on various reuse alternatives developed based on the 1993 decisions. The reuse alternatives were reevaluated to determine the consequences of closure of the airfield by 1999.

After completion and consideration of this EIS, the Air Force will prepare decision documents stating what property is excess and surplus, the terms and conditions under which the dispositions will be made, and the size and location of areas to be retained by the U.S. Government. These decisions may affect the environment by influencing the nature of the property's future use.

Two communications sites managed by Griffiss AFB will be retained for continuing military aircraft operations. Sixteen other annexes, located throughout New York, are not considered part of the realignment of Griffiss AFB and are not analyzed in the EIS.

Another annex, the Hancock Housing Annex (HHA), in Syracuse, is being disposed due to the realignment of Griffiss AFB. The environmental impacts of disposal and reuse of HHA are being analyzed in an EIS being developed by the Federal Aviation Administration (FAA), with the Air Force as cooperating agency.

ALTERNATIVES INCLUDING THE PROPOSED ACTION

For the purpose of evaluating potential environmental impacts resulting from the reuse of the land, the Air Force has based its Proposed Action on conceptual plans developed by the local redevelopment authority, the Griffiss Local Development Corporation (GLDC). The Proposed Action reflects the community's goal for base reuse, which is to develop a high technology office/research and development (R&D) complex around the highly technical/scientific core provided by Rome Lab. With the Proposed Action, a north-south parkway would be constructed to provide better access to the central portion of the base.

With the Proposed Action and some of the alternatives, Rome Lab, NEADS, the New York Air National Guard, and DRMO would remain at the base. In addition, DFAS and VA would establish operations prior to realignment. For the Proposed Action, compatible nonaviation reuses would include industrial, education/training, and residential uses accessed by the new parkway.

The following alternatives to the Proposed Action are considered:

- The Griffiss Research Park Alternative (Alternative A) centers around redevelopment of the base as a research park. With this alternative, Rome Lab and the DFAS Center would be used to attract other R&D tenants. This concept does not include residential uses or construction of a parkway, but does include an expanded golf course and reforested open space area.

- The Mohawk Valley Business Center Alternative (Alternative B) focuses on developing a business and commercial district adjacent to the Rome Lab facilities. This alternative would include construction of a new 18-hole golf course, an aviation museum, a new residential area, and a parkway.

- With the Regional Aviation Alternative (Alternative C), the Oneida County Airport would be relocated to Griffiss AFB. Development of aviation-oriented industrial tenants would occur on the parcels adjacent to the airfield. This alternative also includes a parkway, open space, a small

education/training and residential area, and a future commercial recreational/entertainment reserved area.

- The No-Action Alternative would result in the U.S. Government retaining ownership of all Griffiss AFB property after realignment. Rome Lab, NEADS, the New York Air National Guard, and the regional DRMO were authorized to remain at the base following the realignment date of September 30, 1995. The DFAS Center and VA outpatient clinic would be established. The remainder of the base would be placed in caretaker status and would not be reused.

SCOPE OF STUDY

The Notice of Intent to prepare an EIS for the disposal and reuse of Griffiss AFB was published in the *Federal Register* on October 28, 1993. Issues related to the disposal and reuse of Griffiss AFB were identified during an ensuing scoping period. A public scoping meeting was held on May 19, 1994, at the Rome City Council Chambers in Rome, New York. The comments and concerns expressed at this meeting and in written correspondence received by the Air Force, as well as information from other sources, were used to determine the scope and direction of studies and analyses required to accomplish this EIS. The Draft EIS was made available in August 1995, with a public hearing held on August 29, in Rome, New York. Comments made at the hearing and received in writing during the comment period have been addressed in this final EIS.

This EIS discusses the potential environmental impacts associated with the Proposed Action and reasonable alternatives, as well as with interim reuse activities (e.g., interim outleases) which may be allowed by the Air Force before final realignment of the base. To establish the context in which these environmental impacts may occur, potential changes in population and employment, land use and aesthetics, transportation, and community and public utility services are discussed as reuse-related influencing factors. Issues related to current and future management of hazardous materials and waste are also discussed. Potential impacts to the physical and natural environment are evaluated for soils and geology, water resources, air quality, noise, biological resources, and cultural and paleontological resources. These impacts may occur as a direct result of disposal/realignment and reuse actions or as an indirect result of changes in the surrounding region.

The baseline against which the Proposed Action and alternatives are analyzed consists of the conditions projected at base realignment in 1996 (first full year after final realignment in September 30, 1995). Although the baseline assumes a realigned base, a reference to pre-realignment conditions is provided in several sections (e.g., air quality and noise) to allow a comparative analysis over time. This will assist the Air Force decision-maker and other agencies that may be required to make decisions relating to reuse of Griffiss AFB in understanding potential long-term trends compared to historic conditions when the installation was active.

The Air Force has also prepared a separate Socioeconomic Impact Analysis Study (SIAS) on the economic effects expected in the region as a result of the disposal/realignment and reuse of Griffiss AFB. That document, although not required by NEPA, will assist the local community in planning for the transition of the base from military to civilian use. Population and employment data developed for the SIAS were used to establish influencing factors in this EIS.

SUMMARY OF ENVIRONMENTAL IMPACTS

This EIS considers environmental impacts of the Air Force's realignment of the installation and presents a variety of potential land uses to cover reasonably foreseeable future uses of the property and facilities by the U.S. Government and others. Several alternative scenarios, including the local community's proposed plan, were used to group reasonable land uses and to examine the environmental effects of likely reuse of Griffiss AFB.

Environmental impacts of the Proposed Action and reasonable alternatives are briefly described in the following sections. Influencing factors, which include projections of reuse activities that would likely influence the biophysical environment, include ground disturbance, socioeconomic factors, and infrastructure demands, and are summarized in Table S-1. The employment and population trends are shown in Figures S-1 and S-2. Impacts of the Proposed Action and alternatives through the year 2016 are summarized in Table S-2 and described in the following sections.

Mitigations and Pollution Prevention

Options of mitigating potential environmental impacts that may result from base realignment or from the Proposed Action or alternatives are presented and discussed. Because most potential environmental impacts would result directly from reuse by others, the Air Force would not typically be responsible for implementing such mitigations. Full responsibility for these suggested mitigations, therefore, would be borne primarily by future property recipients or local governmental agencies. Mitigation suggestions, where appropriate, are listed in terms of their potential effectiveness if implemented for affected resource areas, and are summarized along with the environmental impacts of the Proposed Action and alternatives in Table S-2.

PROPOSED ACTION

Local Community

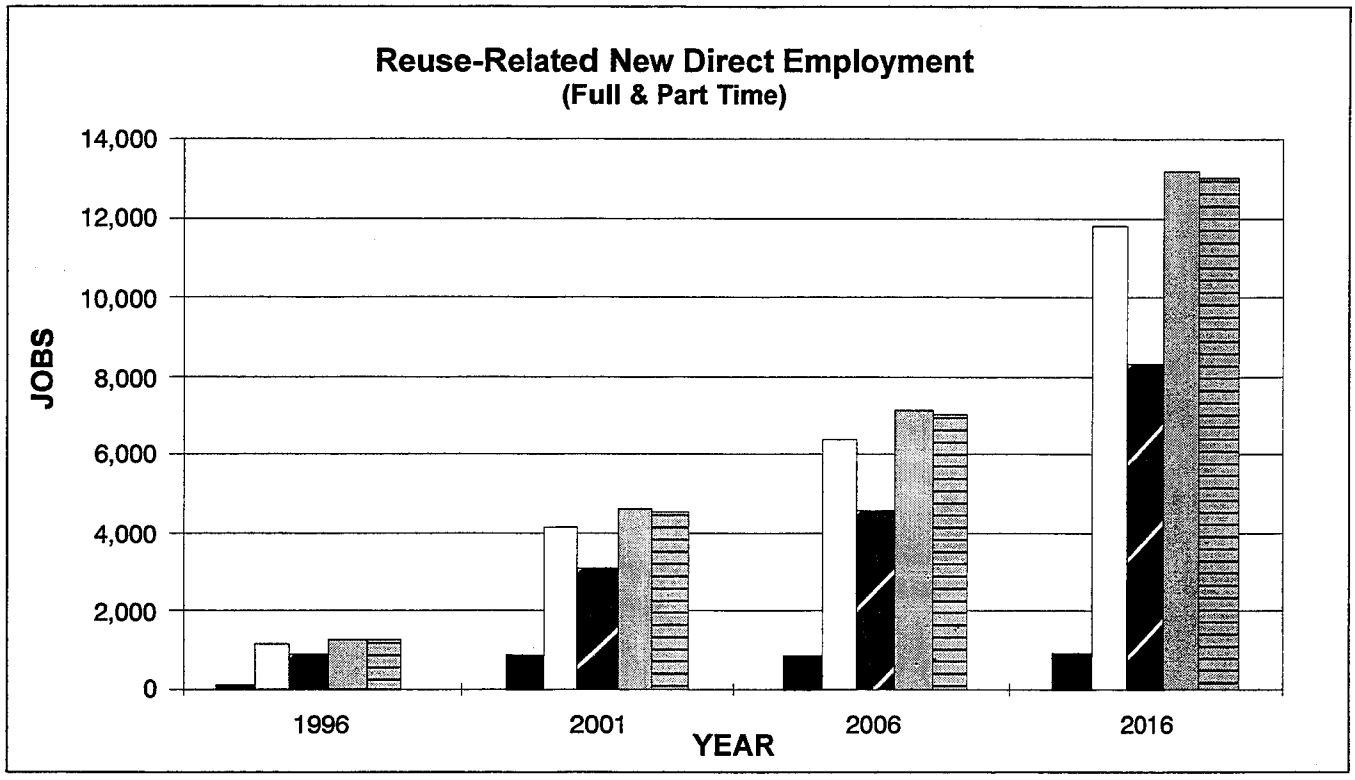
The Proposed Action would result in increases in employment and population in Oneida County. A total of 17,258 total jobs (11,684 direct and 5,574 secondary) would be generated by 2016. The population of Oneida County is projected to increase by 16,133 or 6.6 percent above the realignment baseline. Most of these people are expected to reside in the City of Rome.

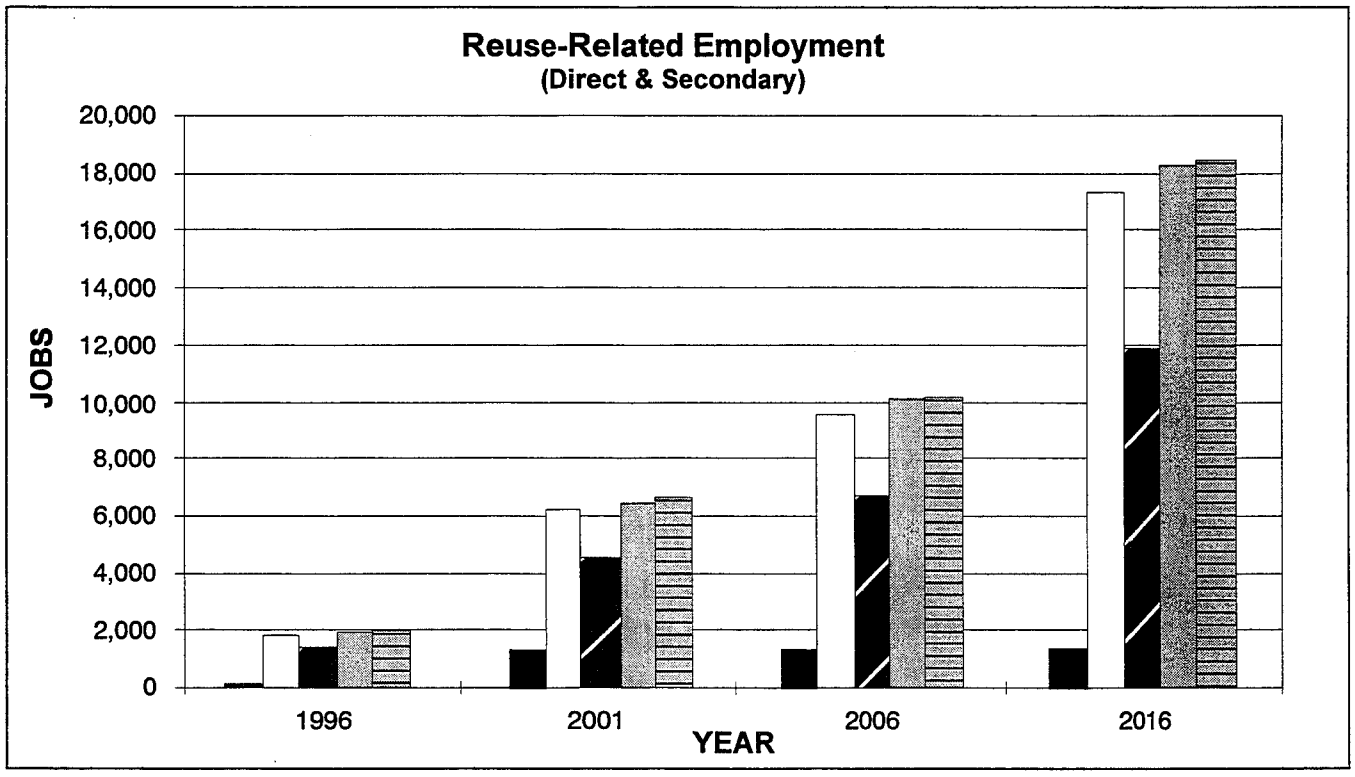
Table S-1

Griffiss AFB Summary of Reuse-Related Influencing Factors

	Factors													
		Aircraft Operations (annual)[1]		Employment										
	Ground Disturbance (acres by phase)	Remaining	New	Construction/ Demolition	Operations	Total New Direct[2]	Secondary	Regional Population Increase	Traffic (average daily/one-way trips)	Water Demand (MGD)[3]	Wastewater Generation (MGD)	Solid Waste Generation[4] (tons/day)	Electricity Demand (MWh/day)[5]	Natural Gas Demand (thousand therms/day)
Proposed Action														
1996	0	480	0	254	923	1,177	653	437	7,400	0.085	0.056	50	21.162	0.514
2001	397	480	0	285	3,812	4,097	2,099	2,265	21,600	0.239	0.156	19.75	74.066	1.797
2006	134	480	0	149	6,218	6,367	3,148	4,979	31,250	0.356	0.233	14.05	116.389	2.825
2016	82	480	0	0	11,684	11,684	5,574	16,133	53,600	0.620	0.405	14.76	211.616	5.135
Alternative A - Griffiss Research Park														
1996	0	480	0	188	750	938	484	225	4,800	0.056	0.034	9.38	19.283	0.506
2001	257	480	0	200	2,845	3,045	1,450	1,673	12,750	0.135	0.079	11.18	59.458	1.496
2006	86	480	0	85	4,490	4,575	2,082	3,037	16,850	0.183	0.105	6.05	86.242	2.156
2016	29	480	0	0	8,232	8,232	3,579	9,026	27,350	0.301	0.171	9.38	151.712	3.768
Alternative B - Mohawk Valley Business Center														
1996	0	480	0	320	994	1,314	629	299	5,250	0.064	0.041	12.40	26.835	0.676
2001	408	480	0	356	4,208	4,564	1,829	997	13,500	0.163	0.095	15.07	86.635	2.108
2006	185	480	0	181	6,925	7,106	2,963	6,529	18,250	0.237	0.136	8.91	134.475	3.254
2016	44	480	0	0	13,098	13,098	5,136	19,109	29,750	0.403	0.226	14.73	242.115	5.832
Alternative C - Regional Aviation Complex														
1996	0	480	0	312	985	1,297	686	424	5,750	0.066	0.041	12.33	25.840	0.650
2001	346	480	0	345	4,158	4,503	2,105	2,365	15,250	0.72	0.104	14.84	83.152	2.017
2006	114	480	71,294	173	6,836	7,009	3,102	6,290	21,750	0.243	0.146	8.29	124.417	3.001
2016	56	480	74,939	0	12,921	12,921	5,431	18,680	36,450	0.428	0.256	14.04	232.165	5.571
No-Action Alternative														
1996	0	480	0	0	145	145	51	0	4,450	0.09	0.06	1.00	38	0.32
2001	0	480	0	0	865	865	434	0	4,450	0.09	0.06	1.00	38	0.32
2006	0	480	0	0	865	865	434	0	4,450	0.09	0.06	1.00	38	0.32
2016	0	480	0	0	865	865	434	0	4,450	0.09	0.06	1.00	38	0.32

Notes: [1]There will continue to be an estimated 480 operations per year from transient military aircraft using Griffiss AFB for deployment of U.S. Army troops with all alternatives, comprised of 120 operations each from four types of aircraft (B-747, L-1011, C-5, and C-141). This was considered baseline for all alternatives. For the Regional Aviation Complex Alternative, it was assumed that civilian aircraft operations at Griffiss AFB in 2006 would be the same as those projected for Oneida County Airport operations in that year, based on an average annual growth rate of 0.5 percent (Hamilton, Rabinovitz, and Alschuler et al. 1994).
[2]New direct employment includes the addition of 650 DFAS and 100 VA Clinic employees on government-retained land by 1999 and 1997, respectively, 45 heat plant jobs, decreasing to 15 in 1997, and 100 caretaker personnel beginning in 1996.
[3]MGD = million gallons per day.
[4]Solid waste generation includes building demolition during the early years of redevelopment.
[5]MWh = megawatt-hour = million watt-hour.



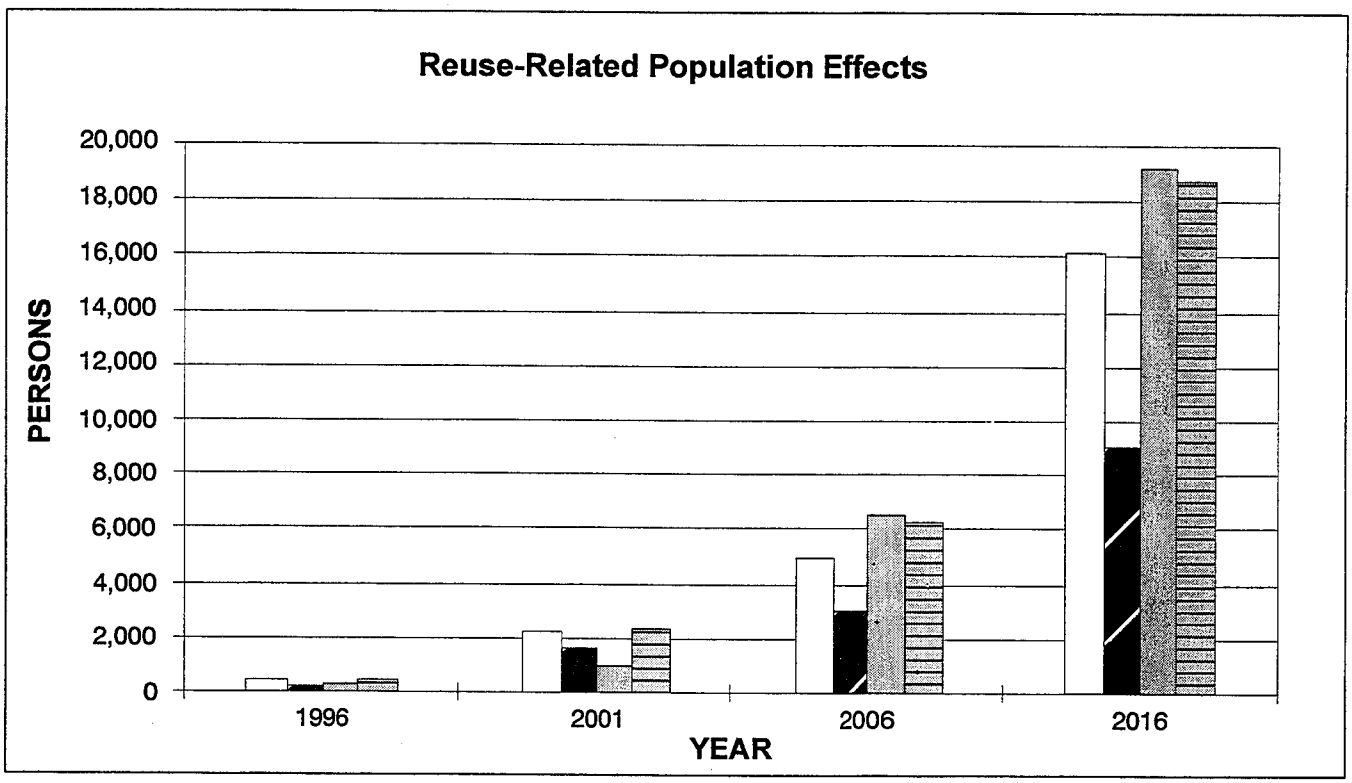


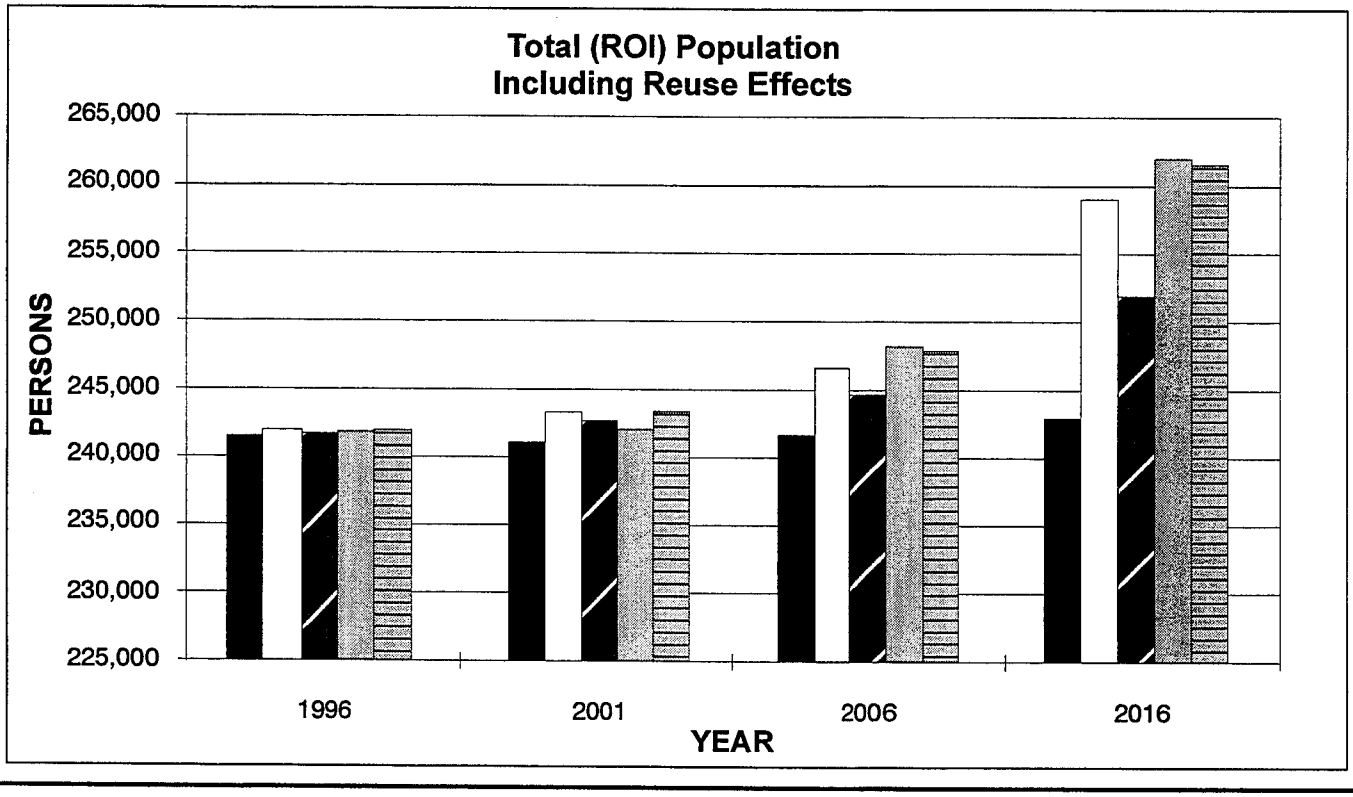
E008_011.CDR 10/03/95

- No-Action Alternative
- Proposed Action
- Griffiss Research Park Alternative
- Mohawk Valley Business Center Alternative
- Regional Aviation Complex Alternative

Oneida County Reuse-Related Employment Effects

Figure S-1





E008_012.CDR 10/03/95

- No-Action Alternative
- Proposed Action
- Griffiss Research Park Alternative
- Mohawk Valley Business Center Alternative
- Regional Aviation Complex Alternative

Oneida County Reuse-Related Population Effects

Figure S-2

Table S-2

Summary of Environmental Impacts and Mitigation Measures for the Proposed Action and Reuse Alternatives

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
LOCAL COMMUNITY - Land Use and Aesthetics					
Conditions: • Continued inconsistencies with outdated master plans and zoning ordinances.	**Impacts:** • Continued inconsistencies with outdated master plans and zoning ordinances.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.
• Continued land use incompatibilities with AICUZ program.	• Continued land use incompatibilities with AICUZ program.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.
	• Conversion of 32 acres of prime farmland to nonagricultural use.	• No conversion of prime farmland.	• Conversion of 49 acres of prime farmland by construction of a residential development.	• Conversion of 68 acres of prime farmland.	• No conversion of prime farmland.
• Geographical constraint to eastward urban growth patterns of Rome.	• Orderly planned expansion of urban Rome.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	• City would no longer have base redevelopment opportunity, and the base would remain a geographical constraint to eastward urban growth patterns of Rome.
	• Construction of parkway on Griffiss AFB site would mitigate most adverse impacts associated with 1970 master planned alignment.	• No onbase parkway. Reuse of existing onbase roads for bypass would mitigate most adverse impacts associated with a superseded 1960 master planned alignment.	• Same as Proposed Action.	• Same as Proposed Action.	• No onbase parkway.
	• Modified existing 9-hole golf course.	• Expanded 18-hole golf course.	• New 18-hole golf course.	• Elimination of base golf course.	• No changes.
	• Potential conflicts with offbase land use from parkway. Displacement of eight single-family residences. Onbase displacement of two golf course holes and one sewer pump lift station. One agricultural lease would be split by parkway.	• No displacement of residents and no change to visual resources.	• New residential development would encroach into the Mohawk River Corridor, reducing its width and adversely affecting high sensitivity viewpoints.	• Parkway would encroach inside Mohawk River Corridor. Parkway would provide access to the corridor to the greatest number of persons.	• Offbase parkway route would adversely affect Mohawk River Corridor and displace hundreds of residents.

Table S-2, Page 2 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
LOCAL COMMUNITY - Land Use and Aesthetics (cont.)					
	• Reduction in acreage off the base within DNL 65 dB noise contours, permitting local governments the opportunity to plan for higher and best use of offsite private property.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action. • Closure of Oneida County Airport. Elimination of one of two airport approach zones of City of Rome Master Plan and zoning would allow land to be used for other appropriate uses.	• Reduction of offbase noise contours would still occur.
	• Open space network would buffer airfield and proposed industrial and commercial uses from proposed residential, institutional (educational), long-term planned high-scale, commercial and urban Rome.	• Expanded open space network to buffer airfield and industrial, commercial, and institutional (education) complex from urban Rome. No residential and long-term high-scale commercial uses.	• Same as Proposed Action.	• Same as Proposed Action.	
	Mitigation Measures:	**Mitigation Measures:**	**Mitigation Measures:**	**Mitigation Measures:**	**Mitigation Measures:**
	Required:	**Required:**	**Required:**	**Required:**	**Required:**
	• Convert alternate launch surface to taxiway use through the closure of blast pad and overrun area at the northend of the existing taxiway .	• None required.	• Set back proposed northern residential development to the east side of Perimeter Road.	• None required.	• Allow public access to Wright Drive, Hill Road, Floyd Avenue, and Mohawk Drive (short term). Grant parkway easement with same alignment as Proposed Action.
	Additional Potential:	**Additional Potential:**	**Additional Potential:**	**Additional Potential:**	**Additional Potential:**
	• Align parkway to avoid sewer lift station.	• None required.	• Same as Proposed Action.	• Same as Proposed Action.	• None required.
	• Plan parkway design to preserve Black River Canal and tow paths.		• Same as Proposed Action.	• Same as Proposed Action.	
	• Terminate parkway alignment at intersection of Black River Boulevard (SH-46) and Potter Road to reduce displaced residences from 8 to 2 and avoid cemetery.		• Terminate parkway alignment at intersection of Black River Boulevard (SR 46) and Potter Road to reduce displaced residences from 8 to 2 and avoid cemetery.	• Same as Proposed Action.	

Table S-2, Page 3 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
LOCAL COMMUNITY - Land Use and Aesthetics (cont.)					
	• Convey public utility, drainage, road, highway and railroad easements and outgrants to permanent status.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	
	• Establish conservation easements.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	
	• Process zone change amendments.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	
Transportation					
Conditions:	**Impacts:**	**Impacts:**	**Impacts:**	**Impacts:**	**Impacts:**
• 4,450 daily vehicular trips. Existing gates remain active. All key roadway segments would operate at LOS E or better.	• Increase to 53,600 daily vehicular trips. Two reopened base-access points and a new parkway linking SH-49 and SH-46 would be provided. Reuse-generated traffic would cause some road segments to operate at LOS F by 1999.	• Increase to 27,350 daily vehicular trips. Two reopened base-access points and existing gates would be used. Reuse-generated traffic would cause some road segments to operate at LOS F by 2003.	• Increase to 29,750 daily vehicular trips. Two reopened access points and a new parkway would be provided similar to those for the Proposed Action. Reuse-generated traffic would cause some road segments to operate at LOS F by 2002.	• Increase to 36,450 daily vehicular trips. One reopened access point in addition to the existing gates and a new parkway would be provided similar to the Proposed Action. Reuse-generated traffic would cause some road segments to operate at LOS F by 2000.	• One key road would deteriorate to LOS F by 2007. Other key roadway segments would operate at LOS E or better.
• 480 annual aircraft operations associated with deployment of U.S. Army troops.	• No change in annual aircraft operations.	• Same as Proposed Action.	• Same as Proposed Action.	• Substantial increase of 75,000 annual aircraft operations.	• Substantial reduction in base-related traffic and aircraft operations.
• No airspace conflicts or air transportation impacts.	• No airspace conflicts or air transportation impacts.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.
	Mitigation Measures:	**Mitigation Measures:**	**Mitigation Measures:**	**Mitigation Measures:**	**Mitigation Measures:**
	Required:	**Required:**	**Required:**	**Required:**	**Required:**
	• Implement standard construction practices (e.g., traffic control, staging, scheduling).	• Similar to those for the Proposed Action.	• Similar to those for the Proposed Action.	• Similar to those for the Proposed Action.	• Widen to 4 lanes East Dominick Street near the site.
	• Implement Transportation System Management measures.				
	Additional Potential:	**Additional Potential:**	**Additional Potential:**	**Additional Potential:**	**Additional Potential:**
	• Create an efficient onsite circulation plan.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.

Table S-2, Page 4 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
LOCAL COMMUNITY - Transportation (cont.)					
	• Widen the connection of SH-49 interchange and the onsite parkway. • Widen East Dominick Street, Floyd Avenue, and Chestnut Street to four lanes near the site. • Implement a Transportation Demand Management Program.				
Utilities					
Conditions: **In the ROI (1993)** Water: 10.30 MGD Wastewater: 10.70 MGD Solid Waste: 46.70 tons/day Electricity: 2,271 MWh/day Natural Gas: 64.45 thousand therms/day	**Impacts:** • Slight increase in some ROI utility demands. ROI utility capacity is sufficient to accommodate projected demands.	**Impacts:** • Slight decrease in ROI utility demands. Current systems have capacity to accommodate the projected demands.	**Impacts:** • Slight increase in some ROI utility demands. Current systems have capacity to accommodate the projected demands.	**Impacts:** • Same as Alternative B.	**Impacts:** • Substantial reduction in base-related utility use.
	• Interconnection required to provide service to retained onbase users. Pretreatment of industrial wastewater may be required.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	• Distribution/collection systems would need reconfiguration for minimal usage.
	Mitigation Measures: **Required:** • Provide wastewater treatment in accordance with applicable permit requirements.	**Mitigation Measures:** **Required:** • Same as Proposed Action.	**Mitigation Measures:** **Required:** • Same as Proposed Action.	**Mitigation Measures:** **Required:** • Same as Proposed Action.	**Mitigation Measures:** **Required:** • Same as Proposed Action.
	Additional Potential: • Seek Federal funding for additional or improved water and wastewater treatment and distribution systems.	**Additional Potential:** • Same as Proposed Action.	**Additional Potential:** • Same as Proposed Action.	**Additional Potential:** • Same as Proposed Action.	**Additional Potential:** • Same as Proposed Action except for wastewater treatment system funding.

Table S-2, Page 5 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
LOCAL COMMUNITY - Utilities (cont.)					
	• Develop water conservation strategies to reduce water use and the need for additional infrastructure. • Institute waste source separation to reduce solid waste. • Develop energy conservation strategies to reduce energy consumption and the need for additional infrastructure. • Provide temporary operations and maintenance procedures and modification of utility systems to increase efficiency during low demand in initial phases of reuse.				
HAZARDOUS SUBSTANCES MANAGEMENT - Hazardous Materials Management					
Conditions: • Materials used by retained organizations and caretaker personnel will be managed in compliance with applicable regulations.	**Impacts:** • An increase in quantities of materials used over realignment baseline conditions. **Mitigation Measures:** **Required:** • Compliance with applicable regulations would preclude unacceptable impacts. **Additional Potential:** • Reduce cost of environmental compliance, health and safety, and waste management through cooperative planning between reuse organizations.	**Impacts:** • Same as Proposed Action **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.	**Impacts:** • Increase in types (e.g., aviation gas) and quantities of materials used with civilian aviation reuses. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.	**Impacts:** • No change in types and quantities used. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.

Table S-2, Page 6 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
HAZARDOUS SUBSTANCES MANAGEMENT - Hazardous Materials Management (cont.)					
	• Increase recycling, minimize waste generation, and assist in mutual spill responses through cooperative planning. • Implement pollution prevention and waste minimization strategies recommended by the EPA through cooperative planning.				
Hazardous Waste Management					
• Wastes generated by retained organizations and caretaker personnel will be managed in accordance with applicable regulations.	**Impacts:** • Increase in quantities of wastes generated compared to realignment baseline conditions. **Mitigation Measures:** **Required:** • Compliance with applicable regulations would preclude unacceptable impacts . **Additional Potential:** • Scheduling of collection days for household hazardous waste in residential areas. • Implementation of education and awareness programs on recycling, waste minimization, and waste disposal.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.	**Impacts:** • Increase in quantities of wastes generated with civilian aviation reuses. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same As Proposed Action.	**Impacts:** • No change in quantities generated. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.
Installation Restoration Program					
Conditions: • IRP activities will continue regardless of base realignment and reuse. IRP remediation activities will continue in accordance with applicable regulations.	**Impacts:** • Possible redevelopment delays and land use restrictions due to remediation activities.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • IRP remediation activities completed or continued as needed.

Table S-2, Page 7 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
HAZARDOUS SUBSTANCES MANAGEMENT - Installation Restoration Program (cont.)					
	Mitigation Measures: **Required:** • Active coordination between Air Force and property recipients to address potential problems. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Comply with IRP plan. **Additional Potential:** • None needed.
Storage Tanks and Oil/Water Separators					
Conditions: • Storage tanks and oil/water separators used by retained government organizations will be managed in accordance with applicable regulations. Systems not required for reuse will be removed or maintained in place in accordance with applicable regulations and Air Force policy.	**Impacts:** • Potential new or retained tanks to support redevelopment activities.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action. Additional tanks may be required to support civilian aviation reuses.	**Impacts:** • Storage tanks and oil/water separators would be removed or maintained in place according to regulations.
	Mitigation Measures: **Required:** • Appropriate precautions to avoid damage to tanks and associated piping systems during construction. • Storage tanks or oil/water separators required by new owner/operator would be subject to all regulations to avoid unacceptable impacts. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • None needed. **Additional Potential:** • None needed.
Asbestos					
Conditions: • Asbestos posing a health risk will be abated. Remaining asbestos will be managed in accordance with applicable regulations and Air Force policy.	**Impacts:** • Maintenance, renovation, and/or demolition of structures with ACM.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Continued management of asbestos in accordance with Air Force policy.

Table S-2, Page 8 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
HAZARDOUS SUBSTANCES MANAGEMENT - Asbestos (cont.)					
	Mitigation Measures: **Required:** • Identification and disclosure of facilities with ACM. • Maintenance and renovation activities in facilities with ACM should be performed in accordance with applicable regulations to minimize risk to human health and the environment. • Demolition of structures with ACM would be performed in accordance with applicable regulations to reduce potential asbestos fiber emissions. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • None needed. **Additional Potential:** • None needed.
Pesticides					
Conditions: • Pesticides used by retained government organizations and caretaker personnel will be managed in compliance with applicable regulations.	**Impacts:** • Increased use of pesticides over realignment baseline. **Mitigation Measures:** **Required:** • Storage and use of pesticides in accordance with Federal and State regulations would preclude unacceptable impacts. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • No change in usage or management practices. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.
Polychlorinated Biphenyls					
Conditions: • All Federally regulated PCBs will be removed and properly disposed of prior to realignment.	**Impacts:** • All Federally regulated PCBs will be removed prior to transfer of property.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.

Table S-2, Page 9 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
HAZARDOUS SUBSTANCES MANAGEMENT - Polychlorinated Biphenyls (cont.)					
	Mitigation Measures: **Required and Additional Potential:** • None needed.	**Mitigation Measures:** **Required and Additional Potential:** • None needed.	**Mitigation Measures:** **Required and Additional Potential:** • None needed.	**Mitigation Measures:** **Required and Additional Potential:** • None needed.	**Mitigation Measures:** **Required and Additional Potential:** • None needed.
Radon					
Conditions: • No occupancy of facilities with recorded radon levels above 4 pCi/l is expected.	**Impacts:** • Potential exposure to levels greater than the EPA standard (4 pCi/l). **Mitigation Measures:** **Required:** • Disclosure of potential hazard will be made to property recipients. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • No occupancy of facilities with recorded radon levels above 4 pCi/l is expected. **Mitigation Measures:** **Required:** • None needed. **Additional Potential:** • None needed.
Medical/Biohazardous Waste					
Conditions: • All waste will be removed prior to closure.	**Impacts:** • Additional wastes would be generated with reuse of hospital by VA. **Mitigation Measures:** **Required:** • Waste will be managed in accordance with applicable regulations **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.
Ordnance					
Conditions: • All ordnance, except that required for security forces, will be removed prior to realignment.	**Impacts:** • No impact.	**Impacts:** • No impact.	**Impacts:** • No impact.	**Impacts:** • No impact.	**Impacts:** • No impact.

Table S-2, Page 10 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
HAZARDOUS SUBSTANCES MANAGEMENT - Lead					
Conditions: • Base facilities would be maintained to prevent potential exposure to LBP.	**Impacts:** • Renovation and/or demolition of facilities with LBP. **Mitigation Measures:** **Required:** • Disclosure of presence or assumed presence of LBP in base facilities will be made to property recipients. • Maintenance and renovation activities in facilities with LBP should be performed in accordance with applicable regulations to minimize risk to human health and the environment. • Demolition of structures with LBP would be performed in accordance with applicable regulations. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Base facilities would be maintained to prevent exposure to LBP. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.
NATURAL ENVIRONMENT - Soils and Geology					
Conditions: • No ground disturbance.	**Impacts:** • Minor erosion effects from 613 acres of ground disturbance. • Disturbance of 32 acres of prime farmland. **Mitigation Measures:** **Required:** • Use techniques such as protective cover, dust control, and diversion dikes to minimize erosion during and after construction. **Additional Potential:** • None needed.	**Impacts:** • Minor erosion effects from 372 acres of ground disturbance. • No prime farmland disturbed. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Minor erosion effects from 637 acres of ground disturbance. • Disturbance of 49 acres of prime farmland. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Minor erosion effects from 516 acres of ground disturbance. • Disturbance of 68 acres of prime farmland. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • No ground disturbance. **Mitigation Measures:** **Required:** • None needed. **Additional Potential** • None needed.

Table S-2, Page 11 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
NATURAL ENVIRONMENT - Water Resources					
Conditions: • No ground disturbance. • Adequate water supply for limited onbase demand.	**Impacts:** • Disturbance of 613 acres could affect surface water flow and water quality. **Mitigation Measures:** **Required:** • Use standard construction practices, control site runoff, maintain diversion channels, and minimize surface disturbance and length of exposure time. • Compliance with SPDES and local permit requirements for stormwater and wastewater discharge. **Additional Potential:** • None needed.	**Impacts:** • Disturbance of 372 acres could affect surface water flow and water quality. **Mitigation Measures:** **Required:** • Same as Proposed Action. • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Disturbance of 637 acres could affect surface water flow and water quality. **Mitigation Measures:** **Required:** • Same as Proposed Action. • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Disturbance of 516 acres could affect surface water flow and water quality. **Mitigation Measures:** **Required:** • Same as Proposed Action. • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • No change in water demand. • No effect on water quality. **Mitigation Measures:** **Required:** • None needed. • None needed. **Additional Potential:** • None needed.
Air Quality					
Conditions: • NO_x: 0.215 ton/day VOC: 0.184 ton/day PM_{10}: 0.008 ton/day SO_2: 0.897 ton/day CO: 0.044 ton/day • Limited air pollutant emissions generated from retained government and caretaker activities.	**Impacts:** • Net change in reuse-related emissions in 2006 compared to pre-realignment baseline: NO_x: -0.239 ton/day VOC: -0.756 ton/day PM_{10}: 0.004 ton/day SO_2: 0.299 ton/day CO: -0.129 ton/day • Increased air pollutant emissions during construction and operations would not affect the region's attainment designation for all criteria pollutants.	**Impacts:** • Net change in reuse-related emissions in 2006 compared to pre-realignment baseline: NO_x: -0.692 ton/day VOC: -1.098 tons/day PM_{10}: -0.049 ton/day SO_2: -0.305 ton/day CO: -3.124 tons/day • Same as Proposed Action.	**Impacts:** • Net change in reuse-related emissions in 2006 compared to pre-realignment baseline: NO_x: -0.586 ton/day VOC: -1.045 ton/day PM_{10}: -0.011 ton/day SO_2: -0.301 ton/day CO: -2.771 tons/day • Same as Proposed Action.	**Impacts:** • Net change in reuse-related emissions in 2006 compared to pre-realignment baseline: NO_x: -0.493 ton/day VOC: -0.975 ton/day PM_{10}: -0.004 ton/day SO_2: -0.300 ton/day CO: -1.519 tons/day • Same as Proposed Action.	**Impacts:** • Similar emission sources. Continued implementation with appropriate air emission controls.

Table S-2, Page 12 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
NATURAL ENVIRONMENT - Air Quality (cont.)					
	Mitigation Measures: **Required:** • Control fugitive dust and combustion emissions from construction activities. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** **Additional Potential:** • None needed.
Noise					
Conditions: • 3,619 acres and 1,109 residents exposed to DNL 65 dB or greater due to continued military aircraft operations.	**Impacts:** • No change in aircraft noise levels from realignment baseline.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.
• Minimal number of residents exposed to DNL 65 dB or greater due to base-related surface traffic.	• DNL distances from roadway centerlines would be almost double those of pre-realignment baseline due to increased surface traffic by 2016.	• DNL distances from roadway centerlines would be about 50 percent greater than those of pre-realignment baseline due to increased surface traffic by 2016.	• DNL distances from the roadway centerlines would be about 20 percent greater than those of pre-realignment baseline due to increased surface traffic by 2016.	• Same as Alternative A.	• Reduced surface traffic noise impacts.
	Mitigation Measures: **Required and Additional Potential:** • None needed.	**Mitigation Measures:** **Required and Additional Potential:** • None needed.	**Mitigation Measures:** **Required and Additional Potential:** • None needed.	**Mitigation Measures:** **Required and Additional Potential:** • None needed.	**Mitigation Measures:** **Required and Additional Potential:** • None needed.
Biological Resources					
Conditions: • No ground disturbance.	**Impacts:** • Up to 613 acres of ground disturbance. Probable loss of 14 acres of upland forest.	**Impacts:** • Up to 372 acres of ground disturbance (including 100 acres for golf course expansion). No loss of upland forest expected.	**Impacts:** • Up to 637 acres of ground disturbance (including 260 acres for new golf course development). Probable loss of 85 acres of upland forest.	**Impacts:** • Up to 516 acres of ground disturbance. Probable loss of 12 acres of upland forest.	**Impacts:** • No ground disturbance. • Reduction in base-related activities.
• No threatened or endangered species on the base.	• No impacts to threatened and endangered species.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	
• 111 acres of jurisdictional wetlands present.	• Potential loss of approximately 1.5 acres of wooded jurisdictional wetlands and 1.5 acres of NYSDEC-determined wetlands.	• No impact to wetlands.	• Loss of approximately 25 acres of wooded jurisdictional wetlands and 11 acres of NYSDEC-determined wetlands.	• Potential loss of approximately 1 acre of wooded jurisdictional wetlands and 1 acre of NYSDEC-determined wetlands.	• Potential increase in habitat value due to long-term decrease in human activity.

Table S-2, Page 13 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
NATURAL ENVIRONMENT - Biological Resources (cont.)					
	• Beneficial impacts to water quality of runoff into wetlands (on and offbase) following realignment and site cleanups.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	
	Mitigation Measures:	**Mitigation Measures:**	**Mitigation Measures:**	**Mitigation Measures:**	**Mitigation Measures:**
	Required:	**Required:**	**Required:**	**Required:**	**Required:**
	• Avoidance of sensitive habitats. • Standard conservation practices and soil stabilization. • Compliance with New York law and Federal regulations (Clean Water Act, Section 404 and E.O. 11990).	• In general, same as Proposed Action, but no wetlands mitigations needed.	• Same as Proposed Action.	• In general, same as Proposed Action, but no wetlands mitigations needed.	• None needed.
	Additional Potential:	**Additional Potential:**	**Additional Potential:**	**Additional Potential:**	**Additional Potential:**
	• Minimize direct/indirect disturbances by planning and design. • Conservation easements or deed restrictions. • Develop replacement/ additional habitats. • Monitor mitigated habitats.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.
Cultural Resources					
Conditions: • Two prehistoric sites, 18 historic sites, and some structures associated with World War II and the Cold War are considered potentially eligible for the NRHP.	**Impacts:** • Potential adverse effects to properties potentially NRHP-eligible, including two prehistoric sites, through land conveyance and some historic structures through modification or demolition.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • No effect on cultural resources because property would remain under Federal jurisdiction.

Table S-2, Page 14 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
NATURAL ENVIRONMENT - Cultural Resources (cont.)					
	Mitigation Measures: **Required:** • Consultation with New York SHPO and Advisory Council on Historic Preservation to development appropriate mitigation measures. • Preparation of agreement document to establish acceptable mitigation measures. • Define and implement protective covenants for NRHP-eligible resources in land conveyance documents with non-Federal owners. **Additional Potential:** • Data recovery of prehistoric sites. • Archival research for historic structures. • Historic American Building Survey documentation for historic structures.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.

Notes:
ACM = Asbestos-containing material
AICUZ = Air Installation Compatible Use Zone
CO = Carbon monoxide
dB = Decibel
DNL = Day-night average noise level
E.O. = Executive Order
EPA = U.S. Environmental Protection Agency
IRP = Installation Restoration Program
LBP = Lead-based paint
LOS = Level of service
NO_x = Nitrogen oxide
NRHP = National Register of Historic Places
NYSDEC = New York State Department of Environmental Conservation
PCBs = Polychlorinated biphenyls
pCi/l = Pico curies per liter
PM_{10} = Particulate matter
ROI = Region of Influence
SH = State Highway
SHPO = State Historic Preservation Office
SO_2 = Sulfur dioxide
SPDES = State Pollutant Discharge Elimination System
SR = State Route
VA = U.S. Department of Veterans Affairs
VOC = Volatile organic compound

The Proposed Action would include the reuse of the base for industrial, commercial, institutional, and residential development, in addition to the government-retained uses. Approximately 835 acres of open space would be maintained to act as a buffer separating the intensive industrial, commercial, and aviation land uses of the Proposed Action from the urban areas in Rome and the planned residential and institutional land uses. The proposed regional parkway would encroach upon the clear zone and the proposed right-of-way has the potential to displace up to eight single-family residences off the base. Significant impacts could be avoided with mitigation measures. Reuse proposals would generally be inconsistent with local land use plans and policies; therefore, local zoning should be changed to reflect uses other than the airfield. The Proposed Action would improve airspace use by eliminating a source of congestion in the overlapping airspace used by Griffiss AFB and Oneida County Airport because air traffic related to Griffiss AFB would be greatly reduced. Average daily traffic on local roads providing access to the base would increase by 53,600 vehicle trips by 2016, the largest increase of all the alternatives. Utility consumption associated with the Proposed Action would be a relatively small increase in the total demand over closure baseline conditions; all utility providers currently have excess capacity.

Hazardous Substances Management

The types of hazardous materials and waste generated as a result of the Proposed Action are expected to be greater than those used and generated with realignment baseline conditions. However, the quantity of hazardous materials generated would be less than those used prior to realignment due to the reduction in aviation-related activities. The responsibility for managing hazardous materials and waste would shift from a single military user to multiple, independent private or public users. This may result in a reduction of service if there is no single onsite organization capable of responding to hazardous material and waste spills. Future users would implement pollution prevention and waste minimization strategies that have been recommended by the U.S. Environmental Protection Agency (EPA) in its *Guides to Pollution Prevention* series of publications and *Waste Minimization Opportunity Assessment Manual.* It was assumed that adequate management procedures would be imposed, as required by applicable laws and regulations, to ensure proper use and handling of hazardous materials.

Reuse activities are not expected to affect the remediation and/or closure of Installation Restoration Program (IRP) sites. However, the IRP remediation schedule could result in delays in the redevelopment of some portions of the base. Existing underground storage tanks not required for reuse activities will be removed by the Air Force. All polychlorinated biphenyl (PCB) and PCB-contaminated equipment will be removed from the base prior to realignment. Demolition and renovation of structures with asbestos-containing materials were assumed to be performed by the new owners in compliance with applicable regulations and National Emissions Standards for Hazardous Air Pollutants. Reuse of some structures on the base may require mitigation for

radon levels greater than the EPA-recommended level for residential and school structures.

Natural Environment

A total of 613 acres would be disturbed by the Proposed Action. Effects on regional soils and geology would be minimal because the majority of the base has been disturbed by past activities. Construction activities would change some surface drainage flows and would increase the amount of impervious surface. Groundwater supplies would not be affected. Carbon monoxide (CO) and particulate matter (PM_{10}) emissions associated with the Proposed Action, when compared to pre-realignment, would increase for CO and PM_{10}; however, all other pollutant emissions would decrease. The CO and PM_{10} increases would not be large enough to exceed Federal or State ambient standards.

Aircraft noise associated with limited use of the airfield for military operations would be less than the noise levels prior to base realignment. Approximately 1,782 fewer acres would be exposed to day-night average noise levels (DNL) of 65 decibels (dB) or greater than were exposed prior to realignment. Surface traffic noise would increase above baseline realignment levels for most road segments. Residences and businesses located along these segments may be exposed to DNLs of 65 dB or greater by 2016.

The Proposed Action would disturb mostly man-made, grassy, landscaped habitat. Some demolition would occur within 100 feet of a wetland, and may require a permit from the State of New York. No reuse activities would occur inside any existing wetland boundary. Several known sites on the base that are considered eligible or potentially eligible for the National Register of Historic Places (NRHP) may be affected and an historic cemetery, located off the base, may also be affected by construction of the parkway.

GRIFFISS RESEARCH PARK ALTERNATIVE (A)

Local Community

This alternative would generate 11,811 total jobs (8,232 direct jobs and 3,579 secondary jobs) by 2016. Most jobs would be filled locally. The population in Oneida County is projected to increase by 9,026 or 3.7 percent above the realignment baseline, with most people residing in the City of Rome.

No adverse impacts associated with the Proposed Action's regional parkway would occur with this alternative. The open space network would be expanded. Impacts on master plans and zoning would be similar to the Proposed Action. Average daily traffic on local roads with this alternative would increase by approximately 27,350 vehicle trips by 2016. Utility consumption associated with this alternative would represent a relatively small increase in the total demand over realignment baseline conditions, but all utility providers currently have excess capacity.

Hazardous Substances Management

There would be no substantial differences between the Griffiss Research Park Alternative and the Proposed Action with respect to hazardous substances management. A smaller amount of hazardous waste would likely be generated because of a reduction in aviation-related activities from pre-realignment conditions. The remediation and/or closure of IRP sites could delay redevelopment of some portions of the base.

Natural Environment

A total of 372 acres would be disturbed with this alternative. Impacts associated with this alternative on soils and geology, water resources, and noise would be similar to those described for the Proposed Action. Air quality impacts would be less than with the Proposed Action. The types of impacts on biological resources would be similar to the Proposed Action; however, the quantities would be much less. More open space is proposed with this alternative resulting in a beneficial effect on biological resources. Impacts to cultural resources on Griffiss AFB would be the same as those described for the Proposed Action.

MOHAWK VALLEY BUSINESS CENTER ALTERNATIVE (B)

Local Community

This alternative would generate 18,234 total jobs (13,098 direct jobs and 5,136 secondary jobs) by the year 2016. The population of Oneida County is projected to increase by 19,109, or 7.9 percent above the realignment baseline, with most of the people expected to reside in the City of Rome.

Land use impacts associated with this alternative are similar to those described for the Proposed Action, including the parkway impacts. A proposed residential development west of the airfield would result in the conversion of 49 acres of prime farmland and would reduce the width of the Mohawk River Corridor on the east side of the river by approximately 90 percent. Redesign of the Mohawk River setbacks would mitigate these impacts. Reuses proposed with this alternative would generally be inconsistent with local plans and policies. Average daily traffic on local roads would increase by approximately 29,750 vehicle trips by 2016. Utility consumption associated with this alternative would represent a relatively small increase in the total demand over realignment baseline conditions, but all utility providers currently have excess capacity.

Hazardous Substances Management

Impacts related to hazardous substances management would be similar to those described for the Proposed Action. Compared to pre-realignment activities, less hazardous waste would be generated due to a reduction in aviation-related uses. The remediation and/or closure of IRP sites could delay the redevelopment of some portions of the base.

Natural Environment

A total of 637 acres would be disturbed with this alternative. Impacts associated with this alternative on soils and geology and noise would be similar to the Proposed Action. About one-half of the proposed golf course would be constructed on an existing wetland that is currently wooded open space. Air quality impacts would be less than the Proposed Action, except for sulfur dioxide emissions. Overall, this alternative would result in the greatest loss of native vegetation, wildlife habitat, and wetlands. Impacts on cultural resources would be the same as those described for the Proposed Action.

REGIONAL AVIATION COMPLEX ALTERNATIVE (C)

Local Community

This alternative would generate 18,352 total jobs (12,921 direct jobs and 5,431 secondary jobs) by the year 2016. The population of Oneida County is projected to increase by 18,680, or 7.7 percent above the realignment baseline, with most of the people expected to reside in the City of Rome.

Land use impacts would be similar to those described for the Proposed Action. Reuse impacts on local plans and policies with this alternative would generally be similar to those associated with the Proposed Action. Average daily traffic on local roads would increase by approximately 36,450 vehicle trips by 2016. Utility consumption associated with this alternative would represent a relatively small increase in the total demand over realignment baseline conditions, but all utility providers currently have excess capacity.

Hazardous Substances Management

The amount of hazardous materials used and hazardous waste generated with this alternative would be greater than those for the Proposed Action because of the increase in aviation-related activities. However, the levels would still be less than those prior to realignment when the base was fully operational. The remediation and/or closure of IRP sites could delay the redevelopment of some portions of the base. Impacts on cultural resources would be the same as those described for the Proposed Action.

Natural Environment

A total of 516 acres would be disturbed with this alternative. Impacts associated with this alternative on soils and geology, water resources, air, noise, and cultural resources would be similar to those described for the Proposed Action. Air quality impacts would be less than the Proposed Action except for sulfur dioxide. The types of impacts on biological resources would be similar to those described for the Proposed Action; however, the quantities would be slightly less. Impacts on cultural resources would be the same as those described for the Proposed Action.

NO-ACTION ALTERNATIVE

Local Community

With the No-Action Alternative, those activities associated with Rome Lab and other organizations remaining at the base following realignment would continue to occur. It is estimated that caretaker activities following realignment and the complete implementation of the DFAS Center and VA medical facility operations would generate up to 865 new direct jobs in Oneida County by 1999. There would be no overall increase in population because the majority of employees would be from the existing labor pool. Minimal effects on utilities and on transportation systems are expected.

Hazardous Substances Management

Small quantities of various types of hazardous materials and pesticides would be used for retained government uses and caretaker activities. All hazardous materials and waste would be managed and controlled by the retained government organizations or the Air Force Base Conversion Agency Operating Location (OL)/caretaker team in accordance with applicable regulations. Storage tanks would be removed or maintained in place in accordance with Federal and State regulations and Air Force policy.

Natural Environment

The No-Action Alternative would not affect soils and geology, water resources, biological resources, or cultural and paleontological resources relative to baseline conditions. This alternative would result in negligible impacts on air quality and noise.

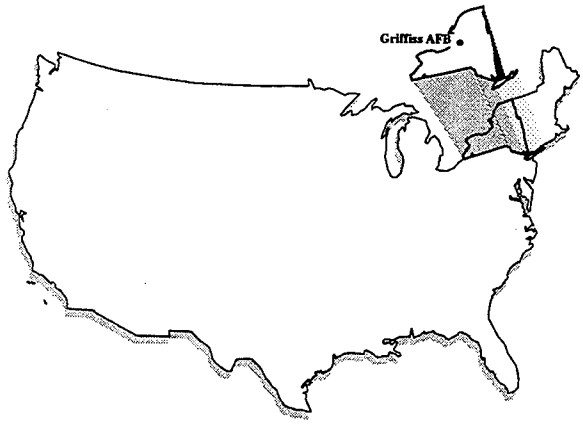


TABLE OF CONTENTS

TABLE OF CONTENTS

Page

1.0 PURPOSE OF AND NEED FOR ACTION 1-1
1.1 PURPOSE AND NEED 1-1
1.2 DECISIONS TO BE MADE 1-2
1.3 DISPOSAL PROCESS AND REUSE PLANNING 1-5
1.4 ENVIRONMENTAL IMPACT ANALYSIS PROCESS 1-8
1.4.1 Scoping Process 1-9
1.4.2 Public Comment Process 1-9
1.5 CHANGES FROM THE DEIS TO THE FEIS 1-9
1.6 ORGANIZATION OF THIS ENVIRONMENTAL IMPACT STATEMENT 1-10
1.7 RELATED ENVIRONMENTAL DOCUMENTS 1-11
1.8 FEDERAL PERMITS, LICENSES, AND ENTITLEMENTS 1-12

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION 2-1
2.1 INTRODUCTION 2-1
2.2 DESCRIPTION OF PROPOSED ACTION 2-7
2.2.1 Airfield 2-9
2.2.2 Aviation Support 2-10
2.2.3 Industrial 2-11
2.2.4 Institutional 2-11
2.2.5 Commercial 2-11
2.2.6 Residential 2-12
2.2.7 Public/Recreational 2-12
2.2.8 Agricultural 2-12
2.2.9 Vacant Land 2-12
2.2.10 Government-Retained Land 2-12
2.2.11 Employment and Population 2-13
2.2.12 Transportation 2-13
2.2.13 Utilities 2-14
2.3 DESCRIPTION OF ALTERNATIVES 2-15
2.3.1 Griffiss Research Park Alternative (A) 2-16
2.3.1.1 Airfield 2-19
2.3.1.2 Aviation Support 2-19
2.3.1.3 Industrial 2-19
2.3.1.4 Institutional 2-19
2.3.1.5 Commercial 2-20
2.3.1.6 Residential 2-20
2.3.1.7 Public/Recreational 2-20
2.3.1.8 Agricultural 2-20
2.3.1.9 Vacant Land (Development Reserve) 2-20
2.3.1.10 Government-Retained Land 2-20
2.3.1.11 Employment and Population 2-21
2.3.1.12 Transportation 2-21
2.3.1.13 Utilities 2-21
2.3.2 Mohawk Valley Business Center Alternative (B) 2-22
2.3.2.1 Airfield 2-24
2.3.2.2 Aviation Support (Industrial) 2-25
2.3.2.3 Industrial 2-25
2.3.2.4 Institutional 2-26
2.3.2.5 Commercial 2-26
2.3.2.6 Residential 2-26

2.3.2.7 Public/Recreational 2-26
2.3.2.8 Agricultural 2-27
2.3.2.9 Vacant Land (Development Reserve) 2-27
2.3.2.10 Government-Retained Land 2-27
2.3.2.11 Employment and Population 2-27
2.3.2.12 Transportation 2-28
2.3.2.13 Utilities 2-28
2.3.3 Regional Aviation Complex Alternative (C) 2-29
2.3.3.1 Airfield 2-31
2.3.3.2 Aviation Support 2-33
2.3.3.3 Industrial 2-33
2.3.3.4 Institutional 2-33
2.3.3.5 Commercial 2-33
2.3.3.6 Residential 2-34
2.3.3.7 Public/Recreational 2-34
2.3.3.8 Agricultural 2-34
2.3.3.9 Vacant Land (Development Reserve) 2-34
2.3.3.10 Government-Retained Land 2-34
2.3.3.11 Employment and Population 2-34
2.3.3.12 Transportation 2-34
2.3.3.13 Utilities 2-35
2.3.4 No-Action Alternative 2-36
2.4 COMPARISON OF PROPOSED ACTION AND ALTERNATIVES WITH REVISED BASELINE ASSUMING POTENTIAL CLOSURE OF THE AIRFIELD 2-36
2.4.1 Revised Baseline Conditions 2-37
2.4.2 Proposed Action 2-37
2.4.3 Griffiss Research Park Alternative 2-37
2.4.4 Mohawk Valley Business Center Alternative 2-38
2.4.5 Regional Aviation Complex Alternative 2-38
2.4.6 No-Action Alternative 2-38
2.5 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION 2-39
2.6 INTERIM USES 2-39
2.7 OTHER FUTURE ACTIONS IN THE REGION 2-39
2.8 COMPARISON OF ENVIRONMENTAL IMPACTS 2-39

3.0 AFFECTED ENVIRONMENT 3-1
3.1 INTRODUCTION 3-1
3.2 LOCAL COMMUNITY 3-2
3.2.1 Community Setting 3-5
3.2.2 Land Use and Aesthetics 3-8
3.2.2.1 Land Use 3-8
3.2.2.2 Aesthetics 3-21
3.2.3 Transportation 3-24
3.2.3.1 Roadways 3-24
3.2.3.2 Airspace/Air Traffic 3-31
3.2.3.3 Air Transportation 3-38
3.2.3.4 Railroads 3-45
3.2.3.5 Other Transportation Modes 3-45
3.2.4 Utilities 3-46
3.2.4.1 Offbase Systems 3-46
3.2.4.2 Onbase Systems 3-47
3.3 HAZARDOUS SUBSTANCES MANAGEMENT 3-50
3.3.1 Hazardous Materials and Petroleum Products Management 3-51
3.3.2 Hazardous Waste and Waste Petroleum Management 3-53

3.3.3 Installation Restoration Program Sites . . . 3-56
3.3.4 Storage Tanks and Oil/Water Separators . . . 3-67
3.3.5 Asbestos . . . 3-70
3.3.6 Pesticides . . . 3-71
3.3.7 Polychlorinated Biphenyls . . . 3-72
3.3.8 Radon . . . 3-74
3.3.9 Medical/Biohazardous Waste . . . 3-76
3.3.10 Ordnance . . . 3-76
3.3.11 Lead . . . 3-77
3.4 NATURAL ENVIRONMENT . . . 3-78
3.4.1 Soils and Geology . . . 3-78
3.4.1.1 Soils . . . 3-78
3.4.1.2 Physiography and Geology . . . 3-82
3.4.2 Water Resources . . . 3-85
3.4.2.1 Surface Water . . . 3-85
3.4.2.2 Surface Drainage . . . 3-87
3.4.2.3 Groundwater . . . 3-90
3.4.3 Air Quality . . . 3-94
3.4.3.1 Regional Air Quality . . . 3-98
3.4.3.2 Air Pollutant Emission Sources . . . 3-101
3.4.4 Noise . . . 3-103
3.4.4.1 Existing Noise Levels . . . 3-106
3.4.5 Biological Resources . . . 3-108
3.4.5.1 Vegetation . . . 3-111
3.4.5.2 Wildlife . . . 3-116
3.4.5.3 Threatened, Endangered, and Candidate Species . . . 3-118
3.4.5.4 Sensitive Habitats . . . 3-118
3.4.6 Cultural and Paleontological Resources . . . 3-123
3.4.6.1 Prehistoric Resources . . . 3-124
3.4.6.2 Historic Resources . . . 3-127
3.4.6.3 Native American Resources . . . 3-130
3.4.6.4 Paleontological Resources . . . 3-130

4.0 ENVIRONMENTAL CONSEQUENCES . . . 4-1
4.1 INTRODUCTION . . . 4-1
4.2 LOCAL COMMUNITY . . . 4-3
4.2.1 Community Setting . . . 4-3
4.2.1.1 Proposed Action . . . 4-4
4.2.1.2 Griffiss Research Park Alternative (A) . . . 4-6
4.2.1.3 Mohawk Valley Business Center Alternative (B) . . . 4-8
4.2.1.4 Regional Aviation Complex Alternative (C) . . . 4-9
4.2.1.5 No-Action Alternative . . . 4-10
4.2.2 Land Use and Aesthetics . . . 4-11
4.2.2.1 Proposed Action . . . 4-11
4.2.2.2 Griffiss Research Park Alternative (A) . . . 4-17
4.2.2.3 Mohawk Valley Business Center Alternative (B) . . . 4-18
4.2.2.4 Regional Aviation Complex Alternative (C) . . . 4-19
4.2.2.5 No-Action Alternative . . . 4-22
4.2.3 Transportation . . . 4-23
4.2.3.1 Proposed Action . . . 4-25
4.2.3.2 Griffiss Research Park Alternative (A) . . . 4-30
4.2.3.3 Mohawk Valley Business Center Alternative (B) . . . 4-32
4.2.3.4 Regional Aviation Complex Alternative (C) . . . 4-34
4.2.3.5 No-Action Alternative . . . 4-37

4.2.4 Utilities 4-39
4.2.4.1 Proposed Action 4-40
4.2.4.2 Griffiss Research Park Alternative (A) 4-44
4.2.4.3 Mohawk Valley Business Center Alternative (B) 4-46
4.2.4.4 Regional Aviation Complex Alternative (C) 4-47
4.2.4.5 No-Action Alternative 4-49
4.3 HAZARDOUS SUBSTANCES MANAGEMENT 4-50
4.3.1 Proposed Action 4-51
4.3.1.1 Hazardous Materials Management 4-51
4.3.1.2 Hazardous Waste Management 4-51
4.3.1.3 Installation Restoration Program Sites 4-53
4.3.1.4 Storage Tanks and Oil/Water Separators 4-56
4.3.1.5 Asbestos 4-57
4.3.1.6 Pesticides 4-57
4.3.1.7 Polychlorinated Biphenyls 4-57
4.3.1.8 Radon 4-58
4.3.1.9 Medical/Biohazardous Waste 4-58
4.3.1.10 Ordnance 4-58
4.3.1.11 Lead 4-58
4.3.1.12 Cumulative Impacts 4-59
4.3.1.13 Mitigation Measures 4-59
4.3.2 Griffiss Research Park Alternative (A) 4-61
4.3.2.1 Hazardous Materials Management 4-61
4.3.2.2 Hazardous Waste Management 4-61
4.3.2.3 Installation Restoration Program Sites 4-61
4.3.2.4 Storage Tanks and Oil/Water Separators 4-64
4.3.2.5 Asbestos 4-65
4.3.2.6 Pesticides 4-65
4.3.2.7 Polychlorinated Biphenyls 4-65
4.3.2.8 Radon 4-66
4.3.2.9 Medical/Biohazardous Waste 4-66
4.3.2.10 Ordnance 4-66
4.3.2.11 Lead 4-66
4.3.2.12 Cumulative Impacts 4-67
4.3.2.13 Mitigation Measures 4-67
4.3.3 Mohawk Valley Business Center Alternative (B) 4-67
4.3.3.1 Hazardous Materials Management 4-67
4.3.3.2 Hazardous Waste Management 4-67
4.3.3.3 Installation Restoration Program Sites 4-68
4.3.3.4 Storage Tanks and Oil/Water Separators 4-71
4.3.3.5 Asbestos 4-71
4.3.3.6 Pesticides 4-72
4.3.3.7 Polychlorinated Biphenyls 4-72
4.3.3.8 Radon 4-72
4.3.3.9 Medical/Biohazardous Waste 4-72
4.3.3.10 Ordnance 4-72
4.3.3.11 Lead 4-73
4.3.3.12 Cumulative Impacts 4-73
4.3.3.13 Mitigation Measures 4-73
4.3.4 Regional Aviation Complex Alternative (C) 4-73
4.3.4.1 Hazardous Materials Management 4-73
4.3.4.2 Hazardous Waste Management 4-74
4.3.4.3 Installation Restoration Program Sites 4-74
4.3.4.4 Storage Tanks and Oil/Water Separators 4-78

4.3.4.5 Asbestos 4-78
4.3.4.6 Pesticides 4-78
4.3.4.7 Polychlorinated Biphenyls 4-79
4.3.4.8 Radon 4-79
4.3.4.9 Medical/Biohazardous Waste 4-79
4.3.4.10 Ordnance 4-79
4.3.4.11 Lead 4-79
4.3.4.12 Cumulative Impacts 4-80
4.3.4.13 Mitigation Measures 4-80
4.3.5 No-Action Alternative 4-80
4.3.5.1 Hazardous Materials Management 4-80
4.3.5.2 Hazardous Waste Management 4-81
4.3.5.3 Installation Restoration Program Sites 4-81
4.3.5.4 Storage Tanks and Oil/Water Separators 4-81
4.3.5.5 Asbestos 4-81
4.3.5.6 Pesticides 4-81
4.3.5.7 Polychlorinated Biphenyls 4-81
4.3.5.8 Radon 4-82
4.3.5.9 Medical/Biohazardous Waste 4-82
4.3.5.10 Ordnance 4-82
4.3.5.11 Lead 4-82
4.3.5.12 Cumulative Impacts 4-82
4.3.5.13 Mitigation Measures 4-82
4.4 NATURAL ENVIRONMENT 4-83
4.4.1 Soils and Geology 4-83
4.4.1.1 Proposed Action 4-83
4.4.1.2 Griffiss Research Park Alternative (A) 4-86
4.4.1.3 Mohawk Valley Business Center Alternative (B) 4-87
4.4.1.4 Regional Aviation Complex Alternative (C) 4-88
4.4.1.5 No-Action Alternative 4-90
4.4.2 Water Resources 4-90
4.4.2.1 Proposed Action 4-90
4.4.2.2 Griffiss Research Park Alternative (A) 4-93
4.4.2.3 Mohawk Valley Business Center Alternative (B) 4-94
4.4.2.4 Regional Aviation Complex Alternative (C) 4-95
4.4.2.5 No-Action Alternative 4-96
4.4.3 Air Quality 4-96
4.4.3.1 Proposed Action 4-98
4.4.3.2 Griffiss Research Park Alternative (A) 4-102
4.4.3.3 Mohawk Valley Business Center Alternative (B) 4-104
4.4.3.4 Regional Aviation Complex Alternative (C) 4-107
4.4.3.5 No-Action Alternative 4-111
4.4.4 Noise 4-111
4.4.4.1 Proposed Action 4-113
4.4.4.2 Griffiss Research Park Alternative (A) 4-116
4.4.4.3 Mohawk Valley Business Center Alternative (B) 4-116
4.4.4.4 Regional Aviation Complex Alternative (C) 4-117
4.4.4.5 No-Action Alternative 4-119
4.4.5 Biological Resources 4-122
4.4.5.1 Proposed Action 4-122
4.4.5.2 Griffiss Research Park Alternative (A) 4-131
4.4.5.3 Mohawk Valley Business Center Alternative (B) 4-133
4.4.5.4 Regional Aviation Complex Alternative (C) 4-137
4.4.5.5 No-Action Alternative 4-140

4.4.6 Cultural and Paleontological Resources 4-140
4.4.6.1 Proposed Action 4-141
4.4.6.2 Griffiss Research Park Alternative (A) 4-142
4.4.6.3 Mohawk Valley Business Center Alternative (B) 4-143
4.4.6.4 Regional Aviation Complex Alternative (C) 4-143
4.4.6.5 No-Action Alternative 4-144

5.0 CONSULTATION AND COORDINATION 5-1

6.0 LIST OF PREPARERS AND CONTRIBUTORS 6-1

7.0 REFERENCES 7-1

8.0 INDEX 8-1

9.0 PUBLIC COMMENTS AND RESPONSES 9-1
9.1 INTRODUCTION 9-1
9.2 ORGANIZATION 9-2
9.3 PUBLIC COMMENT MANAGEMENT PROCESS 9-2
9.4 RESPONSES TO INDIVIDUAL COMMENTS 9-4

APPENDICES

A GLOSSARY OF TERMS, ACRONYMS, UNITS OF MEASUREMENT, AND CHEMICAL ABBREVIATIONS
B NOTICE OF INTENT
C FINAL ENVIRONMENTAL IMPACT STATEMENT MAILING LIST
D GRIFFISS AIR FORCE BASE INSTALLATION RESTORATION PROGRAM BIBLIOGRAPHY
E METHODS OF ANALYSIS
F CURRENT PERMITS
G AIR FORCE POLICY FOR MANAGEMENT OF ASBESTOS CONTAINING MATERIAL (ACM) AT CLOSURE BASES
H NOISE
I AIR EMISSIONS INVENTORY
J ENVIRONMENTAL IMPACTS OF GRIFFISS AIR FORCE BASE REALIGNMENT AND REUSE BY LAND USE CATEGORY
K FARMLAND CONVERSION IMPACT RATING FORM AD-1006
L SAMPLE MITIGATION MONITORING CHECKLIST

LIST OF TABLES

Table		Page
1.8-1	Federal Permits, Licenses, and Entitlements Potentially Required for Reusers or Developers of Disposed Base Property	1-13
2.2-1	Land Use Acreage - Proposed Action	2-7
2.2-2	Facility Development - Proposed Action	2-9
2.2-3	Acres Disturbed by the Proposed Action	2-10
2.2-4	Reuse-Related Employment and Population - Proposed Action	2-13
2.3-1	Land Use Acreage - Griffiss Research Park Alternative (A)	2-16
2.3-2	Facility Development - Griffiss Research Park Alternative (A)	2-18
2.3-3	Acres Disturbed by the Griffiss Research Park Alternative (A)	2-18
2.3-4	Reuse-Related Employment and Population - Griffiss Research Park Alternative (A)	2-21
2.3-5	Land Use Acreage - Mohawk Valley Business Center Alternative (B)	2-24
2.3-6	Facility Development - Mohawk Valley Business Center Alternative (B)	2-25
2.3-7	Acres Disturbed by the Mohawk Valley Business Center Alternative (B)	2-25
2.3-8	Reuse-Related Employment and Population - Mohawk Valley Business Center Alternative (B)	2-27
2.3-9	Land Use Acreage - Regional Aviation Complex Alternative (C)	2-31
2.3-10	Facility Development - Regional Aviation Complex Alternative (C)	2-31
2.3-11	Acres Disturbed by the Regional Aviation Complex Alternative (C)	2-32
2.3-12	Projected Flight Operations - Regional Aviation Complex Alternative	2-32
2.3-13	Reuse-Related Employment and Population With the Regional Aviation Complex Alternative (C)	2-35
2.7-1	Recent and Future Actions in the Griffiss AFB Region	2-40
2.8-1	Griffiss AFB Summary of Reuse-Related Influencing Factors	2-41
2.8-2	Summary of Environmental Impacts and Mitigation Measures for the Proposed Action and Reuse Alternatives	2-42
3.2-1	Onbase Land Use Acreage	3-10
3.2-2	Road Transportation Levels of Service (LOS) Criteria	3-25
3.2-3	Average PM Peak Hour Traffic Volumes on Key Roads	3-29
3.2-4	Griffiss AFB Aircraft Operations (1993)	3-39
3.2-5	Oneida County Airport Operations	3-44
3.2-6	Griffiss AFB Utility Usage, 1991 Through 1996	3-48
3.2-7	Utility Demands in the Region of Influence (1991-1996)	3-49
3.3-1	Hazardous Waste Generated at Griffiss AFB in 1993	3-54
3.3-2	Hazardous Waste Storage Area by Generator Activity	3-55
3.3-3	Griffiss AFB Federal Facility Agreement	3-57
3.3-4	Summary of Griffiss AFB IRP Sites	3-63
3.3-5	Summary of Underground Storage Tanks	3-69
3.3-6	Summary of Aboveground Storage Tanks	3-69
3.3-7	Summary of Oil/Water Separators	3-70
3.3-8	Pesticides Used at Griffiss AFB (1993)	3-73
3.3-9	Recommended Radon Surveys and Mitigations	3-75
3.4-1	Properties of Major Soil Units at Griffiss AFB	3-79
3.4-2	State of New York Surface Water Bodies Classification	3-86
3.4-3	Hydraulic Characteristics (Approximate) of the Upper Aquifer Griffiss AFB and Vicinity	3-90
3.4-4	New York State and National Ambient Air Quality Standards	3-95
3.4-5	Maximum Allowable Pollutant Concentration Increases Under Prevention of Significant Deterioration Regulations	3-97

3.4-6 Pasquill Method of Stability Classification 3-99
3.4-7 Relative Seasonal and Annual Percent Frequency of Combined Pasquill Stability Categories in Oneida County, New York 3-99
3.4-8 Maximum O_3 and PM_{10} Concentrations Measured in Oneida County, New York . . . 3-100
3.4-9 Estimated Existing Maximum Concentrations of CO and SO_2 in Oneida County, New York 3-101
3.4-10 Pre-Realignment Inventory for Griffiss AFB and the ROI (Tons Per Day) 3-102
3.4-11 Realignment Emissions Inventory for Griffiss AFB (Tons Per Day) 3-102
3.4-12 Land Use Compatibility With Yearly Day-Night Average Sound Levels (in dB) 3-105
3.4-13 Distance of DNL From Roadway Centerline for the Pre-Realignment Reference and Closure Baseline 3-110
3.4-14 Forest Management Planting Areas at Griffiss AFB 3-114
3.4-15 Wildlife Habitat Areas and Classifications Griffiss AFB 3-116
3.4-16 Federal- and State-Listed and Candidate Species Griffiss AFB and Vicinity 3-119
3.4-17 Summary of Wetlands on Griffiss AFB 3-120

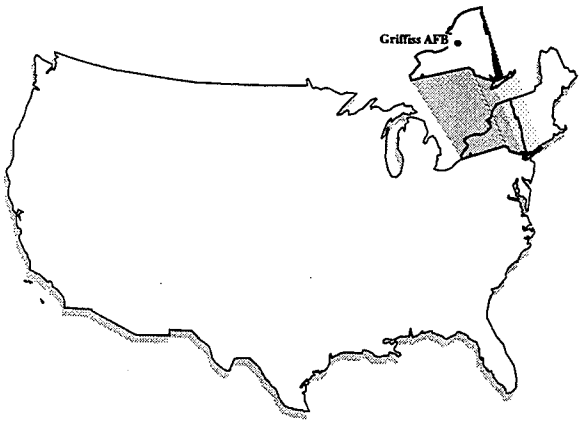
4.2-1 Total New Employment Generation in Oneida County - Proposed Action 4-4
4.2-2 Total New Employment Generation in Oneida County - Griffiss Research Park Alternative 4-8
4.2-3 Total New Employment Generation in Oneida County - Mohawk Valley Business Center Alternative 4-9
4.2-4 Total New Employment Generation in Oneida County - Regional Aviation Complex 4-10
4.2-5 Average Daily Trip Generation 4-26
4.2-6 Peak-Hour Traffic Volumes and LOS on Key Roads - Proposed Action 4-27
4.2-7 Peak-Hour Traffic Volumes and LOS on Key Roads - Griffiss Research Park Alternative 4-31
4.2-8 Peak-Hour Traffic Volumes and LOS on Key Roads - Mohawk Valley Business Center Alternative 4-33
4.2-9 Peak-Hour Traffic Volumes and LOS on Key Roads - Regional Aviation Complex Alternative 4-35
4.2-10 Peak-Hour Traffic Volumes and LOS on Key Roads - No-Action Alternative 4-38
4.2-11 Total Projected Utility Demand in the ROI 4-40
4.3-1 Hazardous Material Usage by Land Use Category 4-52
4.3-2 Installation Restoration Program Sites Within Land Use Areas - Proposed Action . . . 4-55
4.3-3 Installation Restoration Program Sites Within Land Use Areas - Griffiss Research Park Alternative 4-63
4.3-4 Installation Restoration Program Sites Within Land Use Areas - Mohawk Valley Business Center Alternative 4-70
4.3-5 Installation Restoration Program Sites Within Land Use Areas - Regional Aviation Complex Alternative 4-76
4.4-1 Soil Series, Estimated Acreage, and Status of Farmland to be Converted With the Proposed Action 4-84
4.4-2 Soil Series, Estimated Acreage, and Status of Farmland to be Converted With the Mohawk Valley Business Center Alternative 4-88
4.4-3 Soil Series, Estimated Acreage, and Status of Farmland to be Converted With the Regional Aviation Complex Alternative 4-89
4.4-4 Pollutant Emissions Associated With the Proposed Action 4-99
4.4-5 Air Quality Modeling Analysis of the Airport and Vicinity - Proposed Action 4-101
4.4-6 Pollutant Emissions Associated With the Griffiss Research Park Alternative 4-103
4.4-7 Air Quality Modeling Analysis of the Airport and Vicinity - Griffiss Research Park Alternative 4-105
4.4-8 Pollutant Emissions Associated With the Mohawk Valley Business Center Alternative 4-106

4.4-9 Pollutant Emissions Associated With the Regional Aviation Complex Alternative . . 4-108
4.4-10 Air Quality Modeling Analysis of the Airport and Vicinity, Regional Aviation Complex Alternative 4-110
4.4-11 Percentage of Population Highly Annoyed by Noise Exposure 4-112
4.4-12 Area (Acres) Within DNL Contours, DNL dB 4-113
4.4-13 Distance of DNL From Road Centerline - Proposed Action (2016) 4-115
4.4-14 Distance of DNL From Road Centerline - Griffiss Research Park Alternative (2016) 4-117
4.4-15 Distance of DNL From Road Centerline - Mohawk Valley Business Center Alternative (2016) 4-118
4.4-16 Distance of DNL From Road Centerline - Regional Aviation Complex (2016) 4-119

9.3-1 Index of Commentors 9-3

LIST OF FIGURES

Figure		Page
1.1-1	Griffiss AFB Reference Map	1-4
2.2-1	Griffiss AFB Proposed Action	2-8
2.3-1	Griffiss AFB Alternative (A) Griffiss Research Park	2-17
2.3-2	Griffiss AFB Alternative (B) Mohawk Valley Business Center	2-23
2.3-3	Griffiss AFB Alternative (C) Regional Aviation Complex	2-30
3.2-1	Regional Map of Central Eastern New York	3-3
3.2-2	Municipal Boundaries in the Griffiss AFB Vicinity	3-4
3.2-3	Griffiss AFB Existing Onbase Land Use	3-9
3.2-4	Griffiss AFB Existing Offbase Land Use	3-13
3.2-5	Clear Zones and Accident Potential Zones at Griffiss AFB	3-15
3.2-6	Griffiss AFB Local Zoning	3-20
3.2-7	Visual Sensitivity in the Vicinity of Griffiss AFB	3-23
3.2-8	Key Local Roads of Griffiss AFB Area	3-26
3.2-9	Pre-Realignment (1993) PM Vehicular Traffic Volumes on Key Roads in the Vicinity of Griffiss AFB	3-30
3.2-10	Realignment (1996) PM Vehicular Traffic Volumes on Key Roads in the Vicinity of Griffiss AFB	3-32
3.2-11	Griffiss AFB Airspace Region of Influence (20 Nautical Miles)	3-34
3.2-12	Pre-Realignment Griffiss AFB Departure Flight Tracks	3-36
3.2-13	Pre-Realignment Griffiss AFB Approach Flight Tracks	3-37
3.2-14	Pre-Realignment Griffiss AFB Flight Tracks 15C	3-40
3.2-15	Pre-Realignment Griffiss AFB Flight Tracks 33C	3-41
3.2-16	Griffiss AFB Realignment Flight Tracks for Runway 15	3-42
3.2-17	Griffiss AFB Realignment Flight Tracks for Runway 33	3-43
3.3-1	Griffiss AFB Storage Areas	3-52
3.3-2	IRP Process for Griffiss AFB	3-58
3.3-3	Griffiss AFB IRP Site Locations	3-59
3.3-4	Griffiss AFB Storage Tanks and Oil/Water Separators	3-68
3.4-1	Soils Map of Griffiss AFB	3-81
3.4-2	Surface Hydrology at Griffiss AFB	3-88
3.4-3	Potentiometric Contour Map of Unconfined Aquifer	3-92
3.4-4	Typical A-Weighted Sound Levels	3-104
3.4-5	DNL Noise Contours for Griffiss AFB Pre-Realignment	3-107
3.4-6	DNL Noise Contours for Griffiss AFB Realignment	3-109
3.4-7	Forest Management Areas at Griffiss AFB	3-113
3.4-8	Griffiss AFB Vegetation Map	3-115
3.4-9	Griffiss AFB Wetlands	3-121
4.2-1	Oneida County Reuse-Related Employment Effects	4-5
4.2-2	Oneida County Reuse-Related Population Effects	4-7
4.3-1	Griffiss AFB Proposed Action With IRP Sites	4-54
4.3-2	Griffiss AFB Alternative (A) With IRP Sites	4-62
4.3-3	Griffiss AFB Alternative (B) With IRP Sites	4-69
4.3-4	Griffiss AFB Alternative (C) With IRP Sites	4-75
4.4-1	DNL Noise Contours for Griffiss AFB Realignment	4-114
4.4-2	Civilian Aviation DNL Noise Contours for 2006	4-120
4.4-3	Civilian Aviation DNL Noise Contours for 2016	4-121



CHAPTER 1.0
PURPOSE OF AND NEED FOR ACTION

1.0 PURPOSE OF AND NEED FOR ACTION

This Environmental Impact Statement (EIS) examines the potential impacts to the environment that may result from the disposal and reuse of property on Griffiss Air Force Base (AFB), New York, as well as from interim reuse activities (e.g., interim leases) which may be allowed by the Air Force before final disposal of base property. This document has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508).

1.1 PURPOSE AND NEED

As a result of the changing international political scene and the accompanying shift toward a reduction in defense spending, the Department of Defense (DOD) has been realigning and reducing its military forces pursuant to the Defense Base Closure and Realignment Act (DBCRA) of 1990 (Public Law [P.L.] 101-510, Title XXIX). DBCRA established new procedures for closing or realigning military installations in the United States.

DBCRA established an independent Defense Base Closure and Realignment (BRAC) Commission to review recommendations made by the Secretary of Defense regarding base realignments and closures. In March 1993, the Secretary of Defense recommended that, among other proposed closure and realignment actions nationwide, Griffiss AFB be realigned with deactivation of the 416th Bomb Wing, but with retention of several Air Force and other DOD functions at the base. The retained functions included Rome Laboratory (Rome Lab), an Air Force research and development laboratory, and continued operation of the airfield at a minimum level to support mobility, contingency, and training requirements (i.e., deployments) of the U.S. Army 10th Infantry (Light) Division (ID) at Fort Drum, New York.

After reviewing the Secretary's recommendations, the 1993 Commission forwarded its recommended list of base realignment and closure actions to the President, who accepted the recommendations and submitted them to Congress on July 2, 1993. Because Congress did not disapprove the recommendations within the time period provided under DBCRA, the recommendations became law. Because Griffiss AFB was on the Commission's list, the decision for realignment of the base is final. Realignment of Griffiss AFB, in accordance with the Commission's recommendations, occurred on September 30, 1995.

To fulfill the requirement of reducing defense expenditures, the Air Force plans to dispose of excess and surplus real property and facilities at Griffiss AFB following realignment. DBCRA requirements relating to disposal of excess and surplus property include:

- Environmental restoration of the property as soon as possible with funds made available for such restoration;

- Consideration of the local community's reuse plan, if available, prior to Air Force disposal of the property; and

- Compliance with specific Federal property disposal laws and regulations.

The Air Force action, therefore, is to dispose of the portions of Griffiss AFB property and facilities within its decision-making authority that are considered excess and surplus. Usually, this action would be performed by the Administrator of General Services. However, DBCRA required the Administrator to delegate to the Secretary of Defense the authorities to utilize excess property, dispose of surplus property, convey airport and airport-related property, and determine the availability of excess or surplus real property for wildlife conservation purposes. The Secretary of Defense redelegated these authorities to the respective Service Secretaries.

1.2 DECISIONS TO BE MADE

The purpose of this EIS is to provide information for Air Force decisions concerning the disposition of excess and surplus properties at Griffiss AFB. The EIS provides the decision-maker and the public the information required to understand the potential environmental consequences of disposal and proposed reuse options for the excess and surplus properties at Griffiss AFB.

Following completion of this EIS, the Air Force will issue a Record of Decision (ROD) on the disposal of property at Griffiss AFB within its decision-making authority. The ROD will determine the following:

- The methods of disposal to be followed by the Air Force;

- The terms and conditions of disposal; and

- The size and location of areas to be retained by the U.S. Government.

The methods of disposal granted by the Federal Property and Administrative Services Act of 1949 and the Surplus Property Act of 1944 and implemented in the Federal Property Management Regulations (FPMR) are:

- Transfer to another Federal agency;
- Public benefit conveyance to an eligible entity;
- Negotiated sale to a public body for a public purpose;
- Competitive sale by sealed bid or auction; and
- Economic development conveyance.

The potential environmental impacts of disposal of property at Griffiss AFB not retained by the U.S. Government using one or all of the above-mentioned procedures are analyzed in this EIS. A variety of potential land uses covering reasonably foreseeable future uses of the property and facilities by others are

described in this document. Several alternative scenarios were used to group these land uses and examine the environmental effects of redevelopment of Griffiss AFB. These reasonable redevelopment scenarios are analyzed in this EIS to determine the potential direct and indirect environmental effects of Air Force decisions.

In addition to the formal methods of disposal previously identified, community needs and/or environmental cleanup requirements may require the use of leasing as an interim measure, prior to complete disposal of the nonretained property. Indirect effects of these lease arrangements and their potential associated mitigations are considered in this EIS.

Griffiss AFB consists of approximately 3,552 acres (Figure 1.1-1), of which 3,291 acres are fee-owned, 257 acres were donated, and 4 acres are leased. The fee-owned property was purchased by the U.S. Government between 1941 and 1978, with most of the land acquired prior to 1943. The 257 acres were donated in 1942 by Oneida County for initial construction of the base. This land includes the area north of the Mohawk Gate and east of the Mohawk River, currently occupied by most of the base golf course and several other facilities. The 4-acre leased property includes an area adjacent to the New York State Barge Canal that has been under a 99-year lease with the State of New York since 1960. The fee-owned property also includes two communication annexes near the base, a 2.5-acre receiver site 0.4 mile east of the base, and a 9.63-acre transmitter site 2.5 miles northwest of the base. The 3,291 acres of government fee-owned property are potentially available for disposal.

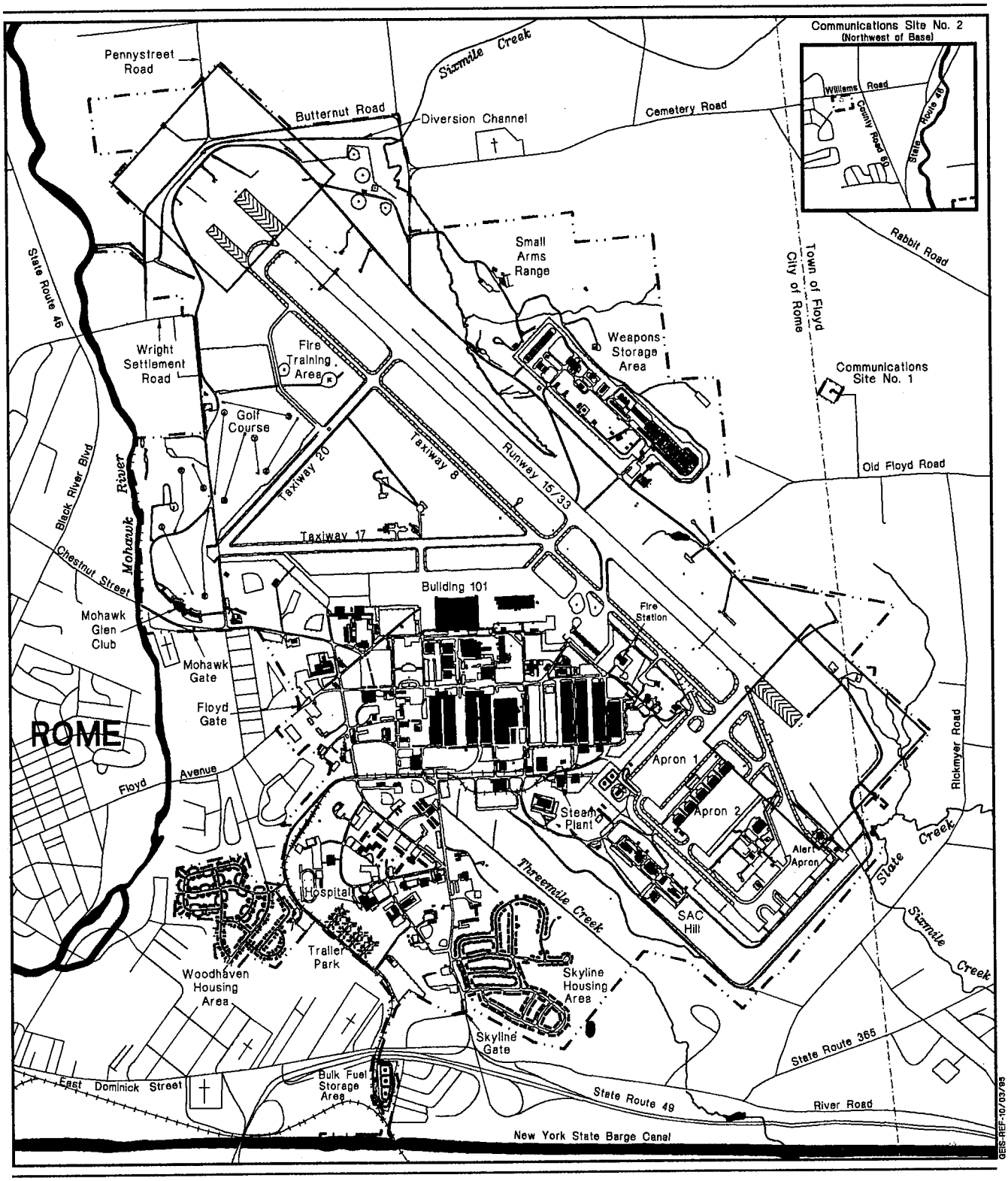
Griffiss AFB also manages 16 other annexes located throughout the State of New York which support Rome Lab activities or other Air Force and DOD organizations not based at Griffiss AFB. These annexes are not part of the realignment of Griffiss AFB, and therefore are not considered in this EIS. Another annex, Hancock Housing Annex (HHA) in Syracuse, is being disposed due to the realignment of Griffiss AFB. The environmental impacts of disposal and reuse of HHA are being developed under a separate Environmental Assessment (EA)

On September 28, 1995, the 1995 BRAC listing became final. The 1995 BRAC requires the following regarding Griffiss AFB:

- Close the minimum essential airfield to be maintained at Griffiss AFB to provide mobility, contingency, and training support for the 10th ID at Fort Drum. The airfield support would be provided at Form Drum, near Watertown, New York, with improvement of the existing Fort Drum airfield and support facilities.

- Deactivate the 485th Engineering Installation Group (EIG).

These actions will affect reuse plans for Griffiss AFB based on the 1993 BRAC decisions described in Section 1.1.



LEGEND

— · · — Base Boundary

——— Clear Zone

SCALE IN FEET

0 1000 2000

Griffiss AFB Reference Map

Figure 1.1-1

The potential impacts of the disposal and reuse of Griffiss AFB property based on the 1993 BRAC decisions are the focus of this EIS. However, the potential effects of the 1995 BRAC actions on the 1993 realignment decisions are also discussed. The revised baseline for this analysis is described in Section 2.4 and the impact changes for the environmental resource areas are analyzed in Chapter 4.0, assuming that the airfield will be phased down and closed by 1999. The probable levels of change that closure of the airfield might have on each resource are presented in Chapter 4.0 as "Potential Consequences of Airfield Closure." When more detailed planning becomes available based on the final 1995 BRAC actions, additional environmental study and documentation will be prepared, as needed.

1.3 DISPOSAL PROCESS AND REUSE PLANNING

DBCRA requires compliance with NEPA (with some exceptions) in the implementation of base closures and realignments. Among the issues that were excluded from NEPA compliance in DBCRA actions were:

- The selection of installations for closure or realignment; and
- Analysis of closure impacts.

The Air Force's goal is to dispose of the property not retained for use by the DOD functions authorized under DBCRA through transfer and/or conveyance to other government agencies, State or local government bodies, or private parties. The Proposed Action considered in this EIS reflects the community's goal for base reuse, which is to develop a business/industrial/research and development (R&D) office complex around the retained Federal functions, particularly the technical/scientific core provided by Rome Lab. The Proposed Action was based on conceptual plans developed by the local redevelopment organization, the Griffiss Local Development Corporation (GLDC) (formerly the Griffiss Redevelopment Planning Council).

The Air Force developed additional reasonable alternatives to provide the basis for a broad environmental analysis, thereby ensuring that reasonably foreseeable impacts resulting from potential reuses have been identified and the decision-maker has multiple options regarding ultimate property disposition. For all potential reuses, the impacts of reuses under disposal and of interim leasing have been identified to cover the range of potential disposal options for the base. Subject to the terms of transfer or conveyance, the recipients of the property and the local zoning authorities and elected officials will ultimately determine the reuse of the property. Three reasonable reuse alternatives to the Proposed Action have been identified: a research park reuse proposal, a business center reuse proposal, and a regional aviation complex reuse proposal. For the Proposed Action and reuse alternatives, the continued use of portions of the base property by the DOD organizations remaining following realignment is included as part of the baseline used for analyzing the environmental impacts of disposal and reuse of the remaining property. The No-Action Alternative would not involve disposal, but would include the realignment uses and caretaker functions at the base.

Property transfers are usually made by deed when the property is legally suitable for conveyance. However, for some parcels, near-term deed conveyance is not permitted under the requirements of Section 120(h)(3) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) because they may contain hazardous wastes for which necessary levels of remedial action have not yet been taken. The Air Force will attempt to support the community's redevelopment of the base by transferring parts of such property by leases in furtherance of eventual deed conveyance. Such leases are accompanied by a contractual commitment between the parties for the Air Force to convey deed title to the property as soon as it can legally do so.

Reuse of such land, whether by lease or by deed, and the resulting environmental impacts, are generally not affected by the form of the conveyance. However, the differences in the legal relationships of the parties are of significant concern to the Air Force. When the Air Force is the landlord it is potentially exposed to legal liability to third parties or to applicable regulatory enforcement actions resulting from improper environmental conditions or actions occurring on the leased property by its tenants. Thus, the Air Force has incentive to ensure that its lessees comply with all legal regulatory requirements, as well as the environmentally protective restrictive provisions of the lease.

The Secretary of the Air Force has discretion in determining how the Air Force will dispose of the government-owned property not retained for Federal government use. The Air Force must adhere to applicable laws, including General Services Administration (GSA) regulations (41 CFR 101-47) in accordance with DBCRA. The Services were authorized to issue additional regulations, if required, to implement their delegated authorities and the Air Force has issued such regulations (41 CFR 132). Another provision of DBCRA requires each of the Services to consult with the Governor, heads of local governments, or equivalent political organizations to consider any plan for the use of such property by the local community concerned. Accordingly, the Air Force has worked with State authorities and the GLDC to meet this requirement.

In some cases, compliance with environmental laws regarding site restoration and cleanup may delay the Air Force's final disposal of some areas of the base. Restrictions on reuse and access to some areas of the installation may be necessary to ensure protection of human health and to allow required remedial actions. Until property can be transferred by deed, the Air Force may execute leases to allow reuse to begin as quickly as possible. In these cases, the Air Force intends to dispose of leased property by converting leases to deeds at the earliest possible date. The Air Force would structure the leases to provide the lessees with maximum control over the property, consistent with the terms of the final disposal. Restrictions may be necessary to ensure the protection of human health and the environment and to allow implementation of remedial actions. The analysis of environmental impacts in this EIS encompasses those possible leasing decisions.

The Regional Aviation Complex Alternative considered in this EIS would relocate the Oneida County Airport to Griffiss AFB. Certain activities inherent in the development or expansion of an airport to include commercial and private carriers constitute Federal actions that fall under the statutory and regulatory authority of the Federal Aviation Administration (FAA). The FAA generally reviews these activities through the processing and approval of an Airport Layout Plan (ALP). Goals of the ALP review system are to (1) determine its effectiveness in achieving safe and efficient utilization of airspace, (2) assess factors affecting the movement of air traffic, and (3) establish conformance with FAA design criteria. The FAA approval action may also include other specific elements, such as preparation of the *Airport Certification Manual* (Part 139); the *Airport Security Plan* (Part 107); the location, construction, or modification of an air traffic control tower, terminal radar approach control facility, other navigational and visual aids, and facilities; and establishment of instrument approach procedures.

If surplus property is conveyed to a local agency for airport purposes, the FAA would be the Federal agency that would enforce deed covenants requiring the property to be used for airport purposes. Additionally, the FAA may later provide Airport Improvement Program grants to the airport sponsor (i.e., local agency taking title). The FAA also has special expertise and the legal responsibility to make recommendations to the Air Force for the disposal of surplus property for airport purposes. The Surplus Property Act of 1944 (50 U.S.C. Appendix 1622(g)) authorized disposal of surplus real and related personal property for airport purposes and requires the FAA to certify the property is necessary, suitable, and desirable for an airport.

In accordance with NEPA and FAA Orders 1050.1D, *Policies and Procedures for Considering Environmental Impacts* (U.S. Department of Transportation, Federal Aviation Administration 1988d), and 5050.4A, *Airport Environmental Handbook* (U.S. Department of Transportation, Federal Aviation Administration 1985a), the potential environmental impacts of commercial airport development must be assessed prior to commitment of Federal funding. The FAA's objective is to enhance environmental quality and avoid or minimize adverse environmental impacts that might result from a proposed Federal action in a manner consistent with the FAA's principal mission to provide for the safety of aircraft operations.

The FAA requires the preparation of an airport master plan, approval of an ALP, and a positive environmental finding prior to the commitment of any funding. If the reuse proponent has prepared only conceptual plans for the airport area, then only the conceptual plans can be assessed for potential environmental impacts. Once specific conceptual reuse plans are developed and approved, the FAA may use this document to assist in completing its NEPA requirements, supplementing it as necessary. The reuse proponent may then be eligible for substantial Federal funding under the Airport Improvement Program.

1.4 ENVIRONMENTAL IMPACT ANALYSIS PROCESS

NEPA established a national policy to protect the environment and ensure that Federal agencies consider the environmental effects of their decisions. The CEQ was authorized to oversee and recommend national policies to improve the quality of the environment. Subsequently, CEQ published regulations that describe how NEPA should be implemented. The CEQ regulations required Federal agencies to develop and implement procedures that address the NEPA process to avoid or minimize adverse effects on the environment. Air Force Instruction (AFI) 32-7061 (32 CFR 989), formerly Air Force Regulation (AFR) 19-2, *Environmental Impact Analysis Process*, outlines procedures for implementing NEPA as part of the Air Force planning and decision-making process.

NEPA, the CEQ regulations, and AFI 32-7061 provide guidance on the types of actions for which an EIS must be prepared. Once it has been determined that an EIS must be prepared, the proponent must publish a Notice of Intent (NOI) to prepare an EIS. This formal announcement signifies the beginning of the scoping period, during which the major environmental issues to be addressed in the EIS are identified. Following data collection and analysis, a Draft EIS (DEIS) is prepared, which includes the following:

- A statement of the purpose of and need for the action;
- A description of the Proposed Action and alternatives, including the No-Action alternative;
- A description of the environment that would be affected by the proposed action and alternatives; and
- A description of the potential environmental consequences of the proposed action and alternatives, plus potential mitigation measures.

These items also satisfy the requirements of FAA Order 5050.4A for environmental impact documentation.

The DEIS is filed with the U.S. Environmental Protection Agency (EPA), and is circulated to government agencies and the interested public for at least 45 days for review and comment. During this period, a public hearing is held so that the proponent can summarize the findings of the analysis and receive input from the affected public. At the end of the review period, all substantive comments received must be addressed. A Final EIS (FEIS) is then prepared that contains responses to comments as well as changes to the document, if necessary.

The FEIS is filed with the EPA and distributed in the same manner as the DEIS. Once the FEIS has been available for at least 30 days, the Air Force may publish its ROD for the action.

1.4.1 Scoping Process

The scoping process identified the significant environmental issues relevant to disposal and reuse and provided an opportunity for public involvement in the development of the EIS. The NOI to prepare an EIS for disposal and reuse of Griffiss AFB was published in the *Federal Register* on October 28, 1993. Notification of public scoping was also made through local media as well as letters sent to Federal, State, and local agencies and officials, and interested groups and individuals.

The scoping period for the disposal and reuse of Griffiss AFB was from October 28, 1993, to August 1, 1994. A public scoping meeting was held on May 19, 1994, at the Rome City Council Chambers in Rome, New York, to solicit comments and concerns from the general public on disposal and reuse of the base. Approximately 35 people attended the meeting. Representatives of the Air Force presented an overview of the meeting's objectives, agenda, and procedures, and described the process and purpose for the development of a disposal and reuse EIS. In addition to verbal comments, written comments were received during the scoping process. These comments, as well as information from meetings with local officials and agencies, experience with similar programs, and NEPA requirements, were used to determine the scope and direction of studies/analyses in this EIS.

1.4.2 Public Comment Process

The DEIS was made available for public review and comment in August 1995. Copies of the DEIS were mailed to Federal, State, and local agencies/officials, and those requesting copies (Appendix C). Copies were also made available for review in local libraries. At a public hearing held on August 29, 1995, the Air Force presented the findings of the DEIS and invited public comments. All comments were reviewed and addressed, when applicable. Chapter 9.0, Comments and Responses, more thoroughly describes the comment and response process and specific comments and responses.

1.5 CHANGES FROM THE DEIS TO THE FEIS

The text of this EIS has been revised, where appropriate, to make typographical corrections and minor editorial changes or to incorporate concerns expressed in public comments and/or new information. Based on comments received and/or more recent studies, the following sections of the EIS have been updated or revised:

- Section 2.4 was revised to include only the closure of the airfield. This change followed through the text to Chapter 4.0 subsections, "Potential Consequences of Closure ...", discussing only the consequences of closing the airfield on each of the resource impact sections within each alternative section.

- Section 2.3.4 Rome Lab/Griffiss Airfield Closure and Reuse (with Proposed Action) Alternative D, was deleted from Chapter 2.0 and all subsections of each resource in Chapter 4.0, discussing Alternative D. Other tables and text throughout the EIS were also revised to eliminate the Alternative D discussions.

- The EIS mailing list was updated to comply with requests for documents and address changes.

- Revisions were made, where appropriate, to reflect the latest departure/retention status of government organizations and employees.

- Chapter 9.0, PUBLIC COMMENTS AND RESPONSES, has been added, as planned, to the EIS. This chapter presents reproductions of all written comments received and the transcript of the public hearing. These comments are itemized and responses to each are presented.

1.6 ORGANIZATION OF THIS ENVIRONMENTAL IMPACT STATEMENT

This EIS is organized into a number of chapters and appendices. Chapter 2.0 includes a description of the Proposed Action and alternatives to the Proposed Action identified for reuse of Griffiss AFB property. Chapter 2.0 also includes a review of alternatives eliminated from further consideration and identifies other, unrelated actions anticipated to occur in the region during the same time frame as the reuse activities, to be considered in the analysis of cumulative impacts. Finally, Chapter 2.0 provides a comparison of the Proposed Action and alternatives with respect to effects on the local community and the natural environment.

Chapter 3.0 includes a description of the affected environment under the baseline conditions of base realignment, which provides a basis for analyzing the potential impacts of the Proposed Action and alternatives. When needed for analytical comparisons, a pre-realignment reference is provided for certain resource areas. It describes a point in time at or near the realignment announcement, and depicts an active base condition. The results of the environmental analysis are presented in Chapter 4.0. Chapter 5.0 includes a list of individuals and organizations consulted during the preparation of the EIS; Chapter 6.0 provides a list of the document's preparers; Chapter 7.0 contains references; Chapter 8.0 contains an index; and Chapter 9.0 contains the Comments and Responses.

The following appendices are included in this document:

- Appendix A - a glossary of terms, acronyms, units of measurement, and chemical abbreviations used in this document;

- Appendix B - the NOI to prepare this EIS;
- Appendix C - a list of individuals and organizations who were sent a copy of the EIS;
- Appendix D - an Installation Restoration Program (IRP) bibliography;
- Appendix E - a description of the methods used to evaluate the impacts of base reuse on resources of the local community and the environment;
- Appendix F - the permits held by Griffiss AFB;
- Appendix G - the Air Force's policy for management of asbestos-containing material (ACM) at closing bases;
- Appendix H - a detailed description of issues and assumptions related to noise impacts;
- Appendix I - an air emissions inventory for Griffiss AFB;
- Appendix J - the influencing factors and environmental impacts by land use category;
- Appendix K - the Farmland Conversion Impact Rating - Form AD 1006; and
- Appendix L - a sample mitigation monitoring checklist.

1.7 RELATED ENVIRONMENTAL DOCUMENTS

The documents listed below have been or are being prepared separately and address environmental and planning issues related to Griffiss AFB. These documents provided supporting information for the environmental analysis. Additional documents reviewed during preparation of this EIS are listed in Chapter 7.0, References.

- *Basewide Environmental Baseline Survey, Griffiss Air Force Base, New York* (U.S. Air Force 1994);
- IRP documentation (see Appendix D); and
- *A Master Reuse Strategy for Griffiss Air Force Base, Rome, New York, Phase Two, Building the Foundation for Scenario Development* (Hamilton, Rabinovitz, & Alschuler et al.1994);

1.8 FEDERAL PERMITS, LICENSES, AND ENTITLEMENTS

Federal permits, licenses, and entitlements that may be required by recipients of Griffiss AFB property for purposes of redevelopment are presented in Table 1.8-1.

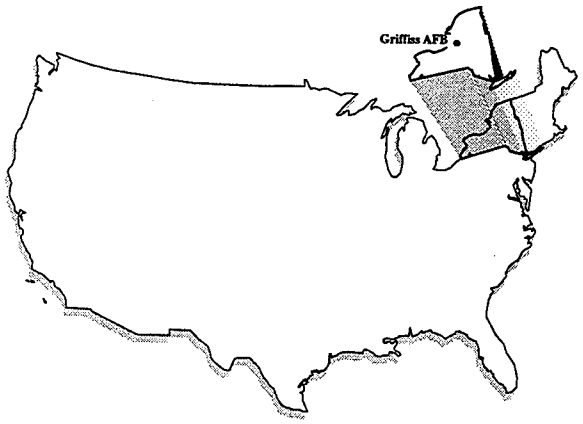
Table 1.8-1

Federal Permits, Licenses, and Entitlements Potentially Required for Reusers or Developers of Disposed Base Property

Federal Permit, License, or Entitlement	Typical Activity, Facility, or Category of Persons Required to Obtain the Federal Permit, License, or Entitlement	Authority	Regulatory Agency
Title V Permit under the Clean Air Act, as amended by the 1990 Clean Air Act Amendments	Any major source (source that emits more than 100 tons per year of criteria pollutants in a nonattainment area for that pollutant or is otherwise defined in Title I of the Clean Air Act as a major source); affected sources as defined in Title IV of the Clean Air Act; sources subject to Section 111 regarding New Source Performance Standards; sources of air toxics regulated under Section 112 of the Clean Air Act; sources required to have new source or modification permits under Parts C or D of Title I of the Clean Air Act; and any other source designated by EPA regulations.	Title V of the Clean Air Act as amended by the 1990 Clean Air Act Amendments	EPA; New York State Department of Environmental Conservation
National Pollutant Discharge Elimination System (NPDES) Permit	Discharge of pollutant from any point source into waters of the United States. Stormwater discharges associated with specified industrial activities or from medium and large municipal separate storm sewer systems.	Section 402 of Clean Water Act (added by Section 405 of the Water Quality Act of 1987); 33 USC § 1342; 40 CFR 122.2b	EPA; New York State Department of Environmental Conservation
Section 404 (Dredge and Fill) Permit	Any project activities resulting in the discharge of dredged or fill material into bodies of water, including wetlands, within the United States.	Section 404 of the Clean Water Act, 33 USC § 1344	U.S. Army Corps of Engineers in consultation with EPA; New York State Department of Environmental Conservation
Industrial Waste Discharge Permit	Discharge of industrial wastewater into a publicly owned treatment works.	Section 54 of the Clean Water Act 33 USC § 1251; 40 CFR 403	EPA; City of Rome
Underground Injection Control Permit	Owners or operators of certain types of underground injection wells.	Section 1424 of the Safe Drinking Water Act, 42 USC § 300h-3; 40 CFR 144	EPA; New York State Department of Environmental Conservation

Table 1.8-1, Page 2 of 2

Federal Permit, License, or Entitlement	Typical Activity, Facility, or Category of Persons Required to Obtain the Federal Permit, License, or Entitlement	Authority	Regulatory Agency
Hazardous Waste Treatment, Storage, or Disposal (TSD) Facility Permit	Owners or operators of a new or existing hazardous waste TSD facility.	Section 3005 of the Resource Conservation and Recovery Act as amended, 42 USC § 6925; 40 CFR 270	EPA; New York State Department of Environmental Conservation
EPA Manifest Identification Number	Generators or transporters (offsite) of hazardous waste.	40 CFR 262.12 (generators); 40 CFR 263, Subpart B (transporters)	EPA; New York State Department of Environmental Conservation
Antiquities Permit	Excavation and/or removal of archaeological resources from public lands or Indian lands and carrying out activities associated with such excavation and/or removal.	Archaeological Resource Protection Act of 1979, 16 USC § 470cc	U.S. Department of the Interior, National Park Service
Endangered Species Act Section 10 Permit	Taking endangered or threatened wildlife species; engaging in certain commercial trade of endangered or threatened plant species or removing such species from property subject to federal jurisdiction.	Section 10 of Endangered Species Act, 16 USC § 1539; 50 CFR 17, Subparts C,D,F, and G	U.S. Department of the Interior, Fish and Wildlife Service
Airport Operating Certificate	Operating an airport serving any scheduled or unscheduled passenger operation of air carrier aircraft designed for more than 30 passengers.	Federal Aviation Act of 1958, 49 USC App. § 1432	U.S. Department of Transportation, Federal Aviation Administration



CHAPTER 2.0
ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1 INTRODUCTION

This chapter includes a description of the Proposed Action, reasonable alternatives to the Proposed Action, and the No-Action Alternative. Other alternatives that were identified but eliminated from further consideration are also briefly described. The potential environmental impacts of the Proposed Action and alternatives are summarized in Section 2.7.

In most instances, the Administrator of the General Services Administration has authority to dispose of excess and surplus real and personal property belonging to the Federal government. However, with regard to base closures and realignments, the Defense Base Closure and Realignment Act (DBCRA) delegates the disposal authority to the Secretary of Defense. Federal Property Management Regulations (FPMR), which govern property disposal methods associated with base closures and realignments, allow the Secretary of Defense to dispose of closure property by transfer to another Federal agency, public benefit conveyance, economic development conveyance, negotiated sale to State or local governments, and public sale by auction or sealed bid. These methods, or a combination of them, could be used to dispose of property at Griffiss Air Force Base (AFB), New York.

Provisions of DBCRA and FPMR require that the Air Force first notify other Department of Defense (DOD) departments that Griffiss AFB is scheduled for disposal. Any proposals from these departments for the reuse of Griffiss AFB are given priority consideration.

Pursuant to the Stewart B. McKinney Homeless Assistance Act (Public Law [P.L.] 100-77), the Air Force is required to provide the U.S. Department of Housing and Urban Development (HUD) with information about underutilized, unutilized, and/or excess buildings and land. This requirement was previously accomplished under provisions of FPMR for implementing the McKinney Act. However, the Base Closure Community Redevelopment and Homeless Assistance Act of 1994 amended DBCRA by eliminating the McKinney Act's application to base closures. Instead, a new process, as outlined in the 1994 Act, was applied to all future base closures as of December 25, 1994, and could be applied retroactively to bases already identified for closure, if the Local Redevelopment Agency (LRA) submitted a request to the Secretary of Defense. However, the Griffiss Local Development Corporation (GLDC), acting as the LRA, did not request to initiate the new procedures for the closure of Griffiss AFB, and the McKinney Act requirements were carried out under the original FPMR procedures.

The Air Force reported to HUD that Griffiss AFB property would be "excess on or about September 30, 1995." HUD made a determination about the suitability of the property for use by homeless assistance providers, and an announcement was published in the *Federal Register* on May 6, 1994. After

the publication of this notice, homeless providers had 60 days to make an expression of interest on the suitable property to the Department of Human and Health Services (HHS) and to submit a lease application within 150 days. After determining that an application is complete, HHS is required to approve or disapprove the application within 25 days. Homeless providers with applications approved by HHS are then able to lease available property prior to closure of the base. In disposing of surplus property, the Air Force must give priority of consideration to uses that assist the homeless, although "other compelling and meritorious uses may be considered." No applications were received from homeless providers in the required time frame.

An Air Force Base Conversion Agency (AFBCA) Operating Location (OL) has been established at Griffiss AFB. The responsibilities of the OL include coordinating post-realignment activities with the active Air Force realignment activities, establishing a caretaker force to maintain Air Force-controlled properties after realignment, and serving as the Air Force local liaison to the GLDC until lease termination, title surrender, or disposal of the Air Force-controlled property has been completed. For the purpose of environmental analysis, it was assumed that the OL and established caretaker force would consist of approximately 100 people at the time of realignment, composed of 10 Air Force employees and 90 non-Federal supporting personnel. The OL, as used in this document, may refer to either the AFBCA or non-Federal personnel working for them.

The Proposed Action analyzed in this Environmental Impact Statement (EIS) was developed based on a reuse plan prepared by the GLDC. Three reasonable alternatives to the Proposed Action (i.e., Griffiss Research Park, Mohawk Valley Business Center, and Regional Aviation Complex) were developed to provide an analysis of a range of potential reuses of the base property. The alternatives include key elements of the Proposed Action and also incorporate specific concerns expressed by the community.

The Proposed Action and three alternatives were all developed around the DOD organizations that will remain at the base on government-retained land following realignment as described in Chapter 1.0, and in more detail below. The basis for development of the Proposed Action and alternatives was the retention of several Air Force and other DOD organizations which were authorized in the 1993 BRAC Commission's recommendations to remain at Griffiss AFB following realignment. These organizations will require approximately 1,600 acres of land retained by the U.S. Government, involving about 2 million square feet of floor space. In accordance with the BRAC Commission's recommendations, the following actions will occur as part of the realignment of Griffiss AFB:

- Rome Laboratory (Rome Lab), with approximately 1,000 personnel, will remain as a stand-alone Air Force research and development laboratory in existing facilities (primarily Buildings 3, 102, 104, 106, 240, 247, and 248). Following realignment, Rome Lab will also use other buildings within the government-retained land, including a portion of Building 101,

a large maintenance hangar. Most of the Rome Lab facilities are located contiguous to one another in the central part of the base, except for Buildings 240, 247, and 248, which are located in an area east of the Floyd Gate.

- A minimum essential airfield will be maintained and operated at Griffiss AFB on an as-needed, on-call basis. The New York Air National Guard will maintain and operate necessary facilities to support mobility, contingency, and training deployments of the U.S. Army 10th Infantry (Light) Division (ID) at Fort Drum, near Watertown, New York, and operate them when needed. The New York Air National Guard will maintain and operate facilities adjacent to Aprons 1 and 2 and the former Alert Apron, navigational aids and other equipment required for operation of the airfield (including Communications Sites No. 1 and No. 2), and facilities required for other support functions including fire protection, airfield security, vehicle maintenance, and aircraft refueling. These activities will require approximately 140 personnel.

- The Northeast Air Defense Sector (NEADS) operations, with approximately 240 personnel, will be transferred to the New York Air National Guard. NEADS will remain in their existing Sector Operations Control Center (Building 700) and maintain a small building and four large antennas in an area east of the northern end of the runway.

- The Defense Reutilization and Marketing Office (DRMO), with 20 personnel, will remain in their existing facilities (Buildings 8, 1200, and 1300) and continue to use open storage areas adjacent to and east of Buildings 1200 and 1300. This regional DRMO facility is under the control of the Defense Logistics Agency.

- The 485th Engineering Installation Group (EIG), with approximately 555 personnel, will remain at Griffiss AFB until December 1995 and then be deactivated.

In May 1994, the DOD announced that a Defense Finance and Accounting Service (DFAS) Center would be established at Griffiss AFB beginning in 1995. The DFAS Center will initially employ less than 100 personnel, but will eventually employ approximately 750 personnel when fully operational by 1999. The DFAS Center will use approximately 200,000 square feet of floor space in Building 1 on government-retained land. For EIS analysis purposes, the first 100 personnel were considered part of the 1995 baseline and the 650 additional personnel, as part of the new direct employees coming in during redevelopment.

In addition, the U.S. Department of Veterans Affairs (VA) established an outpatient clinic in Building 510, the base hospital, in June 1995 to serve active duty military personnel who will remain at the base following realignment and local veterans. By 1997, the facility operation will be expanded to include a nursing home facility exclusively for veterans. This operation will eventually employ approximately 100 personnel.

In addition to the government-retained land, a number of other factors were considered in the development of the Proposed Action and alternatives. Real estate market conditions in the Rome area were analyzed to assess the feasibility of future reuse options. Special consideration was given to the adaptation of existing base facilities available for reuse. The layout of existing base facilities, and their current and potential use, were also considered in the development of each reuse alternative. Demolition of many facilities would occur with the Proposed Action and alternatives. Various environmental factors were considered in designating specific land use types and potential reuses, particularly surface water features and wetlands on and near the base, and several old landfills in the eastern portion of the base and east of Threemile Creek. In addition, constraints and opportunities provided by the infrastructure (particularly the airfield facilities) on and surrounding the base were also considered (Chapter 1.0, Figure 1.1-1).

The status of the Installation Restoration Program (IRP) (the Air Force program to identify, characterize, and remediate environmental contamination on its installations) at Griffiss AFB was considered in developing the land use plans for the Proposed Action and alternatives; specifically, the effect that pending IRP remedial action decisions may have on the viability of reuses. IRP remedial actions at Griffiss AFB may result in identifying possible lease and/or deed restrictions, or limiting reuse options and the timing of development to some degree (e.g., a temporary lease to allow access to specific sites such as monitoring wells may be required while the remainder of the site is developed for reuse). Reuses in areas with IRP sites need to be compatible with selected remedial actions; therefore, compatible land uses for areas containing IRP sites were considered in the development of the land use plan for each alternative.

Development of the Proposed Action and alternatives also considered the opportunity for constructing a transportation corridor through the base property to connect State Highway (SH) 49, south of the base, more directly with SH-46, northwest of the base (Chapter 1.0, Figure 1.1-1). This bypass concept has been proposed in various forms by the City of Rome for several decades to relieve congestion on SH-46 (Black River Boulevard), East Dominick Street, and streets in downtown Rome. The bypass roadway would involve construction of a road beginning near the intersection of Potter Road and SH-46 (on the west side of the Mohawk River west of the north clear zone area) across the Mohawk River and through the base property to the Wright Drive/SH-49 interchange south of the existing Skyline Gate.

The initial reuse planning for Griffiss AFB was directed by the Griffiss Redevelopment Planning Council (GRPC). The GRPC was formed in

August 1993, with a 15-member board consisting of two elected officials (the Oneida County Executive and the City of Rome Mayor) and 13 area business and community leaders. The GRPC also had an executive director and a small support staff. Partial funding for operation of GRPC was obtained from a DOD Office of Economic Adjustment (OEA) grant applied for and granted to Oneida County. The GRPC was responsible for developing the master plan for reuse of the base. Working with a team of planning consultants, the GRPC released three draft reuse scenarios in August 1994 for public review and comment. Following a series of public meetings held to receive comments on the proposed scenarios, a final master plan was developed and released in November 1994. The GRPC was phased out in December 1994 following completion of the final master plan. The final master plan has been adopted as the Proposed Action analyzed in this EIS.

To implement the master plan for reuse of the base, the GLDC was established to direct the Griffiss AFB redevelopment efforts, including all marketing activities, coordination with the Air Force during the property transition phase, and financial management of the reuse program. GLDC is a New York not-for-profit corporation with a 15-member board appointed by the Governor (five members), State Senate (two members), State Assembly (two members), Oneida County (three members), and City of Rome (three members). The GLDC's executive committee consists of board of directors (five members) and a professional staff of four, including an executive director.

The State of New York also established the New York State Technology Enterprise Corporation (NYSTEC) to help promote and market the private-sector research and ideas developed at Rome Lab. NYSTEC, a not-for-profit corporation, has a five-member board appointed by the Governor of New York.

The Proposed Action considered in this EIS would involve development of a high technology office/research and development (R&D) complex built around the retained government uses described above, with the Rome Lab facilities (Rome Lab Complex) as the focal point. The Proposed Action also includes industrial/warehousing, education/training, recreational, and residential uses. A parkway would be constructed through the property along a north/south corridor. Much of the base property would be left as open space. Areas east and west of the Skyline Gate and the Weapons Storage Area (WSA) would be reserved for future development.

The Griffiss Research Park Alternative (Alternative A) would also include development of an office/R&D complex built around the Rome Lab Complex and the other government-retained uses. Other land uses proposed with this alternative would include industrial/warehousing, educational/training, and recreational. The recreational uses would include expansion of the base golf course to 18 holes and more open space than the Proposed Action. With this alternative, no residential uses would occur and no north-south parkway would be constructed.

The Mohawk Valley Business Center Alternative (Alternative B) focuses on development of a business and commercial district adjacent to the Rome Lab Complex. With this alternative, a new 18-hole golf course, an aviation museum, and a new residential area would be constructed, along with a north-south parkway similar to the Proposed Action.

The Regional Aviation Complex Alternative (Alternative C) would include reuse of the base for civilian and military aviation with relocation of the Oneida County Airport to Griffiss AFB. With this alternative, redevelopment would be focused on aviation support (e.g., air cargo and aircraft maintenance) and industrial/warehousing uses in the existing flightline area, with recreational and open space uses in the southern part of the base and along the Mohawk River. A north-south parkway would also be constructed with this alternative.

Each reuse plan is conceptual in nature, and represents generalized designations of potential future land uses based on development opportunities provided by the existing facilities and current and projected market conditions. To analyze potential environmental impacts, various assumptions were made for each reuse alternative for the purpose of analysis in this EIS, including:

- Layout and acreage totals for the proposed land uses;
- Extent of construction and/or demolition activities required;
- Acreage of ground disturbance resulting from construction and/or demolition activities;
- Employment and population projections through 2016 for the Rome area and Oneida County;
- Traffic generation and daily trip projections through 2016;
- Proposed transportation improvements;
- Utility requirement projections through 2016; and
- Phasing plans for reuse of Griffiss AFB through 2016.

Details regarding the development of these assumptions and impact/modeling methodologies used are presented in Appendix E, Methods of Analysis. Specific assumptions developed for individual alternatives are identified in the discussion of each reuse proposal in Sections 2.2 and 2.3.

For purposes of baseline and impact analyses of the Proposed Action and alternatives, it was also assumed that the existing base steam plant would be converted to natural gas during the realignment period, and that 45 Air Force personnel would operate the plant until September 1997. It is anticipated that a staff of 15 would be required to operate the plant long term.

In general, the results of the environmental analyses are presented in this EIS for the years 1996, 2001, 2006, and 2016, reflecting the first full year after base realignment in September 1995, and subsequent 5-,10-, and 20-year intervals.

2.2 DESCRIPTION OF PROPOSED ACTION

Section 2905(b)(2)(E) of DBCRA requires the Secretary of Defense, as part of the disposal process, to consult with the applicable governor, heads of local governments, and equivalent political organizations to consider any plan for the use of base property by the concerned local community. DOD policy is to encourage timely community reuse planning by offering to use the community's plan for reuse or development of land and facilities as the Proposed Action in the EIS.

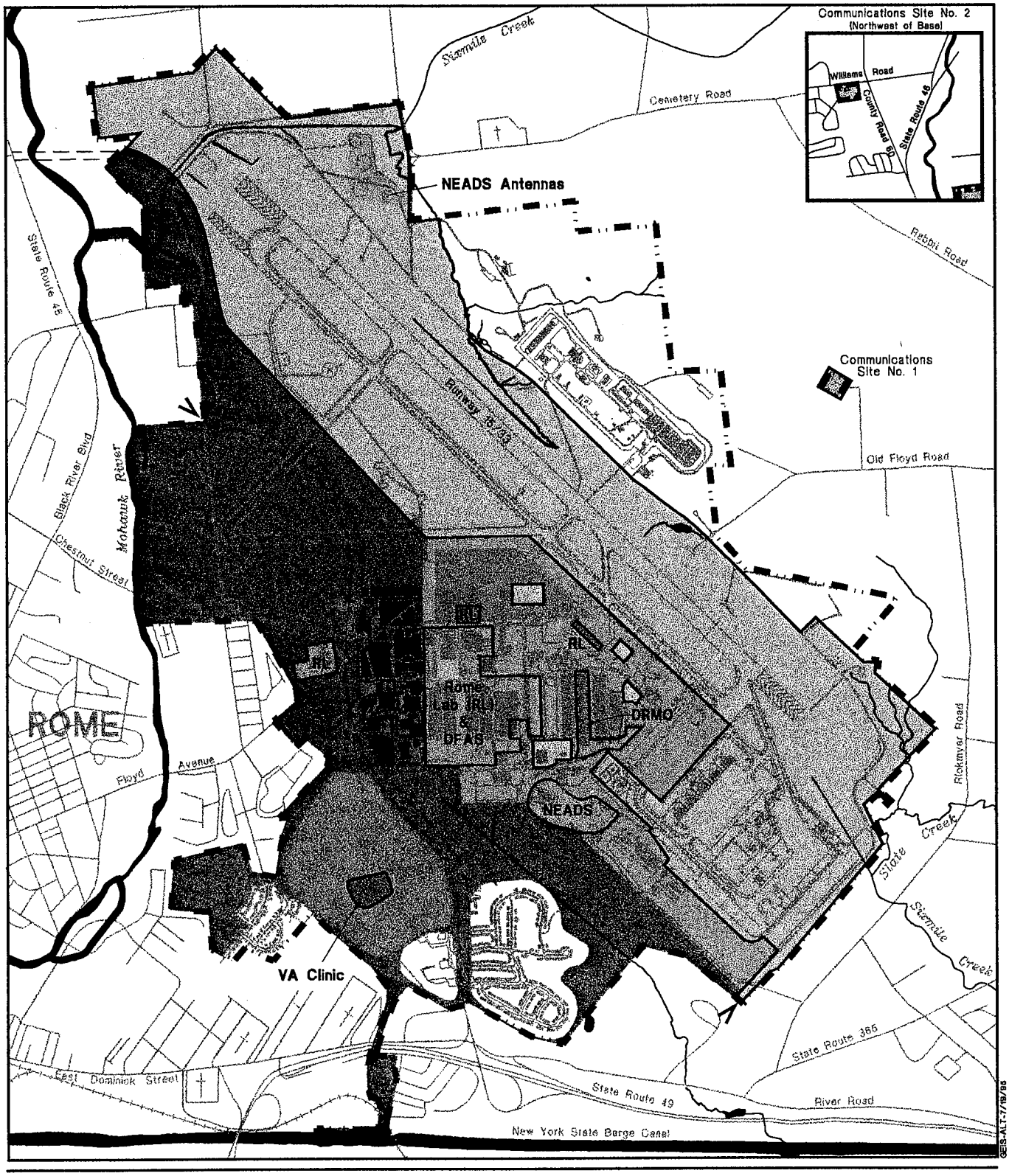
The Proposed Action would involve development of a high technology office/R&D complex built around the retained government uses described in Section 2.1, with the Rome Lab Complex as the focal point. The total acreage of each land use, as designated for the Proposed Action, is summarized in Table 2.2-1 and shown on Figure 2.2-1. All acreage values used in this EIS are approximate and rounded to the nearest whole number. Of the base's total 3,552 acres, approximately 44 percent, or 1,566 acres, will be retained for government use, including 1,414 acres for the airfield; 104 acres for Rome Lab, DFAS, and DRMO facilities; 40 acres for the NEADS facilities; and 8 acres for the VA clinic.

Table 2.2-1

Land Use Acreage - Proposed Action

Land Use	Acreage	
	Government-Retained	Project Reuse
Airfield	1,414	0
Aviation Support (Industrial)	0	109
Industrial	144	273
Institutional	8	134
Commercial	0	80
Residential	0	25
Public/Recreational	0	835
Agricultural	0	0
Vacant Land (Development Reserve)	0	530
Totals:	**1,566**	**1,986**
Grand Total (Government-Retained and Project):		**3,552**

The Proposed Action includes large areas of public/recreational space (835 acres), some of which will be created through demolition of buildings and reforestation. This green space corridor also contains a modified golf course and a new parkway corridor. The plan includes a four-lane parkway with a



LEGEND

- Base Boundary
- Parkway Corridor
- New/Improved Access Points
- Airfield (National Guard Facilities)
- Aviation Support
- Industrial
- Institutional (Medical)
- Institutional (Education)
- Commercial
- Residential
- Public/Recreational
- Agricultural *
- Vacant Land (Development Reserve)
- Government Retained Land

*Not Applicable

SCALE IN FEET
0 1000 2000

Griffiss AFB Proposed Action

Figure 2.2-1

100-foot landscape median that would serve the new development and form an eastern bypass for the City of Rome. The large areas of vacant land (Development Reserve) (530 acres), partly created by demolition of obsolete structures (especially housing), are reserved for future potential development. No development data have been included in this analysis for these vacant lands.

The amount of development within each land use category assumed to occur with the Proposed Action, including existing facility demolition and retention and new facility construction, is summarized in Table 2.2-2. With the Proposed Action, approximately 5.5 million square feet of new construction would occur by 2016. The Proposed Action includes reuse of approximately 1.4 million square feet of existing space and retention of 1.98 million square feet of government-retained space. It was assumed that full facility development, as outlined in Table 2.2-2, will occur within each land use category by 2016. In addition, it was assumed that all demolition and 50 percent of new construction would occur in the first 5-year period; 25 percent of construction in the second 5-year period; and the remaining 25 percent in the last 10 years. The acreage by land use category anticipated to be disturbed by demolition or construction of facilities, infrastructure improvements, or other operational activities is presented in Table 2.2-3 for the three phases of development analyzed in this EIS.

Table 2.2-2

Facility Development - Proposed Action

Land Use	Existing Facility Demolition (sq ft)	Existing Facility Retention (sq ft)	New Facility Construction (sq ft)
Airfield	0	0	0
Aviation Support	73,100	486,600	0
Industrial	771,100	176,200	2,494,000
Institutional	127,700	394,800	1,256,000
Commercial	118,600	57,700	1,738,000
Residential	175,484	162,700	0
Public/Recreational	342,800	146,500	0
Vacant Land (Development Reserve)	608,316	0	0
Total:	**2,217,100**	**1,424,500**	**5,488,000**
Government-Retained		1,980,000	

2.2.1 Airfield

With the Proposed Action, a minimum essential airfield would be maintained and operated at Griffiss AFB by the New York Air National Guard to support mobility, contingency, and training requirements (i.e., for troop deployments) of the Army 10th ID at Fort Drum. The New York Air National Guard would also maintain and operate facilities adjacent to Aprons 1 and 2 and the former Alert Apron, navigational aids and other equipment required for operation of the airfield (including Communications Sites No. 1 and No. 2), and facilities required for other support functions including fire protection, airfield security, vehicle

maintenance, and aircraft refueling. Airfield and associated support functions would use approximately 1,414 acres of the base property, all of which would be government-retained land.

Table 2.2-3

Acres Disturbed by the Proposed Action

Land Uses	Acres Disturbed by Phase			Total
	1996-2001	2001-2006	2006-2016	
Airfield	0	0	0	0
Aviation Support	2	0	0	2
Industrial	122	49	48	219
Institutional	66	22	21	109
Commercial	60	10	10	80
Residential	19	3	3	25
Public/ Recreational	86	50	0	136
Vacant Land (Development Reserve)	42	0	0	42
Total:	**397**	**134**	**82**	**613**

Mobility, contingency, and training deployments of the 10th ID would involve an estimated 480 annual aircraft operations (i.e., arrivals or departures) involving C-5, C-141, L-1011, and B-747 aircraft. For the purpose of analysis in this EIS, it was assumed that there would be 120 annual operations for each aircraft type. The aircraft would not be based at Griffiss AFB, but would be flown in to pick up or drop off troops, as well as supplies and equipment, on an as-needed basis. The estimated number of aircraft operations was assumed to be baseline for the Proposed Action and Alternatives A, B, and C.

2.2.2 Aviation Support

The Proposed Action includes 109 acres designated as an aviation support area north of the Rome Lab Complex. This area could be developed as part of the industrial district or as a separate aviation support district if joint use arrangements can be negotiated and Federal Aviation Administration (FAA) approval can be obtained. The site contains two large hangars adjacent to the flightline that could be accessed through extension of the existing railroad track on the base. About one-half of one building would be retained for the New York Air National Guard and one-fourth of the other building would be retained for use by Rome Lab. For purposes of this EIS, the aviation support area has been designated as an industrial land use area. Potential uses of these buildings could include a variety of heavy or light manufacturing uses which have a lower employee per square foot employment generation factor.

2.2.3 Industrial

The proposed industrial district contains 273 acres that could be used by either a few large tract tenants or by multiple tenants using 10- to 50-acre parcels. The Rome Lab Complex, including the DFAS Center, is within this district. Potential development opportunities would include infill with R&D, manufacturing, warehousing, or storage uses. A new road system, as well as a new park and open space along Otis Street, would be distinguishing features of this district.

The area east of the Rome Lab Complex could be marketed to a single user or several smaller users. Actual parcelization would depend on market demand. Future development potential could include manufacturing or warehousing uses, particularly those which require direct rail access and/or large sites.

Existing buildings in the SAC Hill area, in the southern portion of the industrial area, could be used in the short term for retraining and educational facilities or small light industrial businesses. In the long term, new development in the adjacent Skyline area and Rome Lab Complex, along with creation of a comprehensive redevelopment strategy, may attract additional businesses to the area.

Industrial reuses would also include the NEADS antennas in the northern portion of the airfield on government-retained land.

2.2.4 Institutional

Institutional uses are planned for 134 acres on a site that offers reuse opportunities for a number of buildings including the base theater, various recreational facilities (e.g., bowling center, recreation center, gymnasium, and library), the chapel, and dormitories. Potential development opportunities in this area, focusing on maintaining a campus-like environment, include the Mohawk Valley Community College, a specialized science high school, a job training facility, and other similar education/training activities that would benefit from proximity to Rome Lab. As described in Section 2.1, the hospital will be reused as a VA clinic on government-retained land (8 acres). The daycare center would also be a compatible reuse within this area.

2.2.5 Commercial

A total of 80 acres of potential commercial development is designated along the east side of the proposed parkway. Potential reuses could include development of office and R&D uses fronting the parkway and a landscaped mall. The site would support limited retail, administrative office, and service establishments providing support to businesses and employees.

2.2.6 Residential

A 25-acre parcel in the Woodhaven housing area would continue to be used as a residential area. This area would include single-family units (19 of which would be relocated from the Skyline housing area) and a limited number of multifamily units (for transitional housing because of adjacent apartment complexes) in the northeastern portion of this area. The reuse plan also includes demolition of housing and reforestation of the remaining 43 acres to be set aside as a part of the regional open space network.

2.2.7 Public/Recreational

The Proposed Action includes 835 acres of public/recreational areas that would be used as open space. The plan includes a major reforestation program for dedicated open space including natural parklands extending from the northwest corner of the base, through the existing modified golf course, south along the Mohawk and Floyd gateways, and across the parkway into the Threemile Creek area. With construction of the parkway, the layout of the existing golf course would need to be modified. The Mohawk Glen Club would be retained as a hospitality center and educational facility by Mohawk Valley Community College or the private sector. Other public/recreational uses would include a 100-foot landscaped parkway median, two small parks in the Rome Lab complex area, and landscaped buffer areas around the proposed commercial and industrial development.

2.2.8 Agricultural

There would be no agricultural land uses with the Proposed Action.

2.2.9 Vacant Land

For purposes of this analysis, the vacant land (also designated as Development Reserve) represents opportunity sites for undefined future development that will be market-determined. The Proposed Action includes 530 acres identified as vacant land but set aside for future long-term development. These areas include the WSA and nearby landfill areas to the north and south, and the areas east and west of the Skyline Gate where military housing and other facilities would be demolished. The areas near the Skyline Gate would be reserved for developers or users needing a prominent site with good highway access. As a gateway site, uses such as industrial, warehousing, and large-scale retail would be discouraged. None of these uses have been analyzed in this EIS.

2.2.10 Government-Retained Land

Three government-retained zones are part of the Proposed Action: one is a composite of areas totaling 104 acres that include Rome Lab and DFAS facilities; the second includes 1,414 acres of airfield, which also contains two industrial areas (40 acres total) with NEADS facilities; and the third consists of 8 acres for the VA clinic. The government would retain use of 1.9 million

square feet of existing floor space. The total government-retained acreage (1,566 acres) represents 44 percent of the 3,552-acre Griffiss AFB property.

2.2.11 Employment and Population

The government functions retained at Griffiss AFB following realignment, as described in Section 2.1, will employ 2,196 persons as of October 1995, decreasing to 1,612 following deactivation of the 485th EIG. The total government-retained employment would include 1,003 persons associated with Rome Lab, 237 with NEADS, 20 with DRMO, 96 with DFAS, 141 with the New York Air National Guard, and 554 with the 485th EIG. In addition, the OL and steam plant personnel would consist of 145 persons, decreasing to 115 in 1997, when operation of the steam plant is turned over to the GLDC.

In addition to the retained government employment, approximately 11,700 direct jobs and 5,575 secondary jobs would be generated by 2016 with the Proposed Action. The direct jobs that would be generated in the region include 650 additional and 100 new jobs that would be associated with the DFAS Center and VA facility, respectively, on government-retained land. Ninety percent of this work force is estimated to live in Oneida County. A peak of approximately 285 direct, short-term, construction-related jobs would be generated in 2001. Estimated employment following realignment, and in 2001, 2006, and 2016 with reuse, is presented in Table 2.2-4. The forecasted employment related to base reuse is expected to result in the inmigration of approximately 16,130 persons into the region by 2016.

Table 2.2-4

Reuse-Related Employment and Population Proposed Action

	Year			
	1996	**2001**	**2006**	**2016**
Direct Employment				
Construction/Demolition	254	285	149	0
Operations	923	3,812	6,218	11,684
Total:	**1,177**	**4,097**	**6,367**	**11,684**
Secondary Employment	653	2,099	3,148	5,574
Population Change	437	2,265	4,979	16,133

2.2.12 Transportation

Based on land use and employment projections, the average daily traffic would increase from approximately 7,400 vehicle trips in 1996 to about 53,600 vehicle trips by 2016. The Proposed Action would include construction of a new parkway to link SH-49 to the south to Floyd Avenue, Mohawk Drive, and areas north of Rome via SH-46 and Potter Road and facilitate overall traffic flow in the area.

Onsite circulation would also be enhanced by the following modifications to existing roads, new road construction, and road demolition:

- Maintenance of unrestricted gates at Mohawk Drive and Floyd Avenue as key entrances from the City of Rome to the Rome Lab Complex;
- Creation of an industrial service loop road around the Rome Lab Complex;
- Improved access to SAC Hill through connection to SH-365 from the southeastern corner of the base along the access road to the former Oneida County Energy Recovery Facility;
- Realignment of Ellsworth Road to improve access to East Dominick Street and Mohawk Valley Community College via Park Drive and Gansevoort Avenue;
- Construction of a new road through the education and training district to improve access to the neighborhoods of Rome;
- Closing most roads within the Skyline housing area and the industrial district until specific development proposals are implemented, as well as closing other roads not immediately required; and
- Demolition of roads in areas designated for open space and in the commercial area.

2.2.13 Utilities

By 2016, the projected reuse of Griffiss AFB with the Proposed Action would generate the following onsite changes in utility demand compared to pre-realignment (1993) conditions:

- **Water** - 0.62 million gallons per day (MGD) or a decrease of approximately 24.4 percent from 1993 levels;
- **Wastewater** - 0.41 MGD or a decrease of 28.1 percent over from 1993 levels;
- **Solid Waste** - 14.76 tons per day or an increase of approximately 105 percent from 1993 levels;
- **Electricity** - 211.62 megawatt-hours (MWh) per day or a decrease of approximately 8 percent from 1993 levels; and
- **Natural Gas** - 5.14 thousand therms per day or an increase of approximately 60.6 percent from 1993 levels.

In the ROI, by 2016, the Proposed Action and associated population increases would generate the following changes in utility demand compared to pre-realignment (1993) conditions:

- **Water** - 10.27 MGD or a decrease of approximately 0.3 percent from 1993 levels;
- **Wastewater** - 10.93 MGD or an increase of 2.1 percent over 1993 levels;
- **Solid Waste** - 43.45 tons per day or a decrease of approximately 7 percent from 1993 levels;
- **Electricity** - 2230.07 MWh per day or a decrease of approximately 1.8 percent from 1993 levels; and
- **Natural Gas** - 66.04 thousand therms per day or an increase of approximately 2.5 percent over 1993 regional demand levels.

No major utility system improvements have been identified for the Proposed Action.

2.3 DESCRIPTION OF ALTERNATIVES

Three reuse alternatives (A, B, and C), as well as the No-Action Alternative, have been identified for analysis and are described in this section. The basis for the development of these alternatives was the retention of property by the U.S. Government for the Air Force and other organizations that will remain on the base following realignment, as described in Section 2.1. With each alternative, the airfield would remain operational for deployment of Army troops from Fort Drum.

All of the alternatives, except Alternative C, would consist of entirely nonaviation reuses on the land not retained by the U.S. Government. Alternative A, like the Proposed Action, emphasizes development of a high technology office/R&D complex centered around Rome Lab, while Alternative B emphasizes the development of a business and commercial district. Alternative C would involve both aviation and nonaviation reuses, including the relocation of operations from Oneida County Airport to Griffiss AFB. Like the Proposed Action, demolition of a large number of existing buildings and structures is common to all the alternatives. Construction of a new north-south parkway corridor through the property is proposed for all of the alternatives (except for Alternative A) to provide more direct access to the central portion of the base and between SH-49 to the south and SH-26 and SH-46 to the northwest. Construction of the upper portion of this parkway, as described for the Proposed Action, would require the construction of a bridge across the Mohawk River on property not owned by the U.S. Government.

Only Alternative A does not include residential land uses, and only Alternative B would involve construction of new housing. Retention of large areas of public/recreational land, including open space areas, is a major component of each alternative, similar to the Proposed Action.

2.3.1 Griffiss Research Park Alternative (A)

As with the Proposed Action, the airfield, Rome Lab, DFAS, NEADS, and hospital areas would be retained exclusively for government use. Rome Lab and the DFAS area would be major anchors of the Griffiss Research Park. This plan would emphasize R&D, training, and educational reuses of the base and would maximize the reuse of existing buildings and infrastructure with moderate demolition. The plan does not include a parkway, but would include improving Wright and Mohawk drives as regional arterial routes. The existing 9-hole golf course would be expanded to 18 holes and combined with an east-west open space system from the Mohawk River near the Woodhaven housing area across Skyline Hill to the Threemile Creek woodland.

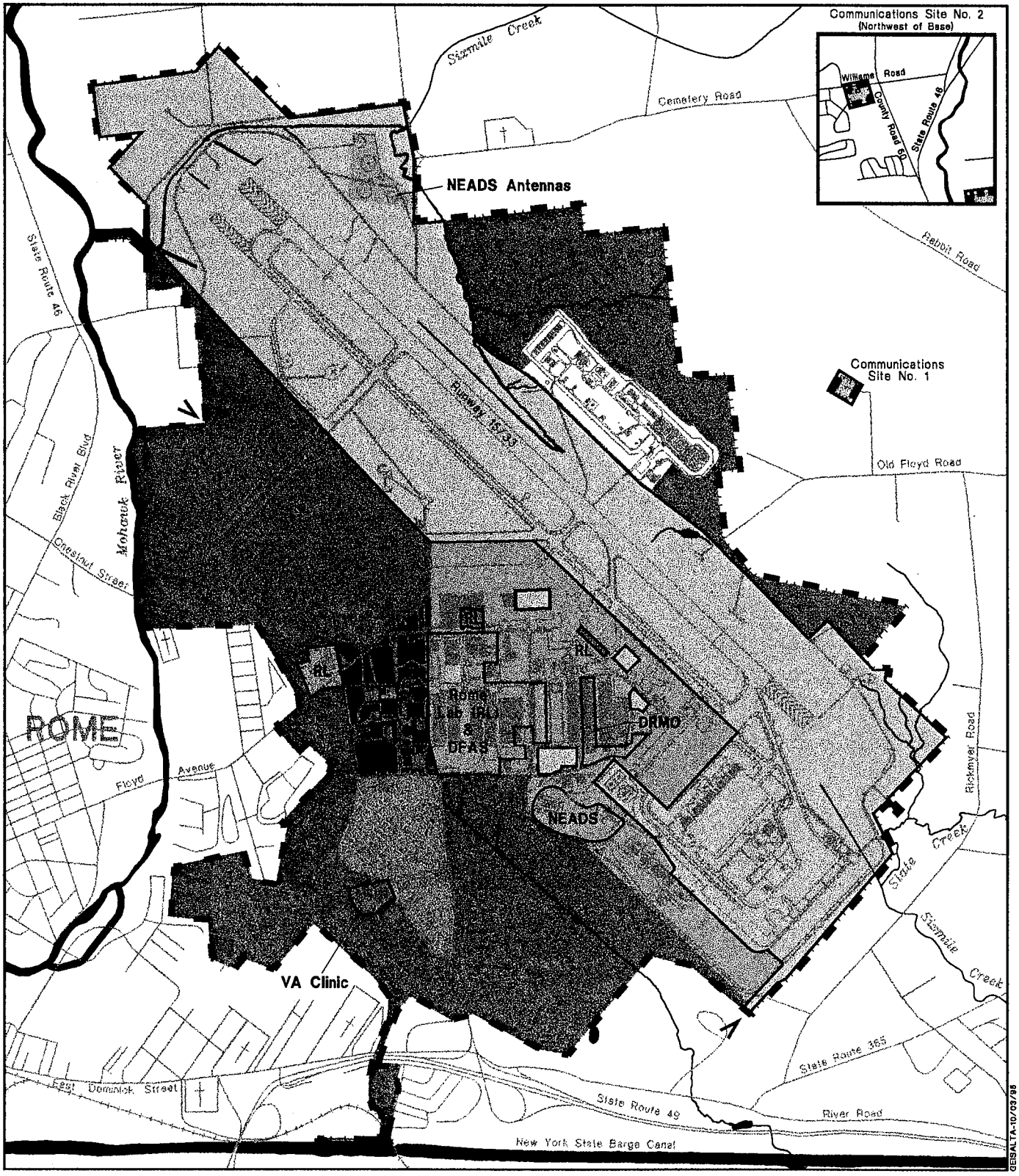
Total acreage for each land use category for the Griffiss Research Park Alternative is summarized in Table 2.3-1 and shown on Figure 2.3-1. Of the base's total 3,552 acres, 1,476 acres will be retained by the government for the airfield; 104 acres for the Rome Lab, DRMO, and DFAS facilities; 40 acres for the NEADS facilities; and 8 acres for the VA clinic. This alternative has the second largest public/recreational area (1,283 acres). No residential uses are proposed with this alternative.

Table 2.3-1

Land Use Acreage - Griffiss Research Park Alternative (A)

	Acreage	
Land Use	**Government-Retained**	**Project Reuse**
Airfield	1,476	0
Aviation Support (Industrial)	0	0
Industrial	144	355
Institutional	8	93
Commercial	0	86
Residential	0	0
Public/Recreational	0	1,283
Agricultural	0	0
Vacant Land (Development Reserve)	0	107
Totals:	**1,628**	**1,924**
Grand Total (Government-Retained and Project):		**3,552**

The factors and assumptions used to analyze the impacts of the land use plan for this alternative are the same as those described for the Proposed Action.



LEGEND

- Base Boundary
- New/Improved Access Points
- Airfield (National Guard Facilities)
- Aviation Support*
- Industrial
- Institutional (Medical)
- Institutional (Education)
- Commercial
- Residential*
- Public/Recreational
- Agricultural*
- Vacant Land (Development Reserve)
- Government Retained Land
- *Not Applicable

SCALE IN FEET
0 1000 2000

Griffiss AFB Alternative (A) Griffiss Research Park

Figure 2.3-1

Existing buildings and facilities at Griffiss AFB were evaluated in terms of potential demolition, retention for future use, and for construction sites for new facilities. With this alternative, approximately 2 million square feet of existing buildings would be demolished and 1.6 million square feet would be retained for reuse (Table 2.3-2). In addition, approximately 3.1 million square feet of new floor space would be constructed. The potential land disturbance associated with demolition and new construction is summarized in Table 2.3-3. It was assumed that full facility development, as defined in Table 2.3-2, would occur by 2016. All demolition and 50 percent of new construction will occur in the first 5-year period; 25 percent of construction in the second 5-year period; and the remaining 25 percent in the last 10 years.

Table 2.3-2

Facility Development - Griffiss Research Park Alternative (A)

Land Use	Existing Facility Demolition (sq ft)	Existing Facility Retention (sq ft)	New Facility Construction (sq ft)
Airfield	0	0	0
Aviation Support	160,800	500,800	140,000
Industrial	405,300	289,600	752,000
Institutional	347,584	164,600	0
Commercial	87,500	179,900	2,252,000
Residential	0	108,000	0
Public/Recreational	974,716	403,400	0
Vacant Land	0	0	0
Total:	**1,975,900**	**1,646,300**	**3,144,000**
Government-Retained		1,980,000	

Table 2.3-3

Acres Disturbed by the Griffiss Research Park Alternative (A)

	Acres Disturbed by Phase			
Land Use	1996-2001	2001-2005	2006-2016	Total
Airfield	0	0	0	0
Aviation Support	6	1	0	7
Industrial	50	19	19	88
Institutional	24	0	0	24
Commercial	60	16	10	86
Public/Recreational	117*	50	0	167
Vacant Land	0	0	0	0
Total:	**257**	**86**	**29**	**372**

Note: *Includes 100 acres for golf course expansion.

2.3.1.1 Airfield

For this alternative, as described for the Proposed Action, a minimum essential airfield would be maintained and operated by the New York Air National Guard to support deployment of Army troops from Fort Drum. Airfield and associated support functions for this alternative would require approximately 1,476 acres of the base property, all of which would be government-retained land. Troop deployments would involve an estimated 480 annual aircraft operations (i.e., arrivals or departures), involving C-5, C-141, L-1011, and B-747 aircraft. For the purpose of analysis in this EIS, it was assumed that there would be 120 annual operations for each aircraft type. The aircraft would not be based at Griffiss AFB, but would be flown in to pick up or drop off troops, as well as supplies and equipment, on an as-needed basis.

2.3.1.2 Aviation Support

There would be no aviation support uses with this alternative. The existing facility demolition/retention and potential new construction in the original flightline (aviation support) area was analyzed as part of the industrial district.

2.3.1.3 Industrial

The industrial and warehouse area (355 acres) could be reused for multiple uses focusing on R&D (Rome Lab Complex) and education. Future development opportunities could include business incubation and general office use. Industrial and warehouse uses could include those that need direct rail access. The SAC Hill area, while proposed as industrial, could be used for training and educational facilities including vocational training and trade shops. The site also has two large hangars adjacent to the flightline that could also be accessed through extension of the existing railroad track on the base. About one-half of one building would be retained for the New York Air National Guard and one-fourth of the other building would be retained for use by Rome Lab. For purposes of this EIS, 109 acres has been designated as warehousing land use area, which would have a lower employee per square foot employment generation. This alternative would emphasize the reuse of existing buildings and infrastructure with only moderate demolition. Industrial uses would also include the NEADS antennas in the northern portion of the airfield on government-retained land.

2.3.1.4 Institutional

The institutional (education and training) area contains 93 acres. A number of existing buildings would be reused with this alternative. As with the Proposed Action, future development would focus on maintaining a campus-like environment and integrating this site into the surrounding open space network. Potential development opportunities could include expansion of Mohawk Valley Community College or development of a local high school, a specialized science high school, a job training facility, or other similar facilities, especially those that

could take advantage of the proximity of Rome Lab. As described for the Proposed Action, the hospital (8 acres) would be reused for the VA clinic.

2.3.1.5 Commercial

A total of 86 acres of potential commercial development similar to the Proposed Action has been designated west of the Rome Lab Complex. The area could support limited retail, administrative office, and service establishments providing support to businesses and employees on the base property.

2.3.1.6 Residential

There would be no residential uses with this alternative.

2.3.1.7 Public/Recreational

This alternative proposes 1,283 acres for public/recreational use, including an 18-hole golf course and a major reforestation program to develop dedicated open space in the southern portion of the base and northeast of the runway. An extensive open space corridor would be developed that would connect the Mohawk River Corridor with the New York State Barge Canal Corridor via Threemile Creek. Existing residential areas (i.e., the Woodhaven and Skyline housing areas, and the trailer park) would be demolished and incorporated into the east-west open space system.

The existing 9-hole golf course would be retained and expanded to 18 holes. The areas east and west of the education and training area could be redeveloped into a regional park including a community center, athletic fields, recreational courts and fields, and a nature trail system. Some existing buildings and recreational facilities would be reused as part of this alternative.

2.3.1.8 Agricultural

There would be no agricultural land uses with this alternative.

2.3.1.9 Vacant Land (Development Reserve)

With this alternative, 107 acres have been identified as vacant land. This area (the existing WSA northeast of the runway) represents an opportunity site for undefined future development that would be market-determined. Although not specifically planned, this area could support manufacturing, warehousing, light industrial, and storage uses. No development on this land was analyzed in this EIS.

2.3.1.10 Government-Retained Land

There are three government-retained districts: one includes 1,476 acres of airfield and 40 acres of NEADS facilities; the second is a composite of areas totaling 104 acres that include Rome Lab, DRMO, and DFAS facilities; and the

third consists of 8 acres for the VA clinic. Approximately 46 percent of Griffiss AFB would be retained with this alternative.

2.3.1.11 Employment and Population

In addition to the retained government employment as described in Section 2.2.11, approximately 8,250 direct jobs and 3,580 secondary jobs would be generated by 2016 with the Griffiss Research Park Alternative. The direct jobs that would be generated in the region include 650 additional and 100 new jobs that would be associated with the DFAS Center and VA facility, respectively, on government-retained land. A peak of 200 direct, short-term, construction-related jobs would be generated in 2001. Estimated employment following realignment, and in 2001, 2006, and 2016 with reuse, is presented in Table 2.3-4. The forecasted employment related to base reuse is expected to result in the inmigration of approximately 9,025 persons into the region by 2016.

Table 2.3-4

Reuse-Related Employment and Population
Griffiss Research Park Alternative (A)

	Year			
	1996	2001	2006	2016
Direct Employment				
Construction/Demolition	188	200	85	0
Operations	750	2,845	4,490	8,232
Total:	**938**	**3,045**	**4,575**	**8,232**
Secondary Employment	484	1,450	2,082	3,579
Population Change	225	1,673	3,037	9,026

2.3.1.12 Transportation

Based on land use and employment projections, average daily traffic would increase from approximately 4,800 vehicle trips in 1996 to 27,350 vehicle trips by 2016. With this alternative, instead of constructing a new parkway, improvements would be made to Wright and Mohawk drives to upgrade them to regional arterial routes to provide better access to the central portion of the property. Onsite circulation would be enhanced by a combination of existing road modifications, new road construction, and road demolition, similar to those described for the Proposed Action.

2.3.1.13 Utilities

By 2016, the projected reuse of Griffiss AFB with the Griffiss Research Park Alternative would generate the following onsite changes in utility demands compared to pre-realignment (1993) conditions:

- **Water** - 0.30 MGD or a decrease of approximately 63.4 percent from 1993 levels;

- **Wastewater** - 0.17 MGD or a decrease of approximately 70.2 percent from 1993 levels;
- **Solid Waste** - 9.38 tons per day or an increase of 30.5 percent from the 1993 levels;
- **Electricity** - 151.71 MWh per day or a decrease of 34.0 percent from the 1993 levels; and
- **Natural Gas** - 3.77 thousand therms per day or an increase of approximately 17.2 percent from the 1993 levels.

In the ROI, by 2016, the Griffiss Research Park Alternative and associated population increases would generate the following changes in utility demands compared to pre-realignment (1993) conditions:

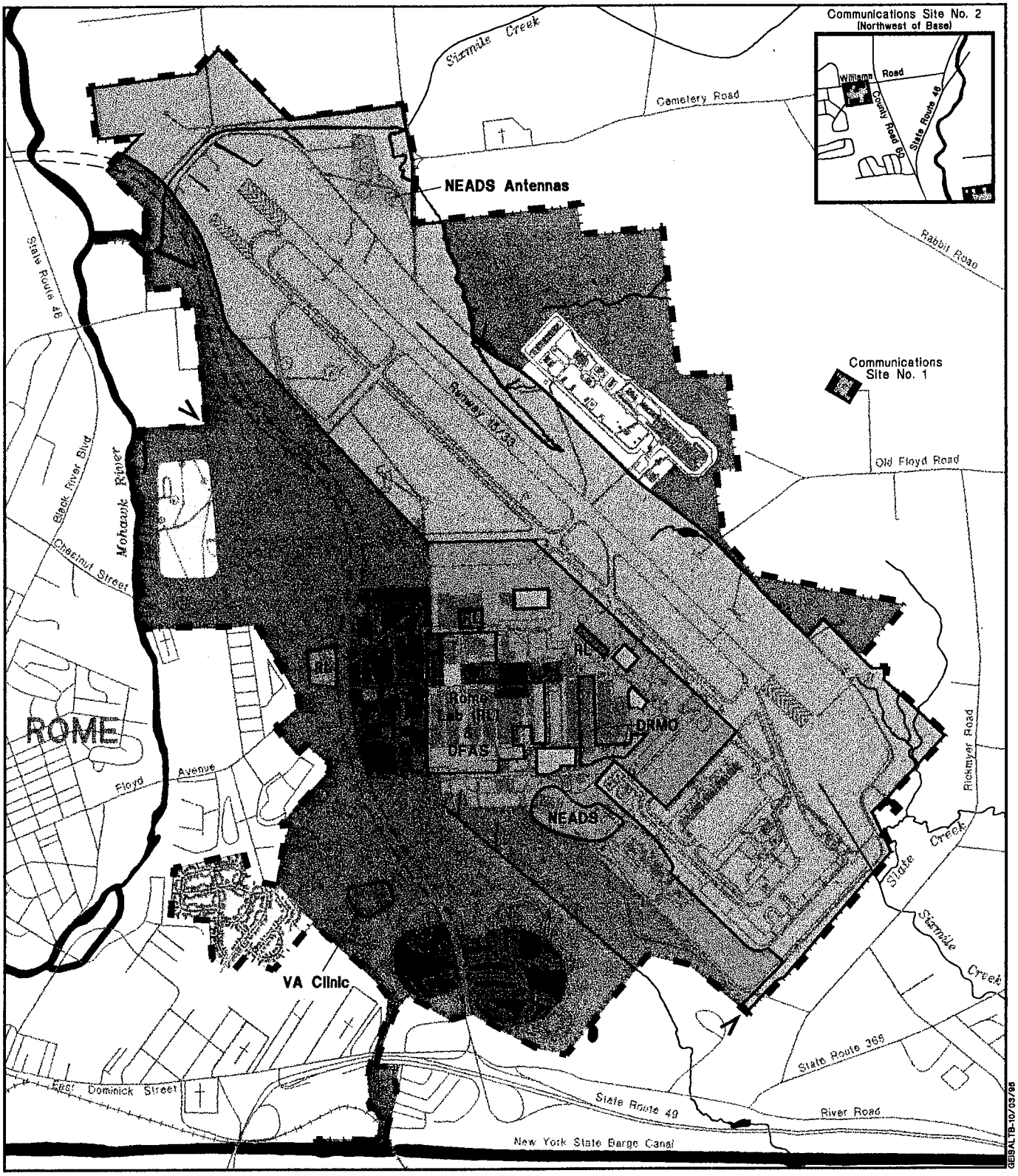
- **Water** - 9.98 MGD or a decrease of approximately 3.1 percent from 1993 levels;
- **Wastewater** - 10.63 MGD or a decrease of approximately 0.7 percent from 1993 levels;
- **Solid Waste** - 42.26 tons per day or a decrease of 9.5 percent from 1993 levels;
- **Electricity** - 2168.88 MWh per day or a decrease of 4.5 percent from 1993 levels; and
- **Natural Gas** - 64.23 thousand therms per day or a decrease of approximately 0.3 percent from 1993 levels.

No major utility system improvements have been identified for this alternative.

2.3.2 Mohawk Valley Business Center Alternative (B)

As with the Proposed Action, the airfield and the Rome Lab, NEADS, and DFAS areas would be retained exclusively for government use. The Mohawk Valley Business Center Alternative would be focused on development of a business and commercial district adjacent to the Rome Lab Complex. This concept would be enhanced by construction of a new 18-hole golf course, a regional parkway, an aviation museum, and a new housing area. The alternative would emphasize high-quality commercial office space combined with R&D and ancillary retail support. The parkway continues the City of Rome bypass concept and would be part of a north-south public/recreational open space area. In addition, the parkway would connect the Mohawk River and New York State Barge Canal corridors.

Total acreage for each land use proposed for this alternative is shown on Figure 2.3-2 and summarized in Table 2.3-5. Of the base's total 3,552 acres,



LEGEND

- Base Boundary
- Parkway Corridor
- New/Improved Access Points
- Airfield (National Guard Facilities)
- Aviation Support*
- Industrial
- Institutional (Medical)
- Institutional* (Education)
- Commercial
- Residential
- Public/Recreational
- Agricultural*
- Vacant Land (Development Reserve)
- Government Retained Land
- *Not Applicable

SCALE IN FEET
0 1000 2000

Griffiss AFB Alternative (B) Mohawk Valley Business Center

Figure 2.3-2

1,424 acres would be retained by the government for the airfield; 104 acres for the Rome Lab, DRMO, and DFAS facilities; 40 acres for the NEADS facilities; and 8 acres for the VA clinic. This alternative has 1,206 acres designated for public/recreational land use. This alternative would include two housing areas and an aviation museum.

Table 2.3-5

Land Use Acreage - Mohawk Valley Business Center Alternative (B)

Land Use	Acreage	
	Government-Retained	Project Reuse
Airfield	1,424	0
Aviation Support (Industrial)	0	0
Industrial	144	346
Institutional	8	0
Commercial	0	201
Residential	0	116
Public/Recreational	0	1,206
Agricultural	0	0
Vacant Land (Development Reserve)	0	107
Totals:	**1,576**	**1,976**
Grand Total (Government-Retained and Project):		**3,552**

The factors and assumptions developed and used to analyze the impacts of this alternative's land use plan are the same as those described for the Proposed Action.

Existing buildings and facilities at Griffiss AFB were evaluated in terms of potential demolition, retention for future use, and for construction sites of new facilities. With this alternative, approximately 2.6 million square feet of existing buildings would be demolished and about 1.0 million square feet would be retained for reuse (Table 2.3-6). In addition, approximately 6.7 million square feet of new floor space would be constructed by 2016. The potential land disturbance associated with demolition and new construction plans is summarized in Table 2.3-7. It was assumed that full facility development, as defined in Table 2.3-6, would occur by 2016. All demolition and 50 percent of new construction would occur in the first 5-year period; 25 percent of construction in the second 5-year period; and the remaining 25 percent in the last 10 years.

2.3.2.1 Airfield

For this alternative, as described for the Proposed Action, a minimum essential airfield would be maintained and operated by the New York Air National Guard to support deployment of Army troops from Fort Drum. Airfield and associated support functions for this alternative would require approximately 1,424 acres of the base property, all of which would be government-retained land. Troop

deployments would involve an estimated 480 annual aircraft operations (i.e., arrivals or departures) involving C-5, C-141, L-1011, and B-747 aircraft. For the purpose of analysis in this EIS, it was assumed that there would be 120 annual operations for each aircraft type. The aircraft would not be based at Griffiss AFB, but would be flown in to pick up or drop off troops, as well as supplies and equipment, on an as-needed basis.

Table 2.3-6

Facility Development - Mohawk Valley Business Center Alternative (B)

Land Use	Existing Facility Demolition (sq ft)	Existing Facility Retention (sq ft)	New Facility Construction (sq ft)
Airfield	0	0	0
Aviation Support	148,600	500,800	122,000
Industrial	798,600	12,200	483,000
Commercial	151,800	181,200	5,737,500
Residential	274,500	108,000	341,000
Public/Recreational	791,747	168,100	0
Vacant Land	486,653	0	0
Total:	**2,651,900**	**970,300**	**6,683,500**
Government-Retained		1,980,000	

Table 2.3-7

Acres Disturbed by the Mohawk Valley Business Center Alternative (B)

Land Use	Acres Disturbed by Phase			Total
	1996-2001	2001-2005	2006-2016	
Airfield	0	0	0	0
Aviation Support	5	1	0	6
Industrial	54	15	14	83
Commercial	75	25	22	122
Residential	38	9	8	55
Public/Recreational*	202	135	0	337
Vacant Land	34	0	0	34
Total:	**408**	**185**	**44**	**637**

Note: *Includes 170 acres of the 260-acre area for the new golf course.

2.3.2.2 Aviation Support (Industrial)

There would be no aviation support uses with this alternative. The existing facility demolition/retention and potential new construction in the original flightline (aviation support) area was analyzed as part of the industrial district.

2.3.2.3 Industrial

The industrial district, consisting of 346 acres, could be used by a few large tract tenants or by multiple tenants using 10- to 50-acre parcels. The Rome Lab Complex would attract new businesses to the area. Future development

opportunities include high tech industrial as well as general office use. The site contains two large buildings that are adjacent to the flightline that could also be accessed through extension of the existing railroad track on the base. About one-half of one building would be retained for the New York Air National Guard and one-fourth of the other building would be retained for use by Rome Lab. For the purpose of analysis, the aviation support area has been designated as an industrial land use area for uses such as storage and warehousing, which have a lower employee per square foot employment generation factors. Potential tenants for this area could include a variety of heavy or light manufacturing uses, particularly those requiring large site and/or direct rail access. The SAC Hill area could be used for back office land uses, such as credit card bill processing, telemarketing, or coupon sorting/processing operations, which do not necessarily require elaborate facilities. Industrial land uses would also include the NEADS antennas in the northern portion of the airfield on government-retained land.

2.3.2.4 Institutional

The only institutional uses with this alternative would be the 8-acre government-retained area for the VA clinic.

2.3.2.5 Commercial

Two large areas for commercial/office development have been identified; one along the east side of the proposed parkway adjacent to the Rome Lab Complex, the second near the Skyline Gate area. In the area near Rome Lab Complex, office and R&D uses are planned adjacent to the parkway, with mixed use office/commercial (e.g., limited retail, administrative office, and service establishments) extending into the industrial district. These facilities would provide support to businesses and employees on the base property. The southern Skyline Gate area could be used for development of a corporate office complex or other high quality commercial office space.

2.3.2.6 Residential

Two residential districts are planned with this alternative. The Woodhaven housing area would be retained as one area, although some existing units would be demolished and a limited number of units would be relocated from the Skyline housing area. A new 44-acre residential area would be developed north of Mohawk Drive in the existing golf course area, east of the Mohawk River.

2.3.2.7 Public/Recreational

This alternative includes 1,206 acres of public recreational/open space uses similar to the Griffiss Research Park Alternative. This alternative would include construction of a landscaped parkway, an aviation museum northwest of the commercial complex, and a new 18-hole golf course south of the Rome Lab Complex and north of the planned commercial/office area east of the Skyline Gate. With moderate reforestation efforts, this alternative would provide an

open space corridor between the Mohawk River and the New York State Barge Canal corridors.

2.3.2.8 Agricultural

There would be no agricultural land uses with this alternative.

2.3.2.9 Vacant Land (Development Reserve)

A total of 107 acres are reserved as vacant land with this alternative. The vacant land (the existing WSA), represents an opportunity site for undefined future development that would be market-determined. Although not specifically planned, this area could support, manufacturing, light industrial, warehousing, and storage uses. No development on this land was analyzed in this EIS.

2.3.2.10 Government-Retained Land

There are three government-retained districts: one includes 1,424 acres of airfield and 40 acres of NEADS facilities; the second is a composite of areas totaling 104 acres that include Rome Lab, DRMO, and DFAS facilities; and the third consists of 8 acres for the VA clinic. Approximately 40 percent of Griffiss AFB would be retained with this alternative plan.

2.3.2.11 Employment and Population

In addition to the retained government employment as described in Section 2.2.11, approximately 13,100 direct jobs and 5,140 secondary jobs would be generated by 2016 with the Mohawk Valley Business Park Alternative. The direct jobs that would be generated include 650 additional and 100 new jobs that would be associated with the DFAS Center and VA facility, respectively, on government-retained land. A peak of approximately 360 direct, short-term, construction-related jobs would be generated in 2001. Estimated employment following realignment, and in 2001, 2006, and 2016 with reuse, is presented in Table 2.3-8. The forecasted employment related to base reuse is expected to result in the inmigration of approximately 19,110 persons into the region by 2016.

Table 2.3-8

Reuse-Related Employment and Population
Mohawk Valley Business Center Alternative (B)

	Year			
	1996	**2001**	**2006**	**2016**
Direct Employment				
Construction/Demolition	320	356	181	0
Operations	994	4,208	6,925	13,098
Total:	**1,314**	**4,564**	**7,106**	**13,098**
Secondary Employment	629	1,829	2,963	5,136
Population Change	299	997	6,529	19,109

2.3.2.12 Transportation

Based on land use and employment projections, average daily traffic would increase from 5,250 vehicle trips in 1996 to 29,750 vehicle trips by 2016. The circulation/transportation improvements for this alternative would be the same as described for the Proposed Action. This alternative would include construction of a parkway to form an eastern bypass and connect the base property to the City of Rome commercial areas and key highways serving the area. The parkway would resemble a boulevard, and together with street connections into the major development parcels, would enhance circulation and improve access to the central portion of the base.

2.3.2.13 Utilities

By 2016, the projected reuse of Griffiss AFB with the Mohawk Valley Business Center Alternative would generate the following onsite changes in utility demands compared to pre-realignment (1993) conditions:

- **Water** - 0.40 MGD or a decrease of approximately 51.2 percent from the 1993 levels;
- **Wastewater** - 0.23 MGD or a decrease of approximately 59.6 percent from the 1993 levels;
- **Solid Waste** - 14.73 tons per day or an increase 104.5 percent from the 1993 levels;
- **Electricity** - 242.12 MWh per day or an increase of 5.3 percent from the 1993 levels; and
- **Natural Gas** - 5.83 thousand therms per day or an increase of about 82.2 percent from the 1993 levels.

In the ROI, by 2016, the Mohawk Valley Business Center Alternative and associated population increases would generate the following changes in utility demands compared to pre-realignment (1993) conditions:

- **Water** - 10.38 MGD or a decrease of approximately 0.8 percent from the 1993 levels;
- **Wastewater** - 11.06 MGD or an increase of approximately 3.4 percent from the 1993 levels;
- **Solid Waste** - 43.95 tons per day or a decrease of 5.9 percent from the 1993 levels;
- **Electricity** - 2255.7 MWh per day or a decrease of 0.7 percent from the 1993 levels; and

- **Natural Gas** - 66.80 thousand therms per day or an increase of about 3.6 percent from the 1993 levels.

No major utility system improvements have been identified for this alternative.

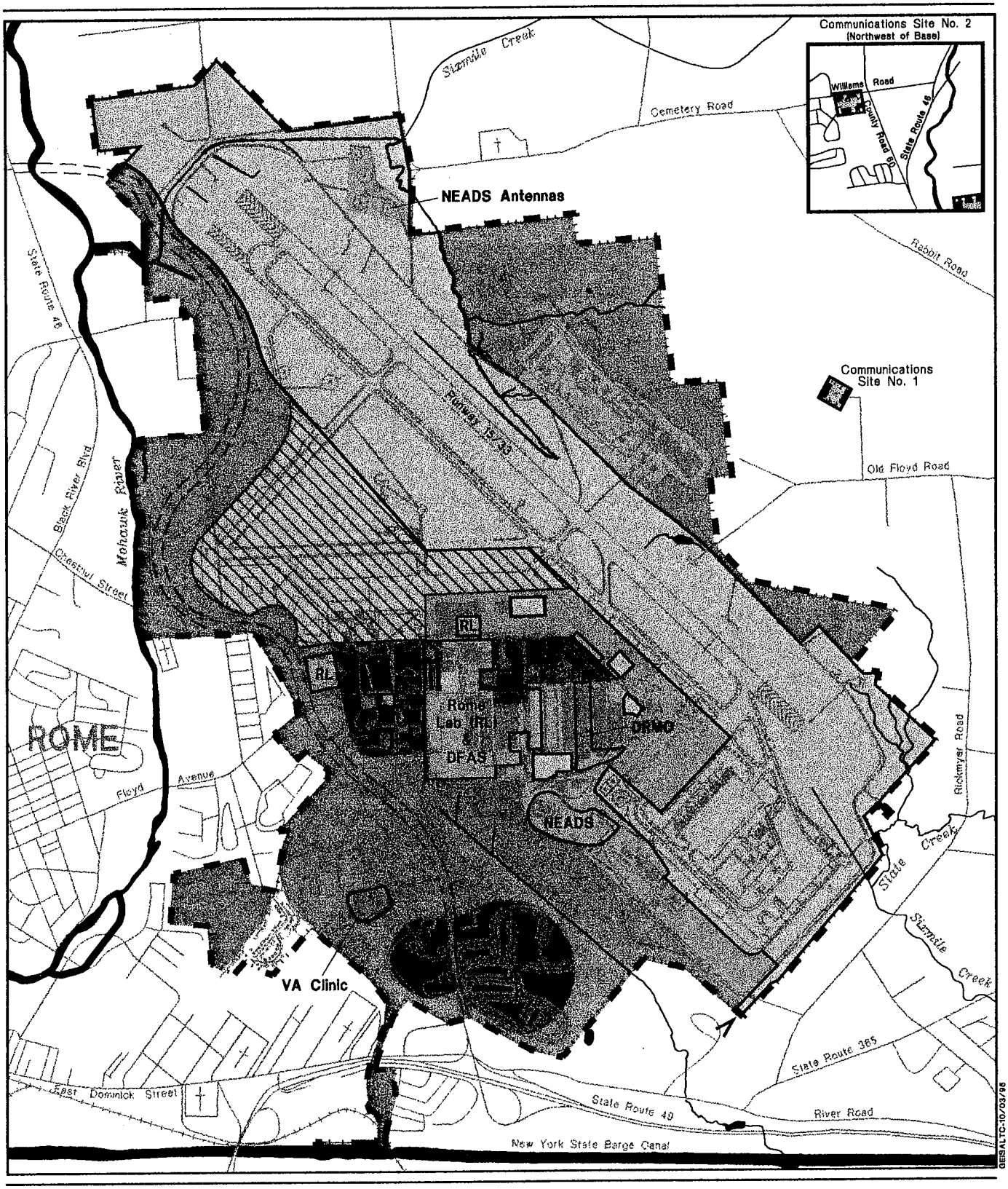
2.3.3 Regional Aviation Complex Alternative (C)

The Regional Aviation Complex Alternative focuses on developing a regional destination magnet with intermodal transportation links and special attractions, built upon an upgraded and relocated county airport with joint military and civilian aviation operations. As with the Proposed Action, the Rome Lab and DFAS areas would be retained exclusively for government use. The plan includes the same parkway as the Proposed Action. This plan would also include a large industrial area east of the runway (the WSA) and also additional forested open space. The open space concept of the plan includes a riverfront park on the Mohawk River, a relatively narrow open space corridor for the parkway and enhanced reforestation along the northern three-fourths of the parkway length, and a broad open space buffer around the foot of Skyline Hill. The recreational facilities in the open space area east of the Woodhaven housing area would be retained.

The total acreage for each land use category proposed for the Regional Aviation Complex is shown on Figure 2.3-3 and summarized in Table 2.3-9. Of the base's total 3,552 acres, 1,410 acres would be retained by the government as airfield for joint civilian and military use; 104 acres for the Rome Lab, DRMO, and DFAS facilities; 40 acres for the NEADS facilities; and 8 acres for the VA clinic. While maintaining maximum reuse of all aviation/airfield facilities, this alternative would have the least amount of area available for new industrial development or open space. However, the amount of future development would be the second largest of all alternatives. R&D and office uses would be similar to the other alternatives.

The factors and assumptions developed and used to analyze the impacts of this alternative's land use plan are the same as those described for the Proposed Action.

Existing buildings and facilities at Griffiss AFB were evaluated in terms of potential demolition, retention for future use, and for construction sites for new facilities. With this alternative, approximately 2.6 million square feet of existing buildings would be demolished and about 1.0 million square feet would be retained for reuse (Table 2.3-10). Approximately 6.4 million square feet of new floor space would also be constructed by 2016. The potential land disturbance associated with demolition and new construction plans is summarized in Table 2.3-11. It was assumed that full facility development, as defined in Table 2.3-10, would occur by 2016. In addition, it was assumed that all facility demolition and 50 percent of new construction will occur in the first 5-year period; 25 percent of construction in the second 5-year period; and the remaining 25 percent in the last 10 years.



LEGEND

- Base Boundary
- Parkway Corridor
- New/Improved Access Points
- Airfield (National Guard Facilities)
- Aviation Support
- Airport
- Industrial
- Institutional (Medical)
- Institutional (Education)
- Commercial
- Residential
- Public/Recreational
- Agricultural*
- Vacant Land (Development Reserve)
- Government Retained Land

*Not Applicable

SCALE IN FEET
0 1000 2000

Griffiss AFB Alternative (C) Regional Aviation Complex

Figure 2.3-3

Table 2.3-9

Land Use Acreage - Regional Aviation Complex Alternative (C)

Land Use	Acreage	
	Government-Retained	Project Reuse
Airfield	1,410	0
Aviation Support	0	131
Airport	0	283
Industrial	144	241
Institutional	8	48
Commercial	0	229
Residential	0	25
Public/Recreational	0	1,033
Agricultural	0	0
Vacant Land (Development Reserve)	0	0
Total:	**1,562**	**1,990**
Grand Total (Government-Retained and Project):		**3,552**

Table 2.3-10

Facility Development - Regional Aviation Complex Alternative (C)

Land Use	Existing Facility Demolition (sq ft)	Existing Facility Retention (sq ft)	New Facility Construction (sq ft)
Airfield	0	0	0
Aviation Support (Airport)	148,600	500,800	155,000
Industrial	798,600	12,200	1,379,000
Institutional	219,600	0	428,000
Commercial	151,800	181,200	4,414,500
Residential	54,900	108,000	0
Public/Recreational	612,266	168,100	0
Vacant Land	666,134	0	0
Total:	**2,651,900**	**970,300**	**6,376,500**
Government-Retained		1,980,000	

2.3.3.1 Airfield

For this alternative, as described for the Proposed Action, a minimum essential airfield would be maintained and operated by the New York Air National Guard to support deployment of Army troops from Fort Drum. Airfield and associated support functions for this alternative would require approximately 1,410 acres of the base property, all of which would be government-retained land. Troop deployments would involve an estimated 480 annual aircraft operations (i.e., arrivals or departures), involving C-5, C-141, L-1011, and B-747 aircraft. For the purpose of analysis in this EIS, it was assumed that there would be 120 annual operations for each aircraft type. The aircraft would not be based at Griffiss AFB, but would be flown in to pick up or drop off troops, as well as supplies and equipment, on an as-needed basis.

Table 2.3-11

Acres Disturbed by the Regional Aviation Complex Alternative (C)

Land Use	Acres Disturbed by Phase			Total
	1996-2001	2001-2005	2006-2016	
Airfield	0	0	0	0
Aviation Support (Airport)	6	1	1	8
Industrial	86	30	29	145
Institutional	30	8	7	45
Commercial	70	25	19	114
Residential	4	0	0	4
Public/Recreational	104	50	0	154
Vacant Land	46	0	0	46
Total:	**346**	**114**	**56**	**516**

In addition, this alternative would maximize reuse of the airfield facilities with development of a joint use civil/military airport. The Oneida County Airport would be relocated to Griffiss AFB and was assumed to be operational by 2006. A passenger terminal would be constructed northwest of the Rome Lab Complex. The projected flight operations for the relocated Oneida County Airport are shown in Table 2.3-12. This forecast assumes a baseline forecast in terms of airport operations with slight growth of 0.5 percent annually through 2016. Based on these assumptions, total airport operations at Griffiss AFB would be approximately 71,300 in 2006, increasing to 75,000 by 2016.

Table 2.3-12

Projected Flight Operations - Regional Aviation Complex Alternative

Year	Operations	Function	Fleet Mix[1]	Annual Operations[2,3]
2006[4]	Air passenger	Air carrier	Jet aircraft	2,139
		Commuter	Twin engine aircraft	14,972
	General aviation	Business/private	Single engine aircraft	54,183
			Total:	**71,294**
2016	Air passenger	Air carrier	Jet aircraft	2,249
		Commuter	Twin engine aircraft	15,737
	General aviation	Business/private	Single engine aircraft	56,953
			Total:	**74,939**

Notes:
[1]Fleet mix based on C&S Engineers, Inc. estimates (1994), indicating a fleet mix of 3 percent jet aircraft, 21 percent twin engine aircraft, and 76 percent single engine aircraft.
[2]Growth rate for airport operations through the year 2016 based on 0.5 percent average annual growth rate provided as the baseline conservative forecast in the *Commercial Air Service Potential at Griffiss AFB* (SH&E 1994).
[3]Regional Aviation Complex forecast does not include the 480 annual transient aircraft operations (assuming 120 operations per year for each of four aircraft types: B-747, L-1011, C-5, and C-141.
[4]Assumes total regional aviation operations at Griffiss AFB in 2006 would be the same as the projected 2006 Oneida County Airport operations. Prior to 2006, it was assumed that no civilian aircraft operations would occur at the Griffiss AFB airfield.

2.3.3.2 Aviation Support

The 131 acres designated as an aviation support area north of the Rome Lab Complex could either be developed as part of the industrial district or as a direct aviation support district for the regional airport. The site contains two large hangar buildings adjacent to the flightline that could also be accessed through extension of the existing railroad track on the base. About one-half of one building would be retained for the New York Air National Guard and one-fourth of the other building would be retained for the use of Rome Lab. For purposes of this EIS, the area has been designated as an aviation support land use area. The plan would be to attract secondary cargo or aviation maintenance users.

2.3.3.3 Industrial

Compared to the Proposed Action, the combined industrial and warehouse area with this alternative is only slightly smaller (241 acres) and would focus on uses that would complement the regional aviation theme. The industrial areas would be more separated by other uses than with the other alternatives. The Rome Lab Complex would continue to be the primary land use within this zone and would provide opportunities for high tech industrial and general office uses. Industrial and warehouse uses could include those that need direct rail access. The SAC Hill and WSA areas could be reused for light industrial and warehouse uses, although the WSA facilities could also be reused for heavy industrial uses. Industrial uses would also include the NEADS antennas in the northern portion of the airfield on government-retained land.

2.3.3.4 Institutional

Institutional (education/training) uses are planned for a 48-acre site that would be created by demolition of the western two-thirds of the Woodhaven housing area. Potential development opportunities would include a job training facility or other similar facilities that would benefit from proximity to Rome Lab. The only institutional (medical) use would be the reuse of the base hospital (8 acres) for the VA clinic.

2.3.3.5 Commercial

Two commercial zones have been designated with this alternative. The first consists of 114 acres of potential mixed-use commercial office/retail development between the aviation support and industrial areas. The planned use would be airpark-type offices. Although similar to other alternatives in orientation and location between the Rome Lab Complex and the parkway, this commercial area would be set back from the parkway and separated by green space, creating an entrance to the commercial area and the Rome Lab Complex. The second consists of 115 acres of potential regional recreational/ entertainment (stadium, convention/conference, hotel/resort) facility uses in the Skyline Gate area.

2.3.3.6 Residential

A small 25-acre residential development is planned for this alternative. This would be a reuse of the easternmost portion of the Woodhaven housing area.

2.3.3.7 Public/Recreational

This alternative includes the smallest (1,033 acres) open space/green corridor designated for public/recreational use. The parkway green corridor would follow the western base boundary except in the southernmost portion of the base. Reforestation is planned along this corridor and in the large open area surrounding the commercial sites near the Skyline Gate to provide a buffer zone between the proposed airfield and industrial uses and the Rome urban area.

2.3.3.8 Agricultural

There would be no agricultural land uses with this alternative.

2.3.3.9 Vacant Land (Development Reserve)

There would be no vacant or future development land with this alternative.

2.3.3.10 Government-Retained Land

There are three government-retained districts: one includes 1,420 acres of airfield and 40 acres of NEADS facilities; the second is a composite of areas totaling 104 acres that include Rome Lab, DRMO, and DFAS facilities; and the third consists of 8 acres for the VA clinic. Approximately 40 percent of Griffiss AFB would be retained with this alternative.

2.3.3.11 Employment and Population

In addition to the retained government employment as described in Section 2.2.11, approximately 12,920 direct jobs and 5,440 secondary jobs would be generated by 2016 with the Regional Aviation Complex Alternative. The direct jobs that would be generated in the region include 650 additional and 100 new jobs that would be associated with the DFAS Center and VA facility, respectively, on government-retained land. A peak of 345 direct, short-term, construction-related jobs would be generated in 2001. Estimated employment following realignment, and in 2001, 2006, and 2016 with reuse, is presented in Table 2.3.13. The forecasted employment related to base reuse is expected to result in the inmigration of approximately 18,700 persons into the region by 2016.

2.3.3.12 Transportation

Based on land use and employment projections, average daily traffic would increase from approximately 5,750 vehicle trips in 1996 to over 36,450 vehicle trips by 2016. As with the Proposed Action, this alternative would include the

construction of a parkway to provide an eastern bypass and connects the Griffiss AFB property to City of Rome commercial areas and key highways serving the area. Circulation would also be enhanced with east-west connections to the City of Rome via Floyd Road and Mohawk Drive.

Table 2.3-13

Reuse-Related Employment and Population With the Regional Aviation Complex Alternative (C)

	Year			
	1996	2001	2006	2016
Direct Employment				
Construction/Demolition	312	345	173	0
Operations	985	4,158	6,836	12,921
Total:	**1,290**	**4,503**	**7,009**	**12,921**
Secondary Employment	686	2,105	3,102	5,431
Population Change	424	2,365	6,290	18,680

2.3.3.13 Utilities

By 2016, the projected reuse of Griffiss AFB with the Regional Aviation Complex would generate the following onsite changes in utility demands compared to pre-alignment (1993) conditions:

- **Water** - 0.43 MGD or a decrease of approximately 47.5 percent from the 1993 levels;
- **Wastewater** - 0.26 MGD or a decrease of approximately 54.4 percent from the 1993 levels;
- **Solid Waste** - 14.04 tons per day or an increase of 95.3 percent from the 1993 levels;
- **Electricity** - 232.17 MWh per day or an increase of 1.0 percent from the 1993 levels; and
- **Natural Gas** - 5.57 thousand therms per day or an increase of about 74.1 percent from the 1993 levels.

In the ROI, by 2016, the Regional Aviation Complex and associated population increases would generate the following changes in utility demands compared to pre-realignment (1993) conditions:

- **Water** - 10.37 MGD or an increase of approximately 0.7 percent from the 1993 levels;
- **Wastewater** - 11.04 MGD or an increase of approximately 3.2 percent from the 1993 levels;

- **Solid Waste** - 43.88 tons per day or a decrease of 6.0 percent from the 1993 levels;
- **Electricity** - 2,252 MWh per day or a decrease of 0.8 percent from the 1993 levels; and
- **Natural Gas** - 66.69 thousand therms per day or an increase of about 3.5 percent from the 1993 levels.

No major utility improvements have been identified for the Regional Aviation Complex Alternative.

2.3.4 No-Action Alternative

The No-Action Alternative would result in the U.S. Government retaining ownership of the property after realignment. No portions of the property would be declared excess and available for disposal. The organizations authorized to remain at the base following realignment on September 30, 1995, and the new government uses described in Section 2.1, will continue to operate in their retained facilities. In addition, the base heating plant would be converted from coal to natural gas. The remainder of the base would be preserved; that is, placed in a condition intended to limit deterioration and ensure public safety. Caretaker activities would consist of base resource protection, grounds maintenance, existing utilities operations as necessary for the continuing activities, and building care. No additional military activities/ missions are anticipated.

The future land uses and levels of maintenance would be as follows:

- Maintain structures to limit deterioration;
- Isolate or deactivate unused utility distribution lines onbase;
- Provide limited maintenance of roads to unused portions of the base to ensure access;
- Provide limited grounds maintenance to unused portions of the base and open spaces to eliminate fire, health, and safety hazards; and
- Maintain the golf course in such a manner as to facilitate economical resumption of use.

2.4 COMPARISON OF PROPOSED ACTION AND ALTERNATIVES WITH REVISED BASELINE ASSUMING POTENTIAL CLOSURE OF THE AIRFIELD

The potential impacts of the disposal and reuse of Griffiss AFB property, based on the 1993 BRAC decisions, are the focus of this EIS. However, because of the 1995 BRAC actions enacted during the development of this EIS

(Chapter 1.0, Section 1.2), a generalized comparative analysis between a revised baseline for the proposed realignment actions and the Proposed Action based on the 1993 BRAC decisions has been prepared. Closure of the airfield, as an alternative baseline, has been substituted for the realignment baseline in the Proposed Action of this EIS. The revised baseline description and related assumptions, as they would apply to the alternatives, are presented in this section. Specific potential uses of the airfield facilities are speculative at this time and additional analysis will be accomplished, as needed, before disposal of the airfield. The results of the comparative analysis are presented in Chapter 4.0 for each of the environmental resource areas. The probable level of change that the airfield closure might have on each resource area is presented.

2.4.1 Revised Baseline Conditions

The existing Proposed Action baseline would not change during the first three years of the planning period. The revised baseline begins with the first year of full closure for the airfield which is assumed to be 1999. At that time, the government-retained land would include about 150 acres containing the Rome Lab, NEADS, DFAS, DRMO, and VA facilities. The airfield area and supporting facilities would be classified as vacant land (development reserve), public/recreational open space, and/or industrial area available for future development. The extreme northwestern end of the base would revert to about 100 acres of agricultural use, as would the two offbase communication sites which total 12 acres. The airfield flightline area could contribute up to 350,000 square feet of additional industrial/office space area to the developable total. This closure would result in the loss of only 214 (140 direct and 74 secondary) jobs from Oneida County.

2.4.2 Proposed Action

The airfield and supporting facilities could be converted to recreational/ conservation open space and industrial uses, respectively, available for future development. The airfield flightline facilities could provide additional industrial/ office space available for development. No additional new development is planned for these areas in this analysis. There would be no need for aviation support uses in this modified version of the Proposed Action. These areas could be reclassified as industrial. These changes could increase the available industrial acreage by 300 to 400 acres and the open space or development reserve by 1,414 acres. There would be 112 acres of agricultural land use, but all other land use areas were assumed to remain the same. The reuse plans for this alternative could be expected to change some, reflecting a reduction in aviation support and a potential increase of industrial area available with closure of the airfield. Impacts on noise and air are expected to show the most change.

2.4.3 Griffiss Research Park Alternative

The airfield and supporting facilities could be converted to open space and industrial uses, respectively, available for future development. The airfield

flightline facilities could provide additional industrial/office space available for development. No additional new development is planned for these areas in this analysis. These changes could increase the available industrial acreage by 200 to 300 acres and the open space or development reserve by 1,476 acres. There would be 112 acres of agricultural land use, but all other land uses were assumed to remain the same. The reuse plans for this alternative could be expected to change some, reflecting a potential increase of industrial area available with closure of the airfield. Impacts on noise and air are expected to show the most change.

2.4.4 Mohawk Valley Business Center Alternative

The airfield and supporting facilities could be converted to open space and industrial uses, respectively, available for future development. The airfield flightline facilities could provide additional industrial/office space available for development. No additional new development is planned for these areas in this analysis. These changes could increase the available industrial acreage by 200 to 300 acres and the open space or development reserve by 1,424 acres. There would be 112 acres of agricultural land use, but all other land uses were assumed to remain the same. The reuse plans for this alternative could be expected to change some, reflecting a potential increase of industrial area available with closure of the airfield. Impacts on noise and air are expected to show the most change.

2.4.5 Regional Aviation Complex Alternative

The airfield and supporting facilities could all become part of the civilian airport, assuming closure of Oneida County Airport and transfer of operations to Griffiss AFB. The airfield flightline facilities could provide additional industrial/office space or aviation support space available for development. No additional new development is planned for these areas in this analysis. These changes could increase the available industrial or aviation support acreage by 200 to 300 acres. All other land use areas were assumed to remain the same. The reuse plans for this alternative would be expected to change very little. There would be no joint aviation use of the facilities. The Air National Guard would move out by 1999, and it was assumed that civilian use would begin during the 2001 to 2006 period. Impacts on noise and air are expected to show the most change.

2.4.6 No-Action Alternative

The No-Action Alternative, even with closure of the airfield by 1999, would result in the U.S. Government retaining ownership of the property. No portions of the property would be declared excess and available for disposal. The DOD organizations authorized to remain at the base following realignment and the new U.S. Government uses, as described in Section 2.1, would continue to operate in their retained facilities.

2.5 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

There were no alternatives eliminated from further consideration.

2.6 INTERIM USES

Predisposal interim uses of the base facilities and property would be conducted under lease agreements with the U.S. Government. The terms and conditions of such leases will be arranged to ensure that predisposal interim uses do not prejudice realignment, future disposal, and conceptual reuse plans of the base. The continuation of interim uses beyond disposal would be arranged through agreements with the new property owner(s).

A baseline representing conditions at the time of realignment and disposal was used for the environmental analysis. The interim uses that could occur prior to property disposal are not considered within this baseline. Certain post-disposal interim-use scenarios have been incorporated into the reuse alternatives. Where appropriate, impacts of these operations are reflected in the environmental analysis of pertinent resource areas.

2.7 OTHER FUTURE ACTIONS IN THE REGION

Reasonably foreseeable actions that could be considered as contributing to potential cumulative impacts on the disposal and reuse of Griffiss AFB are summarized in Table 2.7-1. According to the development records and planning documents from the Rome Planning Department, eight planned projects with a total of 7.7 million square feet of new commercial and industrial space are recently completed or planned within the city limits (C. Alarie, R. Conover, personal communications, 1995). These development projects, if fully implemented, would increase employment by 15,200 full- and part-time employees. An additional 1.6 million square feet of new development is planned or recently completed in the general region surrounding Rome, and if fully implemented, would require over 1,500 additional full- and part-time employees. These employment estimates are based on the following multipliers: 1.89 employees per thousand square feet for industrial uses and 2.0 for commercial/retail and mixed uses.

2.8 COMPARISON OF ENVIRONMENTAL IMPACTS

A summary comparison of the influencing factors, development activities, and environmental impacts, as well as their potential mitigations, on each biophysical resource affected by the Proposed Action and alternatives is presented in Tables 2.8-1 and 2.8-2. Influencing factors and development activities are nonbiophysical elements, such as demolition/construction of facilities, population and employment, land use, aesthetics, public utility systems, and transportation networks, which directly affect the environment.

These activities have been analyzed to determine their effects on the environment. Impacts to the environment are described briefly in the Summary and discussed in detail in Chapter 4.0 of this EIS.

Table 2.7-1

Recent and Future Actions in the Griffiss AFB Region

Project	Site (acres)	Building Area (sq ft)	Type of Use	Employee Estimates*	Timing
City of Rome					
Canal Place Shopping Center	48.5	147,000	Retail	700	opened 8/94
Wal-Mart Super Center	22.3	199,026	Retail	450	opened 2/95
Route 69 Shopping Center	20.0	132,500	Retail	265	in planning
Rome Economic Development Zone	1,280.0	5,600,000	Industrial/ Mixed Use	10,650	in planning
Sears Center	20.0	90,000	Retail	180	Phase 1 - 1996 Phase 2 - unknown
Central Business District	10.0	50,000	Mixed	100	in planning
Rome Harbor	4.0	1,000	Marina	20	approx. 1998
Canal-Way Industrial Area	100.0	1,500,000	Industrial	2,835	1998 - 2010
Subtotal:	**1,504.8**	**7,719,526**		**15,200**	
Regional Projects					
Wal-Mart Distribution Center	20.0	1,200,000	Industrial	900	opened 8/94
Turning Stone Casino Expansion	60.0	370,000	Hotel/RV	505	in planning
Verona Airport Expansion	100.0	50,000	Airport	150	in planning
Subtotal:	**180**	**1,620,000**		**1,555**	
Total:	**1,684.8**	**9,339,526**		**16,755**	

Notes: *Where no employment figures were provided, the numbers of new employees were estimated based on the following multipliers for employees per 1,000 square feet: commercially/retail or mixed uses = 2.0, industrial = 1.89.

Source: C. Alarie, R. Conover, personal communications, 1995.

Table 2.8-1

Griffiss AFB Summary of Reuse-Related Influencing Factors

	Factors														
		Aircraft Operations (annual)[1]		Employment											
	Ground Disturbance (acres by phase)	Remaining	New	Construction/ Demolition	Operations	Total New Direct[2]	Secondary	Regional Population Increase	Traffic (average daily/one-way trips)	Water Demand (MGD)[3]	Wastewater Generation (MGD)	Solid Waste Generation[4] (tons/day)	Electricity Demand (MWh/day)[5]	Natural Gas Demand (thousand therms/day)
Proposed Action														
1996	0	480	0	254	923	1,177	653	437	7,400	0.085	0.056	50	21.162	0.514
2001	397	480	0	285	3,812	4,097	2,099	2,265	21,600	0.239	0.156	19.75	74.066	1.797
2006	134	480	0	149	6,218	6,367	3,148	4,979	31,250	0.356	0.233	14.05	116.389	2.825
2016	82	480	0	0	11,684	11,684	5,574	16,133	53,600	0.620	0.405	14.76	211.616	5.135
Alternative A - Griffiss Research Park														
1996	0	480	0	188	750	938	484	225	4,800	0.056	0.034	9.38	19.283	0.506
2001	257	480	0	200	2,845	3,045	1,450	1,673	12,750	0.135	0.079	11.18	59.458	1.496
2006	86	480	0	85	4,490	4,575	2,082	3,037	16,850	0.183	0.105	6.05	86.242	2.156
2016	29	480	0	0	8,232	8,232	3,579	9,026	27,350	0.301	0.171	9.38	151.712	3.768
Alternative B - Mohawk Valley Business Center														
1996	0	480	0	320	994	1,314	629	299	5,250	0.064	0.041	12.40	26.835	0.676
2001	408	480	0	356	4,208	4,564	1,829	997	13,500	0.163	0.095	15.07	86.635	2.108
2006	185	480	0	181	6,925	7,106	2,963	6,529	18,250	0.237	0.136	8.91	134.475	3.254
2016	44	480	0	0	13,098	13,098	5,136	19,109	29,750	0.403	0.226	14.73	242.115	5.832
Alternative C - Regional Aviation Complex														
1996	0	480	0	312	985	1,297	686	424	5,750	0.066	0.041	12.33	25.840	0.650
2001	346	480	0	345	4,158	4,503	2,105	2,365	15,250	0.72	0.104	14.84	83.152	2.017
2006	114	480	71,294	173	6,836	7,009	3,102	6,290	21,750	0.243	0.146	8.29	124.417	3.001
2016	56	480	74,939	0	12,921	12,921	5,431	18,680	36,450	0.428	0.256	14.04	232.165	5.571
No-Action Alternative														
1996	0	480	0	0	145	145	51	0	4,450	0.09	0.06	1.00	38	0.32
2001	0	480	0	0	865	865	434	0	4,450	0.09	0.06	1.00	38	0.32
2006	0	480	0	0	865	865	434	0	4,450	0.09	0.06	1.00	38	0.32
2016	0	480	0	0	865	865	434	0	4,450	0.09	0.06	1.00	38	0.32

Notes: [1]There will continue to be an estimated 480 operations per year from transient military aircraft using Griffiss AFB for deployment of U.S. Army troops with all alternatives, comprised of 120 operations each from four types of aircraft (B-747, L-1011, C-5, and C-141). This was considered baseline for all alternatives. For the Regional Aviation Complex Alternative, it was assumed that civilian aircraft operations at Griffiss AFB in 2006 would be the same as those projected for Oneida County Airport operations in that year, based on an average annual growth rate of 0.5 percent (Hamilton, Rabinovitz, and Alschuler et al. 1994).
[2]New direct employment includes the addition of 650 DFAS and 100 VA Clinic employees on government-retained land by 1999 and 1997, respectively, 45 heat plant jobs, decreasing to 15 in 1997, and 100 caretaker personnel beginning in 1996.
[3]MGD = million gallons per day.
[4]Solid waste generation includes building demolition during the early years of redevelopment.
[5]MWh = megawatt-hour = million watt-hour.

Table 2.8-2

Summary of Environmental Impacts and Mitigation Measures for the Proposed Action and Reuse Alternatives

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
LOCAL COMMUNITY - Land Use and Aesthetics					
Conditions:	**Impacts:**	**Impacts:**	**Impacts:**	**Impacts:**	**Impacts:**
• Continued inconsistencies with outdated master plans and zoning ordinances.	• Continued inconsistencies with outdated master plans and zoning ordinances.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.
• Continued land use incompatibilities with AICUZ program.	• Continued land use incompatibilities with AICUZ program.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.
	• Conversion of 32 acres of prime farmland to nonagricultural use.	• No conversion of prime farmland.	• Conversion of 49 acres of prime farmland by construction of a residential development.	• Conversion of 68 acres of prime farmland.	• No conversion of prime farmland.
• Geographical constraint to eastward urban growth patterns of Rome.	• Orderly planned expansion of urban Rome.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	• City would no longer have base redevelopment opportunity, and the base would remain a geographical constraint to eastward urban growth patterns of Rome.
	• Construction of parkway on Griffiss AFB site would mitigate most adverse impacts associated with 1970 master planned alignment.	• No onbase parkway. Reuse of existing onbase roads for bypass would mitigate most adverse impacts associated with a superseded 1960 master planned alignment.	• Same as Proposed Action.	• Same as Proposed Action.	• No onbase parkway.
	• Modified existing 9-hole golf course.	• Expanded 18-hole golf course.	• New 18-hole golf course.	• Elimination of base golf course.	• No changes.
	• Potential conflicts with offbase land use from parkway. Displacement of eight single-family residences. Onbase displacement of two golf course holes and one sewer pump lift station. One agricultural lease would be split by parkway.	• No displacement of residents and no change to visual resources.	• New residential development would encroach into the Mohawk River Corridor, reducing its width and adversely affecting high sensitivity viewpoints.	• Parkway would encroach inside Mohawk River Corridor. Parkway would provide access to the corridor to the greatest number of persons.	• Offbase parkway route would adversely affect Mohawk River Corridor and displace hundreds of residents.

Table 2.8-2, Page 2 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
LOCAL COMMUNITY - Land Use and Aesthetics (cont.)					
	• Reduction in acreage off the base within DNL 65 dB noise contours, permitting local governments the opportunity to plan for higher and best use of offsite private property.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action. • Closure of Oneida County Airport. Elimination of one of two airport approach zones of City of Rome Master Plan and zoning would allow land to be used for other appropriate uses.	• Reduction of offbase noise contours would still occur.
	• Open space network would buffer airfield and proposed industrial and commercial uses from proposed residential, institutional (educational), long-term planned high-scale, commercial and urban Rome.	• Expanded open space network to buffer airfield and industrial, commercial, and institutional (education) complex from urban Rome. No residential and long-term high-scale commercial uses.	• Same as Proposed Action.	• Same as Proposed Action.	
	Mitigation Measures:	**Mitigation Measures:**	**Mitigation Measures:**	**Mitigation Measures:**	**Mitigation Measures:**
	Required:	**Required:**	**Required:**	**Required:**	**Required:**
	• Convert alternate launch surface to taxiway use through the closure of blast pad and overrun area at the northend of the existing taxiway .	• None required.	• Set back proposed northern residential development to the east side of Perimeter Road.	• None required.	• Allow public access to Wright Drive, Hill Road, Floyd Avenue, and Mohawk Drive (short term). Grant parkway easement with same alignment as Proposed Action.
	Additional Potential:	**Additional Potential:**	**Additional Potential:**	**Additional Potential:**	**Additional Potential:**
	• Align parkway to avoid sewer lift station.	• None required.	• Same as Proposed Action.	• Same as Proposed Action.	• None required.
	• Plan parkway design to preserve Black River Canal and tow paths.		• Same as Proposed Action.	• Same as Proposed Action.	
	• Terminate parkway alignment at intersection of Black River Boulevard (SH-46) and Potter Road to reduce displaced residences from 8 to 2 and avoid cemetery.		• Terminate parkway alignment at intersection of Black River Boulevard (SR 46) and Potter Road to reduce displaced residences from 8 to 2 and avoid cemetery.	• Same as Proposed Action.	

Table 2.8-2, Page 3 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
LOCAL COMMUNITY - Land Use and Aesthetics (cont.)					
	• Convey public utility, drainage, road, highway and railroad easements and outgrants to permanent status.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	
	• Establish conservation easements.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	
	• Process zone change amendments.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	
Transportation					
Conditions:	**Impacts:**	**Impacts:**	**Impacts:**	**Impacts:**	**Impacts:**
• 4,450 daily vehicular trips. Existing gates remain active. All key roadway segments would operate at LOS E or better.	• Increase to 53,600 daily vehicular trips. Two reopened base-access points and a new parkway linking SH-49 and SH-46 would be provided. Reuse-generated traffic would cause some road segments to operate at LOS F by 1999.	• Increase to 27,350 daily vehicular trips. Two reopened base-access points and existing gates would be used. Reuse-generated traffic would cause some road segments to operate at LOS F by 2003.	• Increase to 29,750 daily vehicular trips. Two reopened access points and a new parkway would be provided similar to those for the Proposed Action. Reuse-generated traffic would cause some road segments to operate at LOS F by 2002.	• Increase to 36,450 daily vehicular trips. One reopened access point in addition to the existing gates and a new parkway would be provided similar to the Proposed Action. Reuse-generated traffic would cause some road segments to operate at LOS F by 2000.	• One key road would deteriorate to LOS F by 2007. Other key roadway segments would operate at LOS E or better.
• 480 annual aircraft operations associated with deployment of U.S. Army troops.	• No change in annual aircraft operations.	• Same as Proposed Action.	• Same as Proposed Action.	• Substantial increase of 75,000 annual aircraft operations.	• Substantial reduction in base-related traffic and aircraft operations.
• No airspace conflicts or air transportation impacts.	• No airspace conflicts or air transportation impacts.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.
	Mitigation Measures:	**Mitigation Measures:**	**Mitigation Measures:**	**Mitigation Measures:**	**Mitigation Measures:**
	Required:	**Required:**	**Required:**	**Required:**	**Required:**
	• Implement standard construction practices (e.g., traffic control, staging, scheduling).	• Similar to those for the Proposed Action.	• Similar to those for the Proposed Action.	• Similar to those for the Proposed Action.	• Widen to 4 lanes East Dominick Street near the site.
	• Implement Transportation System Management measures.				
	Additional Potential:	**Additional Potential:**	**Additional Potential:**	**Additional Potential:**	**Additional Potential:**
	• Create an efficient onsite circulation plan.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.

Table 2.8-2, Page 4 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
LOCAL COMMUNITY - Transportation (cont.)					
	• Widen the connection of SH-49 interchange and the onsite parkway. • Widen East Dominick Street, Floyd Avenue, and Chestnut Street to four lanes near the site. • Implement a Transportation Demand Management Program.				
Utilities					
Conditions: **In the ROI (1993)** Water: 10.30 MGD Wastewater: 10.70 MGD Solid Waste: 46.70 tons/day Electricity: 2,271 MWh/day Natural Gas: 64.45 thousand therms/day	**Impacts:** • Slight increase in some ROI utility demands. ROI utility capacity is sufficient to accommodate projected demands.	**Impacts:** • Slight decrease in ROI utility demands. Current systems have capacity to accommodate the projected demands.	**Impacts:** • Slight increase in some ROI utility demands. Current systems have capacity to accommodate the projected demands.	**Impacts:** • Same as Alternative B.	**Impacts:** • Substantial reduction in base-related utility use.
	• Interconnection required to provide service to retained onbase users. Pretreatment of industrial wastewater may be required.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	• Distribution/collection systems would need reconfiguration for minimal usage.
	Mitigation Measures: **Required:** • Provide wastewater treatment in accordance with applicable permit requirements.	**Mitigation Measures:** **Required:** • Same as Proposed Action.	**Mitigation Measures:** **Required:** • Same as Proposed Action.	**Mitigation Measures:** **Required:** • Same as Proposed Action.	**Mitigation Measures:** **Required:** • Same as Proposed Action.
	Additional Potential: • Seek Federal funding for additional or improved water and wastewater treatment and distribution systems.	**Additional Potential:** • Same as Proposed Action.	**Additional Potential:** • Same as Proposed Action.	**Additional Potential:** • Same as Proposed Action.	**Additional Potential:** • Same as Proposed Action except for wastewater treatment system funding.

Table 2.8-2, Page 5 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
LOCAL COMMUNITY - Utilities (cont.)					
	• Develop water conservation strategies to reduce water use and the need for additional infrastructure. • Institute waste source separation to reduce solid waste. • Develop energy conservation strategies to reduce energy consumption and the need for additional infrastructure. • Provide temporary operations and maintenance procedures and modification of utility systems to increase efficiency during low demand in initial phases of reuse.				
HAZARDOUS SUBSTANCES MANAGEMENT - Hazardous Materials Management					
Conditions: • Materials used by retained organizations and caretaker personnel will be managed in compliance with applicable regulations.	**Impacts:** • An increase in quantities of materials used over realignment baseline conditions. **Mitigation Measures:** **Required:** • Compliance with applicable regulations would preclude unacceptable impacts. **Additional Potential:** • Reduce cost of environmental compliance, health and safety, and waste management through cooperative planning between reuse organizations.	**Impacts:** • Same as Proposed Action **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.	**Impacts:** • Increase in types (e.g., aviation gas) and quantities of materials used with civilian aviation reuses. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.	**Impacts:** • No change in types and quantities used. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.

Table 2.8-2, Page 6 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
HAZARDOUS SUBSTANCES MANAGEMENT - Hazardous Materials Management (cont.)					
	• Increase recycling, minimize waste generation, and assist in mutual spill responses through cooperative planning. • Implement pollution prevention and waste minimization strategies recommended by the EPA through cooperative planning.				
Hazardous Waste Management					
• Wastes generated by retained organizations and caretaker personnel will be managed in accordance with applicable regulations.	**Impacts:** • Increase in quantities of wastes generated compared to realignment baseline conditions. **Mitigation Measures:** **Required:** • Compliance with applicable regulations would preclude unacceptable impacts . **Additional Potential:** • Scheduling of collection days for household hazardous waste in residential areas. • Implementation of education and awareness programs on recycling, waste minimization, and waste disposal.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.	**Impacts:** • Increase in quantities of wastes generated with civilian aviation reuses. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same As Proposed Action.	**Impacts:** • No change in quantities generated. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.
Installation Restoration Program					
Conditions: • IRP activities will continue regardless of base realignment and reuse. IRP remediation activities will continue in accordance with applicable regulations.	**Impacts:** • Possible redevelopment delays and land use restrictions due to remediation activities.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • IRP remediation activities completed or continued as needed.

Table 2.8-2, Page 7 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
HAZARDOUS SUBSTANCES MANAGEMENT - Installation Restoration Program (cont.)					
	Mitigation Measures: **Required:** • Active coordination between Air Force and property recipients to address potential problems. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Comply with IRP plan. **Additional Potential:** • None needed.
Storage Tanks and Oil/Water Separators					
Conditions: • Storage tanks and oil/water separators used by retained government organizations will be managed in accordance with applicable regulations. Systems not required for reuse will be removed or maintained in place in accordance with applicable regulations and Air Force policy.	**Impacts:** • Potential new or retained tanks to support redevelopment activities. **Mitigation Measures:** **Required:** • Appropriate precautions to avoid damage to tanks and associated piping systems during construction. • Storage tanks or oil/water separators required by new owner/operator would be subject to all regulations to avoid unacceptable impacts. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. Additional tanks may be required to support civilian aviation reuses. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Storage tanks and oil/water separators would be removed or maintained in place according to regulations. **Mitigation Measures:** **Required:** • None needed. **Additional Potential:** • None needed.
Asbestos					
Conditions: • Asbestos posing a health risk will be abated. Remaining asbestos will be managed in accordance with applicable regulations and Air Force policy.	**Impacts:** • Maintenance, renovation, and/or demolition of structures with ACM.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Continued management of asbestos in accordance with Air Force policy.

Table 2.8-2, Page 8 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
HAZARDOUS SUBSTANCES MANAGEMENT - Asbestos (cont.)					
	Mitigation Measures: **Required:** • Identification and disclosure of facilities with ACM. • Maintenance and renovation activities in facilities with ACM should be performed in accordance with applicable regulations to minimize risk to human health and the environment. • Demolition of structures with ACM would be performed in accordance with applicable regulations to reduce potential asbestos fiber emissions. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • None needed. **Additional Potential:** • None needed.
Pesticides					
Conditions: • Pesticides used by retained government organizations and caretaker personnel will be managed in compliance with applicable regulations.	**Impacts:** • Increased use of pesticides over realignment baseline. **Mitigation Measures:** **Required:** • Storage and use of pesticides in accordance with Federal and State regulations would preclude unacceptable impacts. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • No change in usage or management practices. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.
Polychlorinated Biphenyls					
Conditions: • All Federally regulated PCBs will be removed and properly disposed of prior to realignment.	**Impacts:** • All Federally regulated PCBs will be removed prior to transfer of property.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.

Table 2.8-2, Page 9 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
HAZARDOUS SUBSTANCES MANAGEMENT - Polychlorinated Biphenyls (cont.)					
	Mitigation Measures: **Required and Additional Potential:** • None needed.	**Mitigation Measures:** **Required and Additional Potential:** • None needed.	**Mitigation Measures:** **Required and Additional Potential:** • None needed.	**Mitigation Measures:** **Required and Additional Potential:** • None needed.	**Mitigation Measures:** **Required and Additional Potential:** • None needed.
Radon					
Conditions: • No occupancy of facilities with recorded radon levels above 4 pCi/l is expected.	**Impacts:** • Potential exposure to levels greater than the EPA standard (4 pCi/l). **Mitigation Measures:** **Required:** • Disclosure of potential hazard will be made to property recipients. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • No occupancy of facilities with recorded radon levels above 4 pCi/l is expected. **Mitigation Measures:** **Required:** • None needed. **Additional Potential:** • None needed.
Medical/Biohazardous Waste					
Conditions: • All waste will be removed prior to closure.	**Impacts:** • Additional wastes would be generated with reuse of hospital by VA. **Mitigation Measures:** **Required:** • Waste will be managed in accordance with applicable regulations **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.
Ordnance					
Conditions: • All ordnance, except that required for security forces, will be removed prior to realignment.	**Impacts:** • No impact.	**Impacts:** • No impact.	**Impacts:** • No impact.	**Impacts:** • No impact.	**Impacts:** • No impact.

Table 2.8-2, Page 10 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
HAZARDOUS SUBSTANCES MANAGEMENT - Lead					
Conditions: • Base facilities would be maintained to prevent potential exposure to LBP.	**Impacts:** • Renovation and/or demolition of facilities with LBP. **Mitigation Measures:** **Required:** • Disclosure of presence or assumed presence of LBP in base facilities will be made to property recipients. • Maintenance and renovation activities in facilities with LBP should be performed in accordance with applicable regulations to minimize risk to human health and the environment. • Demolition of structures with LBP would be performed in accordance with applicable regulations. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:Impacts:** • Same as Proposed Action. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Base facilities would be maintained to prevent exposure to LBP. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.
NATURAL ENVIRONMENT - Soils and Geology					
Conditions: • No ground disturbance.	**Impacts:** • Minor erosion effects from 613 acres of ground disturbance. • Disturbance of 32 acres of prime farmland. **Mitigation Measures:** **Required:** • Use techniques such as protective cover, dust control, and diversion dikes to minimize erosion during and after construction. **Additional Potential:** • None needed.	**Impacts:** • Minor erosion effects from 372 acres of ground disturbance. • No prime farmland disturbed. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Minor erosion effects from 637 acres of ground disturbance. • Disturbance of 49 acres of prime farmland. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Minor erosion effects from 516 acres of ground disturbance. • Disturbance of 68 acres of prime farmland. **Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • No ground disturbance. **Mitigation Measures:** **Required:** • None needed. **Additional Potential** • None needed.

Table 2.8-2, Page 11 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
NATURAL ENVIRONMENT - Water Resources					
Conditions: • No ground disturbance. • Adequate water supply for limited onbase demand.	**Impacts:** • Disturbance of 613 acres could affect surface water flow and water quality. **Mitigation Measures:** **Required:** • Use standard construction practices, control site runoff, maintain diversion channels, and minimize surface disturbance and length of exposure time. • Compliance with SPDES and local permit requirements for stormwater and wastewater discharge. **Additional Potential:** • None needed.	**Impacts:** • Disturbance of 372 acres could affect surface water flow and water quality. **Mitigation Measures:** **Required:** • Same as Proposed Action. • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Disturbance of 637 acres could affect surface water flow and water quality. **Mitigation Measures:** **Required:** • Same as Proposed Action. • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • Disturbance of 516 acres could affect surface water flow and water quality. **Mitigation Measures:** **Required:** • Same as Proposed Action. • Same as Proposed Action. **Additional Potential:** • None needed.	**Impacts:** • No change in water demand. • No effect on water quality. **Mitigation Measures:** **Required:** • None needed. • None needed. **Additional Potential:** • None needed.
Air Quality					
Conditions: • NO_x: 0.215 ton/day VOC: 0.184 ton/day PM_{10}: 0.008 ton/day SO_2: 0.897 ton/day CO: 0.044 ton/day • Limited air pollutant emissions generated from retained government and caretaker activities.	**Impacts:** • Net change in reuse-related emissions in 2006 compared to pre-realignment baseline: NO_x: -0.239 ton/day VOC: -0.756 ton/day PM_{10}: 0.004 ton/day SO_2: 0.299 ton/day CO: -0.129 ton/day • Increased air pollutant emissions during construction and operations would not affect the region's attainment designation for all criteria pollutants.	**Impacts:** • Net change in reuse-related emissions in 2006 compared to pre-realignment baseline: NO_x: -0.692 ton/day VOC: -1.098 tons/day PM_{10}: -0.049 ton/day SO_2: -0.305 ton/day CO: -3.124 tons/day • Same as Proposed Action.	**Impacts:** • Net change in reuse-related emissions in 2006 compared to pre-realignment baseline: NO_x: -0.586 ton/day VOC: -1.045 ton/day PM_{10}: -0.011 ton/day SO_2: -0.301 ton/day CO: -2.771 tons/day • Same as Proposed Action.	**Impacts:** • Net change in reuse-related emissions in 2006 compared to pre-realignment baseline: NO_x: -0.493 ton/day VOC: -0.975 ton/day PM_{10}: -0.004 ton/day SO_2: -0.300 ton/day CO: -1.519 tons/day • Same as Proposed Action.	**Impacts:** • Similar emission sources. Continued implementation with appropriate air emission controls.

Table 2.8-2, Page 12 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
NATURAL ENVIRONMENT - Air Quality (cont.)					
	Mitigation Measures: **Required:** • Control fugitive dust and combustion emissions from construction activities. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.	**Mitigation Measures:** **Required:** **Additional Potential:** • None needed.
Noise					
Conditions: • 3,619 acres and 1,109 residents exposed to DNL 65 dB or greater due to continued military aircraft operations.	**Impacts:** • No change in aircraft noise levels from realignment baseline.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.
• Minimal number of residents exposed to DNL 65 dB or greater due to base-related surface traffic.	• DNL distances from roadway centerlines would be almost double those of pre-realignment baseline due to increased surface traffic by 2016.	• DNL distances from roadway centerlines would be about 50 percent greater than those of pre-realignment baseline due to increased surface traffic by 2016.	• DNL distances from the roadway centerlines would be about 20 percent greater than those of pre-realignment baseline due to increased surface traffic by 2016.	• Same as Alternative A.	• Reduced surface traffic noise impacts.
	Mitigation Measures: **Required and Additional Potential:** • None needed.	**Mitigation Measures:** **Required and Additional Potential:** • None needed.	**Mitigation Measures:** **Required and Additional Potential:** • None needed.	**Mitigation Measures:** **Required and Additional Potential:** • None needed.	**Mitigation Measures:** **Required and Additional Potential:** • None needed.
Biological Resources					
Conditions: • No ground disturbance.	**Impacts:** • Up to 613 acres of ground disturbance. Probable loss of 14 acres of upland forest.	**Impacts:** • Up to 372 acres of ground disturbance (including 100 acres for golf course expansion). No loss of upland forest expected.	**Impacts:** • Up to 637 acres of ground disturbance (including 260 acres for new golf course development). Probable loss of 85 acres of upland forest.	**Impacts:** • Up to 516 acres of ground disturbance. Probable loss of 12 acres of upland forest.	**Impacts:** • No ground disturbance. • Reduction in base-related activities.
• No threatened or endangered species on the base.	• No impacts to threatened and endangered species.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	
• 111 acres of jurisdictional wetlands present.	• Potential loss of approximately 1.5 acres of wooded jurisdictional wetlands and 1.5 acres of NYSDEC-determined wetlands.	• No impact to wetlands.	• Loss of approximately 25 acres of wooded jurisdictional wetlands and 11 acres of NYSDEC-determined wetlands.	• Potential loss of approximately 1 acre of wooded jurisdictional wetlands and 1 acre of NYSDEC-determined wetlands.	• Potential increase in habitat value due to long-term decrease in human activity.

Table 2.8-2, Page 13 of 14

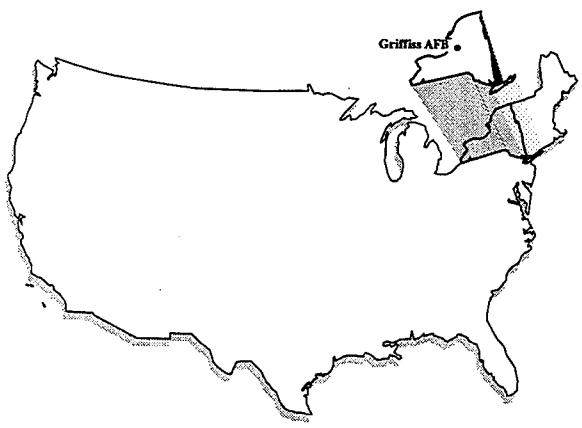
Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
NATURAL ENVIRONMENT - Biological Resources (cont.)					
	• Beneficial impacts to water quality of runoff into wetlands (on and offbase) following realignment and site cleanups.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	
	Mitigation Measures:	**Mitigation Measures:**	**Mitigation Measures:**	**Mitigation Measures:**	**Mitigation Measures:**
	Required:	**Required:**	**Required:**	**Required:**	**Required:**
	• Avoidance of sensitive habitats. • Standard conservation practices and soil stabilization. • Compliance with New York law and Federal regulations (Clean Water Act, Section 404 and E.O. 11990).	• In general, same as Proposed Action, but no wetlands mitigations needed.	• Same as Proposed Action.	• In general, same as Proposed Action, but no wetlands mitigations needed.	• None needed.
	Additional Potential:	**Additional Potential:**	**Additional Potential:**	**Additional Potential:**	**Additional Potential:**
	• Minimize direct/indirect disturbances by planning and design. • Conservation easements or deed restrictions. • Develop replacement/ additional habitats. • Monitor mitigated habitats.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.
Cultural Resources					
Conditions: • Two prehistoric sites, 18 historic sites, and some structures associated with World War II and the Cold War are considered potentially eligible for the NRHP.	**Impacts:** • Potential adverse effects to properties potentially NRHP-eligible, including two prehistoric sites, through land conveyance and some historic structures through modification or demolition.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • Same as Proposed Action.	**Impacts:** • No effect on cultural resources because property would remain under Federal jurisdiction.

Table 2.8-2, Page 14 of 14

Realignment Baseline	Proposed Action	Griffiss Research Park Alternative (A)	Mohawk Valley Business Center Alternative (B)	Regional Aviation Complex Alternative (C)	No-Action Alternative
NATURAL ENVIRONMENT - Cultural Resources (cont.)					
	Mitigation Measures: **Required:** • Consultation with New York SHPO and Advisory Council on Historic Preservation to development appropriate mitigation measures. • Preparation of agreement document to establish acceptable mitigation measures. • Define and implement protective covenants for NRHP-eligible resources in land conveyance documents with non-Federal owners. **Additional Potential:** • Data recovery of prehistoric sites. • Archival research for historic structures. • Historic American Building Survey documentation for historic structures.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • Same as Proposed Action.	**Mitigation Measures:** **Required:** • Same as Proposed Action. **Additional Potential:** • None needed.

Notes:
ACM = Asbestos-containing material
AICUZ = Air Installation Compatible Use Zone
CO = Carbon monoxide
dB = Decibel
DNL = Day-night average noise level
E.O. = Executive Order
EPA = U.S. Environmental Protection Agency
IRP = Installation Restoration Program
LBP = Lead-based paint
LOS = Level of service
NO_x = Nitrogen oxide
NRHP = National Register of Historic Places
NYSDEC = New York State Department of Environmental Conservation
PCBs = Polychlorinated biphenyls
pCi/l = Pico curies per liter
PM_{10} = Particulate matter
ROI = Region of Influence
SH = State Highway
SHPO = State Historic Preservation Office
SO_2 = Sulfur dioxide
SPDES = State Pollutant Discharge Elimination System
SR = State Route
VA = U.S. Department of Veterans Affairs
VOC = Volatile organic compound

THIS PAGE INTENTIONALLY LEFT BLANK



CHAPTER 3.0
AFFECTED ENVIRONMENT

3.0 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This chapter includes a description of the existing environmental conditions at Griffiss Air Force Base (AFB), New York, and its Region of Influence (ROI) as it was expected to exist at the time of base realignment in September 30, 1995. It provides the baseline information that was used to identify and evaluate potential environmental changes resulting from disposal and reuse of the base. Although this Environmental Impact Statement (EIS) focuses on the biophysical environment, some nonbiophysical elements (influencing factors) are addressed to the extent that they directly affect the environment. The nonbiophysical elements of population, housing, employment, land use and aesthetics, public utility systems, and transportation networks in the region and local communities are addressed.

This chapter also includes a description of the storage, use, and management of hazardous materials and waste at the base, including storage tanks, asbestos, pesticides, polychlorinated biphenyls, radon, medical/biohazardous waste, ordnance, and lead. The current status of the Installation Restoration Program is also described. Finally, the chapter includes a description of the pertinent natural resources of soils and geology, water resources, air quality, noise, biological resources, and cultural and paleontological resources.

An ROI was defined for each resource potentially affected by the Proposed Action and alternatives, constituting the geographic area addressed as the affected environment. Although the base boundary may constitute the ROI limit for many resources, potential impacts associated with certain resources (e.g., air quality, utility systems, and water resources) may occur outside of the base boundary.

The baseline conditions assumed for the purposes of analysis are the conditions that were projected for the time immediately following the realignment of Griffiss AFB on September 30, 1995. Therefore, the most descriptive year for the realignment baseline is 1996. Impacts associated with disposal and/or reuse activities were evaluated by comparing projected conditions under various reuses to realignment baseline conditions. Baseline data for years preceding realignment conditions are included, where appropriate, to provide a basis for comparison over time. Data used to describe the pre-realignment reference point are those that depict conditions as close as possible to the realignment announcement date. This provides the decision-maker and resource agencies a more comprehensive understanding of the potential long-term impacts of various reuses compared to conditions when the installation was at its maximum activity and population levels.

3.2 LOCAL COMMUNITY

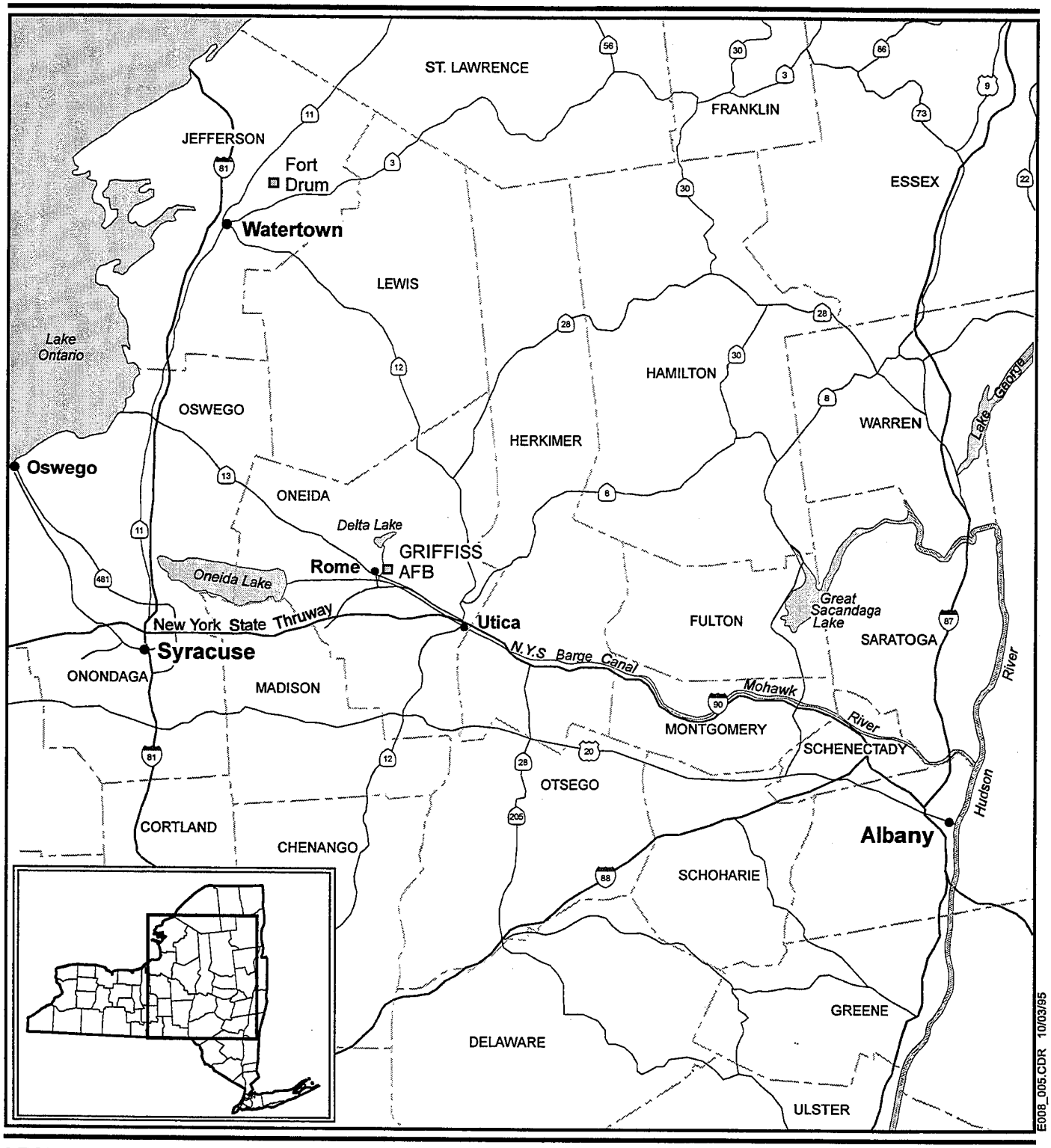
Griffiss AFB consists of 3,552 acres, which includes 3,492 acres within the City of Rome and 60 acres within the Town of Floyd, in central Oneida County, New York (Figure 3.2-1). The City of Rome is 12 miles northwest of the City of Utica, the county seat. Rome is approximately 40 miles east of Syracuse and 130 miles northwest of Albany, the State capital. The Towns of Floyd and Marcy are located just east of the base. The Towns of Lee and Western are to the north while Westmoreland and Whitestown, are to the south (Figure 3.2-2).

The climate at Griffiss AFB is eastern continental, with cold winters and mild, but sometimes humid, summers. Precipitation is distributed throughout the year, with the heaviest amounts occurring in the winter. Prevailing winds are light and from the northwest throughout the year. The region experiences below freezing conditions over 200 days per year. These conditions are often exacerbated by the "lake effect" with dry, cold winds accompanying cold air masses from the northwest, bringing extended periods of snow from November to March. The average annual temperature is 46 degrees Fahrenheit (°F), with an average high of 55°F and an average low of 36°F. Precipitation averages 45 inches of rainfall and 107 inches of snow each year (Rome Area Chamber of Commerce 1994a).

Griffiss AFB was originally established as the Rome Air Depot on February 1, 1942. Construction of the base began in August 1941 and flying operations on the depot airfield began on February 18, 1942. After 13 name changes in 6 years, the base was permanently named in January 1948 after Lieutenant Colonel Townsend E. Griffiss, the first American aviator (and a New York state resident) to be killed in action in the European Theater of Operations during World War II.

Prior to construction of the base, the land was primarily pasture and cropland with scattered farmsteads. Several existing buildings on the base (five single-family houses and one garage) were not torn down during construction. The original airfield consisted of three runways in a triangular layout (now taxiways 8, 17, and 20), (Chapter 1.0, Figure 1.1-1). During World War II, activities at the base centered on aircraft engine maintenance and repair, and the training of air depot groups in engine repair. These activities were curtailed in the latter part of 1945. However, a number of the original buildings constructed in the central portion of the base for these activities still remain, including Building 101, a large aircraft maintenance hangar.

The hillside area now occupied by the base hospital and a number of airmen dormitories and community facilities, originally included more than 60 wooden structures used as troop barracks, mess halls, and administrative buildings. All of these structures have since been torn down. More than 40 buildings (only one structure still remains) were previously in the area south of the Floyd Gate. These buildings were originally used to house civilian employees who worked at the Rome Air Depot during World War II, and were later used as dormitories for military personnel and administrative buildings. West of these buildings, on



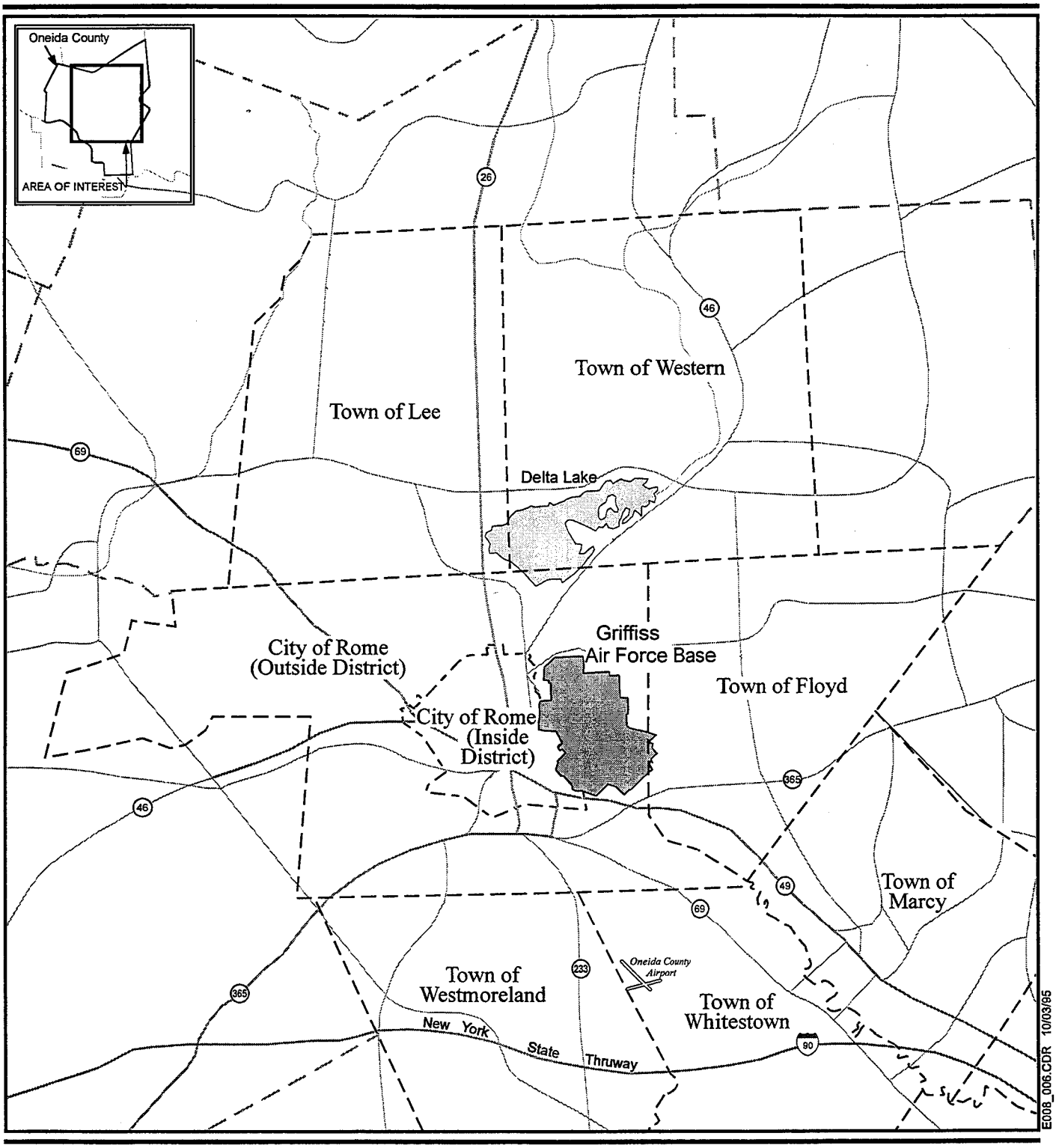
LEGEND

- Interstate Highway
- U.S. Highway
- State Highway
- County Boundary

0 10 20 Miles

Regional Map of Central Eastern New York

Figure 3.2-1



LEGEND

- Interstate Highway
- State Highway
- Town Boundaries
- Rome (Inside District)

0 5 10 Miles

Municipal Boundaries in the Griffiss AFB Vicinity

Figure 3.2-2

land that was disposed of (i.e., excessed) by the Air Force in 1974 (now occupied by an apartment complex), was more than 40 family housing units (fourplexes) that were originally used to house civilian employees with families.

Electronic research activities began in 1950 at Griffiss AFB. The Watson Laboratory complex transferred from Red Bank, New Jersey, in piecemeal fashion from 1950 to 1951. Watson Laboratory became the Rome Air Development Center (RADC) in June 1951 and now is known as Rome Laboratory (Rome Lab). The original northwest-southeast trending runway (a portion of existing Taxiway 8) was upgraded and extended in the early 1950s to handle jet fighter aircraft that were stationed at Griffiss AFB. Various fighter interceptor aircraft were at Griffiss AFB from 1950 to 1987.

In 1956, a major expansion of the airfield was initiated, including the construction of a new 11,820-foot-long runway (Runway 15/33), associated taxiways, Aprons 1 and 2, and an Alert Apron. Facilities for KC-135 tanker and B-52 bomber aircraft were also constructed adjacent to Aprons 1 and 2 and the Alert Apron (Chapter 1.0, Figure 1.1-1). These facilities included a series of aircraft maintenance hangars (or nosedocks) adjacent to Apron 2 and various industrial shops and administrative buildings on a hill (known as SAC Hill) overlooking the three aprons. A bulk fuel storage area adjacent to the New York State Barge Canal and associated hydrant fueling systems at Aprons 1 and 2 were also completed in the late 1950s.

The Weapons Storage Area (WSA) was also constructed in the late 1950s in the northeastern portion of the base, east of the new runway. The WSA was expanded in the late 1970s and early 1980s with the construction of a number of storage igloos and other support facilities for Air Launch Cruise Missiles (ALCM), which were first deployed on B-52 bombers at Griffiss AFB, and the Short Range Attack Missiles (SRAM). North American Air Defense Command (NORAD) Operational Control Center (now the Northeast Air Defense Sector [NEADS]) facilities were completed in the early 1980s.

The Woodhaven and Skyline family housing areas were constructed in the late 1950s. The original base firing range (rifle and small arms) was located in a portion of the area now occupied by the Skyline housing area. This facility was replaced by the existing firing range facility constructed in 1961 in the area north of the WSA. The existing base hospital facility was constructed in 1974 to replace a multibuilding facility constructed in 1943 that was located in the area northwest of the Skyline Gate.

3.2.1 Community Setting

The ROI for the community setting analysis includes Oneida County and the City of Rome.

Oneida County has experienced a population decline since 1970. The population in Oneida County decreased from 273,070 to 253,466 between

1970 and 1980, a decline of 7.2 percent or 19,604. From 1980 to 1990, the decrease slowed to just 1 percent, resulting in a population of 250,836.

The City of Rome's population changes have been similar to the county trends. From 1970 to 1980, the city's population declined from 50,148 to 43,826, a decrease of 12.6 percent or 6,322. The city's population increased slightly to 44,350 or 1.2 percent from 1980 to 1990. However, most of this resulted from an increase in the inmate population (Orly, personal communication, 1994). Overall, the city's 1990 population was 11.6 percent lower than 1970 levels. In 1980, the City of Rome accounted for 17.3 percent of Oneida County's population. By 1990, this proportion had increased to 17.7 percent.

In 1990, Griffiss AFB supported 10,646 military personnel, including 4,509 appropriated fund military personnel and 6,137 dependents. In 1993, the number of military personnel increased to 14,231 (up 16.6%), including 5,518 appropriated fund military personnel and 8,713 dependents. Almost all (90.1% or 3,510 military and 5,417 dependents) permanent-party military personnel living off the base in 1993 resided in Oneida County. The remaining 9.9 percent lived in adjacent counties. Of the military personnel living in Oneida County, 59 percent lived in the City of Rome (zip code 13440). The military personnel and their dependents affiliated with Griffiss AFB (14,231) represented 5.7 percent of the total Oneida County population in 1993. As of September 1993, approximately 5,030 military retirees resided in Oneida and surrounding counties, with about half (2,445 or 48.6%) affiliated with the Air Force (U.S. Air Force 1993c).

Between 1980 and 1990, the housing stock in Oneida County increased from 95,834 to 101,251 units, representing an overall increase of 5.7 percent or 5,417 units. In 1990, approximately 56.4 percent of the total units in Oneida County were single family, 35.9 percent were multifamily, and 7.7 percent were mobile homes, trailers, or other types of units. The 1990 county vacancy rate in Oneida County averaged 5.7 percent.

The housing stock in the City of Rome increased from 15,806 to 16,661 units between 1980 and 1990, representing an overall increase of 5.4 percent or 855 units. Rome accounted for 16.5 percent of all housing units in Oneida County in 1990. Approximately 50.1 percent of the total units in Rome were single family, 44.0 percent were multifamily, and 5.9 percent were mobile homes or trailers in 1990. The 1990 vacancy rate in the city of Rome was 5.4 percent.

In 1993, onbase housing at Griffiss AFB included 733 family housing units (two- to four-bedroom units) and 15 dormitory buildings (capacity of 1,016). Included in the 733 family units are five single family residences used for senior officers' housing that were located on the property prior to the construction of the base. In addition, the base had 50 mobile home or trailer pads available. In 1993, onbase units housed 1,622 active duty military personnel and their dependents, while the remaining 3,896 were housed off the base, primarily in the Rome area. Housing on the base represented 4.7 percent of Rome's total

housing stock and 0.8 percent of the total housing stock for Oneida County in 1990.

The economy of the Griffiss AFB region is diverse and includes State and local government, education, health professions, and the manufacture and sale of durable goods. All contribute significantly to the region's economy. However, the local economy has suffered in recent years as a result of widespread recessionary conditions.

From 1980 to 1990, most industrial sectors in the county experienced increases in employment. However, sharp declines in manufacturing and professional positions kept overall job growth to 2.7 percent for the decade (Economics Research Associates 1993). In 1990, total employment in Oneida County was 132,357, which was 14.2 percent above county employment levels in 1980 (115,852). The largest employment sectors were services (24.9%), government (19.4%), retail trade (16.9%), and manufacturing (14.2%). In 1990, 3.8 percent of the workforce (5,036 workers) was employed by the military, while other government workers (Federal, State, and local) accounted for 19.4 percent of the workforce. During the 1980s, annual unemployment rates for Oneida County ranged from 4.3 to 8.7 percent, which was slightly lower than statewide and national rates for the same period.

In 1990, total employment in the City of Rome was 24,602, including military and government. Of these, 15,900 were employed in the private sector, compared to 14,684 in similar jobs in 1980 (Economics Research Associates 1993). This represents an 8.4 percent increase over the 10-year period. Similar to the county figures, the city's largest employment sectors in 1990 were services (35.5%), retail trade (18.0%), government (13.8%), and manufacturing (13.4%). Also similar to the county trends, local increases in employment during the 1980s were largely offset by job losses in durable goods manufacturing.

Total employment at Griffiss AFB, including reservists and civilian personnel, was 9,857 in 1990. By 1993, total base employment had decreased to 9,268, including 5,518 appropriated fund military personnel, 2,686 appropriated fund civilians, and 379 nonappropriated fund civilians (U.S. Air Force 1993b).

Realignment Conditions. The population of Oneida County is projected to decrease from 250,836 in 1993 to 241,459 in 1996 following realignment, but is expected to increase to 242,872 by 2016. By 1996, the population of the City of Rome is expected to decline to 39,949, but is expected to increase to 40,025 by 2016. The year-round housing stock in Oneida County is estimated to be 101,525 in 1996, an increase of 274 units or 0.3 percent over 1993 levels (101,251). The reduction in demand for permanent housing following realignment would increase the vacancy rate in the county from approximately 5.68 percent in 1993 to 9.34 in 1996.

The year-round housing stock in the City of Rome is estimated to be 16,706 in 1996, an increase of 45 units or 0.3 percent over 1993 levels (16,661 units).

The reduction in demand for permanent housing following realignment would increase the vacancy rate in the city from approximately 5.4 percent in 1993 to 15.1 percent in 1996.

Following realignment of Griffiss AFB, total employment in Oneida County is projected to be 91,114 by 1996, a decrease of 9.6 percent from the 1993 total of 100,785. The unemployment rate is expected to increase from 5.5 percent in 1993 to 11.0 percent by 1996.

3.2.2 Land Use and Aesthetics

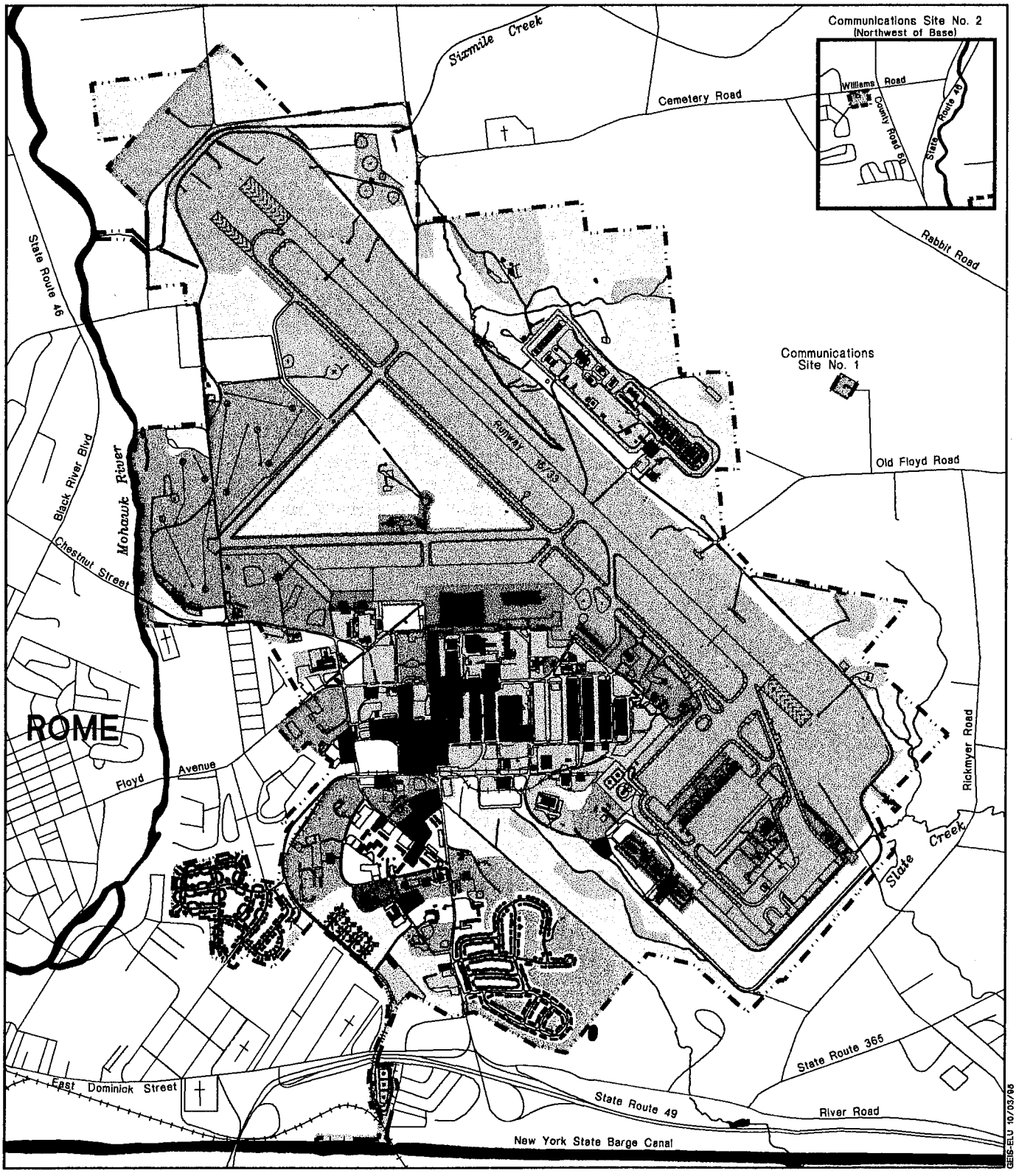
The ROI for land use and aesthetics is located within portions of Oneida County, including Griffiss AFB and potentially affected adjacent lands within the City of Rome and Towns of Floyd, Lee, Marcy, and Western. Griffiss AFB is located in the management jurisdictional boundaries of the City of Rome (3,492 acres) and Town of Floyd (60 acres) (Figure 3.2-2). Land uses at the time of realignment were assumed to be similar to existing land uses in the vicinity of the base because no specific development plans are proposed in this portion of Oneida County. The ROI also includes Oneida County Airport and vicinity. The airport is located on a 2,169-acre site owned by the county approximately 5 miles south of the base. Approximately 1,773 acres are located within the Town of Whitestown and 396 acres within the Town of Westmoreland.

3.2.2.1 Land Use

Onbase Land Use. Griffiss AFB consists of 3,552 acres, of which, approximately 3,291 acres are fee-owned, 257 acres were donated, and 4 acres are leased. Oneida County donated the 257 acres in 1942. The deed document for the donated land contains a reversion clause, which would cause ownership of the property, which includes the Mohawk Glen Club (the consolidated officer's and noncommissioned officer's clubs) and most of the base golf course, to revert to the county if the land is no longer required for military purposes. The base leases 4 acres from the State adjacent to the New York State Barge Canal. This property formerly included facilities (e.g., piers and pipeline) used for offloading jet fuel delivered to the base by barge.

The Air Force has numerous easements on private property contiguous to, and geographically separated from, the base for various purposes. This includes a total of 308 acres of avigation (clearance) easements at both ends of the runway, a restrictive easement (for an explosive safety zone) on 5 acres adjacent to the WSA, and a total of 45 acres of rights-of-way easements for drainage (42 acres) and utilities (3 acres).

For the purposes of this analysis, standard Air Force land use categories have been merged and/or adapted into a classification system to permit better coordination with and analysis of civilian land use. These land uses are shown in Figure 3.2-3 and listed in Table 3.2-1. The land use categories used in this analysis, include airfield, aviation support, industrial, institutional (medical),



LEGEND

- Base Boundary
- Airfield
- Aviation Support
- Industrial
- Institutional (Medical)
- Institutional (Education)
- Commercial
- Residential
- Public/Recreational
- Agricultural/Forest
- Vacant Land

SCALE IN FEET
0 1000 2000

Griffiss AFB Existing Onbase Land Use

Figure 3.2-3

institutional (education), commercial, residential, public/recreational, agricultural/forest, and vacant land.

Table 3.2-1

Onbase Land Use Acreage

Land Use	Acres
Airfield	1,204
Aviation Support	138
Industrial	547
Institutional (Medical)	8
Institutional (Education)	2
Commercial	71
Residential	221
Public/Recreational	414
Agricultural/Forest	688
Vacant Land	259
Total:	3,552

Airfield land uses, consisting of approximately 1,204 acres, include Runway 15/33, associated taxiways, several aircraft parking aprons, and various navigational aids and weather instrumentation surrounding the airfield and Communications Sites No. 1 and No. 2. Runway 15/33 has a northwest to southeast orientation, and is 11,820 feet long by 300 feet wide with 1,000-foot overruns. Airfield land uses also include the north and south clear zone areas, which extend 3,000 feet beyond each end of the runway and 1,500 feet on each side of the centerline of the runway. A primary surface zone measuring 1,000 feet on each side of the centerline of the runway is present for the entire length of the runway. The navigational aides include components of the Instrument Landing System (ILS) (e.g., localizer and glide slope) and their associated emergency power buildings. Much of the airfield area will be retained by the DOD following realignment of Griffiss AFB.

Aviation support land uses, consisting of approximately 138 acres, include aircraft maintenance hangars and nosedocks, various aircraft equipment (e.g., avionics) maintenance facilities, the control tower, flight simulator facilities, jet engine test cell facilities, crew readiness facilities, and facilities for airfield support functions such as fire protection and security. Some of these facilities will be retained following realignment of the base.

Industrial land uses consist of approximately 547 acres in locations on both sides of the runway. Industrial land uses east of the runway include the WSA, the small arms range, various inactive landfills, hardfill disposal sites, and open storage areas. Industrial land uses west of the runway include the fire training area; two electrical substations; the steam plant; petroleum, oil, and lubricants (POL) handling facilities, including the Barge Canal bulk fuel storage area; the

Defense Reutilization and Marketing Office (DRMO) storage buildings and areas; various supply and equipment storage areas and warehouses; various Base Civil Engineering maintenance shops and storage areas; facilities associated with the Rome Lab and NEADS; and several former solid waste and hardfill disposal sites east of Threemile Creek. The Rome Lab, NEADS, and DRMO facilities will be retained following realignment of the base.

Institutional (medical) land uses consist of approximately 8 acres, including the base hospital and associated parking areas, and a portion of a building used by the veterinary clinic. Institutional (education) land uses, consisting of 2 acres, include the several buildings used for military education and training purposes.

Commercial land uses consist of approximately 71 acres and are generally located in the center of the developed portion of the base. The land uses include various buildings or portions of buildings used for administrative support, and various retail facilities such as the commissary, base exchange, base exchange service station, post office, bank, and credit union. Other commercial facilities include the base theater, library, bowling center, and airmen dining hall.

Residential land uses, consisting of approximately 221 acres, are located primarily in the southern portion of the base, and include the Skyline and Woodhaven family housing areas, the base trailer park, unaccompanied personnel housing facilities (e.g., airmen dormitories), temporary living facilities, and visiting officers' quarters. Residential land uses also include the five single family senior officer's residences (two north of the golf course, two near the Floyd Gate, and one north of the Skyline Gate), and the base chapel and child care center.

Public/recreational land uses include approximately 414 acres. Over one-half of the acreage is within the base (9-hole) golf course, with much of the remaining acreage consisting of ballfields (e.g., softball, baseball, and football/soccer); the base gymnasium and associated running track, basketballs courts, and tennis courts; and miscellaneous lawn areas used for informal recreational activities. The public/recreational land in the southern portion of the base includes the base swimming pool facilities, nature trails, and a physical conditioning course. In the winter, the trails are used for cross-country skiing. Some of the public/recreational land is classified as prime farmland (Section 3.4.1).

Agricultural/forest land use includes 662 acres of forested lands, managed under the Griffiss AFB Forest Management Plan, and a 26-acre agricultural outlease in the northern corner of the north runway clear zone. This area also contains some prime farmland.

Vacant land use is made up of approximately 259 acres with a mix of undeveloped tracts, parcels, and open areas reserved for future development. Some prime farmland soils can also be found within the vacant land.

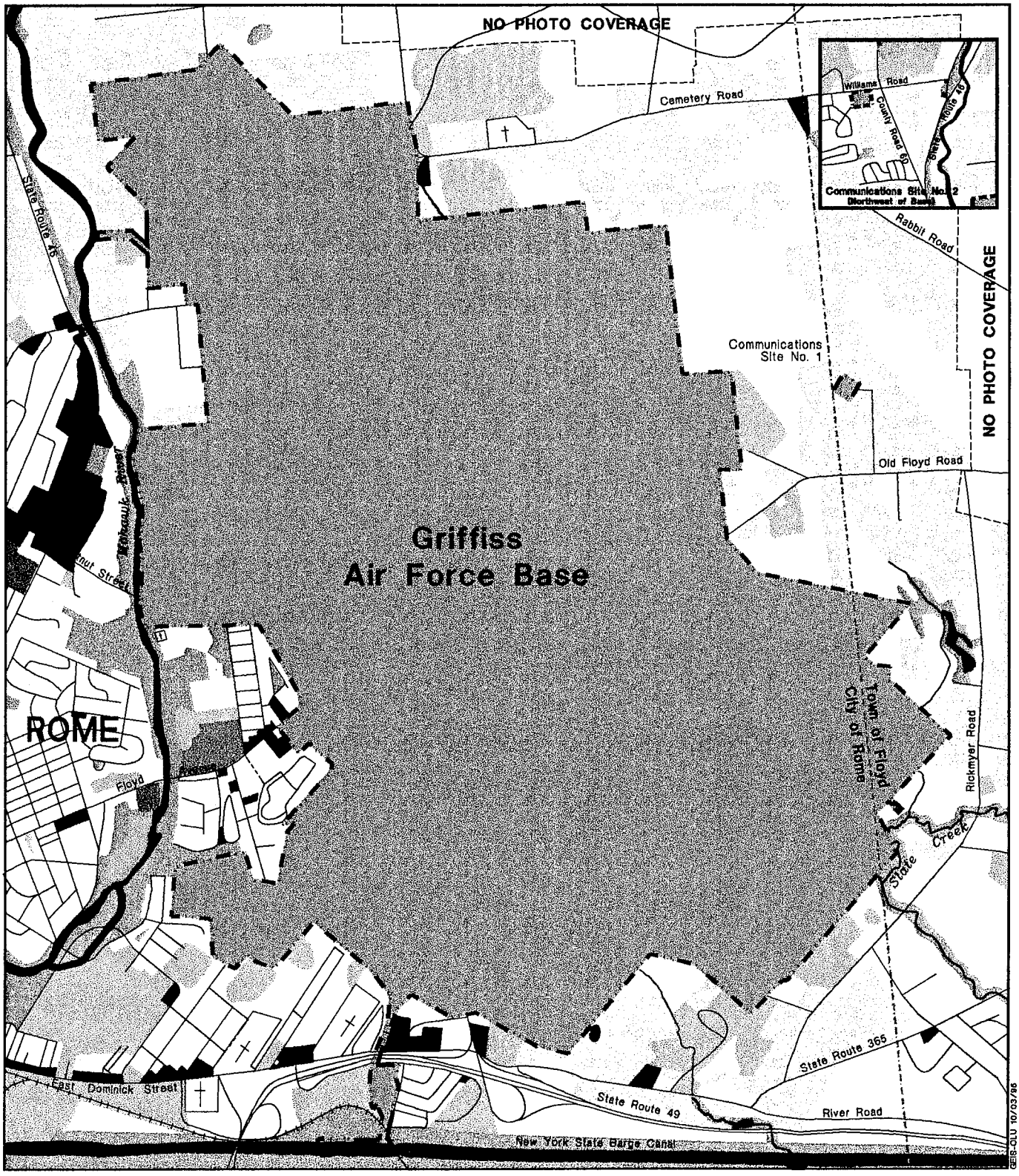
Adjacent Land Use. The City of Rome is the principal urban center in the vicinity of Griffiss AFB. The city is divided into inside and outside districts, which generally correspond to the urban and rural areas of the city (Figure 3.2-2). Adjacent land uses around Griffiss AFB are shown on Figure 3.2-4. The west side of Griffiss AFB abuts the Black River Canal, Mohawk River, agricultural land, and public/recreational land, which combine to form an environmental corridor paralleling the north/south axis of the base. The Black River Canal/Mohawk River Corridor proceeds south into the urban area of Rome, ending east of the Fort Stanwix National Monument. The State has acquired the abandoned Black River Canal bed and adjoining tow paths, extending north to the Rome State Fish Hatchery. The former canal tow paths are now used for recreational activities by pedestrians and equestrians. Surrounding residential land use is typical low-density rural with one dwelling unit per 0.5 acre to one acre (gross). Many of these residences abut the base boundary.

The Rome urban area begins north of the intersection of State Route 46 and Wright Settlement Road. Residential densities are typically urban, with densities of 2 to 11 single family dwellings units per acre and 12 to 24 multifamily dwelling units per acre. A large number of residences, including multifamily and mobile home parks, abut the base boundary. Some high density (25-50 dwelling units per acre) multifamily housing areas are next to the Mohawk Acres Shopping Center, a shopping center at the intersection of State Route 46 and Chestnut Street (1,800 feet west of the base).

Floyd Avenue contains a mixture of residential and highway commercial land uses as well as the Mohawk Valley Community College and Clough Elementary School. The urban area adjacent to the southwest portion of the base to the Skyline Gate (boundary of inside/outside districts of City of Rome) is characterized by a mixture of commercial, industrial, and residential land use. Stanley Junior High School is located west of the Woodhaven housing area, and Bellamy Elementary School is southwest of the base mobile home park. The Black River Canal/Mohawk River Corridor is separated from the Erie Canal/New York State Barge Canal by this urban area (Figure 3.2-4).

The land east of the Skyline Gate is rural, containing a mixture of industrial, commercial, residential, and agricultural land uses. Residential densities are rural at one dwelling unit per 0.5 acre (gross). A regional energy recovery facility which processes municipal solid waste abuts the base boundary. The property is uninhabited and composed of vacant land and mined sand pits, and classified industrial. Rural residential uses are located along Rickmyer Road with an explosive safety zone setback at least 50 feet.

The adjacent land use east of Griffiss AFB within the Town of Floyd is rural with a mixture of residential, agricultural, vacant, and some commercial and public/recreational uses. The agricultural land is within Agricultural District-10 of Oneida County, within the Town of Floyd. Two of the district farms abut the Griffiss AFB boundary and three more farms are within a 0.25-mile radius. (Oneida County 1991). The residential densities are the same as the rural areas



LEGEND

- Base Boundary
- Airfield *
- Aviation Support *
- Industrial
- Institutional (Medical)
- Institutional (Education)
- Commercial
- Residential
- Public/Recreation
- Agriculture
- Base Property/Military
- Vacant Land
- Not Applicable *

SCALE IN FEET
0 1000 2000

Griffiss AFB Existing Offbase Land Use

Figure 3.2-4

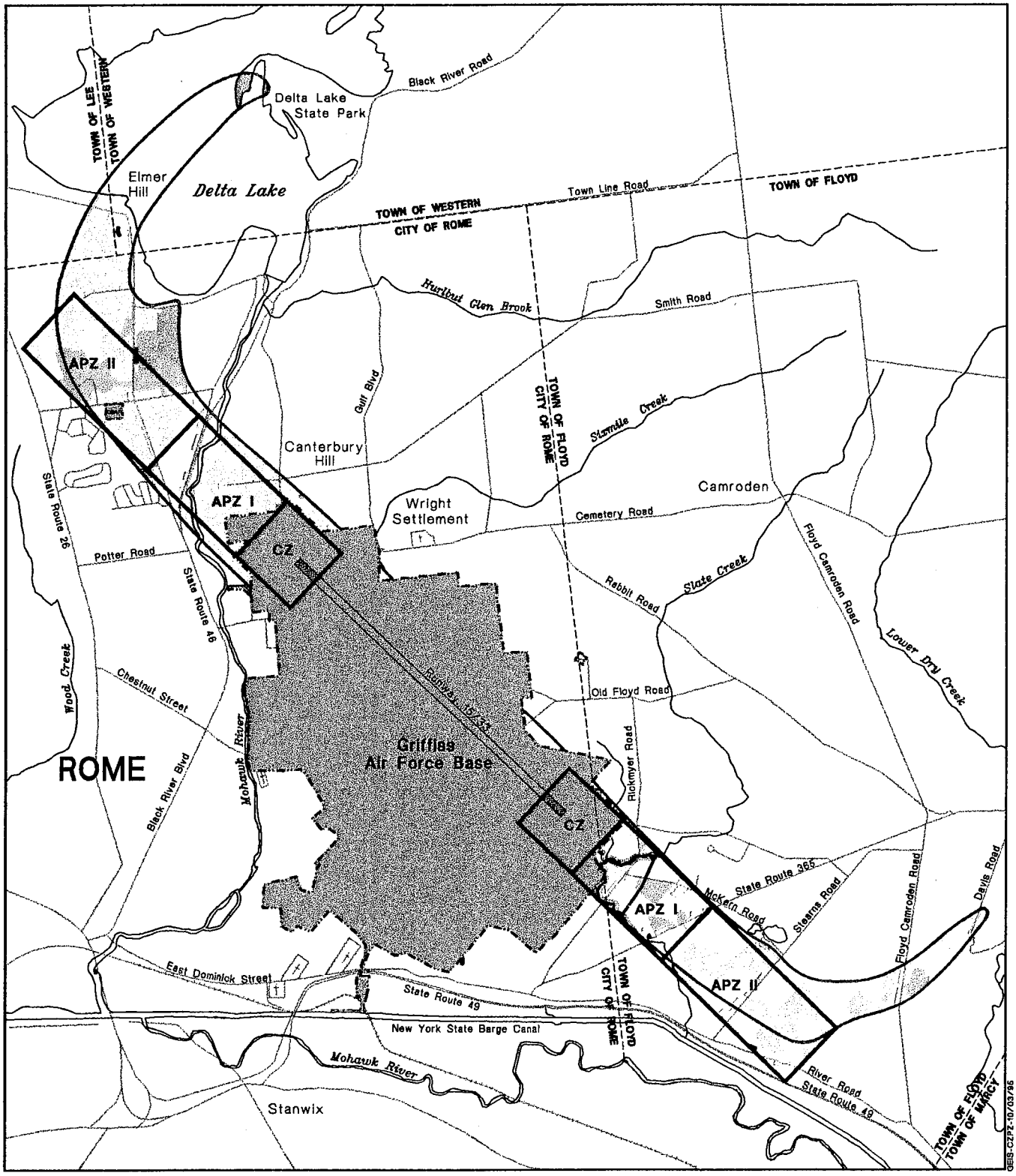
of Rome; however, there is a high density mobile home park south of Old Floyd Road. The two areas of industrial land use shown on Figure 3.2-4 are abandoned sand pits. The larger of the two sand pits had been converted to a facility which accepted septic tank sludges; the facility has been closed for some time. The land use east of the base, within the outside district of the City of Rome, is also rural with a mixture of agricultural, vacant, industrial, and rural residential land use. Three residences abut the base boundary. Explosive safety zones associated with the WSA extend 150 to 600 feet beyond the base boundaries onto private property at three localities. The land use within these areas are all uninhabited, consisting of vacant land, industrial (sand pit), and agricultural use. The closest residence to the explosive safety zone is set back 150 feet (U.S. Air Force 1989a, 1993e).

The adjacent land north of Griffiss AFB is within the outside district of Rome. The land is typically rural with a mix of agricultural, vacant, industrial (sand pits), and rural residential. The agricultural land is within Agricultural District-15 of Oneida County. Six of the district farms abut the Griffiss AFB boundary and six more farms are within a 0.25 mile radius (Oneida County 1992). Several residences and a half of a private baseball diamond abut the base boundary and north clear zone, and are located within one of five avigation easements (U.S. Air Force 1993e). A bed and breakfast inn classified commercial, and housed within an historic residence, also abuts the base boundary.

Air Force Policies Affecting Adjacent Land Uses. The Air Force has developed the AICUZ Program to promote public health, safety, and general welfare in areas surrounding Griffiss AFB. The AICUZ program provides technical advisory guidelines to affected planning agencies to aid the future preparation of planning documents and the amending of zoning ordinances to achieve compatible land development in areas subject to aircraft noise and accident potential. The Air Force AICUZ guidelines present land use recommendations for clear zones, accident potential zones I and II, and three noise zones.

Griffiss AFB coordinates with the Federal Aviation Administration (FAA) so that its flight paths minimize conflict with civilian aircraft operations at Oneida County Airport, and with other private, commercial, and government flying activities (U.S. Air Force 1993a).

Pre-realignment noise contours for Griffiss AFB shown on Figure 3.2-5 are based on data collected in May 1992 for the 1993 AICUZ study (U.S. Air Force 1993a). Aircraft operational and maintenance data were obtained to derive average daily operations by runway and type of aircraft. These data were supplemented by flight track information, flight profile information, and ground runup information. After the data were verified for accuracy, the data were processed into the NOISEMAP (Version 6.3) software program (Section 3.4.4) and converted to average day-night (DNL) noise contours. Contours were plotted on an area map and overlaid with clear zones and accident potential zones (U.S. Air Force 1993a).



LEGEND

- Base Boundary
- 65 dBN Noise Contour
- Transmission Line Corridor
- Airfield*
- Aviation Support*
- Industrial
- Institutional (Medical)*
- Institutional (Education)*
- Commercial
- Residential
- Public/Recreational
- Agricultural
- Base Property/Military
- Vacant Land

*Not Applicable

SCALE IN FEET
0 2000 4000

Clear Zones and Accident Potential Zones at Griffiss AFB

Figure 3.2-5

Approximately 9,600 acres in surrounding jurisdictions are exposed to a DNL of 65 decibels (dB) and above. Of this, 1,000 acres are in the City of Rome, 4,400 acres in the Town of Floyd, 1,900 acres in the Town of Lee, 1,900 acres in the Town of Western, and 400 acres in the Town of Marcy. Incompatible land uses within the present 65 dB DNL noise contour include single family residential subdivisions, multifamily residential, mobile home parks, resorts and group camps, public campgrounds, schools, churches, a regional distribution warehouse, recreational facilities, and a golf course. There are approximately 435 dwelling units within the DNL 65 dB contour.

Analysis of historical worldwide Air Force aircraft accident data (728 accidents from 1968 to 1985) concluded that areas immediately beyond the ends of runways and along the approach and departure flight paths have significant potential for aircraft accidents. The Air Force established three zone classifications that have high relative potential for accidents (clear zones and accident potential zones [APZs] I and II). The clear zones and APZs for Griffiss AFB are shown in Figure 3.2-5.

The clear zone, the closest area to the end of a runway, is the most hazardous of the three zones. The Air Force considers the overall risk so high that the land usually is acquired in fee simple or as an easement. Uses are restricted to agricultural, excluding livestock and structures, with only conditional uses related to forestry, transportation, and utilities allowed (U.S. Air Force 1993a).

At Griffiss AFB, the clear zone land is all Air Force fee-owned land, with some land in the north clear zone outleased for agricultural. The uses within the north clear zone consists of airfield, vacant, agricultural, and public/recreational (other half of a privately operated baseball diamond). A portion of Pennystreet and Butternut roads, public roadways that provide access to areas north of the base, are located within the north clear zone (Chapter 1.0, Figure 1.1-1). The uses within the south clear zone include airfield, aviation support, and industrial. The remainder of the land is undeveloped agricultural/forest and vacant land.

APZ I is located adjacent to the clear zone and possesses a significant potential for accidents. All types of residential use are considered incompatible. Some types of industrial, commercial, institutional, and recreational uses are compatible if they do not result in an average density of greater than 25 persons per acre per hour during a 24-hour period, nor exceed 50 persons at any one time (low density). Agricultural and mining activities are compatible when labor intensity, structural coverage, explosive characteristics, and air pollution factors are considered (U.S. Air Force 1993a).

At Griffiss AFB, there are 81 dwelling units within the APZ I areas located at both ends of the runways. The north APZ I contains 27 residences, including 6 dwelling units of a high density subdivision and 21 low density residences. The other land uses within this APZ are agricultural, vacant, and public recreational. The south APZ I contains 54 residences, including 18 mobile homes in a high density mobile home park 21 high density residences and

15 low density residences. Other land uses consist of industrial, commercial, agricultural, and vacant land. The south APZ I is also traversed by a high voltage transmission line.

APZ II is less critical than APZ I. However, the Air Force still considers this zone to have a significant risk factor. Residential uses are considered compatible only when densities range from 1 to 2 dwelling units per acre, or under a Planned Unit Development (PUD) where maximum lot coverage is less than 20 percent. All agricultural uses, mining, most industrial uses, low density commercial, recreational, and some institutional uses are also considered compatible uses within APZ II. Public and private uses that concentrate people in small areas, such as schools, hospitals, and churches, are considered incompatible uses (U.S. Air Force 1993a).

At Griffiss AFB, there are 92 total dwelling units within APZ II areas located at both ends of the runways. The north APZ II contains 54 residences, including 5 dwelling units of a high density subdivision and 49 low density residences. Other land uses consist of high density commercial, low density industrial, agricultural, and vacant. The south APZ II contains 38 residences. The residences include 8 mobile homes of a high density mobile home park and 30 low density residences. Other land use consists of commercial, agricultural, and vacant.

The AICUZ program applies only to military airfields, although similar criteria are established by the FAA for civilian airports. Following realignment of Griffiss AFB, the airfield will still be maintained for military use, and the AICUZ program will still apply.

Land Use Plans and Regulations. A comprehensive plan is a long-term policy document for the orderly development of a jurisdiction. It serves to organize and coordinate the relationship between the land, people, resources, and facilities to protect the health, safety, and general welfare of the jurisdiction.

The affected land use management jurisdictions within the Griffiss AFB vicinity are the inside and outside districts of Rome, and the towns of Floyd, Lee, and Western in Oneida County, New York.

The City of Rome has adopted a comprehensive plan to effectively control land use and development in the city and provide the basis for future amendments to the city's land use regulations and ordinances, and provide guidance to the Planning Board and Zoning Board of Appeals for future actions. The plan recognizes the importance of Griffiss AFB and the Oneida County Airport as public landholding entities. Griffiss AFB is also considered a geographical constraint to the eastward development patterns of the city.

The current master plan predates the AICUZ Program and the Greenbelt Concept Program. However, the master plan recognizes the need to plan for compatible land use in the airport approach zones (approach-departure clearance surfaces) of the two airport facilities because of noise and safety

factors created by flight patterns. Residential land use designations within the airport approach zone are planned for densities of two dwelling units per acre (gross), which is a density consistent with the latest AICUZ compatibility criteria for APZ II. Residential uses are discouraged in noise zone DNL 65 to 70 dB (mobile home parks are considered incompatible), and strongly discouraged in noise zone DNL 70 to 75 dB. This density is considered incompatible with APZ I and noise zones DNL 75 to 80 dB and DNL over 80 dB. Other residential designations plan for densities of 2 to 11 dwelling units per acre, and 12 to 24 dwelling units per acre, which are incompatible in all AICUZ zones. The Air Force has purchased all land within the clear zones.

Current designations north and west of Pennystreet Road within the north clear zone are incompatible with a theoretical density of two dwelling units per acre (gross). However, the airport approach zones of the master plan affects the density of dwelling units, limiting growth. The master plan defines the area of urban patterns consisting of residential, commercial, industrial, public institutional (education and hospitals), and parks on the west side of the base. The plan also has designated the Black River Canal/Mohawk River Corridor on the west side of the base and the Erie Canal and New York State Barge Canal on the south as Conservation Reserve.

The concept of an expressway designed to facilitate efficient movement of traffic around Rome was first addressed in the 1960 master plan. The present master plan has revised the suggested expressway alignment to serve an expanded urban area developed after the adoption of the previous plan. The current proposed expressway alignment generally avoids base property and includes an interchange at the Chestnut Street bridge, designed to improve access to the base.

The Town of Floyd has an adopted master plan which encourages some business growth, while preserving the rural character of the town with low density housing and preservation of open space. New mobile home courts require a minimum of one-half acre per unit. Multi-family dwellings are allowed under a special use permit with a maximum of four dwellings allowed on a minimum three acre parcel (Town of Floyd 1994).

The Town of Lee is included within the ROI because the base's flight operations affect this jurisdiction. The Town of Lee adopted a comprehensive plan in 1967, which predates the AICUZ program and the previous Greenbelt Concept Program. Densities of one single family dwelling per 9,000 square feet and 8- to 10-unit multifamily dwellings per acre are encouraged in southeastern Lee and Lee Center (Town of Lee 1967).

The Town of Western is also included within the ROI because the base's flight operations affect this jurisdiction. The Town of Western has an adopted Master Development Plan which provides guidance on general land use designations. This plan predates the Griffiss AFB AICUZ study of 1978. Land use designations within the 1993 AICUZ study 65 dB DNL noise contour are

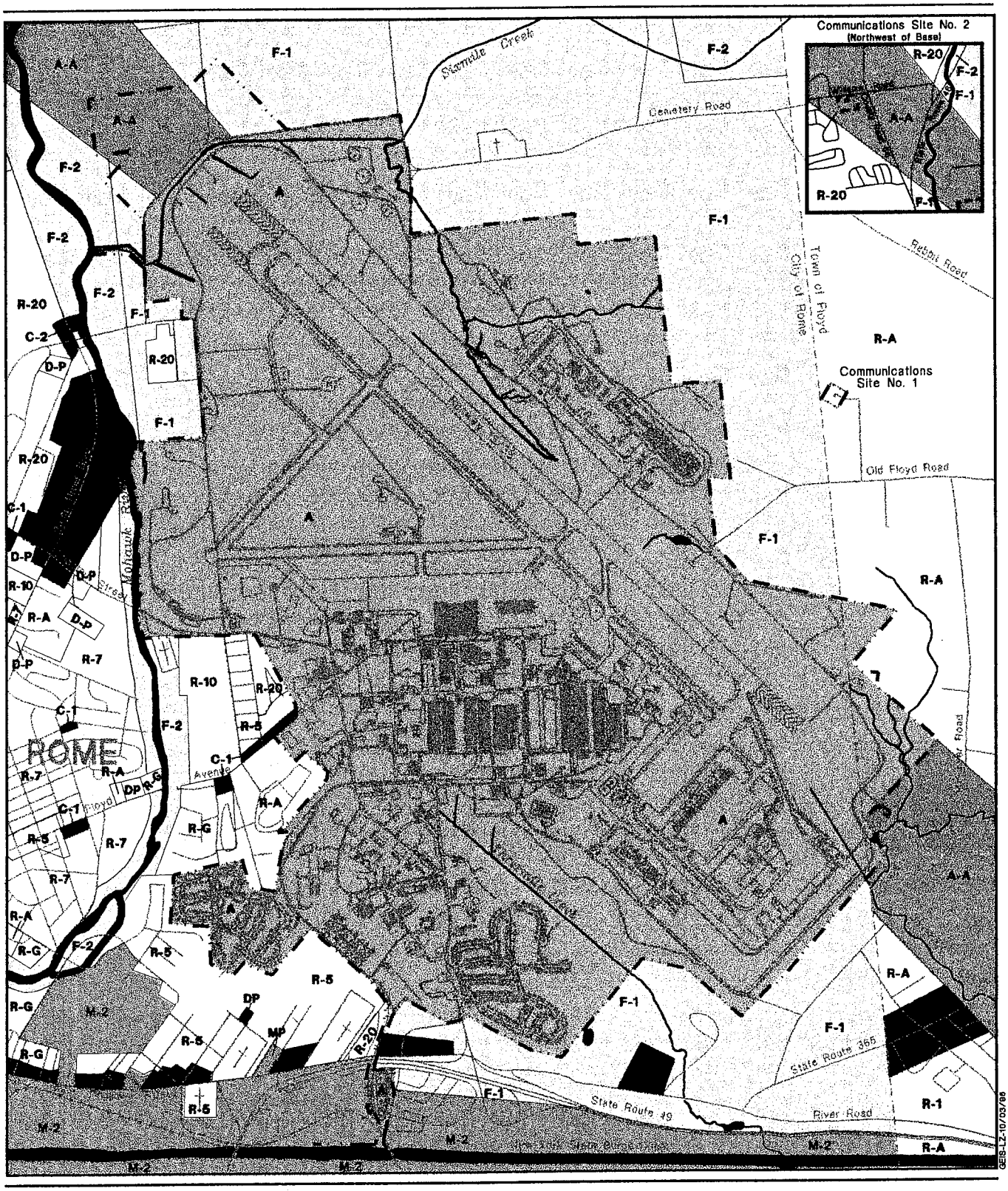
generally residential-recreational and recreational which abut Delta Lake (Russell D. Bailey & Associates 1972).

The Oneida County Airport is located within the towns of Whitestown and Westmoreland. The county recently adopted a new Airport Master Plan. The City of Rome Master Plan identifies both Griffiss AFB and the Oneida County Airport as two centers having direct influence on the city's future development. The county airport generates air traffic and contains supporting land use. The adjacent 400-acre County Airport Industrial Park is planned to be oriented to industries that utilize air transportation (City of Rome 1970). The county Airport Master Plan addresses the needs of the airport in the short term (1994-1995), intermediate term (2001-2005), and long term (2005-2015). All the land within the 65 dB DNL noise contour is located within the county-owned airport site (C&S Engineers, Inc. 1994).

Zoning. Zoning refers to an ordinance regulating and restricting the location, construction, and use of buildings and structures. Zoning also refers to the use of the land within a jurisdiction and provides for the division of the jurisdiction into districts. Overlay zones that can extend over many districts are also addressed in a zoning ordinance. Most of Oneida County, including Griffiss AFB, has been apportioned into various city and town zoning districts. Local zoning ordinances do not have enforcement powers on Federal property. However, the ordinances prezone Federal property in advance of future land disposals conveyed to nonfederal parties (Figure 3.2-6).

The Rome Zoning Ordinance consists of 23 zoning districts that cover both the Inside and Outside Districts of Rome, including six residential zones (R-A, R-5, R-7, R-10, R-20, and R-G); four commercial zones (C-1, C-2, C-3, C-4) and a commercial-residential transition zone (C-R); two industrial zones (M-1 and M-2); two agricultural/open spaces zones (F-1 and F-2); zone R-1; a scrap and salvage zone (S-S); a planned development district consisting of four types of planned zones (commercial [C-P], manufacturing [M-P], recreational [R-P], and development [D-P]); an airport zone (A); and an airport approach zone (A-A).

The Rome Zoning Ordinance has placed most of Griffiss AFB into the airport zone (A). The north clear zone northwest of Pennystreet Road and Butternut Road is zoned airport approach (A-A) within the Air Force Approach-Departure Clearance Surface, agricultural zone (F-1) at the northern corner, and agricultural and open space zone at the southern corner of the clear zone. All the property within the clear zone is owned by the Air Force. The A-A zone extends northwest to the Rome/Lee corporate boundary. R-20, F-1, and F-2 zones are adjacent to the A-A zone. The F-1 and F-2 zones continue east to the Rome/Floyd corporate boundary. Density of development within all these zones, except for the A zone (only airport-related uses are permitted), is determined by the Master Plan. West of the base, the F-1 and F-2 zones define the Black River Canal/Mohawk River Corridor. Various residential zones are designated for land west of this corridor. Commercial use is present along Black River Road, Chestnut Street, and Floyd Avenue (Figure 3.2-6). Skyline Gate defines the transition between urban zones of the Inside District from the



LEGEND

- Base Boundary
- Zoning Boundary
- Airport
- Airport Approach
- Industrial
- Commercial
- Residential
- Agricultural/ Open Space

SCALE IN FEET
0 1000 2000

Griffiss AFB Local Zoning

Figure 3.2-6

rural zones of the Outside District. The urban zones are a mixture of residential, commercial, and industrial, while the rural area is generally F-1 with some commercial uses north of State Route 49 and industrial uses to the south. The Town of Floyd designates seven zoning districts plus three overlay districts for airbase environs, land conservation, and floodplain areas, in addition to a planned development district containing four types of districts similar to Rome.

The Town of Floyd zoning ordinance has placed Griffiss AFB within the air base zone (A) to provide for its continuation in a manner compatible with air base operations and needs. The private land located within the south APZs I and II, defined by the 1978 AICUZ report, has been placed within the air base approach district (A-A). Permitted uses include a single or double residence, with the density placed at a 5-acre minimum lot size. The remaining zone districts consist of R-1 residential with a 1-acre density minimum; R-A residential-agricultural, allowing single residences or duplexes with a two-acre minimum density; and commercial. The zoning ordinance also has an air base-environs overlay (A-E), which includes all area within Compatible Use District 7 based on a 1978 AICUZ report for Griffiss AFB (Town of Floyd 1993).

The Town of Lee zoning ordinance has placed approximately 40 percent of the town in the southeast quadrant into an aircraft noise zone. This noise zone is based on the 1978 AICUZ report. The ordinance recommends that, prior to construction, this study be consulted. The land within the aircraft noise zone consists of residential/agricultural (R-A), residential (R-20), commercial, and hamlet. Within R-A and hamlet zones, single family dwellings or two-family dwellings are permitted, while the R-20 permits only single family dwellings. Property served by public sewer and water systems can have densities as low as 15,000 square feet per dwelling unit for a two-family dwelling and 20,000 square feet for a single family dwelling. Densities otherwise are 30,000 square feet and 40,000 square feet respectfully (Town of Lee 1985).

Realignment Baseline. Land uses at the time of realignment will remain unchanged. The realignment of the base will result in the continued use of the airfield, although at a reduced level. The existing land use conflicts and constraints associated with the AICUZ in the City of Rome and the towns of Floyd, Lee, and Western will continue; however, the 65 dB DNL noise contour associated with use of the airfield would be greatly reduced. In addition, the Town of Marcy would be outside the 65 dB DNL noise contour. The comprehensive plans and/or zoning ordinances of the affected city and towns will remain, subject to amendment when local conditions warrant change. With realignment, the availability of portions of the base adjacent to the City of Rome will provide the city with an opportunity to expand its urban area and augment its tax and employment bases.

3.2.2.2 Aesthetics

Visual resources include natural and man-made features that give a particular environment its aesthetic qualities. Criteria used in the analysis of these resources include visual sensitivity, which is the degree of public interest in a

visual resource, and concern over adverse changes in visual quality. Visual sensitivity is categorized as high, medium, or low.

High visual sensitivity exists in areas where views are rare, unique, or in other ways special, such as in remote or pristine environments. High sensitivity views would include landscapes that consist of landform, vegetative patterns, water bodies, or rock formations of unusual or outstanding quality. High visual sensitivity localities would also include the designated highway trails of the New York State Trail System; local canal, stream, and river corridors; the City of Rome's designated historic districts; and designated scenic vistas.

Medium visual sensitivity areas are more developed than those areas of high sensitivity. Human influence is more apparent in these areas, and the presence of motorized vehicles and other evidence of modern civilization is common. These landscapes generally have features containing varieties in form, line, color, and texture, but tend to be more common than high visual sensitivity areas.

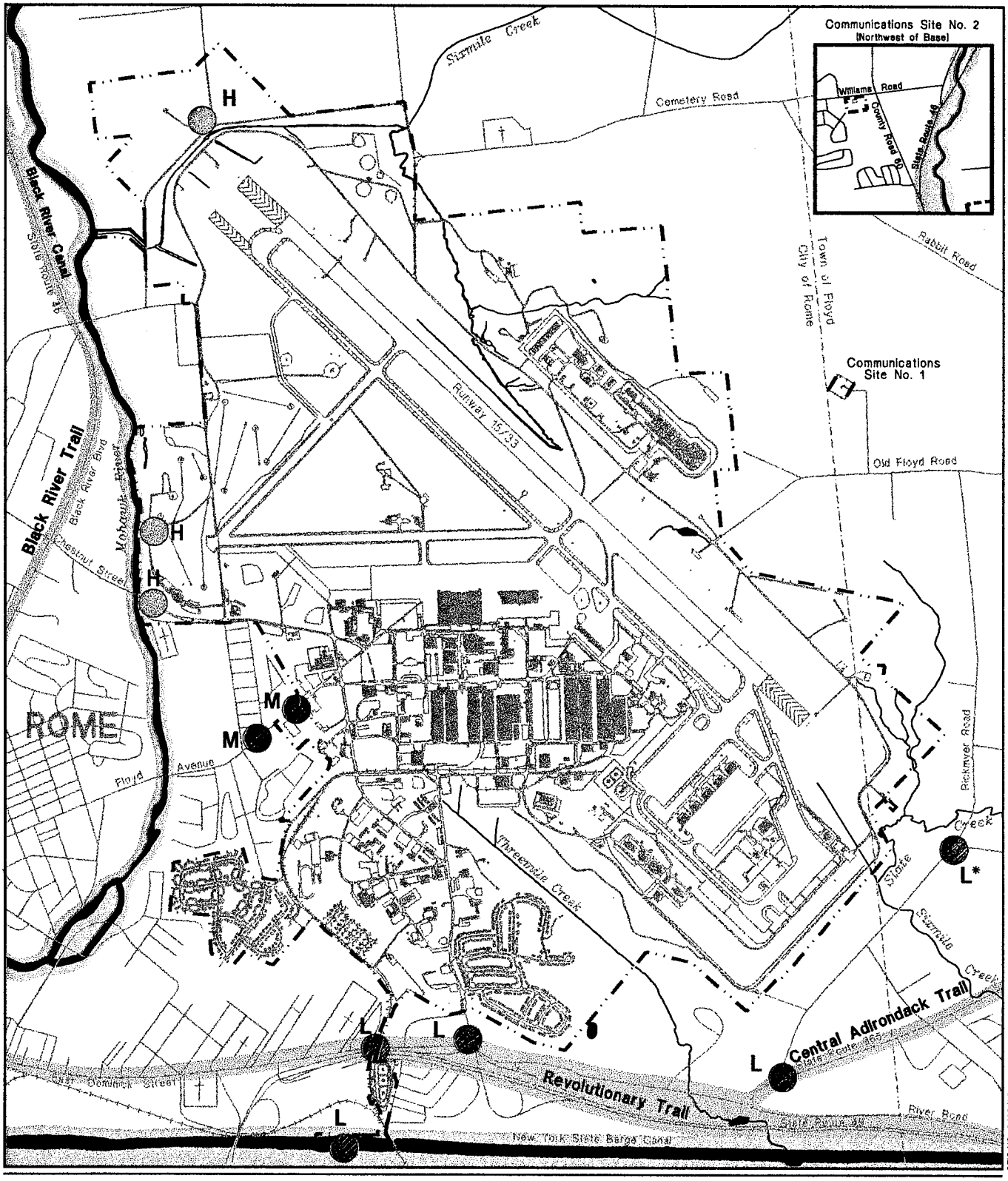
Low visual sensitivity areas tend to have minimal landscape features, with little change in form, line, color, and texture. Low sensitive areas would be typical urban or suburban areas, agricultural and farming areas, industrial or commercial development, and other areas that do not contain resources described as medium or high sensitivity areas.

The visual resources of Griffiss AFB are a mixture of all three sensitivity levels (Figure 3.2-7). Unique vistas can be seen from the north clear zone, along the New York State Barge Canal, and along the Mohawk River.

The view within the north clear zone is of the base airfield, support facilities, and surrounding open space. It can be seen from the intersection of Pennystreet and Butternut roads. This viewpoint is used by the general public to observe base aircraft operations. At night, the base lighting is the principal focal point, and the viewpoint is rated as being of high sensitivity.

Two environmental corridors are within the City of Rome: the Erie Canal/ New York State Barge Canal Corridor and the Black River Canal/Mohawk River Corridor. Within the Erie Canal/New York State Barge Canal Corridor, the Air Force leases an area for fuel handling and storage adjacent to the Barge Canal. Views within this area were rated as low sensitivity due to the presence of industrial facilities and trash sites. The western end of the base, containing the base golf course, abuts the Black River Canal/Mohawk River Corridor. Views from the base property, while limited, are rated high sensitivity. The Chestnut Street Bridge is the only viewing area of the base within the public domain. The base golf course also contains views of the corridor. The base is not visible from the remaining alignment of the corridors.

The base is adjacent to three designated scenic roads of the Adirondack North Country Auto Trail System. State Route 46 is designated as the Black River Trail. The base is not visible from any part of this highway. State Route 49 is



LEGEND

- Base Boundary
- NYS Adriondack North Country Scenic Auto Trail System
- Mohawk River-Erie Canal Green Corridor
- H Viewpoint High Sensitivity
- M Viewpoint Medium Sensitvity
- L Viewpoint Low Sensitivity
- * Rated During Winter Season Only

SCALE IN FEET
0 1000 2000

GEIS-VS-10/03/95

Visual Sensitivity in the Vicinity of Griffiss AFB

Figure 3.2-7

designated as the Revolutionary Trail and views of the base from this highway are limited to the bulk fuel storage facilities north of New York State Barge Canal and the Skyline Gate area, seen from the junction with Wright Drive. Both viewpoints are rated low sensitivity due to the high level of urban land use. State Route 365 is designated as the Central Adirondack Trail. The base can be seen at the intersection of this road and Rickmyer Road. The view is limited to introduced pine wood lots, adjacent to the Oneida County Energy Recovery Facility. With a reclaimed sand pit in the foreground, the resulting sensitivity rating is low (Adirondack North Country Association 1992).

Two views of the Floyd Gate area, seen from Floyd Avenue in the City of Rome, have medium sensitivities. A view of the alert apron, seen from the intersection of Rickmyer Road and Middle Road in the Town of Floyd, is seasonally rated low sensitivity during the winter months, and not rated during the summer months when views of the base are blocked by deciduous trees.

3.2.3 Transportation

The ROI for the transportation analysis includes the principal road, air, and rail networks in the Rome area, with emphasis on the immediate area surrounding Griffiss AFB. The analysis focuses on the segments of the transportation networks in the region that serve as direct or necessary indirect links to the base and those that are commonly used by personnel employed at Griffiss AFB.

3.2.3.1 Roadways

Evaluation of existing roadway conditions focuses on capacity, which measures the ability of the network to serve the traffic demand and volume. The capacity of a roadway depends on its width, number of lanes, intersection control, and other factors. Traffic volumes typically are reported, depending on the project and data base available, as the daily number of vehicles traveling in both directions on a segment of roadway, averaged over a full calendar year (average annual daily traffic [AADT]) and/or the number of vehicular movements on a road segment during the average peak hour. For this analysis, an average peak hour volume of 12 percent of the AADT is used, supported by local traffic characteristics and research findings (Transportation Research Board 1985). These values are useful indicators in determining the extent to which a roadway segment is used, and in assessing the potential for congestion and other problems.

The performance criteria of a roadway segment is generally expressed in terms of level of service (LOS). The LOS scale ranges from A to F, with each level defined by a range of volume-to-capacity ratios. LOSs A, B, and C are considered good operating conditions where minor or tolerable delays are experienced by motorists. LOS D represents below average conditions. LOS E corresponds to the maximum capacity of the roadway. LOS F represents a situation where volume-to-capacity is overloaded and delays are considered intolerable by LOS criteria. The LOS designations and their associated volume-to-capacity ratios are presented in Table 3.2-2. These levels are based primarily

on estimates from the *Highway Capacity Manual Special Report 209* (Transportation Research Board 1985), which have been adapted for local conditions.

Table 3.2-2

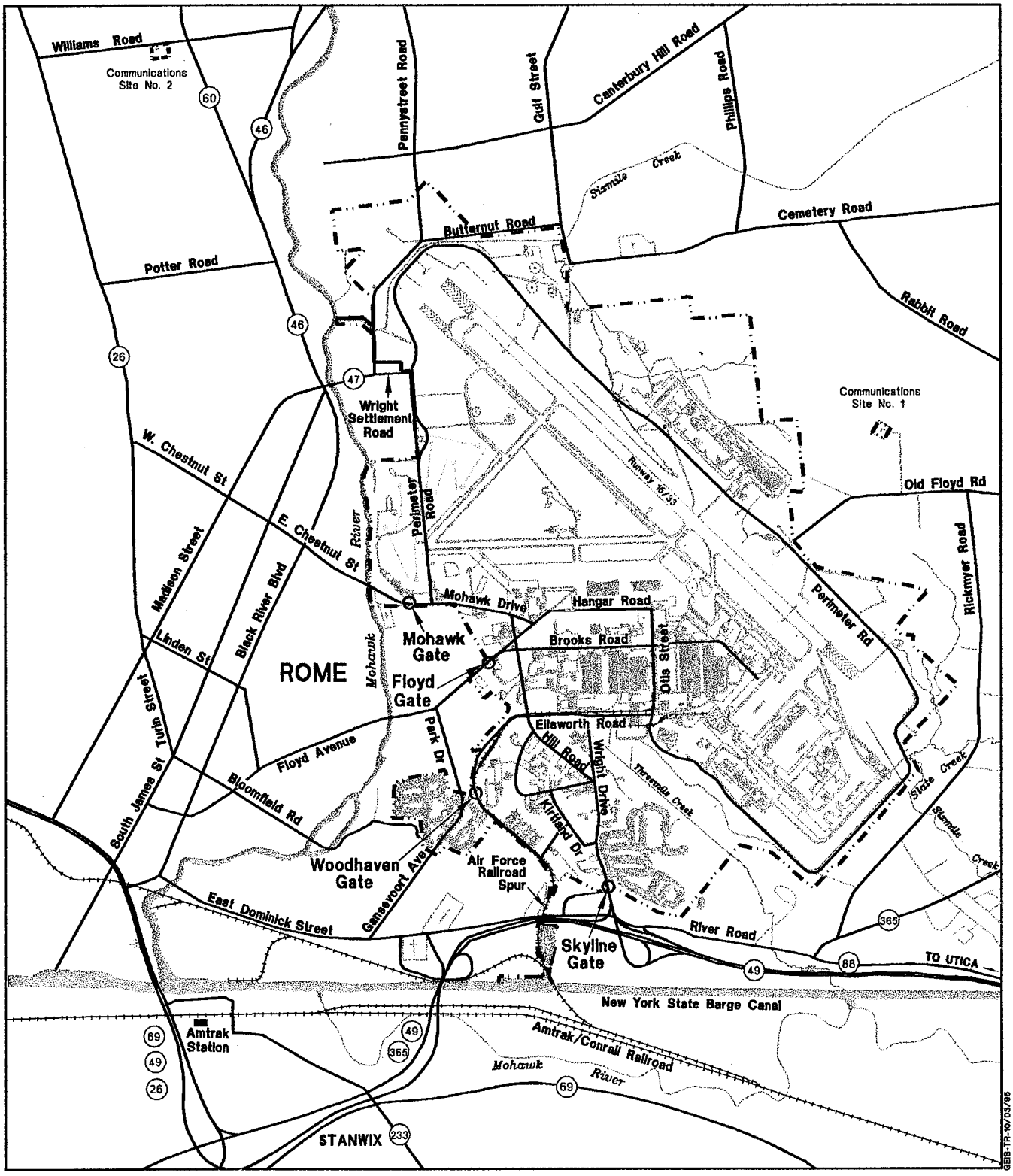
Road Transportation Levels of Service (LOS) Criteria

LOS	Description	Criteria (Volume-to-Capacity Ratio)		
		Freeway[1]	4-Lane Arterial[2]	2-Lane Highway[3]
A	Free flow with users unaffected by presence of other roadway users.	0-0.35	0-0.28	0-0.12
B	Stable flow, but presence of users in traffic stream becomes noticeable.	0.36-0.54	0.29-0.45	0.13-0.24
C	Stable flow, but operation of single users becomes affected by interactions with others in traffic stream.	0.55-0.77	0.46-0.60	0.24-0.39
D	High density but stable flow; speed and freedom of movement are severely restricted; poor level of comfort and convenience.	0.78-0.93	0.61-0.76	0.40-0.62
E	Unstable flow; operating conditions at capacity with reduced speeds, maneuvering difficulty, and extremely poor levels of comfort and convenience.	0.94-1.00	0.77-1.00	0.63-1.00
F	Forced or breakdown flow with traffic demand exceeding capacity; unstable stop-and-go traffic.	>1.00	>1.00	>1.00

Notes: [1]LOS for basic freeway sections, 70 miles per hour.
[2]LOS for 50 miles per hour design speed, multi-lane highway. Applicable to four or six-lane arterial.
[3]Level terrain, 20 percent no passing zones, design speed 60 miles per hour or greater. Applicable to two-lane streets.

Source: Transportation Research Board 1985.

The region surrounding Griffiss AFB is served by a network of interstate and State highways, county roads, and city streets (Figures 3.2-1 and 3.2-2 [Section 3.2.1]). Major roads in the immediate vicinity of the base include New York State Highways 49, 365, 69, 26, 46, and 233; County Roads 47 and 88; Black River Boulevard; Chestnut Street; Floyd Avenue; Park Drive; Wright Settlement Road; and East Dominick Street. Figure 3.2-8 shows the existing local road network in the ROI.



LEGEND

- Base Boundary
- State and County Highway
- Other Road
- Railroad

SCALE IN FEET

0 1000 2000

Key Local Roads of Griffiss AFB Area

Figure 3.2-8

Interstate 90 (New York State Thruway) (Figure 3.2-1 and 3.2-2) is a major east-west highway providing indirect regional access to Griffiss AFB. It is located approximately 6 miles south of Rome and connects Buffalo to Boston via Albany. It is a four-lane divided road with full control of access and freeway standards. In the ROI, State Highways 365, 233, 69, and 49 provide access to Interstate 90.

State Highway 49 is an east-west highway providing direct regional access to Griffiss AFB via the Skyline Gate. In the vicinity of the base, it is a six-lane divided roadway east of Wright Drive and a four-lane divided roadway west of Wright Drive.

State Highway 365 is a major southwest-northeast highway providing direct access to the base and connecting Rome to Floyd, east of the base, and Oneida, and Interstate 90, west of the base. In the vicinity of the base, it is a two-lane undivided roadway. South of the base, State Highway 365 overlaps a portion of River Road and west of the base, it overlaps State Highway 49.

State Highway 69 is another east-west highway providing regional access to Griffiss AFB. Near Rome, State Highway 69 overlaps with State Highways 26, 49, and 46. It links Rome to Camden, west of the base, and to Utica, south east of the base. State Highway 69 is a two-lane undivided roadway which becomes a four-lane divided roadway within the City of Rome.

State Highway 26 (Turin Street) is a north-south arterial located west of the base which serves the base by routing traffic via city streets, mainly through Chestnut Street and Floyd Avenue. State Highway 26 is congested along its entire route through downtown Rome (overlaps with a portion of South James Street) during peak periods. It is generally a two-lane undivided roadway. It becomes a four- and six-lane divided roadway in downtown Rome.

State Highway 46, or Black River Boulevard in Rome, is a major north-south arterial located west of Griffiss AFB. It provides indirect regional and local access to Griffiss AFB via Chestnut Street and Floyd Avenue. Black River Boulevard is a four-lane divided roadway and becomes a six-lane divided roadway at South Bloomfield Street. It is congested along its entire route through the downtown area during peak periods, mainly due to the lack of capacity at major intersections.

State Highway 233 is a south-north highway located south of Rome which provides additional indirect access to the base from State Highway 69. State Highway 233 is a two-lane undivided roadway which connects Rome and Utica.

County Road 47 (Pennystreet Road) is a north-south, two-lane highway providing direct access to the northern corner of the base via Wright Settlement Road. The base property located on the north side of this road is not within the fenced boundary of the base. County Road 88 is also known as River Road near the base. It is a two-lane highway connecting the base to State Highway 365. It runs parallel to State Highway 49 in the vicinity of the base.

Other important local roads serving Griffiss AFB include East Dominick Street, Floyd Avenue, Chestnut Street, Wright Settlement Road, and Park Drive. East Dominick Street is an east-west two-lane road south of the base, which provides access to the Skyline Gate via an unnamed connector road to Wright Drive, southwest of the gate. Floyd Avenue, a two-lane undivided arterial linking the Floyd Gate with Black River Boulevard, is congested along its entire route through Rome during peak periods. Chestnut Street is a two-lane undivided roadway linking Turin Street to the base via the Mohawk Gate. This road provides the primary access to Griffiss AFB from the west. Wright Settlement Road, a two-lane undivided road located west of the base, provides access to areas north Griffiss AFB via Pennystreet and Butternut roads. Park Drive is a two-lane, undivided road connecting the Woodhaven housing area with Floyd Avenue, and becomes Gansevoort Avenue south of the housing area to East Dominick Street.

The base has four traffic gates (Figure 3.2-8). The Mohawk Gate is located west of the intersection of Mohawk Drive and Perimeter Road. The Floyd Gate is located west of the intersection of Floyd Avenue and Hill Road. The Skyline Gate is located on Wright Drive off East Dominick Street on the south side of the base. These three gates operate 24 hours a day and are open to base employees, contractors, and visitors. The Woodhaven Gate, located off Ellsworth Road, offers limited service and is only open during certain periods of the day. This gate provides a direct link between the base proper and the Woodhaven housing area.

The main onbase roadways are Mohawk Drive, Brooks Road, Ellsworth Road, Perimeter Road, Floyd Road, Otis Street, Hill Road, and Wright Drive. All onbase roads are two-lane, two-way undivided roads. There are four intersections on the base with traffic signals. Other intersections on minor crossroads are controlled by stop or yield signs. Curb parking is generally prohibited, and the speed limit is generally restricted to below 30 miles per hour on the base.

Pre-Realignment Reference. Pre-realignment (1993) peak hour traffic volumes and LOS on key roads in the ROI are summarized in Table 3.2-3 and shown in Figure 3.2-9. Key roads are identified as those roads providing access to the base and most frequently used by base personnel and visitors. For each road segment, the table shows the two-way hourly capacity, traffic volumes, and the corresponding LOS during the average PM peak hour.

The most critical traffic conditions are concentrated along those segments in downtown Rome. Floyd Avenue west of the Floyd Gate operates at LOS F, with 1,560 vehicles per hour during the PM peak. Key segments of East Dominick Street, Floyd Avenue at Park Drive, and Chestnut Street at Black River Boulevard operate at LOS E (traffic volumes ranging from 1,100 to 1,350 vehicles per hour). Other key roads operate at LOS D or better. Traffic volumes on key roads on the base range from 470 to 1,230 vehicles during the PM peak hours; Mohawk Drive, Hill Road at Brooks Road, and Wright Drive at Kirtland Drive operate at LOS E. Other onbase key roads operate at LOS D or better.

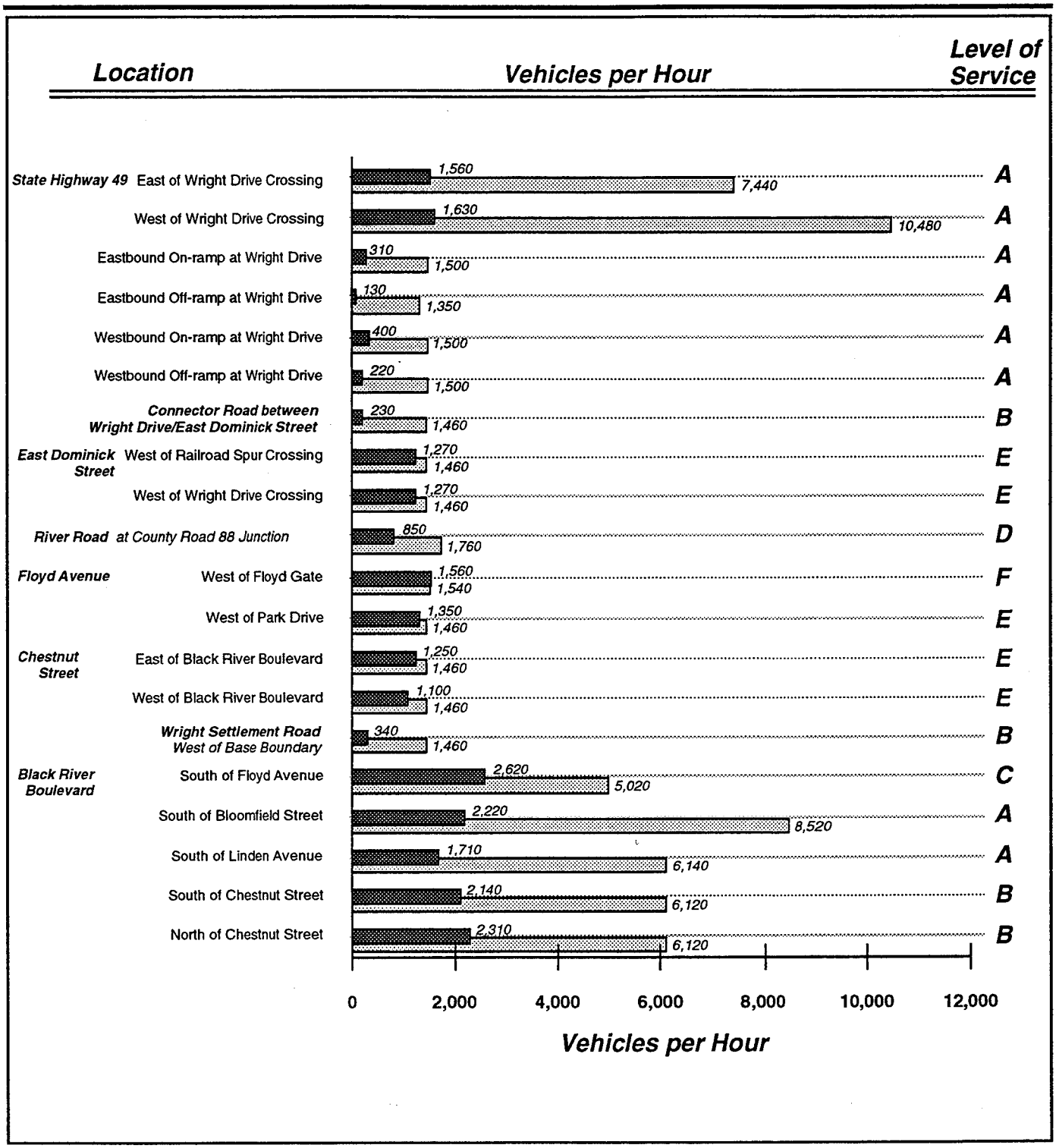
Table 3.2-3

Average PM Peak Hour Traffic Volumes on Key Roads

Roadway Segment	Two-Way Capacity (Vehicles/hour)	Pre-Realignment (1993)		Realignment (1996)[1]	
		Vehicles Per Hour Traffic[2]	Level of Service	Vehicles Per Hour Traffic[2]	Level of Service
State Highway 49, East of Wright Drive Crossing	7,440	1,560	A	1,270	A
State Highway 49, West of Wright Drive Crossing	10,480	1,630	A	1,300	A
State Highway 49 eastbound on-ramp at Wright Drive	1,500	310	A	70	A
State Highway 49 eastbound off-ramp (loop) at Wright Drive	1,350	130	A	30	A
State Highway 49 westbound on-ramp at Wright Drive	1,500	400	A	90	A
State Highway 49 westbound off-ramp at Wright Drive	1,500	220	A	110	A
Connector Road between Wright Drive/East Dominick Street	1,460	230	B	40	A
East Dominick Street at Air Force Railroad Spur Crossing	1,460	1,270	E	1,230	E
East Dominick Street, West of Wright Drive Crossing	1,460	1,270	E	1,220	E
River Road (State Highway 365) at County Road 88 Junction	1,760	850	D	780	D
Floyd Avenue West of Floyd Gate	1,460	1,560	F	860	D
Floyd Avenue West of Park Drive	1,460	1,350	E	710	D
Chestnut Street East of Black River Boulevard	1,460	1,250	E	520	C
Chestnut Street West of Black River Boulevard	1,460	1,100	E	890	D
Wright Settlement Road West of Base Boundary	1,460	340	B	360	C
Black River Boulevard South of Floyd Avenue	5,020	2,620	C	2,660	C
Black River Boulevard South of Bloomfield Street	8,520	2,220	A	2,200	A
Black River Boulevard South of Linden Avenue	6,140	1,710	A	1,670	A
Black River Boulevard South of Chestnut Street	6,120	2,140	B	1,970	B
Black River Boulevard North of Chestnut Street	6,120	2,310	B	2,130	B

Notes: All traffic figures are rounded to the nearest 10.
[1]Traffic volumes for 1996 and for each roadway segmment are obtained from 1993 corresponding figures increased by 1.5 percent per year through 1996 and then reduced by the traffic volume attributed to the decrease in employment levels at realignment.
[2]Vehicles per hour.

Sources: New York State Department of Transportation 1992, 1993; U.S. Air Force 1989a; Poulin, personal communication, 1994; Davis, personal communication, 1994.



LEGEND

Two-Way PM Peak Hour (Vehicles per hour)

Two-Way Hourly Capacity (Vehicles per hour)

Pre-Realignment (1993) PM Vehicular Traffic Volumes on Key Roads in the Vicinity of Griffiss AFB

Figure 3.2-9

Realignment Baseline. With realignment of Griffiss AFB in 1996, traffic volumes on key roads will decrease as a result of reduced base employment (Table 3.2-3 and Figure 3.2-10). However, between 1993 and 1996, offsite traffic was assumed to increase at a rate of 1.5 percent per year (Davis, personal communication, 1994). This traffic increase would offset a portion of base-related trips lost due to realignment. It is estimated that following realignment, traffic volumes on State Highway 49 at Wright Drive would be reduced by 330 vehicles during the PM peak hour. Similarly, the four ramps at Wright Drive will experience a decrease in traffic ranging from 100 to 310 vehicles during the same period. However, these segments will continue to operate at LOS A.

With realignment of the base, Floyd Avenue west of the Floyd Gate and Chestnut Street east of Black River Boulevard will experience the greatest decrease in traffic volumes, amounting to 700 and 730 vehicles during the PM peak hour, respectively, and resulting in substantial improvement in LOS from F to D for Floyd Avenue and improvement from E to C for Chestnut Street.

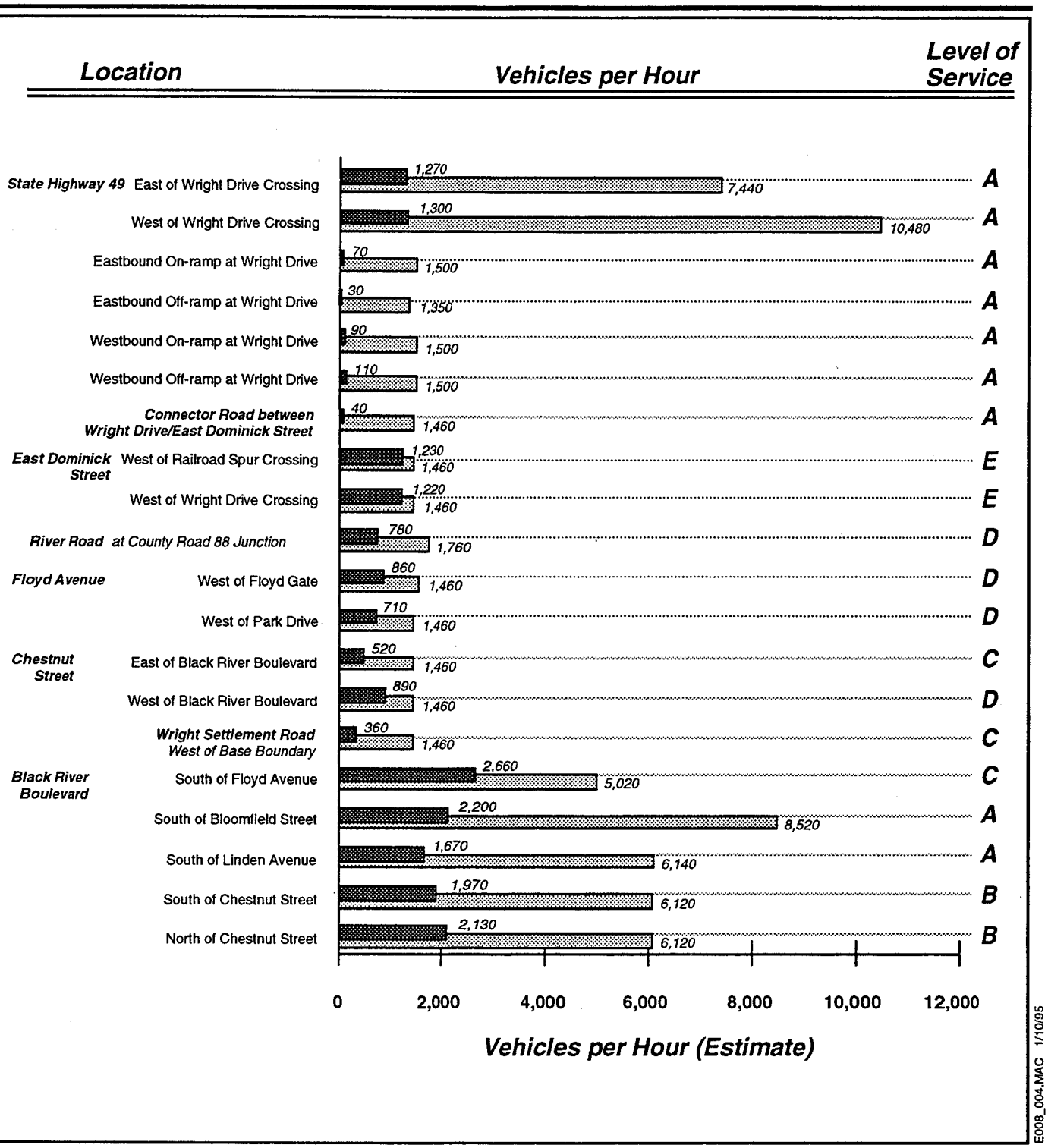
Black River Boulevard will experience a moderate reduction in traffic volumes, ranging from 20 to 180 vehicles during the PM peak hour resulting in no change in LOS. After realignment, traffic on other key local roads will decrease by less than 200 vehicles during the PM peak hour, resulting in general in no change in the level of service.

After realignment, all onbase roads will experience an approximate 80 percent reduction in pre-realignment traffic volumes, resulting in LOS B or better on all roads.

3.2.3.2 Airspace/Air Traffic

Airspace is a finite resource that can be defined vertically and horizontally, as well as temporally, when describing its use for aviation purposes. As such, it must be managed and utilized in a manner that best serves the competing needs of commercial, general, and military aviation interests. The FAA is responsible for the overall management of airspace and has established different airspace designations to protect aircraft while operating to or from an airport, and traveling between airports within "special use" areas identified for defense-related purposes. The FAA has established rules of flight and air traffic control procedures have been established to govern how aircraft must operate within each type of designated airspace. All aircraft operate under either instrument flight rules (IFR) or visual flight rules (VFR).

The type and dimension of individual airspace areas established within a given region and their spatial and procedural relationship to each other are contingent on the different aviation activities conducted in that region. When any significant change is planned for a region, such as an airport expansion or a new military flight mission, the FAA will reassess the airspace configuration to determine if such changes will adversely affect (1) air traffic control systems and/or facilities; (2) movement of other air traffic in the area; or (3) airspace



LEGEND

Two-Way PM Peak Hour (Vehicles per hour)

Two-Way Hourly Capacity (Vehicles per hour)

Realignment (1996) PM Vehicular Traffic Volumes on Key Roads in the Vicinity of Griffiss AFB

Figure 3.2-10

already designated and used for other purposes. Therefore, considering the limited availability of airspace for air traffic purposes, a given region may or may not be able to accommodate airport or airspace area expansion plans.

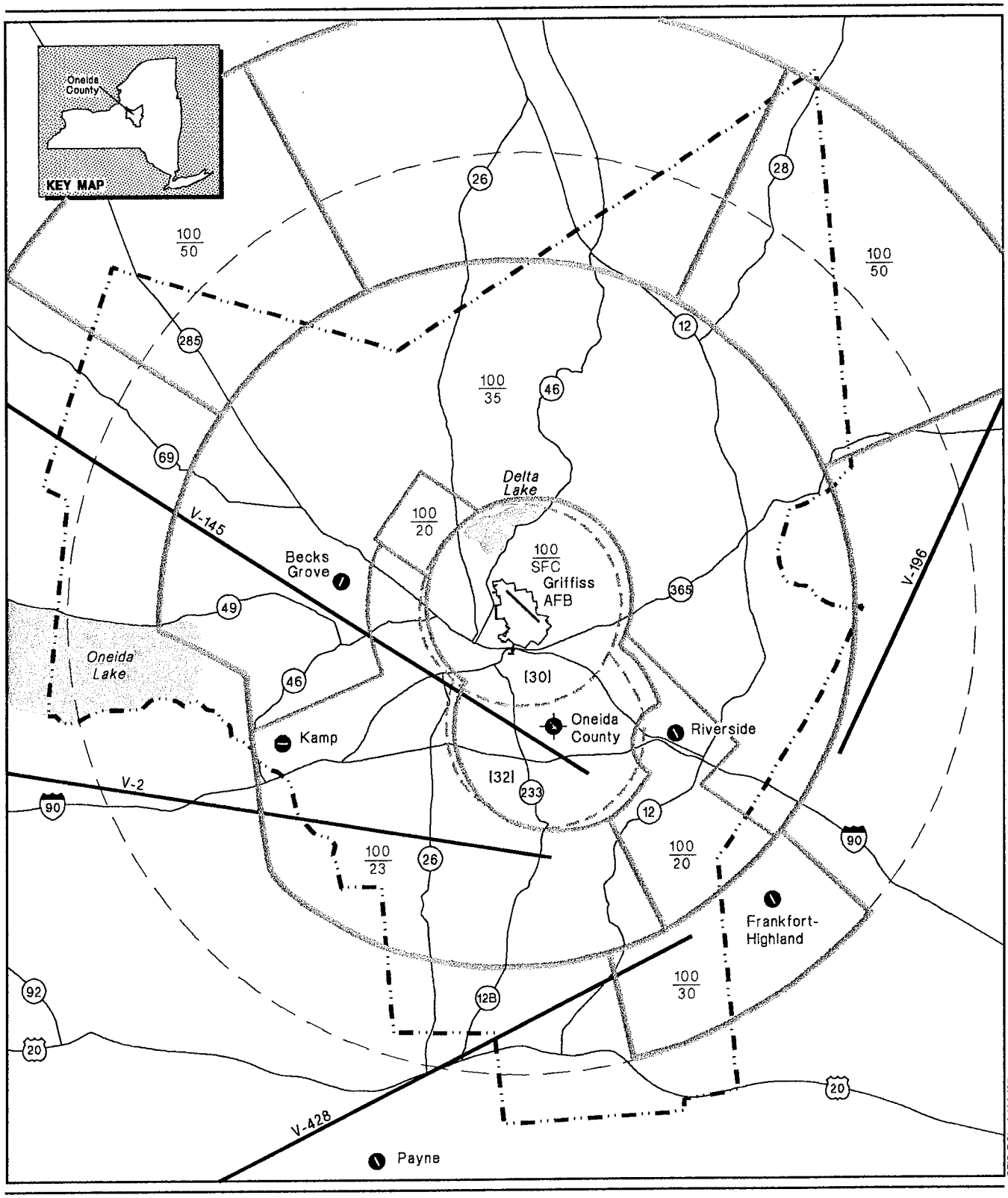
The ROI for this analysis is the area within a 20-nautical-mile radius of Griffiss AFB and extends from the ground surface to 10,000 feet mean sea level (MSL). This represents a three-dimensional volume of airspace normally reserved to support IFR air traffic operations at a typical military or civilian regional airport Figure 3.2-11). Airspace in the Rome area is complicated by the proximity of Griffiss AFB to Oneida County Airport, located 5 miles southeast of Rome in Whitestown. The orientation of the runways at these two facilities creates overlapping air traffic control zones.

A given geographical area also may encompass several different types of airspace that apply not only to normal IFR and VFR aircraft operations, but also to military flight training operations. Military Operating Areas (MOAs) and restricted areas are the most common types of airspace designated for defense-related activities. MOAs are typically used for nonhazardous air intercept flight training operations and low altitude tactical navigation flights. They do not restrict the transit of other aircraft through the area.

The use of airspace in the Griffiss AFB area is not constrained by the encroachment of heavily populated areas, towers, and/or prominent topographic features. The rectangular overhead traffic pattern for heavy aircraft is located east of the base to avoid overflight of the City of Rome. Through a letter of agreement with the county, flight tracks for military aircraft have been established to reduce conflicts with civilian aircraft operations at Oneida County Airport and to minimize community disturbance.

Pre-Realignment Reference. An understanding of the ROI airspace and air traffic environment and their use under the pre-realignment reference is necessary to determine their capability and capacity to assimilate future aviation activities into the National Airspace System (NAS). The same constraints and considerations, such as terrain, runway alignments, and other air traffic flows, would apply with alternate aviation uses of Griffiss AFB. The traffic patterns, instrument approaches, and departure procedures used at Griffiss AFB with pre-realignment conditions basically represent the airspace requirements for aircraft operations at the base, and the transitioning between the base and the enroute airspace system (airway or other transit routes).

Air traffic control for military and civil aircraft operating in the vicinity of Griffiss AFB is provided by FAA Radar Approach Control (RAPCON) and Boston Air Route Traffic Control Center (ARTCC). The FAA RAPCON at Griffiss AFB provides radar coverage for all local aircraft from the ground surface to 10,000 feet MSL. Air traffic above 10,000 feet MSL is controlled by Boston ARTCC. The Griffiss AFB tower controls the air traffic area within a 5 nautical mile radius of the base and up to 3,000 feet in altitude.



LEGEND

- County Boundary
- Utica Terminal Radar Service Area (TRSA)
- Control Zone of Airport With Control Tower
- Low Altitude Federal Airway
- 20 Nautical Mile ROI

- [32] Ceiling of Control Zone in Hundreds of Feet MSL
- 100/35 Ceiling of Terminal Control Area in Hundreds of Feet MSL / Floor in Hundreds of Feet MSL
- Civil Airport
- Private Airport

SCALE IN MILES 0 2 4

Source: New York Sectional Aeronautical Chart, March 1994- U.S. Department of Commerce

Griffiss AFB Airspace Region of Influence (20 Nautical Miles)

Figure 3.2-11

Approach control and air traffic control facilities in the Rome area include the FAA RAPCON facility at Griffiss AFB and the air traffic control towers at Oneida County Airport and Griffiss AFB. A Utica terminal radar service area has been established around Oneida County Airport to provide radar vectoring and sequencing for all VFR and IFR aircraft landing in, taking off from, or flying over the airspace (Figures 3.2-12 and 3.2-13). Aircraft that use the airspace include air carrier and air taxi aircraft, high performance military aircraft, military and civilian rotorcraft, and general aviation aircraft.

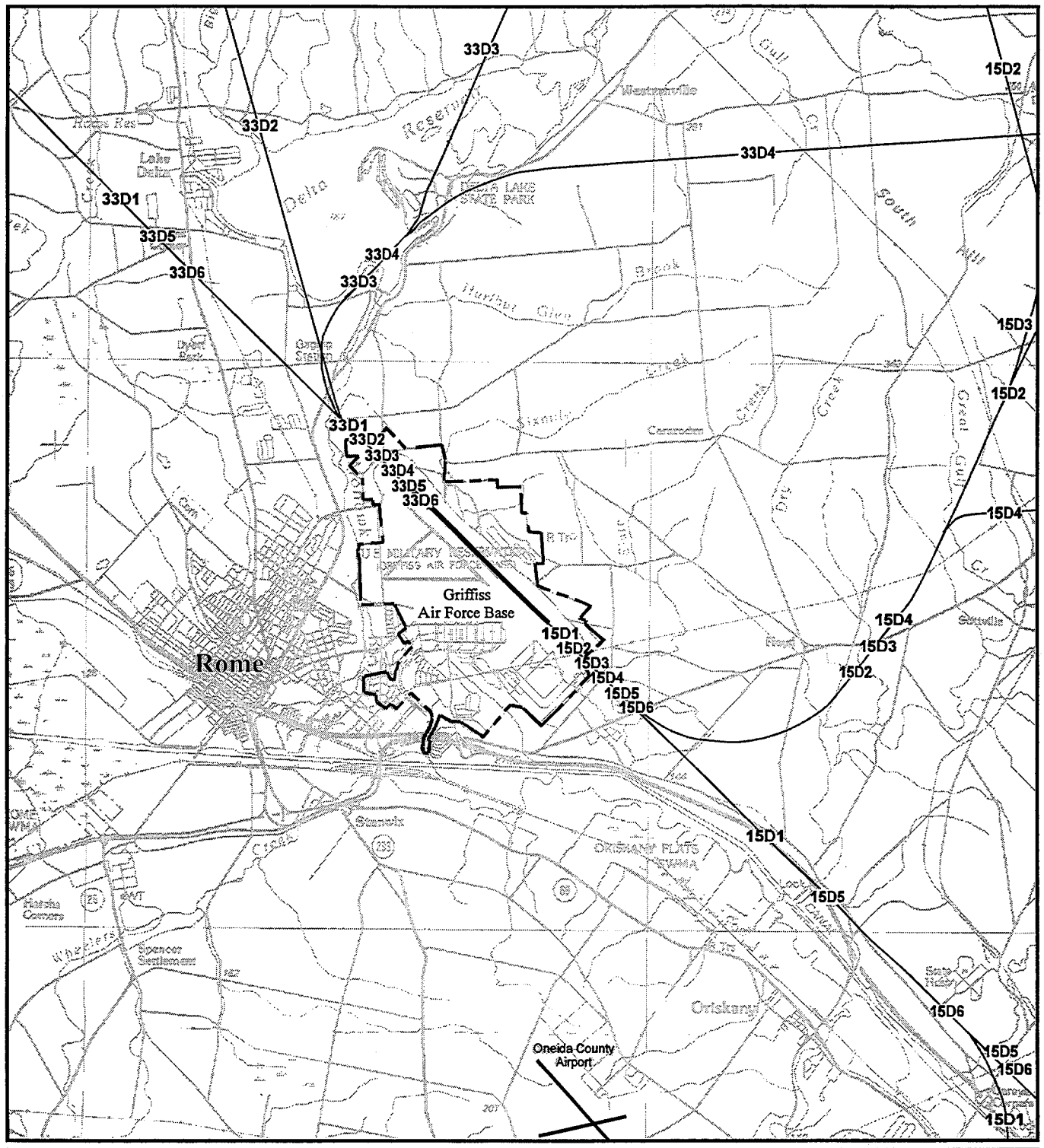
In addition to Griffiss AFB and Oneida County Airport, there are five civilian public use airports in the FAA RAPCON area. These include Becks Grove, Kamp, Luther, Elisha Payne, and Riverside. All have published instrument approach procedures, and Griffiss AFB and Oneida County Airport each have at least one precision landing aid (Instrument Landing System or Precision Approach Radar). The remaining airports have nonprecision navigation aids and operate primarily under VFR, although arrivals and departures may be made during inclement weather and emergencies.

The Griffiss AFB airfield has one active runway with a northwest-southeast (15/33) orientation. Runway 15/33, the primary runway, is 11,820 feet long and 300 feet wide, with 1,000 feet of overrun at each end. The Griffiss AFB airfield contains ramp and apron areas, a navigation and instrument flight system (radar approach facility-RAPCON), control tower, and related utilities. Griffiss AFB controls air traffic from the ground surface to 10,000 feet MSL for all aircraft arriving or departing from the base. The airfield is open 24 hours a day. Commercial and general aviation aircraft are not permitted to land except in emergencies.

Two basic air traffic flows are associated with approach control and IFR operations in the Rome area: landings from the southeast (150 degrees) and takeoffs to the northwest (330 degrees). The majority of Griffiss AFB air traffic is military. Southeast of the base, air traffic from Griffiss AFB and Oneida County Airport traverse common airspace. To avoid aircraft taking off at the county airport, arrivals from Griffiss AFB are cleared to higher elevations while outbound Oneida County Airport traffic is held at lower elevations until clear of each other.

Radar approach control and Griffiss AFB precision approach control are used to ensure that pilots comply with established glide slopes to the southeast and with local pattern approach altitudes. Where controller techniques and procedures cannot resolve individual conflicts, depending on traffic volumes and routings, the two traffic flows must be on a one-to-one basis. No simultaneous operations are possible for southeast flow operations.

Aircraft departing Griffiss AFB typically depart to the northwest, away from Oneida County Airport, and the Griffiss AFB tower is permitted to have automatic, independent releases of departures. When sufficient altitude is attained, the aircraft is vectored to an MOA or onto an established airway. During certain VFR conditions, Griffiss AFB traffic can make approaches to the



LEGEND

——— — Base Boundary

—15D1— Flight Track

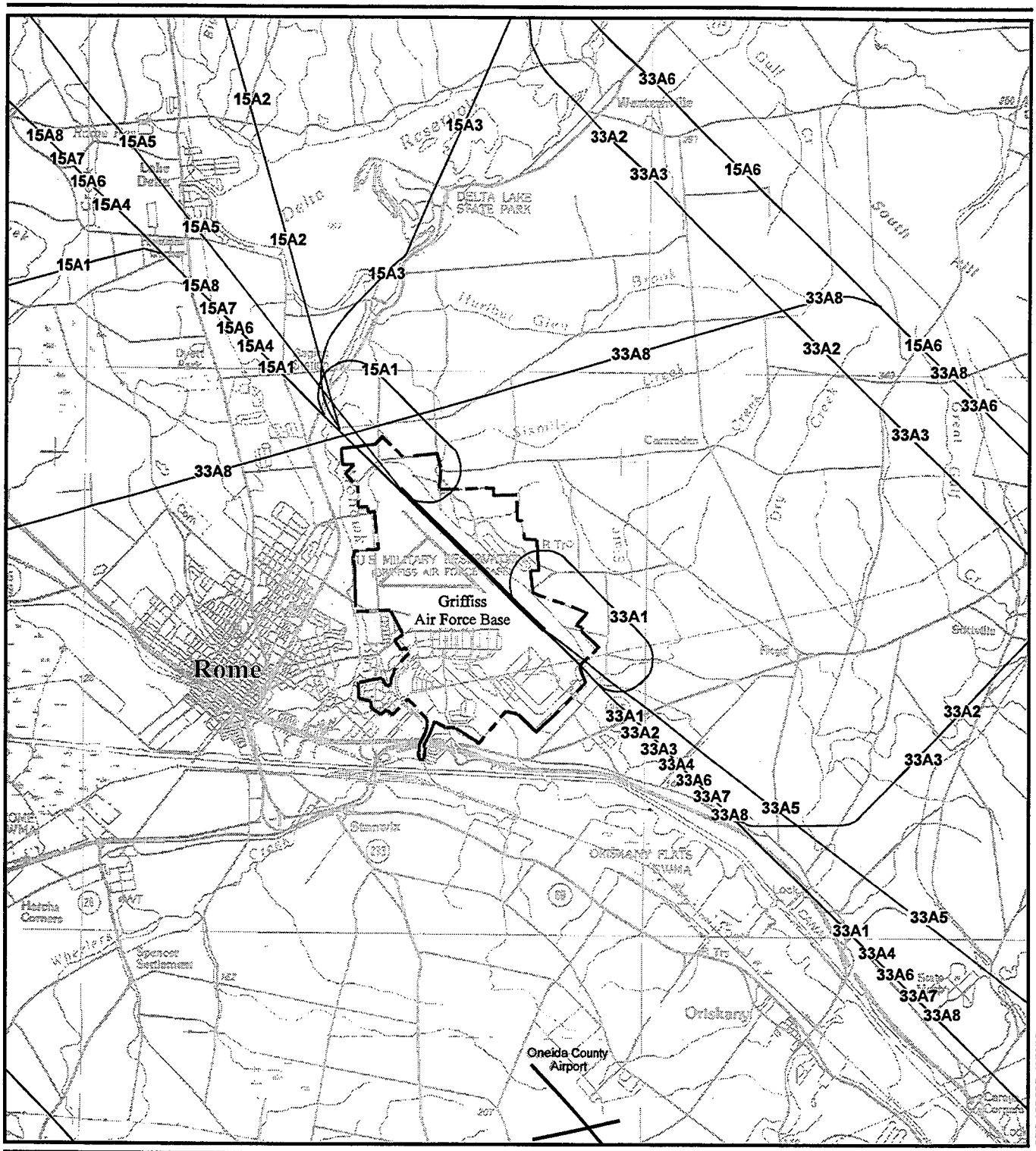
Pre-Realignment Griffiss AFB Departure Flight Tracks

SCALE IN FEET

0 5000 10000

Source: U.S. Air Force 1993a.

Figure 3.2-12



GEIS-APPCDR 10/03/95

LEGEND

——— — Base Boundary

—33A8— Flight Track

Pre-Realignment Griffiss AFB Approach Flight Tracks

SCALE IN FEET

0 5000 10000

Source: U.S. Air Force 1993a.

Figure 3.2-13

base airfield independent of Oneida County Airport traffic. However, during IFR conditions, traffic flows into the base are sequenced with Oneida County Airport operations. Military aircraft from the base use steeper approaches and higher pattern altitudes. Arriving aircraft approach the airfield from the southeast whenever weather conditions permit. These procedures are used to minimize air traffic and noise in developed areas west of the base.

A total of 13,672 operations (departure, arrival, or closed pattern) occurred at Griffiss AFB in 1993 (Table 3.2-4). Approximately 46.2 percent of the operations were local missions conducted by military aircraft based at Griffiss AFB and 34.1 percent of operations were conducted by transient aircraft. Base aircraft operations in 1993 decreased as a total percentage of operations, primarily because of decreased flight activity by the 416th Bomb Wing. In 1993, there were approximately 800 operations by B-52 bomber and KC-135 tanker aircraft at Griffiss AFB.

An MOA is a block of airspace reserved by the FAA for military aircraft training purposes. NEADS at Griffiss AFB is responsible for scheduling airspace activity in seven MOAs (Falcon 1, Falcon 3, Big Bear, Misty 1, Misty 2, Misty 3, and Ontonagon), one restricted area (R5203), associated Military Training Routes, and three air refueling tracks (AR206, AR212, and AR218). The majority of air traffic from Griffiss AFB is to or from these MOAs, through the TRSA. The MOAs also affect IFR traffic in and out of the Rome area. The primary routes of arriving and departing aircraft flights and touch-and-go operations for Griffiss AFB are shown on Figures 3.2-14 and 3.2-15.

Realignment Baseline. With the realignment of Griffiss AFB, military flight operations from the base will be reduced by 95 percent per year, with a similar decrease in the number of transient aircraft operations caused by the removal of an operational military airfield. Approximately 480 annual transient aircraft operations are expected to occur following base realignment.

Realignment of Griffiss AFB may result in a decrease in the use of Special Use Airspace areas and Military Training Routes described above.

With realignment, the Rome airspace environment will be simplified (Figures 3.2-16 and 3.2-17), and the FAA will likely restructure the terminal airspace system in the Rome area. Even with restructuring of the airspace system, conflicts between military and civilian air traffic may still occur.

3.2.3.3 Air Transportation

Air transportation includes passenger travel by commercial airline and charter flights; business and recreational travel by private, general aviation, and priority package; and freight delivery by commercial and air carriers.

Pre-Realignment Reference. Oneida County Airport, a publicly owned, public-use facility located approximately 5 miles southeast of the base, is the closest commercial airport to Griffiss AFB.

Table 3.2-4

Griffiss AFB Aircraft Operations (1993)

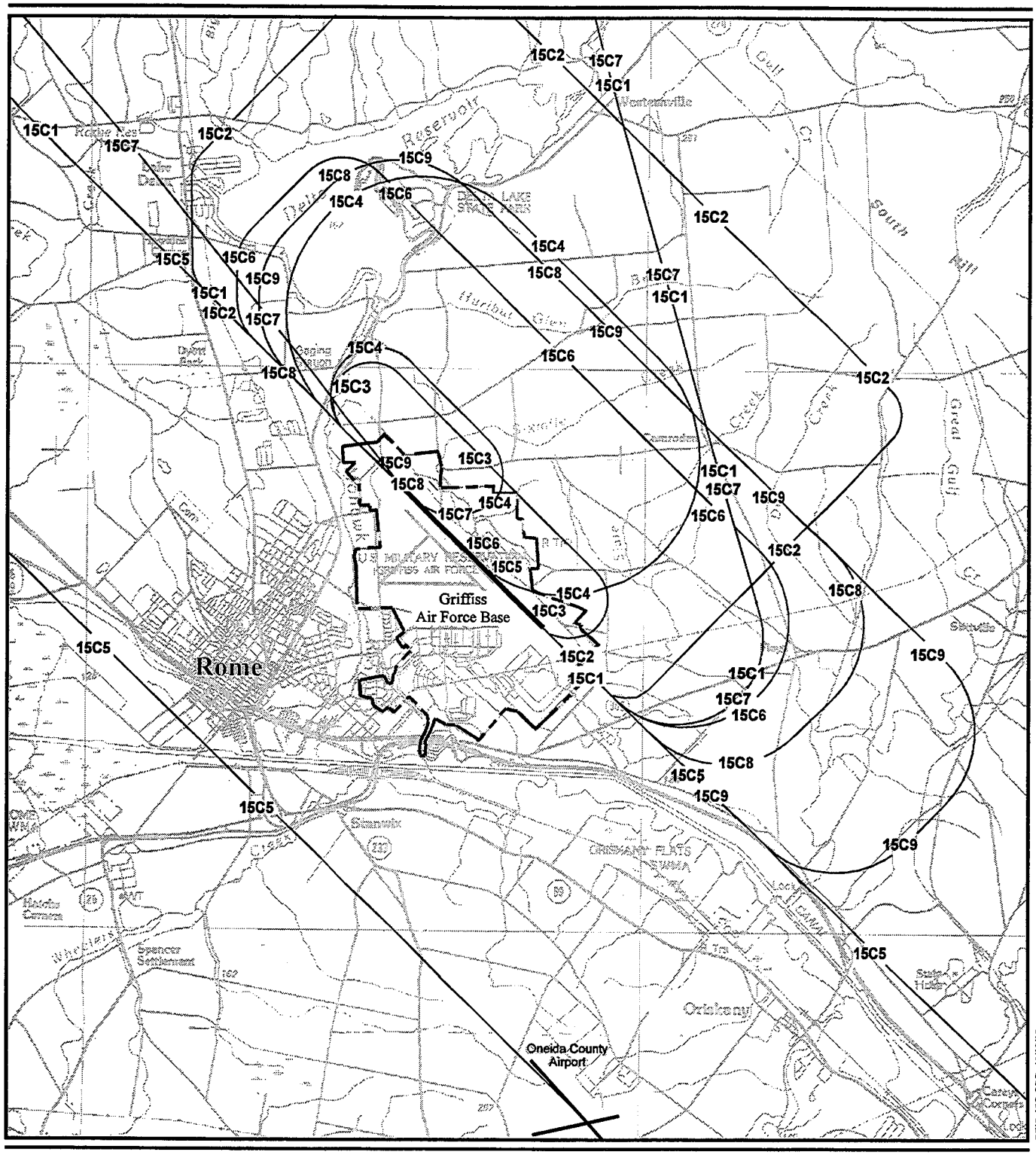
Operations/Aircraft	In	Out	Total
Operations by Type			
Transient	2,212	2,189	4,401
Base	831	832	1,663
Local Missions	NA[1]	NA	4,658
Miscellaneous[2]	NA	NA	2,950
Total Operations:	**3,043**	**3,021**	**13,672**
Transient and Base Operations by Aircraft[3]			
F-16	501	501	1,002
KC-135	305	304	609
T-37	289	289	578
C-130	187	187	374
C-5	142	142	284
PA-28	126	124	250
C-141	114	114	228
UH-1	114	114	228
C-9	108	108	216
LR-35	112	113	225
B-52	94	94	188
C-21	65	65	130
P-3	60	60	120
C-172	59	59	118
C-12	59	59	118
F-15	58	58	116
T-38	55	55	110
AH-1	54	54	108
A-10	50	50	100
C-182	47	49	96
OH-58	32	32	64
UH-60	26	26	52
MRC	26	26	52
C-26	25	25	50
Other[4]	324	324	648
Subtotals:	**3,032**	**3,032**	**6,064**

Notes: [1]NA = Not available.
[2]Includes round robin, sortie, and other mission types.
[3]Includes inbound and outbound flights from Griffiss AFB only; does not include round robin or local missions.
[4]Includes all other aircraft operations with less than 25 inbound or outbound flights.

Source: U.S. Air Force 1993o.

USAir Express has been the principal carrier at Oneida County Airport since 1992. USAir provides nonstop service to its Pittsburgh, Pennsylvania, hub. The airport is also served by Jetstream International and Commutair. Jetstream offers two daily nonstops to the Pittsburgh Airport, USAir's principal Mid-Atlantic connecting hub. Commutair, based in Plattsburgh, New York, flies three daily nonstops to Binghamton with continuing service to Boston. Commutair links Oneida County Airport to USAir's Philadelphia, Pennsylvania, connecting hub and New York City through the Newark International Airport in New Jersey.

Oneida County Airport accommodates aircraft from Airplane Design Groups I, II, and III, and Aircraft Approach Categories A, B, and C. That is, the facility accommodates aircraft having approach speeds of up to 140 knots. The airport



LEGEND

——— — Base Boundary

—15C5— Flight Track

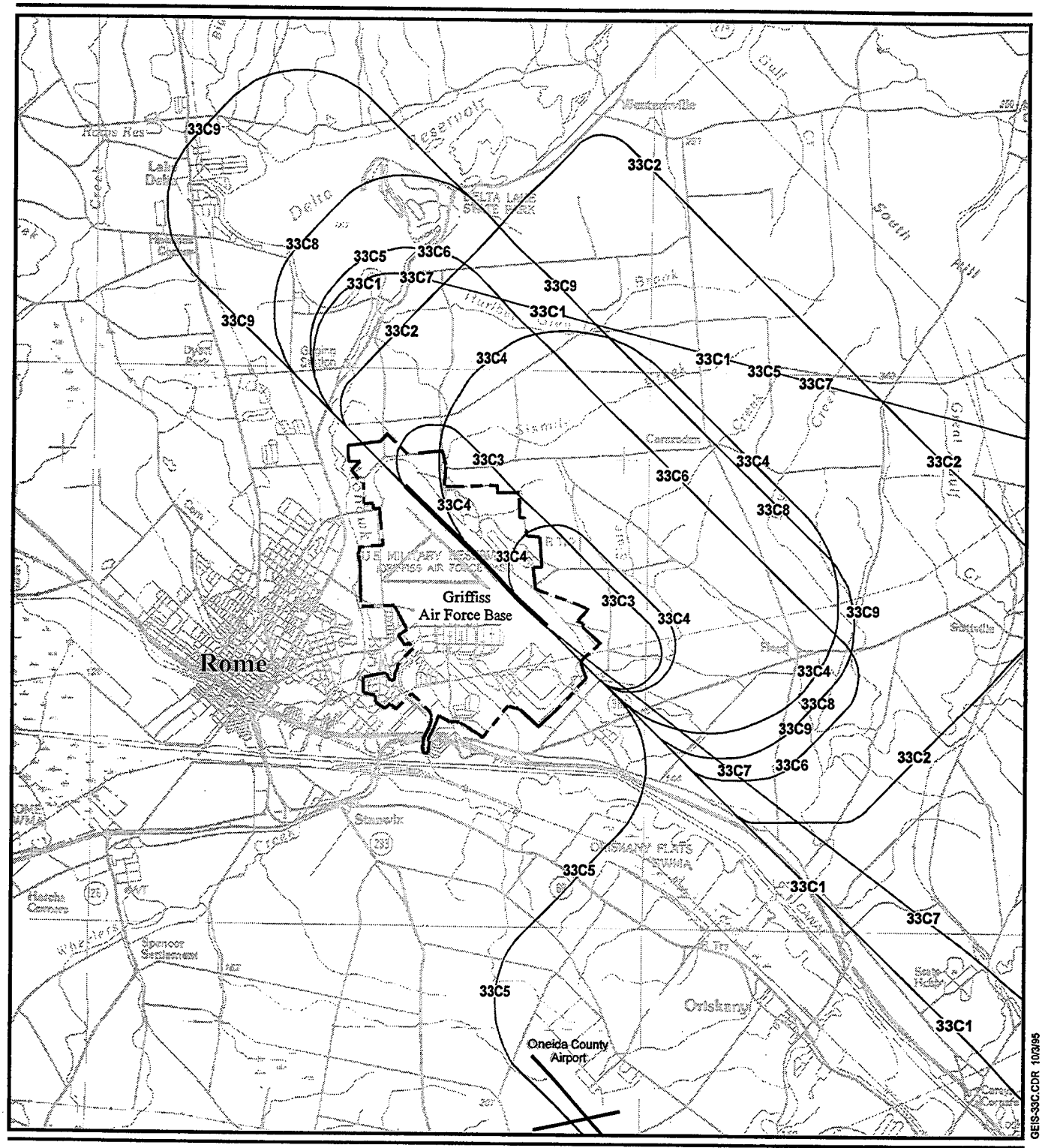
Pre-Realignment
Griffiss AFB
Flight Tracks 15C

SCALE IN FEET

0 5000 10000

Source: U.S. Air Force 1993a.

Figure 3.2-14



LEGEND

——— — Base Boundary

—33C5— Flight Track

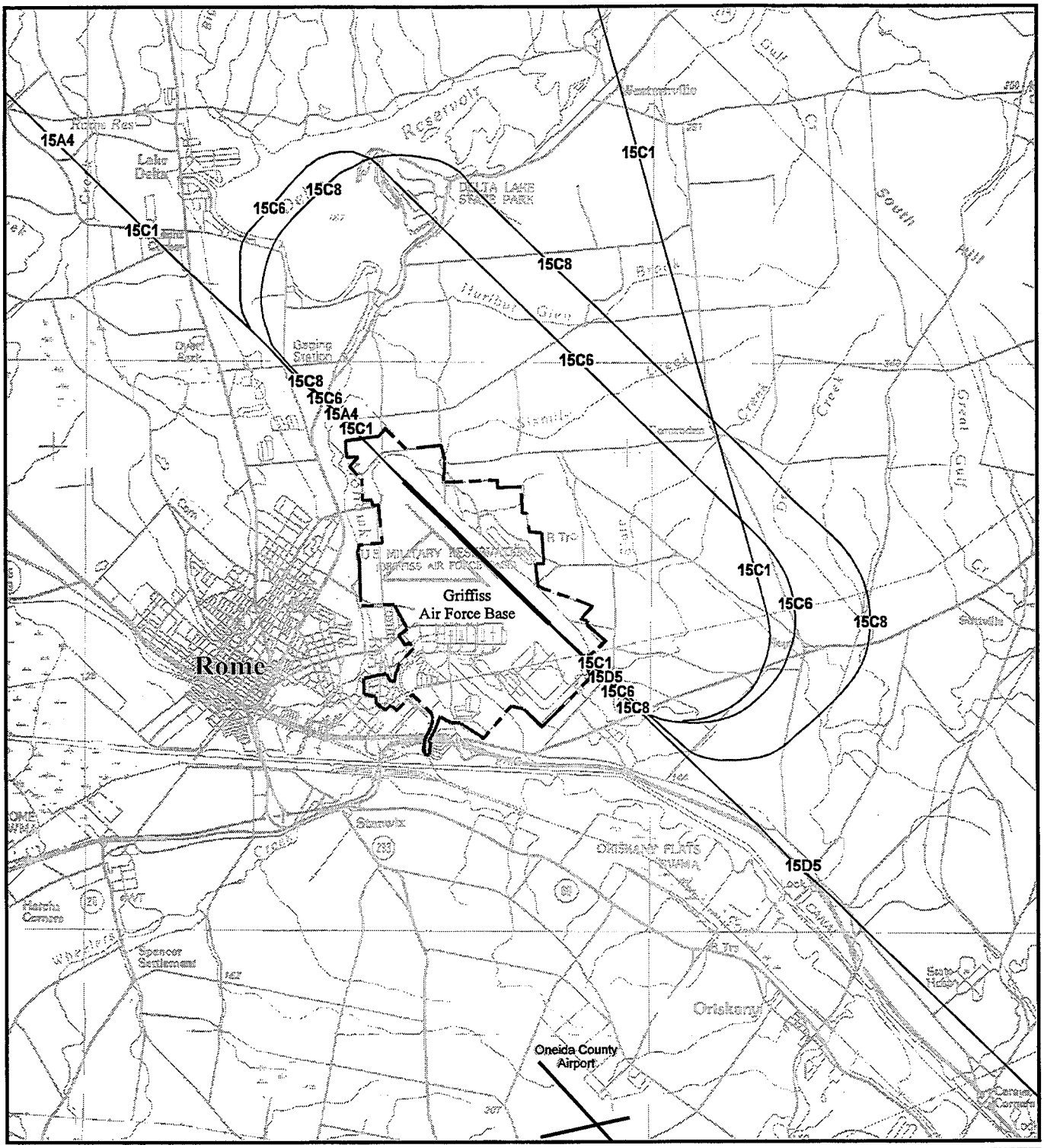
Pre-Realignment Griffiss AFB Flight Tracks 33C

SCALE IN FEET

0 5000 10000

Source: U.S. Air Force 1993a.

Figure 3.2-15



LEGEND

——— — Base Boundary

—15D1— Flight Track

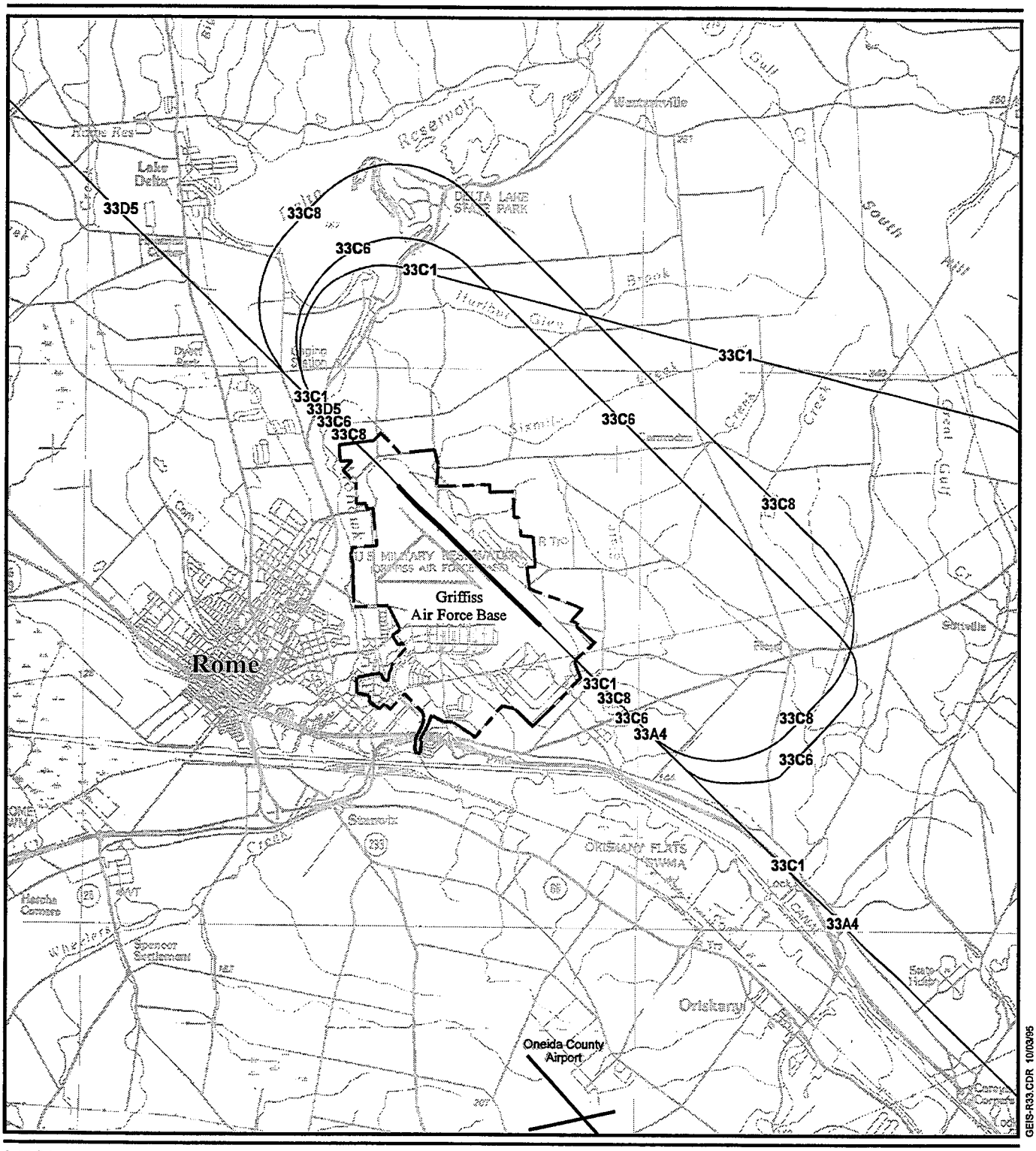
Griffiss AFB Realignment Flight Tracks for Runway 15

SCALE IN FEET

0 5000 10000

Source: U.S. Air Force 1993a.

Figure 3.2-16



LEGEND

——— — Base Boundary

—33C1— Flight Track

Griffiss AFB Realignment Flight Tracks for Runway 33

SCALE IN FEET

0 5000 10000

Source: U.S. Air Force 1993a.

Figure 3.2-17

has two paved runways (5,400 and 6,000 feet long, and 150 feet wide). Aircraft operations (landings and takeoffs) are reported by the FAA for four categories: air carrier, air taxi and commuter, general aviation, and military. Oneida County Airport operations for 1991 through 1993 are presented in Table 3.2-5.

Table 3.2-5

Oneida County Airport Operations

Type of Operations	1991	1992	1993	Change 1991-1993
Itinerant				
Air Carrier	2,065	722	77	-1,988
Air Taxi	9,409	11,762	15,065	5,656
General Aviation	29,144	25,195	27,391	-1,753
Military	4,310	4,065	3,249	-1,061
Subtotal:	**44,928**	**41,744**	**45,782**	**854**
Change (%)	NA	-7.09%	9.67%	1.90%
Local				
Civilian	23,802	20,682	20,406	-3,396
Military	1,544	2,214	1,636	92
Subtotal:	25,346	22,896	22,042	-3,304
Change (%)	NA	-9.67%	-3.73%	13.04%
Total Operations:	**70,274**	**64,640**	**67,824**	**-2,450**
Change (%)	NA	-8.02%	4.93%	-3.49%
Passengers				
Enplanements	33,813	34,327	29,283	-4,530
Deplanements	33,731	32,087	30,388	-3,343
Total:	**67,544**	**66,414**	**59,671**	**-7,873**
Change (%)	NA	-1.67%	-10.15%	-11.66%
Freight (tons)				
Enplanements	10,000	10,000	10,000	0
Deplanements	25,000	25,000	45,000	20,000
Total:	**35,000**	**35,000**	**55,000**	**20,000**
Change (%)	NA	0.00%	57.14%	57.14%

Note: NA = Not applicable

Sources: J. Benner and B. Cossette, personal communications, 1994.

In 1993, Oneida County Airport handled 59,671 passengers and 67,824 operations, of which 4,885 were general military operations, 27,391 were general aviation operations, and 35,548 were air taxi and commuter operations. In 1993, the number of enplaned passengers decreased by 10.15 percent compared to the previous year.

Oneida County Airport has no scheduled all-cargo service and freight is generally transported by passenger aircraft. Little cargo activity is reported at this airport. In 1993, 55,000 tons of freight were recorded. This represents a 57 percent increase over the previous year. Deplaned cargo was 82 percent of the total.

The second closest commercial airport is Syracuse Hancock International Airport in Syracuse, about 45 miles southwest of Griffiss AFB. Ten major airlines provide service to the airport including both domestic and Canadian. The airport served 1,123,392 passengers in 1992.

Realignment Baseline. With the realignment of Griffiss AFB, there will be minimal base-related air travel reduction through Oneida County Airport and other airports in the ROI.

3.2.3.4 Railroads

Railroad freight service in the ROI is provided by the Conrail Railroad Company. A Conrail line runs east-west south of Rome. This line connects Rome to Utica, Albany, Syracuse, and Buffalo. A double spur comes off the Conrail main line south of the base. One leg goes north into the base, passing Woodhaven Gate parallel to Ellsworth Road. This leg provides service to the central portion of the base but is currently inactive, except for the delivery of coal to the heating plant during summer months. The other leg follows East Dominick Street and West Erie Boulevard and is operated by PENN Railroad.

Rail passenger service in the ROI is provided by Amtrak, linking Buffalo to Albany with stops at major towns. Connections can be made in Albany to New York City, Boston, and Montreal. The closest Amtrak station to the base is located at Martin Street, south of Rome, approximately 3 miles southwest of the Skyline Gate. Amtrak trains make three stops daily each way at the Rome station. Between 1980 and 1993, Amtrak ridership at Rome station decreased appreciably. For example, ridership in 1980 amounted to 20,479 compared to 11,091 passengers in 1993 (S. Taub, personal communication, 1994). Currently, very few base personnel or dependents (less than 5% of total ridership at Rome station) use the Amtrak station, and usually only during holidays and weekends.

Realignment Baseline. With the realignment of Griffiss AFB, there will be no change in railroad freight service in the ROI and a minimal reduction (less than 5%) in travel through the Amtrak station at Rome.

3.2.3.5 Other Transportation Modes

Waterways. The New York State Barge Canal, recently deepened to accommodate Great Lakes vessels (C&S Engineers, Inc. 1994), has a terminal in Rome where facilities for the handling of freight shipments have been installed by the State. At the confluence of the New York State Barge Canal and Mohawk River, the City of Rome has prepared a master plan for a canal port redevelopment called Rome Harbor, which would provide fishing and boat servicing (Hamilton, Rabinovitz and Alschuler et al. 1994).

3.2.4 Utilities

Utility systems addressed in this analysis include the facilities and infrastructure used for:

- Potable water pumping, treatment, storage, and distribution;
- Wastewater collection and treatment;
- Solid waste collection and disposal; and
- Energy generation and distribution, including the provision of electricity and natural gas.

The ROI for utilities consists of the service area of each utility provider servicing Griffiss AFB and surrounding areas, including the City of Rome. The major attributes of utility systems in the ROI are processing and distribution capacities, storage capacities, average daily consumption, peak demand, and related factors required to determine whether such systems are adequate to provide services in the future.

3.2.4.1 Offbase Systems

Water. The City of Rome Department of Public Works supplies water to the Inner and Outer Districts of the City of Rome. In addition, water is supplied to Griffiss AFB, parts of the Town of Floyd, and the Town of Lee. The service area encompasses an area about 30 square miles, with about 25 miles of water lines in the Town of Floyd and about 170 miles of water lines in the City of Rome. The city supplies water to 9,085 residential customers and 785 commercial establishments in the service area.

The source of water is the Fish Creek water system, with diversion dams impounding about 1.4 billion gallons of water in Lake Tegasoke. The water from Fish Creek is transported to Stokes Filtration Treatment Plant, located 5 miles north of Rome on State Highway 26 in the City of Lee. This filtration plant was constructed in 1990 next to Rome Reservoir.

The capacity of the Stokes reservoir is 65 million gallons. The maximum capacity of the water filtration plant is 18.9 million gallons per day (MGD). The average amount of water supplied by this plant was 10.8 MGD in 1991, 10.4 MGD in 1992, and 10.3 MGD in 1993.

Wastewater. Wastewater in the ROI is treated at the City of Rome Wastewater Treatment Plant located at East Dominick Street. The capacity of the treatment plant is 9 MGD and is being expanded to 12 MGD. The existing sanitary collection system is now mostly separated from the stormwater system. The treated water is discharged to the combined New York State Barge Canal and Mohawk River subject to the limitations of the facility's State Pollutant Discharge Elimination System (SPDES) permit. Currently, the treatment plant exceeds its 9 MGD treatment capacity. The Rome Wastewater Treatment Plant treated 10.04 MGD of wastewater in 1991, 10.1 in 1992, and 10.7 in 1993.

Solid Waste. The Oneida-Herkimer Solid Waste Management Authority (SWMA) is responsible for managing solid waste generated in Oneida and Herkimer counties. The authority is a public benefit corporation formed by both counties and created by New York State legislative mandate. The authority is responsible for the operation of a 200-ton-per-day recycling center, a 480-ton-per-day transfer station, and a 7-acre green waste compost site.

Prior to March 1995, municipal waste from the City of Rome, Griffiss AFB, and the western portion of Oneida County was processed at the Oneida County Energy Recovery Facility (ERF), a 200-ton-per-day waste-to-energy facility. Solids that could not be burned were transported to the Oneida County Ash Landfill, located on Tannery Road in Rome. The ERF was shut down in March 1995; however, the ERF property is being used as a temporary transfer station. Solid waste generated in the region is currently being transferred to Empire Sanitary Landfill in Taylor, Pennsylvania.

The Oneida-Herkimer SWMA Board is investigating a site near Ava, approximately 7 miles north of Rome, for development of a landfill facility. If this site is permitted, the landfill is expected to become operational during 1998. The site would have a lifespan of 42 to 59 years with a disposal rate of about 50 tons per day.

Electricity. Niagara-Mohawk Power Corporation provides electricity to the Rome area. Niagara-Mohawk's total service area includes Buffalo to the west, Albany to the east, and Watertown to the north. It operates two nuclear power plants, several coal- and gas-fired power plants, and a number of small hydroelectric power generation domes. In addition, Niagara-Mohawk buys power from ERFs. There are four, 115 kilovolt (kV) transmission lines at the Rome substation. Niagara-Mohawk supplied 2,182 megawatt-hours per day (MWh/day) in 1991, 2,226 MWh per day in 1992, and 2,271 MWh per day in 1993 in the Rome service area.

Natural Gas. Niagara-Mohawk Power Corporation provides natural gas to approximately a half million residential, commercial, industrial, and transportation customers in a 4,500-square-mile service territory which includes the City of Rome, Griffiss AFB, and the towns of Floyd and Lee. Natural gas supplied by Niagara-Mohawk Power Corporation is obtained from a supplier.

In 1991, 1992, and 1993, 62.17, 63.30, and 64.45 thousand therms per day respectively, of natural gas were supplied by Niagara-Mohawk in the Rome service area.

3.2.4.2 Onbase Systems

Griffiss AFB does not maintain utility production (except for emergency electric power generation) or processing facilities. Instead, all utilities are supplied from outside sources. Utility consumption for water, electricity, and natural gas and wastewater and solid waste generation for the base from 1991 to 1996 are summarized in Table 3.2-6.

Table 3.2-6

Griffiss AFB Utility Usage, 1991 Through 1996

Utility	1991	1992	1993	1994[1]	1995[2]	1996[2]
Water (MGD)	1.01	0.90	0.82	0.94	0.20	0.09
Wastewater (MGD)	0.70	0.63	0.57	0.65	0.14	0.06
Solid Waste (tons/day)	8.91	8.26	7.19	6.40	1.80	1.00
Electricity (MWh/day)	230	230	230	220	55	38
Natural Gas (Thousand Therms/day)	2.47	2.79	3.20	3.20	0.77	0.32

Notes: [1]Pre-realignment
[2]Figures for 1995 and 1996 are estimates based on employment figures and the military housing use.

Source: J. Whitcomb, personal communication, 1994.

Water. Potable drinking water has been supplied to Griffiss AFB by the City of Rome since construction of the base. There are four points at which city water enters the base. The largest major connection is a 20-inch pipe which enters at the Mohawk Gate. In addition, there are three, 6-inch connections, located at the Barge Canal Bulk Fuel Storage Area, north of Building 880 on Bell Road, and in the Woodhaven family housing area on Gansevoort Avenue. There are three elevated water storage tanks on the base with capacities of 500,500, 300,000, and 250,000 gallons. The base uses fluoridation and chlorination processes to treat the water before it is supplied to the housing areas.

Wastewater. Wastewater generated from Griffiss AFB is treated at the City of Rome Wastewater Treatment Plant. The treated water is discharged to the New York State Barge Canal and Mohawk River. In 1993, approximately 0.6 MGD of wastewater from the base are treated at the plant. There are also several septic tank systems on the base which serve buildings that are in remote areas not connected to the sanitary sewer system.

Griffiss AFB has an industrial wastewater discharge permit (Permit 001) issued by the City of Rome for the discharge of industrial wastewater into the city sanitary sewer system. The base is classified as a "Significant Industrial User" by the City. To meet the requirements of the permit, wastewater from industrial operations is processed through various systems (e.g., oil/water separators and silver recovery units) prior to discharge into the base sanitary sewer system.

Solid Waste. Since 1983, solid waste generated on the base has been collected by private contractors and disposed of at locations off the base. Most nonhazardous solid waste currently generated at the base prior to March 1995 was burned at the Oneida-Herkimer SWMA ERF. Solid waste that could not be burned was taken to the ash landfill for disposal. Since March 1995, solid waste generated at the base has been taken to a landfill in Pennsylvania for disposal. The base has an active recyclable material recovery program to reduce solid waste generation. Prior to the early 1980s, solid waste generated on Griffiss AFB was disposed of at various landfill sites located on the base (Section 3.3.3).

Electricity. Electricity is provided to Griffiss AFB by Niagara-Mohawk Power Corporation. The Rome substation serves the ROI including Griffiss AFB. The Rome-Boonville Number 4 line feeds Griffiss AFB. There are two substations on the base. The main substation is southeast of the intersection of Ellsworth Drive and Wright Drive. The second substation is southwest of Building 112 and supports Rome Lab activities. The base also has a number of emergency electric power generators.

Natural Gas. Niagara-Mohawk Power Corporation also provides natural gas to Griffiss AFB. Niagara-Mohawk supplies natural gas to the base via three main connections. One connection provides gas to the Skyline housing area and base swimming pool, the second provides gas to the Woodhaven housing area, and the third to the Mohawk Glen Club. Natural gas is primarily used to provide hot water for heating the buildings during the winter months, but is also used for cooking in the housing areas and at the Mohawk Glen Club. These facilities account for 19 percent of the entire square footage of the building space on Griffiss AFB.

Heating for the remainder of the base (81% of the building square footage) is provided by the base steam plant. Coal is used as fuel to generate steam, with about 30,000 tons of coal used per year. The capacity of the steam plant is 376.2 million British thermal units (Btu) per hour. Natural gas (with No. 2 fuel oil as a backup) will be used as a fuel by the end of 1997 at the heating plant. In addition, the ERF operated by Oneida-Herkimer SWMA, adjacent to the southern boundary of the base, also supplied steam to the base on a contract basis. This facility closed in March 1995.

Pre-Realignment Reference. Utility demands in the ROI have remained relatively stable with no significant yearly changes (Table 3.2-7).

Realignment Baseline. With the realignment of the base in 1996, utility use at Griffiss AFB will be substantially reduced (Table 3.2-6).

Table 3.2-7

Utility Demands in the Region of Influence (1991-1996)

Utility	1991	1992	1993	1994	1995[1]	1996[1]
Water (MGD)	10.80	10.40	10.30	11.40	9.68	9.57
Wastewater[2] (MGD)	10.04	10.10	10.70	10.60	10.27	10.19
Solid Waste (tons/day)	49.00	48.70	46.70	45.90	41.31	40.51
Electricity (MWh/day)	2,182	2,226	2,271	2,316	2,096	2,079
Natural Gas (Thousand Therms/day)	62.17	63.30	64.45	65.74	62.02	61.57

Notes: [1]Figures for 1995 and 1996 are estimates based on population figures or annual growth factors.
[2]Wastewater figures (exceeding water consumption) are due to infiltration/inflow.

Sources: W. Stickles, T. Higgins, R. Conover, S. Devan personal communication, 1994.

3.3 HAZARDOUS SUBSTANCES MANAGEMENT

Hazardous materials and hazardous waste management activities at Griffiss AFB are governed by specific environmental regulations. For the purpose of this analysis, the terms hazardous materials and hazardous waste mean those substances defined as hazardous by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S. Code (USC) 9601-9675, as amended, and the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), 42 USC 6901-6992, as amended. In general, this includes substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present substantial danger to public health or welfare of the environment when released into the environment.

The U.S. Environmental Protection Agency (EPA) has granted the State of New York the authority to promulgate and enforce environmental regulations under RCRA. The State regulations, which must be at least as stringent as the Federal regulations, are outlined in New York Codes, Rules, and Regulations (NYCRR) Title 6, Parts 370-374 (1992), and are administered by the New York State Department of Environmental Conservation (NYSDEC).

Transportation of hazardous materials is regulated by the U.S. Department of Transportation in accordance with regulations implementing the Hazardous Materials Transportation Act (HMTA), as amended (as implemented by 49 CFR 171-179 and 190-197). State regulations regarding the transportation of hazardous waste are outlined in NYCRR Title 6, Part 372, and are also administered by the NYSDEC.

The ROI encompasses all geographic areas that are exposed to the possibility of a release of hazardous materials or hazardous waste. The ROI for known contaminated sites is within the existing boundaries of Griffiss AFB, except for contaminants from base operations that may have been carried to adjacent areas by stormwater runoff or as a result of percolation to the aquifer underlying the base. The surface water receiving areas include Sixmile Creek, a diversion channel around the north end of the runway, Threemile Creek, the New York State Barge Canal, and the Mohawk River (Chapter 1.0, Figure 1.1-1). Specific areas of Griffiss AFB affected by past and current hazardous materials and waste operations, including remediation activities, are discussed in the following sections.

The pre-realignment reference year for this analysis is 1993. This is the last full calendar year that represents conditions of full mission operation prior to the initiation of drawdown activities.

The *Basewide Environmental Baseline Survey, Griffiss Air Force Base, New York* (EBS) (U.S. Air Force 1994a) was prepared to document the environmental condition of real property at Griffiss AFB resulting from the storage, use, and disposal of hazardous substances and petroleum products and their derivatives

over the installation's history. The EBS is one of the source documents used in the impact analysis and is referenced as appropriate.

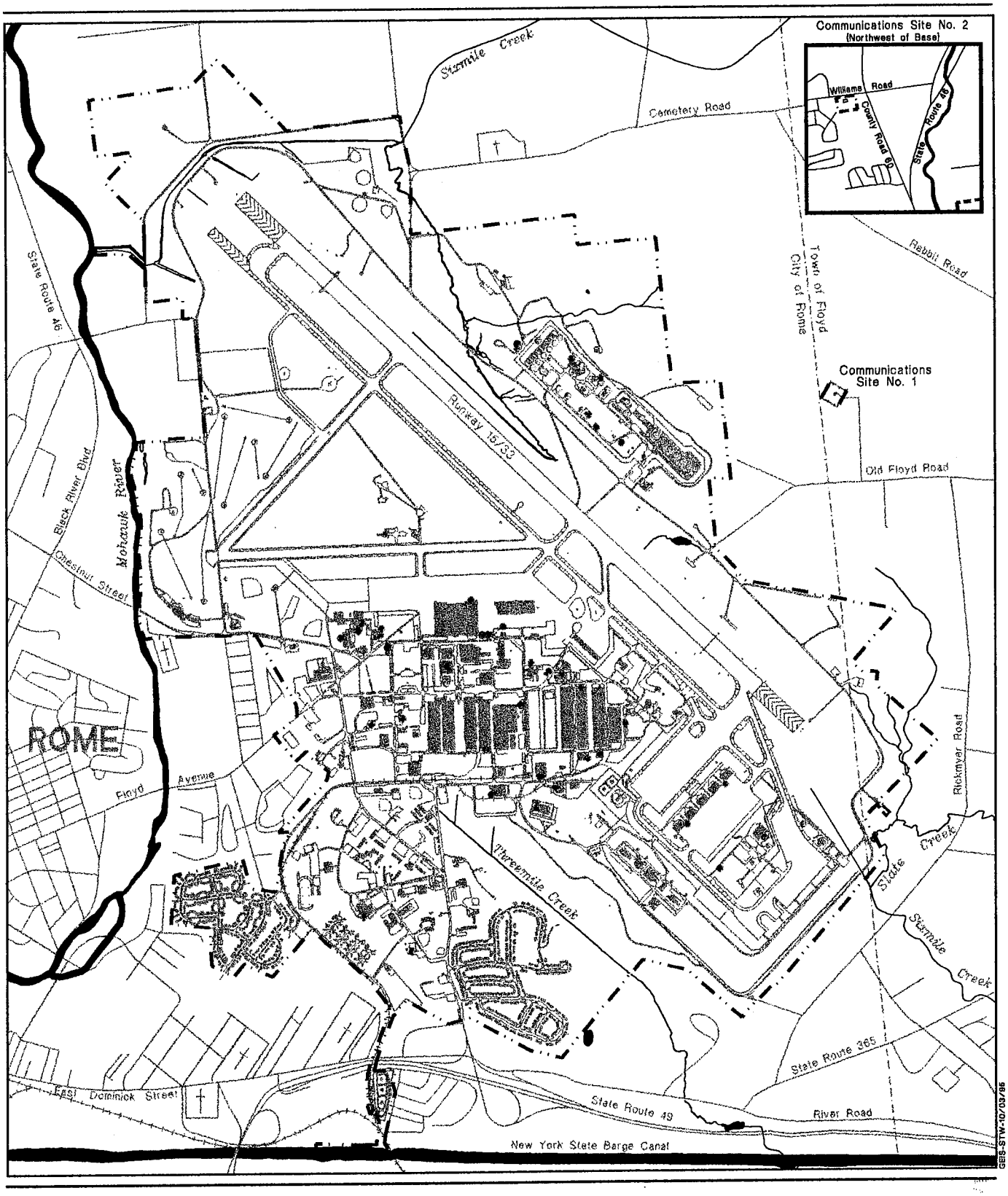
3.3.1 Hazardous Materials and Petroleum Products Management

Pre-Realignment Reference. Hazardous materials are stored and used at Griffiss AFB in connection with flightline, mission support, base support, and various industrial operations, including aircraft repair and maintenance, aerospace ground equipment (AGE) repair and maintenance, nondestructive inspection (NDI) shop testing, photographic processing, vehicle maintenance, corrosion control, painting, and insect and weed control. The most commonly used hazardous materials include fuels (JP-8, JP-4, diesel, unleaded gasoline, and heating fuel oil), other petroleum products, paints, thinners, adhesives, cleaners, lead-acid batteries, pesticides, hydraulic fluids, and halogenated and nonhalogenated solvents. A summary of hazardous material storage locations is presented in the EBS (U.S. Air Force 1994a).

Management and use of hazardous materials are undertaken in accordance with CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA) and regulations under Air Force Occupational Safety and Health (AFOSH) requirements (29 CFR 1910 and AFOSH Standard 161). Caustics, acids, solvents, compressed gases, and various other hazardous materials are received and temporarily stored at three base supply facilities prior to distribution to various industrial shops and other base operations to replenish depleted stocks (Figure 3.3-1). Hazardous materials, including paints and solvents, are also delivered directly to a government-operated Civil Engineering supply store, various Rome Lab facilities, the base hospital, and facilities such as the auto skills center and the wood hobby shop. Hazardous materials distributed to various locations around the base are generally stored in small quantities. Flammable materials at most workplaces are stored in small storage lockers or similar facilities.

Petroleum products are also distributed through base supply except for those products (e.g., JP-8, diesel fuel, and gasoline) that are delivered directly to storage facilities, such as five large aboveground storage tanks used for bulk fuel storage or underground gasoline storage tanks at the Base Exchange service station and other vehicle refueling stations. Jet fuel is supplied to the bulk fuel storage tanks via a commercial pipeline from the Defense Logistics Agency Verona fuel terminal near Verona, New York, approximately 10 miles west of Griffiss AFB.

The Griffiss AFB Spill Prevention, Control, and Countermeasures Plan (U.S. Air Force 1993k) identifies procedures and resources for preventing or remediating hazardous material and waste spills, outlines spill prevention practices and site-specific contingency plans in case of a spill, and contains the Material Safety Data Sheets (MSDSs) for common hazardous materials stored on the base. A complete list of MSDSs is maintained in the Bioenvironmental Engineering office.



LEGEND

- Base Boundary
- Hazardous Material and/or Petroleum Product Storage Area
- Hazardous Waste and/or Waste Petroleum Product Storage Area
- Ordnance-Related Storage Area

SCALE IN FEET
0 1000 2000

Griffiss AFB Storage Areas

Figure 3.3-1

Realignment Baseline. Following realignment, hazardous materials will continue to be used in areas retained by the Air Force in accordance with applicable Federal, State, and local regulations to protect employees from occupational exposure to hazardous materials and to protect the public health of the surrounding community. Hazardous materials use will be in compliance with CERCLA as amended by SARA, RCRA facilities storage design criteria, and NYCRR Title 6, Parts 370-374.

Caretaker personnel will be responsible for the proper storage and handling of all hazardous materials used in conjunction with all caretaker maintenance operations, such as paint, paint thinner, solvents, corrosives, ignitables, pesticides, and materials associated with vehicle and machinery maintenance (e.g., motor oils and fuels). These materials will be delivered to the base in compliance with applicable regulations (49 CFR 171-179 and 190-197).

3.3.2 Hazardous Waste and Waste Petroleum Management

Pre-Realignment Reference. Normal operations at Griffiss AFB generate waste defined as hazardous by the RCRA (40 CFR 261-265) and the State of New York (NY CRR Title 6, Part 371). NYSDEC enforces RCRA regulations as modified by the State's regulations. Prior to the passage of RCRA and the adoption of regulations for the management of hazardous waste, some hazardous waste and waste petroleum products generated onbase were disposed of in accordance with accepted practices at the time, including disposal with other solid waste in landfills, disposal in the sanitary sewer system, or through burning at five training areas.

In 1993, Griffiss AFB generated over 600,000 pounds of hazardous wastes, as shown in Table 3.3-1. The primary wastes include PCB waste (e.g., oil, transformers, capacitors, and other items), off-specification JP-4 (i.e., JP-4 which has a high water content or contains impurities), and solvents recycled by Safety-Kleen. The large quantity of PCB waste (transformer and capacitor fluids, PCB oil) is the result of a contract to replace PCB-containing electrical equipment on the base. The remaining hazardous waste included paint waste (e.g., thinners, lacquers, and paint sludge), used paint arrestor filters, waste sand blast media, nickel-cadmium batteries, mercury batteries, oil/water separator waste, and miscellaneous halogenated and nonhalogenated solvents. A variety of waste petroleum products are generated on Griffiss AFB which are not regulated under RCRA, but are under New York State regulations. These include jet fuel, motor oil, lubricating oil, and hydraulic fluid.

The Griffiss AFB Hazardous Waste Management Plan (U.S. Air Force 1993j) has been prepared and implemented to ensure compliance with RCRA requirements. The plan establishes specific policies, responsibilities, and procedures for hazardous waste management operations including petroleum products and polychlorinated biphenyls (PCBs). All personnel who manage or handle hazardous waste must receive annual safety and documentation protocol training, in addition to annual RCRA and hazard communication training.

Table 3.3-1

Hazardous Waste Generated at Griffiss AFB in 1993

Waste Description	Quantity (pounds)	Percent
Transformer Fluids	120,052	19.99
Gasoline/Water	113,624	18.92
Trichloroethylene/Lead (tank cleanup)	93,740	15.61
PCB Oil	69,158	11.51
JP-4/Water	59,560	9.92
Capacitor Fluids	34,802	5.79
Antifreeze/Lead	17,958	2.99
105/140 Solvent (Safety Kleen Services)	17,230	2.87
JP-4 Adsorbent (cleaner residue)	11,728	1.95
Sodium Hydroxide (paint stripping)	10,103	1.68
Tank Waste/Water	8,950	1.49
JP-4/Water/Oil	7,681	1.28
Trichloroethylene	7,280	1.21
Paint Thinners	2,794	0.47
Calibrating Fluid	2,400	0.40
Paint Residue (sandblasting)	1,953	0.33
Paint Stripper	1,583	0.26
Metal Stripper (paint remover)	1,573	0.26
Paint Booth Filters	1,544	0.26
Calcium Hypochlorate	1,200	0.20
Thinner Rags (painting)	1,012	0.17
Benzene/Toluene/Water	918	0.15
Photographic Developer	680	0.11
Subtotal Individual Wastes:	**587,523**	**97.81**
Other Wastes	13,126	2.19
Total Wastes:	**600,649**	**100.00**

Note: Sum of individual wastes that do not exceed 0.1 percent of total (approximately 600 pounds each).

Source: U.S. Air Force 1994a.

Several waste minimization projects have been established by the base to reduce and minimize quantities of hazardous waste generated. Waste minimization is accomplished through recycling of spent materials, substituting biodegradable products for hazardous materials, implementing technological changes, reclaiming silver, segregating hazardous waste from POL waste, and using good operating practices.

Since the early 1980s, hazardous waste generated on the base has been managed in accordance with applicable Federal and State regulations implementing RCRA. In general, hazardous waste is placed in containers at various satellite accumulation points, near the points of generation, where up to 55 gallons of waste can be accumulated. The waste is transferred to designated accumulation points or to the treatment, storage, and disposal (TSD) facility at DRMO until removed from the base for offsite recycling or disposal

by permitted contractors (Table 3.3-2). Private contractors remove approximately 80 percent of the hazardous waste directly from the accumulation points.

Table 3.3-2

Hazardous Waste Storage Area by Generator Activity

Type/Activity	Quantity	General Waste Types
Interim Storage Facility		
DRMO	2	Recyclables and Special Wastes (e.g., precious metals, PCB-related equipment)
Accumulation Points		
Vehicle Maintenance	1	Solvents, Used Oil, Adhesives, and Antifreeze
Other	1	Solvents, Adhesives, Paints, and Batteries
Satellite Accumulation Points		
Aircraft Maintenance	9	Solvents, Fuels, Paint, Hydraulic Fluid, Batteries, and Alcohol
Base Engineering	7	Paints, Lubricants, Adhesives, Pesticides, Corrosives, and Fuels
Vehicle Maintenance	2	Solvents, Fuels, Filters, Paint, and Lubricants
Weapons Maintenance	5	Solvents, Cleaners, and Corrosives
Fuels Management	1	Fuels and Absorbents

Source: U.S. Air Force 1993j.

Storage at the accumulation points is temporary (i.e., not to exceed 90 days from the time the waste begins to accumulate). These storage facilities are operated in accordance with 40 CFR Part 265, Subparts I and J, and are inspected to ensure compliance with all RCRA and State regulations. Waste petroleum products are also stored at many of the accumulation points and hazardous waste storage generation points. An inventory of sites where hazardous waste and waste petroleum products are known to have been collected and stored is provided in the EBS (U.S. Air Force 1994a). The locations of these sites are shown on Figure 3.3-1.

An RCRA Part B permit for the TSD facility at Griffiss AFB was approved in July 1994. This facility is permitted to store hazardous waste in accordance with permit NY4571924451. Prior to approval of the final Part B permit, this facility operated under an interim status permit. Wastes restricted from land disposal may be stored at this facility for up to 1 year. Wastes not restricted from land disposal may be stored at this facility indefinitely. However, it is the policy of Griffiss AFB to ship hazardous waste off the base as expeditiously as possible.

Hazardous waste generated at the base, except for waste munitions, is removed from the base by permitted waste haulers contracted by DRMO and taken to permitted TSD facilities for recycling or disposal. Waste munitions are

transported according to applicable regulations to Shaw AFB, South Carolina for disposal. These are generally off-specification, outdated, and/or damaged items.

Realignment Baseline. Following realignment, all hazardous waste generated by government agencies retained on the base will be removed by permitted waste haulers contracted by DRMO and taken to permitted TSD facilities for recycling or disposal. A closure plan for the DRMO facility will be submitted to the EPA and NYSDEC when it is eventually closed.

Hazardous waste generated by the caretaker personnel following base realignment will be tracked to ensure proper identification, storage, transportation, and disposal, as required by applicable regulations.

3.3.3 Installation Restoration Program Sites

The Installation Restoration Program (IRP) is an Air Force program designed to identify, characterize, and remediate environmental contamination on Air Force installations. Although widely accepted at the time, procedures followed prior to the mid-1970s for managing and disposing of many wastes often resulted in contamination of the environment. The program has established a process to evaluate past disposal sites, control the migration of contaminants, and control potential hazards to human health and the environment. Section 211 of SARA, codified as the Defense Environmental Restoration Program (DERP), 10 USC§2701-2708, of which the Air Force IRP is a subset, ensures that the Department of Defense (DOD) has the authority to conduct its own environmental restoration programs. The DOD coordinates IRP activities with the EPA and appropriate State agencies.

Prior to passage of SARA in 1986, and the establishment of the National Contingency Plan (NCP) for hazardous waste sites, Air Force IRP procedures followed DOD policy guidelines mirroring the EPA Superfund program. Since SARA was passed, many Federal facilities have been placed on a Federal docket and the EPA has been evaluating the facilities' waste sites for possible inclusion on the National Priorities List (NPL). Based on a site evaluation conducted under the EPA quantitative Hazard Ranking System, Griffiss AFB was determined to be eligible for listing on the NPL, and therefore warranted further action under the Federal Superfund program.

Griffiss AFB was placed on the NPL on July 22, 1987, and in August 1990, the Air Force entered into a Federal Facility Agreement (FFA) with EPA Region II and the State of New York. NYSDEC was the designated single State agency responsible for the Federal programs carried out under their agreement. The FFA established a procedural framework and schedule of deadlines for developing, implementing, and monitoring appropriate response actions at Griffiss AFB in accordance with CERCLA and applicable State regulations. The agreement stipulates that any corrective actions under RCRA shall be considered and managed pursuant to CERCLA. Objectives, responsibilities, procedures, and schedules for remediation were established in the FFA. The

deadlines are binding on the Air Force subject to compliance by the other FFA parties to the agreed review periods. The parties to the FFA may request extensions for good cause; for example, identification of significant new site conditions. Table 3.3-3 contains a schedule of activities under the FFA for Griffiss AFB. There are no revisions pending. A representation of the IRP management process under CERCLA is shown in Figure 3.3-2, while Figure 3.3-3 shows the location of IRP sites on the base.

Table 3.3-3

Griffiss AFB Federal Facility Agreement*

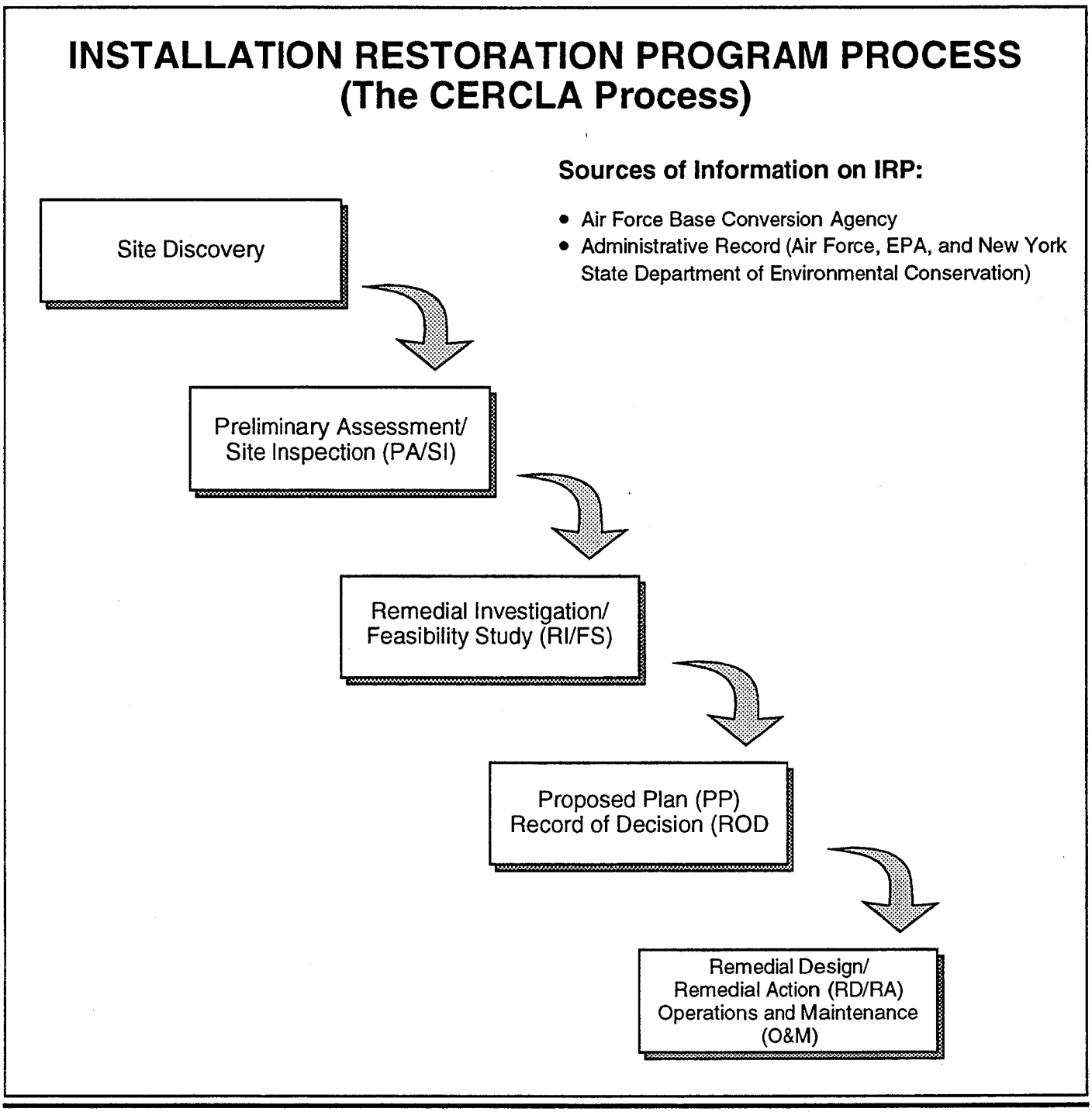
Document Name	Final Deliverable Date to FFA Members
Operable Units 1, 2, 3, 4, 5, 6, 7, and IRP Sites 43, 46	
Remedial Investigation Report	August 1997
Feasibility Study Report	June 2000
Proposed Plan	August 2001
Record of Decision	July 2002
IRP Site 40	
Site Investigation Work Plan	May 1992 (completed)
Site Investigation Report	December 1993 (completed)
IRP Sites 45 and 49	
Site Investigation Report	June 1992 (completed)
IRP Site 52	
Remedial Investigation/ Feasibility Study Work Plan	January 1997
Remedial Investigation Report	August 1998
Feasibility Study Report	January 2001
Proposed Plan	January 2003
Record of Decision	November 2002

Note: *Comprehensive RI/FS Document Delivery, Review, and Approval Schedule.

Source: U.S. Air Force 1994a.

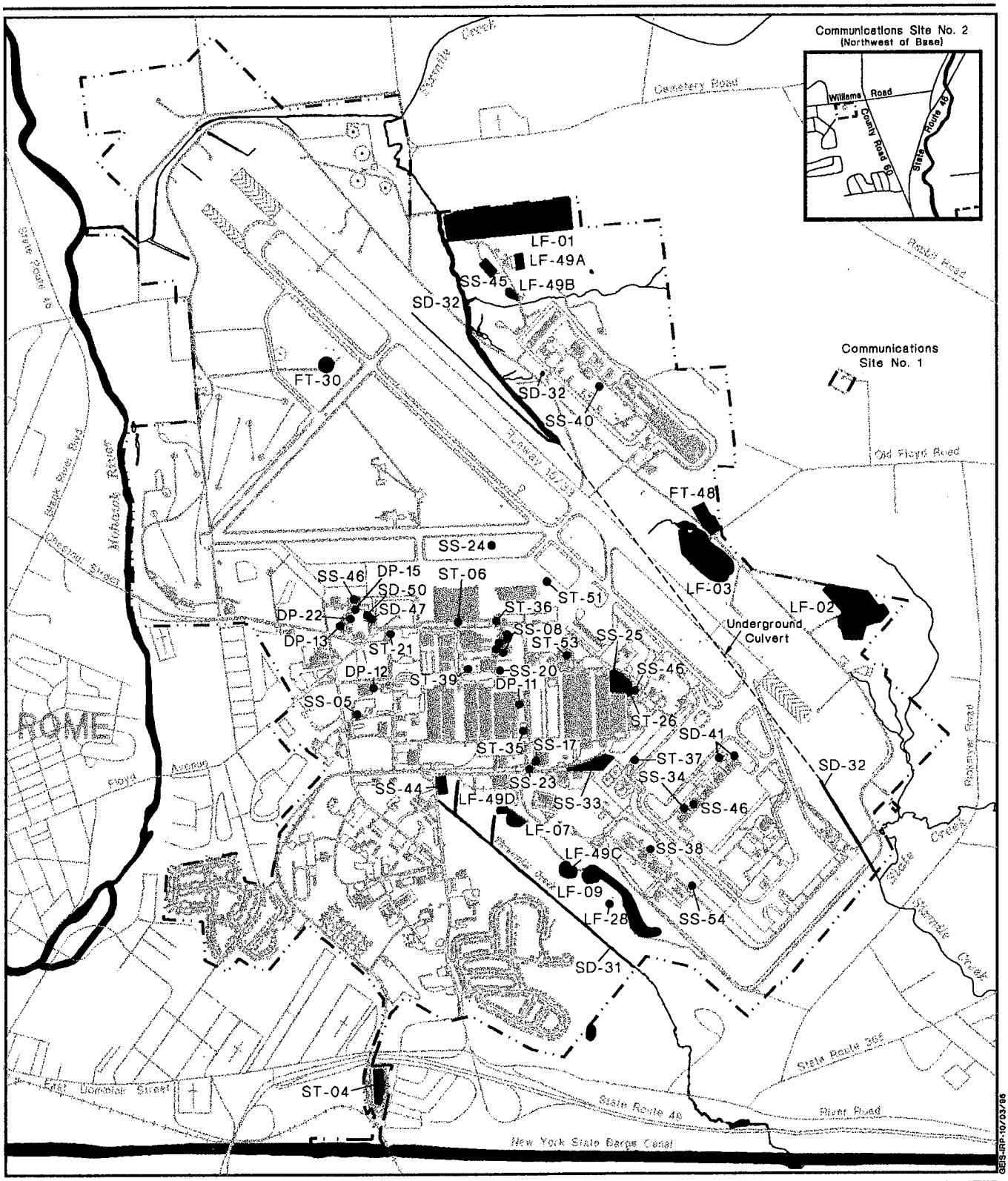
Originally, the IRP was divided into four phases that were consistent with CERCLA:

- Phase I: Problem Identification and Records Search
- Phase II: Problem Confirmation and Quantification
- Phase III: Technology Development
- Phase IV: Corrective Action



IRP Process for Griffiss AFB

Figure 3.3-2



LEGEND

Base Boundary

IRP Site

SCALE IN FEET
0 1000 2000

Griffiss AFB
IRP Site Locations

Figure 3.3-3

Following the passage of SARA, the IRP was realigned to incorporate the terminology used by the EPA and to integrate the new requirements in the NCP. The result was the creation of three action stages:

- Preliminary Assessment/Site Investigation (PA/SI)
- Remedial Investigation/Feasibility Study (RI/FS)
- Remedial Design/Remedial Action (RD/RA)

The PA portion of the first stage under the NCP is comparable to the original IRP Phase I and consists of a records search and interviews to determine whether potential problems exist. A brief SI, which may include soil and water sampling, is performed to give an initial characterization or to confirm the presence of contamination at a potential site.

The RI portion of the second stage is similar to the original Phase II and consists of additional fieldwork and evaluations to assess the nature and extent of contamination. It includes a risk assessment and a determination of the need for site remediation.

The original IRP Phase IV has been replaced by the FS portion of the second stage and the RD/RA portion of the third stage. The development, evaluation, and selection of alternatives to remediate the site are documented in the FS. The selected alternative is then designed (RD) and implemented (RA). Long-term monitoring is often performed, if necessary, in association with site remediation to ensure future compliance with contaminant standards or achievement of remediation goals.

The Phase III portion of the IRP process is not included in the normal SARA process. Technology Development (TD) under SARA is performed through separate processes including the Superfund Innovative Technology Evaluation program. The Air Force has an active TD program in cooperation with the EPA to find solutions to problems common to Air Force facilities.

The realignment of Griffiss AFB will not affect the ongoing IRP activity. These IRP activities, managed by the AFBCA, will continue in accordance with Federal, State, and local regulations to protect human health and the environment, regardless of the disposal decision. The FFA among the U.S. Air Force, U.S. EPA, and the State of New York formalizes the joint involvement in IRP. The Air Force will retain any necessary interests (e.g., easements) in order to perform operations and maintenance on all remediation systems.

The public can keep informed of IRP activities at Griffiss AFB through various sources of information (see Figure 3.3-2). Additionally, the IRP as mandated by CERCLA and the NCP has a public participatory program much like the one requested for the preparation of this EIS. The Air Force will, with the acceptance of each RI/FS by the regulatory community, prepare a proposed plan for the remediation of a site(s) which will include a discussion of alternatives considered. The proposed plan will be distributed to the public for comment; a public meeting will be held to discuss the proposed plan and

comments on the proposed plan will be accepted by the Air Force. The Air Force will then respond to all comments, making those responses part of a decision document on what the remediation will entail prior to any remedial action being taken (see Figure 3.3-2).

In addition to the mandates of the IRP, prior to the transfer of any property at Griffiss AFB, the Air Force must also comply with the provisions of CERCLA Section 120. CERCLA Section 120(h) requires that, before property can be transferred from Federal ownership, the United States must provide notice of specific hazardous waste activities on the property and include in the deed a covenant warranting that "all remedial action necessary to protect human health and the environment with respect to any [hazardous] substance remaining on the property has been taken before the date of such transfer." Furthermore, the covenant must warrant that "any additional remedial action found to be necessary after the date of such transfer shall be conducted by the United States." However, to assist with the deed covenant and determination of the need for additional remedial action, Congress amended CERCLA Section 120(h) in October 1992 to add the provisions of the Community Environmental Response Facilitation Act (CERFA) (Public Law [P.L.] 102-425). CERFA included a provision that if an EPA-approved remedial action is operating properly and successfully, then "all remedial action necessary to protect human health and the environment" has been taken. This provision allows more timely transfers by deed of contaminated property undergoing long-term remediation (e.g., extraction and treatment of contaminated groundwater).

CERFA established a process for identifying property prior to termination of Federal activities that does not contain contamination from the storage, release, or disposal of hazardous substances or petroleum products or their derivatives. The expeditious identification of property that will not require environmental remediation is intended to facilitate the ultimate transfer by deed of such property for economic redevelopment or other purposes. Uncontaminated property at Griffiss AFB is identified as Category 1 property in the EBS (U.S. Air Force 1994a). The Air Force must provide a covenant in the deed for the uncontaminated property that warrants the Air Force's continuing responsibility to undertake any cleanup action found to be necessary after the date of sale or transfer by the U.S. Government or any other party.

The Air Force is committed to the identification, assessment, and remediation of contamination from hazardous substances at Griffiss AFB. This commitment will ensure the protection of public health, as well as restoration of the environment. Additionally, the Air Force will work aggressively with the regulatory community to ensure that parcel disposal occurs at the earliest reasonable date so as not to impede the economic redevelopment of the area through reuse of Griffiss AFB. Quantification of those delays based on the conceptual plans for all redevelopment alternatives and current knowledge of the IRP is not possible.

Pre-Realignment Reference. Since the initiation of IRP activities in 1981, 54 sites (52 onbase and 2 offbase) have been investigated. Of the 54 sites,

a remedial investigation is currently being conducted on 31 sites identified as areas of concern (AOCs) and 9 sites are being investigated for source-removal actions. Confirmatory sampling has been completed at three sites. Site investigations at two sites, and a preliminary assessment at one site. No further action is required at three sites, three sites have been combined with adjacent or nearby AOCs, and one site is no longer considered under the IRP. A summary of the various sites considered under the IRP at Griffiss AFB is shown in Table 3.3-4. The locations of the IRP sites are shown on Figure 3.3-3. More detailed descriptions of the sites are provided in the EBS (U.S. Air Force 1994a).

The FFA defined the types of sites to be addressed as AOCs under its procedural framework. Because the FFA defines the AOCs as locations where hazardous substances are, or may, have been placed or may be located in the future, additional sites may be added and existing sites retired through agreement by the signatories to the FFA based on data received from ongoing and future investigations and remedial actions.

Formal dispute resolution was invoked regarding the initial designation of several AOCs in 1990. This dispute was resolved in March 1992, resulting in a final listing of 30 AOCs to be addressed under an RI/FS. An additional site was added to the list in December 1992, bringing the total number of AOCs to be considered in the RI/FS to 31. In addition to investigating the 31 AOCs, the following requirements were outlined in the Resolution of Disputes.

Under Article I of the Resolution of Disputes, the Air Force was required to conduct a further study to determine the presence of hazardous substances at the Lindane Spill Site (SS-05) and four Hardfill Areas (LF-49), and to monitor groundwater for pesticides during the investigation of the Onbase and Offbase Groundwater Contamination AOCs (SD-43 and SD-52). The General Chlordane Application Site (SS-14) was not designated as an AOC, but will be monitored during the investigation of onbase and offbase groundwater contamination.

Under Article II (Sections A-F), nine sites (ST-04, SS-20, ST-21, ST-26, ST-35, ST-36, ST-37, ST-39, and ST-51) were specifically designated as source removal AOCs and therefore would not be included in the RI/FS process to be conducted under the FFA. These sites have petroleum as the major contaminant of concern. The Air Force agreed to undertake, seek funding for, and report on site-specific removal actions to remove the sources of contamination. At each of these sites, the Air Force was to conduct source removal actions pursuant to Section 300.5 of the NCP and Section 101(23) of CERCLA, prepare an engineering evaluation/cost analysis (EE/CA) and action memorandum for each source AOC, and comply with the community relations plan and public notice requirements of 40 CFR 300.415(m)(4). The Air Force is required to conduct sampling pursuant to the sampling plan proposed in the EE/CA at the source removal site to confirm that the cleanup levels established for the source removal action have been attained. Groundwater investigations or remediation not encompassed within the source removal actions that may be required at the source AOCs will be addressed under the Onbase Groundwater Contamination AOC.

Table 3.3-4

Summary of Griffiss AFB IRP Sites

Site ID	Site Name	Status
LF-01	Landfill No. 1	Area of Concern - Remedial Investigation - Operable Unit 1
LF-02	Landfills No. 2 and 3	Area of Concern - Remedial Investigation - Operable Unit 1
LF-03	Landfill No. 7	Area of Concern - Remedial Investigation - Operable Unit 1
ST-04	Bulk Fuel Storage Area - Barge Canal	Source Removal Site - Draft No Further Action Decision Document Under Review
SS-05	Lindane Spill - Former Entomology Storage Shed	Area of Interest - Confirmatory Sampling
ST-06	Building 101 - Yellow Submarine and Disposal Pit	Area of Concern - Remedial Investigation - Operable Unit 3 Interim removal actions have been completed at this site.
LF-07	Landfill No. 5	Area of Concern - Remedial Investigation - Operable Unit 2
SS-08	Building 112 - PCB Spills, USTs, and Lab Drywell	Area of Concern - Remedial Investigation - Operable Unit 4 Interim removal actions have been completed at this site.
LF-09	Landfill No. 6	Area of Concern - Remedial Investigation - Operable Unit 2
ST-10	Building 117 - Drywell (closed)	No further action - Site code was closed because it was determined the drywell only received nonhazardous waste and discharged to the sanitary sewer.
DP-11	Building 3 - Drywell (former site OT-11)	Area of Concern - Remedial Investigation - Operable Unit 3
DP-12	Building 301 - Former Entomology Shop Drywell (former site OT-12)	Area of Concern - Remedial Investigation - Operable Unit 3
DP-13	Building 255 Area - Two Drywells (former site OT-13)	Area of Concern - Remedial Investigation - Operable Unit 3
SS-14	General Chlordane Application (long-term monitoring of proper use)	No further action - general chlordane application was not designated an Area of Concern, but is being monitored during the investigation for onbase and offbase groundwater contamination.
SS-16	(Floyd Annex is not part of this realignment action)	
DP-15	Building 219 - Drywell (former site OT-15)	Area of Concern - Remedial Investigation - Operable Unit 3
SS-17	Lot 69 - Former Hazardous Waste Storage Yard	Area of Concern - Remedial Investigation - Operable Unit 5
SS-18	Building 101 - Waste Oil Storage Area	No further action - Site was determined to be active and regulated under RCRA. Site will be closed pursuant to RCRA when appropriate.
SS-19	Building 112 - PCB Transformer Leak	Site was combined with Site SS-08.
SS-20	Tank Farm 1 and 3	Source Removal Site - Predesign Investigation
ST-21	Building 210 - Former UST Site	Source Removal Site - Draft No Further Action Decision Document Under Review
DP-22	Building 222 - Battery Acid Disposal Pit	Area of Concern - Remedial Investigation - Operable Unit 3
SS-23	Building 20 - Locomotive Storage Facility (former Site OT-23)	Area of Concern - Remedial Investigation - Operable Unit 5
SS-24	Fire Demonstration Area	Area of Concern - Remedial Investigation - Operable Unit 7
SS-25	T-9 Storage Area	Area of Concern - Remedial Investigation - Operable Unit 5
ST-26	Building 43 - Refueling Station	Source Removal Site - Predesign Investigation
DP-27	Building 101 - Battery Acid Disposal Pit	Site was combined with Site ST-06.
LF-28	Landfill No. 4	Area of Concern - Remedial Investigation - Operable Unit 2
LF-29	Landfill No. 3	Site was combined with Site LF-02.

Table 3.3-4, Page 2 of 2

Site ID	Site Name	Status
FT-30	Fire Protection Training Area	Area of Concern - Remedial Investigation - Operable Unit 7
SD-31	Threemile Creek	Area of Concern - Remedial Investigation - Operable Unit 2
SD-32	Sixmile Creek and WSA Lagoon	Area of Concern - Remedial Investigation - Operable Unit 1
SS-33	Proposed Coal Storage Yard	Area of Concern - Remedial Investigation - Operable Unit 5
SS-34	Building 786 (Nosedock #5) Soil Contamination	Area of Concern - Remedial Investigation - Operable Unit 6
ST-35	Building 26 - Former Pumping Station	Source Removal Site - Draft No Further Action Decision Document Under Review
ST-36	Building 110 - Aqua Refueling System	Source Removal Site - Groundwater contamination remaining after source removal - interim removal actions have been completed at this site.
ST-37	Building 771 - Pumphouse 5 (former site OT-37)	Source Removal Site - Remedial Design Underway
SS-38	Building 775 - Pumphouse 3, TCE contamination (former site OT-38)	Area of Concern - Remedial Investigation - Operable Unit 6
ST-39	Building 117 - Former Steam Plant	Source Removal Site - Remedial Design Underway
SS-40	Weapons Storage Area (former site OT-40)	Area of Interest - Site Investigation
SD-41	Building 782 - Nose Docks #1 and #2	Area of Concern - Remedial Investigation - Operable Unit 6
ST-42	Basewide UST Removal	Site code was closed because site investigations are being conducted pursuant to 40 CFR 280.72
SD-43	Offbase Groundwater Contamination (former site OT-43)	Area of Concern - Remedial Investigation - Operable Unit 8
SS-44	Electrical Power Substation	Area of Concern - Remedial Investigation - Operable Unit 2
SS-45	Industrial Soils Collection Pad (former site OT-45)	Area of Interest - Confirmatory Sampling
SS-46	Glycol Storage/Use Areas (3 locations) (former site OT-46)	Area of Concern - Remedial Investigation - Operable Unit 8
SD-47	Buildings 215/216 - Oil/Water Separator	Area of Interest - Site Investigation
FT-48	Suspected Fire Training Area	Area of Concern - Remedial Investigation - Operable Unit 1
LF-49	Hardfill Areas (4 locations)	Area of Interest - Confirmatory Sampling has been completed on this site. Proceeding with a Site Investigation.
SD-50	Building 214 - Former Vehicle Shop Oil/Water Separator	Area of Concern - Remedial Investigation - Operable Unit 3
ST-51	Building 100 - Fuel Hydrant System	Source Removal Site - Remedial Design Underway
SD-52	Onbase Groundwater Contamination (former site OT-52)	Area of Concern - Remedial Investigation - Operable Unit 8
ST-53	Building 133 - Underground Vault	Area of Concern - Remedial Investigation - Operable Unit 5
SS-54	Building 781 - Pumphouse	Area of Interest - Predesign Investigation underway

Source: U.S. Air Force 1994a.

Under the Resolution of Disputes, the Air Force also agreed to conduct a Site Investigation (SI) of the Weapons Storage Area (SS-40) and the Building 215/216 Oil/Water Separator site (SD-47). Based on data gathered during the SIs, these locations may be designated as source AOCs for the purposes of conducting and coordinating removal actions. Confirmatory sampling has been completed at the Industrial Soils Collection Pad (SS-45). The Building 781 Pumphouse site (SS-54) has been identified as an area of interest under the IRP, and a predesign investigation is currently underway.

Four sites were closed and three of these sites were combined with other AOCs (SS-19, DP-27, and LF-29). The site code for Site SS-42 was closed because site investigations of underground storage tank (UST) locations were being conducted pursuant to 40 CFR 280.72. Site ST-10 was not designated an AOC because the drywell only received nonhazardous substances. Site SS-18 was not designated an AOC because it is an active site and regulated under RCRA. No further action will be taken under the IRP for these sites.

To accelerate the remediation process, the AOCs have been grouped into eight operable units (OUs). Sites designated to each OU were determined by common contamination type and/or geographic location. The AOCs associated with each OU are listed in Table 3.3-4. A schedule of activities under the FFA for Griffiss AFB is presented in Table 3.3-3. There are no revisions pending.

Between 1980 and 1990, prior to the development of the FFA, various studies and investigations were conducted under the IRP which now serve as baseline information regarding many of the sites which are being considered under the IRP. A list of the documentation prepared under the IRP is provided in Appendix D. The following provides a summary of some of the key studies and investigations.

In 1980, the EPA conducted a limited investigation of two sites at Griffiss AFB, Landfills 1 and 4 (LF-01 and LF-28) (U.S. Environmental Protection Agency 1980). The investigation at Landfill 1 was to confirm the presence of leachate from the landfill and potentially harmful materials in leachate entering Sixmile Creek. Iron, zinc, toluene, and total organic compounds were detected at that time. Landfill 4, a radio tube disposal site, was monitored for elevated radiation levels. Levels were found above background levels. Such tubes are radioactive at the microcurie to nanocurie level.

A Phase I - Records Search, published in 1981, was conducted by the Air Force to identify sites of potential contamination (Engineering Science, Inc. 1981). The study involved a review of past and current activities conducted at the base which could have resulted in releases of contamination to the environment. The study included a review of available site records, interviews with base personnel, a field inspection, an inventory of wastes produced, and an evaluation of disposal practices. Applicable Federal, State, and local agencies were also contacted for pertinent base-related environmental information. The collected information was used to determine past management regarding the use, storage, treatment, and disposal of materials

and wastes from base operations and to identify all known past disposal sites and other possible contamination sources.

Eighteen disposal or spill sites on Griffiss AFB were identified in the Phase I study to be possible locations of contamination, consisting of eight spill areas, five landfills (including Sites LF-01 and LF-28), and five dry well sites. In addition, the Floyd Annex (SS-16) was identified in the Phase I study.

In 1981, the Air Force conducted a study of the sediments and adjacent soils along Threemile Creek and Sixmile Creek (SD-32) to determine levels of inorganics (metals). The limited study found aluminum, barium, beryllium, cadmium, calcium, copper, iron, manganese, magnesium, mercury, and zinc in all samples. Inorganics detected in one or more samples included arsenic, antimony, boron, cobalt, lead, nickel, selenium, silver, sodium, thallium, tin, and vanadium.

A Phase II - Problem Confirmation and Quantification Study was performed in 1982 (Weston 1982). It considered 12 of the original 18 sites on Griffiss AFB. But after a records review and further analysis, only 7 sites were actually sampled for contamination. The purpose of the study was to confirm the presence or absence of contamination, and where contamination was found, to determine the extent of contamination and its migration. The fieldwork under the study consisted of resistivity and ground-penetrating radar surveys, installation of 14 groundwater monitoring wells, establishment of 4 surface water sampling stations, and analysis of groundwater, surface water, sediment, and soil samples. Additional monitoring and remedial actions were recommended at Landfill 1 (LF-01), Landfills 2 and 3 (LF-02), Building 112 (SS-08), and Building 301 (DP-12).

A Phase II, Stage 2 - Confirmation/Quantification Study was conducted in 1985 (Roy F. Weston 1985). This study considered Landfill 7 (LF-03), which was one of the original 19 sites identified in the Phase I study, and a battery acid disposal pit at Building 222 (DP-22), a new site. Additional monitoring or remedial action for each site was recommended.

In 1986, monitoring wells were installed and soil and groundwater analyses were conducted on samples from Building 20 (Locomotive Storage Facility [Roundhouse]) (SS-23), the fire demonstration area (SS-24), the T-9 storage area (SS-25), and Building 43 (refueling station) (ST-26) (Hydro-Environmental Technologies 1986). Only the T-9 storage area was one of the original 19 Phase I sites. The results indicated various levels of contamination by both organic and inorganic materials at all the sites. Further analyses were recommended in the letter report issued.

The U.S. Geological Survey (USGS) conducted an investigation of Threemile Creek (SD-31) in 1987 (U.S. Geological Survey 1988). The investigation involved the collection and analysis of streambed sediments. Stream flow measurements were also conducted. Significant levels of polyaromatic hydrocarbons (PAHs), PCBs, pesticides, vanadium, and chromium were found.

The levels of PAHs and vanadium were attributed to fuel oil soot, and possibly from aircraft exhaust. Elevated (30 micrograms per kilogram) pesticide levels were found up to 0.25 mile downstream of the base boundary.

In 1988, the U.S. Fish and Wildlife Service conducted an investigation of bottom sediments and fish in Threemile and Sixmile Creeks (U.S. Fish and Wildlife Service 1989). Also in 1988, routine soil sampling prior to establishment of a new coal storage yard found PCBs, metals, and volatile organic compounds, including xylenes and chlorinated solvents, in the area of the old coal storage yard (Kaselaan and D'Angelo Associates, Inc. 1989). It was found after a records review that this area had previously been used for storage of drums and scrap material (SS-33) prior to being used as a coal storage yard.

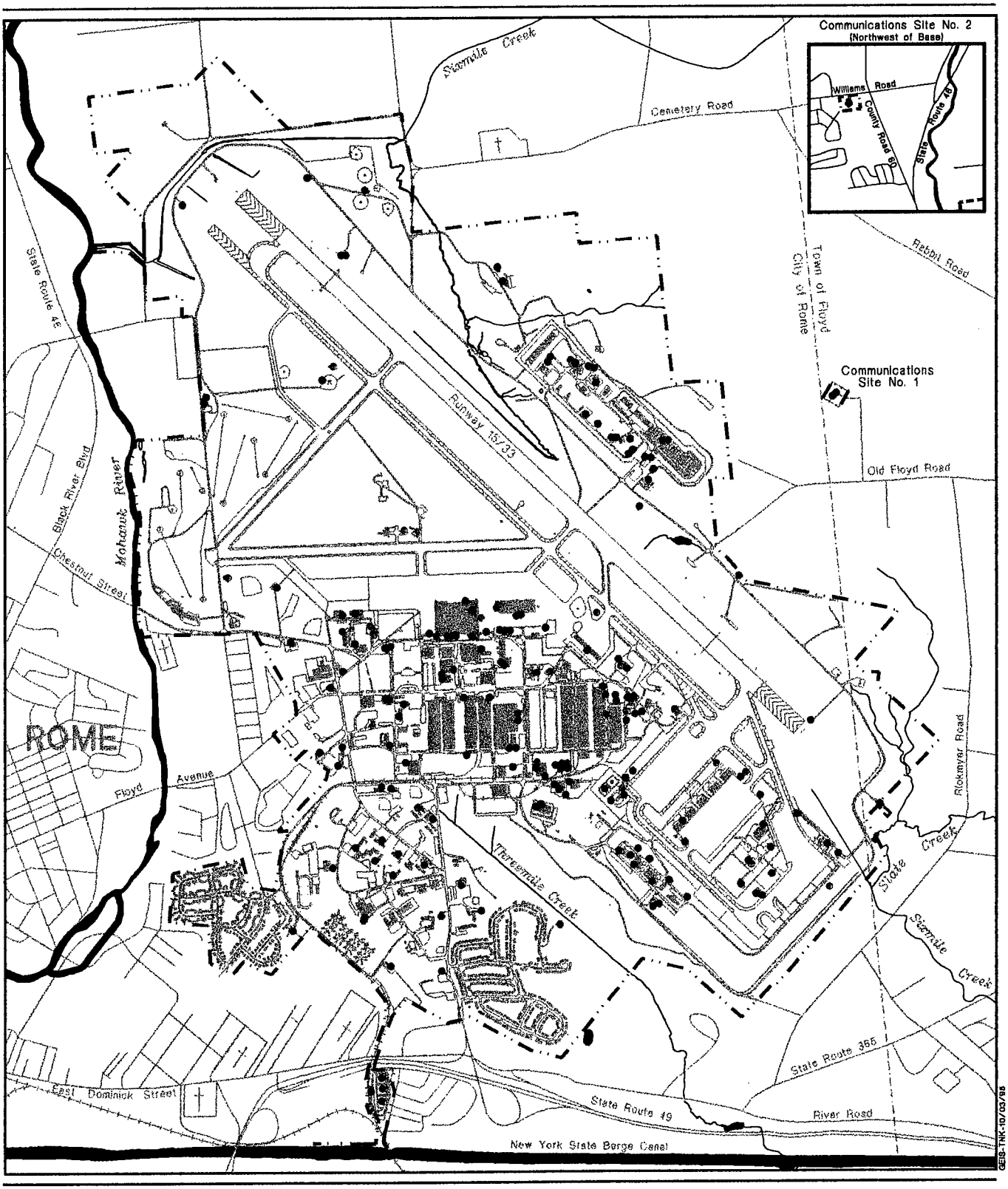
In 1989, groundwater samples for laboratory analysis as part of a monitoring well installation program at four hydrant fueling pumphouses detected tetrachloroethylene, trichloroethylene, 1,1,1-trichloroethane, benzene, chloroform, and methylene chloride in the area of Building 779, a hydrant fueling building (SS-38) (Parratt-Wolf, Inc. 1989a, b).

Realignment Baseline. The realignment of Griffiss AFB will not affect ongoing IRP activities. These activities will continue in accordance with Federal and State regulations to protect human health and the environment, regardless of the alternative selected for reuse. IRP remediation activities may continue past the September 30, 1995 realignment date for Griffiss AFB.

3.3.4 Storage Tanks and Oil/Water Separators

Pre-Realignment Reference. USTs are subject to RCRA regulations (40 CFR 280) as mandated by the Hazardous and Solid Waste Amendments of 1984. The State of New York has adopted the Federal UST regulations under NYCRR Title 6, Parts 612-614, which are administered by the NYSDEC. As of September 1994, Griffiss AFB had 118 USTs in the ground, 8 of which had been abandoned in place (Figure 3.3-4, Table 3.3-5). The tanks contain various petroleum products, such as JP-8, JP-4, diesel fuel, fuel oil, and gasoline, and range in size from 275 to 50,000 gallons (U.S. Air Force 1994a). In addition to these tanks, there are 97 locations where information found in the records search for the EBS indicates that tanks were installed, but no information was found regarding the removal of the tanks. For most of these locations, the former buildings the tanks were associated with have been torn down or removed.

The *Griffiss AFB Underground Storage Tank Management Plan* (U.S. Air Force 1993l) documents maintenance procedures to ensure environmentally safe and responsible management of USTs. The plan addresses current and anticipated regulatory requirements, tank performance standards, operating requirements, monitoring, inventory procedures, physical testing for leaks, and release reporting. Appropriate corrective action in the event of a leaking UST, and effective maintenance and management to reduce the potential of leaking USTs, are also addressed in the plan.



LEGEND

- Base Boundary
- Aboveground Storage Tanks
- Underground Storage Tanks
- Oil/Water Separators

SCALE IN FEET
0 1000 2000

Griffiss AFB Storage Tanks and Oil/Water Separators

Figure 3.3-4

Table 3.3-5

Summary of Underground Storage Tanks

Status/Activity	No.	Installation Date	Capacity (gallons)	Contents
Active Tanks	**110**			
Aircraft Refueling/Maintenance	26	1943-1987	2,000-50,000	Jet Fuel
Heating	28	1986-1992	550-6,000	Fuel Oils No. 2, 5, or 6
Power Generation	11	1964-1992	275-8,000	Diesel Fuel
Vehicle Refueling/Maintenance	14	1978-1991	1,000-15,000	Caustics, Hydraulic Fluid, Deicing Fluid, Waste Oils, Jet Fuel, and AFFF.
Tanks Closed in Place[1]	**8**			
Total Tanks:[2]	**118**			

Notes: [1]Closed in Place as recognized by the NYSDEC.
[2]Total does not include tanks whose existence is unconfirmed.

Source: U.S. Air Force 1993l, 1994a.

As of September 1994, Griffiss AFB had 112 aboveground storage tanks, ranging in size from 5 to 630,000 gallons (Figure 3.3-4, Table 3.3-6). These tanks are used to store various petroleum products, including fuel oil, diesel fuel, jet fuel, and gasoline, as well as Aqueous Film-Forming Foam (AFFF) and deicing fluid. Some aboveground storage tanks are surrounded by secondary containment systems. The largest tanks store jet fuel. These bulk storage tanks are supplied by an offbase pipeline as described in Section 3.3.1. Many of the smaller tanks store diesel fuel or gasoline used for emergency electric power generation. Some of these smaller tanks are day tanks which are connected to larger aboveground or underground storage tanks. Some tanks are used to store waste products such as engine oil, antifreeze, and hydraulic fluid.

Table 3.3-6

Summary of Aboveground Storage Tanks

Status/Activity	No.	Installation Date	Capacity (gallons)	Contents
Aircraft Refueling/Maintenance	7	1959-1992	1,500-630,000	Jet Fuel
Heating	21	1943-1993	275-4,000	Fuel Oils No. 1, 2, or 4
Power Generation	49	1965-1993	5-30,000	Diesel, Unleaded Gasoline
Waste Liquids	10	1982-1983	275-2,000	Waste Oil, Hydraulic Fluid, Antifreeze
Other	25	1975-1991	180-14,000	Deicing Fluid, Diesel, Detergents, AFFF, Kerosene
Total Tanks:	**112**			

Source: U.S. Air Force 1993i, 1994a.

Griffiss AFB has 31 oil/water separators ranging in size from 10 gallons to 12,000 gallons (Figure 3.3-4, Table 3.3-7). Most of the oil/water separators are connected to the sanitary sewer system, but some discharge into storm drainage ditches. Three separators are associated with vehicle washracks and one is associated with an aircraft washrack. Twenty-three of the oil/water

separators have storage tanks associated with them that collect the waste petroleum products that are separated. All of the units are below ground, except for small, under-sink aboveground units at two buildings. There are four open-top separators that collect surface runoff from paved surfaces along the flightline area. The oil/water separators are cleaned on a regular basis. Waste oil is recycled or disposed of according with applicable regulations.

Table 3.3-7

Summary of Oil/Water Separators

Activity	No.	Installation Date	Capacity (gallons)
Aircraft Refueling/Maintenance	14	1959-1992	275-12,000
Vehicle Refueling/Maintenance	10	1949-1983	10-3,000
Other	7	1978-1993	1,000-10,000
Total Oil/Water Separators:	**31**		

Source: U.S. Air Force 1993l, 1994a.

Realignment Baseline. All remaining USTs will be tested for leaks as part of the base disposal process. USTs that meet NYSDEC regulations may be left in place to support reuse activities. USTs that meet NYDEC regulations but do not support reuse activities and all USTs that do not meet current regulations will be deactivated and removed. All aboveground storage tanks and oil/water separators in areas not retained by the Air Force, will be deactivated and removed prior to property transfer.

3.3.5 Asbestos

Asbestos-containing material (ACM) remediation is regulated by the EPA, the Occupational Safety and Health Administration (OSHA), and the State of New York. Asbestos fiber emissions into the ambient air are regulated in accordance with Section 112 of the Clean Air Act, which established the National Emissions Standards for Hazardous Air Pollutants (NESHAP). The NESHAP regulations address the demolition or renovation of buildings with ACM. The Asbestos Hazard Emergency Response Act (AHERA) provides the regulatory basis for handling ACM in kindergarten through 12th grade school buildings. AHERA and OSHA regulations cover worker protection for employees who work around or remediate ACM.

Renovation or demolition of buildings with ACM has the potential to release asbestos fibers into the air. Asbestos fibers could be released due to disturbance or damage of various building materials, such as pipe and boiler insulation, acoustical ceilings, fire-proofing, and other materials used for sound-proofing or insulation.

Pre-Realignment Reference. Currently, the Air Force manages or removes ACM in active facilities and removes ACM, according to regulatory requirements, prior to facility demolition. Removal of ACM occurs when there is the potential for asbestos fiber release that would affect the environment or human health.

The Air Force policy concerning the management of asbestos at closing bases is presented in Appendix G. A basewide survey for ACM is required by Federal Property Management Regulations (FPMR) disclosure law prior to base disposal.

Based on information contained in the Griffiss AFB *Asbestos Inventory* (U.S. Air Force 1993b), more than 150 buildings on the base have been surveyed to some extent for asbestos, involving more than 800 samples. Asbestos has been detected in approximately 80 percent of the samples taken in the approximately 135 buildings where sampling was conducted. The information contained in the *Asbestos Inventory* is provided in the EBS (U.S. Air Force 1994a). However, because only surveys with limited sampling or visual inspections involving no sampling were conducted, the data available to date should not be interpreted as providing a complete assessment of ACM in any specific building or facility. Complete sampling inspections have not been accomplished on all base buildings. A comprehensive survey of base facilities is being accomplished as part of the base realignment process (U.S. Air Force 1994a).

Asbestos abatement work has been performed in some Griffiss AFB buildings to remove friable and nonfriable asbestos. The supporting documentation for the information in the *Asbestos Inventory* defines when and where such work was performed. Although asbestos does not currently present a health hazard on the base, demolition or structural modification of these facilities by the property recipients may create a hazardous environment. Some facilities on the base will require extensive sampling to fully characterize ACM, and based on sampling results, may require abatement in accordance with Federal regulations prior to modification or demolition.

Realignment Baseline. Asbestos will be removed as necessary to protect human health. An analysis will be conducted to determine the cost-effectiveness of removing ACM versus managing in place. Such management would be the responsibility of the property recipient. ACM will be removed if a building is, or is intended to be, used as a school or child-care facility. Asbestos that is in an unsafe condition will be removed according to applicable health laws, regulations, and standards, if it is determined that a health hazard exists.

3.3.6 Pesticides

The registration and use of pesticides are regulated under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) of 1972, as amended (7 USC 136 et seq.). Pesticide management activities are subject to Federal regulations contained in 40 CFR 162, 165, 166, 170, and 171, and New York regulations contained in Environmental Conservation Law, Section 33-0701.

Pre-Realignment Reference. Pest management at Griffiss AFB is performed by the Civil Engineering Squadron Entomology Shop. Pest management activities include insect pest control in buildings (e.g., for ants, roaches, wasps, and mosquitos) and vertebrate pest control (e.g., for rats, mice, and snakes).

The base entomologist is also responsible for vegetation control (e.g., weeds) on base property.

The Griffiss AFB Pest Management Program is conducted in accordance with DOD guidelines and Air Force Instruction (AFI) 32-1053 (formerly Air Force Regulation 19-21). Pest management activities are monitored by the Bioenvironmental Engineering office, including physical examinations of personnel who apply pesticides, periodic monitoring of their activities, and performing annual industrial hygiene surveys. Bioenvironmental Engineering also ensures that only qualified personnel obtain regulated pesticides. The base Pest Management Program is conducted under the day-to-day supervision of DOD-certified pesticide applicators.

A variety of chemicals are used at Griffiss AFB to control pest infestations and ground foliage. Various pesticides, including herbicides, insecticides, rodenticides, and fungicides, are stored in the Entomology Shop. The pesticides are stored in containers ranging from 5-gallon cans to 55-gallon drums. Pesticides are purchased on an as-needed basis; therefore, the quantity on hand at any one time is relatively small. Pesticides are also used at the golf course under the supervision of a DOD-certified applicator. Pesticides for golf course use are currently stored and mixed at the Entomology Shop, which is properly equipped and ventilated for such operations.

Griffiss AFB has a NYSDEC Pesticide Business Registration and is registered as a fee exempt pesticide application business. The current application (dated March 31, 1994) lists five certified pesticide applicators. A summary of pesticides used at the base between 1989 and 1993, as listed in the *Registered Pesticide Business Annual Report*, is presented in Table 3.3-8.

Pesticides such as chlordane, endrin, dichlorodiphenyltrichloroethane (DDT), and heptachlor, that have since been banned, were probably used on the base, most likely on the golf course and in the family housing areas. Low concentrations of these pesticides have been detected in groundwater samples. There are three IRP sites (DP-12, SS-05, and SS-25) where contamination may have resulted from the storage, mixing, or use of pesticides.

Realignment Baseline. Following realignment, a limited amount of pesticides will continue to be used by caretaker personnel, on an as needed basis, for pest management and grounds maintenance.

3.3.7 Polychlorinated Biphenyls

Commercial PCBs are industrial compounds produced by chlorination of biphenyls. PCBs persist in the environment, accumulate in organisms, and concentrate in the food chain. PCBs are used in electrical equipment, primarily in capacitors and transformers, because they are electrically nonconductive and stable at high temperatures.

The disposal of these compounds is regulated under TSCA, which banned the manufacture and distribution of PCBs except when used in enclosed systems. By definition, PCB equipment contains PCB concentrations of 500 parts per

million (ppm) or more, whereas PCB-contaminated equipment contains PCB concentrations of 50 ppm or greater, but less than 500 ppm. The EPA, under TSCA, regulates the removal and disposal of all sources of PCBs containing 50 ppm or more. The regulations are more stringent for PCB equipment than for PCB-contaminated equipment.

Table 3.3-8

Pesticides Used at Griffiss AFB (1993)

Pesticide/Use	Quantity	
	Pounds	Gallons
Fungicides		
Golf Course	66	34
Lawns and Turf	5	2
Subtotal:	**71**	**36**
Herbicides		
Golf Course	0	0
Lawns and Turf	315	214
Weed Abatement	0	573
Subtotal:	**315**	**787**
Insecticides		
Landscape Trees	0	53
Lawns and Turf	10	120
General Spray	114	72
Forest Areas	0	420
Residential Areas	12	3
Food Handling Areas	63	24
General Building Applications	152	8
Personnel (Lotion)	3	0
Fly Control	10	0
Subtotal:	**364**	**700**
Rodenticides		
General Building Subtotal:	**277**	**0**
Total:	**1,027**	**1,523**

Source: U.S. Air Force 1994a.

Pre-Realignment Reference. A basewide remedial program was initiated in 1987 to remove and replace or retrofill PCB equipment, PCB-contaminated equipment, and PCB capacitors. Between 1987 and 1993, Griffiss AFB had several projects initiated to replace equipment (e.g., transformers, oil switches, and capacitors) containing PCBs, or in some instances, have the dielectric fluid changed and flushed so that the equipment contained less than 50-ppm PCBs (the level considered PCB-contaminated). As of August 1, 1994, according to the Griffiss AFB Exterior Electric Shop personnel, there were 22 transformers and several oil switches remaining on the base (K. Hart, personal communication, 1994).

Realignment Baseline. No federally regulated PCB or PCB-contaminated equipment under control of the Air Force will be left on the base at the time of realignment.

3.3.8 Radon

Radon is a naturally occurring, colorless, and odorless radioactive gas that is produced by radioactive decay of naturally occurring uranium. Uranium decays to radium, with radon gas as a byproduct. Radon is found in high concentrations in rocks containing uranium, such as granite, shale, phosphate, and pitchblende. Atmospheric radon is diluted to insignificant concentrations. However, radon that is present in soil can enter a building through small openings and accumulate in enclosed areas, such as basements. The cancer risk caused by exposure, through the inhalation of radon, is a topic of concern.

There are no Federal or State standards regulating radon exposure at the present time. The U.S. EPA offers a pamphlet, "A Citizen's Guide to Radon" (U.S. Environmental Protection Agency 1992), which offers advice to persons concerned about radon in their homes. U.S. Air Force policy requires implementation of the Air Force Radon Assessment and Mitigation Program (RAMP) to determine levels of radon exposure of military personnel and their dependents.

The RAMP is divided into three phases: initial assessment, detailed assessment, and mitigation. Air Force bases are classified as either high, medium, or low risk, based on the initial assessment and comparison of assessed levels with the EPA-established radon concentration limit of 4 picoCuries per liter (pCi/l) of air. High-risk bases are those with an initial assessment greater than 20 pCi/l and medium-risk bases are those with readings between 4 and 20 pCi/l. Low-risk bases are those with readings of less than 4 pCi/l. Air Force policy requires a detailed radon assessment program for levels of 4 pCi/l or greater.

The EPA has made testing recommendations for both residential structures and schools. For residential structures, a 2- to 7-day charcoal canister test should be used. If levels between 4 and 20 pCi/l are detected, additional screening should be performed within a few years. For levels of 20 to 200 pCi/l, additional confirmation sampling should be accomplished within a few months. For levels in excess of 200 pCi/l, the structure should be evacuated immediately. A 2-day charcoal canister test is used for schools; if readings are 4 to 20 pCi/l, a 9-month school year survey is required. The recommended radon surveys and mitigations are summarized in Table 3.3-9.

Pre-Realignment Reference. The Griffiss AFB Bioenvironmental Engineering office conducted an initial assessment survey for radon contamination between November 1987 and March 1988. Of the 35 monitors deployed in 2 dormitory buildings, 30 family housing units, a transient living facility, and the child care center, radon levels greater than 4 pCi/l of air but less than 20 pCi/l of air were recorded at four sites in the housing area. The minimum reading obtained was

0.5 pCi/l, and the maximum reading was 8.0 pCi/l. Two readings (one family housing unit and one dormitory) were invalidated because of improper placement and/or handling. Based on the results of this survey, Griffiss AFB was classified as a medium-risk base under RAMP.

Table 3.3-9

Recommended Radon Surveys and Mitigations

Structure	EPA Action Level*	Recommendations
Residential	4 to 20 pCi/l	Additional screening. Expose detectors for 1 year. Reduce radon levels within 3 years if confirmed high readings exist.
Residential	20 to 200 Pci/l	Perform follow-up measurements. Expose detectors for no more than 6 months.
Residential	Above 200 pCi/l	Follow-up measurements. Expose detectors for no more than 1 week. Immediately reduce radon levels.
	Two-Day Weekend Measurement	
School	4 to 20 pCi/l	Confirmatory 9-month survey. Alpha track or ion chamber survey.
School	Greater than 20 pCi/l	Diagnostic survey or mitigation.

Note: *Congress has set a national goal for indoor radon concentrations of less than 0.7 pCi/l.

Source: U.S. Environmental Protection Agency 1992.

Identification of Griffiss AFB as a medium-risk base required completion of a year-long detailed assessment phase with placement of radon monitors in family housing units. In October 1990, approximately 1,100 monitors were placed and monitored for 1 year. From a total of 1,091 radon detectors deployed, 989 were recovered and analyzed and 102 were lost. The average radon concentration was 0.9 pCi/l and the maximum radon concentration was 9.8 pCi/l. Thirty-nine detectors registered radon concentrations equivalent to 4 pCi/l or greater. Because of duplicate measurements in some housing units, only 36 units were determined to have radon levels which require mitigation. All of the housing units that measured greater than 4 pCi/l of air were in the Woodhaven housing area except for two senior officer's housing units, one in the main base area, the other on the west side of the golf course.

Additional short-term radon monitoring was conducted in 1992 in housing units which did not have results from the 1-year survey. Ten additional housing units (nine in the Woodhaven housing area and one senior officer's housing unit in the main base area) were identified as also requiring mitigation. A survey to find methods of remediation was conducted in early 1994, and a proposal to implement the recommended methods has been prepared, but has not been funded. Proposed radon mitigation measures include providing more fresh air ventilation into utility rooms in split-level and slab-on-grade units, ventilating the crawl spaces between portions of the split-level units with fans, and repairing and caulking all cracks, joints, concrete spalls, construction joints, and sub-grade penetrations (U.S. Air Force 1994a).

Realignment Baseline. Structures with radon concentrations greater than or equal to 4 pCi/l should be mitigated within 1 to 5 years. Structures with radon concentrations of less than 4 pCi/l required no mitigation action. With realignment of the base, ventilation is being used for correction where required. This action is consistent with measured radon posing risks over long-term exposures and the probability that the residents would not remain in the respective structures beyond realignment.

3.3.9 Medical/Biohazardous Waste

Pre-Realignment Reference. Medical services for active military personnel, retirees, and their eligible dependents are provided at the base hospital. Approximately 41,140 pounds of medical/biohazardous waste were generated by the hospital in 1993. Since June 1989, all medical/biohazardous wastes have been transported off the base by a private contractor, New York Environmental Services of Oneonta, New York. Ultimate disposal is at an approved sanitary landfill operated by Safety Medical Systems, Inc., in Colchester, Vermont.

Prior to June 1989, medical/biohazardous waste was burned in a pathological waste incinerator in the penthouse of the hospital. This incinerator was taken out of service in 1989, when it failed to meet revised New York State air emissions standards.

Realignment Baseline. The base hospital was deactivated before September 30, 1995, and no related medical/biohazardous waste is being generated. Existing medical/biohazardous waste will be processed and removed according to applicable regulations. Reuse of the hospital by U.S. Department of Veterans Affairs following realignment will result in the generation of medical/biohazardous waste. All processing and removal of such waste will be handled by them according to applicable regulations.

3.3.10 Ordnance

Pre-Realignment Reference. The existing base small arms range, constructed in 1961, is a baffled outdoor range with 21 firing points adjacent to the combat arms training maintenance facility in the northeastern portion of the base. There is a two-position machine gun range on the north side of the small arms range. A skeet and trap range is in the east-central section of the base (east of Runway 15/33), adjacent to the base boundary and on top of old Landfill 2 (IRP Site LF-02 on Figure 3.3-3). This range has not been used for several years. In addition to these sites, there are a number of facilities that have been used for storage ordnance-related materials. Most of these facilities are associated with the WSA. These facilities are described in the EBS (U.S. Air Force 1994a) Appendix G). Locations of these storage areas are shown on Figure 3.3-1.

Realignment Baseline. The Air Force will conduct investigations of all locations to assess potential surface and subsurface trace metal contamination,

particularly lead contamination, as part of the base disposal process. Such investigations may include the installation of monitoring wells and the drilling of boreholes for the collection of groundwater and soil samples.

3.3.11 Lead

Lead is a heavy, ductile metal that is commonly found in association with organic compounds, as well as oxides, salts, or as metallic lead. Human exposure to lead has been determined to be an adverse health risk by agencies such as OSHA and the EPA. Sources of exposures to lead are through paint, dust, and soil. Blood lead levels in excess of 30 micrograms per deciliter are of concern in adults and can cause various ailments according to the U.S. Center for Disease Control.

Waste-containing levels of lead exceeding the total threshold limit concentration of 1,300 milligrams per kilogram or the soluble threshold limit concentration of 5.0 milligrams per liter are defined as hazardous under 40 CFR 261 and applicable State regulations. If a waste is classified as hazardous, disposal must take place in accordance with the EPA and State hazardous waste rules. The Federal OSHA has established a general and construction industry permissible exposure limit (PEL) standard of 50 micrograms per cubic meter ($\mu g/m^3$) for workers (29 CFR 1910.1025 and 1926.62, respectively).

In 1973, the Consumer Product Safety Commission (CPSC) established a maximum lead content in paint of 0.5 percent by weight in a dry film of paint newly applied. In 1978, the CPSC lowered the allowable lead level in paint to 0.06 percent. In September 1989, the EPA established a cleanup criterion for lead in soil of 500 to 1,000 ppm total lead when the possibility of contact with children exists.

Pre-Realignment Reference. No comprehensive survey of facilities on Griffiss AFB has been conducted to determine which facilities contain lead-based paint. Most facilities that were constructed prior to the implementation of the 1978 ban on the use of lead-based paint are likely to contain lead-based paint. In addition, some facilities that were constructed immediately following the ban may also contain lead-based paint, because supplies of lead-based paints that were in the supply network were likely used for painting these facilities. All buildings and facilities with a construction date of 1980 or earlier may contain some lead-based paint.

In accordance with Air Force policy, a lead-based paint survey of high priority facilities and housing units was conducted at Griffiss AFB between December 1993 and January 1994. X-ray fluorescence sampling was conducted in accordance with U.S. Department of Housing and Urban Development guidelines in three community buildings (Buildings 482 [child care center], 706 [youth center], and 724 [youth center]) and the five pre-1943 residences. A sampling of 27 housing units in the Skyline housing area and 16 units in the Woodhaven housing area was also conducted. Some lead-based paint was found in 15 of the 27 Skyline housing units, 14 of the

16 Woodhaven housings units, and all other buildings sampled. A visual inspection of all remaining housing units was conducted to identify and quantify loose and peeling paint on both interior and exterior surfaces. While the painted surfaces were found to be in mostly good condition, some signs of peeling, chipping, or cracking surfaces were found at the majority of the homes.

Realignment Baseline. Lead-based paint will be identified in all high priority facilities at the time of realignment, and the Air Force will acknowledge that it may be present in all facilities built prior to 1978. Therefore, disclosure will be provided on property leases or transfer documents. Air Force policy requires that action be taken to prevent any lead-based paint health hazards associated with leased facilities. However, preventive action for lead-based paint hazards may be negotiated under the terms of transfer.

3.4 NATURAL ENVIRONMENT

This section describes the affected environment for the following natural resources: soils and geology, water resources, air quality, noise, biological resources, and cultural and paleontological resources.

3.4.1 Soils and Geology

The ROI for soils includes Griffiss AFB and an area several hundred feet beyond the base boundary. The ROI for geologic resources includes the base and the surrounding area, extending approximately 5 miles beyond the base boundary.

3.4.1.1 Soils

The Rome-Griffiss AFB area lies at the convergence of four major land resource areas. Because of the mixture of soils, a larger number of soil units are present than those noted in adjacent surveys (U.S. Department of Agriculture 1993). Properties of the major soils are shown in Table 3.4-1 and the distribution of the units is shown in Figure 3.4-1.

Nearly all soils at Griffiss AFB and its vicinity are loams and sands derived from the underlying glaciofluvial and glaciolacustrine deposits. Silts and gravels are abundant. There is relatively little clay. The soils are developed on outwash plains, terraces, and sandy plains. Much of the base and the ROI have been urbanized, with the ground surface disturbed by excavation, grading, and infilling.

The soils are very deep except on the steepest slopes. They generally have moderate or rapid permeability, especially in the surface layer, and low available water capacity. Surface runoff is slow. The soils are generally acid, especially in the surface layer, resulting in a high corrosivity. The shrink-swell potential is low because of the small amount of clay in the soils. Plasticity generally increases with depth, corresponding to a decrease in grain size of the lacustrine/marine sediments.

Table 3.4-1

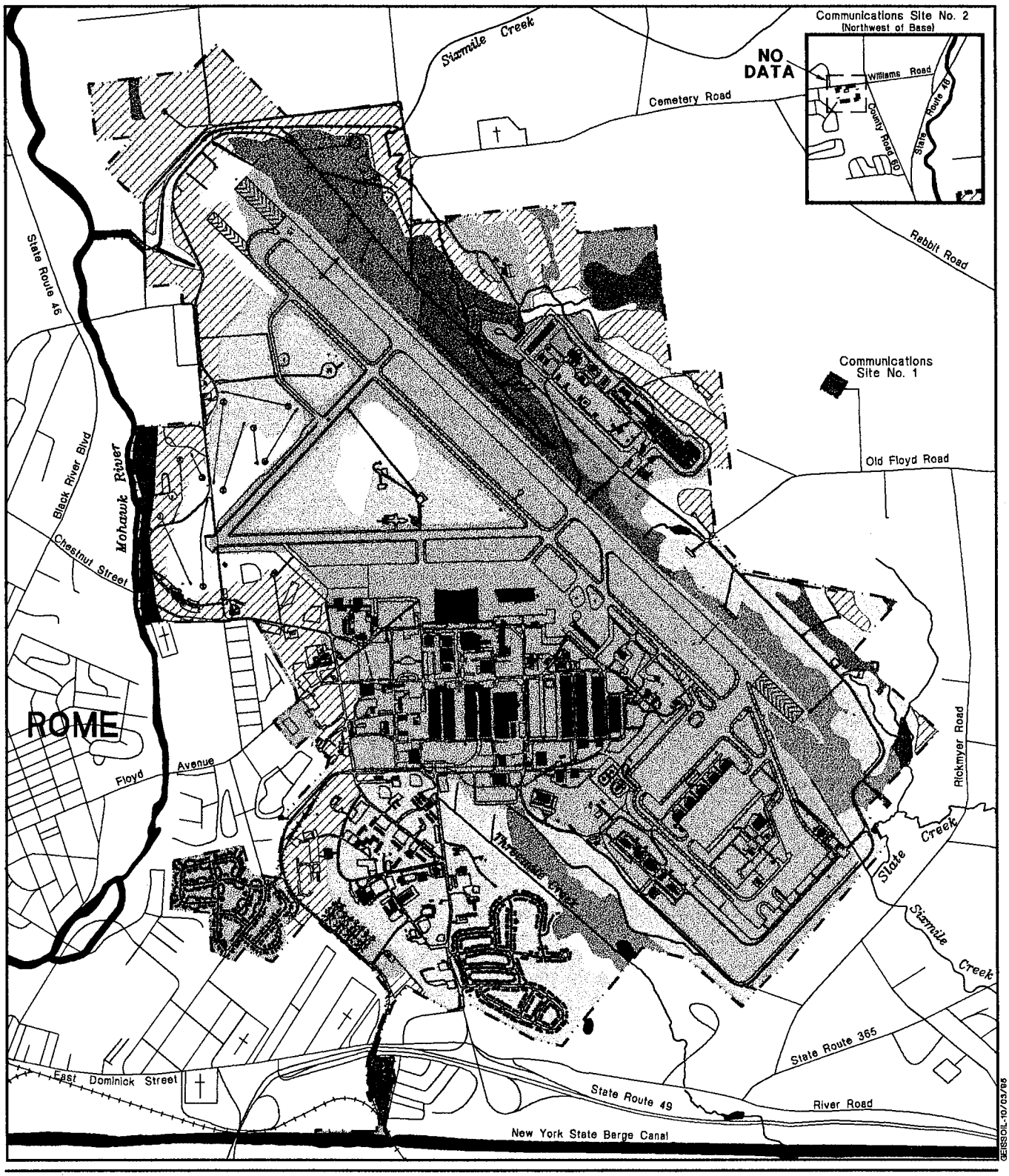
Properties of Major Soil Units at Griffiss AFB

Soil Series	Alton	Alton-Urban Land Complex	Canandaigua	Castile	Covert	Fredon	Lamson
Soil Properties							
Composition	Gravelly loam	Gravelly/sandy loam	Silt loam	Gravelly loam	Loamy sand	Gravelly silt loam	Fine sandy loam
Depth	Very deep	Very deep	Very deep	Very deep	Very deep	Very deep	Deep
Drainage	Well drained	Well drained	Poorly to very poorly drained	Moderately well drained	Moderately well drained	Somewhat poorly to poorly drained	Poorly to very poorly drained
Permeability							
Surface	Moderately rapid	Moderately rapid	Moderate	Moderate to moderately rapid	Rapid	Moderate	Moderate to moderately rapid
Subsurface	Rapid	Rapid	Moderate to moderately slow	Moderate rapid to very rapid	Rapid	Rapid	Moderate to moderately rapid
Surface Runoff	Slow to medium	Slow	Very slow to ponded	Slow	Slow	Slow to very slow	Slow or ponded
Available Water Capacity	Moderate	Moderate	High	Low	Low	Moderate	Moderate
Soil Reaction							
Surface	Very strongly to strongly acid	Very strongly to strongly acid	Moderately acid to mildly alkaline	Very strongly to moderately acid	Very strongly acid to neutral	Moderately acid	Moderately acid to mildly alkaline
Subsurface	Neutral to mildly alkaline	Strongly acid to mildly alkaline	Neutral to moderately alkaline	Strongly acid to neutral	Strongly acid to neutral	Slightly acid to moderately alkaline	Slightly acid to moderately alkaline
Seasonal High Water Table							
Inches below surface	>72	>72	12	18 - 24	24 - 42	18	6
Depth to Bedrock (inches)	>60	>60	>60	>60	>60	>60	>60
Percent Slopes	3 - 15	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3
Limitations for:							
Dwellings	Few or none except on steeper slopes	None	High water table, ponding, frost action	Wetness	Wetness	Wetness	Wetness and ponding
Local Roads	Frost action	Site dependent	Wetness, frost action, ponding	Frost action	Caving, wetness	Wetness, frost action	Ponding, frost action
Excavations	Caving, slopes where Steep	Site dependent	Wetness, ponding	Wetness	Caving, wetness	Wetness, caving	Caving, ponding
Septic Tank Fields	None; moderate on steeper slopes	Site dependent	Wetness and slow permeability	Wetness and poor filtration	Wetness and poor filtration	Wetness and poor filtration	Wetness and ponding
Possible Groundwater Contamination	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 3.4-1, Page 2 of 2

Soil Series	Niagara	Palms	Udorthents	Wakeville	Wareham	Wayland	Windsor
Soil Properties							
Composition	Silt loam	Muck and silt loam	Sand to silt loam	Silt loam	Loamy fine sand	Silt loam	Loamy fine sand
Depth	Very deep	Very deep	Very deep	Very deep	Deep	Very deep	Very deep
Drainage	Somewhat poorly drained	Very poorly drained	Excessively to moderately well drained	Somewhat poorly drained	Somewhat poorly to poorly drained	Poorly to very poorly drained	Well to excessively well drained
Permeability							
Surface	Moderate	Moderately slow to moderately rapid	Variable	Moderate	Rapid	Moderately slow to moderate	Rapid to very rapid
Subsurface	Moderately slow	Moderately slow to moderate	Variable	Moderate	Rapid	Slow	Rapid to very rapid
Surface Runoff	Slow to very slow	Very slow or ponded	Variable	Slow	Slow	Slow or ponded	Slow to medium
Available Water Capacity	High	High	Variable	High	Low	High	Very low
Soil Reaction							
Surface	Slightly acid to neutral	Alkaline	Variable	Moderately acid to neutral	Extremely to slightly acid	Alkaline	Acid
Subsurface	Moderately acid to moderately alkaline	Slightly acid to mildly alkaline	Variable	Slightly acid to moderately alkaline	Extremely to moderately acid	Strongly acid to moderately alkaline	Very strongly to slightly acid
Seasonal High Water Table							
Inches below surface	6 - 18	12	Variable	6 - 18	18	12	>72
Depth to Bedrock (inches)	>60	>60	Variable	>60	>60	>60	>60
Percent Slopes	0 - 3	0 - 2	3 - 15	0 - 3	0 - 3	0 - 3	0 - 8
Limitations for:							
Dwellings	Wetness, low bearing strength, frost action	Subsidence, ponding, low bearing strength	Variable	Flooding and wetness	Wetness	Flooding and ponding	Few or none
Local Roads	Wetness, frost action	Subsidence, ponding, frost action	Variable	Wetness, flooding, frost action	Wetness	Low strength, ponding, flooding	Slight
Excavations	Slumping and caving	Excess humus, ponding	Variable	Wetness	Wetness, caving	Ponding	Caving
Septic Tank Fields	Wetness and slow permeability	Slow permeability	Variable	Flooding and wetness	Wetness and poor filtration	Flooding, ponding, slow permeability	Rapid permeability and poor filtration
Possible Groundwater Contamination	Yes	Yes	Variable	Yes	Yes	Yes	Yes

Source: U.S. Department of Agriculture 1993



LEGEND

Base Boundary

Source: USDA, NRCS, 1993.

- Wakeville and Wayland silt loams
- Urban land, sand and gravel pits, and Alton-Urban land complex
- Udorthents, smoothed
- Fredon gravelly silt loam
- Castile gravelly loam
- Wareham loamy fine sand
- Canandaigua silt loam
- Lamson fine sandy loam
- Niagara silt loam
- Covert loamy sand
- Windsor loamy fine sand
- Alton gravelly loam
- Palms muck
- Manlius channery silt loam
- Prime Farmland

SCALE IN FEET
0 1000 2000

Soils Map of Griffiss AFB

Figure 3.4-1

Undisturbed soils are used for interpreting limitations for various anticipated land uses. Prior construction may have affected the soils at a site, either favorably or unfavorably. To determine actual limitations, site-specific investigations should be made.

Many soils in the vicinity of Griffiss AFB have limitations for dwellings because of the seasonally high level of the groundwater table and steep slopes. The depth to bedrock is generally greater than 60 inches, but excavations are subject to caving if unsupported and to sloughing because of the high groundwater table. Most limitations for local roads are due to frost action and the groundwater table. Because nearly all of the base is level or gently sloping, slope is not a limitation to construction.

Nearly all the soils have limitations for septic tank fields because of poor filtering ability and the seasonally high groundwater table. Nearly all soils on the base have rapid permeability. Because of these soils characteristics, there is potential for groundwater contamination on the base.

3.4.1.2 Physiography and Geology

Griffiss AFB lies in the Mohawk Valley Lowland just north of the Allegheny Plateau, whose edge lies along the Mohawk River Valley where it turns southeastward at Rome. The land surface of the base generally slopes toward the south with the highest elevations in the northeastern and northern areas of the base. However, there are two hills present in the southern portion of the base that interrupt this overall slope, reaching elevations similar to those on the northeastern side. Elevations range from approximately 430 feet at the south extremity of the base boundary to 600 feet at one point near the northeast perimeter. The highest elevation of the two hills in the southern part is 539 feet. The overall land surface rises steadily to elevations well over 1,000 feet northeast of the base. The New York State Barge Canal route and the Mohawk River Valley south of the base lie below 430 feet (U.S. Department of the Interior 1955).

Landforms in the Rome-Griffiss AFB area include mainly glacial forms, the valley and floodplain of the Mohawk River, and the prominent upland edge of the Allegheny Plateau south of the Mohawk River (Halberg et al. 1962). Glacial outwash terraces flank the floodplain of the river and are particularly conspicuous along the northeastern boundary of the base. Moraines include a sheetlike ground moraine, composed of glacial till laid beneath the ice sheet, and a somewhat ill defined end moraine, referred to as the Stanwix moraine.

Geologic formations present at the surface in Oneida County include shale, sandstone, and limestone rocks of Cambrian to Devonian age and glacial deposits of Pleistocene age. Rocks of Devonian and Silurian age are limited to outcrops in the Allegheny Plateau section south of the Mohawk River (Fisher et al. 1979).

The Utica Shale of Ordovician age forms the bedrock underlying Griffiss AFB and the surrounding area. The Utica Shale is a black and gray, carbonaceous, slightly fissile to massive shale with lenses of massive calcareous claystone. The formation is highly fossiliferous, with a large variety of invertebrate fossils.

The surface of the Utica Shale bedrock slopes to the southwest in the northeastern portion of the base, and then toward the Mohawk River in the southern and northwestern parts of the base, with a nearly level divide separating the latter two areas. The bedrock surface lies at about 550 feet in the northeastern corner of the base and 350 feet at the southern edge near the river (Geotech 1991).

Outcrops of the Utica Shale are mostly found north of the Mohawk River. These outcrops are limited in area (Dale 1953). The depth to the Utica Shale in the base area ranges from zero feet at the outcrop in the north-northeastern part of the base to 130 feet in the southern part of the base. Near the center of Griffiss AFB, under the main flightlines, depth to bedrock is approximately 30 feet (Casey and Reynolds 1989).

The Frankfort Shale overlies the Utica Shale in the hills north and west of the Town of Floyd. It is present under the terraces northeast of Sixmile Creek, where it is largely covered by glacial deposits.

Deposits lying above the Utica Shale consist of clay, silt, sand, and gravel sediments laid down by glacial, fluvial, and lacustrine processes. A sheet of glacial till, known as the Rome till, extends over most of the base. The till, where present, immediately overlies the Utica Shale. The till was deposited as a ground moraine during the most recent advance of the Pleistocene ice sheet. It is well consolidated, reddish in color, and consists of poorly sorted sand and coarse gravel, with pebbles of sandstone or crystalline rock. It was directly deposited by glacial ice, with little reworking by fluvial action. The till underlies more permeable glaciofluvial and glaciolacustrine sediments. The closest outcrop of the Rome till to Griffiss AFB is about 0.5 mile east of the southeastern corner of the base, west of the intersection of McKern Road and Highway 365. At this location, it is only 1.5 feet thick or less. In wells in the northern portion of the base, the till consists of clay and silt with some sand and gravel, and maintains a compact nature (Geotech 1991).

Other tills are present in the region between Quaker Hill, northwest of Rome, and Marcy Hill, southeast of Rome. These range from dark gray to dark yellow brown depending on the constituent bedrock particles and weathering. Fresh exposures of the till resting on the Utica Shale are dark in color with abundant subrounded shale fragments (Wright 1972). The till generally dominates in the uplands above 600 feet (Dale 1953).

Deposits that are the result of fluvial deposition in front of or along the margins of the ice sheet (glaciofluvial deposits), as well as deposits that were laid down as sediments in glacial lakes of Pleistocene time (glaciolacustrine deposits),

lie above the till. Both types are greatly intermixed in many areas on and near Griffiss AFB.

Glaciofluvial deposits are the result of deposition from glacial meltwater streams in front of and under the glacier and deposition at ice-contact, lake shoreline, and deltaic environments. Glaciofluvial deposits, commonly referred to as outwash, consist of stratified sand and/or sand and gravel. These sediments were deposited in a high-energy fluvial system and tend to be moderately to well sorted and occur in individual beds. Ice-contact deposits are usually less stratified and less sorted than stream deposits because of their original proximity to the ice (Lint 1988). Otherwise, they are similar to stream deposits (Wright 1972).

Glaciofluvial deposits west of Rome make up the broad, flat, featureless area called the Rome Sand Plain (Casey and Reynolds 1989). These deposits exhibit stratification, scour and fill features, cross-bedding, and variable bedding thicknesses (Dale 1953). Terrace-like features consisting entirely of sand and gravel deposits extend east to the Town of Floyd. These deposits were probably formed by marginal subglacial streams, and the deposits up to the 500-foot contour were formed in a composite of processes in subglacial streams, river deltas, and glacial lakes (Dale 1953). The outwash and lacustrine deposits are intermixed, and stratigraphic relationships are extremely complex. The deposits were mapped collectively as outwash (Wright 1972). The outwash deposits make up the highland area on the east-northeast side of the base (Casey and Reynolds 1989). Although the outwash deposits may attain thicknesses of more than 150 feet in Oneida County, the thickness of outwash under Griffiss AFB is generally less than 50 feet (Lint 1988).

Lacustrine and deltaic deposits form mappable units in the Rome-Griffiss AFB area, blanketing the outwash layers with varying thicknesses of sand or silt.

Lacustrine deposits underlie a large portion of the Rome-Griffiss AFB area. These are composed of sediment laid down in Pleistocene lakes formed by the damming of glacial meltwater behind the Stanwix moraine (Lint 1988; Dale 1953). Some of these deposits are mixed with outwash deposits (Casey and Reynolds 1989). In Oneida County, the glaciolacustrine deposits are sandy silt with some clay to silty clay interbedded with discontinuous sand and gravel lenses. Thicknesses range up to 200 feet (Lint 1988). The lacustrine sediment underlying Griffiss AFB is mapped as well-sorted, stratified sand. Its maximum thickness is only a few feet.

Deltaic deposits were formed where streams deposited sediment in a delta as they entered glacial lakes. In the central and northwestern parts of Oneida County, deposits are generally moderately sorted, horizontally stratified sand with silty-clay partings (Lint 1988). One delta extends along Ninemile Creek from Holland Patent, about 8 miles east of Griffiss AFB, to the Mohawk River. Sediments are coarser toward the head and consist extensively of fine sand at the front of the delta. Deltaic deposits make up the two hills in the south part of the base (Casey and Reynolds 1989). These sediments are stratified, coarse

to fine gravel and sand. They are generally well sorted and of variable thickness.

Post-glacial deposits of alluvium are confined to floodplains and channels of modern rivers and streams. Little if any alluvium is present within the boundaries of Griffiss AFB. The alluvium consists of poorly sorted silt, sand, and some gravel. The thickness is variable, but is generally less than 30 feet (Dale 1953; Casey and Reynolds 1989). The alluvium is fine-grained and less permeable than the glacial outwash sediment that it mantles in some areas (Casey and Reynolds 1989).

The pre-Pleistocene rocks of the region are not strongly deformed but have a general dip to the south-southwest. The slope ranges from a fraction of a degree to a few degrees. No faults or major folds have been mapped on Griffiss AFB or in the vicinity. Structures in the general region are ancient. There is no evidence to suggest that there has been any active deformation for many millions of years (Dale 1953).

The Utica Shale contains well-defined joints, most of which are vertical. Some dip S80°E and some dip S85°W. The dominant strikes are N20°E, N60°E, N25°W, and E-W. Where the shale is at the surface, the N20°E and N60°E directions are generally the ones that control the courses of the streams, as observed on the brinks of waterfalls (Dale 1953). The joints are likely to aid the movement of groundwater through the Utica Shale.

Griffiss AFB lies in Seismic Zone 1 (International Conference of Building Officials 1994), meaning that there is only slight danger from damaging earthquakes. The zone includes New York west of the Adirondack Mountains. A few small earthquakes have been recorded in the general area; there have been no major earthquakes of Richter magnitude 5 or greater (Nottis 1983).

3.4.2 Water Resources

The ROI for water resources includes Griffiss AFB and the surrounding area extending north to Delta Reservoir, east about 1 mile beyond the base boundary, west to the Mohawk River, and south and southeast to the New York State Barge Canal. A housing subdivision and an industrial area southwest of the base within the bend of the Mohawk River are considered to be in the ROI for water resources. Surface waters in the ROI include the Mohawk River, the New York State Barge Canal, Threemile Creek, Sixmile Creek, Slate Creek, Delta Reservoir, and numerous wetlands and ponds. There are no wild and scenic rivers in the vicinity of Griffiss AFB.

3.4.2.1 Surface Water

The major surface waters are Delta Reservoir, the Mohawk River, and the New York State Barge Canal. A number of smaller streams flow into the Mohawk River or the canal. The only large lakes are Delta Lake, located about 1.5 miles north of Griffiss AFB, and Oneida Lake, located about 14 miles west of the ROI.

Delta Lake is a reservoir formed as an impoundment of the Mohawk River. Wetlands are widespread over the region.

The Mohawk River floodplain from Delta Dam to the New York State Barge Canal is relatively narrow, ranging in width from 0.2 to 0.3 mile, with an average width of slightly over 0.2 mile. Eastward, from Rome to Utica, the floodplain averages 0.7 mile in width. A bluff about 20 feet high lies along the edge of the floodplain where it is adjacent to the base. None of the base area is within either the 100- or 500-year floodplain except for a small area of about 0.5 acre below the bluff next to the golf course (Federal Emergency Management Agency 1985). The floodplain along the river segment south of the base is bounded on the north by the south embankment of the New York State Barge Canal. This embankment precludes flood waters from inundating the land to the north (Oneida County 1974). Because the discharge of the Mohawk River is regulated at Delta Reservoir north of Rome, flooding occurs less frequently than it otherwise would along the reach past Griffiss AFB.

Surface Water Quality. The State of New York has classified surface water bodies according to the quality required for certain general use categories (Table 3.4-2).

Table 3.4-2

State of New York
Surface Water Bodies Classification

Class	Description
AA	Most suitable for drinking
A	Suitable for drinking after treatment
B	Suitable for contact recreation (e.g., swimming)
C	Suitable to support fish
D	Suitable for agriculture and drainage

Source: New York State Department of Environmental Conservation 1991b.

Lake Delta is a Class B body of water; the Mohawk River through Rome is Class C (William F. Cosulich Associates 1989). Sixmile and Threemile creeks, classified as C, are best used for fishing, and these streams offer suitable habitat for trout (Herkimer-Oneida Counties 1992).

Surface water quality could be adversely affected by chemical contaminants, especially engine fuels, lubricants, solvents, and antifreeze entering stormwater runoff. Relatively small amounts of these compounds may leak or spill onto pavement and hangar floors during routine operations and maintenance. These substances can intermingle with stormwater via floor drains. Stormwater can also become contaminated when precipitation washes contaminants from

impervious surfaces (e.g., runways, taxiways, aprons, and roads) and carry them to streams.

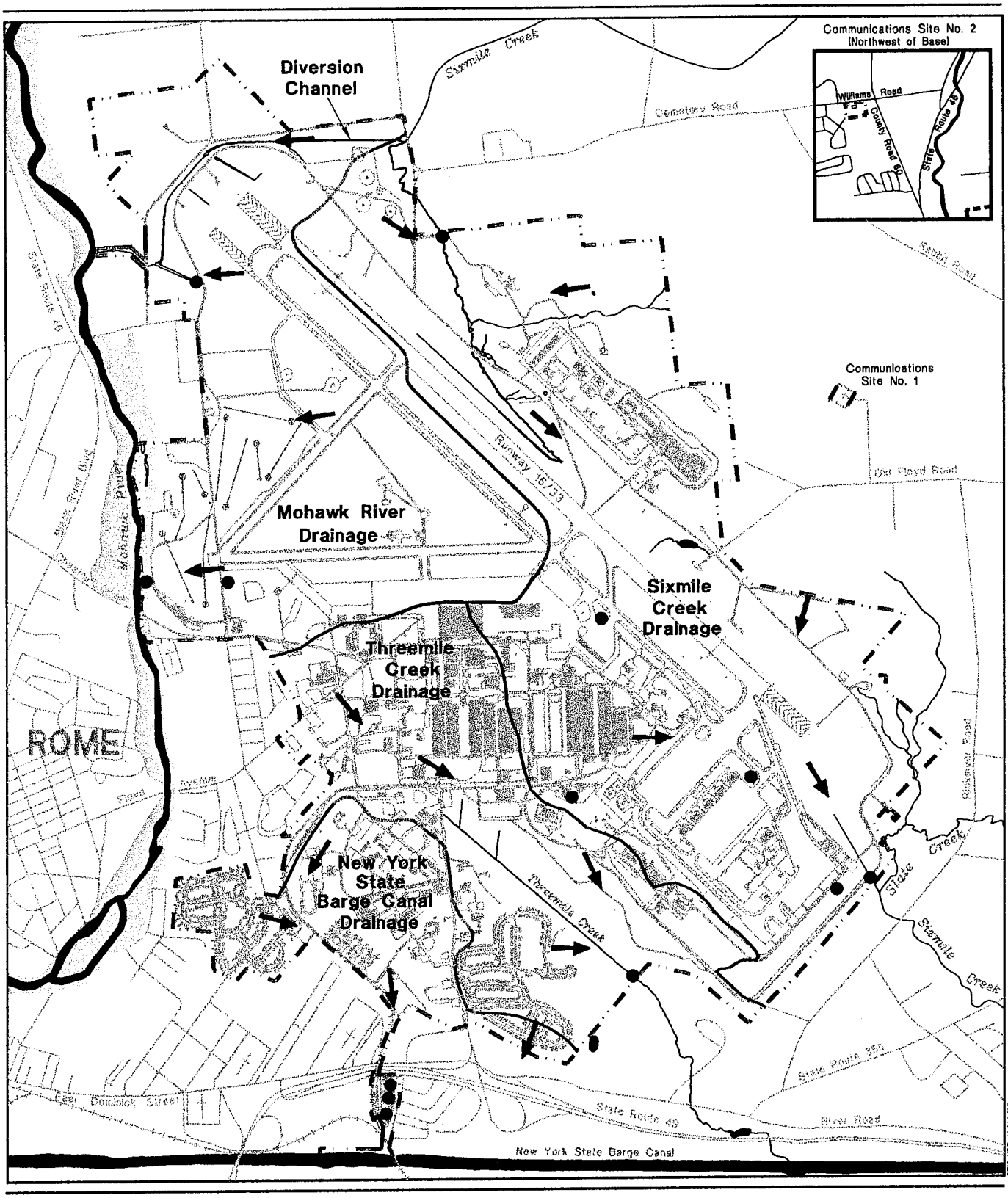
Water quality sampling in streams indicates the extent to which contaminants are introduced into the stormwater and ultimately enter streams, such as Threemile Creek, Sixmile Creek, the New York State Barge Canal, and the Mohawk River. Much of the stormwater from the runway and taxiway area discharges into Sixmile Creek, which flows offbase to the southeast through a portion of the Town of Floyd and into the Barge Canal. The stormwater from the central portion of the base flows into Threemile Creek, which also exits the south side of the base and flows into the Barge Canal.

Water quality is monitored in accordance with requirements of the base's State Pollutant Discharge Elimination System (SPDES) permit at various locations on Griffiss AFB, including along Threemile Creek, Sixmile Creek, the Mohawk River, and a diversion channel of Sixmile Creek in the north part of the airfield; at four oil/water separators on the airfield; and at three points in the bulk fuel storage area near the New York State Barge Canal (Figure 3.4-2). No surface water quality problems in these water bodies have been identified, although elevated levels of some of the parameters that are monitored have occurred occasionally. However, both Threemile and Sixmile creeks are designated as IRP sites (Section 3.3.3). The SPDES permit also required monitoring at the coal pile at the base steam plant. Although not required by the SPDES permit, the base also monitors water quality where Sixmile Creek enters the northern portion of the base. No surface water quality problems have been identified at this monitoring point.

3.4.2.2 Surface Drainage

The Rome-Griffiss AFB area lies in the upper Mohawk River Basin, which forms part of the upper Hudson River Basin. The major stream in the area is the Mohawk River, which forms about 9 miles north of Delta Reservoir. The river flows south through Rome, then empties directly into the New York State Barge Canal. Just east of that point, the river leaves the Barge Canal and continues as a reduced stream, fed only by Wheelers Creek, an overflow from a small spillway from the Barge Canal at Rome, and other streams from the south. Several streams that originally flowed into the east-west segment of the Mohawk River from the north were diverted and now flow into the Barge Canal, thus reducing water volumes in the river (Oneida County 1974). The flow of the river is regulated by releases from Delta Reservoir. The average discharge, based on a 67-year record, is 375 cubic feet per second, as measured at a gaging station at the fish hatchery 1 mile below the Delta Reservoir dam.

The Mohawk River flows south past the west side of Griffiss AFB, where it forms the boundary of the base for about 3,500 feet along one reach. At other places, the river and the boundary are as much as 2,500 feet apart because of the irregularity of the base boundary.



LEGEND

- Base Boundary
- Surface Water Flow Direction
- Water Quality Monitoring Point
- Flood Hazard Areas (Includes 100- and 500-year Flood Areas) (FEMA 1985)
- Drainage Divide

Source: U.S. Dept. of Interior, 1955

SCALE IN FEET
0 1000 2000

GEB-HDR 10/03/95

Surface Hydrology at Griffiss AFB

Figure 3.4-2

Delta Lake is located on the Mohawk River about 4 miles north of Rome. It was completed in 1912 and has a usable water capacity of 21 billion gallons. Its water is obtained from the upstream portion of the Mohawk River and several diversions or feeders. Delta Lake is operated by the State of New York for the purpose of maintaining a reasonably constant flow in the New York State Barge Canal during the canal operating season, mid-April to about December 1. No water from the Mohawk River is diverted for use by the base.

All water used by Griffiss AFB is obtained from the City of Rome, which obtains its water by diversion from the East Branch Fish Creek. East Branch Fish Creek is not in the Mohawk River drainage, but is a tributary of Fish Creek, which flows into the Barge Canal 1 mile east of Oneida Lake.

Threemile Creek begins on the base near the electrical substation near the intersection of Wright Drive and Elksworth Road, and flows southeast 1.5 miles to the Barge Canal. It receives surface runoff from the south-central part of the base, including much of the industrial and housing area. All of the riparian area of Threemile Creek on the base has been designated as wetlands (U.S. Air Force 1989a).

Sixmile Creek heads northeast of the base. Prior to construction of the base, it flowed southwest, then southeast along the line of the present runway to the Barge Canal. When the existing runway was constructed in the late 1950s, a diversion channel from Sixmile Creek was constructed to direct some water from Sixmile Creek around the north end of the runway to the Mohawk River. On Griffiss AFB, Sixmile Creek flows south through the area northwest and west of the WSA, and then is channeled underground under the runway. The creek reappears south of the south end of the runway and then flows along its original course to the New York State Barge Canal. Slate Creek joins it from the east at the base boundary.

Drainage from the higher elevations northeast of the base and east of the base south of Old Floyd Road is into Slate Creek, so that no surface water from this area enters the base. Drainage from wetlands and small tributaries adjacent to the base boundary and northwest of Old Floyd Road enters the base into the portion of Sixmile Creek that lies parallel to the runway (Figure 3.4-2). There is no surface drainage from the base toward the northeast beyond the western most tributary of Slate Creek and a wetland area west of Communications Site No. 1.

Small ponds on the base include Mohawk Pond and the Base Fish Pond. This 2-acre area of slow-flowing water in the Mohawk River floodplain is actually two wide segments of a dammed channel of the Mohawk River. Both are in the process of silting in. Three to four other ponds exist on the east side of the base and are the result of beaver activity in the forested and wetland areas.

3.4.2.3 Groundwater

Aquifers. Bedrock and overlying unconsolidated deposits comprise the two aquifers present in the region. The unconsolidated deposits consist of glacially derived sands, silts, and gravels that form an unconfined, near-surface aquifer. These sediments cover the bedrock with varying thickness and comprise the most important water table aquifer in the region. The bedrock aquifer, Utica Shale, is separated from the overlying unconsolidated aquifer by a layer of low permeability till. The bedrock permeability is through joints, fractures, and bedding planes. The Utica Shale does not contain large amounts of water, but it has been penetrated by some wells and reportedly yields usable amounts of water in some areas.

The till, or ground moraine, ranges in thickness from 1 to 40 feet in the Utica-Rome area (Halberg et al. 1962). It generally has very low hydraulic conductivity because of its poor sorting and subglacial compaction, and therefore acts as an aquitard, retarding water movement both vertically and horizontally (Table 3.4-3). In some areas, however, the till may contain a fair amount of sand, which tends to increase the hydraulic conductivity (Lint 1988). Many tills also have hairline fractures, which produce hydraulic conductivities two to three times of those in unfractured tills. It has not been determined whether fractured tills underlie Griffiss AFB.

Table 3.4-3

Hydraulic Characteristics (Approximate) of the Upper Aquifer Griffiss AFB and Vicinity

Material	Hydraulic Conductivity (feet/day)	Specific Yield	Surface Soil Permeability (inches/hour)	Well Yield Normal Range (gallons/minute)
Lodgment Till	$3x10^{-3}$ to $3x10^{-1}$	0.08 to 0.25	0.06 to 0.2	3/0.5 to 10
Ablation Till	$3x10^{-2}$ to 3	0.1 to 0.27	0.06 to 0.2	3/0.5 to 10
Outwash	3 to $3x10^{2}$	0.20 to 0.30	6-20	80/10 to 200
Lacustrine sandy silt	$3x10^{-2}$ to 3	0.20	<6	<11
Lacustrine silty clay	$3x10^{-3}$ to $3x10^{-1}$	0.10	>6	<11
Lacustrine sand and gravel	up to 300	>0.2	6 to 20	11/2 to 40
Deltaic deposits	$3x10^{-2}$ to 3	0.15 to 0.25	0.2 to 6	11/2 to 40
Alluvial deposits	3 to $3x10^{2}$	0.15 to 0.25	0.2 to 6	See Outwash ±80

Sources: Lint 1988; Casey and Reynolds 1989; Halberg et al. 1962.

Glaciofluvial deposits in the area can be separated into two categories, including (1) medium to coarse-grained glaciofluvial and deltaic deposits, and (2) fine-grained glaciofluvial lacustrine deposits (Halberg et al. 1962). The coarser-grained sand and gravel deposits normally associated with outwash occur in the valley plain between Delta Lake and Rome and in the terraces bordering the Mohawk River plain extending from Frankfort to an area just west of Rome. These deposits are also interbedded with clay and silt of the Mohawk

River plain. The thickness of these sand and gravel deposits ranges from 10 to 140 feet. These deposits constitute the most productive portion of the upper aquifer in the area, especially where recharged by streams. The average depth of the wells in this unit is 67 feet, and the water quality is good (Halberg et al. 1962). The outwash deposits are more nearly continuous than any other form of glaciofluvial deposit and may be up to 150 feet thick in parts of Oneida County (Lint 1988).

Lacustrine deposits vary widely in grain size, with the result that well yields also vary. Sand beds may yield moderate amounts of water, especially where recharged by streams. The thickness of the deposits ranges from 70 to 150 feet, and the average well depth is 68 feet (Halberg et al. 1962).

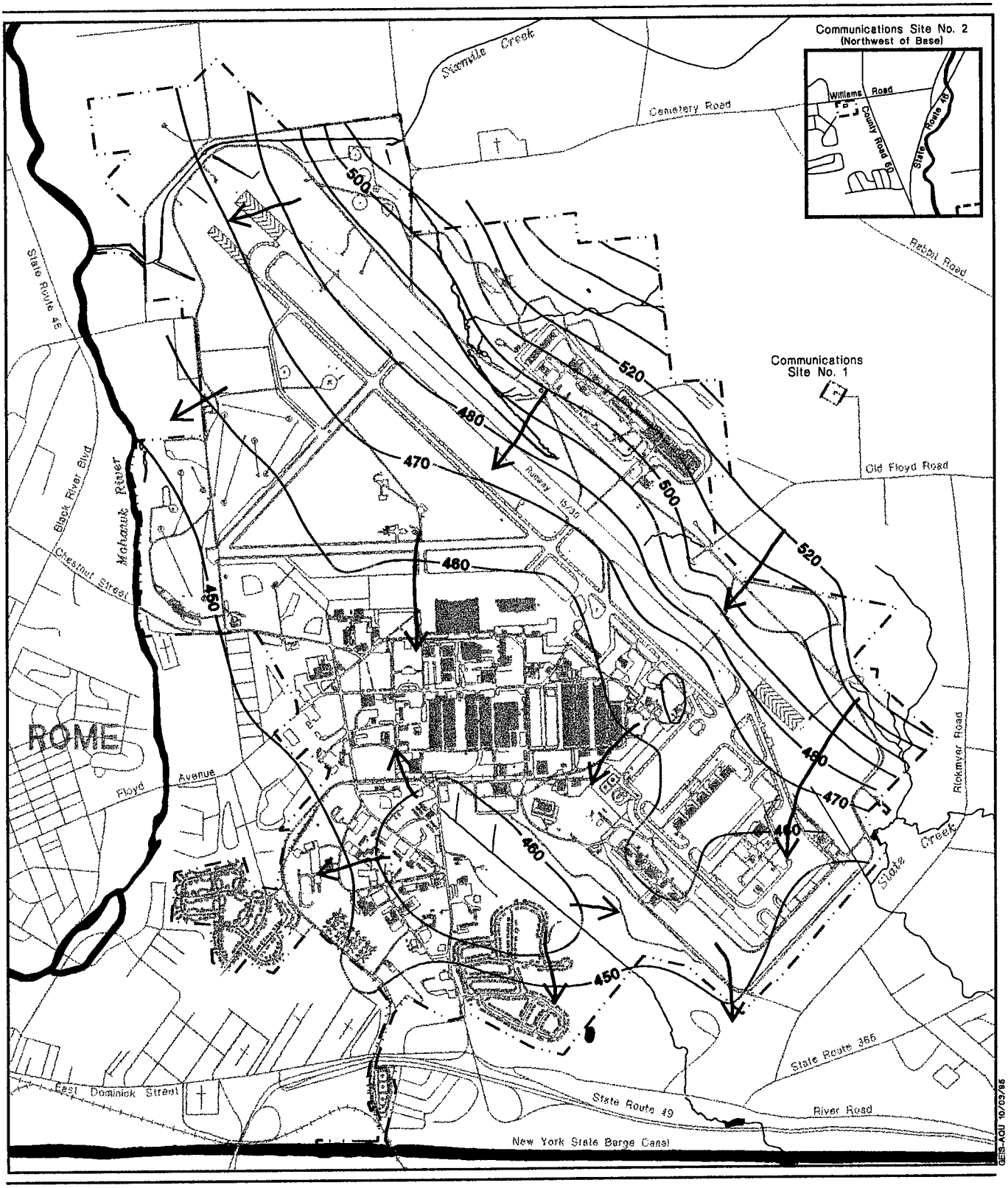
Deltaic deposits incorporate fine-grained glaciofluvial, lacustrine, and alluvial sediments. The two hills in the southern part of the base have been mapped as lacustrine deltaic sediments and consist of coarse to fine gravel and sand (Casey and Reynolds 1989).

Alluvial deposits make up the floodplain of the Mohawk River and may also exist to a limited extent in the smaller drainages, such as the lower portion of Sixmile Creek. This material is included with the fine-grained glaciofluvial, lacustrine, and alluvial deposits described by Halberg. The alluvium is likely to be reworked glacial materials that are stratified and moderately sorted and have similar properties to those of glacial outwash. The alluvium consists of silt, fine sand, and some gravel with a relatively moderate permeability.

Groundwater at Griffiss AFB flows southwest from the higher elevations northeast of the base, then west toward the Mohawk River and south toward the Barge Canal. A groundwater divide where the flow directions diverge is present approximately in the center of the base. Groundwater moves from the divide to the south and to the west (Figure 3.4-3).

Recharge. Groundwater recharge at Griffiss AFB is mainly through streamflow (Threemile Creek and Sixmile Creek) and deep percolation of precipitation. Groundwater flow is toward the Mohawk River and the Barge Canal, which are generally places of discharge rather than recharge. Threemile and Sixmile creeks probably recharge the groundwater during high flows and during or immediately after a major storm event. This recharge is likely to be only temporary, acting as bank storage and flowing back into the stream shortly after the storm. Stream-flow measurements are insufficient for estimating this parameter (Geotech 1991). Deep infiltration of precipitation mainly occurs from November to April when there is a surplus of water above the storage capacity of the soil. It is estimated that, over the region, 24 percent of the annual precipitation reaches the groundwater as recharge, with the remainder consumed by evapotranspiration or moving out as runoff (Kantrowitz 1970).

On Griffiss AFB, the former landfill (IRP site LF-03 on Figure 3.3-3) located south of the WSA between Perimeter Road and the runway appears to be a recharge area. This is indicated by groundwater flow paths, which diverge



LEGEND

- Base Boundary
- 450 — Contour of Potentiometric Surface Elevation Feet Above Mean Sea Level
- General Direction of Groundwater Flow

Source: USGS 1989, GeoTech 1991.

SCALE IN FEET
0 1000 2000

Potentiometric Contour Map of Unconfined Aquifer

Figure 3.4-3

somewhat from this locality. Groundwater elevation data suggest that recharge may also be occurring in the southeast portion of the base.

Groundwater Supply and Usage. Public and private water supply in the area is provided through the tapping of both surface water supplies and groundwater supplies, such as wells or springs. The major population centers of the area are supplied with public water. Most villages in the area also have public water, but a number of small communities and many rural individual domestic users depend on groundwater for their supplies. Outside of the major population centers, most residences draw their water either from wells or small water districts (William F. Cosulich Associates 1989). In 1980, the State of New York reported that as many as 60,000 people in Oneida County were dependent on groundwater for domestic use (Geotech 1991). This population apparently represents those that obtain water from small wells for private supply.

Groundwater of moderate to good quality is available in moderate to large quantities from the sand and gravel deposits underlying the Mohawk River Valley. Nearly all of the groundwater used is obtained from these deposits. Although there is water present in the Utica Shale, the Utica Shale is deeper than the glacial aquifer, and water from it is lower in both yield and quality. The most important potential sources of groundwater in the area are where the sand and gravel deposits underlie the plain between Rome and Delta Reservoir. The sediments there are saturated for most of their thickness and are potentially productive because of their high permeability. Water levels are 10 to 30 feet below the ground surface (Halberg et al. 1962). Yields of only 1 to 5 gallons per minute (gpm) satisfy most domestic or farm needs, and these are available throughout much of the county (Lint 1988).

The most favorable area for development of moderate groundwater supplies is the reach of Ninemile Creek valley extending from a point just east of Floyd to Griffiss AFB. Here, thick, mostly saturated deposits of sand and gravel are present in a buried bedrock channel. Recharge is likely to take place from Ninemile Creek (Halberg et al. 1962).

Groundwater Quality. Groundwater aquifers used for drinking water are protected by the State of New York by an amendment to Article 15 "Water Resources" of the Environmental Conservation Law. New York State groundwater Class GA applies to potable supplies. Chapter X, Part 703 of the New York State Water Laws has specific water quality standards for 83 substances. The Final Upstate New York Groundwater Management Program deals with the protection of unconsolidated water table aquifers because of their vulnerability to contamination. Two categories of aquifers identified in this program as requiring protection are Primary Water Supply Aquifers and Principal Aquifers. Primary Water Supply Aquifers are "highly productive aquifers presently being utilized as sources of water supply by major municipal water supply systems." Principal aquifers are "formations known to be highly productive or deposits whose geology suggest abundant potential water supply, but which are not intensively used as sources of water supply by

major municipal water systems at the present time." No Primary Water Supply Aquifers have been identified in Oneida County. There is, however, a potential for the existence of one or more Principal Aquifers in the area (William F. Cosulich Associates 1989).

Wells west of the Mohawk River through Rome and south of the Barge Canal do not receive contamination from any source on Griffiss AFB, because these bodies of water serve as discharge points for groundwater flowing away from the base. Wells located between the base boundaries and the Mohawk River and New York State Barge Canal, however, may be at risk because groundwater flows toward them.

A well monitoring survey of 55 domestic wells was conducted in an area extending east from Pennystreet Road then south through Floyd to just south of Highway 365 for the purpose of determining the presence of glycol in groundwater. The presence of glycol was not confirmed by sampling conducted by the New York State Department of Health. In the survey, 306 samples were analyzed for glycol and 58 for volatile organic chemicals. Of the 306, 1 was positive for a trace level of glycols, but repeated resamples did not duplicate that finding. Of the 58 samples analyzed for volatile organics, none showed evidence of water quality problems in the survey area (New York State Department of Environmental Conservation 1993c).

Groundwater monitoring results for 1993 indicate the presence of glycols in six offbase monitoring wells east of Sixmile Creek, south of Slate Creek, and just north of Slate Creek. Readings for total glycols ranged from 0.08 to 0.53 micrograms per liter (μg/l) (U.S. Air Force 1993m).

Because the hydraulic gradient northeast of the base is toward the southwest into the base from the adjoining hills, groundwater contamination, if present, would not move northeast from the base. Instead, contaminants from potential sources northeast of the base would move southwest toward the base, possibly discharging into the extensive wetlands northeast of the runway. Groundwater moving southward from the base toward its discharge at the New York State Barge Canal potentially moves contaminants offbase.

3.4.3 Air Quality

Air quality in a given location is described as the concentration of various pollutants in the atmosphere, generally expressed in units of parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). Air quality is determined by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. The significance of a pollutant concentration is determined by comparing it to Federal and/or State ambient air quality standards. These standards represent the maximum allowable atmospheric concentrations that may occur and still protect public health and welfare, with a reasonable margin of safety.

The National Ambient Air Quality Standards (NAAQS) were established by the EPA. The NAAQS and the New York standards are presented in Table 3.4-4.

Table 3.4-4

New York State and National Ambient Air Quality Standards

Pollutant	Averaging Time	Level	New York State Standards[1] Concentrations[2]	National Standards[1] Concentrations[2]	
				Primary	Secondary
Ozone	1 hour	All	0.08 ppm[3]	0.12 ppm (235 $\mu g/m^3$)	Same as primary standard
Carbon Monoxide	8 hours	All	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	NS[4]
	1 hour	All	35 ppm (40 mg/m^3)	35 ppm (40 mg/m^3)	NS
Nitrogen Dioxide	Annual	All	0.05 ppm (100 $\mu g/m^3$)	0.053 ppm (100 $\mu g/m^3$)	Same as primary standard
Sulfur Dioxide	Annual	All	0.03 ppm (80 mg/m^3)	80 $\mu g/m^3$ (0.03 ppm)	
	24 hours	All	0.14 ppm[5] (365 $\mu g/m^3$)	365 $\mu g/m^3$ (0.14 ppm)	
	3 hours	All	0.50 ppm[6] (1300 $\mu g/m^3$)	NS	1300 $\mu g/m^3$ (0.5 ppm)
Lead	Calendar Quarter	All[7]	NS	1.5 $\mu g/m^3$	Same as primary standard
Inhalable Particulates (PM_{10})	Annual Arithmetic Mean	All[8]	NS	50 $\mu g/m^3$	Same as primary standard
	24 hours	All[8]	NS	150 $\mu g/m^3$	Same as primary standard
Total Suspended Particulates (TSP)[9]	Annual Geometric Mean	IV	75 $\mu g/m^3$	NS	NS
		III	65 $\mu g/m^3$	NS	NS
		II	55 $\mu g/m^3$	NS	NS
		I	45 $\mu g/m^3$	NS	NS
	24 hours	All	250 $\mu g/m^3$	NS	NS

Notes:
[1]National and New York State standards, other than ozone and those based on annual averages or annual arithmetic means are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.
[2]Concentrations expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 millimeters of mercury. All measurements of ambient concentrations are to be corrected to a reference temperature of 25°C and a reference pressure of 760 millimeters of mercury; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
[3]Existing New York State standard for ozone of 0.08 ppm not yet officially revised via regulatory process to coincide with the National standard of 0.12 ppm, which is currently being applied to determine compliance status.
[4]NS = No standards, not regulated.
[5]Also during any 12 consecutive months, 99 percent of the values shall not exceed 0.10 ppm.
[6]Also during any 12 consecutive months, 99 percent of the values shall not exceed 0.25 ppm.
[7]Federal standard for lead not yet officially adopted by New York State, but is currently being applied to determine compliance status.
[8]National standard for PM_{10} not yet officially adopted by New York State, but is currently being applied to determine compliance status.
[9]New York State also has 30-, 60-, and 90-day standards in Part 257 of New York Codes, Rules, and Regulations.

Sources: New York State Department of Environmental Conservation 1991a, 1992, and 1993a.
40 CFR 50.

The main pollutants considered in this EIS are the criteria pollutants (ozone [O_3], carbon monoxide [CO], nitrogen dioxide [NO_2], sulfur dioxide [SO_2], lead [Pb], and particulate matter less than or equal to 10 micrometers in diameter [PM_{10}]). The previous NAAQS for particulate matter was based on total suspended particulate (TSP) levels; it was replaced in 1987 by an ambient standard based only on the PM_{10} fraction of TSP. Primary standards are oriented toward the protection of public health; secondary standards are geared to the protection of public welfare.

The Clean Air Act Amendments of 1990 require the EPA to adopt area designation for all pollutants with NAAQS. These criteria pollutants include O_3, CO, NO_2, SO_2, lead (Pb), and PM_{10}. An area is designated as:

- Nonattainment - any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for that pollutant;

- Attainment - any area that meets the national primary or secondary ambient air quality standard for that pollutant; or

- Unclassifiable - any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for that pollutant. Unclassified areas are treated as attainment for regulatory purposes.

The EPA has granted the NYSDEC the authority to implement regulations to prevent the significant deterioration of air quality in areas that are classified as attainment or unclassifiable. The Prevention of Significant Deterioration (PSD) program is implemented in a large part through the use of "increments" and area classifications that effectively define "significant deterioration" for individual pollutants. The Clean Air Act's area classification scheme for PSD establishes three classes of geographic areas and applies increments of different stringency to each class. Air quality impacts, in combination with other PSD sources in the area, must not exceed the maximum allowable incremental increases presented in Table 3.4-5.

Class I areas are those of special national concern where any appreciable deterioration in air quality is considered significant. Consequently, the most restrictive increments apply in Class I areas. Class I areas include all international and national parks, wilderness areas, and memorial parks that exceed certain sizes. Less restrictive increments apply in areas designated as Class II or Class III. Class II areas are all PSD areas that are designated as attainment or unclassifiable with respect to the NAAQS and are not classified in the Clean Air Act as Class I areas. Individual states have the authority to redesignate Class II areas to Class III areas, to allow for higher levels of industrial development and emissions growth. There are, as yet, no designated Class III areas.

Table 3.4-5

Maximum Allowable Pollutant Concentration Increases Under Prevention of Significant Deterioration Regulations

Pollutant	Averaging Time	Maximum Allowable Increment ($\mu g/m^3$)		
		Class I	Class II	Class III
PM_{10}	Annual	4	17	34
	24 hours	8	30	60
SO_2	Annual	2	20	40
	24 hours	5	91	182
	3 hours	25	512	700
NO_2	Annual	2.5	25	50

Source: 40 CFR 52.21

No PSD Class I areas are located within 50 miles of Griffiss AFB. Oneida County is designated by the EPA as a Class II area. Major new or modified stationary sources in the region are subject to PSD review to ensure that these sources are constructed without significant adverse deterioration of the clean air in the area. Emissions from any major new or modified source must be controlled using Best Available Control Technology.

Existing air quality in the region is defined by air quality data and emissions information. Air quality data were obtained for air quality monitoring stations maintained by the NYSDEC. Information on pollutant concentrations measured for short-term (24 hours or less) and long-term (annual) averaging periods was extracted from the monitoring stations data to characterize the existing air quality background of the area. Emission inventory information for the region was obtained from the EPA and Griffiss AFB. Inventory data are separated by pollutant and reported in tons per day to describe the baseline conditions of pollutant emissions in the area.

Identifying the ROI for an air quality assessment requires knowledge of the pollutant types, source emission rates and release parameters, the proximity relationships of project emission sources to other emission sources, and local and regional meteorological conditions. For inert pollutants (all pollutants other than O_3 and its precursors), the ROI is generally limited to an area extending a few miles downwind from the source. The ROI for O_3 may extend much farther downwind than the ROI for inert pollutants. For the purpose of this air quality analysis, the ROI is defined as Oneida County, and the four surrounding counties of Herkimer, Lewis, Madison, and Oswego.

The Federal Clean Air Act, as amended in August 1977 and November 1990, dictates that project emission sources must comply with the air quality standards and regulations that have been established by Federal, State, and county regulatory agencies. These standards and regulations focus on (1) the maximum allowable ambient pollutant concentrations resulting from project emissions, both separately and combined with other surrounding sources, and (2) the maximum allowable emissions from the project.

Under the Clean Air Act Amendments (CAAA) of 1990, an ozone transport region (OTR) was established. The OTR is comprised of the States of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, the District of Columbia, and the portion of Virginia that is within the Consolidated Metropolitan statistical area that includes the District of Columbia. The OTR was established in recognition of the fact that the transport of ozone and ozone precursors throughout the region may render the northeast States' attainment strategies interdependent. The CAAA also specifies that volatile organic compound (VOC) sources located anywhere in the OTR are required to achieve reasonably available control technology (RACT) if they have the potential to emit more than 50 tons per year of VOCs or are covered by an EPA Control Techniques Guideline. Regardless of the attainment status or nonattainment classification States must amend their State implementation plans (SIPs) to require RACT for major VOC sources no later than May 31, 1995. As a result many sources will be subject to RACT for the first time.

Prior to the 1990 Amendments to the Clean Air Act, Federal regulation of hazardous air emissions was very limited. Section 112, as amended in 1990, requires U.S. EPA to regulate a greatly expanded list of hazardous air pollutants (HAPs). Additionally, U.S. EPA must publish a list of all categories and subcategories of emission sources of HAPs. After identifying and listing sources of HAPs, U.S. EPA must promulgate emission standards that are equivalent to maximum achievable control technology (MACT). By the year 2000, most medium- and large-sized sources of HAPs can expect final U.S. EPA regulations that will control HAP emissions and require adoption of costly control measures.

3.4.3.1 Regional Air Quality

Air Pollution Potential. The air quality in a region on a given day depends on both pollutant emission strengths and atmosphere dispersion rates. The dispersive capability (or lack thereof) is called the air pollution potential, a quantity independent of source distributions or strengths. In non-industrialized regions, whenever vertical and horizontal dispersion rates are unusually low, for example, pollution potential is high, although air quality may be excellent. The factors, stability, mixing height, and wind speed are of prime importance in determining air pollution potential in an area.

The atmosphere surface stability controls the vertical dispersion of pollutants in the vicinity of a source. This factor is especially important to the assessment of primary pollutant impacts. Surface stability is governed by the atmospheric lapse rate close to the ground which, in turn, is controlled by insolation nocturnal radiation loss, and wind speed. A formal method of stability classification which is frequently used in air quality models was developed by F. Pasquill. This method of classification uses wind speed and incoming solar radiation during the day and wind speed and cloud cover at night. The stability categories are found in Table 3.4-6.

Table 3.4-6

Pasquill Method of Stability Classification

Stability Category	Level of Stability
A	Very Unstable
B	Moderately Unstable
C	Slightly Unstable
D	Neutral
E	Slightly Stable
F	Moderately to Extremely Stable

Source: U.S. Atomic Energy Commission 1968.

The mixing height is the height above the surface in the atmosphere at which rising warm air from the surface will mix by convection. The mixed layer dilutes pollutants released in it; the degree is determined by local atmosphere conditions, terrain configuration, and source location.

Wind speed has an important effect on regional ventilation and the dilution of pollutant concentration from individual source areas. Light winds occurring in conjunction with large source emissions may lead to an accumulation of pollutants that can move to downwind areas. Persistent wind directions define likely corridors for ventilation and transport processes.

The seasonal and annual distributions of combined Pasquill stability categories in Oneida County are presented in Table 3.4-7. Good dispersion of pollutants occurs almost 70 percent of the time (unstable and neutral stability).

Table 3.4-7

Relative Seasonal and Annual Percent Frequency of Combined Pasquill Stability Categories in Oneida County, New York

Season	Unstable[1]	Neutral[2]	Stable[3]
Winter	7.66	67.60	24.74
Spring	18.53	53.24	28.23
Summer	33.43	29.57	37.00
Autumn	15.27	51.24	33.49
Annual	18.92	50.13	30.95

Notes: [1]Pasquill A, B, and C categories: Vertical mixing is uninhibited through the layer and is at a maximum.
[2]Pasquill D category: Vertical mixing takes place if parcels of air in layer are moved by an external force (mechanical turbulence).
[3]Pasquill E and F categories: Practically no vertical mixing and pollutant dispersion occur.

Source: National Climatic Data Center 1974.

Annual average mixing heights range from about 2,200 feet in the morning to 4,600 feet in the afternoon. These heights combined with an average annual wind speed of 7 miles per hour (mph) provide Oneida County with good ventilation. Thus, dispersion conditions over Oneida County are good, and the air pollution potential is relatively low. This statement should also be true for the other counties in the ROI because of similar meteorological conditions over the ROI.

Although there are 12 major sources (emission greater than 100 tons per year for one pollutant) in Oneida County, the air quality is relatively good. This condition is due to the low air pollution potential over the region.

Pre-Realignment References. The ROI and Griffiss AFB are located within the Central New York Intrastate Air Quality Control Region (AQCR No. 158) (40 CFR 81.127). The ROI is designated by the EPA as attainment for SO_2 and PM_{10} and as unclassifiable/attainment for CO, O_3, and NO_2 (40 CFR 81.333). The ROI has not been designated for Pb. Griffiss AFB is in a Class II PSD area.

The NYSDEC operates two air quality monitoring stations in Oneida County. A PM_{10} monitoring station is operated in Utica, located approximately 15 miles southeast of the base. An O_3 monitoring station is located in Camden, approximately 18 miles northwest of the base. A summary of PM_{10} and O_3 maximum concentrations recorded at these stations from 1990 through 1992 is presented in Table 3.4-8.

Table 3.4-8

Maximum O_3 and PM_{10} Concentrations Measured in Oneida County, New York

Location	Pollutant	Averaging Time	Maximum Concentrations 1990	1991	1992
Camden	O_3	1 hour	0.121 ppm	0.109 ppm	0.094 ppm
Utica	PM_{10}	24 hours	51 $\mu g/m^3$	76 $\mu g/m^3$	47 $\mu g/m^3$
	PM_{10}	Annual	21 mg/m^3	24 mg/m^3	24 $\mu g/m^3$

Sources: New York State Department of Environmental Conservation 1991a, 1992, 1993a.

The other gaseous pollutants, CO, NO_2 and SO_2, are not monitored in Oneida County. To obtain an approximate estimate of the maximum concentration of CO and SO_2 currently existing in Oneida County, maximum concentrations recorded in surrounding counties for 1990, 1991, and 1992 were plotted on maps and a spatial analysis was performed. CO and SO_2 concentrations for each of the three years were obtained for Oneida County and averaged. The results are presented in Table 3.4-9. NO_2 was not monitored in surrounding counties.

The maximum pollutant concentrations shown in Tables 3.4-8 and 3.4-9 are below the ambient standards and confirm that Oneida County and Griffiss AFB have relatively good air quality.

Table 3.4-9

Estimated Existing Maximum Concentrations of CO and SO_2 in Oneida County, New York

Pollutant	Averaging Time	Maximum Concentration (ppm)
CO	1 hour	10.1
	8 hours	6.5
SO_2	3 hours	0.036
	24 hours	0.017
	Annual	0.004

Of the 12 major stationary sources in Oneida County, Griffiss AFB, the Mohawk Valley Psychiatric Center northwest of Utica and the Oneida Correction Facility in Rome, are the three sources with the highest emission rates. All three facilities emit CO, volatile organic compounds (VOCs), nitrogen oxide (NO_x), sulfur oxide (SO_x), and PM_{10}.

Realignment Baseline. Following realignment, pollutant concentrations would be less than concentrations experienced with pre-realignment conditions because numerous emission sources would be eliminated (e.g., most aircraft operations and aerospace ground equipment [AGE]). Realignment would also reduce the number of motor vehicles operating in the surrounding area. Emissions associated with vehicles assigned to the base, military and commuting civilian employees, retirees visiting the base, and truck traffic associated with base operations would be eliminated, except for activities associated with caretaker personnel.

3.4.3.2 Air Pollutant Emission Sources

Pre-Realignment Reference. The 1992 emissions inventory for Griffiss AFB and the most recent emissions inventory (1988) for Oneida County are presented in Table 3.4-10. The emissions inventory for Griffiss AFB is representative of pre-realignment conditions. The primary emission sources at the base include aircraft and motor vehicles. Fuel evaporation and miscellaneous stationary sources contribute a substantial amount of VOC emissions. In addition, heating and power production contribute significant amounts of SO_x and NO_x to the emission inventory. Baseline emissions are presented in Table 3.4-11.

Realignment Baseline. The emission inventory for Griffiss AFB after realignment will be greatly reduced. The remaining emissions can be estimated by assuming that emissions, other than those associated with aircraft and AGE are proportional to the change in onbase population. The ratio of the pre-realignment base population (including military personnel, military dependents, and civilian employees in 1992) to the base population after realignment (1996) was applied to heating and power production, each vehicle, fuel evaporation, and miscellaneous category emissions to estimate realignment emissions. Emissions from aircraft and AGE are based on the transient aircraft

operations of C-141, C-5, B-747, and L-1011 aircraft at Griffiss AFB following realignment. These aircraft operations would be associated with deployment of troops from Fort Drum, New York. It was assumed that there would be a total of 120 operations (i.e., arrivals or departures) for each type of aircraft per year. The Emission and Dispersion Modeling System (EDMS) was used to estimate the emissions from these operations. EDMS was developed jointly by the FAA and the U.S. Air Force specifically for the purpose of generating airport and airbase emission inventories and to calculate the concentrations caused by these emissions as they disperse downwind (Segel 1991).

Table 3.4-10

Pre-Realignment Inventory for Griffiss AFB and the ROI (Tons per Day)

Source	Particulates	SO_x	CO	VOC	NO_x
Griffiss AFB (1992)					
Aircraft Operations	0.02	0.03	1.13	0.90	0.21
Aerospace Ground Equipment	0.01	0.00	0.08	0.01	0.08
Heating and Power Production	0.04	0.28	0.16	0.00	0.45
Motor Vehicles (military and civilian)	NC	NC	4.83	0.47	0.46
Fuel Evaporation Losses	NP	NP	NP	0.07	NP
Miscellaneous Stationary Sources	0.01	NC	NC	0.07	NC
Total:	0.08	0.31	6.20	1.52	1.20
Oneida County 1988	35.8	9.8	150.9	35.0	26.4
Herkimer County 1988	9.2	1.3	53.4	17.2	7.2
Lewis County 1988	6.3	3.2	28.6	11.9	4.5
Madison County 1988	16.9	1.5	54.4	16.8	7.7
Oswego County 1988	27.9	50.5	91.9	31.4	28.6

Notes: NC - Not calculated.
NP - Indicates that the pollutant is not present.

Sources: U.S. Air Force 1993n.

Table 3.4-11

Realignment Emissions Inventory for Griffiss AFB (Tons per Day)

Source	Particulates	SO_x	CO	VOC	NO_x
Aircraft Operations	0	0.002	0.161	0.092	0.078
Aerospace Ground Equipment	0	0.000[1]	0.009	0.002	0.002
Heating and Power Production	0.006	0.042	0.024	0.000[1]	0.068
Motor Vehicles (military and civilian)	NC[2]	NC	0.703	0.068	0.067
Fuel Evaporation Losses	NP[3]	NP	NP	0.011	NP
Miscellaneous Stationary Sources	0.002	NC	NC	0.011	NC
Total:	0.008	0.044	0.897	0.184	0.215

Notes: [1]The value 0.000 indicates the pollutant would be present, but emission would be less than 1 pound per day.
[2]NC = Indicates the pollutant was not calculated for the pre-realignment inventory.
[3]NP = Indicates that the pollutant is not present.

3.4.4 Noise

The ROI for noise sources at Griffiss AFB was defined using FAA-developed land use compatibility guidelines. The area most affected by base closure and reuse is the base itself, and a region of influence approximately 4 miles wide which includes the land 3.5 miles southeast to 3 miles northwest of the base.

The characteristics of sound include parameters such as amplitude, frequency, and duration. The decibel (dB), a logarithmic unit that accounts for the large variations in amplitude, is the accepted standard-unit measurement of sound. Different sounds may have different frequency content.

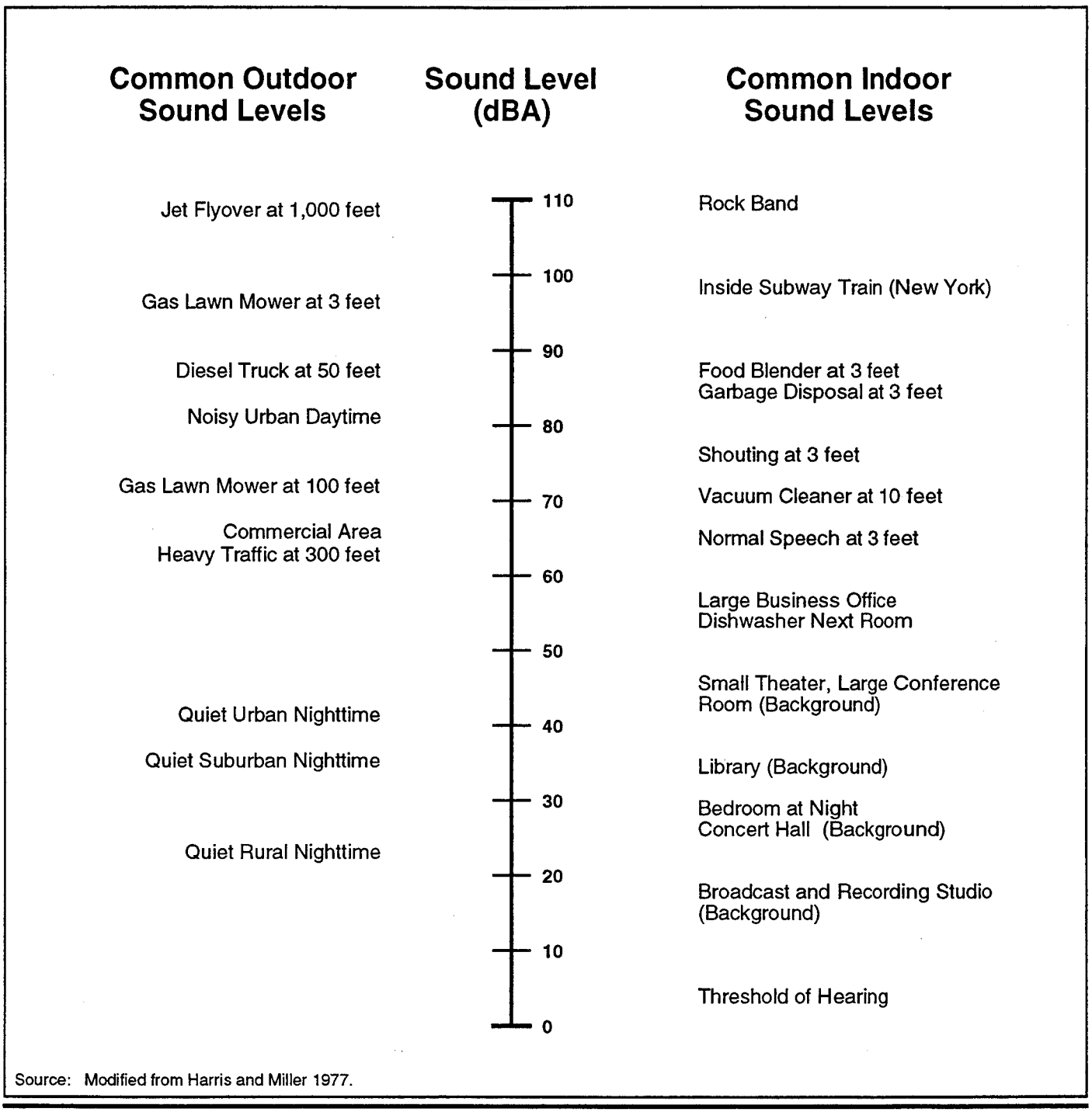
When measuring sound to determine its effects on the human population, A-weighted sound levels (dBA) are typically used to account for the response of the human ear. A-weighted sound levels represent adjusted sound levels. The adjustments, established by the American National Standards Institute (1983), are made according to the frequency content of the sound. Examples of typical A-weighted sound levels are shown in Figure 3.4-4.

Noise is usually defined as sound that is undesirable because it interferes with communication and hearing, is intense enough to damage hearing ability, or is otherwise annoying. Noise levels often change with time. Therefore, to compare levels over different time periods, several descriptors were developed to account for the time variances. These descriptors are used to assess and correlate the various effects of noise on humans, including land use compatibility, sleep and speech interference, annoyance, hearing loss, and startle effects.

The day-night average sound level (DNL) was developed to evaluate the total community noise environment. The DNL is the average A-weighted sound level during a 24-hour period with 10 dB added to nighttime levels (between 10:00 p.m. and 7:00 a.m.). This adjustment accounts for the increased sensitivity to nighttime noise. The DNL was endorsed by the EPA and is mandated by the U.S. Department of Housing and Urban Development, the FAA, and the DOD for land use assessments.

The DNL is an accepted unit for quantifying human annoyance to general environmental noise, which includes aircraft noise. The Federal Interagency Committee on Urban Noise developed land use compatibility guidelines for noise in terms of DNL (Code of Federal Regulations 1983). FAA-recommended DNL ranges for various land use categories based on the committee's guidelines are presented in Table 3.4-12. Guidelines were used in this study to determine noise impacts.

The DNL is recognized by the FAA and Air Force as the noise descriptor for airfield environments. The DNL is recognized by the FAA and Air Force as the noise descriptor for airfield environments. The DNL is sometimes supplemented with other metrics, primarily the equivalent sound level (L_{eq}). The L_{eq} is the equivalent, steady-state level that would contain the same acoustical energy as the time-varying level during the same time interval.



Source: Modified from Harris and Miller 1977.

Typical A-Weighted Sound Levels

Figure 3.4-4

Table 3.4-12

Land Use Compatibility With Yearly Day-Night Average Sound Levels[1] (in dB)

Land Use	Yearly Day-Night Average Sound Level (DNL)					
	Below 65	65-70	70-75	75-80	80-85	Over 85
Residential						
Residential -- other than mobile homes and transient lodgings	Y[2]	N(1)	N(1)	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N(1)	N(1)	N(1)	N	N
Public Use						
Schools	Y	N(1)	N(1)	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Governmental services	Y	Y	25	30	N	N
Transportation	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking	Y	Y	Y(2)	Y(3)	Y(4)	N
Commercial Use						
Offices -- business and professional	Y	Y	25	30	N	N
Wholesale and retail--building materials, hardware, and farm equipment	Y	Y	Y(2)	Y(3)	Y(4)	N
Retail trade--general	Y	Y	25	30	N	N
Utilities	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication	Y	Y	25	30	N	N
Manufacturing and Production						
Manufacturing, general	Y	Y	Y(2)	Y(3)	Y(4)	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y(5)	Y(6)	Y(7)	Y(7)	Y(7)
Livestock farming and breeding	Y	Y(5)	Y(6)	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
Recreational						
Outdoor sports arenas and spectator sports	Y	Y(8)	Y(8)	N	N	N
Outdoor music halls and amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusement parks, resorts, and camps	Y	Y	Y	N	N	N
Golf courses, riding stables, and water recreation	Y	Y	25	30	N	N

Notes: [1]The designations contained in this table do not constitute a federal determination that any use of land covered by the program is acceptable or unacceptable under federal, state, or local laws. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise-compatible land uses.

[2]Key:
- Y (Yes) — Land use and related structures compatible without restrictions.
- N (No) — Land use and related structures are not compatible and should be prohibited.
- 25, 30, or 35 — Land use and related structures generally compatible; measures to achieve Noise Level Reduction (NLR) of 25, 30, or 35 dB must be incorporated into design and construction of structure.

Table 3.4-12, Page 2 of 2

Notes: (Continued)

(1)	Where the community determines that residential or school uses must be allowed, measures to achieve outdoor-to-indoor NLR of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide an NLR of 20 dB; thus, the reduction requirements are often stated as 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year-round. However, the use of NLR criteria will not eliminate outdoor noise problems.
(2)	Measures to achieve an NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
(3)	Measures to achieve an NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
(4)	Measures to achieve an NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
(5)	Residential buildings require an NLR of 25.
(6)	Residential buildings require an NLR of 30.
(7)	Residential buildings not permitted.
(8)	Land use compatible, provided special sound reinforcement systems are installed.

Source: 14 CFR 150.

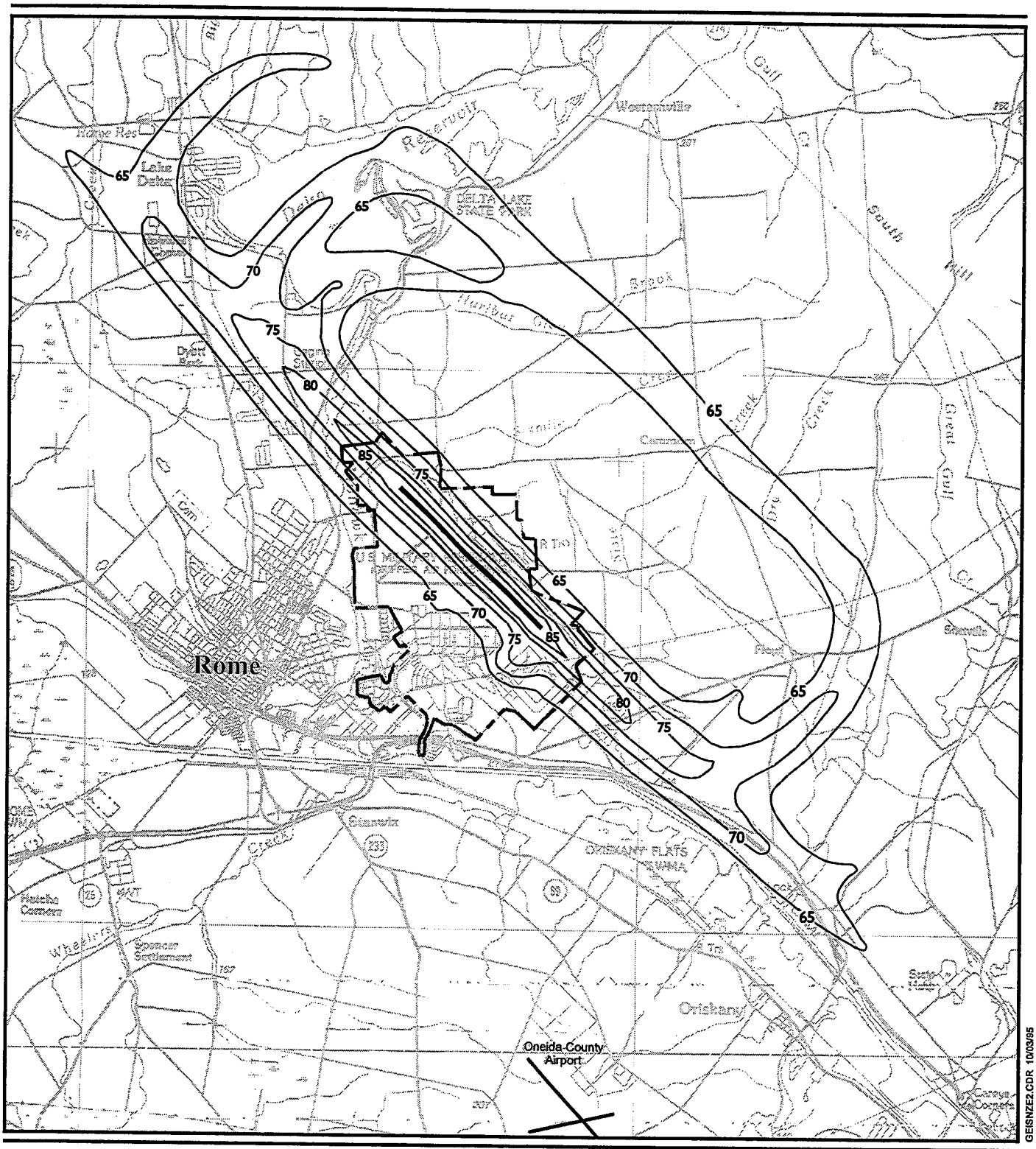
Another descriptor used to describe time-varying sound is the Sound Exposure Level (SEL). The SEL value represents the A-weighted sound level integrated over the duration of the noise event and referenced to a duration of 1 second. When an event lasts longer than 1 second, the SEL value will be higher than the highest sound level during the event.

Appendix H provides additional information about the measurement and prediction of noise. Appendix H also provides more information on the units used in describing noise, as well as information about the effects of noise such as annoyance, sleep and speech interference, health effects, and effects on animals.

3.4.4.1 Existing Noise Levels

Typical noise sources in and around airfields include aircraft, surface traffic, and other human activities. Military aircraft operations and surface traffic on local streets and highways are the existing primary sources of noise in the vicinity of Griffiss AFB. Noise from railroads in the vicinity of the base would be negligible and is not included in the analysis. In airport analyses, areas with DNLs above 65 dB are often considered in land use compatibility planning and impact assessment; therefore, the DNL contours equal to or greater than 65 dB are of particular interest. Contours equal to and above DNL 65 dB are estimated and presented in 5-dB intervals.

Pre-Realignment Reference. Aircraft noise at Griffiss AFB occurs during aircraft engine warmup, maintenance and testing, taxiings, takeoffs, approaches, and landings. Noise contours for pre-realignment aircraft operations (Figure 3.4-5) were modeled for the 1993 AICUZ study using information on aircraft types; runway use; runup locations; arrival and departure flight tracks; aircraft altitude,



LEGEND

—— — Base Boundary

—65— DNL Noise Contours (in 5 dB Intervals)

DNL Noise Contours for Griffiss AFB Pre-Realignment

SCALE IN FEET
0 5000 10000

Source: U.S. Air Force 1993a.

Figure 3.4-5

speeds, and engine power settings; and number of daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) operations. These pre-realignment contours represent aircraft noise impacts when the base was fully operational and are based on an aircraft mix of KC-135R, B-52H, T-37, and transient aircraft. Only those contours equal to or above DNL 65 dB are shown. The contours serve as a reference for comparing noise impacts resulting from the Proposed Action and other alternatives.

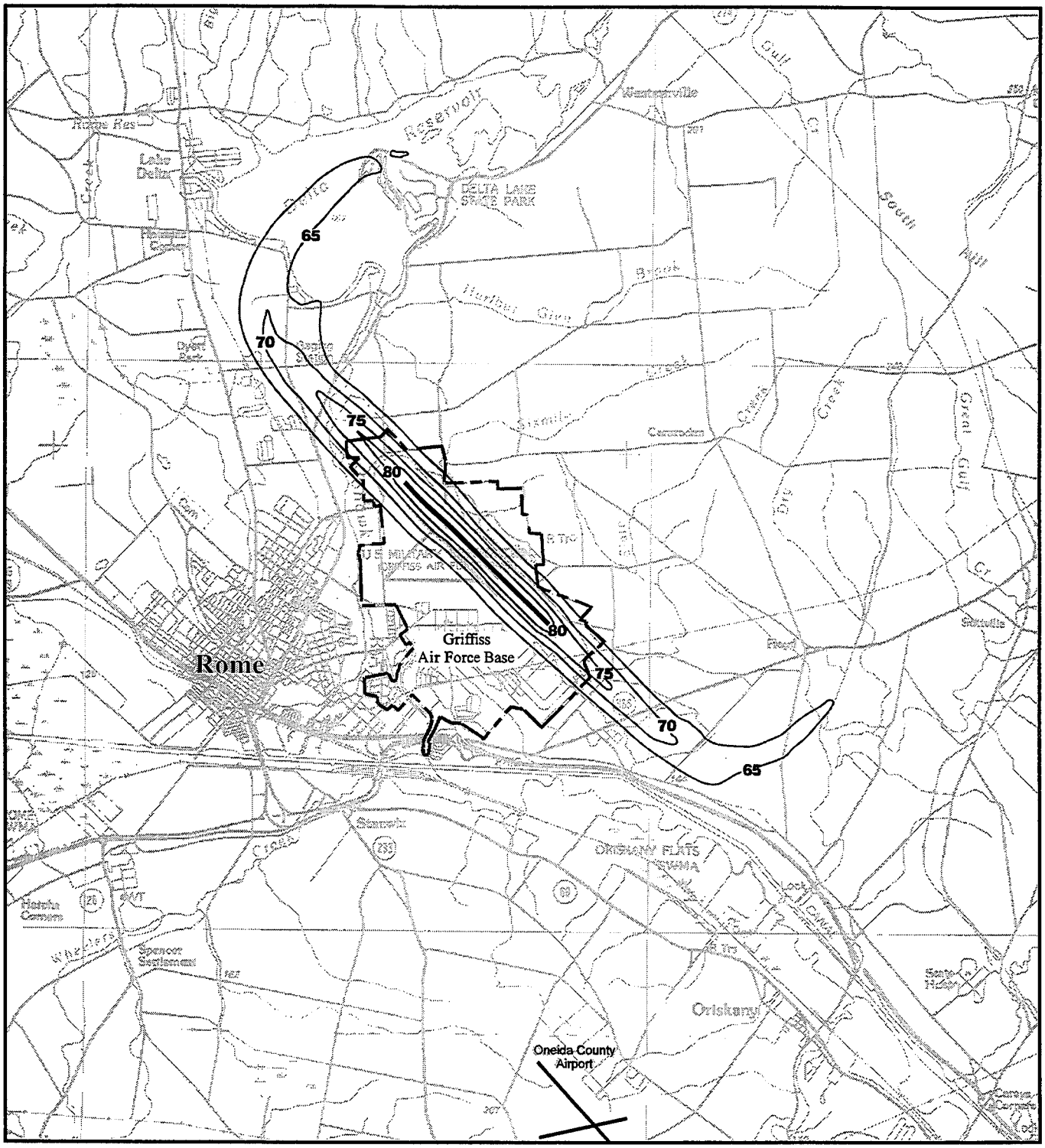
The pre-realignment DNL contours form a distorted elliptical pattern with the major areas oriented along the northwest/southeast runway (Runway 15/33). A narrow region of DNL values slightly greater than 65 dB occurs about 3 miles northeast of the base runway. These noise levels are the result of B-52H aircraft conducting closed track flight patterns at an altitude of 1,500 feet above the terrain (see Figure 3.4-5).

Surface vehicle traffic noise levels for roadways in the vicinity of the base were analyzed using the Federal Highway Administration Highway Noise Model STAMINA 2.0 (1982). This model incorporates vehicle mix, traffic volume projections, and speed to generate DNL values. The results of the modeling for surface traffic are presented in Table 3.4-8. The data used in the surface traffic analysis are presented in Appendix H. The noise levels are presented as a function of distance from the centerline of the nearest road. The actual distances to the DNLs may be less than those presented because the screening effects of intervening buildings, terrain, and walls were not used in the model impact.

Realignment Baseline. Aircraft noise would occur following realignment because of continued use of the airfield. Four types of aircraft (C-5A, C-141A, B-747, and L-1011) are assumed to be used to support deployment of troops from Fort Drum. The FAA-approved Noise Exposure Model (NOISEMAP) Version 6.3 was used to predict 65, 70, and 75 DNL noise contours to estimate the noise impacts from these aircraft operations. The results of the aircraft noise modeling for realignment are presented as noise contours in Figure 3.4-6. Compared to the pre-realignment reference, the area within the DNL 65 dB would decrease by 782 acres. Thus, an improvement in the aircraft noise environment would result from base realignment. The projected surface noise levels for the realignment baseline were calculated using the traffic projections at base realignment (Appendix H). These data include AADT, traffic mix, and speed. The results of the modeling for the roadways analyzed are presented in Table 3.4-13. Because of the relatively small decrease in traffic as a result of base realignment, the decrease in noise levels along the roadways in the vicinity of Griffiss AFB would be 2 dB or less. This small reduction in highway noise levels would not be discernible.

3.4.5 Biological Resources

Biological resources include native and introduced plants and animals in the project area. For discussion purposes, these are divided into vegetation, wildlife (including aquatic biota), threatened or endangered species, and sensitive habitats.



LEGEND

— — Base Boundary

—65— dNL Noise Contour

DNL Noise Contours for Griffiss AFB Realignment

SCALE IN FEET

0 5000 10000

Source: U.S. Air Force 1993a.

Figure 3.4-6

Table 3.4-13

Distance of DNL From Roadway Centerline for the Pre-Realignment Reference and Closure Baseline

Roadway	Distance (feet)		
	DNL 65 dB	DNL 70 dB	DNL 75 dB
Pre-Realignment			
State Highway 49, East of Wright Drive Crossing	132	61	28
State Highway 49, West of Wright Drive Crossing	145	67	*
East Dominick Street, West of Wright Drive Crossing	90	42	20
River Road (State Highway 365) at County Road 88 Junction	70	32	15
Floyd Avenue, West of Floyd Gate	85	39	18
Floyd Avenue, West of Park Drive	104	48	22
Chestnut Street, East of Black River Boulevard	98	45	21
Black River Boulevard, South of Floyd Avenue	118	55	26
Black River Boulevard, South of Bloomfield Street	179	83	39
Black River Boulevard, South of Linden Avenue	151	70	33
Black River Boulevard, North of Chestnut Street	185	86	40
Realignment			
State Highway 49, East of Wright Drive Crossing	138	64	30
State Highway 49, West of Wright Drive Crossing	154	71	*
East Dominick Street, West of Wright Drive Crossing	132	61	28
River Road (State Highway 365) at County Road 88 Junction	76	35	16
Floyd Avenue, West of Floyd Gate	110	51	24
Floyd Avenue, West of Park Drive	99	46	21
Chestnut Street, East of Black River Boulevard	89	41	19
Black River Boulevard, South of Floyd Avenue	212	99	46
Black River Boulevard, South of Bloomfield Street	200	93	43
Black River Boulevard, South of Linden Avenue	166	77	36
Black River Boulevard, North of Chestnut Street	200	93	43

Note: *Contained within the highway.

The ROI for the biological resources analysis is Griffiss AFB and natural areas adjacent to the base. This includes the area in which impacts could occur and provides a basis for evaluating impacts on these resources.

Field surveys of Griffiss AFB were conducted in 1993 and 1994 for general vegetation and wildlife, as well as for sensitive species. The study area included the base property, but less-intensive surveys were extended, where feasible, to natural areas adjacent to the base that could be affected by reuse activities. These areas included habitats along Threemile Creek and Sixmile Creek between the base and the New York State Barge Canal, and were surveyed in October 1994. A rare plant species and significant natural communities survey was also recently conducted on the base (New York State Natural Heritage Program 1993c, 1994).

3.4.5.1 Vegetation

The base lies within the broad valley of the Mohawk River, on alluvial and glacial outwash terraces. The river, in a narrow entrenched floodway, flowing north to south, forms part of the western boundary of the base. Just southwest of the base, the river turns eastward, joining the New York State Barge Canal in a floodplain that becomes increasingly wider. This broader floodplain and canal area form the southern border of the ROI. The original natural community of the uplands in this part of New York was probably northern hardwoods climax forest, a tall, broad-leaf deciduous forest with some needle-leaf evergreen trees. Sugar maple (*Acer saccharum*), birch (*Betula* spp.), American beech (*Fagus grandifolia*), and eastern hemlock (*Tsuga canadensis*) were the dominant species. On the water-logged floodplain soils, the forest was historically dominated by red maple (*Acer rubrum*), with yellow birch (*Betula alleghaniensis*) and some hemlock. Today it is unusual to encounter any natural evergreen growth in the floodplain. The present floodplain forest is predominantly red maple, ash (*Fraxinus* spp.), American elm (*Ulmus americana*), and poplar (*Populus* spp.), either mixed or in relatively pure stands. There are also clusters of mature willows (*Salix* spp.). Silver maples (*Acer saccharinum*), box elders (*Acer negundo*), willows, and elms form a characteristic border along the river banks (Oneida County 1974).

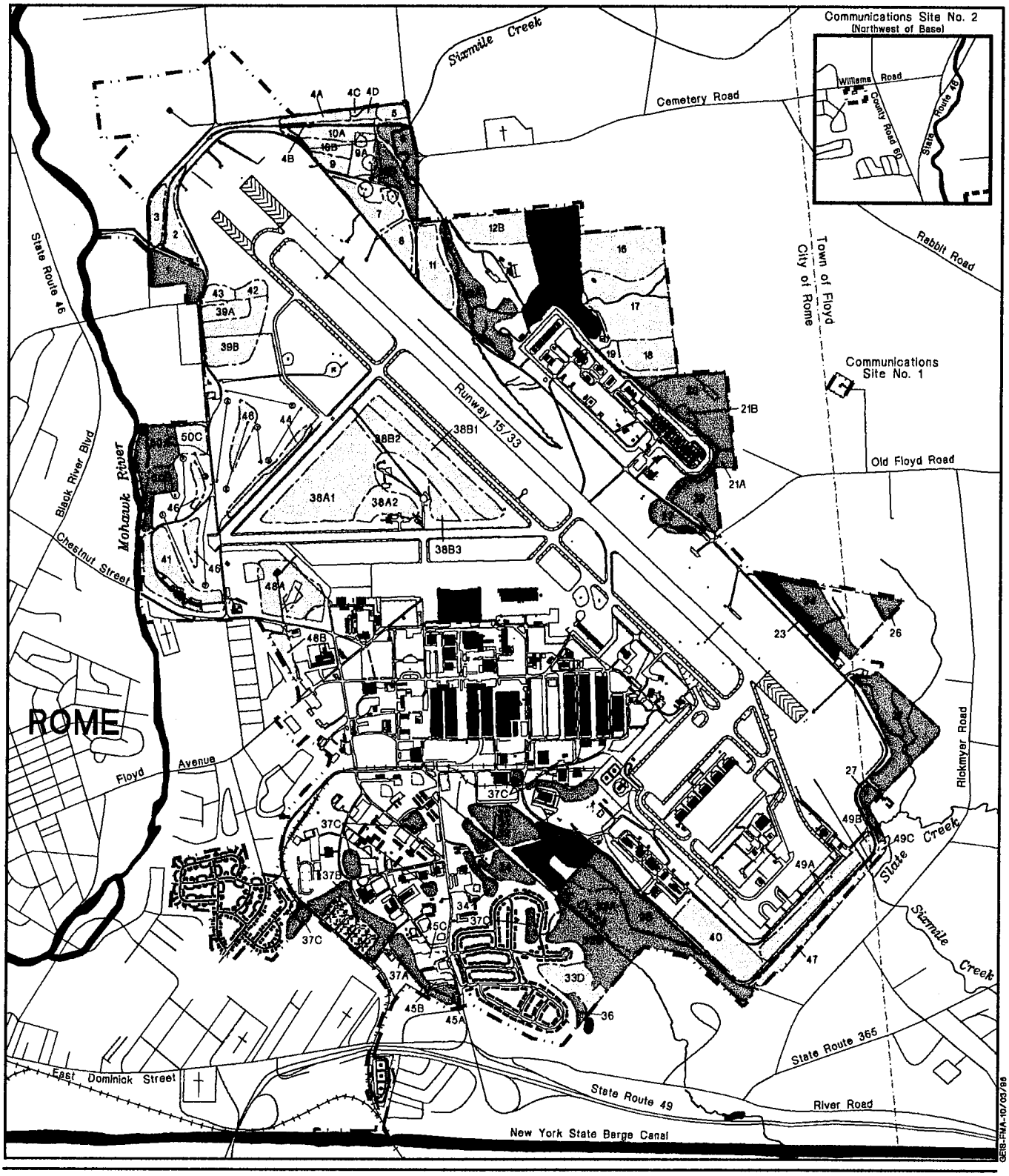
There are few remaining typical northern hardwood climax (highly developed) forest segments in the study area. One is within the boundaries of Griffiss AFB. The area is immediately adjacent to the Mohawk River floodplain, extending up a steep slope, where the hemlock predominate, to a higher (30 to 40 feet) elevation. This is a good example of typical climax forest with tall mature maples, beech, yellow birch, and hemlocks of very large diameters (Oneida County 1974). This area is designated as a camping and picnic area for use by Air Force families. Therefore, much of the potential natural shrub and herbaceous ground cover under the tree canopy is missing. There are other small areas on the base where remnants of this northern hardwood forest remain. Although small, these are relatively undisturbed and show a fairly good cross section of forest strata. The oldest stands occur along the ridge and slope between the base hospital and the Skyline Gate. Another small stand occurs in the east corner of the Woodhaven housing area, west of the base trailer park.

Approximately 60 percent of the base is maintained in short vegetation, consisting of grasses, and various native perennials and introduced herbs and weedy species. This includes 770 acres of landscaped lawns in administrative, recreational, and housing areas and 80 acres of golf course; 1,064 acres of semi-improved grounds; 193 acres of agricultural outleases; and 257 acres for utility right-of-way and landfill areas. Areas near the runways, taxiways, and aircraft parking aprons are periodically mowed. Those areas closest to the runway and taxiways are mowed more frequently. Commercial, operational, industrial, recreational, and residential areas are similarly maintained in short vegetation (U.S. Air Force 1985c).

Approximately 820 acres of forest land are on the base and all are under some level of management. The forest management areas of the base are shown on Figure 3.4-7. This map also shows generalized forest types. The predominant type of natural forest cover type is northern mixed hardwood (350 acres). These uneven-aged stands are dominated by gray birch (*Betula populifolia*), quaking aspen (*Populus tremuloides*), maple (*Acer* spp.) and black cherry (*Prunus serotina*) along with some white ash (*Fraxinus americana*). There are 100 acres of mixed forest, on the wetter sites, dominated by hemlock, maple, black cherry, and white ash. There also are 18 acres of natural, mature hemlock forest. Reforestation efforts at Griffiss AFB have produced 352 acres of even-aged, homospecific stands of coniferous forests. The species planted include red pine (*Pinus resinosa*), Scotch pine (*Pinus sylvestris*), white pine (*Pinus strobus*), larch (*tamarack*) (*Larix laricina*), white spruce (*Picea glauca*) and Norway spruce (*Picea abies*). Table 3.4-14 identifies the planting areas, the year(s) of planting/replanting, and the species planted. Transplanting survival and growth has been good at all areas except area 49. The soils and/or airfield activities adjacent to this area have greatly hindered seedling survival for all species planted (U.S. Air Force 1993i).

Forest management has largely meant tree planting. The last timber cutting prior to 1994 occurred in the early 1960s. There was a fairly large scale thinning cut made during late 1993 and early 1994. The largest of three areas cut was along the bottomland of Threemile Creek. Old growth forest in management areas 23 and 26 was also cut, and around the northern tip of the WSA. The harvest was largely red and sugar maple and black cherry, followed by hemlock, (half as much as all the deciduous) white pine and beech. In addition, there were a few yellow birch, Norway spruce, basswood, elm and ash. These areas are being further cleaned by firewood cutting and collecting (U.S. Air Force 1985b, 1993c).

The vegetation map (Figure 3.4-8) shows the natural forest areas as upland native tree and as wooded wetland areas. In these areas, stands range from mixed deciduous hardwood through mixed hardwood, hardwood and conifer to nearly pure hemlock conifer. Shrubland is shown as either upland or wetland. The upland shrub includes native old-field regrowth areas to thinly planted (or low survivor) areas where the results are nearly the same as native old-field succession with a few non-native conifers added to the community. The native plant communities contain a number of plant species which occur on the



LEGEND

- Base Boundary
- Hardwood Forest
- Coniferous Forest
- Mixed Forest

SCALE IN FEET
0 1000 2000

Forest Management Areas at Griffiss AFB

Figure 3.4-7

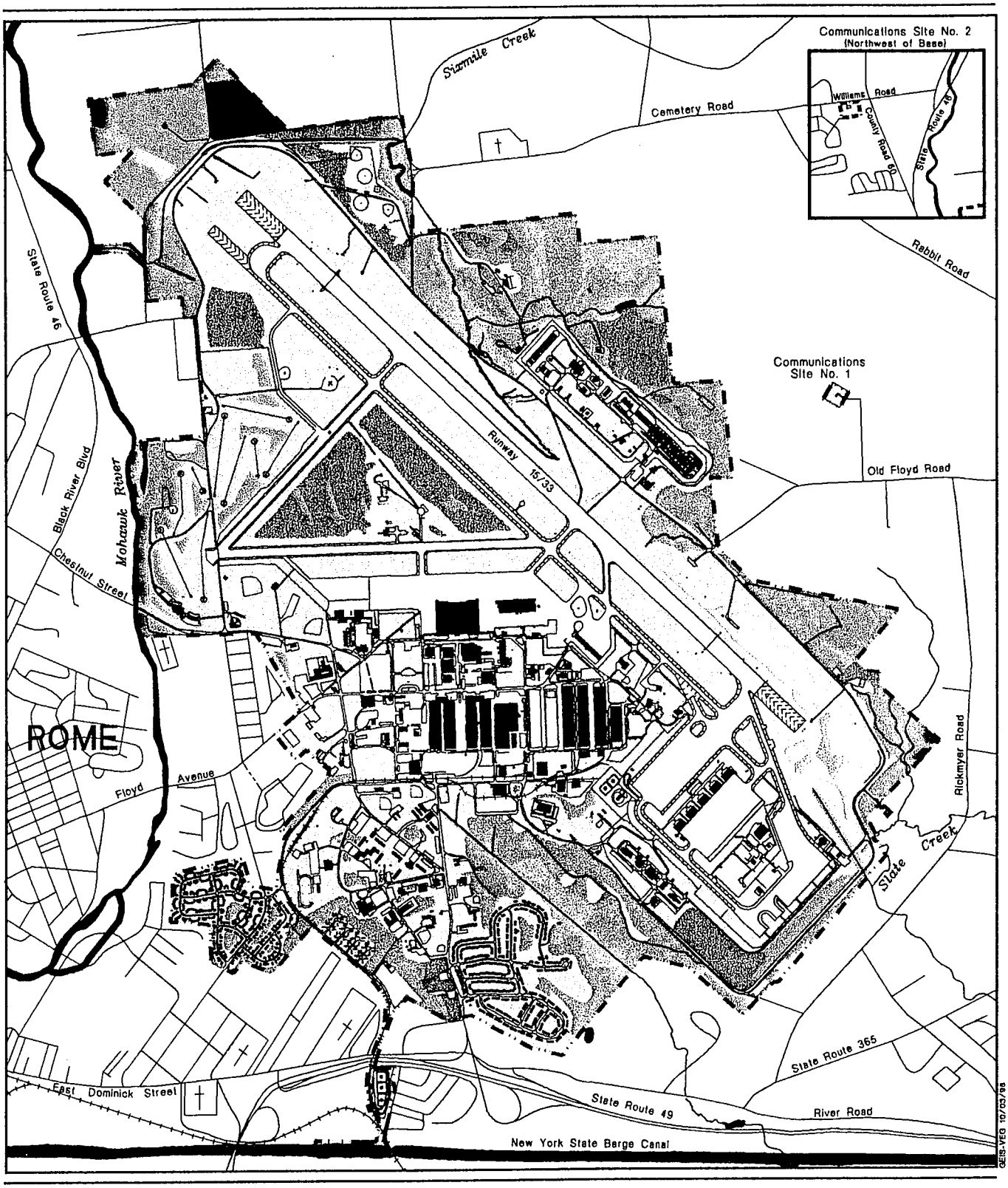
Table 3.4-14

Forest Management Planting Areas at Griffiss AFB

Forest Management Area	Planting Year	Tree Species Planted
2	1975	Larch, Scotch pine
4A	1967-68	White pine, red pine, white spruce
4B	1967-68	White pine, red pine, white spruce
4C	1974	White spruce, red pine, Norway spruce, white pine, wildlife improvement package*
4D	1976	White spruce
7	1976-78	White spruce, red pine, norway spruce, white pine, larch, wildlife improvement package*
8	1974	White spruce, red pine, Norway spruce, white pine, larch, wildlife improvement package*
9	1967	White spruce
9A	1983	White spruce
10A	1970-72	Spruces
10B	1970-72	Spruces
12B	1976	Larch, white spruce, red pine, scotch pint - test plot area.
17	1967-68	White pine, red pine, white spruce
18	1967-68	White pine, red pine, white spruce
19	1974	White spruce, red pine, Norway spruce, white pine, wildlife improvement package*
29	1976,1987	Scotch pine, transplanted red pine out of Area 29
38A1	1977-78	Scotch pine, red pine
38A2	1978-79	Larch
38B1	1975	White spruce
38B2	1975	White spruce
38B3	1975	White spruce
39A	1974	Red pine, white pine, Scotch pine
39B	1974	Red pine, white pine, Scotch pine
40	1974,1987	Red pine, larch
41	1974	Blue spruce, red pine, area cleared for club house
43	1975	White pine, larch
44	1979,1985	White pine, red pine
45A	1984	Larch
45B	1983-84	Blue spruce
45C	1984	Red pine, blue spruce
45D	1992	Red pine
46	1980	Spruce, larch, white pine
48A	1976-78,1987	Douglas fir, 6 trees survived in this area
48B	1987	Red pine, white spruce
49A	1983	Larch, white spruce, red pine
49B	1983	Larch
49C	1983	Scotch pine, others planted but nothing else survived
50C	1975-77	Scotch pine, white spruce, red pine, larch, wildlife improvement package*

Note: *The wildlife improvement package is made up of rose, silky dogwood, highbush cranberry, autumn olive, and honeysuckle.

Source: U.S. Air Force 1985b, 1993i and unpublished files.



LEGEND

- Base Boundary
- Upland Native Tree
- Wooded Wetland
- Upland Shrub/Old Field/ Scattered Tree
- Wetland Shrub
- Grass/Emergent Wetland
- Grass/Mowed
- Golf Course
- Open Water
- Cultivated Field
- Plantation (Conifer)
- Non-Vegetated

SCALE IN FEET
0 1000 2000

Griffiss AFB Vegetation Map

Figure 3.4-8

NYSDEC list of threatened and endangered species (see also Section 3.4.5.3). The conifer areas shown are all plantation areas where the above mentioned conifer species were planted at various times starting in 1967. The largest ground cover on base is grassland, which is maintained by regular mowing. Most grassland is dry, but some wetland exists. The latter is artificially kept as meadow wetland (without obvious shrubs and trees) by regular mowing. The cultivated fields are restricted to a portion of the northern runway clear zone and the vegetable garden area. The golf course is a combination of grassland, areas of cultivated and transplanted trees (native and non-native), and rough (old-field tree and shrub succession) area.

3.4.5.2 Wildlife

Initial wildlife management inventories were conducted in 1968 for preparation of a fish and wildlife plan (U.S. Air Force 1985a; 1993h). Field studies undertaken at that time by wildlife biologists from the U.S. Department of Interior Fish and Wildlife Service (USFWS) and the NYSDEC, and a subsequent inventory conducted in 1974 by the base's wildlife biologist, show a limited, though balanced, ecosystem on base. Wildlife habitat areas on the base and their classifications are listed in Table 3.4-15. A vegetation and bird survey for sensitive species was conducted in 1993 and early 1994 by biologists for the New York State Natural Heritage Program. One new State-listed plant species was found, and two bird species listed as special concern species in New York were observed (see Section 3.4.5.3). Terrestrial species variety is excellent, and populations are well within the carrying capacity of the existing habitat.

Table 3.4-15

Wildlife Habitat Areas and Classifications
Griffiss AFB

Classification	Area
Hardwood forest	350 acres
Coniferous forest (planted)	352 acres
Coniferous Forest (natural)	18 acres
Mixed forest	100 acres
Old fields	26 acres
Grassland (including airfield)	1,027 acres
Wetland	235 acres
Agricultural	124 acres
Freshwater ponds (Manmade)	2 acres
Freshwater stream	6 miles

Source: U.S. Air Force 1993h.

Mammals and birds common to northern forests, open grassland and farmland, urban landscaped, and aquatic riverine habitats are all present on Griffiss AFB. The lists are long, but include white tailed deer (*Odocoileus virginianus*), grey squirrel (*Sciurus carolinensis*), red squirrel (*Tamiasciurus hudsonicus*), eastern chipmunk (*Tamias striatus*), cottontail rabbit (*Sylvilagus* spp.), pileated

woodpecker (*Dryocopus pileatus*), ruffed grouse (*Bonasa umbellus*), red-tailed hawk (*Buteo jamaicensis*), downy woodpecker (*Picoides pubescens*), blue jay (*Cyanocetta cristata*), American crow (*Corvus brachyrhynchos*), black-capped chickadee (*Parus atricapillus*), northern cardinal (*Cardinalis cardinalis*), and numerous other songbirds. Beaver (*Castor canadensis*), raccoon (*Procyon lotor*), bullfrog (*Rana catesbeiana*), green frog (*Rana clamitans melanota*), great blue heron (*Ardea herodias*), common snipe (*Capella gallinago*), red-winged blackbird (*Agelaius phoeniceus*), wood duck (*Aix sponsa*), and mallard (*Anas fulvigula*) are found along the streams and in wetlands. There are killdeer (*Charadrius vociferus*), gulls (*Larus* spp.), rough-legged hawk (*Buteo lagopus*), American kestrel (*Falco sparverius*), grasshopper sparrow (*Ammodramus savannarum*), upland sandpiper (*Bartramia longicauda*), as well as songbirds and small rodents in the very open grassy and roadside areas. Wintering birds in these open areas include the northern harrier (*Circus cyaneus*) and snowy owl (*Nyctea scandiaca*).

Since 1967, a program of reforestation at Griffiss AFB to convert open grassland areas to forestland has been undertaken. The last 40 acres were planted and/or transplanted in 1993 and 1994. Reforestation is altering the wildlife habitat in these selected areas. Left alone, the open grass and brushland areas would, after several successions, become deciduous climax systems as found in some areas of the base. However, the practice of planting even-aged conifer species drastically alters the natural succession. In a single generation, these areas will mature to a dense coniferous forest of even-sized trees with a poorly developed understory. Habitat variability is, therefore, seriously diminished, cover is minimized, and species carrying capacity is reduced. Their habitat value remains quite poor without wildlife habitat improvement (U.S. Air Force 1993h).

Aquatic systems on Griffiss AFB are very limited, but inventories show a balanced ecosystem. Species diversity is excellent, though restricted in numbers due to the small size of the water bodies. These systems include Mohawk Pond and Base Fish Pond, a dammed side channel of the Mohawk River in the floodplain west of the golf course and a beaver dam and pond complex in the woodlands north of the WSA. The Mohawk Pond stream is basically a slow moving, highly turbid body that is presently conducive to the production of fish or other aquatic organisms. Organisms which can be found there include bull frog, green frog, various herons, wood duck, numerous aquatic insects, American toad (*Bufo americanus*), sunfish (*Lepomis* spp.), shiner (*Notropic* spp.), yellow perch (*Perca flavescens*) and various pan fishes, including bass (*Micropterus* spp.), which are stocked for put-and-take fishing. The Mohawk Pond is a warm-water body that is gradually filling with silt and organic detritus. The ecosystem is highly unstable as seasonal flooding and drought have drastic effects on the fish and wildlife habitat found there. The pond is part of a larger land area called the Mohawk Wildlife Refuge, established by the base in 1978, to maintain and protect the area surrounding the Mohawk Pond (U.S. Air Force 1993h). The beaver ponds north of the WSA, when undisturbed by humans, are seasonally very stable and support a diversity of wildlife. No specific inventories have been taken in these areas.

Unattended, these areas, and particularly the beaver ponds, will in generations succeed to a deciduous climatic ecosystem. Aquatic habitat areas will evolve to terrestrial.

The whole length of the Mohawk River in this area is considered a high quality fishery. The section from Delta Lake to Rome is both a cold and warm water fishery (i.e., trout and bass) supporting an excellent recreational fishery (Adirondack Hydro Development Corporation 1992). The Rome State Fish Hatchery is located along the Mohawk River about a mile north of Griffiss AFB.

3.4.5.3 Threatened, Endangered, and Candidate Species

The status and distribution of threatened, endangered, and candidate species were determined through contacts with Federal and State agencies and a literature review. The Air Force requested a list of sensitive species in the project area from the USFWS, as required for initiation of informal consultation under Section 7 of the Endangered Species Act (as amended). Letter correspondence and species list sent to the Air Force from the USFWS completed the consultation (U.S. Fish and Wildlife Service 1994). This list is included in Table 3.4-16. Although none of the bird, mammal, or reptile species listed are known to inhabit Griffiss AFB at this time, it is probable that the Indiana bat or bald eagle could use or inhabit the base ecosystems. No rare or endangered species of fish occur in this area (U.S. Air Force 1993h).

The State of New York lists nine plant species, known to grow on Griffiss AFB, as endangered and has another generalized list of at least three plant species and nine plant genera of species that are currently protected under the law. One additional plant species, the whorled mountain-mint (*Pycnanthemum verticillatum* var. *verticillatum*), is on the New York list as threatened and was recently identified on the base (New York State Natural Heritage Program 1994). Based on the New York list, Griffiss AFB is also within the ranges of four endangered and one threatened animal species. The current status of these species is presented in Table 3.4-16.

3.4.5.4 Sensitive Habitats

Sensitive habitats include wetlands, plant communities that are unusual or of limited distribution, and important seasonal use areas for wildlife (e.g., migration routes, breeding areas, or critical summer/winter habitat). The only significant habitat of record identified in the New York State Natural Heritage Program data base in the fall of 1993 was several miles north of Griffiss AFB, at the Delta Lake Island.

Based on the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), most areas that meet hydric soils and hydrophytic vegetation criteria for wetlands determination and are inundated for 12.5 percent of the growing season or longer are considered wetlands. Areas that are inundated between 5 and 12.5 percent of the growing season may also be considered wetlands depending on soils and vegetation characteristics.

Table 3.4-16

Federal- and State-Listed and Candidate Species Griffiss AFB and Vicinity

Common Name	Scientific Name	Status[1]		Occurrence[2]
		Federal	State	
Birds				
Peregrine falcon	*Falco peregrinus*	E	E	C
Osprey	*Pandion haliaetus*		T	
Northern bald eagle	*Haliaeetus leucocephalus*	E	E	C
Herpetofauna				
Bog turtle	*Clemmys muhlenbergi*		E	C
Mammals				
Indiana bat	*Myotis sodalis*	E	E	C/P
Plants				
Honeysuckle	*Lonicera* sp.		E	O
Indian pipe	*Monotropa uniflora*		E	O
Jack-in-the-pulpit	*Arisaema triphyllum*		E	O
Partridgeberry	*Mitchella repens*		E	O
Phlox	*Phlox* sp.		E	O
Pitcher plant	*Sarracenia pupurea*		E	O
Solomon's seal	*Polygonatum* sp.		E	O
Wild rose	*Rosa* sp.		E	O
Wintergreen	*Gaultheria procumbens*		E	O
Whorled mountain-mint	*Pycnanthemum verticillatum* var. *verticillatum*		T	O
American bittersweet	*Celastrus scandens*		4	O
Ferns var.	*Ophioglossales, Filicales* spp.		4	O
Lily var.	*Lilium* sp.		4	O
Clubmoss	*Lycopodium* sp.		4	O
Princess pine	*Lycopodium* sp.		4	O
Ground pine	*Lycopodium* sp.		4	O
Heath cypress	*Lycopodium* sp.		4	O
Bayberry	*Myrica pensilvanica*		4	O
Ginseng	*Panax quinquefolius*		4	O
Trillium	*Trillium* sp.		4	O
Burning bush	*Euonymus* sp.		4	O
Lady's slipper	*Cypripedium* sp.		5	O

Notes: [1]Status: E = endangered; T = threatened; T(S/A) = threatened by similarity of appearance; 2 = federal candidate Category 2; 3 = federal candidate Category 3; 4 = state, native plant; 5 = state, wildflower
[2]Occurrence: C = confirmed within a 50-mile radius of Griffiss AFB; P = possible, based on habitat available, species range, and historical sightings; O = on-base verification.

Sources: U.S. Fish and Wildlife Service 1994; U.S. Air Force 1985b; New York State Natural Heritage Program 1994.

Information on the size and type of wetlands present at Griffiss AFB was obtained through a review of existing literature and surveys. The results of field surveys conducted by NYSDEC in 1984 and updated in 1993, identified a few wetlands on and crossing the boundary of the base. The NYSDEC wetland classification system maps indicate only those wetland units that are 12.5 acres or larger. These areas are mostly in the eastern and southern portions of the base. Wetlands in the eastern portion of the base tend to drain onto the base, while those in the southern portion receive drainage from onbase sources (New York State Department of Environmental Conservation 1984, 1993b).

In August and September 1993, a jurisdictional wetland boundary survey was conducted on Griffiss AFB (Law Environmental, Inc. 1994b). The boundaries were verified in November 1993 by the U.S. Army Corps of Engineers, Buffalo, New York District. Some problem areas (a mowed grassland area between the WSA and the runway, a wooded wetland near the base boundary northeast of the WSA, and the extreme southeastern corner of the base) were not surveyed because of lost flagging in 1993. These areas were surveyed in late 1994. However, an area in the northeastern corner of the base, including the beaver pond complex along the tributary stream that passes just north of the WSA has not been completely surveyed. The State and Federal wetland areas identified on Griffiss AFB, reflecting each agency's classification criteria, are shown in Figure 3.4-9, and include portions of Sixmile Creek and Threemile Creek. A summary of wetland quantities on the base is presented in Table 3.4-17.

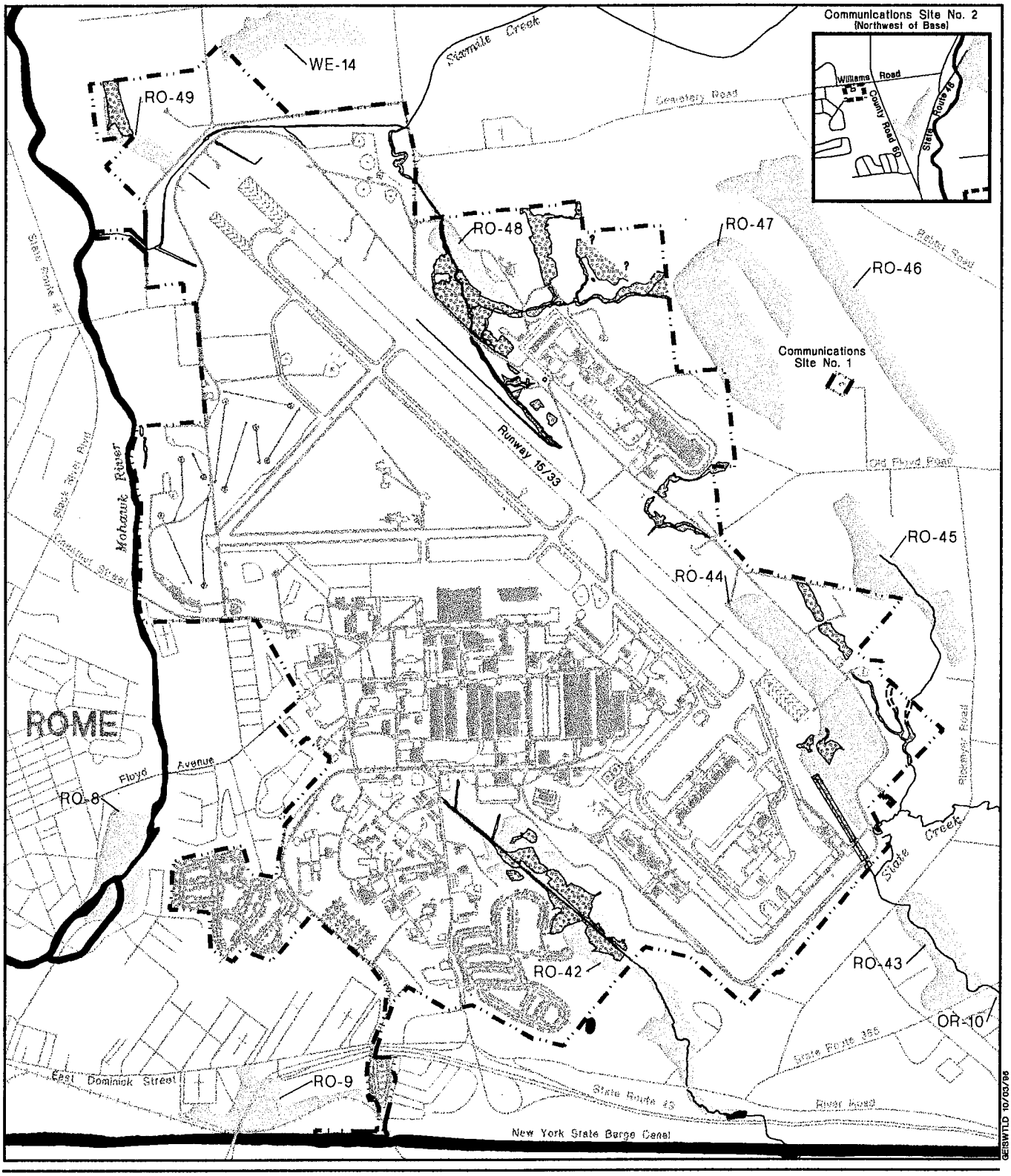
Table 3.4-17

Summary of Wetlands on Griffiss AFB

	Quantity Mapped (acres)			
Agency and Dates	NYSDEC Unique	COE Unique	Common*	Total
NYSDEC 1984/1993	132	-	47	179
U.S. COE 1993	-	64	47	111

Note: *Because the mapped units overlap (about 47 acres are common/included in both mapping criteria), the actual aerial extent of all wetlands on base equals about 243 acres.

The only wetland, as mapped by NYSDEC, that occurs entirely within the base (RO-44) is 76 acres of Class II wetland in the southeastern portion of the flightline area. This type of wetland plant community is generally composed of cattails (*Typha* spp.), purple loosestrife (*Lysimachia* spp.), swamp loosestrife (*Lysimachia terrestris*), arrowheads (*Sagittaria* spp.), reeds (*Phragmittes* spp.), bur-reeds (*Sparganium* spp.), pickerelweed (*Pontederia* sp.), wildrice (*Zizania* sp.), water plantain (*Alisma* sp.), bulrushes (*Scirpus* spp.) and arrow-arum (*Peltandra* sp.). This particular wetland is a little drier than the above plant list usually characterizes. It was investigated in June 1993, by NYSDEC to verify the boundaries, and was found to contain the following wetland vegetation: round-leaved sundew (*Drosera rotundifolia*), jewelweed (*Impatiens pallida*), boneset (*Eupatorium* sp.), joe-pye-weed (*Eupatorium* sp.), lurid sedge



LEGEND

- Base Boundary
- NYDEC Wetlands
- RO-45 NYDEC Wetland Numbers
- USCOE Wetlands
- == or ? Wetlands to be Determined

SCALE IN FEET
0 1000 2000

Griffiss AFB Wetlands

Figure 3.4-9

(*Cyperus* sp.), fox sedge (*Carex* sp.), green bulrush (*Scirpus* sp.), wool grass (*Scirpus* sp.), and soft rush (*Juncus effusus*) (New York State Department of Environmental Conservation 1984). These are generally low, herbaceous plants encroaching on water areas and flooded with standing water much of the year. This wetland, although part of the Sixmile Creek drainage area, was formed as a result of construction of the runway.

Hydrologically, this area most resembles a sloping fen community. Incoming water is from groundwater seepage and overland runoff. Outgoing water from the northern two-thirds of this area drains via groundwater percolation and overflow into a drain connecting to the culverted Sixmile Creek under the runway or southward through roadway culverts under an access road near the south end of the runway. The southern one-third of this area lies on similar terrain but then becomes steeper, draining eventually back into the open ditch of Sixmile Creek. Sixmile Creek surfaces again about 370 yards south of the runway and follows a shrub and willow-lined drainage ditch about 800 yards before exiting the southern base boundary. The major part of the area supports a diverse wet meadow and fen plant community dominated by reeds (*Phragmites communis*) in a patch-work pattern, horsetails (*equisetum* spp.), sphagnum mosses (*Sphagnum* spp.), and cattails (*Typha* spp.), but various rushes (*Juncus* sp.and *Scirpus* spp.) and sedges (*Carex* spp. and *Cyperus* spp.) were also observed. There also are scattered woody plants (trees and shrubs), including willows (*Salix* spp.) and quaking aspens, but these are kept to sprout regrowth clumps by periodic mowing. Because it is below the level of the runway, the southwest part of the area receives less clearing or mowing maintenance. This part of the wetland supports a shrub and tree community of red maple, aspen, willow, dogwood (*Cornus* spp.) and others.

Three other NYSDEC-mapped wetland areas, all part of the Sixmile Creek drainage, are located on and partly off the base. Wetland RO-48 (36 acres, with about two-thirds of the acres onbase and one-third off the base), a Class II wetland, lies along the main stem of Sixmile Creek and one unnamed tributary where they approach the runway from the north. This original wooded wetland floodplain has also become a ponded and emergent wetland due to beaver impoundments. The dam nearest the base perimeter road was opened up twice during the past year. Wetland RO-47 (74 acres, with only a very small portion on the base) is a Class IV deciduous and mixed conifer wetland that forms the headwaters of a tributary of Sixmile Creek. This wetland drains into wetland RO-48. Wetland RO-45 (38 acres, with only a small portion on the base) is a Class III shrub swamp wetland and also forms the headwaters of another tributary of Sixmile Creek that flows through the southeastern corner of the base before joining Sixmile Creek.

Less than one-quarter mile downstream from the base, Sixmile Creek flows through two back-to-back elongated wetlands, RO-43 and RO-10, which are, respectively, 29 and 30 acres in size. These are NYSDEC Class II wetlands. The communities vary from cattail emergent to shrub swamp to deciduous floodplain and mixed coniferous forest. Upon exiting these wetlands, the creek flows another one-quarter mile before it enters the New York State Barge Canal.

Wetland RO-42 (84 acres, about half on and half offbase) is a Class II wetland along the floodway and floodplain of Threemile Creek. The headwaters of this creek and drainage (both surface and groundwater) into the upper half of this creek is from within Griffiss AFB. This wetland is only a shrub and tree lined ditch at its northern limit but quickly becomes a medium-aged deciduous forest and then a mature deciduous and mixed northern hardwood and conifer floodplain forest. It was slightly modified and drained by the dredging and straightening of Threemile Creek. The creek berm, acting like a natural levee, supports a slightly drier community of trees and shrubs. This community was significantly changed in 1994 by a large scale selective timber cutting and sale. Nearly all mature trees were removed from the central spine of this wooded corridor. The lower half of the wetland and creek is on private property, downstream from the base boundary. However, the Air Force maintains an approximately 100-foot permanent easement along Threemile Creek between the base and its confluence with the New York State Barge Canal, about three-quarters of a mile south of the base.

In the northwest corner of the base, in the north clear zone, there is a 13-acre, Class II wetland (RO-49). The southern half of this wetland has been largely cleared of trees and shrubs and kept mowed. It most resembles a wet meadow with a few small regrowth shrubs and trees. The northern portion is a mixed northern hardwood deciduous and conifer forest, dominated by red maple and white cedar and edged by shrubland. This wetland drains westward into a small tributary creek of the Mohawk River.

The wetland delineation performed in 1993 (Law Environmental, Inc. 1994b) and verification/determination by the U.S. Army Corps of Engineers in 1993 and 1994 has increased the quantity of wetlands on the base, as shown on Figure 3.4-9. Many of these added wetlands do not fit the size criteria of the NYSDEC regulations, but are Federal jurisdictional wetlands. In other places the boundaries do not always agree. A few discrepancies or final survey results may not be settled in the time frame for this EIS.

3.4.6 Cultural and Paleontological Resources

Cultural resources include prehistoric and historic sites, structures, districts, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or any other reason. Paleontological resources are the fossil evidence of past plant and animal life. Cultural resources have been divided for the purpose of discussion into three main categories: prehistoric resources, historic resources, and Native American resources. These types of resources are defined in Appendix E.

The ROI for the cultural and paleontological resources analysis includes, at a minimum, all areas within the base boundaries, whether or not certain parcels were subject to ground disturbance. For this analysis, the ROI is synonymous with the Area of Potential Effect as defined by the National Historic Preservation Act (NHPA). The potential conveyance of Federal property to a

private party or nonfederal agency constitutes an undertaking, or a project. This undertaking falls under the requirements of cultural resource legislative mandates, because any historic properties located on that property would cease to be protected by Federal law. However, impacts resulting from conveyance could be reduced to nonadverse levels by placing preservation covenants on the lease or disposal document. Reuse activities within designated parcels that may affect historic properties would require the reuser to comply with the requirements contained in the preservation covenants.

Numerous laws and regulations require Federal agencies to consider the effects of a proposed project on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the Federal agency proposing the action, and prescribe the relationship among other involved agencies (e.g., State Historic Preservation Office [SHPO] and the Advisory Council on Historic Preservation). Methods used to achieve compliance with these requirements are presented in Appendix E.

Only those potential historic properties determined to be significant under cultural resource legislation are subject to protection or consideration by a Federal agency. The quality of significance, in terms of applicability to National Register of Historic Places (NRHP) criteria and of integrity, is discussed in Appendix E. Significant cultural resources, either prehistoric or historic in age, are referred to as "historic properties."

In compliance with the NHPA, the Air Force has initiated the Section 106 review process with the New York SHPO. A pedestrian survey and subsurface testing to identify archaeological sites at Griffiss AFB was conducted in the fall 1994. A draft technical report was submitted to the New York SHPO for review and the New York SHPO concurred in May 1995 with the recommendations for Phase II investigations. An historic structures survey at Griffiss AFB has also been conducted to provide preliminary recommendations of eligibility for structures associated with pre-military settlement, World War II, and the Cold War. A draft technical report has not yet been submitted to the New York SHPO for review and the results are pending.

3.4.6.1 Prehistoric Resources

Paleoindian Period: 10,500-8000 B.C. The earliest human occupation of the northeastern United States is believed to have begun sometime after the retreat of the Wisconsin glacial ice sheet, around 10,500 B.C. Assemblages characteristic of the earliest occupations are fairly uniform throughout the United States, characterized by Clovis and slightly later Folsom and Plano projectile points (Funk 1978). These points are characteristically large and fluted either basally (Clovis) or along the entire length of the point (Folsom). These assemblages are rather limited, usually comprised exclusively of projectile points recovered from sites of large mammal kills. Remains of Pleistocene mammals in the vicinity of the project area include mastodon, beaver, mammoth and bison (Ritchie 1969). Many have accepted the association of these assemblages with kill sites to indicate an almost exclusive reliance on

large mammals for subsistence. This view has been challenged as a by-product of archaeological studies which have been biased toward recordation of these types of sites, along with the fact that the archaeological remains of plant collecting activities are extremely difficult to identify, if preserved at all (Cordell 1984).

Archaic Period: 8000-1300 B.C. The shift from Paleoindian to Archaic occupations in the northeastern United States is generally recognized as a shift from exclusive reliance on large game to mixed "hunting-fishing-gathering" adaptations (Funk 1978:19), probably due in part to the extinction of many large Pleistocene mammals. Population levels increased as well. Due to these factors, habitation sites dating to this Period tend to be larger and richer in artifactual assemblage. Early or Middle Archaic sites in New York are rare. The earliest evidence for Archaic occupations in New York has been found in the Susquehanna Valley, where sites dating to around 7,000 to 5,000 B.C. have been identified (Funk 1978).

During the Late Archaic Period that the first regional manifestations of cultures in the Northeast begin to appear. Most hypothetical explanations of this phenomenon cite the coincidence of areas of broad cultural similarity with particular environmental zones (Tuck 1978), implying highly localized adaptations to regionally variable micro-environmental conditions. Following the culture areas described by Tuck (1978), Griffiss AFB falls within the Lake Forest cultural tradition in the hemlock-pine-hardwoods ecological zone, which generally characterizes the Great Lakes-Saint Lawrence region.

Transitional and Woodland Cultures: 1300 B.C.-A.D.1300. The Woodland Period is traditionally distinguished from the preceding Archaic Period based on the use of ceramics. However, a concrete transition date remains problematic (Tuck 1978). Within the Woodland horizon, a number of cultural systems have been recognized including Frost Island, Meadowwood, Point Peninsula, Owasco and Iroquois.

The Frost Island cultural system dates from approximately 1300 to 1000 B.C., and was centered on the Susquehanna River Valley, south of Griffiss AFB. Sites associated with this system represent primarily riverine adaptations, most often located along stream courses. These sites are small and lack evidence of food storage (Ritchie 1969). Artifacts which characterized Frost Island assemblages include steatite bowls and roughly chipped lithic tools including adzes, choppers, anvils and gorgets.

Flourishing from 1000 to 200 B.C., the Meadowood Cultural System had a wide distribution throughout the State of New York, centering in the western area. A continuing reliance on fishing as a means of subsistence is indicated by the distribution of sites primarily on areas of flat terrain near lakes and streams. In contrast to the Frost Island culture, for which few burials have been identified, the Meadowood is defined largely on the basis of excavated interments of cremated human remains and associated burial goods. Included among these goods are large caches of Meadowood points, whose distribution

has defined the extent of this culture. Other artifacts commonly associated with Meadowood assemblages include stone knives, drills, hammerstones, anvil stones, abraders, choppers and needles, as well as ceramic vessels and pipes and basketry (Ritchie 1969).

The Point Peninsula Culture is comprised of three sequential cultural manifestations, the Canoe Point, Kipp Island and Hunter's Home systems, dating from 200 B.C. to A.D. 1000 (Fitting 1978). The assemblages of all three of these cultures contain Point Peninsula pottery, the defining element of the sequence. These cultures have been recognized as the direct source of traits associated with subsequent Owasco cultures, supporting an "in situ" theory of cultural development (Fitting 1978). Other characteristics which have been identified for these cultures include semi-permanent to sedentary settlements, including some large villages. Elaborate burials continue among these groups, as was noted for Meadowood groups. It is also during this period that we have the first evidence of significant trade among Native American groups in the Northeast, some burials containing Ohio-Hopewell goods. Though fishing and hunting most likely continued as the primary subsistence activities among these cultures, the mortar and pestle appeared towards the end of the Hunter's Home period. This indicates at least a minimal reliance on plant foods, and possibly corn.

The Owasco cultural system dates from approximately A.D. 1000 to 1300 during the Late Woodland Period, and represents the crystallization of a number of traits which would find their way into later Iroquois culture. This culture flourished in the Mohawk River Valley, where Iroquois speaking groups have been recognized during this period (Snow 1984). Significant changes in settlement and subsistence patterns emerge among these groups as they responded to a shifting social order and new subsistence resources.

Whereas settlement had previously been characterized by remote villages concentrated almost exclusively along streams or rivers, Owasco settlements exhibited a pattern of growth and social nucleation, as well as relocation to higher ground, away from major streams (Snow 1984). It is believed that this shift was a response to increasing warfare between neighboring groups. Eventually, many villages were palisaded, affording maximum protection from potential enemies. It is also during this period that the longhouse form became prevalent, clearly established by A.D. 1100 (Tuck 1978).

In addition to changes in settlement patterns, the increasing reliance on cultigens, introduced during the previous periods, also had profound effects. Though fishing continued, deer bone now becomes predominant in refuse, and maize, beans and squash become the focus of subsistence (Snow 1984).

The transition from groups exhibiting Owasco versus later Iroquoian traits is not clearly demarcated in the archaeological record, but it is evident that "uniquely Iroquois" traits are present in New York State by the 12th century, A.D. Some of these traits include large, protected villages, the longhouse architectural form, and use of cultigens for subsistence.

Many Paleoindian and Archaic sites have been found in the region. Fluted points have been recorded in Madison and Otsego counties, south of the project area (Ritchie 1969). Thousands of projectile points dating to the Archaic Period have been recovered from the Bent site, located east of Griffiss AFB. In addition, a number of sites with components dating to this period have been identified along the western and northern shores of Oneida Lake. These include the Robinson and Wickham sites (Ritchie 1969). The Lamoka Lake site, located in southwestern New York State is the type site for the Archaic Lamoka phase, where excavations have revealed habitations, faunal remains, and tool kits (Ritchie 1969).

Several cultural resources surveys have been conducted at Griffiss AFB (Law Environmental 1994a; Panamerican Consultants, Inc. 1995). A small cultural resources survey was conducted for areas where remedial investigations for hazardous materials were to be conducted. No cultural resources were identified during this survey; however, the project areas did not encompass any undisturbed areas of the base (Law Environmental 1994a). Extensive archaeological investigations on Griffiss AFB were conducted in 1994 (Panamerican Consultants, Inc. 1995). Pedestrian survey and subsurface testing based on a predictive model were conducted on portions of 906 undisturbed acres; reconnaissance survey and limited subsurface testing were conducted on 821 marginally disturbed acres. The purpose of these investigations was to identify cultural resources and to provide preliminary assessments on NRHP eligibility. These investigations do not constitute Phase II evaluations. Only two low density prehistoric sites were identified; preliminary site evaluations to determine NRHP eligibility are still pending (Panamerican Consultants, Inc. 1995).

3.4.6.2 Historic Resources

Early European explorers of the Griffiss AFB region include Verrazano for France in 1524, Hendrick Hudson for the Dutch in 1610, and Van den Bogaert for the Dutch in 1634 (Cookenham 1977). Van den Bogaert's journal recorded the first contact with the Oneida tribe. By 1634, the French were also present in the Oneida area to enter into trade relations with the Iroquois as the Dutch had done (Lenig 1977). Contact with Europeans had a profound influence on Iroquoian groups, whose fur trade inspired intra-tribal rivalry and warfare as Native groups competed for European goods and favor. The formation of the Iroquois League of Five Nations, sometime during the latter half of the 16th century, represented an effort to decrease the bloody warfare resulting from hostilities between feuding tribes (Tooker 1984). The League united the Seneca, Oneida, Onondaga, Mohawk, and Cayuga into a powerful political unit. The manipulation of this unit became a necessity for European, and later American groups, who wished to utilize their territory. However, the Iroquois also used the Dutch and the British for their own advantage.

During the late 17th and early 18th century, the Dutch and British fought for control of New Amsterdam. The British gained control in 1667. The first grant of land was made in Oneida County, in 1705, to "five close friends of the

colonial governor" (Cookenham 1977:45). This grant, known as the Oriskany patent of 1705, included the modern site of Griffiss AFB. This land included the Oneida Carrying Place, the portage between the Mohawk River and Wood Creek near modern Rome, which played an important role during the historic period, as it had in prehistory. In 1746, two small forts were constructed to protect this strategic access route: Fort Williams on the Mohawk, and Fort Bull on Wood Creek. This was followed by the construction of Fort Stanwix in 1758, authorized by the British to protect settlers from French and Indian attacks. The fort also provided an important military supply link, improving the plight of the British during the French and Indian War in which they were suffering numerous defeats (Luzader et al. 1976).

In 1776, Fort Stanwix was temporarily renamed Fort Schuyler, and was acquired by the Continental Army for support of American forces. In 1777, the Battle of Oriskany was fought. Oriskany became known as the bloodiest battle of the Revolution, with especially heavy losses on both sides including Iroquois chiefs. Today a monument stands at the site of the Oriskany battlefield, which lies just south of Griffiss AFB.

Activity resulting from construction of Fort Stanwix and military activity in the region associated with protection of the strategic access route initially drew settlers to the area (Larkin 1977). By 1760, two families had settled in the Carry whose primary occupation was trade, capitalizing on the prime water routes between which they were located. The first farms in the area appeared in the 1770s in Deerfield, New York (Larkin 1977). Beginning in the 1780s, there was an influx of New Englanders into Oneida County, and by the 1790s the region boasted a population of 22,000.

The Oriskany patent was eventually sold to Dominick Lynch, whose proprietary approach to land ownership motivated some settlers to leave and settle in nearby areas. The Wright Settlement, located historically near the Floyd Avenue entrance to Griffiss AFB, was one of these villages (Wright 1977). It was founded in 1798 by Ebenezer Wright for whom the settlement was named and whose grave is located near Griffiss AFB. Wright was a lieutenant in the American army. His relatives and friends were the first settlers in the Wright settlement (Forbes 1983).

In the 19th century, a major theme characterizing the activity in the region was the creation of improved transportation. Of primary importance was construction of the Erie Canal which began in 1817, southeast of Griffiss AFB. Though this is the date most often connected with the beginning of canal travel in New York, the Western Inland Lock Navigation Canal had previously served the region. Between 1825 and 1845, the Chenango and Oneida Lake Canals were begun, as well as the Black River Canal, which lies just west of Griffiss AFB (Larkin 1977). Seven railroads were constructed between 1850 and 1880, including the New York Central and Hudson River railroad, which crossed the present location of Griffiss AFB.

The City of Rome grew considerably during this period, prompted by the completion of the railroads, which facilitated transport of people and supplies to the area, the end of the Revolutionary War, and two treaties with the Iroquois (Wright 1977) at Fort Stanwix. Fort Stanwix continued to serve the military until 1830, when it was razed (Luzader et al. 1976). Rome was officially incorporated in 1870, and by the end of the century supported a public school, fire station, iron works, and a number of other industrial and support facilities.

Throughout the first half of the 20th century, industrial and infrastructural growth and development continued in the region. During this period the Rome Air Depot was activated, to serve the entire northeastern section of the nation (Wright 1977). Construction was begun in 1942, during which many of the existing structures, including many industrial and warehouse facilities were constructed (U.S. Air Force 1989a). In 1948, the base was renamed to honor Lieutenant Colonel Townsend E. Griffiss, of Buffalo, New York, who was the first American airman to die during World War II in the European Theater of Operations (U.S. Air Force 1989a).

Part of the base property coincides with the former site of the Wright Settlement. The house where Harold Bell Wright, a well-known 1920s author and descendent of Ebenezer Wright, was born was located in this settlement. Originally built in 1820, the Greek Revival style home was moved in 1952 to its present location north of the golf course to facilitate extension of the then northwestern-southwestern trending runway (now Taxiway 8 on Figure 1.1-1) U.S. Air Force 1981b). A site record was completed and photographs taken of the property in 1981. The structure, Building 880, has been used as a residence for senior officers. Four other historic homesteads that were located on the property prior to construction of the base have also been used as residences for senior officers (Buildings 231, 232, 480, and 883). Building 885, a garage associated with Building 883, was also located on the property prior to construction of the base.

Extensive archaeological investigations were recently conducted on Griffiss AFB (Panamerican Consultants, Inc. 1995). Pedestrian survey and subsurface testing based on a predictive model were conducted on portions of 906 undisturbed acres; reconnaissance survey and limited subsurface testing were conducted on 821 marginally disturbed acres. The purpose of these investigations was to identify cultural resources and to provide preliminary assessments on NRHP eligibility. These investigations do not constitute Phase II evaluations. Eighteen historic archaeological sites were identified during the survey. Preliminary site evaluations to determine NRHP eligibility are still pending.

A historic structures survey was also recently conducted for Griffiss AFB Several buildings at Griffiss AFB are currently being assessed for NRHP eligibility . Two aircraft hangars, Buildings 100 and 101, are being assessed for eligibility for their association with World War II and for their architectural characteristics (NRHP criteria A and C). Additional facilities were evaluated

at Griffiss AFB under the Cold War theme. Building 700, the Northeast Air Defense Sector (NEADS) Combat Center, and Facility 6528, a display B-52G are also being assessed for potential NRHP eligibility for their association with broad patterns of United States history during the Cold War (NRHP criterion A). Comments on these evaluations from the New York State Historic Preservation Officer (SHPO) are pending.

3.4.6.3 Native American Resources

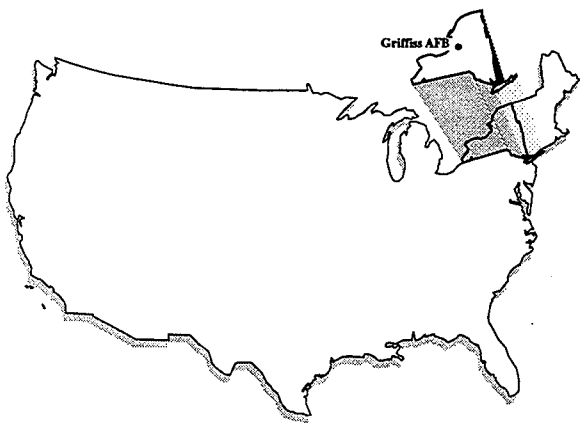
Native American groups historically associated with the Griffiss AFB region include the Mohawk and Oneida Iroquois (Fenton and Tooker 1978; Campisi 1978). The main villages for both groups were located south of Griffiss AFB. Representatives of both tribes fought during the American Revolution, the Mohawk with the British and the Oneida with the American forces. Since the Revolution, both groups have experienced a loss of territory, necessitating the relocation of tribal groups to other areas. Today, the Mohawk occupy the Gibson, Tyendenaga, Oka, and Caughnawaga land reserves in southeastern Canada, and the St. Regis Reserve which lies along the southern border of the St. Lawrence River. This reserve is located partially in Canada and the United States (Fenton and Tooker 1978). The Treaty of 1838 officially expelled all Oneidas from New York, to be relocated in Kansas territory. Refusing to comply, one group relocated to London, Ontario, and another to Green Bay, Wisconsin, where Oneida reserves exist today. A smaller group remained in New York on the Oneida Reserve in the vicinity of the City of Oneida (Campisi 1978).

Native American resources include manmade and/or geographical features which have an important role in Native American religious beliefs or ceremonies. These resources may include elements as diverse as a mountain peak, or an area where a specific plant of key importance in a particular ritual is collected. Consultation with the Mohawk and Oneida Iroquois has been conducted and no sensitive Native American resources were identified.

3.4.6.4 Paleontological Resources

The geology of the Griffiss AFB region is primarily Ordovician shales overlain by surface deposits of glacial till. The shale deposits can be grouped into the Utica and Frankfort formations. Fossils associated with the Frankfort and Utica formations include cephalopods, trilobites, graptolites, brachiopods, and pelecypods. Shales of the Frankfort formation underlie surface formations in the northeastern portion of the base. Utica shales lie along the north side of the Mohawk River, with exposures between Floyd and the former site of Sixmile Creek, which has been diverted (Kay 1953). No paleontological resources have yet been identified on Griffiss AFB.

The paleontological materials most likely to be exposed at Griffiss AFB would be invertebrate assemblages, which are common. Invertebrate assemblages have relatively low research potential (National Research Council 1987).



CHAPTER 4.0
ENVIRONMENTAL CONSEQUENCES

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter discusses the potential environmental consequences associated with the Proposed Action and alternatives. To provide the context in which potential environmental impacts may occur, discussions of potential changes to the local communities, including population, land use and aesthetics, transportation, and community and public utility services, are included in this Environmental Impact Statement (EIS). In addition, issues related to current and future management of hazardous materials and wastes are discussed. Impacts to the physical and natural environment are evaluated for soils and geology, water resources, air quality, noise, biological resources, and cultural and paleontological resources. These impacts may occur as a direct result of disposal and reuse activities or as an indirect result caused by changes within the local communities. Possible mitigation measures to minimize or eliminate the adverse environmental impacts are also presented.

Cumulative impacts result from "the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (Council on Environmental Quality [CEQ] 1978). Cumulative impacts are discussed by resource in this chapter.

Means of mitigating substantial adverse environmental impacts that may result from implementation of the Proposed Action or alternatives by property recipients are discussed as required by the National Environmental Policy Act (NEPA). Potential mitigation measures are described for those components likely to experience substantial and adverse changes with any or all of the alternatives. Potential mitigation measures depend on the particular resource affected. In general, however, mitigation measures are defined in CEQ regulations as actions that include:

- Avoiding the impact altogether by not taking an action or certain aspect of the action;
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- Compensating for the impact by replacing or providing substitute resources or environments.

Mitigation measures that are clearly required by law and/or are standard industry practices were generally considered to be part of the Proposed Action or alternatives and were taken into account in the description of impacts projected for each resource area. Additional potential mitigation measures beyond those clearly required by law or standard practices are described for each resource area where appropriate. Such measures include those the Air Force could implement, those the property recipients could implement, those discretionary mitigations or choices available to other governmental bodies (such as zoning and permit conditions), or lease and deed restrictions available to a possible primary recipient of the property such as the Local Redevelopment Authority.

For each resource area, suggested actions to mitigate substantial adverse impacts to the extent applicable are described as follows:

- A list of feasible mitigation actions is identified and described.
- The benefits derived from each of the alternative mitigation actions to the environmental impacts are described.
- The burdens/costs associated with each of the mitigation actions are described.
- The effectiveness and probability of adoption for each of the possible mitigation measures are described. Probability relates only to non-Air Force actions.
- The party(ies) who could implement and enforce, if applicable, each action is identified, especially non-Air Force entities.

This analysis has indicated that the need for mitigation at Griffiss Air Force Base (AFB) is minimized because the potential for impacts from redevelopment of the installation can be significantly reduced through the avoidance of environmentally sensitive areas. The use of the avoidance technique for mitigation is possible because of characteristics associated with the region's real estate market and the conceptual framework of the redevelopment options being considered. The following summarizes key factors related to minimizing the need for mitigation activities on Griffiss AFB:

- The conceptual nature of the site design at this stage of the planning process allows for flexibility in locating redevelopment projects, thus allowing for avoidance of potentially significant impacts.
- Potentially significant impacts to biological and cultural resources can be avoided because of the flexibility provided by the limited new ground disturbance required to implement the Proposed Action and alternatives being evaluated. For example, total ground disturbance required for the Proposed

Action and alternatives ranges from approximately 370 acres to 640 acres, which represents less than 20 percent of the Griffiss AFB property.

Although this EIS addresses the effects of implementing the Proposed Action and alternative reuse plans, the conceptual plans are generally programmatic in nature. Because of this programmatic context, mitigation measures in many instances are not detailed or site-specific, but focus on appropriate procedures and checklists that should be followed to prevent environmental impacts resulting from the transition of Griffiss AFB from military to other uses. Appendix L presents a mitigation monitoring checklist for the Proposed Action to track and ensure that appropriate procedures are followed during the transition phase.

Although final reuse development would be decided by recipients and local planning/zoning authorities, probable alternative reuse scenarios were evaluated to analyze environmental impacts. Alternatives are defined for this analysis on the basis of (1) plans of local communities and interested individuals, (2) general land use planning considerations, and (3) Air Force-generated plans to provide a broad range of reuse options. Reuse scenarios considered in this EIS must be sufficiently detailed to permit environmental analysis. Initial concepts and plans are taken as starting points for scenarios to be analyzed. Available information on any reuse alternative is then supplemented with economic, demographic, transportation, and other planning data to provide a reuse scenario for analysis.

4.2 LOCAL COMMUNITY

This section discusses potential effects on local communities as a result of realignment and reuse of Griffiss AFB.

4.2.1 Community Setting

Socioeconomic effects are addressed only to the extent that they are interrelated with the biophysical environment. A complete assessment of socioeconomic effects, and the assumptions and multipliers used, are presented in the *Socioeconomic Impact Analysis Study, Disposal and Reuse of Griffiss Air Force Base, New York* (U.S. Air Force 1995). Employment and population generated by implementation of the Proposed Action and each alternative are discussed in this section. New projected direct employment levels on government-retained land, which is the No-Action Alternative and is baseline to all reuse alternatives, would include 100 caretaker personnel beginning in 1996, and an additional 100 Department of Veteran Affairs (VA) clinic employees by 1997 and 650 Defense Finance and Accounting Service (DFAS) employees by 1999 as described in Section 2.1.

The Region of Influence (ROI) for the population analysis is defined as Oneida County, including the City of Rome. Population effects on other communities are expected to be too small to warrant further analysis.

With the realignment of Griffiss AFB on September 30, 1995, a total of 15,174 military and civilian personnel, retirees, and dependents are projected to relocate out of the area. Of this total decrease in population, 9,377 would be from Oneida County, including 4,401 from the City of Rome.

This analysis recognizes the potential for community impacts arising from the effects of announcements regarding base realignment or reuse. Such announcements may affect a community's perceptions and could result in local economic effects. An example would be the immigration of people anticipating employment with one of the reuse options. If it were later announced that the No-Action Alternative had been selected, many newcomers would leave the area to seek employment elsewhere. Such an effect could result in an initial, temporary increase followed by a decline in population.

4.2.1.1 Proposed Action

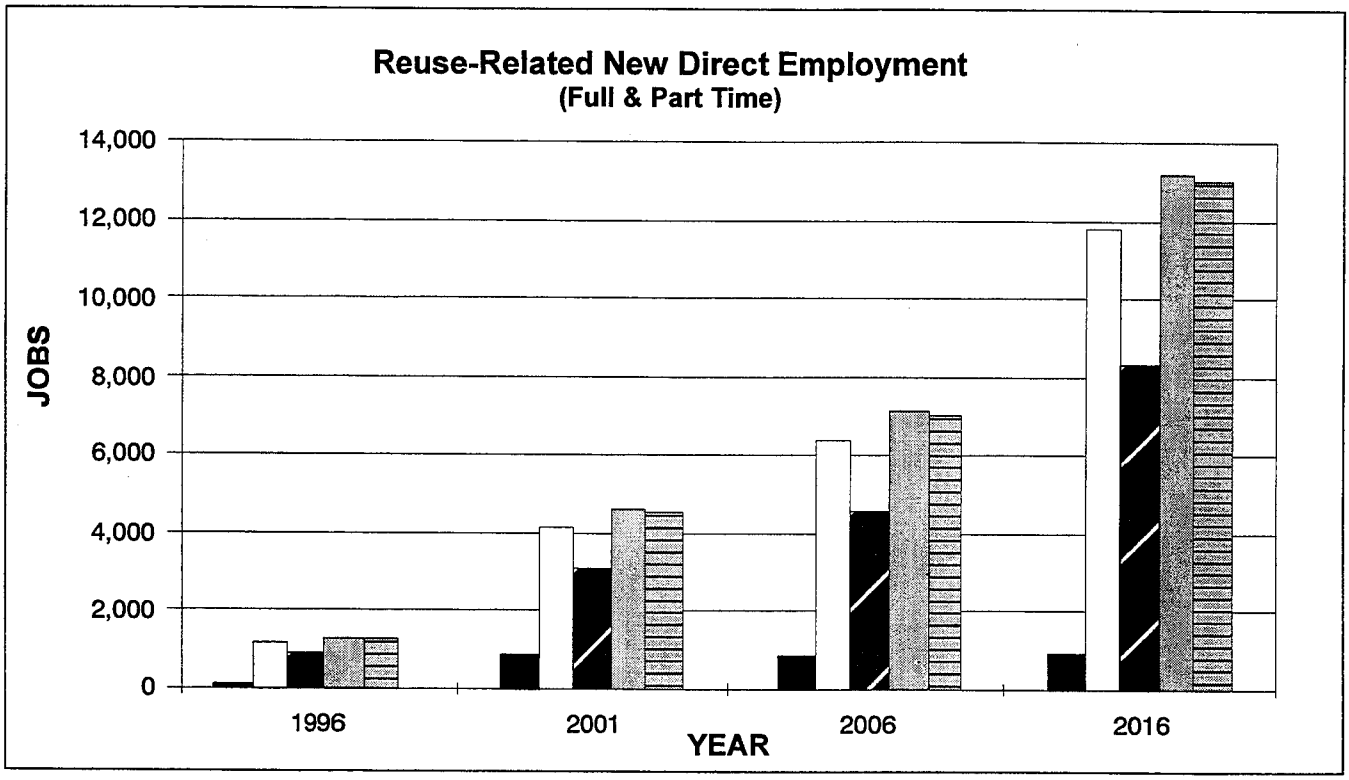
Employment resulting from the Proposed Action would include both direct and secondary jobs. Because changes to the local economy would result solely from new economic activity, only additional jobs created by the Proposed Action were considered in the analysis of employment and population.

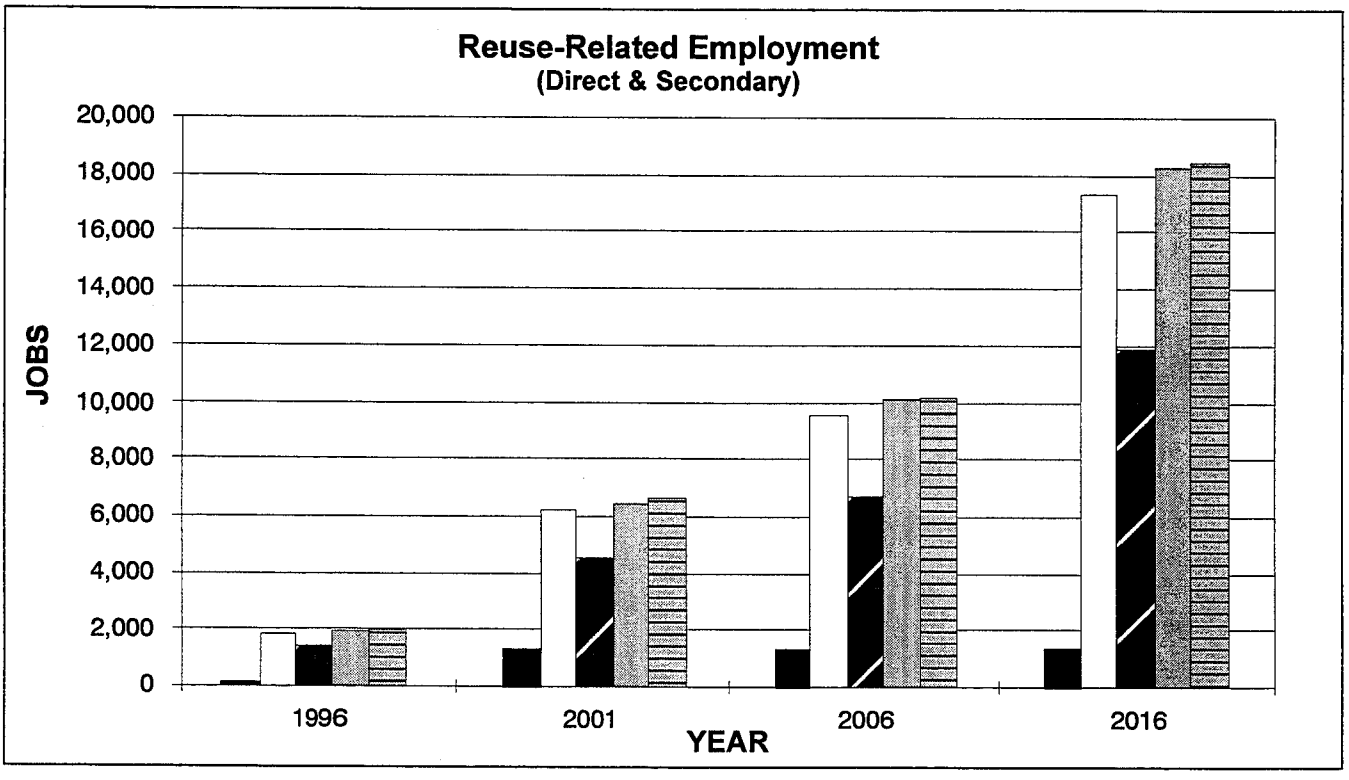
Employment for the Proposed Action would begin in 1996 and increase through 2016 (Figure 4.2-1). In 1996, the Proposed Action would create a total of 1,830 jobs, including 1,177 direct and 653 secondary jobs (Table 4.2-1). The majority of the direct jobs would involve the construction of new facilities, which would require over 2,982 labor-years for completion over an 18-year period. Employment in Oneida County would increase by 6,196 jobs (4,097 direct and 2,099 secondary) in 2001, 9,515 jobs (6,367 direct and 3,148 secondary) in 2006, and 17,258 (11,684 direct and 5,574 secondary) in 2016. In 2016, total employment in Oneida County would reach 109,835, an increase of 18.6 percent over the realignment baseline employment level of 92,577. The labor force in Oneida County would provide approximately 36 percent of the new employees necessary for this alternative.

Table 4.2-1

Total New Employment Generation in Oneida County
Proposed Action

	1996	2001	2006	2016
New Direct Employment				
Construction	149	194	149	0
Demolition	105	91	0	0
Operations	923	3,812	6,218	11,684
Total New Direct Employment:	**1,177**	**4,097**	**6,367**	**11,684**
New Secondary Employment	653	2,099	3,148	5,574
Total Employment (Direct and Secondary):	**1,830**	**6,196**	**9,515**	**17,258**





E008_008.CDR 10/03/95

- No-Action Alternative
- Proposed Action
- Griffiss Research Park Alternative
- Mohawk Valley Business Center Alternative
- Regional Aviation Complex Alternative

Oneida County Reuse-Related Employment Effects

Figure 4.2-1

With the Proposed Action, the population in Oneida County would increase by 437 in 1996, 2,265 in 2001, and 4,979 in 2006. By 2016, the county population is projected to increase by 16,133, reaching a total of 259,005, or 6.6 percent above the baseline. The Proposed Action would increase annual population growth in Oneida County from 0.1 to 0.4 percent (Figure 4.2-2).

The City of Rome would experience most of the population growth in Oneida County as a result of the Proposed Action. The population of the city would increase by 253 in 1996, 1,314 in 2001, and 2,888 by 2006. In 2016, Rome's population would be 49,382, an increase of 9,357 or 23.4 percent over the projected baseline.

Potential Consequences of Airfield Closure. The closure of the airfield by 1999 would result in the loss of 140 direct jobs and 74 secondary jobs in Oneida County. This closure action would have a negligible effect on the overall positive effect of Proposed Action redevelopment on the local economy.

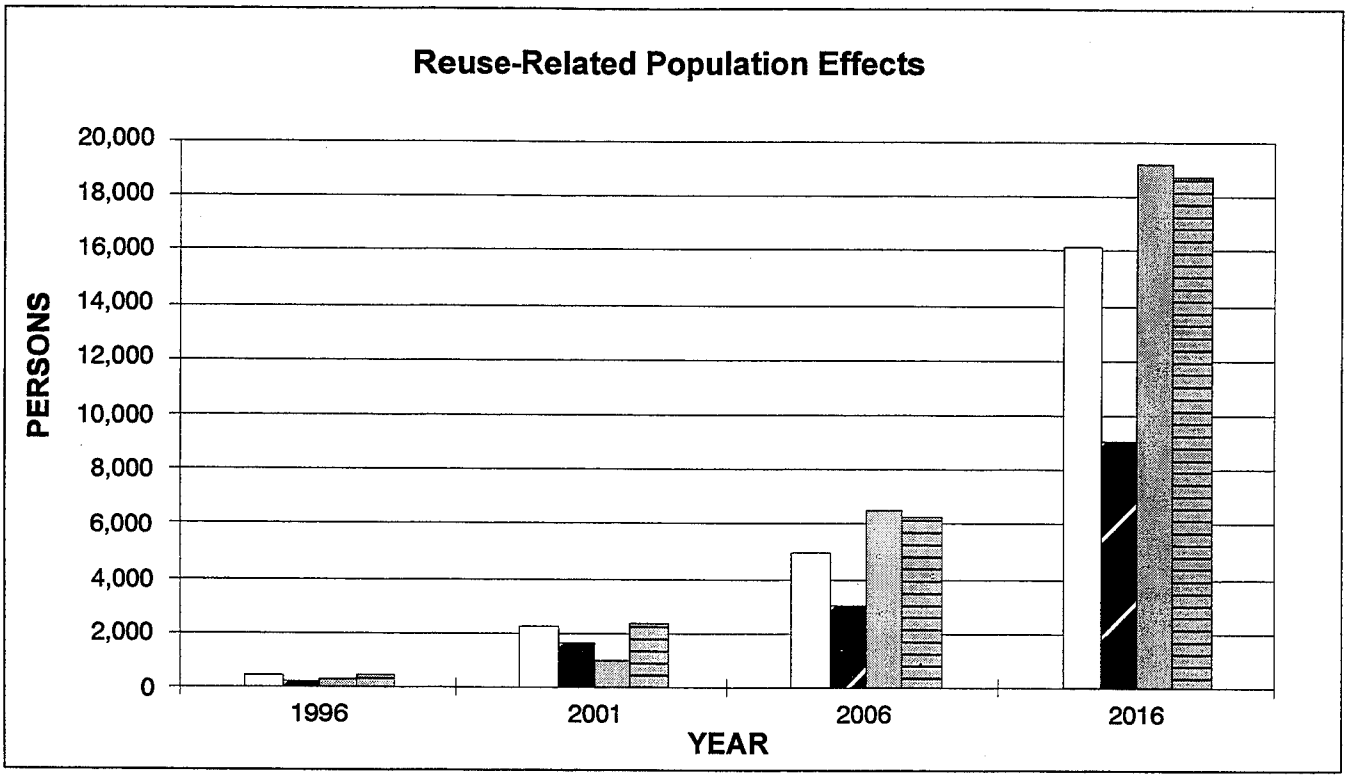
4.2.1.2 Griffiss Research Park Alternative (A)

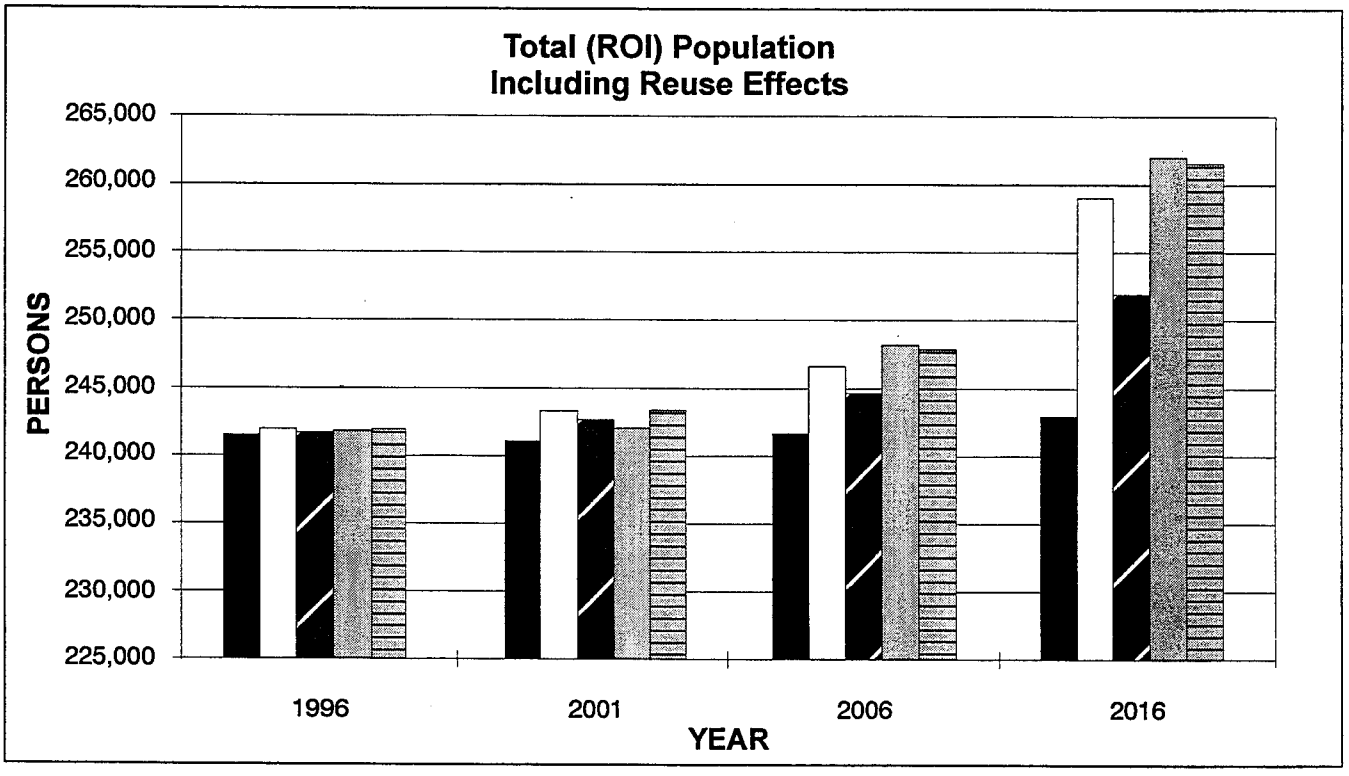
Employment resulting from the Griffiss Research Park Alternative would include both direct and secondary jobs. Because changes to the local economy would result solely from new economic activity, only additional jobs created by the Griffiss Research Park Alternative were considered in the analysis of employment and population.

Employment with the Griffiss Research Park Alternative would begin in 1996 and increase through 2016 (Figure 4.2-1). In 1996, this alternative would create a total of 1,422 jobs, including 938 direct and 484 secondary positions (Table 4.2-2). A large portion of the new direct jobs would involve the construction of new facilities, which would require about 1,703 labor-years for completion over an 18-year period. Project-related new employment in Oneida County would total 4,495 (3,045 direct and 1,450 secondary) in 2001, 6,657 (4,575 direct and 2,082 secondary) in 2006, and 11,811 (8,232 direct and 3,579 secondary) in 2016. In 2016, total employment in Oneida County would reach 104,383, an increase of 12.8 percent over the realignment baseline employment level of 92,577. The labor force in Oneida County would provide approximately 53 percent of the new employees necessary for this alternative.

With the Griffiss Research Park Alternative, the population in Oneida County would increase by 225 in 1996, 1,673 in 2001, and 3,037 by 2006. By 2016, the county population is projected to increase by 9,026, for a total of 251,898, or 3.7 percent above the baseline. With the Griffiss Research Park Alternative, annual population growth in Oneida County would increase from 0.1 to 0.3 percent (Figure 4.2-2).

The City of Rome would experience most of the population growth in Oneida County as a result of this alternative. The population of the city would increase by 131 in 1996, 970 in 2001, and 1,761 by 2006. In 2016, Rome's





E008_009.CDR 10/03/95

- No-Action Alternative
- Proposed Action
- Griffiss Research Park Alternative
- Mohawk Valley Business Center Alternative
- Regional Aviation Complex Alternative

Oneida County Reuse-Related Population Effects

Figure 4.2-2

population would be 45,260, an increase of 5,235 or 13.1 percent over the projected baseline.

Table 4.2-2

Total New Employment Generation in Oneida County
Griffiss Research Park Alternative

	1996	2001	2006	2016
New Direct Employment				
Construction	85	111	85	0
Demolition	103	89	0	0
Operations	750	2,845	4,490	8,232
Total New Direct Employment:	**938**	**3,045**	**4,575**	**8,232**
New Secondary Employment	484	1,450	2,082	3,579
Total Employment (Direct and Secondary):	**1,422**	**4,495**	**6,657**	**11,811**

Potential Consequence of Airfield Closure. The airfield closure effects on the local economy would be negligible for this alternative.

4.2.1.3 Mohawk Valley Business Center Alternative (B)

Employment resulting from the Mohawk Valley Business Center Alternative would include both direct and secondary jobs. Because changes to the local economy would result solely from new economic activity, only additional jobs created by the Mohawk Valley Business Center Alternative were considered in the analysis of employment and population.

Employment for the Mohawk Valley Business Center Alternative would begin in 1996 and increase through 2016 (Figure 4.2-1). In 1996, this alternative would create a total of 1,943 jobs, including 1,314 direct and 629 secondary positions (Table 4.2-3). A large portion of the new jobs would involve the construction of new facilities, which would require about 2,209 labor-years for completion over an 18-year period. Project-related new employment in Oneida County would total 6,393 jobs (4,564 direct and 1,829 secondary) in 2001, 10,069 jobs (7,106 direct and 2,963 secondary) in 2006, and 18,234 (13,098 direct and 5,136 secondary) in 2016. In 2016, total employment in Oneida County would reach 110,811, an increase of 19.7 percent over the realignment baseline employment level of 92,577. The labor force in Oneida County would provide approximately 34 percent of the new employees necessary for this alternative.

With the Mohawk Valley Business Center Alternative, the population in Oneida County would increase by 299 in 1996, 997 in 2001, and 6,529 by 2006. By 2016, the county population is projected to increase by 19,109, for a total of 261,981, or 7.9 percent above the baseline. With the Mohawk Valley Business Center Alternative, annual population growth in Oneida County would increase from 0.1 to 0.4 percent (Figure 4.2-2).

Table 4.2-3

Total New Employment Generation in Oneida County
Mohawk Valley Business Center Alternative

	1996	2001	2006	2016
New Direct Employment				
Construction	181	236	181	0
Demolition	139	120	0	0
Operations	994	4,208	6,925	13,098
Total New Direct Employment:	**1,314**	**4,564**	**7,106**	**13,098**
New Secondary Employment	629	1,829	2,963	5,136
Total Employment (Direct and Secondary):	**1,943**	**6,393**	**10,069**	**18,234**

The City of Rome would experience most of the population growth in Oneida County as a result of this alternative. The population of the city would increase by 173 in 1996, 578 in 2001, and 3,787 by 2006. In 2016, Rome's population would be 51,108, an increase of 11,083 or 27.7 percent over the projected baseline.

Potential Consequences of Airfield Closure. The airfield closure effects on the local economy would be negligible for this alternative.

4.2.1.4 Regional Aviation Complex Alternative (C)

Employment resulting from the Regional Aviation Complex Alternative would include both direct and secondary jobs, including jobs relocated from the Oneida County Airport. Because changes to the local economy would result solely from new economic activity, only additional jobs created by the Regional Aviation Complex Alternative were considered in the analysis of employment and population.

Employment for the Regional Aviation Alternative would begin in 1996 and increase through 2016 (Figure 4.2-1). In 1996, this alternative would create a total of 1,983 jobs, including 1,297 direct and 686 secondary positions (Table 4.2-4). A large portion of these jobs would involve the construction of new facilities, which would require over 3,461 labor-years for completion over an 18-year period. Project-related new employment in Oneida County would total 6,608 (4,503 direct and 2,105 secondary) in 2001, 10,111 (7,009 direct and 3,102 secondary) in 2006, 18,352 (12,921 direct and 5,431 secondary jobs) in 2016. In 2016, total employment in Oneida County would reach 110,929, an increase of 19.8 percent over the closure baseline employment level of 92,577. The labor force in Oneida County would provide approximately 34 percent of the new employees necessary for this alternative.

With the Regional Aviation Complex Alternative, the population in Oneida County would increase by 424 in 1996, 2,365 in 2001, and 6,290 by 2006. By 2016, the county population is projected to increase by 18,680, for a total of 261,552, or 7.7 percent above the baseline. With the Regional Aviation

Complex Alternative, annual population growth in Oneida County would increase from 0.1 to 0.5 percent (Figure 4.2-2).

Table 4.2-4

Total New Employment Generation in Oneida County Regional Aviation Complex

	1996	2001	2006	2016
New Direct Employment				
Construction	173	225	173	0
Demolition	139	120	0	0
Operations	985	4,158	6,836	12,921
Total New Direct Employment:	**1,297**	**4,503**	**7,009**	**12,921**
New Secondary Employment	686	2,105	3,102	5,431
Total Employment (Direct and Secondary):	**1,983**	**6,608**	**10,111**	**18,352**

The City of Rome would experience most of the population growth in Oneida County as a result of this alternative. The population of the city would increase by 246 in 1996, 1,372 in 2001, and 3,648 by 2006. In 2016, Rome's population would be 50,859, an increase of 10,834 or 27.1 percent over the projected baseline.

Potential Consequences of Airfield Closure Followed by Civilian Airport Reuse. The airfield closure effects on the local economy would be negligible for this alternative.

4.2.1.5 No-Action Alternative

With the No-Action Alternative, caretaker activities as well as full development of DFAS and VA clinic facilities would result in new employment at the base. It is estimated that these activities would generate approximately 145 direct and 51 secondary jobs by 1996 and 865 direct and 434 secondary jobs by 2001 in Oneida County. There would be no increase in population with the No-Action Alternative. Total employment in the ROI is projected to reach 92,577 by 2016. Total population in the ROI is expected to be 242,872 by 2016.

Potential Consequences of Airfield Closure. Closure of the airfield by 1999 would result in the loss of an additional 140 direct and 74 secondary jobs. This closure action would have a negligible effect on the overall realignment and No-Action Alternative effects described above.

Cumulative Impacts. Future development in the Rome region would eventually add over 9 million square feet of new commercial and industrial space. This planned new development would result in substantial long-term increases in the regional employment levels (over 18,500 jobs, assuming full buildout), which would in turn increase regional housing and population. These increases would help offset short-term anticipated losses due to Griffiss AFB realignment.

4.2.2 Land Use and Aesthetics

This section discusses the Proposed Action and alternatives relative to land use and zoning to determine potential impacts in terms of master plans, zoning, land use, and aesthetics. Land use compatibility with aircraft noise is addressed in Section 4.4.4, Noise.

4.2.2.1 Proposed Action

Master Plans. The master plans of the City of Rome and towns of Lee and Western are generally outdated and not concurrent with local zoning ordinances, Air Force Air Installation Compatible Use Zone (AICUZ) studies, and Federal land acquisitions which enlarged the base. The recently adopted master plan of the Town of Floyd encourages a residential density compatible with the accident potential zone (APZ) II and the average day/night sound level (DNL) 65 decibel (dB) noise contour. The Proposed Action would require the retention of the existing runway clear zones and APZs I and II. The local jurisdictions should incorporate the latest guidelines of the AICUZ studies, where applicable, into their respective master plans. The Rome Master Plan delineates the Air Force land held in 1970 as Public. Private land which was acquired by the Air Force within the north clear zones is designated as Rural Residential-Agricultural, a zone incompatible with a clear zone.

The planning concept of a Rome bypass dates back to the 1960 Rome Master Plan. The current 1970 city master plan also includes a route within the floodplain of the Mohawk River that crosses the river three times and replaces an existing crossing with an interchange to avoid Griffiss AFB and Mohawk Valley Community College. Implementation of the city's latest bypass, as part of an overall beltway, would have the potential to affect the Mohawk River floodplain and associated environmental resources and to displace many residents and recreational facilities.

The Proposed Action incorporates the bypass concept by including a regional parkway. However, the route has been moved farther east to land principally located on the base. The parkway would provide direct vehicle access to the eight proposed development districts. The parkway would generally avoid the Mohawk River floodplain, reducing the river crossings to one, and reduces most of the other potential adverse environmental impacts related to the bypass alignment. As a result, the Proposed Action would preserve most of the existing neighborhoods, parks, wildlife habitat, and floodplain.

The Proposed Action would also result in the eastward expansion of the City of Rome Inside District by approximately 1,700 acres, to the edge of the present base flightline. The proposed 835-acre open space network is intended to buffer both urbanized Rome and 258 acres of proposed residential, institutional (medical and education), and future commercial development districts, from the airfield and a new commercial/industrial development core.

The new commercial/industrial development core would contain 497 acres consisting of four industrial and one commercial development districts. The retained Federal land would be anchored by Rome Lab and the DFAS Center. The residential development district would be sited at one of the former military housing areas. The housing would include both single-family and multifamily dwelling units. Another development district reserved for institutional (education) use would preserve the present campus-like setting for future use such as relocating Mohawk Valley Community College. The last development district, designated as development reserve, would be left vacant in the short term, reserved for a high-value commercial development requiring high visual exposure.

The 835-acre open space network would retain the existing golf course and convert the existing club to a conference center. The remainder of the open space is planned for the parkway and other public/recreational uses. The open space network would also link and further expand the conservation reserves of the Black River Canal/Mohawk River Corridor with the historic Erie Canal/New York State Barge Canal Corridor.

The parkway segment aligned off the base would encroach upon land designated Neighborhood/Commercial, a designation currently inconsistent with the zoning ordinance. The parkway would also affect land designated Low Density Residential, Rural Residential-Agricultural overlaid by an Airport Approach Zone, and Conservation Reserve with a planned park site and the Black River Canal Corridor.

Zoning. The land contained within Griffiss AFB as of 1970 is designated as Airport District by the City of Rome Zoning Ordinance. Land located within the north clear zone of the runway was acquired after 1970. The acquired land retained the existing zoning; Airport Approach District (A-A) and F-2 Agricultural and Open Space District (F-2). The A-A is a zone more appropriate for land sited within a Approach-Departure Clearance Surface than land within a clear zone. The F-2 is a zone more appropriate for agricultural land than a clear zone or Approach-Departure Clearance Surface. With reuse, the Federal land retained for airfield and aviation support should all be within the Airport District, including the land currently zoned A-A and F-2.

With the Proposed Action, all Griffiss AFB property located outside the Airport District should be rezoned to other more appropriate districts. For instance, land within the APZs should be rezoned to A-A rather than retaining the F-1, F-2, and R-20 districts. It is anticipated the City of Rome would either rezone the property to more appropriate zoning districts consistent with the Proposed Action or initiate rezoning through the use of a Planned District. Private land located within APZs I and II and within the DNL 65 dB noise contour contains 279 dwelling units and is anticipated to remain within the A-A District. All other private property currently within the Federal Approach-Departure Clearance Surface could be rezoned to an other appropriate district outside the A-A District.

The Town of Floyd is anticipated to retain 46 acres of airbase environment (A) zoning within Griffiss AFB, because the airfield land use would not change. Communications Site No. 1, with 2.5 acres of residential-agricultural, would be nonconforming and should be rezoned to (A). Another 13.5-acre parcel, currently zoned A, would no longer be used as airfield and could be rezoned. The private property currently located within APZs I and II would retain existing zoning with 92 dwelling units. However, the current area within the DNL 65 dB noise contours would be reduced in size, allowing the town to rezone property now outside the noise contours to more appropriate districts. The DNL 65 dB noise contour would contain 162 dwelling units.

The DNL 65 dB noise contour within the Town of Lee would be reduced by approximately 95 percent. The remaining area within the contour contains 28 dwelling units and is within the Residential-20 District, a zone compatible with the AICUZ program. The town could rezone other property formerly within the noise contour to more appropriate zoning districts.

The noise contours would no longer encroach upon the Town of Marcy. The absence of AICUZ zones within the town boundaries would allow for the elimination of the AICUZ program from its zoning ordinance.

The 65 DNL noise contour within the Town of Western would contain 69 dwelling units. This area would only remain within the zoned Residential Community District of Elmer Hill, located at the extreme southwestern corner of the town. Expansion of this small residential community is restricted by the presence of Delta Lake. Most of the land within the noise contour has been developed, except for an agricultural parcel to the south and uninhabited floodplain of Delta Lake State Park.

Land Use. With the Proposed Action, the former cantonment of Griffiss AFB would be redeveloped into various themed development districts, resulting in a planned expansion of the Inside (urban) District of Rome. The 835 acres of the open space network would act as a buffer separating the intensive industrial, commercial, and aviation land uses of the Proposed Action from the urban area of Rome and the planned residential, institutional, and future commercial development districts. The open space network would also provide a variety of multiple uses including planned public and recreational uses in addition to the siting of a planned parkway. The parkway provides for primary public access to all the redevelopment areas and would also become the eastern segment of a regional beltway that would surround the Inside District of the city. The proposed open space network would also link the Black River Canal Corridor with the Erie Canal/New York State Barge Canal Corridor to the south.

Aligning the parkway through Griffiss AFB is preferable to bypassing it as described in the city master plan. The master plan route, if constructed as shown in the master plan, would result in the displacement of up to 100 single-family dwellings, 6 multifamily buildings, a convalescent home, an industrial zoned site, and a farm. This road alignment would also result in the conversion

of 40 acres of prime farmland to nonagricultural use, and disturb 55 acres of riparian land. Three new bridges would be constructed over the Mohawk River and one existing bridge would be converted to a large interchange. In addition, this alignment would cross two city parks and another interchange would be constructed over the Black River Canal.

With the Proposed Action, adverse impacts related to land use would occur at the northern third of the proposed parkway. The proposed right-of-way at Potter Road and State Highway (SH)-46 would displace two to eight single family residences and landlock a rural cemetery. Impacts related to agriculture would result in the conversion of 32 acres of prime farmland, 26 acres on the base and 6 acres off the base. The parkway would also split two operating farms and one onbase agricultural lease. One farm is proposed in the Rome master plan as a park site. The other farm is overlain by Air Force avigation easements. The onbase agricultural lease is located within the Air Force-owned runway clear zone. The Farmland Conversion Impact Rating Form AD-1006 (used to assess impacts of conversion of potential prime farmland to nonagricultural use) is presented in Appendix K. The parkway also crosses over the Mohawk River and a portion of the State-owned Black River Canal. The parkway would also displace two holes of the base golf course and a sewer pump lift station.

The parkway alignment encroaches upon the clear zone and transitional surface of the main runway. However, the parkway meets and exceeds the Federal requirements concerning objects affecting navigable airspace (California Department of Transportation 1990). If the Proposed Action included the use of the alternate launch surface as a secondary runway, the parkway alignment would violate the Federal Airway-Highway Clearance Requirements for Military Airports because motor vehicles traveling on the parkway would become moving obstructions to air navigation. The airfield APZs would cumulatively still contain 186 dwelling units, in addition to 236 dwellings and 1 school within the DNL 65 Db noise contour.

Aesthetics. With the Proposed Action, the level of visual quality would remain the same in the short term and would be enhanced in the long term with maturity of natural and introduced landscaping.

Government-Retained Land. No adverse impacts would occur to land use resources with retention of land by the Federal Government for aviation, commercial, medical, and industrial land uses. The retained uses, including Rome Lab, the VA clinic, and the DFAS Center, would anchor the development core and bring vitality to the center and improve the feasibility of attracting new development.

Offbase Impacts. Construction of the offbase portion of the parkway would displace 2 to 8 residences, landlock a rural cemetery, convert 6 acres of prime farmland, and split two farms.

Potential Consequences of Airfield Closure. Closure of the airfield by 1999 would result in vacating about 1,400 acres of airfield land use and from 20 to 100 acres of aviation support (industrial) land use. The closure action would provide the City of Rome and the Town of Floyd with the opportunity to amend their master plans and zoning ordinances. In addition, road access to the Weapons Storage Area (WSA) could be more direct, providing an improved opportunity for redevelopment. With airfield closure, the AICUZ program would end, providing the City of Rome and the Towns of Floyd and Lee the opportunity to rezone all land currently located within the AICUZ zones to more appropriate districts for the mutual benefit of the private property owners and the respective jurisdictions. There would be no additional effects on aesthetic resources.

Cumulative Impacts. With reuse of the base, there would be no adverse cumulative impacts. Future development in the Rome region will eventually result in over 9 million square feet of additional commercial and industrial buildings. The areas proposed for development are already planned for such uses; therefore, there would be no significant cumulative land use impacts.

Required Mitigation Measures. Mitigation measures for Proposed Action that are clearly required by law or are standard industry practices are described below. The measures were taken into account in the assessment of the impacts on land use and aesthetics.

- Convert the alternate launch surface to taxiway through the closure of the blast pad and overrun, painting yellow Xs on the hard surface, with a minimum of cost.

Additional Potential Mitigation Measures. There are a number of potential mitigation measures for the Proposed Action that could be implemented to lessen the resulting impacts on land use and aesthetics. The following actions, procedures, guidelines, and recommendations have been identified as potential mitigations beyond those clearly required by law or standard practice.

- The City of Rome could eliminate the planned widening of Potter Road by shifting the northern starting point of the proposed parkway by approximately 1,000 feet east, to the intersection of Black River Boulevard (SH-46) and Potter Road. The reduction of 1,000 feet of road improvements would reduce the cost. This would reduce the number of displaced dwelling units from a maximum of eight to two; and would eliminate the impacts on a rural cemetery. The effectiveness and probability of success with this measure would depend on the vote decision of the appropriate authority.

- The City of Rome could design the parkway crossing over the historic Black River Canal to preserve the canal, and the pedestrian/equestrian access along the historic tow path. This would involve design and construction costs. This would

lessen the impacts on both the State-owned conservation reserve land and the future city park. The effectiveness and probability of success with this measure would depend on the vote decision of the appropriate authority.

- The City of Rome could redesign the parkway alignment to avoid the sewer pump lift station. The effectiveness and probability of success with this measure would depend on the vote decision of the appropriate authority. This measure would require design costs to redesign the parkway alignment; however, more costs would be expended to design and relocate the lift station to a new site.

- The Griffiss Local Development Corporation (GLDC) could convey all applicable public utility, drainage, road, highway and railroad easements, and the outgrants, to permanent status. This action would benefit the GLDC by reducing facility maintenance costs. Conversion of these outgrants would also provide the utility companies and local and State government entities the ability to plan and coordinate more effectively during this reuse transition period. GLDC could be primarily responsible for coordinating this conversion action. The process of conversion to permanent status can typically be processed by a title company and reviewed by an attorney. The effectiveness and probability of success with this measure would depend on the vote decision of the appropriate authority.

- Identification or establishment of conservation easements on Griffiss AFB under New York State Environmental Conservation Law, Article 49, could provide a basis for long-term protection and management of important land resources on Griffiss AFB. Griffiss AFB land that would qualify under the New York Conservation Law includes the public/recreational category identified in this EIS. Land in this category includes prime farmlands, agricultural, open space/recreation, wetlands, and wildlife management uses. The City of Rome could coordinate this action in cooperation with the State and GLDC. The City of Rome Planning Department could typically process the application and file it with the State of New York using existing staff at minimal cost.

- The City of Rome could initiate the preparation of a zone change amendment for Griffiss AFB to reduce impacts from piecemeal development through spot zoning. The City of Rome could delay the rezoning process of the property until an approved Comprehensive Reuse Plan has been adopted and the Record of Decision (ROD) has been rendered to keep processing down to the lowest cost. The effectiveness and probability of

success with this measure would depend on the vote decision of the appropriate authority.

Aesthetic resources would not be affected by the Proposed Action. Mitigation measures would not be required.

4.2.2.2 Griffiss Research Park Alternative (A)

Master Plans. Impacts of this alternative associated with the AICUZ program would be similar to the Proposed Action. The use of Mohawk Drive and Wright Avenue as a regional bypass around Rome is similar to the original concept of the 1960 Rome Master Plan, which also used Chestnut Street. This concept was superseded by the adoption of the current master plan.

Zoning. The Griffiss Research Park Alternative would be similar to the Proposed Action except there would be no residential land use.

Land Use. This alternative would not have the adverse impacts that would be associated with the Proposed Action. This alternative contains 62 more acres of airfield and 152 more acres of open space network. The open space network would still buffer urbanized Rome from the airfield and intensive uses of the new proposed development zones. The expanded open space would allow for the expansion of the golf course to 18 holes and the planning of a regional park with a community center, athletic fields, sports centers, and a nature trail system. This alternative would have less acreage of reforested lands than the Proposed Action. No prime farmland would be converted. The Proposed Action plan would include a development district site for moderate income families and a site for upscale commercial tenant use in the former Skyline housing area would be dropped to expand the open space network. The six proposed development districts with commercial, industrial, medical, and educational training uses would be merged into one research park complex.

Aesthetics. With the Griffiss Research Park Alternative, the level of visual quality would be similar to Proposed Action.

Government-Retained Land. The land use changes and impacts would be similar to the Proposed Action because Rome Lab, the VA clinic, and the DFAS Center would be retained in the new development center.

Offbase Impacts. There would be no adverse impacts to offbase land use resources.

Potential Consequences of Airfield Closure. Closure of the airfield in 1999 would result in the same land use changes as with closure under the Proposed Action. There would be no additional effects on aesthetic resources.

Cumulative Impacts. There would be no adverse cumulative impacts.

Required Mitigation Measures. There are no required land use and aesthetic resource mitigation measures associated with the Griffiss Research Park Alternative.

Additional Potential Mitigation Measures. The potential land use and aesthetic resource mitigation measures identified for the Proposed Action would be applicable for the Griffiss Research Park Alternative.

4.2.2.3 Mohawk Valley Business Center Alternative (B)

Master Plans. Except for a new proposed residential development district, sited within the existing base golf course, the impacts with this alternative would be similar to the Proposed Action. This alternative includes the same parkway development and related changes. The new residential development would encroach on the Mohawk River Corridor. This concept is present in both the Rome Master Plan and the Griffiss AFB Comprehensive Plan. The other residential development district located to the south, currently an existing housing area, would be retained at its current size.

Zoning. The zoning issues for this alternative would be similar to the Proposed Action, except that residential zoning districts would be larger.

Land Use. Most of the impacts of this alternative would be similar to those of the Proposed Action, including the parkway impacts. However, this alternative would have no institutional land use, has slightly less vacant land set aside for future development, and have an entirely new 18-hole golf course in the southern open space area. The open space network would be expanded to 907 acres and buffer the airfield and intensive commercial and industrial uses of the development core from the development districts planned for residential use and urban Rome. The historic World War II-era crosswind runways would be used for outdoor aircraft exhibit space for the proposed aviation museum. The proposed Mohawk residential development district west of the airfield would convert 17 acres of prime farmland and reduce the width of the Mohawk River Corridor on the east side of the river by approximately 90 percent. The conversion of prime farmland for parkway development would be 43 acres on the base and 6 acres off the base. The Farmland Conversion Impact Rating Form AD-1006 (used to assess impacts of conversion of potential prime farmland to nonagricultural use) is presented in Appendix K. The open space network between the two segments of the Mohawk River Corridor would contain more developed public/recreational acreage and less reforested land than the Proposed Action.

Aesthetics. The siting of a proposed residential development district on the visually sensitive river bluff rim within the Mohawk River Corridor would be anticipated to reduce the existing high visual quality to a low quality. Elsewhere, the level of visual quality would remain the same as the Proposed Action.

Government-Retained Land. The land use changes and impacts would be similar to the Proposed Action because Rome Lab and the DFAS Center would be retained in the new development center.

Offbase Impacts. The land use changes and impacts would be similar to the Proposed Action, all related to the present parkway alignment.

Potential Consequences of Airfield Closure. Closure of the airfield by 1999 would result in the same land use changes as with closure under the Proposed Action. There would be no additional effects on aesthetic resources.

Cumulative Impacts. Adverse cumulative impacts associated with this alternative are related only to the encroachment of residential development into the Mohawk River Corridor, which would cumulatively contribute to acreage lost from other incompatible development within the Black River Canal/Mohawk River/Erie Canal/New York State Barge Canal Corridor that extends from Delta Lake, east to Waterford, New York. The remaining cumulative impacts would be beneficial, similar to those for the Proposed Action.

Required Mitigation Measures. A mitigation measure for the Mohawk Valley Business Center Alternative required by law or standard industry practices is described below. This measure was taken into account in the assessment of impacts on land use and aesthetics.

- Set back the proposed northern residential development to the east side of Perimeter Road which would prevent encroachment upon the Mohawk River Corridor, preserve its visual resources, and preserve 17 acres of prime farmland. This action should incur no costs other than the discretionary decision of the property recipients to implement the measure. Costs could be paid by a future proponent wishing to develop the housing through an application fee.

Additional Potential Mitigation Measures. The potential land use and aesthetics mitigation measures identified for the Proposed Action, except for avoiding the sewer lift station, apply for the Mohawk Valley Business Center Alternative. One additional measure could be applied to the planned northern residential area.

4.2.2.4 Regional Aviation Complex Alternative (C)

Master Plans. This alternative would include 1,824 acres for aviation, 283 acres for airport, 131 acres for aviation industrial, and 1,410 acres for military airfield uses. This would result in the retention of 346 more acres of public designation of the adopted Rome Master Plan than with the Proposed Action. The planning concept is still generally similar to the Proposed Action. The parkway and airport, between Mohawk Drive and Floyd Road would encroach upon the Mohawk River Corridor, reducing the width of the open space network and a buffer between the airport, airfield, and development core

from the Rome urban area. A smaller, intensive core of two commercial and two industrial development districts would be joined with the onsite civilian airport/military aviation use, allowing direct airport access. The proposed residential use would be the same. Institutional (medical and education) use development districts would be reduced by 86 acres. A remaining development district near the Skyline Gate, designated as development reserve, would be left vacant in the short term, and reserved for long-term recreational/entertainment use. Potential uses of this area could include a convention/sports center with possible stadium, convention center and supporting hotel, and other recreational uses. The offbase impacts related to the AICUZ program and the proposed parkway would be the same as the Proposed Action.

Zoning. The impacts on zoning would be similar to the Proposed Action. The proposed civilian airport and aviation industrial use would result in 255 more acres of Airport District than the Proposed Action.

Land Use. This alternative would eliminate the present golf course. No new golf courses are proposed. In addition, the parkway would be aligned within the Mohawk River Corridor which would result in the conversion of 62 acres of prime farmland on the base and 6 acres off the base. The Farmland Conversion Impact Rating Form AD-1006 (used to assess impacts of conversion of potential prime farmland to nonagricultural use) is presented in Appendix K. The open space network would preserve the remaining amount of prime farmland. Housing for moderate income families would be reduced to a smaller single-family housing area, with no multifamily housing. The development district planned for institutional (education) would be moved west to a smaller site of 47 acres. The site is only slightly larger than the existing campus of Mohawk Valley Community College. The SAC Hill industrial development would continue in the long term. The Skyline Hill area development planned for intensive recreational uses would eliminate the area as a potential upscale commercial area.

Aesthetics. The Regional Aviation Complex Alternative would result in visual quality changes near the Mohawk Drive Bridge and along the rim of the Mohawk River bluff. In the short term, changes would lower the current high quality. However, in the long term, with growth and maturity of the landscaping, the visual quality near the Mohawk Drive Bridge would be raised to moderate quality. The visual sensitivity of the Mohawk River bluff would revert back to high quality. The visual sensitivity at the base would remain the same as with the Proposed Action.

Government-Retained Land. Land use impacts for this alternative would be the same as the Proposed Action.

Offbase Impacts. The Regional Aviation Complex Alternative would result in the closure of the Oneida County Airport in the Town of Whitetown, resulting in a new reuse action of 2,169 acres of county-owned land (396 acres in the Town of Westmoreland and 1,773 acres in the Town of Whitetown) (Oneida County 1994).

The viewpoint of the Mohawk River Corridor from the Mohawk Drive Bridge vicinity would be lowered in the short term to low sensitivity by parkway construction along the rim and raised to moderate in the long term.

The offbase impacts resulting from the parkway would be the same as the Proposed Action.

Potential Consequences of Airfield Closure Followed by Civilian Airport Reuse. Closure of the airfield in 1999 would result in the New York Air National Guard vacating about 1,400 acres of airfield and about 20 acres of aviation support area. These areas would then be available for the civilian airport operations, beginning between 2001 and 2006. The Air Force AICUZ program would end with the termination of New York Air National Guard control of the airfield, with the same aviation effects on offsite land use as with closure under the Proposed Action, except now the Federal Aviation Administration (FAA) would regulate the airport and associated airfield under its regulations. The City of Rome and the Towns of Floyd and Lee would have the opportunity to rezone the offsite property formerly under the AICUZ program to the mutual benefit of the private property owners and respective jurisdictions; however, the rezoning would have to be compatible with FAA regulations. There would be no additional effects on aesthetic resources.

Cumulative Impacts. The Regional Aviation Complex Alternative would result in the closure of the Oneida County Airport and initiation of another airfield reuse project. Closure of the county airport would affect 396 acres of county-owned land located in the Town of Westmoreland currently used for one runway protection zone (clear zone) and surrounding noise buffer. In the Town of Whitetown, the airport closure would affect 1,773 acres of land containing two runways, several taxiways, a commercial aviation terminal apron, a general aviation apron, a commercial maintenance apron, three runway protection zones, and surrounding vacant land used as a noise buffer. The closure would also affect 11 acres of county-owned airport support facilities, including hangars, a commercial terminal building, and fuel, utility, and maintenance facilities. The airport also has 6 acres of mixed Federal and commercial property containing an airline food catering center, car rental facility, airline maintenance and reservation center, private banking facility, and a U.S. Department of the Treasury Federal Reserve Bank facility, which may be affected by the airport closure. Within the adjacent Airport Industrial Park, approximately 23 acres of commercial land use, 125 acres of industrial land use, and 63 acres of county and a U.S. Department of Agriculture facility may be affected by the airport closure. In addition, there are 253 acres of vacant land owned by the Oneida County Industrial Development Corporation and other private owners who may also be affected by the airport closure (Oneida County 1994).

The land in the City of Rome overlain by an approach surface of an Oneida County Airport runway has been designated an Approach Zone in the master plan and an Airport District in the zoning ordinance. With airport closure, the

city would have the option to amend the planning document and ordinance to allow for a higher and better use of the affected land.

The remaining cumulative impacts, all beneficial, would be similar to the Proposed Action.

Required Mitigation Measures. There are no required land use and aesthetics mitigation measures identified for the Regional Aviation Complex Alternative.

Additional Potential Mitigation Measures. The potential land use and aesthetics mitigation measures identified for the Proposed Action, except for avoiding the sewer lift station, apply for the Regional Aviation Complex Alternative.

4.2.2.5 No-Action Alternative

Master Plans. With the No-Action Alternative, the master plans of the nearby jurisdictions would probably continue to be outdated documents not in agreement with local zoning ordinances, Air Force AICUZ studies, and past Federal land acquisitions which enlarged the base. The city would no longer have an onbase parkway alignment which would mitigate most impacts related to the current planned route. Expansion of the city through redevelopment of the base would not occur. Jurisdictions would have the option to update their master plans. However, without appropriate funding sources, they may choose to continue using existing planning documents.

Zoning. With the No-Action Alternative, the zoning ordinances within the base would not change. Some past clear zone land acquisitions could remain Airport Approach District and or F-1 Agricultural District. However, Airport District would be the more appropriate zoning. Off the base, the zoning ordinance would be amended per public action, when conditions warranted. The land beneath the Approach-Departure Clearance Surface would continue to be within the Air Approach District. Any offsite rezoning by affected jurisdictions, to be consistent with AICUZ, would be an option of the local government decision-makers. However, the land within the APZs and DNL 65 dB noise contour would be more appropriately zoned A-A district.

Land Use. With the No-Action Alternative, onbase land use would not change. Offbase land use would also not change, unless the expressway planned in the Rome Master Plan is built. The expressway project, as currently planned, would affect an estimated 100 single-family dwellings, 6 multifamily buildings, a convalescent home, an industrial zoned site, the Mohawk River floodplain and Corridor (by three new bridges and converting an existing bridge to an interchange), and 40 acres of prime farmland. The expressway project would also split a farm complex and affect 55 acres of riparian and/or wooded habitat, two city parks, and a portion of the Black River Canal property. The airfield APZs and DNL 65 dB noise contours would cumulatively still contain 466 dwelling units and 1 school.

Aesthetics. This alternative would not change the visual quality of the area unless the expressway in the Rome Master Plan is built. The resulting action would lower the Mohawk Drive and Mohawk River bluff viewpoints from high quality visual sites to low quality in both the short and long term.

Offbase Impacts. There would be no offbase impacts unless the expressway is constructed. If constructed, the impacts would be the same as previously described.

Potential Consequences of Airfield Closure. Closure of the airfield in 1999 would result in an additional 1,400 acres of airfield land use and about 20 acres of aviation support land use being put into caretaker status. With closure, the AICUZ program would end, providing local communities the opportunity to rezone all offbase lands currently within the AICUZ zones.

Cumulative Impacts. With the reduction in air operations following realignment, the noise contours offbase would be greatly reduced. The affected jurisdictions would have the opportunity to reevaluate their master plans which would direct the future land use patterns. The retention of the whole base by the Federal Government would prevent linking two important environmental corridors. Also, construction of the expressway would result in the impacts previously discussed.

4.2.3 Transportation

The effects of the Proposed Action, the Griffiss Research Park, Mohawk Valley Business Center, and the Regional Aviation Complex alternatives on each component of the transportation system, including roadways, airspace and air traffic, and other modes of transportation, are presented in this section. Possible mitigation measures are discussed for those components likely to experience substantial adverse impacts with the Proposed Action or other alternatives.

Roadways. Reuse-related effects on roadway traffic were assessed by estimating the number of trips generated by each land use, considering employees, visitors, residents, and service vehicles associated with construction and all other onsite activities for the Proposed Action and each alternative. Principal trip-generating land uses include industrial, office, institutional, and residential uses. These trips were assigned to the roadway system based on proposed land uses and existing travel patterns. This analysis is based on the peak-hour trips as distributed and data on roadway capacities, traffic volumes, and standards established by State and local transportation agencies (New York State Department of Transportation 1992).

The transportation analysis used the standard analysis techniques of trip generation, trip distribution, and traffic assignment. Trip generation was based on applying the trip rates from the *Trip Generation* manual, 5th Edition (Institute of Transportation Engineers 1991) to the existing and proposed land uses to derive total daily and peak-hour trips.

Vehicle trip generation for each reuse alternative and for a variety of land uses was analyzed and quantified. Based on the reuse development schedule for each land use, the variation in vehicle trips generated by onsite activities was determined for the average weekday and for the morning and afternoon peak hours of the adjacent streets.

The distribution of trips to and from the site is based on the access points to the site and on existing travel patterns for commuters and on the locations of residences of civilian base personnel as obtained from zip code data. It was assumed that the residential choices of the project-related employees would correspond to those of the current civilian base personnel. The resulting vehicle trips generated by the project during the peak hour of adjacent street traffic were then added to the peak hour of nonproject-generated traffic (background traffic) projected conditions following realignment. Future traffic in the area was projected using an annual average growth rate of 1.5 during the period of analysis, and applied to all of the existing traffic movements and volumes on key roads.

Traffic impacts were determined based on level of service (LOS) changes for each of the key roads. Interchanges and major intersections that would experience heavy traffic volumes were examined for deficiencies. Details on reuse are not sufficiently developed to permit an in-depth evaluation of intersection capacities or freeway operations analysis.

Airspace/Air Traffic. The airspace analysis examines the type and level of aircraft operations projected for the Proposed Action and each alternative, and compares them to how the airspace was configured and used under pre-realignment conditions. The same constraints and considerations existing during pre-realignment were assumed, such as terrain, runway configurations, and other airport and airway air traffic. The Proposed Action and other alternatives assumed the continued availability of radar and tower air traffic control (ATC) services for the base.

The impact analysis considers the relationship of the projected aircraft operations to the operational capacity of the airport, using criteria that has been established by the FAA for determining airport service volumes. Potential effects on airspace use were assessed based on the extent to which the Proposed Action or alternatives could (1) require modifications to the airspace structure or ATC systems/facilities; (2) restrict, limit, or otherwise delay other air traffic in the region; or (3) encroach on other airspace areas and uses. The degree of potential effects on airspace use is primarily a function of the capacities and capabilities of both the human and equipment elements of the ATC system, as well as the procedures and separation standards governing instrument flight rules (IFR) aircraft operations.

The FAA is ultimately responsible for evaluating the specific effects that reuse of an airport will have on the safe and efficient use of navigable airspace by aircraft. Such a study is based on details from the airport proponent's Airport Master Plan and consists of an airspace analysis, a flight safety review, and a

review of the potential effect of the proposal on ATC and air navigational facilities. Once this study is completed, the FAA can then best determine the actual requirements, facilities, terminal and enroute airspace alignments, and ATC procedural changes needed.

Air Transportation. The Griffiss Redevelopment Planning Council (GRPC) recently completed a master reuse strategy for Griffiss AFB (Hamilton, Rabinovitz, and Alschuler et al. 1994). This study concluded that air passenger demand in the Utica-Rome market area is more than 0.5 million annual passengers and the modest services available at Oneida County Airport, the commercial airport closest to the base, attracted slightly less than 12 percent of that demand in 1993, or 58,525 passengers. The study concludes that Utica-Rome market can be adequately served by a single airport.

Thus, if air service were developed at Griffiss AFB, existing service at Oneida County Airport would need to be transferred to Griffiss AFB, and the Oneida County facilities put to another use. The study suggests that with new service development and an aggressive air service marketing campaign, a commercial airport at Griffiss AFB would have the potential to capture 275,000 enplaned passengers in 2013 as compared to just 59,000 enplanements projected under the current growth trend (0.5% annually). Without upgrading air service, the projected demand would be accommodated at Syracuse Hancock International Airport and, in part, by the airport in Albany.

Other Transportation Modes. Because neither the Proposed Action nor any of the alternatives assumes direct use of local railroads or waterways, direct effects on rail and water transport are expected to be minimal.

4.2.3.1 Proposed Action

Roadways. The major traffic generators in 2016 with the Proposed Action would be the approximately 11,700 direct operations employees of industrial, commercial, institutional, recreational, and R&D activities. By 2016, the traffic generated as a result of the Proposed Action land use and direct employment is estimated to be 53,600 vehicle trips for a typical weekday (Table 4.2-5). These trips account for operations, construction activities, and regional trips induced by the onsite parkway.

During a typical weekday peak hour on streets adjacent to the base in 2016, the site would generate about 6,200 vehicle trips, which represent 11.6 percent of the total daily trips. Based on the proposed redevelopment, the number of daily trips generated with the Proposed Action would increase steadily during the 20-year study period. By 2011, total daily trips would reach approximately 80 percent of the 2016 level.

The Proposed Action would maintain the existing access points to the base and would add a new access to the north via the proposed parkway and a secondary access to the south linking Perimeter Road to River Road.

The parkway would likely experience an appreciable amount of traffic throughout the day, with heavy left and right turn maneuvers.

Table 4.2-5

Average Daily Trip Generation

	1996	2001	2006	2016
Proposed Action	7,400	21,600	31,250	53,600
Griffiss Research Park Alternative	4,800	12,750	16,850	27,350
Mohawk Valley Business Center Alternative	5,250	13,500	18,250	29,750
Regional Aviation Complex Alternative	5,750	15,250	21,750	36,450
No-Action Alternative	4,450	4,450	4,450	4,450

Note: All values are rounded to the nearest 50. Daily trips shown are defined as one-way vehicle trips.

Table 4.2-6 presents the projected peak-hour traffic on key roads, and the associated LOS that would result with the Proposed Action. By 2016, the Proposed Action would add, during the afternoon peak hour, approximately 1,870 vehicles on Floyd Avenue near the base, 1,250 vehicles on Chestnut Street near the base, 1,020 vehicles on Black River Boulevard south of Chestnut Street, 1,120 vehicles on SH-49 near Wright Drive, 570 vehicles on the eastbound on-ramp to SH-49, and 560 vehicles on the westbound on-ramp to SH-49. All other key roads would experience an increase in traffic of less than 600 vehicles during the afternoon peak hour. With the Proposed Action, SH-49 at Wright Drive and all the associated ramps would operate at LOS C or better during the analysis period.

By 2003, the LOS on the two-lane roadway segments of East Dominick Street at Wright Drive would deteriorate to F. Without the project, LOS F would occur by 2007. By 1999, LOS on Floyd Avenue near the Floyd Gate would deteriorate to F. Without the project, Floyd Avenue would operate at LOS E or better throughout the analysis period. By 2007, Chestnut Street would operate at LOS F. Without the project, the LOS would be E or better during the analysis period. Throughout the 20-year period, all other key local roads would operate at LOS E or better.

With the Proposed Action, it is assumed that most existing onbase roads would be used during the construction period, and would be upgraded where local development plans dictate a need based on community standards for roadways.

The Proposed Action could increase ridership on Amtrak at Rome Station; however, the projected effects would be minimal.

Airspace/Air Traffic. The reuse of Griffiss AFB for nonaviation purposes would have a beneficial effect on air traffic and airspace use in the ROI by eliminating a contributing source of potential congestion in the overlapping airspace used

by Griffiss AFB/Oneida County Airport arrivals and departures. Airspace and impacts associated with this alternative would be the same as those described for the No-Action Alternative.

Table 4.2-6

Peak-Hour Traffic Volumes[1] and LOS[2] on Key Roads
Proposed Action

Roadway Segments	Capacity (VPH)[3]	Realignment (1996)		2001		2006		2016	
		Traffic	LOS	Traffic	LOS	Traffic	LOS	Traffic	LOS
SH-49, East of Wright Dr. crossing	7,440	1,390	A	1,710	A	1,960	A	2,500	B
SH-49, West of Wright Dr. crossing	10,480	1,410	A	1,740	A	1,990	A	2,530	A
Eastbound SH-49 on-ramp	1,500	270	A	440	A	560	B	840	C
Eastbound SH-49 off-ramp (loop)	1,350	100	A	180	A	230	A	340	A
Westbound SH-49 on-ramp	1,500	230	A	400	A	520	A	790	B
Westbound SH-49 off-ramp	1,500	220	A	300	A	360	A	490	A
Connector road between Wright Dr./East Dominick St.	1,460	100	A	220	B	300	B	480	C
East Dominick St. at Air Force railroad spur crossing	1,460	1,260	E	1,410	E	1,540	F	1,810	F
East Dominick St., West of Wright Dr. crossing	1,460	1,240	E	1,390	E	1,520	F	1,790	F
River Road (SH-365) at CR-88 Jct.	1,760	810	D	930	D	1,020	D	1,230	E
Floyd Ave., West of Floyd Gate	1,460	1,110	E	1,670	F	2,080	F	2,980	F
Floyd Ave., West of Park Dr.	1,460	960	E	1,510	F	1,900	F	2,780	F
Chestnut St., East of Black River Blvd.	1,460	740	D	1,120	E	1,390	E	1,990	F
Chestnut St., West of Black River Blvd.	1,460	980	E	1,210	E	1,390	E	1,780	F
Wright Settlement Rd., West of Base Boundary	1,460	370	A	430	A	480	A	590	B
Black River Blvd., South of Floyd Ave.	5,020	2,760	C	3,160	D	3,490	D	4,200	E
Black River Blvd., South of Bloomfield St.	8,520	2,350	A	2,810	B	3,180	B	3,980	C
Black River Blvd., South of Linden Ave.	6,140	1,820	B	2,240	B	2,570	B	3,280	C
Black River Blvd., South of Chestnut St.	6,120	2,040	B	2,320	B	2,560	B	3,060	C
Black River Blvd., North of Chestnut St.	6,120	2,140	B	2,330	B	2,520	B	2,890	C

Notes: [1]All traffic volume figures are rounded to the nearest ten.
[2]LOS = Level of Service.
[3]VPH = Vehicles per hour.

Air Transportation. With this alternative, no commercial air passenger, general aviation, or air cargo services would be provided at Griffiss AFB. Air travelers in the ROI would continue to use the services at Oneida County Airport and other public and private airports. Oneida County Airport would not experience a measurable increase in passenger traffic with this alternative.

Potential Consequences of Airfield Closure. With closure of the airfield by 1999, there would be 140 less jobs onsite, resulting in a few less daily and peak hour vehicle trips. Correspondingly, all key roads for all alternatives, including the No-Action Alternative, would experience a decrease in traffic volumes during peak hours. With closure of the airfield, military aircraft operations at the base would be terminated, eliminating conflicts with Oneida County Airport.

Cumulative Impacts. Other redevelopment projects in the vicinity of Griffiss AFB would contribute appreciably to the growth of regional and local traffic. In the Rome region, approximately 9 million square feet of additional commercial and industrial development is proposed. Considering the geographic location of these projects, it is expected that SH-49 in the vicinity of Rome would be most affected. These projects, in addition to the future reuse of Griffiss AFB, would increase traffic volumes on SH-49. However, this is unlikely to bring the LOS on SH-49 to an unacceptable level F due to excess capacity. There would be no cumulative airspace impacts.

Required Mitigation Measures. Mitigation measures that are clearly required by law or are standard industry practices are described below. These measures were taken into account in the assessment of impacts.

- Short-term transportation impacts caused by road closures and construction equipment traffic would be mitigated through management of work schedules, construction vehicle routes, and construction staging.

- Normal construction practices would be exercised in accordance with accepted Federal, State, and local government standards. For example, temporary facilities could be located to avoid channeling undesirable amounts of traffic through residential neighborhoods or through road segments with inadequate available capacity. In addition, roads that are directly affected by project-related construction vehicles would be adequately maintained during the construction phase.

- Transportation System Management (TSM) measures would be used for more efficient use of existing transportation systems and facilities. State and local agencies would be responsible for implementing this system by measures such as the following:

    - Restrict on-street parking;
    - Restrict left turns; and
    - Limit number of driveways along a given route.

However, these measures would reduce some traffic impacts but would not fully achieve the objectives nor eliminate all traffic impacts.

Additional Potential Mitigation Measures. There are a number of potential mitigation measures that could be implemented to lessen the impacts on transportation facilities as a result of the project. The following actions have been identified as potential mitigations beyond those clearly required by law or standard practice.

- Create an efficient onsite circulation system. This may include use of reversible traffic flows, one-way street couplets, installation of traffic signals, signal coordination, and

improvement of bicycle and pedestrian facilities. This would be the responsibility of the developer(s) and may be achieved through the permitting process. These measures would be effective in managing onsite traffic. The cost would be moderate to high. There would be a very high probability for their implementation by the developer(s).

- Add lanes to the connection of the SH-49 interchange and the onsite parkway to augment capacity and therefore provide smooth transition between freeway traffic and site traffic. The improvements would be the responsibility of the developer(s) and local highway and planning departments. These measures mitigate adequately one offsite access point. The cost of right-of-way and construction would be moderate to high. The probability for implementation would be moderate.

- Widen East Dominick Street near Wright Drive, Floyd Avenue, and Chestnut Street near the base to four lanes. This action would add sufficient capacity to effectively mitigate the levels of congestion to acceptable levels. This measure would be carried out by the developer(s) and local and State transportation agencies. These measures add capacity to major access points to the site and consequently mitigate traffic impacts offsite. The cost of these measures would be high. The probability for implementation would be moderate.

- Implement a Transportation Demand Management (TDM) program to encourage person- and vehicle-trip reductions and peak period modification. Short-term strategies include ridesharing, parking management, and changes in work hours. Long-term strategies include telecommuting, land use planning measures, and congestion management plans. The developer(s) would implement these measures at relatively low cost. However, this action would not fully mitigate all impacts. There is a high probability that a TDM program be implemented.

Some of the major mechanisms for funding these mitigations include developers contributions in the form of impact fees (one-time charges imposed on new development based on the amount of traffic it generates to provide a portion of the capital costs of transportation facilities) and mitigation fees. Mitigation fees are assessed against new development and can be used for infrastructure improvements throughout the ROI. Impact fees relate to development-specific impacts.

Property recipients would be responsible for the administration of roads onsite, namely the planning, construction, operation, and implementation of TDM measures and other transportation actions. Representatives from the various jurisdictions, including the New York State Department of Transportation,

Oneida County, and the City of Rome, would be involved in the implementation of these infrastructure improvements.

4.2.3.2 Griffiss Research Park Alternative (A)

Roadways. The major traffic generators in 2016 with the Griffiss Research Park Alternative would be the approximately 8,250 direct operations employees of industrial, commercial, recreational, and R&D activities. By 2016, the traffic generated as a result of this alternative is estimated to be 27,350 vehicle trips for a typical weekday (Table 4.2-6), representing approximately half the trips generated by the Proposed Action. These trips account for operations, construction activities, and regional trips. This alternative would generate the least amount of daily vehicle trips when compared with other alternatives.

During a typical weekday peak hour on streets in 2016, the site would generate about 3,090 vehicle trips, which represent 11.3 percent of the total daily trips. Based on the proposed redevelopment schedule, the number of daily trips generated by the Griffiss Research Park Alternative would increase steadily during the 20-year study period. By 2011, the total daily trips would reach approximately 81 percent of the 2016 level.

The Griffiss Research Park Alternative would maintain the existing access points to the base and would add a secondary access to the south linking Perimeter Road to River Road.

Table 4.2-7 presents the projected peak-hour traffic on key roads and the associated LOS that would result with this alternative. By 2016, the Griffiss Research Park Alternative would add, during the afternoon peak hour, approximately 1,030 vehicles on Floyd Avenue near the base, 970 vehicles on Chestnut Street near the base, 860 vehicles on Black River Boulevard south of Chestnut Street, approximately 740 vehicles on SH-49 near Wright Drive, 310 vehicles on the eastbound on-ramp to SH-49, and 310 vehicles on the westbound on-ramp to SH-49. All other key segments would experience an increase less than 500 vehicles during the afternoon peak hour. With this alternative, SH-49 at Wright Drive and all associated ramps would operate at acceptable LOS B throughout the analysis period.

By 2006, the LOS on the two-lane roadway segments of East Dominick Street at Wright Drive would deteriorate to F. Without the project, LOS F would occur by 2007. By the year 2003, Floyd Avenue near the Floyd Gate would operate at LOS F. Without the project, Floyd Avenue would continue to operate at LOS E or better throughout the period of analysis. By 2009, both segments of Chestnut Street at Black River Boulevard would operate at LOS F. Without the project, the LOS would be E or better during the analysis period. Throughout the 20-year analysis period, all other key local roads would operate at LOS E or better.

With the Griffiss Research Park Alternative, it was assumed that most existing onbase roads would be used during the construction period and would be

upgraded where local development plans dictate a need based on community standards for roadways.

Table 4.2-7

Peak-Hour Traffic Volumes[1] and LOS[2] on Key Roads
Griffiss Research Park Alternative

Roadway Segments	Capacity (VPH)[3]	Realignment (1996)		2001		2006		2016	
		Traffic	LOS	Traffic	LOS	Traffic	LOS	Traffic	LOS
SH-49, East of Wright Dr. Crossing	7,440	1,340	A	1,570	A	1,720	A	2,080	A
SH-49, West of Wright Dr. Crossing	10,480	1,370	A	1,590	A	1,750	A	2,110	A
Eastbound SH-49 on-ramp	1,500	190	A	290	A	360	A	500	A
Eastbound SH-49 off-ramp	1,350	70	A	100	A	110	A	160	A
Westbound SH-49 on-ramp	1,500	180	A	280	A	340	A	490	A
Westbound SH-49 off-ramp	1,500	160	A	200	A	220	A	280	A
Connector Road between Wright Dr./East Dominick St.	1,460	80	A	140	A	180	B	270	B
East Dominick St. at Air Force railroad spur crossing	1,460	1,250	E	1,370	E	1,480	F	1,700	F
East Dominick St., West of Wright Dr. Crossing	1,460	1,230	E	1,360	E	1,460	F	1,690	F
River Road (SH-365) at CR-88 Jct.	1,760	800	D	890	D	970	D	1,120	E
Floyd Ave., West of Floyd Gate	1,460	1,020	E	1,360	E	1,560	F	2,050	F
Floyd Ave., West of Park Dr.	1,460	870	D	1,200	E	1,390	E	1,850	F
Chestnut St., East of Black River Blvd.	1,460	830	C	1,150	E	1,340	E	1,800	F
Chestnut St., West of Black River Blvd.	1,460	1,000	D	1,160	E	1,280	E	1,540	F
Wright Settlement Rd., West of Base Boundary	1,460	370	A	410	B	450	B	520	B
Black River Blvd., South of Floyd Ave.	5,020	2,720	C	3,030	C	3,290	D	3,830	E
Black River Blvd., South of Bloomfield St.	8,520	2,300	A	2,630	B	2,870	B	3,420	B
Black River Blvd., South of Linden Ave.	6,140	1,760	B	2,050	B	2,260	B	2,720	B
Black River Blvd., South of Chestnut St.	6,120	2,080	B	2,320	B	2,520	B	2,940	C
Black River Blvd., North of Chestnut St.	6,120	2,230	B	2,480	B	2,690	B	3,140	C

Notes: [1]All traffic figures are vehicles per hour, rounded to the nearest ten.
[2]LOS = Level of Service.
[3]VPH = Vehicles per hour.

The Griffiss Research Park Alternative could increase ridership on Amtrak at Rome Station; however, the projected effects would be minimal.

Airspace/Air Traffic. The reuse of Griffiss AFB for nonaviation purposes would have a beneficial effect on air traffic and airspace use in the ROI by eliminating a contributing source of potential congestion in the overlapping airspace used by Griffiss AFB/Oneida County Airport arrivals and departures. Airspace and impacts associated with this alternative would be the same as those described for the No-Action Alternative.

Air Transportation. No commercial air passenger, general aviation, or air cargo services would be provided at Griffiss AFB. Air travelers in the ROI would continue to use the services at Oneida County Airport and other public and

private airports. Oneida County Airport would not experience a measurable change in passenger traffic as with this alternative.

Potential Consequences of Airfield Closure. Surface traffic volume impacts would be slightly reduced by the airfield closure action. With closure of the airfield, military aircraft operations at the base would be terminated, eliminating airspace conflicts with Oneida County Airport.

Cumulative Impacts. Cumulative impacts would be slightly less than those described for the Proposed Action. There would be no cumulative airspace impacts.

Mitigation Measures. All required and additional potential mitigation measures for the Griffiss Research Park Alternative would be the same as those described for with the Proposed Action.

4.2.3.3 Mohawk Valley Business Center Alternative (B)

Roadways. The major traffic generators in 2016 with the Mohawk Valley Business Center Alternative would be the approximately 13,100 direct operations employees of industrial, commercial, recreational, and R&D activities; this amounts to approximately 7.8 million square feet of buildings (retained and new facilities). By 2016, the traffic generated as a result of this alternative is estimated to be 29,750 vehicle trips for a typical weekday (Table 4.2-6), representing slightly more than half the trips generated by the Proposed Action. These trips account for operations, construction activities, and through regional trips induced by the onsite parkway. This alternative would generate approximately 9 percent more trips than the Proposed Action.

During the peak hour on a typical weekday on streets adjacent to the base, about 3,660 vehicle trips would be generated, which represent 12.3 percent of the total daily trips. Based on the proposed redevelopment schedule, the number of daily trips generated by the Mohawk Valley Business Center Alternative would increase steadily during the 20-year study period. By 2011, total daily trips would reach approximately 82 percent of the 2016 level.

The Mohawk Valley Business Center Alternative would maintain the existing access points to the base and adds a new access to the north via the proposed parkway. The parkway would likely experience an appreciable amount of traffic throughout the day, with heavy left and right turn maneuvers.

Table 4.2-8 presents the projected peak-hour traffic on key roads and the associated LOS that would result with the Mohawk Valley Business Center Alternative. By 2016, this alternative would add, during the afternoon peak hour, approximately 1,180 vehicles on Floyd Avenue near the base, 780 vehicles on Chestnut Street, 840 vehicles on Black River Boulevard south of Chestnut Street, approximately 810 vehicles on SH-49 near Wright Drive, 370 vehicles on the eastbound on-ramp to SH-49, and 500 vehicles on the westbound on-ramp to SH-49. Other key roads would experience less than a

260-vehicle increase during the afternoon peak hour. With this alternative, SH-49 at Wright Drive and all associated ramps would operate at acceptable LOS B or better throughout the analysis period.

Table 4.2-8

Peak-Hour Traffic Volumes[1] and LOS[2] on Key Roads
Mohawk Valley Business Center Alternative

Roadway Segments	Capacity (VPH)[3]	Realignment (1996)		2001		2006		2016	
		Traffic	LOS	Traffic	LOS	Traffic	LOS	Traffic	LOS
SH-49, East of Wright Dr. crossing	7,440	1,350	A	1,590	A	1,770	A	2,150	A
SH-49, West of Wright Dr. crossing	10,480	1,380	A	1,620	A	1,800	A	2,190	A
Eastbound SH-49 on-ramp	1,500	260	A	380	A	460	A	640	B
Eastbound SH-49 off-ramp (loop)	1,350	90	A	120	A	140	A	200	A
Westbound SH-49 on-ramp	1,500	220	A	340	A	410	A	590	B
Westbound SH-49 off-ramp	1,500	200	A	240	A	280	A	340	A
Connector Road between Wright Dr./East Dominick St.	1,460	80	A	160	A	200	B	310	B
East Dominick St. at Air Force railroad spur crossing	1,460	1,250	E	1,380	E	1,490	F	1,720	F
East Dominick St., West of Wright Dr. crossing	1,460	1,240	E	1,360	E	1,470	F	1,710	F
River Road (SH-365) at CR-88 Jct.	1,760	800	D	900	D	980	D	1,140	E
Floyd Ave., West of Floyd Gate	1,460	1,040	E	1,420	E	1,660	F	2,220	F
Floyd Ave., West of Park Dr.	1,460	890	D	1,250	E	1,490	F	2,020	F
Chestnut St., East of Black River Blvd.	1,460	700	D	950	E	1,110	E	1,480	F
Chestnut St., West of Black River Blvd.	1,460	950	E	1,120	E	1,250	E	1,530	F
Wright Settlement Rd., West of Base Boundary	1,460	370	C	410	C	450	C	540	C
Black River Blvd., South of Floyd Ave.	5,020	2,730	C	3,050	C	3,330	D	3,900	E
Black River Blvd., South of Bloomfield St.	8,520	2,310	A	2,660	B	2,930	B	3,520	B
Black River Blvd., South of Linden Ave.	6,140	1,780	B	2,090	B	2,320	B	2,820	C
Black River Blvd., South of Chestnut St.	6,120	2,020	B	2,250	B	2,450	B	2,860	C
Black River Blvd., North of Chestnut St.	6,120	2,140	B	2,320	B	2,490	B	2,840	C

Notes: [1]All traffic figures are vehicles per hour, rounded to the nearest ten.
[2]LOS = Level of service.
[3]VPH = Vehicles per hour.

By 2005, the LOS on the two-lane roadway segments of East Dominick Street at Wright Drive would deteriorate to F. Without the project, LOS F would occur by 2007. By 2002, LOS on Floyd Avenue near the Floyd Gate would deteriorate to F. Without the project, Floyd Avenue would operate at LOS E or better throughout the analysis period. By 2014, LOS on Chestnut Street at Black River Boulevard would deteriorate to F. Without the project, the LOS would be E or better during the analysis period. Throughout the 20-year period, all other key local roads would operate at LOS E or better.

With the Mohawk Valley Business Center Alternative, it was assumed that most existing onbase roads would be used during the construction period, and would be upgraded where local development plans dictate a need based on community standards for roadways.

The implementation of this alternative could increase ridership on Amtrak at Rome Station. However, the projected effects would be minimal.

Airspace/Air Traffic. The reuse of Griffiss AFB for nonaviation purposes could have a beneficial effect on air traffic and airspace use in the ROI by eliminating a contributing source of potential congestion in the overlapping airspace used by Griffiss AFB/Oneida County Airport arrivals and departures. Airspace and impacts associated with this alternative would be the same as those described for the No-Action Alternative.

Air Transportation. No commercial air passenger, general aviation, or air cargo services would be provided at Griffiss AFB with this alternative. Air travelers in the ROI would continue to use the services at Oneida County Airport and other private airports. Oneida County Airport would not experience a measurable decrease in passenger traffic as a result of base realignment and reuse with this alternative.

Potential Consequences of Airfield Closure. Surface traffic volume impacts would be slightly reduced by the airfield closure action. With closure of the airfield, military flight operations from the base would be terminated, eliminating airspace conflicts with Oneida County Airport.

Cumulative Impacts. Cumulative impacts would be the same as described for the Proposed Action. There would be no cumulative airspace impacts.

Mitigation Measures. All required and additional potential mitigation measures for the Mohawk Valley Business Center Alternative would be the same as those described for the Proposed Action.

4.2.3.4 Regional Aviation Complex Alternative (C)

Roadways. The major traffic generators in 2016 with the Regional Aviation Complex Alternative would be the approximately 12,920 direct operations employees of industrial, airport, aviation support, commercial, institutional, and research activities; this amounts to approximately 7.4 million square feet of buildings (retained and new facilities). By 2016, the traffic generated as a result of this alternative is estimated to be 36,450 vehicle trips for a typical weekday (Table 4.2-6), representing slightly more than two-thirds of the total trips generated by the Proposed Action. These trips account for operations, construction activities, and regional trips induced by the onsite parkway. This alternative is the second largest generator of trips after the Proposed Action.

During a typical weekday peak hour on streets adjacent to the base in 2016, the base would generate about 4,240 vehicle trips, which represent 11.6 percent of the total daily trips. Based on the proposed redevelopment schedule, the number of daily trips generated by the Regional Aviation Complex Alternative would increase steadily during the 20-year study period. By 2011, the total daily trips would reach approximately 80 percent of the 2016 level.

The Regional Aviation Complex Alternative would maintain the existing access points to the base and would add a new access to the north via the proposed parkway. The parkway would likely experience an appreciable amount of traffic throughout the day, with heavy left and right turn maneuvers.

Table 4.2-9 presents the projected peak-hour traffic on key roads and the associated LOS that would result with the Regional Aviation Complex Alternative. By 2016, this alternative would add, during the afternoon peak hour, approximately 1,330 vehicles on Floyd Avenue near the base, 890 vehicles on Chestnut Street, 880 vehicles on Black River Boulevard south of Chestnut Street, approximately 880 vehicles on SH-49 near Wright Drive, 400 vehicles on the eastbound on-ramp to SH-49, and 390 vehicles on the westbound on-ramp to SH-49. Other key roads would experience an increase less than 500 vehicles during the afternoon peak hour.

Table 4.2-9

Peak-Hour Traffic Volumes[1] and LOS[2] on Key Roads
Regional Aviation Complex Alternative

		Realignment (1996)		2001		2006		2016	
Roadway Segments	Capacity (VPH)[3]	Traffic	LOS	Traffic	LOS	Traffic	LOS	Traffic	LOS
SH-49, East of Wright Dr. crossing	7,440	1,360	A	1,610	A	1,800	A	2,330	A
SH-49, West of Wright Dr. crossing	10,480	1,390	A	1,640	A	1,830	A	2,270	A
Eastbound SH-49 on-ramp	1,500	250	A	380	A	460	A	650	B
Eastbound SH-49 off-ramp (loop)	1,350	100	A	150	A	180	A	260	A
Westbound SH-49 on-ramp	1,500	210	A	330	A	410	A	600	B
Westbound SH-49 off-ramp	1,500	210	A	270	A	310	A	410	A
Connector Road between Wright Dr./East Dominick St.	1,460	80	A	170	A	220	B	350	B
East Dominick St. at Air Force railroad spur crossing	1,460	1,250	E	1,380	E	1,500	F	1,740	F
East Dominick St., West of Wright Dr. crossing	1,460	1,240	E	1,370	E	1,480	F	1,730	F
River Road (SH-365) at CR-88 Jct.	1,760	800	D	900	D	990	D	1,160	E
Floyd Ave., West of Floyd Gate	1,460	1,060	E	1,460	F	1,740	F	2,390	F
Floyd Ave., West of Park Dr.	1,460	910	D	1,300	E	1,570	F	2,200	F
Chestnut St., East of Black River Blvd.	1,460	710	D	980	E	1,160	E	1,600	F
Chestnut St., West of Black River Blvd.	1,460	960	E	1,140	E	1,280	E	1,590	F
Wright Settlement Rd., West of Base Boundary	1,460	370	C	420	C	460	C	550	C
Black River Blvd., South of Floyd Ave.	5,020	2,740	C	3,070	D	3,360	D	3,970	E
Black River Blvd., South of Bloomfield St.	8,520	2,320	A	2,690	B	2,980	B	3,620	B
Black River Blvd., South of Linden Ave.	6,140	1,780	B	2,120	B	2,360	B	2,930	C
Black River Blvd., South of Chestnut St.	6,120	2,030	B	2,270	B	2,470	B	2,910	C
Black River Blvd., North of Chestnut St.	6,120	2,140	B	2,320	B	2,490	B	2,850	C

Notes: [1]All traffic volume figures are vehicles per hour, rounded to the nearest ten.
[2]LOS = Level of service.
[3]VPH = Vehicles per hour.

With the Regional Aviation Complex Alternative, SH-49 at Wright Drive would continue to operate at LOS A throughout the period of analysis. Shortly after 2004, the LOS on the two-lane roadway segments of East Dominick Street at Wright Drive would deteriorate to F. Without the project, LOS F would occur by 2007. By 2000, the LOS on Floyd Avenue near Floyd Gate would deteriorate to F. Without the project, Floyd Avenue would operate at LOS E or better throughout the analysis period. By 2012, Chestnut Street at Black River Boulevard would operate at LOS F. Without the project, the LOS would be E or better during the analysis period. Throughout the 20-year period, most other key local roads would operate at LOS C or better.

The Regional Aviation Complex Alternative assumes that most existing onbase roads would be used during the construction period and would be upgraded where local development plans dictate a need based on community standards for roadways.

The Regional Aviation Complex Alternative could increase ridership on Amtrak at Rome Station; however, the projected effects would be minimal.

Airspace/Air Traffic. Aviation activities associated with this alternative would include air passenger service, general aviation, air cargo, and aircraft maintenance-related operations beginning in 2006. The number of flight operations associated with this alternative would be comparable to those projected for Oneida County Airport in 2006. The projected number of flight operations during the analysis period would be higher than the current level and would greatly depend on the quality of service provided and on marketing aggressiveness.

In all cases, the Griffiss AFB airfield could easily meet forecast demands. No constraints are expected as to the runway capacity to handle the forecast number of arrivals and departures.

Airspace requirements and flight tracks for this alternative would be similar to those in effect with pre-realignment conditions, with the Griffiss AFB tower assuming full air traffic control in the Utica-Rome area. With this alternative, there would be no overlapping airspace and no encroachment on other airspace areas or uses.

Air Transportation. The process of converting the Griffiss AFB airfield to a joint-use civilian-military airport facility is not anticipated to require major physical improvements to meet FAA standards. Most of the infrastructure is currently in place for a fully operational civil airport. However, some improvements to existing facilities would probably be required to meet FAA standards for civil airports. Construction of a passenger terminal would also be required.

There are no deicing facilities at Griffiss AFB. If the base airfield were to convert to civilian operations, it is anticipated that New York State Department of Environmental Conservation (NYSDEC) would require the implementation of

a glycol collection treatment system (Hamilton, Rabinovitz, and Alschuler et al. 1994).

Because the Regional Aviation Complex Alternative assumes the relocation of airport activities from Oneida County Airport, all general aviation traffic currently being conducted at Oneida County Airport would likely continue at Griffiss AFB. The existing private airports in the ROI would probably not experience a significant loss of patronage with the introduction of general aviation at Griffiss AFB. Unless accommodations were better and fees were less, private aircraft owners would have little reason to leave the airport they were using. As new private aircraft are introduced in the Rome area, their owners might be more inclined to use the new facilities at Griffiss AFB.

Potential Consequences of Airfield Closure Followed by Civilian Airport Reuse. Surface traffic impacts on roadways would be slightly reduced after 1999, when the Air National Guard leaves the base. With closure of the airfield, all airspace at Griffiss would be available for civilian uses because the military operations would not occur beyond 1999. There would be no aircraft operations at the base between 1999 and 2006.

Cumulative Impacts. Cumulative impacts would be the same as those described for the Proposed Action. There would be no cumulative airspace impacts.

Mitigation Measures. All required and additional potential mitigation measures for the Regional Aviation Complex Alternative would be the same as those described for the Proposed Action.

4.2.3.5 No-Action Alternative

Roadways. With the No-Action Alternative, the expected population growth and development unrelated to reuse of Griffiss AFB would lead to traffic volume increases on local roadways through the year 2016. It is projected that traffic on the key local roads would increase in relation to the area's population growth, minus the traffic generated by the current users of the base, plus the traffic generated by the caretakers personnel and employees retained onsite. A net growth rate of 1.5 percent per year was applied to traffic volumes on various key road segments during the period of analysis. Table 4.2-10 presents the projected peak-hour traffic on key roads and the associated LOS that would result with the No-Action Alternative.

With the No-Action Alternative, SH-49 at Wright Drive and all associated ramps would operate at LOS A throughout the analysis period. By 2007, the LOS on the two-lane roadway segments of East Dominick Street at Wright Drive would deteriorate to F. Floyd Avenue and Chestnut Street would continue to operate at LOS E or better and all other key local roads would operate at LOS D or better throughout the analysis period. With the No-Action Alternative, all roads on the base would operate at LOS A.

Table 4.2-10

Peak-Hour Traffic Volumes[1] and LOS[2] on Key Roads
No-Action Alternative

Roadway Segments	Capacity (VPH)[3]	Realignment (1996) Traffic	LOS	2001 Traffic	LOS	2006 Traffic	LOS	2016 Traffic	LOS
SH-49, East of Wright Dr. Crossing	7,440	1,270	A	1,370	A	1,460	A	1,660	A
SH-49, West of Wright Dr. Crossing	10,480	1,300	A	1,400	A	1,500	A	1,690	A
Eastbound SH-49 on-ramp	1,500	70	A	80	A	80	A	90	A
Eastbound SH-49 off-ramp (loop)	1,350	30	A	30	A	40	A	40	A
Westbound SH-49 on-ramp	1,500	90	A	100	A	110	A	120	A
Westbound SH-49 off-ramp	1,500	110	A	110	A	120	A	140	A
Connector Road between Wright Dr./East Dominick St.	1,460	40	A	40	A	50	A	50	A
East Dominick St. at Air Force railroad spur crossing	1,460	1,230	E	1,320	E	1,440	E	1,600	F
East Dominick St., West of Wright Dr.	1,460	1,220	E	1,310	E	1,400	E	1,580	F
River Road (SH-365) at CR-88 Jct.	1,760	780	D	840	D	900	D	1,020	D
Floyd Ave., West of Floyd Gate	1,460	860	D	930	E	990	E	1,120	E
Floyd Ave., West of Park Dr.	1,460	710	D	770	D	820	D	930	E
Chestnut St., East of Black River Blvd.	1,460	520	C	560	C	600	D	670	D
Chestnut St., West of Black River Blvd.	1,460	890	D	960	E	1,030	E	1,160	E
Wright Settlement Rd., West of Base Boundary	1,460	360	C	380	C	410	C	460	C
Black River Blvd., South of Floyd Ave.	5,020	3,660	C	2,860	C	3,060	C	3,460	D
Black River Blvd., South of Bloomfield St.	8,520	2,200	A	2,370	A	2,530	B	2,860	B
Black River Blvd., South of Linden Ave.	6,140	1,670	A	1,790	B	1,920	B	2,170	B
Black River Blvd., South of Chestnut St.	6,120	1,970	B	2,120	B	2,270	B	2,570	B
Black River Blvd., North of Chestnut St.	6,120	2,230	B	2,280	B	2,440	B	2,760	C

Notes: [1]All traffic volume figures are vehicles per hour, rounded to the nearest ten.
[2]LOS = Level of service.
[3]VPH = Vehicles per hour.

Airspace/Air Traffic. With the realignment of Griffiss AFB, annual military aircraft operations at the base would be reduced by about 95 percent compared to 1993 pre-realignment conditions. The airspace would then remain available to support other aviation uses. Base realignment would provide greater ease for aircraft operating to or from Oneida County Airport. More airspace would be available for maneuvering aircraft into the traffic pattern and controller workload would be reduced for the Griffiss AFB-Oneida County Airport sector.

Air Transportation. With the realignment of Griffiss AFB, no commercial air facilities would be available for air passenger and air cargo transportation at the base. Oneida County Airport would continue to provide commercial air service to Utica-Rome area to meet projected regional demands.

Potential Consequences of Airfield Closure. With closure of the airfield by 1999, there would be 140 less jobs onsite, resulting in fewer daily and peak hour vehicle trips. Airfield closure will have minimal effect on local road traffic volumes.

Mitigation Measures. With the No-Action Alternative, the only additional potential mitigation measure required is the widening of East Dominick Street to four lanes near the base. This action would add sufficient capacity to

effectively mitigate the level of congestion to acceptable levels. This measure would be carried out by local and State transportation agencies. The cost would be relatively high and the probability for implementation low to moderate.

4.2.4 Utilities

Direct and indirect projected changes in future utility demands caused by the Proposed Action and each alternative were estimated based on per-capita pre-realignment average daily use on Griffiss AFB and in each of the nearby communities in the ROI. These per-capita rates were applied to projections of numbers of future residents and employees associated with the Proposed Action and each of the alternatives. Table 4.2-11 shows the projected changes in utility demand in the ROI for 5, 10, and 20 years after realignment, for the Proposed Action and alternatives. The figures shown for the No-Action Alternative generally reflect the change expected in utility usage in the nearby communities without redevelopment of the base and are estimated based on projected changes in population and pre-realignment per-capita use.

The overall population projections for the utilities ROI indicate almost no change during the planning period, 1996 to 2016, with the No-Action Alternative, and this negligible change is reflected in the utility projections for that alternative. The utility projections for the Proposed Action and other reuse alternatives reflect the growth anticipated due to base reuse. Effects of reuse on utility systems were assessed by comparing projected demand with each reuse alternative to projected demand with the No-Action Alternative for each period of analysis (2001, 2006, 2016). Onsite utilities demands were estimated by applying use rates to appropriate units of land uses (employees and square footage of buildings).

The Proposed Action and alternatives would require changes to the water and wastewater systems, solid waste disposal, and the distribution systems for electricity and natural gas on the base property. Additional utility corridors would likely be required on the base, and new metered service may be needed at existing facilities. All onbase utility systems would require renovation or replacement.

The following assumptions were made in the analysis of potential effects on utilities:

- Specific infrastructural improvements needed and associated costs would be borne directly or indirectly by the future site developer(s);
- The site would be serviced by local utility providers; and
- The existing distribution/collection systems would be available in their current condition for reuse.

Table 4.2-11

Total Projected Utility Demand in the ROI[1]

	2001	Percent Change	2006	Percent Change	2016	Percent Change
Water Demand (MGD)[2]						
No-Action[3]	9.55	-	9.58	-	9.63	-
Proposed Action	9.64	0.94	9.77	1.98	10.27	6.64
Griffiss Research Park	9.62	0.73	9.70	1.25	9.98	3.63
Mohawk Valley Business Center	9.59	0.41	9.83	2.61	10.38	7.79
Regional Aviation Complex	9.65	1.04	9.83	2.61	10.37	7.68
Wastewater Generation (MGD)						
No-Action[3]	10.17	-	10.20	-	10.25	-
Proposed Action	10.27	0.98	10.41	2.06	10.93	6.63
Griffiss Research Park	10.24	0.68	10.32	1.18	10.63	3.71
Mohawk Valley Business Center	10.21	0.39	10.47	2.65	11.06	7.90
Regional Aviation Complex	10.27	0.98	10.46	2.55	11.04	7.70
Solid Waste Generation (Tons/Day)						
No-Action[3]	40.43	-	40.54	-	40.75	-
Proposed Action	40.81	0.94	41.37	2.05	43.45	6.63
Griffiss Research Park	40.70	0.66	41.05	1.26	42.26	3.71
Mohawk Valley Business Center	40.60	0.42	41.63	2.69	43.95	7.85
Regional Aviation Complex	40.83	0.99	41.59	2.59	43.88	7.68
Electricity Demand (MWh[4]/Day)						
No-Action[3]	2074.94	-	2080.33	-	2091.17	-
Proposed Action	2094.44	0.94	2123.20	2.06	2230.07	6.64
Griffiss Research Park	2088.82	0.67	2106.48	1.28	2168.88	3.72
Mohawk Valley Business Center	2083.52	0.41	2136.55	2.70	2255.70	7.88
Regional Aviation Complex	2095.30	0.98	2134.49	2.60	2252.00	7.69
Natural Gas Demand (Thousand Therms/Day)						
No-Action[3]	61.45	-	61.61	-	61.93	-
Proposed Action	62.03	0.94	62.88	2.06	66.04	6.64
Griffiss Research Park	61.86	0.67	62.38	1.25	64.23	3.71
Mohawk Valley Business Center	61.70	0.41	63.27	2.69	66.80	7.86
Regional Valley Business Center	62.05	0.98	63.21	2.60	66.69	7.69

Notes: [1]Values for Proposed Action and reuse alternatives represent total projected demand in the ROI.
[2]MGD = Million gallons per day
[3]Represents total demand forecasted for the ROI for the years indicated, based on projected changes in population and 1993 per capita use, and data from local utility purveyors.
[4]MWh = Megawatt-hours

4.2.4.1 Proposed Action

Water Demand. With the Proposed Action, water consumption in the ROI in 2016 would be greater than the No-Action Alternative projections by

0.64 million gallons per day (MGD), increasing total demand in the ROI to 10.27 MGD. The Proposed Action would create an onsite water demand of 0.62 MGD by 2016, slightly less than the 0.82 MGD onbase demand in 1993.

The slight increases in ROI water demand resulting primarily from nonsite-related population growth would not require major infrastructure improvements or new supply sources in the ROI.

Wastewater. With the Proposed Action, wastewater generation in the ROI by 2016 would be greater than the No-Action Alternative by 0.68 MGD for a total of 10.93 MGD, remaining below the total wastewater treatment capacity in the ROI.

Onsite wastewater generation would total 0.41 MGD in 2016, which is slightly below the 0.57 MGD generated in 1993. Continued connection of the base sewage system to the City of Rome Wastewater Treatment Plant would remain feasible. Industrial users may be required to provide pretreatment of industrial wastewater.

Solid Waste. With the Proposed Action, the amount of solid waste generated in the ROI in 2016 would be greater than with the No-Action Alternative projections by 2.5 tons per day for a total of 43.45 tons per day. This increase of 2.5 tons per day in solid waste generation in the ROI would be small when compared to the projected capacity of the ROI landfills.

With the Proposed Action, the generation of solid waste onsite would increase to an average of 14.76 tons per day in 2016, exceeding the 7.19 tons per day generated by the base in 1993. The onsite demand, as estimated, accounts for building demolition during the first years of base reuse. The proposed Ava landfill scheduled for operation in 1998 would have enough capacity to accommodate solid waste resulting from the Proposed Action.

Energy.

Electricity. Electrical consumption in the ROI with the Proposed Action would be 2230.07 megawatt-hours (MWh) per day, which is, 138.9 MWh per day greater than the No-Action Alternative projections for 2016. Onsite electricity demand for the Proposed Action would amount to 211.62 MWh per day in 2016, less than the 1993 base demand of 230 Mwh per day. These average demands account for airfield and exterior lighting, water and wastewater pumping, and some incidental loads.

With the Proposed Action, the increase in electricity demand in the ROI resulting from nonsite-related population growth would not require major infrastructure improvements before 2016. Niagara-Mohawk Power Corporation has adequate capacity to supply the projected demands.

However, infrastructure changes would be needed on the base to accommodate new development associated with the Proposed Action (e.g., supply lines,

substations, and distribution network). The existing supply system would be upgraded and integrated into the new facilities. Individual facilities would need to be metered, and appropriate utility corridors and easements would also need to be established.

Natural Gas. Natural gas consumption in the ROI with the Proposed Action would be greater than with the No-Action Alternative projections by 4.11 thousand therms per day, totaling 66.04 thousand therms per day by 2016. The Proposed Action would create an onsite natural gas demand of 5.14 thousand therms per day by 2016, exceeding the 3.20 thousand therms per day consumed by the base in 1993. Niagara-Mohawk Power Corporation has adequate capacity to supply these projected demands.

With the Proposed Action, the slight increase in natural gas demand in the ROI resulting primarily from nonsite-related population growth would not require major infrastructure improvements in the ROI before 2016. However, onsite individual facilities would need to be metered and appropriate utility corridors and easements would also need to be established.

Potential Consequences of Airfield Closure. With closure of the airfield, there would be 140 fewer jobs onsite and a slightly smaller population in the ROI, resulting in reduced utility demands for both the base and the ROI. In 1999 and thereafter, with all alternatives, including the No-Action Alternative, the onsite utility demands would only be slightly reduced from the Proposed Action levels given above. The ROI utility demand without the airfield would be similar to that projected for all alternatives.

Cumulative Impacts. Other redevelopment projects in the ROI would increase regional utility demands. There would be enough capacity in the ROI to meet the future demands adequately. Costs of needed infrastructure improvements would be the responsibility of each developer.

Required Mitigation Measures. No mitigation measures are clearly required by law or are standard industry practices.

Additional Potential Mitigation Measures. No significant impacts would be expected to result from the Proposed Action and, therefore, no additional mitigation measures are necessary. However, the following mitigation measures may be used to lessen the effects of reuse of the existing systems. The following actions have been identified as potential mitigations.

- Assistance in the funding of additional water and wastewater treatment and distribution systems could be sought through Federal funding programs. This mitigation would assist in providing the necessary funding to construct needed expansions and upgrades to utility infrastructure. The effectiveness and probable success of this mitigation would depend on the availability of funding in order to accomplish the required infrastructure improvements. Because this mitigation

only involves identification of appropriate programs, and applying for and administering the funds, associated costs would be relatively low. The responsible agency for implementing this mitigation would be primarily the GLDC in cooperation with prospective developers.

- Water conservation strategies (both on and off the base) could be developed to reduce water use and the need for additional infrastructure. This measure would also have a related effect of concentrating sewage loads and thereby reducing sewage flows and the need for additional sewer distribution system upgrades. This type of measure typically involves voluntary measures for implementing the conservation strategy, although specific requirements could be incorporated into development and building codes. The effectiveness of this type of mitigation would depend on the specific measures selected for conservation. Because of the relative abundance of water in the ROI, the probability of this measure being implemented would be low. The responsible entities for implementing this measure would be the GLDC, City of Rome, and Oneida County.

- Waste source separation programs (both on and off the base) could be instituted to reduce the amount of solid waste that is ultimately disposed of in landfills, and provide a secondary market for recycled materials. The cost-effectiveness of this mitigation would depend on the type of program (e.g., mandatory or voluntary, the degree of waste separation, type of collection, etc.). Depending on the amount of education and the convenience of the program services provided, this measure could be successfully implemented. The responsible entities for implementing this measure would be the GLDC, City of Rome, and Oneida County.

- Energy conservation strategies (both on and off the base) could be developed to reduce energy use and the need for additional infrastructure. This type of measure typically involves voluntary measures for implementing the conservation strategy, although specific requirements could be incorporated into development and building codes. The effectiveness of this type of mitigation would depend on the specific measures selected for conservation. The responsible entities for implementing this measure would be the GLDC, City of Rome, and Oneida County.

- Modifications to the existing utility system could be made to increase efficiency during the initial phases of reuse when low demand may result in system inefficiencies. This could involve modifications such as installation of devices that restrict utilities

to unused or underused portions of the site. This could be combined with reuse phasing plans that encourage infill rather than "shotgun" redevelopment. Maintenance activities could focus on periodic flushing of the system or run up of power systems to ensure that systems do not deteriorate due to lack of use. The effectiveness of these types of actions would depend on the phasing and coordination of redevelopment. Some methods may be more costly than others, especially if major modifications to systems are required. The GLDC, in coordination with property recipients, the City of Rome, and utility purveyors, would be the primary implementing entities.

4.2.4.2 Griffiss Research Park Alternative (A)

Water Demand. With the Griffiss Research Park Alternative, water consumption in the ROI in 2016 would be greater than with the No-Action Alternative projections by an average of 0.35 MGD, increasing total demand in the ROI to 9.98 MGD. This alternative would create an onsite water demand of 0.30 MGD by 2016, much less than the 0.82 MGD onbase demand in 1993. The slight increases in ROI water demand resulting primarily from nonsite-related population growth would not require major infrastructure improvements or new supply sources in the ROI.

Wastewater. With the Griffiss Research Park Alternative, wastewater generation in the ROI would be greater than the No-Action Alternative by 0.38 MGD by the year 2016, to a total of 10.63 MGD, remaining below the total wastewater treatment capacity in the ROI.

Onsite wastewater generation with this alternative would be 0.17 MGD in 2016, which is well below the 0.57 MGD generated in 1993. Continued connection of the base sewage system to the City of Rome Wastewater Treatment Plant would remain feasible. Industrial users may be required to provide pretreatment of industrial wastewater.

Solid Waste. With the Griffiss Research Park Alternative, the amount of solid waste generated in the ROI would be greater than with the No-Action Alternative by 1.51 tons per day for a total of 42.26 tons per day in 2016. This increase of 1.51 tons per day in solid waste generation in the ROI would be small when compared to the projected capacity of the ROI landfills.

With this alternative, onsite generation of solid waste would amount to 9.38 tons per day in 2016, exceeding the 7.19 tons per day generated by the base in 1993. The onsite demand accounts for building demolition during the first years of base reuse. The proposed Ava landfill schedules for operation in 1998 could accommodate solid waste resulting from this alternative.

Energy.

Electricity. Electrical consumption in the ROI with the Griffiss Research Park Alternative would be 2168.88 MWh per day, that is, 77.71 Mwh per day more than the No-Action Alternative projections for 2016. This alternative would create the smallest onsite electricity demand of 151.71 Mwh per day in 2016, which is less than the 1993 base demand of 230 Mwh per day. These average demands account for airfield and exterior lighting, water and wastewater pumping, and some incidental loads.

With this alternative, the slight increase in electricity demand in the ROI resulting from nonsite-related population growth would not require major infrastructure improvements before 2016. Niagara-Mohawk Power Corporation has adequate capacity to supply the projected demands.

However, infrastructure changes would be needed on the base to accommodate new development associated with the Griffiss Research Park Alternative (e.g., supply lines, substations, and distribution network). The existing supply system could be upgraded and integrated into the new facilities. Individual facilities would need to be metered, and appropriate utility corridors and easements would also need to be established.

Natural Gas. Natural gas consumption in the ROI with the Griffiss Research Park Alternative would be greater than with the No-Action Alternative by 2.30 thousand therms per day for a total of 64.23 thousand therms per day by 2016. This alternative would create the smallest onsite natural gas demand of all alternatives, amounting to 3.77 thousand therms per day by 2016, only slightly exceeding the 3.20 thousand therms per day consumed by the base in 1993. Niagara-Mohawk Power Corporation has adequate capacity to supply these projected demands.

With the Griffiss Research Park Alternative, the slight increase in natural gas demand in the ROI resulting primarily from nonsite-related population growth, would not require major infrastructure improvements in the ROI before 2016. However, onsite individual facilities would need to be metered and appropriate utility corridors and easements would also need to be established.

Potential Consequences of Airfield Closure. With airfield closure, demands on local utilities will be slightly less than those projected for this alternative.

Cumulative Impacts. Other redevelopment projects in the ROI would increase regional utility demands. There would be enough capacity in the ROI to meet the future demands adequately. Costs of needed infrastructure improvements would be the responsibility of each developer.

Mitigation Measures. All required and additional potential mitigation measures for the Griffiss Research Park Alternative would be the same as described for the Proposed Action.

4.2.4.3 Mohawk Valley Business Center Alternative (B)

Water Demand. With the Mohawk Valley Business Center Alternative, water consumption in the ROI in 2016 would be greater than the No-Action Alternative projections by an average of 0.75 MGD, increasing total demand in the ROI to 10.38 MGD. This alternative would create an onsite water demand of 0.40 MGD by 2016, which is more than Alternative A, but less than the Proposed Action. This demand would be half the 0.82 MGD onbase demand in 1993. The slight increases in ROI water demand resulting primarily from nonsite-related population growth would not require major infrastructure improvements or new supply sources in the ROI.

Wastewater. With the Mohawk Valley Business Center Alternative, wastewater generation in the ROI would be greater than the No-Action Alternative by 0.81 MGD by the year 2016, for a total of 11.06 MGD, remaining below the total wastewater treatment capacity in the ROI.

Onsite wastewater generation (0.23 MGD in 2016) would be only slightly greater than for Alternative A, and is well below the 0.57 MGD generated onbase in 1993. Continued connection of the base sewage system to the City of Rome Wastewater Treatment Plant would remain feasible. Industrial users may be required to provide pretreatment of industrial wastewater.

Solid Waste. With the Mohawk Valley Business Center Alternative, the amount of solid waste generated in the ROI would be greater than the No-Action Alternative projections by 3.20 tons per day, to 43.95 tons per day in 2016. This increase of 3.20 tons per day in solid waste generation in the ROI would be small when compared to the projected capacity of the ROI landfills.

With this alternative, onsite solid waste generation would increase to an average of 14.73 tons per day in 2016, exceeding the 7.19 tons per day generated by the base in 1993. The onsite demand accounts for building demolition during the first years of base reuse. The proposed Ava landfill scheduled for operation in 1998 could accommodate solid waste resulting from this alternative.

Energy.

Electricity. Electrical consumption in the ROI with the Mohawk Valley Business Center Alternative would be 2255.70 MWh per day, which is 164.53 MWh per day greater than the No-Action Alternative projections for 2016. Onsite electricity demand for this alternative would be the largest among all alternatives, amounting to 242.12 MWh per day in 2016, and would be slightly greater than the 1993 base demand of 230 MWh per day. These average demands account for airfield and exterior lighting, water and wastewater pumping, and some incidental loads.

With the Mohawk Valley Business Center Alternative, the slight increase in electricity demand in the ROI resulting from nonsite-related population growth

would not require major infrastructure improvements before 2016. Niagara-Mohawk Power Corporation has adequate capacity to supply the projected demands.

However, infrastructure changes would be needed on the site to accommodate new development associated with the Mohawk Valley Business Center Alternative (e.g., supply lines, substations, and distribution network). The existing supply system could be upgraded and integrated into the new facilities. Individual facilities would need to be metered, and appropriate utility corridors and easements would also need to be established.

Natural Gas. Natural gas consumption in the ROI with the Mohawk Valley Business Center Alternative would be greater than the No-Action Alternative projections by 4.87 thousand therms per day, for a total of 66.80 thousand therms per day by 2016. This alternative would create onsite natural gas demand of 5.83 thousand therms per day by 2016, exceeding the 3.20 thousand therms per day consumed by the base in 1993. Niagara-Mohawk Power Corporation has adequate capacity to supply these projected demands.

With the Mohawk Valley Business Center Alternative, the slight increase in natural gas demand in the ROI resulting primarily from nonsite-related population growth would not require major infrastructure improvements in the ROI before 2016. However, onsite individual facilities would need to be metered and appropriate utility corridors and easements would also need to be established.

Potential Consequences of Airfield Closure. With airfield closure, demands on local utilities will be slightly less than those projected for this alternative.

Cumulative Impacts. Other redevelopment projects in the ROI would increase regional utility demands. There would be enough capacity in the ROI to meet the future demands adequately. Costs of needed infrastructure improvements would the responsibility of each developer.

Mitigation Measures. All required and additional potential mitigation measures for the Mohawk Valley Business Center Alternative would be the same as described for the Proposed Action.

4.2.4.4 Regional Aviation Complex Alternative (C)

Water Demand. In 2016, water consumption in the ROI would be greater than the No-Action Alternative by an average of 0.74 MGD with the Regional Aviation Complex Alternative, increasing total demand in the ROI to 10.37 MGD. This alternative would create an onsite water demand of 0.43 MGD by 2016, half the 0.82 MGD onbase demand in 1993. The slight increases in ROI water demand resulting primarily from nonsite-related population growth would not require major infrastructure improvements or new supply sources in the ROI.

Wastewater. With the Regional Aviation Complex Alternative, wastewater generation in the ROI would be greater than the No-Action Alternative by 0.79 MGD by the year 2016, for a total of 11.04 MGD, remaining below the total wastewater treatment capacity in the ROI.

Onsite wastewater generation at 0.26 MGD in 2016 would be next largest after the Proposed Action, but is well below the 0.57 MGD generated in 1993. Continued connection of the base sewage system to the City of Rome Wastewater Treatment Plant would remain feasible. Industrial users may be required to provide pretreatment of industrial wastewater.

Solid Waste. With the Regional Aviation Complex Alternative, the amount of solid waste generated in the ROI would be greater than the No-Action Alternative by 3.13 tons per day, to 43.88 tons per day in 2016. This increase of 3.13 tons per day in solid waste generation in the ROI would be small when compared to the projected capacity of the ROI landfills.

With this alternative, the onsite solid waste generation would increase to an average of 14.04 tons per day in 2016, exceeding the 7.19 tons per day generated by the base in 1993. The onsite demand accounts for building demolition during the first years of base reuse. The proposed Ava landfill scheduled for operation in 1998 could accommodate solid waste resulting from this alternative.

Energy.

Electricity. Electrical consumption in the ROI with the Regional Aviation Complex Alternative would be 2,252 Mwh per day, which is 160.23 Mwh per day greater than the No-Action Alternative projections for 2016. Onsite electricity demand for this alternative would amount to 232.17 Mwh per day in 2016, slightly less than Alternative B, but still less than the 1993 base demand of 230 Mwh per day. These average demands account for airfield and exterior lighting, water and wastewater pumping, and some incidental loads.

With this alternative, the slight increase in electricity demand in the ROI resulting from nonsite-related population growth would not require major infrastructure improvements before 2016. Niagara-Mohawk Power Corporation has adequate capacity to supply the projected demands.

However, infrastructure changes would be needed on the base to accommodate new development associated with the Regional Aviation Complex Alternative (e.g., supply lines, substations, and distribution network). The existing supply system could be upgraded and integrated into the new facilities. Individual facilities would need to be metered, and appropriate utility corridors and easements would also need to be established.

Natural Gas. Natural gas consumption in the ROI with the Regional Aviation Complex Alternative would be greater than the No-Action Alternative projections by 4.76 thousand therms per day, for a total of 66.69 thousand

therms per day by 2016. This alternative would create the second largest onsite natural gas demand of 5.57 thousand therms per day by 2016, exceeding the 3.20 thousand therms per day consumed by the base in 1993. Niagara-Mohawk Power Corporation has adequate capacity to supply these projected demands.

With the Regional Aviation Complex Alternative, the slight increase in natural gas demand in the ROI resulting primarily from nonsite-related population growth would not require major infrastructure improvements in the ROI before 2016. However, onsite individual facilities would need to be metered and appropriate utility corridors and easements would also need to be established.

Potential Consequences of Airfield Closure Followed by Civilian Airport Reuse. With the departure of the Air National Guard, demands on local utilities will be slightly less than those projected for this alternative.

Cumulative Impacts. Other redevelopment projects in the ROI would increase regional utility demands. There would be enough capacity in the ROI to meet the future demands adequately. Costs of needed infrastructure improvements would be the responsibility of each developer.

Mitigation Measures. All required and additional potential mitigation measures for the Regional Aviation Complex Alternative would be the same as described for the Proposed Action.

4.2.4.5 No-Action Alternative

With the No-Action Alternative, onsite utility use would be much less than 1993 pre-realignment levels (10 to 20% less depending on the type of utility), and would be minimal in comparison to the Proposed Action and other alternatives. Not completely using utility systems on the base, however, could result in their degradation over the long term.

In the absence of any reuse of Griffiss AFB, post-realignment utility demand in the study area is projected to increase very slightly in relation to population. The following utility usage is forecast using the 1993 pre-realignment per-capita demand factors determined from consumption figures as obtained from the utility providers in the ROI.

Water Demand. With the No-Action Alternative, water consumption in the ROI would increase from 9.57 MGD at realignment in 1996 to 9.63 MGD by 2016.

Wastewater. With the No-Action Alternative, wastewater generation in the ROI would increase from 10.19 MGD at realignment to 10.25 MGD by 2016.

Solid Waste. With the No-Action Alternative, solid waste generation in the ROI would increase from 40.51 tons per day at realignment to 40.75 tons per day by 2016.

Electricity. With the No-Action Alternative, electricity consumption in the ROI would increase from 2,079 Mwh per day at realignment to 2091.17 Mwh per day by 2016.

Natural Gas. With the No-Action Alternative, natural gas consumption in the ROI would increase from 61.57 thousand therms per day at realignment to 61.93 thousand therms per day by 2016.

Potential Consequences of Airfield Closure. With airfield closure, demands on local utilities will be slightly less than those projected for this alternative.

Mitigation Measures. With the No-Action Alternative, no significant impacts are anticipated in the ROI to water, wastewater, solid waste, or energy, utilities and therefore, no mitigation measures are necessary. However, the distribution/ collection systems for utilities on the base may need to be reconfigured to efficiently serve the remaining employees.

4.3 HAZARDOUS SUBSTANCES MANAGEMENT

This section addresses the potential impacts of existing contaminated sites on the various reuse options, and the potential for environmental impacts caused by hazardous substances management practices associated with the reuse options. Hazardous materials and wastes, Installation Restoration Program (IRP) sites, storage tanks, asbestos, pesticides, polychlorinated biphenyls (PCBs), radon, medical/biohazardous wastes, ordnance, and lead are discussed in this section.

The Air Force is committed to the remediation of all contamination at Griffiss AFB resulting from past and future Air Force activities, including actions that will be taken after base realignment. Delays or restrictions in disposal and reuse of property may occur due to the extent of contamination and the results of both the risk assessment and remedial designs determined for contaminated sites. Examples of conditions resulting in possible land use restrictions would be the capping of landfills, constraints from methane generation and cap integrity, and long-term monitoring wells, and the use and/or extraction of groundwater. These conditions would have to be considered in the layout of future development. Options to recipients include creation of parks, greenbelts, or open spaces of these areas.

Regulatory standards and guidelines have been applied to determine the impacts caused by hazardous materials and waste. The following criteria were used to identify potential impacts:

- Accidental release of friable asbestos during the demolition or modification of a structure;
- Generation of 100 kilograms (or more) of hazardous waste in a calendar month, resulting in increased regulatory requirements;

- New operational requirements or service for all underground storage tanks (USTs) and tank systems;
- Any spill or release of a reportable quantity of a hazardous material;
- Manufacturing of any compound that requires notifying the pertinent regulatory agency; and
- Exposure of the public or the environment to any hazardous material through release or disposal practices.

4.3.1 Proposed Action

4.3.1.1 Hazardous Materials Management

Hazardous materials likely to be used for activities in the proposed land use areas are identified in Table 4.3-1. The types of hazardous materials used with the Proposed Action would be similar to those used by the base prior to realignment, although the quantity of hazardous materials used would decrease mainly due to the reduction of aircraft-related activities. However, the specific chemical compositions and exact use rates of these materials are not known. With the Proposed Action, separate organizations in addition to the Air Force would be responsible for the management of hazardous materials according to applicable regulations. Each organization would have to comply with the Superfund Amendments and Reauthorization Act (SARA), Section 311, Title III, which requires that local communities be informed of the use of hazardous materials. Mutual aid agreements with surrounding jurisdictions may need to be revised and additional training of emergency response personnel may be required.

Potential Consequences of Airfield Closure. With the closure of the airfield, hazardous materials (e.g., fuels, glycols, heating oil, solvents, hydraulic fluids, engine oil, corrosives, and paints) used in various airfield-related operational processes would no longer be used. IRP sites associated with closure of the airfield would be within areas potentially reused as industrial and public/recreational land use areas. However, other hazardous materials used, hazardous wastes generated, or other programs occurring on the base (such as those governing storage tanks and oil/water separators, asbestos, pesticides, PCBs, radon, medical/biohazardous waste, ordnance, and lead) would be controlled by various property recipients and continue to comply with applicable regulations as described in the following sections.

4.3.1.2 Hazardous Waste Management

With disposal of portions of the base property, hazardous waste would be controlled by the various property recipients. Once the responsibilities of hazardous waste management are allocated to individual organizations,

proficiency with those materials and spill response plans are required by Resource Conservation and Recovery Act (RCRA) regulations.

Table 4.3-1

Hazardous Material Usage By Land Use Category

Land Use[1]	Operation Process	Hazardous Materials
Airfield	Aircraft refueling; anti-/de-icing; utilization of clear zones, runways, taxiways, airport terminal parking[2], administration offices, corporate and private aviation facilities[2], aircraft parking	Aviation fuels, glycols, fuel oil
Aviation Support	Operations associated with aircraft maintenance and manufacturing[2], aeronautics research and development, air transportation-related industry and warehousing[2], law enforcement, airline maintenance[2], other governmental administrative services	Fuels, solvents, paints, hydraulic fluids, degreasers, corrosives, heavy metals, reactives, thinners, paints, glycols, ignitables, heating oil, plating chemicals, cyanides, laboratory chemicals
Industrial	Activities associated with light industry, research and development, warehousing, and manufacturing	Solvents, heavy metals, corrosives, catalysts, fuels, heating oil, ignitables, pesticides
Institutional (Medical)	Hospital/clinic, rehabilitation facilities, X-ray unit	Pharmaceuticals, medical biohazardous materials, chemotherapeutic drugs, radiological sources, heavy metals
Institutional (Education)	Public education, higher education, research labs, training facilities, vocational schools	Laboratory chemicals, corrosives, ignitables, solvents, heating oil, solvents, lubricants, cleaners, pesticides, paints, thinners
Commercial (Office/ Business Park)	Activities associated with offices, light industry, research and development, and higher value warehousing, retail, service industries, restaurants	Fuels, solvents, corrosives, ignitables, heating oil, pesticides, dry cleaning chemicals
Residential	Utilization/maintenance of single-family and multifamily units, swimming pools, landscaping	Pesticides, fertilizers, fuels, oils, chlorine, and household chemicals
Public/Recreational	Maintenance of existing recreational facilities including golf course, sports complex, swimming pools, and other recreational facilities	Pesticides, fertilizers, chlorine, heating oil, paints, thinners, cleaners, solvents
Agricultural	Equipment maintenance, weed and pest control	Pesticides, fuels, oils, solvents, paints, thinners

Notes: [1]The types of hazardous materials used within the government-retained land will be similar to those listed for the airfield, aviation support, industrial, and commercial land use categories.
[2]For Regional Aviation Complex Alternative only.

The presence of numerous independent operators on the base would change the regulatory requirements and probably increase the regulatory burden relative to hazardous waste management. Activities associated with the Proposed Action would increase the amount of hazardous waste generated compared to the realignment baseline.

Following realignment of the base, hazardous waste accumulation points and satellite accumulation points may be maintained within the government-retained areas of the base.

4.3.1.3 Installation Restoration Program Sites

The Air Force is committed to continue IRP activities under the Defense Environmental Restoration Program (DERP) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). IRP activities will be coordinated by the Air Force, the U.S. Environmental Protection Agency (EPA), and the NYSDEC.

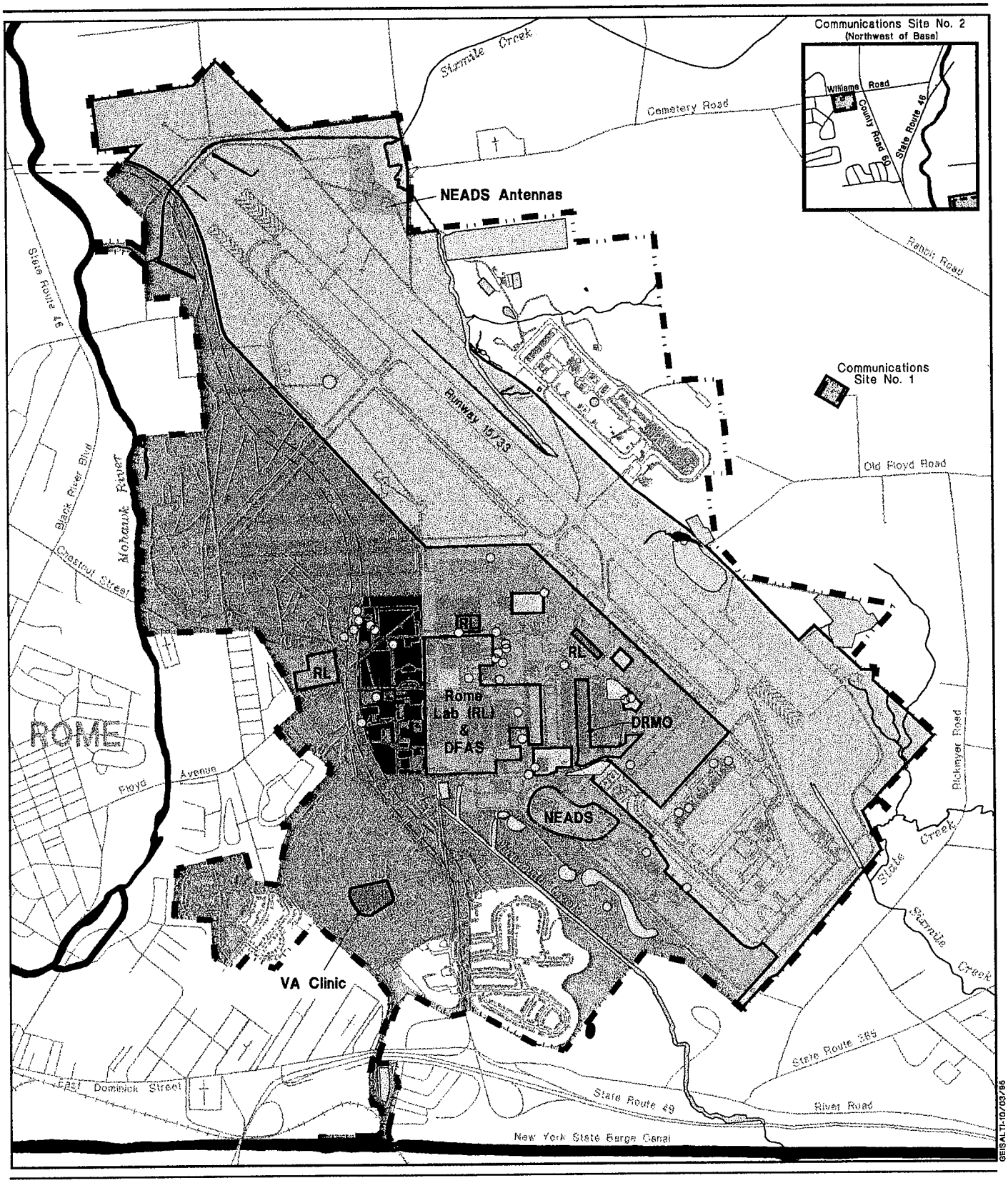
The type of development that is appropriate for property adjacent to or over an IRP site may be limited by the risk to human health and the environment posed by contaminants at the site. For example, residential development over an IRP landfill is generally not appropriate. The risk posed by IRP sites is measured by a risk assessment that analyzes the types of substances present at a site and the potential means by which the public and the environment may be exposed to them. The Remedial Design, or blueprint for remediating the IRP site, is based on the results of the risk assessment and the geographical extent of the contamination.

Disposal and reuse of some of the Griffiss AFB property may be delayed or limited by the extent and type of contamination at IRP sites and by current and future IRP remediation activities (Figure 4.3-1). Based on the results of IRP investigations, the Air Force may, when appropriate, place limits on land reuse and/or groundwater use and/or extraction through deed restrictions on conveyances and use restrictions on leases. The Air Force intends to turn over the majority of uncontaminated parcels and non-IRP sites via deed transfers; however, the Air Force may enter into lease agreements for contaminated properties pending cleanup with the IRP. The Air Force will retain right-of-access to other properties to inspect monitoring wells or conduct other IRP-related activities.

The IRP sites within each land use area for the Proposed Action are discussed below and are shown in Figure 4.3-1 and summarized in Table 4.3-2. Several IRP sites are located in more than one proposed land use area.

- **Airfield.** Ten IRP sites are located in the proposed airfield area: a fire training site (FT-30), a landfill site (LF-03), two storm drainage sites (SD-32 [portion of site] and SD-41), five spill sites (SS-17, SS-34, SS-46 [two locations], and SS-54), and one storage tank site (ST-26). All of these IRP sites are located on government-retained land.

- **Aviation Support.** Three IRP sites are located in the proposed aviation support area: one spill site (SS-24 [portion of site]), and two storage tank sites (ST-36 [portion of site] and ST-51).



LEGEND

- Base Boundary
- Parkway Corridor
- Airfield (National Guard Facilities)
- Aviation Support
- Industrial
- Institutional (Medical)
- Institutional (Education)
- Commercial
- Residential
- Public/Recreational
- Agricultural *
- Vacant Land (Development Reserve)
- Government Retained Land
- IRP Site
- * Not Applicable

SCALE IN FEET
0 1000 2000

Griffiss AFB Proposed Action With IRP Sites

Figure 4.3-1

Table 4.3-2

Installation Restoration Program Sites Within Land Use Areas - Proposed Action

Proposed Land Use	IRP Sites
Airfield	Landfill No. 7 (LF-03)[1], Lot 69 - Former Hazardous Waste Storage Yard (SS-17)[1], Building 43 - Refueling Station (ST-26)[1], Fire Protection Training Area (FT-30)[1], Sixmile Creek and Weapons Storage Area Lagoon (SD-32)[1,2], Building 786 (Nose Dock #5) Soil Contamination (SS-34)[1], Building 782 - Nose Dock #1 and #2 (SD-41)[1], Glycol Storage/Use Areas (Facility 43 and Building 785) (SS-46)[1], Building 781 - Pumphouse (SS-54)[1]
Aviation Support	Fire Demonstration Area (SS-24), Building 110 - Aqua Refueling System (ST-36), Building 100 - Fuel Hydrant System (ST-51)
Industrial	Building 101 - Yellow Submarine and Disposal Pit (ST-06), Building 112 (SS-08), Building 3 - Drywell (DP-11)[1], Tank Farm 1 and 3 (SS-20), Building 20 - Locomotive Storage Facility (SS-23), Fire Demonstration Area (SS-24), T-9 Storage Area (SS-25), Proposed Coal Storage Yard (SS-33), Building 26 - Former Pumping Station (ST-35), Building 110 - Aqua Refueling System (ST-36), Building 771 - Pumphouse 5 (ST-37), Building 775 - Pumphouse 3, TCE Contamination (SS-38), Building 117 - Former Steam Plant (ST-39)[1], Building 133 - Underground Vault (ST-53).
Institutional	No IRP Sites
Commercial	Building 301 - Former Entomology Shop Drywell (DP-12), Building 210 - Former UST Site (ST-21), Buildings 215/216 - Oil/Water Separator (SD-47), Building 214 - Former Vehicle Shop Oil/Water Separator (SD-50)
Residential	No IRP Sites
Public/Recreational	Bulk Fuel Storage Area - Barge Canal (ST-04), Lindane Spill - Former Entomology Storage Shed (SS-05), Landfill No. 5 (LF-07), Landfill No. 6 (LF-09), Building 255 Area - Two Drywells (DP-13), Building 219 - Drywell (DP-15), Building 222 - Battery Acid Disposal Pit (DP-22), Landfill No. 4 (LF-28), Threemile Creek (SD-31), Electrical Power Substation (SS-44), Glycol Storage/Use Areas (Building 220) (SS-46), Hardfill Areas C and D (LF-49C and LF-49D)
Undesignated (Vacant)	Landfill No. 1 (LF-01), Landfills No. 2 and 3 (LF-02), Sixmile Creek and the Weapons Storage Area Lagoon (SD-32), Weapons Storage Area (SS-40), Industrial Soils Collection Pad (SS-45), Suspected Fire Training Area (FT-48), Hardfill Areas A and B (LF-49A and LF-49B)

Notes: [1]Site located within government-retained land.
[2]Includes underground culverted portion of Sixmile Creek.

- **Industrial.** Fourteen IRP sites are located in the proposed industrial area: one disposal pit site (DP-11), seven spill sites (SS-08, SS-20, SS-23, SS-24 [portion of site], SS-25, SS-33, and SS-38), and six storage tank sites (ST-06, ST-35, ST-36 [portion of site], ST-37, ST-39, and ST-53). Two of these IRP sites (DP-11 and ST-39) are located on government-retained land.

- **Institutional.** No IRP sites are located in this proposed land use category.

- **Commercial.** Four IRP sites are located in the proposed commercial area: one disposal pit site (DP-12), two storm drainage sites (SD-47 and SD-50), and one storage tank site (ST-21).

- **Residential.** No IRP sites are located in this proposed land use category.

- **Public/Recreational.** Thirteen IRP sites are located in the proposed public/recreational area: three disposal pit sites (DP-13, DP-15, and DP-22), five landfill sites (LF-07, LF-09, LF-28, LF-49C, and LF-49D), one storm drainage site (SD-31), three spill sites (SS-05, SS-44, and SS-46), and one storage tank site (ST-04).

- **Undesignated.** Eight IRP sites are located in the proposed undesignated area: one fire training site (FT-48), four landfill sites (LF-01, LF-02, LF-49A, and LF-49B), one storm drainage site (SD-32 [portion of site]), and two spill sites (SS-40 and SS-45).

- **Government-Retained Land.** Eleven IRP sites are located on government-retained land in the following land use categories: nine in the airfield area (LF-03, SS-17, ST-26, FT-30, SD-32 [portion of site], SS-34, SD-41, SS-46, and SS-54) and two in the industrial area (DP-11 and ST-39).

- **Transportation.** Five IRP sites are within the proposed alignment of the parkway: three disposal pit sites (DP-13, DP-15, and DP-22) and two spill sites (SS-05 and SS-46).

The extent of contamination, if any, for all IRP sites will be determined. Remedial activities associated with these sites could cause delays in property disposal. Installation and use of long-term monitoring devices may delay or restrict reuse in some areas.

Determination of future base land uses will, to a certain extent, depend on regulatory review of the remedial design of the IRP sites. This review will identify current monitoring well locations and future land use limitations as a result of their presence. The regulatory review process would include notifying the EPA, NYSDEC, and local agencies (e.g., Oneida County) concerning the construction and locations of any monitoring wells.

4.3.1.4 Storage Tanks and Oil/Water Separators

Aviation and other maintenance operations associated with retained government land with the Proposed Action would require the use of both aboveground tanks and USTs. Storage tanks may also be required to support reuse activities. Reused and new USTs and aboveground storage tanks required by the retained

Department of Defense (DOD) organizations and by other property recipients would be subject to all applicable Federal, State, and local regulations. These regulations include acceptable leak detection methods, spill and overfill protection, cathodic protection, secondary containment for hazardous waste tank systems including the piping, and liability insurance (for other than U.S. Government-owned tanks). The State of New York has adopted the Federal UST regulations under New York Codes, Rules, and Regulations (NYCCR) Title 6, Parts 612-615, which is administered by the NYSDEC.

USTs and associated piping that will not be used to support reuse activities will be removed in accordance with Air Force policy prior to property transfer. Aboveground fuel storage tanks not used to support reuse activities will be deactivated, purged of fumes to preclude fire hazards, and removed prior to property transfer. Oil/water separators not required for reuse activities also be deactivated and removed by the Air Force before the property is transferred.

4.3.1.5 Asbestos

With the Proposed Action, a number of buildings with asbestos-containing materials (ACM) would be renovated for alternate uses or demolished for construction of new facilities. Such activities would be subject to all applicable Federal, State, and local regulations to minimize potential risks to human health and the environment. Applicable regulations would include compliance with the National Emission Standards of Hazardous Air Pollutants (NESHAP) for asbestos, which regulates emissions of asbestos during renovation or demolition projects, and the Occupational Safety and Health Administration (OSHA) regulations designed to protect workers from occupational exposures to asbestos. In addition, maintenance activities performed in buildings with ACM would be subject to the OSHA worker protection regulations.

It is Air Force policy to disclose to property recipients information regarding those structures with ACM, but not perform abatement of the asbestos, unless there is a health hazard. The Air Force policy concerning the management of asbestos at closing and realigning bases is presented in Appendix G.

4.3.1.6 Pesticides

Pesticide use associated with the Proposed Action would increase from amounts used under realignment baseline conditions. Pesticide use is expected to occur in landscaped areas associated with industrial, institutional, commercial, and public/recreational land uses, and in and around buildings associated with such reuses. Management practices, including storage and use, would be subject to applicable Federal and State pesticide regulations; therefore, no unacceptable impacts should result.

4.3.1.7 Polychlorinated Biphenyls

Areas of the base not retained for government use will not contain any Federally regulated PCB and PCB-contaminated equipment at the time of

property transfer. PCB items remaining within government-retained land would be subject to compliance with applicable Federal and State regulations.

4.3.1.8 Radon

It is Air Force policy to disclose to property recipients information regarding those structures with radon levels measured above the recommended EPA mitigation threshold (i.e., greater than 4 picoCuries per liter [pCi/l] of air), but not undertake measures to reduce the radon levels. Reuse of these structures, particularly those used as residences, may require implementation of appropriate measures to reduce radon levels to below the recommended threshold. Currently, no radon exposure guidelines or action levels have been established by Federal or State regulatory agencies for buildings other than schools or residences.

4.3.1.9 Medical/Biohazardous Waste

The Air Force will remove all medical/biohazardous waste from the base hospital prior to realignment of the base. With reuse of the hospital as a VA outpatient clinic and nursing facility, medical/biohazardous wastes would be generated as part of the realignment baseline. This waste will be managed in accordance with applicable Federal and State regulations. No reuses are planned under the Proposed Action which would result in the generation of medical/biohazardous waste by recipients of the nongovernment-retained land.

4.3.1.10 Ordnance

Prior to the transfer of property on the base which includes ordnance-related uses (e.g., the Small Arms Range), the Air Force will perform necessary investigations and cleanup actions as required by applicable Federal and State regulations. Disposal and reuse of these areas may be delayed or limited, based on the Air Force investigations, and if necessary, by the remediation of such facilities.

4.3.1.11 Lead

With the Proposed Action, a number of buildings with lead-based paint (LBP) would be renovated for alternate uses or demolished for construction of new facilities. Such activities would be subject to all applicable Federal, State, and local regulations to minimize potential risks to human health and the environment. Applicable regulations would include compliance with requirements of NYCCR Title 6, Part 371 for disposal of waste materials containing lead, and OSHA regulations designed to protect workers from occupational exposures to lead. In addition, maintenance activities performed in buildings with LBP would be subject to the OSHA worker protection regulations.

It is Air Force policy to disclose to property recipients information regarding those structures with LBP, but not perform abatement of LBP, except in housing

constructed prior to 1960 where children are likely to reside. In pre-1978 housing where LBP has been documented (Section 3.3.11), the Air Force will disclose that condition to potential property recipients. Property remaining under Air Force control (e.g., lease) would be maintained to avoid potential LBP hazards to children ages 6 or under.

4.3.1.12 Cumulative Impacts

The Rome region may eventually support over 9 million square feet of new commercial and industrial development, based on current plans (C. Alerlie, personal communication, 1995). These additional uses would consume, process, dispose of, or otherwise handle a variety of hazardous substances. Because the type of uses are expected to be similar to uses planned for the Proposed Action, the type and amount of hazardous materials and wastes generated by these additional uses would be similar to those expected with the Proposed Action. As long as future uses comply with applicable Federal, State, and local regulations pertaining to hazardous substance management, no impacts are expected to result from these cumulative actions.

4.3.1.13 Mitigation Measures

Required Mitigation Measures. Mitigation measures that are clearly required by law or are standard industry practices are described below. These mitigations were taken into account in the assessment of the impacts.

- Hazardous substances management by new property recipients will be in compliance with Federal, State, and local regulations, and permitting requirements.

- Existing hazardous substance contamination at Griffiss AFB will be remediated with the IRP.

- Identification and disclosure of the presence of ACM in facilities will be made to property recipients. Abatement of ACM will be performed in accordance with Air Force policy where health hazards are identified.

- Maintenance and/or renovation activities in structures with ACM will be performed in compliance with applicable regulations (e.g., worker safety regulations) to minimize the risk to human health and the environment.

- Renovation and/or demolition of structures with ACM will be performed in accordance with applicable regulations (e.g., the asbestos NESHAP).

- Disclosure of the presence or assumed presence of LBP in facilities will be made to property recipients. Abatement of LBP hazards will be performed in housing constructed prior to 1960,

where children are likely to reside. Property remaining under Air Force control (e.g., lease) will be maintained to prevent potential LBP hazards to children under age 6.

- Renovation and/or demolition of structures with LBP will be performed in accordance with applicable Federal and State regulations (e.g., RCRA).

- USTs that do not remain in service will be removed in accordance with applicable State regulations. USTs remaining in service will be coordinated with planning agencies to preclude placement of structures that would endanger the integrity of the tanks and associated piping systems.

Additional Potential Mitigation. The following actions, procedures, and guidelines have been identified as potential mitigations in addition to those required by law or standard industry practices.

- A planning body for hazardous materials and waste management could be established through a cooperative effort with the new individual operators on the base. Establishment of such a body could reduce the costs of environmental compliance training, health and safety training, and waste management, and would increase recycling, minimize waste, and assist in mutual spill responses. The planning body or reuser of the property can obtain information regarding suggested pollution prevention and waste minimization strategies from EPA's *Guidelines to Pollution Prevention* series of publications and *Waste Minimization Opportunity Assessment Manual* (Document No. EPA/625/7-88/003). These measures could be implemented through voluntary programs established by GLDC in cooperation with new property recipients, or through programs establish by local city, town, or county agencies. The cost of creating and implementing such programs depends on the nature and extent of program elements. Because individual compliance with numerous regulations can be difficult, any program that streamlines the regulatory process would very likely to be adopted.

- The scheduling of collection days for hazardous household products, such as paints, pesticides, and cleaners, could mitigate publicly owned treatment works and stormwater discharge concerns. Articles in the local papers and classes offered by community educational programs could increase public awareness on recycling, appropriate use of pesticides, waste minimization, and waste disposal. This measure could be implemented by the GLDC as part of a larger ongoing program aimed at integrated waste management by State, county, or local jurisdictions. The cost of implementing such a program

depends on the nature and extent of the program. With implementation of an education and awareness program, this measure could be very effective and easy to implement.

4.3.2 Griffiss Research Park Alternative (A)

4.3.2.1 Hazardous Materials Management

Hazardous materials likely to be used for activities in the proposed land use areas with implementation of this alternative would be similar to those listed in Table 4.3-1 for the Proposed Action. The SARA reporting requirements would be the same as described for the Proposed Action. Mutual aid agreements with surrounding jurisdictions may need to be revised and additional training of emergency response personnel may be required.

Potential Consequences of Airfield Closure. The potential impacts resulting from closure of airfield would be similar to those described for airfield closure under the Proposed Action.

4.3.2.2 Hazardous Waste Management

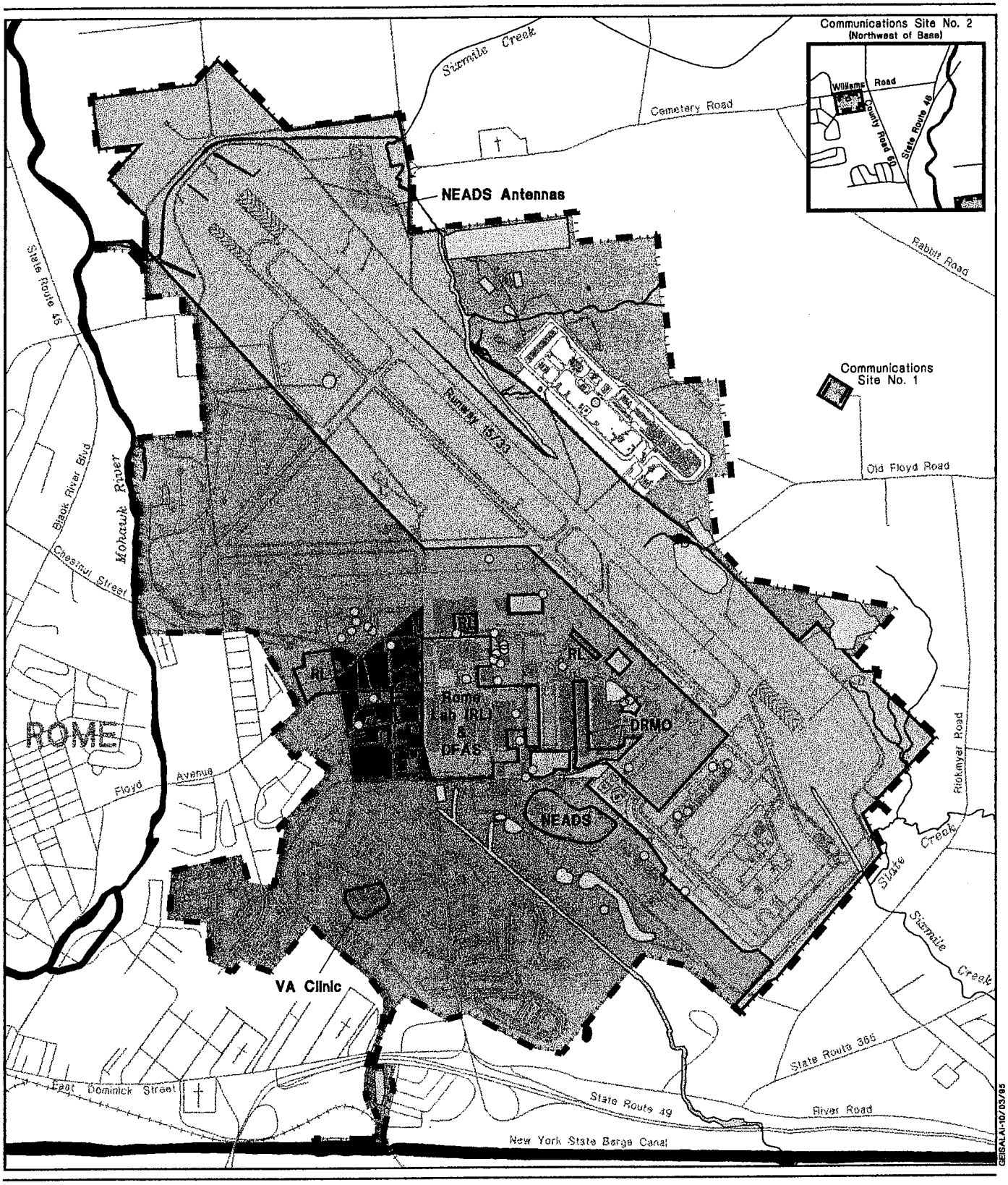
With disposal of portions of the base property, management of hazardous waste would be controlled by the property recipients. The proposed land use areas identified for the Griffiss Research Park Alternative (Chapter 2.0, Figure 2.3-1) would be used for many operations that have yet to be defined. Once the responsibilities of hazardous waste management are allocated to individual organizations, proficiency with those materials and spill response plans are required by RCRA regulations.

The presence of numerous independent operators on the base would change the regulatory requirements and probably increase the regulatory burden relative to hazardous waste management. Activities associated with the Griffiss Research Park Alternative would probably result in an increase in the amount of hazardous waste generated compared to the realignment baseline, but slightly less than the amount generated for the Proposed Action because of the reduced amount of area uses.

Following realignment of the base hazardous waste accumulation points and satellite accumulation points may be maintained within the government-retained areas of the base.

4.3.2.3 Installation Restoration Program Sites

IRP remediation requirements may constrain the land uses proposed for this alternative. The location of IRP sites relative to the proposed land use areas for the Griffiss Research Park Alternative is shown in Figure 4.3-2 and summarized in Table 4.3-3. Several IRP sites are located in more than one proposed land use area.



LEGEND

- Base Boundary
- Airfield (National Guard Facilities)
- Aviation Support *
- Industrial
- Institutional (Medical)
- Institutional (Education)
- Commercial
- Residential *
- Public/Recreational
- Agricultural *
- Vacant Land (Development Reserve)
- Government Retained Land
- IRP Site

* Not Applicable

SCALE IN FEET
0 1000 2000

Griffiss AFB Alternative (A) With IRP Sites

Figure 4.3-2

Table 4.3-3

Installation Restoration Program Sites Within Land Use Areas
Griffiss Research Park Alternative

Proposed Land Use	IRP Sites
Airfield	Landfill No. 7 (LF-03)[1], Lot 69 - Former Hazardous Waste Storage Yard (SS-17)[1], Building 43 - Refueling Station (ST-26)[1], Fire Protection Training Area (FT-30)[1], Sixmile Creek and Weapons Storage Area Lagoon (SD-32)[1,2], Building 786 (Nose Dock #5) - Soil Contamination (SS-34)[1], Building 782 - Nose Dock #1 and #2 (SD-41)[1], Glycol Storage/Use Areas (Facility 43 and Building 785) (SS-46)[1], Building 781-Pumphouse (SS-54)[1].
Industrial	Building 101 - Yellow Submarine and Disposal Pit (ST-06), Building 112 (SS-08), Building 3 - Drywell (DP-11)[1], Tank Farm 1 and 3 (SS-20), Building 20 - Locomotive Storage Facility (SS-23), Fire Demonstration Area (SS-24), T-9 Storage Area (SS-25), Proposed Coal Storage Yard (SS-33), Building 26 - Former Pumping Station (ST-35), Building 110-Aqua Refueling System (ST-36), Building 771 - Pumphouse 5 (ST-37), Building 775 - Pumphouse 3 TCE Contamination (SS-38), Building 117 - Former Steam Plant (ST-39)[1], Building 100 - Fuel Hydrant System (ST-51), Building 133 - Underground Vault (ST-53).
Institutional	No IRP Sites.
Commercial	Lindane Spill - Former Entomology Storage Shed (SS-05), Building 301 - Former Entomology Shop Drywell (DP-12), Building 210 - Former UST Site (ST-21).
Residential	No IRP Sites.
Public/Recreational	Landfill No. 1 (LF-01), Landfills No.2 and 3 (LF-02), Bulk Fuel Storage Area Barge Canal (ST-04), Landfill No. 5 (LF-07), Landfill No. 6 (LF-09), Building 255 Area - Two Drywells (DP-13), Building 219 - Drywell (DP-15), Building 222 - Battery Acid Disposal Pit (DP-22), Landfill No. 4 (LF-28), Threemile Creek (SD-31), Sixmile Creek and the Weapons Storage Area Lagoon (SD-32), Electrical Power Substation (SS-44), Industrial Soils Collection Pad (SS-45), Glycol Storage/Use Areas (Building 220) (SS-46), Buildings 215/216 - Oil/Water Separator (SD-47), Suspected Fire Training Area (FT-48), Hardfill Areas A, B, C, and D (LF-49A, LF-49B, LF-49C, and LF-49D), Building 214 - Former Vehicle Shop Oil/Water Separator (SD-50).
Undesignated (Vacant)	Weapons Storage Area (SS-40).

Notes: [1]Site located within government-retained land.
[2]Includes underground culverted portion of Sixmile Creek.

- **Airfield.** Ten IRP sites are located in the proposed airfield area: a fire training site (FT-30), a landfill site (LF-03), two storm drainage sites (SD-32 [portion of site] and SD-41), five spill sites (SS-17, SS-34, SS-46 [two locations], and SS-54), and one storage tank site (ST-26). All of these IRP sites are located on government-retained land.

- **Industrial.** Fifteen IRP sites are located in the proposed industrial area: one disposal pit site (DP-11), seven spill sites (SS-08, SS-20, SS-23, SS-24 [portion of site], SS-25, SS-33,

and SS-38), and seven storage tank sites (ST-06, ST-35, ST-36 [portion of site], ST-37, ST-39, ST-51, and ST-53). Two of these IRP sites (DP-11 and ST-39) are located on government-retained land.

- **Institutional.** No IRP sites are located in this proposed land use category.

- **Commercial.** Three IRP sites are located in the proposed commercial area: one disposal pit site (DP-12), one spill site (SS-05), and one storage tank site (ST-21).

- **Residential.** No IRP sites are located in this proposed land use category.

- **Public/Recreational.** Twenty-one IRP sites are located in the proposed public/recreational area: three disposal pit sites (DP-13, DP-15, and DP-22), a fire training site (FT-48), nine landfill sites (LF-01, LF-02, LF-07, LF-09, LF-28, LF-49A, LF-49B, LF-49C, and LF-49D), four storm drainage sites (SD-31, SD-32 [portion of site], SD-47, and SD-50), three spill sites (SS-44, SS-45, and SS-46), and one storage tank site (ST-04).

- **Undesignated.** One IRP site (a spill site, SS-40) is located in the proposed undesignated area.

- **Government-Retained Land.** Eleven IRP sites are located on government-retained land in the following land use categories: nine in the airfield area (LF-03, SS-17, ST-26, FT-30, SD-32 [portion of site], SS-34, SD-41, SS-46, and SS-54) and two in the industrial area (DP-11 and ST-39).

The extent of contamination, if any, for these sites will be determined. Remedial activities associated with these sites could cause delays in property disposal and possibly affect proposed land uses. Installation and use of long-term monitoring devices may delay or restrict reuse in some areas.

Determination of future base land uses will, to a certain extent, depend on regulatory review of the remedial design of the IRP sites. This review will identify current monitoring well locations and future land use limitations as a result of their presence. The regulatory review process would include notifying the EPA, NYSDEC, and local agencies (e.g., Oneida County) concerning the construction and locations of any monitoring wells.

4.3.2.4 Storage Tanks and Oil/Water Separators

Aviation and other maintenance operations associated with retained government land with this alternative would require the use of both aboveground tanks and USTs. Storage tanks may also be required to support reuse activities with this

alternative. Reused and new USTs and aboveground storage tanks required by the retained DOD organizations and by other property recipients would be subject to all applicable Federal, State, and local regulations. These regulations include acceptable leak detection methods, spill and overfill protection, cathodic protection, secondary containment for hazardous waste tank systems including the piping, and liability insurance (for other than U.S. Government-owned tanks).

USTs and associated piping that will not be used to support reuse activities with this alterative will be removed in accordance with Air Force policy prior to property transfer. Aboveground fuel storage tanks not used to support reuse activities will be deactivated, purged of fumes to preclude fire hazards, and removed prior to property transfer. Oil/water separators not required for reuse activities would also be deactivated and removed by the Air Force before the property is transferred.

4.3.2.5 Asbestos

With the Griffiss Research Park Alternative, a number of buildings with ACM would be renovated for alternate uses or demolished for construction of new facilities. Such activities would be subject to all applicable Federal, State, and local regulations to minimize potential risks to human health and the environment, including compliance with the NESHAP for asbestos regulating emissions from renovation and demolition activities, and OSHA worker protection regulations. In addition, maintenance activities performed in buildings with ACM would be subject to the OSHA worker protection regulations.

It is Air Force policy to disclose to property recipients information regarding those structures with ACM, but not perform abatement of the asbestos, unless there is a health hazard. The Air Force policy concerning the management of asbestos at closing and realigning bases is presented in Appendix G.

4.3.2.6 Pesticides

Pesticide use associated with this alternative would increase from amounts used under realignment baseline conditions. Pesticide use is expected to occur in landscaped areas associated with industrial, institutional, commercial, and public/recreational land uses, and in and around buildings associated with such reuses. Management practices, including storage and use, would be subject to applicable Federal and State pesticide regulations; therefore, no unacceptable impacts should result.

4.3.2.7 Polychlorinated Biphenyls

Areas of the base not retained for government use with this alternative will not contain any Federally regulated PCB and PCB-contaminated equipment at the time of property transfer. PCB items remaining within government-retained land would be subject to compliance with applicable Federal and State regulations.

4.3.2.8 Radon

It is Air Force policy to disclose to property recipients information regarding those structures with radon levels measured above the recommended EPA mitigation threshold (i.e., greater than 4 pCi/l of air), but not undertake measures to reduce the radon levels. Reuse of these structures with this alternative, particularly those used as residences, may require implementation of appropriate measures to reduce radon levels to below the recommended threshold. Currently, no radon exposure guidelines or action levels have been established by Federal or State regulatory agencies for buildings other than schools or residences.

4.3.2.9 Medical/Biohazardous Waste

The Air Force will remove all medical/biohazardous waste from the base hospital prior to realignment of the base. With reuse of the hospital as a VA outpatient clinic and nursing facility medical/biohazardous wastes would be generated as part of the realignment baseline. This waste will be managed in accordance with applicable Federal and State regulations. No reuses are planned with this alternative which would result in the generation of medical/biohazardous waste by recipients of the nongovernment-retained land.

4.3.2.10 Ordnance

Prior to the transfer of property on the base which includes ordnance-related uses (e.g., the Small Arms Range), the Air Force will perform necessary investigations and cleanup actions as required by applicable Federal and State regulations. Disposal and reuse of these areas may be delayed or limited, based on the Air Force investigations, and if necessary, by the remediation of such facilities.

4.3.2.11 Lead

With the Griffiss Research Park Alternative, a number of buildings with LBP would be renovated for alternate uses or demolished for construction of new facilities. Such activities would be subject to all applicable Federal, State, and local regulations to minimize potential risks to human health and the environment, including compliance with requirements of NYCCR Title 6, Part 371 for disposal of waste materials containing lead, and OSHA worker protection regulations. In addition, maintenance activities performed in buildings with LBP would be subject to the OSHA worker protection regulations.

It is Air Force policy to disclose to property recipients information regarding those structures with LBP, but not perform abatement of LBP, except in housing constructed prior to 1960 where children are likely to reside. In pre-1978 housing where LBP has been documented (Section 3.3.11), the Air Force will disclose that condition to potential property recipients. Property remaining under Air Force control (e.g., lease) would be maintained to avoid potential LBP hazards to children ages 6 or under.

4.3.2.12 Cumulative Impacts

The Rome region may eventually support over 9 million square feet of new commercial and industrial development, based on current plans (C. Alerlie, personal communication, 1995). These additional uses would consume, process, dispose of, or otherwise handle a variety of hazardous substances. Because the type of uses are expected to be similar to uses planned for the Griffiss Research Park Alternative, the type and amount of hazardous materials and wastes generated by these additional uses would be similar to those expected with this alternative. As long as future uses comply with applicable Federal, State, and local regulations pertaining to hazardous substance management, no impacts would be expected to result from these cumulative actions.

4.3.2.13 Mitigation Measures

The required and additional potential mitigation measures for the Griffiss Research Park Alternative would be the same as those described for the Proposed Action.

4.3.3 Mohawk Valley Business Center Alternative (B)

4.3.3.1 Hazardous Materials Management

Hazardous materials that would likely be used with implementation of the Mohawk Valley Business Center Alternative would be similar to those used for the Proposed Action (Table 4.3-1). The SARA reporting requirements would be the same as described for the Proposed Action. Mutual aid agreements with surrounding jurisdictions may need to be revised and additional training of emergency response personnel may be required.

Potential Consequences of Airfield Closure. The potential impacts resulting from closure of the airfield would be similar to those described for airfield closure with the Proposed Action.

4.3.3.2 Hazardous Waste Management

With disposal of portions of the base property, management of hazardous waste would be controlled by the property recipients. The proposed land use areas identified for this alternative (Chapter 2.0, Figure 2.3-2) would be used for many operations that are yet to be defined. Once the responsibilities for hazardous waste management are allocated to the individual organizations, proficiency with those materials and spill response plan are required by RCRA regulations.

The presence of numerous independent operators on the base would change the regulatory requirements and probably increase the overall regulatory burden relative to hazardous waste management. Overall, activities associated with this alternative would result in an increase in the amount of hazardous waste

generated compared to the realignment baseline, but about the same as the amount generated with the Proposed Action.

Following realignment of the base hazardous waste accumulation points and satellite accumulation points may be maintained within the government-retained areas of the base.

4.3.3.3 Installation Restoration Program Sites

IRP remediation requirements may constrain the land uses proposed for this alternative. The location of IRP sites within each land use area for this alternative is shown in Figure 4.3-3 and summarized in Table 4.3-4. Several IRP sites are located in more than one proposed land use area.

- **Airfield.** Ten IRP sites are located in the proposed airfield area: a fire training site (FT-30), a landfill site (LF-03), two storm drainage sites (SD-32 [portion of site] and SD-41), five spill sites (SS-17, SS-34, SS-46 [two locations], and SS-54), and one storage tank site (ST-26). All of these IRP sites are located on government-retained land.

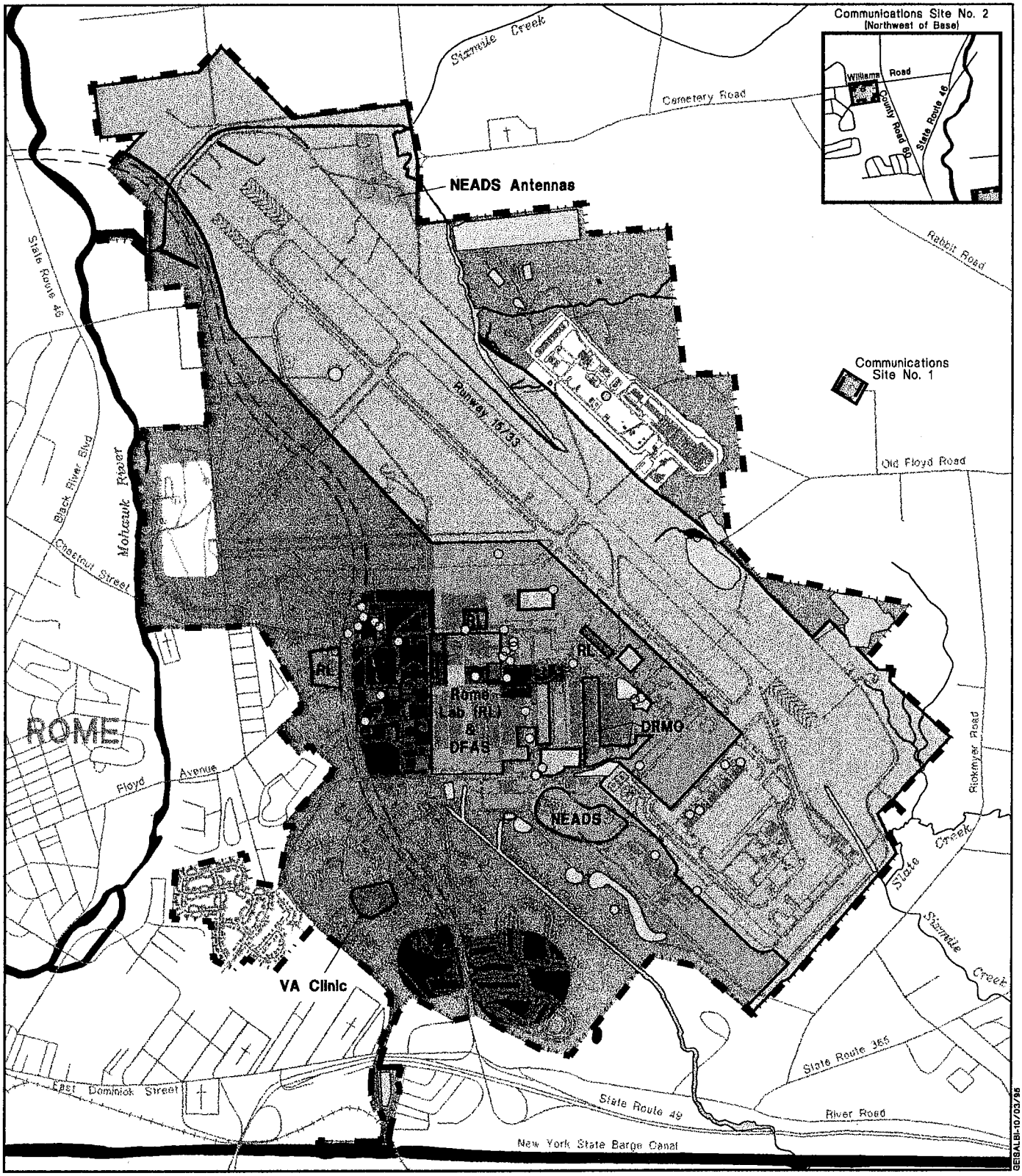
- **Industrial.** Sixteen IRP sites are located in the proposed industrial area: one disposal pit site (DP-11), a storm drainage site (SD-31), seven spill sites (SS-08, SS-23, SS-24 [portion of site], SS-25, SS-33, SS-38, and SS-44), and seven storage tank sites (ST-06, ST-35, ST-36 [portion of site], ST-37, ST-39, ST-51, and ST-53). Two of these IRP sites (DP-11 and ST-39) are located on government-retained land.

- **Institutional.** No IRP sites are located in this proposed land use category.

- **Commercial.** Nine IRP sites are located in the proposed commercial area: three disposal pit sites (DP-12, DP-15, and DP-22 [portion of site]), two storm drainage sites (SD-47 and SD-50), three spill sites (SS-05, SS-20, and SS-46), and one storage tank site (ST-21).

- **Residential.** No IRP sites are located in this proposed land use category.

- **Public/Recreational.** Sixteen IRP sites are located in the proposed public/recreational area: two disposal pit sites (DP-13 and DP-22 [portion of site]), a fire training site (FT-48), nine landfill sites (LF-01, LF-02, LF-07, LF-09, LF-28, LF-49A, LF-49B, LF-49C, and LF-49D), two storm drainage sites (SD-31 and SD-32 [portion of site]), one spill site (SS-45), and one storage tank site (ST-04).



LEGEND

- Base Boundary
- Parkway Corridor
- Airfield (National Guard Facilities)
- Aviation Support *
- Industrial
- Institutional (Medical)
- Institutional * (Education)
- Commercial
- Residential
- Public/Recreational
- Agricultural*
- Vacant Land (Development Reserve)
- Government Retained Land
- IRP Sites
- * Not Applicable

SCALE IN FEET
0 1000 2000

Griffiss AFB Alternative (B) With IRP Sites

Figure 4.3-3

Table 4.3-4

Installation Restoration Program Sites Within Land Use Areas
Mohawk Valley Business Center Alternative

Proposed Land Use	IRP Sites
Airfield	Landfill No. 7 (LF-03)[1], Lot 69 - Former Hazardous Waste Storage Yard (SS-17)[1], Building 43 - Refueling Station (ST-26)[1], Fire Protection Training Area (FT-30)[1], Sixmile Creek and Weapons Storage Area Lagoon (SD-32)[1,2], Building 786 (Nose Dock #5), Soil Contamination (SS-34)[1], Building 782 - Nose Dock #1 and #2 (SD-41)[1], Glycol Storage/Use Areas (Facility 43 and Building 785) (SS-46)[1], Building 781-Pumphouse (SS-54)[1]
Industrial	Building 101 - Yellow Submarine and Disposal Pit (ST-06), Building 112 (SS-08), Building 3 - Drywell (DP-11)[1], Building 20 - Locomotive Storage Facility (SS-23), Fire Demonstration Area (SS-24), T-9 Storage Area (SS-25), Threemile Creek (SD-31), Proposed Coal Storage Yard (SS-33), Building 26 - Former Pumping Station (ST-35), Building 110 - Aqua Refueling System (ST-36), Building 771 - Pumphouse 5 (ST-37), Building 775 - Pumphouse 3, TCE Contamination (SS-38), Building 117 - Former Steam Plan (ST-39)[1], Electrical Power Substation (SS-44), Building 100 - Fuel Hydrant System (ST-51), Building 133 - Underground Vault (ST-53).
Institutional (Medical)	No IRP Sites.
Commercial	Lindane Spill - Former Entomology Storage Shed (SS-05), Building 301 - Former Entomology Shop Drywell (DP-12), Building 219 - Drywell (DP-15), Tank Farm 1 and 3 (SS-20), Building 210 - Former UST Site (ST-21), Building 222 - Battery Acid Disposal Pit (DP-22), Glycol Storage/Use Areas (Building 220) (SS-46), Buildings 215/216 - Oil/Water Separator (SD-47), Building 214 - Former Vehicle Shop Oil/Water Separator (SD-50).
Residential	No IRP Sites.
Public/Recreational	Landfill No. 1 (LF-01), Landfills No. 2 and 3 (LF-02), Bulk Fuel Storage Area - Barge Canal (ST-04), Landfill No. 5 (LF-07), Landfill No. 6 (LF-09), Building 255 Area - Two Drywells (DP-13), Building 222 - Battery Acid Disposal Pit (DP-22), Landfill No. 4 (LF-28), Threemile Creek (SD-31), Sixmile Creek and the Weapons Storage Area Lagoon (SD-32), Industrial Soils Collection Pad (SS-45), Suspected Fire Training Area (FT-48), Hardfill Areas A, B, C, and D (LF-49A, LF-49B, LF-49C, and LF-49D).
Undesignated (vacant)	Weapons Storage Area (SS-40).

Notes: [1]Site located within government-retained land.
[2]Includes underground culverted portion of Sixmile Creek.

- **Undesignated.** One IRP site (a spill site, SS-40) is located in the proposed undesignated area.

- **Government-Retained Land.** Eleven IRP sites are located on government-retained land in the following land use categories: nine in the airfield area (LF-03, SS-17, ST-26, FT-30, SD-32 [portion of site], SS-34, SD-41, SS-46, and SS-54) and two in the industrial area (DP-11 and ST-39).

- **Transportation.** Four IRP sites are within the proposed alignment of the parkway: three disposal pit sites (DP-13, DP-15, and DP-22), and one spill site (SS-46).

The extent of contamination, if any, for these sites will be determined. Remedial activities associated with these sites could cause delays in property disposal. Installation and use of long-term monitoring devices may delay or restrict reuse in some areas.

Determination of future base land uses will, to a certain extent, depend on regulatory review of the remedial design of the IRP sites. This review will identify current monitoring well locations and future land use limitations as a result of their presence. The regulatory review process would include notifying the EPA, NYSDEC, and local agencies (e.g., Oneida County) concerning the construction and locations of any monitoring wells.

4.3.3.4 Storage Tanks and Oil/Water Separators

Aviation and other maintenance operations associated with retained government land under this alternative would require the use of both aboveground tanks and USTs. Storage tanks may also be required to support reuse activities with this alternative. Reused and new USTs and aboveground storage tanks required by the retained DOD organizations and by other property recipients would be subject to all applicable Federal, State, and local regulations. These regulations include acceptable leak detection methods, spill and overfill protection, cathodic protection, secondary containment for hazardous waste tank systems including the piping, and liability insurance (for other than U.S. Government-owned tanks).

USTs and associated piping that will not be used to support reuse activities with this alterative will be removed in accordance with Air Force policy prior to property transfer. Aboveground fuel storage tanks not used to support reuse activities will be deactivated, purged of fumes to preclude fire hazards, and removed prior to property transfer. Oil/water separators not required for reuse activities also be deactivated and removed by the Air Force before the property is transferred.

4.3.3.5 Asbestos

With the Mohawk Valley Business Center Alternative, a number of buildings with ACM would be renovated for alternate uses or demolished for construction of new facilities. Such activities would be subject to all applicable Federal, State, and local regulations to minimize potential risks to human health and the environment, including compliance with the NESHAP for asbestos regulating emissions from renovation and demolition activities, and OSHA worker protection regulations. In addition, maintenance activities performed in buildings with ACM would be subject to the OSHA worker protection regulations.

It is Air Force policy to disclose to property recipients information regarding those structures with ACM, but not perform abatement of the asbestos, unless there is a health hazard. The Air Force policy concerning the management of asbestos at closing and realigning bases is presented in Appendix G.

4.3.3.6 Pesticides

Pesticide use associated with this alternative would increase from amounts used under realignment baseline conditions. Pesticide use would be expected to occur in landscaped areas associated with industrial, institutional, commercial, and public/recreational land uses, and in and around buildings associated with such reuses. Management practices, including storage and use, would be subject to applicable Federal and State pesticide regulations; therefore, no unacceptable impacts should result.

4.3.3.7 Polychlorinated Biphenyls

Areas of the base not retained for government use with this alternative will not contain any Federally regulated PCB and PCB-contaminated equipment at the time of property transfer. PCB items remaining within government-retained land would be subject to compliance with applicable Federal and State regulations.

4.3.3.8 Radon

It is Air Force policy to disclose to property recipients information regarding those structures with radon levels measured above the recommended EPA mitigation threshold (i.e., greater than 4 pCi/l of air), but not undertake measures to reduce the radon levels. Reuse of these structures with this alternative, particularly those used as residences, may require implementation of appropriate measures to reduce radon levels to below the recommended threshold. Currently, no radon exposure guidelines or action levels have been established by Federal or State regulatory agencies for buildings other than schools or residences.

4.3.3.9 Medical/Biohazardous Waste

The Air Force will remove all medical/biohazardous waste from the base hospital prior to realignment of the base. With reuse of the hospital as a VA outpatient clinic and nursing facility, medical/biohazardous wastes would be generated as part of the realignment baseline. This waste will be managed in accordance with applicable Federal and State regulations. No reuses are planned with this alternative which would result in the generation of medical/biohazardous waste by recipients of the nongovernment-retained land.

4.3.3.10 Ordnance

Prior to the transfer of property on the base which includes ordnance-related uses (e.g., the Small Arms Range), the Air Force will perform necessary investigations and cleanup actions as required by applicable Federal and State

regulations. Disposal and reuse of these areas may be delayed or limited, based on the Air Force investigations, and if necessary, by the remediation of such facilities.

4.3.3.11 Lead

With the Mohawk Valley Business Center Alternative, a number of buildings with LBP would be renovated for alternate uses or demolished for construction of new facilities. Such activities would be subject to all applicable Federal, State, and local regulations to minimize potential risks to human health and the environment, including compliance with requirements of NYCCR Title 6, Part 371 for disposal of waste materials containing lead, and OSHA worker protection regulations. In addition, maintenance activities performed in buildings with LBP would be subject to the OSHA worker protection regulations.

It is Air Force policy to disclose to property recipients information regarding those structures with LBP, but not perform abatement of LBP, except in housing constructed prior to 1960 where children are likely to reside. In pre-1978 housing where LBP has been documented (Section 3.3.11), the Air Force will disclose that condition to potential property recipients. Property remaining under Air Force control (e.g., lease) would be maintained to avoid potential LBP hazards to children ages 6 or under.

4.3.3.12 Cumulative Impacts

The Rome region may eventually support over 9 million square feet of new commercial and industrial development, based on current plans (C. Alerlie, personal communication, 1995). These additional uses will consume, process, dispose of, or otherwise handle a variety of hazardous substances. Because the type of uses are expected to be similar to uses planned for the Mohawk Valley Business Center Alternative, the type and amount of hazardous materials and wastes generated by these additional uses will be similar to those expected with this alternative. As long as future uses comply with applicable Federal, State, and local regulations pertaining to hazardous substance management, no impacts are expected to result from these cumulative actions.

4.3.3.13 Mitigation Measures

The required and additional potential mitigation measures for the Mohawk Valley Business Center Alternative would be the same as for hazardous substances with the Proposed Action.

4.3.4 Regional Aviation Complex Alternative (C)

4.3.4.1 Hazardous Materials Management

Hazardous materials that would be used with implementation of the Regional Aviation Complex Alternative would be similar to those used for the Proposed Action (Table 4.3-1). However, the amount of hazardous materials used would

likely be greater than with the Proposed Action because there would be more aviation or associated maintenance activities with this alternative. The SARA reporting requirements would be the same as described for the Proposed Action. Mutual aid agreements with surrounding jurisdictions may require review and additional training of emergency response personnel.

Potential Consequences of Airfield Closure Followed by Civilian Airport Reuse. When the military component of aviation use leaves the airfield and supporting facilities by 1999, there would be a temporary cessation of use of hazardous materials (e.g., fuels, glycols, heating oil, solvents, hydraulic fluids, engine oil, corrosives, and paints) related to operational processes. These materials, probably in larger quantities, would again be used when the civilian airport operations begin in approximately 2006. However, these and other hazardous materials, hazardous wastes, and related programs would continue to be controlled by various new property recipients, complying with applicable regulations.

4.3.4.2 Hazardous Waste Management

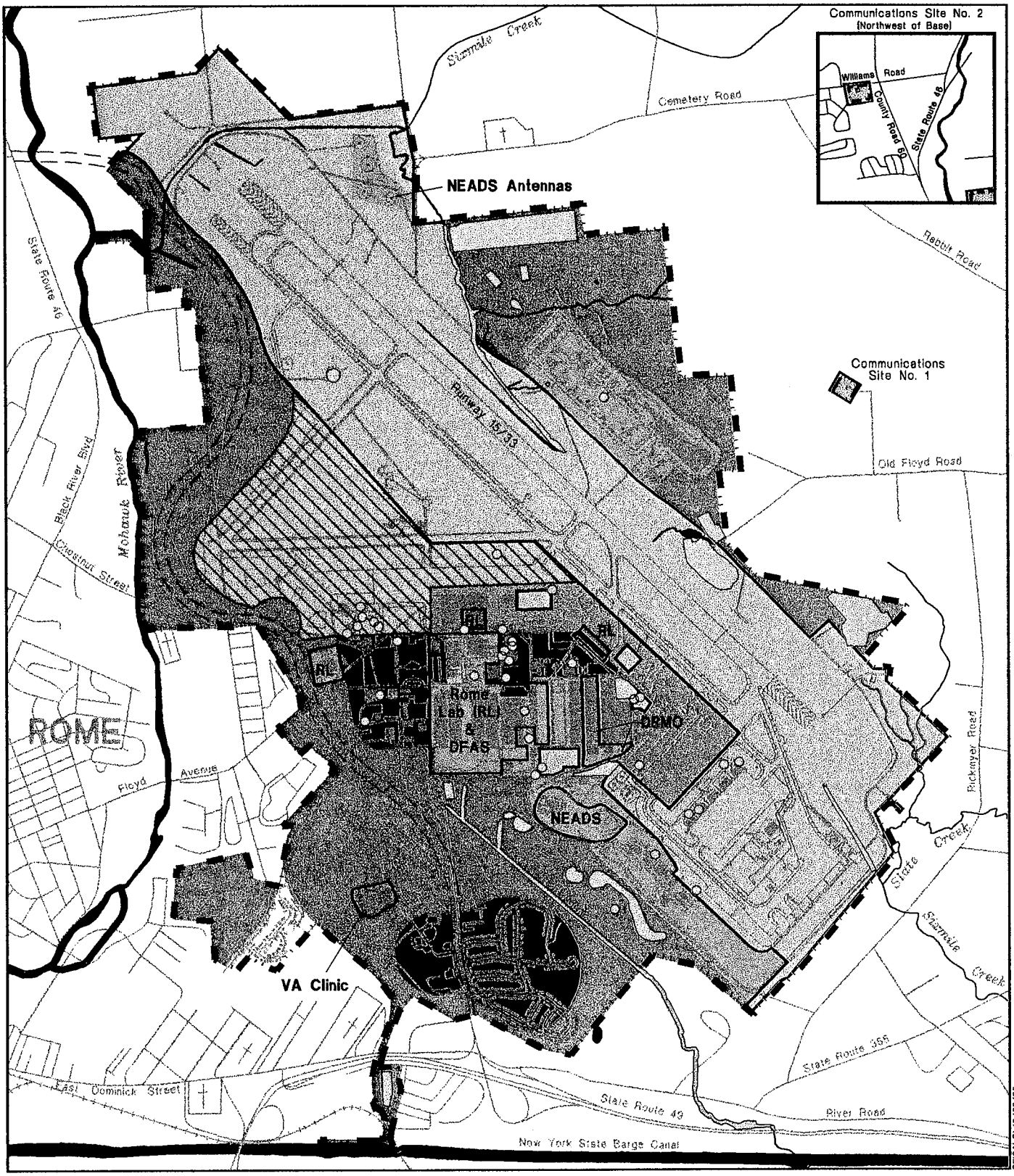
With disposal of portions of the base property, management of hazardous waste would be controlled by the property recipients. The proposed land use areas identified for this alternative (Chapter 2.0, Figure 2.3-2) would be used for many operations that are yet to be defined. Once the responsibilities for hazardous waste management are allocated to the individual organizations, proficiency with those materials and spill response plans are required by RCRA regulations.

The presence of numerous independent operators on the base would change the regulatory requirements and probably increase the overall regulatory burden relative to hazardous waste management. Overall, activities associated with the Regional Aviation Complex Alternative would result in an increase in the amount of hazardous waste generated compared to the realignment baseline, but a slightly larger amount than that generated for the Proposed Action, because of the emphasis on reuse of the base property for aviation uses.

Following realignment of the base hazardous waste accumulation points and satellite accumulation points may be maintained within the government-retained areas of the base.

4.3.4.3 Installation Restoration Program Sites

IRP remediation requirements may constrain the land uses proposed for the Regional Aviation Complex Alternative. The location of IRP sites within each land use area for this alternative is shown in Figure 4.3-4 and summarized in Table 4.3-5. Several IRP sites are located in more than one proposed land use area.



LEGEND

- Base Boundary
- Parkway Corridor
- Airfield (National Guard Facilities)
- Aviation Support
- Airport
- Industrial
- Institutional (Medical)
- Institutional (Education)
- Commercial
- Residential
- Public/Recreational
- Agricultural*
- Vacant Land (Development Reserve)
- Government Retained Land
- IRP Site

*Not Applicable

SCALE IN FEET
0 1000 2000

Griffiss AFB Alternative (C) With IRP Sites

Figure 4.3-4

Table 4.3-5

Installation Restoration Program Sites Within Land Use Areas
Regional Aviation Complex Alternative

Proposed Land Use	IRP Sites
Airfield	Landfill No. 7 (LF-03)[1], Lot 69 - Former Hazardous Waste Storage Yard (SS-17)[1], Building 43 - Refueling Station (ST-26)[1], Fire Protection Training Area (FT-30)[1], Sixmile Creek and Weapons Storage Area Lagoon (SD-32)[1,2], Building 786 (Nose Dock #5) - Soil Contamination (SS-34)[1], Building 782 - Nose Dock #1 and #2 (SD-41)[1], Glycol Storage/Use Areas (Facility 43 and Building 785) (SS-46)[1], Building 781-Pumphouse (SS-54)[1].
Airport	Building 255 Area - Two Drywells (DP-13), Building 219 - Drywell (DP-15), Building 222 - Battery Acid Disposal Pit (DP-22), Fire Demonstration Area (SS-24), Glycol Storage/Use Areas (SS-46) (Building 220), Buildings 215/216 - Oil/Water Separator (SD-47), Building 214 - Former Vehicle Shop Oil/Water Separator (SD-50).
Aviation Support	Building 101 - Yellow Submarine and Disposal Pit (ST-06), Building 110 - Aqua Refueling System (ST-36), Building 771 - Pumphouse 5 (ST-37), Building 100 - Fuel Hydrant System (ST-51).
Industrial	Building 3 - Drywell (DP-11)[1], Building 20- Locomotive Storage Facility (SS-23), T-9 Storage Area (SS-25), Proposed Coal Storage Yard (SS-33), Building 26 - Former Pumping Station (ST-35), Building 775 - Pumphouse 3, TCE Contamination (SS-38), Building 117 - Former Steam Plant (ST-39)[1], Weapons Storage Area (SS-40).
Institutional	No IRP Sites.
Commercial	Lindane Spill - Former Entomology Storage Shed (SS-05), Building 112 (SS-08), Building 301 - Former Entomology Shop Drywell (DP-12), Tank Farm 1 and 3 (SS-20), Building 210 - Former UST Site (ST-21), Building 133 - Underground Vault (ST-53).
Residential	No IRP Sites.
Public/Recreational	Landfill No. 1 (LF-01), Landfills No. 2 and 3 (LF-02), Bulk Fuel Storage Area - Barge Canal (ST-04), Landfill No. 5 (LF-07), Landfill No. 6 (LF-09), Landfill No. 4 (LF-28), Threemile Creek (SD-31), Sixmile Creek and the Weapons Storage Area Lagoon (SD-32), Electrical Power Substation (SS-44), Industrial Soils Collection Pad (SS-45), Suspected Fire Training Area (FT-48), Hardfill Areas A, B, C, and D (LF-49A, LF-49B, LF-49C, and LF-49D).
Undesignated (Vacant)	No IRP Sites.

Notes: [1]Site located within government-retained land.
[2]Includes underground culverted portion of Sixmile Creek.

- **Airfield.** Ten IRP sites are located in the proposed airfield area: a fire training site (FT-30), a landfill site (LF-03), two storm drainage sites (SD-32 [portion of site] and SD-41), five spill sites (SS-17, SS-34, SS-46 [two locations], and SS-54), and one storage tank site (ST-26). All of these IRP sites are located on government-retained land.

- **Airport.** Seven IRP sites are located within the proposed airport area: three disposal pit sites (DP-13, DP-15, and DP-22), two storm drainage sites (SD-47 and SD-50), and two spill sites (SS-24 and SS-46 [[one location]).

- **Aviation Support.** Four IRP storage tank sites (ST-06, ST-36, ST-37, and ST-51) are located in the proposed aviation support area.

- **Industrial.** Eight IRP sites are located in the proposed industrial area: one disposal pit site (DP-11), five spill sites (SS-23, SS-25, SS-33, SS-38, and SS-40), and two storage tank sites (ST-35 and ST-39). Two of these IRP sites (DP-11 and ST-39) are located on government-retained land.

- **Institutional.** No IRP sites are located in this proposed land use category.

- **Commercial.** Six IRP sites are located in the proposed commercial area: a disposal pit site (DP-12), three spill sites (SS-05, SS-08, and SS-20), and two storage tank sites (ST-21 and ST-53).

- **Residential.** No IRP sites are located in this proposed land use category.

- **Public/Recreational.** Fifteen IRP sites are located in the proposed public/recreational area: a fire training site (FT-48), nine landfill sites (LF-01, LF-02, LF-07, LF-09, LF-28, LF-49A, LF-49B, LF-49C, and LF-49D), two storm drainage sites (SD-31, and SD-32 [portion of site]), two spill sites (SS-44 and SS-45), and one storage tank site (ST-04).

- **Undesignated.** No IRP sites are located in undesignated areas.

- **Government-Retained Land.** Eleven IRP sites are located on government-retained land in the following land use categories: nine in the airfield area (LF-03, SS-17, ST-26, FT-30, SD-32 [portion of site], SS-34, SD-41, SS-46, and SS-54) and two in the industrial area (DP-11 and ST-39).

- **Transportation.** No IRP sites are located within the proposed alignment of the parkway.

The extent of contamination, if any, for these sites will be determined. Remedial activities associated with these sites could cause delays in property disposal. Installation and use of long-term monitoring devices may delay or restrict reuse in some areas.

Determination of future base land uses will, to a certain extent, depend on regulatory review of the remedial design of the IRP sites. This review will identify current monitoring well locations and future land use limitations as a result of their presence. The regulatory review process would include notifying the EPA, NYSDEC, and local agencies (e.g., Oneida County) concerning the construction and locations of any monitoring wells.

4.3.4.4 Storage Tanks and Oil/Water Separators

Aviation and other maintenance operations associated with retained government land under this alternative would require the use of both aboveground tanks and USTs. Storage tanks may also be required to support reuse activities with this alternative, including operation of a regional airport. Reused and new USTs and aboveground storage tanks required by the retained DOD organizations and by other property recipients would be subject to all applicable Federal, State, and local regulations. These regulations include acceptable leak detection methods, spill and overfill protection, cathodic protection, secondary containment for hazardous waste tank systems including the piping, and liability insurance (for other than U.S. Government-owned tanks).

Underground storage tanks and associated piping that will not be used to support reuse activities with this alterative will be removed in accordance with Air Force policy prior to property transfer. Aboveground fuel storage tanks not used to support reuse activities will be deactivated, purged of fumes to preclude fire hazards, and removed prior to property transfer. Oil/water separators not required for reuse activities also be deactivated and removed by the Air Force before the property is transferred.

4.3.4.5 Asbestos

With the Regional Aviation Complex Alternative, a number of buildings with ACM would be renovated for alternate uses or demolished for construction of new facilities. Such activities would be subject to all applicable Federal, State, and local regulations to minimize potential risks to human health and the environment, including compliance with the NESHAP for asbestos regulating emissions from renovation and demolition activities, and OSHA worker protection regulations. In addition, maintenance activities performed in buildings with ACM would be subject to the OSHA worker protection regulations.

It is Air Force policy to disclose to property recipients information regarding those structures with ACM, but not perform abatement of the asbestos, unless there is a health hazard. The Air Force policy concerning the management of asbestos at closing and realigning bases is presented in Appendix G.

4.3.4.6 Pesticides

Pesticide use associated with this alternative would increase from amounts used under realignment baseline conditions. Pesticide use would be expected

to occur in landscaped areas associated with industrial, institutional, commercial, and public/recreational land uses, and in and around buildings associated with such reuses. Management practices, including storage and use, would be subject to applicable Federal and State pesticide regulations; therefore, no unacceptable impacts should result.

4.3.4.7 Polychlorinated Biphenyls

Areas of the base not retained for government use with this alternative will not contain any Federally regulated PCB and PCB-contaminated equipment at the time of property transfer. PCB items remaining within government-retained land would be subject to compliance with applicable Federal and State regulations.

4.3.4.8 Radon

It is Air Force policy to disclose to property recipients information regarding those structures with radon levels measured above the recommended EPA mitigation threshold (i.e., greater than 4 pCi/l of air), but not undertake measures to reduce the radon levels. Reuse of these structures with this alternative, particularly those used as residences, may require implementation of appropriate measures to reduce radon levels to below the recommended threshold. Currently, no radon exposure guidelines or action levels have been established by Federal or State regulatory agencies for buildings other than schools or residences.

4.3.4.9 Medical/Biohazardous Waste

The Air Force will remove all medical/biohazardous waste from the base hospital prior to realignment of the base. With reuse of the hospital as a VA outpatient clinic and nursing facility, medical/biohazardous wastes would be generated as part of the realignment baseline. This waste will be managed in accordance with applicable Federal and State regulations. No reuses are planned with this alternative which would result in the generation of medical/biohazardous waste by recipients of the nongovernment-retained land.

4.3.4.10 Ordnance

Prior to the transfer of property on the base which includes ordnance-related uses (e.g., the Small Arms Range), the Air Force will perform necessary investigations and cleanup actions as required by applicable Federal and State regulations. Disposal and reuse of these areas may be delayed or limited, based on the Air Force investigations, and if necessary, by the remediation of such facilities.

4.3.4.11 Lead

With the Regional Aviation Complex Alternative, a number of buildings with LBP would be renovated for alternate uses or demolished for construction of new facilities. Such activities would be subject to all applicable Federal, State, and

local regulations to minimize potential risks to human health and the environment, including compliance with requirements of NYCCR Title 6, Part 371 for disposal of waste materials containing lead, and OSHA worker protection regulations. In addition, maintenance activities performed in buildings with LBP would be subject to the OSHA worker protection regulations.

It is Air Force policy to disclose to property recipients information regarding those structures with LBP, but not perform abatement of LBP, except in housing constructed prior to 1960 where children are likely to reside. In pre-1978 housing where LBP has been documented (Section 3.3.11), the Air Force will disclose that condition to potential property recipients. Property remaining under Air Force control (e.g., lease) would be maintained to avoid potential LBP hazards to children ages 6 or under.

4.3.4.12 Cumulative Impacts

The Rome region may eventually support over 9 million square feet of new commercial and industrial development, based on current plans (C. Alerlie, personal communication, 1995). These additional uses would consume, process, dispose of, or otherwise handle a variety of hazardous substances. Because the type of uses are expected to be similar to uses planned for the Regional Aviation Complex Alternative, the type and amount of hazardous materials and wastes generated by these additional uses would be similar to those expected with this alternative. As long as future uses comply with applicable Federal, State, and local regulations pertaining to hazardous substance management, no impacts would be expected to result from these cumulative actions.

4.3.4.13 Mitigation Measures

The required and additional potential mitigation measures for the Regional Aviation Complex Alternative would be the same as those described for the Proposed Action.

4.3.5 No-Action Alternative

4.3.5.1 Hazardous Materials Management

With the No-Action Alternative, hazardous materials will be used for facility and grounds caretaker maintenance activities. Materials used for these activities would include pesticides, fuels, paints, and corrosives. The Air Force and other retained DOD organizations will be responsible for management of hazardous materials in accordance with applicable Federal and State regulations.

Potential Consequences of Airfield Closure. The potential impacts resulting from closure of the airfield would be similar to those described for airfield closure with the Proposed Action.

4.3.5.2 Hazardous Waste Management

Except for those required by the Air Force and other DOD organization remaining at the base, all hazardous waste accumulation and satellite accumulation points will be closed and the waste disposed of through the Defense Reutilization and Marketing Office (DRMO) prior to base realignment. Management of hazardous waste generated by the retained organizations (including caretaker personnel) will be managed in accordance with applicable Federal and State regulations. The small amount of hazardous waste that would be generated with the No-Action Alternative may enable the Air Force to become an exempt, small-quantity generator.

4.3.5.3 Installation Restoration Program Sites

Ongoing sampling and remedial design activities will be continued by individual IRP contractors. The Air Force would support the utility requirements for these contractors and provide security for the areas.

4.3.5.4 Storage Tanks and Oil/Water Separators

All USTs will be removed in accordance with Air Force policy, except those, if any, required for caretaker activities or activities of DOD organizations at the base following realignment. Aboveground storage tanks not required for post-realignment activities will be deactivated, purged of fuel fumes to preclude fire hazards, and removed, as required. The NYSDEC has the discretion to order the removal of tanks that are out of service. All oil/water separators not required for post-realignment activities will be deactivated and removed.

4.3.5.5 Asbestos

Impacts resulting from the No-Action Alternative would be minimal. Vacated buildings will be secured to prevent contact with ACM. ACM will continue to be managed in a manner to ensure a safe site condition.

4.3.5.6 Pesticides

With the No-Action Alternative, the grounds will be maintained in such a manner as to facilitate economic resumption of use. There will be an appreciable decrease in the use of pesticides compared to pre-realignment baseline conditions or the Proposed Action. Management practices, including use and storage, will be subject to applicable Federal and State regulations to ensure the proper and safe handling and application of all chemicals.

4.3.5.7 Polychlorinated Biphenyls

Federally regulated PCB and PCB-contaminated equipment remaining on the base following realignment will be managed in accordance with Federal and State regulations.

4.3.5.8 Radon

Although there are structures on the base with radon levels measured above the recommended EPA mitigation threshold (i.e., greater than 4 pCi/l of air), no measures will be undertaken to reduce the radon levels under the No-Action Alternative. None of these structures will be used by Air Force or other DOD organizations remaining at the base following realignment.

4.3.5.9 Medical/Biohazardous Waste

The Air Force will remove all medical/biohazardous waste from the base hospital prior to realignment of the base. With reuse of the hospital as a VA outpatient clinic and nursing facility, medical/biohazardous wastes would be generated as part of the realignment baseline. This waste will be managed in accordance with applicable Federal and State regulations.

4.3.5.10 Ordnance

The Air Force will perform necessary investigations and cleanup actions as required by applicable Federal and State regulations for those locations on the base that were used for ordnance-related activities (e.g., the Small Arms Range).

4.3.5.11 Lead

Impacts resulting from the No-Action Alternative would be minimal. Vacated facilities will be secured to prevent contact with LBP. LBP would continue to be managed to ensure a safe site condition. Management of LBP will be done in accordance with applicable Federal and State regulations, including compliance with requirements of NYCCR Title 6, Part 371 for disposal of waste materials containing lead, and OSHA worker protection regulations. In addition, maintenance activities performed in buildings with LBP would be subject to the OSHA worker protection regulations.

4.3.5.12 Cumulative Impacts

The Rome region may eventually support over 9 million square feet of new development, primarily retail commercial uses, based on current plans (Alerlie, personal communication, 1995). These additional uses would consume, process, dispose, or otherwise handle a variety of hazardous substances. The type and amount of hazardous materials and wastes generated by these additional uses would be similar to those expected from base realignment.

4.3.5.13 Mitigation Measures

With the No-Action Alternative, the Air Force will be responsible for the basewide management of hazardous materials and waste. Contingency plans developed to address spill response would be less extensive than those required for the Proposed Action or other reuse alternatives. Implementation of such

procedures could effectively mitigate any potential impacts associated with the No-Action Alternative.

4.4 NATURAL ENVIRONMENT

This section describes the potential effects of the Proposed Action and alternatives on soils and geology, water resources, air quality, noise, biological, and cultural and paleontological resources in the Griffiss AFB area and the surrounding region.

4.4.1 Soils and Geology

The potential effects of the Proposed Action and reuse alternatives on local soils and geology, as well as the potential constraints imposed by geological and soil conditions on activities of the Proposed Action and alternatives, have been analyzed based on a review of published literature.

4.4.1.1 Proposed Action

Effects of the Proposed Action on regional soils and geology would be minimal. Effects on local soils and geology would result primarily from construction activities associated with the Proposed Action. Soil profiles and local topography have been altered by past construction activities, and much of the base is now mapped as Urban land. Acreages to be disturbed with the Proposed Action during the 5, 10, and 20 years of redevelopment are presented in Chapter 2.0 (Table 2.2-1).

No significant change is expected in the supply or quality of mineral resources as a result of the Proposed Action. Consumption of sand and gravel used for construction of new facilities and roadways would not reduce the availability of these materials from local suppliers. Adequate supplies are available in the ROI, and the quantities used relative to the amount available would not be significant. No earth resources on Griffiss AFB would be extracted or covered as a result of the Proposed Action.

Because Griffiss AFB lies in an area of infrequent seismic activity, little or no damage is expected from earthquakes. No impacts are anticipated from seismic events.

There are no significant limiting factors in terms of subsidence, slope stability, or shrink-swell potential of soils in the areas considered for the Proposed Action. Subsidence is not a factor except in a very limited area of Palms muck where Threemile Creek exits the base. Steep slopes (>10 %) are present in portions of the residential, institutional, and industrial areas, but only along ridges or parallel to streams. Because no steep slopes are present where construction is anticipated, no impacts are expected. The shrink-swell potential of all the soils is low; however, the limitations of most of the soils must be considered because of their wetness and the high water table. In addition, some soils are limited by caving, ponding, or frost action.

Demolition or removal of existing structures may expose soils. In many cases, however, the soils have already been disturbed. Topsoil may have been removed, or infilling on top of an undisturbed soil may have buried the topsoil. Any ground exposed in demolition or removal could be disturbed to some extent and be susceptible to erosion. New construction on the sites of these structures would be unlikely to cause further disturbance unless there is deeper excavation. New construction where soil profiles are intact would disturb soils at the building sites, including the construction laydown areas. This disturbance may include grading, excavation, infilling, or removal of topsoil. Removal of vegetation during the demolition and construction period could increase the potential for erosion.

The erosion potential of soils over most of the area to be affected by the Proposed Action is low. Soils with high erosion potential are limited in extent and are present only in areas that are undeveloped. Soil losses from erosion are not expected to be significant, because they can be kept well within maximum tolerable limits by using standard treatments for controlling erosion.

Soils classified as prime farmland make up part of the areas proposed for public/recreational use, and, to a minor extent, commercial and institutional use. Public and recreational uses will not require conversion of prime farmland. Prime farmland in the areas proposed for commercial and institutional use either has already been disturbed or can be avoided by construction and would not be affected by the Proposed Action.

Prime farmland along the parkway corridor would be disturbed by grading, compacting, and road construction along a 250-foot-wide route. This route crosses approximately 5,600 feet of prime farmland, 4,550 feet of which lies within the base. Acreage to be converted is shown in Table 4.4-1.

Table 4.4-1

Soil Series, Estimated Acreage, and Status of Farmland to be Converted With the Proposed Action

Soil Series	Acreage to be Converted	Farmland Status
Alton gravelly loam	26 onbase	Prime Farmland
Alton gravelly loam	6 offbase	Prime Farmland
Total Acreage:	32	

Source: U.S. Department of Agriculture 1994.

Prime farmland occurs mainly in a curving strip along the northwest side of the institutional area. Disturbance would occur on approximately 77 percent of the area, but construction activities can be placed so as to avoid prime farmland.

Conversion of prime or unique farmland would require coordination with the local Natural Resources Conservation Service (NRCS) district office, which would determine the severity of the loss. U.S. Department of Agriculture Form

AD-1006, Farmland Conversion Impact Rating, must be completed by the proponent and the NRCS.

Government-Retained Land. Because soils and topography would not be affected on government-retained land as a result of the Proposed Action, no impacts are anticipated.

Offbase Impacts. Impacts on the geology and soils of offbase land as a result of the Proposed Action would be limited to the segments of the parkway corridor which extend from the base boundary to connecting roads. The soils and prime farmland in these segments would be disturbed by construction (Table 4.4-1). Construction of the bridge over the Mohawk River could cause a temporary increase in sediment entering the river, but this should be minor. Because construction control measures would keep erosion to a minimum, blowing dust or sediment would not enter streams.

Potential Consequences of Airfield Closure. Closure of the airfield by 1999 would not have any effect on soils and geology in the affected area. The potential for future effects on soils and geology would not occur until the initiation of any grading or filling resulting from implementation of reuse activities.

Cumulative Impacts. Future development projects may add over 9 million square feet of new building space in the Rome region. Construction of these projects would result in temporary disturbances to local soils. No cumulative impacts on geology or soils would be anticipated as a result of the Proposed Action.

Required Mitigation Measures. Mitigation measures that are clearly required by law or are standard industry practices are described below. Although mitigation measures would help reduce the amount of erosion that could occur as a result of construction/demolition-related activities, wind and water erosion cannot be completely eliminated. These measures were taken into account in the assessment of the impacts.

- Add protective covering such as mulch, straw, or other material (tacking will be required);
- Limit the amount of area disturbed and the length of time slopes and barren ground are left exposed;
- Stockpile topsoil from construction areas and later spread in areas where Proposed Action activities have disturbed the soil profile;
- Construct diversion dikes and interceptor ditches to divert water away from construction areas;

- Install slope drains (conduits) and/or water velocity-control devices to reduce concentrated high-velocity streams from developing;

- Control dust and reduce wind erosion through sprinkling; and

- After construction, control long-term erosion by revegetation.

Standard practices will be followed to minimize problems associated with soil properties and seismic activity. Appropriate engineering practices, such as stronger foundations and deeper pilings, would reduce the effect of the shrinking and swelling of soils if test borings indicate that soils of this nature are present. Compliance with the Uniform Building Code design standards will diminish the effects of seismic activities and liquefaction on structures. New construction and retrofitting of structures would follow current seismic codes for seismic risk zone 1.

Additional Potential Mitigation Measures. The project design and construction methods should adequately mitigate potential impacts on soils and geology; therefore, no additional mitigation measures would be needed beyond those required by law and standard industry practices.

4.4.1.2 Griffiss Research Park Alternative (A)

Effects of the Griffiss Research Park Alternative on regional soils and geology, as well as impacts of geological and soil conditions on project activities, would be similar to those described for the Proposed Action.

The total amount of land disturbed by construction and demolition with this alternative is 44 percent of the amount that would be disturbed with the Proposed Action. Slightly more acreage in the commercial area and less than half as much acreage in the industrial and institutional areas would be disturbed by demolition and construction with this alternative than with the Proposed Action. Some public/recreational land would be disturbed with this alternative; however, no vacant land would be disturbed.

Government-Retained Land. Soils and topography would not be affected on government-retained land as a result of this alternative; therefore, no impacts are anticipated.

Offbase Impacts. No impacts are anticipated on the geology and soils of any offbase land as a result of this alternative. Because construction control measures would keep erosion to a minimum, blowing dust and sediment entering streams would be minimized.

Potential Consequences of Airfield Closure. The closure of the airfield by 1999 would not have any effect on soils and geology in the affected area.

Cumulative Impacts. No cumulative impacts on geology or soils are anticipated as a result of this alternative.

Mitigation Measures. The required and additional potential mitigation measures for the Griffiss Research Park Alternative would be the same as those described for the Proposed Action.

4.4.1.3 Mohawk Valley Business Center Alternative (B)

Effects of the Mohawk Valley Business Center Alternative on regional soils and geology, as well as impacts of geological and soil conditions on project activities, would be similar to those described for the Proposed Action.

The amount of land disturbed from construction and demolition with this alternative is 76 percent of the amount disturbed with the Proposed Action. Less than half as much acreage in the industrial area would be disturbed with this alternative than with the Proposed Action, but more land would be disturbed in the commercial, residential, and public/recreational areas (Table 2.2-2). Vacant land would not be affected by construction; demolition of existing structures may disturb soil at the demolition sites.

The golf course proposed with this alternative would be constructed on Windsor, Lamson, and Palms soils. Demolition of existing structures and grading and/or filling would disturb the ground surface, including the soil profile in previously undisturbed areas. Windsor soils are prone to dryness, and Lamson soils have severe limitations for golf fairways, landscaping, and lawns because of wetness and ponding (Natural Resources Conservation Service 1994). The small area of Palms muck would be entirely covered by the golf course. The Palms series has severe limitations because of ponding and excess humus (Natural Resources Conservation Service 1994). Lamson and Palms soils are present along Threemile Creek and its associated wetland and are very poorly drained. Significant impacts would occur from drainage and grading of these soils.

Disturbance along the parkway corridor would be the same with this alternative as with the Proposed Action (26 acres onbase and 6 acres offbase). In addition, soil classified as prime farmland makes up about 40 percent of the area proposed for residential use on the site of the present golf course. Soil in this area has probably been minimally disturbed during construction of the golf course. Construction of residential areas and roadways, however, would disturb approximately 17 acres of prime farmland. Acreages converted from prime farmland are shown in Table 4.4-2.

Conversion of prime farmland would require coordination with the local NRCS district office and they would determine the severity of the loss. U.S. Department of Agriculture Form AD-1006, Farmland Conversion Impact Rating, must be completed by the proponent and the NRCS.

Table 4.4-2

Soil Series, Estimated Acreage, and Status of Farmland to be Converted With the Mohawk Valley Business Center Alternative

Soil Series	Acreage to be Converted	Farmland Status
Alton gravelly loam	43 onbase	Prime Farmland
Alton gravelly loam	6 offbase	Prime Farmland
Total Acreage:	49	

Source: U.S. Department of Agriculture 1994.

Government-Retained Land. Soils and topography would not be affected on government-retained land as a result of this alternative; therefore, no impacts are anticipated.

Offbase Impacts. Impacts on geology and soils on offbase land as a result of this alternative would be limited to the segments of the parkway corridor that extend from the base boundary to connecting roads. The soils in these segments would be disturbed by construction and include prime farmland as shown in Table 4.4-2. Construction of the bridge over the Mohawk River could cause a temporary increase in sediment entering the river, but this should be minor. Because control measures would keep erosion to a minimum, blowing dust and sediment entering streams would be minimized.

Potential Consequences of Airfield Closure. The closure of the airfield by 1999 would not have any effect on soils and geology in the affected area.

Cumulative Impacts. No cumulative impacts on geology or soils are anticipated as a result of this alternative.

Mitigation Measures. The required and additional potential mitigation measures for the Mohawk Valley Business Center Alternative would be the same as those described for the Proposed Action.

4.4.1.4 Regional Aviation Complex Alternative (C)

Effects of the Regional Aviation Complex Alternative on regional soils and geology, as well as impacts of geological and soil conditions on project activities, would be similar to those described for the Proposed Action.

The total amount of land disturbed with this alternative is 84 percent of the amount disturbed with the Proposed Action. Disturbance of land in the industrial area would be a little over two-thirds the amount disturbed by the Proposed Action and about half as much in the institutional area. More land would be disturbed in the commercial and public/recreational areas (Table 2.2-2), but only 4 acres would be disturbed in the residential area.

Disturbance in areas set aside as vacant land would be about the same as for the Proposed Action and the Mohawk Valley Business Center Alternative.

Alton soils classified as prime farmland occur in most of the western edge of both areas proposed for public/recreational use, much of the parkway corridor, and part of the southwest corner of the area designated for airport use. Public and recreational use would not require conversion of prime farmland.

A road segment and a baseball field constitute most of the present disturbance of prime farmland in the area proposed for airport use. Prime farmland in this area can be avoided by construction and would not be affected by activities with this alternative.

With this alternative, more than half of the parkway corridor lies in prime farmland soil. Soil along the parkway corridor would be disturbed by grading, compacting, and road construction along a 250-foot-wide route. This route crosses approximately 11,800 feet of prime farmland, 10,750 feet of which occur within the base. The prime farmland acreage to be converted is shown in Table 4.4-3.

Table 4.4-3

Soil Series, Estimated Acreage, and Status of Farmland to be Converted With the Regional Aviation Complex Alternative

Soil Series	Acreage to be Converted	Farmland Status
Alton gravelly loam	62 onbase	Prime Farmland
Alton gravelly loam	6 offbase	Prime Farmland
Total Acreage:	68	

Source: U.S. Department of Agriculture 1994.

Conversion of prime or unique farmland would require coordination with the local NRCS district office, which would determine the severity of the loss. U.S. Department of Agriculture Form AD-1006, Farmland Conversion Impact Rating, must be completed by the proponent and NRCS.

Government-Retained Land. Soils and topography would not be affected on government-retained land as a result of this alternative; therefore, no impacts are anticipated.

Offbase Impacts. Impacts on geology and soils offbase as a result of this alternative would be limited to the segments of the parkway corridor that extend from the base boundary to connecting roads. The soils in these segments would be disturbed by construction and include prime farmland as shown in Table 4.4-3. Construction of the bridge over the Mohawk River could cause a temporary increase in sediment entering the river, but this should be minor. Because control measures would keep erosion to a minimum, blowing

dust would be minimized and sediment would not enter streams. No impacts are anticipated on geology and soils offbase as a result of this alternative.

Potential Consequences of Airfield Closure Followed by Civilian Airport Reuse. Departure of the Air National Guard, followed by civilian reuse of the airfield would not have any effect on soils and geology.

Cumulative Impacts. No cumulative impacts on geology or soils are anticipated as a result of this alternative.

Mitigation Measures. The required and additional potential mitigation measures for the Regional Aviation Complex Alternative would be the same as those described for the Proposed Action.

4.4.1.5 No-Action Alternative

No impacts to soils and geology of the base area and the surrounding region are expected with the No-Action Alternative. No cumulative impacts would result, and no mitigation measures would be required. The construction activities associated with this alternative would be minimal or nonexistent and restricted to caretaker maintenance or IRP activities.

Potential Consequences of Airfield Closure. Closure of this airfield would not have any effect on soils and geology in the affected area.

4.4.2 Water Resources

The following section describes the potential impacts on water resources as a result of the Proposed Action and reuse alternatives. Construction activities could alter soil profiles and natural drainages, which may temporarily alter water flow patterns. Impacts on water quality from hazardous waste contamination are addressed in Section 4.3, Hazardous Materials and Hazardous Waste Management.

4.4.2.1 Proposed Action

Surface Water. Because soils would be compacted during new construction and overlain by pavement or buildings, impervious surfaces would be created that would cause increased storm water runoff to local storm sewers and sewage systems. Drainage would be altered to divert water away from facilities and paved areas. Storm water discharge from nonpoint sources, especially the industrial area, may contain fuels, oils, and other residual contaminants, which could degrade the quality of surface water. If uncontrolled, runoff from nonpoint sources could cause increased sediment loads in drainage systems and adjacent streams.

It is not anticipated, however, that there would be any hydrological changes or effects on surface water as the result of the Proposed Action. Threemile Creek lies in the proposed public/recreational area and would not be affected by

activities of the Proposed Action except for receiving runoff from adjacent institutional, industrial, and commercial areas. The diverted segment of Sixmile Creek near the north end of the runway lies partly in the airfield area (to be retained by the government) and partly in the proposed public/recreational area. The flow patterns and discharges of Threemile Creek and Sixmile Creek would not be changed from the present conditions as a result of the Proposed Action, and there would be no increase in the amount of sediment entering these streams if adjacent areas were vegetated and stormwater flows were controlled. Similarly, hydrologic conditions in wetlands, including those associated with the streams, are expected to be unaffected by the Proposed Action.

Water quality of Threemile and Sixmile creeks should improve because contaminants from adjacent nonpoint sources are anticipated to be less than in the past. This improvement would result from a large reduction in airfield usage along with a transition to industrial processes that are less likely to produce hazardous wastes than airfield operations.

With the Proposed Action, all water would continue to be supplied by the City of Rome system. No water would be withdrawn from the Mohawk River or other surface waters, either on the base or the area immediately surrounding it.

There are no flood hazards in any of the areas covered by the Proposed Action except for a narrow strip along the Mohawk River below the present golf course. No construction or other change in conditions is proposed on the 100-year floodplain. Therefore, no impacts would be incurred by flooding.

Disposal by the Air Force of property which includes a floodplain requires a series of procedures outlined in Executive Order 11988 and Air Force Instruction (AFI) 32-7060 prior to project implementation, including identification of impact minimization measures, consideration of alternatives to the action, and public notices and reviews. The Air Force would implement these steps as part of the disposal process. In accordance with Executive Order 11988, the Air Force must disclose Federal, State, and local regulations and restrictions affecting future use of the floodplains to the new property owner and identify any additional restrictions on the property, or withhold the property from disposal.

The project may be subject to NPDES permit requirements for storm water discharges during the demolition and construction period. This provision is contained in the NPDES Permit Application Regulations for Storm Water Discharges issued by the Environmental Protection Agency as a final rule on November 16, 1990. A SPDES permit would also be required for point source discharges at facilities where pollutants may be discharged into the stormwater system. Outfalls from these discharges would be monitored as required under the permit. Discharges to the Rome sanitary sewer system would be in accordance with the regulations of the City of Rome.

Groundwater. No groundwater would be withdrawn for use on the base or in the ROI under the Proposed Action. No impacts to the groundwater flow system or to groundwater quality that would result from the Proposed Action are anticipated. Cleanup of possible groundwater contamination which may have been contaminated by past activities would be addressed under the Installation Restoration Program (IRP). Small amounts of contaminated water may be withdrawn as part of the cleanup process. These amounts would not have a significant impact on the water table. Location and construction of new facilities in any reuse area would have to consider the presence of IRP sites and restoration activities which may be on-going or anticipated.

Government-Retained Land. No changes to either surface water or groundwater resources would be made on government-retained land as a result of the Proposed Action. Drainage from the areas covered by this alternative does not enter the government-retained portion of the base. Therefore, new or different contaminants and sediments would not enter Sixmile Creek as a result of this action. No impacts are anticipated on water resources. Cleanup of groundwater that may have been contaminated under the IRP would continue, and the quality of the groundwater is anticipated to improve as a result.

Offbase Impacts. Construction of the parkway bridge across the Mohawk River would cause disturbance of the river banks and stream bed. The width of the 100-year floodplain at the proposed crossing is 850 feet, and the width of the river and floodway is about 230 feet. This suggests that the necessary amount of disturbance caused by construction of footings, piers, and approaches would probably cause sediment to enter the river. The amount of sediment would depend on the design of the bridge and construction methods. Control measures should be used to keep sedimentation to a minimum.

Other than impacts caused by construction of the bridge, no impacts to surface waters off the base are anticipated as a result of the Proposed Action. No impacts are anticipated on groundwater resources off the base as a result of this alternative.

Potential Consequences of Airfield Closure. Closure of the airfield would not involve any change to surface water systems or drainages. However, the present systems would have to be maintained around and under the area to prevent any blockage to flow. Water consumption at these facilities would decrease to zero. Surface ground traffic would also be reduced significantly. The associated effects on surface and groundwater resources are anticipated to be beneficial because potential sources of adverse effects would not continue to occur on these base properties.

Cumulative Impacts. Future development in Rome and the surrounding region, may temporarily increase sediment loads to local waterways, particularly the New York State Barge Canal and the Mohawk River. These impacts would not be significant as long as proper drainage control measures are implemented. No other cumulative impacts on water resources are anticipated as a result of the Proposed Action.

Required Mitigation Measures. Mitigation measures that are clearly required by law or are standard industry practices are described below. These measures were taken into account in the assessment of the impacts.

- Establish engineered drainage systems, either existing or newly built, in areas of new construction, so that surface runoff causes minimum erosion or ponding and provides a level of discharge into streams and wetlands that would maintain water levels and through-flows at optimum conditions of equilibrium;
- Minimize areas of surface disturbance;
- Control site runoff by dikes, diversion channels, or impoundment basins;
- Maintain all existing diversion channels to prevent flooding, both on and offsite;
- Minimize time that disturbed areas are exposed to erosion;
- Schedule surface-disturbing activities during dry season;
- Provide regular street sweeping to reduce sediment availability;
- Create landscaped areas that allow infiltration of surface water; and
- Provide approved wastewater collection and disposal system during both construction and operation periods. This will include installation or maintenance of existing oil-water separators for facilities where there is a possibility of fuel or oil entering water to be discharged to the stormwater or sanitary sewer systems.

The Proposed Action would unlikely to affect water quality because implementation of these mitigation measures (and other site-specific measures if identified during construction) should reduce the probability of sedimentation and contaminant release.

Additional Potential Mitigation Measures. The project design and construction methods should adequately mitigate potential water resource related impacts; therefore, no additional mitigation measures would be needed.

4.4.2.2 Griffiss Research Park Alternative (A)

Effects of the Griffiss Research Park Alternative on regional water resources would be negligible. These effects would be essentially the same as in the Proposed Action except that there would be no bridge built over the Mohawk River and therefore no sediment added to the river.

Government-Retained Land. No changes to surface water or groundwater would be made on government-retained land as a result of this alternative. Drainage from the areas covered by this alternative does not enter the government-retained portion of the base and contaminants and sediments would not enter Sixmile Creek as a result of this action. Therefore, no impacts are anticipated on water resources.

Offbase Impacts. No impacts are anticipated on the water resources off the base as a result of the Griffiss Research Park Alternative. Sediment entering streams as a result of erosion from ground exposed during demolition or construction is not expected because control measures should keep erosion to a minimum.

Potential Consequences of Airfield Closure. The effects resulting from closure of the airfield by 1999 would be similar to those described for airfield closure with the Proposed Action.

Cumulative Impacts. No cumulative impacts on water resources are anticipated as a result of this alternative.

Mitigation Measures. The required and additional mitigation measures for the Griffiss Research Park Alternative are the same as those described for the Proposed Action.

4.4.2.3 Mohawk Valley Business Center Alternative (B)

Effects of the Mohawk Valley Business Center Alternative on regional water resources would consist of alteration of the wetland regime along Threemile Creek and possible sediment additions to the Mohawk River during construction of the parkway bridge.

About one-half of the 18-hole golf course proposed in this alternative would be constructed on an existing wetland along Threemile Creek. This is an area of very poorly drained and ponded Lamson and Palms soils. The Palms soil is designated as a muck, because it consists largely of humus (U.S. Department of Agriculture 1994). Draining the area, infilling, and removal of mucky soil would drastically alter the hydraulic character of the wetland area and would constitute a significant impact. This action would require approval and permitting from State and Federal agencies.

Sediment entering streams as a result of erosion from ground exposed during demolition or construction of other facilities on the base is not expected because control measures should keep erosion to a minimum.

Government-Retained Land. No changes to surface water or groundwater would be made on government-retained land as a result of this alternative. Drainage from the areas covered by this alternative does not enter the government-retained portion of the base and contaminants and sediments

would not enter Sixmile Creek as a result of this action. Therefore, no impacts are anticipated on water resources.

Offbase Impacts. Impacts to the Mohawk River from sedimentation caused by construction of the parkway bridge would be the same as those described for the Proposed Action. Other than impacts caused by bridge construction, no impacts to surface water off the base are anticipated as a result of the Mohawk Valley Business Center alternative. No impacts are anticipated on groundwater resources off the base as a result of this alternative.

Potential Consequences of Airfield Closure. The effects resulting from closure of the airfield by 1999, would be similar to those described for airfield closure with the Proposed Action.

Cumulative Impacts. No cumulative impacts on water resources are anticipated as a result of this alternative.

Mitigation Measures. The required and additional potential mitigation measures for the Mohawk Valley Business Center Alternative would be the same as those described for the Proposed Action.

4.4.2.4 Regional Aviation Complex Alternative (C)

Effects of the Regional Aviation Complex Alternative on regional water resources are expected to be minimal. Sedimentation into the Mohawk River could occur during the construction of the parkway bridge. Water quality is expected to improve as cleanup activities continue under the IRP.

Government-Retained Land. No changes to surface water or groundwater would be made on government-retained land as a result of this alternative. Drainage from the areas covered by this alternative does not enter the government retained portion of the base, and contaminants and sediments would not enter Sixmile Creek as a result of this action. Therefore, no impacts are anticipated on water resources.

Offbase Impacts. Impacts on the Mohawk River from sedimentation caused by construction of the parkway bridge would be the same as outlined for the Proposed Action. Other than impacts caused by bridge construction, no other impacts to surface water off the base are anticipated as a result of the Regional Aviation Complex Alternative. No impacts are anticipated on groundwater resources off the base as a result of this alternative.

Potential Consequences of Airfield Closure Followed by Civilian Airport Reuse. The effects resulting from temporary closure of the airfield would be minimal. Overall water use would be slightly reduced because it would not be a joint use airport facility. The balance of effects would remain the same as those described for the Regional Aviation Complex Alternative.

Cumulative Impacts. No cumulative impacts on water resources are anticipated as a result of this alternative.

Mitigation Measures. The required and additional potential mitigation measures for the Regional Aviation Complex Alternative would be the same as described for the Proposed Action.

4.4.2.5 No-Action Alternative

The No-Action Alternative would result in no major new impacts on the water resources of the base area and the surrounding region. The No-Action Alternative would have positive effects on surface and groundwater quality. With very limited operations and no increase in population, water demands resulting from caretaker and retained government organization activities would be minimal and could be supplied by existing systems. No cumulative impacts would result, and no mitigation measures would be required. Construction operations associated with this alternative would be minimal or non-existent and restricted to maintenance or IRP activities.

Potential Consequences of Airfield Closure. Closure of the airfield by 1999 with the No-Action Alternative would result in the transfer of these lands and facilities to the jurisdiction of caretaker staff. Impacts on water resources are expected to be beneficial because airfield-related sources of adverse effects would be eliminated.

4.4.3 Air Quality

Air quality impacts could occur during construction and operations associated with the Proposed Action and alternatives for the reuse of Griffiss AFB. Intermittent construction-related impacts could result from fugitive dust (particulate matter) and construction equipment emissions. Operational impacts could occur from: (1) mobile sources such as aircraft, aircraft operation support equipment, commercial transport vehicles, and personal vehicles; (2) point sources such as heating/power plants, generators, incinerators and storage tanks; and (3) secondary emission sources associated with a general population increase, such as residential heating.

The method selected to analyze impacts depends upon the type of air emission source being examined. Because construction emissions are generally considered temporary and not subject to air quality regulations, analyses are limited to estimating the amount of uncontrolled fugitive dust that may be emitted from disturbed areas. Analysis for point source and secondary source emissions consists of quantifying the project-related emissions and evaluating how those emissions would affect progress toward attainment or maintenance of the NAAQS. The ambient effects of aircraft and related vehicular emissions are analyzed by modeling. The Emissions and Dispersion Modeling System (EDMS) is used to simulate the dispersion of emissions from airport operations (Segal 1991). EDMS was developed jointly by the FAA and the U.S. Air Force specifically for the purpose of generating airport and airbase emission

inventories and to calculate the concentrations caused by these emissions as they disperse downwind. The model is run in a screening mode utilizing an array of 1-hour worst-case meteorological conditions.

The following assumptions were made in estimating the effects of the Proposed Action and alternatives:

- EDMS was used to calculate the emissions for all airport operations.
- Emission inventory amounts related to fuel combustion, petroleum storage, and transfer are based on the product of the ratio of the alternative population to the base population prior to realignment with the base emission rates prior to realignment.
- Motor vehicle emissions were estimated from the number of vehicle trips generated by each alternative. Average trip length was assumed to be 12 miles. Emission factors were obtained from the EPA Mobile Source Emission Factor Model 5a (EPA 1993).
- Exhaust emissions from construction equipment were developed from construction equipment scenarios which estimated the types and numbers of construction equipment used daily during the construction period.

It should be noted that conversion plans were recently approved to install new duel-fuel low-NO_x natural gas liquid fuel burners in two of the existing coal fired boilers and to discontinue operations of the other two coal-fired boilers by September 1997. Therefore, the emission calculations for the Proposed Action and alternatives were based on the operation of a gas-fired heating plant.

Air quality analysis is presented for the Proposed Action and alternatives through 2006. The effects of the 1990 CAA Amendments, such as electric and other low emission vehicle ownership percentages, cannot be accurately predicted very far into the 21st century. The uncertainties of long-range population and traffic projections, future CAA changes, and the complex interaction of meteorology with emission inventories makes a 20-year emission and air quality projection too speculative.

The process by which a regulatory agency permits major new stationary sources or modifications of existing sources depends on the attainment status of the source location. In an area meeting the NAAQS, such as Griffiss AFB, the process is called PSD. The PSD process requires that Best Available Control Technology be installed and it limits the allowable ambient impact of emissions to specific increments as previously shown in Chapter 3.0, Table 3.4-7. The increments are designed to prevent significant degradation of the area's acceptable air quality.

Additionally, as described in Section 3.4.3, Air Quality, by 2000, most medium- and large-sized sources of HAPs generated by potential reuse at Griffiss AFB would be required to follow U.S. EPA regulations that will control HAPs emissions. Because details about the specific type of industrial activities to be conducted under the reuse proposals are unknown, it is not possible to develop any inventory of HAP emissions for this analysis.

4.4.3.1 Proposed Action

Total estimated emissions of the Proposed Action are presented in Table 4.4-4 for the years 2001 and 2006. The EDMS model uses EPA aircraft emission factors and information on peak and annual landing and takeoff (LTO) cycles to produce an emissions inventory report for the aircraft operations. Emissions for all other categories of emissions were calculated as described in Appendix I.

Construction. Fugitive dust and combustive emissions would be generated during construction activities associated with airfield, aviation support, industrial, institutional, commercial, residential, and public/recreational land uses. These emissions would be greatest during demolition, site clearing, and grading activities.

Between 1996 and 2001, construction at Griffiss AFB for the Proposed Action would disturb approximately 397 acres. The average monthly acreage disturbed over this period would be about 7 acres. Therefore, the unmitigated particulate matter emissions would be emitted at an average rate of about 8.4 tons per month (4.2 tons per month of particulate matter less than or equal to 10 micrometers in diameter [PM_{10}]). These emissions would elevate short-term particulate concentrations at receptors close to the construction area. However, the elevated concentrations would be a temporary effect that would fall off rapidly with distance.

Operations. Total estimated emissions associated with operations under the Proposed Action for the years 2001 and 2006 are shown in Table 4.4-4. Potential impacts to air quality as a result of air emissions from the operations with the Proposed Action were evaluated in terms of regional and local spatial scales. The regional-scale analysis considered the potential for project emissions to cause or contribute a nonattainment condition in the ROI. The local-scale analysis evaluated the potential impact to ambient air quality concentrations in the immediate vicinity of the base.

Regional Scale. Emissions resulting from the implementation of the Proposed Action would have little effect on the pollution burden in the ROI. The emissions produced from the Proposed Action would be mostly offset by the reduction in emissions produced by the realignment of Griffiss AFB.

As shown in Table 4.4-4, except for PM_{10}, there would be a decrease in pollutant emissions in 2001 from those occurring in 1992 (pre-realignment). The increase in PM_{10} emissions would be caused by construction and demolition operations. These operations would decrease during the 2001-2006 period.

Table 4.4-4

Pollutant Emissions Associated With the Proposed Action
(tons per day)

Pollutant	Oneida County Emission Inventory[1]	Griffiss AFB Pre-Realignment[1]	Griffiss AFB Realignment Baseline[2]	Proposed Action Emissions[3,4]		Net Emission Change	
	1988	1992	1996	2001	2006	2001-1992	2006-1992
NO_x	26.4	1.20	0.215	0.799	0.961	-0.401	-0.239
VOC	35.0	1.52	0.184	0.589	0.764	-0.931	-0.756
PM_{10}	35.8	0.08	0.008	0.243	0.084	0.163	0.004
CO	150.9	6.20	0.897	4.675	6.329	-1.525	0.129
SO_x	9.8	0.31	0.044	0.018	0.011	-0.292	-0.299

Notes: [1]Refer to Table 3.4-13.
[2]Refer to Table 3.4-14.
[3]Includes realignment baseline emissions.
[4]See Appendix I for emission information by source category.

By 2006, emissions of CO and PM_{10} would slightly exceed their respective 1992 emissions. The small increases in CO and PM_{10} emissions would increase the pollutant burden in Oneida County by 0.09 and 0.01 percent, respectively. The increases in the pollutant burden in the four surrounding counties would be less than those in Oneida County because the pollutants would be widely dispersed due to atmospheric turbulence and diffusion. The small increase in CO emissions is primarily caused by the increase in motor vehicle trips to the Proposed Action facilities.

Because the existing maximum CO and PM_{10} concentrations in the ROI are well below the NAAQS and New York State AAQS (NYSAAQS) for CO and PM_{10} (see Tables 3.4-12 and 3.4-4), these small increases in CO and PM_{10} emissions would not cause violations of the ambient standards.

Local Scale. The local-scale analysis was performed with the EDMS model. Peak-hour scenarios for emissions from continued airfield operations, the heating plant, and vehicle traffic on the proposed parkway were modeled. A variety of worst-case meteorological conditions, which combined 1.0-meter-per-second wind speed with F stability class and 2.0-meter-per-second wind speed with D stability class, were used as input in conjunction with 36 wind directions. Monthly average temperatures and Mobile 52 emission factors were used for emission calculations. EPA conversion factors were used to convert the model-predicted 1-hour impact results to conservative screening-level estimates of longer averaging period concentrations (U.S. Environmental Protection Agency 1977). The actual long-term averages would be less than the values produced by use of the conversion factors. A summary of the EDMS analysis is presented in Table 4.4-5.

Peak CO and NO_2 concentrations occurred near the parkway. The airfield operations contributed only small amounts to the ambient concentrations. SO_2 concentrations reflect the emissions from aircraft operations. As shown in Table 4.4-5, the addition of Proposed Action pollutant concentrations to the background concentrations produce total concentrations well below the national and state ambient air quality standards. Thus, the modeling results indicate that no local ambient pollutant concentrations produced by emissions from the Proposed Action would cause the NAAQS/NYSAAQS to be exceeded. Thus, the attainment status of the local area would be maintained.

Potential Consequences of Airfield Closure. Closure of the airfield would reduce pollutant emissions related to activities associated with these operations. Military aircraft emissions would be eliminated by 1999. A small reduction in surface vehicle trips would also contribute to the reduction of emissions.

Cumulative Impacts. Several major projects have been identified in the region that could cause adverse cumulative impacts from increased air pollutant emissions. Future development would add approximately 9 million square feet of new commercial and industrial uses in the Rome area.

Table 4.4-5

Air Quality Modeling Analysis of the Airport and Vicinity
Proposed Action
($\mu g/m^3$)

Pollutant	Averaging Time	Project Impact 1996	Project Impact 2001	Project Impact 2006	Background Concentrations	Total Concentrations 1996	Total Concentrations 2001	Total Concentrations 2006	NAAQS/ NYSAAQS
CO	8-hour	114	314	412	7,440	7,554	7,754	7,862	10,000
	1-hour	166	458	603	11,560	11,726	12,018	12,163	40,000
SO_2	annual	0.04	0.04	0.04	10	10.0	10.0	10.0	80
	24-hour	0.18	0.18	0.18	45	45.2	45.2	45.2	365
	3-hour	0.40	0.40	0.40	94	94.4	94.4	94.4	1,300
NO_2	annual	1.4	3.8	5.0	19*	20.4	22.8	24.0	100
PM_{10}	annual (arithmetic)	0.01	0.03	0.05	24	24.0	24.0	24.1	50
	24-hour	0.04	0.11	0.18	47	47.0	47.1	47.2	150

Note: *Typical concentration for cities with relatively low pollution (California Air Resources Board 1993).

Required Mitigation Measures. Mitigation measures that are clearly required by law or are standard industry practices are described below. These measures were taken into account in the assessment of the impacts.

- Implement standard construction practices for dust control during demolition and construction.

- Control combustive emission impacts by efficient scheduling of equipment use, implementing a phased construction schedule to reduce the number units operating simultaneously, and performing regular vehicle engine maintenance.

Additional Potential Mitigation Measures. No additional potential mitigation measures would be needed because the required mitigations assumed to be part of project design and construction methods should adequately mitigate potential air quality related impacts. The air quality analyses for the operational phases of the project indicated that the NAAQS/NYSAAQS would not be exceeded. Therefore, operational mitigation measures would not be required for air quality impacts.

4.4.3.2 Griffiss Research Park Alternative (A)

The primary difference between the Griffiss Research Park Alternative and the Proposed Action is that this alternative places less emphasis on institutional and industrial land uses and more emphasis on commercial land uses. Also, the proposed parkway would not be included in this alternative. Airfield operations would be the same as described for the Proposed Action.

Construction. Construction impacts with this alternative would be less than those described for the Proposed Action. Approximately 207 acres would be disturbed by construction from 1996 to 2001. It is assumed that an average of 3.5 acres would be disturbed during a 1-month period, resulting in unmitigated particulate emissions of 4.2 tons per month (2.1 tons per month of PM_{10}). These emissions would elevate particulate concentrations in areas close to construction locations. However, the concentrations would fall off rapidly with distance from the construction areas.

Operations. The results of the emission calculations associated with the operation of the Griffiss Research Park Alternative for the years 2001 and 2006 are summarized in Table 4.4-6. The net changes in emissions from the 1992 pre-realignment year are also presented in the table for the years 2001 and 2006. Emissions from the Griffiss Research Park Alternative would be less than those described for the Proposed Action. PM_{10} concentrations, as in the case of the Proposed Action, would be the highest in 2001. However, as construction activities decrease, a decrease in PM_{10} emissions would occur in 2006. The emissions of all pollutants in 2006 would be less than pre-realignment emissions in 1992. This alternative does not include development of a parkway; therefore, emissions would be lower by comparison to other alternatives. Local pollutant concentrations caused by this alternative

Table 4.4-6

Pollutant Emissions Associated With the Griffiss Research Park Alternative (tons per day)

Pollutant	Oneida County Emission Inventory[1] 1988	Griffiss AFB Pre-Realignment[1] 1992	Griffiss AFB Realignment Baseline[2] 1996	Griffiss Research Park Alternative Emissions[3,4] 2001	Griffiss Research Park Alternative Emissions[3,4] 2006	Net Emission Change 2001-1992	Net Emission Change 2006-1992
NO_x	26.4	1.20	0.215	0.466	0.508	-0.734	-0.692
VOC	35.0	1.52	0.184	0.355	0.422	-1.165	-1.098
PM_{10}	35.8	0.08	0.008	0.139	0.031	0.059	-0.049
CO	150.9	6.20	0.897	2.543	3.076	-3.657	-3.124
SO_x	9.8	0.31	0.044	0.120	0.005	-0.300	-0.305

Notes: [1]Refer to Table 3.4-13.
[2]Refer to Table 3.4-14.
[3]Includes realignment baseline emissions.
[4]See Appendix I for emission information by source category.

(especially CO) would be significantly reduced below the levels projected for the Proposed Action (see Table 4.4-7). Therefore, pollutant emissions related to this alternative would not produce ambient concentrations that would exceed the NAAQS/NYSAAQS on the regional and local scales. The ROI would continue to maintain an attainment classification for all criteria pollutants.

Potential Consequences of Airfield Closure. Closure of the airfield would reduce pollutant emissions related to activities associated with these operations. Military aircraft emissions would be eliminated by 1999. A small reduction in surface vehicle trips would also contribute to the reduction of emissions.

Cumulative Impacts. Cumulative impacts would be the same as those described for the Proposed Action.

Mitigation Measures. All required and additional potential mitigation measures for the Griffiss Research Park Alternative would be the same as those described for the Proposed Action.

4.4.3.3 Mohawk Valley Business Center Alternative (B)

The primary difference between this alternative and the Proposed Action is that this alternative places less emphasis on institutional and industrial land uses, and more emphasis on commercial and residential land uses. It is similar to the Proposed Action in that a proposed parkway is included. Airfield operations would be the same as described for the Proposed Action.

Construction. Construction impacts with this alternative would be less than those described for the Proposed Action. Approximately 323 acres would be disturbed by construction from 1996 to 2001. It is assumed that an average 5.4 acres would be disturbed during a 1-month period, resulting in unmitigated particulate emissions of 6.5 tons per month (3.2 tons per month of PM_{10}). These emissions would elevate particulate concentrations in areas close to construction locations; however, the concentrations would fall off rapidly with distance from the construction areas.

Operations. The results of the emission calculations associated with the operation of the Mohawk Valley Business Center Alternative for the years 2001 and 2006 are summarized in Table 4.4-8. The net changes in emission between the years 2001 and 1992 and 2006 and 1992 (1992 being the pre-realignment base year) are also presented in the table. Emissions from the Mohawk Valley Business Center Alternative would be less than the Proposed Action. PM_{10} concentrations, as in the case of the Proposed Action, would be highest in 2001. However, as construction activities decrease, a decrease in PM_{10} emissions would occur in 2006. At that time, the PM_{10} emissions would be reduced to below 1992 levels. The other criteria pollutant emissions would also be less than the 1992 emissions from Griffiss AFB (see Table 4.4-7). Thus, pollutant emissions related to this alternative would not produce ambient concentrations that would exceed the NAAQS/NYSAAQS on the regional and

Table 4.4-7

Air Quality Modeling Analysis of the Airport and Vicinity
Griffiss Research Park Alternative
($\mu g/m^3$)

Pollutant	Averaging Time	Project Impact			Background Concentrations	Total Concentrations			NAAQS/ NYSAAQS
		1996	2001	2006		1996	2001	2006	
CO	8-hour	0.4	0.4	0.4	7,440	7,440	7,440	7,440	10,000
	1-hour	3.4	3.4	3.4	11,560	11,563	11,563	11,563	40,000
SO_2	annual	0.04	0.04	0.04	10	10.0	10.0	10.0	80
	24-hour	0.18	0.18	0.18	45	45.2	45.2	45.2	365
	3-hour	0.40	0.40	0.40	94	94.4	94.4	94.4	1,300
NO_2	annual	0.07	0.07	0.07	19*	19.1	19.1	19.1	100
PM_{10}	annual (arithmetic)	0.00	0.00	0.00	24	24.0	24.0	24.0	50
	24-hour	0.02	0.02	0.02	47	47.0	47.0	47.0	150

Note: *Typical concentration for cities with relatively low pollution (California Air Resources Board 1993).

Table 4.4-8

Pollutant Emissions Associated With the Mohawk Valley Business Center Alternative
(tons per day)

Pollutant	Emission Inventory[1] 1988	Griffiss AFB Pre-Realignment[1] 1992	Griffiss AFB Realignment Baseline[2] 1996	Mohawk Valley Business Center Alternative Emissions[3,4] 2001	Mohawk Valley Business Center Alternative Emissions[3,4] 2006	Net Emission Change 2001-1992	Net Emission Change 2006-1992
NO_x	26.4	1.20	0.215	0.553	0.614	-0.647	-0.586
VOC	35.0	1.52	0.184	0.389	0.475	-1.131	-1.045
PM_{10}	35.8	0.08	0.008	0.217	0.069	0.137	-0.011
CO	150.9	6.20	0.897	2.675	3.429	-3.525	-2.771
SO_x	9.8	0.31	0.044	0.015	0.009	-0.295	-0.301

Notes: [1]Refer to Table 3.4-13.
[2]Refer to Table 3.4-14.
[3]Includes realignment baseline emissions.
[4]See Appendix I for emission information by source category.

local scales. The ROI would continue to maintain the attainment designation for all criteria pollutants.

Potential Consequences of Airfield Closure. Closure of the airfield would reduce pollutant emissions related to activities associated with these operations. The military aircraft emissions would be eliminated by 1999. A small reduction in surface vehicle trips would also contribute to the reduction of emissions. Action.

Mitigation Measures. All required and additional potential mitigation measures for the Mohawk Valley Business Center Alternative would be the same as those described for the Proposed Action.

4.4.3.4 Regional Aviation Complex Alternative (C)

The primary difference between this alternative and the Proposed Action is that this alternative includes a joint use civil/military airport. Oneida County Airport would be closed and moved to Griffiss AFB. Also, this alternative places less emphasis on institutional and more emphasis on commercial land uses than the Proposed Action. It is similar to the Proposed Action in that the proposed parkway and continued military airfield operations are included.

Construction. Construction impacts with this alternative would be slightly less than those described for the Proposed Action. Approximately 346 acres would be disturbed by construction from 1996 to 2001. It was assumed that an average 5.8 acres would be disturbed during a 1-month period, resulting in unmitigated particulate emission of 7.0 tons per month (3.5 tons per month of PM_{10}). These emissions would elevate particulate concentrations in areas close to construction locations. However, the concentrations would fall off rapidly with distance from construction areas.

Operations. Total estimated emissions associated with operations under the Regional Aviation Complex Alternative are shown in Table 4.4-9 for the years 2001 and 2006. Potential impacts to air quality as a result of air emissions from the operations under the alternative were evaluated in terms of two spatial scales: regional and local. The regional scale analysis considered the potential for project emissions to cause or contribute to a nonattainment condition in Oneida County. The local scale analysis evaluated the potential impact to ambient air quality concentrations in the immediate vicinity of this base.

Regional Scale. Emissions resulting from the implementation of the Regional Aviation Complex Alternative would have little effect on the pollution burden in the ROI. Emissions added to this alternative by the transfer of operations from Oneida County Airport to Griffiss AFB would be offset by the reduction in emissions related to the closure of that airport. Thus the overall pollution burden increase in the county due to this transfer would be very small in 2001 and 2006.

Table 4.4-9

Pollutant Emissions Associated With the Regional Aviation Complex Alternative
(tons per day)

Pollutant	Emission Inventory 1988	Griffiss AFB Pre-Realignment[1] 1992	Griffiss AFB Realignment Baseline[2] 1996	Regional Aviation Complex Alternative Emissions[3,4] 2001	Regional Aviation Complex Alternative Emissions[3,4] 2006	Net Emission Change 2001-1992	Net Emission Change 2006-1992
NO_x	26.4	1.20	0.215	0.630	0.707	-0.570	-0.493
VOC	35.0	1.52	0.184	0.450	0.545	-1.070	-0.975
PM_{10}	35.8	0.08	0.008	0.227	0.076	0.147	-0.004
CO	150.9	6.20	0.897	3.838	4.681	-2.362	-1.519
SO_x	9.8	0.31	0.044	0.016	0.010	-0.294	-0.300

Notes: [1]Refer to Table 3.4-13.
[2]Refer to Table 3.4-14.
[3]Includes realignment baseline emissions.
[4]See Appendix I for emission information by source category.

The emissions produced from this alternative would also be offset by the reduction in emissions resulting from the realignment of Griffiss AFB. As shown in Table 4.4-9, all pollutant emissions, except PM_{10}, would be less than the emissions produced prior to realignment (pre-realignment 1992). The increase in PM_{10} emissions would be caused by construction and demolition operations. These operations would decrease during the 2001-2006 period. By 2006, PM_{10} emissions would be below the 1992 PM_{10} emissions. Thus, pollutant emissions related to this alternative would not produce ambient concentrations that would exceed the NAAQS/NYSAAQS on the regional scale. The ROI would continue to maintain the attainment designation for all criteria pollutants.

Local Scale. Because the emissions resulting from the transfer of Oneida County Airport operations could increase local ambient concentrations, a local scale analysis was performed with the EDMS model. Peak-hour scenarios for emissions from military and civilian flight operations, the heating plant, and vehicle traffic on the proposed parkway were modeled. The same meteorological conditions used to model the Proposed Action were used for this alternative. A summary of the EDMS analysis is presented in Table 4.4-10. Although the addition of civilian flight operations significantly increased CO emissions at the airport, the highest CO concentrations were related to vehicle traffic on the parkway. As shown in Table 4.4-10, the addition of ambient pollutant concentrations from the Regional Airport Complex Alternative to the background concentrations would produce total concentrations well below the national and State ambient air quality standards. Thus, the modeling results indicate that no local ambient pollutant concentrations produced by emissions from this alternative would cause the NAAQS/NYSAAQS to be exceeded. Thus, the attainment status of the local area would be maintained.

Potential Consequences of Airfield Closure Followed by Civilian Airport Reuse. Closure of the airfield would reduce pollutant emissions related to activities associated with these operations. The elimination of emissions from airfield operations and the reduction in the number of generated vehicle trips would reduce pollutant emissions with this alternative by about 19 percent in 2001 and 3 percent in 2006. Local pollutant concentrations should show some reduction in SO_2 levels due to a change in types of aircraft. However, other pollutants (CO, NO_2, and PM_{10}) are expected to change very little because they would result largely from continued surface vehicular traffic on the proposed parkway.

Cumulative Impacts. Cumulative impacts would be the same as those described for the Proposed Action.

Mitigation Measures. All required and additional potential mitigation measures for the Regional Aviation Complex Alternative would be the same as those described for the Proposed Action.

Table 4.4-10

Air Quality Modeling Analysis of the Airport and Vicinity
Regional Aviation Complex Alternative
($\mu g/m^3$)

Pollutant	Averaging Time	Project Impact 1996	Project Impact 2001	Project Impact 2006	Background Concentrations	Total Concentrations 1996	Total Concentrations 2001	Total Concentrations 2006	NAAQS NYSAAQS
CO	8-hour	119	333	422	7,440	7,559	7,773	7,862	10,000
	1-hour	173	487	617	11,560	11,733	12,047	12,177	40,000
SO_2	Annual	0.04	0.05	0.05	10	10.0	10.1	10.1	80
	24-hour	0.18	0.18	0.18	45	45.2	45.2	45.2	365
	3-hour	0.40	0.41	0.41	94	94.4	94.4	94.4	1,300
NO_2	Annual	1.4	4.1	5.2	19*	20.4	23.1	24.2	100
PM_{10}	Annual (arithmetic)	0.01	0.03	0.05	24	24.0	24.0	24.1	50
	24-hour	0.04	0.13	0.19	47	47.0	47.1	47.2	150

Note: *Typical concentration for cities with relatively low pollution (California Air Resources Board, 1993).

4.4.3.5 No-Action Alternative

The No-Action alternative would not adversely affect air quality. Pollutant emissions associated with activities of Rome Lab and other organizations remaining at the base following realignment, and caretaker maintenance activities, including the heating plant, would be substantially less than those prior to realignment. The realignment inventory for Griffiss AFB is presented in Chapter 3.0, Table 3.4-14. There may be some level of air quality benefit associated with maintaining the base at a reduced level of activity compared to the levels of activity associated with the Proposed Action or alternatives.

Potential Consequences of Airfield Closure. Closure of the airfield would reduce pollutant emissions related to activities associated with these operations. Military aircraft emissions would be eliminated by 1999. A small reduction in surface vehicle trips would also contribute to the reduction of emissions.

Cumulative Impacts. Because the impact on air quality resulting from the No-Action Alternative would be negligible, there would be no adverse cumulative impacts.

4.4.4 Noise

Environmental impact analysis related to noise includes the potential effects on the local human and animal populations. This analysis will estimate the extent and magnitude of noise levels generated by the Proposed Action and other alternatives using the predictive models discussed below. The baseline noise conditions and predicted noise levels will then be assessed with respect to potential annoyance, speech interference, sleep disturbance, hearing loss, health and land-use impacts. The metrics used to evaluate noise are DNL and L_{eq}, which are supplemented occasionally by sound exposure levels (SEL) and the A-weighted maximum sound level (L_{max}). See Appendix H for an expanded discussion of these metrics.

Methods used to quantify the effects of noise such as annoyance, speech interference, sleep disturbance, health and hearing loss have undergone extensive scientific development during the past several decades. The most reliable measures at present are noise-induced hearing loss and annoyance. Extra-auditory effects (those not directly related to hearing capability) are also important, although they are not as well understood. The current scientific consensus is that "evidence from available research reports is suggestive, but it does not provide definitive answers to the question of health effects, other than to the auditory system, of long-term exposure to noise" (National Academy of Sciences 1981). The effects of noise are summarized within this section and a detailed description is provided in Appendix H.

Annoyance. Noise annoyance is defined by the EPA as any negative subjective reaction to noise on the part of an individual or group. Table 4.4-11 presents the results of over a dozen studies of transportation models, including airports, investigating the relationship between noise and annoyance levels. This

relationship has been suggested by the National Academy of Sciences (1977) and recently reevaluated (Fidell et al. 1989) for use in describing peoples' reaction to semi-continuous (transportation) noise. These data provide a perspective on the level of annoyance that might be anticipated. For example, 15 to 25 percent of persons exposed to DNL of 65 to 70 dB are expected to be highly annoyed by the noise levels.

Table 4.4-11

Percentage of Population Highly Annoyed by Noise Exposure

DNL[1] Interval in dB[2]	Percentage of Persons Highly Annoyed
<65	<15
65-70	15-25
70-75	25-37
75-80	37-52

Notes: [1]DNL = day-night average sound level
[2]dB = decibel

Source: Adapted from National Academy of Sciences, 1977.

A discussion of the effects of noise on speech and sleep interference, hearing loss, health, and animals is provided in Appendix H.

Land Use Compatibility. Estimates of total noise exposure resulting from aircraft operations, as expressed using DNL, can be interpreted in terms of the compatibility with designated land uses. The Federal Interagency Committee on Urban Noise developed land-use compatibility guidelines for noise (U.S. Department of Transportation 1980). Based on these guidelines, suggested compatibility guidelines for evaluating land uses in aircraft noise exposure areas are developed by the FAA and presented in Section 3.4.4. The land use compatibility guidelines are based primarily on annoyance and hearing loss considerations described in Appendix H. The Air Installation Compatible Use Zone (AICUZ) Handbook (U.S. Air Force 1992) describes the procedures, standards, and methodology governing the development, submission, and review of airfield noise exposure maps and airfield noise compatibility programs. It prescribes use of yearly DNL in the evaluation of airfield noise environments. It also identifies those land-use types that are normally compatible with various levels of exposure. Compatible or incompatible land use is determined by comparing the predicted DNL level at a site with the recommended land uses.

In order to define the noise impacts from aircraft operations at Griffiss AFB, the FAA-approved Noise Exposure Model (NOISEMAP) Version 6.3 was utilized to predict DNL 65, 70, and 75 dB noise contours. Appendix H defines these descriptors and provides a listing of day/night operations by aircraft. The contours were generated for the Proposed Action for the baseline year 1996. It was assumed that the aircraft operations for the Proposed Action and the Griffiss Research Park and Mohawk Valley Business Center alternatives would consist of only military aircraft (C-5, C-141, B-747, and L-1011) used for

deployment of Army troops from Fort Drum, New York. It was also assumed that these operations would remain relatively constant over the 15-year period, from 2001 to 2016.

For the Regional Aviation Complex Alternative, it was assumed that aircraft operations would consist of the military and civilian aircraft. The latter aircraft would operate from Griffiss AFB as a result of the relocation of Oneida County Airport. These contours were overlaid on a U.S. Geological Survey (USGS) map of the base and vicinity. Input data to NOISEMAP Version 6.3 include information on aircraft types; runway use; takeoff and landing flight tracks; aircraft altitude, speeds, and engine power settings; and number of daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) operations.

Surface vehicle traffic-noise levels for roadways in the vicinity of Griffiss AFB were analyzed using the Federal Highway Administration's (FHWA) Highway Noise Model STAMINA 2.0 (Federal Highway Administration 1982). This model incorporates vehicle mix, traffic volume projections, day/night split, and speed to generate DNL.

Major Assumptions. Half of all military aircraft operations were assumed to be takeoffs and the other half landings. Flight tracks (incoming and outgoing), aircraft operations, and mix of various aircraft types are included in Appendix H. Vicinity flight tracks assumed for modeling are shown in Chapter 3.0, Figures 3.2-15 and 3.2-16. All operations were assumed to follow standard glide slopes and takeoff profiles.

Major roads leading to or around the base were analyzed. Traffic data used to project future noise levels were derived from information gathered in the traffic analysis presented in Section 4.2.3. Traffic data used in this analysis are presented in Appendix H.

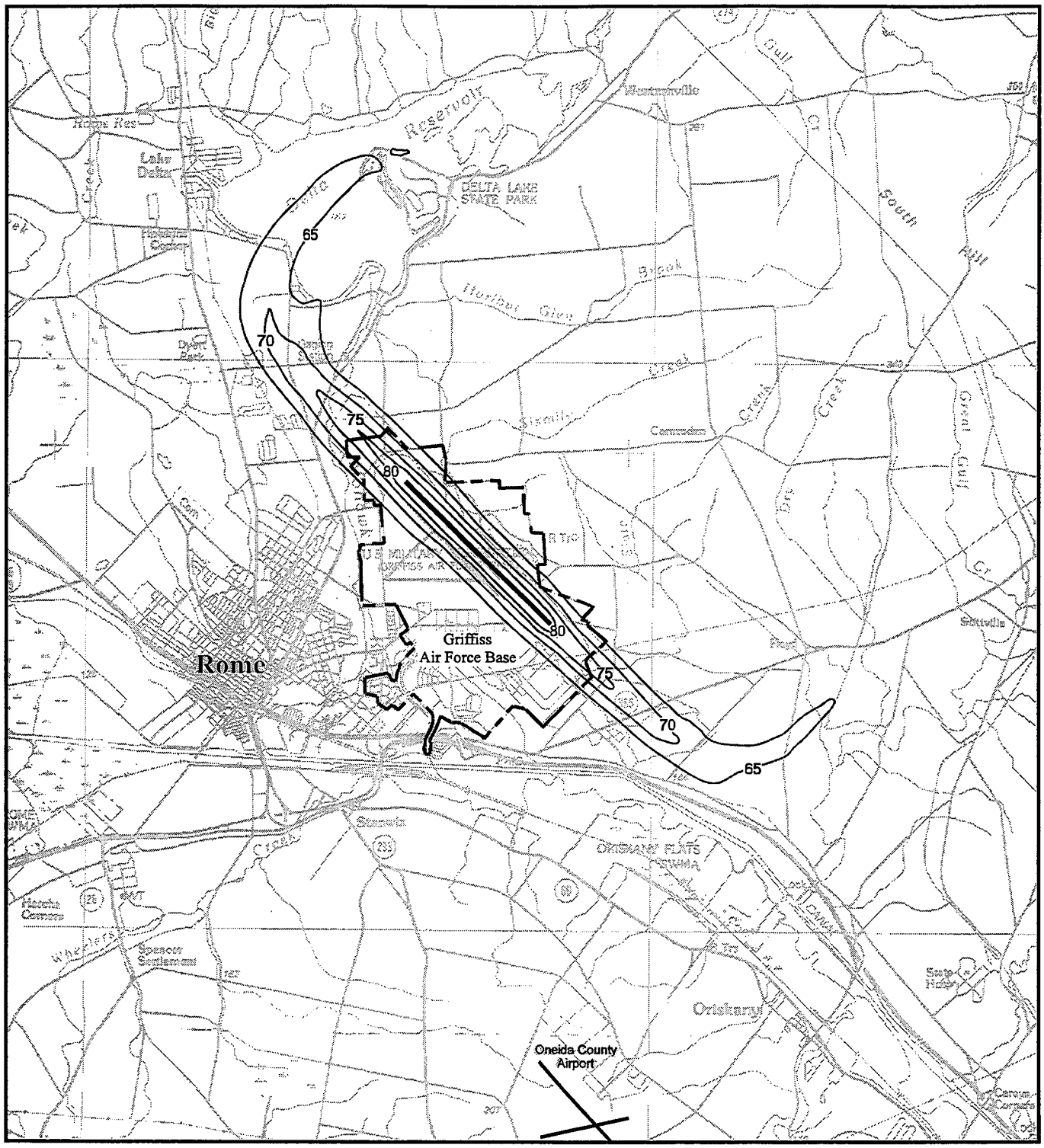
4.4.4.1 Proposed Action

The results of the aircraft noise modeling for the Proposed Action are presented as noise contours in Figure 4.4-1. Table 4.4-12 presents the approximate number of acres within each DNL contour for the 15-year period (2001-2016). Compared to the pre-realignment reference, this represents a decrease of 1,782 acres within the DNL 65 dB contour. The noise contours, as depicted in Figure 4.4-1, extend into rural areas with relatively low population densities. Because none of the flight tracks pass over the City of Rome, noise resulting from aircraft operations will have little or no impact on the city.

Table 4.4-12

Area (Acres) Within DNL Contours

	DNL dB			
	65 dB	**70 dB**	**75 dB**	**80 dB**
Pre-Realignment	5,401	2,357	1,120	461
Proposed Action (Realignment)	3,619	1,578	732	308



LEGEND

——— — **Base Boundary**

——65—— **dNL Noise Contour**

DNL Noise Contours for Griffiss AFB Realignment

SCALE IN FEET

0 5000 10000

Source: U.S. Air Force 1993a.

Figure 4.4-1

Surface traffic noise levels for several road segments are presented in Table 4.4-13. These levels are presented in terms of DNL as a function of distance from the centerline of the roadways analyzed. These levels represent the highest noise levels which would occur in the year 2016, and also represent the noise created by all the traffic on these road segments (Proposed Action plus Baseline). Noise levels would increase considerably from the realignment levels. The distance of the 65 dB, 70 dB, and 75 dB DNLs from the roadway centerline for the Proposed Action would be almost double the realignment distance (Chapter 3.0, Table 3.4-16). Most of the residences and commercial businesses along these segments would experience DNL noise levels in excess of 65 dB, by 2016.

Table 4.4-13

Distance of DNL from Road Centerline - Proposed Action (2016)

Roadway	Distance (feet)		
	DNL 65 dB	DNL 70 dB	DNL 75 dB
State Highway 49, East of Wright Drive Crossing	233	108	50
State Highway 49, West of Wright Drive Crossing	233	108	50
East Dominick Street, West of Wright Drive Crossing	133	62	29
River Road (State Highway 365) at County Road 88 Junction	104	48	22
Floyd Avenue, West of Floyd Gate	198	92	43
Floyd Avenue, East of Park Drive	192	89	41
Chestnut Street, East of Black River Boulevard	157	73	34
Black River Boulevard, South of Floyd Avenue	284	132	61
Black River Boulevard, South of Bloomfield Street	307	142	66
Black River Boulevard, South of Linden Avenue	271	126	58
Black River Boulevard, North of Chestnut Street	251	117	54
Proposed Parkway	194	90	42

Potential Consequences of Airfield Closure. Closure of the airfield would eliminate the noise levels produced by the activities associated with these operations. The cessation of military aircraft operations would reduce the noise levels (Figure 4.4-1) in the vicinity of the base to background levels of 45 to 50 dB. In addition, surface traffic noise levels on local roads would be reduced slightly.

A decrease in surface traffic volumes would also result in some reduction in noise levels. Distances to DNL values from road centerlines presented in Table 4.4-13 would be reduced by about 5 percent in 2016.

Cumulative Impacts. Other proposed projects, in combination with the Proposed Action, would not result in cumulative impacts due to aircraft noise. The noise generated by surface traffic from cumulative development is incorporated in the basic traffic analysis of the Proposed Action. By the year 2016, the areas exposed to DNL 65 dB and above due to surface traffic would increase about 100 to 200 percent.

Mitigation Measures. No significant impacts have been identified from aircraft noise. Mitigation would not be required for aircraft noise for the Proposed Action. Mitigation for the surface traffic is not considered to be feasible along most of the roadways for which impacts have been identified.

4.4.4.2 Griffiss Research Park Alternative (A)

Aircraft operations for this alternative would be the same as those for the Proposed Action. The DNL noise contours would be the same as those depicted in Figure 4.4-1.

Surface noise levels for this alternative would be slightly less than those for the Proposed Action. Surface traffic noise levels for several road segments are presented in Table 4.4-14. These levels are presented in terms of DNL as a function of distance from the centerline of the roadways analyzed. These levels represent the highest noise levels which would occur in the year 2016 and also represent noise created by the traffic on these road segments. Noise levels would increase considerably from the pre-realignment levels. The distance of the 65 dB, 70 dB, and 75 dB DNLs from the centerline for this alternative would be about 1.5 times the pre-realignment distances (see Table 3.4-16). The noise impacts would be slightly less than those for the Proposed Action.

Potential Consequences of Airfield Closure. Closure of the airfield would eliminate the noise levels produced by the activities associated with these operations. The cessation of military aircraft operations would reduce the noise levels (Figure 4.4.1) in the vicinity of the base to background levels of 45 to 50 dB. In addition, surface traffic noise levels on local roads would be reduced slightly.

Cumulative Impacts. Cumulative impacts would be the same as those described for the Proposed Action.

Mitigation Measures. Mitigation measures for this alternative would be the same as those described for the Proposed Action.

4.4.4.3 Mohawk Valley Business Center Alternative (B)

Aircraft operations for this alternative would be the same as those for the Proposed Action. The DNL noise contours would be the same as those depicted in Figure 4.4-1.

Table 4.4-14

Distance of DNL from Road Centerline
Griffiss Research Park Alternative (2016)

Roadway	Distance (feet)		
	DNL 65 dB	DNL 70 dB	DNL 75 dB
State Highway 49, East of Wright Drive Crossing	203	94	44
State Highway 49, West of Wright Drive Crossing	200	96	44
East Dominick Street, West of Wright Drive Crossing	127	59	27
River Road (State Highway 365) at County Road 88 Junction	98	45	21
Floyd Avenue, West of Floyd Gate	152	71	33
Floyd Avenue, East of Park Drive	143	66	31
Chestnut Street, East of Black River Boulevard	141	65	30
Black River Boulevard, South of Floyd Avenue	255	124	55
Black River Boulevard, South of Bloomfield Street	271	136	59
Black River Boulevard, South of Linden Avenue	236	110	51
Black River Boulevard, North of Chestnut Street	263	122	57

Noise levels for this alternative would be slightly less than those for the Proposed Action and about the same as those for the Griffiss Research Park Alternative. Surface noise levels for several road segments are presented in Table 4.4-15. These noise levels are presented in terms of DNL as a function of distance from the centerline of the roadways analyzed. These noise levels represent the highest noise levels which would occur in 2016 and also represent noise created by traffic on these road segments. Noise impacts would be about the same as those for the Griffiss Research Park Alternative (Section 4.4.4.2).

Potential Consequences of Airfield Closure. The closure of the airfield would result in a reduction in airfield and surface street traffic noise levels similar to those described for airfield closure with the Proposed Action.

Cumulative Impacts. Cumulative impacts would be the same as those described for the Proposed Action.

Mitigation Measures. Mitigation measures would be the same for the Mohawk Valley Business Center Alternative as those described for the Proposed Action.

4.4.4.4 Regional Aviation Complex Alternative (C)

The aircraft operations for this alternative would differ from the Proposed Action in that Oneida County Airport would be closed and aircraft operations would be moved to Griffiss AFB. In 1993, aircraft operations at Oneida County

Airport consisted of 76 percent by single engine aircraft, 21 percent by twin engine aircraft, and 3 percent by jet aircraft. A noise analysis of these aircraft operations was performed using the FAA Integrated Noise Model (INM), and indicated the highest DNL noise levels were approximately 67 dB in the immediate vicinity of the runways (Rabinowitz et al. 1994 and C&S Engineers 1994). As shown in Figure 4.4-1, DNL noise levels from military aircraft operations would result in 80 dB DNL along the runway. If the 67 dB DNL noise level from the Oneida County Airport aircraft operations is added to the 80 dB DNL from military aircraft operations, the noise levels would increase by 0.2 dB. This increase could not be detected by the human ear. Therefore, aircraft noise impacts for this alternative would be the same as those for the Proposed Action.

Table 4.4-15

Distance of DNL from Road Centerline
Mohawk Valley Business Center Alternative (2016)

Roadway	Distance (feet)		
	DNL 65 dB	DNL 70 dB	DNL 75 dB
State Highway 49, East of Wright Drive Crossing	206	95	44
State Highway 49, West of Wright Drive Crossing	209	97	45
East Dominick Street, West of Wright Drive Crossing	129	60	28
River Road (State Highway 365) at County Road 88 Junction	99	46	21
Floyd Avenue, West of Floyd Gate	162	75	35
Floyd Avenue, East of Park Drive	152	71	33
Chestnut Street, East of Black River Boulevard	129	60	28
Black River Boulevard, South of Floyd Avenue	259	120	56
Black River Boulevard, South of Bloomfield Street	280	130	60
Black River Boulevard, South of Linden Avenue	240	111	52
Black River Boulevard, North of Chestnut Street	247	115	53
Proposed Parkway	164	76	35

Surface noise levels for this alternative would be the same as those for the Proposed Action. Surface traffic noise levels for several road segments are presented in Table 4.4-16. These noise levels are presented in terms of DNL as a function of distance from the centerline of the roadways analyzed. The noise levels represent the highest noise levels which would occur in 2016. The noise impacts would be the same as those for the Proposed Action (see Section 4.4.4.1).

Potential Consequences of Airfield Closure Followed by Civilian Airport Reuse. Military aircraft use of the airfield would cease by 1999, reducing noise levels in the vicinity of the base to background levels of approximately 45 to 50 dB. Civilian aviation activities transferred from the Oneida County Airport, would be

phased in from 1999 to 2006. Noise levels within the vicinity of the runway would increase to 65 and 70 dB DNL. Noise contours obtained from the FAA Integrated Noise Model (INM) for the years 2006 and 2016 are depicted in Figures 4.4-2 and 4.4-3, respectively. As shown in these figures, the 65 dB DNL would fall within the base boundary in 2006 and 2016.

Table 4.4-16

Distance of DNL from Road Centerline - Regional Aviation Complex (2016)

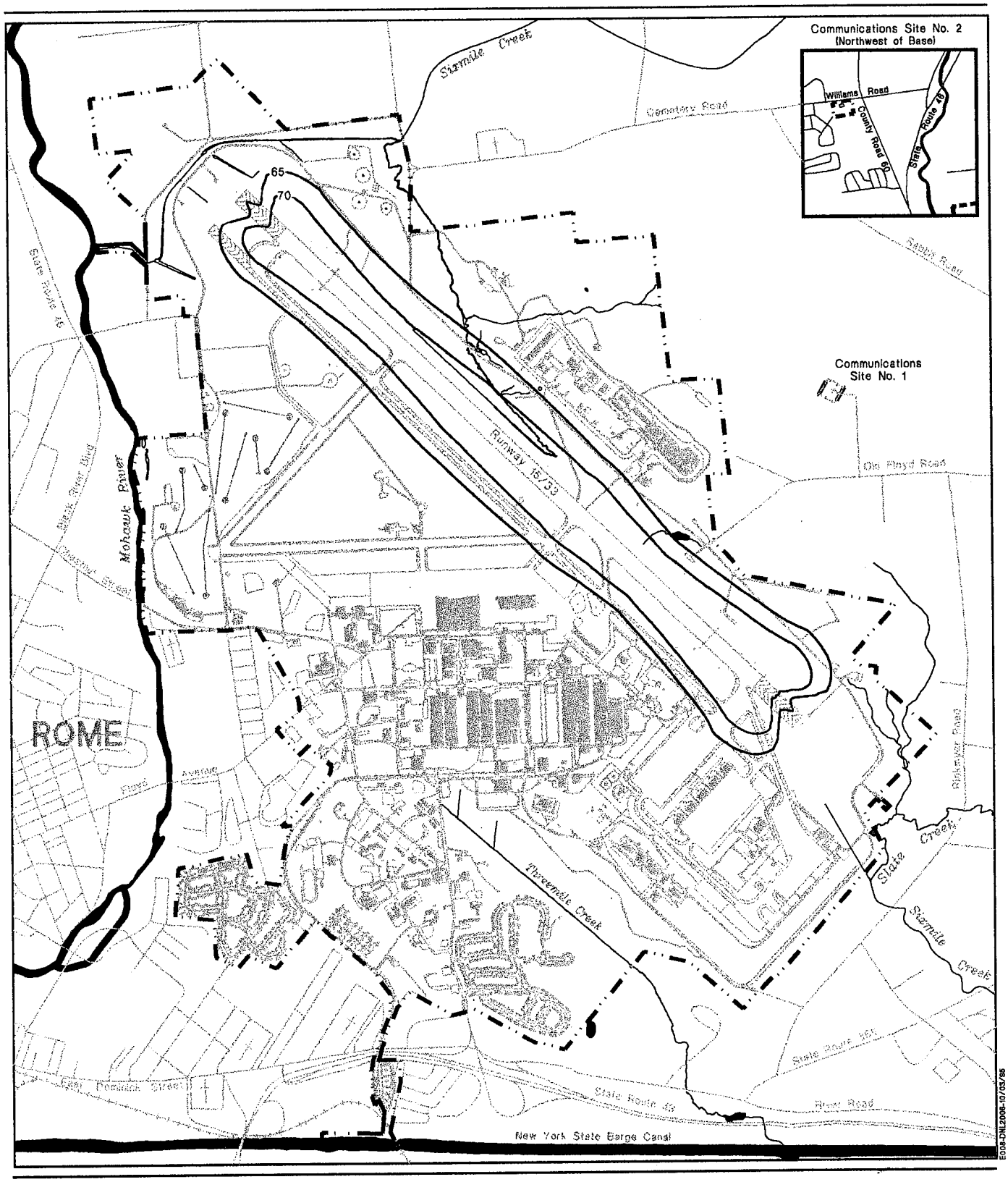
Roadway	Distance (feet)		
	DNL 65 dB	DNL 70 dB	DNL 75 dB
State Highway 49, East of Wright Drive Crossing	212	99	46
State Highway 49, West of Wright Drive Crossing	216	100	46
East Dominick Street, West of Wright Drive Crossing	129	60	28
River Road (State Highway 365) at County Road 88 Junction	101	47	22
Floyd Avenue, West of Floyd Gate	170	79	37
Floyd Avenue, East of Park Drive	162	75	35
Chestnut Street, East of Black River Boulevard	135	63	29
Black River Boulevard, South of Floyd Avenue	263	122	57
Black River Boulevard, South of Bloomfield Street	284	132	61
Black River Boulevard, South of Linden Avenue	247	115	53
Black River Boulevard, North of Chestnut Street	247	115	53
Proposed Parkway	197	91	42

Cumulative Impacts. Cumulative impacts would be the same as those described for the Proposed Action.

Mitigation Measures. Mitigation measures would be the same for the Regional Aviation Complex Alternative as those described for the Proposed Action.

4.4.4.5 No-Action Alternative

Military aircraft operations required for the deployment of Army troops from Fort Drum would continue with the No-Action Alternative. The DNL noise contours would be the same as the realignment noise contours shown in Figure 3.4-5. The area within the 65 dB DNL contour would be less than the area within the 65 DNL contour for pre-realignment. Therefore the aircraft noise impacts for this alternative would be less than those occurring during pre-realignment.



LEGEND

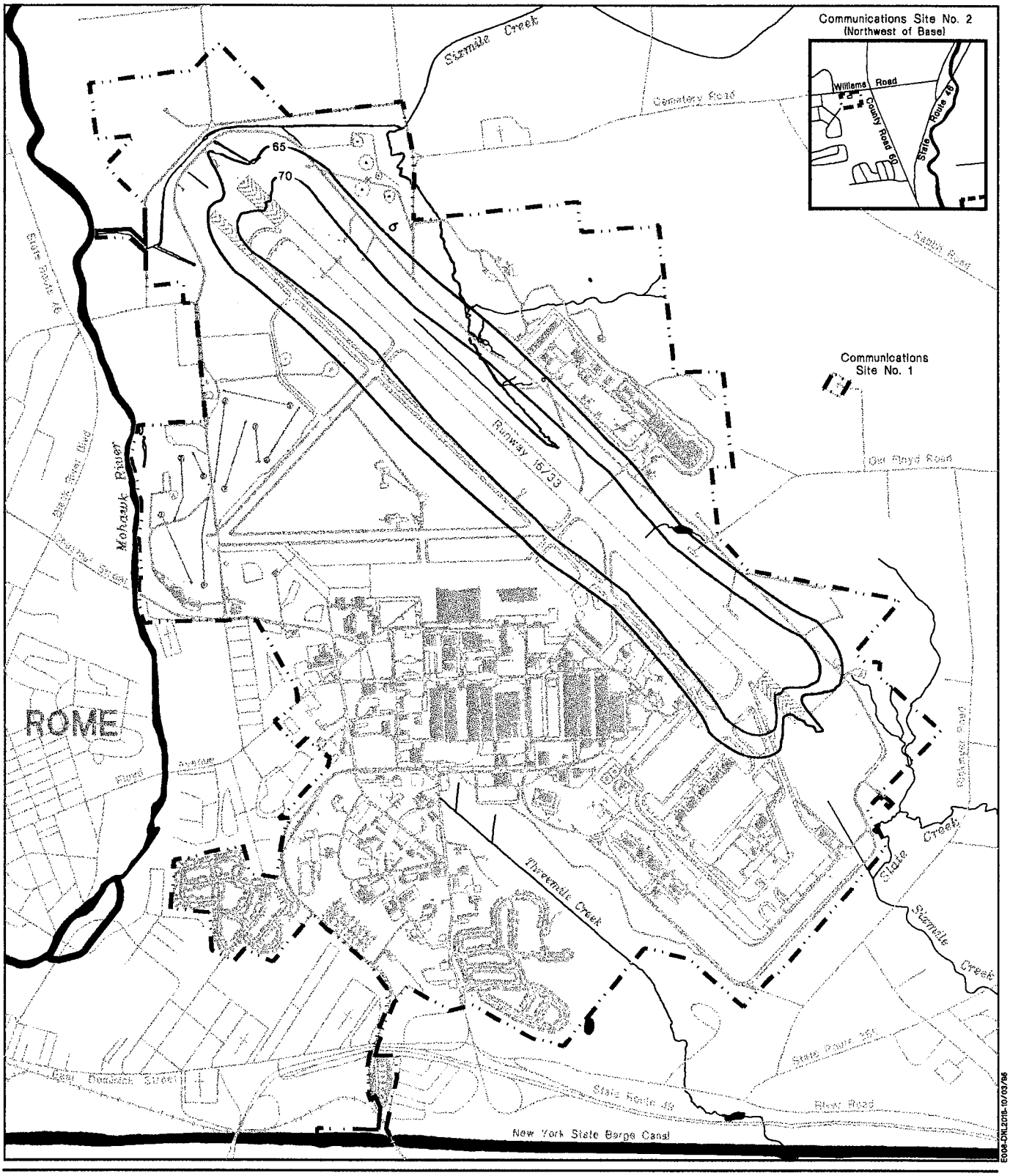
- Base Boundary
- 65 dNL Noise Contour
- 70 dNL Noise Contour

SCALE IN FEET

0 1000 2000

Civilian Aviation DNL Noise Contours for 2006

Figure 4.4-2



LEGEND

- Base Boundary
- 65 dNL Noise Contour
- 70 dNL Noise Contour

SCALE IN FEET

0 1000 2000

Civilian Aviation DNL Noise Contours for 2016

Figure 4.4-3

Surface traffic noise levels for this alternative would be less than those occurrences during pre-realignment (see Table 3.4-16). The reduction of aircraft noise levels in the area would have an overall beneficial noise impact.

Cumulative Impacts. No cumulative impacts would result from this alternative in combination with other projects. Noise from increased surface traffic due to other projects in the area would occur independent of the disposition of the base.

Potential Consequences of Airfield Closure. Closure of the airfield would eliminate the noise levels produced by the activities associated with these operations. The cessation of military aircraft operations would reduce the noise levels (Figure 4.4-1) in the vicinity of the base to background levels of 45 to 50 dB. In addition, surface traffic noise levels on local roads would be reduced slightly.

4.4.5 Biological Resources

The Proposed Action and alternatives (except the No-Action Alternative) could potentially affect biological resources through alteration or loss of vegetation and wildlife habitat. Of particular concern is the potential for loss of any threatened or endangered species or loss of any other sensitive species or habitats. These impacts are described below for each alternative.

Assumptions used in analyzing the effects of the Proposed Action and alternatives include:

- Staging and other areas temporarily disturbed by construction would be placed in previously disturbed areas (e.g., paved or cleared areas) to the maximum extent possible.

- The proportion of disturbance associated with each land use category was determined based on accepted land use planning concepts. Development in each area could occur at one or more locations, unless designated as vacant land.

4.4.5.1 Proposed Action

Construction and operations activities associated with the Proposed Action would adversely affect biological resources primarily through permanent loss of vegetation and its associated wildlife. About 613 acres of land, most of it supporting habitat of relatively low biological value, would be disturbed. Additional adverse or beneficial effects are associated with the conversion of habitats (e.g., conversion of forest to grassland or developed housing area to forest woodland). Specific impacts projected to result from the implementation of this alternative are described below.

Vegetation. Overall, the Proposed Action would result in minimal losses to native tree and shrub vegetation. Only two upland forested areas of old growth

hardwood trees would be impacted. One is a woodlot island of about 2 acres in the landscaped and developed southern portion of the base, directly in the path of the proposed parkway. The balance of the onbase parkway disturbance (100 acres) is in grassy landscaped areas. The other upland forest area is the mixed northern hardwood forest along the top of the Mohawk River bluff in the current family campground area, where a new golf course fairway is proposed. This action may take 8 acres of forest. This is a replacement for one of the two fairways lost to the parkway corridor. The second new fairway would be developed in current family garden area and old field areas adjacent to the campground area. Actual tree and habitat losses will be dependent on final golf course design.

One of the two housing areas (Skyline) in the southern portion of the base would be cleared of all structures and most roads, with all of it left vacant for future long term development. About 140 acres in that area would probably be kept in open field or lawn-like condition. About two thirds of the second housing area (Woodhaven) would be cleared of houses and roads, with that portion being revegetated as part of the open space/green corridor area.

This alternative redevelopment plan sets aside 820 acres as open space (public/recreational). This includes 394 acres (48%) of the existing management/plantation forest and 61 acres (9%) of the wetlands on the base. The planned development zone contains 55 acres (7%) of the forest and no acres of the wetlands. The future development (vacant) zone (WSA, old landfill areas, and Skyline Gate area), in which no redevelopment is planned, contains 250 acres (30%) of the forest and 61 acres (10%) of the wetlands. The balance of the forest/plantation (15%) and wetland (81%) acreages are in the retained airfield area.

Demolition and construction activities for the balance of the Proposed Action would occur within about 460 acres of landscaped grassy habitat with varying amounts of scattered trees, most of which have been transplanted to locations among the buildings, parking lots, and roads. A few individual trees or small clusters are survivors of original forest growth, but are now in a park-like setting. It is assumed that the larger islands of native upland trees in the southern portion of the base would remain among scattered redevelopment actions. Most of these are along the ridgeline and steeper slopes between the Woodhaven housing area and the Skyline future development area. The wooded islands in the Woodhaven housing area would become part of the planned open space areas.

Government-Retained Land. The greater percentage of these lands are improved, with buildings, roads, parking lots, and airfield pavements, surrounded with grass that is regularly mowed. There are some forest areas along the extreme eastern and southern borders of the base. None of these lands and vegetation is expected to be disturbed by demolition or new construction.

Offbase Impacts. The northern end of the parkway corridor (about 1,800 feet in length, covering some 10 acres), connecting to Potter Road, would be off the base. This segment also crosses the Mohawk River. The vegetation in this corridor includes about 6 acres of cultivated fields (in and out of the river floodplain) and about 4 acres of river bank hardwood forest, which would be lost to roadway construction.

Wildlife. The majority of impacts to wildlife are expected to be long term and include loss and/or fragmentation of habitat, displacement, increased stress, disruption of daily/seasonal behavior, and mortality for less mobile species. The ability of more mobile species to displace and survive in adjacent habitats would primarily depend on the presence or absence of suitable habitat and, if present, whether adjacent suitable habitat is at carrying capacity. If adjacent habitats are at carrying capacity at the time of construction or when operations begin, the forced introduction of individuals into these areas would cause an increase in competition for resources (e.g., food, nesting areas). This, in turn, would cause a temporary increase in mortality for some species until equilibrium is reestablished. The loss and alteration of habitats with the Proposed Action - while detrimental to wildlife species - is not expected to have a significant impact on regional wildlife populations because of the low sensitivity levels, relatively small quantities, and generally high levels of previous disturbance to most of the affected habitats and the presence and quantity of suitable adjacent habitats.

Habitat Alteration/Loss. Most of the habitat alteration or loss/change will occur on that portion of the base classified as grass/landscaped with trees, that is largely man made and regularly disturbed. These areas do have small pockets of less disturbed communities of trees and shrubs, or border upon larger more natural habitat areas, and therefore do support a number of typical urban adapted species of birds and animals, such as robins (*Turdus migratorius*), various sparrows, catbirds (*Dumetella carolinensis*), brown thrashers (*Toxostoma rufum*), various warblers (*Dendroica* spp.), downy woodpeckers (*Picoides pubescens*), northern cardinals (*Cardinalis cardinalis*), black-capped chickadees (*Parus atricapillus*), gophers and tree squirrels.

Government-Retained Land. The largest part of these lands on the base comprise the grassland and wet meadow areas that are kept mowed in the airfield and aircraft support portions of the base. The smaller portion includes the lawns and trees around Rome Lab Complex and other buildings being retained. These lands also include native forest lands, conifer plantation areas, and some wooded wetlands along the eastern edge of the runway. These habitats and current levels of disturbance are not expected to change.

Offbase Impacts. Parkway and bridge construction across the Mohawk River and floodplain, depending on design, will require about a 10 acre corridor and has the potential of interrupting wildlife movement along the river corridor. Construction could also cause elevated levels of sediment/turbidity in the river unless adequate erosion control practices are used. Wildlife species potentially affected along this corridor include white tailed deer (*Odocoileus virginianus*),

northern raccoon (*Procyon lotor*), opossum (*Didelphis marsupialis*), cottontail rabbit (*Sylvilagus* spp.), red fox (*Vulpes vulpes*), wood duck (*Aix sponsa*), and numerous songbirds and small rodents of the fields and riparian forest. The river supports trout and bass. Minimal direct losses are anticipated; however, these species will avoid the area during construction, returning to adjacent habitat after construction. Mohawk River floodplain corridor usage by wildlife will also return provided adequate terrestrial passage area is provided in the floodplain area by the final bridge and roadway design.

Noise/Activity. The number of military aircraft continuing to use the base with the Proposed Action would be much smaller and therefore quieter than pre-realignment conditions. These conditions would reduce the disruptions to local wildlife. The human activity levels, especially in the airfield and Rome Lab Complex areas where habitats are controlled(mowed), would remain similar to current conditions. The overall activity levels would be expected to decrease over the long term. The short term (first phase of 5 years) period would bring increased activity to much of the reuse portion of the base. These activities would involve the initial demolition and clearing of some areas and construction in portions of those areas. The largest single construction project would be the new parkway, disturbing a corridor through the full length of the base, amounting to about 102 acres.

Threatened and Endangered Species. The Air Force has conducted informal Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) and the New York State Department of Environmental Conservation (NYSDEC), as suggested by the USFWS, for potential land conveyance to private parties. The USFWS and NYSDEC have indicated that there are several listed species that reside throughout the State of New York or are seasonal visitors and could occur within a 50-mile radius of Griffiss AFB. No threatened and endangered species were found on the base during recent surveys (see Section 3.4.5.3).

Because no Federal-listed species have been identified on Griffiss AFB, no impacts are projected. The New York State listed animal species are likewise not currently known to inhabit the base. Some State-listed plant species, however, are known to inhabit the base. Because activity and disturbance caused by the Proposed Action would primarily occur in the developed portion of the base, reuse activities would not be expected to impact any State-listed plant species.

For properties conveyed to non-Federal and private parties, those parties would be subject to the prohibitions listed in Section 9 of the Endangered Species Act (16 U.S.C. §1538) and 50 CFR Part 17, Subparts C, D, F, and G. For certain activities involving the export, possession, taking, sale, or transport of threatened or endangered animal species, non-Federal and private parties would be required to obtain a permit under Section 10 of the Endangered Species Act (16 U.S.C. §1539) and 50 CFR Part 17, Subparts C and D.

Government-Retained Land. No proposed changes are planned that would change the existing habitats and plant and animal communities in these portions of the base.

Offbase Impacts. Construction activity in the Mohawk River corridor could indirectly affect transient usage of this river (aquatic) habitat by Federal- and State-listed bald eagle (Haliaeetus leucoephalus) and the State-listed osprey (Pandion haliaetus).

Sensitive Habitats. The U.S. Army Corps of Engineers (COE) has made a determination on most of the delineated wetlands on Griffiss AFB, following their guidelines, and has also determined that there are several Waters of the United States on the base subject to protection under the permitting requirements of Section 404 of the Clean Water Act. The NYSDEC has also determined and mapped several wetland areas on the base that are subject to protection under the States' permitting authority. This State mapping and protection applies to wetlands that are a minimum of 12.5 acres. Article 24 of the New York Environmental Conservation Law (6 NYCRR Part 664) regulates certain activities in freshwater wetlands and within 100 feet of the wetland boundary.

Disturbance activities associated with the Proposed Action would occur outside of any wetland boundary. However, some demolition and grading activity in the Skyline housing area, nearest Threemile Creek, would be adjacent to COE jurisdictional wetlands, and may be within 100 feet of State-designated wetlands and may require a permit from the State. The planning area mapped as vacant and available for long-term future use does contain about 3 acres of wooded wetlands along the eastern boundaries. The extensive wetlands system along Threemile Creek would remain as open space. The wetlands in the east central portion of the base, near the WSA, would remain as they are because no reuse is currently planned for that land. The balance of the base wetlands occur within the airfield area, which will remain as government-retained property and be used as per current conditions. Although no direct effects are expected, there would be indirect effects of changed operations and site cleanup activities on the quality of runoff waters reaching the wetlands, both on and off the base. These various actions would reduce pollutant input to local waters and be a beneficial impact on the downstream wetlands and aquatic systems.

Government-Retained Land. There would be no impacts expected to wetlands within these lands. No new development or change of use that would directly affect the wetlands is planned. Site cleanup, industrial operations changes, and reduced aircraft activity and maintenance would have the positive/beneficial and indirect affect of improving the quality of runoff water into the wetland communities along Threemile and Sixmile creeks.

Offbase Impacts. The Proposed Action would not directly affect any offbase wetlands but would cause the loss of small amounts (2 acres) of riparian hardwood forest along the Mohawk River where the proposed parkway crossing

is located (see above wildlife and habitat sections). There would be indirect effects of improved water quality in the downstream (offbase) wetlands along Threemile and Sixmile creeks.

Potential Consequences of Airfield Closure. Closure of the airfield would have long-term beneficial effects on biological resources of that area. Without continued mowing and clearing maintenance in most of the airfield area, the vegetation communities would change in response to normal successional maturing process as would the associated wildlife populations. The lawn-like grassland would become meadow shrubland and young open woodland by the end of the 20-year planning period. Such a plant community would support a more diverse animal community. The existing marshy areas, maintained as wet meadows by mowing, would develop into shrubby wetland areas and eventually to wetland forests. The existing forests would show the least changes as they continue to mature. There would be no aircraft activity or noise level disturbance to wildlife in the area. Effects on biological resources in the balance of the base would be the same as for the Proposed Action.

Cumulative Impacts. The Proposed Action and the local community plans toward development of enhanced greenways and open space corridors, along the Mohawk River, between Delta Lake and the New York State Barge Canal south of Rome and Griffiss AFB, including the canal-river harbor plans, should have a combined positive long-term and cumulative effect on the natural communities of the area. Additional woodland habitats and green space open corridors are planned on the Griffiss AFB property, connecting the Mohawk River corridor (upper free-flowing portion) with the New York State Barge Canal corridor. These would enhance plant and animal populations and movement of wildlife among habitats.

Required Mitigation Measures. Mitigation measures that are clearly required by law or are standard industry practices are described below. These measures were taken into account in the assessment of the impacts. These relate to all habitats and species. The most sensitive habitat requiring mitigation at Griffiss AFB are wetlands. Potential disturbance to wetlands in New York are controlled and permitted by State and Federal regulations, including Executive Order 11990, Section 404 of the Clean Water Act (CWA) and Article 24 of the New York Environmental Conservation Law (6 NYCRR Part 664). Mitigations required could include, (1) avoidance of direct and indirect disturbance of wetlands through facility design or appropriate restrictions in the transfer documents; (2) onsite (if possible) replacement of any wetlands lost at a ratio determined through consultation with USFWS and the COE; (3) re-creation of wetland habitat elsewhere onsite or purchase and fencing of any offsite replacement habitat; and (4) monitoring (until habitat becomes well established) of any replacement wetlands required to determine the effectiveness of replacement and any remedial measures necessary.

Filling of wetland areas totaling less than 10 acres does not require an individual COE permit, because this activity is covered by the existing authorization of a nationwide permit. Filling of a wetland between 1 and 10 acres requires prior

notification of the COE, whereas filling of a wetland under 1 acre does not. However, the COE recommends they be notified even in those cases where filling of less than 1 acre is anticipated. However, Air Force policy under Executive Order 11990 has no lower limit threshold. No wetlands can be filled regardless of size until the requirements of the Executive Order have been met and that the COE guidelines would become active.

- All practicable means of avoidance, by early planning and design control, will be exercised to minimize direct and indirect effects on known sensitive or unique biological habitats and species.

- Staging and other areas temporarily disturbed by construction would be placed in previously disturbed areas (e.g., paved or cleared areas) to the maximum extent possible.

- Construction zone work limits will be established and enforced to minimize disturbance of habitat;

- All standard construction practices and prudent planning will be taken to minimize noise, dust, erosion, and sediment runoff into water bodies;

- Short-term soil stabilization with quick-growing native species, and long-term revegetation with native plants will be carried out wherever feasible;

- Disturbance of aquatic habitats, habitats of sensitive, threatened and endangered species, and other identified sensitive habitats will be reduced to the extent possible through sound construction practices and avoidance on a localized basis that does not represent a significant change in project configuration; and

- Compliance with Section 4 of Executive Order 11990 will be followed in the disposal and transfer of Griffiss AFB property containing wetlands. When Federally owned wetlands are leased or disposed to non-Federal or private parties, the Federal agency shall (a) reference in the conveyance, those uses which are restricted with Federal, State, or local regulations; and (b) attach other appropriate restrictions to the uses of the property by the grantee or purchaser and any successor, except where prohibited by law; or (c) withhold such properties from disposal. Implementation will ensure the protection of these resources.

  Executive Order 11990, Section (2)1, states that a Federal agency, to the extent permitted by law, shall avoid providing assistance for new construction located in wetlands unless the head of the agency concludes that there is no practicable

alternative to such construction and that the proposed project includes all practicable measures to minimize harm to wetlands that may result from such use. In determining whether an alternative is practicable, the agency may consider costs, existing technology, logistics, environmental effects, and the purpose of the project that causes the discharge of fill or dredged material into the affected wetlands. Secondary development (including industrial, commercial, residential, or recreational development that is attracted to the area by improved infrastructure or redevelopment) will also be regulated by the COE.

- Compliance with the New York Environmental Conservation Law (Article 24) when the project potentially effects wetlands falling under the state's protection (Class I, II, III, or IV). These actions would require review and permits from the NYSDEC.

Additional Potential Mitigation Measures. The following actions, procedures, guidelines, and recommendations have been identified as potential mitigations beyond those clearly required by law or standard practice. The Air Force can reference in the property conveyance documents, those uses which are restricted under Federal and State wetlands regulations, including those subject to Section 404 of the CWA, Executive Order 11990, and the New York Environmental Conservation Law (Article 24). Even approved permits from the COE and/or the NYSDEC may require mitigation to compensate for the disturbances. The following procedures and guidelines have been identified as potential mitigation measures that can be implemented to protect and/or restore biological resources disturbed by project activity:

- Minimizing Disturbances - Unavoidable sensitive habitat taking or wetland filling can be minimized by prudent planning and design control. Construction work zones can be restricted through sensitive areas. Wetland and stream crossing for transportation corridors can be facilitated by appropriate bridge design and minimization of corridor widths. The effectiveness would be site specific, depending on environmental conditions and design compatibilities. Because wetland disturbance requires permitting, the probability of avoidance and design measures being incorporated would be nearly 100 percent. Costs would be dependent on size of facilities and uniqueness of design to solve the problem. The land owner/developer and/or project proponent would be responsible for these mitigations.

- Conservation Easements or Deed Restrictions - Specific tracts of land can be protected from development disturbance by establishing conservation easements or writing deed restrictions. Easements can specify the actual management practices designed for the properties. These easements and/or

restrictions would help to minimize potential direct and indirect wetland impacts. By protecting sensitive habitats, this mitigation could be 100 percent effective in eliminating or avoiding the respective impacts. These habitats may be offsite, in compensation for losses onsite. The Air Force or initial property recipient can set up these easements or restrictions. In compliance with permitting, the probability of using easements or deed restrictions would depend on the overall plan. Depending on land values, availabilities, and negotiations, the costs could range from minimal deed costs to expensive land purchases. Conservation easements could be managed by responsible agencies, such as the USFWS, NYSDEC, The Nature Conservancy, or other entities that would maintain and monitor the habitats/wetlands. Deed restrictions would place the responsibility for protection of wetlands under the management of property recipients.

- Develop Replacement/Additional Habitats - Wetlands filled or upland habitats destroyed as part of project development may be replaced on the basis of a pre-negotiated ratio. This mitigative action could entail the creation or development of new wetlands and/or upland habitats, in quantities exceeding the actual acreage taken. The land requirements may exist within the project boundaries but may also require offsite acquisitions. Effectiveness would depend on the initial plan, use of local native plant materials, physical replication of ecosystem elements, seasons of creation and planting, and the weather conditions at the time. In compliance with permitting and the specific plan, the probability would be plan dependent, but higher for wetland habitat than upland habitat. Depending on land availability, values and design/construction details, the costs would be moderate to high to replace/recreate wetland habitat and slightly less for upland habitat. The landowner/developer, and/or project proponent would be responsible for these mitigations, and complying with permits and/or regulations of the COE, EPA, and/or NYSDEC.

- Monitor Developed/Replacement Habitats - These measures may include a continuing planting and/or replanting/watering/feeding operation in accordance with the initial mitigation plan for revegetation or development of additional habitats to compensate for impact losses. The effectiveness would be dependent on the initial plan, the consistency of the monitoring, and the weather. The probability would be plan specific. The costs would also be dependent on plan details and length of activity, and would likely be very labor intensive. These would be the responsibility of the landowner and developer.

4.4.5.2 Griffiss Research Park Alternative (A)

Construction and operations activities associated with the Griffiss Research Park Alternative would adversely affect biological resources primarily through permanent loss of vegetation and its associated wildlife. About 272 acres of land, most of it supporting habitat of relatively low biological value, would be disturbed. Additional adverse or beneficial effects are associated with the conversion of habitats (e.g., conversion of forest to grassland or developed housing area to forest woodland). Specific impacts projected to result from the implementation of this alternative are described below.

Vegetation. Overall, the Griffiss Research Park Alternative would result in the least amount of change or loss to native tree and shrub vegetation in the short term and result in the maximum amount of revegetation of lands now supporting human development structures and facilities. Large tracts of land in the southern portion of the base would be cleared of housing, roads, and other buildings and returned to forest and open recreational lands. The remaining islands of native vegetation will provide one source of natural regenerative materials and plantation areas of various conifers, started by the Air Force, will provide a second source of plant materials for reforestation.

The onbase parkway corridor would disturb about 102 acres of grassy landscaped area. Demolition and construction activities for the balance of this alternative would largely occur in a composite 475-acre area of landscaped grassy habitat supporting varying amounts of scattered trees, most of which have been transplanted to locations among the buildings, parking lots, and roads. It is assumed that the larger islands of native upland trees in the institutional redevelopment area would remain among scattered redevelopment actions in this 94-acre area. All of the acreage (86 acres) in the commercial redevelopment area would be disturbed by demolition and construction of buildings, roads, parking lots, and new green space/park land. This area is currently 100 percent developed and/or landscaped.

This alternative redevelopment plan would set aside 995 acres as open space (public/recreational). This includes 363 acres (44%) of the existing management/plantation forest and 66 acres (10%) of the wetlands on the base. The planned development zone contains 39 acres (5%) of the forest and no acres of the wetlands. The future development (vacant) zone (WSA and old landfill area), in which no activity is planned, would contain 224 acres (27%) of the forest and 56 acres (8%) of the wetlands. The balance of the forest/plantation (24%) and wetland (82%) acreages would be in the retained airfield area.

Development of an expanded golf course north of Mohawk Drive, would require demolition of aircraft taxiway and apron areas, and some buildings and roads before redevelopment and revegetation can occur. This is about a 100-acre area which may require special revegetation management since previous reforestation efforts on about 30 acres of this part of the base, planting Douglas fir in the late 1970's and late 1980's, produced only six trees.

Government-Retained Land. The greater percentage of these lands would be improved, with buildings, roads, parking lots, and airfield pavements, surrounded with grass that is regularly mowed. There are some forest areas along the extreme eastern and southern borders of the base. None of these lands and vegetation would be expected to be disturbed by demolition or new construction.

Offbase Impacts. There are no offbase direct impacts anticipated for vegetation cover with this alternative.

Wildlife. The majority of impacts to wildlife would be expected to be long term and include loss and/or fragmentation of habitat, displacement, increased stress, disruption of daily/seasonal behavior, and mortality for less mobile species. The ability of more mobile species to displace and survive in adjacent habitats would primarily depend on the presence or absence of suitable habitat, and, if present, whether adjacent suitable habitat is at carrying capacity. If adjacent habitats are at carrying capacity at the time of construction or when operations begin, the forced introduction of individuals into these areas would cause an increase in competition for resources (e.g., food, nesting areas). This, in turn, would cause a temporary increase in mortality for some species until equilibrium is reestablished. The loss and alteration of habitats with the Proposed Action -- while detrimental to wildlife species -- would not be expected to have a significant impact on regional wildlife populations because of the low sensitivity levels, relatively small quantities, and generally high levels of previous disturbance to most of the affected habitats and the presence and quantity of suitable adjacent habitat.

Habitat Alteration/Loss. As with the Proposed Action, habitat alteration or loss/change would occur on the portion of the base classified as grass/landscaped with trees, which is largely man made and regularly disturbed. The amounts of area disturbed would be essentially the same; however, the long term results would mean more green/open space wildlife habitat created in the southern half of the base by this alternative than any other alternative. This would create a large open space corridor between the lower Mohawk River and the mouth of Threemile Creek into the New York State Barge Canal. This would be a very positive/beneficial impact on the full suite of plant and animal species of the area.

Government-Retained Land. No proposed changes are planned that would change the existing habitats and plant and animal communities in these portions of the base.

Offbase Impacts. There would be no offbase direct impacts anticipated for this alternative. There would be indirect effects of improved water quality in the downstream aquatic systems of Threemile and Sixmile Creeks due to site cleanup and reduced aircraft activity and maintenance.

Noise/Activity. Aircraft activity and noise reduction would be similar to the Proposed Action. Short-term increased human activity from demolition and

construction would be less than the Proposed Action, because there would be less overall new construction and no parkway would be constructed.

Threatened and Endangered Species. The presence/absence of threatened and endangered species and possible effects upon them by this alternative would be the same as for the Proposed Action.

Government-Retained Land. No proposed changes are planned that would change the existing habitats and plant and animal communities in these portions of the base.

Offbase Impacts. No offbase activities are planned that would directly affect the local natural communities of plants and animals. Indirectly, the downstream water quality of Threemile and Sixmile Creeks would be improved by site clean-up and reduced aircraft-related and industrial activity on Griffiss AFB.

Sensitive Habitats. As with the Proposed Action, all direct disturbance activities for this alternative would occur outside of any wetland boundary. Potential indirect effects or need for State permits would be the same as for the Proposed Action.

Government-Retained Land. No direct impacts would be expected, but positive indirect effects are expected, as with the Proposed Action.

Offbase Impacts. No direct impacts would be expected, but positive indirect effects are expected, as with the Proposed Action.

Potential Consequences of Airfield Closure. Impacts to the biological resources with the closure of the airfield for this alternative would be similar to those described for the airfield closure with the Proposed Action.

Cumulative Impacts. The type of cumulative impacts resulting from this alternative would be similar to the Proposed Action. This alternative would enhance plant and animal populations and movement of wildlife among habitats even more than the Proposed Action because more land would be turned into open green space and be reforested.

Mitigation Measures. The required and additional potential mitigation measures for the Griffiss Research Park Alternative would be the same as described for the Proposed Action.

4.4.5.3 Mohawk Valley Business Center Alternative (B)

Construction and operations activities associated with the Mohawk Valley Business Center Alternative would adversely affect biological resources primarily through permanent loss of vegetation and its associated wildlife. About 467 acres of land, most of it supporting habitat of relatively low biological value, would be disturbed. Additional adverse or beneficial effects would be associated with the conversion of habitats (e.g., conversion of forest

to grassland or developed housing area to forest woodland). Specific impacts projected to result from the implementation of this alternative are described below.

Vegetation. Overall, the Mohawk Valley Business Center Alternative would result in the greatest amount of change or loss to native tree and shrub vegetation in the short term and result in moderate levels of revegetation, by comparison, of lands now supporting human development structures and facilities. One of the two housing areas in the southern portion of the base would be cleared of structures and most roads, with most of it left vacant for future long term development. About 83 acres in that area would probably be kept in open field or lawn-like condition.

Demolition activities and change of existing conditions for this alternative would be extensive. This would include disturbance of about 440 acres of landscaped grassy habitat and varying amounts of scattered trees. The most wide spread or aerially extensive zones of disturbance and development would be the commercial redevelopment area (122 acres), the northern housing area (44 acres), the Skyline housing area (62 acres left for future development) and the onbase parkway corridor (102 acres) extending the full length of the base in the planned open space area. As described in the Proposed Action, open space/reforestation of the zone just north of Mohawk Drive may take special revegetation management to be successful.

Development of the northern housing area and the eastern half of the new golf course would heavily disturb some 134 acres of forest land. Most of the eastern portion of the golf course is planned in wooded wetland (40 acres along Threemile Creek). Although part of this forest was selectively lumbered in 1994, both Federal and State permits would be required before development of that portion of the golf course could occur.

This alternative redevelopment plan would set aside 918 acres as open space (public/recreational). This would include 355 acres (43%) of the existing management/plantation forest and 66 acres (10%) of the wetlands on the base. The planned development zone would contain 53 acres (6%) of the forest and no acres of the wetlands. The future development (vacant) zone (WSA, old landfill area, and Skyline Gate area), in which no activity is planned, contains 300 acres (36%) of the forest and 56 acres (8%) of the wetlands. The balance of the forest/plantation (15%) and wetland (82%) acreages would be in the retained airfield area.

Government-Retained Land. The greater percentage of these lands are improved, with buildings, roads, parking lots, and airfield pavements, surrounded with grass that is regularly mowed. There are some forest areas along the extreme eastern and southern borders of the base. None of these lands and vegetation would be expected to be disturbed by demolition or new construction.

Offbase Impacts. Impacts for this alternative would be the same as described for the Proposed Action, where the northern end of the parkway goes off the base.

Wildlife. The types of impacts and species influenced would be similar to the Proposed Action. However, there would be higher levels of impacts to wildlife with this alternative because greater amounts of native vegetation would be disturbed and/or lost.

Habitat Alteration/Loss. As with the Proposed Action, most of the habitat alteration or loss/change would occur on that portion of the base classified as grass/landscaped with trees, that is largely man made and regularly disturbed. These areas do have small pockets of less disturbed communities of trees and shrubs, or border upon larger more natural habitat areas, and therefore do support a number of typical urban adapted species of birds and animals. However, this alternative would result in the development of a new 18-hole golf course in the southern part of the base. Half of the course would be on what is now developed land, but the other half would be in the current woodland habitat of the Threemile Creek area. Although part of the Threemile Creek woodland was selectively lumbered during the winter of 1994, this is a large, diverse, mature wetland forest, harboring a great diversity of wildlife normally occurring in central New York State. An analysis or comparison can only be done on the basis of an assumption, which is that 50 percent of the area would require clearing and grading to develop the golf course. That translates to about 65 acres of forested habitat, including up to 36 acres of wetland, lost to the eastern half of the golf course.

Government-Retained Land. As with the Proposed Action, no disturbance or change would be expected on these lands.

Offbase Impacts. This alternative would result in the same impacts from parkway extension off the base as described in the Proposed Action.

Noise/Activity. The levels of human activity and noise levels resulting from the various phases of this alternative would be greater than all the other alternatives. With this alternative, a housing development north of Mohawk Drive in the current golf course and campground woodland and a new golf course in the Threemile Creek woodland area would be constructed. Each of these would cause added loss of woodland habitats, as mentioned above, but also continued activity within or adjacent to the open space that remains. There would also be added activity in the current golf course area and western-most aircraft taxi area where an aviation museum is planned. Although this alternative would have one of the larger proportionate areas of the base devoted to public/recreational, which also serves as open or green space/ corridor area, these areas would have greater intensity of usage planned. This would not result in a total elimination of wildlife, but would result in more disturbance by regular proximate activity.

Threatened and Endangered Species. The presence/absence of threatened and endangered species and possible effects upon them with this alternative would be the same as for the Proposed Action.

Government-Retained Land. No proposed changes are planned that would change the existing habitats and plant and animal communities in these portions of the base.

Offbase Impacts. Construction activity in the Mohawk River corridor could indirectly affect transient usage of this river (aquatic) habitat by Federal-and-State listed bald eagle (Haliaeetus leucocephalus) and the State listed osprey (Pandion haliaetus).

Sensitive Habitats. This alternative would directly and/or indirectly affect all the onbase wetlands along the Threemile Creek corridor. These wetlands have been delineated and determinations made by both the COE and the NYSDEC. Permits for construction in these areas would be required from both agencies. The actual losses or takings can not be determined until actual development plans are drawn up. As per above assumptions, the quantity of wetlands directly affected could be about 40 acres. The balance of the base wetlands occur either within the flightline area, which would remain as government property and be used as per current conditions or in the WSA where no future development is planned. Although no direct effects would be expected, there would be indirect effects of changed operations and site cleanup activities on the quality of runoff waters reaching the wetlands, both on and off the base. These various actions would reduce pollutant input to local waters and be a beneficial impact on the downstream wetlands and aquatic systems.

Government-Retained Land. There would be no impacts expected to wetlands within these lands. No new development or change of use that would directly affect the wetlands is planned. Site cleanup, industrial operations changes and reduced aircraft activity and maintenance would have the positive/beneficial and indirect affect of improving the quality of runoff water into the wetland communities along Threemile and Sixmile creeks.

Offbase Impacts. This alternative, similar to the Proposed Action, would not have direct effects on any offbase wetlands, but would cause the loss of small amounts (2 acres) of riparian hardwood forest along the Mohawk River were the proposed parkway crossing is planned (see Proposed Action wildlife and habitat sections). There would be indirect effects of improved water quality in the downstream (offbase) wetlands along Threemile and Sixmile creeks.

Potential Consequences of Airfield Closure. Impacts to the biological resources with closure of the airfield for this alternative would be similar to those described for airfield closure with the Proposed Action.

Cumulative Impacts. The type of cumulative impacts resulting from this alternative would be similar to the Proposed Action. However, this alternative would provide less enhancement of plant and animal populations and less

movement of wildlife among habitats because there would be fewer and smaller green space habitats directly connected with the Mohawk River corridor. There would also be increased long-term human activity in the green space corridors.

Mitigation Measures. The required and additional potential mitigation measures for the Mohawk Valley Business Center Alternative would be the same as for biological resources with the Proposed Action.

4.4.5.4 Regional Aviation Complex Alternative (C)

Construction and operations activities associated with the Regional Aviation Complex Alternative would adversely affect biological resources primarily through permanent loss of vegetation and its associated wildlife. About 516 acres of land, most of it supporting habitat of relatively low biological value, would be disturbed. Additional adverse or beneficial effects would be associated with the conversion of habitats (e.g., conversion of forest to grassland or developed housing area to forest woodland). Specific impacts projected to result from the implementation of this alternative are described below.

Vegetation. Overall, the Regional Aviation Complex Alternative would result in a small amount of change or loss to native tree and shrub vegetation in the short term (second only to the Proposed Action) and result in moderate levels of revegetation, by comparison, of lands now supporting human development structures and facilities. The onbase parkway corridor disturbance of about 110 acres may disturb about 8 acres of upland forest, with the balance in grassy or old field areas. One of the two housing areas in the southern portion of the base would be cleared of structures and most roads, with nearly all of it left vacant for future long term development. About 107 acres in that area would probably be kept in open field or lawn-like condition.

Demolition and construction activities for the balance of this alternative would occur within the 520 acres of landscaped grassy habitat with varying amounts of scattered trees, most of which have been transplanted to locations among the buildings, parking lots and roads. It is assumed that the larger islands of native upland trees in the southern portion of the base would remain among scattered redevelopment actions. Most of these are along the ridgeline and steeper slopes between the Woodhaven housing area and the Skyline future development area and around the edges of the Skyline area. These would become part of the larger revegetation area connecting the Woodhaven area with Threemile Creek woodland. The wooded islands in the Woodhaven housing area would remain islands among the housing remaining in the eastern third of the area and among institutional development in the western two-thirds of that area.

This alternative redevelopment plan would set aside 745 acres as open space (public/recreational). This would include 300 acres (37%) of the existing management/plantation forest and 61 acres (9%) of the wetlands on base. The planned development zone would contain 38 acres (5%) of the forest and no

acres of the wetlands. The future development (vacant) zone (WSA, old landfill areas, and Skyline Gate area), in which no activity is planned, would contain 246 acres (30%) of the forest and 56 acres (8%) of the wetlands. The balance of the forest/plantation (18%) and wetland (83%) acreages would be in the retained airfield area.

Government-Retained Land. The greater percentage of these lands are improved, with buildings, roads, parking lots, and airfield pavements, surrounded with grass that is regularly mowed. There are some forest areas along the extreme eastern and southern borders of the base. None of these lands and vegetation would be expected to be disturbed by demolition or new construction.

Offbase Impacts. Offbase impacts would be the same as for the Proposed Action, where the northern end of the parkway goes off the base.

Wildlife. The types and amounts of impacts and species influenced would be basically the same as for the Proposed Action. There would be a little less undisturbed green or open space for this alternative than for the Proposed Action.

Habitat Alteration/Loss. As with the Proposed Action, most of the habitat alteration or loss/change would occur on that portion of the base classified as grass/landscaped with trees, that is largely man made and regularly disturbed. These areas do have small pockets of less disturbed communities of trees and shrubs, or border upon larger more natural habitat areas, and therefore do support a number of typical urban adapted species of birds and animals. The existing golf course would become part of the parkway and green space corridor, while the conifer plantation in the original airfield triangle area would remain. As with the Proposed Action, the Skyline housing area would be demolished and cleared with about 140 acres remaining in open field or lawn-like condition for potential future development. The balance of the southern portion of the base that is currently developed, except for the recreational facilities, would be cleared of structures and reforested as an extension of the Threemile Creek green space.

Government-Retained Land. As with the Proposed Action, no disturbance or change would be expected on these lands.

Offbase Impacts. This alternative would result in the same impacts from extension of the parkway off the base as described for the Proposed Action.

Noise/Activity. The levels of human activity and noise resulting from the various phases of this alternative would be similar to the Proposed Action. The parkway and green space corridor would be narrower along the northern three quarters of its length for this alternative; therefore, construction and operation would result in higher levels of activity and noise within the space available. The buffer space between parkway and base boundary would be all but

nonexistent in places and the corridor would come very close to the Mohawk River bluff in the current golf course area.

Threatened and Endangered Species. The presence/absence of threatened and endangered species and possible effects upon them by this alternative would be the same as for the Proposed Action.

Government-Retained Land. No proposed changes are planned that would change the existing habitats and plant and animal communities in these portions of the base.

Offbase Impacts. Construction activity in the Mohawk River corridor could indirectly affect transient usage of this river (aquatic) habitat by Federal and State listed bald eagle (Haliaeetus leucoephalus) and the State listed osprey (Pandion haliaetus).

Sensitive Habitats. As with the Proposed Action, all direct disturbance activities for this alternative would occur outside of any wetland boundary. The planning area mapped as vacant and available for long-term future use does contain about 2 acres of wooded wetlands. Potential indirect effects or the need for State permits would be the same as for the Proposed Action.

Government-Retained Land. No direct impacts would be expected, but positive indirect effects are expected, as with the Proposed Action.

Offbase Impacts. No direct impacts would be expected, but positive indirect effects are expected, as with the Proposed Action.

Potential Consequences of Airfield Closure Followed by Civilian Airport Reuse. Impacts to the biological resources from temporary closure of the airfield and elimination of the military aircraft operations would result in a decrease in noise disturbance and aircraft activity. The airfield would remain operational as a civil airport with less noise disturbance than with military uses, but with increased aircraft activity levels.

Cumulative Impacts. The type of cumulative impacts resulting from this alternative would be similar to the Proposed Action. This alternative would enhance plant and animal populations and movement of wildlife among habitats, but to a lesser extent than the Proposed Action because the central portion of the parkway/green space corridor would be very narrow. There would be more reforestation area in the southern portion of the base, but this would not have an improved corridor connection to the Mohawk River via the Woodhaven area as does the Proposed Action and Alternative A.

Mitigation Measures. The required and additional potential mitigation measures for the Regional Aviation Complex Alternative would be the same as those described for the Proposed Action.

4.4.5.5 No-Action Alternative

Caretaker maintenance of the base would have beneficial effects on biological resources. A reduction in human activity and aircraft operations would reduce disturbance (particularly by noise and continued alteration of habitat) to wildlife on and in the vicinity of the base. Habitat quality for wildlife could improve if mowing of nonlandscaped areas were terminated or reduced. This would allow wildlife species richness and diversity to increase and would have an overall positive effect on biological resources at Griffiss AFB. This would be most notable in the areas around drainages. With the No-Action Alternative, these areas would continue to mature and provide additional habitat for wildlife species.

Potential Consequences of Airfield Closure. With closure of the airfield, impacts to biological resources with the No-Action Alternative would be the same type of beneficial effects identified under closure effects of the Proposed Action.

4.4.6 Cultural and Paleontological Resources

Potential impacts were assessed by (1) identifying types and possible locations of reuse activities that could directly or indirectly affect cultural resources, and (2) identifying the nature and potential significance of cultural resources in potentially affected areas.

Pursuant to the National Historic Preservation Act (NHPA), consultation, as directed by the Section 106 review process, has been initiated with the State Historic Preservation Office (SHPO).

Historic properties, under 36 CFR 800, are defined as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP. This term includes, for the purposes of these regulations, artifacts, records, and remains that are related to and located within such properties. The term 'eligible for inclusion in the National Register' includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet National Register listing criteria." Therefore, sites not yet evaluated are considered potentially eligible for the NRHP and, as such, are afforded the same regulatory consideration as nominated historic properties.

As a Federal agency, the Air Force is responsible for identifying any historic properties at Griffiss AFB. This identification process includes not only field surveys and recording of cultural resources, but also evaluations to develop determinations of significance in terms of NRHP criteria (NRHP criteria and related qualities of significance are discussed in Appendix E). Completion of this process results in a listing of historic properties subject to Federal regulations regarding the treatment of cultural resources.

Regulations for implementing Section 106 of the NHPA indicate that the conveyance of historic property without adequate measures to ensure

preservation is procedurally considered to be an adverse effect, thereby ensuring full regulatory consideration in Federal project planning and execution. Historic properties onbase may be affected by conveyance. Until a final determination of eligibility is prepared by the Air Force in consultation with the SHPO, the Air Force would treat all potentially eligible archeological sites and buildings as if they are eligible.

4.4.6.1 Proposed Action

Impacts to cultural resources as a result of the Proposed Action would include modification or demolition of potentially NRHP-eligible buildings, and disturbance to potentially NRHP-eligible prehistoric sites through land conveyance. Approximately 613 acres in previously developed areas would be disturbed through construction activities. Two potentially NRHP-eligible prehistoric sites may be adversely affected through land conveyance. Two buildings, Buildings 100 and 101, and Facility 6258, a display B-52G aircraft, which are being assessed for NHRP eligibility, may be affected if ownership changes, if reuse results in modification, or demolition, or if the aircraft is moved out of the area. These would affect their integrity and/or subsequently destroy those characteristics which would make them eligible. The Proposed Action would not affect Building 700, the NEADS Combat Center, because its function and ownership would remain unchanged.

Government-Retained Land. Most of the undeveloped areas adjacent to the runways would be retained. Because the Air Force would maintain control of this land, implementation of Section 106 and Section 110 of the NHPA would still occur. Impacts to cultural resources in these areas, as a result of this project, would be negligible.

Offbase Impacts. A small cemetery is located north of Potter Road west of the base and State Highway 46. Construction of the parkway may require widening of Potter Road in the vicinity of the cemetery, disturbing the integrity of the graves. The cemetery does not meet the criteria for eligibility for inclusion in the NRHP; therefore, it is not considered a cultural resources issue (36 CFR 60.4). However, local residents may have more general concerns about the disturbance of gravesites.

Potential Consequences of Airfield Closure. With the closure of the airfield, additional impacts to cultural resources could occur, including disturbance to potentially NRHP-eligible historic sites through plowing activities, unauthorized artifact collection and vandalism, and loss of preservation through land conveyance. Eighteen additional historic sites would be adversely affected in areas adjacent to the airfield. Of the 18 sites, 6 would be adversely affected by disturbance associated with agricultural activities. Twelve sites occur in areas potentially reused as public/recreational or open space areas and could be disturbed through increased access and subsequent unauthorized artifact collecting and vandalism.

Cumulative Impacts. Future regional projects could eventually add over 9 million square feet of new commercial and industrial development in the region. Construction of these projects has the potential to affect cultural resources. However, separate environmental review would be performed for these future projects, as required by local and State law.

Required Mitigation Measures. Laws and regulations governing cultural resources and standard practices according to Air Force policy clearly require the following mitigation measures. Because potentially NHRP-eligible sites may be adversely effected, a Memorandum of Agreement may need to be negotiated between the Air Force, the SHPO, and Advisory Council for Historic Preservation (ACHP) describing and implementing data recovery plans, site treatments, and monitoring programs. The appropriate level of data recovery for mitigation would be determined through consultation with the SHPO and the ACHP, in accordance with NHPA Section 106.

Additional Potential Mitigation Measures. The following measures may be used to further mitigate potential impacts to cultural resources. Mitigation measures may include, but not be limited to, data recovery of prehistoric materials, and Historic American Building Survey (HABS) documentation and archival research for NRHP-eligible structures. By conducting the appropriate data recovery procedures for NRHP-eligible resources, some scientific information could be obtained which would compensate for the destruction of cultural resources.

Even though the small offbase cemetery is not eligible for the NRHP, it is possible to mitigate the effects of construction disturbance on the graves. It is assumed that the cemetery would be relocated in accordance with existing COE guidelines and practices.

4.4.6.2 Griffiss Research Park Alternative (A)

Impacts to cultural resources as a result of this Alternative would include modification or demolition of potentially NRHP-eligible buildings, and disturbance to potentially NRHP-eligible prehistoric sites through land conveyance. Approximately 272 acres in previously developed areas would be disturbed through construction activities. Although disturbance acreage would be much less than the Proposed Action, impacts to potentially NRHP-eligible prehistoric sites and buildings on Griffiss AFB, may be the same.

Government-Retained Land. Impacts to cultural resources in these areas, as a result of this alternative, would be negligible, the same as the Proposed Action.

Offbase Impacts. Potential impacts to a small cemetery located north of Potter Road and west of the base and the State Highway 46 would be the same as for the Proposed Action.

Potential Consequences of Airfield Closure. Additional impacts to the cultural resources would be expected and 18 additional historic sites would be adversely affected as described for airfield closure with the Proposed Action.

Cumulative Impacts. Cumulative impacts would be the same as for the Proposed Action.

Mitigation Measures. The required and additional potential mitigations measures for the Griffiss Research Park Alternative would be the same as described for the Proposed Action.

4.4.6.3 Mohawk Valley Business Center Alternative (B)

Impacts to cultural resources as a result of this alternative would include disturbance to potentially NRHP-eligible prehistoric sites through construction activities, and modification or demolition of two potentially NRHP-eligible buildings, Buildings 100 and 101. Approximately 467 acres in previously developed areas would be disturbed through construction activities. Two buried potentially NRHP-eligible prehistoric sites may be disturbed through residential construction activities. Potentially NRHP-eligible buildings may be modified or demolished, an action that would adversely affect their integrity and subsequently destroy those characteristics which make them eligible. Because NRHP-eligible properties may be disturbed or destroyed, impacts to cultural resources may be significant.

Government-Retained Land. Impacts to cultural resources in these areas, as a result of this alternative, would be negligible, the same as the Proposed Action.

Offbase Impacts. Potential impacts to the small cemetery located north of Potter Road would be the same as for the Proposed Action.

Potential Consequences of Airfield Closure. Additional impacts to the cultural resources would be expected and 18 additional historic sites would be adversely affected as described for airfield closure with the Proposed Action.

Cumulative Impacts. Cumulative impacts would be the same as for the Proposed Action.

Mitigation Measures. The required and additional potential mitigations measures for the Mohawk Valley Business Center Alternative would be the same as described for the Proposed Action.

4.4.6.4 Regional Aviation Complex Alternative (C)

Impacts to cultural resources as a result of this Alternative would include disturbance to potentially NRHP-eligible prehistoric sites through land conveyance and modification or demolition of potentially NRHP-eligible buildings. Approximately 516 acres in previously developed areas would be disturbed through construction activities. Although disturbance acreage would be much less than the Proposed Action, impacts to potentially NRHP-eligible prehistoric sites and buildings on Griffiss AFB, may be the same.

Government-Retained Land. Impacts to cultural resources in these areas, as a result of this alternative, would be negligible, the same as the proposed action.

Offbase Impacts. Potential impacts to a small cemetery is located north of Potter Road would be the same as for the Proposed Action.

Potential Consequences of Airfield Closure Followed by Civilian Airport Reuse. Additional impacts to the cultural resources would be expected and 18 additional historic sites would be adversely affected as described for airfield closure with the Proposed Action.

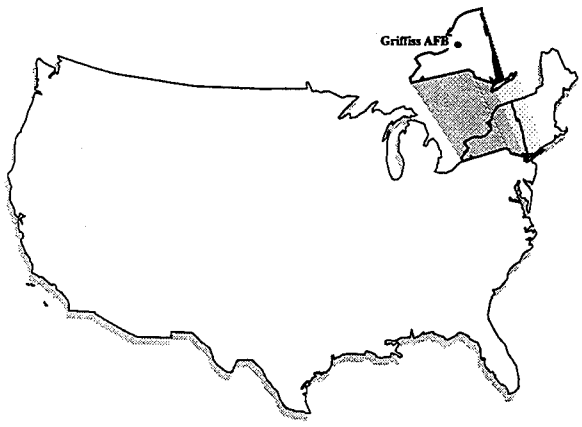
Cumulative Impacts. Cumulative impacts would be the same as for the Proposed Action.

Mitigation Measures. The required and additional potential mitigations measures for the Regional Aviation Complex Alternative would be the same as described for the Proposed Action.

4.4.6.5 No-Action Alternative

There would be no effect on cultural and paleontological resources resulting from implementation of the No-Action Alternative because Griffiss AFB property would remain under Federal jurisdiction. However, the Air Force caretaker personnel should continue to ensure adequate security to discourage unauthorized collecting of archaeological sites and vandalism of architectural sites, and thus, inadvertent violation of the Archaeological Resources Protection Act.

Potential Consequences of Airfield Closure. Even with closure of the airfield, the land around the airfield would be retained by the government, and there would be no effect to the 18 historic sites recorded in this area. Additional impacts to cultural resources as a result of Airfield closure would be negligible.



CHAPTER 5.0
CONSULTATION AND COORDINATION

5.0 CONSULTATION AND COORDINATION

The Federal, State, and local agencies and private agencies/organizations that were contacted during the course of preparing this Environmental Impact Statement are listed below.

FEDERAL AGENCIES

Department of Agriculture, Soil Conservation Service (Scott Anderson, Assistant State Soil Scientist)

Department of the Interior, Fish and Wildlife Service (David Stilwell, Acting Field Supervisor)

Department of the Air Force, Griffiss AFB, New York

Air Force Base Conversion Agency

Anna Lemaire, Site Manager

416th Bomb Wing

Col Ron Kuhl, Closure and Realignment Effort Office
Lt Col Thomas Clark, Closure and Realignment Effort Office
1Lt Mary Beth Jarvis, Public Affairs

416th Support Group

Civil Engineering Squadron

Sherman Pike, Deputy Base Civil Engineer
Bruce Mero, Environmental Flight (Chief)
Mike McDermott, Environmental Flight
Jim Scott, Environmental Flight
Mark Rabe, Environmental Flight
Chuck Grimm, Environmental Flight
Mike Bamberger, Environmental Flight
Brenda Parker, Environmental Flight
Marie O. Corr, Environmental Flight
Valerie Stacy, Environmental Flight
Joe Wojnas, Environmental Flight
Paul Vanderhoff, Real Estate Office
Jim Whitcomb, Operations Flight
SSgt Steve Jenkins, Power Production Shop
TSgt Frank Bray, Water and Waste
Sam Bruno, Entomology Shop
Frank Giardino, Exterior Electric Shop

416th Medical Group

Capt Heidi Eoute, Bioenvironmental Engineering
Mr. Armstrong, Hospital Facility Manager
1Lt Jeanette Comorski, Hospital Administration
1Lt Randy R. Smith, Bioenvironmental Engineering

Rome Laboratory

Brian Hoehn, Civil Engineering
Dan Bollana, Operations

STATE AGENCIES

New York State Department of Environmental Conservation
Central Office
Marsden Chan
Jonathan Greco

Region 6
Randy Vaas, Regional Supervisor - Regulatory Affairs
Jim Doyle, Manager, Utica Office
Pat Cleary, Wildlife Biologist
Jack Hasse, Fisheries Biologist
Jack Marsch, Environmental Engineer

New York State Office of Parks, Recreation and Historic Preservation (Robert D. Kuhn, Historic Preservation Coordinator)

LOCAL/REGIONAL AGENCIES

Carol Alerlie, Planning Department, City of Rome
Robert Comos, Solid Waste Department, City of Rome
William Gifford, Wastewater Department, City of Rome
George Sciley, Water Department, City of Rome

George J. Benner, Commissioner of Aviation, Department of Aviation, County of Oneida
Nancy Luna, Soil Conservationist, Soil and Water Conservation District, County of Oneida
Steve Miller, Cornell Cooperative Extension, County of Oneida
Robin Mangini, District Conservationist, Soil and Water Conservation District, County of Oneida
Gary Sassaman and Steve Only, Planning Department, County of Oneida

Georgianna Larry, Town Clerk, Town of Floyd

Elizabeth Paine, Town Clerk, Town of Lee

Francine Broccoli, Town Clerk, Town of Marcy

Beverly Merriman, Town Clerk, Town of Westmoreland

Mary Lou Barry, Town Clerk, Town of Whitestown

OTHER ORGANIZATIONS AND INDIVIDUALS

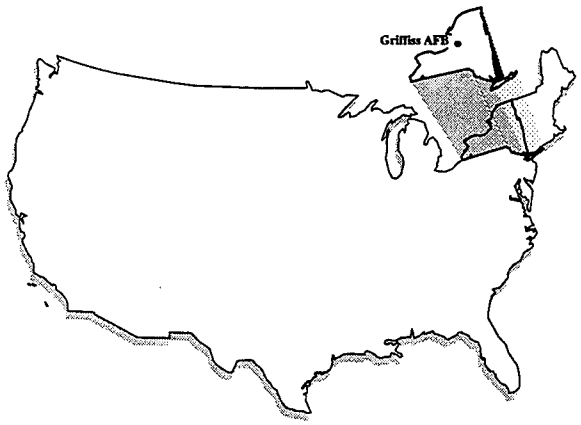
Keith Corneau, Adirondack Hydro Development Corporation, Glen Falls, New York

Francis P. Kulka, C&S Engineers, North Syracuse, New York

Niagara Mohawk Power Corporation (Thomas Higgins, William F. Stickles), Syracuse, New York

Al Springham, Landcare Aviation, Marcy, New York

Brian Cossette, U.S. Air Freight, Oriskany, New York



CHAPTER 6.0
LIST OF PREPARERS AND CONTRIBUTORS

6.0 LIST OF PREPARERS AND CONTRIBUTORS

Thomas F. Adamcyk, Economist, HQ AFCEE/ECP
B.S., Education, 1972, History and Economics, Eastern Illinois University, Charleston
M.A., Economics, 1975, Eastern Illinois University, Charleston
Years of Experience: 19

Edward R. Bailey, Senior Environmental Planner, Tetra Tech, Inc.
B.S., 1980, Environmental Science, University of California, Riverside
M.A., 1983, Environmental Administration, University of California, Riverside
Years of Experience: 13

Olga E. Baldwin, R.E.A., Financial Analyst, Tetra Tech, Inc.
B.S., 1994, Business Administration, La Verne University, California
Years of Experience: 13

Patricia Borell, Quality Control Coordinator, Tetra Tech, Inc.
B.A., 1983, English Literature, California State University, San Bernardino
Years of Experience: 12

Felicia Bradfield, A.I.C.P., Socioeconomic Planner, Tetra Tech, Inc.
B.S., 1988, Finance, Real Estate, and Law, California State Polytechnic University, Pomona
Years of Experience: 10

Blair D. Bradley, Technical Editor, Tetra Tech, Inc.
B.A., 1992, French, La Sierra University, Riverside, California
Years of Experience: 4

Gerald M. Budlong, Senior Land Use Planner, Tetra Tech, Inc.
B.A., 1968, Geography, California State University, Northridge
M.A., 1971, Geography, California State University, Chico
Years of Experience: 22

Susan L. Bupp, Senior Archaeologist, Tetra Tech, Inc.
B.A., 1977, Anthropology, Wichita State University, Kansas
M.A., 1981, Anthropology, University of Wyoming, Laramie
Years of Experience: 16

Julia A. Cantrell, Cultural Resource Specialist, HQ AFCEE/ECR
B.A., 1982, Political Science, University of Texas, Austin
M.S., 1987, Urban and Regional Planning, University of Wisconsin, Madison
Years of Experience: 13

David N. Cargo, Senior Geologist, Tetra Tech Inc.
B.S.Ed., 1953, Mathematics, University of Nebraska, Lincoln
M.S., 1959, Geology, University of New Mexico, Albuquerque
Ph.D., 1966, Geology, University of Utah, Salt Lake City
Years of Experience: 40

Lily Chen, Associate Scientist, Tetra Tech, Inc.
B.S., 1993, Environmental Science, University of California, Riverside
Years of Experience: 2

Dale Clark, Deputy Chief, Environmental Analysis Division, HQ AFCEE/ECA
B.S., 1982, Civil Enginnering, Auburn University, Auburn, Alabama
N.S., 1989, Civil Enginnering, North Carolina State University, Raleigh
Years of Experience: 12

Rawnsley W. DiBenedetto, Community Planner, HQ AFCEE/ECP
Masters in City and Regional Planning (MCRP), 1974, Catholic University, Washington DC
Years of Experience: 20

William M. Dick, Attorney, HQ AFCEE/JA
B.A., 1975, English, The University of Akron, Ohio
J.D., 1978, The University of Akron School of Law, Ohio
LL.M., 1987, The National Law Center, George Washington University, DC
Years of Experience: 17

Terry G. Edwards, Environmental Engineeer, HQ AFCEE/ECA
B.S., 1983, Civil Engineering, Brigham Young University, Provo, Utah
M.E.M., 1984, Engineering Management, Brigham Young University, Provo, Utah
Years of Experience: 10

Mahmoud Y. Fawaz, Civil/Transportation Engineer, Tetra Tech, Inc.
B.S., 1970, Civil Engineering, St. Joseph University, Beirut, Lebanon
M.S., 1970, Physics, Center of Mathematics, Beirut, Lebanon
M.S. 1971, Transportation, University of California, Berkeley
Ph.D., 1974, Transportation, University of California, Berkeley
Years of Experience: 17

Gregory Fronimos, Major, U.S. Air Force, Attorney, HQ AFCEE/JA
B.A., 1977, University of Michigan
J.D., 1982, Wayne State University Law School, Detroit, Michigan
LL.M., 1993, The National Law Center at George Washington University
Years of Experience: 17

Donald L. Gleason, Major, U.S. Air Force, Environmental Program Manager, HQ AFCEE/ECA
B.S., 1982, Civil and Environmental Engineering, University of Wisconsin, Madison
M.S., 1993, Engineering and Environmental Management, U.S. Air Force Institute of Technology, Wright-Patterson Air Force Base, Dayton, Ohio
Years of Experience: 13

Amy Graham, Archaeologist, Tetra Tech, Inc.
B.A., 1989, International Relations, University of California, Davis
Years of Experience: 3

Kyle M. Guerrero, Archaeologist, Tetra Tech, Inc.
B.S., 1994, Anthropology, University of California, Riverside
Years of Experience: 2

Frederick S. Hickman, Vice President, Tetra Tech, Inc.
B.A., 1966, Economics, Drew University, Madison, New Jersey
M.A., 1974, Economics, Rutgers The State University, New Brunswick, New Jersey
A.B.D., Economics, Rutgers The State University, New Brunswick, New Jersey
Years of Experience: 26

Kellee Jones, Environmental Scientist, Tetra Tech, Inc.
B.S., 1993, Business Administration and Management, University of Redlands, California
Years of Experience: 8

Harold W. Keck, Captain, U.S. Air Force, Environmental Manager, HQ AFCEE/ECA
B.S., 1984, Electrical Engineering, University of New Mexico
M.S., 1992, Engineering and Environmental Management, Air Force Institute of Technology, Wright-Patterson Air Force Base, Dayton, Ohio
Years of Experience: 10

Langdon A. Kellogg, Community Planner, HQ AFCEE/ECP
B.S., 1971, Geography, Florida State University, Tallahassee
M.S., 1973, Urban and Regional Planning, Florida State University, Tallahassee
Years of Experience: 22

Richard J. Kramer, C.E.P., Project Manager and Principal Ecologist, Tetra Tech, Inc.
B.A., 1960, Biology, St. John's University, Collegeville, Minnesota
M.S., 1962, Ecology, Arizona State University, Tempe, Arizona
Ph.D., 1968, Plant Ecology and the Physical Environment, Rutgers The State University, New Brunswick, New Jersey
Years of Experience: 33

Gene E. Moore, Environmental Program Manager, HQ AFCEE/ECA
B.S., 1979, University of Oklahoma
Years of Experience: 10 (Environmental)

William B. Moreland, Senior Scientist, Air Quality, Tetra Tech, Inc.
B.A., 1948, Meteorology, University of California, Los Angeles
M.A., 1953, Meteorology, University of California, Los Angeles
Years of Experience: 45

Kent Norton, Senior Environmental Scientist, Tetra Tech, Inc.
B.A., 1978, Biological Science, California State University, Fullerton
M.S., 1983, Environmental Studies (Urban and Regional Planning), California State University, Fullerton
Years of Experience: 16

Rebecca M. Oldham, Technical Editor, Tetra Tech, Inc.
B.S., 1991, English, University of Southern Mississippi, Hattiesburg
Years of Experience: 3

Anantaramam Peddada, Senior Environmental Scientist, Tetra Tech, Inc.
B.S., 1961, Geology, Physics, and Chemistry, Government Arts College, Rajahmundry, India
M.S., 1963, Geology, Andhra University, Waltair, India
M.S., 1972, Geology, State University of New York, Albany
M.S., 1979, Urban Environmental Studies, Rensselaer Polytechnic Institute, Troy, New York
Years of Experience: 20

Julio Roldan, Environmental Engineer, HQ AFCEE/ECA
B.S., 1965, Mechanical Engineering, CAAM, Puerto Rico
M.S., 1981, Environmental Management, University of Texas at San Antonio
Years of Experience: 20

Russell Scott, Wildlife Biologist, HQ AFCEE/ECR
B.S., 1964, Political Science, Southwest Texas University, San Marcos
Years of Experience: 29

William D. Scott, Captain, U.S. Air Force, Environmental Program Manager, HQ AFCEE/ECA
B.S., 1983, Civil Engineering, Mississippi State University, Starkville
M.S., 1993, Environmental Sciences, University of Texas, San Antonio
Years of Experience: 12

Shelley J. Simpson, Senior Drafting Engineer, Auto-CAD/GIS, Tetra Tech, Inc.
1991, Certified Program in Auto-CAD, University of California, Riverside
Years of Experience: 17

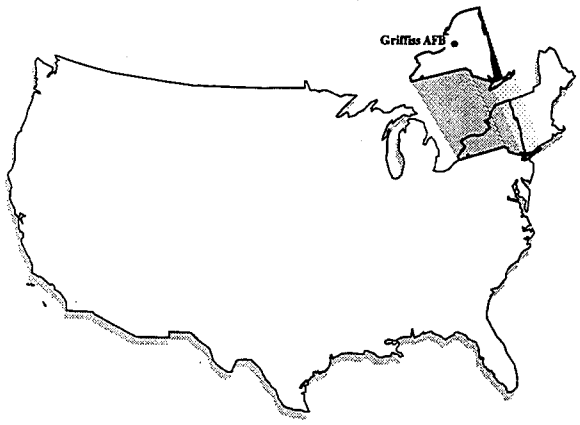
Jacqueline E. Smith, Technical Editor, Tetra Tech, Inc.
B.A., 1992, English, University of California, Riverside
Years of Experience: 2

Anne J. Surdzial, A.I.C.P., Environmental Planner, Tetra Tech, Inc.
B.S., 1991, Environmental Science, University of California, Riverside
Years of Experience: 4

Christopher R. Surdzial, Environmental Scientist, Tetra Tech, Inc.
B.S., 1991, Biology, University of California, Riverside
Years of Experience: 4

James D. Wilde, Ph.D., Archaeologist, HQ AFCEE/ECR,
B.A., 1972, Anthropology, University of New Mexico, Albuquerque
M.A., 1978, Anthropology, University of Oregon, Eugene
Ph.D., 1985, Anthropology, University of Oregon, Eugene
Years of Experience: 24

Peter O. Yuen, Environmental Scientist, Tetra Tech, Inc.
B.A., 1992, Environmental Studies, California State University, San Bernardino
Years of Experience: 2



CHAPTER 7.0
REFERENCES

7.0 REFERENCES

Adirondack Hydro Development Corporation
1992 *Delta Dam Hydroelectric Project.* Glen Falls, New York.

Adirondack North County Association
1992 *Adirondack North Country Regional Map, Scenic Auto Trail System.*

Alerlie, Carol
1995 Planner, City of Rome Planning Department, personal communication, January.

American National Standards Institute
1983 *Specification for Sound Level Meters.* ANSI S1.4-1983.

Ames, D.
1974 Sound Stress and Meat Animals. *Proceedings of the International Livestock Environment Symposium.* Lincoln, Nebraska, pp. 324-330.

Ando, Y., Y. Nakane, and J. Egawa
1975 Effects of Aircraft Noise on the Mental Work of Pupils. *Journal of Sound and Vibration* 43(4):683-691.

Anton-Guirgis, H., B. Culver, S. Wang, and T. Taylor
1986 *Exploratory Study of the Potential Effects of Exposure to Sonic Booms on Human Health, Vol 2: Epidemiological Study.* Report No. AAMRL-TR-86-020.

Arnoult, M.D., L.G. Gillfillan, and J.W. Voorhees
1986 Annoyingness of Aircraft Noise in Relation to Cognitive Activity. *Perceptual and Motor Skills* 63:599-616.

Belanovskii, A., and V.A. Omel'yanenko
1982 *Acoustic Stress in Commercial Poultry Production.* Soviet Agricultural Science (11):60-62.

Benner, George J.
1994 Commissioner of Aviation, Oneida County Airport Authority, Oriskany, New York, personal communication, June and July.

Bolt, Beranek, and Newman, Inc.
1973 *Fundamentals and Abatement of Highway Traffic Noise.* Canoga Park, California.

Boyer, Richard, and David Savageau
1989 *Places Rated Almanac.* Prentice Hall Press, New York.

California Department of Transportation
1990 *Highway Design Manual.* Topic 207, Airway-Highway Clearances. Sacramento.

Campasi, Jack
1978 Oneida. In *Handbook of North American Indians*, edited by Bruce G. Trigger, Volume 15, pp. 481-490. Smithsonian Institute, Washington, DC.

Cicero, Town of
1992 *Zoning Map.*

California Air Resources Board
1990 *EMFAC7PC in Air Quality Analysis Tools (AQAT-3).* Sacramento.

Casey, C.D., and R.J. Reynolds
1989 Hydrogeology of the Stratified-Drift Aquifers in the Rome Area, Oneida County, New York. *Water Resources Investigations Report 88-4155.* U.S. Department of the Interior, Geological Survey.

Clean Air Act Amendments
1993a Title I, Part D, Section 181, Additional Provisions for Ozone Nonattainment Areas, Classifications and Attainment Dates. Government Institutes, Inc., Rockville, Maryland.

1993b Title I, Part D, Section 186, Additional Provisions for Carbon Monoxide Nonattainment Areas, Classifications and Attainment Dates. Government Institutes, Inc., Rockville, Maryland.

1993c Title I, Part D, Section 188, Additional Provisions for Particulate Matter Nonattainment Areas, Classifications and Attainment Dates. Government Institutes, Inc., Rockville, Maryland.

Code of Federal Regulations
14 CFR 150, *Federal Aviation Regulation (FAR), Airport Noise Compatibility Planning.* U.S. Department of Transportation, Federal Aviation Administration, Chapter 1, Subchapter 1, Table 1, Office of the Federal Register, National Archives and Records Administration, U.S. Government Printing Office, Washington, DC.

32 CFR 989, *Environmental Impact Analysis Process.* Department of Defense, Department of the Air Force, U.S. Government Printing Office, Washington, DC.

36 CFR 60.4, *National Register of Historic Places; Criteria for Evaluation.* U.S. Department of the Interior, Office of the Federal Register, National Archives and Records Administration, U.S. Government Printing Office, Washington, DC.

40 CFR 50, *National Primary and Secondary Ambient Air Quality Standards*. Environmental Protection Agency, Office of the Federal Register, National Archives and Records Administration, U.S. Government Printing Office, Washington, DC.

40 CFR 52.21, *Prevention of Significant Deterioration of Air Quality*. Environmental Protection Agency, Office of the Federal Register, National Archives and Records Administration, U.S. Government Printing Office, Washington, DC.

40 CFR 81.127, *Central New York Intrastate Air Quality Control Region*. U.S. Environmental Protection Agency, Office of the Federal Register, National Archives and Records Administration, U.S. Government Printing Office, Washington, DC.

40 CFR 81.333, *New York* (Tables of designated areas and whether they meet certain air quality standards). U.S. Environmental Protection Agency, Office of the Federal Register, National Archives and Records Administration, U.S. Government Printing Office, Washington, DC.

40 CFR 141, *National Primary Drinking Water Regulations.* U.S. Environmental Protection Agency, Office of the Federal Register, National Archives and Records Administration, U.S. Government Printing Office, Washington, DC.

40 CFR 143, *National Secondary Drinking Water Regulations.* U.S. Environmental Protection Agency, Office of the Federal Register, National Archives and Records Administration, U.S. Government Printing Office, Washington, DC.

40 CFR 1500-1508, *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act.* Council on Environmental Quality, Office of the Federal Register, National Archives and Records Administration, U.S. Government Printing Office, Washington, DC.

Conover, R.
1994 Director, City of Rome Planning Department, personal communication, March.

1995 Director, City of Rome Planning Department, personal communication, January.

Cookenham, Walter
1977 Land Development. In *The History of Oneida County: Commemorating the History of our National Independence.* pp. 45-48, Oneida County, New York.

Cordell, Linda
1984 *The Prehistoric Southwest.* School of American Research, Santa Fe, New Mexico.

Cossette, Brian
1994 Manager, U.S. Air Freight, personal communication, Oriskany, New York, June.

Crook M., and F. Langdon
1974 The Effects of Aircraft Noise on Schools Around London Airport. *Journal of Sound and Vibration* 34(2) 221-232.

C & S Engineers, Inc.
1994 *Airport Master Plan, Phase 1 Report, Oneida County Airport, Town of Whitestown, New York.*

Dale, N.C.
1953 Geology and Mineral Resources of the Oriskany Quadrangle (Rome Quadrangle). *New York State Museum Bulletin No. 345.* State University of New York, Albany.

Davis, Mary
1994 Planner, State of New York Department of Transportation, Region 2, Planning Group, personal communication, March.

Devan, Steven P.
1994 Director of Operations, Oneida-Herkimer Solid Waste Management Authority, personal communication, Utica, New York, November.

Economic Research Associates
1993 *Griffiss Air Force Base - Economic and Fiscal Impact Analysis.* June.

Engineering Science, Inc.
1981 *Installation Restoration Program Phase I - Record Search, Hazardous Materials Disposal Sites, Griffiss Air Force Base, New York.* Prepared for U.S. Air Force, AFESC/DEV, Tyndall Air Force Base, Florida.

Environmental Laboratory
1987 *Corps of Engineers Wetlands Delineation Manual.* Technical Report Y-87-1. Department of the Army, Waterways Experiment Station, Vicksburg, Mississippi.

Federal Emergency Management Agency
1985 *Flood Boundary and Floodway Map, City of Rome, New York.* Panels 11, 13, 21, and 22, Baltimore, Maryland.

Federal Highway Administration
1978 *Highway Traffic Noise Prediction Model.* Report No. FHWA-RD-77-118, Washington, DC.

1982 *Noise Barrier Cost Reduction Procedure STAMINA 2.0/OPTIMA User's Manual PB82-218744.* Arlington, Virginia.

Federal Register
1993 58(207):57991, October 28.

Fenton, William, and Elisabeth Tooker
1978 Mohawk. In *Handbook of North American Indians.* Edited by Bruce G. Trigger, Volume 15, pp. 466-480. Smithsonian Institution, Washington, DC.

Fidell, S., T.J. Schultz, and D.M. Green
1988 A Theoretical Interpretation of the Prevalence Rate of Noise-Induced Annoyance in Residential Populations. *Journal of the Acoustical Society of America* 84(6).

Fisher, D.W., Y.W. Isachsen, and L.V. Rickard
1979 *Geologic Map of New York.* Map and chart series no. 15, New Science Service, State University of New York.

Fitting, James E.
1978 Regional Cultural Development 300 B.C. to A.D. 1000. In *Handbook of North American Indians, Volume 15,* edited by Bruce Trigger, pp. 44-57. Smithsonian Institution, Washington, DC.

Floyd, Town of
1980 *Zoning Map.*

1993 *Zoning Ordinance.*

1994 *Master Plan.*

Forbes, William (editor)
1983 *Rome, New York: A Short History.* Rome Historical Society, Rome, New York.

Frerichs, R., B. Beeman, and A. Coulson
1980 Los Angeles Airport Noise and Mortality-Faulty Analysis and Public Policy. *American Journal of Public Health* (70) 357-362.

Funk, Robert E.
1978 Post-Pleistocene Adaptations. In *Handbook of North American Indians, Volume 15.* Edited by Bruce Trigger, pp. 16-26. Smithsonian Institution, Washington, DC.

Galloway, W.J., and T.J. Schultz
1980 *Interim Noise Assessment Guidelines.* U.S. Department of Housing and Urban Development, Washington, DC.

Geotech
1991 *Hydrogeology Study Report, Griffiss Air Force Base, Rome, New York.* Grand Junction, Colorado. Prepared for the 416th Bombardment Wing, 416th Combat Support Group.

Goldstein, J., and J. Lukas
1980 *Noise and Sleep: Information Needs for Noise Control.* Proceedings of the Third International Congress on Noise as a Public Health Problem, ASHA Report No. 10, pp. 442-448.

Halberg, H.N., O.P. Hunt, and F.H. Pabszek
1962 *Water Resources of the Utica-Rome Area, New York.* Water-Supply Paper 1449-C, U.S. Department of the Interior, Geological Survey, Reston, Virginia.

Hamilton, Rabinovitz & Alschuler, Almy & Associates, Einhorn Yaffee Prescott, Greiner, McDermot, Will & Emory, Mt. Auburn Associates, Paulus, Sokolowski and Sartor, Sasaki Associates, and Simat, Helliesen & Eichner
1994 *A Master Reuse Strategy for Griffiss Air Force Base, Rome, New York, Phase Two, Building the Foundation for Scenario Development.* Prepared for Griffiss Redevelopment Planning Council.

Harris, A.S., and R.L. Miller
1977 *Airport Noise Seminars.* Documentation prepared for the Airports Division, Southern Region, Federal Aviation Administration, November.

Hart, Keith
1994 416th Civil Engineering Squadron, personal communication, Griffiss Air Force Base, New York.

Herkimer-Oneida Counties Comprehensive Planning Program (CPP)
1977 *Regional Land Use Plan.*

1992 *Non-Point Pollution, Water Quality Strategy of Oneida County.*

Higgins, Thomas
1994 Consumer Advisor, Niagara-Mohawk Power Corporation, personal communication, Rome, New York, March.

Horonjeff, Robert, and Francis X. McKelvey
1994 *Planning and Design of Airports.* Fourth Edition. McGraw-Hill, Inc., New York.

Hydro-Environmental Technologies, Inc.
1986 Soil Borings, Sample Analysis, and Monitoring Well Installation at Various Locations, Griffiss Air Force Base, New York (Letter Report). Clarksville, New York.

Institute of Transportation Engineers
1991 *Trip Generation.* 5th Edition, Washington, DC.

International Conference of Building Officials
1994 *Uniform Building Code.* Whittier, California.

Irwin, Bruce
1994 Manager, New York State Department of Transportation, Watertown, New York, personal communication, March.

Kantrowitz, I.H.
1970 *Groundwater Resources in the Eastern Oswego River Basin, New York.* Basin Planning Report ORB-2, State of New York Conservation Department, Water Resources Commission.

Kaselaan and D'Angelo Associates, Inc.
1989 *Preliminary Coal Storage Soil Investigation at Griffiss Air Force Base, Rome, New York.* Haddon Heights, New Jersey.

Kay, Marshall
1953 *The Geology of the Utica Quadrangle, New York.* New York State Museum Bulletin, Number 347, University of the State of New York, Albany.

KPMG Peat Marwick
1993 *Master Plan Syracuse Hancock International Airport.* Prepared for the City of Syracuse Department of Aviation, New York.

Kuhn, Robert
1994 Staff Archaeologist, New York State Office of Parks, Recreation and Historic Preservation, personal communication, May.

Kull, R.C., and A.D. Fisher
1986 *Supersonic and Subsonic Aircraft Noise Effects on Animals: A Literature Survey* (AAMRL-TR-032). Noise and Sonic Boom Impact Technology (NSBIT) ADPO, Human Systems Division, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio.

Landacre Aviation
1993 Color aerial photographs of Hancock Field and vicinity, scale 1" = 800', photographs flown 1993. Marcy, New York.

1993-1994 Color aerial photographs of Griffiss AFB and vicinity, scales 1" = 500', 1" = 800', and 1" = 1,000', photographs flown April-May 1993 and November 1994. Marcy, New York.

1994 Color aerial photographs of Oneida County Airport and vicinity, scale 1"-1,000', photographs flown November 1994. Marcy, New York.

Larkin, Daniel F.
1977 Three Centuries of Transportation. In *The History of Oneida County: Commemorating the History of Our National Independence.* pp. 31-36, Oneida County, New York.

Law Environmental, Inc.
1994a *Remedial Investigation, Technical Memorandum No. 3, Cultural Resources Study, Griffiss Air Force Base, New York*. Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District, Kansas City, Missouri.

1994b *Remedial Investigation, Technical Memorandum No. 4, On-Base Wetlands Delineation, Griffiss Air Force Base, New York*.

Lee, Town of
1967 *Comprehensive Plan.*

1985 *Zoning Ordinance.*

1988 *Subdivision Regulations.*

Lenig, Donald
1977 The Oneida Indians and Their Predecessors. In *The History of Oneida County: Commemorating the Bicentennial of Our National Independence.* Published by Oneida County, New York.

Lint, B.H.
1988 *Hydrogeology of Oneida County, New York.* Master's thesis, Syracuse University, New York.

Lukas, J.
1975 Noise and Sleep: A Literature Review and a Proposed Criterion for Assessing Effect. *Journal of the Acoustical Society of America* 58(6).

Luzader, John F., Louis Torres and Orville Carroll
1976 *Fort Stanwix: History, Historic Furnishing and Historic Structure Reports*. National Park Service, Washington, DC.

Marcy, Town of
1972 *Comprehensive Development Plan.*

1991 *Zoning Ordinance*, including Figure 7 Department of the Air Force, Master Plan, Air Installation Compatible Use Zones (AICUZ), Griffiss AFB, Rome, New York, map scale 1" = 5,820'.

1995 Resolution of Town Board Meeting to begin amendment process of new *Master Plan*.

Marshall Penn-York Co., Inc.
1992 The Oneida County Supermap, Utica, Rome, Oneida, Herkimer, Cooperstown, central Leather Stocking Region of New York and Oneida County Airport, Syracuse, New York.

Mills, J.H.
1975 Noise and Children: A Review of Literature. *Journal of the Acoustical Society of America* 58(4):767-779.

Moulton, Carey L.
1990 *Air Force Procedure for Predicting Aircraft Noise Around Airbases: Noise Exposure Model (NOISEMAP) User's Manual.* Report AAMRL-TR-90-011, Human Systems Division, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio.

National Academy of Sciences
1977 *Guidelines for Preparing Environmental Impact Statements on Noise*. Report of Working Group on the Committee on Hearing, Bioacoustics, and Biomechanics, National Research Council, Washington, DC.

1981 *The Effects on Human Health From Long-Term Exposure to Noise*. Report of Working Group 81, Committee on Hearing, Bioacoustics, and Biomechanics, National Research Council, Washington, DC.

National Climatic Data Center
1974 *Seasonal and Annual Wind Distribution by Pasquill Stability Classes*. Rome, New York.

National Research Council
1987 *Paleontological Collecting.* Committee on Guidelines for Paleontological Collecting, Board on Earth Sciences, Commission on Physical Sciences, Mathematics and Resources, National Academy Press, Washington, DC.

New York State Board of Equalization and Assessment
1990 Property Type Classification and Ownership Codes. Albany, New York.

New York State Department of Environmental Conservation
1980 Freshwater Wetlands Mapping and Classification Regulations.

1984 Freshwater Wetlands Map, Oneida County (Maps 15, 23, and 24). Rome Area quadrangles.

1991a *Air Quality Report Ambient Air Monitoring System, DAR-91-1.* Albany, New York.

1991b Forest Management Recommendations for Griffiss AFB. Letter and Report by Gary Miller, Senior Forester, to Mike Bamberger, Herkimer, New York, July.

1991c Water Quality Regulations, Surface Water and Groundwater Classifications and Standards, Part 701.

1992 *Air Quality Report, Ambient Air Monitoring System, DAR-92-1.* Albany, New York.

1993a *Air Quality Report, Ambient Air Monitoring System, DAR-93-1.* Albany, New York.

1993b Boundary Delineation, Freshwater Wetland (FWW) RO-44, Rome (T), Oneida County. Letter with map from P.M. Clearey to M. Bamberger, July 2, 1993.

1993c Information on Groundwater Contamination-Floyd Area.

New York State Department of Health
1970 *Mohawk River Drainage Basin Survey - Report No. 2.* Water Pollution Control Board.

New York State Department of Transportation
1978 Oriskany, New York, 7.5-Minute Quadrangle.

1978 Rome, New York, 7.5-Minute Quadrangle.

1978 Westernville, New York, 7.5-Minute Quadrangle.

1992 *New York State's 1992 Highway Sufficiency Ratings.* Transportation Statistics and Analyses Section, Data Services Bureau, Albany.

1993 *1992 Traffic Volume Report.* Planning Division, Albany.

New York State Natural Heritage Program
1993a Animal Occurrences in Madison and Oneida Counties, August 26 listing.

1993b Community Occurrences in Madison and Oneida Counties, April 27 listing.

1993c Inventory of Rare Species and Significant Natural Communities, Griffiss AFB, Preliminary Report.

1993d Plant Occurrences in Madison and Oneida Counties, April 27 listing.

1994 Inventory of Rare Species and Significant Natural Communities, Griffiss AFB, January 24 listing.

Nottis, G.N. (editor)
1983 *Epicenters of Northeastern United States and Southeastern Canada, Onshore and Offshore; Time Period 1534-1980.* Map and Chart Series Number 38, New York State Museum, State University of New York, Albany.

Oneida, County of
1961 *Rome Master Plan Summary Report 1970-1990.* Russell D. Bailey, Planning Consultant, Utica, New York; Candeub and Fleissig, Planning Consultant, Newark, New Jersey; J. David Hunt, Resident Planner.

1974 *Mohawk River Flood Plain, Oneida County, New York, A Plan for Flood Plain Management.* Oneida County Department of Planning.

1976 Wetland Inventory - Oneida County, New York, Environmental Management Council.

1978 Tax Map for the Town of Westmoreland.

1988 Map of Oneida County, New York, Department of Public Works, Oriskany, New York.

1991 Map of Marcy, Floyd, Trenton, and Steuben Agricultural District-No. 10.

1992a *1992 Annual Report*. The Oneida County Department of Planning, the Herkimer-Oneida Counties Comprehensive Planning Program, and the Herkimer-Oneida Counties Transportation Studies.

1992b Map of Lee, North Rome, Western, and Floyd Agricultural District-No. 15.

1992c Map of Westmoreland, Vernon, Rome, and Whitetown Agricultural District-No. 16.

1993 Tax Maps for the City of Rome Inside District and Outside District and the Town of Floyd.

1995 *Draft Terminal Area Master Plan*. Oneida County Airport, Oriskany, New York. C & S Engineers, Inc. and Edward Management Associates.

n.d. Map of Rome, Vernon, Westomoreland, and Whitestown Agricultural District-No. 3.

Oneida County Industrial Development Corporation

1993a Tax Maps for the Towns of Westmoreland and Whitestown.

1993b *The Way to Make It* (Marketing brochure).

Oneida-Herkimer Counties Solid Waste Management Authority

1993 *Environmental Report on the Candidate Landfill Sites - Volume I - Top Ten Potential Sites*.

Orly, Steve

1994 Planner, Oneida County Planning Department, personal communication, February.

Panamerican Consultants, Inc.

1995 *Cultural Resource Investigation on Griffiss Air Force Base and Five Annexes, Griffiss Air Force Base, Rome, New York.* Buffalo, New York. Prepared for Tetra Tech, Inc., San Bernardino, California.

Parker, P.L., and T.F. King

1990 *Guidelines for Evaluating and Documenting Traditional Cultural Properties*. National Register Bulletin 38, U.S. Department of Interior, National Park Service, Interagency Resources Division, Washington, DC.

Parratt-Wolff, Inc.

1989a *Data for Groundwater Well Installation.*

1989b Install Monitor Wells, Griffiss Air Force Base, Rome, New York (Letter Report). Syracuse, New York.

Pearsons, K., and R. Bennett
1974 *Handbook of Noise Ratings*. Report No. NASA CR-2376, National Aeronautics and Space Administration, Washington, DC.

Pearsons, K., D. Barber, and B. Tabachnick
1989 *Analyses of the Predictability of Noise-Induced Sleep Disturbance*. Report No. HSD-TR-89-029, BBN Systems and Technologies Corporation, Canoga Park, California.

Poulin, Donald
1994 Regional Planning and Program Manager, State of New York Department of Transportation, Region 2 (Utica), Planning Group, personal communication, January.

Radian Corporation
1994 *Installation Restoration Program - Management Action Plan - Hancock Field, New York.* Prepared for the 174th Fighter Wing, New York Air National Guard, Hancock Field, Syracuse, New York.

Reschke, Carol
1994 *Ecological Communities of New York State.* New York State Natural Heritage Program, Latham, New York.

Ritchie, William A.
1969 *The Archaeology of New York State*. The Natural History Press, Garden City, New York.

Robertson, Howard
1993 Amtrak Public Affairs Department, personal communication, December, Washington, DC.

Rome Area Chamber of Commerce
1994a *Rome, New York.* City data brochure.

1994b *Griffiss Air Force Base.*

Rome, City of
1961 *Rome Master Plan.* Rome Planning Department (map & text).

1970 *Rome Master Plan*. Rome Planning Department (map & text).

1988 Zoning Ordinance, including Text (1988), Outside District Zoning Map (1988), and Inside district Zoning Map (1988).

Rome City Planning Board
1957 *Major Thoroughfare Plan*, Rome, New York.

Rome Historical Society
1988 *Historic Rome, New York.*

Roy F. Weston
1985 *Installation Restoration Program Phase II - Confirmation/Quantification Stage 2 for Griffiss Air Force Base, Rome, New York.* West Chester, Pennsylvania. Prepared for U.S. Air Force Occupational and Environmental Health Laboratory, Brooks Air Force Base, Texas.

Russell, D. Bailey & Associates
1972 *Land Development Plan*. Town of Western, June.

Segal, Howard
1991 *EDMS Microcomputer Pollution Model for Civilian Airports and Air Force Bases: Users' Guide.* Federal Aviation Administration, Washington, DC.

Snow, Dean R.
1984 Iroquois Prehistory. In *Extending the Rafters: Interdisciplinary Approaches to Iroquoian Studies.* Edited by M. Foster, J. Campisi and M. Mithun, pp. 241-258. State University of New York Press, Albany.

South Coast Air Quality Management District
1993 *CEQA Air Quality Handbook*. Diamond Bar, California.

Stickles, William F.
1994 Account Program Coordinator, Niagara-Mohawk Gas Marketing and Consumer Relations Department, personal communication, Rome, New York, March.

Taub, Steve
1994 AMTRAK Public Affairs Department, personal communication, Washington, DC. March.

Tooker, Elisabeth
1984 Women in Iroquois Society. In *Extending the Rafters: Interdisciplinary Approaches to Iroquoian Studies.* Edited by M. Foster, J. Campisi, and M. Mithun, pp. 109-123. State University of New York Press, Albany.

Transportation Research Board
1985 *Highway Capacity Manual, Special Report 209*. National Research Council, National Academy of Sciences, Washington, DC.

Tuck, James A.
1978 Regional Cultural Development 3000 to 300 B.C. In *Handbook of North American Indians, Volume 15.* Edited by Bruce Trigger, pp. 28-43. Smithsonian Institution, Washington, DC.

U.S. Air Force
1957a *Griffiss AFB Master Plan, Basic Mission Plan* (small scale), Tab F-2, Sheet 1 of 1.

1957b *Griffiss AFB Master Plan, AN/GRC-27 Site* (communications site boundaries/2.5 acres in fee).

1981a *Air Force Regulation 86-14, Airfield and Heliport Planning Criteria*.

1981b *Building-Structure Inventory Form for the Harold Bell Wright Home.* On file at Tetra Tech, San Bernardino, California.

1985a *Griffiss AFB Fish and Wildlife Management Plan.*

1985b *Griffiss AFB Forest Management Plan.*

1985c *Griffiss AFB Land Management Plan.*

1989 *Base Comprehensive Plan.* Griffiss Air Force Base, New York.

1990 *Economic Resource Impact Statement.* September 30.

1991a *Guidelines for Consultation With Native Americans in the Context of Program Planning and Impact Assessment.* Department of the Air Force, Headquarters, Washington, DC.

1991b *Economic Resource Impact Statement.* September 30.

1992a *1993 Base Closure Questionnaire Update.*

1992b *Economic Resource Impact Statement.* Griffiss Air Force Base, New York.

1993a *AICUZ Air Installation Compatible Use Zone Study, Volume 1, Griffiss Air Force Base.* Rome, New York.

1993b *Asbestos Inventory.*

1993c *Economic Resource Impact Statement.* September 30.

1993d *Griffiss AFB Base Comprehensive Plan*, Tab D-1, Sheets 1 of 2 and 2 of 2 (Existing Land Use).

1993e *Griffiss AFB Base Comprehensive Plan*, Tab D-5, Sheet 1 of 2 (Real Estate).

1993f *Griffiss AFB Base Comprehensive Plan*, Tab D-6 (Wetlands).

1993g *Griffiss AFB Base Comprehensive Plan*, Tab D-6, Sheets 1 of 2 and 2 of 2, Composite Installation Constraints and Opportunities.

1993h *Griffiss AFB Fish and Wildlife Management Plan* (draft).

1993i *Griffiss AFB Forest Management Plan* (draft).

1993j *Griffiss AFB Hazardous Waste Management Plan.*

1993k *Griffiss AFB Spill Prevention, Control, and Counter Measures Plan.*

1993l *Griffiss AFB Underground Storage Tank Management Plan.*

1993m *Quarterly Sampling Summary Report, Griffiss Air Force Base.*

1993n *1992 Air Emissions Survey Summary, Griffiss Air Force Base.* Rome, New York.

1993o *Base Air Operations* [computer printout].

1994 *Environmental Baseline Survey, Griffiss Air Force Base, New York.* Prepared for Air Force Center for Environmental Excellence, Brooks Air Force Base, Texas. Prepared by Tetra Tech, Inc., San Bernardino, California.

1995 *Socioeconomic Impact Analysis Study, Disposal and Reuse of Griffiss Air Force Base, New York.* Prepared for Air Force Center for Environmental Excellence, Brooks Air Force Base, Texas. Prepared by Tetra Tech, Inc., San Bernardino, California.

U.S. Air Force Occupational and Environmental Health Laboratory
1988 *Manual Calculation Methods for Air Pollution Inventories.*

U.S. Atomic Energy Commission
1968 *Meteorology and Atomic Energy.* Edited by David H. Slade, Air Resources Laboratories, Silver Springs, Maryland.

U.S. Department of Agriculture
1993 *Classification of the Soils of Oneida County, New York.* Natural Resources Conservation Service.

U.S. Department of Commerce
1994 *New York and Montreal Sectional Aeronautical Chart Scale 1:500,000.* 50th Edition. National Oceanic and Atmospheric Administration, National Ocean Service, Washington, DC.

U.S. Department of Defense
1993 Letter from Col. Michael S. Kudlacz, Department of the Air Force, regarding Air Installation Compatible Use Zone (AICUZ) Report, to Governments and Citizens of the Griffiss Air Force Base Community.

U.S. Department of the Interior
1955 Rome, New York 7.5-Minute Quadrangle. U.S. Geological Survey.

U.S. Department of Transportation, Federal Aviation Administration
1980 *Guidelines for Considering Noise in Land Use Planning.* Federal Interagency Committee on Urban Noise, Washington, DC.

1982 *Integrated Noise Model Version 3.9 User's Guide.* Report No. FAA-EE-81-17, Washington, DC.

1983 *Noise Control and Compatibility Planning for Airports.* Advisory Circular AC150/5020-1, Washington, DC.

1985a *Airport Environmental Handbook.* Order 5050.4A, Washington, DC.

1985b *Airport Master Plans.* Advisory Circular 150/5070-6A, Washington, DC.

1988a EDMS Model, Washington, DC.

1988b Federal Aviation Regulations Parts 77, 139, 157, 169, Washington, DC.

1988c *Federal Aviation Regulations Part 36 - Noise Standards: Aircraft Type and Airworthiness Certification*. Washington, DC.

1988d *Policies and Procedures for Considering Environmental Impacts*. Order 1050.1D, Washington, DC.

1989 *Airport Design.* Advisory Circular YI150/5300-13-40, September, Washington, DC.

1990a Advisory Circular AC 36-3F, Washington, DC.

1990b *Standard for Specifying Construction of Airport (Change 10), Temporary Air and Water Pollution, Soil Erosion and Siltation Control.* Advisory Circular 150/5370-10, Washington, DC.

U. S. Environmental Protection Agency

1974 *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare With an Adequate Margin of Safety.* Publication No. 550/9-74-004, Washington, DC.

1977 *Guidelines for Air Quality Maintenance Planning and Analysis; Procedures for Evaluating Air Quality Impacts of New Stationary Sources, Volume 10* (Revised). Research Triangle Park, North Carolina.

1980 *Waste Disposal Site Investigation, Griffiss AFB.*

1985a *Compilation of Air Pollutant Emission Factors, Volume I, Stationary Point and Area Sources, Report AP-42.* Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina.

1985b *Compilation of Air Pollutant Emission Factors, Volume II, Mobile Sources, Report AP-42.* Mobile Vehicle Emission Laboratory, Ann Arbor, Michigan.

1988a *Gap Filling PM_{10} Emission Factor for Selected Open Area Dust Sources.* Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina.

1988b National Emissions Data System, Oneida County Emissions Report, Computer printout, Run date of September 27 for area emissions as of October 5, 1987.

1992 *A Citizen's Guide to Radon - What It Is and What To Do About It.* U.S. Department of Health and Human Services, EPA Document No. OPA-86-004.

U.S. Fish and Wildlife Service

1994 Letter from David Stilwell, Acting Field Supervisor (U.S. Fish and Wildlife Service) to Lt. Col. Gary Baumgartel, HQ AFCEE/EC (U.S. Air Force-Griffiss AFB), March 2.

U.S. Geological Survey

1988 Preliminary Investigation of Sediment and Water Quality in Threemile Creek, Griffiss Air Force Base, Rome, New York (Letter Report). Prepared for the U.S. Fish and Wildlife Service, Albany, New York.

Virkler, David
1994 Environmental Impact Statement Reviewer, New York State Department of Transportation Planning Division, Watertown, New York, personal communication, January.

Westmoreland, Town of
n.d. *Zoning Map.*

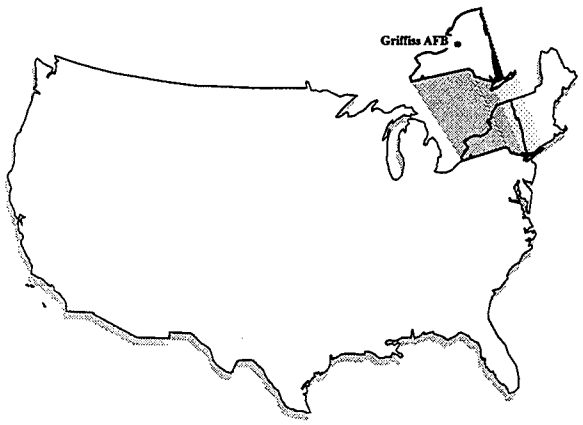
Whitcomb, J.
1994 416th Civil Engineering Squadron, Operations Flight, personal communication, Griffiss AFB, New York, November.

Whitestown, Town of
1980 *Zoning Ordinance.*

William F. Cosulich Associates
1989 *Draft Generic Environmental Impact Statement and Local Solid Waste Management Plan.* Oneida-Herkimer Counties Solid Waste Management Authority.

Wright, F.M, III
1972 *The Pleistocene and Recent Geology of the Oneida-Rome District, New York.* Ph.D. dissertation, Syracuse University, New York.

Wright, Stevens E.
1977 Rome. In *The History of Oneida County: Commemorating the History of Our National Independence.* pp. 225-234. Oneida County, New York.



CHAPTER 8.0
INDEX

8.0 INDEX

A

A-weighted sound levels 3-101, 3-102, 3-103
Aboveground storage tanks 3-50, 3-66, 3-68, 3-69, 4-60, 4-68, 4-75, 4-83, 4-86
Accident potential zone (APZ) 3-16, 3-17, 3-18, 4-12
Asbestos containing material (ACM) 1-11, 3-69, 3-70, 4-61, 4-63, 4-69, 4-75, 4-76, 4-83, 4-86
Advisory Council on Historic Preservation (ACHP) 3-123, 4-149
Aerospace ground equipment (AGE) 3-50, 3-81, 3-100, 3-101, 3-123, 4-63
Aesthetics 2-41, 3-1, 3-8, 3-21, 4-2, 4-12, 4-16, 4-17, 4-19, 4-20, 4-21, 4-22, 4-23, 4-24, 6-194
Air cargo 2-6, 4-28, 4-33, 4-36, 4-38, 4-40
Air carrier 2-34, 3-36, 3-38, 3-43
Air Installation Compatible Use Zone (AICUZ) 3-14, 3-17, 3-18, 3-21, 3-105, 4-12, 4-14, 4-16, 4-18, 4-21, 4-22, 4-23, 4-24, 4-118
Air quality 3-1, 3-77, 3-93, 3-94, 3-95, 3-96, 3-97, 3-98, 3-99, 4-2, 4-88, 4-102, 4-103, 4-105, 4-107, 4-106, 4-108, 4-109, 4-113, 4-115, 4-117
Air Quality Control Region (AQCR) 3-99
Air Route Traffic Control Center (ARTCC) 3-33
Air traffic control (ATC) 1-7, 3-32, 3-33, 4-26, 4-38
Airport Layout Plan (ALP) 1-7
Airport Master Plan 1-7, 3-19, 4-26
Airspace 1-7, 3-32, 3-33, 3-34, 3-33, 3-35, 3-36, 3-37, 3-38, 4-15, 4-25, 4-26, 4-28, 4-29, 4-33, 4-34, 4-36, 4-38, 4-39, 4-40
American National Standards Institute 3-102
Aquifer 3-49, 3-88, 3-89, 3-91, 3-92
Asbestos 1-11, 3-1, 3-69, 3-70, 4-53, 4-54, 4-55, 4-60, 4-61, 4-63, 4-69, 4-75, 4-76, 4-83, 4-86
Asbestos Hazard Emergency Response Act 3-69
Assumptions 1-11, 2-6, 2-7, 2-17, 2-23, 2-30, 2-33, 2-38, 4-4, 4-41, 4-102, 4-119, 4-129, 4-143
Average daily traffic 2-14, 2-22, 2-29, 2-36

B

Base Exchange 3-11, 3-50
Benzene 3-53, 3-66
Biohazardous waste 3-1, 3-75, 4-55, 4-62, 4-70, 4-76, 4-77, 4-84, 4-87
Black River Canal 3-12, 3-18, 3-19, 3-22, 3-127, 4-13, 4-15, 4-17, 4-20, 4-24

C

Carbon monoxide (CO) 3-93, 3-99, 3-100, 3-101, 4-105, 4-106, 4-108, 4-115
CARE 2-37, 3-11, 3-70, 3-73, 3-76
Civil Engineering Squadron 3-70
Clean Air Act (CAA) 3-69, 3-93, 3-95, 3-96, 3-97, 4-103
Clean Water Act 4-133, 4-134
Clear zone 2-5, 3-10, 3-11, 3-14, 3-16, 3-18, 3-19, 3-22, 3-115, 3-122, 4-12, 4-13, 4-14, 4-15, 4-23, 4-24
Code of Federal Regulations (CFR) 1-1, 1-6, 1-8, 3-49, 3-50, 3-52, 3-54, 3-61, 3-64, 3-66, 3-70, 3-76, 3-96, 3-99, 3-102, 3-105, 4-132, 4-133, 4-148, 4-149
Cold War 3-123, 3-128, 3-129
Compatible Use District 3-21
Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) 1-6, 3-49, 3-50, 3-52, 3-55, 3-56, 3-59, 3-60, 3-61, 4-55
Council on Environmental Quality (CEQ) 1-1, 1-8, 4-2

D

Day-night average sound level (DNL) 3-14, 3-16, 3-18, 3-19, 3-21, 3-102, 3-105, 3-106, 3-107, 3-108, 3-107, 3-108, 4-12, 4-14, 4-16, 4-24, 4-117, 4-118, 4-119, 4-120, 4-119, 4-120, 4-121, 4-122, 4-123, 4-124, 4-125, 4-126, 4-125, 4-128
Decibel (dB) 3-16, 3-18, 3-19, 3-21, 3-101, 3-102, 3-104, 3-105, 3-107, 3-108, 4-12, 4-14, 4-16, 4-24, 4-118, 4-119, 4-120, 4-121, 4-122, 4-123, 4-124, 4-125, 4-128, 4-129
Defense Base Closure and Realignment Act (DBCRA) 1-1, 1-2, 1-5, 1-6, 2-1, 2-7
Defense Environmental Restoration Program (DERP) 3-55, 4-55
Defense Reutilization and Marketing Office (DRMO) 2-3, 2-7, 2-13, 2-17, 2-21, 2-23, 2-28, 2-30, 2-35, 2-38, 3-11, 3-53, 3-54, 3-55, 4-86
Delta Lake 3-18, 3-84, 3-86, 3-89, 3-117, 4-14, 4-20, 4-134
Department of Defense (DOD) 1-1, 1-3, 1-5, 2-1, 2-2, 2-3, 2-5, 2-7, 2-40, 3-10, 3-55, 3-71, 3-102, 4-60, 4-68, 4-75, 4-83, 4-85, 4-86, 4-87

E

Employment 2-6, 2-11, 2-13, 2-14, 2-20, 2-21, 2-22, 2-27, 2-28, 2-29, 2-35, 2-36, 2-40, 2-41, 3-1, 3-7, 3-8, 3-21, 3-28, 3-47, 4-4, 4-5, 4-6, 4-5, 4-6, 4-7, 4-9, 4-10, 4-11, 4-12, 4-27
Endangered species 3-107, 3-115, 3-117, 4-129, 4-132, 4-133, 4-135, 4-140, 4-143, 4-146
Endangered Species Act 3-117, 4-132, 4-133
Energy 2-14, 3-12, 3-24, 3-45, 3-46, 3-83, 3-98, 3-102, 4-44, 4-46, 4-48, 4-50, 4-51, 4-53, 6-175
Environmental Impact Analysis Process 1-8
Environmental Protection Agency (EPA) 1-8, 3-49, 3-55, 3-56, 3-59, 3-60, 3-64, 3-69, 3-71, 3-73, 3-74, 3-76, 3-93, 3-95, 3-96, 3-97, 3-99, 3-102, 4-55, 4-60, 4-61, 4-64, 4-68, 4-70, 4-75, 4-76, 4-83, 4-84, 4-87, 4-97, 4-103, 4-106, 4-117, 4-138

F

Federal Aviation Administration (FAA) 1-7, 1-8, 2-11, 3-14, 3-17, 3-32, 3-33, 3-36, 3-37, 3-38, 3-100, 3-101, 3-102, 3-104, 3-107, 4-22, 4-23, 4-26, 4-38, 4-102, 4-118, 4-124, 4-125
Federal Facility Agreement (FFA) 3-55, 3-56, 3-59, 3-61, 3-64, 3-70
Federal Highway Administration (FHWA) 3-107, 4-119
Federal Insecticides, Fungicide, and Rondenticide Act (FIFRA) 3-70
Floodplain 3-21, 3-81, 3-84, 3-85, 3-88, 3-90, 3-110, 3-116, 3-121, 3-122, 4-12, 4-13, 4-14, 4-24, 4-97, 4-98, 4-131, 4-132
Floyd, Town of 3-2, 3-8, 3-12, 3-16, 3-18, 3-21, 3-24, 3-45, 3-82, 3-83, 3-86, 4-12, 4-14, 4-16
Fort Stanwix 3-12, 3-127, 3-128

G

General Services Administration (GSA) 1-6, 2-1
Geology 3-1, 3-77, 3-81, 3-92, 3-129, 4-2, 4-88, 4-90, 4-91, 4-92, 4-93, 4-94, 4-95
Government-retained land 2-2, 2-3, 2-4, 2-8, 2-11, 2-12, 2-13, 2-19, 2-20, 2-21, 2-25, 2-27, 2-28, 2-32, 2-34, 2-35, 2-36, 2-38, 4-4, 4-16, 4-19, 4-20, 4-22, 4-56, 4-58, 4-57, 4-60, 4-61, 4-66, 4-65, 4-67, 4-68, 4-69, 4-73, 4-72, 4-74, 4-76, 4-81, 4-82, 4-84, 4-90, 4-92, 4-93, 4-94, 4-97, 4-99, 4-100, 4-101, 4-130, 4-131, 4-133, 4-139, 4-140, 4-142, 4-143, 4-144, 4-145, 4-146, 4-147, 4-149, 4-150, 4-151
Griffiss Local Development Corporation (GLDC) 1-5, 1-6, 2-1, 2-2, 2-5, 2-13, 4-17, 4-18, 4-46, 4-47, 4-64
Groundwater 3-60, 3-61, 3-65, 3-66, 3-71, 3-75, 3-81, 3-84, 3-88, 3-90, 3-92, 3-93, 3-121, 3-122, 4-54, 4-57, 4-97, 4-98, 4-99, 4-100, 4-101

H

Hazardous materials 3-1, 3-49, 3-50, 3-52, 3-53, 3-126, 4-2, 4-53, 4-54, 4-55, 4-56, 4-63, 4-64, 4-71, 4-77, 4-78, 4-85, 4-88, 4-96
Hazardous waste 3-49, 3-52, 3-53, 3-54, 3-55, 3-60, 3-76, 4-54, 4-55, 4-58, 4-60, 4-65, 4-66, 4-69, 4-71, 4-72, 4-73, 4-75, 4-78, 4-81, 4-83, 4-86, 4-96
Heating Plant 2-37, 3-44, 3-48, 4-103, 4-106, 4-115, 4-117
Herbicides 3-71, 3-72
Highways 2-29, 2-36, 3-25, 3-27, 3-105
Historic resources 3-122, 3-126
Hydrocarbons 3-65

I

Installation Restoration Program (IRP) 1-11, 2-4, 3-1, 3-55, 3-56, 3-57, 3-56, 3-59, 3-60, 3-61, 3-62, 3-64, 3-66, 3-71, 3-75, 3-86, 3-90, 4-53, 4-55, 4-56, 4-57, 4-58, 4-57, 4-58, 4-57, 4-59, 4-60, 4-63, 4-65, 4-66, 4-65, 4-66, 4-65, 4-67, 4-68, 4-72, 4-73, 4-74, 4-75, 4-79, 4-80, 4-79, 4-81, 4-82, 4-83, 4-86, 4-95, 4-97, 4-101, 4-102
Instrument flight rules (IFR) 3-32, 3-33, 3-36, 3-38, 4-26

J

JP-4 3-50, 3-52, 3-53, 3-66
Jurisdictional wetland 3-119

L

Land use 1-11, 2-4, 2-7, 2-8, 2-9, 2-11, 2-14, 2-16, 2-17, 2-18, 2-17, 2-18, 2-20, 2-22, 2-23, 2-24, 2-23, 2-25, 2-27, 2-29, 2-30, 2-31, 2-32, 2-33, 2-34, 2-36, 2-39, 2-40, 2-41, 3-1, 3-8, 3-9, 3-8, 3-10, 3-11, 3-12, 3-14, 3-17, 3-18, 3-19, 3-21, 3-24, 3-101, 3-102, 3-104, 3-105, 4-2, 4-4, 4-12, 4-14, 4-15, 4-16, 4-17, 4-18, 4-19, 4-20, 4-21, 4-22, 4-23, 4-24, 4-25, 4-27, 4-31, 4-54, 4-55, 4-56, 4-57, 4-58, 4-57, 4-60, 4-64, 4-65, 4-66, 4-67, 4-68, 4-71, 4-72, 4-73, 4-72, 4-74, 4-75, 4-78, 4-79, 4-81, 4-82, 4-83, 4-118, 4-129
Lead-based paint 3-76, 3-77, 4-62
Level of service (LOS) 3-24, 3-25, 3-28, 3-32, 4-26, 4-27, 4-28, 4-29, 4-32, 4-33, 4-34, 4-35, 4-37, 4-38, 4-39, 4-40

M

Mammals 3-115, 3-118, 3-123, 3-124
Marcy, Town of 3-16, 3-21, 4-14, 5-154
Military training routes 3-38
MOA 3-36, 3-37
Mohawk River 1-3, 2-5, 2-6, 2-16, 2-21, 2-23, 2-27, 2-30, 3-12, 3-18, 3-19, 3-22, 3-44, 3-45, 3-47, 3-49, 3-81, 3-82, 3-83, 3-84, 3-85, 3-86, 3-88, 3-89, 3-90, 3-92, 3-110, 3-116, 3-117, 3-122, 3-125, 3-127, 3-129, 4-12, 4-13, 4-15, 4-19, 4-20, 4-21, 4-22, 4-24, 4-90, 4-93, 4-95, 4-96, 4-97, 4-98, 4-99, 4-100, 4-101, 4-130, 4-131, 4-132, 4-133, 4-134, 4-140, 4-143, 4-144, 4-146, 4-147

N

National Ambient Air Quality Standards (NAAQS) 3-93, 3-94, 3-95, 4-102, 4-103, 4-106, 4-108, 4-111, 4-115
National Contingency Plan (NCP) 3-55, 3-56, 3-59, 3-61
National Emissions Standards for Hazardous Air Pollutants (NESHAP) 3-69, 4-61, 4-63, 4-69, 4-76, 4-83
National Environmental Policy Act (NEPA) 1-1, 1-5, 1-7, 1-8, 1-9, 4-2
National Historic Preservation Act (NHPA) 3-122, 3-123, 4-148, 4-149
National Pollutant Discharge Elimination System (NPDES) 4-97
National Priorities List (NPL) 3-55
National Register of Historic Places (NRHP) 3-123, 3-126, 3-128, 3-129, 4-148, 4-149, 4-150, 4-151
Native American 3-122, 3-125, 3-129
New York State Barge Canal 1-3, 2-21, 2-23, 2-27, 3-5, 3-8, 3-12, 3-18, 3-22, 3-44, 3-45, 3-47, 3-49, 3-81, 3-84, 3-85, 3-86,

3-88, 3-92, 3-93, 3-110, 3-121, 3-122, 4-13, 4-15, 4-20, 4-98, 4-134, 4-140
New York State Department of Environmental Conservation (NYSDEC) 3-49, 3-52, 3-55, 3-66, 3-67, 3-69, 3-71, 3-85, 3-93, 3-95, 3-99, 3-115, 3-119, 3-121, 3-122, 4-38, 4-39, 4-55, 4-60, 4-68, 4-75, 4-83, 4-86, 4-132, 4-133, 4-136, 4-137, 4-138, 4-143, 6-187, 6-188, 6-193
Nitrogen dioxide (NO_2) 3-93, 3-96, 3-99, 4-106, 4-115
Nitrogen oxide (NO_x) 3-100, 3-101, 4-103
No-Action Alternative 1-5, 1-8, 2-1, 2-16, 2-37, 2-40, 4-4, 4-5, 4-11, 4-12, 4-23, 4-24, 4-28, 4-29, 4-33, 4-36, 4-39, 4-40, 4-41, 4-44, 4-45, 4-47, 4-48, 4-49, 4-50, 4-51, 4-52, 4-53, 4-85, 4-86, 4-87, 4-88, 4-95, 4-101, 4-102, 4-117, 4-128, 4-129, 4-147, 4-152
Notice of Intent (NOI) 1-8, 1-9, 1-11

O

Oneida County 1-3, 1-7, 2-5, 2-6, 2-13, 2-14, 2-16, 2-33, 2-34, 2-38, 2-39, 3-2, 3-5, 3-6, 3-7, 3-8, 3-12, 3-14, 3-17, 3-19, 3-24, 3-33, 3-36, 3-38, 3-43, 3-44, 3-46, 3-81, 3-83, 3-85, 3-86, 3-89, 3-92, 3-95, 3-96, 3-98, 3-99, 3-100, 3-101, 3-110, 3-126, 3-127, 4-5, 4-6, 4-5, 4-6, 4-5, 4-6, 4-7, 4-9, 4-10, 4-11, 4-22, 4-23, 4-26, 4-27, 4-28, 4-29, 4-31, 4-33, 4-34, 4-36, 4-38, 4-39, 4-40, 4-46, 4-47, 4-60, 4-68, 4-75, 4-83, 4-105, 4-113, 4-115, 4-119, 4-124, 4-125
Oneida County Airport 1-7, 2-6, 2-16, 2-33, 2-34, 2-39, 3-8, 3-14, 3-17, 3-19, 3-33, 3-36, 3-38, 3-43, 3-44, 4-10, 4-22, 4-23, 4-26, 4-27, 4-28, 4-29, 4-33, 4-34, 4-36, 4-38, 4-39, 4-40, 4-113, 4-115, 4-119, 4-124, 4-125
Oneida-Herkimer Solid Waste Management Authority 3-45
Ordnance 3-1, 3-75, 4-53, 4-55, 4-62, 4-70, 4-77, 4-84, 4-87
Occupational Safety and Health Administration (OSHA) 3-69, 3-76, 4-61, 4-62, 4-69, 4-70, 4-76, 4-77, 4-83, 4-85, 4-87
Ozone (O_3) 3-93, 3-96, 3-99

P

Paleontological resources 3-1, 3-77, 3-122, 3-129, 4-2, 4-88, 4-147, 4-152
Particulate matter (PM_{10}) 3-93, 3-96, 3-99, 3-100, 4-102, 4-105,4-106, 4-108, 4-111, 4-113, 4-115
Pesticides 3-1, 3-50, 3-52, 3-54, 3-61, 3-65, 3-70, 3-71, 3-72, 4-53, 4-55, 4-56, 4-61, 4-64, 4-69, 4-76, 4-84, 4-85, 4-86
Polychlorinated biphenyls (PCBs) 3-1, 3-52, 3-65, 3-66, 3-71, 3-72, 4-53, 4-55 4-61, 4-69, 4-76, 4-84, 4-87
Population 2-6, 2-13, 2-14, 2-15, 2-21, 2-22, 2-28, 2-29, 2-35, 2-36, 2-37, 2-41, 3-1, 3-5, 3-6, 3-7, 3-48, 3-90, 3-92, 3-100, 3-101, 3-124, 3-127, 4-2, 4-4, 4-5, 4-6, 4-7, 4-9, 4-10, 4-11, 4-12, 4-39, 4-41, 4-42, 4-44, 4-45, 4-47, 4-48, 4-49, 4-50, 4-51, 4-52, 4-53, 4-101, 4-102, 4-103, 4-118, 4-119
Proposed Action 1-5, 1-8, 1-10, 2-1, 2-2, 2-4, 2-5, 2-6, 2-7, 2-8, 2-7, 2-8, 2-9, 2-8, 2-10, 2-11, 2-12, 2-13, 2-14, 2-15, 2-16, 2-17, 2-20, 2-22, 2-23, 2-25, 2-29, 2-30, 2-32, 2-34, 2-36, 2-38, 2-39, 2-41, 2-44, 2-45, 2-46, 2-47, 2-48, 2-49, 2-50, 2-51, 2-52, 2-53, 2-54, 2-55, 2-56, 2-57, 3-1, 3-107, 4-2, 4-3, 4-4, 4-5, 4-6, 4-5, 4-7, 4-12, 4-13, 4-14, 4-15, 4-16, 4-17, 4-18, 4-19, 4-20, 4-21, 4-22, 4-23, 4-25, 4-26, 4-27, 4-28, 4-27, 4-28, 4-29, 4-32, 4-34, 4-36, 4-39, 4-41, 4-42, 4-44, 4-45, 4-49, 4-51, 4-52, 4-54, 4-55, 4-58, 4-57, 4-58, 4-60, 4-61, 4-62, 4-63, 4-65, 4-71, 4-72, 4-78, 4-85, 4-86, 4-88, 4-89, 4-90, 4-91, 4-92, 4-93, 4-94, 4-95, 4-96, 4-97, 4-98, 4-99, 4-100, 4-101, 4-102, 4-103, 4-104, 4-105, 4-107, 4-106, 4-108, 4-111, 4-113, 4-115, 4-117, 4-119, 4-120, 4-121, 4-122, 4-123, 4-124, 4-125, 4-129, 4-130, 4-131, 4-132, 4-133, 4-134, 4-139, 4-140, 4-141, 4-142, 4-143, 4-144, 4-145, 4-146, 4-147, 4-148, 4-149, 4-150, 4-151, 4-152
Prevention of Significant Deterioration (PSD) 3-95, 3-99, 4-103

R

Radon 3-1, 3-73, 3-74, 3-75, 4-53, 4-55, 4-61, 4-69, 4-70, 4-76, 4-84, 4-87
Radon Assessment and Mitigation Program (RAMP) 3-36, 3-73, 4-28, 4-29, 4-32, 4-33, 4-34, 4-35, 4-37, 4-40
Railroads 3-44, 3-105, 3-127, 3-128, 4-27
Record of Decision (ROD) 1-2, 1-8, 3-56, 4-18
Remedial Action (RA) 1-6, 2-4, 3-59, 3-60, 3-65
Remedial design 3-59, 3-49, 4-33, 4-35, 4-37, 4-40, 4-56, 4-60, 4-68, 4-75, 4-83, 4-86
Remedial Investigation/Feasibility Study (RI/FS) 3-56, 3-59, 3-61
Resource Conservation and Recovery Act (RCRA) 3-49, 3-52, 3-53, 3-54, 3-55, 3-64, 3-66, 4-55, 4-63, 4-65, 4-71, 4-78
Roadways 3-16, 3-24, 3-28, 3-107, 4-25, 4-27, 4-28, 4-31, 4-32, 4-34, 4-35, 4-36, 4-38, 4-39, 4-88, 4-93, 4-119, 4-121, 4-122, 4-123, 4-125
Rome, City of 1-1, 1-3, 1-5, 1-9, 1-11, 2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-11, 2-12, 2-13, 2-14, 2-16, 2-17, 2-20, 2-21, 2-23, 2-26, 2-27, 2-28, 2-29, 2-30, 2-33, 2-34, 2-35, 2-36, 2-38, 2-40, 2-41, 3-2, 3-5, 3-6, 3-7, 3-8, 3-11, 3-12, 3-14, 3-16, 3-17, 3-18, 3-19, 3-21, 3-22, 3-24, 3-25, 3-27, 3-28, 3-33, 3-36, 3-38, 3-44, 3-45, 3-46, 3-47, 3-48, 3-50, 3-77, 3-81, 3-82, 3-83, 3-84, 3-85, 3-86, 3-88, 3-89, 3-92, 3-100, 3-117, 3-127, 3-128, 4-5, 4-7, 4-9, 4-10, 4-11, 4-12, 4-13, 4-14, 4-15, 4-16, 4-17, 4-18, 4-19, 4-20, 4-21, 4-23, 4-24, 4-26, 4-27, 4-28, 4-29, 4-31, 4-32, 4-35, 4-38, 4-39, 4-40, 4-44, 4-46, 4-47, 4-49, 4-51, 4-62, 4-71, 4-77, 4-85, 4-87, 4-90, 4-96, 4-97, 4-98, 4-106, 4-117, 4-119, 4-131, 4-132, 4-134
Rome Lab 1-1, 1-3, 1-5, 1-9, 2-2, 2-3, 2-5, 2-6, 2-7, 2-11, 2-12, 2-13, 2-14, 2-16, 2-17, 2-20, 2-21, 2-23, 2-26, 2-27, 2-28, 2-30, 2-33, 2-34, 2-35, 2-38, 3-5, 3-11, 3-48, 3-50, 4-13, 4-16, 4-19, 4-20, 4-117, 4-131, 4-132

S

Scoping meeting 1-9
Sensitive habitats 3-107, 3-117, 4-133, 4-135, 4-140, 4-143, 4-146
Sixmile Creek 3-49, 3-64, 3-65, 3-82, 3-84, 3-85, 3-86, 3-88, 3-90, 3-93, 3-110, 3-119, 3-121, 3-129, 4-58, 4-66, 4-73, 4-81, 4-96, 4-97, 4-99, 4-100, 4-101
Socioeconomic Impact Analysis Study 4-4
Solid waste 2-15, 2-22, 2-23, 2-29, 2-36, 2-37, 3-11, 3-12, 3-45, 3-46, 3-47, 3-48, 3-49, 3-52, 3-66, 4-41, 4-42, 4-44, 4-46, 4-47, 4-48, 4-49, 4-51, 4-53
Sound exposure level (SEL) 3-105, 4-117
State Historic Preservation Officer (SHPO) 3-123, 3-129, 4-148, 4-149
State Pollutant Discharge Elimination System (SPDES) 3-45, 3-86
Sulfur dioxide (SO_2) 3-93, 3-96, 3-99, 4-106, 4-115
Sulfur oxide (SO_x) 3-100, 3-101
Superfund Amendments and Reauthorization Act (SARA) 3-50, 3-52, 3-55, 3-56, 3-59, 4-54, 4-65, 4-71, 4-78
Surface water 2-4, 3-49, 3-65, 3-84, 3-85, 3-86, 3-87, 3-88, 3-90, 4-96, 4-97, 4-98, 4-99, 4-100, 4-101
Syracuse 1-3, 3-2, 3-43, 3-44, 4-27
Syracuse Hancock International Airport 3-43, 4-27

T

Threemile Creek 2-4, 2-12, 2-16, 2-21, 3-11, 3-49, 3-65, 3-84, 3-85, 3-86, 3-88, 3-90, 3-110, 3-111, 3-119, 3-122, 4-58, 4-66, 4-73, 4-81, 4-89, 4-92, 4-96, 4-100, 4-133, 4-140, 4-142, 4-143, 4-145, 4-146
Trichloroethylene (TCE) 3-53, 3-66, 4-58, 4-66, 4-73, 4-81
Total suspended particulates (TSP) 3-93

U

Underground storage tank (UST) 3-64, 3-66, 4-58, 4-60, 4-66, 4-73, 4-81
U.S. Department of Agriculture 3-77, 4-23, 4-90, 4-93, 4-95, 4-94, 4-100

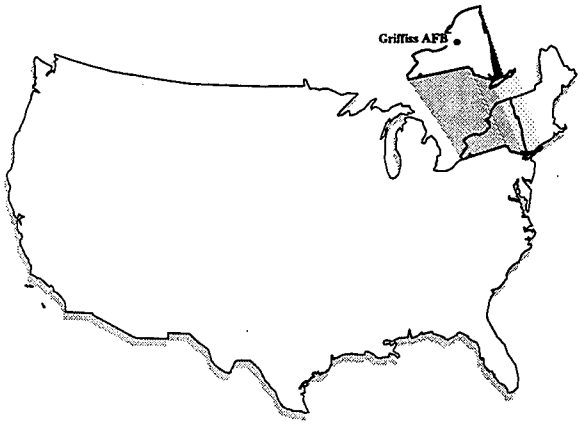
U.S. Department of Housing and Urban Development (HUD) 2-1, 3-76, 3-102
U.S. Department of Transportation 1-7, 3-49, 4-118
U.S. Fish and Wildlife Service (USFWS) 3-66, 3-115, 3-117, 4-132, 4-135, 4-137
U.S. Geological Survey (USGS) 3-64, 3-65, 4-119
Utica, City of 3-2, 3-27, 3-33, 3-44, 3-81, 3-82, 3-84, 3-88, 3-89, 3-92, 3-99, 3-100, 3-129, 4-26, 4-27, 4-38, 4-40

V

Vegetation 3-70, 3-107, 3-110, 3-111, 3-112, 3-115, 3-117, 3-119, 4-89, 4-129, 4-130, 4-131, 4-134, 4-138, 4-139, 4-141, 4-142, 4-144, 4-145
Visual flight rules (VFR) 3-32, 3-33, 3-36
Visual resources 3-21, 3-22, 4-21
Visual sensitivity 3-21, 3-22, 3-23, 4-22
Volatile organic compounds (VOC) 3-66, 3-96, 3-97, 3-100, 3-101

W

Wastewater 2-15, 2-22, 2-23, 2-29, 2-36, 2-37, 3-44, 3-45, 3-46, 3-47, 4-41, 4-42, 4-44, 4-46, 4-47, 4-48, 4-49, 4-50, 4-51, 4-52, 4-53, 4-99
Water supply 3-90, 3-92
Western, Town of 3-16, 3-18, 4-14
Westmoreland, Town of 3-8, 4-22, 4-23
Wetlands 2-4, 3-84, 3-88, 3-93, 3-116, 3-117, 3-119, 3-120, 3-119, 3-121, 3-122, 4-18, 4-96, 4-98, 4-130, 4-131, 4-133, 4-134, 4-135, 4-136, 4-137, 4-139, 4-142, 4-143, 4-144, 4-145, 4-146
Whitestown, Town of 3-8
Wildlife 1-2, 3-66, 3-107, 3-110, 3-112, 3-115, 3-116, 3-117, 3-118, 3-117, 4-13, 4-18, 4-129, 4-131, 4-132, 4-134, 4-138, 4-139, 4-140, 4-141, 4-142, 4-143, 4-144, 4-145, 4-147



CHAPTER 9.0
PUBLIC COMMENTS AND RESPONSES

9.0 PUBLIC COMMENTS AND RESPONSES

9.1 INTRODUCTION

The Council on Environmental Quality (CEQ) regulations (40 CFR 1503.1) implementing the National Environmental Policy Act (NEPA) require that "after preparing a draft environmental impact statement and before preparing a final environmental impact statement the agency shall:

1) Obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impacts involved or which is authorized to develop and enforce environmental standards.

2) Request the comments of:

   i) Appropriate state and local agencies which are authorized to develop and enforce environmental standards.

   ii) Indian tribes, when the effects may be on a reservation.

   iii) Any agency which has requested that it receive statements or actions of the kind proposed.

3) Request comments from the applicant, if any.

4) Request comments from the public, affirmatively soliciting comments from those persons or organizations who may be interested or affected.

The regulations further require that "an agency preparing a final environmental impact statement shall assess and consider comments both individually and collectively," and shall respond to those comments in the final document.

In compliance with these regulations, the Air Force released the *Draft Environmental Impact Statement, Disposal and Reuse of Griffiss Air Force Base, New York* for a 45-day public review and comment period on August 4, 1995. Copies of the Draft Environmental Impact Statement (DEIS) were sent to agencies, organizations, and individuals as required, and were made available to the public on request. A listing of recipients is provided in Appendix C. Copies of the DEIS were also sent to public libraries in the Griffiss AFB area.

This chapter provides a summary of the public review and comment period and contains an overview of the public comment management process, a listing of all respondents, copies of the public hearing transcript and all written comments received, and a listing of all comments identified in the documents and the Air Force response to the comments.

The review of public comments served as one element in the preparation of the Final EIS (FEIS). Some issues addressed in the public comments led to the conduct of further analysis, reanalysis, and/or verification of data. In accordance with CEQ regulations, all comments have received responses. In some cases the response is that the comment is beyond the scope of the EIS. All comments received and the Air Force response to each comment are included as part of the FEIS.

9.2 ORGANIZATION

The public review and comment period for the DEIS began on August 4, 1995, with a *Notice of Availability* published in the *Federal Register,* and ended on September 25, 1995. During this review period, public comments on the DEIS were solicited. Written comments were submitted to the Air Force Center for Environmental Excellence at Brooks AFB, Texas. Verbal and written comments were received at a public hearing conducted at the Mohawk Valley Community College, Rome, New York, on August 29, 1995. At the public hearing the Air Force presented the findings of the DEIS for disposal and reuse of Griffiss AFB and invited public comments.

Finally, it should be emphasized that not only have responses to EIS comments been addressed in this chapter, but the text of the EIS itself has also been revised, as appropriate, to reflect the concerns expressed in the public comments.

9.3 PUBLIC COMMENT MANAGEMENT PROCESS

During the public comment and review period, comments on the DEIS were received from federal, state, and local agencies and officials; organizations; and individuals. The comments included testimony at the public hearing held in Rome (i.e., the transcript as recorded by a court reporter), written statements submitted at the public hearing, and letters received through the mail. Each of these are referred to as documents and all were given the same consideration in the review and analysis process. A total of 10 documents were received in addition to the transcript from the public hearing.

Comments were analyzed and responses were prepared using a public comment management process. The purpose of this process was to analyze each comment received, formulate a response, and incorporate corrections, revisions, and necessary additional studies into the FEIS. All documents were assigned a document number for purposes of identification and information tracking. The public hearing transcript was assigned document number 1 and the written comment documents were assigned document numbers 2 through 11. A listing of individuals who provided verbal comments at the public hearing and all respondents who submitted written comments is provided in Table 9.3-1, identifying the author's name and affiliation (if appropriate), corresponding document number, and the page of this chapter on which the Air Force's response(s) to the author's comment(s) is provided.

Table 9.3-1

Index of Commentors

Document No.	Author	Page No.
1	Public Hearing Transcript	9-19
	Speaker #1 Mr. Joseph Zeppetello, Rome, New York	9-29
	Speaker #2 Mr. C.F.W. Wheelock, Chittenango, New York	9-30
	Speaker #3 Mr. Louis C. Robertson, Rome, New York	9-31
	Speaker #4 Mr. Jim Ocuto, Rome, New York	9-32
	Speaker #5 Mr. Emlyn I. Griffith, Rome, New York	9-32
	Speaker #6 Mr. Don B. Davidson, Jr., Rome, New York	9-33
2	Mr. C.F.W. Wheelock, Oneida Nation in Wisconsin, New York Development	9-35
3	Mr. Jim Ocuto, Ocuto Blacktop & Paving Co. Inc.	9-37
	a. Mr. Stephen L. Walthall, Law Offices of Kelly & Walthall, P.C.	9-38
	b. Mr. Jim Ocuto, Ocuto Blacktop & Paving Co. Inc.	9-41
4	Mr. David E. Homokay, Rome, New York	9-44
5	Mr. Robert W. Hargrove, U.S. Environmental Protection Agency, Region II	9-45
6	Ms. Jaclynne M. O'Neill, Gaithersburg, MD	9-48
7	Mr. Mark Reynolds, Griffiss Local Development Corporation	9-58
8	Mr. Andrew L. Raddant, United States Department of the Interior	9-60
9	Marion Sorensen, Verona, New York	9-62
10	Mayor Joseph A. Griffo, City of Rome	9-63
11	Ms. Ruth L. Pierpont, New York State Office of Parks, Recreation and Historic Preservation	9-64

Within each document, each comment is numbered sequentially. For example, comment number 2.3 refers to comment 3 in document 2, and comment number 1.2-2 refers to comment 2 from speaker 2 in document 1. Because of the small number of comments received, responses have been provided individually for each comment. An individual looking for a responses) to his/her comment(s) can look at Table 9.3-1, locate his/her name, and identify the page in Section 9.4 on which the response(s) is provided. The comments listed in Section 9.4 in most instances have been paraphrased from the original comments. A reader who wishes to read the specific comment(s) received may turn to the copies of the original documents included at the end of this chapter.

Effects on the physical or natural environment that may result from projected changes in certain socioeconomic factors that are associated with or result from the disposal or reuse of Griffiss AFB are addressed in this EIS. Other socioeconomic issues, such as the region's employment base, school budgets, municipal/state tax revenues, municipal land planning, medical care for military retirees and dependents, local governments and services, real estate, and economic effects on utility systems and specific businesses, are beyond the scope of NEPA and implementing CEQ regulations. Analysis of impacts associated with these issues is provided in the *Socioeconomic Impact Analysis*

Study, Disposal and Reuse of Griffiss Air Force Base, New York, a public document that also supports the base reuse decision-making process.

Some projected socioeconomic effects resulting from disposal and reuse of Griffiss AFB, described in detail in the Socioeconomic Impact Analysis Study (SIAS), were considered in the environmental impact analyses presented in this EIS. All comments pertaining solely to issues addressed in the SIAS were considered beyond the scope of this EIS, and are not addressed in this comment and response chapter. However, those comments have been reviewed and responses have been provided to the commentors. Comments related to socioeconomic factors that are addressed in this EIS (e.g., population and employment) have been included in this comment and response chapter.

9.4 RESPONSES TO INDIVIDUAL COMMENTS

Document #1 : Public Hearing Transcript

Speaker #1 : Mr. Joseph Zeppetello

1.1-1 Comment. Recently, it was brought to my attention that they have intention of tearing all those beautiful homes out there, down, and I believe that would be a horrible waste. We have so many. As my capacity with the office of aging, I get very involved with the elderly and their problems. And their fears....Now, my, idea was...that we could become sort of a senior center, of people who would come...to Rome and help us pay the taxes...we could advertise...(in all the) big cities and tell them about what we have got here for them....That's really what my idea is, and I hope they don't tear them down....

Response. Comment Noted. This EIS analyzes a range of reasonable alternative reuse scenarios. Environmental impacts from the continued use of housing on the land is encompassed in this analysis. Decisions concerning disposal and reuse will be documented in the U.S. Air Force's Record of Decision. Specific proposals for reuse should also be pursued through the Local Redevelopment Agency (LRA).

Speaker #2 : Mr. C.F.W. Wheelock, Chittenango, New York

1.2-1 Comment. Number 1...there's concern about the format of the social impact assessment. Also...there was no mention of time frame in which that would be available, and also, there is no mention of the comment period which might be relevant to that discussion of that particular aspect....

Response. The Socioeconomic Impact Analysis Study (SIAS) has been conducted in parallel with the EIS and will be available along with the final EIS. You will be sent a copy. The SIAS is available to the public by contacting Mr. Jonathan D. Farthing, HQ AFCEE/ECA, 3207 North Road, Brooks AFB, TX 78235-5363. The SIAS is not a NEPA required document and has no specific comment period. The Air Force did review the SIAS with the local officials of the related jurisdictional entities (City of Rome, Oneida County, City of Rome School District) for their comments and inputs.

1.2-2 **Comment.** Second...the analysis seemed to deal with only designated site uses. I wonder how those other uses might be assessed, that might not come up between now and then, or might come up through the public comment period?

Response. No reuse alternatives beyond those analyzed in the EIS have been presented. The U.S. Air Force will comply with CEQ regulations that require additional analysis if a change to the proposed action or significant new information is presented.

1.2-3 **Comment.** Thirdly, I would suggest...the mailing list,...be expanded to include Indian governments.

Response. The mailing list has been expanded to cover the recommended additions.

1.2-4 **Comment.** Also,...I suggest that the mitigation monitoring checklist be expanded to include the above specific entities....

Response. The Bureau of Indian Affairs of the Department of the Interior and/or the Oneida Indian Nation has been added to the list of potential coordination contacts for the sample Mitigation Monitoring Checklist (Appendix L). The final list will depend on the mitigation plan to be developed after the ROD, if needed.

1.2-5 **Comment.** The fourth point,...there is a need to address the Indian land tenure issue. There seems to be a gap between earlier human occupation of 10,500 B.C. and then apparent reported documented European activity here of 1524, about 9,000 plus years of occupancy. It alludes to the Indian land tenure issue, which is still not addressed adequately in this country or specifically, in the state of New York, with the other land tenure issues that are being discussed and negotiated right now between the Indian nation and the state of New York.

Response. This EIS focuses on the environmental impacts associated with reasonable reuse scenarios for property at

Griffiss AFB to be disposed of. Issues concerning the State's relationship with native american groups are beyond the scope of the analysis.

1.2-6 **Comment.** My fifth point deals with the sometimes-used categorization of military properties where it goes into surplus property. That, I didn't see was addressed anywhere.

Response. As noted in Section 2.1 of the EIS, the Air Force is following the outlined procedures of disposing of excess and surplus real and personal property belonging to the Federal government.

Speaker #3 : Mr. Louis C. Robertson, Rome, New York

1.3-1 **Comment.** I just want to make a comment to the alignment committee here....Back in the fall,...I expressed...an interest in the base chapel....And I'd like to ask that committee to consider Mount Calvary when they are going through their process, of letting this property go....

Response. Comment noted. This EIS analyzes a range of reasonable alternative reuse scenarios. Environmental impacts from the continued use of the chapel is encompassed in this analysis. Decisions concerning disposal and reuse will be documented in the U.S. Air Force's Record of Decision. Specific proposals for reuse should also be pursued through the LRA.

Speaker #4 : Mr. Jim Ocuto, Rome, New York

1.4-1 **Comment.** I'm a contractor located in Rome and have worked at the base for many years, along with other contractors in the area. I want to make people aware of the fact of the way and object to fact, they way the government is handling the awards of the contract for environmental clean up. There's presently 16 million dollars worth of contracts being awarded through Brooks Air Force Base to out-of-state contractors. There is a section...section 2912 of the Defense Acquisition Act of 1994, that gives preference to local contractors, local business, local and small businesses. And we are not receiving that preference; we're not even allowed to bid on any of the existing work, the remaining work at Griffiss....And I think we should, as a community, we should do everything we can to see that whatever work is left at the base, be kept locally,....

Response. Comment noted.

Speaker #5 : Mr. Emlyn I. Griffith, Rome, New York

1.5-1 **Comment.** I raised the issue...about the DOD recommendation for closure of Rome Laboratory, having been rejected by the BRAC and by President Clinton....I strongly urge that alternative D either be eliminated from your analysis or modified so that it is accurate and realistic.

Response. The Alternative D discussion has been removed from the EIS.

1.5-2 **Comment.** Also, I suggest that the Air Force environmental analysis division verify the number of Air Force units that are leaving and those that are remaining so that the analysis is factually correct....

Response. The schedule of units departing or remaining at Griffiss AFB or in the Rome area has been undergoing change all during the course of this study. The EIS has been updated to reflect deactivation of the 485th EIG, departure of the Space Command 1st Space Surveillance Squadron and potential consequences of the eventual departure of the New York Air National Guard.

Speaker #6 : Mr. Don B. Davidson, Jr., Rome, New York

1.6-1 **Comment.** We need some space such as, ...the hangars on the west end of the field, the small hangars could be the beginning of a museum. And we need that runway, we need the shops. And I think the Air Force decision, no joint use, is absolutely wrong. And if the FAA, I'm sure, could support -- help support the tower, more than they are now, and since I know they are phasing out of Oneida County. So please consider permitting joint use.

Response. The Air Force has not yet made any decisions regarding the disposal and reuse of the base. The Proposed Action is based on a plan developed by GLDC. The Regional Aviation Complex Alternative considers joint use with military and civilian operations resulting from the relocation of Oneida County Airport to Griffiss AFB. The Proposed Action and Alternatives A and B consider airfield use by the Air National Guard only. Potential joint use of the runway and airfield facilities under any alternatives would need coordination with FAA and the Air Force. However, because of the 1995 BRAC Commission recommendations and final action to move the Air National Guard to Fort Drum by 1999, the airfield has a higher and easier potential of being used as a civilian airport. The local planning group (the GLDC) is now considering optional

uses of the airfield. Oneida County Airport Master Plan (1995) projects an increase in air traffic and is making recommendations to upgrade the existing county airport or build a new facility.

Document #2 : *Mr. C.F.W. Wheelock, Oneida Nation in Wisconsin, New York Development*

2.1 **Comment.** Develop a social impact assessment to compliment the environmental impact assessment.

Response. Although it is not a National Environmental Policy Act requirement, the Air Force has completed a separate Socioeconomic Impact Analysis Study (SIAS), complementing the EIS. This document is available to the public from Mr. Jonathan D. Farthing, HQ AFCEE/ECA, 3207 North Road, Brooks AFB, TX 78235-5363.

2.2 **Comment.** Address the surplus land status of military installations as relates to the Indian land tenure issues which are addressed in land rights negotiations and litigations.

Response. See response to comment 1.2-6.

2.3 **Comment.** Addition of the following Oneida Indian parties to the local affected parties and units of government. Please include these on your formal address lists.

United States Department of the Interior
Bureau of Indian Affairs
Assistance Secretary Ada Deer
1849 C Street NW
Washington, DC 20500

Oneida Nation in New York
Oneida Tribal Offices
Oneida Nation Territory
Via Oneida Territory 13421

Onyota'a:ka Thames
Oneida Land Rights in New York
Chairman Arnold Antone
Onyota'a:ka Administration Office
RR #2 Southwold
NOL 2GO

Oneida Tribe of Indians in Wisconsin
Oneida Environmental Resource Board
Chairman Ron Hill
Oneida Tribe
P.O. Box 365 54155

Response. The mailing list has been revised to include the names not already on the list.

Document #3 : Mr. Jim Ocuto, Ocuto Blacktop & Paving Co. Inc.

3.1 **Comment.** Two letters (numbered 3A from the Law Offices of Kelly & Walthall, P.C., and 3B from Ocuto Blacktop & Paving Co. Inc.) submitted for public record in regard to the award of environmental remediation contracts at Griffiss AFB.

Response. See response to comment 1.4-1. The two letters have been entered into the record.

Document #4 : Mr. David E. Homokay, Rome, New York

4.1 **Comment.** I read somewhere in the manual that some of the houses will be demolished. It's unfortunate this may be done as I like to think all base houses may be available for the people. Some 19,000 expected to populate the area by the year around 2016.

Response. See response to comment 1.1-1.

Document #5 : Mr. Robert W. Hargrove, U.S. Environmental Protection Agency, Region II

5.1 **Comment.** The draft EIS correctly states that reuse of Griffiss AFB must be compatible with remedial activities. However, we are concerned that it may not be possible to remediate some sites to standards compatible with the reuse plans identified in the Proposed Action and other alternatives evaluated in the document. Specifically, the draft EIS indicates that landfills, which are either IRP sites or Areas of Concern, are located in proposed public and recreational areas. It must be noted that cleanup standards for these areas have not been established. Moreover, specific recreational/public reuse activities have not been described in sufficient detail. As such, we believe that it is premature to make a determination regarding the appropriateness of various forms of recreation and public reuse of these sites. Accordingly, the final EIS must discuss in detail the reuse plans for these areas, as well as the measures to be taken to ensure that remediation of these sites is compatible with proposed reuse plans.

Response. The Air Force is committed to continue IRP activities under the Defense Environmental Restoration Program (DERP) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). IRP activities will be coordinated by the Air Force, the U.S. Environmental Protection Agency (EPA), and the New York State Department of Environmental Conservation (NYSDEC).

As stated in the EIS with each alternative, disposal and reuse of some of the Griffiss AFB property may be delayed or limited by the extent and type of contamination at IRP sites and by current and future IRP remediation activities. Based on the results of IRP investigations, the Air Force may, when appropriate, place limits on land reuse and/or groundwater uses and/or extraction through deed restrictions on conveyances and use restrictions on leases. The Air Force intends to turn over the majority of uncontaminated parcels and non-IRP sites via deed transfers; however, the Air Force may enter into lease agreements for contaminated properties pending cleanup under the IRP. The Air Force will retain right-of-access to other properties to inspect monitoring wells or conduct other IRP-related activities.

The public/recreation land use category used in this EIS also includes open space, which may be the only compatible land use for some IRP sites.

5.2 **Comment.** In a related matter, the Proposed Action and alternatives evaluated in the draft EIS do not show IRP site SD-32 (Six Mile Creek) as a continuous stream. Rather, Figures 3.3-3, 4,3-1, 4.3-2, 4.3-3, 4.3-4, and 4.3-5, depict the Creek ending mid-way through the runway, and reappearing at the southern end of the base. These figures should be adjusted in the final EIS to accurately show Six Mile Creek as a continuous IRP site extending from the northern portion to the southern boundary of Griffiss AFB.

Response. These figures are consistent with maps developed for the IRP process. The commentor is correct in that site SD-32 does include the free flowing underground culvert from north to south. Designation of IRP sites is part of a separate process under CERCLA, where degree and extent of site contamination, followed by remediation, is being studied. The most recent Remedial Investigation Work Plan (July 1993) maps Site SD-32 as shown in this EIS, and describes it as a north-to-south flowing creek through the base, directed by an underground culvert for about 6,000 feet to the south end of the runway. The location of the culvert has been added to Figure 3.3-3.

5.3 **Comment.** Although the draft EIS indicates that a thorough jurisdictional wetlands delineation, pursuant to U.S. Army Corps of Engineers (ACE) protocols, has been performed, the document states in various locations that Griffiss AFB contains a total of 111, 118, or 235 acres of wetlands. In order to permit an accurate review of the proposed project's wetlands impacts, the final EIS should clarify the amount of wetlands on Griffiss AFB.

Response. The reference to 118 acres in Table S-2 and Table 2.8-2 has been corrected to 111 acres. The recently mapped and verified amount of mapped wetlands on Griffiss AFB equals 243 acres (see footnote of Table 3.4-17). These wetlands have been delineated according to two classifications. According to U.S. COE classification, there are 111 acres of wetland and according to NYSDEC classification, there are 179 acres of wetland. The Griffiss AFB Fish and Wildlife Management Plan, when estimating overall wildlife habitat types present (Table 3.4-15), indicated there were about 235 acres of wetland wildlife habitat on the base.

5.4 **Comment.** The draft EIS states that there will be a loss of 1.5 acres of ACE jurisdictional wetlands under the Proposed Action. As acknowledged in the draft EIS, ACE authorization will be required pursuant to §404 of the Clean Water Act. We recommend that a discussion of the 404 requirements, including detailed plans for mitigation, be included in the final EIS.

Response. Without project- and site-specific details, wetland mitigation plans more detailed than those proposed in the EIS are not possible. That level of detailed mitigation planning can be done when future users of the land parcels have preliminary plans for development options.

5.5 **Comment.** In a related matter, we commend the Air Force's decision not to select Alternative B for the Proposed Action, which involves the construction of a new 18-hole golf course, potentially impacting as many as 40 acres of wetlands.

Response. Comment noted. It is important to note that no disposal decision has been made at this time.

5.6 **Comment.** Griffiss AFB is located in an attainment area for both ozone and carbon monoxide. Therefore, a conformity analysis is not required. Furthermore, based on our review of the Proposed Action as well as the other alternatives discussed in the draft EIS, we do not believe that implementation of any of the alternatives would adversely impact air quality in the

region. Overall, the project conforms with the State Implementation Plan.

Response. Comment noted.

Document #6 : Ms. Jaclynne M. O'Neill, Gaithersburg, MD

6.1 **Statement.** The Draft Environmental Impact Statement (EIS) regarding Disposal and Reuse of Griffiss Air Force Base, New York fails to address Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations" dated 11 Feb 94, as follows:

Failure to provide outreach and technical assistance in addressing the environmental and health related needs of minority and low-income residents. The following evidence is presented:

6.1-1 **Comment.** Prior attendance at public hearings. Failure to sufficiently ensure that the affected members of the community - minority and low-income persons - were made aware of the fact that the deactivated military installation housing at Griffiss Air Force Base, New York was available for community reuse under certain circumstances. The information must be available to the affected persons in order to fulfill the intent of E.O. 12898.

Response. The Air Force has complied with CEQ regulations implementing the National Environmental Policy Act (NEPA) and the Air Force Environmental Impact Analysis Process while conducting the public notification and comment in receipt process (including scoping, public hearing and comment periods) throughout this Griffiss AFB disposal/reuse study. Personal letters announcing a public scoping meeting in Rome, New York (May 1994) were sent to all local and State officials and regional regulatory federal and state agencies. Press releases were sent to local newspapers and radio/TV stations. When the Draft EIS was published in August 1995, a similar series of announcements were made about the document comment period and the public hearing in Rome, New York.

6.1-2 **Comment.** The Local Reuse Committee is not representative of the community. This committee has proven to be unresponsive to the needs of minority and low-income persons by suggesting plans that include demolition of housing that would upgrade the quality of life for these populations thus promoting the continuance of outdated public housing and privately-owned slum housing or residences for minorities and low-income populations.

Response. Pursuant to DOD Policy, the U.S. Air Force recognizes the LRA designated by the state or local government. Concerns regarding the makeup or responsiveness of the committee would be appropriately addressed to the designated authority.

6.1-3 **Comment.** The Draft EIS does not address public transportation such as buses and taxis often the means of transportation by minorities and low-income persons.

Response. This analysis is broad based and does not analyze to the detail requested. The impact on the roadway level of service incorporates the traffic of cars, buses, taxis, etc.

6.2 Recommendation

6.2-1 **Comment.** Recommend reporting the property disposition process to ensure that the civil rights of minority populations and low-income populations are preserved.

Response. The purpose of the EIS is to provide environmental impacts of the alternatives for reuse to the decision maker to allow the U.S. Air Force to comply with the law requiring expedited reuse of the base property to minimize economic impacts to the community.

6.2-2 **Comment.** Recommend conducting an aggressive media and outreach campaign headed by a reputable media professional selected by and accountable to the Department of Defense (DOD) to ensure that the goals of Environmental Justice are accomplished.

Response. See response to comment 6.1-1.

6.2-3 **Comment.** Recommend appointing a new, diverse Local Reuse Committee that is selected by and accountable to DOD. Suggest that applications for membership on this committee be available to all members of the community with emphasis on minorities and low-income persons and their bonafide representative. Establishing standards for the composition of Local Reuse Committees (LRC) to include representation of minority and low-income populations.

Response. See response to comment 6.1-2.

6.2-4 **Comment.** Recommend that the Chairperson of the Local Reuse Committee be elected by vote of the committee.

Response. See response to comment 6.1-2.

6.2-5 **Comment.** Recommend establishing sub-committees to assist the LRC to ensure that there is community involvement with the process. Actively encouraging citizen participation especially by minority and low-income individuals.

Response. See response to comment 6.1-2.

6.2-6 **Comment.** Recommend ensuring that reputable consultants selected by and accountable to the DOD will provide technical assistance to members of the community particularly minority and low-income populations seeking to form non-profit partnerships to facilitate acquiring deactivated military installation housing at Griffiss AFB.

Response. See response to comment 6.1-2.

6.2-7 **Comment.** Recommend ensuring that the New Reuse Plan be crafted by local planners as an end-product of the effort of the local reuse committee and sub-committees. Technical assistance to be provided by Federal agencies.

Response. See response to comment 6.1-2.

6.2-8 **Comment.** In a new Reuse Plan encourage a residential mixed population community that provides opportunities for employment, education, recreation and public transportation. This type of interaction will nurture cultural diversity, promote community and encourage new initiatives as well as fulfill the goals of Environmental Justice, diversity, fair housing an several other Federal programs. Amenities such as a 4-lane parkway and expanded golf course would be incompatible with the new plan. Create attractive green spaces in areas formerly inhabited by the new residents of the former Griffiss Air Force Base.

Response. See response to comment 6.1-2.

Document #7 : Mr. Mark Reynolds, Griffiss Local Development Corporation

7.1 **Comment.** The Proposed Action and Alternatives A, B, and C clearly represent the thinking of the Griffiss Redevelopment Planning Council (GRPC) and reflect the scenarios developed during the planning stages of the Griffiss Reuse Strategy effort. The impacts of these plans appear to be adequately addressed.

However, the Alternative D-Rome Lab/Airfield Closure, does <u>not</u> represent a reasonable reuse scenario. The Griffiss Local Development Corporation has objected to the development of

such a scenario since its inception. We have gone on record with both the AFBCA and the AFCEE that developing this scenario was (and remains) outside the charge of the BRAC 1993 decision.

We see the inclusion of this scenario as an inappropriate discussion of reuse alternatives, and in fact, flies in the face of the reuse charter handed us by Mr. James Boatright in 1993, which clearly led us to develop the proposed (and alternatives A-C) scenarios around the continued presence of Rome Lab. The fact that the Air Force continued to pursue this alternative in light of our objections, and continued to waste limited financial resources is bad enough. However, the inclusion of this scenario in a public document remains inappropriate.

Alternative D should be deleted from the DEIS document in its entirety.

Response. Complete analysis to support the BRAC 1993 disposal decision must incorporate all available information. The fact that the DOD recommended the closure of Rome Lab and the Airfield made it a reasonable alternative. The impacts of this BRAC 1995 recommendation on the BRAC 1993 decision had to be analyzed. Due to the final BRAC 1995 decision, Alternative D (Rome Lab/Airfield Closure) has been removed from the EIS. However, the impact of the airfield closure in the BRAC 1995 decision is qualitatively compared to each alternative in this document.

7.2 **Comment.** The DEIS is incomplete in the area of cultural resource assessment. To date we have not received a cultural resource assessment, and have no way to judge its validity or use.

Response. The Phase I Archaeological Survey was recently completed, and the Phase II Survey has just commenced, while the Historic Structures survey is yet ongoing. Sufficient data were available for analyzing impacts to the biophysical environment for each alternative for NEPA purposes. Final reports will be submitted to the New York State Historic Preservation Officer (SHPO) under section 106 consultation requirements of the National Historic Preservation Act (NHPA) and an agreement developed for protection of these resources, as required.

7.3 **Comment.** At the kickoff meeting for the DEIS in November 1993, at the first public hearing in 1994, and at numerous meetings with Captain Harold Keck of AFCEE, the Griffiss Local Development Corporation requested that AFCEE work with the

New York State Department of Environmental Conservation (DEC), to ensure that the NYS Environmental Quality Review Act (SEQRA) was complied with in terms of scope and environmental review. We were assured by Colonel Baumgartel at the kickoff, and again by Captain Keck that NY DEC would be consulted and that their scope would be incorporated. (could not find any discussion of this issue.)

Response. The Air Force action to dispose of property at Griffiss AFB is a federal action requiring NEPA compliance. There is no compliance necessary or possible under the New York State Environmental Quality Review Act (SEQRA) for this action. The land use alternatives analyzed are too general for SEQRA requirements. Subsequent development by future property recipients/users may require separate reviews and/or permitting through New York regulatory agencies. As noted in the EIS, the Air Force did consult with the NYSDEC in developing the database and impact analysis of environmental conditions for Griffiss AFB. The NYSDEC was satisfied, considering the lack of specific reuse information available, as to how the EIS addresses the additional SEQRA requirements not in NEPA. This EIS can serve as a baseline of conditions for future private development of these lands.

7.4 **Comment.** The most significant area of state scope which I believe is missing is the area of land use control measures (e.g., zoning). If this is in fact covered, I only need direction to find it. If it was not included, I believe it should be. (I have not coordinated my comments with the NYSDEC, so if they feel differently about this we can discuss it.)

Response. Current land use control measures, including zoning, are addressed in the Section 3.2.2.1, Land Use. Potential impacts on land use control measures are addressed in Section 4.2.2 of the Proposed Action and Alternatives, Land Use and Aesthetics.

Document #8 : Mr. Andrew L. Raddant, United States Department of the Interior

8.1 **Comment.** Detailed wetland mitigation plans specific to any proposed reuse application should be provided to all concerned agencies for review and discussion prior to initiation of any permit application and the public review process. This allows for timely resolution of any concerns that may surface, and assists in a smooth transition from the pre-application to the application stage.

Response. See response to comment 5.4.

8.2 **Comment.** This document is clearly generic in its treatment of the Griffiss Air Force Base closure and disposal. There is insufficient information regarding eventual specific uses of base property for the Department to provide detailed comments. When plans are finalized for a particular land use, the Department will provide in-depth comments at that time.

Response. Comment noted.

8.3 **Comment.** We note that the DEIS includes appropriate consideration necessary for the protection of cultural resource values, and an awareness of the procedural requirements to achieve such protection. However, much serious work remains to be done through continued consultation with the State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP), before the requirements of the National Preservation Act of 1966 and this environmental impact statement can be considered adequately addressed and accomplished. The key section necessary to assuring a satisfactory accomplishment is the signed status by all parties of a Memorandum of Agreement (MOA), which should be displayed in the Final Environmental Impact Statement, or at least a showing of it in draft, with an indication of the Department of the Air Force commitment to fulfill the terms and stipulations of the MOA along with the SHPO's endorsement or signature of approval.

Response. Comment Noted. The primary purpose of the EIS is to identify and address the potential impacts of the Proposed Action and alternatives including potential mitigation measures. The specific mitigation measures will be adopted, as appropriate, in the U.S. Air Force Record of Decision. The specifics of the MOA are outside of NEPA requirements and will be developed and implemented separately.

Document #9 : Marion Sorensen, Verona, New York

9.1 **Comment.** Regarding the availability of housing on Griffiss AFB. We are a couple in our mid 70's and can't find housing in the City of Rome in our price range. We think it would solve a lot of problems for many seniors if housing were made available on base....

Response. See response to comment 1.1.

Document #10 : *Mayor Joseph A. Griffo, City of Rome*

10.1 **Comment.** An option to close Rome Lab was included in the report. However, now that closure is no longer a proximate threat, this matter should be deleted. The inclusion and measurement of this option no longer serves any purpose and, in fact, draws attention away from existing reality. As such it should be deleted in its entirety from the DEIS.

Response. See response to comment 7.1.

Document #11 : *Ms. Ruth Pierpont, New York State Office of Parks, Recreation and Historic Preservation*

11.1 **Comment.** In order for us to complete our evaluation of the historic significance of all buildings/structures/districts within or adjacent to your project area, we will need the following additional information:

- Clear, original photographs of buildings/ structures 50 years or older within or immediately adjacent to the project area, keyed to a site plan;
- Date of construction; and
- Brief history of property.

Response. The historic structures report, containing all of this information, is in the final stages of production and will be submitted for review as soon as it is available.

STATE OF NEW YORK ONEIDA COUNTY

UNITED STATES AIR FORCE

PUBLIC HEARING RE:

DRAFT ENVIRONMENTAL IMPACT STATEMENT for DISPOSAL and REUSE OF GRIFFISS AIR FORCE BASE,

Rome, New York

DATE: August 29, 1995

BEFORE: COLONEL JAMES HEUPEL, USAF Judiciary Hearing Officer

A public hearing held in the auditorium of the Rome campus of Mohawk Valley Community College, Rome, New York, at 7:00 p.m.

APPEARANCES:

For the Air Force:

MR. JONATHAN D. FARTHING, Chief
Environmental Analysis Division
Environmental Conservation and Planning Directorate
HQAFCEE
Brooks Air Force Base, Texas 78235-5318

APPEARANCES, CONTINUED:

Colonel Heupel..... 3,40,42

Mr. Farthing..... 12,40,51

GUEST SPEAKERS IN THE ORDER OF APPEARANCE:

JOSEPH ZEPPETELLO..... 43
1111 Delray Drive
Rome, NY

C.F.W. WHEELOCK..... 46
PO Box 177
Chittenango, NY 13037
(Oneida Nation, Wisconsin)

LOUIS C ROBERTSON..... 52
263 Erie Boulevard
Rome, NY

JAMES OCUTO..... 53
846 Lawrence Street
Rome, NY 13407

EMLYN J. GRIFFITH..... 55
225 North Washington Street
Rome, NY 13440

DON D. DAVIDSON..... 57
Rome, NY

* * *

COLONEL HEUPEL: Good evening, ladies and gentlemen. We're going to go ahead and get started at this time. I want to thank all of you for coming out tonight. I want to offer a special welcome to the Environmental Sciences class of the Mohawk Valley Community College.

I understand that you're here in attendance and it's your first class of the year, so welcome. We'll try to get started.

If I remember right, it was something like, you can leave after 15 minutes, if the professor doesn't get in. So we're just at the 15-minute mark and we're going to get started.

I appreciate your indulgence, but as all of you know, parking has been difficult, so we wanted to give everyone an opportunity to get in for the hearing tonight.

This is the public hearing on the draft environmental impact statement for the disposal and reuse of portions of Griffiss Air Force Base.

I'm Colonel Jim Heupel and I'll be the presiding officer for tonight's meeting.

This hearing is being held in accordance with the provisions of the National

Environmental Policy Act, and implementing regulations.

Now, that Act requires federal agencies to analyze the potential environmental impacts of federal actions and to consider the findings of those analyses in deciding how to proceed.

The Air Force started the environmental process over two years ago.

As part of this effort, on May 19 of 1994, the Air Force held a scoping meeting here in Rome, New York, to receive your suggestions concerning what you felt should be covered in this environmental impact statement or "EIS" and you'll hear us refer to it as "E-I-S," throughout the evening.

Now, since that meeting, the Air Force has examined the environmental concerns that you raised, as well as others, and has prepared a draft environmental impact statement that is the subject of tonight's hearing.

The purpose of tonight's hearing is to receive your comments, suggestions, and your concerns on the draft EIS.

Those of you that have not had an opportunity to review the draft EIS, you may

want to read a summary of the major findings in this handout which was available at the door and I think most of you have received.

And the findings that are in here will also be addressed this evening in the presentation.

Now, before introducing the member of the panel that will be making the presentation, let me explain my role in this proceeding: I'm a military judge and I primarily serve as a criminal judge in military trials. So I am not here as an expert on this environmental impact statement. In fact, I have not had anything to do with its development.

And I'm not here to act as legal advisor to the Air Force representative who will proceed with these proposals. My purpose is, tonight, to ensure that we have a fair, full and orderly hearing and that all who wish to be heard have a fair opportunity to be heard.

Now, let me introduce the other member of the public hearing panel: On my immediate right is Mr. David Farthing, who is the chief of the environmental analysis division at the Air Force Center for Environmental Excellence, which is located at Brooks Air Force Base, Texas.

He'll describe the Air Force base disposal process, brief you on the environmental impacts as part of that analysis process, and then summarize the results reported in the draft EIS.

This informal meeting is intended to provide a continuing public forum for two-way communication about the draft EIS with a view towards improving the overall decision-making process. You'll notice that I said "two-way communications."

The first part of the hearing, Mr. Farthing will brief you on the details of the actions and the anticipated environmental impacts. In the second part of the process, you will have an opportunity to provide information and to make statements for the record.

This input ensures that decision-makers may benefit from your knowledge of the local area and any adverse environmental effects that you believe might result from the proposed action or the alternatives.

If you have questions regarding the environmental impact analysis process or the environmental impacts presented in the draft EIS, Mr. Farthing will try to answer those

questions to the extent that he can.

However, if your question is a technical one or is one that requires further research and cannot be answered tonight, the Air Force will ensure that your questions will be answered in the final EIS or in a separate comment response section.

Tonight's hearing is designed to give you an opportunity to comment on the adequacy of the draft EIS. Keep in mind that the EIS is simply intended to ensure that the decision-makers will be fully apprised of the environmental impacts associated with the various reuse alternatives before they decide on a course of action.

Therefore, comments tonight on issues unrelated to the environmental impact statement are really beyond the scope of the hearing and should not be addressed.

And when you came in tonight, you were asked to fill out an attendance card such as the one I am holding up, and you were asked to indicate on it down at the bottom, if you wish to make a statement or if you wish to make comments.

After Mr. Farthing has finished his presentation, we'll have a short recess, we'll

collect the cards and then following that recess, I'll recognize any elected public officials to speak first and then after they have spoken, I will recognize the public at large in a random order.

So if, during the process, you decide that you would like to make some comments and you didn't check the card, you can either get your card back and check it during recess or just fill out a new card.

They will give me those cards and I'm going to get up here and I'm going to be shuffling them to make sure that everybody has a fair opportunity to speak first, in the middle or last.

If you don't want to stand up here tonight to make a comment, to make a statement, you have until September 18th to submit a copy of your statement for the Air Force's consideration prior to the publication of the final environmental impact statement.

Now, the Air Force will continue to accept comments after September 18th, but if they come in after that time, the Air Force cannot guarantee that late comments will be included in

the final EIS.

You also noticed that special sheets such as the one I'm holding up, are out at the table.

If you wish to use these to fill out any comments tonight, you're welcome to do that. That address at the bottom, which is the address listed up here on the slide on the screen, or the same address is located on the bottom of the pamphlet that I'm holding up -- you can send any comments that you have, to this address. That's the address to get any comments to by the 18th of September.

You can submit additional comments, additional statements, even though you may submit statements tonight or you may make an oral statement tonight.

Finally, all statements, whether made orally tonight or submitted in writing, either here or through the mail to this address, they will be given the same consideration, they are all of equal value.

Please don't be shy. Don't be hesitant to make a statement. I want to assure that all people who wish to speak have a fair chance to be heard.

We do have a court reporter here, Miss Diane Palmer, down here on the bottom row and she'll be taking down word-for-word, everything that's said tonight.

And the verbatim record will become a part of the final environmental impact statement. She'll be able to make a complete record only if she can hear and understand what you say.

So with that in mind, I'll just ask you to follow these rules: First, in that second part of the process, after the recess, speak only after I've recognized you. Please address your remarks to me as the presiding officer.

If you have a written statement, I would ask you to hand it to me and I know that even if it's not in a typed version, if it's only comments you've handwritten out, if you don't mind turning it in, she would love to have that to help her in preparing the record.

When you get up to speak, if you just speak into the microphone, speak slowly, state your name, what city you're from, whether your speaking as an elected official and of what body, or if you representing an organization or speaking as a private citizen.

And the starting-out point is that each person will be given five minutes to speak. Now, the initial indication I had, we only had a small number of speakers, so if that holds true, I will be very liberal in that five minutes, allowing more time as necessary.

And I'll let you know after the break, depending how many people we have. At any rate, whatever the time is, I'll hold my hand up and ask you to go ahead and finish up your comments at that point in time.

Finally, I would just ask that only one person can speak at a time. The reporter can only report one person speaking at a time.

The one thing I cannot stress enough is that you may have information about environmental impacts that are unknown to us, so we're very interested in hearing and analyzing all potential environmental impacts of the alternatives.

You have the experience that comes from living in this area, so the second part of tonight's communication, that part that flows from you to us, is very important.

So please don't hesitate to be a part of the

proceedings. With that in mind, I will introduce at this time, Mr. Dave Farthing.

* * *

MR. FARTHING: Thanks, Colonel Heupel. As Colonel Heupel said, my name is David Farthing, I'm with the Air Force's Center for Environmental Excellence, located in San Antonio, Texas.

The first part of my presentation this evening, I'll be presenting the disposal process for the Air Force Base Conversion Agency.

The Air Force Base Conversion Agency is an office that was created to manage the disposal and clean up of air force bases that were closed or realigned under the authorities of the two base closure and realignment laws.

Pursuant to the Defense Base Closure and Realignment Act of 1990, Griffiss Air Force Base was selected in 1993 for realignment and is now scheduled for realignment and disposal as of September 30, 1995. In discussing the disposal of Griffiss Air Force Base, I would like to cover four general topics.

First, property disposal planning; second, the objective used by the Air Force to guide its planning; third, the property disposal considerations that will be used to arrive at a decision, and lastly, the Air Force's decision itself. That is, what actions the Air Force will take, based on the findings of the EIS along with other considerations.

Normally, the General Services Administration or GSA is responsible for disposing of federal property for federal agencies, such as the Department of Defense.

However, under the 1988 and 1990 Base Closure and Realignment Acts, the Secretary of the Air Force has been delegated the authority to act as the disposal agent for the federal government for Air Force bases being closed and realigned, including Griffiss Air Force Base.

In carrying out this authority to dispose or realign -- and closure bases, the Secretary of the Air Force will follow all laws and regulations that apply to disposal of federal property.

The Secretary has also issued additional guidance to the Air Force Base Conversion Agency

to address specific disposal situations.

The '88 and '90 Acts require Air Force consultation with the state governor and local government leaders when considering plans and proposals for the reuse or realignment bases.

The Air Force is meeting its consultation requirement by working closely with the Griffiss Local Development Corporation, also known as GLDC.

The Air Force recognizes the significant economic impact that disposal and reuse will have on the local communities and it is the Air Force's goal to complete disposals as quickly and efficiently as possible.

The federal government and the Air Force are committed to assisting communities in their effort to replace the departing military activities with viable public and private enterprises.

We are in the process of developing a comprehensive disposal plan that attempts to balance the needs of the community and the environmental consequences of our disposal decision.

The Air Force will consider leases for

interim uses to ease the transition to civilian use. The disposal of Air Force property is accomplished in a three-part planning process.

The Air Force carefully considers the environmental impacts of the reuse plan proposed by the local community.

This plan is generally adopted by the Air Force as the proposed action of the EIS.

The Air Force also analyzes the environmental impacts of other reasonable disposal and reuse options. An environmental impact statement is then prepared, as required in the National Environmental Policy Act, or NEPA.

The EIS process results in the signing of a record of decision that documents how the Air Force will dispose of the base property and specifies what environmental mitigations may be needed to protect human health and the environment as a result of disposal and reuse options that are selected.

The Air Force is conducting investigations to identify and characterize and remediate environmental contamination of Griffiss Air Force Base, that have resulted from past

actions.

This comprehensive effort is called the Installation Restoration Program. A schedule is prepared for each part of the process at each site to ensure that the site becomes clean.

Congress has committed funding for the IRP and the process is well under way at Griffiss Air Force Base. Final deed transfer of property is dependent on the clean-up schedule and will be conducted in compliance with the Comprehensive Environmental Response, Compensation and Liability Act, also known as CERCLA or Super Fund.

Throughout these efforts, the key to the process is soliciting input from all of the sources at the federal, state and local levels.

Under current law, the Air Force must give priority consideration to other federal agencies and homeless assistance providers in deciding how to dispose of excess base real property.

The Air Force will inform local community representatives if any federal agencies or homeless assistance providers express interest in Griffiss Air Force Base property.

In general, the Air Force has the following

disposal options: Transfer to other federal agencies, public benefit transfers to states or other political subdivisions and eligible nonprofit institutions under special statutory authority, negotiated sales to public agencies, competitive sales to the general public, or economic development conveyance.

The Secretary of the Air Force will decide on the final disposal plan, which will be documented in the record of decision.

I would like briefly, to address environmental clean up before discussing the environmental impact analysis process.

The Air Force is committed to cleaning up all areas contaminated by past Air Force activities, as required to protect human health and the environment. Clean up of many contaminated sites at Griffiss Air Force Base is already underway.

If contaminated areas are not ready for transfer at the time of base disposal and realignment, the Air Force will retain ownership until construction and installation of an approved remedial design has been completed and the remedy has been demonstrated to be operating

properly and successfully.

After transfer, the Air Force may require easements and rights of entry to permit long-term monitoring and treatment. We do not, however, expect clean up activities to delay the reuse of parcels not requiring cleanup.

Now, I would like to begin my briefing on the environmental impact analysis process.

Tonight, I'll present the schedule for this environmental impact analysis process and show how the public comment period fits into the schedule. We'll also discuss the scope of the study, the relationship between the environmental impact statement and the socio-economic impact analysis study and the results of our analyses by resource category.

The Griffiss environmental effort was begun in October of 1993, with the notice of intent to prepare an environmental impact statement or what I will refer to as an EIS for base disposal and reuse.

A scoping meeting was held in Rome, at the Rome city counsel chambers on May 19, 1994, to receive public input on the scope of issues to be addressed in the EIS and to identify reuse

alternatives and issues related to property disposal.

During the scoping process, our office received input from the public and from the Griffiss Redevelopment Planning Council. After scoping, we collected the necessary data and conducted the environmental analysis.

The draft EIS was filed with the US Environmental Protection Agency July 28, 1995, and was announced in the Federal Register on August 4, 1995. In addition to tonight's hearing, written comments on the draft EIS will continue to be accepted at this address until September 18th.

After the comment period is over, we'll evaluate all comments, both written and verbal, and perform additional analysis or change the EIS where necessary. Again, as in the scoping process, equal consideration will be given to all comments, whether they are presented here tonight or mailed to us prior to September 18th.

Once the review process is complete, we'll produce a final EIS, which is scheduled for completion in October, and mail it to everyone on our draft EIS distribution list.

If you're not on the mailing list, you can request a copy by writing to this address. The final EIS will include comments received during the public review period and our response to those comments.

If appropriate, we'll group comments into categories and respond accordingly. Depending on the number and diversity of comments or the need to conduct additional analysis, the final EIS may consist of a separate volume as a companion to the draft EIS, or be distributed as a cover letter and errata sheet.

The final EIS will serve as input for the record of decision, which will document the disposal action taken by the Air Force. As you just heard, other studies and consideration of issues besides those addressed in the EIS will enter into the final disposal decision.

We expect to accomplish the record of decision in November of this year. The draft EIS was prepared to comply with the National Environmental Policies Act and the Council on Environmental Quality regulations.

Efforts were made to reduce needless bulk, write in plain language, focus only on those

issues that are clearly related to the environment and to integrate with other documents required as part of the decision-making process.

Reuse alternatives that were developed were individually analyzed but also compared to the proposed action to provide an environmental comparison.

The analysis focuses on impacts to the natural environment that may occur as a direct result of base realignment, disposal and reuse or indirectly from changes in the community.

Resources evaluated are geology and soils, water, both surface and groundwater, air quality, noise, biological resources and cultural resources.

Indirect changes to the community that provide measures against which environmental impacts could be analyzed include changes to employment, population, land use and aesthetics, transportation and utility services in the local communities.

In addition, issues related to current and future management of hazardous substances were discussed. These issues include hazardous

materials and waste, the Air Force's Installation and Restoration Program, storage tanks and water/oil separators, asbestos, pesticides, PCBs, radon, medical or biohazardous waste management, ordinance and lead-based paints.

If, as a result of our analysis, it was determined that adverse environmental impacts would occur through implementation of the reuse alternative, suggested mitigation measures were identified and included in the document.

Ultimate responsibility for mitigation of environmental impacts and for pollution prevention would be, for the most part, the responsibility of the future property recipients.

As I mentioned earlier, this draft EIS focuses on the impacts to the natural environment that would occur, either directly or indirectly, from the disposal of portions of Griffiss Air Force Base.

The document addresses socioeconomic factors where there is a relationship between base disposal and changes to socioeconomic conditions that would result in impacts to the natural

environment.

Our organization is in the process of producing a separate socioeconomic impact analysis study that is not required under the National Environmental Policy Act.

It describes in greater detail, how disposal and reuse of Griffiss Air Force Base may affect the economies of the surrounding areas.

Specifically, the socioeconomic impact analysis study addresses the following factors for each of the reuse alternatives: Employment, population, housing, public finance, education, government, police and fire, medical, transportation, and utilities.

Copies of this document will be provided to key state and local officials and will be available for review at libraries in the area.

This document will be forwarded to the decision-maker for input into this disposal process.

Air force policy in preparing these documents, is to use the plan prepared by the local reuse authority as the proposed action and analyze that action and several, reasonable alternatives in accordance with the National

Environmental Policy Act.

The proposed action was developed by the GLDC. In addition, four reasonable reuse alternatives and the no-action alternative have been analyzed in the draft EIS.

As part of the 1995 round of the base closure process, Rome Lab and the air field portion of Griffiss Air Force Base were recommended by DOD for closure.

Although it appears all of this proposal will not become law, it could effect plans being pursued by the reuse of Griffiss Air Force Base, based on the 1993 BRAC Commission recommendations.

Therefore, this EIS, although focused on the impacts arising from the 1993 closure recommendation, includes an additional analysis of potential impact of the 1995 DOD closure recommendations.

Now, I would like to present an overview of the proposed action and alternatives that have been analyzed. Afterwards, I will present a synopsis of the results of our analysis by resource category.

Please note that the title of the proposed

action and each alternative is presented to give you only a general idea of the redevelopment concepts. The proposed action and each of the alternatives contains numerous activities which may not be included in the title.

This figure shows the reuse authority's reuse plan which is presented as proposed action in the draft EIS. The primary redevelopment land uses for the proposed action are industrial, commercial and institutional-education.

The existing air field and runway would continue to be used by the limited mission of the Air National Guard support of the Army Troop transport. The proposed action is largely based on a conceptual master plan developed by the reuse authority that includes consideration of future land uses.

The proposed action reflects the community's goals for base reuse, which is to develop a business, industrial/research and development office complex serviced by a regional parkway around the core of Rome Labs.

Griffiss Air Force Base currently encompasses approximate 3552 acres. Under the

proposed action, approximately 1600 acres would be retained for realignment uses.

As with all of the alternatives, the baseline of authorized retained government functions include Rome Labs, a minimum essential air field maintained and operated by the New York Air National Guard, the Northeast Air Defence Sector operations, defense re-utilization and marketing office, the Air Force Space Command, first space surveillance squadron and establishment of a Veterans Affairs clinic and the defense finance and accounting services center, known as DFAS.

Other reuse opportunities associated with the proposed action include high school and college campuses, office use, vocational or job training and limited residential.

The Mohawk Glen Club would be retained as a hospitality center and educational facility by Mohawk Valley Community College or the private sector.

The Griffiss Research Park alternative centers around the redevelopment of the base as a research park. With this alternative, Rome Lab and the DFAS center would be used to attract

other R&D tenants.

This concept does not include the residential area or parkway but does include an expanded golf course and expanded reforested open space area to enhance corridor connections between the Mohawk River and the New York Barge Canal.

The Mohawk Valley business center alternative focuses on developing industrial and commercial office space combined with R&D and ancillary retail support adjacent to Rome Lab facilities. This alternative would include construction of a new, 18-hole golf course, an aviation museum, a new residential area and a parkway.

With the regional aviation complex alternative, the Oneida County airport would be relocated to Griffiss Air Force Base and operated jointly with the military.

Development of the aviation-oriented industrial tenants would occur on the parcel adjacent to the air field. This alternative also includes a parkway, open space, a small education and training residential area and a future commercial recreational entertainment

reserved area.

The Rome Lab air field closure and reuse alternative is a revised version of the proposed action. With this alternative, the air field would close by 1999. The concepts of the land use and development are similar to those of the proposed action, with additional space available for industrial, office, manufacturing, warehousing and storage uses.

The bulk of the runway area would become open space, available for recreation and a transportation corridor.

As required by the National Environmental Policy Act, the no-action alternative was evaluated. The no-action alternative would result in the US government retaining ownership of all Griffiss Air Force Base property under realignment.

The portion of the base not retained for re-alignment would be in caretaker status and would not be reused. Caretaker activities on the base would consist of resource protection, grounds maintenance operations as necessary, of existing utilities and building care.

If I could, I would like to go back to the

proposed action -- I understand it was only up there for a few seconds -- and let everybody get an opportunity to get a better look at that.

I think the legend at the bottom describes what each of the land uses are, there, so if you would like to reference those....

(Whereupon, there was a short pause.)

I think we can go on, now.

As noted earlier, the SIS analyzed impact to various resources, broadly grouped into categories of local community, hazardous substance management and the natural environment.

In general, the analysis indicated there would be only minor impact associated with most of the alternatives, with the exception of traffic volumes and noise, conversion of prime farm land, potential impact from a few small wetlands on site, potential adverse effects to two prehistoric sites and some historic properties listed on or potentially eligible for listing on the national register of historic places.

The proposed action, Mohawk Valley business center, regional aviation complex alternatives

are most comparable in terms of these impacts.

The Griffiss research park alternative would generate the smallest number of new jobs and the lowest impact from traffic and noise along some roads. Only the Griffiss research park alternative avoids conversion of prime farm land and causes the least ground disturbance.

Impacts on wetlands would be greatest in the Mohawk Valley business center alternative. The following slides summarize and/or show the comparative impacts among the reuse alternatives by resource area.

The graph shows the potential or possible increase in employment in the region, due solely to the reuse-related activities projected through the year 2016. These increases include the direct jobs generated onsite and secondary jobs created in Oneida County.

Depending on the alternative implemented, reuse activities at the base could result in approximately 12,000 to 18,000 additional direct and secondary jobs in the region by the year 2016.

Because of the employment base in the region and expected regional growth, this represents a

total reuse-related employment increase of about 20 percent in Oneida County by 2016 over the no-action base line.

From about a 4 to 8 percent population increase over the no-action base line is expected under the proposed action or reuse alternatives as a result of workers and their families moving into the city and county to fill some of the jobs created by reuse.

Depending on the alternative selected, 9,000 to 19,000 people would enter the region by 2016. Most of these people are expected to reside in the city of Rome.

Although there would be changes in land uses and the visual character of the base, most of these would be minor and could be controlled by the use of standard land use planning techniques to guide development.

Portions of Oneida County would have to modify their master plans and zoning ordinances for some areas to accommodate the reuses, but this would be considered a minor effect.

All the alternatives provide for an orderly, planned expansion of the city of Rome while increasing open space corridors. One

alternative does not provide a parkway bypass for Rome.

The number of daily projected vehicular trips to and from the site due to reuse would range from approximately 27,000 with the Griffiss research park alternative, to 54,000 with the proposed action by 2016.

Some of the local connector road capacities would be exceeded by 2016 or earlier. The same roadways have been near or over capacity during full operations of the air force base.

This figure represents the number of annual air operations projected through 2016 with the proposed action and reuse alternatives. For reference, approximate 14,000 flight operations occurred at Griffiss Air Force Base in 1993.

Continued use of the air field by the national guard is the base line volume for all but one of the alternatives.

With the regional aviation complex alternative, civilian aviation operations would be discontinued at the Oneida County Airport and transferred to Griffiss Air Force Base by 2006.

Flight activities are projected at about 75,000 operations by 2016, due to growth

primarily in general aviation operations.

For purposes of environmental impact analysis, we have assumed that all growth at Griffiss would be the same as projected for the county airport.

The selected alternative would be subject to formal air space analysis by the FAA before implementation of any airport plan.

Utility use with any of the reuse alternatives would increase only slightly from projections without reuse over the 20-year analysis period. These increases would be well within the capacity of the city of Rome's systems with improvements that are planned to accommodate population growth unrelated to reuse. Most utility demands would increase when compared to 1993 pre-alignment conditions.

The Air Force will take all necessary actions for environmental clean up of the base to protect public health and the environment. Clean up activities will be accomplished in accordance with applicable federal and state laws and regulations.

However, remediation of IRP sites may delay some development. Remedial actions and

monitoring will continue after the base realignment and closure and long term access to certain sites during reuse may be required to ensure the success of the remediation efforts.

Hazardous materials and waste management activities resulting from activities by the new owners would be the responsibility of those new users and would be subject to applicable regulations.

All underground and above-ground storage tanks that do not meet regulations or are not identified for reuse are to be removed before transfer of the property. All PCB's have been removed from the base.

Measured radon levels were above the US EPA-recommended action levels in some of the buildings that were surveyed.

Lead-based paint may be present in facilities that were constructed before 1978.

Some facilities on base may contain asbestos. Demolition or renovation of these facilities should be accomplished in accordance with applicable federal, state and local regulations and would be the responsibility of the new owners.

There would be some potential for increased erosion during construction and demolition activities, but these effects could be reduced through the use of standard construction practices.

The potential exists for impacts on certain areas with prime agricultural soils. As with soils, there would be minor effects on surface water as a result of increased runoff during construction and demolition activities, but standard practices would minimize the adverse effects.

The IRP program and land use changes on base property would decrease hazardous materials and other contaminants available for water pollution over the long-term. Reuse related pollutant emissions would increase over realignment conditions but that increase would not affect the region's progress toward attainment of the ozone standard.

Our projections indicate that none of the federal or state standards would be exceeded as a result of reuse-related emissions.

Overall, there would be no impacts to local air quality.

There would be increased surface traffic noise along most local roads when compared to the no-action base line. When compared to the base at full operations, traffic noise would increase along a few of the same local roads that have been nearly at or above traffic capacity in the past.

With any alternative, there would be fewer off-base residences exposed to aircraft noise levels above the 65 db level than when the base was fully operational.

Noise levels from civilian aircraft operations with the regional aviation complex alternative are expected to be within those of the air national guard operations.

Biological resources include the animals and plants inhabiting an area, especially any considered threatened or endangered, as well as wetlands and other sensitive habitats.

The vegetation of most of Griffiss Air Force Base has been moderately or extensively altered by past and present land uses. The US Fish and Wildlife Service has indicated that no federally listed threatened or endangered species are known to be present on the base.

The state of New York lists nine plant species known to grow on Griffiss Air Force Base as endangered and one species listed as threatened.

There are several small and a few large wetlands on Griffiss Air Force Base but few are in the areas designated for development, except for the Mohawk Valley business center alternative, which does contain and impact some wetland.

The wetland areas may be avoided in reuse planning, or if wetlands were disturbed by reuse, they could be replaced by creation of new wetland areas or even enhancement of existing wetland areas.

Indirect effects can be avoided through control of runoff during construction and the use of other standard practices.

All of Griffiss Air Force Base property has been surveyed. The Phase 1 Archaeological Investigations Report has been submitted to the New York State Historic Preservation Office for review and concurrence with recommendations of phase 2 evaluations.

An historic structures survey, (including

World War 2 and cold war issues) has been completed and reviews are pending. Native-American consultations have been completed, no known sensitive Native-American resources are located on Griffiss Air Force Base.

If evidence of Native-American resources is encountered during reuse activities, additional consultation with these groups will be required.

There are no known, paleontological localities on the base.

In closing, I remind you that the study is in a draft stage. Our goal is to provide Air Force decision-makers with accurate information on the environmental consequences of its actions. To do this, we're soliciting your comments on the draft EIS. This information will support and inform Air Force decision-making.

Now, I'd like to turn it back over to Colonel Heupel.

COLONEL HEUPEL: I know that that was a lot of information, and it's pretty detailed and hard to get first or maybe second swallow.

That's the draft environmental impact statement, (holding up the book) and it's pretty

comprehensive as well, and takes a few swallows going through that as well.

Let me just say, if you have not gotten a copy of it and are wanting to know more about it, copies -- one, you can get on the list to get a copy but copies also are available at the public libraries in Rome, Utica, and in Syracuse.

And as I say, if you want to get a copy, you can request that at the desk and see if that can be done.

At this time, we're going to take a recess. After that recess, I'll get the cards of anybody wanting to speak.

If you indicated that -- you didn't indicate you wanted to speak and you've got some questions or some comments you want to make, if you would just either fill out a new card or get your card and have that checked so it will make it easier for us to call on you, we'll start back up in between 10 and 15 minutes. Thank you.

(Whereupon, there was an intermission in the proceeding.)

* * *

COLONEL HEUPEL: At the break, we were asked for a clarification and I think it's a clarification that's appropriate we go ahead and start with, before we get into the comment period.

And the question was, essentially, why are you talking about an alternative that talks about the Rome Laboratory and air field being closed when that's not the action that we understand is being taken?

And let me ask Mr. Farthing to address that.

MR. FARTHING: The way the alternative need -- which is the one that does mention the closure of Rome Lab and the air field -- came about was, this spring when the DOD came out with its recommendations on BRAC 4, we looked at Griffiss, the EIS at Griffiss to see how we could get this document completed as quickly as possible in order that no matter what happened at Griffiss Air Force Base, there would be an alternative and there could be selected -- and

would not slow down the eventual disposal and reuse of the property.

The best way we could come up with, was to add an alternative that looked at the BRAC 4 recommendations. That alternative obviously, is no longer very valid, because -- Rome Lab is now to stay open.

However, the air field is to close eventually, so, that part of it is still valid.

We think the combination of that part of that alternative along with parts of the other alternatives will satisfy the intent of NEPA, which is a total analysis of the reuse and disposal and eventual reuse of the Griffiss Air Force Base.

And so that part of it -- (when the) law finally becomes effective, we think some time in the middle of September, that part describing the closure of Rome Lab will no longer be valid, it will never be selected.

NEPA is set up where we look at all the reasonable, foreseeable alternatives. In this case, the proposed action reuse, we've tried to do that. The decision-maker can select any of those alternatives, unless, in this case, BRAC 4

said Rome Lab is going to stay open, he couldn't select that one.

But he could select and he could look at the analysis of the part that addresses the closure of the runway. So hopefully, that clarifies any questions anybody has about that part of the document.

* * *

COLONEL HEUPEL: 'At this time, I have five speakers and I have no indication that any of them are elected public officials, so I'm going to take them all at once as members of the general public, and shuffle these cards, and I'm going to pick two names.

Given the size of the auditorium and the difficulty of getting around, the first name will be the first speaker and the second name -- I'm just going to ask the second individual to come on down and have a seat in the first seat there, beside where the court reporter is, so it will be easier for you to go ahead and get up and begin speaking when the first speaker has finished.

And at that point, I'll indicate who the next speaker will be, so that they will be able to make their way down to the seat while the other individual is beginning to speak.

Having gone through these enough, I have -- the first speaker would be Joseph Zeppetello.

And the second speaker -- and you're the one that I would ask to come down, would be C F W Wheellock.

And Mr. Zeppetello, if you would come on down to the lectern -- and I want to ask everybody to make your comments from the lectern.

The microphone has been turned up, but I want to make sure that we're able to get your comments. As I indicated, if you would just address your comments to me, and -- I realize, with the press here, that can be a little bit intimidating but we'll just ignore them.

* * *

MR. ZEPPETELLO: My name is Joseph Zeppetello, formerly with the county of Oneida, and I worked with the office of the aging.

1.1-1

And recently, it was brought to my attention that they have intention of tearing all those beautiful homes out there, down, and I believe that would be a horrible waste. We have so many. As my capacity with the office of aging, I got very involved with the elderly and their problems. And their fears.

And believe it or not, we had a lady come in from New York, a widow, and she took a home, bought a home in Utica, and she built -- and you may think I am exaggerating -- but she built three fences around her home, all of different materials.

This was a fear that this lady had. And once she got in there, we couldn't get to her because she would take her phone off the hook.

And it's no reason in this world, that in this country, we should have people that fearful of their neighbors, of being hurt, or robbed.

Now, my, idea was -- and I've said this before -- with all the homes that we've got in the city of Rome and with that big capacity they have out on the base, that we could become sort of a senior center, of people who would come, that don't really want to go to Florida or

Arizona or that, but like the change of the weather, but would come to Rome and help us pay the taxes.

Now -- and the way it could be done is that we could advertise the fact that in our community, being that it's small, we have very little crime, and so to speak, we have a

1.1-1

hospital, we have railroads, we have wonderful roads, very close airport, we have -- and very close to the Thruway so they wouldn't be isolated from the big cities.

And I'd bombard the cities like New York, Chicago, Boston, all these big cities and tell them about what we have got here for them. The houses are not expensive because there are so darn many empty. That's really what my idea is, and I hope they don't tear them down. Thank you.

COLONEL HEUPEL: Thank you, sir.

(APPLAUSE)

COLONEL HEUPEL: Mr. Wheelock will be our next speaker, and after him, will be -- I believe it's Louis Robertson. And I didn't say -- and I apologize, I'm giving basically, up around ten minutes or so, and I'll poll after

the speakers to see if there's anybody else, but there's a fair amount of time.

Go ahead, sir.

MR. WHEELOCK: Thank you. My comments will be in five basic areas this evening, to the report.

Number 1 is, you mentioned earlier, the social impact assessment, already in detail on the format of what the content of that is going to be.

I assume it might be patterned after Dr. Charles Geisler's (phonetic) book, out of Cornell University, which assess social impact assessments on issues other than military bases but just on social impact assessment as an

1.2-2

option or in a complementary manner to environmental impact assessment.

If it's not, then I believe there's concern about the format of the social impact assessment.

Also have a question about, concern about, there was no mention of time frame in which that would be available, and also, there is no mention of the comment period which might be relevant to that discussion of that particular

aspect.

You mentioned also, it wasn't required but also, I believe it's a socially responsible act on the part of the Air Force and the base closure commission to try and address that sometimes unrelated issue to the environment.

I would hope that the format would be clarified in the time frame and the comment period would be further elaborated on for the public to have some input into that.

On the second point I would make, the analysis seemed to deal with only designated site uses.

Therefore, it infers that if there are any other site uses not mentioned at this time, they are not analyzed in this particular environmental impact assessment and with the time frame we have of September 30, as I

1.2-2

understand, is implementation of the alignment, then I wonder how those other uses might be assessed, that might not come up between now and then, or might come up through the public comment period?

So again, I'm concerned about the analyses being based upon only designated site uses and

not allowing for further uses which might come up through public comment.

Thirdly, I would suggest in the appendix, particularly Appendix C dealing with the mailing list, that the appendix be included or be expanded to include Indian governments, particularly, the Oneida Indian Nation of New York, Oneida Nation of Wisconsin, and the (Ontario) (inaudible) community of (inaudible), Canada, as well as the department of interior, specifically, the Bureau of Indian Affairs.

1.2-3

And I'll get to the reason for that in my fifth point or in my fourth point.

I believe that added to the mailing list, there are additional factors, there are additional players who would have an input into the use of the facility as well as into possible options that are not always addressed by the local officials, as you mentioned earlier, in their particular roles towards the different constituencies and the Indian nations I mentioned.

Also, in Appendix L, I suggest that the

1.2-4

mitigation monitoring checklist be expanded to include the above specific entities I mentioned

earlier.

I make that point because in that monitoring checklist, there are eight specific noted -- under "note," there are eight specific noted entities: The county, city, the corps of engineers, department of transportation and on down to the town level.

However, there are two mentioned, not in the noted part but in the specified points, that deal with the new property recipient, which infers it could be other than noted folks and also refers to other groups, which again refers to a kind of nebulously anything.

So I just say, add those points to that on my third point. On the fourth point, of -- in 3 point 4 -- 6, 3 point 4 E, which deals with anthropological and paleontological approach, that there is a need to address the Indian land tenure issue. There seems to be a gap between earlier human occupation of 10,500 B.C. and then

1.2-5

apparent reported documented European activity here of 1524, about 9,000 plus years of occupancy.

It alludes to the Indian land tenure issue, which is still not addressed adequately in this

country or specifically, in the state of New York, with the other land tenure issues that

1.2-5

are being discussed and negotiated right now between the Indian nation and the state of New York.

Particularly in this area, it mentioned the Mohawk and Oneidas and as I'm a member of the Oneida Nation myself, I find I need to elaborate a little bit more on that part of the analysis.

My fifth point deals with the sometimes-used

1.2-6

categorization of military properties where it goes into surplus property. That, I didn't see was addressed anywhere.

I realize there's issues here, local non-indigenous community that have to be addressed as far as employment, quality of life, et cetera.

However, normally I believe there's a process where military bases and others have gone into a surplus property category, which is by law, again available to the Indian Nations, to be one of the players and in closure, that's basically my concern about the Native American nations are not included here as players, either in the points I made earlier in number 3 --

excuse me, or number -- the point of number 3 being the (inaudible) mitigation monitoring checklist.

So I would just submit that to you as consideration for your future discussions, and particularly, in discussions on the environmental impact assessment as well as inclusion in the social impact assessment.

Thank you.

(APPLAUSE).

* * *

MR. FARTHING: There's a couple of these things, here, that I could probably add a little to, here. The socioeconomic statement that we do has no particular comment period. We expect within the next couple of weeks, it will be out, it will be in public libraries.

If you have any comments or things that you think are incorrect, whatever, write us a letter or -- we'll be happy to respond back to you. If it's a problem, we'll just have to see, we'll make revisions where necessary, on that, also.

The other one will be, we certainly will add

any one -- any of the Native American governments to our mailing list, that's not a problem at all on that one.

As far as other reuses, we -- this is an EIS that's gone through the typical EIS process, which is, we go through a scoping effort early. And during that period, we ask for inputs on things like what we should be analyzing, alternatives to what we propose to do.

That's typically the time. If there is something that someone has come up with, we'll look at it at any time and discuss it with you.

* * *

COLONEL HEUPEL: At this time, Mr. Robertson will be the next speaker. And the two I have left, Jim Ocuto, will follow. So if you would come on down while Mr. Robertson is going up to the lectern.

MR. ROBERTSON: Good evening. I'm not here as an elected official. And I don't want to make a speech. I just want to make a comment to

1.3-1

the alignment committee here here. Back in the fall, at Staley's, I expressed how -- an

interest in the base chapel.

I've been a deacon there for some years. And we've been on that corner of Erie Boulevard for 67 years.

After talking to some of the committee, I

1.3-1

was told to fill out a blank on what we was going to use it for.

What do churches do? We serve the community. And Lord knows, we need service in this community. And I'd like to ask that committee to consider Mount Calvary when they are going through their process, of letting this property go. Thank you.

COLONEL HEUPEL: Thank you, sir.

(APPLAUSE).

COLONEL HEUPEL: And after Mr. Ocuto, will be Emlyn Griffith.

MR. OCUTO: Thank you, Colonel. I appreciate the opportunity to come up here and speak. I wasn't really planning on it, but what I would like to make everybody aware of, everybody knows how much Griffiss has meant to the Rome area and -- economically. I'm a

1.4-1

contractor located in Rome and have worked at the base for many years, along with other

contractors in the area.

I want to make people aware of the fact of the way and object to fact, the way the government is handling the awards of the contract for environmental clean up.

There's presently 16 million dollars worth of contracts being awarded through Brooks Air Force Base to out-of-state contractors. There is a section -- I want to leave this as part of the record -- there's a section which was mandated by Congress, section 2912 of the

1.4-1

Defense Acquisition Act of 1994, that gives preference to local contractors, local business, local and small businesses.

And we are not receiving that preference; we're not even allowed to bid on any of the existing work, the remaining work at Griffiss.

So I would like to leave this, and just make people aware that in the last remaining jobs, we should try to keep them local.

And I think we should, as a community, we should do everything we can to see that whatever work is left at the base, be kept locally, at least within the counties that is mandated by the law and we have the support of Oneida County

and the community, and the city of Rome, and New York State in this.

So I'll leave this and I appreciate again -- I know it's a little off of what we've been talking about but I would like to leave this for the record.

COLONEL HEUPEL: Thank you. If you would give that to me, I'll make sure it's part of it.

(APPLAUSE).

COLONEL HEUPEL: Mr. Griffith.

MR. GRIFFITH: Thank you, Colonel. Like you, I'm a lawyer, but I'll be brief. I'm also the New York State regent for central New York and I'm former chair of the joint committee for Griffiss Air Force Base, so I've been involved in the efforts for quite a few years.

I raised the issue with you, Colonel, and with Mr. Farthing, about the DOD recommendation for closure of Rome Laboratory, having been rejected by the BRAC and by President Clinton.

1.5-1

So I am pleased Mr. Farthing clarified the inclusion of alternative D and I hope that all of the future recommendations and analyses are accurate and based on the current status of the future of Rome Laboratory.

And I strongly urge that alternative D

1.5-1

either be eliminated from your analysis or modified so that it is accurate and realistic.

Also, I suggest that the Air Force environmental analysis division verify the

1.5-2

number of Air Force units that are leaving and those that are remaining so that the analysis is factually correct.

Respectfully, I point out to the hearing team that there are factual inaccuracies in the first paragraph on page 3. And I trust that the Air Force environmental analysis division will ascertain the accurate numbers of units remaining and units departing, because I think, as the community looks at the Air Force recommendations, that there need needs to be an accurate, factual case. Thank you.

(APPLAUSE).

COLONEL HEUPEL: Thank you. Now, that is all of the cards I have. However, let me just ask whether there are any other people that have not done cards, but I'll give a brief opportunity to see if there is anybody else that has any comments or know of any environmental issues.

Sir, if you would come on down to the lectern. As I said, I want to just make sure everybody has an opportunity, whatever their comment is, as long as it's reasonably related to the base and the environment, I want to make sure people have an opportunity.

Sir, if you would state your name and indicate where you're from?

MR. DAVIDSON: Colonel, my name is Don Davidson and I've been here in Rome for 35, 40 years, and worked at the base, both military and civilian capacity and have businesses here, so I'm fully aware of what's happening to this community.

I find one thing, being a long time pilot, that we have got word, my understanding from the Air Force and their planning is that there is no such thing as joint use of that runway or any of the air field facilities.

Now, throughout the world, there are many joint use airports, some open to civilian and municipalities with Air Force units on it and vice versa, Air Force bases with civilians utilizing the runway.

Right now, in this community, between here

and Utica, there is an airport that's being closed by highway construction. There is inadequate space in the area for the airplanes to move out of there and the shops, there's no thought of establishing them any place else.

There is another little airport just southwest of here, that has no expansion capability. Oneida county airport is completely saturated.

However, because the lack of traffic, mainly because of Griffiss closing has hurt the traffic figures in Oneida County, I am sure you'll find the FAA is going to turn the tower over for part-time operation to a contractor within a year, and within two years of the current projections, the tower will be closed.

We need this area, this runway and this airport. We don't need it, the runway, today. But my understanding, Air Force says no civilian use, they quote some regulation which says, without a full time tower and all this sort of thing.

There is always exceptions and there's always regulations that are in error and if we today, would joint use of that runway, we

couldn't be in the way of Fort Drum or anybody else, and there are many civilian pilots using runways without towers, that this could be a small beginning of an aircraft maintenance shop.

I know of eight or ten antique airplanes badly in need of repair, pull out storage barns within 10, 15 miles of here, would be the beginning of a museum.

But we need some space such as, some people refer to it as Tin City, the hangars on the west end of the field, the small hangars could be the beginning of a museum. A museum --

There are numerous licensed mechanics who would work and restore those airplanes and be available for other general aircraft in the area, and the trickle would build and we would have a small facility here, and it's better to have a small one that's growing than a -- big dreams about building this up, with some industrial complex.

1.6-1

And we need that runway, we need the shops. And I think the Air Force decision, no joint use, is absolutely wrong. And if the FAA, I'm sure, could support -- help support the tower, more than they are now, and since I know they

are phasing out of Oneida County.

So please consider permitting joint use. The planning people, I believe, here, don't consider it because the Air Force says, can't be done. Well, it can be done.

1.6-1

And I think we, the city, county, need your help. We don't just need one old B-52 down in that area, we need a supply of airplanes and some employment, thank you.

(APPLAUSE).

COLONEL HEUPEL: Thank you. Is there anybody else that has not previously spoken, that has any statement that they wish to make at this time?

(NO RESPONSE).

COLONEL HEUPEL: Apparently not.

* * *

COLONEL HEUPEL: I want to thank all of you for coming out and speaking and I want to -- coming out and being with us tonight.

And particularly, those of you who spoke, I want to thank you for your oral comments.

Again, we solicit your written comments.

Again, I recognize, given the nature of this document, it's very difficult to try to summarize here, in a presentation to you, if you haven't already looked at it.

But if you have interest, we would urge you to take a look at it, at the libraries or if someone you know has a copy of it.

And if you're aware of some environmental issues, we would like to have you send us your comments with regard to the proposals and any environmental issues you know of, so that the best possible decisions regarding the environment and the reuse of Griffiss Air Force Base can be made based upon your knowledge of this local area.

Thank you very much for coming out. The hearing is closed.

(Whereupon, at approximately 8:46 p.m., the proceeding was then adjourned.)

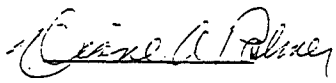
* * *

C E R T I F I C A T E

Document 1

I, DIANE A. PALMER, a Registered Professional Reporter and Notary Public in and for the State of New York DO HEREBY CERTIFY that the foregoing is a true and accurate transcript of my stenographic notes in the above-entitled matter.

DATED: September 22, 1995



Document 2

ONEIDA NATION IN WISCONSIN, NEW YORK DEVELOPMENT
1001 E.Genesee St.
Chittenango, New York 13037 P.O Box 177
(315) 687-6945 1800- 814-1191
Fax: (315) 687-6127

September 18, 1995

Via Telefax 210-536-4254

Jonathan D. Farthing
Chief
Environmental Analysis Division
8106 Chennault Rd Bldg 1161
Brooks AFB TX
78235-5318

RE: Public Hearing Comments of August 29, 1995 for the Griffis AFB Environmental Presentation

Dear Mr Farthing:

I enjoyed your presentation on the Griffis Air Force Base Environmental Study. Enclosed you will find my public comments in the following general areas:

1. Development of a social impact assessment to compliment the environmental impact assessment | 2.1
2. Address the surplus land status of military installations as relates to the Indian land tenure issues which are addressed in land rights negotiations and litigations | 2.2
3. Addition of the following Oneida Indian parties to the local affected parties and units of government Please include these on your formal address lists. | 2.3

United States Department of the Interior
Bureau of Indian Affairs
Assistant Sec. Ada Deer
1849 C Street Nw
Washington DC
20500

Oneida Nation in New York

Oneida Tribal Offices
Oneida Nation Territory
Via Oneida Territory
13421

Oneida Tribe of Indians in Wisconsin

Oneida Environmental Resource Board
Chairman Ron Hill
Oneida Tribe
P.O Box 365
54155

Document 2

Onyota'a:ka Thames

Oneida Land Rights In New York
Chairman Arnold Antone
Onyota'a:ka Administration Office
RR #2 Southwold
NOL 2GO

I hope to hear from you in the near future.

Thanks You

CFW Wheelock, Planning Director

New York Community Development

CC: Major Don Gleason Environmental Engineer

Onyota'a:ka at the Thames (Onyota'a:ka Land Rights in New York)

Oneida Tribe in Wisconsin

Oneida Nation in New York

Document 3

Ocuto Blacktop & Paving Co. Inc.

GENERAL CONTRACTORS

TELEPHONE: (315) 337-7070
Plant: (315) 337-0795
Fax: (315) 337-1060

BOX 490 • LOWER LAWRENCE STREET • ROME, N.Y. 13440

Jonathan D. Farthing , Chief
Environmental Analysis Division
HQ AFCEE
8106 Chennault Rd.
Brooks AFB , TX 78235-5318

August 29 , 1995

Enclosed please find copies of two letters , sent to two different offices at Griffiss AFB.

They are in regard to the award of environmental remediation contracts at the base.

3.1

We would like these letters entered into the record of the public hearing held this date at Mohawk Valley Community College - Rome , N.Y.

Jim Ocuto
President , Ocuto Blacktop & Paving Co. , Inc.

OCUTO BLACKTOP & PAVING CO., INC. ROME, NY

MEMBERS OF: MVBE NAPA Associated General Contractors of America

Printed on Recycled Paper

Document 3a

LAW OFFICES OF

KELLY & WALTHALL, P.C.

SUITE 400 MAYRO BUILDING
239 GENESEE STREET
UTICA, NEW YORK 13501
TELEPHONE 315-724-3158

WILLIAM W. KELLY
STEPHEN L. WALTHALL

ANNE M. ZIELENSKI
PARALEGAL

August 7, 1995

Anna LeMaire
Site Manager
Griffiss Air Force Base
153 Brooks Road
Rome, NY 13441

Re: Griffiss Air Force Base

Dear Ms. LeMaire:

We are the attorneys for Ocuto Blacktop and Paving Co., Inc., a small business located in Rome, New York which, in the past, has engaged in various activities at Griffiss Air Force Base as both a prime and subcontractor.

As we all know, Griffiss, a large customer of Ocuto, has been realigned to the point of effective closure, a fact which has greatly impacted everyone in Rome, New York, and especially the businesses such as Ocuto which served the base.

Presumably, because of the impact of base closures such as this, Congress included language at §2912 of the Defense Authorization Act of 1994 which requires the Secretary of Defense to give preference to local and small businesses affected by base closures or realignments. The language reads as follows:

> **Sec. 2912, Preference for Local and Small Businesses.**
>
> **(a) PREFERENCE REQUIRED. In entering into contracts with private entities as part of the closure or realignment of a military installation under a base closure law, the Secretary of Defense shall give preference, to the greatest extent practicable, to qualified businesses located in the vicinity of the installation and to small business concerns and small disadvantaged business concerns. Contracts for which this preference shall be given shall include contracts to carry out activities for the environmental restoration**

Document 3a

and mitigation at military installations to be closed or realigned.

In turn, this requirement was apparently implemented by the Defense Federal Acquisition Regulation Supplement (48 CFR Part 226.71) (copy enclosed). In short, the mandate seems clear - use local and small businesses.

Although this requirement exists, it appears that it cannot for some reason be implemented at Griffiss. For instance, there is environmental remediation activity presently ongoing at Griffiss which was given to Haliburton NUS Group as General Contractor, subcontracted to Brown and Root, and further subcontracted to CCC Group, Inc., all non-local businesses. This is apparently done because the Base Closure Agency uses Service Centers (eg. Air Force Center of Environmental Excellence (AFCEE)) who deal with national Indefinite Duration, Indefinite Quantity (IDIQ) contracts and national contractors rather than local ones. The service centers are apparently used at the discretion of the Base Closure Agency since there are no longer any local contract officers at Griffiss. AFCEE apparently takes the position that, because the work to be done at Griffiss is or will be covered under IDIQ contracts awarded prior to 1994, the local priority mandate does not apply, which in turn limits its requirements to round four closures only and removes Griffiss and all other present closures/realignments from its application. The end result seems to be the use of non-local contractors at considerably greater expense, while local contractors, preferred by Congress, may not be included in the subcontracting process and are completely excluded from any possibility whatever of becoming a prime contractor.

We are advised that there are contracts for work at Griffiss for 1995 and 1996 yet to be awarded, some of which are scheduled to be given during August 1995. These will be some of the last projects to come from Griffiss, and it appears that, unless your assistance is obtained, these contracts, too, will be awarded through service centers to national contractors to the exclusion, whole or partial, of local contractors such as Ocuto, and in frustration of the Congressional mandate.

It is extremely important that local contractors not be denied the opportunity of being notified of, and bidding on, the remaining projects at Griffiss, either as subcontractors or prime contractors. At present, the system apparently being used absolutely denies a local contractor even the possibility of receiving a prime contract, thus discriminating against the very businesses that Congress mandated preference for.

We seek your assistance in correcting this anomaly in the present system. What can and should be done:

1. to give local small businesses such as Ocuto the chance to obtain through the normal bidding process the award of prime and sub contracts at Griffiss;

Document 3a

2. to prevent national contractors from obtaining the few contracts remaining at Griffiss;
3. to insure that the Congressional mandate of §2912 is fulfilled and applied immediately.

As time is of the essence if the remaining contracts are to be saved, your immediate attention and reply to this inquiry is greatly appreciated.

Very truly yours,

KELLY & WALTHALL, P.C.

By: Stephen L. Walthall

SLW:clm
Enclosure

Document 3b

Ocuto Blacktop

GENERAL CONTRACTORS

TELEPHONE: (315) 337-7070
Plant: (315) 337-0795
Fax: (315) 337-1060

BOX 490 • LOWER LAWRENCE STREET • ROME, N.Y. 13440

August 9, 1995

Mr. Mike McDermott
Air Force Base Conversion Agency
153 Brooks Road
Griffiss AFB 13441-4105

Dear Mike:

Thanks for the opportunity of meeting with you and the others today. I feel we made some real progress in defining the problem.

We discussed that it would be to the advantage of the local community if the jobs were designed, bid, awarded and controlled locally. If that's so, why can't we do that? We should try to find the answer to that question.

For our part, I am going to pose the question to some of the people we've already called and written. I ask that you do the same within your direct chain of command. Somewhere, someone knows the answer to that question, and I think we are more efficient and productive working together to keep this work within our community.

Since we will be trying to find out if it's really necessary to send contracts to AFCEE, and since sending them before the answer comes may be counter productive, I request that you hold up on the awards of the following project numbers:

930042 Remove & Replace Underground Storage Tanks
Over $1.5 Million
Award to be made this month

950036 Access/Close Hazardous Storage Waste Area
Over $970,000
Award to be made this month

950038 Abandon Jet Fuel Tanks and Pipeline
$1.5 - 2 Million
Award to be made this month

Document 3b

** 957050 Source Removal
Over $2.5 Million

** 957090 Confirmatory Sampling of Various Sites
Over $2,000,000
Awarded to E&E Environmental

** 947003 Sampling in Northern Clear Zone
Over $100,000
Awarded to E&E Environmental

** 947005 Investigation Taxiway 18
$300,000
Awarded to E&E Environmental

** 947006 Investigation at New Dump Site
Under $200,000
Awarded to E&E Environmental

** 947009 Investigation & Design Only Aqua System
Over $2,000,000
Awarded to CDM Kansas City
Kansas City Corps of Engineers

** 947082 Federal Facilities Agreement Study on Sites
$3,000,000
Awarded to E&E Environmental

930195 Site Investigation for Small Arms Range
Under $100,000

960020 Access/Close Oil Water Separators
$3-4 Million

930054 Preliminary Assessment Site Investigation
Pump House #1
Under $100,000

** 960021 Close Pump House #5
$.5-1 Million
May be mandated with penalty, continent on finding of previous pump house

960042 Close Underground Storage Tanks
$2-4 Million

966005 Design/Closure Plan Investigation
$800,000

966006 Close Underground Septic Tanks
Under $200,000

967001 Install Fence Around EOD Site
Under $100,000

** What is anticipated award and completion date for these projects, and are there any penalties involved with their delay?

It is not our intent to delay contracts that may be crucial to the redevelopment plans for Griffiss, but rather to keep the dollars spent in the local economy as mandated by Congress. Mr. Walthall's letter of August 7, written on our behalf, clearly states our position.

Again thank you for all your assistance and I think that your help in locating the authority for doing the work locally will be very important.

I am

Sincerely

President

Document 4

Written Comment Sheet

Draft Environmental Impact Statement for the Disposal and Reuse of Griffiss AFB, New York

Thank you for attending this public hearing. Our purpose for hosting this hearing is to summarize for you the environmental consequences of the disposal and reuse of Griffiss AFB, and afford you an opportunity to bring to our attention potential environmental issues that you feel have not been adequately analyzed in the Draft Environmental Impact Statement.

Date: 29 AUG 95

I READ SOMEWHERE IN THE MANUAL THAT SOME OF THE HOUSES WILL BE DEMOLISHED. IT'S UNFORTUNATE THIS MAY BE DONE AS I LIKE TO THINK ALL BASE HOUSES MAY BE AVAILABLE FOR THE PEOPLE. SOME 19,000 EXPECTED TO POPULATE THE AREA BY THE YEAR AROUND 2016 4.1

Name: DAVID E HOMEKAY

Address: 103 ROSE LN APT 4C ROMENY 13440

Street Address City/State/Zip Code

Please hand this form in or mail to the following address by September 18, 1995.

HQ AFCEE/ECA
Attn: Jonathan D. Farthing
8106 Chennault Road
Brooks AFB, TX 78235-5318

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

received
9/27/95 SC

Document 5

SEP 25 1995

Jonathan D. Farthing, Chief
Environmental Analysis Division
Headquarters, Air Force Center
for Environmental Excellence (HQAFCEE)
8106 Chennault Road
Brooks AFB, Texas 78235-5318

Class: EC-2

Dear Mr. Farthing:

The Environmental Protection Agency (EPA) has reviewed the draft environmental impact statement (EIS) for the Disposal and Reuse of Griffiss Air Force Base (GAFB), New York. This review was conducted in accordance with Section 309 of the Clean Air Act, as amended (42 U.S.C. 7609, PL 91-604 12(a), 84 Stat. 1709), and the National Environmental Policy Act.

GAFB is being realigned pursuant to the Defense Base Closure and Realignment Act of 1990, and is scheduled for realignment on September 30, 1995. While some portions of GAFB will close, several organizations will remain, including: the Rome Laboratory (Rome Lab); the North East Air Defense Sector; the New York Air National Guard; the First Space Surveillance Squadron; and the Defense Reutilization and Marketing Office. In addition, the Defense Accounting and Finance Service and the Veterans Administration will establish operations at GAFB prior to September 30, 1995.

The draft EIS evaluates several alternatives for the disposal and reuse of GAFB, including: the Proposed Action, the development of a high technology office/research and development (R&D) complex; Alternative A, redevelopment of the base as a research park and expansion of an existing 9-hole golf course; Alternative B, development of a business and commercial district and construction of an 18-hole golf course; Alternative C, relocation of the Oneida County Airport to GAFB; Alternative D, closure of Rome Lab and the airfield, and the development of a R&D park; and No Action. Based on our review, we offer the following comments.

Installation Restoration Program (IRP) Activities

GAFB was placed on the National Priorities List on July 22, 1987. As such, the Air Force has entered into an interagency Federal Facility Agreement with the New York State Department of Environmental Conservation (NYSDEC) and the EPA to identify, characterize, and remediate environmental contamination at GAFB.

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on 100% Recycled Paper (40% Postconsumer)

Document 5

The draft EIS correctly states that reuse of GAFB must be compatible with remedial activities. However, we are concerned that it may not be possible to remediate some sites to standards compatible with the reuse plans identified in the Proposed Action and other alternatives evaluated in the document. Specifically, the draft EIS indicates that landfills, which are either IRP sites or Areas of Concern, are located in proposed public and recreational areas. It must be noted that cleanup standards for these areas have not been established. Moreover, specific recreational/public reuse activities have not been described in sufficient detail. As such, we believe that it is premature to make a determination regarding the appropriateness of various forms of recreation and public reuse of these sites. Accordingly, the final EIS must discuss in detail the reuse plans for these areas, as well as the measures to be taken to ensure that remediation of these sites is compatible with proposed reuse plans. 5.1

In a related matter, the Proposed Action and alternatives evaluated in the draft EIS do not show IRP site SD-32 (Six Mile Creek) as a continuous stream. Rather, Figures 3.3-3, 4.3-1, 4.3-2, 4.3-3, 4.3-4, and 4.3-5, depict the Creek ending mid-way through the runway, and reappearing at the southern end of the base. These figures should be adjusted in the final EIS to accurately show Six Mile Creek as a continuous IRP site extending from the northern portion to the southern boundary of GAFB. 5.2

Wetlands Impacts

Although the draft EIS indicates that a thorough jurisdictional wetlands delineation, pursuant to U.S. Army Corps of Engineers (ACE) protocols, has been performed, the document states in various locations that GAFB contains a total of 111, 118, or 235 acres of wetlands. In order to permit an accurate review of the proposed project's wetlands impacts, the final EIS should clarify the amount of wetlands on GAFB. 5.3

The draft EIS states that there will be a loss of 1.5 acres of ACE jurisdictional wetlands under the Proposed Action. As acknowledged in the draft EIS, ACE authorization will be required pursuant to Section 404 of the Clean Water Act. We recommend that a discussion of the 404 requirements, including detailed plans for mitigation, be included in the final EIS. 5.4

In a relater matter, we commend the Air Force's decision not to select Alternative B for the Proposed Action, which involves the construction of a new 18-hole golf course, potentially impacting as many as 40 acres of wetlands. 5.5

Air Quality

GAFB is located in an attainment area for both ozone and carbon monoxide. Therefore, a conformity analysis is not required. Furthermore, based on our review of the Proposed Action as well as the other alternatives discussed in the draft EIS, we do not believe that implementation of any of the alternatives would adversely impact air quality in the region. Overall, the project conforms with the State Implementation Plan. 5.6

Document 5

In summary, based on our review and in accordance with EPA policy, we have rated this draft EIS as EC-2, indicating that we have environmental concerns (EC) about potential contaminant issues related to the reuse plans for some IRP sites. Accordingly, additional information (2), as outlined in this letter, must be presented in the final EIS to address this issue, and to correct the discrepancies regarding the extent of wetlands on GAFB.

Thank you for the opportunity to comment. If you have any questions concerning our comments, please contact Daisy Mather of my staff at (212) 637-3493.

Sincerely yours,

Robert W. Hargrove, Chief
Environmental Impacts Branch

cc: M. McDermott, GAFB
G. Gangnus, AFBCA-NE
J. Greco, NYSDEC

Document 6

Sevine Talley
618-229-9595

15719 Mahogany Circle #405
Dalmersburg, MD 20878
25 Sep 95

Mr. Jonathan D. Farthing, Chief
Environmental Analysis Div HQ
AF Center for Envir Excellence
8106 Chennault Rd
Brooks AFB, TX 78235-5318

Best Available Copy
(See attached retyped version)

RE: Griffiss AFB, NY: The Future Utilization of Deactivated Military Installation Housing
Comments to Draft EIS.

Dear Mr. Farthing:

As a 5th generation Roman who resided in the Rome area about 40 years and is a frequent visitor to the Rome area, I am definitely concerned about what happens in Rome, New York. As a former military dependent of 25 years, many years a volunteer at both the GAFB Youth Center and Family Services, I care what happens to Griffiss Air Force Base, New York. As a researcher who completed a thesis in 1990 concerning "The Reutilization of Deactivated Military Installation Housing" and speaker on this topic at professional conferences, I feel qualified to state the following.

The Draft Environmental Impact Statement (EIS) regarding disposal and reuse of Griffiss Air Force Base, New York fails to address Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations" dated 11 Feb 94, as follows:

Failure to provide outreach and technical assistance in addressing the environmental and health related needs of minority and low-income residents. This failure to act is a form of discrimination and a continuance of the injustices suffered disproportionately by minority and low-income communities. This failure could result in the destruction of quality housing that is desperately needed in this community thus depriving minority and low-income persons of the quality of life that they deserve and furthering urban blight and decay in the community through the relocation of contracted public housing and privately-owned VHA housing.

Document 6

The following evidence is presented:

(1) Poor attendance at public hearings. Failure to sufficiently ensure that the affected members of the community - minority and low-income persons - were made aware of the fact that the deactivated military installation housing at Griffiss Air Force Base, New York was available for community reuse under certain circumstances. Certainly a problem should have been noted by those conducting the initial public hearing when only 35 persons (not necessarily minority or low-income) out a community of approximately 35,000 attended. Notification through a newspaper announcement is not adequate when the needs of a population who do not necessarily have access to the newspaper are being addressed. The information must be available to the affected persons in order to fulfill the intent of E.O. 12898.

(2) The Local Reuse Committee is not representative of the community. This committee has proven to be unresponsive to the needs of minority and low-income persons by suggesting plans that include demolition of housing that would upgrade the quality of life of these populations thus promoting the continuance of outdated public housing and privately-owned slum housing as residences for minorities and low-income populations.

(3) The Draft EIS does not address public transportation such as buses and taxis often the means of transportation by minorities and low-income persons. This omission further emphasizes the fact that the concerns of minorities and low-income persons who might be future residents and/or employees on the former Griffiss Air Force Base property were not a consideration.

RECOMMENDATION

That the Griffiss Air Force Base property become a model for deactivated Military Installations to ensure that future injustices to minority persons and low-income persons are averted by:

(1) Repeating the property disposition process to ensure that the civil rights of minority populations and low-income populations are preserved.

Document 6

(2) Conducting an aggressive media and outreach campaign headed by a reputable media professional selected by and accountable to the Department of Defense (DOD) to ensure that the goals of Environmental Justice are accomplished.

(3) Appointing a new, diverse Local Reuse Committee that is selected by and accountable to DOD. Suggest that applications for membership on this committee be available to all members of the community with emphasis on minorities and low-income persons and their bonafide representatives. Establishing standards for the composition of Local Reuse Committees (LRC) to include representation of minority and low-income populations.

(4) That the Chairperson of the Local Reuse Committee be elected by vote of the committee.

(5) Establishing sub-committees to assist the LRC to ensure that there is community involvement with the process. Actively encouraging citizen participation especially by minority and low-income individuals.

(6) Ensuring that reputable consultants selected by and accountable to the DOD will provide technical assistance to members of the community particularly minority and low-income populations seeking to form non-profit partnerships to facilitate acquiring deactivated military installation housing at GAFB.

(7) Ensuring that the New Reuse Plan be crafted by local planners as an end-product of the efforts of the local reuse committee and sub-committees. Technical assistance to be provided by Federal Agencies.

(8) In a new Reuse Plan encourage a residential mixed population community that provides opportunities for employment, education, recreation and public transportation. This type of interaction will nurture cultural diversity, promote community and encourage new initiatives as well as fulfill the goals of Environmental Justice, diversity, fair housing and several other Federal programs. Amenities such as a 4-lane parkway and expanded golf course would be incompatible with the new plan. Create attractive green spaces in areas formerly inhabited by the new residents of the former Griffiss Air Force Base.

Document 6

Enclosed are two articles that appeared in the weekly newspaper serving the Rome, New York area. I am the author of the piece written by "Alex".

I believe that it is not too late. There is community interest and there are excellent people available to serve on a new Local Reuse Committee. Tap these resources - these are good people. The minority and low-income people of Rome deserve this chance.

Griffiss Air Force Base, New York can be a model for success.

I welcome your questions. You may contact me at (301) 258-5795.

Thank you.

Sincerely,

Jachyme M. O'Neill

Jachyme M. O'Neill

Document 6

15719 Mahogany Circle #406
Gaithersburg, MD 20878
25 Sep 95

Mr. Jonathan D. Farthing, Chief
Environmental Analysis Div HQ
AF Center for Envir Excellence
8106 Chennault Rd
Brooks AFB, TX 78235-5318

Retyped Version

RE: Griffiss AFB, NY: The Future Utilization of Deactivated Military Installation Housing Comments to Draft EIS

Dear Mr. Farthing:

As a 5th generation Roman who resided in the Rome area about 40 years and is a frequent visitor the the Rome area, I am definitely concerned about what happens in Rome, New York. As a former military dependent of 25 years, many years a volunteer at both the GAFB Youth Center and Family Services, I care what happens to Griffiss Air Force Base, New York. As a researcher who completed a thesis in 1993 concerning "the Reutilization of Deactivated Military Installation Housing" and speaker on this topic at professional conferences. I feel qualified to state the following.

The Draft Environmental Impact Statement (EIS) regarding Disposal and Reuse of Griffiss Air Force Base, New York fails to address Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations" dated 11 Feb 94, as follows:

Failure to provide outreach and technical assistance in addressing the environmental and health related needs of minority and low-income residents. This failure to act is a form of discrimination and a continuance of the injustices suffered disproportionately by minority and low-income communities. This failure could result in the demolition of family housing that is desperately needed in this community thus depriving minority and low-income persons of the quality of life that they deserve and furthering urban blight and decay in the community through the retention of outdated public housing and privately-owned slum housing.

The following evidence is presented:

(1) Prior attendance at public hearings. Failure to sufficiently ensure that the affected members of the community - minority and low-income persons - were made aware of the fact that the deactivated military installation housing at Griffiss Air Force Base, New York was available for community reuse under certain circumstances. Certainly a problem should have been noted by those conducting the initial public hearing when only 35 persons (not necessarily minority or low-income) out a community of approximately 35,000 attended. Notification through a newspaper announcement is not adequate when the needs of a population who do not necessarily have access to the newspaper are being addressed. The information must be available to the affected persons in order to fulfill the intent of E.O. 12898. 6.1-1

(2) The Local Reuse Committee is not representative of the community. This committee has proven to be unresponsive to the needs of minority and low-income persons by suggesting plans that include demolition of housing that would upgrade the quality of life for these populations 6.1-2

thus promoting the continuance of outdated public housing and privately-owned slum housing or residences for minorities and low-income populations. 6.1-2

(3) The Draft EIS does not address public transportation such as buses and taxis often the means of transportation by minorities and low-income persons. This omission further emphasizes the fact that the concerns of minorities and low-income persons who might be future residents and/or employees on the former Griffiss Air Force Base property were not a consideration. 6.1-3

RECOMMENDATION

That the Griffiss Air Force Base property become a model for Deactivated Military Installations to ensure that future injustices to minority persons and low-income persons are averted by:

(1) Reporting the property disposition process to ensure that the civil rights of minority populations and low-income populations are preserved. 6.2-1

(2) Conducting an aggressive media and outreach campaign headed by a reputable media professional selected by and accountable to the Department of Defense (DOD) to ensure that the goals of Environmental Justice are accomplished. 6.2-2

(3) Appointing a new, diverse Local Reuse Committee that is selected by and accountable to DOD. Suggest that applications for membership on this committee be available to all members of the community with emphasis on minorities and low-income persons and their bonafide representatives. Establishing standards for the composition of Local Reuse Committees (LRC) to include representation of minority and low-income populations. 6.2-3

(4) That the Chairperson of the Local Reuse Committee be elected by vote of the committee. 6.2-4

(5) Establishing sub-committees to assist the LRC to ensure that there is community involvement with the process. Actively encouraging citizen participation especially by minority and low-income individuals. 6.2-5

(6) Ensuring that reputable consultants selected by and accountable to the DOD will provide technical assistance to members of the community particularly minority and low-income populations seeking to form non-profit partnerships to facilitate acquiring deactivated military installation housing at GAFB. 6.2-6

(7) Ensuring that the New Reuse Plan be crafted by local planners as an end-product of the effort of the local reuse committee and sub-committees. Technical assistance to be provided by Federal agencies. 6.2-7

(8) In a new Reuse Plan encourage a residential mixed population community that provides opportunities for employment, education, recreation and public transportation. This type of interaction will nurture cultural diversity, promote community and encourage new initiatives as well as fulfill the goals of Environmental Justice, diversity, fair housing and several other Federal programs. Amenities such as a 4-lane parkway and expanded golf course would be incompatible with the new plan. Create attractive green spaces in areas formerly inhabited by the new residents of the former Griffiss Air Force Base. 6.2-8

Enclosed are two articles that appeared in the weekly newspaper serving the Rome, New York area. I am the author of the piece written by "Alex".

I believe that it is not too late. There is community interest and there are excellent people available to serve on a new Local Reuse Committee. Tap these resources - these are good people. The minority and low-income people of Rome deserve this chance.

Griffiss Air Force Base, New York can be a model for success.

I welcome your questions. You may contact me at (301) 258-5793.

Thank you.

Sincerely

Jaclynne M. O'Neill

Document 6

Rasse Obamas
Aug 20-26, 1995
pg. 5

Best Available Copy

An Open Letter and an Invitation to the People of Rome, New York

by Alex

This Open Letter was written under a pseudonym with the knowledge and permission of the Publisher of the Rome Observer. The author is a native Roman who discussed the ideas herein contained with a number of people before sending it in. She found great interest and acceptance in the community, but an unwillingness by those in a position to listen and act— to do that—listen and act.

The author, who by reason of his/her position, is unable to disclose his/her identity. The Rome Observer understands and accepts that. What she has to say is far more important than who she is.

Who she is, just for the record. Is a well educated Roman; thoughtful, knowledgeable and an expert on housing and the closure of military bases.

To repeat— This newspaper was created in large measure to give people, shut out by other sources, an opportunity to be heard and read.

Susan and Carl Ellenberg

BULLDOZE: WHO or WHAT?

On Tuesday, Aug. 29th, at 7 p.m., in the auditorium of Mohawk Valley Community College, 1101 Floyd Ave., a public hearing will be held that will impact greatly on the quality of life of the citizenry of Rome and Oneida County. At that time the general population of the area may attend and comment on reuse alternatives for GAFB and their possible environmental impact.

As of this writing - August 17th - the Draft Environmental Impact Statement (EIS) reportedly filed with the Environmental Protection Agency (EPA) on Aug. 10th is unavailable at Jervis Public Library and the MVCC Rome Campus Library. It is most important that this document be available for all of us wishing to familiarize ourselves with this information.

I am writing this piece because I am concerned about the possible loss of a valuable resource. Right now - for the asking - we are blessed with the availability of an abundance of attractive, well-maintained housing situated in a marvelous combination countryside/suburban setting. There is the strong possibility that if we do not act now through studying this document, attending the meetings, informally meeting with friends and organizations we may lose this opportunity FOREVER. It has taken us 25 years to get to the point where Downtown as we remember it may be restored. Let us not have another mistake that it will take 25 years to correct. As we did not need a downtown that destroyed the communal fiber of a formerly viable shopping district we do not need a highway that diverts traffic from the Central Business District that it is trying to reconstruct. And we do not need to stand by while the Committee of 14 (originally R. Meier, S. DiMeo, R. Conover, P. Cataldo, E. Griffith, F. Tillman, S. Westbrook, J. Griffo, M. Capin, N. Eisenberg, C. Sutmeier, J. Warwick, I. Zawadski and R. Potocki) for whatever reasons bulldoze needed housing. If there is a compulsion to bulldoze let's invoke some rules. It cannot be used as a tool to manipulate the citizenry and the GAFB hearing. It can be successfully used to dismantle Liberty Gardens and existing slums in Rome.

Senior Citizen housing in Rome does not contribute to the health and quality of life of its occupants. Today's Seniors are active, vital, contributing members of the community. Envision how much nicer life could be in a 2-bedroom duplex with a dining area and space for

(continued on page 9)

a garden as well as parking and a garage. Wouldn't it be nice to have space for a visiting child or grandchild? Adequate closets, a kitchen with a window and a dining room for entertaining family and friends. Just because one is getting older does not mean that one is giving up. Giving up is just what is happening to those in some Senior Housing. Giving up the double bed for the single bed that fits either, the 3 cushion sofa for the settee, the family sized dining set, the lifetime momentos that there is no longer room for, the favorite clothes that there is no storage space for and on and on.

High rises for senior and low-moderate income families as well as stereotypical public housing such as Liberty Gardens are passe. They are not working. Several areas of the United States are currently in the process of changing public housing as we have known it. The citizens of Rome have the opportunity to be on the cutting edge. Think of the possibilities including becoming a model for other bases that are closing.

According to a recent Money Magazine survey, housing in the Utica/Rome area rated 30th in 1993 compared to 35th in 1995 on a scale making 100 the best and 0 as worst. In other words, it wasn't great and it is getting worse. In Rome a cursory survey will make this fact apparent. One merely has to drive through some neighborhoods particularly in the Western section to observe urban blight and decay at its finest.

What can we do?

Here are some ideas that I have received through brainstorming with some members of the populous. I believe that you who are reading this will add many more.

* Support and encourage your clergy to form a non-profit organization for the purpose of utilization of deactivated military installation housing at GAFB for Senior Citizen and/or low-moderate income housing.

* DFAS (the DOD Agency that is new to GAFB) has a Sister Agency, DCAS whose east office is presently located in Syracuse and currently actively considering relocation. The Regional Office of this Agency is in Boston. Why not explore the possibility of uniting these Agencies at GAFB? The current VOQ could be used for visitors to these Agencies as well as Rome Laboratory. Contact Congressman Sherwood Boehlert at 793-8146.

* Certain military retirees "gathering" in warmer climates have expressed interest in establishing a second home on their former base. They have fond memories of previously residing and/or being stationed here and welcome the opportunity to return. A definite plus for them is the hospital, golf course, commissary. They feel that if this was publicized in the service newspapers it would entice service personnel from areas such as Florida, Texas, the Carolinas, etc.

* Another positive use would be utilization of the Inscor Village Concept which combines a viable program for the education, retraining and housing of low-income individuals who fulfill an established criteria. This concept was developed for usage in conjunction with deactivated military instal-

Continued from page 5

lation housing.

Many Romans are concerned and rightly so about the numerous vacant homes as well as those presently offered for sale. The population that has been suggested as prospective tenants for the Civilian housing for a variety of reasons would not be potential purchasers of these properties.

Another concern is cost. There are programs to meet these needs. As Romans witnessed in the not too distant past - where there is a will there is a way. A good example of this was the efforts of the Seniors of South Rome who eventually built their Senior Center.

Written comments may be submitted at the hearing or can be mailed to:

Jonathan D. Farkas, chief
Environmental Analysis
Division Headquarters
Air Force Center for
Environmental Excellence
8106 Chennault Road
Brooks AFB
Texas 78235-5318

It is the hope of this writer that this piece will serve to assist in empowering you to make the decision to go forward and have your voices heard. You are residents of a city of over 35,000. It is YOUR decision - not the committee of 1.

It is up to you.

Rome Observer
September 20 - 26, 1995

More Ideas on the Base Housing Issue

To the Editor:

Of course, Rome should take over and keep the base housing. Rome should get it on the tax rolls as soon as possible. It's more the case possibly all the cases in Rome can be realized.

Yes, that means Rome will have more empty housing. People who have houses they want to sell in Rome now object that it will reduce the price of their property. Nobody ever said transition would be easy. The base housing is in better repair than much of the housing stock in Rome, and it is in coherent neighborhood. That's one of the major attractions for new business. Let's not completely give up on attracting new businesses.

The military typically 'sells' their housing to some civic unit for one dollar.

If Rome, or some Rome group organized to manage the housing, got it at that price, they could afford to sell or even give it to people who can't possibly afford a house now. Use the criteria used by Habitat for Humanity. That wouldn't mean up front their home for a base house, the city has them do so. The houses they scrapped would be substandard, why else would they want to scrap? Most of the substandard housing in Rome is in very crowded neighborhoods to leaving down a few will give the rest some space. If several in the same block want to swap, Rome would get some space that could be developed as green space or parking area.

I am not in favor of having base housing into a 'project.' I want most of it occupied by people who own it and pay taxes. However, base housing has been well (some would say too well) maintained. It should be much less expensive to operate than say, Liberty Gardens.

Too much of Rome looks like the aftermath of a bomb attack. Some of it looks like an abandoned mill town. The base housing looks, and is, like neighborhoods should look. Keep it, and make it an asset for Rome. ☆

Pat Longendorf
N. Madison St., Rome

Document 7

Steven J. DiMeo
Executive Director

MEMORANDUM

September 26, 1995

To: Major Don Gleason, AFCEE

From: Mark Reynolds, Deputy Director

Subject: DEIS Comments

CC: AFBCA, file

The Griffiss Local Development Corporation has reviewed the Draft Environmental Impact Statement dated July 1995 and offers the following comments:

1. The proposed action and alternatives A, B and C clearly represent the thinking of the Griffiss Redevelopment Planning Council (GRPC) and reflect the scenarios developed during the planning stages of the Griffiss Reuse Strategy effort. The impacts of these plans appear to be adequately addressed.

However, the Alternative D-Rome Lab/ Airfield Closure, does not represent a reasonable reuse scenario. The Griffiss Local Development Corporation has objected to the development of such a scenario since its inception. We have gone on record with both the AFBCA and the AFCEE that developing this scenario was (and remains) outside the charge of the BRAC 1993 decision. 7.1

We see the inclusion of this scenario as an inappropriate discussion of reuse alternatives, and in fact, flies in the face of the reuse charter handed us by Mr. James Boatright in 1993, which clearly led us to develop the proposed (and alternatives A-C) scenarios around the continued presence of Rome Lab. The fact that the Air Force continued to pursue this alternative in light of our objections, and continued to waste limited financial resources is bad enough. However, the inclusion of this scenario in a public document remains inappropriate.

Alternative D should be deleted from the DEIS document in its entirety.

2. The DEIS is incomplete in the area of cultural resource assessment. To date we have not received a cultural resource assessment, and have no way to judge its validity or use. 7.2

3. At the kickoff meeting for the DEIS in November 1993, at the first public hearing in 1994, and at numerous meetings with Captain Harold Keck of AFCEE, the Griffiss Local Development Corporation requested that AFCEE work with the New York State Department of Environmental Conservation (DEC), to ensure that the NYS Environmental Quality Review Act (SEQRA) was complied with in terms of scope and environmental review. We were assured by Colonel 7.3

GRIFFISS
Local Development Corporation
153 Brooks Road
Griffiss AFB, New York 13441
Phone (315)338-0393 Fax (315)338-5694

Document 7

Baumgartel at the kickoff, and again by Captain Keck that NY DEC would be consulted and that their scope would be incorporated. I could not find any discussion of this issue. 7.3

The most significant area of state scope which I believe is missing is the area of land use control measures (e.g.- zoning). If this is in fact covered, I only need direction to find it. If it was not included, I believe it should be. (I have not coordinated my comments with the NYS DEC, so if they feel differently about this we can discuss it) 7.4

received
9/25/95

Document 8

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
408 Atlantic Avenue - Room 142
Boston, Massachusetts 02210-3334

September 22, 1995

ER 95/580

Mr. Jonathan D. Farthing, Chief
Environmental Analysis Division
Environmental Conservation and Planning Directorate
Headquarters Air Force Center for Environmental Excellence
8106 Chennault Road
Brooks AFB, TX 78235-5318

Dear Mr. Farthing:

This responds to a request for the Department of the Interior's comments on the Draft Environmental Impact Statement (DEIS) for the Disposal and Reuse of Griffiss Air Force Base, Oneida County, New York (ER 95/580).

ENVIRONMENTAL ASSESSMENT COMMENTS

The statement adequately describes existing fish and wildlife, and habitat resources, potential impacts that may occur with implementation of various disposal and reuse scenarios, the need for a wetland mitigation plan for the approximately 99 hectares (243 acres) of wetlands on the base, and Federal agency coordination on this project. We also note that the document cites, and incorporates information from U.S. Fish and Wildlife Service documents dated 1989 (*Contaminants in Fish and Sediment from Sixmile Creek and Threemile Creek in the Vicinity of Griffiss Air Force Base, Oneida County, New York*), and 1994 (*Informal Section 7 Consultation*). However, the Department has the following comments to offer on the DEIS:

1. Detailed wetland mitigation plans specific to any proposed reuse application should be provided to all concerned agencies for review and discussion prior to initiation of any permit application and the public review process. This allows for timely resolution of any concerns that may surface, and assists in a smooth transition from the pre-application to the application stage. 8.1

2. This document is clearly generic in its treatment of the Griffiss Air Force Base closure and disposal. There is insufficient information regarding eventual specific uses of base property for the Department to provide detailed comments. When plans are finalized for a particular land use, the Department will provide in-depth comments at that time. 8.2

CULTURAL RESOURCE PRESERVATION

We note that the DEIS includes appropriate consideration necessary for the protection of cultural resource values, and an awareness of the procedural requirements to achieve such protection. However, much serious work remains to be done through continued consultation with the State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP), before the requirements of the National Preservation Act of 1966 and this environmental impact statement can be considered adequately addressed and accomplished. The key section necessary to assuring a satisfactory accomplishment is the signed status by all parties of a Memorandum of Agreement (MOA), which should be displayed in the Final Environmental Impact Statement, or at least a showing of it in draft, with an indication of the Department of the Air Force commitment to fulfill the terms and stipulations of the MOA along with the SHPO's endorsement or signature of approval. 8.3

SUMMARY COMMENTS

Based on the general information provided, the Department cannot conclude at this time that the proposed disposal and reuse of Griffiss Air Force Base will not have significant impacts to resources under our jurisdiction. When a specific use has been identified, the Department will provide a detailed review of the proposal. If appropriate, any specific future plans for former Griffiss Air Force Base lands should include a mitigation plan for all, or any part, of the 99 hectares of wetlands that could be affected.

For technical assistance on fish and wildlife matters, please contact the Field Supervisor, U.S. Fish and Wildlife Service, 3817 Luker Road, Cortland, New York 13045 (telephone: 607/753-9334). Your contact for cultural resources is Mr. David Clark, National Park Service, North Atlantic Region, 15 State Street, Boston, Massachusetts 02109 (617/223-5141).

Sincerely,

Andrew L. Raddant
Regional Environmental Officer

Document 9

28 Aug '95

Jonathan D. Farthing, chief
Environmental Analysis Div. Hq.
Brooks, AFB, Tx

Dear Sir:

Regarding the availability of housing on Griffiss AFB.

We are a couple in our mid 70's and can't find housing in the city of Rome in our price range. We think it would solve a lot of problems for many seniors if housing were made available on base. 9.1

We've lived upstairs for a number of years but are finding it more difficult.

I worked for Griffiss for 23 yrs and for Richards Gebaur for 2. We've been retired since 1972.

Right now I would appreciate decent housing for the years we have left. Is there that housing at the base

Sincerely
Marion Sorensen

Document 10

CITY OF ROME, NEW YORK
OFFICE OF THE MAYOR
CITY HALL - ROME, NEW YORK 13440
Tel.: (315)339-7677 Fax: (315)339-7788

Joseph A. Griffo, Mayor

September 27, 1995

Major Don Gleason
HQ-AFCEE/ECA
3207 North Rd.
Brooks AFB, TX 78235-5363

Dear Sir:

I would like to offer the following comments on the preliminary Draft Environmental Impact Statement on Griffiss Air Force Base.

Rome Lab

An option to close Rome Lab was included in the report. However, now that closure is no longer a proximate threat, this matter should be deleted. The inclusion and measurement of this option no longer serves any purpose and, in fact, draws attention away from existing reality. As such it should be deleted in its entirety from the DEIS. 10.1

Thank you for the opportunity to express my comments. If you should have any questions concerning these comments, do not hesitate to call Ronald F. Conover, Director of Planning and Community Development for the City of Rome at (315) 339-7643.

Sincerely,

Joseph A. Griffo, Mayor

Cc: Ron Conover

DOCUMENT 11

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189 518-237-8643

~~Orin Lehman~~
~~Commissioner~~

Bernadette Castro
Commissioner

August 10, 1995

Robert M. Wallett, Lt Col, USAF
HQ USAF/CEV
1260 Air Force Pentagon
Washington, DC 20330-1260

Dear Mr. Wallett:

RE: Air Force
Griffiss AFB
Rome, Oneida County
92PR1182

The State Historic Preservation Officer (SHPO) has reviewed the additional information you provided in accordance with Section 106 of the National Historic Preservation Act and relevant implementing regulations.

Comments and/or requests for additional information are noted on separate attachments accompanying this letter. **A determination of effect will be provided only after ALL documentation requirements noted on these and previous attachments have been met.** Any questions concerning our comments and/or requests for additional information should be directed to the appropriate staff person identified on each attachment. 11.1

When responding, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont
Director, Historic Preservation
Field Services Bureau

RLP:cm

attachments: [*] Building/Structure/District Evaluation Comments

DOCUMENT 11

REQUEST FOR ADDITIONAL INFORMATION
TO EVALUATE
BUILDINGS/STRUCTURES/DISTRICTS

92 PR 1182

****

In order for us to complete our evaluation of the historic significance of all buildings/structures/districts within or adjacent to your project area we will need the following additional information:

____ Full project description showing area of potential effect.

✓ Clear, original photographs of buildings/structures 50 years or older within or immediately adjacent to the project area, keyed to a site plan.

____ Clear, original photographs of the surroundings looking out from the project site in all directions, keyed to a site map.

✓ Date of construction.

✓ Brief history of property.

____ Clear, original photographs of the following:

_____.

_____.

____ Other: _____.

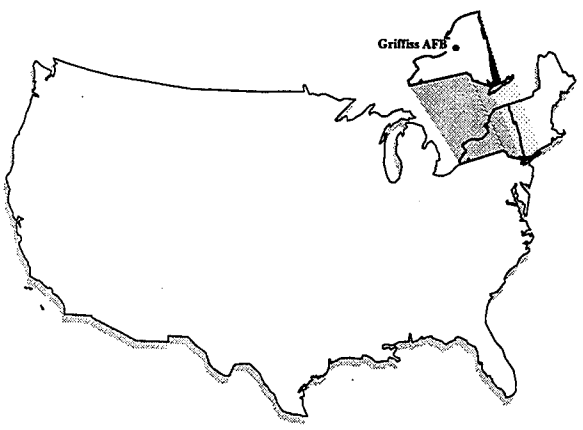
_____.

11.1

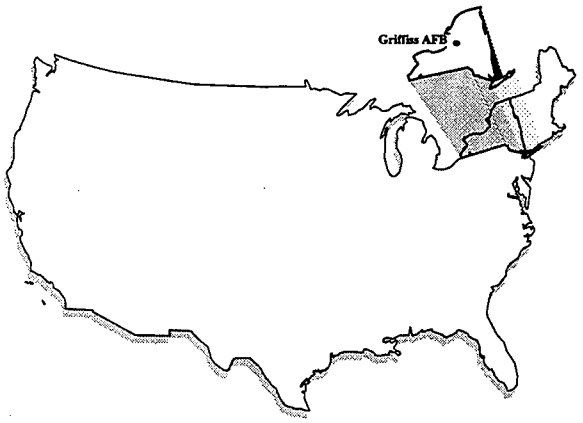
Please provide only the additional information checked above. If you have any questions concerning this request for additional information, please call **Raymond Smith at (518) 237-8643 ext. 260.**

PLEASE BE SURE TO REFER TO THE PROJECT NUMBER NOTED ABOVE WHEN RESPONDING TO THIS REQUEST

THIS PAGE INTENTIONALLY LEFT BLANK



APPENDICES



APPENDIX A

APPENDIX A

GLOSSARY OF TERMS, ACRONYMS, UNITS OF MEASUREMENT, AND CHEMICAL ABBREVIATIONS

TERMS

A-Weighted Sound Level (dBA). A number representing the sound level which is frequency-weighted according to a prescribed frequency response established by the American National Standards Institute (ANSI S1.4-1971) and accounts for the response of the human ear.

Accident Potential Zones (APZ). Areas immediately beyond the ends of Department of Defense fixed-wing runways that have a higher potential for aircraft accidents than other areas. Specifically, APZs fall into two categories: APZ 1 is the area beyond the runway clear zone that possesses a significant potential for accidents, and APZ 2 is an area beyond APZ 1 that has a measurable potential for accidents.

Acoustics. The science of sound that includes the generation, transmission, and effects of sound waves, both audible and inaudible.

Accumulation Point. A location where a generator accumulates hazardous wastes awaiting movement to a treatment, storage or disposal (TSD) facility. An accumulation point does not require an Environmental Protection Agency TSD permit as long as wastes are stored for less than 90 days.

Active Fault. A fault on which movement has occurred during the past 10,000 years and which may be subject to recurring movement, usually indicated by small, periodic displacement or seismic activity.

Advisory Council on Historic Preservation. A 19-member body appointed, in part, by the President of the United States to advise the President and Congress and to coordinate the actions of federal agencies on matters relating to historic preservation, to comment on the effects of such actions on cultural resources, and to perform other duties as required by law (Public Law 89-655; 16 USC 470).

Aesthetics. Referring to the perception of beauty.

Aggregate. Materials such as sand, gravel, or crushed stone used for mixing with a cementing material to form concrete, or alone, as railroad ballast or graded fill.

Air Installation Compatible Use Zone. A concept developed by the Air Force to promote land use development near its airfields in a manner that protects adjacent communities from noise and safety hazards associated with aircraft operations, and to preserve the operational integrity of the airfields.

Aircraft Operation. A takeoff or landing at an airport.

Airport Layout Plan. The plan of an airport showing the layout of existing and proposed airport facilities.

Airport Radar Service Area (ARSA). Regulatory airspace surrounding designated airports wherein air traffic control provides vectoring and sequencing on a full-time basis for all instrument flight rule and visual flight rule aircraft.

Airport Traffic Area. Airspace within a radius of 5 statute miles of an airport with an operating control tower, encompassing altitudes between the surface and 3,000 feet above ground level, in which an aircraft cannot operate without prior authorization from the control tower.

Alluvial Plain. Plain produced by deposition of alluvium.

Alluvial Fan. Alluvial deposit of a stream where it issues from a gorge upon a plain. Viewed from above, it is the shape of an open fan, with the apex at the mouth.

Alluvium. Clay, silt, sand, gravel, or similar material deposited by running water.

Ambient Air. That portion of the atmosphere, outside of buildings, to which the general public has access.

Ambient Air Quality Standards. Standards established on a state or federal level that define the limits for airborne concentrations of designated "criteria" pollutants (nitrogen dioxide, sulfur dioxide, carbon monoxide, total suspended particulates, ozone, and lead), to protect public health with an adequate margin of safety (primary standards) and to protect public welfare, including plant and animal life, visibility, and materials (secondary standards).

Aquifer. The water-bearing portion of subsurface earth material that yields or is capable of yielding useful quantities of water to wells.

Archaeology. A scientific approach to the study of human ecology, cultural history, and cultural process, emphasizing systematic interpretation of material remains.

Arterial. Signalized street that serves primarily through-traffic and provides access to abutting properties as a secondary function.

Artesian. A term referring to groundwater confined under hydrostatic pressure.

Artifact. Anything that owes its shape, form, or placement to human activity. In archaeological studies, the term is applied to portable objects (e.g., tools and the by-products of their manufacture).

Artificial Recharge. Spreading of water in infiltration ponds or direct injection of water in wells to replenish groundwater.

Asbestos. A carcinogenic substance formerly used widely as an insulation material by the construction industry; often found in older buildings.

Association. Two or more soils occurring together in a characteristic pattern.

Attainment Area. A region that meets the National Ambient Air Quality Standards for a criteria pollutant under the Clean Air Act.

Average Annual Daily Traffic (AADT). For a 1-year period, the total volume passing a point or segment of a highway facility in both directions, divided by the number of days in the year.

Average Travel Speed. The average speed of a traffic stream computed as the length of a highway segment divided by the average travel times of vehicles traversing the segment, in miles per hour.

Avian. Of, relating to, or derived from birds.

Avigation. The navigation of airplanes.

Bedrock. Geologic formation or unit which underlies soil or other unconsolidated surficial deposits.

Benzene. Colorless volatile, flammable, toxic liquid aromatic hydrocarbon.

Biochemical Oxygen Demand. The amount of oxygen required for aerobic bacteria to oxidize completely the organic decomposable matter in water within a specified time and at a given temperature -- an index to the degree of organic pollution in the water.

Biophysical. Pertaining to the physical and biological environment, including the environmental conditions crafted by man.

Biota. The plant and animal life of a region.

Bowser. Small, portable, storage tank on wheels commonly used in the flightline area to store jet fuel.

Calcareous. Containing calcium carbonate.

Capacity (Transportation). The maximum rate of flow at which vehicles can be reasonably expected to traverse a point or uniform segment of a lane or roadway during a specified time period under prevailing roadway, traffic, and control conditions.

Capacity (Utilities). The maximum load a system is capable of carrying under existing service conditions.

Carbon Monoxide (CO). A colorless, odorless, poisonous gas produced by incomplete fossil-fuel combustion. One of the six pollutants for which there is a national ambient standard. See Criteria Pollutants.

Chemical Oxygen Demand (COD). The amount of oxygen required to oxidize completely the inorganic oxidizable compounds present.

Class I, II, and III Areas. Under the Clean Air Act, clean air areas are divided into three classes. Very little pollution increase is allowed in Class I areas, some increase in Class II areas, and more in Class III areas. National parks and wilderness areas receive mandatory Class I protection. All other areas start out as Class II. States can reclassify Class II areas up or down, subject to federal requirements.

Clear Zone. The area surrounding a runway where the aircraft accident risk is high enough that necessary land use restrictions would prohibit reasonable economic use of the land.

Coefficient of Storage (= Storativity). The volume of water an aquifer releases from or takes into storage per unit surface area of the aquifer per unit change in head.

Commercial Aviation. Aircraft activity licensed by state or federal authority to transport passengers and/or cargo for hire on a scheduled or nonscheduled basis.

Comprehensive Plan. A public document, usually consisting of maps, text, and supporting materials, adopted and approved by a local government legislative body, which describes future land uses, goals, and policies.

Contaminants. Undesirable substances rendering something unfit for use.

Contamination. The degradation of naturally occurring water, air, or soil quality either directly or indirectly as a result of human activities.

Control Zone. Controlled airspace with a normal radius of 5 statute miles from a primary airport plus any extensions needed to include instrument arrival and departure paths, encompassing altitudes between the surface and 14,449 feet mean sea level.

Corridor. A strip of land of various widths on both sides of a particular linear facility such as a highway or rail line.

Corrosive. A material that has the ability to cause visible destruction of living tissue and has a destructive effect on other substances. An acid or a base.

Council on Environmental Quality (CEQ). Established by the National Environmental Policy Act (NEPA), the CEQ consists of three members appointed by the President. CEQ regulations (40 CFR Parts 1500-1508, as of July 1, 1986) describe the process for implementing NEPA, including preparation of environmental assessments and environmental impact statements, and the timing and extent of public participation.

Criteria Pollutants. The Clean Air Act required the Environmental Protection Agency to set air quality standards for common and widespread pollutants after preparing "criteria documents" summarizing scientific knowledge on their health effects. Today there are standards in effect for six "criteria pollutants": sulfur dioxide (SO_2), carbon monoxide (CO), particulate matter less than 10 micrometers in diameter (PM_{10}), nitrogen dioxide (NO_2), ozone (O_3), and lead (Pb).

Cultural Resources. Prehistoric and historic districts, sites, buildings, objects, or any other physical evidence of human activity considered important to a culture, subculture, or a community for scientific, traditional, religious, or any other reason.

Cumulative Impact. The impacts on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (Council on Environmental Quality [CEQ] regulations, NEPA, 40 CFR 1508.8).

Day-Night Average Sound Level (DNL). The 24-hour-average energy sound level expressed in decibels, with a 10-decibel penalty added to sound levels between 10:00 P.M. and 7:00 A.M. to account for increased annoyance due to noise during night hours.

Decibel (dB). A unit of measurement on a logarithmic scale which describes the magnitude of a particular quantity of sound pressure or power with respect to a standard reference value.

Developed. Land, a lot, a parcel, or an area that has been built upon, or where public services have been installed prior to residential or commercial construction.

Direct Impact. Effects resulting solely from the proposed program.

Discharge. Release of groundwater in springs or wells, through evapotranspiration, or as outflow.

Disturbed Area. Land that has had its surface altered by grading, digging, or other construction-related activities.

Easement. A right or privilege (agreement) that a person may have on another's property.

Effect. A change in an attribute. Effects can be caused by a variety of events, including those that result from program attributes acting on the resource attribute (direct effect); those that do not result directly from the action or from the attributes of other resources acting on the attribute being studied (indirect effect); those that result from attributes of other programs or other attributes that change because of other programs (cumulative effects); and those that result from natural causes (e.g., seasonal change).

Effluent. Waste material discharged into the environment.

Employment. The total number of persons working (includes all wage and salary workers), both civilian and military, and proprietors.

Endangered Species. Any [plant or animal] species that is in danger of extinction throughout all or a significant portion of its range (ESA 1973 as amended).

Environmental Impact Analysis Process (*EIAP*). The process of conducting environmental studies as outlined in Air Force Instruction 32-7061 (formerly Air Force Regulation (AFR) 19-2).

Environmental Protection Agency (EPA). The independent federal agency, established in 1970, that regulates environmental matters and oversees the implementation of environmental laws.

Environmental Protection Agency Hazardous Waste Number. The number assigned by the Environmental Protection Agency to each hazardous waste listed in 40 CFR 261, Subpart D, and to each characteristic identified in 40 CFR 261, Subpart C.

Erosion. Wearing away of soil and rock by weathering and the action of streams, wind, and underground water.

Escarpment. A long, more or less continuous cliff or steep slope facing one general direction separating two or more level or gently sloping surfaces produced by erosion or faulting.

Expenditure. A disbursement of funds by a government entity; includes operation and maintenance costs, as well as capital costs.

Fault. A fracture in the earth's crust accompanied by a displacement of one side of the fracture with respect to the other and in a direction parallel to the fracture.

Fault Block. Crustal units bounded by faults.

Federal Candidate Category 1 Species. Taxa for which the U.S. Fish and Wildlife Service has sufficient biological information to support a proposal to list as endangered or threatened.

Federal Candidate Category 2 Species. Taxa for which existing information may warrant listing, but for which substantial biological information to support a proposed rule is lacking.

Federal Candidate Category 3(c) Species. Taxa more common than previously thought; no longer being considered for a listing proposal at this time.

Fiscal Year. In government finance, the 12-month period that corresponds to the jurisdiction's accounting period, typically beginning October 1st and ending September 30th.

Fleet Mix. Combination of aircraft used by a given agency.

Floodplain. The relatively flat land lying adjacent to a river channel that is covered by water when the river overflows its banks.

Fossiliferous. Containing fossils.

Formation. A mappable body of rock having a general homogeneity of composition, structure, texture, and other characteristics.

Freeway. A multilane, divided highway having a minimum of two lanes for exclusive use of traffic in each direction and full control of access and egress.

Frequency. The time rate (number of times per second) that the wave of sound repeats itself, or that a vibrating object repeats itself -- now expressed in Hertz (Hz), formerly in cycles per second (cps).

Fugitive Dust. Particulate matter composed of soil that is uncontaminated by pollutants from industrial activity. Fugitive dust may include emissions from haul roads, wind erosion of exposed soil surfaces, and other activities in which soil is either removed or redistributed.

Fugitive Emissions. Emissions released directly into the atmosphere that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

Fungicides. Any substance that kills or inhibits the growth of fungi.

General Aviation. All aircraft that are not commercial or military aircraft.

Geomorphic. Pertaining to the form of the earth or its surface features.

Groundwater. Water within the earth that supplies wells and springs.

Groundwater Basin. Subsurface structure having the character of a basin with respect to collection, retention, and outflow of water.

Groundwater Recharge. Absorption and addition of water to the zone of saturation.

Habituate. To become accustomed to frequent repetition or prolonged exposure.

Hazardous Material. Generally, a substance or mixture of substances that has the capability of either causing or significantly contributing to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or posing a substantial present or potential risk to human health or the environment. Use of these materials is regulated by Department of Transportation (DOT), Occupational Safety and Health Administration (OSHA), and Superfund Amendments and Reauthorization Act (SARA).

Hazardous Waste. A waste, or combination of wastes, which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Hazardous waste is regulated under the Resource Conservation and Recovery Act (RCRA).

Heavy Metals. A metal (e.g., lead, mercury, cadmium, and chromium) of atomic weight greater than sodium (a.w.-22.9 grams/molecule) that forms soaps on reaction with fatty acids.

Herbicides. A pesticide, either organic or inorganic, used to destroy unwanted vegetation, especially various types of weeds, grasses, and woody plants.

Herpetofauna. Reptiles and amphibians.

Historic. A period of time after the advent of written history dating to the time of first Euro-American contact in an area.

Hydraulic Gradient. The change in head with a change in distance in a given direction (head is the pressure on a fluid at a given point).

Hydrocarbons (HC). Any of a vast family of compounds containing hydrogen and carbon. Used loosely to include many organic compounds in various combinations; most fossil fuels are composed predominantly of hydrocarbons. When hydrocarbons mix with nitrogen oxides in the presence of sunlight, ozone is formed; hydrocarbons in the atmosphere contribute to the formation of ozone.

Impact. An assessment of the meaning of changes in all attributes being studied for a given resource; an aggregation of all the adverse effects, usually measured using a qualitative and nominally subjective technique. In this EIS, as well as in the CEQ regulations, the word impact is used synonymously with the word effect.

Indirect Impact. Program-related impact (usually population changes and resulting impacts) not directly attributable to the program itself. Indirect effects... are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable... [and] may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems (Council on Environmental Quality [CEQ] regulations, NEPA, 40 CFR 1508.8[b]).

Infrastructure. The basic installations and facilities on which the continuance and growth of a community, state, etc., depend, e.g., roads, schools, power plants, transportation systems, and communication systems, etc.

Intermittent Stream. A stream that flows part of the time, such as during the wet season.

Interstate. The designated National System of Interstate and Defense Highways located in both rural and urban areas; they connect the East and West coasts and extend from points on the Canadian border to various points on the Mexican border.

Kilowatt. A unit of power equivalent to 1,000 watts.

Land Use Plans and Policies. Guidelines adopted by governments to direct future land use within their jurisdictions.

Lead (Pb). A heavy metal used in many industries, which can accumulate in the body and cause a variety of negative effects. One of the six pollutants for which there is a National Ambient Air Quality Standard. See Criteria Pollutants.

L_{eq} Noise Level. The equivalent steady state sound level which, in a stated period of time, would contain the same acoustical energy as a time-varying sound level during the same period.

Level of Service (LOS). In transportation analyses, a qualitative measure describing operational conditions within a traffic stream and how they are perceived by motorists and/or passengers. In public services, a measure describing the amount of public services (e.g., fire protection and law enforcement services) available to community residents, generally expressed as the number of personnel providing the services per 1,000 population.

Loam, Loamy. Rich, permeable soil composed of a mixture of clay, silt, sand, and organic matter.

Marl. An earthy substance composed mostly of lime mud with some clay.

Masking. The action of bringing one sound (audible when heard alone) to inaudibility or to unintelligibility by the introduction of another sound.

Megawatt. One thousand kilowatts or 1,000,000 watts.

Microgram. One-millionth of a gram.

Military Operating Area. Airspace areas of defined vertical and lateral limits established for the purpose of separating certain training activities, such as air combat maneuvers, air intercepts, and acrobatics, from other air traffic operating under instrument flight rules.

Military Training Route. Airspace of defined vertical and lateral dimensions established for the conduct of military flight training at airspeeds in excess of 250 knots.

Mineral. A naturally occurring inorganic element or compound.

Mineral Resources. Mineral deposits that may eventually become available; known deposits that are not recoverable at present or yet undiscovered.

Miocene. An epoch of geological time dating from 24 to 5 million years ago.

Mitigation. A method or action to reduce or eliminate program impacts.

Multiple-Family Housing. Townhouse or apartment units that accommodate more than one family; however, each dwelling unit is occupied by only one household.

National Ambient Air Quality Standards (NAAQS). Section 109 of the Clean Air Act requires EPA to set nationwide standards, the National Ambient Air Quality Standards, for widespread air pollutants. Currently, six pollutants are regulated by primary and secondary NAAQS: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter less than 10 micrometers in diameter (PM_{10}), and sulfur dioxide. See Criteria Pollutants.

National Environmental Policy Act (NEPA). Public Law 91-190, passed by Congress in 1969. The Act established a national policy designed to encourage consideration of the influences of human activities (e.g., population growth, high-density urbanization, and industrial development) on the natural environment. NEPA also established the Council on Environmental Quality. NEPA procedures require that environmental information be made available to the public before decisions are made. Information contained in NEPA documents must focus on the relevant issues in order to facilitate the decision-making process.

National Priority List. A list of sites (federal and state) that contain hazardous materials that may cause an unreasonable risk to the health and safety of individuals, property, or the environment.

National Register of Historic Places. A register of districts, sites, buildings, structures, and objects important in American history, architecture, archaeology, and culture, maintained by the Secretary of the Interior under authority of Section 2(b) of the Historic Sites Act of 1935 and Section 101(a)(1) of the National Historic Preservation Act of 1966, as amended.

Native Americans. Used in a collective sense to refer to individuals, bands, or tribes who trace their ancestry to indigenous populations of North America prior to Euro-American contact.

Native Vegetation. Plant life that occurs naturally in an area without agricultural or cultivational efforts. It does not include species that have been introduced from other geographical areas and become naturalized.

Natural Levee. A ridge along a stream bank formed of sediment deposited in times of bank overflow.

Nitrogen Dioxide (NO_2). Gas formed primarily from atmospheric nitrogen and oxygen when combustion takes place at high temperature. NO_2 emissions contribute to acid deposition and formation of atmosphere ozone. NO_2 is one of the six pollutants for which there is a national ambient standard. See Criteria Pollutants.

Nitrogen Oxides (NO_x). Gases formed primarily by fuel combustion, which contribute to the formation of acid rain. Hydrocarbons and nitrogen oxides combine in the presence of sunlight to form ozone, a major constituent of smog.

Noise. Any sound that is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying (unwanted sound).

Noise Attenuation. The reduction of a noise level from a source by such means as distance, ground effects, or shielding.

Noise Contour. A curve connecting points of equal noise exposure on a map. Noise exposure is often expressed using the average day-night sound level, DNL.

Nonattainment Area. An area that has been designated by the Environmental Protection Agency or the appropriate state air quality agency as exceeding one or more National or State Ambient Air Quality Standards.

Normal Fault. A type of fault in which beds on one side of the fault have slipped down and away from beds on the other side.

Outmigration. The act of leaving one region or community in order to settle in another.

Ozone (ground-level). A major ingredient of smog. Ozone is produced from reactions of hydrocarbons and nitrogen oxides in the presence of sunlight and heat. Some 68 areas, mostly metropolitan areas, did not meet a 31 December 1987 deadline in the Clean Air Act for attaining the ambient air quality standard for ozone.

Paleo-Indian. Prehistoric hunter-gatherer populations characterized by efficient adaptations to terminal Pleistocene environments in which small bands exploited megafauna such as mammoth (app. 10,000 - 6,000 B.C.).

Paleontological Resources. Fossilized organic remains from past geological periods.

Palustrine. The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 percent. It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 8 hectares (20 acres); (2) active wave formation or bedrock shoreline features lacking; (3) water depth in the deepest part of the basin less than 2 meters at low water; and (4) salinity due to ocean-derived salts less than 0.5 percent.

Peak Demand. The highest instantaneous amount of electrical power (in kilowatts) that an electrical system is required to supply over a given time frame, usually 1 year.

Peak Hour. The hour of highest traffic volume on a given section of roadway between 7:00 A.M. and 9:00 A.M. or between 4:00 P.M. and 6:00 P.M.

Peak Year. The year when a particular program-related effect is greatest.

Perennial Stream. A stream that flows all the time.

Permeability. The capacity of a porous rock or sediment to transmit a fluid.

Pesticides. Any substance, organic or inorganic, used to destroy or inhibit the action of plant or animal pests; the term thus includes insecticides, herbicides, fungicides, rodenticides, miticides, fumigants, and repellents. All pesticides are toxic to humans to a greater or lesser degree. Pesticides vary in biodegradability.

pH. A measure of the acidity or alkalinity of a material, expressed as the negative exponent of the hydrogen ion concentration.

Physiographic Province. A region in which all parts are similar in geologic structure and climate.

PicoCurie. One trillionth of a curie; the unit used to measure radioactivity.

Pleistocene. An earlier epoch of the Quaternary period during the "ice age" beginning approximately 3 million years ago and ending 10,000 years ago. Also refers to the rocks and sediments deposited during that time.

Plume. An elongated mass of contaminated fluid moving with the flow of the fluid.

Polychlorinated Biphenyls (PCBs). Any of a family of industrial compounds produced by chlorination of biphenyl. These compounds are noted chiefly as an environmental pollutant that accumulates in organisms and concentrates in the food chain with resultant pathogenic and teratogenic effects. They also decompose very slowly.

Polychlorinated Biphenyl-Contaminated Equipment. Equipment which contains a concentration of PCBs from 50 to 499 ppm and is regulated by the EPA.

Polychlorinated Biphenyl Equipment. Equipment which contains a concentration of PCBs of 500 ppm or greater and is regulated by the EPA.

Potable Water. Water suitable for drinking.

Prehistoric. The period of time before the written record.

Prevention of Significant Deterioration (PSD). In the 1977 Amendments to the Clean Air Act, Congress mandated that areas with air cleaner than required by National Ambient Air Quality Standards must be protected from significant deterioration. The Clean Air Act's PSD program consists of two elements: requirements for best available control technology on major new or modified sources and compliance with an air quality increment system.

Prevention of Significant Deterioration Area. A requirement of the Clean Air Act (160 et seq.) that limits the increases in ambient air pollutant concentrations in clean air areas to certain increments even though ambient air quality standards are met.

Primary Roads. A consolidated system of connected main roads important to regional, statewide, and interstate travel; they consist of rural arterial routes and their extensions into and through urban areas of 5,000 or more population.

Prime Farmland. Land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion, as determined by the Secretary of Agriculture (Farmland Protection Policy Act, 7 CFR 658).

Protohistoric. The period when Native American cultures were affected by Euro-Americans without direct contact. For instance, inland Indian tribes received trade goods and reports of European cultures from coastal tribes before the arrival of European explorers in the interior.

Pumpage. A quantity of water removed by pumping expressed as a rate or total amount.

Rail Rationalization. The analysis of existing rail facilities and the planning of alternatives to the existing land use and transportation structure to solve problems usually caused by urban growth around rail facilities. Typical problems can include traffic delays due to train blockage at railroad grade crossings, delays to local and through train movement caused by speed restrictions, and the intrusion of noise, vibration, air pollution, or visual blight into residential areas.

Raptors. Birds of prey.

Recent. The time period from approximately 10,000 years ago to the present and the rocks and sediments deposited during that time.

Recharge. The process by which water is absorbed and added to the zone of saturation, either directly into a formation or indirectly by way of another formation.

Restricted Area. Designated airspace in which aircraft activity, while not prohibited, is subject to certain restrictions.

Riparian. Of or relating to land lying immediately adjacent to a river or stream, and having specific characteristics of that transitional area (e.g., riparian vegetation).

Riverine. The Riverine System includes all wetlands and deepwater habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens; and (2) habitats with water containing ocean-derived salts in excess of 0.5 percent.

Ruderal. Weedy or introduced vegetation growing in disturbed areas.

Runoff. The noninfiltrating water entering a stream or other conveyance channel shortly after a rainfall event.

Runway Protection Zone. An area (formerly the clear zone) used to enhance the safety of aircraft operations. It is at ground level beyond the runway end.

Satellite Accumulation Point. An area where up to 55 gallons of hazardous waste and up to 1 quart of acutely hazardous waste can be accumulated indefinitely. Containers with excess waste must be marked with the date the excess began accumulating and removed from the area within 3 days to a permitted storage area or to an accumulation point.

Secondary Employment. In economics, the additional employment and income generated by the economic activity required to produce the inputs to meet the initial material requirements. The term is often used to include induced effects.

Sediment. Material deposited by wind or water.

Sedimentary. Rock formed by mechanical, chemical, or organic sediments such as rock formed of fragments transported from their source and deposited elsewhere by water (e.g., sandstone or shale).

Seismic. Pertains to the characteristics of an earthquake or earth vibrations including those that are artificially induced.

Seismicity. Relative frequency and distribution of earthquakes.

Shrink/Swell Potential. Volume change possible upon wetting or drying.

Sheetwash. Sheet erosion; the removal of a fairly uniform layer of soil from the land surface by runoff water.

Significance. The importance of a given impact on a specific resource as defined under the Council on Environmental Quality regulations.

Single-Family Housing. A conventionally built house consisting of a single dwelling unit occupied by one household.

Site. As it relates to cultural resources, any location where humans have altered the terrain or discarded artifacts.

Sludge. A heavy, slimy deposit, sediment, or mass resulting from industrial activity; solids removed from wastewater.

Soil Association. A collection of soils found to occur geographically together.

Soil Series. A group of soils having similar parent materials, genetic horizons, and arrangement in the soil profile.

Solvent. A substance that dissolves or can dissolve another substance.

Sound. The auditory sensation evoked by the compression and rarefaction of the air or other transmitting medium.

Special Use Airspace. Airspace restricted from commercial and private use.

Specific Plan. A plan regulating development within a defined area of a city, consistent with the city's General Plan. Specific plans are required prior to development in specified areas that have not been zoned for particular land uses.

State Historic Preservation Officer. The official within each state, authorized by the State at the request of the Secretary of the Interior, to act as liaison for purposes of implementing the National Historic Preservation Act.

State-Sensitive/State-Recognized Species. Plant and animal species in each state that are monitored and listed for purposes of protection.

Sulfur Dioxide (SO_2). A toxic gas that is produced when fossil fuels, such as coal and oil, are burned. SO_2 is the main pollutant involved in the formation of acid rain. SO_2 can irritate the upper respiratory tract and cause lung damage. During 1980, some 27 million tons of sulfur dioxide were emitted in the United States, according to the Office of Technology Assessment. The major source of SO_2 in the United States is coal-burning electric utilities.

Tectonic. Pertaining to large-scale structural features or movements of large portions of the earth's crust.

Tectonic Framework. Structural elements of a region including the rising, stable, and subsiding areas.

Terrace. A bench-like feature composed of sediment of an old floodplain and formed as a stream renews its downcutting and leaves the old deposits elevated and approximately parallel to the present floodplain.

Terrestrial. Living on or in, or growing from, the land.

Threatened Species. Any [plant or animal] species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (ESA 1973 as amended).

Toluene. A liquid aromatic hydrocarbon used as a solvent.

Total Dissolved Solids. The concentration of solid materials that are dissolved in a sample of water; determined as the weight of the residue of a water sample upon filtration and evaporation divided by the volume of the sample.

Total Suspended Particulates (TSP). The particulate matter in the ambient air. The previous National Ambient Air Quality Standard for particulates was based on TSP levels; it was replaced in 1987 by an ambient standard based on PM_{10} levels.

Total Water Use. The amount of water withdrawn from the natural resource base for a beneficial purpose, excluding water used for hydroelectric power generation and certain nonconsumptive uses such as once-through cooling water for thermoelectric power generation, wildlife habitat, and fish farming.

Traffic Assignment. The allocation of traffic flows among routes available between any two places.

Transmissivity. A quantitative measure of the amount of water that can move through a groundwater reservoir. It depends on permeability, hydraulic gradient, and thickness of the reservoir.

Trichloroethylene (TCE). An organic solvent used in dry cleaning and in the removal of grease from metal.

Trip Distribution. A determination of the interchange of trips among zones in the region.

Trip Generation. A determination of the quantity of trip ends associated with a parcel of land.

Turbid. Cloudy (as applied to water) with sediment or other solids.

Unconfined Aquifer. An aquifer where the water table is exposed to the atmosphere through openings (pores) in the overlying materials.

Understory. An underlying layer of low vegetation.

Unemployment Rate. The number of civilians, as a percentage of the total civilian labor force, without jobs but actively seeking employment.

Unified Soil Classification System. A rapid method for identifying and grouping soils for military construction. Soils are grouped by grain size, gradation, and liquid limit.

Unique and Sensitive Habitats. Areas that are especially important to regional wildlife populations or protected species that have other important biological characteristics (e.g., severe wintering habitats, nesting areas, and wetlands).

Upland. Ground elevated above bottomlands (e.g., rolling hill terrain and terraces).

Volume (Transportation). The total number of vehicles that pass over a given point or section of a roadway during a given time interval. Volumes may be expressed in terms of annual, daily, hourly, or subhourly periods.

Watershed. An area consisting of a surface water drainage basin and the divides that separate it from adjacent basins.

Water Table. The sustainable volume of water discharged from a well per units of time, often expressed in gallons per minute.

Watt. A unit of electrical power equal to 1/756th horsepower.

Wetlands. The COE (Fed. Reg. 1982) and the EPA (Fed. Reg. 1980) jointly define wetlands as: Those areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Volume. The number of vehicles passing a point on a lane, roadway, or other trafficway during some time interval.

Zoning. The division of a municipality (or county) into districts for the purpose of regulating land use, types of buildings, required yards, necessary off-street parking, and other prerequisites to development. Zones are generally shown on a map and the text of the zoning ordinance specifies requirements for each zoning category.

ACRONYMS

AADT	Average Annual Daily Traffic
ACC	Air Combat Command
ACM	Asbestos-Containing Material
AFB	Air Force Base
AFCEE	Air Force Center for Environmental Excellence
AFLC	Air Force Logistics Command
AFMC	Air Force Materiel Command
AFOSH	Air Force Occupational Safety and Health
AFR	Air Force Regulation
AGE	Aerospace Ground Equipment
AHERA	Asbestos Hazard Emergency Response Act
AICUZ	Air Installation Compatible Use Zone
AOC	Area of Concern
APZ	Accident Potential Zone
AQCR	Air Quality Control Region
ARTCC	Air Route Traffic Control Center
BRAC	Base Closure and Realignment
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
DBCRA	Defense Base Closure and Realignment Act
DEIS	Draft Environmental Impact Statement
DERP	Defense Environmental Restoration Program
DFAS	Defense Accounting and Finance Service
DOD	Department of Defense
DRMO	Defense Reutilization and Marketing Office
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FEIS	Final Environmental Impact Statement
FFA	Federal Facility Agreement
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FPMR	Federal Property Management Regulations
FS	Feasibility Study
GLDC	Griffiss Local Development Corporation
GRPC	Griffiss Redevelopment Planning Council
HMTA	Hazardous Materials Transportation Act
HUD	U.S. Department of Housing and Urban Development
IFR	Instrument Flight Rules
IRP	Installation Restoration Program
JP-4	Jet Petroleum (Grade 4)
JP-8	Jet Petroleum (Grade 8)
LOS	Level of Service
MOA	Military Operating Area
MSA	Metropolitan Statistical Area
MSDS	Material Safety Data Sheets
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NAS	National Airspace System
NCP	National Contingency Plan

NDI	Nondestructive Inspection
NEADS	Northeast Air Defense Sector
NEPA	National Environmental Policy Act of 1969
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NLR	Noise Level Reduction
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRHP	National Register of Historic Places
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York Department of Environmental Conservation
OCA	Oneida County Airport
OSHA	Occupational Safety and Health Administration
OU	Operating Unit
PA	Preliminary Assessment
PA/SI	Preliminary Assessment/Site Inspection
P.L.	Public Law
POL	Petroleum, Oil, and Lubricants
PSD	Prevention of Significant Deterioration
RADC	Rome Air Development Center
RAMP	Radon Assessment and Mitigation Program
RAPCON	Radar Approach Control
RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
RI	Remedial Investigation
RIMS	Regional Interindustry Multiplier System
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
ROI	Region of Influence
SAC	Strategic Air Command
SARA	Superfund Amendments and Reauthorization Act
SEL	Sound Exposure Level
SHPO	State Historic Preservation Officer
SI	Site Inspection
SIAS	Socioeconomic Impact Analysis Study
SIP	State Implementation Plan
SPDES	State Pollutant Discharge Elimination System
SWMA	Solid Waste Management Authority
TD	Technology Development
TSCA	Toxic Substances Control Act
TSD	Treatment, Storage, and Disposal
TSP	Total Suspended Particulates
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	Underground Storage Tank
VFR	Visual Flight Rules
VOC	Volatile Organic Compound
3CI	Command, Control, Communications, and Intelligence Technologies

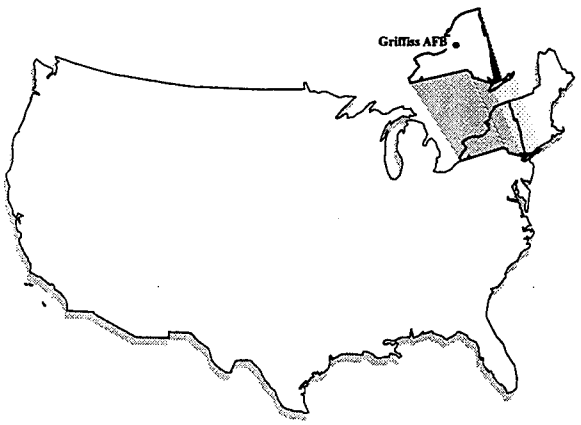
UNITS OF MEASUREMENT

°C	degrees Celsius
dB	decibel
dBA	decibel measured on the A-weighted scale
DNL	day-night average noise level
°F	degrees Fahrenheit
kVa	kilovolt-ampere
kWh	kilowatt-hour
L_{eq}	energy-equivalent continuous noise level
L_{max}	maximum sound level
MG	million gallons
MGD	million gallons per day
MMcf	million cubic feet
mph	miles per hour
MW	megawatt
pCi/l	picoCuries per liter
pH	negative logarithm of hydrogen ion activity
PM_{10}	particulate matter less than or equal to 10 micrometers in diameter
ppm	parts per million
$\mu g/m^3$	micrograms per cubic meter

CHEMICAL ABBREVIATIONS

CO	carbon monoxide
CO_2	carbon dioxide
DDT	dichlorodiphenyltrichloroethane
HC	hydrocarbons
O_3	ozone
NO_x	nitrogen oxides
NO_2	nitrogen dioxide
PAH	polyaromatic hydrocarbons
Pb	lead
PCB	polychlorinated biphenyls
SO_x	sulfur oxides
SO_2	sulfur dioxide
TCE	trichloroethylene

THIS PAGE INTENTIONALLY LEFT BLANK



APPENDIX B

APPENDIX B

NOTICE OF INTENT

The following Notice of Intent (NOI), published in the *Federal Register* on October 28, 1993, provided public notice of the Air Force's intent to prepare an Environmental Impact Statement on the disposal and reuse of Griffiss Air Force Base. The NOI has been retyped for clarity and legibility.

NOTICE OF INTENT
TO PREPARE AN ENVIRONMENTAL IMPACT STATEMENT
FOR DISPOSAL AND REUSE OF SEVEN AIR FORCE BASES

The United States Air Force (Air Force) will prepare seven environmental impact statements (EISs) to assess the potential environmental impacts of disposal and reuse of the following bases identified for closure by Congress:

Gentile Air Force Station, Dayton, Ohio

Griffiss Air Force Base, Rome, New York

March Air Force Base, Riverside, California

Newark Air Force Base, Newark, Ohio

K.I. Sawyer Air Force Base, Marquette, Michigan

O'Hare International Airport Air Force Reserve Station, Chicago, Illinois

Plattsburgh Air Force Base, Plattsburgh, New York

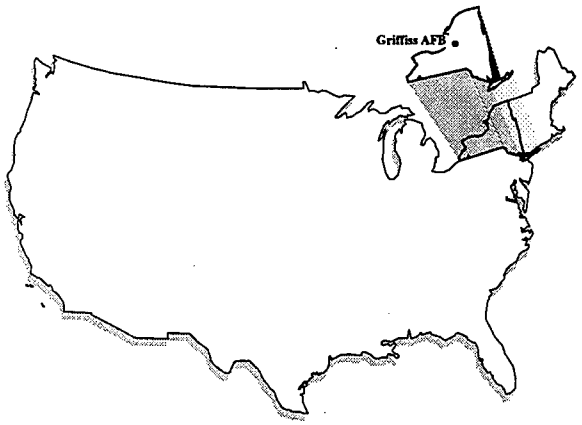
These EISs will address the potential environmental impacts of disposal of the property to public or private entities, as well as the potential environmental impacts of all reasonable reuse alternatives.

To provide a forum for public officials and the community to provide information and comments, scoping meetings will be held in each community beginning in November 1993 and continuing through late 1994. Notice of the times and locations of these meetings will be provided at a later date, and publicized in each community and in the Federal Register. The purpose of these meetings is to: (1) Identify the environmental issues and concerns that should be analyzed to support base disposal and reuse; (2) solicit comments on the proposed action; and (3) solicit potential disposal and reuse alternatives for consideration in developing each EIS. In soliciting disposal and reuse alternatives, the Air Force will consider all reasonable alternatives offered by any federal, state or local government agency, and any federally-sponsored or private entity or individual. The resulting EISs will be considered in making disposal decisions that will be documented in the Air Force's Final Disposal Plan and Record of Decision for each base.

To ensure sufficient time to adequately consider public comments concerning environmental issues and disposal alternatives to be included in the EISs, the Air Force recommends that comments and reuse proposals be presented at the upcoming scoping meetings or forwarded to the address listed below at the earliest possible date. The Air Force will, however, accept additional comments at any time during the environmental impact analysis process.

Please direct written comments or requests for further information concerning the base disposal and reuse EISs to:

Lt. Colonel Gary P. Baumgartel
AFCEE/ESE
8106 Chennault Road
Brooks AFB, Texas 78235-5318
(201) 536-3869



APPENDIX C

APPENDIX C

FINAL ENVIRONMENTAL IMPACT STATEMENT MAILING LIST

This list of recipients includes Federal, State, and local agencies and individuals who have expressed an interest in receiving the Final Environmental Impact Statement. This list also includes the Governor of New York, as well as United States senators and representatives and State legislators.

ELECTED OFFICIALS

Federal Officials

U.S. Senate

Honorable Alfonse D'Amato
Honorable Daniel Moynihan

U.S. House of Representatives

Honorable Sherwood Boehlert

State of New York Officials

Governor

Honorable George Pataki

State Legislature

State Senate

Honorable Nancy Larraine Hoffman
Honorable William R. Sears

House of Representatives

Honorable RoAnn Destito
Honorable William B. Magee
Honorable David R. Townsend, Jr.

Local Officials

Oneida County

Sandra Caruso, County Clerk

Raymond A. Meier, County Executive

John Williams, Chairman
Oneida County Board of Legislators

City of Rome

Jeanette Denton, City Clerk

Joseph A. Griffo, Mayor

John Mazzaferro
Common Council President

Other Representatives

Malcolm Didio, Supervisor
Town of Floyd
Floyd, New York

Francis Uhl, Supervisor
Town of Western
Westernville, New York

Tom Urtz, Supervisor
Town of Lee
Lee Center, New York

GOVERNMENT AGENCIES

Federal Agencies

Advisory Council on Historic Preservation
Washington, DC

Council of Economic Advisors
Washington, DC

Defense Technical Information Center
Fort Belvior, Virginia

Federal Agencies, (continued)

Department of Agriculture
Forest Service
Environmental Coordination Office
Washington, DC

Department of Commerce
Director, Economic Adjustment Division
Economic Development Administration
Washington, DC

Department of Commerce
Director, Office of Intergovernmental Affairs
Washington, DC

Department of Defense
Mr. Bryant J. Monroe
Office of Economic Adjustment
Arlington, Virginia

Department of Education
Assistant to the Deputy Undersecretary for
Intergovernmental and Interagency Affairs
Washington, DC

Department of Energy
Division of Intergovernmental Affairs
Washington, DC

Department of Housing and Urban Development
Director, Community Management Division
Washington, DC

Department of Interior
Bureau of Indian Affairs
Assistant Secretary, Ada Deer
Washington, DC

Department of the Interior
Director, Office of Environmental
Policy and Compliance
Washington, DC

Department of Transportation
Office of the Secretary of Transportation
Administrative Services and Property
Management
Washington, DC

Department of Veterans Affairs
Washington, DC

General Services Administration
Office of Property Disposal
Attn: John Martin
Washington, DC

Small Business Administration
Director, Office of Procurement,
Policy and Liaison
Washington, DC

Federal Agencies - Regional

Director, Regulatory Branch
Buffalo District Corps of Engineers
Buffalo, New York

EIS Review Branch
U.S. Geological Survey
Albany, New York

Federal Aviation Administration
Attn: Mr. Alfred McDonough
Eastern Regional Office
Jamaica, New York

Mr. Robert W. Hargrove, Chief
U.S. Environmental Protection Agency,
Region II Environmental Impacts Branch
New York, New York

Robert Lenuzza & Lewis Hurst
Federal Aviation Administration
Upstate New York Airports District Office
Garden City, New York

Kevin Lewis
U.S. Soil Conservation Service
(Oneida County Soil Conservation District)
Oriskany, New York

Mr. David S. Stilwell
Acting Field Supervisor
U.S. Department of Interior
Fish & Wildlife Service
Cortland, New York

New York State Agencies (Includes Local Offices)

Jim Doyle, Manager
Department of Environmental Conservation - Utica Office
Utica, New York

Mr. Jon Greco/Mr. Marsden Chan
Department of Environmental Conservation
Albany, New York

Robert Kuhn
Office of Parks, Recreation, and Historic Preservation
Historic Preservation Field Services Bureau
Cohoes, New York

Raymond Smith
Office of Parks, Recreation, and Historic Preservation
Historic Preservation Field Services Bureau
Cohoes, New York

Ms. Joan K. Davidson, SHPO
Commissioner
Parks, Recreation and Historic Preservation
Albany, New York

Don Poulin, Planning Manager
Department of Transportation
Utica, New York

Randy Vaas, Supervisor
Department of Environmental Conservation - Region 6
Division of Regulatory Affairs
Watertown, New York

Local Government Agencies/Organizations

Joe Benner, Commissioner of Aviation
Oneida County Airport Authority
Oriskany, New York

Steve DiMeo, Executive Director
Griffiss Local Development Corporation
Griffiss AFB, New York

Oneida County

Michael Gapin, Planning Commissioner
Oneida County Planning Department
Utica, New York

Oneida County
Environmental Management Council
Utica, New York

City of Rome

John Austin, Director
Rome Historical Society
Rome, New York

Robert Comis
Public Works Commissioner
Rome, New York

Ronald F. Conover
Director of Planning
Rome, New York

Daniel Farsaci, Superintendent
Rome City School District
Rome, New York

Ed Ratazzi, Director
Rome Industrial Development Corporation
Rome, New York

Robert Van Slyke
Chamber of Commerce
Rome, New York

Other Organizations/Individuals

Kevin P. Berkel
Moody AFB, Georgia

Lizette Boyer
Alaska District, USACOE
Anchorage, Alaska

Charles M. Brown, MD
Rome, New York

Other Organizations/Individuals (continued)

Ms. Cheryl M. Brown
Barton & Loguidice, P.C.
Liverpool, New York

Harry A. Bryson, CHMM
Senior Project Manager
Knoxville, Tennessee

Mr. Pat Corbett
Observer-Dispatch
Rome, New York

Mary Costianies
c/o Sierra Club
New York, New York

Mr. Don B. Davidson, Jr.
Rome, New York

Charles E. Devine
Remsen, New York

Robert A. Duchow
Daily Sentinel
Rome, New York

Valarie Ferro/Mary Lou
TPA Design Group
New Haven, Connecticut

Jesse C. Gaige
Holland Patent, New York

Mr. Emlyn I. Griffith
Rome, New York

David E. Homokay
Rome, New York

Jim Ocuto
Rome, New York

Oneida Environmental Resource Board
Oneida Tribe in Wisconsin
Chairman Ron Hill
Oneida Tribe

Oneida Tribal Offices
Oneida Nation Territory
Via Oneida Territory

Ms. Jackie O'Neill
Gaithersburg, Maryland

Onyota'a:ka at the Thames
Oneida Land Rights in New York
Chairman Arnold Antone
Onyota'a:ka Administration Office

Ronald J. Panek
Canastota, New York

Mr. Richard Rainone
NORDIVNAVFACENGCOM
Lester, Pennyslvania

Mr. Louis Robertson
Rome, New York

Mr. Joel Runes
WNYC News
Penbroke Pines, Florida

Marion P. Sorensen
Verona, New York

CFW Wheelock
Chittenango, New York

Ms. Kara Whitstock
Documents Department, The Libraries
Colorado State University
Fort Collins, Colorado

Rex Wisehart
EMC
Denver, Colorado

Terry Wolfe
Lancaster, New York

Mr. John Yaney
Whitman, Massachusetts

Mr. Joseph Zeppetello
Rome, New York

Libraries

Jervis Public Library
Rome, New York

Mohawk Valley Community College
(Rome Campus)
Attn: Dean Jon Gibraltar
Rome, New York

Onondaga County Public Library
Attn: Collection Management
Syracuse, New York

Utica Public Library
Utica, New York

Air Force

AFBCA/OL
Attn: Ms. Anna LeMaire
Griffiss AFB, New York

Lt Col Mike Corbett
NEADS
Griffiss AFB, New York

Mr. Brian Hoehn
Rome Laboratory (RL/CE)
Griffiss AFB, New York

HQ ACC/CEV
Langley AFB, Virginia

HQ AFBCA/NE
Attn: Mr. Greg Gangnuss
Arlington, Virginia

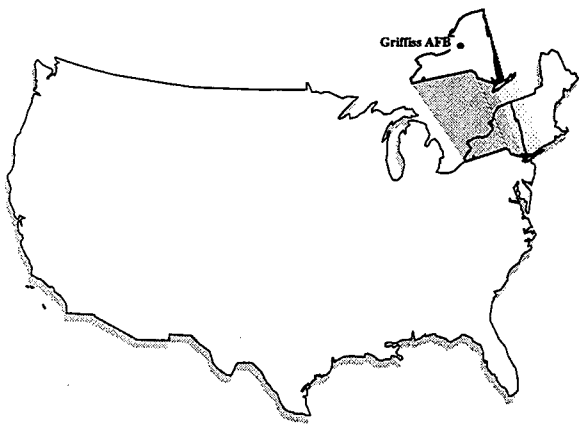
HQ AFCEE/CCR-A
Attn: Mr. George Dodson
Atlanta, Georgia

HQ AFCEE/ECA
Attn: Major Don Gleason
Brooks AFB, Texas

Mr. Angus McKinnon
DOD Base Transition Coordinator
Griffiss AFB, New York

Environmental Protection Agency
Ofice of Federal Actions
Attn: Mr. Richard Sanderson
Washington, DC

THIS PAGE INTENTIONALLY LEFT BLANK



APPENDIX D

APPENDIX D

GRIFFISS AIR FORCE BASE INSTALLATION RESTORATION PROGRAM BIBLIOGRAPHY

Agency for Toxic Substances and Diseases Registry

1988 *Health Assessment for Griffiss Air Force Base, Rome, New York.* U.S. Department of Health and Human Services, Public Health Service, Albany, New York.

Engineering Science, Inc.

1981 *Installation Restoration Program Phase I - Record Search, Hazardous Materials Disposal Sites, Griffiss Air Force Base, New York.* Prepared for U.S. Air Force, AFESC/DEV, Tyndall Air Force Base, Florida.

Fred C. Hart Associates, Inc.

1981 *Hazardous Waste Site Investigation, Griffiss Air Force Base, Rome, New York (Addendum to Final Report).* Prepared for U.S. Environmental Protection Agency.

Hydro-Environmental Technologies, Inc.

1986 Soil Borings, Sample Analysis, and Monitoring Well Installation at Various Locations, Griffiss Air Force Base, New York (Letter Report). Clarksville, New York.

Kaselaan and D'Angelo Associates, Inc.

1989 *Preliminary Coal Storage Soil Investigation at Griffiss Air Force Base, Rome, New York.* Haddon Heights, New Jersey.

Law Environmental, Inc.

1991a *Draft Data Summary Report for Baseline Investigation at Griffiss Air Force Base, Rome, New York.* Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District.

1991b *Final Work Plan for Interim Removal Action Design for Griffiss Air Force Base, Rome, New York.* Kennesaw, Georgia. Prepared for the U.S. Army Corps of Engineers, Kansas City District.

1991c *Generator Site/Safety and Health Plan.* Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District.

1991d *Revised Final Chemical Data Acquisition Plan (CDAP) Addendum - Interim Removal Action Designs (IRAD).* Kennesaw, Georgia. Prepared for the U.S. Army Corps of Engineers, Kansas City District.

1992a *Addendum to Final Primary Report Identification of Area of Concern, Griffiss Air Force Base, New York.* Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District.

1992b *Chemical Acquisition Plan, Development of Sampling and Analysis Plan.* Kennesaw, Georgia. Prepared for the U.S. Army Corps of Engineers, Kansas City District.

1992c *Chemical Data Acquisition Plan, Floyd Annex.* Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District.

1992d *Draft Final Primary Report, Identification of Areas of Concern at Griffiss Air Force Base, Rome, New York.* Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District.

1992e *Draft Sampling and Analysis Plan for Underground Storage Tanks (USTs).* Kennesaw, Georgia. Prepared for the U.S. Army Corps of Engineers, Kansas City District.

1992f *Final 100% Design Analysis for Interim Remedial Actions for Griffiss Air Force Base, Rome, New York.* Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District.

1992g *Pre-Draft Primary Report Remedial Investigation Planning Documents Volume I - Remedial Investigation Work Plan.* Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District.

1992h *Revised Final Engineering/Cost Analysis (EE/CA) for Interim Remedial Action.* Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District.

1992i *Site Investigation Report Building 215/216 and Oil/Water Separator, Griffiss Air Force Base, New York.* Kennesaw, Georgia. Prepared for the U.S. Army Corps of Engineers, Kansas City District.

1992j *Site Safety and Health Plan, Floyd Annex.* Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District.

1992k *Site Visit to Griffiss Air Force Base.* Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District.

1992l *Soil Sampling Along Jet Fuel Transfer Pipeline, Griffiss Air Force Base, New York.* Kennesaw, Georgia. Prepared for the U.S. Army Corps of Engineers, Kansas City District.

1992m *Specifications for Interim Remedial Action Designs (IRAD).* Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District.

1992n *Volume II - Sampling and Analysis Plan, Quality Assurance Project Plan and Field Sampling Plan.* Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District.

1992o *Volume III - Sampling and Analysis Plan Site-Specific Field Operations Plans, Operable Units 1-8.* Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District.

1992p *Volume IV - Health and Safety Plan.* Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District.

1993a *Draft Site Investigation Report for IAG Regulatory Chosen Sites (Hardfills and Lindane Spill), Griffiss Air Force Base, New York.* Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District.

1993b *Final Sampling and Analysis Plan for Confirmatory Sampling at Underground Storage Tank (UST) Sites, Griffiss Air Force Base, New York (Volumes 1-3).* Kennesaw, Georgia. Prepared for the U.S. Army Corps of Engineers, Kansas City District.

1993c *Griffiss Air Force Base Remedial Investigation/Feasibility Study Work Plan.* Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District.

1993d *Preliminary Assessment - Floyd Annex.* Kennesaw, Georgia. Prepared for the U.S. Army Corps of Engineers, Kansas City District.

1993e *Remedial Investigation Planning Document - Draft Final Work Plan, Volume I - Remedial Investigations Work Plan.* Kennesaw, Georgia. Prepared for U.S. Army Corps of Engineers, Kansas City District.

1993f *Sampling Analysis Plan for Industrial Soils Pad.* Kennesaw, Georgia. Prepared for the U.S. Army Corps of Engineers, Kansas City District.

1993g *Summary Tables and Analytical Chemical Data Acquisition - Quarterly Groundwater Monitoring Baseline Study.* Kennesaw, Georgia. Prepared for the U.S. Army Corps of Engineers, Kansas City District.

Parratt-Wolff, Inc.

1989a *Data for Groundwater Well Installation.*

1989b Install Monitor Wells, Griffiss Air Force Base, Rome, New York (Letter Report). Syracuse, New York.

Tracer Research Corporation

1989 *Tightness Test of Four Underground Storage Tanks and Pipeline at Building 771, Griffiss Air Force Base, New York.*

UNC GeoTech

1988 *Overall Management Plan, Installation Restoration Program (IRP), Griffiss Air Force Base, Rome, New York.* Grand Junction, Colorado.

1989 *Domestic Water Well Sampling Program Phase I, Griffiss Air Force Base.* Grand Junction, Colorado.

1990a *IRP No Further Action Document. Griffiss Air Force Base, New York.* Grand Junction, Colorado.

1990b *Soil and Gas Investigation for Pumphouse 5 and Proposed Fuel Line, Griffiss Air Force Base, New York.* Grand Junction, Colorado.

1991 *Hydrogeology Study Report, Griffiss Air Force Base, Rome, New York.* Grand Junction, Colorado.

U.S. Air Force

1991 *Community Relations Plan - Griffiss AFB.*

U.S. Environmental Protection Agency

1980 *Waste Disposal Site Investigation, Griffiss Air Force Base, New York.* Region 2, New York.

1989 *Site Analysis, Griffiss AFB, Oneida County, New York - Volume II.* Publication TS-PIC-88085, Environmental Monitoring and Systems Laboratory, Las Vegas, Nevada.

1990 *Federal Facility Agreement Under CERCLA Section 120.* Administrative Docket No. II-CERCLA-FFA-90201 in agreement with the New York State Department of Environmental Conservation and U.S. Air Force.

1992 *Resolution of Disputes of the NYSDEC Concerning the Draft Final Primary Document "Identification of Areas of Concern (AOCs)" and the USAF Concerning the Designation of AOCs by the USEPA and the NYSDEC.*

U.S. Fish and Wildlife Service

1988a *Six Mile Creek Monitoring Report.*

1988b *Water Quality Data Report.*

1989 *Contaminants in Fish and Sediment From Sixmile Creek and Threemile Creek in the Vicinity of Griffiss Air Force Base, Oneida County, New York.* Cortland, New York.

U.S. Geological Survey

1987 Memo From D. Hall to B. Mero, Griffiss Air Force Base, Rome, New York. Correspondence with the U.S. Department of the Interior.

1988 Preliminary Investigation of Sediment and Water Quality in Threemile Creek, Griffiss Air Force Base, Rome, New York (Letter Report). Prepared for the U.S. Fish and Wildlife Service, Albany, New York.

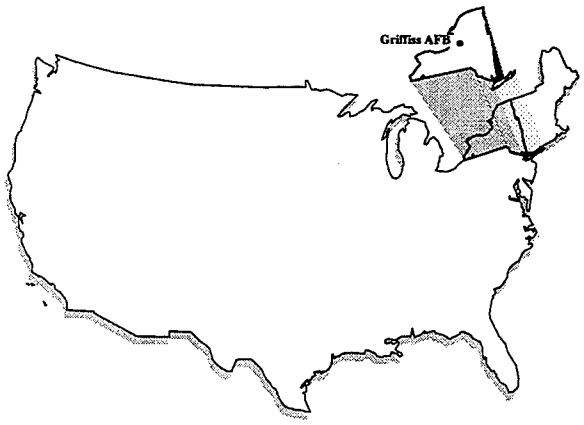
Versar, Inc.

1987 Detailed Evaluation of RI/FS Technical Criteria for Griffiss Air Force Base, Rome, New York (Letter Report). Springfield, Virginia.

Weston, Roy F.

1982 *Installation Restoration Program Final Report Phase II - Problem Confirmation and Quantification Study, Griffiss Air Force Base, Rome, New York.* West Chester, Pennsylvania. Prepared for U.S. Air Force Occupational and Environmental Health Laboratory, Brooks Air Force Base, Texas.

1985 *Installation Restoration Program Phase II - Confirmation/Quantification Stage 2 for Griffiss Air Force Base, Rome, New York.* West Chester, Pennsylvania. Prepared for U.S. Air Force Occupational and Environmental Health Laboratory, Brooks Air Force Base, Texas.



APPENDIX E

APPENDIX E

METHODS OF ANALYSIS

1.0 INTRODUCTION

This section describes the methods used in preparing this Environmental Impact Statement (EIS). These methods were designed and implemented to evaluate the potential environmental impacts of realignment and disposal of Griffiss Air Force Base (AFB), New York, and incident reuse. Because future reuse of the site is uncertain in its scope, activities, and timing, several alternative reuse scenarios were considered in the analysis and their associated environmental impacts evaluated. The reuse scenarios analyzed in this EIS were defined for this study to span the anticipated range of reuse activities that are reasonably likely to occur as a result of realignment and disposal of the base. The scenarios were developed based on proposals put forth by the local community, interested individuals, and the Air Force, and considered general land use planning objectives.

The various analysis methods used to develop this EIS are summarized here by resource. In some instances, more detail is included in another appendix. These instances are noted for each resource in its respective subsection below.

2.0 LOCAL COMMUNITY

2.1 COMMUNITY SETTING

The community setting section provides the context within which impacts on the biophysical environment were assessed. Community setting effects were based on projected direct and secondary employment and resulting population changes related to the reuse of Griffiss AFB. These projections were used to quantify and evaluate changes in demands on community services and transportation systems. A complete assessment of socioeconomic effects was conducted through a separate *Socioeconomic Impact Analysis Study (SIAS), Disposal and Reuse of Griffiss Air Force Base, New York* (U.S. Air Force 1995), which is the source for baseline and projected statistics used in this EIS.

Information used in the SIAS was obtained from various sources including the U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics, and the Technical Assistance Center, State University of New York. The Regional Interindustry Multiplier System (RIMS) model was used to generate demographic and economic projections used to analyze changes that would result from the Proposed Action and alternatives.

2.2 LAND USE AND AESTHETICS

Potential land use impacts were projected based on compatibility of land uses associated with the Proposed Action and alternatives with adjacent land uses and zoning; consistency with comprehensive plans and other land use plans, including airport master plans, regulations, and policies; and effects of aircraft noise and safety restrictions on land uses.

The Region of Influence (ROI) for the majority of direct land use impacts for this study consists of Griffiss AFB and adjacent land in the City of Rome, and Towns of Lee, Floyd, Marcy, Westmoreland, and Whitestown, and Oneida County. Noise-related land use impacts were determined by the extent of noise contours created by the various reuse alternatives.

Maps and recent aerial photographs were used to characterize onbase and offbase land uses. Applicable policies, regulations, and land use restrictions were identified from the land use plans and ordinances of municipalities in the ROI. The proposed and alternative conceptual reuse plans were compared to existing land uses and zoning to identify areas of conflict, as well as to local planning documents.

Alternatives incorporating airfield uses were examined for consistency with the Air Force Air Installation Compatible Use Zone (AICUZ) Program; Air Force Regulation 86-14, *Airfield and Heliport Planning Criteria*; and Federal Aviation Administration (FAA) regulations which govern and/or recommend compatible land uses in the vicinity of airfields. Impacts of airfield-generated noise were assessed by comparing the extent of noise-affected areas and receptors under different reuse alternatives against preclosure baseline conditions.

For the aesthetics analysis, the affected environment was described based on the visual sensitivity of the base from the public domain. These areas were categorized as areas of high, medium, or low sensitivity. The Proposed Action and alternatives were then evaluated to identify land uses to be developed, visual modifications that would occur, new areas of visual sensitivity, and whether modification of unique or otherwise irreplaceable visual resources would occur and detract from the visual qualities or setting.

2.3 TRANSPORTATION

The analysis of potential impacts to transportation resulting from the Proposed Action and alternative conceptual reuse plans for Griffiss AFB focused on key roads, local airport use, and passenger rail service in the area, including those segments of the transportation networks in the region that serve as direct or mandatory indirect linkages to the base, and those that are commonly used by Griffiss AFB personnel. The need for improvements to onbase roads, offbase access, and regional arterials was considered. The analysis was derived using information from State and local government agencies, including the State of New York Department of Transportation, local airport authorities, and Amtrak. Other data sources used for the roadway analysis include publications from the

Institute of Transportation Engineers and the Transportation Research Board. The ROI for the transportation analysis includes the existing principal road, air, and rail networks in the Rome area with emphasis on the immediate area surrounding Griffiss AFB. The closest commercial airport to Griffiss AFB is Oneida County Airport (OCA), located 5 miles southeast of the base.

The number of vehicle trips expected as a result of specific land uses on the site was estimated for 1996, 2001, 2006, and 2016 on the basis of direct onsite jobs and other attributes of onsite land uses (such as the number of dwelling units; projected airport passenger volume, commercial, industrial, institutional, and recreational development; and other factors). Trip generation data from the *Trip Generation Manual* (Institute of Transportation Engineers 1991) were used to determine vehicle trips. Vehicle trips were then assigned to the local road network using prior patterns and expected destinations and sources of trips. When appropriate, the local road network was adjusted to account for changes over time from currently planned road capacity improvements and improvements required by the proposed reuse scenarios. Changes in work and associated travel patterns were derived by assigning or removing traffic to or from the most direct commuting routes. Changes in traffic volumes from reuse alternatives at Griffiss AFB were estimated and resulting volume changes on key local and regional roadway segments were then determined.

The transportation network in the ROI was then examined to identify potential impacts to levels of service (LOS) from future baseline conditions and effects of reuse alternatives. Planning computations from the *Highway Capacity Manual* (Transportation Research Board 1985) provided estimates of traffic and anticipated LOS where the amount of detail and accuracy of information were limited. The planning procedures used in this analysis were based on projections of average annual daily traffic and on assumed traffic, roadway, and control conditions. The results provided a basic assessment of whether or not capacity was likely to be exceeded for a given volume. Intersection analysis was then integrated into the planning capacity analysis for each roadway section analyzed and the results provided an estimate of the changes in LOS ratings expected as a result of traffic volume changes on key local, regional, and onbase roadway segments.

Airspace use in the vicinity of an airport is driven primarily by factors such as runway alignment, surrounding obstacles and terrain, air traffic control and navigational aid capabilities, proximity of other airports/airspace uses in the area, and noise considerations. These same factors normally apply regardless of whether the airport is used for military or civil aircraft operations. For this reason, a preclosure reference was used in characterizing these factors related to airspace use at Griffiss AFB.

Historical data on military aircraft operations used to characterize airspace use at and around Griffiss AFB were obtained from the base. Aviation forecasts were derived from the conceptual reuse plans, reports, and, where necessary, assumptions were made based on other similar airport operational environments.

The airspace ROI for Griffiss AFB is described in Chapter 3.0. Air traffic control for military and civil aircraft operating in the vicinity of Griffiss AFB is provided by the FAA Radar Approach Control (RAPCON) and Boston Air Route Traffic Control Center (ARTCC). The FAA RAPCON facility at Griffiss AFB provides radar coverage for all aircraft from the surface to 10,000 feet mean sea level, excluding certain Special Use Airspace areas. Air traffic above 10,000 feet is controlled by Boston ARTCC.

The types and levels of aircraft operations projected for the Regional Aviation Complex Alternative (the only reuse alternative with commercial aircraft operations) were estimated and compared to the way airspace was configured and used under the pre-realignment reference. The capacity of the airport to accommodate the projected aircraft fleet and operations was assessed by calculating the airport service volume, using the criteria in FAA Advisory Circular 150/5060-5. Potential effects on airspace use were assessed, based on the extent to which projected operations could (1) require modifications to the airspace structure or air traffic control systems and/or facilities; (2) restrict, limit, or otherwise delay other air traffic in the region; or (3) encroach on other airspace areas and uses.

It was recognized throughout the analysis process that a more in-depth study would be conducted by the FAA, if the Regional Aviation Complex Alternative were implemented, to identify any impacts of this reuse and what actions would be required to support the projected aircraft operations. Therefore, this analysis was used only to consider the level of operations that could likely be accommodated under the existing airspace structure, and to identify potential impacts if operational capacities were exceeded.

Data addressing private, passenger, and air cargo service in the region were estimated on the basis of demand forecasts developed by the Griffiss Redevelopment Planning Council (GRPC) (Hamilton, Rabinovitz, and Alschuler et al. 1994) and the *Oneida County Airport Master Plan* (C & S Engineers, Inc. 1994). The effect of base closure on local airports was derived by subtracting current base-related enplanements from current total enplanements. For each reuse alternative, impacts on air transportation were determined by multiplying the ratio of enplanements to population by the projected future populations of the local airport service areas.

Information regarding existing rail transportation was obtained from Amtrak and railroad companies serving the region. Projected effects of reuse alternatives on railroad transportation were based on the anticipated use of these railroads for freight service. Impacts on passenger service were based on projected population in the ROI, using pre-realignment passenger-to-population ratio. None of the alternatives assumes direct use of local railroad.

2.4 UTILITIES

Utility demands were determined based on proposed land uses and projected area population increases. The utility systems addressed in this analysis include

the facilities and infrastructure used for potable water (pumping, treatment, storage, and distribution), wastewater (collection and treatment), solid waste (collection and disposal), and energy generation and distribution (electricity and natural gas). Historical consumption data, service curtailment data, peak demand characteristics, storage and distribution capacities, and related information for base utilities (including projections of future utility demand for each utility provider's particular service area) were extracted from data provided by various City of Rome utility departments, utility companies, and Griffiss AFB. Information was also obtained from public and private utility purveyors and related county and city agencies.

The ROI for this analysis comprises the service areas of the local purveyors of potable water, wastewater treatment, solid waste, and energy that serve Griffiss AFB and the surrounding area, including the City of Rome. It was assumed that these local purveyors would provide services within the area of the existing base after realignment/reuse.

Potential impacts were evaluated based on demand projections obtained from the various utility purveyors within the region (through 2016) for each of their respective service areas or based on population changes in the ROI. In each case, the most recent projections that were either made prior to the base realignment announcement or that did not take into account a change in demand from the base were considered. These projections were then adjusted to reflect the decrease in demand associated with realignment of Griffiss AFB and its subsequent operation with the No-Action Alternative. These adjusted forecasts were then considered the future baseline for comparison with potential reuse alternatives.

The potential effects of reuse alternatives were evaluated by estimating and comparing the additional direct and indirect demand associated with each alternative to the existing and projected operating capabilities of each utility system. Estimates of direct utility demands on the site were used to identify the effects of the reuse activities on site-related utility systems. All changes to the utility purveyors' long-term forecasts were based on estimated project-related population changes in the region and the future rates of per capita demand indicated by the projections or derived from those projections. It was assumed that the per capita demand rates were representative of the reuse activities, based on assumed similarities between proposed land uses and existing or projected uses in the region. Utility projections include direct demand associated with activities planned on base property, as well as resulting changes in domestic demand associated with population changes in the region.

3.0 HAZARDOUS SUBSTANCE MANAGEMENT

Two categories of hazardous materials and hazardous waste management issues were addressed in this analysis: (1) impacts of hazardous materials utilized and hazardous waste generated with each reuse proposal and (2) residual impacts associated with past Air Force practices including delays resulting from Installation Restoration Program (IRP) site remediation. IRP sites

are identified as part of the affected environment (Chapter 3.0), while remediation impacts associated with these sites are addressed as environmental consequences (Chapter 4.0). Impacts resulting from waste generated by each reuse proposal are also addressed in Chapter 4.0. Primary data sources included existing published reports such as IRP documents, generator annual hazardous waste reports, various hazardous materials and waste management plans (e.g., spill response, hazardous waste, underground storage tanks, asbestos), recent inventories (e.g., the Entomology Shop pesticide inventory), and survey results (e.g., hazardous wastes, asbestos, and radon). Pertinent Federal, State, and local regulations and standards were reviewed for applicability to the Proposed Action and alternatives. Hazardous materials and waste management plans and inventories were obtained from Griffiss AFB. Interviews with personnel associated with these onbase organizations provided the information necessary to fill any data gaps.

The ROI includes the current base property and all geographical areas that have been affected by an onbase release of a hazardous material or hazardous waste.

Pre-realignment baseline conditions (i.e., when the base was fully operational), as defined for this study, include hazardous materials and waste management practices and inventories pertaining to the following areas: hazardous materials, hazardous waste, IRP sites, aboveground and underground storage tanks, oil/water separators, asbestos, pesticides, polychlorinated biphenyls (PCBs), radon, medical/biohazardous waste, and ordnance. The impact analysis considers (1) the amount and type of hazardous materials and waste currently associated with specific facilities and/or areas proposed for each reuse alternative; (2) the regulatory requirements or restrictions associated with property transfer and reuse; (3) delays to development resulting from IRP remediation activities; and (4) remediation schedules of specific hazardous materials and waste (i.e., PCBs, medical/biohazardous waste) currently used by the Air Force.

4.0 NATURAL ENVIRONMENT

4.1 SOILS AND GEOLOGY

The evaluation of impacts to soils addressed erosion potential, construction-related dust generation and other soils problems (low soil strength, expansive soils, etc.), and disturbance of unique soil types. Information was obtained from Federal and local agencies. Assessment of potential impacts to geology from the reuse alternatives included evaluation of resource potential including aggregate and geologic hazards (particularly potential for seismicity, liquefaction, and subsidence).

The soils analysis was based on a review of U.S. Department of Agriculture, Soil Conservation Service (SCS) documents for soil properties. The soils in the ROI were then evaluated for erosion potential, permeability, evidence of hardpans, shrink-swell potential, and other characteristics as these relate to construction problems and erosion potential during construction. Mitigations

were evaluated based on standard construction practices and SCS recommendations. Common engineering practices were reviewed to determine poor soil characteristics and to recommend mitigation measures.

The ROI for the geologic analysis includes the region surrounding Griffiss AFB relative to seismic activity and aggregate resources. The ROI for the soils analysis is limited to the base and specific areas designated for construction or renovation.

The geologic analysis was based on a review of existing literature for construction problems associated with geologic hazards, availability of construction aggregate, and whether reuse would affect the availability of known mineral resources.

4.2 WATER RESOURCES

Analysis of impacts of the reuse alternatives on water resources considered groundwater quality and quantity, surface water quality (effects from erosion or sedimentation and contamination), surface water drainage diversion, flooding potential, and nonpoint source surface runoff to the Mohawk River and tributary streams. Impacts to water quality resources resulting from IRP activities are addressed in the Hazardous Substances Management section (Section 3.3). Information was obtained from several Federal, State, and local agencies. The ROI for water resources includes the groundwater basin underlying the base, the surface drainage directly affected by runoff from the base, and the 100-year floodplains of the Mohawk River in the vicinity of the base.

Existing surface water conditions were evaluated for flood potential, nonpoint source discharge or transportation of contaminants, and surface water quality. Groundwater resources were evaluated as they pertained to adequate water supplies for each of the reuse alternatives. Groundwater quality and the potential as a potable water source for each reuse alternative was documented. The existing stormwater drainage system was evaluated based on available literature, and the impacts to this system from each of the reuse alternatives were determined.

4.3 AIR QUALITY

The air quality resource is defined as the condition of the atmosphere, expressed in terms of the concentrations of air pollutants occurring in an area as a result of emissions from natural and/or man-made sources. Reuse alternatives have the potential to affect air quality depending on net changes in the release of both gaseous and particulate matter emissions. The impact significance of these emission changes was determined by comparing the resulting atmospheric concentrations to State and Federal ambient air quality standards. This analysis drew from climatological data, air quality monitoring data, baseline emission inventory information, construction scheduling information, reuse-related source information, and transportation data. Principal

sources of these data were the New York State Department of Environmental Conservation (NYSDEC) and the National Climate Data Center.

The ROI was determined by emissions from sources associated with construction and operation of the reuse alternatives. For inert pollutant emissions (all pollutants other than ozone and its precursors), the measurable ROI is limited to a few miles downwind from the source (i.e., the immediate area of Griffiss AFB). The ROI for ozone impacts from project emissions is Oneida County, and the four surrounding counties of Herkeimer, Lewis, Madison, and Oswego.

Emissions predicted to result from the proposed alternatives were compared to existing baseline emissions to determine the potential for adverse air quality impacts. Impacts were also assessed by modeling, where appropriate, and compared to air quality standards and attainment levels for complying with these standards. Appendix I contains the projected emissions inventory information and methods. Background concentrations were added to the project impacts for comparison with the standards and attainment levels. Impacts were considered significant if project emissions would (1) increase an offsite ambient pollutant concentration from below to above a Federal, State, or local standard; (2) contribute a measurable amount to an existing or projected air quality standard exceedance; or (3) expose sensitive receptors (such as schools or hospitals) to substantial pollutant concentrations. All other air quality impacts were considered insignificant.

4.4 NOISE

The noise analysis addressed potential noise impacts from reuse-generated aircraft operations, surface traffic, and other identified noise sources on communities surrounding Griffiss AFB. Most of the data were obtained from the aircraft operations and traffic data prepared for the reuse alternatives. Day-night average sound levels (DNL) were used to determine noise impacts. Scientific literature on noise effects was also referenced.

The ROI for noise was defined as the area within DNL 65 decibels (dB) contours based on land use compatibility guidelines developed from FAA regulations (U.S. Department of Transportation, Federal Aviation Administration 1989). The ROI for surface traffic noise impacts incorporated key road segments identified in the transportation analysis.

Noise levels from aircraft operations were estimated using the FAA-approved Noise Exposure Model (NOISEMAP), version 6.3. To support comparative analyses of eventual airfield closure and potential nonjoint reuse by civilian aircraft, the INM model was used to generate noise contours for the civilian aircraft. Noise contours for DNL 65 dB and above were depicted. Noise levels due to surface traffic were estimated using Federal Highway Administration's Highway Noise Model STAMINA 2.0 (1982). Potential noise impacts were identified by overlaying the noise contours with land use and population

information to determine the number of residents who would be exposed to DNL above 65 dB.

Methods used to analyze noise impacts with each reuse scenario are presented in detail in Appendix H of this EIS.

4.5 BIOLOGICAL RESOURCES

Biological resources analyzed for realignment and reuse of Griffiss AFB include vegetation, wildlife, threatened and endangered species, and sensitive habitats (e.g., wetlands). Primary data sources for the analysis included published literature and reports, field reconnaissance of the base, and contacts with agencies such as the U.S. Fish and Wildlife Service and the NYSDEC. The ROI for the biological resources assessment comprises Griffiss AFB, adjacent natural areas, and other areas potentially affected by reuse alternatives.

Vegetation, wildlife habitat, and sensitive biological resources (e.g., unique natural communities and protected species) on the base were mapped using aerial photographs and field observations obtained during a reconnaissance survey of the base conducted in early October 1994. Data were also taken from the New York Natural Heritage Program (1993) inventory of rare plant species and significant natural communities at Griffiss AFB. Wetlands on the base were mapped by the NYSDEC (updated to 1994); delineated in 1993 using the 1987 U.S. Army Corps of Engineers (COE) *Manual for Identifying and Delineating Jurisdictional Wetlands*; and determined/surveyed by the COE in 1993 and 1994. These data were used to create the wetlands composite map in this EIS.

The impact analysis was performed by overlaying project land use maps for each alternative onto the biological resource maps to calculate the overlap by land use category. Based on the timing of development in the 20-year study period and the type of development proposed (e.g., demolition, new construction, or reuse of existing facilities) for each land use planning area, the amount of habitat that could be affected was quantitatively estimated. The proportion of disturbance associated with each respective action in the planning areas was determined based on accepted land use development/planning concepts. It was assumed that disturbance for new development could occur at one or more sites with the assigned land use polygon. Disturbance of each habitat type present was considered to be in direct proportion to the development factor. These direct, quantitative impacts were further divided into three development phases by knowing the schedule of development per land use area and location of biological resources. All other impacts (indirect/secondary) were qualitatively assessed based on literature and scientific expertise on the responses of plants and animals to project-related disturbances such as noise, landscaping, and vegetation maintenance.

4.6 CULTURAL AND PALEONTOLOGICAL RESOURCES

Cultural resources include three main categories: prehistoric resources, historic resources, and Native American (traditional) resources. Paleontological resources are the fossil evidence of past plant and animal life.

Prehistoric resources are physical properties resulting from human activities predating written records, identified as either isolated artifacts or sites. Sites contain concentrations of artifacts (e.g., stone tools and ceramic sherds), features (e.g., hearths), and plant and animal remains. Depending on their age, complexity, integrity, and relationship to one another, sites may be important and capable of yielding information about past populations and adaptive strategies.

Historic resources consist of physical properties that postdate the existence of written records and include architectural structures (e.g., log cabins, dams, and bridges) and archaeological features such as foundations, trails, and trash dumps. Such resources may have research potential in the same manner as prehistoric sites, but are more often considered important because of their association with historic persons or events, or as examples of distinctive architectural styles.

Native American (traditional) resources include sites, areas, and materials important to Native Americans for religious or heritage reasons. Sensitive resources may include some types of prehistoric sites, features and artifacts, contemporary sacred areas, traditional use areas (e.g., native plant habitat), and sources for materials used in the production of sacred objects and traditional tools.

Cultural resources of particular concern include properties listed on the National Register of Historic Places (NRHP), properties potentially eligible for the NRHP, and sensitive Native American sites and areas.

Paleontological resources are the physical remains, impressions, or traces of plants or animals from a former geological age. They include casts, molds, and trace fossils such as burrows or tracks. Fossil localities typically include surface outcrops, areas where subsurface deposits are exposed, and special environments favoring preservation, such as caves, peat bogs, and tar pits. Paleontological resources are important mainly for their potential to provide scientific information on the evolutionary history of plants and animals and paleoenvironments.

Data used to compile information on these resources were obtained from existing environmental documents; material on file at Griffiss AFB; recent cultural resource correspondence pertaining to the base; interviews with individuals familiar with the history, archaeology, or paleontology of the Rome area; and records of the New York State Historic Preservation Office (SHPO). The ROI for cultural resources includes all areas within the boundaries of Griffiss AFB. No offbase areas were included except where ground-disturbing

activities (such as road construction) are part of potential conceptual reuse plans.

The EIS contains the most up-to-date information on the importance of cultural resources on Griffiss AFB, based on recent and ongoing evaluation of eligibility for the NRHP. Cultural resources for which eligibility information was unavailable were assumed to be eligible for the National Register, as is stipulated in the National Historic Preservation Act (NHPA).

According to National Register criteria (36 CFR 60.4), the quality of significance is present in districts, sites, buildings, structures, and objects that:

a) Are associated with events that have made a significant contribution to the broad patterns of history;

b) Are associated with the lives of persons significant in the past;

c) Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic value; or represent a significant and distinguishable entity whose components may lack individual distinction; and

d) Have yielded, or may be likely to yield, information important in prehistory or history.

To be listed or considered eligible for listing on the National Register, a cultural resource must meet at least one of the above criteria and must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. Integrity is defined as the authenticity of a property's historic identity, as evidenced by the survival of physical characteristics that existed during the property's historic or prehistoric occupation or use. If a resource retains the physical characteristics it possessed in the past, it has the capacity to convey information about a culture or people, historical patterns, or architectural or engineering design and technology.

Compliance with requirements of cultural resource laws and regulations ideally involves four basic steps: (1) identification of significant cultural resources that could be affected by the Proposed Action or its alternatives, (2) assessment of the impacts or effects of these actions, (3) determination of significance of potential historic properties within the ROI, and (4) development and implementation of measures to eliminate or reduce adverse impacts. The primary law governing cultural resources in terms of their treatment in an environmental analysis is the NHPA, which addresses the protection of historic and cultural properties. In compliance with the NHPA, the Air Force is in the process of consultation with the SHPO, as required under Sections 106 and 110 of the Act.

There are no legally established criteria for assessing the importance of a Native American resource; however, criteria have been established through consultation with Native Americans according to the requirements of the American Indian Religious Freedom Act, the Native American Graves Protection and Repatriation Act, the *Air Force Guidelines for Consultation With Native Americans in the Context of Program Planning and Impact Assessment* (U.S. Air Force 1991), and the *Guidelines for Evaluating and Documenting Traditional Cultural Properties* (Parker and King 1990).

Adverse effects that may occur as a result of base reuse are those that have a negative impact on characteristics that make a resource eligible for listing on the NRHP. Actions that can diminish the integrity, research potential, or other important characteristics of an historic property include the following (36 CFR 800.9):

- Physical destruction, damage, or alteration of all or part of the property;
- Isolating the property from its setting or altering the character of the property's setting when that character contributes to the property's qualification for the National Register;
- Introduction of visual or auditory elements that are out of character with the property or that alter its setting;
- Transfer or sale of a Federally owned property without adequate conditions or restrictions regarding its preservation, maintenance, or use; and
- Neglect of a property, resulting in its deterioration or destruction.

Regulations for implementing Section 106 of the NHPA indicate that the transfer, conveyance, lease, or sale of an historic property is procedurally considered to be an adverse effect, thereby ensuring full regulatory consideration in Federal project planning and execution. However, effects of a project that would otherwise be found to be adverse may not be considered adverse if one of the following conditions exists:

- When the historic property is of value only for its potential contribution to archaeological, historical, or architectural research, and when such value can be substantially preserved through the conduct of appropriate research, and such research is conducted in accordance with applicable professional standards and guidelines;
- When the undertaking is limited to the rehabilitation of buildings and structures and is conducted in a manner that preserves the historical and architectural value of the affected historic

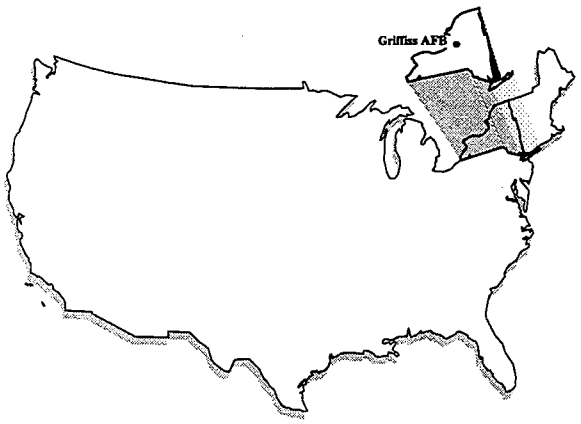
property through conformance with the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitation of Historic Buildings*; or

- When the undertaking is limited to the transfer, conveyance, lease, or sale of an historic property, and adequate restrictions or conditions are included to ensure preservation of the property's significant historic features.

The treatment of paleontological resources is governed by Public Law 74-292 (the National Natural Landmarks Program, implemented by 36 CFR 62). Only paleontological remains determined to be scientifically important are subject to consideration and protection by a Federal agency. Among the criteria used for National Natural Landmark designation are illustrative character, present condition, diversity, rarity, and value for science and education. Additional criteria developed by the National Research Council (1987) indicate that paleontological resources are of high research potential, and therefore, of scientific or educational value, if they are:

- Recovered in poorly studied regions or in unusual concentrations;
- Poorly known fossil forms;
- Assemblages containing a variety of fossil forms, particularly associations of vertebrates, invertebrates, and plants;
- Well-preserved terrestrial vertebrates; and
- In usual depositional contexts.

THIS PAGE INTENTIONALLY LEFT BLANK



APPENDIX F

APPENDIX F

CURRENT PERMITS

Table F-1

Griffiss AFB Permits

Permit No.	Permitted Facility	Date of Issue	Date of Expiration	Issuing Agency	Comments/Conditions
6-1580	Major Oil Storage Facility (MOSF) permit for Griffiss AFB	1 April 1993	31 March 1996	New York State DEC	Permit required for facilities with an aggregate aboveground and underground storage capacity greater than or equal or 400,000 gallons of petroleum.
6-000113	Building 24, Water Treatment Facility at Steam Plant	15 October 1993	13 October 1995	New York State DEC	Hazardous Substance Bulk Storage Registration Certificate for 1,000-gallon aboveground storage tank (Tank 0029B) containing sodium hydroxide used for treatment of coal pile runoff.
001	Basewide industrial wastewater discharge into sanitary sewer system	4 April 1990 revised 19 November 1990	Expired	City of Rome	Griffiss AFB must comply with Federal Discharge Standards and categorical Pretreatment Standards along with City of Rome sewer use ordinance.
NY-0008320	State Pollutant Discharge Elimination System discharge permit for Griffiss AFB	1 February 1990	Expired	New York State DEC	Permit to discharge into Sixmile Creek and tributaries, ditch tributary to New York State Barge Canal, diversion channel, Mohawk River, and Threemile Creek.
NY4571924451	RCRA Part B (Article 27, Title 9) 6NYCRR 373: Hazardous Waste Management Facility, DRMO/XPS Donaldson Road, Griffiss AFB	20 June 1994	1 June 1999	New York State DEC	The facility stores hazardous waste generated on Griffiss AFB prior to being shipped to authorized facilities for treatment or disposal. Wastes restricted from land disposal may be stored at this facility for up to 1 year. Wastes not restricted from land disposal may be stored indefinitely. No onsite treatment or disposal of hazardous waste occurs.
31-10050-1AFP	416th Maintenance Squadron, Precision Measurement Equipment Laboratory (PMEL)	Not known	30 September 1995	USAF Radioisotope Committee	The authority for this permit is U.S. Nuclear Regulatory Commission (NRC) Master Materials ND 42-23539-01AF issued to the USAF Radioisotope Committee, and Air Force Regulation 161-16 for control of permitted radioactive material used at Griffiss AFB only.

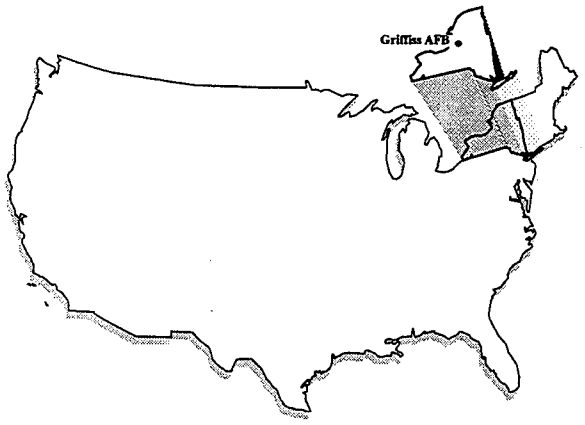
Table F-1, Page 2 of 3

Permit No.	Permitted Facility	Date of Issue	Date of Expiration	Issuing Agency	Comments/Conditions
Air Permits					
6-R-0022/101AØ	Wood Working Shop - Bldg. 101	1 June 1992	1 June 1997	New York State DEC	
6-R-0023/101BØ	Plastic Shop - Bldg. 101	1 June 1992	1 June 1997	New York State DEC	
6-R-0024/101CØ	Lead Battery Maintenance - Bldg. 101	1 June 1992	1 June 1997	New York State DEC	
6-R-0026/101EØ	Paint Booth #1A - Bldg. 101	1 June 1992	1 June 1997	New York State DEC	
6-R-0028/101FØ	Paint Booth #1B - Bldg. 101	1 June 1992	1 June 1997	New York State DEC	
6-R-0030/101GØ	Paint Booth #2A - Bldg. 101	1 June 1992	1 June 1997	New York State DEC	
6-R-0032/101HØ	Paint Booth #2B - Bldg. 101	1 June 1992	1 June 1997	New York State DEC	
6-R-0034/101IØ	Paint Booth #3A - Bldg. 101	1 June 1992	1 June 1997	New York State DEC	
6-R-0036/101JØ	Paint Booth #3B - Bldg. 101	1 June 1992	1 June 1997	New York State DEC	
6-R-0038/101KØ	Paint Booth #3C - Bldg. 101	1 June 1992	1 June 1997	New York State DEC	
6-R-0040/101LØ	Paint Booth #3D - Bldg. 101	1 June 1992	1 June 1997	New York State DEC	
0101M	Welding Station - Bldg. 101	1 December 1993	1 December 1995	New York State DEC	
0101N	Welding Station - Bldg. 101	1 December 1993	1 December 1995	New York State DEC	
0101O	Welding Station - Bldg. 101	1 December 1993	1 December 1995	New York State DEC	
0101P	Welding Station - Bldg. 101	1 December 1993	1 December 1995	New York State DEC	
0101Q	Welding Station - Bldg. 101	1 December 1993	1 December 1995	New York State DEC	
0101R	Welding Station - Bldg. 101	1 December 1993	1 December 1995	New York State DEC	
0101S	Welding Station - Bldg. 101	1 December 1993	1 December 1995	New York State DEC	
0101T	Welding Station - Bldg. 101	1 December 1993	1 December 1995	New York State DEC	
0101U	Welding Station - Bldg. 101	1 December 1993	1 December 1995	New York State DEC	
0101W	Welding Station - Bldg. 101	1 December 1993	1 December 1995	New York State DEC	
0101X	Dip Tank - Bldg. 101	1 June 1994	1 June 1999	New York State DEC	
11AØØ	Vehicle Maintenance - Bldg. 11	1 October 1992	1 October 1997	New York State DEC	
11BØØ	Paint Booth - Bldg. 11	1 June 1992	1 June 1997	New York State DEC	
6-R-0046/ØØ14B	Diazo Print Machine - Bldg. 14	1 December 1993	1 December 1998	New York State DEC	
029A-	Steam Plant Stack - Bldg. 29	1 December 1993	1 December 1998	New York State DEC	
029B-	Steam Plant Stack - Bldg. 29	1 December 1993	1 December 1998	New York State DEC	
029C-	Heat Plant Silo 1 - Bldg. 29	1 December 1993	1 December 1998	New York State DEC	
029D-	Heat Plant Silo 2 - Bldg. 29	1 December 1993	1 December 1998	New York State DEC	
029E-	Ash Silo - Bldg. 29	1 December 1993	1 December 1998	New York State DEC	
029F-	Ash Conveyor - Bldg. 29	1 December 1991	1 December 1996	New York State DEC	

Table F-1, Page 3 of 3

Permit No.	Permitted Facility	Date of Issue	Date of Expiration	Issuing Agency	Comments/Conditions
029G-	Heat Plant/Lime Blower - Bldg. 29	1 December 1993	1 December 1998	New York State DEC	
029H-	Heat Plant/Lime Use Bin - Bldg. 29	1 December 1993	1 December 1998	New York State DEC	
029-I	Heat Plant/Recovery Bin - Bldg. 29	1 December 1993	1 December 1998	New York State DEC	
029-J	Heat Plant/Coal Conveyor - Bldg. 29	1 December 1993	1 December 1998	New York State DEC	
029-K	Heat Plant/Coal Bunker 1 - Bldg. 29	1 December 1993	1 December 1998	New York State DEC	
029-L	Heat Plant/Coal Bunker 2 - Bldg. 29	1 December 1993	1 December 1998	New York State DEC	
029-M	Heat Plant/Coal Bunker 3 - Bldg. 29	1 December 1993	1 December 1998	New York State DEC	
029-N	Heat Plant/Coal Bunker 4 - Bldg. 29	1 December 1993	1 December 1998	New York State DEC	
6-R-0053/222AØ	Battery Charging - Bldg. 222	1 June 1987	1 June 1993	New York State DEC	Permit expired
6-R-0054/222BØ	Battery Charging - Bldg. 222	1 June 1987	1 June 1993	New York State DEC	Permit expired
6R-0059/248AØ	Diazo Printer - Bldg. 248	1 June 1992	1 June 1997	New York State DEC	
6R-0061/248BØ	Diazo Blue Print Machine - Bldg. 248	1 June 1992	1 June 1997	New York State DEC	
6R-0064/255BØ	Paint Booth - Bldg. 255	1 June 1992	1 June 1997	New York State DEC	
6R-0065/255CØ	Paint Booth - Bldg. 255	1 June 1992	1 June 1997	New York State DEC	
6R-0066/301AØ	Diazo Printer - Bldg. 301	1 June 1992	1 June 1997	New York State DEC	
Ø305A	Paint Booth - Bldg. 305	1 October 1992	1 October 1997	New York State DEC	
Ø305B	Welding Station - Bldg. 305	1 December 1993	1 December 1995	New York State DEC	
6R-0068/334AØ	Wood Working Shop - Bldg. 334	1 June 1992	1 June 1997	New York State DEC	
6R-0071/653AØ	Feed Storage Tank - Bldg. 653	1 June 1992	1 June 1997	New York State DEC	
6R-0072/655AØ	Feed Storage Tank - Bldg. 655	1 June 1992	1 June 1997	New York State DEC	
6R-0073/657AØ	Feed Storage Tank - Bldg. 657	1 June 1992	1 June 1997	New York State DEC	
0771A-D	Underground tank - Bldg. 771	1 December 1993	1 December 1998	New York State DEC	
0773A-D	Underground tank - Bldg. 773	1 December 1993	1 December 1998	New York State DEC	
8000A	Aboveground storage tank	1 December 1993	1 December 1998	New York State DEC	
8001A	Aboveground storage tank	1 December 1993	1 December 1998	New York State DEC	

THIS PAGE INTENTIONALLY LEFT BLANK



APPENDIX G

APPENDIX G

AIR FORCE POLICY FOR MANAGEMENT OF ASBESTOS CONTAINING MATERIAL (ACM) AT CLOSURE BASES

This policy applies specifically to property being disposed of through the Base Realignment and Closure (BRAC) process and supersedes all previous policy on this matter.

1. REFERENCES

a. Asbestos Hazard Emergency Response Act (AHERA).

b. Federal Tort Claims Act, 28 U.S.C. § 2671.

c. 40 CFR Part 61, Subpart M - National Emission Standards for Hazardous Air Pollutants (NESHAPS).

d. 29 CFR Section 1910.1001 - Occupational Safety and Health Administration (OSHA) general industry standard for asbestos.

e. 29 CFR Section 1926.58 - Occupational Safety and Health Administration (OSHA) construction industry standard for asbestos.

f. 40 CFR Part 302 - Designation, Reportable Quantities, and Notification.

g. 41 CFR Section 101-47.304-13 - Federal Property Management Regulations provisions relating to asbestos.

h. AFI 32-1052, Facility Asbestos Management.

i. AFI 32-7006, Environmental Baseline Surveys in Real Estate Transactions.

2. DEFINITIONS

a. **Asbestos.** A group of naturally occurring minerals that separate into fibers, including chrysotile, amosite, crocidolite, asbestiform anthophyllite, asbestiform tremolite, and asbestiform actinolite.

b. **ACM.** Asbestos-containing material. Any material containing more than one percent asbestos.

c. **Accredited Asbestos Professional.** Air Force Bioenvironmental Engineer or any other professional who is accredited through EPA's asbestos model accreditation plan or other equivalent method.

3. POLICY

The Air Force will ensure that at the time any property is conveyed, leased, or otherwise disposed of through the Base Realignment and Closure (BRAC) process, it does not pose a threat to human health due to ACM and that the property complies with all applicable statutes and regulations regarding ACM.

a. **Responsibilities.**

(1) The Air Force Base Conversion Agency (AFBCA) conducts and funds, from BRAC accounts, any asbestos surveys and remediation needed solely for base closure; to include, but not limited to, additional asbestos surveys for environmental baseline surveys, asbestos repair or resurvey of vacated buildings.

(2) The MAJCOM's conduct and fund asbestos surveys and remediation needed to properly manage asbestos hazards, in accordance with current policy guidelines, up to the time of property management responsibility transfer to AFBCA.

b. **Surveys for ACM.** A survey of facilities for ACM will be accomplished or updated within the 6 months prior to the initial transfer; whether by lease, sale, or other disposal method. Surveys will, at a minimum, identify the extent of asbestos contained in facilities and the exposure hazards. Surveys will be accomplished under the supervision of an accredited asbestos professional. These surveys will minimally include the following:

(1) A review of facility records.

(2) A visual inspection.

(3) An intrusive inspection, as directed by an accredited asbestos professional.

(4) Ambient air sampling, if directed by an accredited asbestos professional, in order to determine if any take (sic) appropriate remedial actions are needed prior to the property being leased or transferred, or to protect facility occupants.

c. **Remediation of ACM.** Remediation of ACM in facilities at closure bases will be in accordance with applicable laws, regulations, and standards. Remediation of ACM may be required if, in the judgment of an accredited asbestos professional, at least one of the following criteria apply:

(1) The ACM is of a type, condition, and in a location such that, through normal and expected use of the facility, it will be damaged to the extent that it will produce an asbestos fiber hazard to facility occupants.

(2) The type and condition of the ACM is such that it is not in compliance with appropriate statutes or regulations.

EXCEPTION: Remediation of ACM by AFBCA will not be accomplished if the transferee is willing to conduct remediation in accordance with applicable standards prior to beneficial occupancy as part of the transfer agreement.

d. **Full Disclosure.** AFBCA will make a full disclosure to the extent known of the types, quantities, locations, and condition of ACM in any real property to be conveyed, leased, sold, or otherwise transferred. Results of ambient air sampling will also be disclosed where available. This disclosure will normally be included in appraisal instructions, invitations for bids or offers to purchase, advertisements and contracts for sale, leases, and deeds.

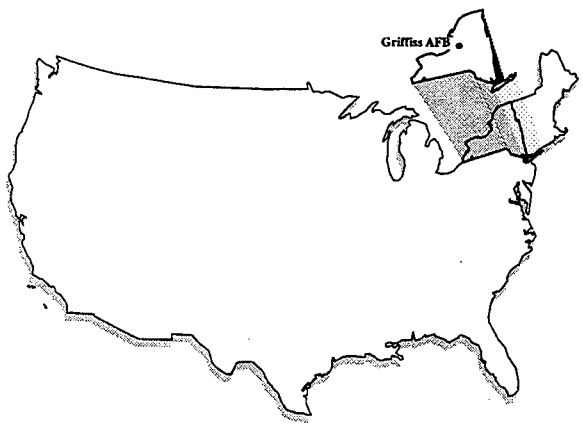
e. **Management of ACM.** ACM remaining in a facility will be managed in-place using commonly accepted standards, criteria, and procedures in compliance with all applicable laws and regulations to assure the protection of human health and the environment. The responsibility for this management will be transferred to the owner or lessee by execution of the appropriate documents.

4. EFFECTIVE DATE

This policy becomes effective on the date signed and remains in effect until superseded.

This Air Force Policy for Management of Asbestos Containing Materials (ACM) at Closure Bases, dated March 25, 1994, has been retyped for the purposes of clarity and legibility. For Section 1, References, AFI refers to Air Force Instruction. In addition, the OSHA construction industry standard for asbestos (Reference f) is now found at 29 CFR 1926.1101. For Section 3, Policy, MAJCOM refers to major Air Force commands such as the Air Combat Command or Air Mobility Command.

THIS PAGE INTENTIONALLY LEFT BLANK



APPENDIX H

APPENDIX H

NOISE

1.0 DESCRIPTION OF PROPOSED ALTERNATIVES

1.1 PRE-REALIGNMENT

Typical noise sources on and around airfields usually include aircraft, surface traffic, and other human activities.

Military aircraft operations are the primary source of noise in the vicinity of Griffiss Air Force Base (AFB). The number and type of aircraft operations and the resulting noise contours for prealignment were obtained from the Air Installation Compatibility Use Zone study (U.S. Air Force 1993a) for Griffiss AFB. The contours for prealignment operations are shown in Figure 3.4-5 in Chapter 3.0 of this Environmental Impact Statement (EIS). In airport analyses, areas with a Day-Night Average Sound Level (DNL) above 65 A-weighted decibels (dBA) are considered in land use compatibility planning and impact assessment; therefore, the distances to areas with DNLs greater than 65 dBA were of particular interest.

The baseline surface traffic noise levels in the vicinity of the base were established in terms of DNL by modeling the arterial roadways and near the base using current traffic and speed characteristics. Annual average daily traffic (AADT) data were developed in the traffic engineering study presented in Section 3.2.3, Transportation, and were used to estimate prealignment noise levels. Ten percent of the traffic was assumed to be nighttime traffic. The noise levels generated by surface traffic were predicted using the model STAMINA 2.0 published by the Federal Highway Administration (1982). The noise levels were estimated as a function of distance from the centerline of the nearest road.

1.2 REALIGNMENT BASELINE

Following realignment of Griffiss AFB, it is assumed that the only aircraft activity that will occur at the base will be aircraft operations required to support mobility, contingency, and training deployments of the U.S. Army 10th Infantry (Light) Division (ID) at Fort Drum, New York. Aircraft would be flown to the base on an as-needed basis to pick up or drop off troops, as well as supplies and equipment. The noise levels projected for the realignment baseline for surface traffic were calculated using the traffic projections at base realignment. The AADTs used for the analysis are presented in Table H-1.

Table H-1

Surface Traffic Operations for Total Traffic Volumes

Roadway Segment	Annual ADT	Speed Assumed (MPH)	Road Width (Number of Lanes)
PRE-REALIGNMENT 1993			
SH-49, East of Wright Drive Crossing	15,600	60	4
SH-49, West of Wright Drive Crossing	16,300	60	6
Eastbound SH-49 on-ramp at Wright Drive	3,100	40	1
Eastbound SH-49 off-ramp (loop) at Wright Drive	1,300	40	1
Westbound SH-49 on-ramp at Wright Drive	4,000	40	1
Westbound SH-49 off-ramp at Wright Drive	2,200	40	1
Connector road between Wright Drive/East Dominick Street	2,300	45	2
East Dominick Street at Air Force Railroad Spur Crossing	12,700	30	2
East Dominick Street, West of Wright Drive Crossing	12,700	30	2
River Road (SH-365) at County Road 88 Junction	8,500	40	2
Floyd Avenue, West of Floyd Gate	15,600	25	2
Floyd Avenue, West of Park Drive	13,500	30	2
Chestnut Street, East of Black River Boulevard	12,500	30	2
Chestnut Street, West of Black River Boulevard	11,000	30	2
Wright Settlement Road, West of Base Boundary	3,400	45	2
Black River Boulevard, South of Floyd Avenue	26,200	45	4
Black River Boulevard, South of Bloomfield Street	22,200	45	6
Black River Boulevard, South of Linden Avenue	17,100	45	4
Black River Boulevard, South of Chestnut Street	21,400	45	4
Black River Boulevard, North of Chestnut Street	23,100	45	4
REALIGNMENT 1996			
SH-49, East of Wright Drive Crossing	12,700	60	4
SH-49, West of Wright Drive Crossing	13,000	60	6
Eastbound SH-49 on-ramp at Wright Drive	700	40	1
Eastbound SH-49 off-ramp (loop) at Wright Drive	300	40	1
Westbound SH-49 on-ramp at Wright Drive	900	40	1
Westbound SH-49 off-ramp at Wright Drive	1,000	40	1
Connector road between Wright Drive/East Dominick Street	400	45	2
East Dominick Street at Air Force Railroad Spur Crossing	12,300	30	2
East Dominick Street, West of Wright Drive Crossing	12,200	30	2
River Road (SH-365) at County Road 88 Junction	7,800	40	2
Floyd Avenue, West of Floyd Gate	8,600	40	2
Floyd Avenue, West of Park Drive	7,100	40	2
Chestnut Street, East of Black River Boulevard	5,200	40	2
Chestnut Street, West of Black River Boulevard	8,900	40	2
Wright Settlement Road, West of Base Boundary	3,600	40	2
Black River Boulevard, South of Floyd Avenue	26,600	40	4
Black River Boulevard, South of Bloomfield Street	21,200	45	6
Black River Boulevard, South of Linden Avenue	16,700	45	4
Black River Boulevard, South of Chestnut Street	19,700	45	4
Black River Boulevard, North of Chestnut Street	20,000	45	4

1.3 PROPOSED ACTION

The Proposed Action for the reuse of Griffiss AFB would result in a comprehensive reuse plan which includes the use of the airfield on an as-needed, on-call basis to support the 10th ID. Nonaviation uses would include industrial, institutional, commercial, residential, and recreational lands.

Annual aircraft operations associated with use of the airfield to support the 10th ID were assumed to be the same through the year 2016. The DNL contours for the proposed flight operations are presented in Section 4.4.4, Noise. The proposed flight tracks modeled are shown in Figures 3.2-14 and 3.2-15. The assignment of aircraft operations by track and day-night split is presented in Table H-2.

Table H-2

Assignment of Aircraft Operations for the Proposed Action

Aircraft	Track ID	Track Type	Daily Operations	
			Day	Night
C-5A	15A4	Arrival	0.08	0.00
C-5A	33A4	Arrival	0.22	0.00
C-5A	15C1	Closed	0.43	0.00
C-5A	15C8	Closed	1.07	0.00
C-5A	33C1	Closed	1.29	0.00
C-5A	33C8	Closed	3.21	0.00
C-5A	15D5	Departure	0.08	0.00
C-5A	33D5	Departure	0.22	0.00
C-141A	15A4	Arrival	0.14	0.00
C-141A	33A4	Arrival	0.43	0.00
C-141A	15C1	Closed	0.05	0.00
C-141A	15C6	Closed	0.07	0.00
C-141A	33C1	Closed	0.12	0.00
C-141A	33C6	Closed	0.16	0.00
C-141A	15D5	Departure	0.14	0.00
C-141A	33D5	Departure	0.43	0.00
B-747	15A4	Arrival	0.02	0.00
B-747	33A4	Arrival	0.08	0.00
B-747	15D5	Departure	0.02	0.00
B-747	33D5	Departure	0.08	0.00
L-1011	15A4	Arrival	0.01	0.00
L-1011	33A4	Arrival	0.01	0.00
L-1011	15D5	Departure	0.01	0.00
L-1011	33D5	Departure	0.01	0.00

Surface traffic data used in the modeling were developed from the project traffic study presented in Section 4.2.3, Transportation, and are presented in Table H-3.

1.4 GRIFFISS RESEARCH PARK ALTERNATIVE (A)

Aircraft operations for this alternative would be the same as the Proposed Action. The DNL noise contours would be the same as those depicted in Figure 4.4-1. Surface traffic data used in the modeling were developed from the project traffic study and are presented in Table H-3.

1.5 MOHAWK VALLEY BUSINESS CENTER ALTERNATIVE (B)

Aircraft operations for this alternative would be the same as those for the Proposed Action. The DNL noise contours would be the same as those depicted in Figure 4.4-1.

Surface traffic data used in the modeling were developed from the project traffic study and are presented in Table H-3.

1.6 REGIONAL AVIATION COMPLEX ALTERNATIVE (C)

The aircraft operations for this alternative would differ from the Proposed Action in that the Oneida County Airport would be closed and aircraft operations would be moved to Griffiss AFB. In 1993, aircraft operations at Oneida County Airport consisted of 76 percent by single engine aircraft, 21 percent by twin engine aircraft, and 3 percent jet aircraft. A noise analysis of these aircraft operations was performed using the FAA Integrated Noise Model (INM) (C&S Engineers, Inc. 1994). The results of the analyses indicated the highest DNL noise levels were approximately 67 dB in the immediate vicinity of the runways. As shown on Figure 4.4-1, DNL noise levels from military aircraft operations in support of the 10th ID would result in a 80 dB DNL along the runway. If the 67 dB DNL noise level resulting from Oneida County Airport aircraft operations is added to the 80 dB DNL resulting from the military aircraft operations, the noise levels would increase by 0.2 dB. This increase could not be detected by the human ear. Surface traffic data used in the modeling were developed from the project traffic study and are presented in Table H-3.

Potential Consequences of Airfield Closure Followed by Civilian Airport Reuse. The Regional Aviation Complex Alternative was modeled without military aircraft operations at Griffiss AFB. The INM model was used to generate noise levels for the years 2006 and 2016 using the data provided in Tables H-4 and H-5. As shown on Figures 4.4-2 and 4.4-3, DNL noise levels associated with the relocation of civilian aircraft operations from Oneida County Airport to Griffiss AFB would result in the 65 dB DNL falling within the existing airfield boundary.

Table H-3

Surface Traffic Operations for Total Traffic Volumes

Alternative	2001 Annual ADT	2001 Speed (MPH)	2006 Annual ADT	2006 Speed (MPH)	2016 Annual ADT	2016 Speed (MPH)	Road Width (Number of Lanes)
PROPOSED ACTION							
SH-49, East of Wright Drive Crossing	17,100	60	19,600	60	25,000	60	4
SH-49, West of Wright Drive Crossing	17,400	60	19,900	60	25,300	60	6
Eastbound SH-49 on-ramp at Wright Drive	4,400	40	5,600	40	8,400	40	1
Eastbound SH-49 off-ramp (loop) at Wright Drive	1,800	40	2,300	40	3,400	40	1
Westbound SH-49 on-ramp at Wright Drive	4,000	40	5,200	40	7,900	40	1
Westbound SH-49 off-ramp at Wright Drive	3,000	40	3,600	40	4,900	40	1
Connector road between Wright Drive/East Dominick Street	2,200	45	3,000	45	4,800	45	2
East Dominick Street at Air Force Railroad Spur Crossing	14,100	30	15,400	25	18,100	25	2
East Dominick Street, West of Wright Drive Crossing	13,900	30	15,200	25	17,900	25	2
River Road (SH-365) at County Road 88 Junction	9,300	40	10,200	40	12,300	40	2
Floyd Avenue, West of Floyd Gate	16,700	25	20,800	25	29,800	25	2
Floyd Avenue, West of Park Drive	15,100	25	19,000	25	27,800	25	2
Chestnut Street, East of Black River Boulevard	11,200	30	13,900	30	19,900	30	2
Chestnut Street, West of Black River Boulevard	12,100	30	13,900	30	17,800	30	2
Wright Settlement Road, West of Base Boundary	4,300	45	4,800	45	5,900	45	2
Black River Boulevard, South of Floyd Avenue	31,600	40	34,900	40	42,000	40	4
Black River Boulevard, South of Bloomfield Street	28,100	45	31,800	45	39,800	45	6
Black River Boulevard, South of Linden Avenue	22,400	45	25,700	45	32,800	45	4
Black River Boulevard, South of Chestnut Street	23,200	45	25,600	45	30,600	45	4
Black River Boulevard, North of Chestnut Street	23,300	45	25,200	45	28,900	45	4
GRIFFISS RESEARCH PARK							
SH-49, East of Wright Drive Crossing	15,700	60	17,200	60	20,800	60	4
SH-49, West of Wright Drive Crossing	15,900	60	17,500	60	21,100	60	6
Eastbound SH-49 on-ramp at Wright Drive	3,000	40	3,600	40	5,000	40	1
Eastbound SH-49 off-ramp (loop) at Wright Drive	1,000	40	1,100	40	1,600	40	1
Westbound SH-49 on-ramp at Wright Drive	2,800	40	3,400	40	4,900	40	1
Westbound SH-49 off-ramp at Wright Drive	2,000	40	2,200	40	2,800	40	1
Connector road between Wright Drive/East Dominick Street	1,400	45	1,800	45	2,700	45	2
East Dominick Street at Air Force Railroad Spur Crossing	13,700	25	14,800	25	17,000	25	2
East Dominick Street, West of Wright Drive Crossing	13,600	25	14,600	25	16,900	25	2

Table H-3, Page 2 of 3

Alternative	2001 Annual ADT	2001 Speed (MPH)	2006 Annual ADT	2006 Speed (MPH)	2016 Annual ADT	2016 Speed (MPH)	Road Width (Number of Lanes)
GRIFFISS RESERACH PARK (Cont.,)							
River Road (SH-365) at County Road 88 Junction	8,900	40	9,700	40	11,200	40	2
Floyd Avenue, West of Floyd Gate	13,600	30	15,600	30	20,500	30	2
Floyd Avenue, West of Park Drive	12,000	30	13,900	30	18,500	30	2
Chestnut Street, East of Black River Boulevard	11,500	30	13,400	30	18,000	30	2
Chestnut Street, West of Black River Boulevard	11,600	30	12,800	30	15,400	30	2
Wright Settlement Road, West of Base Boundary	4,100	45	4,500	45	5,200	45	2
Black River Boulevard, South of Floyd Avenue	30,300	40	32,900	40	38,300	40	4
Black River Boulevard, South of Bloomfield Street	26,300	45	28,700	45	34,200	45	6
Black River Boulevard, South of Linden Avenue	20,500	45	22,600	45	27,200	45	4
Black River Boulevard, South of Chestnut Street	23,200	45	25,200	45	29,400	45	4
Black River Boulevard, North of Chestnut Street	24,800	45	26,900	45	31,400	45	4
MOHAWK VALLEY BUSINESS CENTER							
SH-49, East of Wright Drive Crossing	15,900	60	17,700	60	21,500	60	4
SH-49, West of Wright Drive Crossing	16,200	60	18,000	60	21,900	60	6
Eastbound SH-49 on-ramp at Wright Drive	3,800	40	4,600	40	6,400	40	1
Eastbound SH-49 off-ramp (loop) at Wright Drive	1,200	40	1,400	40	2,000	40	1
Westbound SH-49 on-ramp at Wright Drive	3,400	40	4,100	40	5,900	40	1
Westbound SH-49 off-ramp at Wright Drive	2,400	40	2,800	40	3,400	40	1
Connector road between Wright Drive/East Dominick Street	1,600	45	2,000	45	3,100	45	2
East Dominick Street at Air Force Railroad Spur Crossing	13,800	30	14,900	30	17,200	25	2
East Dominick Street, West of Wright Drive Crossing	13,600	25	14,700	25	17,100	25	2
River Road (SH-365) at County Road 88 Junction	9,000	40	9,800	40	11,400	30	2
Floyd Avenue, West of Floyd Gate	14,200	30	16,600	30	22,200	25	2
Floyd Avenue, West of Park Drive	12,500	30	14,900	30	20,200	25	2
Chestnut Street, East of Black River Boulevard	9,500	30	11,100	30	14,800	25	2
Chestnut Street, West of Black River Boulevard	11,200	30	12,500	30	15,300	25	2
Wright Settlement Road, West of Base Boundary	4,100	40	4,500	40	5,400	40	2
Black River Boulevard, South of Floyd Avenue	30,500	40	33,300	40	39,000	30	4
Black River Boulevard, South of Bloomfield Street	26,600	45	29,300	45	35,200	25	2
Black River Boulevard, South of Linden Avenue	20,900	45	23,200	45	28,200	40	4

Table H-3, Page 3 of 3

Alternative	2001 Annual ADT	2001 Speed (MPH)	2006 Annual ADT	2006 Speed (MPH)	2016 Annual ADT	2016 Speed (MPH)	Road Width (Number of Lanes)
MOHAWK VALLEY BUSINESS CENTER (cont.,)							
Black River Boulevard, South of Chestnut Street	22,500	45	24,500	45	28,600	40	4
Black River Boulevard, North of Chestnut Street	23,200	45	24,900	45	28,400	40	4
REGIONAL AVIATION COMPLEX							
SH-49, East of Wright Drive Crossing	16,200	60	18,000	60	22,300	60	4
SH-49, West of Wright Drive Crossing	16,500	60	18,300	60	22,700	60	6
Eastbound SH-49 on-ramp at Wright Drive	3,800	40	4,500	40	6,500	40	1
Eastbound SH-49 off-ramp (loop) at Wright Drive	1,500	40	1,800	40	2,600	40	1
Westbound SH-49 on-ramp at Wright Drive	3,400	40	4,100	40	6,000	40	1
Westbound SH-49 off-ramp at Wright Drive	2,700	40	3,100	40	4,100	40	1
Connector road between Wright Drive/East Dominick Street	1,700	45	2,200	45	3,500	45	2
East Dominick Street at Air Force Railroad Spur Crossing	13,800	30	15,000	30	17,400	25	2
East Dominick Street, West of Wright Drive Crossing	13,700	30	14,800	30	17,300	25	2
River Road (SH-365) at County Road 88 Junction	9,000	40	9,800	40	11,600	30	2
Floyd Avenue, West of Floyd Gate	14,700	25	17,300	25	23,900	25	2
Floyd Avenue, West of Park Drive	13,100	30	15,600	30	22,000	25	2
Chestnut Street, East of Black River Boulevard	9,900	30	11,600	30	16,000	25	2
Chestnut Street, West of Black River Boulevard	11,400	30	12,700	30	15,900	25	2
Wright Settlement Road, West of Base Boundary	4,200	40	4,600	40	5,500	40	2
Black River Boulevard, South of Floyd Avenue	30,800	40	33,500	40	39,700	30	4
Black River Boulevard, South of Bloomfield Street	27,000	45	29,700	45	36,200	45	6
Black River Boulevard, South of Linden Avenue	21,200	45	23,600	45	29,300	40	4
Black River Boulevard, South of Chestnut Street	22,700	45	24,700	45	29,100	40	4
Black River Boulevard, North of Chestnut Street	23,200	45	24,900	45	28,500	40	4

Table H-4

Civilian Aircraft Operations for the INM Model
Year 2006 (Takeoffs)*

				Daily Operations	
Aircraft	**Track**	**Runway**	**Stage**	**Day**	**Night**
COMSEP	Straight	33	1	60.4	4.0
BEC58P	Straight	33	1	5.4	3.6
DHC6	Straight	33	1	7.3	0.0
COMJET	Straight	33	1	2.3	0.7
DC930	Straight	33	1	0.3	0.0
COMSEP	Straight	15	1	15.3	0.9
BEC58P	Straight	15	1	1.4	0.9
DHC6	Straight	15	1	3.9	0.0
COMJET	Straight	15	1	0.6	0.2
DC930	Straight	15	1	0.2	0.0

Note: *Landings have same frequency as takeoffs.

Source: C&S Engineers, Inc. 1995.

Table H-5

Civilian Aircraft Oeprations for the INM Model
Year 2016 (Takeoffs)*

				Daily Operations	
Aircraft	**Track**	**Runway**	**Stage**	**Day**	**Night**
COMSEP	Straight	33	1	82.1	5.5
BEC58P	Straight	33	1	7.8	5.2
DHC6	Straight	33	1	10.6	0.0
COMJET	Straight	33	1	3.1	1.0
DC930	Straight	33	1	0.5	0.0
COMSEP	Straight	15	1	20.8	1.1
BEC58P	Straight	15	1	2.0	1.3
DHC6	Straight	15	1	5.7	0.0
COMJET	Straight	15	1	0.8	0.3
DC930	Straight	15	1	0.2	0.0

Note: *Landings have same frequency as takeoffs.

Source: C&S Engineers, Inc. 1995.

1.7 NO-ACTION ALTERNATIVE

With the No-Action Alternative, aircraft operations in support of the 10th ID would continue as described for the Proposed Action. These aircraft operations are shown in Table H-2. Surface traffic data used in the modeling were developed from the project traffic study and are presented in Table H-3.

2.0 NOISE METRICS

Noise, as used in this context, refers to sound pressure variations audible to the ear. The audibility of a sound depends on the amplitude and frequency of the sound and the individual's capability to hear the sound. Whether the sound is judged as noise depends largely on the listener's current activity and attitude toward the sound source, as well as the amplitude and frequency of the sound. The range in sound pressures which the human ear can comfortably detect encompasses a wide range of amplitudes, typically a factor larger than a million. To obtain convenient measurements and sensitivities at extremely low and high sound pressures, sound is measured in units of dB. The dB is a dimensionless unit related to the logarithm of the ratio of the measured level to a reference level.

Because the logarithmic nature of the decibel unit, sound levels cannot be added or subtracted directly. However, the following shortcut method can be used to combine sound levels:

Difference between two dB values	Add the following to the higher level
0 to 1	3
2 to 3	2
4 to 9	1
10 or more	0

The ear is not equally sensitive at all frequencies of sound. At low frequencies, characterized as a rumble or roar, the ear is not very sensitive while at higher frequencies, characterized as a screech or a whine, the ear is most sensitive. The A-weighted level was developed to measure and report sound levels in a way which would more closely approach how people perceive the sound. All sound levels reported here in are in terms of A-weighted sound levels.

Environmental sound levels typically vary with time. This is especially true for areas near airports where noise levels will increase substantially as the aircraft passes overhead and afterwards diminish to typical community levels. Both the Department of Defense and Federal Aviation Administration (FAA) have specified the following three noise metrics to describe aviation noise.

Day-Night Average Sound Level (DNL) is the 24-hour energy average A-weighted sound level with a 10 dB weighting added to those levels occurring between 10 p.m. and 7 a.m. the following morning. The 10 dB weighting is a

penalty representing the added intrusiveness of noise during normal sleeping hours. DNL is used to determine land use compatibility with noise from aircraft and surface traffic. The expression L_{dn} is often used in equations to designate day-night average sound level.

Maximum Sound Level is the highest instantaneous sound level observed during a single noise event no matter how long the sound may persist (see Figure H-1).

Sound Exposure Level (SEL) value represents the A-weighted sound level integrated over the entire duration of the event and referenced to a duration of 1 second. Hence, it normalizes the event to a 1-second event. Typically, most events (aircraft flyover) last longer than 1 second, and the SEL value will be higher than the maximum sound level of the event. Figure H-1 illustrates the relationship between the maximum sound level and SEL.

3.0 NOISE MODELS

3.1 AIR TRAFFIC

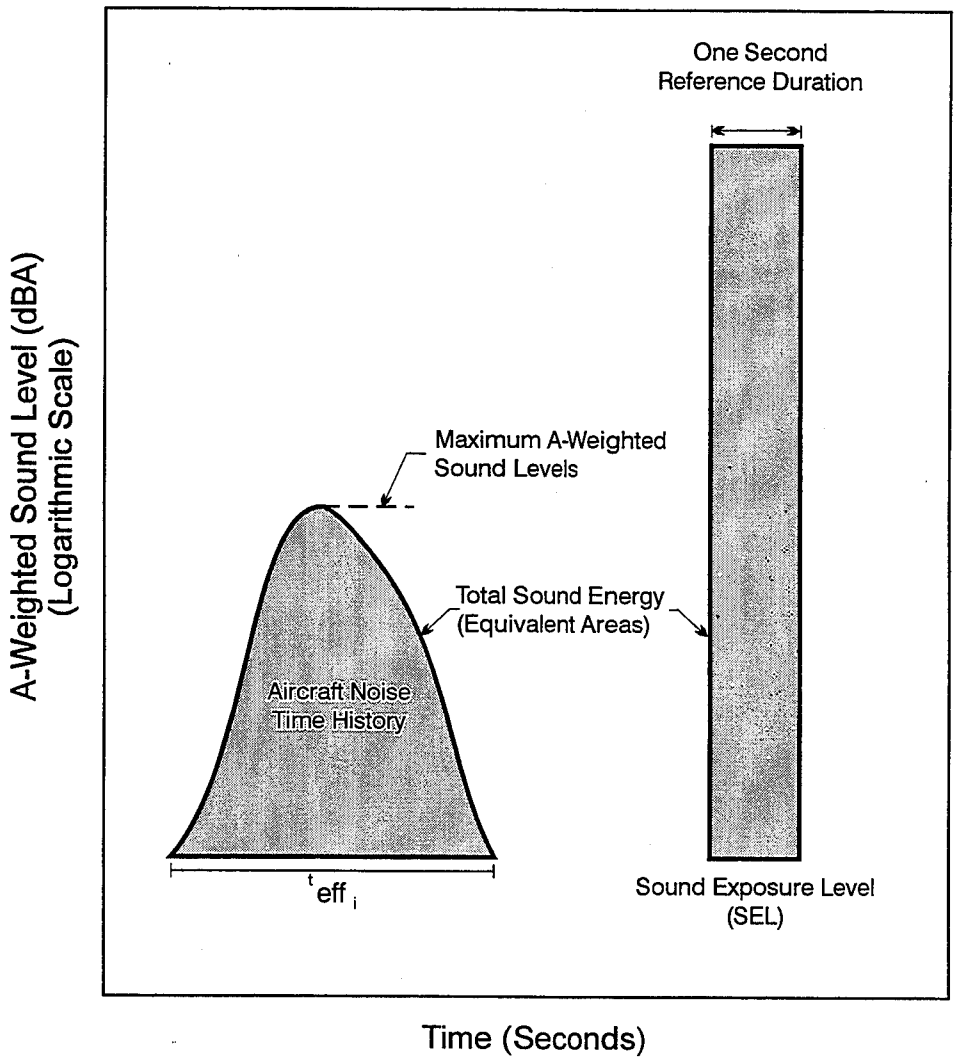
The Department of Defense (DOD)- and FAA-approved Noise Exposure Model (NOISEMAP), version 6.3, was used to predict aircraft noise levels. Since the early 1970s, the Department of Defense has been actively developing and refining the NOISEMAP program and its associated data base. The NOISEMAP computer program is a comprehensive set of computer routines for calculating noise contours from aircraft flight and ground runup operations, using aircraft-unique noise data for both fixed- and rotary-wing aircraft. The program requires specific input data, consisting of runway layout, aircraft types, number of operations, flight tracks, and noise performance data, to compute a grid of DNL values at uniform intervals. The grid is then processed by a contouring program which draws the contours at selected intervals.

3.2 SURFACE TRAFFIC

The Federal Highway Administration Noise Model Stamina 2.0 (1982) was used to predict surface traffic noise. The model uses traffic volumes, vehicular mix, traffic speed, traffic distribution and roadway length to estimate traffic noise levels.

4.0 ASSESSMENT CRITERIA

Criteria for assessing the effects of noise include annoyance, speech interference, sleep disturbance, noise-induced hearing loss, possible nonauditory health effects, reaction by animals, and land use compatibility. These criteria are often developed using statistical methods. The validity of generalizing statistics devised from large populations are suspect when applied to small sample sizes as we have in the affected areas near Griffiss AFB. Caution should be employed when interpreting the results of the impact analysis.



E008_013.CDR 10/03/95

Sound Exposure Level (SEL) and Comparison to Aircraft Noise Time History

Figure H-1

4.1 ANNOYANCE DUE TO SUBSONIC AIRCRAFT NOISE

Noise-induced annoyance is an attitude or mental process with both acoustic and nonacoustic determinants (Fidell et al. 1988). Noise-induced annoyance is perhaps most often defined as a generalized adverse attitude toward noise exposure. Noise annoyance is affected by many factors including sleep and speech interference and task interruption. The level of annoyance may also be affected by many nonacoustic factors.

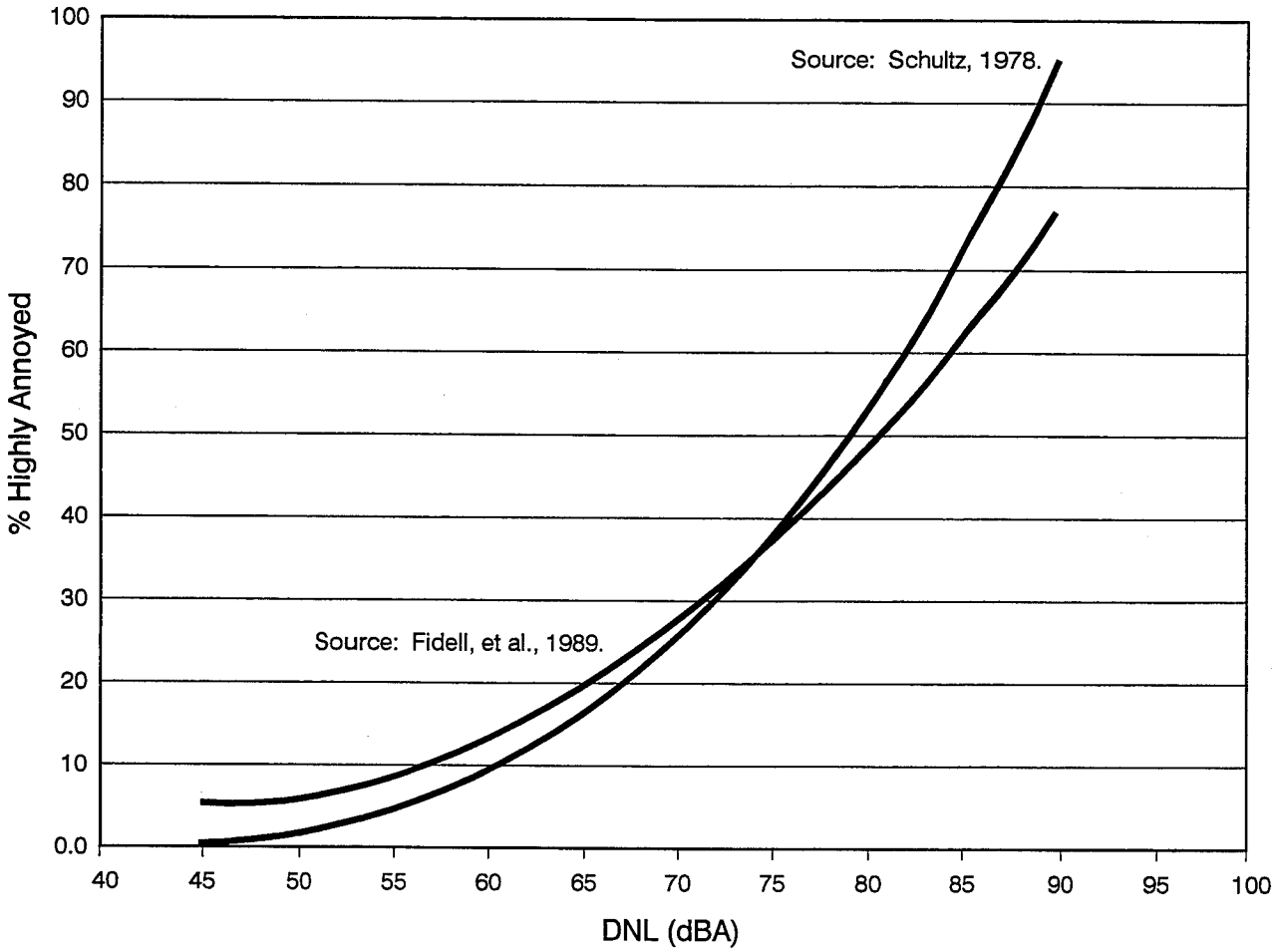
In communities in which the prevalence of annoyance is affected primarily by noise, reductions in exposure can be expected to lead to reductions in prevalence of annoyance. In communities in which the prevalence of annoyance is controlled by nonacoustic factors, such as odor, traffic congestion, etc., there may be little or no reduction in annoyance associated with reductions in exposure. The intensity of community response to noise exposure may even, in some cases, be essentially independent of physical exposure. In the case of community response to actions, such as airport siting or scheduling of supersonic transport aircraft, vigorous reaction has been encountered at the mere threat of exposure, or minor increases in exposure.

The standard method for determining the prevalence of annoyance in noise-exposed communities is by attitudinal survey. Surveys generally solicit self-reports of annoyance through one or more questions of the form "How bothered or annoyed have you been by the noise of (noise source) over the last (time period)?" Respondents are typically constrained in structured interviews to select one of a number of response alternatives, often named categories such as "Not At All Annoyed," "Slightly Annoyed," "Moderately Annoyed," "Very Annoyed," or "Extremely Annoyed." Other means are sometimes used to infer the prevalence of annoyance from survey data (for example, by interpretation of responses to activity interference questions or by construction of elaborate composite indices), with varying degrees of face validity and success.

Predictions of the prevalence of annoyance in a community can be made by extrapolation from an empirical dosage-effect relationship. Based on the results of a number of sound surveys, Schultz (1978) developed a relationship between percent highly annoyed and DNL:

$$\%\ Highly\ Annoyed = 0.8553\ DNL - 0.0401\ DNL^2 + 0.00047\ DNL^3$$

Note that this relationship should not be evaluated outside the range of DNL = 45 to 90 dB. Figure H-2 presents this equation graphically. Less than 15 to 20 percent of the population would be predicted to be annoyed by DNL values less than 65 dBA, whereas over 37 percent of the population would be predicted to be annoyed from DNL values greater than 75 dBA. The relationship developed by Schultz was presented in the Guidelines for Preparing Environmental Impact Statements on Noise (National Academy of Sciences 1977).



E008_014.CDR 10/03/95

Community Noise Annoyance Curves

Figure H-2

These results were recently reviewed (Fidell et al. 1989) and the original findings updated with results of more recent social surveys, bringing the number of data points used in defining the relationship to over 400. The findings of the new study differ only slightly from those of the original study.

4.2 SPEECH INTERFERENCE AND RELATED EFFECTS DUE TO AIRCRAFT FLYOVER NOISE

One of the ways that noise affects daily life is by preventing or impairing speech communication. In a noise environment, understanding of speech is diminished by masking of speech signals by intruding noises. Speakers generally raise their voices or move closer to listeners to compensate for masking noise in face-to-face communications, thereby increasing the level of speech at the listener's ear. As intruding noise levels rise higher and higher, speakers may cease talking altogether until conversation can be resumed at comfortable levels of vocal effort after noise intrusions end.

If the speech source is a radio or television, the listener may increase the volume during a noise intrusion. If noise intrusions occur repeatedly, the listener may choose to set the volume at a high level so that the program material can be heard even during noise intrusions.

In addition to losing information contained in the masked speech material, the listener may lose concentration because of the interruptions and thus become annoyed. If the speech message is some type of warning, the consequences could be serious.

Current practice in quantification of the magnitude of speech interference and predicting speech intelligibility ranges from metrics based on A-weighted sound pressure levels of the intruding noise alone to more complex metrics requiring detailed spectral information about both speech and noise intrusions. There are other effects of the reduced intelligibility of speech caused by noise intrusions. For example, if the understanding of speech is interrupted, performance may be reduced, annoyance may increase, and learning may be impaired.

As the noise level of an environment increases, people automatically raise their voices. The effect does not take place, however, if the noise event were to rise to a high level very suddenly.

4.2.1 Speech Interference Effects From Time-Varying Noise

Most research on speech interference due to noise has included the study of steady state noise. As a result, reviews and summaries of noise effects on speech communications concentrate on continuous or at least long duration noises (Miller 1974). However, noise intrusions are not always continuous or of long duration, but are frequently transient in nature. Transportation noise generates many such noise intrusions, consisting primarily of individual vehicle pass-bys, such as aircraft flyovers. Noise emitted by other vehicles (motorboats, snowmobiles, and off-highway vehicles) is also transient in nature.

It has been shown, at least for aircraft flyover noise, that accuracy of predictors of speech intelligibility are ranked in a similar fashion for both steady state and time-varying or transient sounds (Williams et al. 1971; Kryter and Williams 1966). If one measured the noise of a flyover by the maximum A-level, then intelligibility associated with this level would be higher than for a steady noise of the same value, simply because the level is less than the maximum for much of the duration of the flyover.

4.2.2 Other Effects of Noise Which Relate to Speech Intelligibility

Aside from the direct effects of reduction in speech intelligibility, related effects may occur that tend to compound the loss of speech intelligibility itself.

Learning. One of the environments in which speech intelligibility plays a critical role is the classroom. In classrooms of schools exposed to aircraft flyover noise, speech becomes masked or the teacher stops talking altogether during an aircraft flyover (Crook and Langdon 1974). Pauses begin to occur when instantaneous flyover levels exceed 60 dB (A-weighted). Masking of the speech of teachers who do not pause starts at about the same level.

At levels of 75 dB some masking occurs for 15 percent of the flyovers and increases to nearly 100 percent at 82 dB. Pauses occur for about 80 percent of the flyovers at this noise level. Since a marked increase in pauses and masking occurs when levels exceed 75 dB, this level is sometimes considered as one above which teaching is impaired due to disruption of speech communication. The effect that this may have on learning is unclear at this time. However, one study (Arnoult et al. 1986) could find no effect of noise on cognitive tasks from jet or helicopter noise over a range from 60 to 80 dB (A-level), even though intelligibility scores indicated a continuous decline starting at the 60 dB level. In a Japanese study (Ando et al. 1975), researchers failed to find differences in mental task performance among children from communities with different aircraft noise exposure.

Although there seems to be no proof that noise from aircraft flyovers affects learning, it is reported by Mills (1975) that children are not as able to understand speech in the presence of noise as are adults. It is hypothesized that part of the reason is due to the increased vocabulary which the adult can draw on as compared to the more limited vocabulary available to the young student. Also, when one is learning a language, it is more critical that all words be heard rather than only enough to attain 95 percent sentence intelligibility, which may be sufficient for general conversations. It was mentioned above that when the maximum A-level of aircraft flyovers heard in a classroom exceeds 75 dB, masking of speech increases rapidly. However, it was also noted that pausing during flyovers and masking of speech for those teachers who continue to lecture during a flyover start at levels around 60 dB (Pearsons and Bennett 1974).

Annoyance. Klatt, Stevens, and Williams (1969) studied the annoyance of speech interference by asking people to judge the annoyance of aircraft noise

in the presence and absence of speech material. The speech material was composed of passages from newspaper and magazine articles. In addition to rating aircraft noise on an acceptability scale (unacceptable, barely acceptable, acceptable, and of no concern), the subjects were required to answer questions about the speech material. The voice level was considered to represent a raised voice level (assumed to be 68 dB). In general, for the raised voice talker, the rating of barely acceptable was given to flyover noise levels of 73 to 76 dB. However, if the speech level was reduced, the rating of the aircraft tended more toward unacceptable. The results suggested that if the speech level were such that 95 percent or better sentence intelligibility was maintained, then barely acceptable rating or better acceptability rating could be expected. This result is in general agreement with the finding in schools that teachers pause or have their speech masked at levels above 75 dB (Crook and Langdon 1974).

Hall, Taylor, and Birnie (1985) tried to relate various types of activity interference in the home, related to speech and sleeping, to annoyance. The study found that there is a 50 percent chance that people's speech would be interfered with at a level of 58 dB. This result is in agreement with the other results, considering that the speech levels in the school environment of the Crook study are higher than the levels typically used in the home. Also, in a classroom situation the teacher raises his or her voice as the flyover noise increases in intensity.

4.2.3 Predicting Speech Intelligibility and Related Effects Due to Aircraft Flyover Noise

It appears, from the above discussions, that when aircraft flyover noises exceed approximately 60 dB, speech communication may be interfered with either by masking or by pausing on the part of the taker. Increasing the level of the flyover noise to 80 dB would reduce the intelligibility to zero even if a loud voice were used by those attempting to communicate.

The levels mentioned above refer to noise levels measured indoors. The same noises measured outdoors would be 15 to 25 dB higher than these indoor levels during summer (windows open) and winter months (windows closed), respectively. These estimates are taken from EPA reviews of available data (1974).

Levels of aircraft noise measured inside dwellings and schools near the ends of runways at airports may exceed 60 dB inside (75 dB outside). During flyovers, speech intelligibility would be degraded. However, since the total duration is short, no more than a few seconds during each flyover, only a few syllables may be lost. People may be annoyed, but the annoyance may not be due to loss in speech communication, but rather due to startle or sleep disturbance as discussed below.

4.3 SLEEP DISTURBANCE DUE TO NOISE

The effects of noise on sleep have long been a concern of parties interested in assuring suitable residential noise environments. Early studies noted background levels in people's bedrooms in which sleep was apparently undisturbed by noise. Various levels between 25 to 50 dB (A-weighted) were observed to be associated with an absence of sleep disturbance. The bulk of the research on noise effects on which the current relationship is based was conducted in the 1970s. The tests were conducted in a laboratory environment in which awakening was measured either by a verbal response or by a button push, or by brain wave recordings (EEG) indicating stages of sleep (and awakening). Various types of noise were presented to the sleeping subjects throughout the night. These noises consisted primarily of transportation noises including those produced by aircraft, trucks, cars, and trains. The aircraft noises included both flyover noises as well as sonic booms. Synthetic noises, including laboratory-generated sounds consisting of shaped noises and tones, were also studied.

Lukas (1975) and Goldstein and Lukas (1980) both reviewed data available in the 1970s on sleep-stage changes and waking effects of different levels of noise. Since no known health effects were associated with either waking or sleep-stage changes, either measure was potentially useful as a metric of sleep disturbance. However, since waking, unlike sleep-stage changes, is simple to quantify, it is often selected as the metric for estimating the effects of noise on sleep. These two reviews showed great variability in the percentage of people awakened by exposure to noise. The variability is not merely random error, but reflects individual differences in adaptation or habituation, and also interpretation of the meaning of the sounds. Such factors cannot be estimated from the purely acoustic measures in noise exposure.

Another major review, by Griefahn and Muzet (1978), provided similar information for effects of noise on waking. However, Griefahn and Muzet's results suggested less waking for a given level of noise than predicted by Lukas.

A recent review (Pearsons et al. 1989) of the literature related to sleep disturbance demonstrated that the relationship, based exclusively on laboratory studies, predicts greater sleep disturbance than that likely to occur in a real-life situation in which some adaptation has occurred. The prediction relationships developed in this review should not be considered to yield precise estimates of sleep disturbance because of the great variability in the data sets from which they were developed. The relationships include only the duration and level components of "noise exposure." Increasing the precision of prediction would depend on quantification of some of the nonacoustic factors. Further, a recent review of field, as well as laboratory studies, suggests that habituation may reduce the effect of noise on sleep (Pearsons et al. 1989).

Noise must penetrate the home to disturb sleep. Interior noise levels are lower than exterior levels due to the attenuation of the sound energy by the structure.

The amount of attenuation provided by the building is dependent on the type of construction and whether the windows are open or closed. The approximate national average attenuation factors are 15 dB (decibels) for open windows and 25 dB for closed windows (U.S. Environmental Protection Agency 1974).

Incorporating these attenuation factors, the percent awakened relationships previously discussed under summer conditions are presented in Figure H-3.

In conclusion, the scientific literature does not provide a consensus on sleep disturbance. There is no recognized criteria or standard which provides guidance to assess sleep disturbance due to noise.

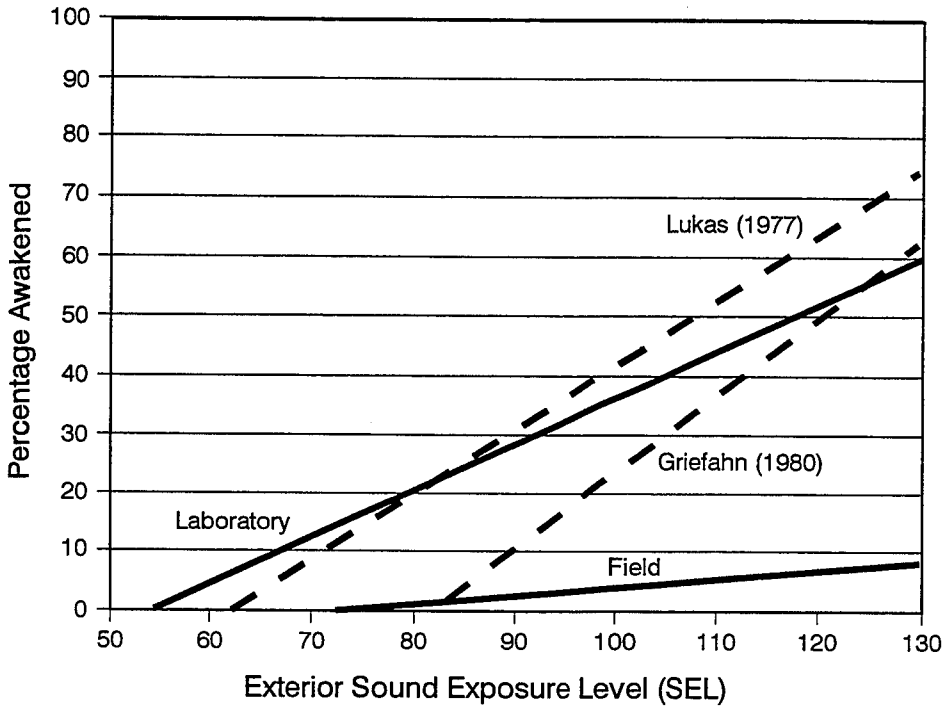
4.4 NOISE-INDUCED HEARING LOSS

Hearing loss is measured in decibels and refers to the permanent auditory threshold shift of an individual's hearing in an ear. Auditory threshold refers to the minimum acoustic signal that evokes and auditory sensation, i.e., the quietest sound a person can hear. When a threshold shift occurs, a person's hearing is not as sensitive as before and the minimum sound that a person can hear must be louder. The threshold shift which naturally occurs with age is called presbycusis. Exposure to high levels of sound can cause temporary and permanent threshold shifts usually referred to a noise-induced hearing loss. Permanent hearing loss is generally associated with destruction of the hair cells of the inner ear.

The U.S. Environmental Protection Agency (EPA) (1974) and the Committee on Hearing, Bioacoustics, and Biomechanics (National Academy of Sciences 1981) have addressed the risk of outdoor hearing loss. They have concluded that hearing loss would not be expected for people living outside the noise contour of 75 DNL. Several studies of populations near existing airports in the United States and the United Kingdom have shown that the possibility for permanent hearing loss in communities near intense commercial take-off and landing patterns is remote. An FAA-funded study compared the hearing of the population near the Los Angeles International Airport to that of the population in a quiet area away from aircraft noise (Parnel et al. 1972). A similar study was performed in the vicinity of London Heathrow Airport (Ward et al. 1972). Both studies concluded that there was no significant difference between the hearing loss of the two populations, and no correlation between the hearing level with the length of time people lived in the airport neighborhood.

4.5 NONAUDITORY HEALTH EFFECTS OF RESIDENTIAL AIRPORT NOISE

Based on summaries of previous research in the field (Thompson 1981; Thompson and Fidell 1989), predictions of nonauditory health effects of aircraft noise cannot be made. A valid predictive procedure requires: (1) evidence for causality between aircraft noise exposure and adverse nonauditory health consequences, and (2) knowledge of a quantitative relationship between amounts of noise exposure (dose) and specific health effects. Because results



Source: Pearsons (1985)

E008_015.CDR 10/03/95

Sleep Disruption (Awakening)

Figure H-3

of studies of aircraft noise on health are equivocal, there is no sound scientific basis for making adequate risk assessments.

Alleged nonauditory health consequences of aircraft noise exposure which have been studied include birth defects, low birth weight, psychological illness, cancer, stroke, hypertension, sudden cardiac death, myocardial infraction, and cardiac arrhythmias. Of these, hypertension is the most biologically plausible effect of noise exposure. Noise appears to cause many of the same biochemical and physiological reactions, including temporary elevation of blood pressure, as do many other environmental stressors. These temporary increases in blood pressure are believed to lead to a gradual resetting of the body's blood pressure control system. Over a period of years, permanent hypertension may develop (Peterson et al. 1984).

Studies of residential aircraft noise have produced contradictory results. Early investigations indicated that hypertension was from two to four times higher in areas near airports than in areas located away from airports (Karogodina et al. 1969). Although Meecham and Shaw (1988) continue to report excessive cardiovascular mortality among individuals 75 years or older living near the Los Angeles International Airport, their findings cannot be replicated (Frerichs et al. 1980). In fact, noise exposure increased over the years while there was a decline in all cause, age-adjusted death rates and inconsistent changes in age-adjusted cardiovascular, hypertension, and cerebrovascular disease rates.

Studies which have controlled for multiple factors have shown no, or a very weak, association between noise exposure and nonauditory health effects. This observation holds for studies of occupational and traffic noise as well as for aircraft noise exposure. In contrast to the early reports of two- to six-fold increases in hypertension due to high industrial noise (Thompson and Fidell 1989), the more rigorously controlled studies of Talbott et al. (1985) and van Dijk et al. (1987) show no association between hypertension and prolonged exposure to high levels of occupational noise.

In the aggregate, studies indicate no association exists between street traffic noise and blood pressure or other cardiovascular changes. Two large prospective collaborative studies of heart disease are of particular interest. To date, cross-sectional data from these cohorts offer contradictory results. Data from one cohort show a slight increase in mean systolic blood pressure (2.4mm Hg) in the noisiest compared to the quietest area; while data from the second cohort show the lowest mean systolic blood pressure and highest high-density lipoprotein cholesterol (lipoprotein protective of heart disease) for men in the noisiest area (Babisch and Gallacher 1990). These effects of traffic noise on blood pressure and blood lipis were more pronounced in men who were also exposed to high levels of noise at work.

It is clear from the foregoing that the current state of technical knowledge cannot support inference of a causal or consistent relationship, nor a quantitative dose-response between residential aircraft noise exposure and health consequences. Thus, no technical means are available for predicting

extra-auditory health effects of noise exposure. This conclusion cannot be construed as evidence of no effect of residential aircraft noise exposure on nonauditory health. Current findings, taken in sum, indicate only that further rigorous studies are needed.

4.6 DOMESTIC ANIMALS AND WILDLIFE

A recent study was published on the effects of aircraft noise on domestic animals which provided a review of the literature and a review of 209 claims pertinent to aircraft noise over a period spanning 32 years (Bowles et al. 1990). Studies since the late 1950s were motivated both by public concerns about what was at that time a relatively novel technology, supersonic flight, and by claims leveled against the U.S. Air Force for damage done to farm animals by very low-level subsonic overflights. Since that time, over 40 studies of aircraft noise and sonic booms, both in the United States and overseas, have addressed acute effects, including effects of startle responses (sheep, horses, cattle, fowl) and effects on reproduction and growth (sheep, cattle, fowl, swine), parental behaviors (fowl, mink), milk letdown (dairy cattle, dairy goats, swine), and egg production.

The literature on the effects of noise on domestic animals is not large, and most of the studies have focused on the relation between dosages of continuous noise and effects (Ames 1974; Belanovski and Omel'yanenko 1982). Chronic noises are not a good model for aircraft noise, which lasts only a few seconds, but which is often very startling. The review of claims suggest that a major source of loss was panic induced in naive animals.

Aircraft noise may have effects because it might trigger a startle response, a sequence of physiological and behavioral events that once helped animals avoid predators. There are good dose-response relations describing the tendency to startle to various levels of noise, and the effect of habituation on the startle response.

The link between startles and serious effects (i.e., effects on productivity), is less certain. Here, we will define an effect as any change in a domestic animal that alters its economic value, including changes in body weight or weight gain, numbers of young produced, weight of young produced, fertility, milk production, general health, longevity, or tractability. At this point, changes in productivity are usually considered an adequate indirect measure of changes in well being, at least until objective legal guidelines are provided.

Recent focus on the effects on production runs counter to a trend in the literature toward measuring the relation between noise and physiological effects, such as changes in corticosteroid levels, and in measures of immune system function. As a result, it is difficult to determine the relation between dosages of noise and serious effects using only physiological measures. A literature survey (Kull and Fisher 1986) found that the literature is inadequate to document long-term or subtle effects of noise on animals. No controlled

study has documented any serious accident or mortality in livestock despite extreme exposure to noise.

4.7 LAND USE COMPATIBILITY GUIDELINES

Widespread concern about the noise impacts of aircraft noise essentially began in the 1950s which saw the major introduction of high power jet aircraft into military service. The concern about noise impacts in the communities around airbases, and also within the airbases themselves, led the Air Force to conduct major investigations into the noise properties of jets, methods of noise control for test operations, and the effects of noise from aircraft operations in communities surrounding airbases. These studies established an operational framework of investigation and identified the basic parameters affecting community response to noise. These studies also resulted in the first detailed procedures for estimating community response to aircraft noise (Stevens and Pietrasanta 1957).

Although most attention was given to establishing methods of estimating residential community response to noise (and establishing the conditions of noise "acceptability" for residential use), community development involves a variety of land uses with varying sensitivity to noise. Thus, land planning, with respect to noise, requires the establishment of noise criteria for different land uses. This need was met with the initial development of aircraft noise compatibility guidelines for varied land uses in the mid-1960s (Bishop, 1964).

In residential areas, noise intrusions generate feelings of annoyance on the part of individuals. Increasing degrees of annoyance lead to the increasing potential for complaints and community actions (most typically, threats of legal actions, drafting of noise ordinances, etc.). Annoyance is based largely on noise interference with speed communication, listening to radio and television, and sleep. Annoyance in the home may also be based on dislike of "outside" intrusions of noise even though no specific task is interrupted.

Residential land use guidelines have developed from consideration of two related factors:

(a) Accumulated case history experience of noise complaints and community actions near civil and military airports;

(b) Relationships between environmental noise levels and degrees of annoyance (largely derived from social surveys in a number of communities).

In the establishment of land use guidelines for other land uses, the prime consideration is task interference. For many land uses, this translates into the degree of speech interference, after taking into consideration the importance of speech communication and the presence of nonaircraft noise sources related directly to the specific land use considered. For some noise-sensitive land uses where any detectable noise signals which rise above the ambient noise are

unwanted (such as music halls), detectability may be the criterion rather than speech interference.

A final factor to be considered in all land uses involving indoor activities is the degree of noise insulation provided by the building structures. The land use guideline limits for unrestricted development within a specific land use assumes noise insulation properties provided by typical commercial building construction. The detailed land use guidelines may also define a range of higher noise exposure where construction or development can be undertaken, provided a specific amount of noise insulation is included in the buildings. Special noise studies, undertaken by architectural or engineering specialists, may be needed to define the special noise insulation requirements for construction in these guideline ranges.

Estimates of total noise exposure resulting from aircraft operations, as expressed in DNL values, can be interpreted in terms of the probable effect on land uses. Suggested compatibility guidelines for evaluating land uses in aircraft noise exposure areas were originally developed by the FAA as presented in Section 3.4.4, Noise. Part 150 of the FAA regulations prescribes the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs. It prescribes the use of yearly DNL in the evaluation of airport noise environments. It also identifies those land use types which are normally compatible with various levels of noise exposure. Compatible or incompatible land use is determined by comparing the predicted or measured DNL level at a site with the values given in the table. The guidelines reflect the statistical variability of the responses of large groups of people to noise. Therefore, any particular level might not accurately assess an individual's perception of an actual noise environment.

While the FAA guidelines specifically apply to aircraft noise, it should be noted that DNL is also used to describe the noise environment due to other community noise sources, including motor vehicles and railroads. The use of DNL is endorsed by the scientific community to assess land use compatibility as it pertains to noise (American National Standards Institute 1990). Hence, the land use guidelines presented by the FAA can also be used to assess the noise impact from community noise sources other than aircraft.

REFERENCES

American National Standards Institute
1990 *Sound Level Descriptors for Determination of Compatible Land Use*, ANSI S12.40-1990.

Ando, Y., Y. Nakane, and J. Egawa
1975 Effects of Aircraft Noise on the Mental Work of Pupils, *Journal of Sound and Vibration, 43*(4), pp.683-691.

Anton-Guirgis, H., B. Culver, S. Wang, and T. Taylor
1986 *Exploratory Study of the Potential Effects of Exposure to Sonic Boom on Human Health, Vol 2: Epidemiological Study*, Report No. AAMRL-TR-86-020.

Arnoult, M.D., L.G. Gillfillan, and J.W. Voorhees
1986 Annoyingness of Aircraft Noise in Relation to Cognitive Activity, *Perceptual and Motor Skills*, 63, pp. 599-616.

Babisch, W., and J. Gallacher
1990 Traffic Noise, Blood Pressure and Other Risk Factors - The Caerphilly and Speedwell Collaborative Heart Disease Studies. *Noise '88: New Advances in Noise Research*, pp. 315-326, Council for Building Research Stockholm, Sweden, Swedish.

Bishop, D.E.
1964 *Development of Aircraft Noise Compatibility for Varied Land Uses*, FAA SRDS Report RD-64-148, II.

Bowles, A.E., P.K. Yochem, and F.T. Awbrey
1990 *The Effects of Aircraft Overflights and Sonic Booms on Domestic Animals*, NSBIT Technical Operating Report NO. 13, BBN Laboratories, Inc.

C & S Engineers, Inc.
1994 Airport Master Plan, Phase 1 Report, Oneida County Airport, Town of Whitestown, New York.

1995 Airport Master Plan, Phase 2 Report, Oneida County Airport, Town of Whitestown, New York.

Crook, M.A., and F.J. Langdon
1974 The Effects of Aircraft Noise on Schools Around London Airport, *Journal of Sound and Vibration,* 34(2), pp. 221-232.

van Dijk, F.J.H., A.M. Souman, and F.F. de Fries
1987 Nonauditory Effects of Noise in Industry, Vol. I: A Final Field Study in Industry, *International Archives of Occupational and Environmental Health*, 59, pp. 133-145.

Dodson, Tom and Associates
1991 *Final Environmental Impact Report Pharris Preannexation Agreement,* prepared for the city of Redlands, April.

Environmental Protection Agency

1973 *Public Health and Welfare Criteria for Noise,* Report No. NCD 73.1, Washington, DC, July.

1974 *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety,* Publication No. 550/9-74-004, Washington, DC, March.

Federal Aviation Administration

1982 *Integrated Noise Model Version 3.9 User's Guide,* Report No. FAA-EE-81-17.

Federal Highway Administration

1978 *Highway Traffic Noise Prediction Model,* Report No. FHWA-RD-77-118.

Fidell, S., D. Barker, and T. Schultz

1989 Updating a dosage-effect relationship for the prevalence of annoyance due to general transportation noise, in *Noise and Sonic Boom Impact Technology,* Human Systems Division, Air Force Systems Command, Brooks Air Force Base, Texas (HSD-TR-89-009).

Fidell, S., T.J. Schultz, and D.M. Green

1988 A Theoretical Interpretation of the Prevalence Rate of Noise-Induced Annoyance in Residential Populations, *Journal of the Acoustical Society of America,* 84(6).

Frerichs, R.R., B.L. Beeman, and A.H. Coulson

1980 Los Angeles Airport Noise and Mortality - Faulty Analysis and Public Policy, *American Journal of Public Health,* 70, pp. 357-362.

Goldstein, J., and J. Lukas

1980 Noise and Sleep: Information Needs for Noise Control, *Proceedings of the Third International Congress on Noise as a Public Health Problem,* ASHA Report No. 10, pp. 442-448.

Griefahn, B., and A. Muzet

1978 Noise-Induced Sleep Disturbances and Their Effect on Health, *Journal of Sound and Vibration,* 59(1), pp. 99-106.

Hall, F., S. Taylor, and S. Birnie

1985 Activity Interference and Noise Annoyance, *Journal of Sound and Vibration,* 103(2).

Karagodina, I.L., S.A. Soldatkina, I.L. Vinokur, and A.A. Klimukhin

1969 Effect on Aircraft Noise on the Population Near Airports, *Hygiene and Sanitation,* 34, pp. 182-187.

Klatt, M., K. Stevens, and C. Williams

1969 Judgments of the Acceptability of Aircraft Noise in the Presence of Speech, *Journal of Sound and Vibration*, 9(2), pp. 263-275.

Kryter, K.D., and C.E. Williams

1966 Masking of Speech by Aircraft Noise, *Journal of the Acoustical Society of America,* 39, pp. 138-150.

Kull, R.C., and A.D. Fisher

1986 *Supersonic and Subsonic Aircraft Noise Effects on Animals: A Literature Survey* (AAMRL-TR-87-032). Noise and Sonic Boom Impact Technology (NSBIT) ADPO, Human Systems Division, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio.

Lukas, J.

1975 Noise and Sleep: A Literature Review and a Proposed Criterion for Assessing Effect, *Journal of the Acoustical Society of America,* 58(6).

Meecham, W.C., and N.A. Shaw

1988 Increase in Disease Mortality Rates Due to Aircraft Noise. *Proceedings of the International Congress of Noise as a Public Health Problem,* Swedish Council for Building Research, Stockholm, Sweden, 21-25 August.

Miller, J.D

1974 Effects of Noise on People. *Journal of the Acoustical Society of America,* 56(3), pp. 729-764.

Mills, J.H.

1975 Noise and Children: A Review of Literature, *Journal of the Acoustical Society of America,* 58(4), pp. 767-779.

Moulton, Carey L.

1990 *Air Force Procedure for Predicting Aircraft Noise Around Airbases: Noise Exposure Model (NOISEMAP) User's Manual,* Report AAMRL-TR-90-011, Human Systems Division/Air Force Systems Command, Wright-Patterson Air Force Base, Ohio, February.

NAS, see National Academy of Sciences.

National Academy of Sciences

1977 *Guidelines for Preparing Environmental Impact Statements on Noise,* Report of Working Group on the Committee on Hearing, Bioacoustics, and Biomechanics, National Research Council, Washington, DC.

1981 *The Effects on Human Health from Long-Term Exposure to Noise,* Report of Working Group 81, Committee on Hearing, Bioacoustics and Biomechanics, The National Research Council, Washington, DC.

Parnel, Nagel, and Cohen

1972 *Evaluation of Hearing Levels of Residents Living Near a Major Airport,* Report FAA-RD-72-72.

Pearsons, K.S., and R. Bennett

1974 *Handbook of Noise Ratings*, Report No. NASA CR-2376, National Aeronautics and Space Administration, Washington, DC.

Pearsons, K., D. Barber, and B. Tabachnick
1989 *Analyses of the Predictability of Noise-Induced Sleep Disturbance*, Report No. HSD-TR-89-029, CA BBN Systems and Technologies Corporation, Canoga Park.

Peterson, E.A., J.S. Augenstein, and C.L. Hazelton
1984 Some Cardiovascular Effects of Noise, *Journal of Auditory Research,* 24, 35-62.

Schultz, T.J.
1978 Synthesis of Social Surveys on Noise Annoyance, *Journal of the Acoustical Society of America,* 64(2), pp. 377-405.

Stevens, K.N., and A.C. Pietrasanta
1957 *Procedures for Estimating Noise Exposure and Resulting Community Reactions from Air Base Operations,* WADC TN-57-10, Wright Air Development Center, Wright-Patterson Air Force Base, Ohio.

Swing, J.W.
1975 *Estimation of Community Noise Exposure in Terms of Day Night Average Level Noise Contours* (draft), Office of Noise Control, State of California, Department of Health.

Talbott, E., J. Helmkamp, K. Matthews, L. Kuller, E. Cottington, and G. Redmond
1985 Occupational Noise Exposure, Noise-Induced Hearing Loss, and the Epidemiology of High Blood Pressure, *American Journal of Epidemiology,* 121, pp. 501-515.

Thompson, S.J.
1981 *Epidemiology Feasibility Study: Effects of Noise on the Cardiovascular System,* Report No. EPA 550/9-81-103.

Thompson, S., and S. Fidell
1989 *Feasibility of Epidemiologic Research on Nonauditory Health Effects of Residential Aircraft Noise Exposure,* BBN Report No. 6738, BBN Systems and Technologies, Canoga Park, California.

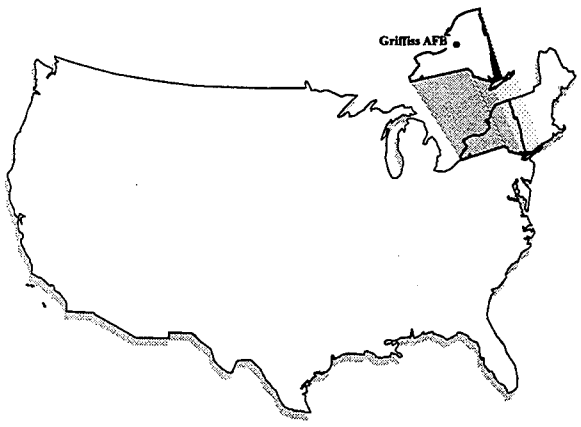
United States Air Force
1988 *Air Installation Compatible Use Zone (AICUZ) Study*, Norton Air Force Base, CA 92409, February.

United States Department of Transportation
1980 *Guidelines for Considering Noise in Land Use Planning and Control,* Federal Interagency Committee on Urban Noise, June.

Ward, Cushing, and Burns
1972 TTS from Neighborhood Aircraft Noise, *Journal of the Acoustical Society of America,* 55(1).

Williams, C.E., K.S. Pearsons, and M.H.L. Hecker
1971 Speech Intelligibility in the Presence of Time-Varying Aircraft Noise, *Journal of the Acoustical Society of America,* 56(3).

THIS PAGE INTENTIONALLY LEFT BLANK



APPENDIX I

APPENDIX I

AIR EMISSIONS INVENTORY

Construction Emissions. Construction activities would generate both combustive emissions from heavy equipment use and fugitive dust from ground-disturbing activities. Fugitive dust would be generated during construction activities associated with airfield, aviation support, industrial, institutional, commercial, residential, and public/recreational land uses. These emissions would be greatest during site clearing and grading activities. Uncontrolled fugitive dust (particulate matter) emissions from ground-disturbing activities are emitted at a rate of 1.2 tons per acre per month (U.S. Environmental Protection Agency 1985a). The particulate matter equal to or less than 10 micrometers in diameter (PM_{10}) of the total fugitive dust emissions was assumed to be 50 percent or 0.6 ton per acre per month. It was assumed that there are 22 working days per month.

Construction for the Proposed Action would disturb approximately 397 acres between 1996 and 2001. For the Proposed Action years 1996 to 2001, PM_{10} emissions were calculated as follows:

Average Monthly Disturbed Acreage

$$\frac{397 \text{ acres disturbed}}{5 \text{ years}} \times \frac{1 \text{ year}}{12 \text{ months}} = 6.62 \text{ acres/month}$$

Average Daily PM_{10} Emissions

$$\frac{6.62 \text{ acres}}{\text{month}} \times \frac{1.2 \text{ tons } PM_{10}}{\text{acre}} \times 0.5 = 3.97 \text{ tons } PM_{10}/\text{month}$$

$$\frac{3.97 \text{ tons } PM_{10}}{\text{month}} \times \frac{\text{month}}{22 \text{ days}} = 0.181 \text{ ton } PM_{10}/\text{day}$$

Therefore, the amount of PM_{10} emitted would be 0.181 ton per day for 1996 to 2001. These temporary emissions would produce short-term elevated PM_{10} concentrations which would fall off rapidly with distance from the source. Similar calculations for fugitive dust emissions were performed for construction activities related to the other alternatives for the 2001 to 2006 time period.

PM_{10} emissions from demolition were estimated from the approximate volumes of the buildings to be demolished and an emission factor for PM_{10} emissions from building demolition (South Coast Air Quality Management District 1993). With the Proposed Action, a total of 2,217,100 square feet of facilities would be demolished. It was assumed that all demolition would occur over the first 5 years, 1996 to 2001 (Table 2.2-2 in Chapter 2.0).

PM_{10} emissions were calculated as follows:

Building Volume Destroyed Per Month

$$\frac{\text{2,217,100 square feet X 10 feet high}}{\text{5 years X 12 months/year}} = \text{369,517 cubic feet/month}$$

$$\frac{\text{369,517 cubic feet/month}}{\text{22 days/month}} = \text{16,796 cubic feet/day}$$

$$\frac{\text{0.00042 pounds of } PM_{10}}{\text{cubic feet}} \times \frac{\text{16,796 cubic feet/day}}{\text{2,000 pounds/ton}} = \text{0.004 ton } PM_{10}\text{/day}$$

Therefore, 0.004 ton of PM_{10} would be emitted as a result of demolition activities. Similar calculations for PM_{10} emissions were performed for the other alternatives.

Combustive emissions from equipment exhaust were estimated by developing scenarios of typical daily construction equipment use for the Proposed Action for the 1996 to 2001 and 2001 to 2006 time periods. The type and number of construction equipment used for this analysis are presented in Table I-1. It was assumed that the construction equipment operated 5 hours per day. Emission factors for the construction equipment were obtained from *Compilation of Air Pollutant Emission Factors, AP-42* (U.S. Environmental Protection Agency 1985b). Exhaust emissions for the alternatives were obtained from the Proposed Action emissions by scaling them in proportion to the disturbed construction areas.

Aircraft Operations. Emissions were calculated for military aircraft operations associated with deployment of U.S. Army troops from Fort Drum, New York, and for civilian aircraft operations transferred to Griffiss AFB with the relocation of the Oneida County Airport as described for the Regional Aviation Complex Alternative. The military aircraft operations would occur for the Proposed Action; Alternatives A, B, and C; and the No-Action Alternative. All aircraft emissions were calculated with the Emissions and Dispersion Modeling System (EDMS) model (Segal 1991), which contains a built-in data base of U.S. Environmental Protection Agency (EPA) AP-42 emission factors for various types of aircraft and refueling activities. EDMS was then used to calculate downward pollutant concentrations that would occur from each alternative. In addition to aircraft, the heating plant and vehicular traffic on the proposed parkway were also included in the EDMS model.

Vehicle Emission Calculations. Vehicle emissions were obtained through the use of vehicle daily trip generation for the Proposed Action and alternatives (Table 4.2-1 in Chapter 4.0). The average trip length was assumed to be 12 miles. Pollutant emission factors for the years 2001 and 2006 were obtained from the EPA Mobile Source Emission Factor Model (MOBILE 5a) (1993).

General Conformity Determination. As discussed in Section 3.4.3, Oneida County is designated as an attainment area for all pollutants. As described in Section 4.4.3, pollutant emissions from the Proposed Action or from any of the alternatives would not produce ambient concentrations that would result in

violations of the National Ambient Air Quality Standards (NAAQS) or the New York State Standards. Therefore, a general conformity determination would not be required for these activities.

Table I-1

Typical Daily Construction Equipment Assumed for the Proposed Action

	Number	
Equipment	**1996-2001**	**2001-2006**
Forklift	3	2
Off-highway truck	4	2
On-highway truck	4	2
Tracked loader	2	1
Tracked tractor	4	2
Scraper	2	1
Wheeled dozer	2	1
Wheeled loader	3	2
Wheeled tractor	2	1
Roller	2	1
Motor grader	2	1
Miscellaneous	6	4

Results. The results of the emission calculations for the years 2001 and 2006 are presented in Tables I-2 through I-6. Each table shows the emissions for a specific pollutant for the Proposed Action and the three alternatives. Sources are grouped into the following classes:

- Construction;
- Aircraft operations;
- Aircraft support equipment;
- Motor vehicles;
- Fuel combustion; and
- Fuel evaporation losses.

Information regarding facility industrial processes was not known, and therefore, not included in the emission estimates.

Table I-2

Griffiss AFB Emissions Inventory for Particulate Matter (PM_{10}) (tons/day)

Source	Realignment Baseline	Proposed Action		Griffiss Research Park Alternative		Mohawk Valley Business Center Alternative		Regional Aviation Complex Alternative		Regional Aviation Complex Alternative Without Military Aircraft	
	1996	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006
Construction	NA	0.231	0.067	0.129	0.018	0.204	0.050	0.214	0.057	0.214	0.057
Aircraft Operations	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	NP	0.006
Aircraft Support Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	NP	0.000
Motor Vehicles	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fuel Combustion	0.008	0.012	0.017	0.010	0.013	0.013	0.019	0.013	0.019	0.013	0.019
Fuel Evaporation Losses	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Total:	**0.008**	**0.243**	**0.084**	**0.139**	**0.031**	**0.217**	**0.069**	**0.227**	**0.076**	**0.227**	**0.076**

Notes: NA = Not applicable.
NC = Not calculated, emission factor not available.
NP = Not present.

Table I-3

Griffiss AFB Emissions Inventory for Sulfur Oxides (tons/day)

Source	Realignment Baseline	Proposed Action		Griffiss Research Park Alternative		Mohawk Valley Business Center Alternative		Regional Aviation Complex Alternative		Regional Aviation Complex Alternative Without Military Aircraft	
	1996	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006
Construction	NA	0.015	0.008	0.008	0.002	0.012	0.006	0.013	0.007	0.013	0.007
Aircraft Operations	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	NP	0.001
Aircraft Support Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	NP	0.000
Motor Vehicles	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fuel Combustion	0.042	0.001	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Fuel Evaporation Losses	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Total:	**0.044**	**0.018**	**0.011**	**0.010**	**0.005**	**0.015**	**0.009**	**0.016**	**0.010**	**0.014**	**0.009**

Notes: NA = Not applicable.
NC = Not calculated, emission factor not available.
NP = Not present.

Table I-4

Griffiss AFB Emissions Inventory for Carbon Monoxide (tons/day)

Source	Realignment Baseline	Proposed Action		Griffiss Research Park Alternative		Mohawk Valley Business Center Alternative		Regional Aviation Complex Alternative		Regional Aviation Complex Alternative Without Military Aircraft	
	1996	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006
Construction	NA	0.075	0.040	0.039	0.011	0.061	0.030	0.065	0.035	0.065	0.035
Aircraft Operations	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.754	0.754	NP	0.669
Aircraft Support Equipment	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.010	0.010	NP	0.007
Motor Vehicles	0.703	4.379	6.044	2.200	2.837	2.386	3.147	2.951	3.800	2.950	3.799
Fuel Combustion	0.024	0.051	0.025	0.044	0.058	0.058	0.082	0.058	0.082	0.058	0.082
Fuel Evaporation Losses	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Total:	**0.897**	**4.675**	**6.329**	**2.453**	**3.076**	**2.675**	**3.429**	**3.838**	**4.681**	**3.073**	**4.592**

Notes: NA = Not applicable.
NP = Not present.

Table I-5

Griffiss AFB Emissions Inventory for Volatile Organic Compounds (tons/day)

Source	Realignment Baseline	Proposed Action		Griffiss Research Park Alternative		Mohawk Valley Business Center Alternative		Regional Aviation Complex Alternative		Regional Aviation Complex Alternative Without Military Aircraft	
	1996	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006
Construction	NA	0.016	0.009	0.008	0.002	0.013	0.007	0.014	0.008	0.014	0.008
Aircraft Operations	0.092	0.092	0.092	0.092	0.092	0.092	0.092	0.096	0.096	NP	0.045
Aircraft Support Equipment	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	NP	0.001
Motor Vehicles	0.068	0.441	0.608	0.222	0.285	0.241	0.316	0.298	0.382	0.297	0.382
Fuel Combustion	0.000	0.003	0.004	0.002	0.003	0.003	0.004	0.003	0.004	0.003	0.004
Fuel Evaporation Losses	0.022	0.035	0.049	0.029	0.038	0.038	0.054	0.037	0.053	0.035	0.051
Total:	**0.184**	**0.589**	**0.764**	**0.355**	**0.422**	**0.389**	**0.475**	**0.450**	**0.545**	**0.349**	**0.491**

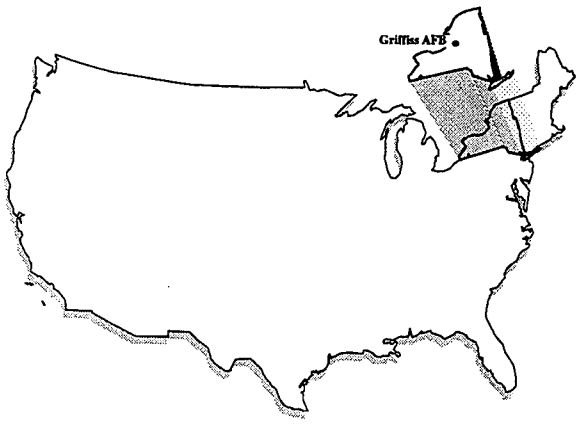
Note: NP = Not present.

Table I-6

Griffiss AFB Emissions Inventory for Nitrogen Oxides (tons/day)

	Realignment Baseline	Proposed Action		Griffiss Research Park Alternative		Mohawk Valley Business Center Alternative		Regional Aviation Complex Alternative		Regional Aviation Complex Alternative Without Military Aircraft	
Source	**1996**	**2001**	**2006**	**2001**	**2006**	**2001**	**2006**	**2001**	**2006**	**2001**	**2006**
Construction	NA	0.157	0.085	0.082	0.023	0.128	0.063	0.137	0.074	0.137	0.074
Aircraft Operations	0.078	0.078	0.078	0.078	0.078	0.078	0.078	0.083	0.083	NP	0.059
Aircraft Support Equipment	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	NP	0.002
Motor Vehicles	0.067	0.490	0.696	0.246	0.327	0.267	0.362	0.331	0.437	0.330	0.436
Fuel Combustion	0.068	0.072	0.100	0.058	0.078	0.078	0.109	0.077	0.109	0.077	0.109
Fuel Evaporation Losses	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Total:	**0.215**	**0.799**	**0.961**	**0.466**	**0.508**	**0.553**	**0.614**	**0.630**	**0.707**	**0.544**	**0.680**

Notes: NP = Not present.



APPENDIX J

APPENDIX J

ENVIRONMENTAL IMPACTS OF GRIFFISS AIR FORCE BASE REALIGNMENT AND REUSE BY LAND USE CATEGORY

The purpose of this appendix is to quantify the environmental impacts of each land use category identified for the alternatives, including the Proposed Action, evaluated in this Environmental Impact Statement (EIS). The data in Tables J-1 through J-17 present the impacts of individual land use activities, such as industrial, commercial, or institutional, on their respective Regions of Influence, as well as compare the impacts of the Proposed Action and alternatives for three benchmark years, 2001, 2006, and 2016, where applicable.

Tables J-1 through J-4 present data on the influencing factors (factors that drive environmental impacts); Tables J-5 through J-17 list the impacts on individual environmental resources evaluated in the EIS. These resources include transportation, utilities, hazardous substances management, soils and geology, water resources, air quality, noise, biological resources, and cultural and paleontological resources. Included in this appendix is at least one table for each resource area, except water resources. Data on water demand are presented as part of the utilities analysis; the effects on surface and groundwater resources in and around the base have not been quantified in the EIS and have not been disaggregated in this appendix.

No quantification is provided in Table J-11 because the quantities of hazardous materials used and hazardous waste generated will depend on the type and intensity of industrial and commercial activities developed on the site. Table J-11 presents a generalized description of the hazardous materials that could be used under individual land use categories. Table J-12 summarizes the number of identified Installation Restoration Program (IRP) sites as of 1994 within each land use category (see Section 3.3.3), but does not give the likely status of these sites in 2001, 2006, and 2016. It is expected that most of the sites will be remediated by the first benchmark year (2001).

A number of factors and assumptions were used in disaggregating the total impacts of an alternative to individual land use categories. These are presented as footnotes on the relevant tables.

Table J-1

Total Employment by Land Use Category[1]

Land Use Category	2001				2006				2016			
	P.A.[2]	Alt. A	Alt. B	Alt. C	P.A.	Alt. A	Alt. B	Alt. C	P.A.	Alt. A	Alt. B	Alt. C
Aviation Support	231	0	0	303	409	0	0	532	808	0	0	1,048
Industrial	1,921	1,029	606	972	3,391	1,811	1,093	1,705	6,706	3,575	2,149	3,359
Institutional[3]	2,190	1,214	1,056	1,370	2,980	1,277	1,068	1,552	4,778	1,438	1,050	1,986
Commercial	1,368	1,807	4,175	3,395	2,413	3,182	7,544	5,963	4,772	6,278	14,825	11,745
Residential	0	0	0	0	0	0	0	0	0	0	0	0
Public/Recreational	56	150	59	62	100	263	108	110	194	520	210	214
Agricultural	0	0	0	0	0	0	0	0	0	0	0	0
Construction Phase	430	295	497	506	222	124	256	249	0	0	0	0
Total:	**6,196**	**4,495**	**6,393**	**6,608**	**9,515**	**6,657**	**10,069**	**10,111**	**17,258**	**11,811**	**18,234**	**18,352**

Notes: [1]Total employment includes direct and secondary employment.
[2]P.A. = Proposed Action.
Alt. A = Griffiss Research Park Alternative
Alt. B = Mohawk Valley Business Center Alternative
Alt. C = Regional Aviation Complex Alternative
[3]Employment totals include persons that will be employed in the ROI by the Defense Finance and Accounting Service (DFAS) Center (600 employees) and U.S. Department of Veterans Affairs (VA) clinic (100 employees) following realignment of the base.

Table J-2

New Direct Employment by Land Use Category[1]

Land Use Category	2001				2006				2016			
	P.A.[2]	Alt. A	Alt. B	Alt. C	P.A.	Alt. A	Alt. B	Alt. C	P.A.	Alt. A	Alt. B	Alt. C
Aviation Support	153	0	0	207	274	0	0	369	547	0	0	738
Industrial	1,272	698	433	663	2,271	1,246	772	1,183	4,542	2,493	1,544	2,366
Institutional[3]	1,445	819	750	930	1,991	874	750	1,072	3,231	998	750	1,394
Commercial	905	1,226	2,983	2,316	1,616	2,189	5,327	4,136	3,232	4,378	10,653	8,272
Residential	0	0	0	0	0	0	0	0	0	0	0	0
Public/Recreational	37	102	42	42	66	181	76	76	132	363	151	151
Agricultural	0	0	0	0	0	0	0	0	0	0	0	0
Construction Phase	285	200	356	345	149	85	181	173	0	0	0	0
Total Full-Time Jobs:	**4,097**	**3,045**	**4,564**	**4,503**	**6,367**	**4,575**	**7,106**	**7,009**	**11,684**	**8,232**	**13,098**	**12,921**

Notes: [1]New employment is the difference between total employment and jobs transferred from other parts of Oneida County. Most environmental impacts are generated by new employment; impacts of local transfers are part of the baseline (affected environment) conditions.

[2]P.A. = Proposed Action
Alt. A = Griffiss Research Park Alternative
Alt. B = Mohawk Valley Business Center Alternative
Alt. C = Regional Aviation Complex Alternative

[3]Employment totals include persons that will be employed in the ROI by the DFAS Center (650 employees) and VA clinic (100 employees) following realignment of the base.

Table J-3

Population Inmigration by Land Use Category

Land Use Category	2001				2006				2016			
	P.A.	Alt. A	Alt. B	Alt. C	P.A.	Alt. A	Alt. B	Alt. C	P.A.	Alt. A	Alt. B	Alt. C
Aviation Support	33	0	0	144	303	0	0	498	868	0	0	1,261
Industrial	0	732	63	942	1,276	1,910	804	2,043	5,989	4,486	2,403	4,483
Institutional	1,878	589	588	818	3,084	785	790	1,192	5,649	1,050	670	1,867
Commercial	0	0	0	0	58	0	4,756	2,239	3,420	2,807	15,790	10,823
Residential	0	0	0	0	0	0	0	0	0	0	0	0
Public/Recreational	6	140	16	16	70	307	91	91	207	683	246	246
Agricultural	0	0	0	0	0	0	0	0	0	0	0	0
Construction Phase	348	212	330	445	188	35	88	227	0	0	0	0
Total:	**2,265**	**1,673**	**997**	**2,365**	**4,979**	**3,037**	**6,529**	**6,290**	**16,133**	**9,026**	**19,109**	**18,680**

Notes: P.A. = Proposed Action
Alt. A = Griffiss Research Park Alternative
Alt. B = Mohawk Valley Business Center Alternative
Alt. C = Regional Aviation Complex Alternative

Table J-4

Projected Land Use Infill (acres) by Land Use Categtory[1]

Land Use Category	1996-2001				2002-2006				2007-2016			
	P.A.[2]	Alt. A	Alt. B	Alt. C	P.A.	Alt. A	Alt. B	Alt. C	P.A.	Alt. A	Alt. B	Alt. C
Airfield	0	0	0	0	0	0	0	0	0	0	0	0
Aviation Support	55	0	0	65	82	0	0	97	109	0	0	131
Airport[3]	NA[3,4]	NA	NA	NA	NA	NA	NA	141	NA	NA	NA	283
Industrial	137	178	173	121	205	266	260	181	273	355	346	241
Institutional	67	47	0	24	101	70	0	36	134	93	0	48
Commercial	40	43	101	115	60	65	151	172	80	86	201	229
Residential[5]	25	NA	58	25	25	NA	87	25	25	NA	116	25
Public/Recreational	418	642	603	517	626	962	905	775	835	1,283	1,206	1,033
Agricultural	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vacant Land[6]	530	107	107	NA	530	107	107	NA	530	107	107	NA
Government-Retained[7]	1,566	1,628	1,576	1,562	1,566	1,628	1,576	1,562	1,566	1,628	1,576	1,562
Total	**2,838**	**2,645**	**2,618**	**2,429**	**3,195**	**3,098**	**3,086**	**2,989**	**3.552**	**3,552**	**3,552**	**3,552**

Notes: [1]For the government-retained land use categories, infill rates were assumed to be 100 percent during the 1996-2001 period. All other categories were assumed to reach 100 percent during the 2007-2016 period. Except where footnoted, the infill rates for other categories were assumed to be approximately 50 percent during the 1996-2001 period, and reach 75 percent during the 2002-2006 period.
[2]P.A. = Proposed Action
Alt. A = Griffiss Research Park Alternative.
Alt. B = Mohawk Valley Business Center Alternative.
Alt. C = Regional Aviation Complex Alternative.
[3]The civilian airport will commence development during the 2002-2006 period.
[4]NA = Not applicable.
[5]Residential = Acreage for P.A. and Alt. C is acreage for existing or relocated housing. Acreage for Alt. B is acreage of phased new housing.
[6]Vacant Land = Lands reserved for future development, based on market conditions. No development of this land has been analyzed in this EIS.
[7]Government-Retained Land = Total amount of land retained by U.S. government.

Table J-5

Transportation Impacts by Land Use Category
(average daily one-way trips generated)

	2001				2006				2016			
Land Use Category	**P.A.**	**Alt. A**	**Alt. B**	**Alt. C**	**P.A.**	**Alt. A**	**Alt. B**	**Alt. C**	**P.A.**	**Alt. A**	**Alt. B**	**Alt. C**
Aviation Support	576	809	736	850	905	1,208	1,156	1,813	1,055	2,158	2,102	3,441
Industrial	5004	1,973	1,010	2,655	7,863	2,946	1,587	3,998	14,296	5,260	2,886	7,586
Institutional	9,296	1,259	465	2,393	14,343	1,651	465	3,368	25,697	2,583	465	5,973
Commercial	4,725	5,589	8,444	7,343	6,098	7,200	11,943	9,882	9,188	11,033	19,814	16,667
Residential	217	154	602	144	342	230	945	217	621	411	1,719	411
Public/Recreational	745	2,223	961	831	1,170	3,319	1,511	1,251	2,128	5,927	2,747	2,374
Construction Phase	1,026	720	1,282	1,242	536	306	652	623	0	0	0	0
Total:	**21,589**	**12,727**	**13,500**	**15,458**	**31,257**	**16,860**	**18,259**	**21,152**	**52,985**	**27,372**	**29,733**	**36,452**

Notes: P.A. = Proposed Action.
Alt. A = Mohawk Valley Business Center Alternative
Alt. B = Griffiss Research Park Alternative
Alt. C = Regional Aviation Complex Alternative

Table J-6

Water Demand by Land Use Category[1]
(gallons per day)

Land Use Category	2001				2006				2016			
	P.A.[2]	Alt. A	Alt. B	Alt. C	P.A.	Alt. A	Alt. B	Alt. C	P.A.	Alt. A	Alt. B	Alt. C
Aviation Support	4,786	6,850	6,143	6,458	7,521	10,094	9,653	9,779	13,675	18,025	17,550	18,450
Industrial	39,794	13,467	5,894	16,562	49,962	19,846	9,262	25,080	90,840	35,440	16,840	47,320
Institutional	104,835	27,424	18,000	40,540	154,455	31,888	18,000	52,132	266,100	42,800	18,000	82,400
Commercial	27,093	35,080	66,053	53,553	36,789	46,900	98,012	75,887	58,605	75,795	169,920	134,205
Residential	13,650	9,804	22,680	9,030	21,450	14,448	35,640	13,674	39,000	25,800	64,800	25,800
Public/Recreational	16,938	20,145	17,190	17,071	26,616	29,688	27,012	25,850	48,393	53,013	49,113	48,753
Others[3]	39,819	22,554	27,192	28,643	59,359	30,573	39,516	40,480	103,323	50,175	67,245	71,390
Total (in million gallons):	**0.239**	**0.135**	**0.163**	**0.172**	**0.356**	**0.183**	**0.237**	**0.243**	**0.620**	**0.301**	**0.403**	**0.428**

Notes: [1]Water demand is the sum of onbase new employee requirements plus inmigration requirements associated with each land use category. No inmigration population was assumed for the residential and agricultural land use categories.

[2]P.A. = Proposed Action
Alt. A = Griffiss Research Park Alternative
Alt. B = Mohawk Valley Business Center Alternative
Alt. C = Regional Aviation Complex Alternative
[3]Others = Fire and Landscaping

Table J-7

Wastewater Generation by Land Use Category[1]
(gallons per day)

Land Use Category	2001				2006				2016			
	P.A.[2]	Alt. A	Alt. B	Alt. C	P.A.	Alt. A	Alt. B	Alt. C	P.A.	Alt. A	Alt. B	Alt. C
Aviation Support	3,829	5,480	4,914	5,166	6,017	8,075	7,722	7,823	10,940	14,420	14,040	14,760
Industrial	31,794	13,467	5,894	16,562	49,962	19,846	9,262	25,080	90,840	35,440	16,840	47,320
Institutional	75,251	20,568	15,750	30,405	112,466	23,916	15,750	39,099	196,200	32,100	15,750	61,800
Commercial	18,062	23,386	44,036	35,702	24,526	31,267	65,342	50,592	39,070	50,530	113,280	89,470
Residential	9,100	6,536	15,120	6,020	14,300	9,632	23,760	9,116	26,000	17,200	43,200	17,200
Public/Recreational	693	2,069	882	793	1,089	3,049	1,386	1,200	1,089	5,445	2,520	2,265
Others[3]	17,271	7,151	8,660	9,465	21,174	9,579	12,322	13,291	40,861	15,514	20,563	23,288
Total (in million gallons):	**0.156**	**0.079**	**0.095**	**0.104**	**0.233**	**0.105**	**0.136**	**0.146**	**0.405**	**0.171**	**0.0226**	**0.256**

Notes: [1]No inmigration population was assumed for the residential and agricultural land use categories.
[2]P.A. = Proposed Action
Alt. A = Griffiss Research Park Alternative
Alt. B = Mohawk Valley Business Center Alternative
Alt. C = Regional Aviation Complex Alternative
[3]Others = Provisions for tests, cleaning, etc.

Table J-8

Solid Waste Generation by Land Use Category[1]
(kilograms per day)

Land Use Category	2001				2006				2016			
	P.A.[2]	Alt. A	Alt. B	Alt. C	P.A.	Alt. A	Alt. B	Alt. C	P.A.	Alt. A	Alt. B	Alt. C
Aviation Support	137	137	123	129	246	202	193	196	274	361	351	369
Industrial	908	337	147	414	1,590	496	232	627	2,271	886	421	1,183
Institutional	6,653	686	450	1,014	6,653	797	450	1,303	6,653	1,070	450	2,060
Commercial	4,097	3,014	5,079	4,245	4,582	3,778	7,209	5,734	4,582	5,728	12,003	9,622
Residential	325	163	378	151	650	241	594	228	650	430	1,080	430
Public/Recreational	330	345	147	132	330	508	231	200	330	908	420	378
Building Demolition[3]	7,300	6,500	8,750	8,750	0	0	0	0	0	0	0	0
Total: (in tons per day)[4]	**19.7**	**11.2**	**15.1**	**14.8**	**14.0**	**6.0**	**8.9**	**8.3**	**14.7**	**9.4**	**14.7**	**14.0**

Notes: [1]Solid waste generation is the sum of onbase new employee generation plus inmigration population generation associated with each land use category. No inmigration population was assumed for the residential and agricultural land use categories.

[2]P.A. = Proposed Action
Alt. A = Griffiss Research Park Alternative
Alt. B = Mohawk Valley Business Center Alternative
Alt. C = Regional Aviation Complex Alternative

[3]Solid waste generated by demolition of existing structures in various land use areas during the first 5-year period of the project.

[4]Kilograms converted to tons and rounded.

Table J-9

Electricity Demand by Land Use Category[1]
(megawatt-hours per day)

	2001				2006				2016			
Land Use Category	**P.A.[2]**	**Alt. A**	**Alt. B**	**Alt. C**	**P.A.**	**Alt. A**	**Alt. B**	**Alt. C**	**P.A.**	**Alt. A**	**Alt. B**	**Alt. C**
Aviation Support	5	7	6	6	7	10	9	10	13	18	17	18
Industrial	26	11	5	13	40	16	7	20	73	29	14	38
Institutional	14	5	3	7	22	5	3	9	41	7	3	14
Commercial	17	25	57	44	27	37	89	67	49	67	162	126
Residential	1	1	4	1	2	1	6	1	4	3	11	3
Public/Recreational	1	4	1	1	2	6	2	2	4	10	4	4
Others[3]	10	7	10	11	16	11	19	16	28	18	31	29
Total:	**74**	**60**	**86**	**83**	**116**	**86**	**135**	**125**	**212**	**152**	**242**	**232**

Notes: [1]Electricity demand is the sum of onbase new employee requirements plus inmigration household requirements associated with each land use category. No inmigration households were assumed for the residential and agricultural land use categories.

[2]P.A. = Proposed Action
Alt. A = Griffiss Research Park Alternative
Alt. B = Mohawk Valley Business Center Alternative
Alt. C = Regional Aviation Complex Alternative

[3]Others = External electrical use.

Table J-10

Natural Gas Demand by Land Use Category[1]
(therms per day)

Land Use Category	2001				2006				2016			
	P.A.[2]	Alt. A	Alt. B	Alt. C	P.A.	Alt. A	Alt. B	Alt. C	P.A.	Alt. A	Alt. B	Alt. C
Aviation Support	170	244	218	230	268	359	343	348	487	641	623	656
Industrial	748	317	139	390	1,175	467	218	590	2,136	833	396	1,113
Institutional	347	141	103	193	545	158	103	239	990	202	103	360
Commercial	440	647	1,450	1,126	691	953	2,279	1,705	1,257	1,702	4,143	3,217
Residential	57	41	157	38	89	60	247	57	163	108	449	108
Public/Recreational	36	107	41	41	56	158	65	62	103	282	118	118
Others	0	0	0	0	0	0	0	0	0	0	0	0
Total:	**1,798**	**1,497**	**2,108**	**2,018**	**2,824**	**2,155**	**3,255**	**3,001**	**5,136**	**3,768**	**5,832**	**5,572**

Notes: [1]Natural gas demand is the sum of onbase new employee requirements plus inmigration household requirements associated with each land use category. No inmigration households were assumed for the residential and agricultural land use categories.

[2]P.A. = Proposed Action
Alt. A = Griffiss Research Park Alternative
Alt. B = Mohawk Valley Business Center Alternative
Alt. C = Regional Aviation Complex Alternative

Table J-11

Hazardous Materials Usage by Land Use Category[1]

Land Use Category	Proposed Action	Griffiss Research Park Alternative	Mohawk Valley Business Center Alternative	Regional Aviation Complex Alternative
Airfield	Aviation fuels, glycols, heating oils.	Same as Proposed Action.	Same as Proposed Action.	Same as Proposed Action.
Aviation Support	Fuels, solvents, paints, POL, hydraulic fluids, degreasers, corrosives, heavy metals, reactives, thinners, glycols, ignitables, heating oils, plating chemicals, cyanides, laboratory chemicals.	NA[2]	NA	Same as Proposed Action.
Airport	NA	NA	NA	Fuels, solvents, paints, heating oils
Industrial	Solvents, heavy metals, POL, corrosives, catalysts, aerosols, fuels, heating oils, ignitables, pesticides.	Same as Proposed Action.	Same as Proposed Action.	Same as Proposed Action.
Institutional	Pharmaceuticals, medical/biohazardous materials, chemotherapeutic drugs, radiological sources, heavy metals, laboratory chemicals, corrosives, ignitables, solvents, heating oils, lubricants, cleaners, pesticides, paints, thinners.	Same as Proposed Action.	Same as Proposed Action.	NA
Commercial	Fuels, solvents, corrosives, POL, ignitables, heating oils, pesticides, dry-cleaning chemicals.	Same as Proposed Action.	Same as Proposed Action.	Same as Proposed Action.
Residential	Pesticides, fertilizers, fuels, oils, chlorine, and household chemicals.	Same as Proposed Action.	Same as Proposed Action.	Same as Proposed Action.
Public/Recreational	Pesticides, fertilizers, chlorine, heating oils, paints, thinners, cleaners, solvents, aerosols, and POL.	Same as Proposed Action.	Same as Proposed Action.	Same as Proposed Action.
Government-Retained	See Note[3]	Same as Proposed Action.	Same as Proposed Action.	Same as Proposed Action.

Notes: [1]The quantities of hazardous materials used depends on the specific industrial development that occurs.
[2]NA - Not applicable
[3]The types of hazardous materials used would be similar to those listed for the airfield, aviation support, industrial, and commercial land use categories.

Table J-12

Number of Installation Restoration Program Sites by Land Use Category[1]

Land Use Category	P.A.[2]	Alt. A	Alt. B	Alt. C
Airfield	10	10	10	10
Aviation Support	3	NA[3]	NA	4
Airport	NA	NA	NA	7
Industrial	14	15	16	8
Institutional	0	0	0	NA
Commercial	4	3	9	6
Residential	0	0	0	0
Public/Recreational	13	21	16	15
Agricultural	NA	NA	NA	NA
Government-Retained[4]	11	11	11	11
Undesignated	8	1	1	NA
Transportation	5	NA	4	0

Notes: [1]Some sites overlap with more than one land use category. The number of sites identified will change as remediation measures are implemented for individual sites.
[2]P.A. = Proposed Action
Alt. A = Griffiss Research Park Alternative
Alt. B = Mohawk Valley Business Center Alternative
Alt. C = Regional Aviation Complex Alternative
[3]NA = Not applicable
[4]These sites are already included in other categories.

Table J-13

Soils and Geology Impacts by Land Use Category[1]
(acres of soil disturbed)

Land Use Category	P.A.[2]	Alt. A	Alt. B	Alt. C
Airfield	0	0	0	0
Aviation Support	2	7	6	8
Industrial	219	88	83	145
Institutional	109	24	NA	45
Commercial	80	86	122	114
Residential	25	NA[3]	55	4
Public/Recreational	136	167	337	154
Vacant Land	42	0	34	46
Agriculture	NA	NA	NA	NA
Government-Retained	0	0	0	0
Total:	**613**	**372**	**637**	**516**

Notes: [1]Disturbance of soils would depend on the construction schedules of various onbase facilities. Therefore, no breakdown is provided for the benchmark years 2001, 2006, and 2016.
[2]P.A. = Proposed Action
Alt. A = Griffiss Research Park Alternative
Alt. B = Mohawk Valley Business Center Alternative
Alt. C = Regional Aviation Complex Alternative
[3]NA = Not applicable

Table J-14

Air Quality Impacts by Land Use Category
(total emissions in tons/day)

	2001					2006				
Land Use Category	P.A.[1]	Alt. A	Alt. B	Alt. C	Alt. C Without Military and Civilian Aviation	P.A.	Alt. A	Alt. B	Alt. C	Alt. C Without Military Aviation
Airfield[2]	0.35	0.35	0.35	0.95	NA[3]	0.35	0.35	0.35	0.95	0.78
Aviation Support	0.21	0.10	0.11	0.81	NA	0.28	0.13	0.14	0.98	0.98
Industrial	0.62	0.30	0.32	0.47	0.59	0.86	0.38	0.43	0.57	0.57
Institutional	0.24	0.07	0.00	0.09	0.12	0.33	0.10	0.00	0.11	0.11
Commercial	0.13	0.07	0.11	0.45	0.55	0.19	0.09	0.15	0.54	0.54
Residential	0.07	0.00	0.10	0.05	0.06	0.09	0.00	0.14	0.06	0.06
Public/Recreational	1.38	0.81	0.83	2.03	2.51	1.92	1.04	1.10	2.64	2.94
Vacant Land	0.00	0.00	0.00	0.00	NA	0.00	0.00	0.00	0.00	NA
Government Retained Land	2.66	1.32	1.42	0.31	0.38	3.68	1.71	1.87	0.37	0.37
Total	**5.66**	**3.02**	**3.24**	**5.16**	**4.21**	**7.70**	**3.80**	**4.18**	**6.02**	**5.85**

Notes: [1]P.A. = Proposed Action
Alt. A = Griffiss Research Park Alternative
Alt. B = Mohawk Valley Business Center Alternative
Alt. C = Regional Aviation Complex Alternative
[2]For the airfield land use category, emissions are based on aircraft operations and include the airport land use area for Alternative C; for all other categories, emissions are based on average daily traffic generated by activity within each land use category.
[3]NA = Not applicable.

Table J-15

Expected Noise Levels Within Each Land Use Category
(typical DNL in dB)

Land Use Category	P.A.[1]	Alt. A	Alt. B	Alt. C
Airfield	65-85+	65-85+	65-85+	65-85+
Aviation Support	65-75	NA	NA	70-80
Airport	NA[2]	NA	NA	65-80
Industrial	<65-80	<65-80	<65-80	<65-80
Institutional	<65	<65	<65	<65
Commercial	<65	<65	<65	<65
Residential	<65	NA	<65	<65
Public/Recreational	<65-80	<65-80	<65-80	<65-80
Agriculture	NA	NA	NA	NA

Notes: [1]P.A. = Proposed Action
Alt. A = Griffiss Research Park Alternative
Alt. B = Mohawk Valley Business Center Alternative
Alt. C = Regional Aviation Complex Alternative
[2]NA = Not applicable

Table J-16

Biological Resource Impacts by Land Use Category[1]
(acres of sensitive habitat potentially disturbed)

Land Use Category	P.A.[2]		Alt. A		Alt. B		Alt. C	
	Wooded Wetland	Upland Forest	Wooded Wetland	Upland Forest	Wooded Wetland	Upland Forest	Wooded Wetland	Upland Forest
Airfield	NA[3]	NA	NA	NA	NA	NA	0	0
Aviation Support	0	0	NA	NA	NA	NA	0	0
Industrial	0	0	0	0	0	0	0	0
Institutional	0	0	0	0	NA	NA	0	0
Commercial	0	0	0	0	0	0	0	0
Residential	0	0	NA	NA	0	7	0	0
Public/Recreational[4]	0	14	0	0	36	78	0	12
Vacant (Development Reserve)	3	0	0	0	0	0	2	0
Total:	**3**	**14**	**0**	**0**	**36**	**85**	**2**	**12**

Notes: [1]Disturbance of vegetation and wildlife would depend on the schedule for construction and demolition of various facilities. Therefore, no breakdown is provided for the benchmark years 2001, 2006, and 2016.

[2]P.A. = Proposed Action
Alt. A = Griffiss Research Park Alternative
Alt. B = Mohawk Valley Business Center Alternative
Alt. C = Regional Aviation Complex Alternative

[3]NA = Not applicable.

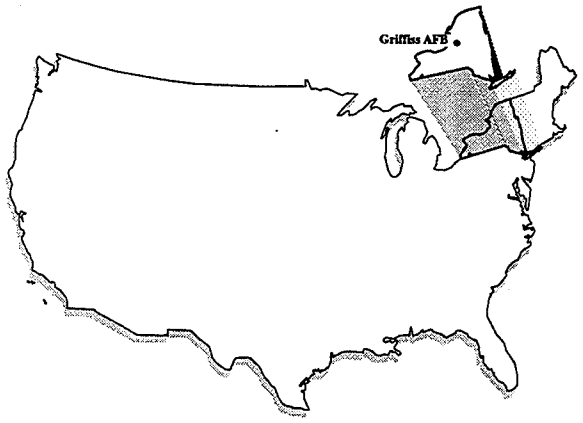
[4]Includes 4 acres of offbase riverbank/floodplain forest disturbance for the construction of the proposed parkway across the Mohawk River to Potter Road for the P.A., Alt. B, and Alt. C.

Table J-17

Cultural and Paleontological Resources Impacts by Land Use Category

Land Use Category	P.A.[1]	Alt. A	Alt. B	Alt. C
Airfield	NI[2]	NI	NI	NI
Aviation Support	Some potentially NRHP-eligible World War II and Cold War structures may be adversely affected through building modification, demolition, or land conveyance.	NA[3]	NA	Some potentially NRHP-eligible World War II and Cold War structures may be adversely affected through building modification, demolition, or land conveyance.
Industrial	Some potentially NRHP-eligible World War II and Cold War structures may be adversely affected through building modification, demolition, or land conveyance.	Some potentially NRHP-eligible World War II and Cold War structures may be adversely affected through building modification, demolition, or land conveyance.	Some potentially NRHP-eligible World War II and Cold War structures may be adversely affected through building modification, demolition, or land conveyance.	Some potentially NRHP-eligible World War II and Cold War structures may be adversely affected through building modification, demolition, or land conveyance.
Institutional	NI	NI	NI	NI
Commercial	NI	NI	One historic site being assessed for potential NRHP eligibility may be adversely affected through land conveyance.	One historic site being assessed for potential NRHP eligibility may be adversely affected through land conveyance.
Residential	NA	NI	NI	NI
Public/Recreation	Two potentially NRHP-eligible prehistoric sites may be adversely affected through land conveyance. One historic site being assessed for potential NRHP eligibility may be adversely affected through land conveyance.	Two potentially NRHP-eligible prehistoric sites may be adversely affected through land conveyance. One historic site being assessed for potential NRHP eligibility may be adversely affected through land conveyance.	Two potentially NRHP-eligible prehistoric sites may be adversely affected through land conveyance. One historic site being assessed for potential NRHP eligibility may be adversely affected through land conveyance.	Two potentially NRHP-eligible prehistoric sites may be adversely affected through land conveyance. One historic site being assessed for potential NRHP eligibility may be adversely affected through land conveyance.
Vacant Land	Three historic sites being assessed for potential NRHP eligibility may be adversely affected through land conveyance.	Two historic sites being assessed for potential NRHP eligibility may be adversely affected through land conveyance.	Two historic sites being assessed for potential NRHP eligibility may be adversely affected through land conveyance.	NA
Agriculture	NA	NA	NA	NA
Government-Retained Land	NI	NI	NI	NI

Notes: [1]P.A. = Proposed Action
Alt. A = Griffiss Research Park Alternative
Alt. B = Mohawk Valley Business Center Alternative
Alt. C = Regional Aviation Complex Alternative
[2]NI = No impact to NRHP-eligible sites.
[3]NA = Not applicable.



APPENDIX K

APPENDIX K

FARMLAND CONVERSION IMPACT RATING FORM AD-1006

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

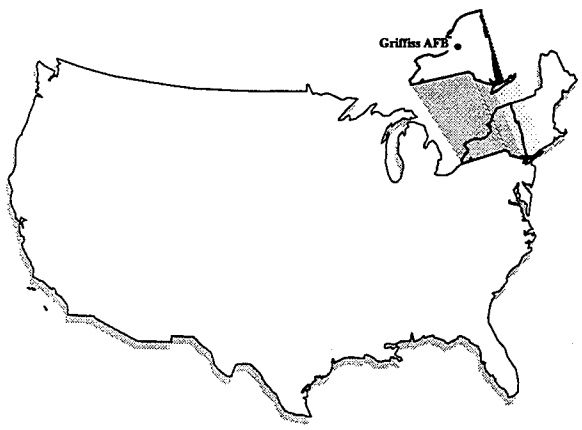
PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request
Name Of Project Griffiss AFB Reuse, Realignment	Federal Agency Involved Dept of the Air Force
Proposed Land Use Parkway	County And State Oneida County, New York
PART II *(To be completed by SCS)*	Date Request Received By SCS

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply – do not complete additional parts of this form).* Yes ☐ No ☐	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %	Amount Of Farmland As Defined in FPPA Acres: %
Name Of Land Evaluation System Used	Name Of Local Site Assessment System	Date Land Evaluation Returned By SCS

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	32	0	49	66
B. Total Acres To Be Converted Indirectly	0	0	0	0
C. Total Acres In Site	130	130	130	130
PART IV *(To be completed by SCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by SCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*				
PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points			
1. Area In Nonurban Use	15	2	2	2	2
2. Perimeter In Nonurban Use	10	0	0	0	0
3. Percent Of Site Being Farmed	20	2	2	2	2
4. Protection Provided By State And Local Government	20	20	20	20	20
5. Distance From Urban Builtup Area	15	NA (0)	NA (0)	NA (0)	NA (0)
6. Distance To Urban Support Services	15	NA (0)	NA (0)	NA (0)	NA (0)
7. Size Of Present Farm Unit Compared To Average	10	0	0	0	0
8. Creation Of Nonfarmable Farmland	10	25	25	25	25
9. Availability Of Farm Support Services	5	5	5	5	5
10. On-Farm Investments	20	0	0	0	0
11. Effects Of Conversion On Farm Support Services	10	25	25	25	25
12. Compatibility With Existing Agricultural Use	10	5	5	5	5
TOTAL SITE ASSESSMENT POINTS	160	84	84	84	84
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100				
Total Site Assessment *(From Part VI above or a local site assessment)*	160	84	84	84	84
TOTAL POINTS *(Total of above 2 lines)*	260				

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:



APPENDIX L

APPENDIX L

SAMPLE MITIGATION MONITORING CHECKLIST

Appendix L

Griffiss AFB Disposal and Reuse EIS
Sample Mitigation Monitoring Checklist

Action	Implementation and Coordination Responsibility*
4.2.2 Land Use and Aesthetics	
Rezoning plan for Griffiss AFB	County, City, Town
Establish Conservation Easement	County
Convey utility and transportation outgrants to permanent ownership	GLDC, Utility Company and Transportation Agency
4.2.3 Transportation	
Widen East Dominick Street near Wright Drive, Floyd Avenue, and Chestnut Street	State DOT and Federal Highway Administration
Add lanes to connector of SH-49 interchange and the onsite parkway	State DOT and Federal Highway Administration
Create onsite circulation system	New property recipient
Implement Transportation Demand Management Measures	GLDC or new property recipient, State DOT, City, Town, County
4.2.4 Utilities	
Infrastructure improvements	GLDC or new property recipient, Federal funding agencies
Water and energy conservation programs	GLDC or new property recipient, City, Town, County
Water source separation	GLDC or new property recipient, City, Town, County
4.3 Hazardous Substances Management	
Establish hazardous substance planning group for new tenants	GLDC or new property recipient, State and County
Coordinate asbestos and lead-based paint management	GLDC or new property recipient, State and County
4.4.1 Soils and Geology	
Erosion control during new construction and demolition	GLDC or new property recipient, County, City, and Town
4.4.2 Water Resources	
Sediment control during construction and demolition	GLDC or new property recipient, County, City, and Town
Install and/or maintain oil/water separators in facilities as required	GLDC or new property recipient, State, and County
4.4.3 Air Quality	
Control fugitive dust during construction	GLDC or new property recipient, State, and construction company
Control of combustive emission from construction equipment	GLDC or new property recipient, State, and construction company

Action	Implementation and Coordination Responsibility*
4.4.5 Biological Resources	
Avoid wetlands and sensitive areas during construction and demolition activities for each individual construction project	GLDC or new property recipient, State, and COE
4.4.6 Cultural Resources	
Avoid cultural resources during redevelopment phase for each individual construction project	GLDC or new property recipient, SHPO, County, Native Americans, and other groups

Note: *County = Oneida County
City = City of Rome
COE = U.S. Army Corps of Engineers
DOT = Department of Transportation
GLDC = Griffiss Local Development Corporation
SHPO = New York State Historic Preservation Officer
State = State of New York
Town = Town of Floyd