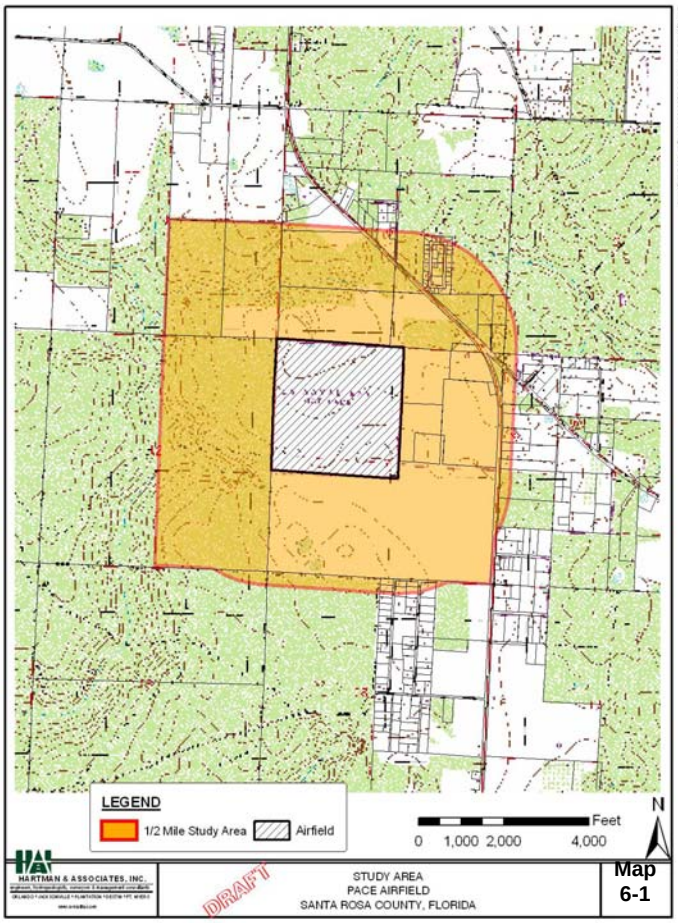
CHAPTER 6
NOLF PACE JLUS



Executive Summary

Primary Airfield Use	Rotary-wing (helicopter) TH-57 aircraft supporting flight training for NAS Whiting Field	
Airfield Capability	Grass airfield. No paved landing pads or runways Emergency response crews on-site only during scheduled operations	
Time of Use	Daylight hours only; year-round	
Other Uses	Field occasionally used by model airplane organizations, when approved by NAS Whiting Field.	
Planned Uses	Same as current use. Possible Night Vision Goggle (NVG) Training Site	
Study Area Population	**Current** 116	**Potential** 1,920

Study Area Issues and General Recommendations

Areas surrounding NOLF Pace currently retain a rural character. However, residential development has encroached into areas located in and adjacent to the northeast and southeast corners of the Pace Study Area. Unfortunately, these areas are occupied by the current overflight paths of entry and departure flights for NOLF Pace. Only one occupied residential parcel occurs within the APZ and Noise Zone near the southeast corner of the airfield.

Recommendations for NOLF Pace emphasize use of a clustering development away from NOLF Pace and its Study Area and acquisition of strategic properties.

Chapter Contents

Note: with exception to Map 6-1 above, maps referenced in this chapter are placed in Appendix 6A, located in the back of this chapter.

SECTION 1
INTRODUCTION AND STUDY BACKGROUND

1.1 Study Purpose

In 1973, the United States Department of Defense (DoD) created the Air Installation Compatible Use Zones (AICUZ) program to encourage local governments to manage growth and development in a manner compatible with present and future military installation operations. The program evaluates existing land uses, identifies potential conflicts between growth and military operations, and offers recommendations for compatible growth patterns. Program emphasis is placed on areas most susceptible to noise impacts and safety concerns associated with military operations. To accomplish this program objective, noise contours and accident potential zones have been established for all military airfields, including Naval Air Station (NAS) Whiting Field (North and South) and its fourteen Navy Outlying Landing Fields (NOLFs), which includes NOLF Pace.

The Commanding Officer at NAS Whiting Field recognizes that any successful plan to realize compatible growth near airfields requires involvement by the Santa Rosa County Board of County Commissioners (BCC). While NAS Whiting Field can manage military activity at its airfields, the BCC holds authority to manage land use and development on properties outside of military installations and within unincorporated Santa Rosa County. By working together, mutually acceptable growth management strategies can be developed to avoid conflicts between NAS Whiting Field's objectives and Santa Rosa County's desired growth patterns and quality of life.

This joint endeavor involves a two-step process. Once a joint land use study (JLUS) has identified compatible land uses and growth management guidelines, the second step will involve formulation of specific development regulations and land management implementation programs. This report addresses the first step -- a joint land use study. All together, a JLUS has been prepared for seven (7) US Navy (USN) airfields (North and South combined) and the County Airport, Peter Prince Field. These eight (8) separate and distinct studies comprise the Santa Rosa JLUS. The seven (7) USN installations evaluated in the Santa Rosa JLUS are NAS Whiting Field (North and South) and six (6) of its fourteen (14) outlying landing fields – NOLFs: Pace, Harold, Holley, Choctaw, Santa Rosa, and Spencer. This chapter addresses only NOLF Pace and non-military lands within its study area.

1.2 NOLF Pace Location

NOLF Pace is located immediately west of the intersection of Willard Norris Road (County Road 191) and Chumuckla Highway (County Road 197). This airfield lies ten miles directly west of NAS Whiting Field. The general location of NOLF Pace as well as its proximity to other airfields in Santa Rosa County is shown in Map 1-1 of Chapter 1.

The US Navy organizes air space into operational "areas" within the Federal Aviation Administration (FAA) designated Alert Area 292 airspace. NOLF Pace is located in Area 3H of Alert Area 292. The boundaries of Alert Area 292 and Area 3H appear in Map 6-2. Area 3H is primarily allocated for helicopter use.

1.3 Pace Study Area

The study area boundaries for NOLF Pace JLUS (hereafter Pace Study Area) are illustrated on Map 6-1, which is located in the first page of this chapter. The Pace Study Area covers 1,231 acres while military–owned property comprising NOLF Pace contains 207 acres, or 14% of the total study area. All property within the Pace Study Area is situated within unincorporated Santa Rosa County and not within any municipal boundaries.

The Pace Study Area includes all areas within Accident Potential Zones or located within Noise Level Contours established by the existing Air Installation Compatibility Use Zones (AICUZ) study for NOLF Pace. To take into consideration lands outside the AICUZ that may also be affected by military operations, study boundaries were expanded to encompass non-military lands generally located within one-half mile from the airfield.

The NOLF Pace JLUS presented in this chapter emphasizes evaluation of non-military lands within the study area boundaries. The study area consists of three components – Accident Potential Zones, Noise Zones, and non-military lands. Each component is a separate entity and overlaps with portions of the other components. Acreage for the Pace Study Area is shown in Table 6-1 according to these study area components. Note that acreage for the total study area will not equal a summation of its components. This anomaly occurs because some areas in the Noise Level Zone overlap with the Accident Potential Zone, creating a double counting of acreage if sub-categories are added together.

Table 6-1
Study Area Components

Study Area Component	Acres
Total Study Area (Map 6-1)	*1,231*
Non-Military Property	*1,024*
Noise Level Zone (Current)	141
Clear Zone/Accident Potential Zone	
Clear Zone "A"[1]	0
APZ-I "B"	92
APZ-II "C"[2]	0
Military	*207*

[1]All Clear Zone "A" boundaries occur on NOLF Pace property.
[2]No non-military lands surrounding NOLF Pace qualify for APZ-II "C" designation

A. **Clear Zones (Helicopters).** Aviation history has demonstrated that property along primary flight paths and immediately beyond the ends of runway have a higher potential exposure to aircraft accidents than areas further out from an airfield. The takeoff safety zone for Visual Flight Rules (VFR) rotary-wing facilities shall be used as the clear zone. The takeoff safety zone is that area that is under the VFR approach/departure surface until that surface is 50 feet above the established landing area elevation. The Clear Zone is an area that possesses a high potential for accidents and is usually part of the airfield. For the NOLF Pace JLUS, and for ease of reading maps, the Clear Zone designated area "A". All portions of the Clear Zone are located within the boundaries of NOLF Pace.

B. **Accident Potential Zones (Helicopters).** Beyond the Clear Zone is an area along the flight path that possesses a significant potential for accidents. Created as part of the AICUZ program, Accident Potential Zones (APZ) are intended to delineate areas exposed to higher risk for accident occurrences. Intended to serve as guidelines only, APZs function to heighten the general public's awareness to areas exposed to potentially higher risks. They also help local governments to identify where to direct zoning regulations and land use standards designed to reduce potential conflicts between airfield operations and civilian populations.

APZ's are divided into two designations based on accident potential. APZ-I is the area beyond the clear zone for the remainder of the approach/departure zone, which is defined as the area under the VFR approach/departure surface until the surface is 150 feet above the established landing area elevation. This zone is labeled area "B". While a portion of APZ-I lies within the boundaries of NOLF Pace, most is situated over non-military property adjacent to the field boundary.

APZ-II is normally not applied to flight paths unless local accident history exhibits a need for additional caution.

Maps placed in Appendix 6A delineate boundaries of the Clear Zones and APZ-I's in relationship to NOLF Pace and adjacent non-military property.

NOLF Pace operates solely for rotary-wing (i.e., helicopter) aircraft. While fixed-wing aircraft must use runways for landing and take-off, helicopters typically arrive or depart an airfield facing the direction of the wind. Flight paths for helicopters taking-off or landing will vary, then, based on wind direction as well as air traffic. To accommodate aerodynamic requirements for safe helicopter aviation, separate point for entry and departure have been established for NOLF Pace. There are several designated flight paths (cardinal headings of 090, 180, 270, and 360). These flight paths were established based on normal weather and wind conditions. Because wind direction often deviates from prevailing trends, helicopter flight paths will also adjust flight patterns.

C. **Noise Level Zone.** In addition to addressing safety concerns, the AICUZ also addresses noise exposure over non-military lands near military installations. Noise exposure can create conflicts with public welfare and quality of life for those living or working near airfields. For the NOLF Pace JLUS, noise level contours extending from the airfield are incrementally measured from the highest typical decibels (dB) generated within a military installation to 50 dB within non-military property. Within the Pace Study Area, non-military lands inside the 50 dB contour are referred to as the Noise Zone. Maps placed in Appendix 6A delineate noise contours associated with NOLF Pace. The outer-most noise contour represents the boundary for the Noise Zone.

Noise direction and impacts change with wind and weather conditions. Similar to aircraft operational conditions described above for APZs, helicopters must face oncoming wind to create optimal conditions for safe take-off and landing. Subject to aerodynamic wind effects, landing and take-off flight paths for helicopters experience wider variations than flight paths for fixed-wing aircraft, which must be aligned with a runway. Helicopter approach and departure to and from an airfield follow pre-determined flight paths referred to as the "normal flight path." Deviation from a

normal helicopter flight path occurs to take advantage of safer flight patterns created by wind direction or to accommodate air traffic in pattern at or near the airport. Noise patterns for helicopters will change with flight patterns, which can vary for the dynamic conditions stated. A Noise Zone for helicopters must allow for more flexibility than that for fixed-wing aircraft because of aerodynamic and safety requirements.

SECTION 2
AIRFIELD OPERATIONS AND NAVY GROWTH OBJECTIVES

This section inventories and analyzes current air and ground operations performed at NOLF Pace. Any current conflicts with military operations, whether air or ground, are also identified and described.

2.1 Airfield Use and Mission – Current and Future

One of fourteen NOLFs supporting NAS Whiting Field, NOLF Pace sole military use is for helicopter primary flight training conducted by NAS Whiting Field. Ground operations at this airfield are primarily limited to emergency response crew, referred to as crash crews by the Navy, when flight-training exercises occur at NOLF Pace. Ground crews return to their home station at NAS Whiting Field when no flight training activities are scheduled. A manned control tower is not located at this field, but communication is maintained with the crash crew prior to field entry or departure.

Operating procedures established by NAS Whiting Field for NOLF Pace limit activities assigned to this airfield to a maximum of eight helicopters in pattern. NOLF Pace is considered to be in full pattern when eight aircraft are training within the field. If more than eight aircraft intend to use this airfield, others must wait in the crash crew change area until the field capacity is no longer full.
NAS Whiting Field operating procedures identify NOLFs, civilian airfields (grass and paved) that must be avoided by fixed-wing aircraft except in the event of an emergency. NOLF Pace is one of the fields that must be avoided by fixed-wing aircraft. Fixed-wing flight training may occur at higher altitudes above NOLF Pace but primarily occurs in Areas 1, 2, and 3 of Alert Area 292 further to the south in Santa Rosa County (reference Map 6-2 for Area boundaries). NOLF Pace is located in Area 3H.

On occasion, NAS Whiting Field grants authorization to model aircraft enthusiasts and clubs to use the NOLFs for club events. This activity does occur at NOLF Pace.

NOLF Pace's mission for future years will continue to support current helicopter flight training activities supporting NAS Whiting Field. NAS Whiting Field plans to keep this field assigned for helicopter training will not be used to accommodate the Joint Primary Aircraft Training System (JPATS)[1] to be stationed at NAS Whiting Field. Also, NAS Whiting Field does not have any plans to use this field for the unmanned aerial vehicle (UAV) program. National Guard and Reserve Signal Groups also use the NOLF for training.

[1] JPATS components consists of the T-6A Texan II turboprop aircraft, simulators and associated ground-based training devices, a training integration management system, instructional courseware, and contractor logistics support.

2.2 Facilities and Aircraft

NOLF Pace is a grass field. The only facilities located on-site are a paved road for access by crash crews and a building housing crash crew personnel when they are on-site. This field is not equipped for night use, thus no ground lighting is in place. No fueling facilities are available at this airfield.

Only helicopters use NOLF Pace. The primary aircraft seen at this airfield is the TH-57, as shown in Figure 6-1. Powered by a single turbofan engine, the Sea Ranger can seat a pilot and up to two students.

TH-57 *Sea Ranger* is primarily used for training, but these aircraft are also used by the Navy for aerial photography, chase and utility missions. At NAS Whiting Field and its NOLFs, the TH-57 is predominantly used for primary and advanced training.

Figure 6-1
Aircraft Using NOLF Pace

This rotary-wing aircraft is used by NAS Whiting Field to train flight students and experienced USN aviators.

The US Navy has a capital improvement program to schedule and budget infrastructure and equipment at its military installations and facilities. This program is known as the Military Construction Program, or MILCON. Infrastructure improvements are not currently proposed in MILCON for NOLF Pace.

2.3 Airfield Operations and Procedures

A control tower is not present to direct helicopter traffic. However, the crash crew maintains radio communications with pilots and provides information regarding field activity and status. Inside airfield boundaries, flight training typically occurs between the surface and 500 feet above ground level.

The Commanding Officer of NAS Whiting Field administers policy consistent with all Federal Aviation Administration (FAA) Regulations and the Office of the Chief of Naval Operations Instructions (OPNAVINST's) regarding safe aviation operations, flight altitudes, and noise abatement. NAS Whiting Field is sensitive to the effects of noise at all its airfields and their impacts on surrounding communities. When appropriate, actions are taken to reduce aircraft noise. Operating procedures are in place for fixed-wing and helicopter aircraft to reduce and avoid noise impacts to non-military lands as well as to promote public safety. To this endeavor, operating procedures and policy have been established to address specific circumstances associated with conditions unique to each airfield, including the character of the adjacent community.

A. **Operation Areas and Flight Planning** West Florida and South Alabama are home to numerous USN and USAF air bases generating substantial air traffic. For safety and operation purposes the US Navy organizes air space into "areas." Horizontal (geographic) and vertical (altitude) areas have been established within Alert Area 292. . NOLF Pace is located in Area 3 of Alert Area 292. The boundaries of Alert Area 292 and Area 3 appear in Map 6-2. Area 3H is allocated for

helicopter use. For safety purposes, helicopters in Area 3H are approved to fly from the surface to an altitude of 3,000 feet MSL.

To implement safety objectives, NAS Whiting Field manages aircraft flight patterns, altitudes, and traffic volumes within its control areas through standard operating procedures and authorized flight plans. All flights, whether rotary-wing or fixed-wing, must be authorized by a Commanding Officer.

Student aviators follow training programs set forth as part of an approved curriculum. Their flight training programs require them to follow specific flight plans and operating procedures.

B. **Flight Patterns.** Operating procedures established address two types of flight patterns for helicopters using NOLF Pace. The first set of operating procedures addresses flight patterns to enter or depart NOLF Pace airspace. The second set addresses flying operations within the field itself.

1. **Entry and Departure Flight Patterns**. Helicopters approach NOLF Pace from the northeast and descend to 700 MSL in the approach. North of County Road 197, aircraft will turn left or right to circle the field to reach designated entry points aligned with field center lines. Aircraft must remain clear of J-22 airspace. Aircraft enter the local flight pattern by flying over the centerline toward direction of the intended course. Entry and departure flight paths normally follow patterns illustrated in Map 6-3. Once in the local pattern, descent follows a pattern generally aligned with the APZ patterns appearing in Map 6-4 and other maps within Appendix A. Aircraft departing NOLF Pace enter the local pattern and depart from the southwest corner of the field, generally following CR 197 southward.

   Once in the local pattern, arriving helicopters eventually align with a landing pattern generally at strategic locations where APZ appear in Map 6-4 and other maps appearing in Appendix A of this chapter. The pattern selected by the pilot will vary based on wind direction. Departure from the field will be from the Southeast corner of the field. Once leaving the field, the established local flight path leads aircraft south of the field to avoid aircraft arriving from the northeast.

   Helicopters must land or take-off pointed in the direction of the prevailing wind. As wind direction changes based on seasonal and daily cyclical climatic conditions, entry and departure points will change in conjunction with wind direction.

   For purposes of the JLUS, it is important to recognize that local flight patterns for departure and entry substantially rely on overflight of non-military lands outside airfield boundaries.

2. **Field Flight Pattern**. NOLF Pace is divided into four quadrants used for normal and precision approaches. Running landings and high speed-low-level flying occur in the inboard lanes. These two lanes are separated by a parallel no man's land or strip situated between them and running along the field's centerline.

C. **Flight Operating Procedures and Restrictions.** Protection of the health and safety for civilian and military population is a top priority administered and enforced by the USN and NAS Whiting Field. To reduce aircraft accident potential, standard operating procedures have been established for flight operations at all airfields, including NOLF Pace. Also, to protect health, safety, and welfare of civilian populations, aircraft may be restricted from operating within certain sensitive areas or below certain altitudes.

Fixed-wing aircraft and helicopters have different performance and aerodynamic capabilities. Separate standard operating procedures have been developed for each type of aircraft. However, some operating standards and restrictions apply uniformly to all types of aircraft. Other procedures and restrictions may apply to designated geographical areas, such as an airfield or operating area, or subject to altitude. And some may apply only to specific aircraft types, pilot training level, or calendar schedule.

Restrictions and operating procedures applicable to aircraft within Area 3H airspace and NOLF Pace are listed below.

1) Crash crews must be in position and ready for duty prior to commencing any flight operation at NOLF Pace.
2) NOLF Pace is used for daytime operations only at the present time.

The Commanding Officer for NAS Whiting Field may also issue temporary directives regarding flight operations, flight paths, or hours of operation. On occasion, special events occur at the Santa Rosa County equestrian field located to the east of NOLF Pace and west of CR 197. Navy Community Planners a NAS Whiting Field are made aware of upcoming special events, they will inform naval aviators scheduled to use NOLF Pace to give caution to overflight in the vicinity of the equestrian facility when special events are taking place.

2.4 Current Air Operation Conflicts

Air and ground operations conducted at NOLF Pace will impact non-military lands within the Pace Study Area. The normal flight pattern entering NOLF Pace brings aircraft over or near a single-family residential area located at the northeast corner of the study area. Local flight patterns for arriving and departing flights require overflight above lands outside the airfield boundaries. For example, arriving flights cannot enter the field directly from the northwest and circle to the desired centerline point. Therefore, effective use of the field depends on airspace surrounding the airfield, particularly to the north, south, and west.

Flight patterns on the east side of the field must overfly or fly near a single family home located near the southeast corner of the field. While most of the parcel is located within the APZ-I“B” designation, the house sits just outside this zone. It does rest within the Noise Zone.

No locations within the Pace Study Area have been designated by NAS Whiting Field as resort areas or noise sensitive areas. Operating procedures mandate that aircraft avoid such areas unless necessary Map 6- 4 compares existing land use with APZ and Noise Zones.

SECTION 3
COMMUNITY PROFILE AND DEVELOPMENT CHARACTERISTICS

The general area surrounding NOLF Pace is predominantly rural and agriculture in character. However, market pressures to provide more housing for a growing population in Santa Rosa County is introducing residential neighborhoods within the vicinity of the Pace Study Area. Although only one development residential parcel occurs within an APZ as well as a Noise Zone, residential development has begun to encircle the east side of the Pace Study Area between its northeast and southeast corners.

3.1 Study Area Profile

Within the Pace Study Area, military property comprising NOLF Pace amounts to 207 acres, or 14% of the study area. The remaining 1,231 acres of land is under private ownership with exception to the Santa Rosa County equestrian facility, which is housed on approximately 56 acres. Table 6-2 provides a summary profile for existing land uses within the non-military lands within the Pace Study Area. Map 6-4 shows existing land use appearing in the Pace Study Area as well as proximity of Accident Potential Zones and the Noise Zone to these land uses.

Table 6-2
Existing Land Use Profile by Acreage
Pace Study Area

Existing Land Use	Study Area[1]		Clear Zone/Accident Potential Zone (acres)				Noise Zone
	Acres	Percent	A[3]	B	C	Total APZ	(acres)
Single Family Residential[2]	76	6.2%		5		5	8
Institutional	1	0.1%					
Agriculture	996	80.9%		87		87	133
Silviculture[4]	3	0.2%					
Publicly Owned Property	56	4.6%					
Vacant	69	5.6%					
Right-of-Way	30	2.4%					
Study Area (non-military)	1,231	100%		92		92	141

Source: Santa Rosa County, 2003.
[1] Land uses and acreages appearing in the table are for non-military lands within the Pace Study Area.
[2] Includes single family, townhouses, or condominiums
[3] Zone "A" is the Clear Zone.
4 On Map 6-4, Existing Land Use, the two agriculture parcels bounded by the eastern study area boundary and the east side of CR 191 are used for silviculture (directly east of the County's equestrian facility) are used for silviculture.

Over 80% of the non-military land in the Pace Study Area is used for agriculture, timber, or pasture purposes. International Paper owns about 30% of the non-military lands within the Pace Study Area. A majority of the residential homes are situated at the northeast and southeast corners. While only a few residential homes appear within the south end of the study area, these homes are located at the north end of a recently constructed residential subdivision. Within the study area, existing residential development has clustered under or in the vicinity of the primary entry and departure flight paths

leading into and out of NOLF Pace. Existing residential development has concentrated toward the east side of the airfield likely because proximity to County Roads 191 and 197.

The only non-residential development existing within the study area includes the Pace Volunteer Fire Department (institutional use in Map 6-4) and the Santa Rosa County ball fields and equestrian facility (appearing as publicly owned property in Map 6-4).

Structures within the study area include conventional and manufactured (i.e., mobile homes) homes, and buildings and facilities for the County equestrian facility, which contains a barn, an outdoor arena with bleacher seating, and corrals for the horses.

Land subdivision within the Pace Study Area exhibits large tracts typically exceeding 40 plus acres in size within its north, west, and south sections. Where parcels size occurs at ten or fewer acres, residential development is typically found. Residential development is typically occurs as parcels that are ten or fewer acres. For the 1,231 acres of the study area located on non-military land, 959 acres, or 78% of the non-military lands, belong to four property owners. International Paper owns 368 acres, Equestrian Estates owns 321 acres, and Close family members own 270 inside the study area boundaries. Properties owned by these three groups abut approximately 90% of the NOLF Pace's boundary. As the study area boundary divides some of their lands, additional property adjacent to the study area is also owned by International Paper and the Close family members. Map 6-5 denotes all parcels over five acres in size.

Less than 7% of the non-military land is currently used for residential homes. No commercial, office, or industrial uses occur within non-military lands inside the Pace Study Area.

3.2 Current Housing and Population

In 2003, residential development comprised of 44 single-family dwellings, most of which are located in the northeastern or southeastern corners of the Pace Study Area and near CR 197 or CR 191. Current population is estimated at 116 persons, based on 2.63 persons per household and an occupancy rate of 89% as recorded by the US Census 2000 for Santa Rosa County. In regards to the type of housing construction, 68% of the dwellings are conventional single family home while 32% are mobile homes. No multiple family dwellings are located within the Pace Study Area. Table 6-3 summarizes the number of housing units by study area location and dwelling type.

Population and housing estimates were determined by comparing land use records from the Santa Rosa County Property Appraiser's Office with statistical and demographic data from the 2000 U.S. Census. The average number of persons per household for Santa Rosa County was applied to the number of estimated occupied housing units. Occupancy rates for Santa Rosa County were applied to the total number of residential units in the Pace Study Area to obtain total occupied housing unit figures. Housing units shown below are the total number of housing units, not the occupied housing units.

Table 6-3
Existing Housing Unit Profile
Pace Study Area

Residential Type	Housing Units					
		Clear Zone/Accident Potential Zone				
	Study Area	A[1]	B[2]	C	Total APZ[1]	Noise Zone
Single Family	30	0	1	0	1	0
Mobile Home	14	0	0	0	0	0
Multiple Family	0	0	0	0	0	0
Total	44	0	1	0	0	0

[1]All Clear Zone "A" boundaries lie within NOLF Pace
[2]Numbers shown represent parcels or lots with all or a portion of its boundaries in the APZ. A home or building on such parcels or lots may be located outside the APZ boundary.

3.3 Accident Potential Zone (APZ) Profile

Within the Pace Study Area, the Accident Potential Zone covers 136 acres, of which 96 acres falls on non-military lands. For all non-military lands in the Pace Study Area, about 8% is located within the APZ. No property outside of the airfield boundaries is located within the Clear Zone "A". All non-military lands are located within APZ-I "B". No APZ-II "C" designations have been assigned to lands under NOLF Pace airspace. As shown in Table 6-4, all but five acres within the non-military APZ is used for agriculture, timber or vacant.

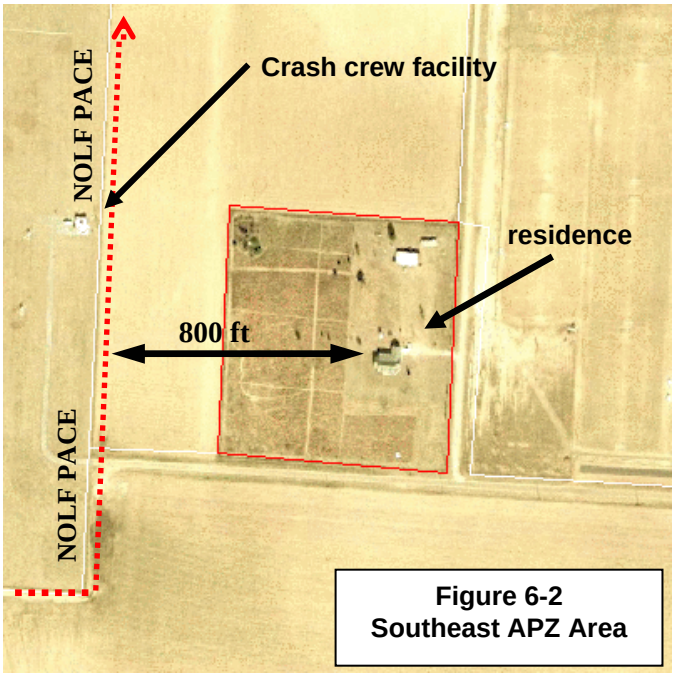


Figure 6-2
Southeast APZ Area

One single-family residential parcel is located within the APZ. All structures on this property appear be below 50 feet in height. It appears that the home is situated just outside of the APZ boundary. Figure 6-2 provides an aerial photograph of the proximity of this home to NOLF Pace. The APZ for the southeast corner of the airfield covers approximately five of the nine acres comprising this residential parcel. Current population residing in or immediately adjacent to the APZ is estimated at three to five persons.

Table 6-4
Accident Potential Zone Profile: Existing Land Use
Pace Study Area

Clear Zone/APZ Zone	Existing Land Use Category	Existing Land Use Description	Acres
Clear Zone "A" (military land)	Military	field	42
APZ-I "B" (non-military land)	Single Family	House situated just outside of APZ boundary	5
APZ-I "B" (non-military land)	Agriculture	No structures.	87
APZ , non-military total			92
APZ, military property	Military	airfield	42
Total Clear Zone/APZ			134

For the combined eight APZ sites along the airfield perimeter, a total of five to six property owners are affected. Map 6-6 provides information regarding land use coverage and vegetative communities in the Pace Study Area. In 1996-1997 FNAI conducted a survey to identify the endangered, threatened, and rare vertebrate and plants species occurring at NAS Whiting Field and all but one of its NOLFs. NOLF Pace was surveyed by FNAI but no endangered, threatened, or special of special concern were observed within the airfield property.

3.4 Noise Zone Profile

Within the Pace Study Area, the Noise Zone within non-military property covers 141 acres, all currently used for agricultural purposes with exception to eight acres associated with a single family home located near the southeast corner of the airfield. Eight of the nine acres of this residential parcel lie within the designated Noise Zone. While the house does not appear to lie within the APZ, it does lie within the Noise Zone. The crash crew complex is located at the airfields southeast corner, less than 1,000 feet from the home.

Similar to property ownership conditions associated the APZ, lands within the Noise Zone are controlled by five to six property owners.

3.5 Summary of Existing Airfield and Land Use Conflicts

Currently, only one single-family home and its associated accessory structures are located within or adjacent to the APZ or Noise Zone. No other structures appear to occur on non-military lands within the APZ or Noise Zone.

Entry and departure flight patterns leading into or out of NOLF Pace currently overfly or fly near several residential developments, particularly on the northeast side along the entry pattern. An estimated 20 to 25 single-family homes or mobile homes are located near the entry flight path. For the departure flight path leading to the south or southeast, perhaps three to five homes are located at the edge of the study area near the normal departure pattern.

Nearly all of the local pattern must overfly lands outside the field. Currently, one single family home and the County's equestrian facility may be affected by impacts associated with aircraft approaching or departing points where APZ's intersect with the field boundaries.

SECTION 4
FUTURE DEVELOPMENT POTENTIAL AND ASSESSMENT OF FUTURE LAND USE CONFLICTS

People living or working near a military airfield can expect impacts such as noise, smoke, or dust generated from ground and air operations. Quality of life for those living or working near an airfield can be negatively affected when these impacts reach levels creating a nuisance. A potential risk to public safety also exists from the possibility of aircraft crashing at or near an airfield. The extent and frequency of negative impacts affecting people living near airfields will vary based on the type of aircraft, airfield operating hours, airfield ground activities, frequency of flight and ground training activities, proximity to the airfield, and the individual tolerance level for affected persons. Future residents choosing to live within the Pace Study Area will be impacted by flight and ground activities at NOLF Pace.

Population growth and certain types of non-residential development, such as commercial retail and professional/medical office uses, are considered to create future potential conflicts between airfield operations and the civilian population's expectations for the enjoyment and use of privately-owned property, particularly a residential home environment. The purpose of this section is to identify potential population and non-residential development that could occur within the Harold Study Area as well as inside Noise Zone and APZ boundaries, the areas where airfield impacts are known to create the greatest potential land use conflicts.

4.1 Housing and Population Methodology

Population and housing estimates were prepared using maximum residential densities allowed by the Santa Rosa County Comprehensive Plan, future land use designations assigned to property within the Pace Study Area, occupancy rates and average persons per household for Santa Rosa County in the 2000 US Census, and Article 11 (Airport Environs) of the Santa Rosa County Land Development Code. Housing and population figures estimated for year 2005 through 2020 are based on an annual growth rate of 3.4%, which is identical to the growth rate applied in the Santa Rosa County Comprehensive Plan to project population through 2020. The housing and population methodology applies a ratio of 2.63 persons per household and a dwelling unit occupancy rate of 89.2%. Both figures were obtained from the 2000 US Census for Santa Rosa County.

For purposes of this study, build-out potential represents development of all land according to the maximum densities allowed by a property's assigned zoning classification. Article 11 of the County's Land Development Code establishes specific development densities for property located with the APZ or Noise Zone. Lands inside the APZ may be subject to restrictions reducing residential density below that allowed by the underlying zoning or land use designation. For some properties, the APZ restrictions will have minimal or no affect because maximum residential density is already lower than that permitted for the APZ. The lower density prevails in such cases. Population and housing projections take into account effects that Article 11, Airport Environs, as on the development potential for properties situated within an APZ or Noise Zone.

Other factors that were considered to estimate housing and population include environmental characteristics and infrastructure needs. Based on land coverage information mapped by the

NWFWMD, a substantial portion of the land surrounding NOLF Pace is not affected by environmental conditions that may limit development potential. Wetlands cover only small pockets within the study area. Based on the County's Comprehensive Plan and Land Development Code, central water and sewer are not required development within the study area. The development densities allowed for property within the study area do not require central water and sewer.

For the estimation of population and residential development for build-out conditions (i.e., all developable land is built-on at maximum densities permitted by the Comprehensive Plan or zoning code), developable land was reduced by 10% to acknowledge right-of-way and drainage needs to accommodate new development. Population and housing estimates could be higher or lower based on the extent and type of wetlands and land needs to accommodate infrastructure.

Development potential for land within the study area was determined by applying the maximum density allowed by the zoning category assigned to property. For the Pace Study Area, zoning was used to evaluate development potential rather than using the future land use designation. While Map 6-7 provides information regarding future land use designation assigned to property, Map 6-8 illustrated zoning for the Pace Study Area.

4.2 Study Area Development Potential

Currently, an estimated 116 residents occupy 44 homes located within the Pace Study Area. Based on undeveloped lands that could potentially accommodate new development, population in the Pace Study Area has a potential to reach 1,920 or more. The number of homes could rise to as many as 818 or more. Tables 6-5 and 6-6, respectively, list the number residents and homes that could potentially be located within the Pace Study area in the future. Development densities within areas designated as Accident Potential Zones will have a density less than that allowed in some zone categories. The methodology used to estimate housing and population accounts for variations in density because of development limitations placed on areas inside the APZ. Table 6-7 summarizes dwelling unit potential for the APZ and areas outside the APZ.

Table 6-5
Potential Future Population
Pace Study Area

	Year				
Residential Unit	**2005**	**2010**	**2015**	**2020**	**Build-Out Potential**
Single Family[1]	124	143	163	183	1,920
Multiple Family	0	0	0	0	0
Total	124	143	163	183	1,920

[1] Includes mobile homes.

Table 6-6
Potential Future Housing Units
Pace Study Area

Residential Unit	Year 2005	2010	2015	2020	Build-Out Potential
Single Family[1]	47	54	62	69	818
Multiple Family	0	0	0	0	0
Total	47	54	62	69	818

[1] Includes mobile homes.

Table 6-7
Build-Out Potential for Dwelling Units

Zoning Category	Max. U/A[1]	Acres	Adjusted Zoning Acreage[2]	Dwelling Units	APZ Acreage[3]	Dwelling Units	Total
Agriculture/Rural Residential (AG)	1/1	885	816	734	69	12	746
Agriculture (AG2)	1/15	302	278	17	24	1	18
Mixed Residential Subdivision (R1-M)	1/4	15	15	54	0	0	54
Total		1,202[4]	1,109	805	93	13	818

[1] Maximum units per acre.
[2] Area within the APZ was subtracted from the total acreage for the zoning category. No portion of the Clear Zone lies outside the airfield.
[3] Dwelling unit projection based on maximum density of one unit per five acres, the maximum allowed by County Airport Environs Ordinance.
[4] Total acres may be less than total study area acres because right-of-way or non-residential zoning categories are not included.

4.3 APZ and Noise Zone Development Potential

Only one home current is situated immediately adjacent to an APZ. The majority of the parcel encompassing this house, though, does lie within the APZ. This same house sits inside the Noise Zone and it is the only residence in the study area that does. Within these sensitive areas, however, an estimated 233 people could live within a Noise Zone or APZ in future years. Table 6-8 lists potential population and housing that could occur if all lands within the APZ and Noise Zone develop according to maximum densities allowed by the Santa Rosa County Comprehensive Plan.

Table 6-8
Potential Future Population and Housing Units, Build-Out Conditions

Study Area Component	Population	Housing Units	Maximum Density (units/acre)
APZ-I "B" Zone	32	14	1 unit/5 acres[1]
Noise Zone[2]	201	86	1 unit/5 acres[2]

[1] For analysis purposes APZ-I "B" zone residential densities limits to one unit per five acres, consistent with maximum density allowed in APZ by County Land Development Code Article 11, Airport Environs.
[2] APZ lands located within the Noise Zone were evaluated at 1 unit per five acres.

SECTION 5
STUDY RECOMMENDATIONS

5.1 Cluster Development Intensity

A. **Findings.** Only a limited number of vacant or undeveloped parcels within the Santa Rosa Study Area exceed twenty acres. An evaluation of parcels abutting the airfield indicates that sufficient depth exists to cluster development away from the airfield. Open space and stormwater facilities could be concentrated closer to the airfield.

B. **Recommendation.** Land use policy should allow for cluster development away from the airfield.

5.2 Purchase of Development Rights

A. **Findings.** NOLF Pace is surrounded by large tracts of land under the ownership of four to five entities. All lands on these tracts are used for agricultural or silviculture purposes. Development rights could be purchased by the County with lands protected from development through application of agriculture or conservation easements. Volusia County has implemented such a program, purchased development rights on land owned by a paper company. Under such a program, lands could only be used for agriculture, conservation, or other similar uses, precluding any construction of structures on the property.

B. **Recommendation.** NAS Whiting Field and Santa Rosa County should jointly evaluate the merits of establishing a program to purchase development rights from lands adjacent to airfields. Such a program would consider the use of federal and state conservation and environmental land acquisition funds as a source of revenue to acquire development rights. This recommendation is consistent with the 2003 Land Acquisition Plan (NAI Halford, April 2003).

5.3 Land Acquisition

A. **Findings.** Areas on the east of the Pace Study Area, as well as just east of the study area, are experiencing transition from rural agriculture use to large lot residential development (i.e., one to five acres). Access to CR 191 and CR 197 is a likely attracting residential development to those areas. Residential development currently exists in areas under entry and departure flight paths associated with NOLF Pace. While land acquisition is ultimately the most effective method to prevent development encroachment near airfields, funding priorities and limited available revenues may delay opportunities to acquire land before development occurs.

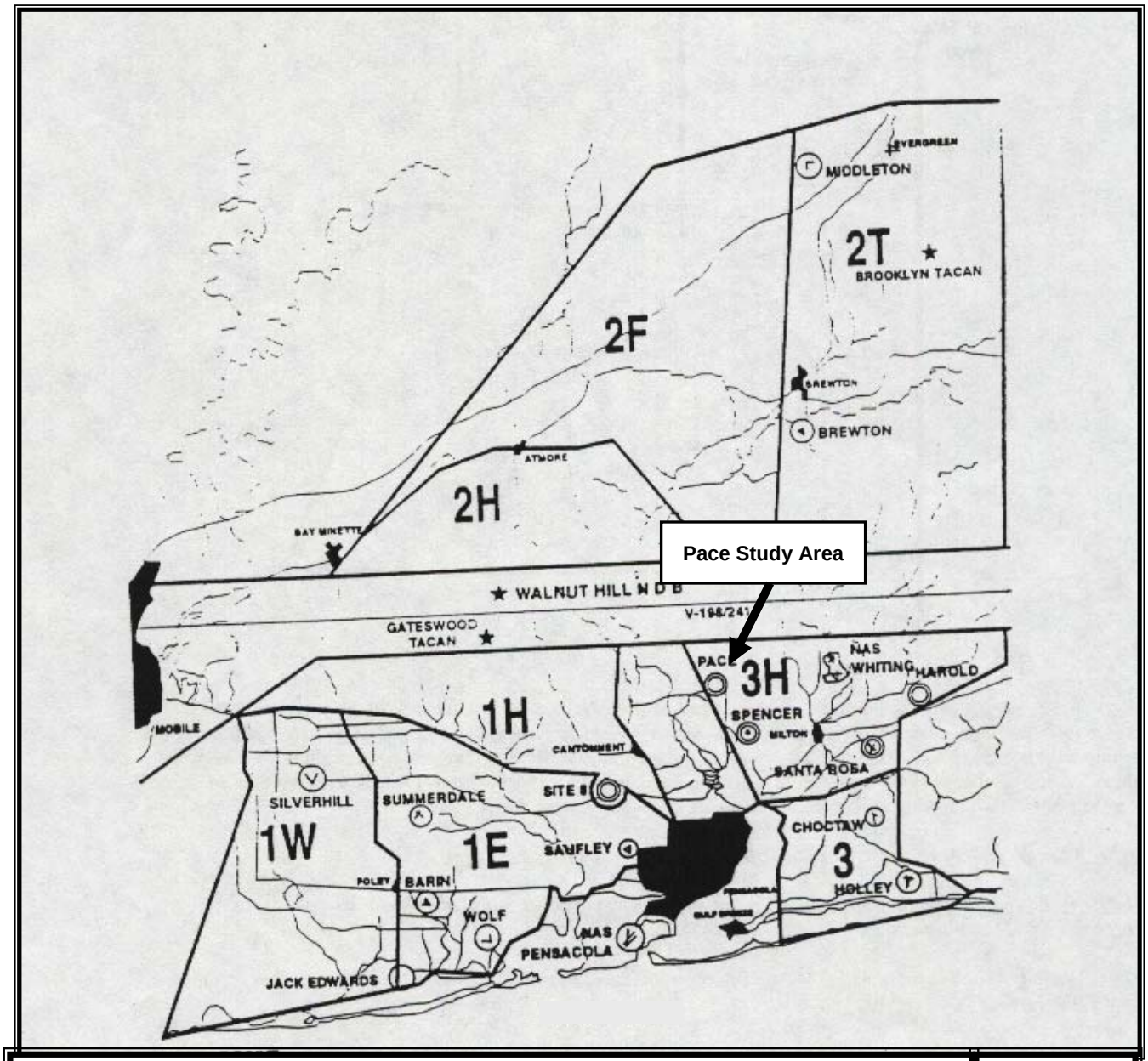
B. **Recommendations.** If land acquisition is feasible within the Pace Study Area, NAS Whiting Field or the County should consider acquisition of parcels as they become available; specifically, the County should consider purchase of the one residential structure located within the study area. The structure could be used in support of the County's adjacent recreation facilities. This recommendation is consistent with the 2003 Land Acquisition Study (NAI Halford, April 2003).

5.4 General Recommendations

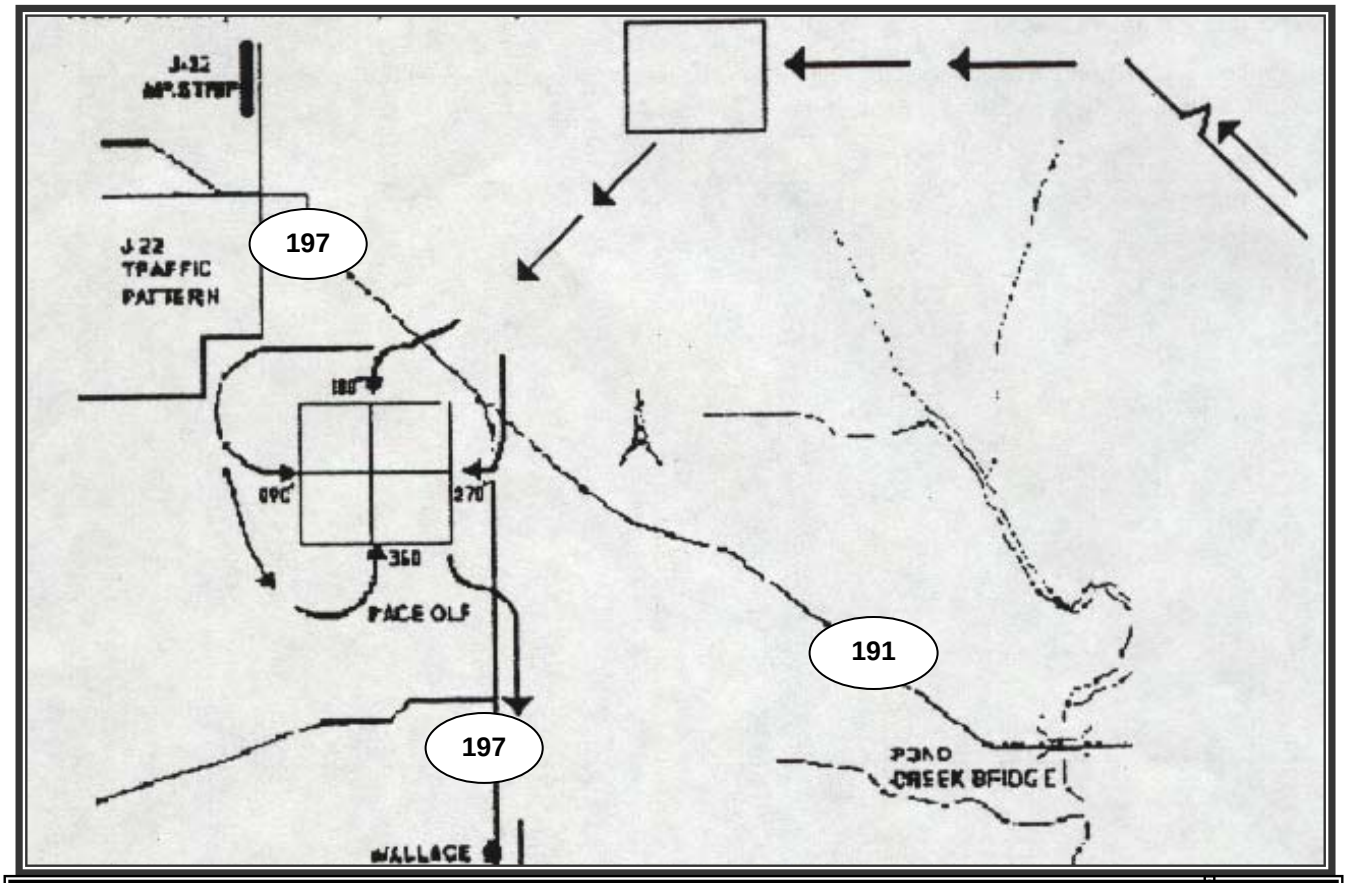
Chapter 1 may include additional recommendations affecting the use of land or construction methods applicable to areas near all or a number of airfields evaluated as part of the Santa Rosa Joint Land Use Study.

APPENDIX 6A

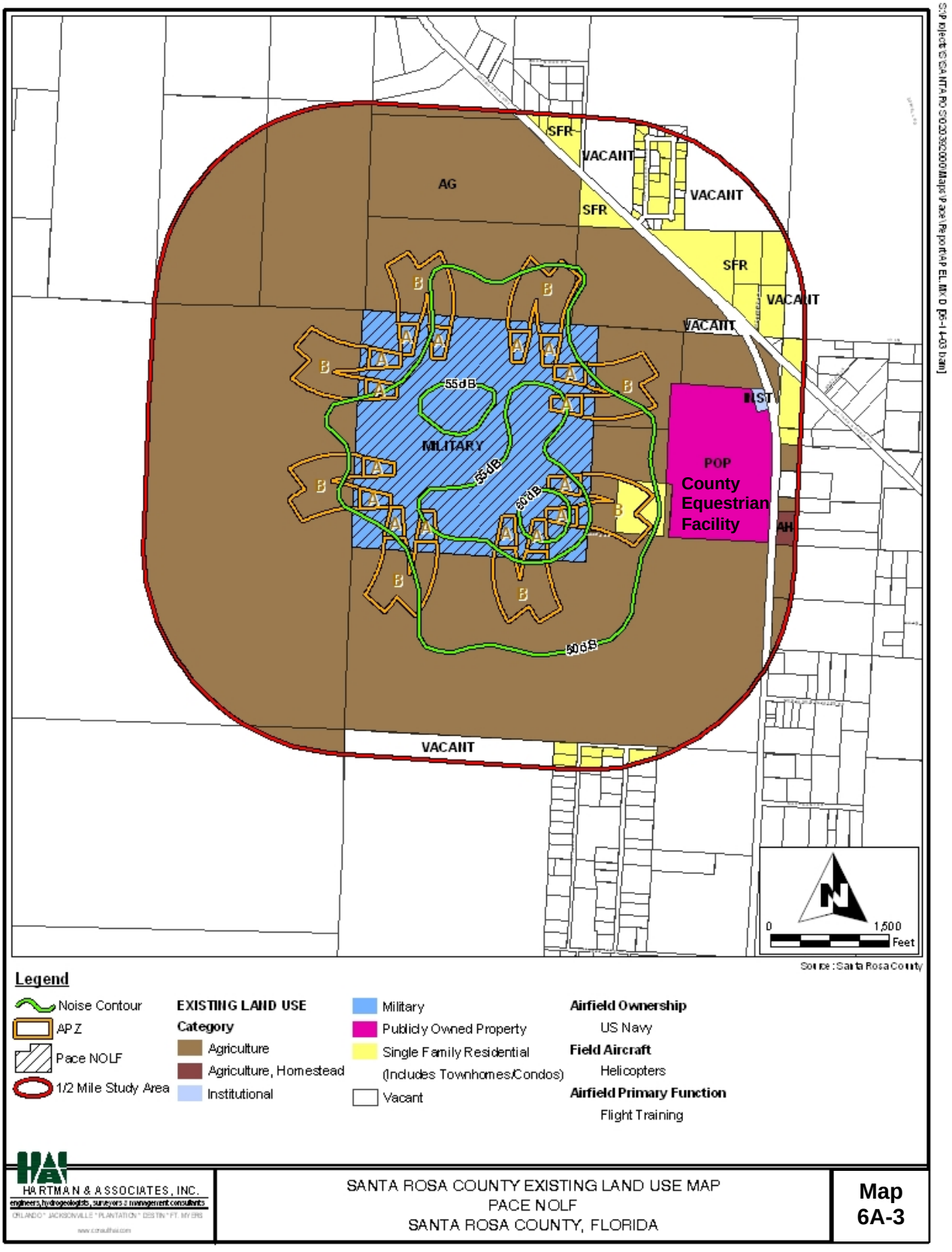
NOLF PACE JLUS MAPS



ALERT AREA NO. 292	Map 6A-1



ENTRY AND DEPARTURE FLIGHT PATTERNS NOLF PACE	Map 6A-2


SFR
VACANT
AG
VACANT
SFR
SFR
VACANT
VACANT
55dB
MILITARY
55dB
60dB
60dB
POP
County
Equestrian
Facility
VACANT
0
1,500
Feet
Source : Santa Rosa County
Legend
Noise Contour
APZ
Pace NOLF
1/2 Mile Study Area
EXISTING LAND USE
Category
Agriculture
Agriculture, Homestead
Institutional
Military
Publicly Owned Property
Single Family Residential
(Includes Townhomes/Condos)
Vacant
Airfield Ownership
US Navy
Field Aircraft
Helicopters
Airfield Primary Function
Flight Training
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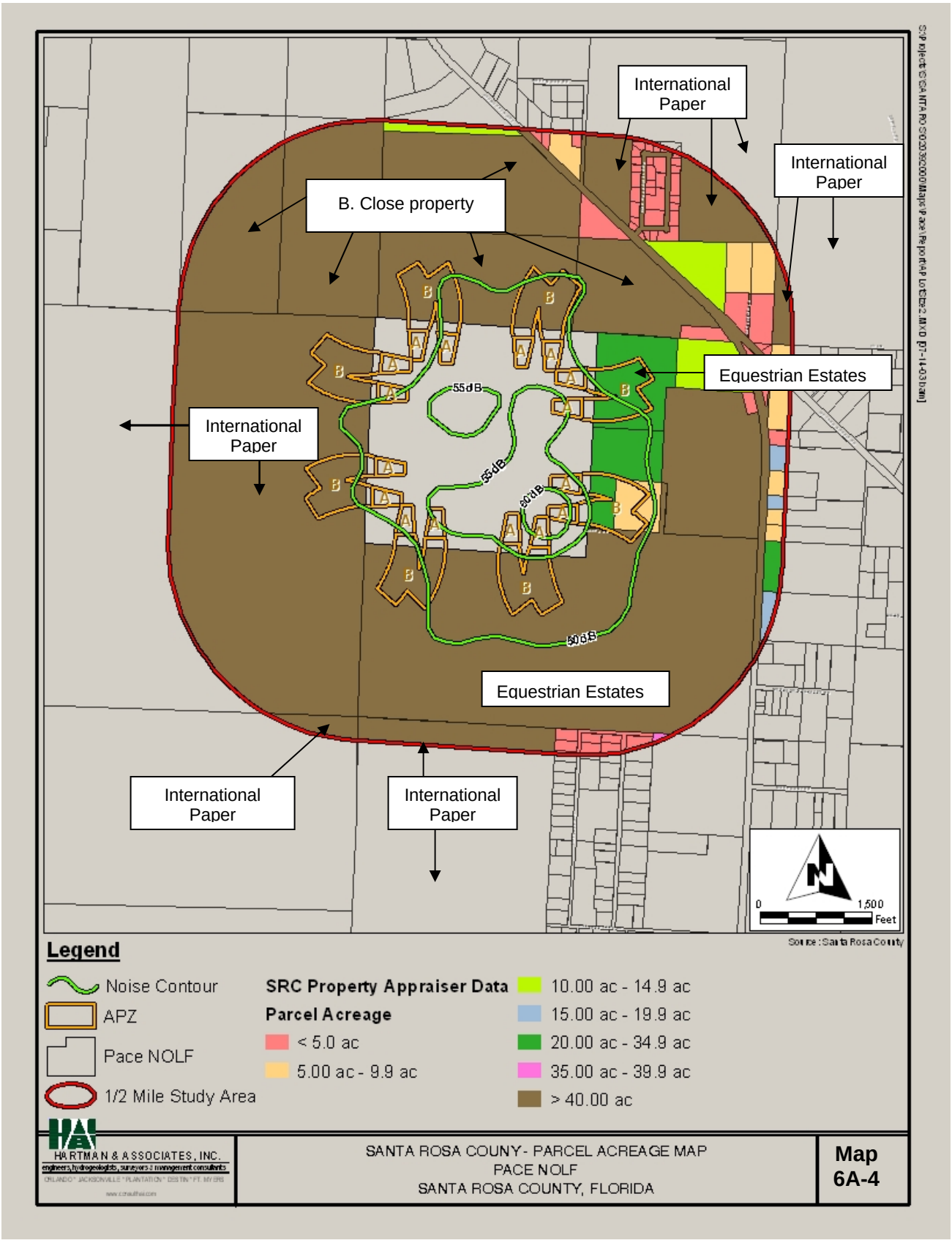
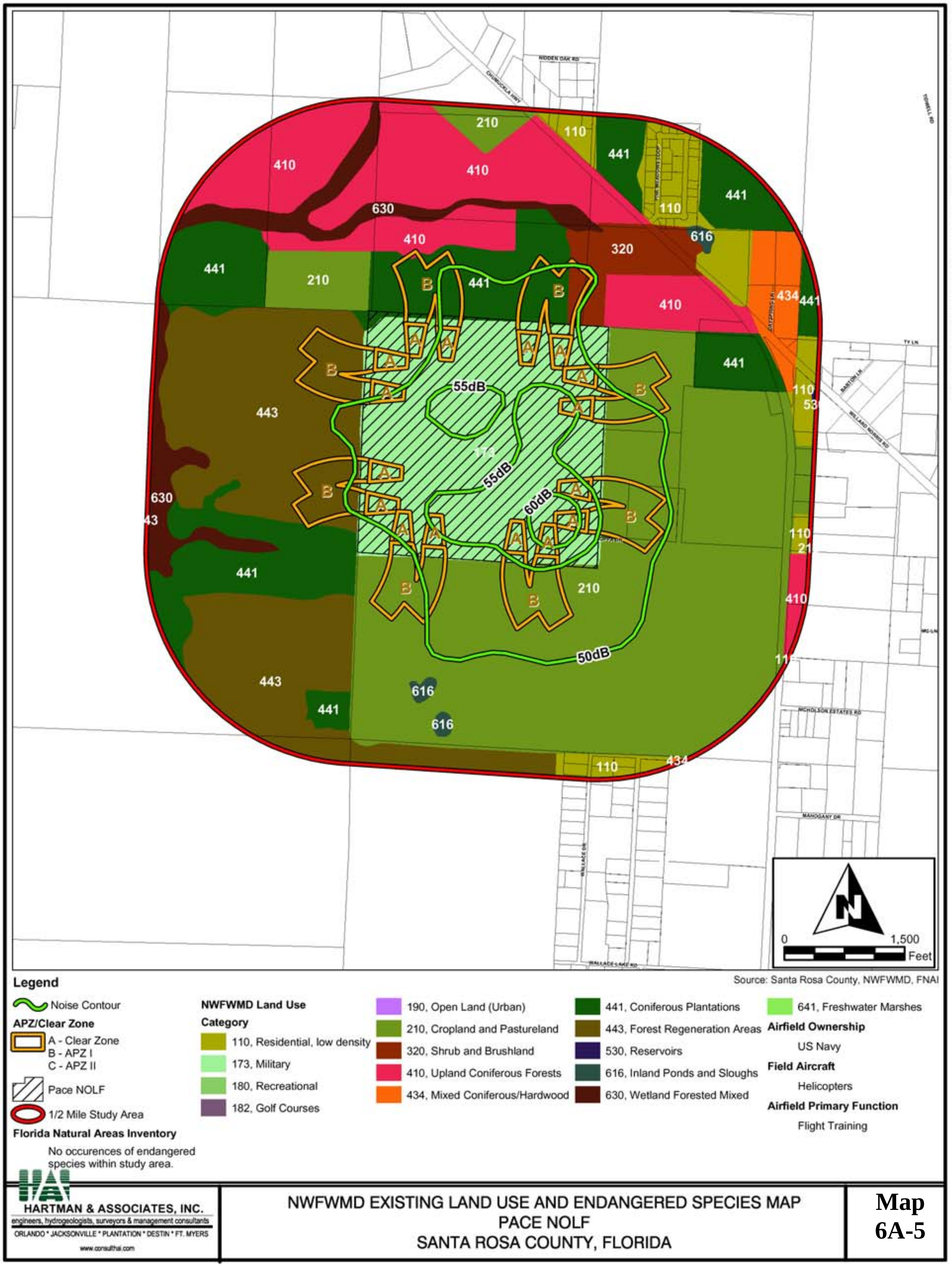
SANTA ROSA COUNTY EXISTING LAND USE MAP
PACE NOLF
SANTA ROSA COUNTY, FLORIDA
Map
6A-3


International Paper
International Paper
B. Close property
Equestrian Estates
International Paper
55dB
55dB
60dB
50dB
Equestrian Estates
International Paper
International Paper
0
1,500
Feet
Source: Santa Rosa County
Legend
Noise Contour
APZ
Pace NOLF
1/2 Mile Study Area
SRC Property Appraiser Data
Parcel Acreage
< 5.0 ac
5.00 ac - 9.9 ac
10.00 ac - 14.9 ac
15.00 ac - 19.9 ac
20.00 ac - 34.9 ac
35.00 ac - 39.9 ac
> 40.00 ac
HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants
SANTA ROSA COUNY - PARCEL ACREAGE MAP
PACE NOLF
SANTA ROSA COUNTY, FLORIDA
Map 6A-4


Legend
Noise Contour
APZ/Clear Zone
A - Clear Zone
B - APZ I
C - APZ II
Pace NOLF
1/2 Mile Study Area
Florida Natural Areas Inventory
No occurences of endangered species within study area.
NWFWMD Land Use Category
110, Residential, low density
173, Military
180, Recreational
182, Golf Courses
190, Open Land (Urban)
210, Cropland and Pastureland
320, Shrub and Brushland
410, Upland Coniferous Forests
434, Mixed Coniferous/Hardwood
441, Coniferous Plantations
443, Forest Regeneration Areas
530, Reservoirs
616, Inland Ponds and Sloughs
630, Wetland Forested Mixed
641, Freshwater Marshes
Airfield Ownership
US Navy
Field Aircraft
Helicopters
Airfield Primary Function
Flight Training
Source: Santa Rosa County, NWFWMD, FNAI
0
1,500
Feet
55dB
60dB
50dB
HARTMAN & ASSOCIATES, INC.
NWFWMD EXISTING LAND USE AND ENDANGERED SPECIES MAP
PACE NOLF
SANTA ROSA COUNTY, FLORIDA
Map 6A-5

Legend

Noise Contour

APZ/Clear Zone

A - Clear Zone
B - APZ I
C - APZ II

Pace NOLF

1/2 Mile Study Area

FUTURE LAND USE

Category

AGRICULTURE

CONSERVATION/US GOVT

Airfield Ownership

US Navy

Field Aircraft

Helicopters

Airfield Primary Function

Flight Training

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SANTA ROSA COUNTY FUTURE LAND USE MAP
PACE NOLF
SANTA ROSA COUNTY, FLORIDA

Map 6A-6

Source: Santa Rosa County

Legend

Noise Contour

APZ/Clear Zone

A - Clear Zone
B - APZ I
C - APZ II

Pace NOLF

1/2 Mile Study Area

ZONING

Category

Agriculture/Rural Residential (AG)
Agriculture (AG2)
Mixed Residential Subdivision (R-1M)
Rural Residential Single Family (RR-1)
Military

Airfield Ownership

US Navy

Field Aircraft

Helicopters

Airfield Primary Function

Flight Training

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SANTA ROSA COUNTY ZONING MAP
PACE NOLF
SANTA ROSA COUNTY, FLORIDA

Map 6A-7