ADA 271040

ENVIRONMENTAL ASSESSMENT

FOR THE

CONSTRUCTION/OPERATION OF AN

AIR NATIONAL GUARD - U.S. MARINE CORPS RESERVE INSTALLATION

AT STEWART INTERNATIONAL AIRPORT

NEWBURGH, NEW YORK

MARCH 1984

NOTICE

This report has been prepared for the Air Directorate, National Guard Bureau by Planning Research Corporation for the purpose of analyzing the impact of construction of a new Installation and possible aircraft assignments at Stewart Airport. It is not an endorsement of any product. The views expressed herein are those of the contractor and do not necessarily reflect the official views of the publishing agency, the National Guard Bureau, the United States Air Force or the Department of Defense.

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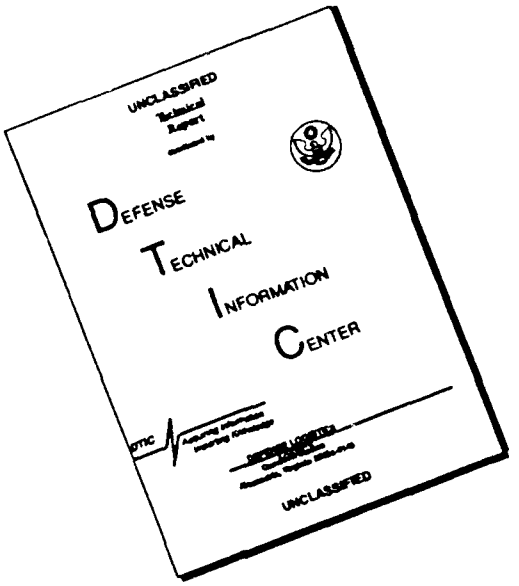

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SUMMARY

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SUMMARY

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The Environmental Assessment discusses the proposal for the construction and operation of a Air National Guard-U.S. Marine Corps Reserve Installation at Stewart International Airport, Newburgh, New York. Specifically the 105th Tactical Air Support Group will change its mission from tactical air operations using twin engine propeller driven aircraft to a military airlift mission using Boeing 747 aircraft. Simultaneously a Marine Corps Reserve Unit will be formed for the purpose of tactical aerial refueling using KC-130 turboprop transports. These two units will occupy existing and newly built facilities in the southeast corner of Stewart Airport. A total of three 747 and 12 KC-130 aircraft are scheduled operate at Stewart Airport.

A combination of military considerations forces the change in mission for the 105th and the creation of the USMCR unit. After careful consideration of alternative sites for this vital military activity, Stewart Airport was selected as the most appropriate site based on its location, its available developable area, and its airside facilities.

Environmental effects from this construction and operation of the facilities include increases in air quality and noise impacts, construction impacts and site manipulation, and increased consumption of water, generation of sewage, and increased runoff. The project will also generate minor increases in road traffic, provide additional economic activity, and cause the upgrade of some existing buildings. All the environmental impacts found are substantially less than were foreseen and approved in comprehensive environmental investigations conducted from 1974-1978 when Stewart Airport was expected to grow substantially as a commercial jetport.

Specifically, noise contour investigations indicate that approximately 20-30 additional homes will be within an incompatible area of noise exposure in addition to the 10-15 dwelling units already impacted. Increased air pollutant concentrations will remain within the relevant standards. All site construction and operational impacts can be controlled to an acceptable degree.

1. PURPOSE OF THE STUDY

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The 105th TASG (Tactical Air Support Group) of the Air National Guard relocated its operations and facilities from Westchester County Airport in White Plains, New York to Stewart Airport in Newburgh, New York in 1982-83. This unit has been charged with maintaining combat readiness and mobility to support national military commitments, most recently in operating O-2 aircraft. These are twin engine piston powered aircraft used in forward air control missions. The 105th TASG will operate three (3) C-19s (Boeing 747 aircraft) in a military airlift mission. The first aircraft are expected during 1984. The second part of the expansion of military operations at Stewart is expected in 1986 when a Marine KC-130 unit will be activated.

The purpose of this environmental assessment is to identify and document the environmental impacts that can be expected from the change in mission, the addition of a new Marine Corps Reserve Unit, and establishment of new facilities for the Air National Guard and USMC at Stewart Airport. The relocation of the 105th TASG was discussed in the Environmental Assessment - Relocation of the 105th TASG to Stewart Airport, June 1982. The scope of this current study includes an overall evaluation of the environmental effects of the expected operations and of constructing the following facilities on some 200 acres of land: hangars, administrative buildings, maintenance facilities, warehouses, POL facility, etc. It will consider the additional aircraft assignments that have been proposed for Stewart as well as past, existing and future traffic for comparison. The results of the study will be utilized in the environmental decision-making process pertinent to the unit's facilities, mission and aircraft assignments. The preparation of an environmental assessment is required by Federal and state law and CEQ, DOD and Air Force regulations. This environmental assessment will provide the information needed to determine if a fully coordinated Environmental Impact Statement is required.

2. POSSIBLE ALTERNATIVES

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2A. Alternatives

There are five possible alternatives regarding the 105th TASG, its mission and its continuation at Stewart Airport. The reasons for initially relocating this unit were logical. Westchester County Airport, its previous location, has been experiencing noise conflicts and is overburdened with commercial aircraft traffic. The 105th TASG had to alter its operations due to noise and capacity problems. Specifically, forward firing ordinance associated with the O-2 mission cannot be flown from Westchester County and nearly all aircrew formation and traffic pattern training were conducted at other airports because of noise conflicts. Therefore, the decision to relocate to Stewart Airport was the most logical solution.

Prior to discussing possible alternatives to this specific decision, one important aspect is set forth. The Congress has directed that the 105th TASG should be re-equipped with wide-body aircraft at Stewart Airport. The United States Marine Corps Reserve (USMCR) has also been directed by Congress to activate a KC-130 Tactical Air Refueling Squadron, which will also be based at Stewart Airport.

The five possible alternatives that have been considered are: (1) Do nothing; (2) Assign other aircraft; (3) Relocate; (4) Deactivate; and (5) Change mission. These alternatives are discussed below in more detail.

2.A.1 Do Nothing

This option is not available to either unit. The O-2s currently flown by the 105th TASG are rapidly becoming obsolete and unsupportable. The O-2s are the only mission aircraft in the ANG still

using aviation gasoline; all others use jet fuel. The USMCR KC-130s are required to satisfy a vital defense mission. To do nothing or delay would only postpone an eventual decision to proceed with the proposal or select an alternative stated below.

2.A.2 Assign Other Aircraft

The mission assignments are best satisfied by the specific aircraft selected. Consideration of assigning other aircraft for the unit assumes they are available. They are not. The Boeing 747s will be purchased to fulfill the military airlift mission assigned the unit. Congressional action has come only after consideration of alternatives. The KC-130s for the USMCR are also Congressionally directed to fulfill a necessary air refueling requirement and no other aircraft are able to satisfy this mission.

2.A.3 Relocate

Seven alternative sites within the State of New York were considered for relocation of the 105th TASG prior to the relocation to Stewart. These were: Niagara Falls International Airport, Schenectady County Airport, Syracuse-Hancock International Airport, Suffolk County Airport, Griffiss Air Force Base, Plattsburgh Air Force Base, and Stewart Airport. No other suitable sites were available. An ANG fighter interceptor group and an Air Force Reserve tactical airlift group are located at Niagara Falls, an ANG tactical airlift group is located at Schenectady, an ANG tactical fighter wing is at Syracuse, and an ANG air rescue and recovery group is located at Suffolk County. The facilities at all of the above locations are fully occupied. It would require major construction at all of these locations to accommodate the 105th TASG. The Stewart site appears most advantageous because of the prime location readily available and the ability to use some existing military facilities.

The problem of adequate recruiting potential also exists. Most 105th personnel are already located within the Stewart Airport service area. The distance to all of the above alternate sites, except Stewart Airport, was too far to commute for most weekend personnel assigned to the 105th TASG.

A final important consideration was runway length. A fully loaded B747 can require as much as 12,000 feet of runway on takeoff under hot day conditions. Other than Stewart Airport, only Griffiss AFB or Plattsburg AFB can satisfy this requirement. Neither of these facilities is in the downstate area and has readily available space to support the proposed mission.

Also, with two reserve force units already at Niagara Falls, and ANG units at Schenectady, Syracuse, and Suffolk County, aircraft traffic saturation could also become a problem at peak hours. Among the airports under consideration, only Schenectady has less existing traffic compared to Stewart. It appeared that Stewart Airport was the only reasonable alternate site in consideration of all the relevant criteria, although major construction would still be necessary.

The decision to co-locate the USMCR KC-130s at Stewart was based on the same rationale as for the 105th TASG, especially the lack of congestion for flying operations and the agreement/ability to share the costs and use of required new facilities.

2.A.4 Deactivate

The unit is considered vital to military preparedness. Since Congress directed a new mission and aircraft for the 105th TASG, deactivation was not considered realistic. The proposal for the USMCR's KC-130 unit is a new start; deactivation does not apply.

2.A.5 Change Mission

This is the preferred alternative. The 105th TASG will change its mission from tactical air support to strategic airlift. The USMCR will activate with a new mission.

The location, existing runways, lack of congestion, recruiting potential, and long term mission benefits recommend Stewart Airport as a site. The construction and improvements are valuable assets to both the Airport, a State property, and the area's communities.

2B. Description of the Proposed Action

As previously discussed, it is felt that continuing the 105th TASG at Stewart is the most logical option available. Among the reasons for this were that relocating would increase unit effectiveness and permit greater mission flexibility in considering a new assignment. Since the unit is now at Stewart, the 105th TASG is able to change its mission significantly to the 105th Military Airlift Group (MAG). It will be the only Strategic Airlift Unit within the Air National Guard. Upon changing its mission, the 105th MAG will also be assigned different aircraft.

2.B.1 Proposed Aircraft

2.B.1.a Introduction

The 105th MAG will be assigned three Boeing 747 (C-19A) wide body aircraft. As previously mentioned, the USMCR fleet at Stewart will consist of KC-130 refueling aircraft.

2.B.1.b Characteristics of the Aircraft Involved

B747-200 (C-19A)

Origin: Boeing Company, Seattle, Washington

Type: (C-19A) Airlift

Engines: Four Pratt & Whitney JT9D-7A

Dimensions: Span 195'8", Length 231'10", Height 63'5"

Weights: Empty 390,000 pounds, max. loaded 788,000 pounds

Performance: Normal cruise 522 knots at 30,000 ft., max. allowable alt. 45,000 ft., takeoff (typical) 10,580 ft., landing (typical) 6,920 ft.

KC-130

Origin: Lockheed-Georgia Company, Marietta, Georgia

Type: (KC-130T) Refueling

Engines: Four Allison T56-A-15 turboprop engines with Hamilton Standard 54H60 four-blade constant-speed reversible-pitch propeller

Dimensions: Span 132'7", Length 97'9", Height 38'3"

Weights: Empty 75,743 pounds, max. loaded 175,000 pounds

Performance: Normal cruise 325 knots, max. allowable alt. 33,000 ft., takeoff roll (typical at 50% load) 3,000 ft., landing (typical) 1,700 ft.

2.B.1.c Aircraft Operations

It is expected that the B747s based at Stewart will perform 9.8 operations per average busy day and that the USMCR KC-130s will conduct 12.4 operations per average busy day. An operation is defined as an aircraft event such as a departure or landing. Touch and gos and low approaches are counted as two operations.

2.B.2 Personnel Summary

There are two categories of Air National Guard personnel: (1) Guardsmen, who perform military duties on a part-time basis. They participate in monthly unit training assemblies (UTA's) and annual training periods. Guardsmen typically hold civilian jobs, in addition to their position in the ANG. (2) ANG Technicians and full-time military, who both serve on a full-time basis. Technicians are Guardsmen, who are full-time employees of the ANG, providing day-to-day continuity in the units' operations.

The current authorized manning level for the 105th TASG is as follows:

	Officers	Enlisted	Total
Full-Time	23	157	180
Guard	84	506	590
Total	107	663	770

After conversion to the 105th MAG, the expected authorized manning level will be as follows:

	Officers	Enlisted	Civilians	Total
Full-Time	26	175	29	230
Guard	62	562	-	624
Total	88	737	29	854

The personnel assigned to the USMCR unit at Stewart is all additive since it is a new unit. The manning level with 12 KC-130s will total 640 individuals, which is broken down as follows:

	Officers	Enlisted	Total
Full-Time	15	225	240
Part-Time	61	339	400
Total	76	564	640

Thus total full and part time personnel for both the ANG and Marine Corps is as follows:

	Officers	Enlisted	Civilians	Total
Full Time	41	400	29	470
Guard & Reserve	123	901	--	1,024
Total	164	1,301	29	1,494

As part of the overall program, a reserve unit will be established. Personnel staffing this unit are included in the above manpower figures.

2.B.3 Construction Program

The construction program associated with the relocation to Stewart Airport is broken down by phases over the next four years. This three-phased program which is expected to be completed in 1987, has been estimated to cost approximately $75 million. Table 2-1 presents the construction program scope.

2C. Environmental Consequences of the Possible Alternative Actions

The environmental consequences of the Do Nothing alternative are a continuation of the present situation until such time as the existing O-2 fleet is no longer supportable. Existing environmental impacts such as noise and air pollution will diminish, and finally cease. At that

Table 2-1

STEWART AIRPORT
CONSTRUCTION PROGRAM
AIR NATIONAL GUARD/USMC

Project	Area (SF)[1/]
Site Preparation/Utilities/Roads/Parking	
Jet Fuel Storage/Hydrant Fueling System	20,000 BL[2/]
Aircraft Parking Apron	LS
Composite Aircraft Maintenance Hangar	226,200 SF
Support Equipment Shop	19,160 SF
Composite Squadron Operations Facility/ Telecommunications	41,204 SF
Aerial Port Training Facility	12,156 SF
Composite Operational Training Facility/ Dining Hall/Dispensary/Weapons System Security Flight	39,550 SF
Fire Station	8,239 SF
Automotive Maintenance/Refueling Vehicle Shop	7,396 SF
Base Supply Administration and Warehouse Facility	52,630 SF
Base Engineering Maintenance Facility	10,930 SF
Composite Aircraft Maintenance Hangar	54,024 SF
Fuel Systems Maintenance Hangar	25,030 SF
Aircraft Engine I&R/Field Maintenance Shop	21,600 SF
UEPH/Barracks Rehabilitation	49,592 SF

1/ Square Feet

2/ Barrel

Source: Air National Guard

time, one of the remaining options such as assigning other aircraft, deactivation, new mission or relocation will be required.

The environmental consequences of the assignment of other aircraft are dependent on the equipment selected. The range of possible potential aircraft vary enormously. None would be significantly better than the B747 from a noise emissions perspective, and many alternative aircraft are significantly noisier. Air quality impacts on an overall basis would probably be approximately the same or slightly less. While differing aircraft might require a smaller complement of support facilities, the location would be the same. Off-site impacts would be similar.

Relocation would shift the expected environmental impacts such as noise, air pollution, ground traffic and additional jobs and construction impacts to the site chosen. Generally, among the available sites reviewed, none offer significant advantages over Stewart Airport in terms of accommodating the expected impacts. Certain sites, the Suffolk County Airport, for example, would probably be much more controversial.

Deactivation would remove all environmental impacts associated with operation of the 105th TASG and its aircraft since it would no longer exist. In reality, this would probably force the activation of a differing unit elsewhere with the responsibilities currently planned for the 105th. Environmental impacts would then be associated with that unit and its host site. This could involve sites outside New York State.

The proposed alternative, the change in mission for the 105th, will increase noise and air quality impacts marginally. Additional impacts will be created through construction and operation of new facilities. This will increase water consumption, sewage generation, use of hazardous materials, etc. As a practical matter, all the impacts associated with the proposal are within previously determined environmental limits or can be mitigated through proper construction and operation.

3. AFFECTED ENVIRONMENT AT STEWART AIRPORT

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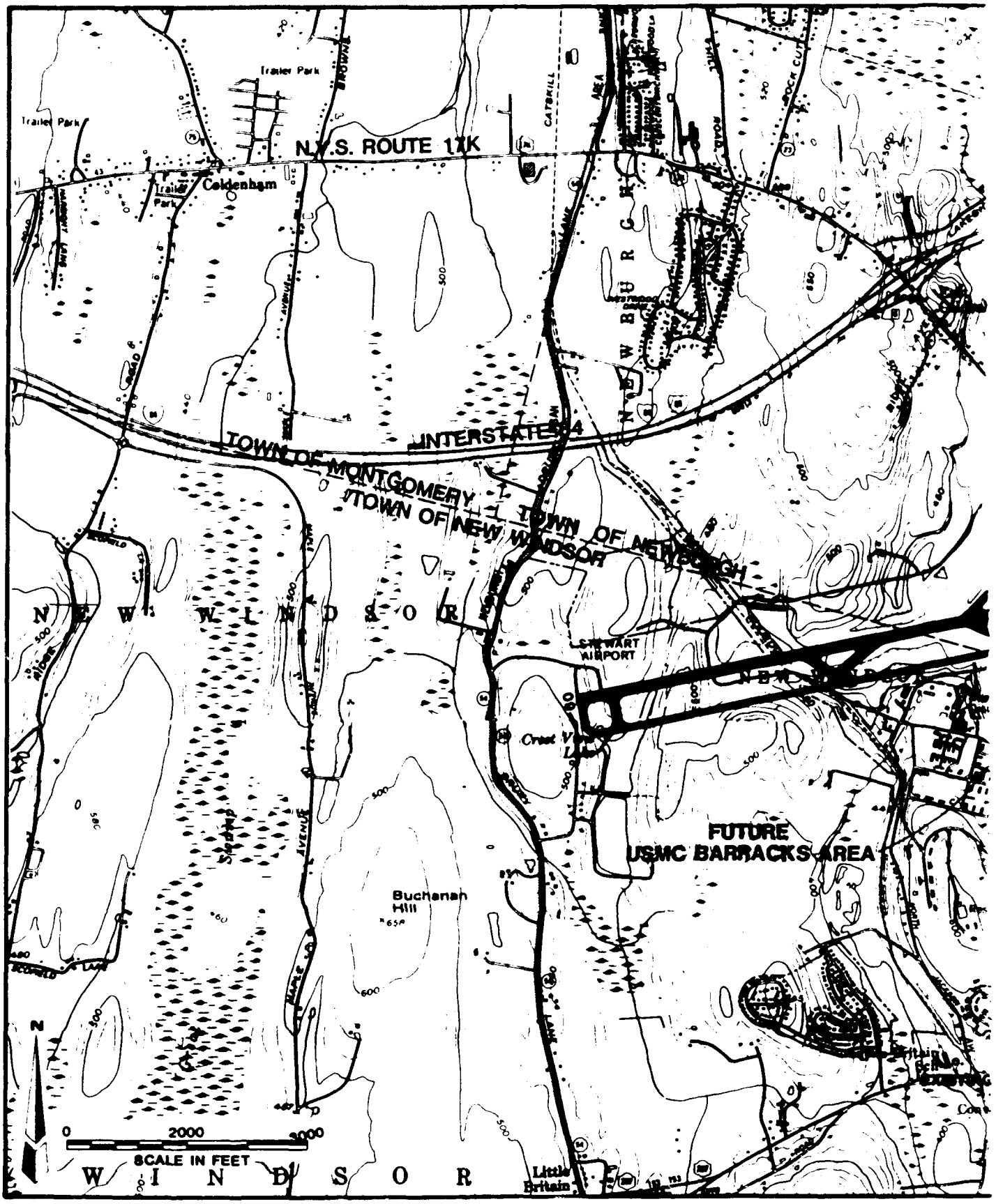
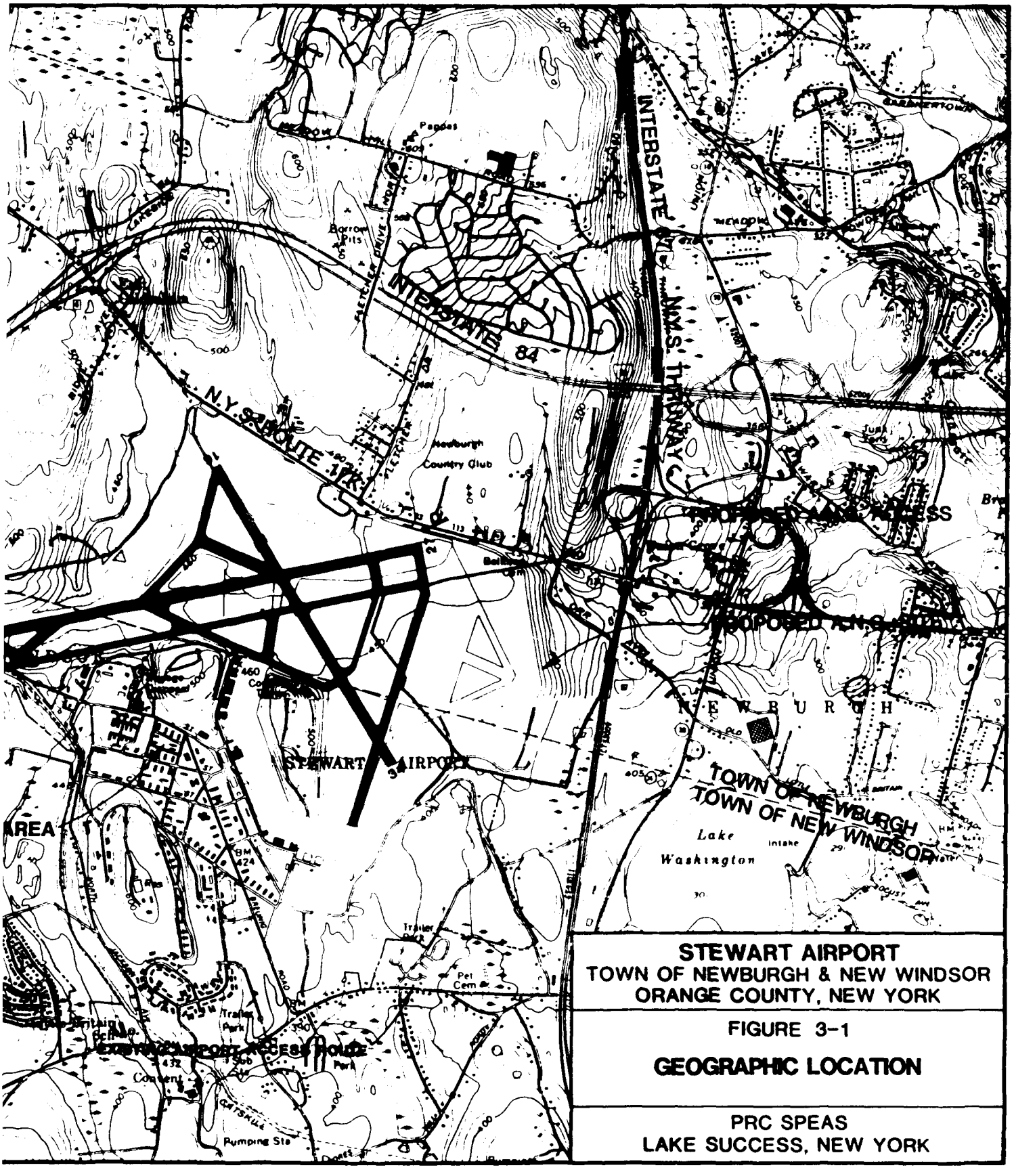
3A. Geographic Location-Land Area

3.A.1 General Location

Stewart Airport, which is depicted in Figure 3-1, Geographic Location, is situated in upstate New York in Orange County. It's location is some 52 air miles and 75 road miles from mid-town Manhattan. It is also approximately four miles west of the City of Newburgh. The airfield itself lies with the jurisdictional boundaries of the Towns of Newburgh and New Windsor. The western portion of the airport property lies within portions of the Towns of Montgomery, Maybrook and Hamptonburgh.

Ground access to Stewart Airport is provided by a number of highways. Access from the south (New York City and points beyond) is via Interstate 87, which is more commonly referred to as the New York State Thruway. This limited-access highway also provides ground access to points north (i.e., Albany, Montreal, etc.). The other limited-access highway that serves the area is Interstate 84. This route, which is located approximately one mile north of the Airport, runs east-west between Scranton, Pennsylvania and Hartford, Connecticut. New York State Route 17K, which is a local two-lane east-west highway, is important in providing access to Stewart Airport and more specifically, serves the Air National Guard site. This roadway abuts the airport property on the north and will provide access to the ANG facilities, as shown in Figure 3-1. The roadway which currently provides access to Stewart is New York State Route 207. This east-west two-lane highway passes approximately one mile south of the field.


N.Y.S. ROUTE 17K
Trailer Park
Trailer Park
Trailer Park
Coldenham
INTERSTATE 84
TOWN OF MONTGOMERY
TOWN OF NEW WINDSOR
TOWN OF NEWBURGH
N E W W I N D S O R
STEWART AIRPORT
FUTURE
USMC BARRACKS AREA
Buchanan Hill
Little Britain
N
0
2000
4000
SCALE IN FEET
W I N D S O R



STEWART AIRPORT
TOWN OF NEWBURGH & NEW WINDSOR
ORANGE COUNTY, NEW YORK

FIGURE 3-1

GEOGRAPHIC LOCATION

PRC SPEAS
LAKE SUCCESS, NEW YORK

Areas affected by the proposed action are principally in the immediate area of the Air National Guard facilities. The site itself will support a complex of buildings as a result of the extensive construction program that is required to establish the ANG facilities. Vehicular traffic on Route 17K will also be affected by this action, since access to the site will be provided by this roadway. Stewart Airport itself and its environs will also be affected in terms of noise and airfield capacity, in that the Air National Guard and the USMC will be increasing aircraft operations.

3.A.2 Land Area

Stewart Airport, which is depicted in Figure 3-2 (Airport Layout Plan), consists of some 1,552 acres plus an 8,500 acre reserve area to the west. The airfield includes two intersecting runways and a network of taxiways. The primary runway, 09/27 was recently extended to 11,818 feet. This 150-foot wide runway, which consists of an asphalt surface, is served by a number of navigational and lighting aids, including an instrument landing system (ILS), non-directional radio beacon (NDB), very-high frequency omnidirectional radio station (VOR), high intensity runway edge lighting, centerline lighting, approach lighting system, touchdown zone lights, runway end identifier lights (REILS), and a visual approach slope indicator system (VASI) on both ends.

The crosswind runway, 16/34, is 6,006 feet long and 150 feet wide. It is paved with asphalt and is equipped with medium intensity runway edge lighting and a VASI on the 34 end.

The taxiway system shown in Figure 3-2 provides efficient access between the airfield and the terminal area. It also is intended to provide quick and easy exit from the active runway upon landing to assure constant safe flow of traffic.

BASIC DATA TABLE

RUNWAY DATA				
	RUNWAY			
	09	27	15	33
EFFECTIVE GRADIENT (IN %)	0.20	0.20	0.57	0.57
INSTRUMENT RUNWAY	PRECISION	NON-PRECISION	NON-PRECISION	VISUAL
APPROACH SURFACES	50:1	34:1	34:1	20:1
NAVIGATIONAL AIDS	ILS CAT II, MSN	VORTAC (HGH)	SGAV (HGH)	
RUNWAY LIGHTING	HIRL, ALSF-2, TDZ & VASI-6	HIRL, C, VASI-6, REIL	HIRL	HIRL & VASI-6
RUNWAY MARKING	PRECISION INSTRUMENT		NON-PRECISION INSTRUMENT	
% WIND COVERAGE	ALL WEATHER 95.0%	IFR 95.0%	ALL WEATHER 95.0%	IFR 97.0%
PAVEMENT STRENGTH				
S		150,000 LBS		75,000 LBS
D		170,000 LBS		75,000 LBS
DW		500,000 LBS		140,000 LBS
2D		770,000 LBS		

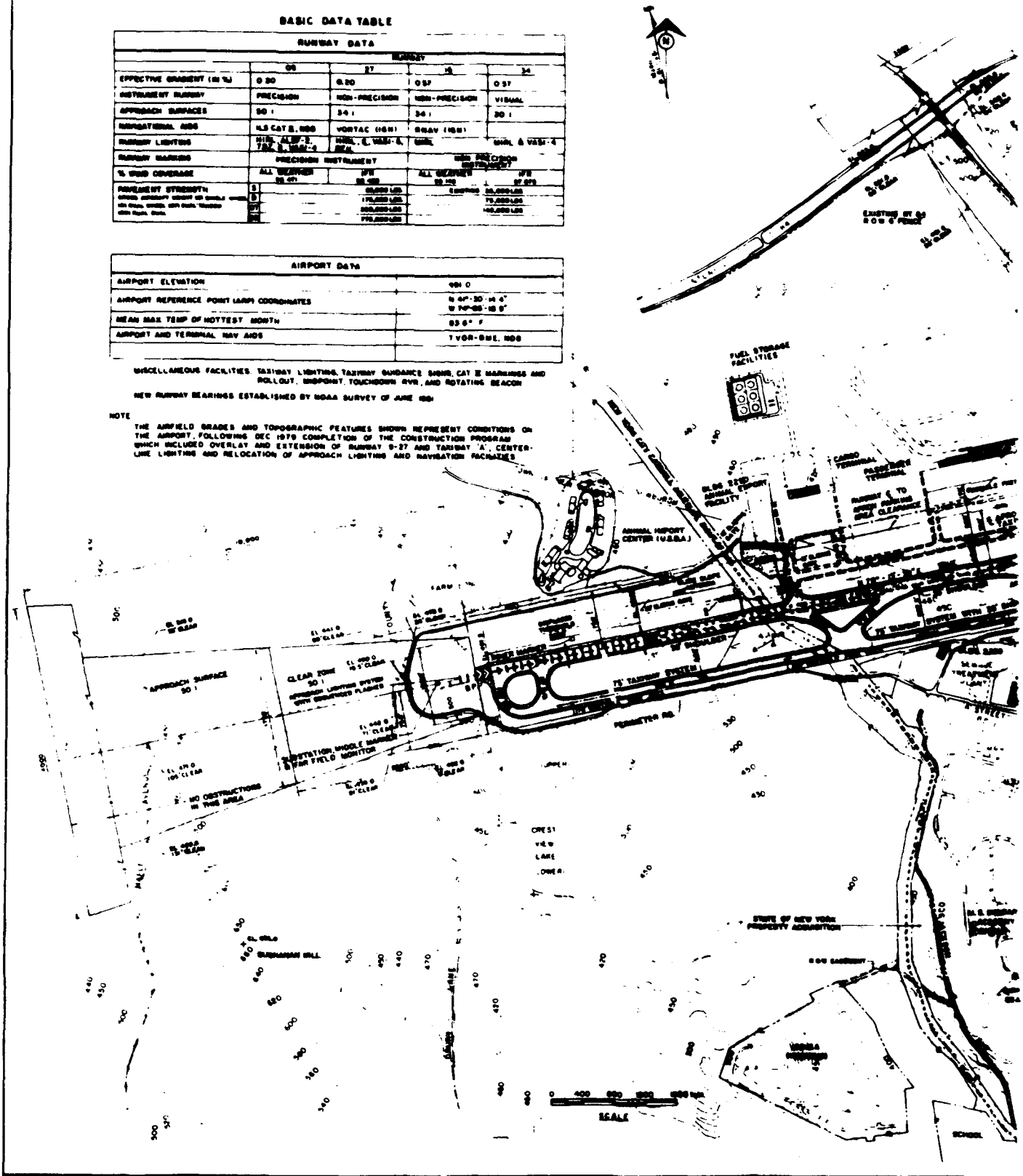
AIRPORT DATA	
AIRPORT ELEVATION	169.0
AIRPORT REFERENCE POINT (ARP) COORDINATES	N 40° 30' 14.6" W 74° 00' 12.0"
MEAN MAX TEMP OF HOTTEST MONTH	83.6° F
AIRPORT AND TERMINAL NAV AIDS	TVOR-DME, MSN

MISCELLANEOUS FACILITIES: TAXIWAY LIGHTING, TAXIWAY GUIDANCE SIGNS, CAT II MARKINGS AND ROLLOUT, MIDPOINT, TOUCHDOWN RVR, AND ROTATING BEACON

NEW RUNWAY BEARINGS ESTABLISHED BY NOAA SURVEY OF JUNE 1981

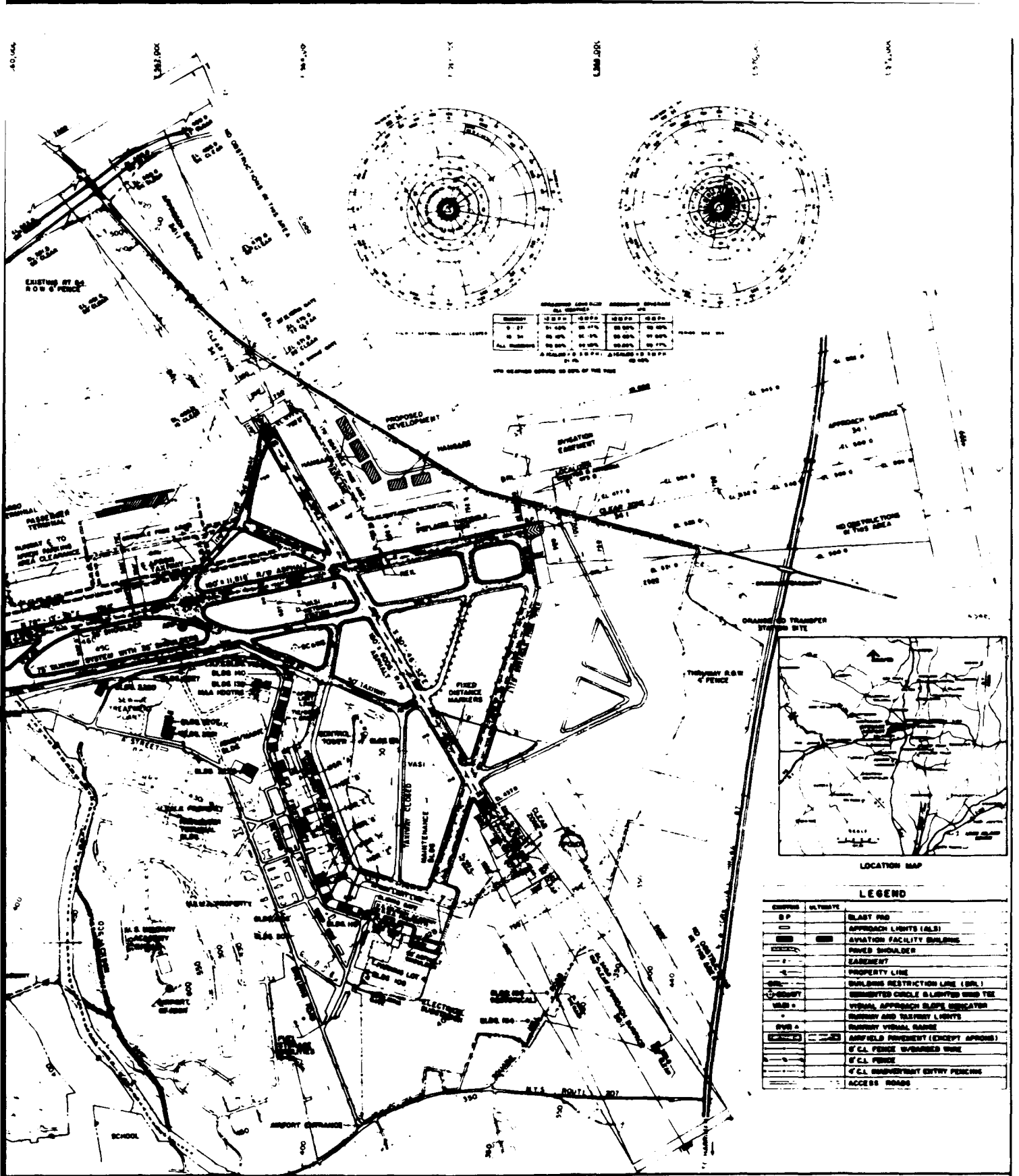
NOTE

THE AIRFIELD GRADES AND TOPOGRAPHIC FEATURES SHOWN REPRESENT CONDITIONS ON THE AIRPORT FOLLOWING DEC 1979 COMPLETION OF THE CONSTRUCTION PROGRAM WHICH INCLUDED OVERLAY AND EXTENSION OF RUNWAY 9-27 AND TAXIWAY 'A', CENTERLINE LIGHTING AND RELOCATION OF APPROACH LIGHTING AND NAVIGATION FACILITIES



TIPPETTS-ABBETT-MCCARTHY-STRATTON	FEDERAL AVIATION ADMINISTRATION	METROPOLITAN AIRPORTS AUTHORITY
	APPROVED DATE	

1982


LOCATION MAP
LEGEND
BP
BLAST PAD
APPROACH LIGHTS (ALS)
AVIATION FACILITY BUILDING
PAVED SHOULDER
EASEMENT
PROPERTY LINE
BUILDING RESTRICTION LINE (BRL)
SEGMENTED CIRCLE & LIGHTED WIND TEE
VISUAL APPROACH SLOPE INDICATOR
RUNWAY AND TAXIWAY LIGHTS
RVR
RUNWAY VISUAL RANGE
AIRFIELD PAVEMENT (EXCEPT APRONS)
6' C.L. FENCE W/BARBED WIRE
6' C.L. FENCE
6' C.L. SURVEILLANCE ENTRY FENCING
ACCESS ROADS
STEWART AIRPORT
AIRPORT LAYOUT PLAN
FIGURE 3-2

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The terminal area, which is located on the southwest border of the airside complex, consists of a number of structures which support both aviation-related and non-aviation activities. There are some six aircraft hangars situated along the terminal apron, in addition to the passenger terminal building and some administrative offices and military buildings.

The site that will support the ANG facilities is located on the east side of the field. It encompasses a large portion of the paved apron which has been unused for quite some time. As such, the pavement in this area is in a state of disrepair and requires some refurbishment in order to accommodate the ANG activities. Access to the airfield will be provided by Taxiway F, which parallels the site.

The ANG flight line will occupy a paved apron area known as the "Pad" which was historically used for flight training. The flight line and aircraft apron will utilize much of the existing paved area with hangars and other facilities located around the periphery.

3.B.1 Water Management

The subsections which follow discuss the entire range of the existing conditions as they relate to water management. This includes potable water supplies, sewage disposal, storm water runoff and drainage.

3.B.1.a Potable Water

The Catskill Aqueduct, part of the system which supplies water to the New York Metropolitan Area, passes through Stewart Airport. This source is tapped for potable water for all on-airport uses by the military. Total annual water consumption for non-military uses at Stewart Airport in 1974 was estimated at approximately 2.3

million gallons annually. In the 1977 EIS, this was projected to increase to 192 million gallons annually by 1985. While an increase of this magnitude is overwhelming when compared to existing use, the region possesses ample supplies. It was concluded that this was a sustainable volume based on the fresh water resources available from the water systems of the surrounding towns including New Windsor, even if the Catskill Aqueduct could not continue as the primary source. This conclusion is based on a survey of the potable water sources available to municipal water systems in Orange County. These figures indicate dependable supplies are approximately double existing consumption.

Water consumption for both civilian and military uses was 99,040,000 gallons for the last six months of 1982 and the first six months of 1983. Civilian usage was 3,300,000 gallons during that period. This represents a total daily consumption of slightly over 271,000 gallons.

3.B.1.b Sewage Disposal

All sewage except that originating at the USDA facility at Stewart Airport is currently treated at an Army waste water treatment plant located on the Airport. This facility has a nominal capacity of 330,000 gallons daily. Originally designed to permit expansion to 660,000 gallons, the facility lacks the two additional sand filters needed to boost system capacity to this level.

The existing sewage treatment plant on base is currently operating at or slightly below its rated design capacity of 330,000 gallons per day, and cannot accept additional effluent sources under its current Department of Environmental Conservation operating permit. Current water consumption at Stewart has been averaging 271,000 gallons daily. Comparing these two figures indicates that there is some modest capacity to accept minor increases from existing sources

or else there is a significant in-flow into the system from other sources, i.e., leakage of ground water into the existing sewer mains.

The plant currently provides tertiary level of treatment. Combined with the fact that influent flows have low organic strength, and that most of the system components operate at flow rates well below their design capacity, the level of effluent quality is very high. Engineering reports indicate that the plant consistently removes over 90 percent of the organic material in the raw waste water.

The plant capacity of 330,000 gallons per day is the equivalent of slightly less than four gallons per second or approximately .5 cubic feet per second. The outfall from the treatment plant is located at the headwaters of a small unnamed creek. This water flows south for approximately 3.5 miles, traverses three major wetlands and eventually empties into Beaverdam Lake which in turn empties into Moodna Creek.

Given the limited volume of effluent, its relatively high quality, and the large area drained by the receiving stream, the overall water quality impacts associated with the treatment plant effluent appear miniscule.

3.B.1.c Storm Water Runoff

The new Air National Guard facilities will be constructed on portions of a 260 acre area at the eastern side of an existing apron area in the southeast corner of the airport. The entire apron, most of Runway 16/34 and associated taxiways drain to the south through a network of concrete pipes and catch basins. The system currently does not have any oil/water separators, but these will be utilized for future apron areas as part of continuing development. This

network drains to a single area, a pond located on the Airport but not within the ANG project, to the southwest of the project area.

This unnamed pond is approximately 2.5 acres in area, and generally shallow. Its surface elevation is approximately 30 feet below the apron. It was originally created as a water feature, and not for the purpose of impounding excess storm water runoff. The pond's outfall is an open spillway located at the south end. The spillway is a depression in the rim of the pond. It is simple earthfill with large stones used as reinforcement. Bituminous aggregate was also used on outfall-side slopes to stabilize the spillway against erosion. Since this is an open channel spillway, the pond makes only a small contribution to the retention of excess storm water.

The gradient of the stream channel below the spillway is very steep, dropping 10 feet in a linear distance of approximately 50 feet. This area has been protected from erosion by the placement of a series of large stones and riprap. Following this, the stream channel is gentle and linear for approximately one-half mile. The current stream channel was channelized in the past. As well as being straightened, both stream banks are lined with excavated spoil from the channelization which previously occurred. In some areas the deposits are three to four feet above the water surface elevation. The channel itself averages 10-12 feet wide. The net effect of this during storm periods is a rapid delivery of runoff downstream to a two to three acre wetland area off-airport where the drainage channel meets another tributary of the Silver Stream. The combined flow reaches a box culvert under Route 207 approximately 750 feet west of the New York State Thruway overpass.

This box culvert was recently installed and replaced a smaller capacity structure to alleviate flooding in the area, according to the Town of New Windsor Engineering personnel. This has apparently been successful.

This past flooding problem was also related to both the high flows experienced during storm periods and stream channel encroachment upstream. The waterway has been narrowed immediately before the culvert by earthfill used to create parking areas for the two commercial users which are adjacent to the channel, thereby reducing stream channel capacity and flood storage volume available.

South of Route 207 the stream channel turns east and is impounded in a small pond adjacent to the NYS Thruway. This pond was constructed to facilitate diversion of part of the Silver Stream into Lake Washington. This reservoir, which serves the City of Newburgh, can be isolated from the Silver Stream through the lowering of three gates installed at the entrance to a culvert leading under Route 207 to the north. These control gates were installed to limit the inflow of tubid water and silt. Although aged, they are still effective in controlling the entry of any major volume of water into the reservoir.

South of this point, the Silver Stream flows approximately two miles to its confluence with the Moodna Creek.

The existing water quality in the drainage system is acceptable in the following respects. It is clear and free of sediment during low flow periods. There is no evidence of oil, grease or other visible pollution. The pond on the airport as well as the immediate downstream reaches supports a substantial population of goldfish, members of the carp family, and other small fish. Partially as a result of this population, the pond, despite its intermittent inflow from the drainage system, is free of surface aquatic growth and shows no evidence of natural succession. Although the pond does not contribute to storm water retention, it functions as a settling basin, and there is no evidence of sediment deposition in the channel below the pond.

Water quality in the Silver Stream is governed by New York State regulations. It is classified as Class "D" Waters.

Regulations stipulate that these waters are suitable for secondary contact recreation, but because of the natural characteristics of the stream bed or the intermittency of flow, will not support the propagation of fish. The waters must be suitable for the survival of fish, however. General regulations for all New York State waters specify that no increases are permitted for turbidity; color; suspended, coloidal or settleable solids; oil or floating substances; taste, and odor-producing substances, toxic wastes and deleterious substances; or thermal discharges. Class "D" standards further specify that pH shall be between 6.0 and 9.5, and that dissolved oxygen shall not be less than three milligrams per liter at any time.

3.B.2 Air Quality

Air quality in the Hudson Valley Air Quality Control Region is generally good and has been consistently improving over the last decade. The current monitoring network includes detailed data for sulfur dioxide, total suspended particulates, carbon monoxide, photochemical oxidants (ozone), sulfates, nitrates and soiling. The nearest fully instrumented monitoring site is in Poughkeepsie. According to the 1981 Annual New York State Air Quality Report, the latest published summary, air quality monitored at Poughkeepsie was in compliance with National Ambient Air Quality Standards (NAAQS) for all pollutants with the exception of ozone. Preliminary data for 1982 indicates that the expected concentrations of the various pollutants have continued to decline. Sulfur dioxide levels have declined to less than half of the National Primary Standard. Particulate levels have declined noticeably since the early 1970s. The Region had no violations of either the primary Federal or New York State standards. Monitored carbon monoxide levels have shown

downward trends since 1975. There were no violations of the one hour standards at any sites during 1981. Data on oxides of nitrogen have been unavailable since 1978. There was never an exceedance of the relevant standard and monitored levels continually trended downwards since sampling was initiated in 1972. The Hudson Valley AQCR has remained a non-attainment area for ozone for most of the years of record. However, it should be understood that ozone is a product of photochemical reactions between other air pollutants, specifically hydrocarbons and oxides of nitrogen. These materials are generally introduced into the air well upstream of the monitoring site and are probably transported long distances from their point of introduction. Most of the states in the northeast do not meet the ozone standard for this reason.

Air quality impacts have been studied in detail in two previous environmental investigations, the Final EIS on the Proposed Runway Extension (1977) and a subsequent study, the Application for an Indirect Air Source Permit for the Stewart Airport Runway Extension (1978). In both of these reports, traffic levels for both 1974 and 1985 were assessed in terms of the expected air quality impacts resulting from increased aircraft activity, space heating, ground service vehicles and particularly, ground traffic increases.

In the 1977 EIS, air quality impacts were studied in detail using a computer model. The findings are summarized as follows. For carbon monoxide, 1985 forecast airport generated sources can be expected to produce maximum concentrations of approximately two percent of the National Primary Standard, doubling the 1974 impact. Likewise, concentrations of hydrocarbons were found to double as a result of increased traffic. Nitrogen oxide concentrations will similarly reach a maximum of two percent of the NAAQS in 1985. For particulates, the increase from 1974 to 1985 rose from one-half of one percent to one and one-half percent of the relevant standard. Finally, sulfur dioxide concentrations reach approximately one and

one-quarter percent of the NAAQS in 1985. Thus the report concluded that unless overall ambient air quality deteriorated significantly, the expected air pollution impacts will not be materially affected by increases in air traffic at Stewart Airport.

The Indirect Air Source Permit Study considered an additional potential air quality impact in detail, i.e., impacts resulting from increased ground access vehicle movements to the Airport over the existing access roads. Airport air quality assessments generally include ground traffic emissions for vehicles within the airport boundaries. The Indirect Air Source Permit Study considered potential carbon monoxide concentrations resulting from 1985 passenger traffic levels placed on the existing access roadway network. This current access network is primarily over two and four lane roads, with several lights and turns occurring between the exits from the area's limited access highways and the Airport. The results of that detailed study indicated that there would be no violations of the relevant carbon monoxide standards at critical receptors on roadside sites even at the relatively high levels of vehicle traffic expected at a busy air carrier airport.

Thus, in summary, past research has indicated that providing ambient air quality levels remained the same or improved, the airport-generated air pollutants would not cause violations of any of the relevant Federal or State standards even at traffic levels roughly double the volume expected to occur after the ANG mission change.

3.B.3 Noise

3.B.3.a Noise Complaint History

There have been relatively infrequent noise complaints registered with the air traffic control personnel at Stewart Airport over the last several years. The FAA Eastern Region Office of Noise

Abatement has received no noise complaints to investigate. Detailed records and mapping of noise complaint locations are kept ready for inspection. There have been no complaints regarding O-2 ANG aircraft in the last year. Records kept since April of 1983 when airport management changed hands are consistent with previous records available back to 1978. A total of about thirty-six complaints have been received during the most recent six month period. Virtually all these complaints originate in areas under the departure end of Runway 09. The principal cause of all these complaints has been night period training activity by turbine powered aircraft, particularly departures to the east. There have also been isolated inquiries (not complaints) about helicopter altitudes and activities during the day period.

3.B.3.b Noise Abatement Procedures

There are published Noise Abatement Procedures which apply to all turbojet aircraft which utilize Stewart Airport. A copy of these procedures as published by the Stewart control tower are shown in Appendix A. These procedures designate a preferential runway use program. When winds are under 15 knots, Runway 27 must be used for departures, and Runway 09 for arrivals. Appropriate noise abatement arrival and departure procedures are specified. These measures include a minimum pattern altitude of 1,500 feet AGL and the use of visual reference points to mark appropriate turn out ranges. Recent modification to the published noise abatement procedures include raising the pattern altitude to 2,000 feet AGL and requiring a straight-out departure of at least three miles and an altitude of 2,500 feet AGL before initiating a turn onto course heading.

3.B.3.c Existing Noise Environment at Stewart Airport

Generally, Stewart Airport has very few noise problems, particularly in comparison to other New York metropolitan airports and even in

comparison to New York State airports as a whole. This is one of the main reasons why it was selected for a 4,000 foot runway extension in the late 1970s to facilitate its development into an intercontinental cargo airport. Approximately 50 percent of its heavy jet traffic currently operates during the night period (2200 to 0700).

Stewart Airport also possesses an undeveloped airport "reserve" area of 8,650 acres west of its main 1,552 acre runway and ground facilities complex. This airport reserve area is entirely rural with a sparse population. It was acquired as the first step in a major expansion of the Airport; a plan later deferred. All departing high performance aircraft using the preferential runway system overfly this area, thereby avoiding the primary developed areas of the City of Newburgh and other surrounding communities. The runway alignment is such that aircraft also avoid overflight of the primary regional metropolitan areas in the vicinity.

Historically, current noise impacts at the Airport are significantly lower than in years past. A comparative summary of aircraft traffic is shown in Table 3-1. Overall aircraft traffic was 18 percent lower in 1982 than in 1974, the base year for the 1977 EIS on the Proposed Runway Extension. (Both the 1974 and 1982 Baseline Noise Contours are shown on Figures 4-1 and 4-2.)

3C. Species and Ecosystems

Stewart Airport consists of 10,200 acres of land in the Mid-Hudson Valley of which 1,552 acres is used as the existing airport tract. Approximatley 8,650 acres of the New York State owned property is not currently being used for airport purposes. This land is considered a reserve and will not be used in any phase of this project.

Table 3-1

SUMMARY OF ACTUAL 1974, 1982 AND FORECAST 1985 ANNUAL OPERATIONS
STEWART AIRPORT

Typical Aircraft Type	1974 (Baseline) Annual Operations	1982 Annual Operations	1985 (Forecast) Annual Operations
1) 2 and 3 Engine Wide Body Transport Jet			8,708
2) 4 Engine Wide Body Transport Jet	1,220	62	13,366
3) 4 Engine Narrow Body, Intermediate Range Jet	8,656	478	13,566
4) 4 Engine Narrow Body, Long Range Jet			8,208
5) 3 Engine Jet	470	434	4,000
6) 2 Engine Jet		235	5,485
7) Business Jet	12,958	800	15,734
8) Turbo Prop Transport	8,635	1,304	19,733
9) Twin Engine Piston	7,918	34,238	12,000
10) Single Engine G.A.	87,874	59,965	122,839
11) Military Helicopter (UH-1, OH-58)	12,068	18,891	8,000
Totals	139,799	114,122	231,639

Source: Final Environmental Impact Statement, Proposed Runway Extension and Airport Records for 1982

The area to be used is located on the southeast corner of the airport due east of the Runway 34 threshold and encompasses an area of 260 acres.

3.C.1 Vegetation and Topography

The 260 acres to be used for the project site consists of either currently developed land, lightly forested area or opened land. There is a possibility that some shrub forest may be cleared.

The land is also hilly and slopes in many areas as depicted on the topographic map in Figure 3-1. There is a possibility that some areas may require leveling and/or landfill.

3.C.2 Wildlife

Peripheral portions of the project area host common woodland animals such as field mice, skunks, squirrels, racoons, etc. These species are also common to the surrounding areas and can relatively easily adapt to the changes that may occur as a result of construction of the facilities complex.

3.C.3 Endangered or Threatened Species

According to the Conservation and Wildlife Biologist at the New York State Department of Environmental Conservation, a review of their Significant Habitat files revealed no records of Resident Endangered or Threatened Species within the project area. There have been migratory species such as the Northern Harriers that have been recorded from the property and the Osprey have been seen in the immediate vicinity.

According to the 1977 Environmental Impact Statement and the New York State Department of Environmental Conservation, Stewart Airport is within the range of several species of wildlife which have been

considered threatened or endangered and identified as requiring protection including:

- Bog Turtle (Clemmuys muhlenbergi)
- Indiana (Social) Bat (myohs Sodalis)
- Bald Eagle (Haliaeetus leqcocephalus)
- Peregrine Falcon (Duck Hawk) (Falco peregrinus aratum)

There have been no documented sitings of these species at the Airport according to the 1977 EIS. Furthermore, the locales related to the species have been located more than 20 miles from the Airport.

A list of current endangered or threatened species in New York State is referenced in Appendix B along with correspondence from the New York State Department of Environmental Conservation.

The construction site itself is primarily composed of an existing apron area previously used in flight training. The creation of this area required considerable cutting and filling as well as land clearing. The new facilities may require expansion of the existing graded area along the scutheastern margin of the site. This could result in the regrading of sideslopes and the clearing of additional immature hardwood forest.

The project site and surrounding area does not provide critical habitat for the endangered species. Moreover since there have been no sightings of any of the endangered species mentioned, the project will neither jeopardize the continued existence of the endangered species nor modify its habitat.

3D. Historical and Archaeological Sites

According to the 1977 Environmental Impact Statement and listings of historical properties, there are several buildings and sites of historical significance on the airport property and several more sites in the airport environs. In addition to these buildings there are sites on the airport property which are identified as not to be disturbed including:

- Mullinen Cemetery
- McClaughty Cemetery
- Methodist Cemetery
- Jeduthan Belkap Cemetery
- SPCA Cemetery
- Cleland House
- Jacob Mills House

In the vicinity of the Airport there are several other sites of historic interest which are either on the National Register of Historic Places or the Historic Sites of New York State Historic Trust including:

- Knox's Headquarters in Vails Gate
- Washington's Headquarters in Newburgh
- Dutch Reform Church in Newburgh
- Cantonment in New Windsor

There are numerous additional structures of historic significance in the area.

3E. Demographics and Socioeconomic Implications

Orange County has a 1982 estimated population of 260,200 people. This number represents 0.115 percent of the United States total population or 1.48 percent of the New York State estimated population. The area

ranks 160 in the U.S. with 90,500 households; and is almost at the median in number of households for the total United States. Recent statistics show the vacancy rate in rental housing units to be just under five percent, indicating a situation similar to the U.S. in total at 5.1 percent. The economic base of Orange County is heterogeneous so that no one industry dominates the scene. The Stewart Airport project can be viewed as a stimulus to a community that is relatively modest by socioeconomic standards.

4. ENVIRONMENTAL CONSEQUENCES

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4. ENVIRONMENTAL CONSEQUENCES

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4.A Direct and Indirect Effects and Their Significance

4.A.1 Water

4.A.1.a Potable Water Consumption

The new ANG/USMCR installation will not be served by the STAS water supply system. It will receive potable water supply from the Town of New Windsor Chadwick water supply reservoir. The hookup will be by direct connection to this system and was approved by resolution of the Town Board of New Windsor on 7 December 1983. The expected consumption is based on an approximate population of 470 full time employees Monday through Friday for a single eight hour shift and a maximum of 1,000 reservists on weekends for a single eight hour shift, utilizing per capita consumption data derived from actual metered flow conditions at Schenectady County Airport from a similar military unit the basic flows are:

Weekday Consumption =	470 x 35 gpcd 16,450 gpd
Weekend Consumption =	1,000 x 20 gpcd 20,000 gpd
Delivery Period =	8 hours

In addition to the above, consumption from aircraft and vehicle washing must be considered. Washing of aircraft is done on a scheduled basis. For 747 aircraft 5,000 gallons of water is used for one wash/rinse operation. The aircraft are washed on a periodic cycle of one every 120 days. Only one aircraft would ever be washed in a 24-hour period. The KC-130 aircraft utilizes 2,000 gallons of water for one wash/rinse. They are washed on a periodic cycle of

once every 28 days. Only one aircraft would ever be washed in a 24-hour period. The total maximum consumption in a 24-hour period would be:

747 Aircraft =	5,000 GPD
KC-130 Aircraft =	2,000 GPD
Total =	7,000 GPD

In addition to the above, consumption resulting from automotive and support equipment vehicle washing must be considered. The maximum number of automotive vehicles and aircraft support equipment to be washed in any 24-hour period will be nine. Total estimated gallons of water and detergent to wash/rinse one vehicle is 100 gallons. Thus the total maximum consumption in a 24-hour period would be:

(9) x 100 = 900 GPD

In addition increased water consumption will result from deicing of aircraft during winter operations.

For 747 aircraft a maximum of 5,000 gallons of water are used for one operation. Only one 747 aircraft will ever be deiced in a 24-hour period. For KC-130 aircraft 155 gallons of water are used per operation. A maximum of 10 aircraft could be deiced in a 24-hour period. The total maximum water consumption in a 24-hour period for deicing operations would be:

747 Aircraft =	5,000 GPD
KC-130 Aircraft =	1,550 GPD
Total =	6,550 GPD

SUMMARY OF WATER CONSUMPTION

Per Capita Weekend Consumption* =	20,000 GPD
Aircraft Washing =	7,000 GPD
Aircraft Deice =	6,550 GPD
Automotive Vehicle/Equip Wash =	900 GPD
Total Flow =	34,450 GPD

*Maximum Consumption occurs on weekend.

Additional consumption will result from the fact that some full time U.S. Marine Corps personnel will utilize seven existing buildings at the Airport. Some of these will be refurbished for use as Bachelor Enlisted Men's Quarters. These buildings are currently used as office space. Thus after conversion, they will be inhabited for an additional sixteen hours daily, half of which is sleep time. A personnel tally is not yet available for these quarters. However, a maximum of 187 additional personnel is the probable upper limit. Thus 18,700 gallons daily might eventually be consumed by full time personnel as a result of the occupation of these quarters.

The existing water supply system which draws from the Catskill Aquaduct can easily accommodate increases of this magnitude.

4.A.1.b Sewage Disposal

The construction and operation of new facilities for the Installation will not create any additional waste water flows to the sewage treatment plant on the Airport. The new facilities will be connected to the waste water treatment plant operated by the Town of New Windsor. According to Town officials, this is advantageous to the Town since the existing plant, which was recently built, is currently under-utilized. The additional revenues expected will be a welcome supplement to their revenue base.

The Town Board of New Windsor passed a resolution on 7 December 1983 approving this connection. The expected wastewater flows will be primarily that of typical domestic wastewater with two (2) exceptions: 1) the discharge of the wastewater resulting from aircraft and vehicle washing; 2) the discharge resulting from deicing operations on the aircraft parking apron. The expected flows are computed as follows:

Based on an approximate population of 470 full time employees Monday through Friday for a single eight hour shift and a maximum of 1,000 reservists on weekends for a single eight hour shift, utilizing per capita flow data derived from actual measured flow conditions at Schenectady County Airport from a similar military unit the basic flows are:

Weekday Flow =	470 x 35 gpcd 16,560 GPD
Weekend Flow =	1,000 x 20 gpcd 20,000 GPD
Delivery Period =	8 Hours

In addition, the discharges from aircraft and vehicle washing must be considered. Washing of aircraft is done on a scheduled basis and conducted inside special wash hangars with an internal drainage system in which all captured washwater is passed through an oil separator before entering the sanitary sewer system. The detergents used are all biodegradable EPA approved.

For 747 aircraft 5,000 gallons of water is used for one wash/rinse operation plus 80 gallons of detergent. The aircraft are washed on a periodic cycle of once every 120 days. Only one aircraft would ever be washed in a 24-hour period. The KC-130 aircraft utilizes 2,000 gallons of water for one wash/rinse operation plus 40 gallons of detergent. They are washed on a periodic cycle of once every 28

days. Only one aircraft would ever be washed in a 24-hour period. The total maximum generated flows in a 24-hour period would be:

747 Aircraft =	5,080 GPD
KC-130 Aircraft =	2,040 GPD
Total =	7,120 GPD

In addition to the above, flow discharges resulting from automotive and support equipment vehicle washing must be considered the maximum number automotive vehicles and aircraft support equipment to be washed in any 24-hour period will be nine. Total estimated gallons of water and detergent to wash/rinse one vehicle is 100 gallons. Thus the total maximum generated flow in a 24-hour period would be:

(9) x 100 = 900 GPD

In addition wastewater flows due to deicing operations must be considered. For 747 aircraft a maximum of 10,000 gallons of deicing solution (5,000 gl ethylene glycol plus 5,000 gl of water) are used for one operation. It is estimated that an additional 3,400 gallons of melted snow and ice will result from one deicing operation. Therefore a total of 13,400 gallons of wastewater will be generated. For KC-130 aircraft a total of 310 gallons of deicing solution (155 gl ethylene glycol plus 155 gallons of water) are used for one operation. An additional 1,000 gallons of melted snow and ice will result from one operation. A maximum of 10 aircraft could be deiced in a 24-hour period. Therefore a total of 13,100 gallons of wastewater could be generated. A holding facility will be constructed to meter all of the deicing discharge into the sanitary sewer at a maximum rate of 5,000 gpd. This rate was approved by the Town Engineer of New Windsor. Flows described above are as follows:

	Expected Flow
For one (1) 747	13,400 GPD
For ten (10) KC-130	13,100 GPD
Total	26,500 GPD

Maximum Flow Due to Controlled Discharge: 5,000 GPD

SUMMARY OF WASTEWATER FLOWS

Per Capita Weekend Flow (Max) =	20,000 GPD
Aircraft Wash Flow =	7,120 GPD
Aircraft Deice Flow =	5,000 GPD
Automotive Vehicle/Equip Wash Flow =	900 GPD
Total Flow =	33,020 GPD

There are approximately 750 ANG people currently at Stewart Airport on drill weekends. This gives a peak flow of 15,000 gallons per day which is the limit of the Stewart Sewage Treatment Plan (STP) SPDES permit modification requirements based on 20 gpd per person. This figure was obtained from measuring actual flow at a similar ANG Base in Schenectady, New York. When the new installation is complete the ANG currently being served by the Stewart STP will vacate their old buildings and go into the new facilities with sanitary sewers connected directly to the New Windsor STP. Approximately 187 USMCR personnel will then occupy seven (7) buildings vacated by the ANG. Estimating 100 gdp per person yields a peak flow of 18,700 gpd into the Stewart STP. The overall change will be an increase of 5,700 gpd of sewage. This is an insignificant change as summarized below:

	Per Capita Rate	Existing Population Being Served by STP	Projected Population After Proposed Action	Total Sewage Being Treated
ANG	20 gpd	750	100*	2,000 gpd
USMCR	100 gpd	0	187	18,700 gpd
Total				20,700 gpd

*Figure based on ANG continued use of three building on UTA weekends. Therefore expected flow generated will be intermittent occurring only two days each month.

4.A.1.c Storm Water Runoff

The existing storm water drainage system for the southeast corner of the Airport drains an area of approximately 185 paved acres. The ANG project will utilize 80 acres of the existing pavement. Part of the apron area will be covered by new structures. A total of 7.85 additional acres under roof will be created. The detailed layout of the facility has not been determined, but there will be significant additions of pavement for roads, walks, and automobile parking. Based on preliminary plans for the Installation, a total of 28.4 additional paved and roofed acres would be added which could potentially drain into an expanded system. Thus the overall expansion will probably increase the total drained area by no more than 15 percent. Considered in isolation, the magnitude of increase in storm water runoff will not create an unacceptable impact in downstream areas since it is a miniscule portion of the overall drainage basin. However, the addition of impervious area may create local flooding conditions because rainfall is shed from these areas rapidly and almost all rainfall runs off promptly.

Thus the project may marginally increase the potential for localized flooding in the area of Route 207. A problem has historically existed in this area, but has recently been eliminated by an

enlarged culvert. Since the existing on-airport pond makes only a limited contribution to flood storage, retention of portions of the peak flows on-airport is recommended. An enlarged or redesigned retention pond can accomplish this and can also assist in minimizing the potential for the introduction of water borne pollutants, particularly turbid runoff water into downstream areas off-airport.

A complete design solution for storm water runoff goes beyond the scope of this document since it requires a detailed engineering analysis. Moreover, decisions on the degree of water retention prudent are partly based on the cost of the improvements versus the costs of potential downstream flooding damage. In this case the existing potential for damage is small, but in the future it will undoubtedly increase as additional development takes place downstream adjacent to the stream channel and additional development upstream increases the volume of runoff from other areas of the drainage basin.

A preliminary analysis is useful in understanding the magnitude of the potential problem and the kind of action required for mitigating it. First, a design storm is selected which defines the maximum rainfall intensity to be considered. In this case a ten year frequency storm is the typical worst case. In the vicinity of Stewart Airport, a maximum 30 minute intensity of 3.5 inches represents an appropriate design criterion. Since an additional 28.4 acres of pavement will be added, a total volume of 8.28 acre feet of storm water could be expected to runoff over and above existing runoff. In actuality, the increase would be somewhat less since some runoff occurs even on the existing unpaved areas. Since the surface area of the existing pond is 2.5-3 acres, approximately 2-3 feet of storage capacity depth would completely retain the increment of additional runoff. This could be accomplished easily by the installation of a standpipe with an inlet 2-3 feet below the spillway elevation. While these general figures are only an

approximation and not a reasonable basis for a design solution since they do not take into account many other relevant variables, they illustrate that mitigating this area of incremental impact is both straightforward and economical.

4.A.2 Air Quality Impacts

Air pollutants are introduced into the atmosphere from a variety of activities at airports. These sources include aircraft movements, space heating of facilities, losses from fuel storage, and movement of ground service vehicles and automobiles. There are also occasional impacts arising from earth movement and construction (primarily dust), and such activities as fire control training.

Air quality impacts involve five differing pollutants: carbon monoxide, oxides of nitrogen, sulfur dioxide, unburned hydrocarbons, and particulates (dust). There are both Federal and State Ambient Air Quality Standards which define thresholds which should not be exceeded.

Impacts resulting from the emission of various pollutants can be quantified in two differing ways. The first is a bulk emissions analysis which defines the total annual volumes of pollutants emitted by the differing activities. This provides an index of the degree of change expected to occur as the result of a change in airport activity. A second index of the expected impacts can be ascertained from a dispersion analysis. The technique quantifies the expected concentrations of pollutants which occur as a result of a given peak hour of operations. By using a simple modeling analysis, worst case estimates of pollutant concentrations can be derived for direct comparison with Ambient Air Quality Standards.

4.A.2.a Bulk Emissions Analysis

Aircraft operations generally are the major air pollution sources at airports. Table 4-1 is a comparison of the total annual air pollutants emitted by aircraft for 1974, 1982 with ANG O-2 operations, 1982 traffic with ANG 747 and Marine Corps KC-130 operations substituted for the O-2s and 1985 operations forecast in the 1977 EIS. These calculations are derived from Table 3.2.1-9, EPA Publication AP-42, Compilation of Air Pollutant Emission Factors including supplements 1-13. All rates for all years use the same relevant emission rates for differing aircraft types.

As can be seen from inspection of Table 4-1, aircraft emissions at Stewart have declined substantially for most pollutants between 1974 and 1982. This is the result in the decline in the volume of heavy turbine powered aircraft. Only carbon monoxide, which is emitted primarily by conventional piston engines, showed only a slight decline. Even with the substitution of expected heavy aircraft activity, all pollutants except particulates are below the 1974 levels. This results from the fact that large turbine engines are major emitters of particulate matter. Even with the introduction of ANG and Marine Corps aircraft operations, emission levels do not approach the volumes resulting from traffic levels originally forecast to occur in 1985.

4.A.2.b Fuel Farm Emissions

Air quality impacts, specifically hydrocarbon emissions, also result from the operation of fuel storage tanks. In this case, project proposals call for the installation of two 10,000 barrel JP-4 jet fuel storage tanks. These tanks are planned for above ground installation with floating roofs. Losses are greatly reduced with the floating roof design. Typically, losses occur during the operation of fuel storage tanks in two ways, standing storage

Table 4-1

ANNUAL BULK POLLUTANT EMISSIONS FROM AIRCRAFT ACTIVITY
(All Values in KGs)

	CO	NOx	HC	SOx	Particulates
1974	1,012,811	175,382	521,581	17,514	6,058
1982 With U-2s	985,197	14,500	57,990	2,067	824
1982 With 747s and KC-130s	983,249	69,679	125,737	7,394	8,260
1985 Forecast	3,328,891	736,346	1,605,968	70,209	40,545

CHANGE AS A PERCENTAGE OF 1974 EMISSIONS

1982 With U-2s	-2.73%	-91.73%	-88.88%	-88.24%	-86.40%
1982 With 747s and KC-130s	-2.92%	-60.27%	-75.89%	-57.92%	+36.36%
1985 Forecast	+228.68%	+319.85%	+207.90%	+299.50%	+569.29%

losses which result from such causes as temperature changes and evaporation, and working losses which occur during tank draining and filling.

Calculation of these hydrocarbon emissions is accomplished through the use of formulae given in Section 4.3 of EPA AP-42. All factors for the calculation of standing losses are included within the referenced methodology with the exception of tank diameter and wind speed. In this case a tank diameter of 32 feet and a wind speed of 10 miles per hour were selected as representative. This results in a predicted loss of 9.19 kilograms per year per tank.

Working losses are dependent partly on the total throughput to the system. In this case, the worst case on total throughput was the assumption that both the ANG 747 and the Marine Corps KC-130 aircraft were fully fueled for each mission from the tanks which will be installed resulting in a total annual consumption of 439,905 barrels. The resulting losses are calculated at 56.5 kilograms per tank per year.

Total emissions from both tanks for both losses are 107.98 kilograms of unburned hydrocarbons per year.

4.A.2.c Space Heating

A total of 12 additional buildings are planned as part of the support requirements for the new ANG-USMC missions. A total of 522,119 additional square feet of new heated area is expected. This will be heated with natural gas with oil-fired backup heating.

Emission rates for space heating from gas-fired boilers are included in AP-42, Section 1.4.1. Under the assumption that all boilers are operating at peak capacity for one hour, the total emissions are shown in Table 4-2.

Table 4-2

SPACE HEATING EMISSIONS
(All Values in KGs)

	CO	NOx	HC	SOx	Particulates
Hourly Emissions	25.0019	1.4837	2.0001	.4286	2.0636

Total annual emissions will be affected by such factors as thermostat settings, temperature, wind factors, and other variables, precluding a detailed quantification on an overall basis. However, it is clear that emissions from this source are small in comparison to the annual volumes emitted by aircraft operations. Moreover, space heating occurs primarily during months of the year when dispersion conditions are normally favorable because of atmospheric turbulence.

4.A.2.d Box Model Analysis of Predicted Concentrations

The Box Model is a crude, but effective method for predicting the worst case concentration of air pollutants which are emitted by aircraft operations. Conceptually, the Box Model is particularly straightforward. It assumes that the various air pollutants are emitted into a box with a fixed volume of air which corresponds to the approximate volume associated with approach and departure from the runway. Because there is no exchange of air, predicted concentrations are significant overestimates of actuality. Thus, if predicted concentrations do not approach the respective Ambient Air Quality Standards, it can be concluded that there will be limited impact in the airport vicinity. Details of this methodology are found in Report Number FAA-AP-77-1A, Environmental Assessment of Airport Development Actions, Appendix F. This approach uses categorized emission rates developed from EPA AP-42.

In this case the change to be assessed is the substitution of ANG 747s and Marine Corps KC-130s for the existing O-2 aircraft. The Box model is specifically intended for assessing peak hour air quality impacts. The worst case assumes that both a 747 and a KC-130 are simultaneously conducting touch-and-go training flights. The probable maximum number of operations which could be conducted in one hour are four Landing Takeoff Cycles for 747s and five LTOs for the KC-130. In reality, the likelihood of both aircraft

simultaneously conducting this many operations in one hour is extremely remote since it assumes that no other aircraft are using the single available runway. To obtain the difference between this case and the existing O-2 operations, emissions for the O-2s must be deducted from the total emissions for the replacement aircraft. A maximum of eight peak hour O-2 operations are assumed for the worst case.

Table 4-3 indicates the National Ambient Air Quality Standards and the New York State Standards, both primary and secondary. Table 4-4 indicates the worst case resultant air pollution concentrations. The instantaneous predicted concentrations from the box model analysis were modified to take into account the different time periods associated with each standard listed below the concentrations calculated. The results of these comparisons expressed as a percent of the relevant primary standard are shown in Table 4-4. As can be seen from the table, particulate, nitrogen oxides, sulfur dioxide and carbon monoxide emissions do not exceed one percent of the relevant standards. Hydrocarbons, because of the relatively large emissions listed for the "long range jet" in the applicable table, reach approximately 2.5 percent of the relevant standard.

There are a variety of additional factors which should be recognized in interpreting these figures. The LTO cycles used in calculating the emission rates included allowances for taxiing to and from the flight line. In touch-and-go operations, this would not occur. The emission rates used as the basis for this methodology are generalizations and actual emissions in the case under consideration would be somewhat lower. The standard for hydrocarbons, the only pollutant which reached a level greater than one percent of the standard is a 6:00 a.m. to 9:00 a.m. standard. It should be noted that this standard has been set by EPA to assist states in setting oxidant standards. Finally, the Box Model assumes that there is no exchange of air occurring during the one hour period whereas in

Table 4-3

FEDERAL AND NEW YORK STATE AMBIENT AIR QUALITY STANDARDS

(All Values in Micrograms per Cubic Meter Except Carbon Monoxide Which is in Milligrams per Cubic Meter)

Contaminant	Interval[1/]	Primary Federal Std	NYState Standards
Sulfur Dioxide	(Annual) Arithmetic mean		80
	24 Hr Conc.	80	365
	1 Hr Conc.	365	1300
Suspended Particulates	(Annual) Geometric mean	75	75
			65
			55
			45
	24 Hr Conc. (Annual)	260	
			110
			100
			85
			70
Carbon Monoxide	8 Hr Conc.	10	10
	1 Hr Conc.	40	40
Photochemical Oxidants	1 Hr Conc.	160	160
Non-Methane Hydrocarbons	3 Hr Conc. (6-9 AM)	160	160
Nitrogen Dioxide	(Annual) Arithmetic mean	100	100

1/ Except for annual values, the Federal standards are not to be exceeded more than once a year while the New York State values are maximums unless otherwise noted.

Table 4-4

BOX MODEL ANALYSIS
NET INCREASED AIR POLLUTANT CONCENTRATIONS RESULTING
FROM PEAK HOUR NEW AIRCRAFT ACTIVITY

	CO	NOx	HC	SOx	Particulates
	mg/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3
Predicted Maximum Peak Hour Concentrations	.0083	1.6944	7.96	.3344	.4128
Relevant EPA Ambient Primary Standard	40 1/	100 2/	160 3/	365 4/	260 4/
Percent of Primary Standard	0.00126%	0.610%	2.537%	.0330%	.00572%

1/ One hour maximum

2/ Annual arithmetic mean

3/ 6:00-9:00 a.m.

4/ 24 hour concentration

reality, even under poor dispersion conditions, considerable turnover of air volume would occur. It can thus be concluded that aircraft emissions which are by far the largest source of emissions created by the proposed project, are of limited practical consequence relative to overall regional air quality impacts.

4.A.2.e Fugitive Dust

Fugitive dust, as a category of air pollutant, is normally not a significant problem in the project area because bare soil, the typical source, rapidly revegetates. Thus, insofar as development projects are concerned, it is normally a concern only where major earthwork exposes large areas of soil to erosion or in the transport of fill.

There are several measures which can be used to minimize potential air quality problems from this source. These are usually included in the contractor's specifications for construction. The fundamental strategy involves avoiding the exposure of large areas of bare soil, or the use of stabilizers to reduce windborne transport. Appropriate measures include staging site preparation to minimize exposed areas, reseeding and irrigation of exposed areas such as soil stockpiles and the use of mulches to prevent erosion.

As an operational problem at airports, the paving of blast pads (i.e., light duty pavement adjacent to the runway ends) and blast fences are usually sufficient to prevent excessive dust generation from aircraft.

4.A.2.f Ground Access Emissions

Ground access vehicles also create air quality impacts in the vicinity of the Airport and on the Airport itself. In this case, the project proposal includes a new entry point at the Airport

for the ANG and a new internal right of way to link the new ANG Installation with existing developed areas on the Airport. This is shown on Figure 3-1, Geographic Location.

Virtually all arriving full and part time individuals who live off the Airport arrive by the New York State Thruway or Interstate 84. The existing and the new access routes are identical from both the New York State Thruway and Interstate 84 exit points to the corner of Union Avenue and Route 17. From that intersection, the existing route is southward over Union Avenue until the intersection with Route 207, then proceeds westward to the Airport access road and then over internal roads to the terminal area. The total distance covered by an arriving or departing automobile is 3.25 miles. The new access point will be directly off Route 17 west of the intersection with Union Avenue. In this case, the total distance traveled to arrive at the new ANG Installation is slightly less than one mile.

There are a total of 770 authorized ANG positions at Stewart (180 full time, and 590 part time Guardsmen). Full time personnel normally are at the Airport approximately 22 days per month (20 weekdays and one two-day weekend guard drill). Part time personnel arrive once per month for weekend drill. Approximately 85 percent of the Guardsmen make two round trips each drill weekend to Stewart since they live in the area and return home evenings. The others overnight at the Airport and thus generate one round trip per weekend. This generates a maximum of 5,012 vehicle trips (assuming one occupant per vehicle) per month. Multiplying 5,012 trips times the round trip distance of 6.5 miles leads to a total of 32,578 miles traveled per month.

After the full development of the ANG Installation, there will be 180 full time personnel generating 3,960 round trips per month, and 624 Guardsmen generating 468 vehicle trips per month. There is also

the potential for 311 additional part time Guardsmen in two ANG support groups. This could generate an additional 467 round trips per month. The Marine Corps Reserve unit due to be activated will generate 5,200 vehicle round trips from 240 full time personnel and 600 trips from 400 part time reservists.

Converting these vehicle trips to total mileage indicates the cumulative distances traveled before and after the construction of the Installation. Currently, there are 5,012 vehicle trips per month each of which is 6.5 miles in length (round trip), for a total of 32,578 miles traveled. After expansion of personnel and construction of the Installation, there will be 11,237 monthly trips at two miles round trip for a total of 22,474 miles traveled.

Thus, based on fewer net vehicle miles traveled after construction of the Installation, there should actually be a decrease in motor vehicle emissions, all other conditions being equal.

Other ground vehicles such as construction equipment, trucking of materials and aircraft servicing equipment may generate small amounts of air pollutants. However, these emissions will either be temporary (construction) or else represent an inconsequential addition in comparison to aircraft and ground traffic sources.

4.A.3 Noise

As a result of implementation of the project as proposed, air traffic at the airport will change. All O-2 aircraft operations will be terminated. Operations by ANG C-19 (B747) aircraft and Marine Corps KC-130 will be added. This change will occur over a three to four year period. The impact analysis described below quantifies this change in terms of the maximum expected traffic levels occurring during routine operations at the completion of the change over to the new mission. This change in operational levels

is specified in Table 4-5. This table indicates the composition of aircraft traffic before and after the mission change. 1982 was selected as the base year for the analysis, and the expected change is shown as a modification of base year traffic. A total of 8,064 annual operations by twin engine general aviation aircraft (O-2 equivalent) are deleted. A total of 2,554 B747 aircraft operations and 3,225 KC-130 operations are added. These totals reflect allowances made for touch and go operations for both aircraft types.

4.A.3.a Noise Contour Analysis

A comparative analysis of noise impacts from aircraft traffic was accomplished to provide a detailed determination of differential noise impacts. The noise contour analysis included comparisons between 1974 traffic levels, 1985 forecast traffic levels as specified in the 1977 EIS for the Stewart Airport Runway Extension as well as actual 1982 traffic levels, and 1982 traffic without the ANG O-2s and with the B747 and KC-130 aircraft added.

The NOISEMAP computer program was used to generate the four comparative sets of noise contours. This computer model used the Day-Night Average Sound Level (Ldn) noise measurement system. This produces a series of nested contours indicating the cumulative noise burden as an annual average.

Assumptions for the computer model were held constant throughout the four model runs other than the change in traffic levels. All high performance aircraft are on Runway 9/27 consistent with existing noise abatement procedures. Flight tracks are consistent with both airport noise abatement procedures and military operating procedures. The runway use distribution for aircraft use were specified by airport tower personnel with the exception of ANG O-2 operations which were specified by ANG personnel. Runway 9/27 has a

Table 4-5

1982 - STEWART OPERATIONS

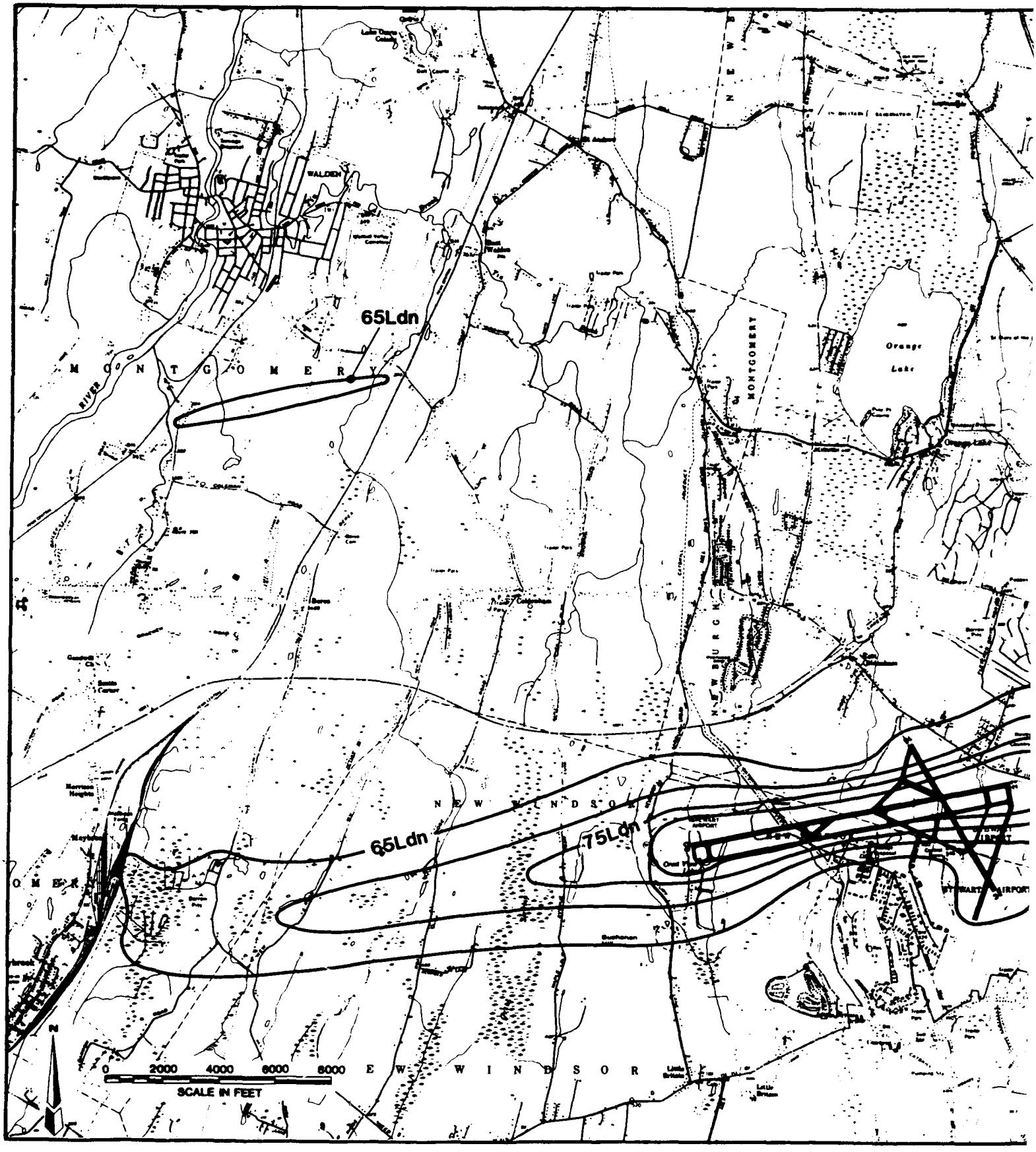
	Actual	W/O O-2s and With 747-KC-130
B747	62	2,616
B707/DC8	478	478
B727	434	434
B737	35	35
CL-44	2	2
C-130	2	3,227
C-131	100	100
DC9 - Military	200	200
Learjet	800	800
T.P. Twin	1,300	1,300
Twin Engine GA	34,138	26,074
Single Engine GA	59,965	59,965
Helicopter	18,891	18,891
	116,407	114,122

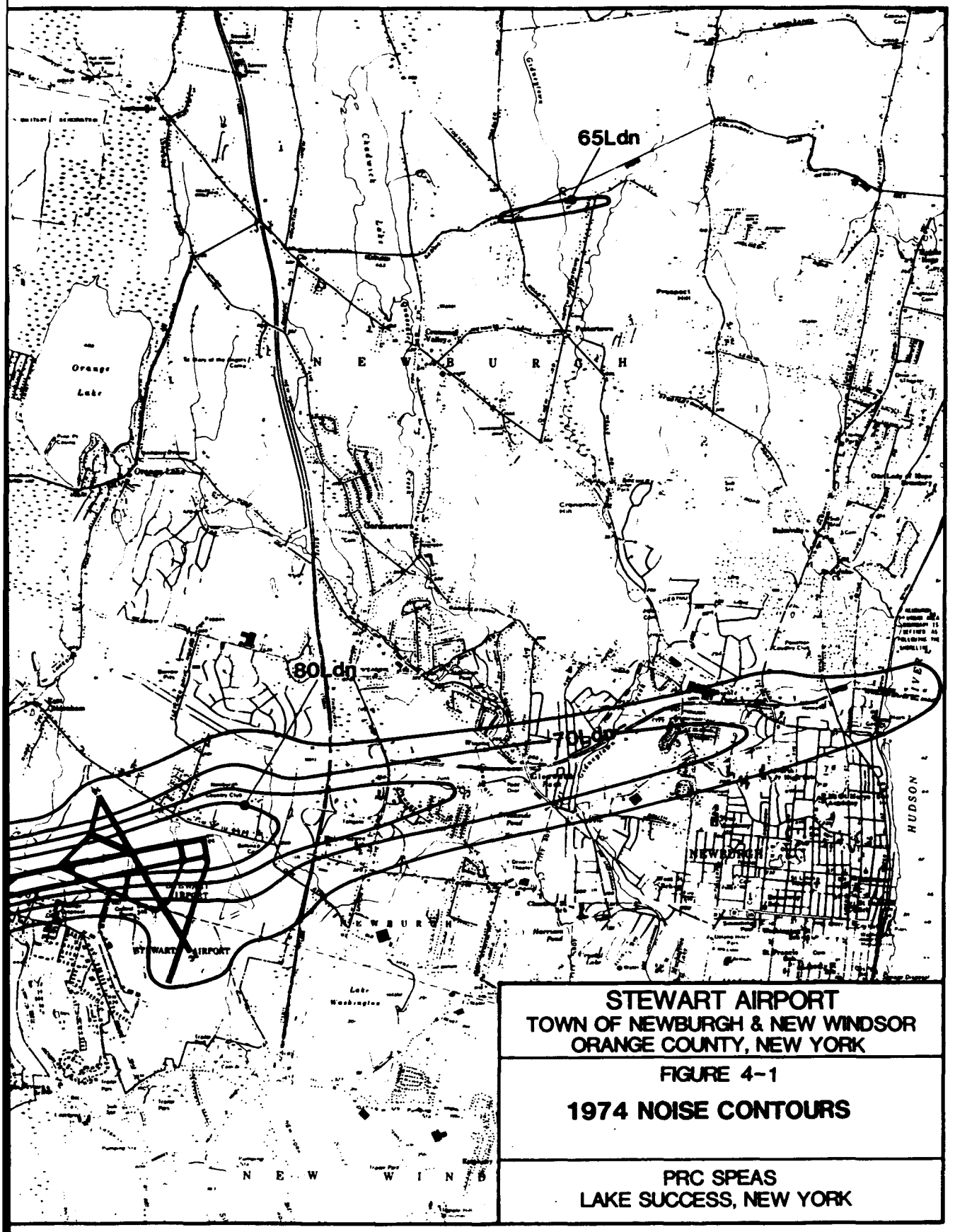
2,000 foot displaced threshold at each end. Airport altitude is 491 feet above mean sea level. Annual ambient temperature is 48.5°F. The day night split estimated by airport management indicates that approximately 50 percent of the civilian heavy aircraft traffic occurs during the night period (10:00 p.m. to 7:00 a.m.) because it is associated with air cargo activity. By contrast 85 percent of general aviation activity occurs during the day period. All scheduled military activity occurs during the day period.

Noise impacts by military helicopters were also included. These aircraft are based in the southeastern portion of the ramp area and arrive and depart over the New York State Thruway. Most helicopters are southbound (80 percent). The remaining 20 percent arrive and depart northward. Engine runup activity is also expected to occur as a result of maintenance for the B747 aircraft. Based on experience at other bases, these runups will occur approximately once per month.

The noise impacts resulting from these differing sets of data are shown in Figures 4-1 through 4-4. As can be seen from inspection the contours center around the runway complex and elongate in the direction of approach and departure flight tracks. The isolated areas of noise impact north of the Airport are caused by turning movements on the downwind leg of the flight pattern. The small area of noise impact to the South of the main noise contour area is caused by arriving and departing helicopters which used specifically designated tracks in the airport vicinity.

A tabularized summary of the land areas enclosed by the contours is shown in Table 4-6. The table indicates an overall increase in the Ldn 65 contour of approximately 20 percent due to the introduction of ANG and USMC aircraft. However, even after the added traffic, the noise contour area is approximately one-fourth of the impact which occurred in 1974 or was forecast to occur in 1985 based on comparisons of the Ldn 65 contour.


65Ldn
65Ldn
75Ldn
WALDEN
MONTGOMERY
NEWBURGH
NEW WINDSOR
MAYBROOK
Orange Lake
Lake
N
0 2000 4000 6000 8000
SCALE IN FEET

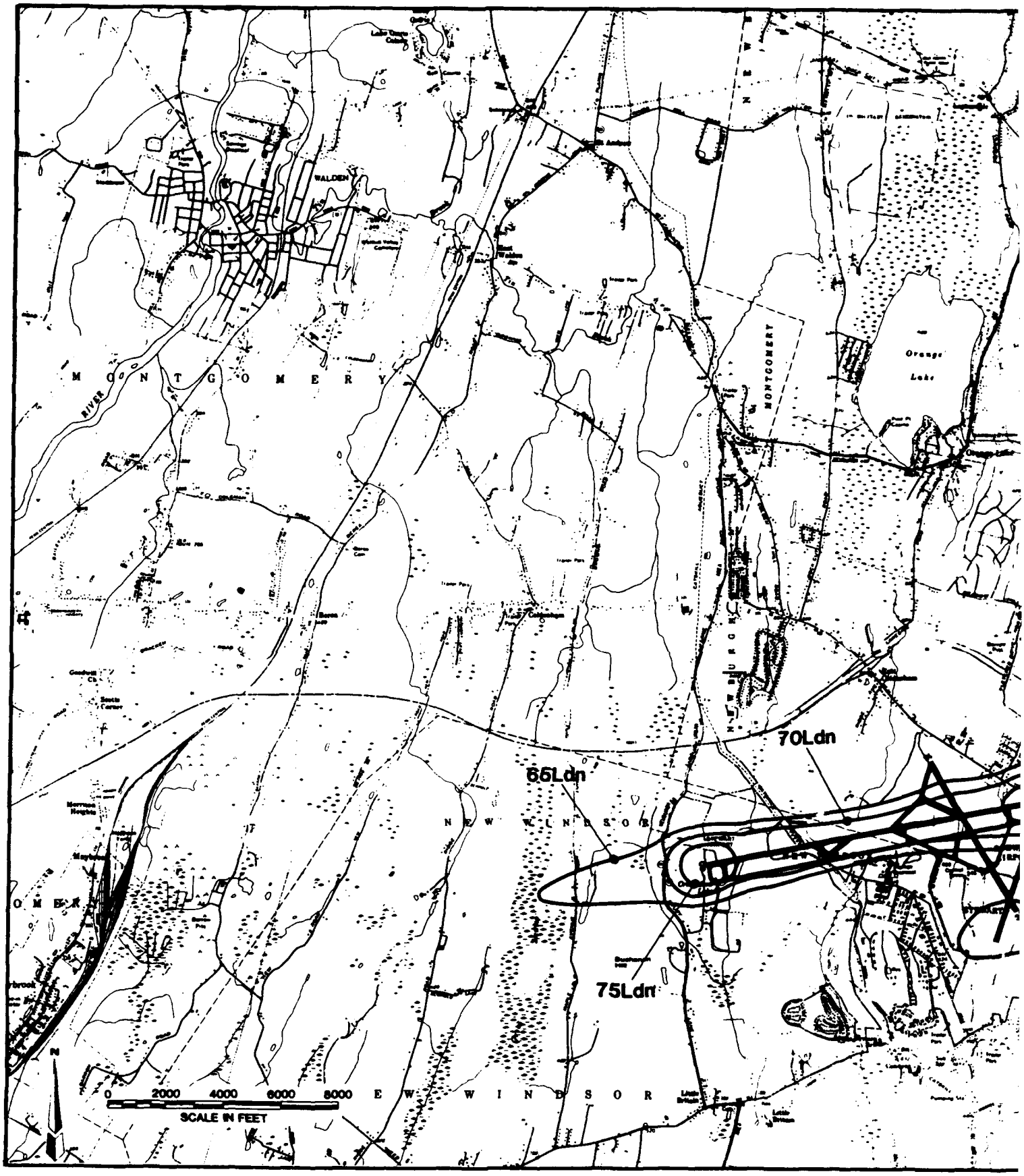


STEWART AIRPORT
TOWN OF NEWBURGH & NEW WINDSOR
ORANGE COUNTY, NEW YORK

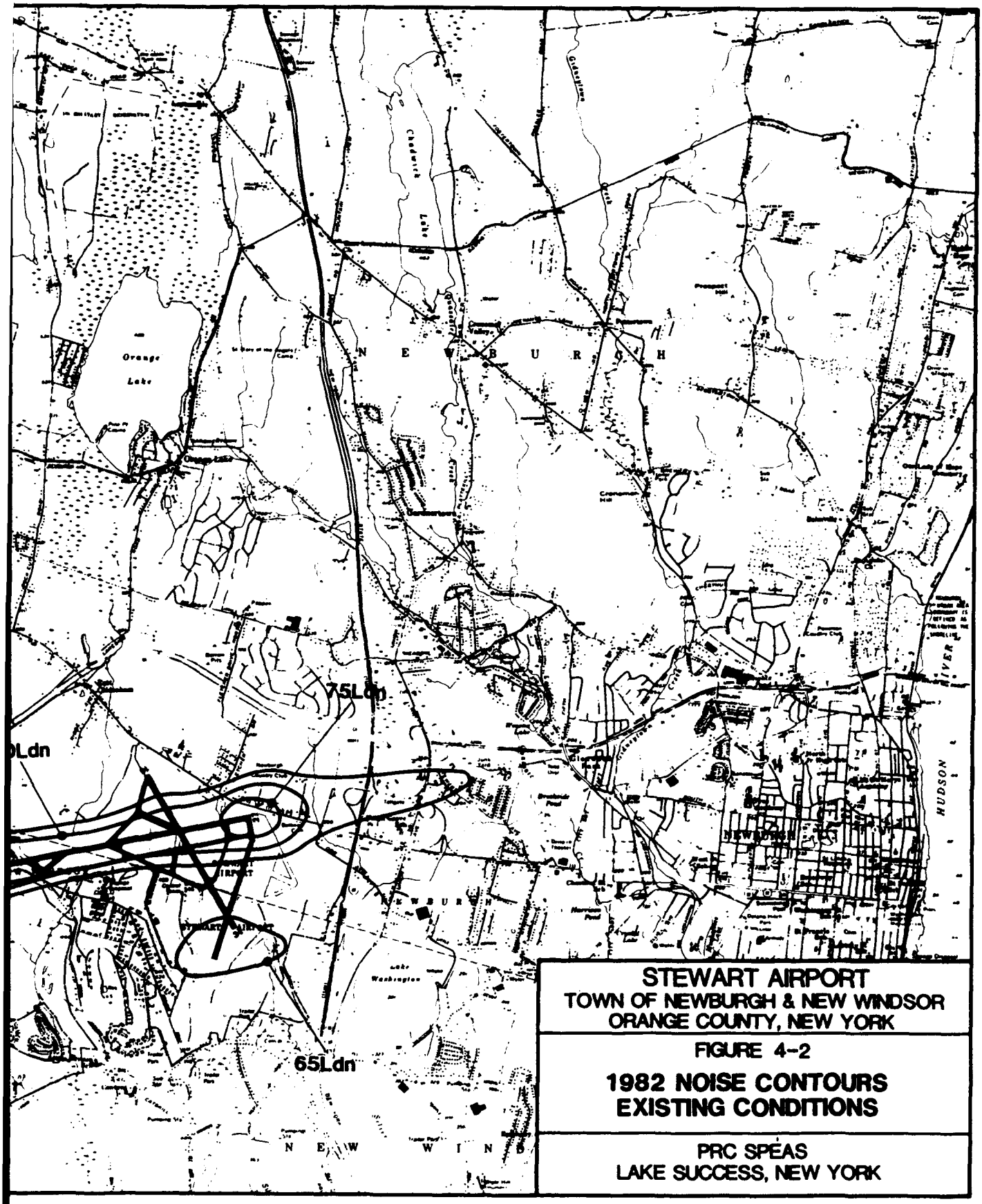
FIGURE 4-1

1974 NOISE CONTOURS

PRC SPEAS
LAKE SUCCESS, NEW YORK


WALDEN
MONTGOMERY
RIVER
MONTGOMERY
Orange
Lake
70Ldn
65Ldn
75Ldn
NEW WINDSOR
NEW WINDSOR
0 2000 4000 6000 8000
SCALE IN FEET
N

1 of 2



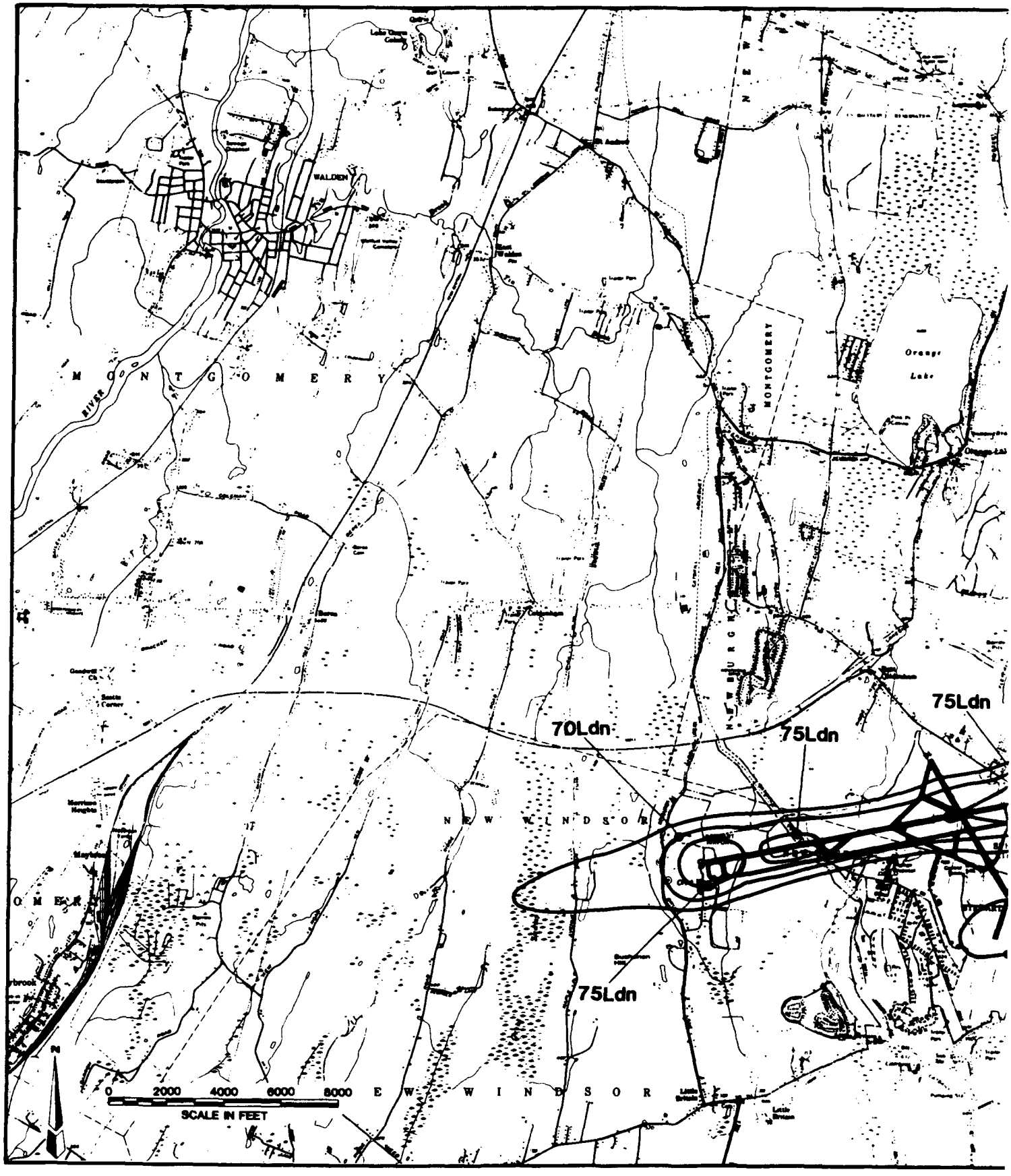
STEWART AIRPORT
TOWN OF NEWBURGH & NEW WINDSOR
ORANGE COUNTY, NEW YORK

FIGURE 4-2

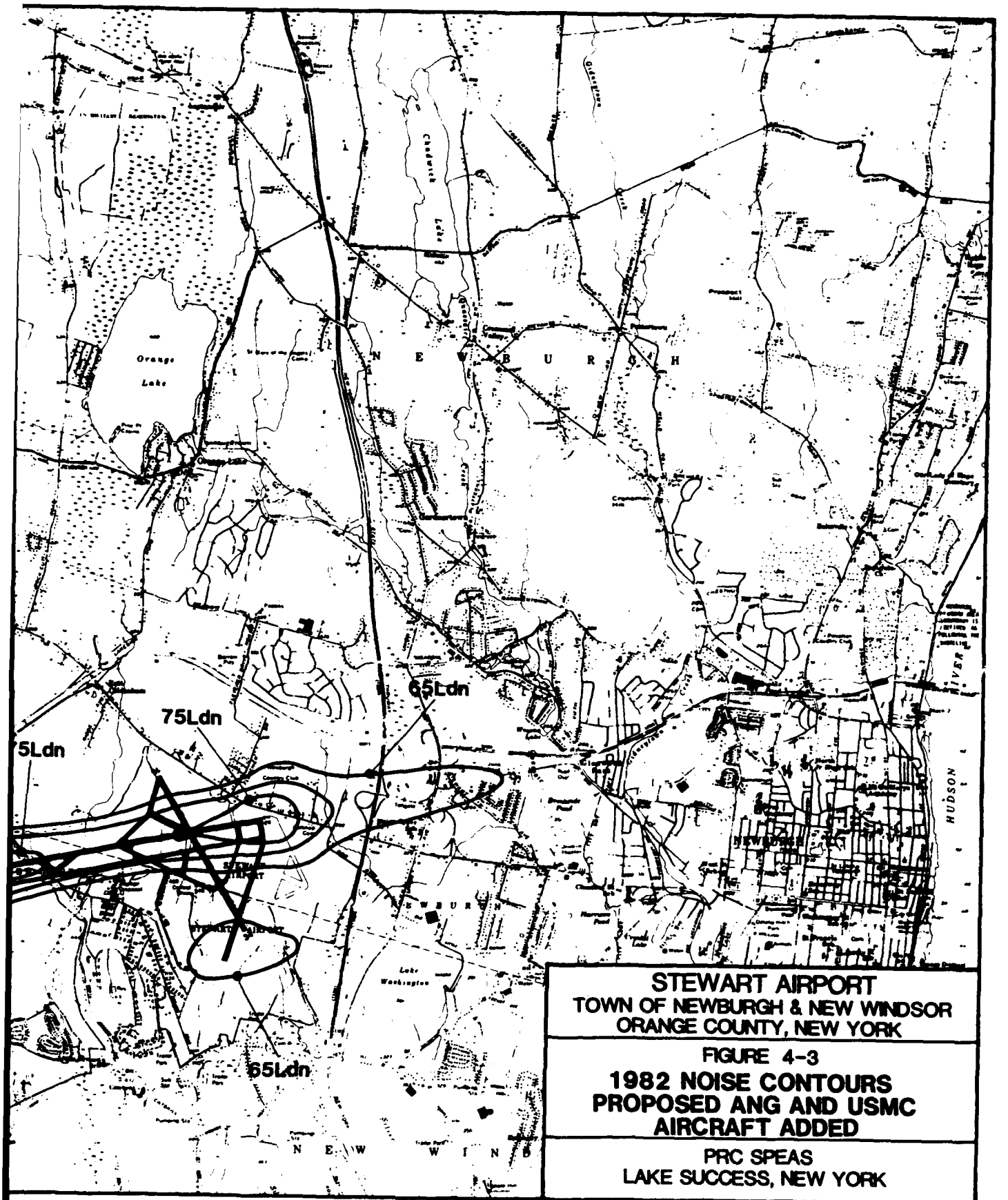
1982 NOISE CONTOURS
EXISTING CONDITIONS

PRC SPEAS
LAKE SUCCESS, NEW YORK

2082


WALDEN
MONTGOMERY
NEWBURGH
Orange Lake
NEW WINDSOR
70Ldn
75Ldn
75Ldn
75Ldn
N
0 2000 4000 6000 8000
SCALE IN FEET

1 of 2



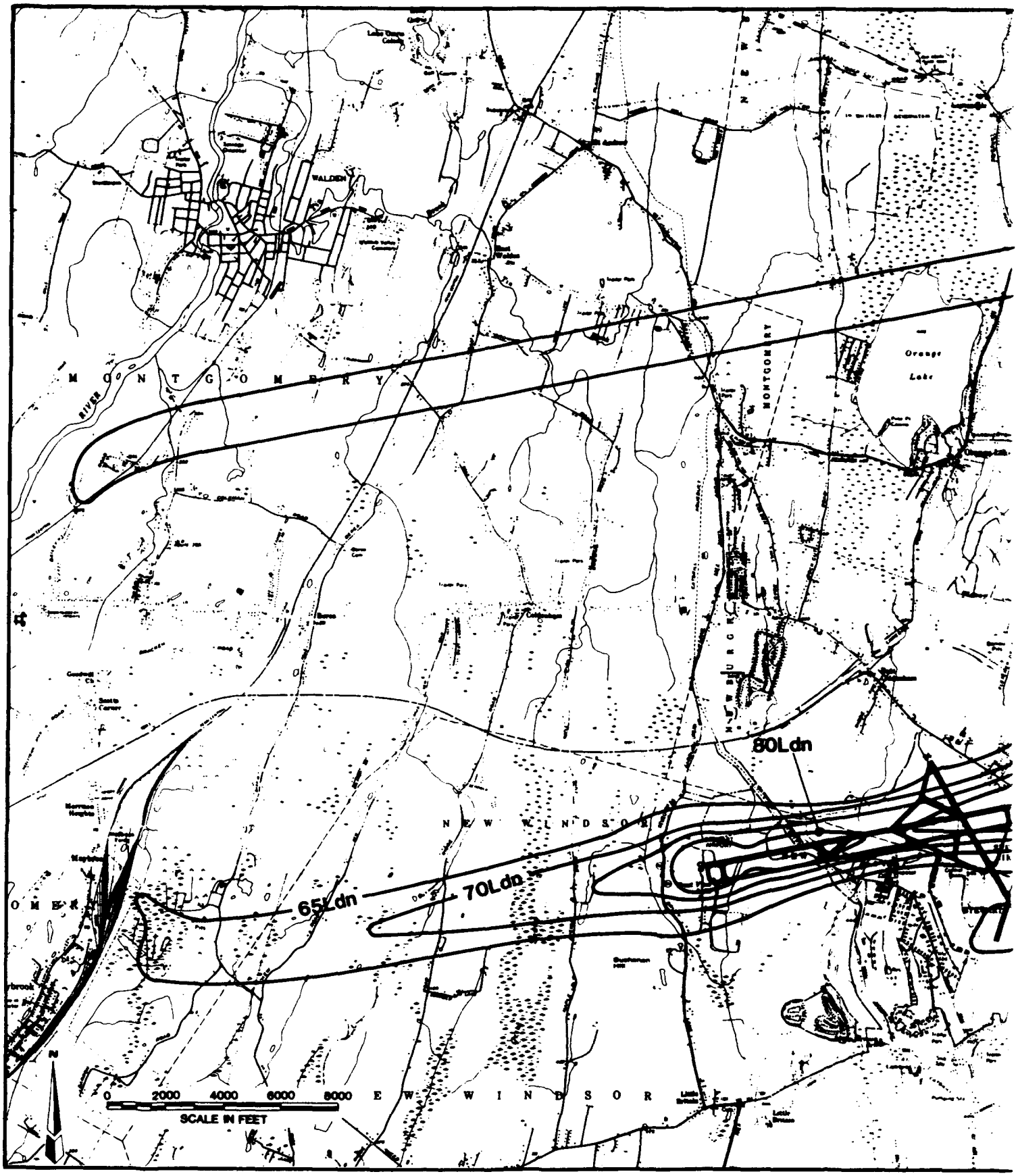
STEWART AIRPORT
TOWN OF NEWBURGH & NEW WINDSOR
ORANGE COUNTY, NEW YORK

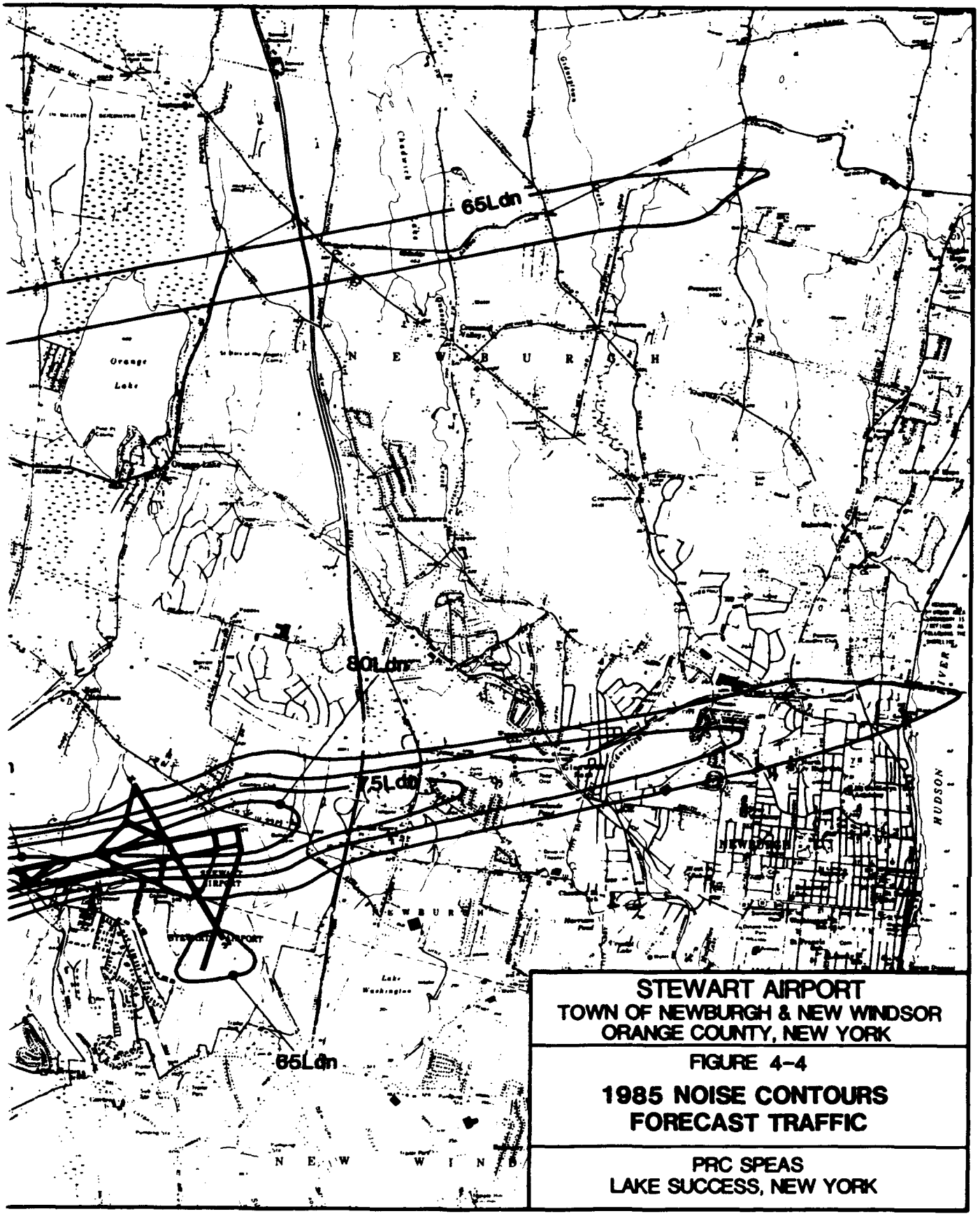
FIGURE 4-3

1982 NOISE CONTOURS
PROPOSED ANG AND USMC
AIRCRAFT ADDED

PRC SPEAS
LAKE SUCCESS, NEW YORK

2-82


WALDEN
M O N T G O M E R Y
RIVER
MONTGOMERY
Orange
Lake
80Ldn
N E W W I N D S O R
O M E R
65Ldn
70Ldn
N
0 2000 4000 6000 8000
SCALE IN FEET
E W W I N D S O R



STEWART AIRPORT
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ORANGE COUNTY, NEW YORK

FIGURE 4-4

1985 NOISE CONTOURS
FORECAST TRAFFIC

PRC SPEAS
LAKE SUCCESS, NEW YORK

2162

Table 4-6

NOISE CONTOUR AREA COMPARISONS
STEWART AIRPORT, NEWBURGH, NEW YORK
ALL VALUES IN ACRES

Ldn Noise Contour	1974 Actual	1982 Actual	1982 With ANG/USMC Aircraft	1985 Forecast
85	96	3	8	199
80	438	43	54	589
75	828	214	302	1,139
70	1,778	563	612	2,642
65	5,782	1,240	1,497	5,976
60	18,038	3,302	3,950	19,953

4.A.3.b Land Use Compatibility

Recommended land use compatibility standards are shown in Table 4-7. These guidelines are derived from Federal Aviation Regulations Part 150 which indicates recommended specifications for the interpretation of noise impacts using the Ldn system.

Land use compatibility impacts occurring before and after the introduction of ANG and USMC aircraft are relatively limited. The noise contours from Runway 16/34 and from helicopter operations (the impact area around the end of Runway 34) remain entirely on the Airport. Noise contours from the western end of Runway 9/27 remain on airport property by virtue of the extensive airport land holdings to the west. Thus, noise impacts off-airport are confined to a relatively limited area on the eastern approach to Runway 27.

A detailed map of this area has been included as Figure 4-5, and a tally of the area's impact is included as Table 4-8. As can be seen from inspection, the increases are limited, the worst being a 53 acre increase in the Ldn 65 contour.

Virtually all of the area impacted is in commercial zoning, consistent with an area located at the confluence of four major transportation routes: the New York State Thruway, Interstate 87; Interstate 84; New York State Route 17K; and New York State Route 38, Union Avenue. All commercial, business and industrial uses exposed to Ldn 70 and below are generally compatible. Only 37.6 acres off-airport are above Ldn 70 under existing conditions. This increases to 46.8 acres after the introduction of additional military activity. This area is primarily used as a golf course.

Other land uses found in the general vicinity include retail stores, restaurants, gas stations, hotels, trucking companies, a State maintenance yard, and scattered residential uses.

Table 4-7

LAND USE COMPATIBILITY WITH YEARLY DAY-NIGHT AVERAGE SOUND LEVELS

Land Use	YEARLY DAY-NIGHT AVG. SOUND LEVEL (LDN) IN DECIBELS					
	Below 65	65-70	70-75	75-80	80-85	Over 85
RESIDENTIAL						
Residential, other than mobile homes & transient lodgings	Y	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, 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(6)	Y(7)	Y(8)	Y(8)	Y(8)
Livestock farming & breeding	Y	Y(6)	Y(7)	N	N	N
Mining and fishing, resource production & extraction	Y	Y	Y	Y	Y	Y
RECREATIONAL						
Outdoor sports arenas and spectator sports	Y	Y(5)	Y(5)	N	N	N
Outdoor music shells, amphi-theaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N

Table 4-7 (Continued)

Land Use	YEARLY DAY-NIGHT AVG. SOUND LEVEL (LDN) IN DECIBELS					
	Below 65	65-70	70-75	75-80	80-85	Over 85
RECREATIONAL						
Amusement parks, resorts and camps	Y	Y	Y	N	N	N
Golf courses, riding stables and water recreation	Y	Y	25	30	N	N

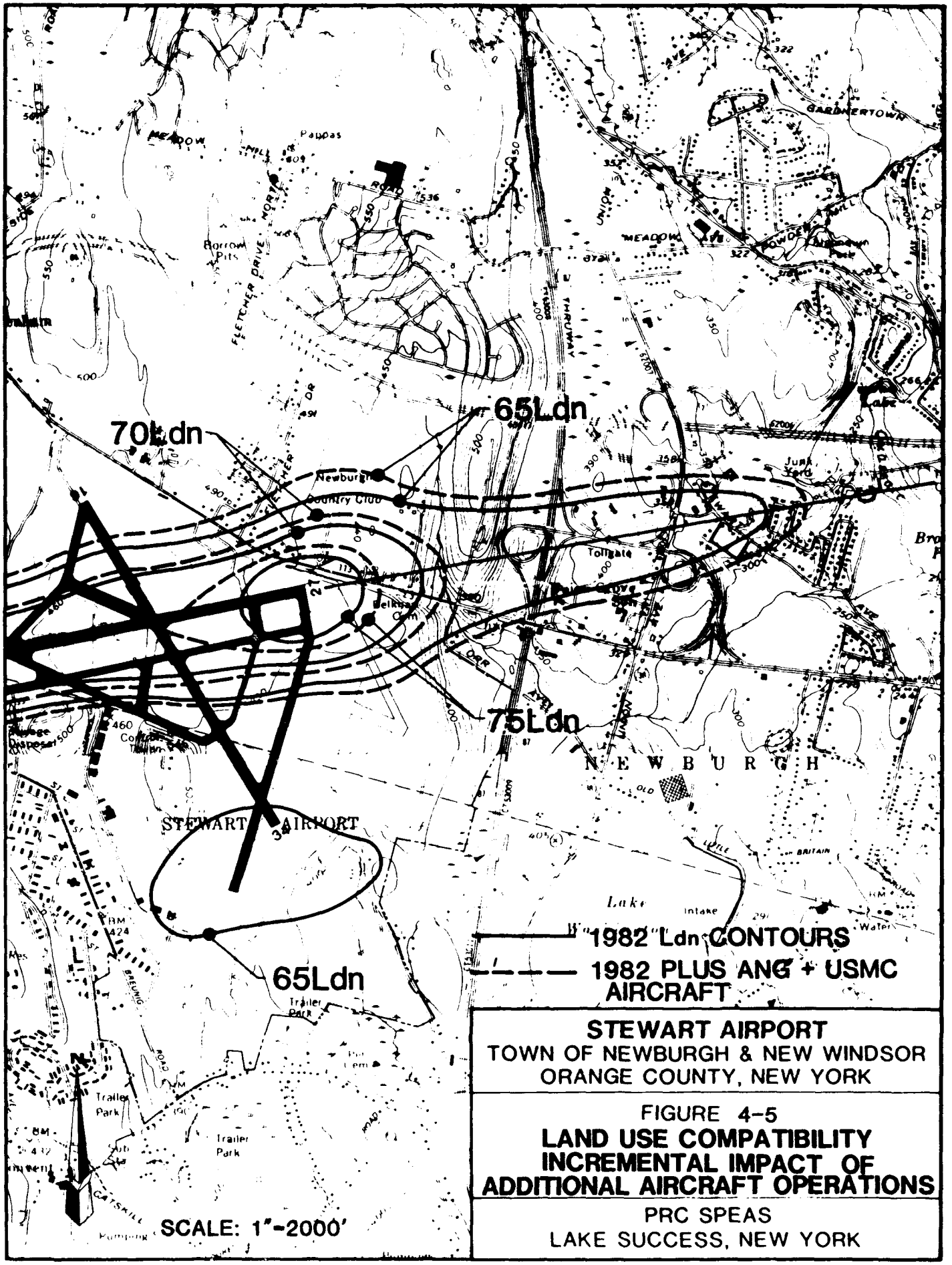
KEY

Y (Yes)	Land use and related structures compatible without restrictions.
N (No)	Land use and related structures are not compatible and should be prohibited.
NLR	Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25,30 or 35	Land use and related structures generally compatible, measures to achieve NLR of 25, 30 or 35 must be incorporated into design and construction of structure.

NOTES

(1) Where the community determines that residential uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal 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 NLR of 25 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 NLR of 30 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 NLR of 35 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) Land use compatible provided special sound reinforcement systems are installed.
(6) Residential buildings require an NLR of 25.
(7) Residential buildings require an NLR of 30.
(8) Residential buildings not permitted.

Source: Federal Aviation Regulations, Part 150



STEWART AIRPORT
TOWN OF NEWBURGH & NEW WINDSOR
ORANGE COUNTY, NEW YORK

FIGURE 4-5
LAND USE COMPATIBILITY INCREMENTAL IMPACT OF ADDITIONAL AIRCRAFT OPERATIONS

PRC SPEAS
LAKE SUCCESS, NEW YORK

Table 4-8

LAND USE IMPACTS
PROPOSED ANG AND USMC OPERATIONS AT STEWART AIRPORT
TOWN OF NEWBURGH, NEW YORK

Ldn Contour	Area Enclosed 1982 Traffic	Area Enclosed 1982 Traffic + ANG & USMC A/C	Increase
75	7.3 Acres	16.5 Acres	+9.2
70	37.6 Acres	46.8 Acres	+9.2
65	202.0 Acres	255.3 Acres	+53.3

There are two areas of zoned residential use in the vicinity, along Fletcher Drive and Stewart Avenue, both north of 17K. Approximately two acres of residential land is enclosed by the Ldn 65 contour under existing conditions. This is the southern end of Fletcher Drive. After the introduction of military traffic, this will increase to 3.6 acres. A second residentially zoned area along Stewart Avenue will be partially enclosed by the Ldn 65 contour after the projected increase in traffic. A total of 4.6 acres are effected in this area. Including scattered residential units located within the zoned business district, a total of 20-30 residential units will be impacted after the introduction of additional military activity.

It is appropriate to note that changes in aircraft traffic of this minor magnitude will not be readily perceived even by nearby residents as a major increase in the total noise burden, even though the presence of the aircraft themselves will be clearly evident.

4.A.4 Environmental Consequences - Species

According to the information provided to us in the 1977 EIS and the New York State Department of Environmental Conservation, the proposed Air National Guard's construction of support facilities and use of 747 and KC-130 aircraft should have no effect on the Resident Endangered or Threatened Species within the Airport and surrounding area.

The migratory species which have been sighted from the property and those which have been seen in the immediate vicinity will not be threatened since their critical habitat will not be destroyed.

If during any phase of the project should a siting occur of any of the species mentioned, we would recommend that adequate provisions be taken to assure protection of the species in cooperation with the New York State Department of Environmental Conservation.

4.A.5 Historical & Archaeological Sites

The proposed area to be used is located on the southeast corner of the Airport and encompasses an area of 220 acres. Any construction that will occur will incorporate the use of existing facilities by either reconstruction or repavement. There is a possibility of some land clearing taking place in the immediate vicinity of the project area. There will be no destruction of any historical or archaeological sites during the construction phase.

The military has been conscientious in the maintenance of refurbishment of existing historical structures at Stewart Airport. This represents an ongoing commitment to the wise use of available resources, a formal policy of good stewardship and a sensitivity to the historical roots of the community.

A comparison of the locations of historical sites in the area and the noise contour areas depicted in Figures 4-1 through 4-4 was accomplished. There is only one site within the noise impacted area defined. The Jonathan Belkap Cemetery lies at the eastern end of the Ldn 70 contour. Since this site is not actively used, the noise does not interfere with any current use. The nearest site to the noise contour area is the McGregor Stone House. It lies slightly outside the Ldn 65 contour, on the Airport, south of Runway 09/27 at the western extreme of the developed area. It is currently being refurbished for eventual residential use. Noise impacts from the operation of the Installation thus do not impact any noise sensitive activities at any of the many historical sites in the Airport vicinity.

4.A.6 Demographics and Socioeconomic Implications[1/]

The profile of Orange County presented in socioeconomic statistics shows an area that is a medium-size primary business area. Estimated 1982 employment is at 96,570 people, a slightly lower annual employment rate than New York State; and the median age is almost thirty-one years. Personal income per capita, a measure of real spending power, is lower in Orange County at $4,899 than in the rest of the nation. The economic base of the community is diversified. The 1980 labor force is separated into categories as follows:

Agriculture	2%
Construction	5%
Manufacturing	19%
Services	42%
Wholesale/Retail	20%
Public Administration	5%
Unemployed	7%

The 1980 number of reported construction employees in Orange County was 5,272. Even assuming the worst case situation, the increase in military personnel associated with changes at the ANG Base will be sufficiently small so as to be insignificant in relation to the existing conditions. Estimates of various impacts are calculated in this report to illustrate the magnitude of the change. The 105 MAG manning document states that the change in mission from O-2 aircraft to B747 will eventually result in an increase of 55 positions. In addition, it is expected that the U.S. Marine Corps unit will add 640 full- and part-time positions to the base. Two new support units will add 268 drill positions to the total. The stratification of proposed personnel requirements is as follows:

1/ U.S. Department of Commerce statistics.

PROJECTED PERSONNEL POSITIONS
ANG & USMC (INCLUDING 2 NEW SUPPORT UNITS)

	Officer	Enlisted	Total Positions	Calculated Avg.Salary	Computed Annual Income
Full-Time	41	400	441	$20,900	$ 9,216,900
Part-Time	182	1,110	1,292	3,000	3,876,000
Totals	223	1,510	1,733		$13,092,900

As shown, the full time . positions should add approximately $9,000,000 in salaries to the area. Reservist salaries cannot be considered as an expansion of the local economy because the part time personnel do not usually live in the immediate area. The approximately 441 full-time positions are equivalent to less than 0.2 percent of the present Orange County population. These personnel changes are not expected until at least 1984 or beyond.

One hundred sixty-four housing units are expected to be available on the base (USMCR), so that approximately 277 employees will be in need of housing. Three hundred fifty households represent approximately 0.3 percent of the existing number of households. Again, because of the small numbers and propensity of this area to adjacent metropolitan areas, impact in Orange County is expected to be minimal. The scope of change involved in the proposed change of mission for Stewart Airport is small enough not to overburden existing infrastructure; while stimulating the local economy enough to be considered a positive contribution to the community.

4.A.7 Proposed Construction

The construction program planned by the Air National Guard/U.S. Marine Corps at Stewart Airport is a three-phase project projected to take approximately three and one-half years with completion in 1986. New facilities are as follows:

- Jet Fuel Storage Tanks
- A Two-Bay Aircraft Maintenance Hangar
- Communication and Administration Facilities
- Fire Station
- Barracks Rehabilitation

The budget is scheduled at $74.9 million dollars. The large hangar is planned to occupy approximately 230,000 square feet. Construction materials will be obtained from existing suppliers in the area. The contractors will be required to operate in accordance with existing pollution control regulations, and provision will be included in the construction specifications to insure compliance with environmental control requirements including obtaining required permits.

Recommendations of the FAA as presented in Advisory Circular 150/5370-7, Airport Construction Controls to Prevent Air and Water Pollution will be included in the contract. The contractors will be required to maintain all excavations, embankments, haulroads, access roads, waste disposal areas, and all other work areas free from dust and other contaminants that could cause hazard to the work or to persons or property.

An analysis of the construction budget reveals that 400-450 construction jobs can be expected in any given year for the duration of the project. General construction guidelines suggest that fifty percent of a budget is ascribed to labor, while the other fifty percent is attributable to materials. Using this guideline, the following scenario for construction jobs emerges:

Fiscal Year	Budget	Labor	Jobs (Avg. $20,000)	
83/84	$29.7m	$19.85m	495	(1.5 years)
85	18.3m	9.15m	458	
86	16.4m	8.2m	410	

As mentioned previously, five percent of the local labor force is employed in construction with 5,272 jobs reported in 1980. Much of the employment will be contained within the community.

4.A.8 Ground Access

The Application for an Indirect Source Permit for Stewart Airport Runway Expansion (1978) done for the New York State Department of Environmental Conservation included extensive environmental studies relating to ground traffic. The results of this study demonstrate that even the volumes of traffic associated with commercial airline activity subsequent to a runway expansion would not exceed environmental standards for CO levels.

Under the proposed options, facility utilization at Stewart Airport will be reasonably consistent throughout the seven days of the week. Weekday operations will consist of a full time staff; and weekend activity will be comprised of a weekend influx of reserve personnel. Vehicular traffic at the base could be expanded by as much as 500 vehicle trips on weekdays and by approximately 350 vehicle trips on weekends. Although weekend traffic is substantial, arrivals and departures will be scattered over longer time intervals and it will not be compounded with rush hour peak volumes. For purposes of this study, it is assumed that each person movement will be represented by a vehicle trip because of the low usage of public transportation in the area.

As shown on the map in Figure 3-1, main access for the field is from Route 207 from the south. A proposed new entrance is on Route 17K, a northern airport boundary road. Since Routes 207 and 17K are both four-lane highways, an additional 1,000 vehicles (two directions) per day would be an acceptable level of traffic. Referring to the environmental studies done in 1977, the traffic counts were projected to be as high as 7,637 cars per day when a 1974 actual

traffic count was only 2,612. The 1,000 additional vehicles would be minor in relation to the capacity of the roadways with the greatest utilization. Some intra-base traffic can be expected, depending upon the location of living, dining, and other service areas. Alternative access roads within the Airport can also alleviate undue loading onto the major highways and should be considered in the construction plans.

On balance, additional traffic can be expected at peak rush hours on weekdays and at the commencement of the weekend meetings. But these loadings will not be critical to the ongoing flow of commerce in the airport area.

4.A.9 Toxic Materials and Ramp Area Operational Impacts

A variety of materials with varying levels of toxicity and potential environmental impact are generated by the operation of aircraft support facilities.

Hazardous waste materials include items such as chlorinated solvents trichloroethane, paint strippers and degreasers, hydrocarbon solvents, laquer thinners, and sludges. For all materials which fall into this category, special operating procedures are used to prevent any possibility of environmental contamination. This includes the construction of a shed or enclosed area with impervious flooring which can be kept secure. The Defense Logistics Agency will arrange to pick up these temporarily stored materials for safe disposal via a licensed and regulated private handler.

The site design will also include arrangements for the proper handling and disposal of contaminated water from such operations as engine maintenance, washing and degreasing. To accomplish this, drainage lines will be fitted with oil water separators and gates which can prevent or divert the flow of contaminated water.

Special consideration will be given to the design of the POL storage facility. It will be isolated from the surrounding area by a berm around the tanks of sufficient height to contain total potential spillage. Potential seepage into the ground will be prevented by the use of an impermeable barrier beneath the tanks. Monitoring equipment will also be installed to detect minor leakage so corrective action can be taken.

There will be a spill control and countermeasures plan. The hydrant fueling system proposed for installation is considerably less prone to mishap than are fueler trucks. However, spill prevention will continue to be an important consideration. Absorbent material will be kept on hand as part of implementation of the spill plan to control minor spillage. Temporary containments will be available to isolate given ramp areas to facilitate clean up of major spills.

4.A.10 Aesthetic Impacts

Plans and designs for the facility have yet to be prepared precluding an analytical review of aesthetics and appearance. It should be noted that the facilities will not be prominent from most public airport areas, but because of their mass and scale will require careful design to blend in with the surroundings. The facilities will be visible from a number of off-airport locations.

4B. Relationship of the Proposed Action and Objectives of Land Use Plans, Policies and Controls

This proposal is totally consistent with the fact that the basic land area which supports Stewart Airport was donated for that exclusive use by its former private owner. The proposal is consistent with State of New York goals for the improvement of Stewart Airport. It is clearly consistent with Federal programs and policies.

In terms of local land uses and the neighboring community administrations, the proposal is consistent with local zoning and expectations for land use in the Airport vicinity. It supports the local communities by generating additional economic activity, both primary and secondary. The proposal will not create any known conflicts with local plans, goals and objectives.

4C. Adverse Environmental Effects Which Cannot be Avoided Should the Proposal be Implemented

Implementation of the proposal will cause minor increases in cumulative aircraft noise in the Airport vicinity. It will create additional air pollutant loadings from both aircraft, construction, ground traffic, space heating and POL storage.

As a result of site construction, there may be some temporary increases in sedimentation and erosion in the drainage system which serves the site. Additional personnel will slightly increase the volumes of water consumed and sewage generated at the Airport.

There may be some minor clearing of marginal forest areas as a result of site preparation and the creation of a new access point.

In all cases these increases in impact are within the bounds of environmental impact defined in the approval process for prior proposals and environmental investigations.

4D. Relationship Between Short Term Use of Man's Environment and Long Term Productivity

Since implementation of the project will not displace any existing environmental assets or natural resources, there is no long term effect on environmental productivity.

4E. Irreversible and Irretrievable Commitment of Resources

The irreversible and irretrievable effects of the implementation of the proposed project are the construction materials involved, the human labor consumed in planning, design and construction, and the energy consumed during construction and operation.

The project generally makes wise use of an available site, serves important military objectives and furthers overall government intent. The irreversibility of the action thus represents a commitment to the future of the Airport, the military units involved, and the communities in the area.

5. LIST OF PREPARERS

****

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516/488-6930

Henry A.F. Young, AICP

Paul S. Puckli

Dorthy Gandee

Maria Ferri-Cousins

6. LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS RECEIVING DRAFT ASSESSMENT

****

1) Major William Steene
Base Civil Engineering
105th TASG
Building 105
Stewart Airport
Newburgh, New York
914/564-7841

2) Harold Lindenhofen
Air National Guard Protection Branch
ANGSC/DEV Stop 18
Andrews Air Force Base
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301/981-6691

3) Colonel Sam DeLitta
Headquarters
New York Air National Guard
Westchester County Airport
White Plains, New York 10604
914/946-9511

7. BIBLIOGRAPHY

****

1) Final Environmental Impact Statement, Proposed Runway Extension, Stewart Airport, Volumes 1, 2, and 3; Federal Aviation Administration; April 1977

2) Application for Indirect Source Permit for Stewart Airport Runway Extension; Metropolitan Transportation Authority; April 1978

3) FAA Order 1050.1C, Policies and Procedures for Considering Environmental Impacts

4) FAA Order 5050.4, The Airport Environmental Handbook

5) Compilation of Air Pollutant Emission Factors Including Supplement 1-13, Environmental Protection Agency

6) Environmental Assessment of Airport Development Actions, Report No. FAA-AP-77-1A, March 1977

7) Environmental Assessment - Relocation of 105 TASG to Stewart Airport, June 1982

8. AGENCY CONTACTS

****

George Danskin - DEC Region 3 - HQ 914/255-5453
Joel Hermes - DEC Region 3 - HQ 914/255-5453
Eric Waldron - Airport Manager 914/564-7000
Art Messer - Airport Security 914/564-7000
Caesar Manfredi - DEC Region 3 Suboffice 914/761-6661
Paul Cuomo - Town Engineer - Town of New Windsor 914/565-8803
Supervisor DiPetro - Town of New Windsor 914/565-8803
Harold E. Lindenhofen - Environmental Engineer - Air National Guard 301/981-6691
Major William A. Steene - 105th TASG/DE, Base Civil Engineer 914/564-7841

APPENDIX A

NOISE ABATEMENT PROCEDURES

STEWART AIRPORT

ORIGINAL
MARCH 1, 1981

NOISE REDUCTION PROGRAM

I. PURPOSE: To establish a Noise Reduction Program for Stewart Airport that will to the greatest extent possible, minimize aircraft generated noise to the communities surrounding the Airport.

II. SCOPE: This Operating Procedure applies to all Stewart Airport Traffic Control Tower (ATCT) personnel, and Air Crew members operating turbo-jet aircraft at Stewart Airport. Procedures herein contained are supplemental to all Federal Aviation Administration Noise Abatement Procedures and Policies.

III. OBJECTIVES:

A. To establish a "Runway Use" program for turbo-jet aircraft.

B. To establish traffic patterns and use of selected lighting aids for Noise Abatement for arriving turbo-jet aircraft.

C. To establish Noise Abatement procedures for departing turbo-jet aircraft.

IV. RESPONSIBILITIES:

A. Airport Traffic Control Tower (ATCT) is responsible for:

1. Selecting runways and traffic patterns, and operating specified lighting aids for all turbo-jet aircraft operations at the Airport in accordance with this Operating Procedure.

2. Delivering to pilots not familiar with the Noise Abatement procedures for the Airport the appropriate procedure for the runway he is departing on.

V. PROCEDURES:

A. Runway Use Program: When winds are fifteen (15) knots or less turbo-jet aircraft operations shall be conducted as specified below:

1. Departures: Runway 27.

2. Arrivals: Runway 9.

3. On a restricted basis a runway other than specified above may be approved under the following conditions:

a) Requested by a pilot for a valid operational reason.

b) Initiated by the ATCT Local Controller for an operational advantage to maintain a safe, orderly, and expeditious flow of air traffic.

B. Arrivals: (See attachment #1)

1. Lighting Aids: Visual Approach Slope Indicator (VASI) shall be operated on each runway so equipped for each arrival on that runway by a turbo-jet aircraft.

2. Traffic Patterns (Turbo-jet Aircraft):

a) Altitude: 1,500 feet AGL or higher. 2000' MSL

b) Direction:

1) Runways 16 and 27: Right traffic.
2) Runways 9 and 34: Left Traffic.

c) Downwind Leg Runway 9/27: Should be flown approximately 2½ to 3 miles north of the Airport.

1) Visual Reference Point: Orange Lake is approximately 2½ to 3 miles north of the Airport.

C. Departures: (See attachment #2)

Unless otherwise specified in an instrument departure clearance, each departing turbo-jet aircraft shall follow the procedure outlined below for the departing runway:

1. Runway 9: Climb on runway heading to at least one-thousand five hundred (1500) feet AGL and begin a left turn at least one (1) mile east of the Airport and prior to three (3) miles east of the Airport.

a) Visual Reference Points:

1) One (1) Mile East of Airport: The interchange of New York State Thruway (Interstate 87) and Interstate 84.

2) Three (3) Miles East of Airport: Large white water tower located on the north side of Interstate 84.

2. Runway 27: Climb on runway heading to at least one thousand five hundred (1,500) feet AGL and begin either a left or right turn out of traffic prior to reaching five (5) miles west of the Airport

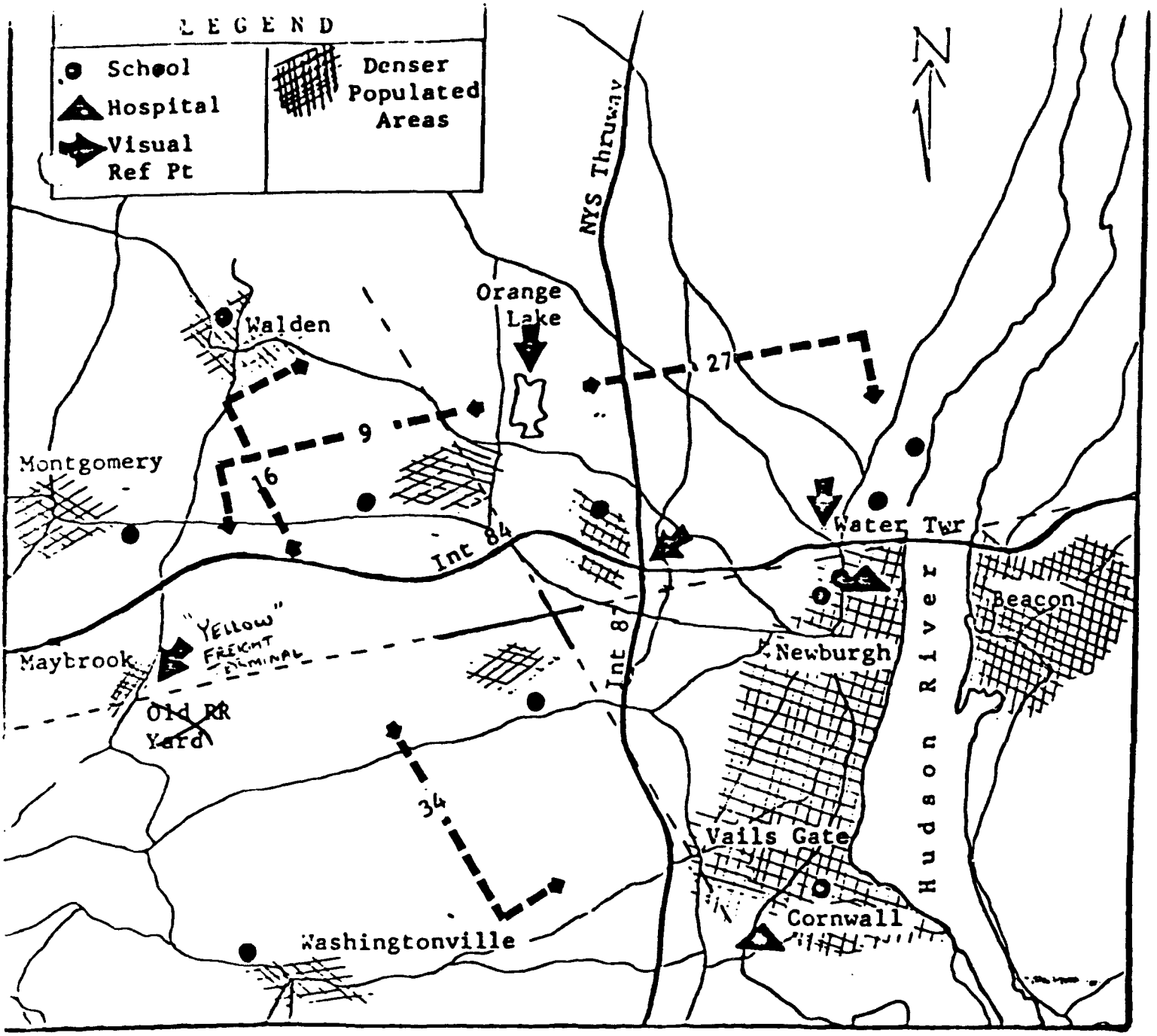
a) Visual Reference Point: Old railroad yard at Maybrook is approximately 4½ miles west of Airport.

3. Runway 34: Climb on runway heading to at least one thousand five hundred (1,500) feet AGL and make either a left or right turn out prior to five (5) miles or continue straight ahead.

4. Runway 16: Climb on runway heading to at least one thousand five hundred (1,500) feet AGL and make a right turn out prior to five (5) miles south of the Airport.

VI. POLICY: The Airport Manager and the Operations Staff shall maintain a continuous monitor and review of these procedures to insure compliance by all concerned, and shall take appropriate action when deemed necessary in cases of non-compliance. To assist air crew members the Airport will prepare and distribute in brochure form the Noise Reduction Program information as contained in Attachments #1 and #2. Procedures contained in this Operating Procedure shall be periodically reviewed with the FAA, air crew members, ATCT personnel, and other agencies as necessary for possible revisions.

Attachments (2)



S T E W A R T A I R P O R T , N Y
Noise Reduction Program
Arrivals

Lighting Aids: Runways 9, 27 and 34 are equipped with Visual Approach Slope Indicators(VASI) and shall be operated for each turbo-jet arrival.

Traffic Patterns: (Turbo-jet Aircraft)

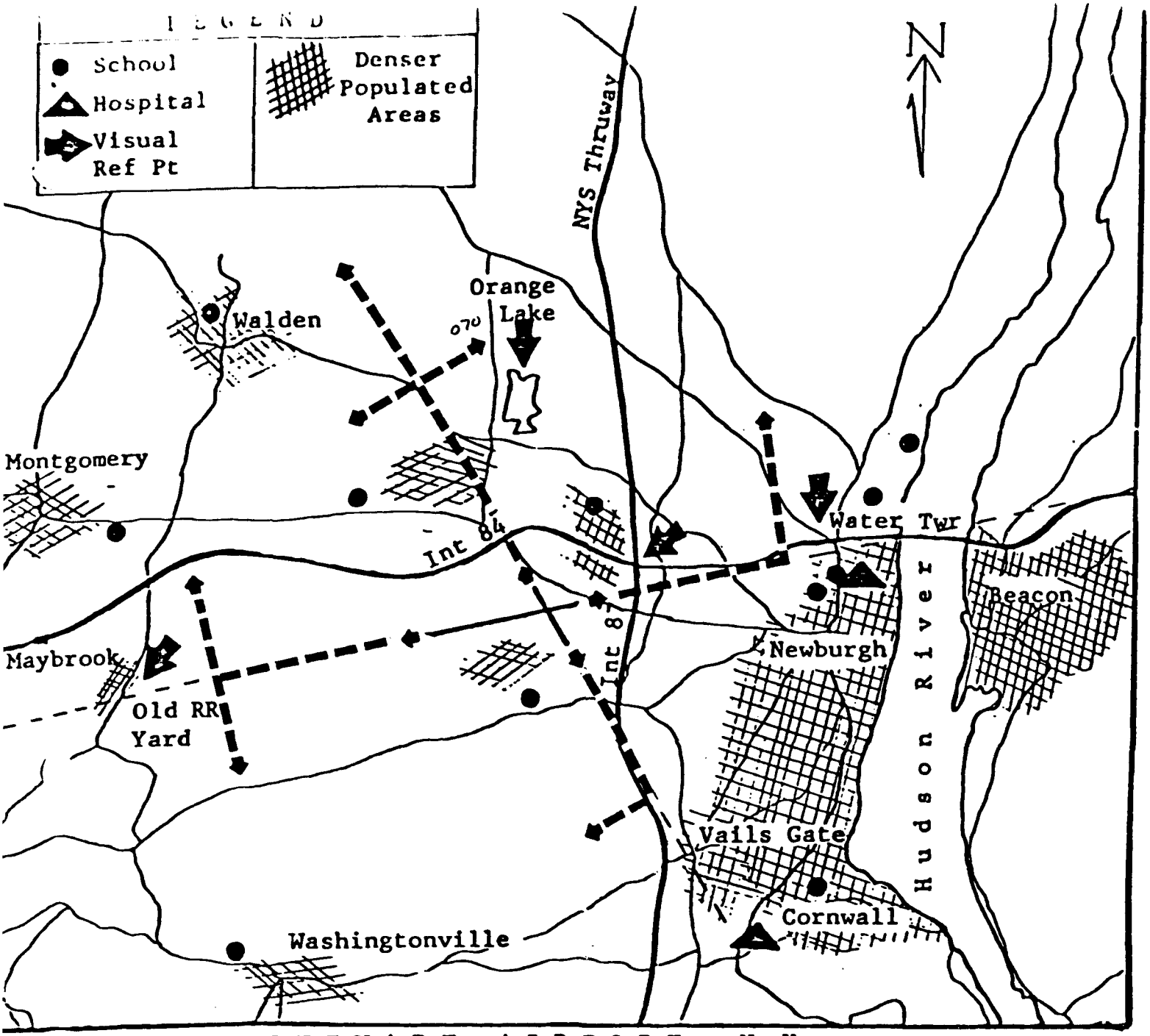
Altitude : 1,500 feet AGL or higher.

Direction: Right Traffic: Runways 16 and 27.
Left Traffic : Runways 9 and 34.

Downwind Leg for Runways 9 and 27 should be flown approximately 2½ miles north of Airport.

Visual Reference Point: Orange Lake is approximately 2½ miles north of Airport.

Attachment #1,Operating Procedure 7-4, 3/1/81



S T E W A R T A I R P O R T , N Y

Noise Reduction Program

Departures

Unless otherwise specified in an instrument departure clearance each departing Turbo-jet aircraft shall follow the procedures below:

Runway 9: Climb on runway heading to at least 1500 feet AGL and begin left turn at least 1 mile east and prior to 3 miles.

Runway 27: Climb on runway heading to at least 1500 feet AGL and make either a left or right turn out prior to 5 miles.

Runway 34: Climb on runway heading to at least 1500 feet AGL and make either a left or right turn out prior to 5 miles or continue straight ahead.

Runway 16: Climb on runway heading to at least 1500 feet AGL and make a right turn out prior to five miles south.

Visual Reference Points: 1 Mile East: Intersection I84 & I87.

3 Miles East: White Water Tower. 4½ West: Old Railroad Yard.

Attachment #2, Operating Procedure 7-4, 3/1/81

APPENDIX B

LOCAL, RARE AND ENDANGERED SPECIES

New York State Department of Environmental Conservation
21 South Putt Corners Road, New Paltz, New York 12561

Henry G. Williams
Commissioner

August 26, 1983

PRC Speas
Division of PRC Engineering
3003 New Hyde Park Road
Lake Sucess, New York 11042

Attention: Maria D. Ferri

Dear Ms. Ferri:

Enclosed is a copy of the current list of Endangered and Threatened Species for New York State.

A review of our Significant Habitat files revealed no records of Resident Endangered or Threatened Species within your project area.

Migratory Species such as Northern Harriers have been recorded from the property and Osprey have been seen in the immediate vicinity.

Sincerely,

Joel L. Hermes

Joel L. Hermes
Conservation Biologist/Wildlife
Region 3

dn-h

enc.

New York State Department of Environmental Conservation

MEMORANDUM

TO: Wildlife Managers
FROM: Mary Kerwin - Regulatory Coordinator - Div. of Fish & Wildlife - Rm 522
SUBJECT: Endangered & Threatened Species Regulation

DATE: May 10, 1983

Attached are copies of 6 NYCRR 182 "Endangered and Threatened Species of Fish and Wildlife; Species of Special Concern" as adopted on April 12, 1983 to be effective 60 days after filing (June 11, 1983).

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CERTIFICATE OF ADOPTION
AGENCY ACTION: 6 NYCRR 182

Pursuant to the provisions of 11-0535(1) and (2) and subdivisions 11-0536(2), (3) and (4) of the Environmental Conservation Law, I, Henry G. Williams, Commissioner of Environmental Conservation, do hereby Order that 6 NYCRR 182 is amended, to read as on the attached original, and certify that this is the original thereof, as adopted on April 12, 1983, to be effective 60 days after filing, and further certify that prior notice as required under the State Administrative Procedures Act was published in the State Register on February 9, 1983.

HENRY G. WILLIAMS
Commissioner of Environmental Conservation

DATED: Albany, New York
April 12, 1983

New York State Department of Environmental Conservation
Wolf Road, Albany, New York 12233

Henry G. Williams
Commissioner

April 12, 1983

State Register/Compilation Unit
New York State Department of State
162 Washington Avenue
Albany, New York 12231

With this letter are transmitted the Certificate of Adoption, Express Terms, and Notice of Agency Action for the amendment of 6 NYCRR 182.

Please enter this action in the Secretary of State's official records and transmit the Notice and supporting materials to the State Register for publication.

Sincerely,

Thomas A. Olasewicz
Civil Counsel

Enclosures
cc: Deputy Commissioner/General Counsel
Director, Fish & Wildlife, ATTN: M. Melvin
6 NYCRR 182 file

Express Terms

Amend Part 182 of Title 6 NYCRR entitled, "Traffic in Endangered Species of Fish and Wildlife" to read as follows:

Repeal Title and old section 182.1 and adopt new title and section 182.1 to read as follows:

Part 182 "Endangered and Threatened Species of Fish and Wildlife; Species of Special Concern"

182.1 DEFINITIONS:

(a) "Commissioner" means the Commissioner of the Department of Environmental Conservation.

(b) "Department" means the Department of Environmental Conservation.

(c) "Species" means any species or subspecies of fish or wildlife and any distinct population segment of any such species which interbreeds when mature.

(d) "Native" means any species which spends some portion of its life cycle within New York State, has occurred here on a regular basis for many years, and was not intentionally or accidentally released into New York. A species is also considered native if it formerly met the conditions of this definition.

(e) "Extinct" means species no longer living or existing.

(f) "Extirpation" means not extinct, but no longer occurring in a wild state within New York, or no longer exhibiting patterns of use traditional for that species in New York (e.g., historical breeders no longer breeding here).

(g) "Endangered species" are any species which meet one of the following criteria:

(1) Are native species in imminent danger of extirpation or extinction in New York.

(2) Are species listed as endangered by the United States Department of Interior in the Code of Federal Regulations (50 CFR 17.11).

(h) "Threatened Species" are any species which meet one of the following criteria:

(1) Are native species likely to become an endangered species within the forseeable future in New York.

(2) Are species listed as threatened by the United States Department of the Interior in the Code of Federal Regulations (50 CFR 17.11).

(i) "Species of Special Concern" are any native species for which a welfare concern or risk of endangerment has been documented by the Department.

Amend sections 182.2 and 182.3 to read as follows:

182.2 Prohibitions. No person shall, except under permit from the department or as provided in Section 182.4 of this Part with respect to alligator, caiman or crocodile, take, import, transport, possess or sell any endangered or threatened species of fish or wildlife, or any part thereof, or sell or possess with intent to sell any article made in whole or in part from the skin, hide or other part of such species unless such species, hide or part thereof was in the possession of such person on or before the date such species was designated as endangered or threatened by the Secretary of the Interior or

the department, and such possession must be evidenced by such legal proof as may be required by the commissioner. The transfer or sale of any skin, hide or part of such species lawfully possessed may be continued under permit from the department, provided the person or concern holding such inventory for transfer or sale submits to the department an affidavit unequivocally stating that such inventory was acquired prior to the date such species was designated as endangered or threatened by the Secretary of the Interior or the department, the inventory is listed in sufficient detail to permit its identification, and the inventory is labeled in accordance with procedures established by the department.

182.3 License or permit. The department may, at its discretion, issue a license or permit to a person to take, transport, sell, import and/or possess endangered or threatened species of fish and wildlife for purposes it deems legitimate. Such license or permit shall state the species to which it applies and any other conditions the department may deem appropriate.

(Section 182.4 remains unchanged)

Adopt new section 182.5 to read as follows:

182.5 Endangered species, threatened species and species of special concern.

(a) Those endangered species which meet one or both of the criteria specified in subdivision (g) of section 182.1 of this part and which are found, have been found, or may be expected to be found in New York State include:

(1) Molluscs

(i) Chittenango Ovate Amber Snail** "Succinea chittenangoensis"

(2) Insects

(i)	Karner Blue Butterfly**	"Lycaeides melissa"

(3) Fish

(i)	Shortnose Sturgeon*	"Acipenser brevirostrum"
(ii)	Longjaw Cisco*	"Coregonus alpenae"
(iii)	Round Whitefish	"Prosopium cylindraceum"
(iv)	Pugnose Shiner	"Notropis anogenus"
(v)	Eastern Sand Darter	"Ammocrypta pellucida"
(vi)	Bluebreast Darter	"Etheostoma camurum"
(vii)	Gilt Darter	"Percina evides
(viii)	Blue Pike*	"Stizostedion vitreum glaucum"
(ix)	Spoonhead Sculpin	"Cottus ricei"
(x)	Deepwater Sculpin	"Myoxocephalus thompsoni"

(4) Amphibians

(i)	Tiger Salamander	"Ambystoma tigrinum"

(5) Reptiles

(i)	Bog Turtle*	"Clemmys muhlenbergi"
(ii)	Leatherback Sea Turtle*	"Dermochelys coriacea"
(iii)	Hawksbill Sea Turtle*	"Eretmochelys imbricata"
(iv)	Atlantic Ridley Sea Turtle*	"Lepidochelys kempii"
(v)	Massasauga	"Sistrurus catenatus"

(6) Birds

(i)	Golden Eagle	"Aquila chrysaetos"
(ii)	Bald Eagle*	"Haliaeetus leucocephalus"
(iii)	Peregrine Falcon*	"Falco peregrinus"
(iv)	Eskimo Curlew*	"Numenius borealis"
(v)	Least Tern	"Sterna albifrons"
(vi)	Roseate Tern	"Sterna dougallii"
(vii)	Loggerhead Shrike	"Lanius ludovicianus"

(7) Mammals

(i)	Indiana Bat*	"Myotis sodalis"
(ii)	Sperm Whale*	"Physeter catodon"
(iii)	Sei Whale*	"Balaenoptera borealis"
(iv)	Blue Whale*	"Balaenoptera musculus"

(v)	Finback Whale*	"Balaenoptera physalus"
(vi)	Humpback Whale*	"Megaptera novaeangliae"
(vii)	Right Whale*	"Balaena glacialis"
(viii)	Gray Wolf*	"Canis lupus"
(ix)	Cougar*	"Felis concolor"

(b) Those threatened species which meet one or both of the crit ria specified in subdivision (h) of section 182.1 of this part and which are found, have been found, or may be expected to be found in New York State include:

(1) Fish

(i)	Lake Sturgeon	"Acipenser fulvescens"
(ii)	Mooneye	"Hiodon tergisus"
(iii)	Lake Chubsucker	"Erimyzon sucetta"
(iv)	Mud Sunfish	"Acantharchus pomotis"
(v)	Longear Sunfish	"Lepomis megalotis"

(2) Amphibians

(i)	Cricket Frog	"Acris crepitans"

(3) Reptiles

(i)	Mud Turtle	"Kinosternon subrubrum"
(ii)	Blanding's Turtle	"Emydoidea blandingi"
(iii)	Loggerhead Sea Turtle***	"Caretta caretta"
(iv)	Green Sea Turtle***	"Chelonia mydas"
(v)	Timber Rattlesnake	"Crotalus horridus"

(4) Birds

(i)	Osprey*	"Pandion haliaetus"
(ii)	Red-shouldered Hawk	"Buteo lineatus"
(iii)	Northern Harrier	"Circus cyaneus"
(iv)	Spruce Grouse	"Dendragapus canadensis"
(v)	Piping Plover	"Charadrius melodus"
(vi)	Common Tern	"Sterna hirundo"

(5) Mammals

(i)	Eastern Woodrat	"Neotoma floridana"

(c) The following are designated as species of special concern:

(1) Fish

(i)	Silver Chub	"Hybopsis storeriana"

(ii)	Gravel Chub	"Hybopsis x-punctata"
(iii)	Blackchin Shiner	"Notropis heterodon"
(iv)	Black Redhorse	"Moxostoma duquesnei"
(v)	Longhead Darter	"Percina macrocephala"
(2)	Amphibians	
(i)	Southern Leopard Frog	"Rana sphenocephala"
(ii)	Hellbender	"Cryptobranchus alleganiensis"
(iii)	Jefferson Salamander	"Ambystoma jeffersonianum"
(iv)	Blue-spotted Salamander	"Ambystoma laterale"
(v)	Spotted Salamander	"Ambystoma maculatum"
(3)	Reptiles	
(i)	Spotted Turtle	"Clemmys guttata"
(ii)	Wood Turtle	"Clemmys insculpta"
(iii)	Diamondback Terrapin	"Malaclemys terrapin"
(iv)	Worm Snake	"Carphophis amoenus"
(v)	Eastern Hognose Snake	"Heterodon platyrhinos"
(4)	Birds	
(i)	Common Loon	"Gavia immer"
(ii)	Least Bittern	"Ixobrychus exilis"
(iii)	Cooper's Hawk	"Accipiter cooperii"
(iv)	Black Rail	"Laterallus jamaicensis"
(v)	Upland Sandpiper	"Bartramia longicauda"
(vi)	Black Tern	"Chlidonias niger"
(vii)	Common Barn-Owl	"Tyto alba"
(viii)	Short-eared Owl	"Asio flammeus"
(ix)	Common Nighthawk	"Chordeiles minor"
(x)	Common Raven	"Corvus corax"
(xi)	Sedge Wren	"Cistothorus platensis"
(xii)	Eastern Bluebird	"Sialia sialis"
(xiii)	Henslow's Sparrow	"Ammodramus henslowii"
(xiv)	Grasshopper Sparrow	"Ammodramus savannarum"
(xv)	Vesper Sparrow	"Pooecetes gramineus"
(5)	Mammals	
(i)	Small-footed Bat	"Myotis leibii"
(ii)	New England Cottontail	"Sylvilagus transitionalis"
(iii)	Harbor Porpoise	"Phocoena phocoena"

*Original listing date of these species 30 March 1971.
**Original listing date of these species 1 April 1977.
***Original listing date of these species as designated by the Secretary of Interior, 28 July 1978.
Original listing date of all other species (no asterisk) 60 days after date of filing.

APPENDIX C

105TH TACTICAL AIR SUPPORT GROUP HISTORY

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105TH TACTICAL AIR SUPPORT GROUP HISTORY

The present 137th Tactical Air Support Squadron is a direct descendent of the 137th Fighter Squadron which was constituted on August 2, 1942. It was activated on August 10, 1942 at Hunter Field in Savannah, Georgia. During World War II, the unit participated in the air offensive in Europe and was awarded a Distinguished Unit Citation by the War Department. The unit was inactivated at the close of the war. The unit designation was transferred to the New York Air Guard and reactivated in May 1948 at the State Armory in White Plains. Most administrative personnel remained there until the first permanent building was finished at Westchester County Airport in the early 1950s. During World War II, the only use made of the airport was as an aircraft refueling and transfer point and no permenant facilities were used.

From the activation in 1948 until 1961, the unit flew P-47 Thunderbolts, F-51 Mustangs, F-94 Starfires, and F-86 Sabrejets. In 1957, the squadron was expanded to form the 105th Fighter Group assigned to the Air Defense Command. The new Group contained an Air Base, Maintenance, and Supply Squadrons, and a Dispensary. In May 1958, the Group was redesignated as the 105th Tactical Fighter Group.

February 1961 marked the start of the 105th's association with the Military Airlift Command. The 137th converted to flying the C-119 Flying Boxcar and the Group became the 105th Aeromedical Transportation Group. Starting in December 1962, the C-119 was exchanged for the C-97 Stratofreighter. In January 1964, the Group was reorganized into the 105th Air Transport Group (H), although the Aeromedical Flight remained as a secondary mission.

In March 1970, the 105th changed again to become the 105th Tactical Air Support Group and became part of the Tactical Air Command. The interim Cessna U-3 was shortly replaced with the O-2A Super Skymaster direct from the manufacturer. Later aircraft from the Vietnam conflict were added to make up the allocated number. From 1975 through July 1979, the 105th Group was reorganized into a Wing. During this time, the unit received the Air Force Outstanding Unit Award. Since becoming a part of the Tactical Air Command, the unit has also taken the New York State Governor's Trophy, as the State's outstanding flying unit, more than one half of the years.

By the end of the 1970's decade, it became apparent that the facility at Westchester Airport was not large enough to support a conversion to a new aircraft or mission. The State's Division of Military and Naval Affairs started negotiations with National Guard Bureau to relocate the unit. As a result, USAF and the Air National Guard approved a unit relocation to Stewart Airport at Newburgh, New York. This move takes advantage of the excellent airfield facilities at Stewart, which was an active Air Force Base through 1969.