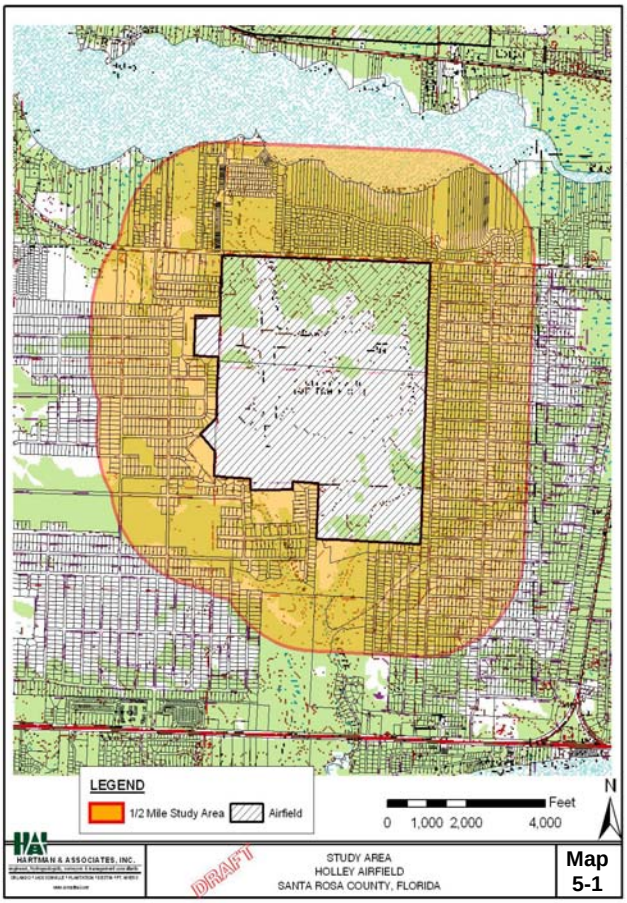
CHAPTER 5
NOLF HOLLEY JLUS



Executive Summary

Primary Airfield Use	Fixed-wing (airplane) T-34C aircraft supporting flight training for NAS Whiting Field
Airfield Facilities	Two runways (both 3,600' x 150')
Time of Use	Day hours, year-round; no night operation
Other Uses	Crash crew located on site during flight training
Planned Uses	Continue as T-34C airfield until T-6A replaces T-34

Study Area Population	**Current**	**Potential**
	3,075	7,590
Other	422 homes currently in APZ	

Study Area Issues and General Recommendations

Residential development has substantially encroached areas adjacent to NOLF Holley. Despite substantial vacant lands surrounding the airfield, such lands are subdivided into residential lots. Noise zones and APZ to the north and east contain substantial residential development, while the west APZ, though void of development, is platted for residential development. NOLF Holley's future use as a Navy fixed-wing training facility will continue until T-6A transition is complete. Runway lengths are incompatible with the upcoming JPATs program.

Recommendation: Santa Rosa County should coordinate with NAS Whiting to identify its future plans for NOLF Holley.

Chapter Contents

Note: with exception to Map 5-1 above, maps referenced in this chapter are placed in Appendix 5A, 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's objective, noise contours and accident potential zones have been established for all military airfields, including Naval Air Station (NAS) Whiting Field and its fourteen Navy Outlying Landing Fields (NOLF), which includes NOLF Holley.

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 mission 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 formation 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 US Navy (USN) airfields (North and South combined) and the County Airport, Peter Prince Field. These eight separate and distinct studies comprise the Santa Rosa JLUS. The seven USN installations evaluated in the Santa Rosa JLUS JLUS are NAS Whiting Field (north and south) and six of its fourteen NOLFs; Holley, Santa Rosa, Choctaw, Harold, Spencer, and Pace. This chapter addresses only NOLF Holley and non-military lands within its study area.

1.2 NOLF Holley Location

NOLF Holley is located one mile north of US Highway 98 and one mile west of State Road 87. Located on the peninsula bordered by East Bay to the north and Santa Rosa Sound to the south, the airfield lies west of Navarre community. East Bay Boulevard borders NOLF Holley's northern boundary. NOLF Holley is situated approximately five miles southeast from NOLF Choctaw and approximately 20 miles southeast of NAS Whiting Field. The southwestern area of Eglin Air Force Base airspace is located approximately two miles to the north. The general proximity of NOLF Holley with other airfields in Santa Rosa County appears in Map 1-1 of Chapter 1.

The US Navy organizes air space into operation "areas" within the Federal Aviation Administration (FAA) designated Alert Area 292. NOLF Holley is located in Area 3 of Alert Area 292. The

boundaries of Alert Area 292 and Area 3H appear in Map 5-2. Areas 1, 2, and 3 are primarily allocated for fixed-wing aircraft operations for NAS Whiting Field flight training activities. Helicopters, or rotary-wing aircraft, are primarily assigned to Area 3H to areas generally north of Interstate 10.

1.3 Holley Study Area

The study area boundaries for NOLF Holley JLUS (hereafter Holley Study Area) are illustrated on Map 5-1, which is located at the top of the first page in this chapter. The Holley Study Area covers 2,605 acres while military–owned property comprising NOLF Holley contains 662 acres, or approximately 25% of the total study area. All property within the Holley Study Area is situated in unincorporated Santa Rosa County and not within any municipal boundaries.

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

The NOLF Holley JLUS presented in this chapter emphasizes evaluation of non-military lands within its 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 Holley Study Area is shown in Table 5-1 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 5-1
Study Area Components
Holley Study Area

Study Area Component	Acres
Total Study Area (Map 5-1)	*2,605*
Non-Military Property	*1,943*
Noise Level Zone (current)	207
Clear Zone/Accident Potential Zone	491
Clear Zone "A"	181
APZ-I "B"	107
APZ-II "C"	202
Military	*662*

A. **Clear Zones (Class A).** Aviation history has shown 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 or flight path. Created as part of the AICUZ program, Clear Zones are intended to delineate areas exposed to higher risk. Intended to serve as guidelines only, Clear Zones function to heighten the general public's awareness to areas

where higher risks occur. The Clear Zone is an area that possesses a high potential for accidents and is located just past the end of a runway. It has been labeled "A" to enable easier depiction on maps. Figure 5-1 graphically depicts the Clear Zone and its relationship with the APZ designations applied for fixed-wing aircraft.

B. **Accident Potential Zones. (CLASS A)** 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. Intended to serve as guidelines only, APZs function to heighten the general public's awareness to areas where higher risks occur. 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.

Accident Potential Zones (APZ's) are divided into two (2) designations based on accident potential. The zone closest to the Clear Zone is referred to as APZ-I. It has been labeled "B". APZ-II (labeled "C") is typically furthest from the runway in terms of the flight path and it has a measurable potential for accidents. Approach or departure flight paths will turn into or away from a runway. Therefore, APZ's I and II may curve away from the end of a runway as well has leading straight out. Based on designated airport flight paths for approach and departure, some areas in an APZ-II zone may actually be closer to a runway than portion of the APZ-I.

NOLF Holley operates primarily for fixed-wing aircraft flight training activities. Helicopter flight training , occasionally occur at this airfield.

The end of a runway selected for a land approach or take-off point will depend on the direction of the wind. Pilots navigating fixed-wing aircraft select a runway that offers the most compatible alignment for landing or taking-off facing the wind. As wind changes, approach and departure direction will also change. Therefore, multiple runways allow opportunities to adjust approach and departure flight patterns to wind conditions.

Clear Zones (labeled "A") are located at each end of the two runways at NOLF Holley. Major portions of the Clear Zone are located outside the boundaries of Holley Field. Both APZ-I and II overlay non-military property outside the airfield boundary. Maps placed in Appendix 5A as well as the aerial image provided in Appendix 5B delineate boundaries of the Clear Zones and APZ's in relation to NOLF Holley and adjacent non-military property.

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 Holley JLUS, noise level contours extending from the airfield are incrementally measured from the highest typical decibel (dB) generated within a military installation to 50 dB within non-military property. Within the Holley Study Area, non-military lands inside the 50 dB contour are referred to as the Noise Zone. Maps placed in Appendix 5A delineate noise contours associated with NOLF Holley. The outer-most noise contour represents the boundary for the Noise Zone.

Noise contours are delineated by computerized simulation of aircraft activity at each installation and integrate operational data specific to the types of aircraft using a particular airfield. The methodology used to identify noise counters takes into consideration flight paths, frequency and time of operation, as well as the type and mix of aircraft. As shown in Map 5-3, noise contours tend to coincide with flight patterns and ground taxi routes at the airfield.

SECTION 2
AIRFIELD OPERATIONS AND NAVY GROWTH OBJECTIVES

This section inventories and analyzes current air and ground operations performed at NOLF Holley. 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 outlying landing fields, NOLF Holley's primary military use is for fixed-wing primary flight training conducted by NAS Whiting Field. Ground operations at this airfield are primarily limited to emergency crew response, , when flight-training exercises occur at NOLF Holley. Ground crews return to their home station at NAS Whiting Field when flight-training activities conclude. A manned control tower is not located at this field, but communications is maintained with the crash crew. Model aircraft organizations and Reserve and National Guard units use the NOLF when not used by the Navy.

Operating procedures established by NAS Whiting Field for NOLF Holley limit training activities to a maximum of four fixed-wing aircraft in pattern.during daytime hours. No night operations are conducted at NOLF Holley. Authorized training activities at NOLF Holley typically include landing approach practice techniques referred to as touch and go (T&G) and Practice Precautionary Emergency Landings (PPEL).

Currently, the primary fixed-wing training aircraft used by the US Navy is the T-34C. A picture of this aircraft is shown in Figure 5-2. The T-34C and its support equipment will be replaced with an updated and modified system referred to as the Joint Primary Aircraft Training System (JPATS), which will also replace the current training aircraft (T-37) used by the Air Force, creating a "joint" system used by both military branches. The primary aircraft employed by JPATS is the T-6A Texan II, a single-engine turbo-prop aircraft possessing similar handling capabilities as a jet aircraft. Support equipment for the T-6A includes simulators and associated ground-based training devices, a training integration management system, and instructional courseware.

An advantage of the JPATS program is that it replaces a system that is over two decades old and provides numerous safety improvements. However, the T-6A requires a runway length greater than that required by the T-34C. Runways at NOLF Holley do not have length necessary to accommodate the JPATS program. Therefore, NAS Whiting Field is evaluating options for potential future use of NOLF Holley. Until the current flight-training program is phased out of operation, NAS Whiting Fields will continue to use NOLF Holley for primary flight training operations conducted with the T-34C fixed-wing aircraft.

2.2 Facilities and Aircraft

NOLF Holley has two paved runways and a taxiway. Each runway extends for a length of 3,600 feet and has a width of 150 feet. Grass areas are not used for any fixed-wing training activities. A diagram of the field layout is shown in Figure 5-3, which illustrates the runway layout at NOLF Holley.

Runways are not equipped for night operations. The only other facilities located on-site include those used by the crash crew.

Forested lands or planted trees align the airfield's perimeter areas except in the areas adjacent to the end of the runway.

T-34C *Mentor* is a single-engine, two-seat primary trainer designed to train Navy student aviators. Engine type – turboprop. The *Mentor* will eventually be replaced by the T-6A Texan II.

Figure 5-2
Aircraft Currently
Using NOLF Holley

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 Holley.

2.3 Airfield Operations and Procedures

NOLF Holley is assigned for fixed-wing operations. A control tower is not present at NOLF Holley. However, the crash crew maintains radio communications with the aircraft and provides information regarding field activity and status. Aircraft maintain a landing pattern altitude of 800 feet MSL when approaching or operating at the NOLF.

The Commanding Officer of NAS Whiting Field administers policy consistent with all Federal Aviation Administration (FAA) Regulations and with those set forth by 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 (which includes outlying landing fields) and their impacts on surrounding communities. When appropriate, actions are taken to reduce aircraft noise. Operating procedures are in place to reduce noise impact 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 as well as the unique character and individual needs of 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." NOLF Holley is located in Area 3 of Alert Area 292. The boundaries of Alert Area 292 and Area 3 appear in Map 5-2. Area 3 is allocated for fixed-wing aircraft. NAS Whiting Field is responsible for managing air space in all

areas within Alert Area 292. The T-34C is authorized to fly from the surface to 9,500 feet within Area 3. 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 trainings 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 by NAS Whiting Field address two types of flight patterns for aircraft using NOLF Holley. The first set of operating procedures addresses flight patterns to enter or depart NOLF Holley airspace. The second set addresses flight operations within or adjacent to the field itself. Flight patterns for activity at the airfield are referred to as the local pattern.

1. **Entry and Departure Flight Patterns**. Operating procedures established by NAS Whiting Field do not dictate a specific approach direction for entering NOLF Holley. Aviators, however, are required to approach the airfield using the PPEL technique only. Departure patterns from NOLF Holley must occur on a flight path that avoids beach or resort areas.

2. **Field Flight Pattern**. Fixed-wing aircraft are directed to fly at a landing pattern altitude of 800 feet MSL in the vicinity of the airfield.

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 by NAS Whiting Field for flight operations for all its airfields, including NOLF Holley. Also, to protect health, safety, and welfare civilian populations, aircraft may be restricted from operating within certain sensitive areas or within designated 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.

Any restrictions or procedures applicable to Area 3 or Alert Area 292 will include NOLF Holley. Restrictions and operating procedures applicable to aircraft within Area 3 airspace and NOLF Holley, in addition to the flight pattern procedures and maximum aircraft restrictions described above, are listed below.

1) Crash crews must be in position and ready for duty prior to commencing any landing practice NOLF Holley.
2) Aircraft departing NOLF Holley must avoid beach areas.

3) Aircraft are directed to fly above 2000 feet MSL when over the Woodlawn area (which is west of the Holley community), Santa Rosa Sound, and Pensacola Bay.

The Commanding Officer for NAS Whiting Field may also issue temporary directives regarding flight operations, flight paths, or hours of operation.

2.4 Current Air Operation Conflicts

Operations at NOLF Holley occur only during daytime hours. Entry and departure flight patterns as well as local landing patterns require overflight of residential area. Local flight patterns, as delineated by the APZ patterns, tend to affect more residents to the east and south than to the immediate south and west. More development has occurred within the east and north APZ's than in the other two. Encroaching development has surrounded NOLF Holley. Flight patterns and APZ's cannot be redirected to avoid impacts to adjacent residents and development. However, flight patterns arriving or departing to or from the west and south appear to avoid more residential development than the alternative patterns.

Operating procedures and established local flight patterns for NOLF Holley guide aircraft away from the elementary and middle school located on School Board property straddling the study area's south boundary.

Touch and go pattern aircraft must fly over residential areas. Local, entry, and departure flight patterns must use air space above existing development and residential homes. NOLF Holley's perimeter does not cover sufficient land area to confine flight patterns to military property. Overflight areas affect development aligned with take-off and landing approach flight paths using the north end or east end of the runways. Although no homes occurring within the overflight areas for the west Noise Zone, land therein is platted for residential homes. A similar situation occurs in the south Noise Zone. However, in this case, a few homes occur within that Noise Zone. Despite a small number of homes currently inside the south or west Noise Zone, flight paths will eventually impact new homes constructed within the platted lots. Santa Rosa County's development codes allow development of lots near NOLF Holley even if such property lies within the APZ's or Noise Zone.

SECTION 3
COMMUNITY PROFILE AND DEVELOPMENT CHARACTERISTICS

The general area surrounding NOLF Holley is predominantly residential subdivisions having a typical lot size of one-half acre. While the study area contains 1,168 vacant residential lots within subdivisions, only six parcels are greater than 20 acres. The Holley Study area contains 2,575 parcels or lots. The largest vacant parcel, adjacent to the airfield's south boundary, is approximately eighty acres. Commercial uses occur along East Bay Boulevard. Zoning categories assigned to properties within the study area are predominantly R-1, R-1M, and R-2 residential. Some parcels along East Bay Boulevard at the northeast corner of the study area are designated for commercial uses by zoning. No parcels are designated with an agriculture zoning or future land use designation.

Map 5-3 illustrates existing land uses occurring within the Holley Study Area while Map 5-4 shows land subdivision. Table 5-2 provides a summary of existing land uses within the Holley Study Area. Future use designations and zoning categories assigned to properties within the Holley Study Area are depicted in Maps 5-6 and 5-7, respectively.

Table 5-2
Existing Land Use Profile by Acreage
Holley Study Area

Existing Land Use	Study Area[1]		Clear Zones/Accident Potential Zones[1] (acres)				Noise Zone[1]
	Acres	Percent	A	B	C	Total	(acres)
Vacant	850.7	44%	57	44	104	205	68
Single Family Residential	677.2	35%	66	43	52	161	62
Right-of-Way	255.1	13%	26	13	23	63	28
Publicly Owned Property	68.4	4%	31	2	a	33	46
Utilities	45.5	2%	0	4	20	4	3
Uncategorized	13.4	b	a	1	2	25	a
Agriculture, Homestead	12.8	b	0	0	0	0	0
Institutional	11.6	b	0	0	0	0	0
Condos/Townhomes	2.8	b	a	0	0	a	a
Industrial	2.5	b	0	0	0	0	0
Commercial/Office	1.5	b	0	0	0	0	0
Multi-Family Residential	0.9	b	0	0	a	a	0
Recreation/Open Space	0.8	b	a	0		a	a
Total (non-military)	1,943	100%	181	107	202	491	207

Source: Santa Rosa County, 2003.
[1] Land uses and acreages appearing in the table are for non-military lands within the Holley Study Area.
[2] May include single family, townhouses, mobile homes or condominiums.
[a] Less than one acre.
[b] Less than one percent
Note: Due to rounding, totals may not match with summation of sub-categories.

3.1 Study Area Profile

Within the Holley Study Area, military property comprising NOLF Holley amounts to 692 acres, or approximately 27% of the entire study area. Non-military lands cover 1,912 acres of the 2,604 acres comprising the Holley Study Area. Nearly 35% of non-military lands are used for home sites. Single family residential subdivisions surround the airfield and are zoned R-1 residential, which allows for a density of up to four units per acre. Despite the assigned density, platted subdivisions typically provide a lot size of 20,000 square feet, which is commonly referred to as a builder's half-acre. No agricultural activities are present but some forested lots could be harvested for timber.

Six or seven commercial and industrial buildings occur along East Bay Boulevard just east of NOLF Holley's northeast corner. Based on records of the Santa Rosa County Property Appraiser, the last recorded use of these buildings was for automobile repair and sales or for warehouse storage. The cumulative floor area of these seven buildings is about 25,000 square feet. Other parcels along East Bay Boulevard east of the airfield are occupied by single-family residences but the land is zoned for commercial uses.

At the southern edge of the study area, a site straddling the study area boundary line holds the Holley Navarre middle and elementary schools as well as the Bill Pullum Sports Complex, all on property owned by the Santa Rosa County Board of Education.

Few large ownership tracts appear within the NOLF Holley Study Area. As apparent in Map 5-4, only six or seven parcels exceed twenty acres. The majority of the study area is subdivided in half-acre residential lots for areas zoned R-1. While the typical lot size is one-half acres, residential lot sizes will vary from has high as ten acres to as small as a quarter-acre. Smaller lots and multiple family units occur within the R-2 zoning category. Most residential lots have been sold since subdivision. There are few groups of contiguous lots under a single ownership, making land assembly a challenge within the airport vicinity. This situation also exists within the Noise Zone and APZ. Land subdivision for the study area is shown in Map 5-4.

General land use coverage for the Holley Study Area, as identified by the Northwest Florida Water Management District, is illustrated on Map 5-5. This map identifies the indigenous vegetative communities found in the study area. Many areas in the map that appear as a vegetative community have been developed since it was prepared. This map also identifies occurrences of any endangered or threatened species within the study area. As shown in Map 5-4, specie occurrences have been identified for the flatwoods salamander within NOLF Holley property, as recorded by the Florida Natural Areas Inventory (FNAI). 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 Holley was surveyed by FNAI. Rare plants documented at this site include Curtiss' sandgrass, southern red lily, Chapman's butterwort, rose pogonia, white-top pitcher-plant, and parrot pitcher-plant. In addition to the flatwoods salamander, FNAI observed other rare vertebrates consisting of gopher tortoise, coal, skink, and the Florida black bear.

3.2 Current Housing and Population

In 2003, residential development amounts to 924 single-family homes, 335 mobile homes, and 43 multi-family units for a total of 1,302 dwelling units located within the Holley Study Area. Homes and apartments are spread throughout the study area, surrounding NOLF Holley on all four sides. The multi-family units primarily represent duplexes or buildings with no more than more apartments. Current population inside the study area is estimated at 3,075 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, about 71% of the dwellings are single-family conventional construction, 26% are mobile homes, and the remaining 3% qualify as multiple family units. Table 5-3 and 5-4 summarizes the number of housing units and residents by study area component 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 Holley 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 5-3
Existing Housing Unit Profile
Holley Study Area

Residential Type	Housing Units					
	Study Area[1]	Clear Zone/Accident Potential Zones				Noise Zone[1]
		A[1]	B[1]	C[1]	Total[1]	
Single Family	924	101	56	107	264	137
Mobile Home	335	50	57	45	152	19
Multiple Family	43	5	0	1	6	6
Total	1,302	156	113	153	422	162

[1] Numbers shown represent parcels or lots with all or a portion of its boundaries in the Clear Zone or APZs. In some situations where the study area or study component boundary splits a lot, the home is counted as occurring within the boundary.

Table 5-4
Existing Population Profile
Holley Study Area

Residential Type	Population					
	Study Area	Clear Zone/Accident Potential Zones				Noise Zone
		A	B	C	Total	
Single Family/Mobile Home	2,973	357	267	357	981	368
Multiple Family	102	12	0	2	14	14
Total	3,075	369	267	359	995	382

3.3 Clear Zones/Accident Potential Zone (APZ) Profile

Within the Holley Study Area, the Clear Zones and Accident Potential Zones cover 596 acres, of which 491 acres, or 82%, fall on non-military lands. Tables 5-2 through 5-4 provide a summary of the existing land use profile, housing, and population within the Clear Zones and APZ's. Residential homes occur in the Clear Zone and both APZ categories. The typical lot size of platted residential areas is one-half acre. Table 5-5 provides information regarding acres, housing, population and vacant lots for each APZ designation.

For the entire Clear Zone and APZ's, residential homes and vacant property represents 33% and 44% of the total area, respectively. The majority of the vacant property comprises platted residential lots. Table 5-5 shows an inventory of vacant lots within the Clear Zones and APZ's. Although no commercial or office buildings are located within a Clear Zone or APZ, the west APZ-II designation contains approximately one acre of land zoned for commercial uses. Maps 5-6 and 5-7 illustrate the zoning categories and future land use designations assigned by Santa Rosa County to properties within the Clear Zones and APZ's.

Clear zone and APZs extends into non-military lands from the north, east, south, and west sides of NOLF Holley. The west APZ contains only vacant residential lots and open space owned by Santa Rosa County. Similarly, the south APZ also is substantially devoid of development with only a about a half dozen homes spread throughout the APZ-I "B" and APZ-II "C" designations. Substantial development, though, exists within all three designations for the north and east Clear Zones and APZ's. Approximately 150 homes occur within the Clear Zone "A" for these two areas

Table 5-5
Profile of Clear Zone/APZ Designated Areas
Holley Study Area

	Zoning	Zoning Category	Acres	Dwelling Units	Popula-tion	Vacant Platted Lots
Clear Zone "A"	*Total Clear Zone "A"*		181	153	367	122
	R1	Residential	97	6	14	98
	R1M	Mixed Residential Subdivision	40	82	192	24
	R2	Medium Density Residential	12	65	161	0
	P2	Active Park	7	0	0	n/a
	Road	Right-of-Way	26	0	0	n/a
APZ-I "B"	*Total APZ-I " B"*		107	113	267	74
	R1	Residential	42	6	14	45
	R1M	Mixed Residential Subdivision	52	107	253	29
	R2	Medium Density Residential	0	n/a	n/a	n/a
	P2	Active Park	.3	n/a	n/a	n/a
	Road	Right-of-Way	13	0	0	n/a
APZ-II "C"	*Total APZ-II "C"*		202	152	359	118
	R1	Single Family Residential	96	25	59	52
	R1M	Mixed Residential Subdivision	70	122	288	44
	R2	Medium Density Residential	11	5	12	22
	HCD	Highway Commercial Development	1	0	0	4
	Road	Right-of-Way	23	n/a	n/a	n/a

[1] Land owned by Holley by the Sea Property Owners Association (4.2 acres) and County Park (24 acres). Total County park acreage is 27 .
[2] Navarre-Holley Water Utility owns 20 acres, as does Holley by the Sea Property Owners association
Note: Population and dwellings unit total may vary from Table 5-3 and 5-4 because of rounding.

3.4 Noise Zone Profile

Within the Holley Study Area, the Noise Zone within non-military property covers 207 acres, equal to 8% of the Holley Study Area. Approximately 326 acres within NOLF Holley lies within the Noise Zone. As shown in Map 5-4 and other maps in Appendix 5A, most areas of the Noise Zone fall within the Clear Zone and are generally aligned with the end of the two runways. Table 5-2 to 5-4 provides a summary of population, housing, and existing land use occurring within the Noise Zone. Other than residential homes and vacant residential lots, the only other significant land use is the 46 acres of open space scattered among several parcels that are owned by Santa Rosa County.

An estimated 382 residents reside among the 162 single-family homes or mobile homes located on parcels within or extending into the Noise Zone. No commercial, office, or institutional buildings occur within non-military lands. Nearly all lands within the Noise Zone are subdivided for residential lots, and all property is zoned for single family or mobile home residential uses. The typical lots size

in the Noise Zone is 20,000 square feet, or half an acre. Containing 329 parcels, approximately 50% are occupied by a residential unit. Among the others, 134 lots are vacant residential lots, all but two of which are zoned R-1. The remaining lots are open space owned by a property owners association or are used for utilities or stormwater.

No parcel within the Noise Zone is assigned a commercial or office category in the Santa Rosa County zoning map or future land use map.

3.5 Summary of Existing Airfield and Land Use Conflicts

Residential development has substantially encroached into areas adjacent to the airfield, including areas within the Clear Zone and APZ designations situated to its east and north. Based on an evaluation of existing development and population conditions, 367 people reside in Clear Zones and 153 residential homes. Altogether, the inventory of current population and housing within the Clear Zones and APZ's accounts for an estimated 995 residents and 442 residential units. Recognizing the effects of development encroachment, NAS Whiting Field has instructed aviators to give extreme caution to towers and antennas erected in the vicinity of NOLF Holley.

Compared to the other five NOLFs evaluated within Santa Rosa County Joint Land Use Study, the Noise Zone for NOLF Holley covers a small portion of non-military lands within the Holley Study Area. Residential development covers substantial portions of the Noise Zone extending north and east of the airfield. While no development occurs within the west Noise Zone, a few homes lie within the south Noise Zone.

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 Holley Study Area will be impacted by flight and ground activities at NOLF Holley.

Population growth and certain types of non-residential development, such as commercial retail and 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 Holley Study Area as well as inside Noise Zones, Clear Zones and APZ boundaries, the areas where airfield impacts are known to create the greatest potential land use conflicts.

4.1 Housing and Population Methodology

Most lands surrounding NOLF Holley have been subdivided into half-acre lots. For lands assigned a residential zoning category, only six tracts of land exist that are over twenty acres. Future housing and population estimates were prepared by creating an inventory of vacant residential lots and estimating the number of homes and population they would generate. For property greater than 20 acres, population and housing were estimated by using maximum residential densities allowed by the Santa Rosa County Comprehensive Plan and Land Development Code, future land use designations assigned to property within the Holley Study Area, occupancy rates and average persons per household for Santa Rosa County in the 2000 US Census.

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 category, as determined by the Santa Rosa County Land Development Code. Article 11 of the County's Land Development Code establishes specific development densities for property located with the Clear Zones, and APZs. However, for the NOLF Holley area, homes may be constructed on lots existing prior to the adoption of Article 11 so long as the density does not exceed four units per acre. Whereas the typical lot size for residential subdivisions surrounding NOLF Holley is about one-half acre, nearly all residential lots within the study area may be constructed upon. Lands inside the Clear Zone/APZ may be subject to restrictions reducing residential density below that allowed by the underlying zoning or land use designation. Population and housing projections take into account effects that Article 11, Airport Environs, as on the development potential for properties situated within a Clear Zone, 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 Holley is not affected by environmental conditions that may limit development potential. While some wetlands exist south of the airfield, most development potential exists within platted lots. Soils in the Holley Study Area are sand or loamy sand, pursuant to the US Soil Conservation Service's most recent soil survey for Santa Rosa County. 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.

For the estimation of population and residential development for build-out, development potential for larger parcels 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 requirements for infrastructure to support new development. For commercial and industrial lands, the potential building square footage was estimated by assuming that building floor area would cover 20% of a parcel for commercial zoned property and 15% for industrial zoned property. The assumptions also only consider a one-story building.

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 Holley Study Area, zoning was used to evaluate development potential rather than using the future land use designation. While Map 5-7 provides information regarding future land use designation assigned to property, Map 5-8 illustrates zoning for the Holley Study Area. Regulatory policy and code may reduce development potential within the Clear Zone, APZ or Noise Zone.

4.2 Study Area Development Potential

Currently, an estimated 3,075 residents live among 1,302 homes or apartments located within the Holley Study Area. Based on undeveloped lands that could potentially accommodate new development, population in the Holley Study Area has a potential to reach close to or over 7,590 and housing development could exceed 3,054 units. While existing commercial and industrial building floor area amounts to approximately 25,000 square feet, the study area can expect to experience more than 193,000 square feet based on land assigned a commercial zoning category. Tables 5-6 and 5-7, respectively, list the number residents and homes that could potentially occur within the Holley Study area in the future.

Table 5-6 provides a summary of the potential future population within the Holley Study Area while Table 5-7 summarizes potential dwelling units. The methodology used to estimate potential residential development and population appears in Table 5-8. Potential commercial development is shown in Table 5-9.

Table 5-6
Potential Future Population
Holley Study Area

Residential Unit	Year 2005	2010	2015	2020	Build-Out Potential
Single Family[1]	3,176	3,681	4,187	4,692	7,172
Multiple Family	108	126	143	160	418
Total	3,284	3,807	4,330	4,852	7,590

[1] Includes mobile homes.

Table 5-7
Potential Future Housing Units
Holley Study Area

Residential Units	Year 2005	2010	2015	2020	Build-Out Potential Residential (units)
Single Family Units[1]	1,331	1,542	1,754	1,966	2,951
Multiple Family U\nits	41	48	54	61	103
Total Residential Units	1,372	1,590	1,809	2,027	3,054

[1] Includes mobile homes.

Table 5-8
Build-Out Potential for Large Undeveloped Parcels
Holley Study Area

Zoning Category	Density/ Intensity	Vacant Lots	Acres	Dwelling Units	Population
Potential Residential Development on Platted Lots					
R1	n/a	848	679	848	2,180
R1M	n/a	218	133	218	552
R2	n/a	60	20	60	316
Total	n/a	1,126	832	1,126	3,048
Potential Residential Development on Large Parcels					
R1	4 units/acre	n/a	144	518	1,215
R1A	2 units/acre	n/a	60	108	252
Total	n/a	n/a	202	626	1,467
Current Housing Units and Population					
n/a	n/a	n/a	n/a	1,302	3,075
Total Potential Housing and Population				**3,054**	**7,590**

[1] Maximum units per acre.

Table 5-9
Potential Commercial and Industrial Building Floor Area
Holley Study Area

Zoning	FAR[4]	Acres	Floor Area (sq. ft.)
HCD - Commercial Highway	.20 per acre	22	193,058

.

SECTION 5
STUDY RECOMMENDATIONS

5.1 Future Use of NOLF Holley

A. **Findings.** NOLF Holley will not be used for the JPATS program because the runways do not contain sufficient length to accommodate the new T-6A Texan II aircraft. As the US Navy phases the T-34C (the aircraft currently using NOLF Holley) out of commission, use of NOLF Holley for fixed-wing flight training will likely decrease and will eventually cease once all T-34C aircraft are replaced. NAS Whiting Field is currently evaluating future uses for NOLF Holley. Land use recommendations and investments to reduce land use/aircraft conflicts may be premature and not consistent with future uses.

B. **Recommendation.** Santa Rosa County should coordinate with NAS Whiting Field to obtain the schedule and phasing plans for replacement of the T-34C with the JPATS program. The County should also coordinate with NAS Whiting to determine the schedule for determining the future use of or plans for NOLF Holley, including plans for potential divestiture of NOLF Holley.

5.2 Preparation for Potential Divestiture of NOLF Holley

A. **Findings.** NOLF Holley cannot be used for the JPATS program. Other alternatives for NOLF Holley would likely be for helicopter training or UAV training. However, Noise Zone and APZ boundaries for helicopter flight training would likely cover a much larger area than that currently delineated for NOLF Holley. With existing development surrounding the airfield and new development anticipated to continue, a much larger population would likely be impacted if NOLF Holley were incorporated into the helicopter training program. If NOLF Holley is not feasible for incorporation into the helicopter training program, then NAS Whiting would likely have to consider divestiture of this airfield. Similar to the closure of military installations in the past two decades, a potential exists that the land could be acquired by Santa Rosa County.

B. **Recommendation.** The County should maintain close coordination with NAS Whiting Field regarding the future plans for NOLF Holley. If divestiture appears to be one alternative, the County should commence evaluation of potential alternatives for the airfield.

5.3 Potential Land Exchange.

A. **Findings.** International Paper owns substantial land holdings within Santa Rosa County, including hundreds of acres adjacent to other NOLFs.

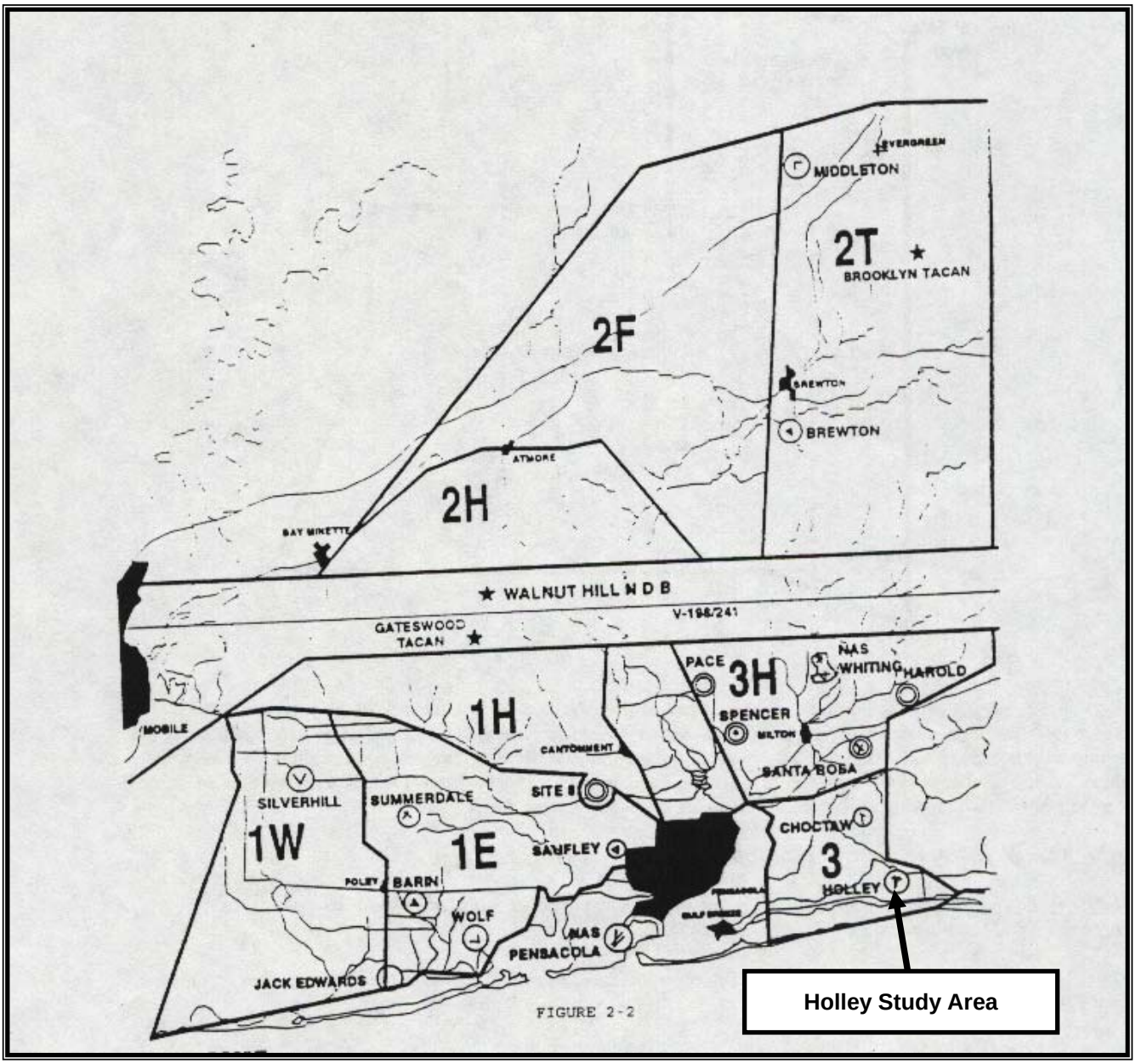
B. **Recommendation.** NAS Whiting Field should coordinate with International Paper to evaluate merits for a land exchange between NOLF Holley property and a new site for a fixed-wing aircraft airfield, if needed for replacement. .The property, with vicinity to local waters, would be attractive as a new town development, aviation industrial park or a master planned community.

5.4 General Recommendations

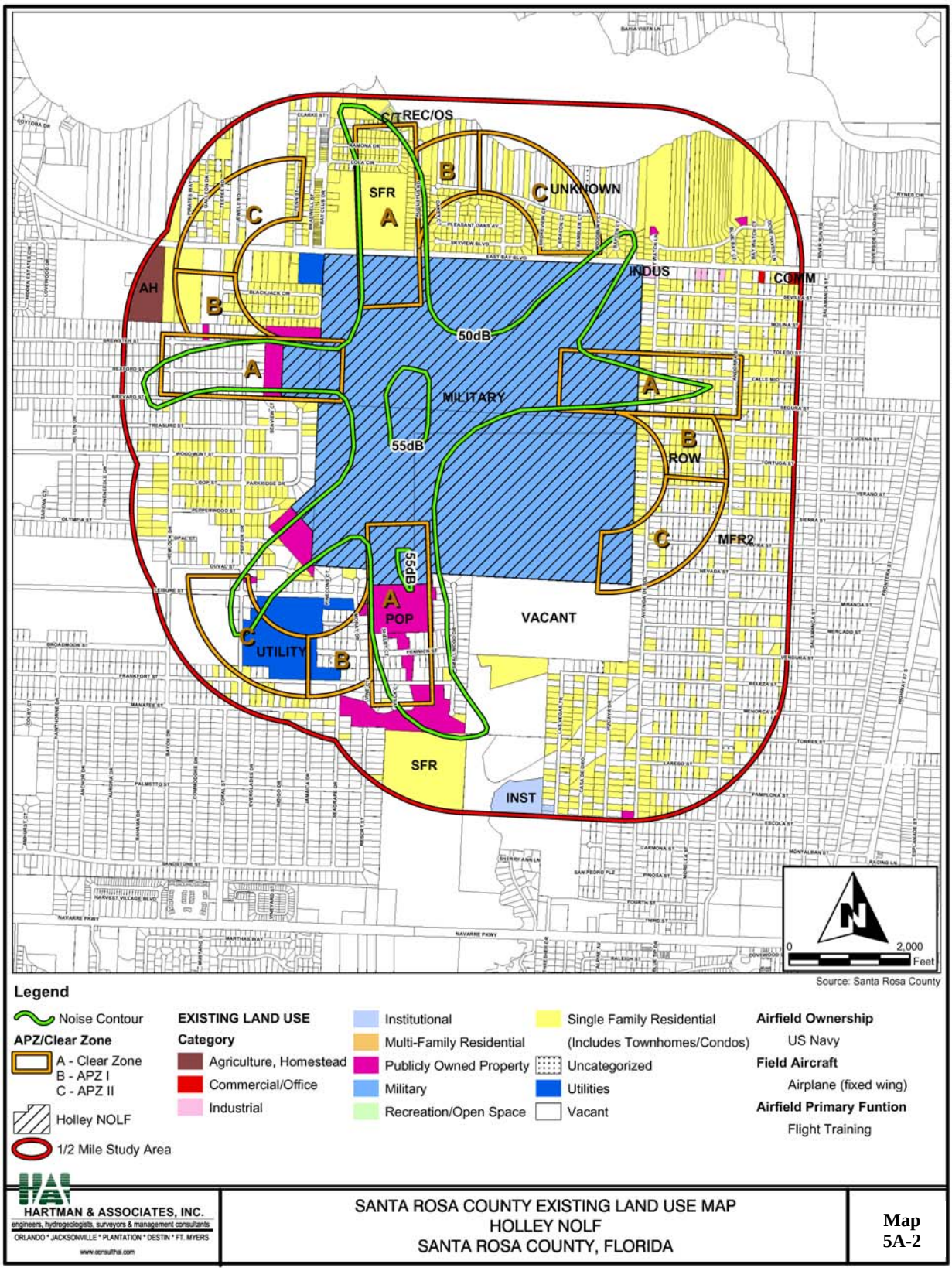
Chapter 1 may include additional recommendations affecting the use of land or construction methods applicable to areas near all or a number of airfields evaluated as part of the Santa Rosa County Joint Land Use Study.

APPENDIX 5A

NOLF HOLLEY JLUS MAPS



ALERT AREA 292	Map 5A-1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REC/OS
SFR
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55dB
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MFR2
VACANT
POP
UTILITY
SFR
INST
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2,000
Feet
Source: Santa Rosa County
Legend
Noise Contour
APZ/Clear Zone
A - Clear Zone
B - APZ I
C - APZ II
Holley NOLF
1/2 Mile Study Area
EXISTING LAND USE
Category
Agriculture, Homestead
Commercial/Office
Industrial
Institutional
Multi-Family Residential
Publicly Owned Property
Military
Recreation/Open Space
Single Family Residential
(Includes Townhomes/Condos)
Uncategorized
Utilities
Vacant
Airfield Ownership
US Navy
Field Aircraft
Airplane (fixed wing)
Airfield Primary Funtion
Flight Training
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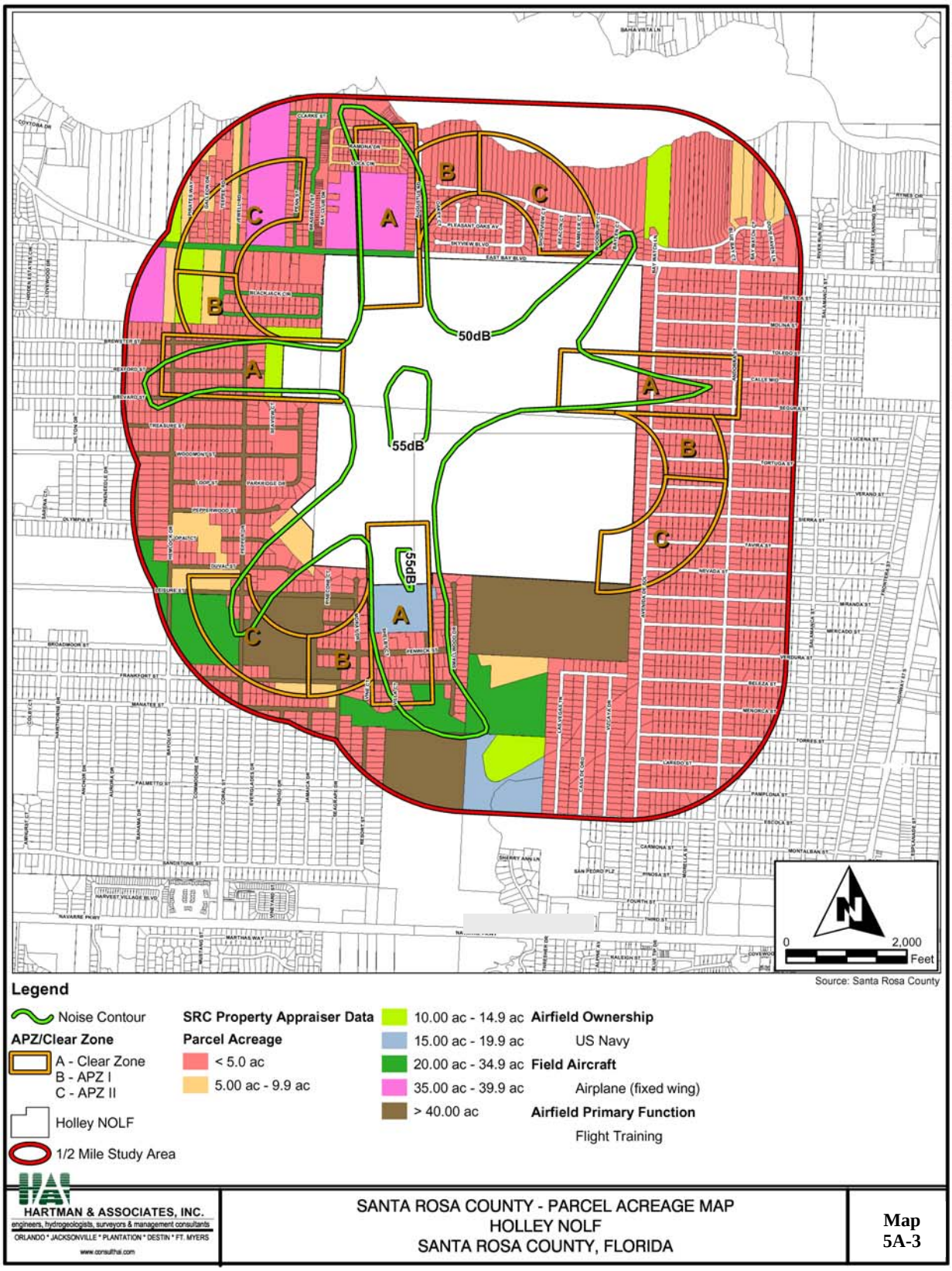
SANTA ROSA COUNTY EXISTING LAND USE MAP
HOLLEY NOLF
SANTA ROSA COUNTY, FLORIDA
Map
5A-2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50dB
55dB
55dB
A
B
C
0
2,000
Feet
Source: Santa Rosa County
Legend
Noise Contour
APZ/Clear Zone
A - Clear Zone
B - APZ I
C - APZ II
Holley NOLF
1/2 Mile Study Area
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
Airfield Ownership
US Navy
Field Aircraft
Airplane (fixed wing)
Airfield Primary Function
Flight Training
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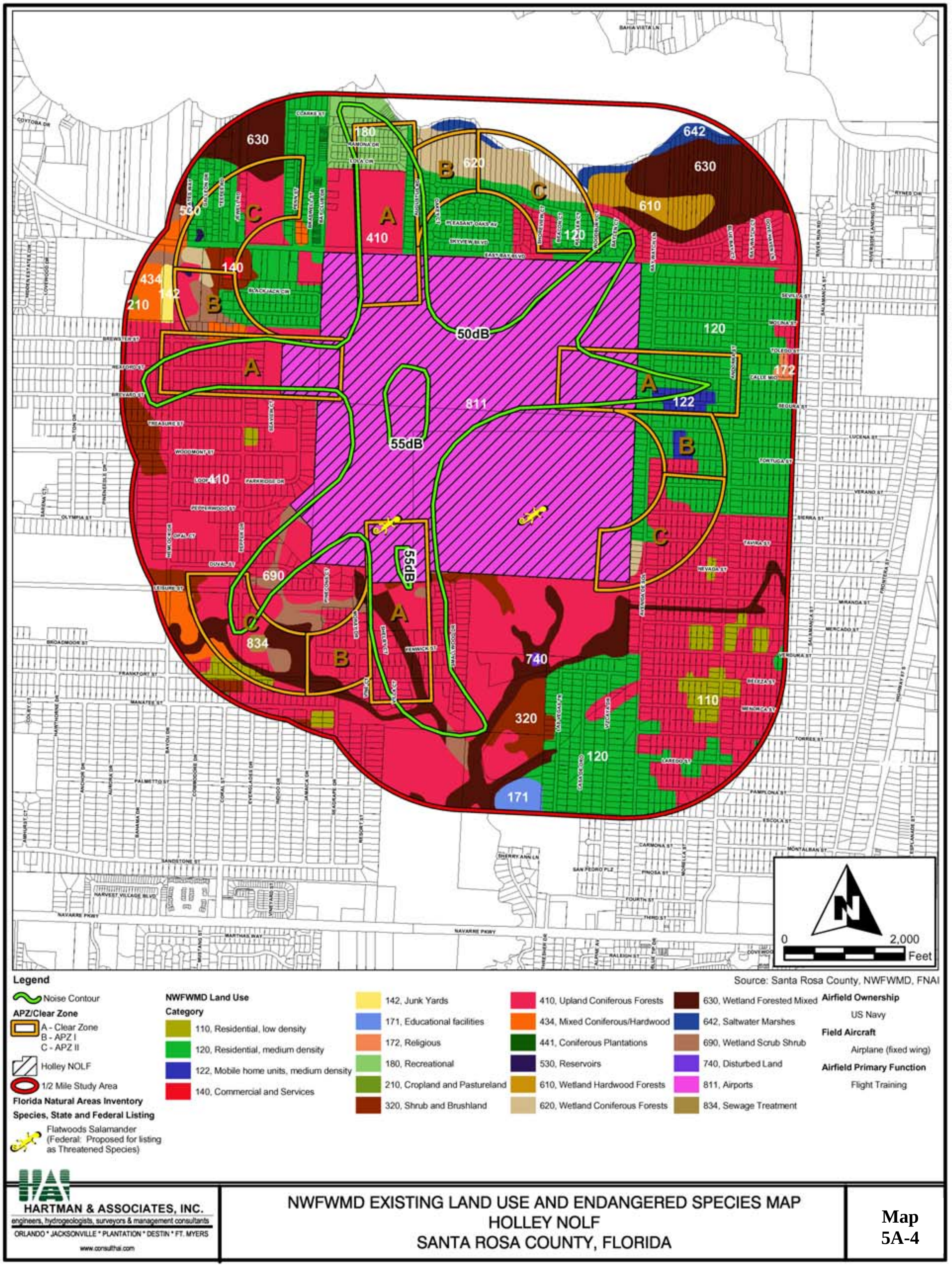
SANTA ROSA COUNTY - PARCEL ACREAGE MAP
HOLLEY NOLF
SANTA ROSA COUNTY, FLORIDA
Map
5A-3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630
180
620
642
630
610
410
120
140
434
142
210
50dB
120
172
811
122
55dB
410
690
55dB
834
740
110
320
120
171
A
B
C
0
2,000
Feet
Source: Santa Rosa County, NWFWMD, FNAI
Legend
Noise Contour
APZ/Clear Zone
A - Clear Zone
B - APZ I
C - APZ II
Holley NOLF
1/2 Mile Study Area
Florida Natural Areas Inventory
Species, State and Federal Listing
Flatwoods Salamander (Federal: Proposed for listing as Threatened Species)
NWFWMD Land Use
Category
110, Residential, low density
120, Residential, medium density
122, Mobile home units, medium density
140, Commercial and Services
142, Junk Yards
171, Educational facilities
172, Religious
180, Recreational
210, Cropland and Pastureland
320, Shrub and Brushland
410, Upland Coniferous Forests
434, Mixed Coniferous/Hardwood
441, Coniferous Plantations
530, Reservoirs
610, Wetland Hardwood Forests
620, Wetland Coniferous Forests
630, Wetland Forested Mixed
642, Saltwater Marshes
690, Wetland Scrub Shrub
740, Disturbed Land
811, Airports
834, Sewage Treatment
Airfield Ownership
US Navy
Field Aircraft
Airplane (fixed wing)
Airfield Primary Function
Flight Training
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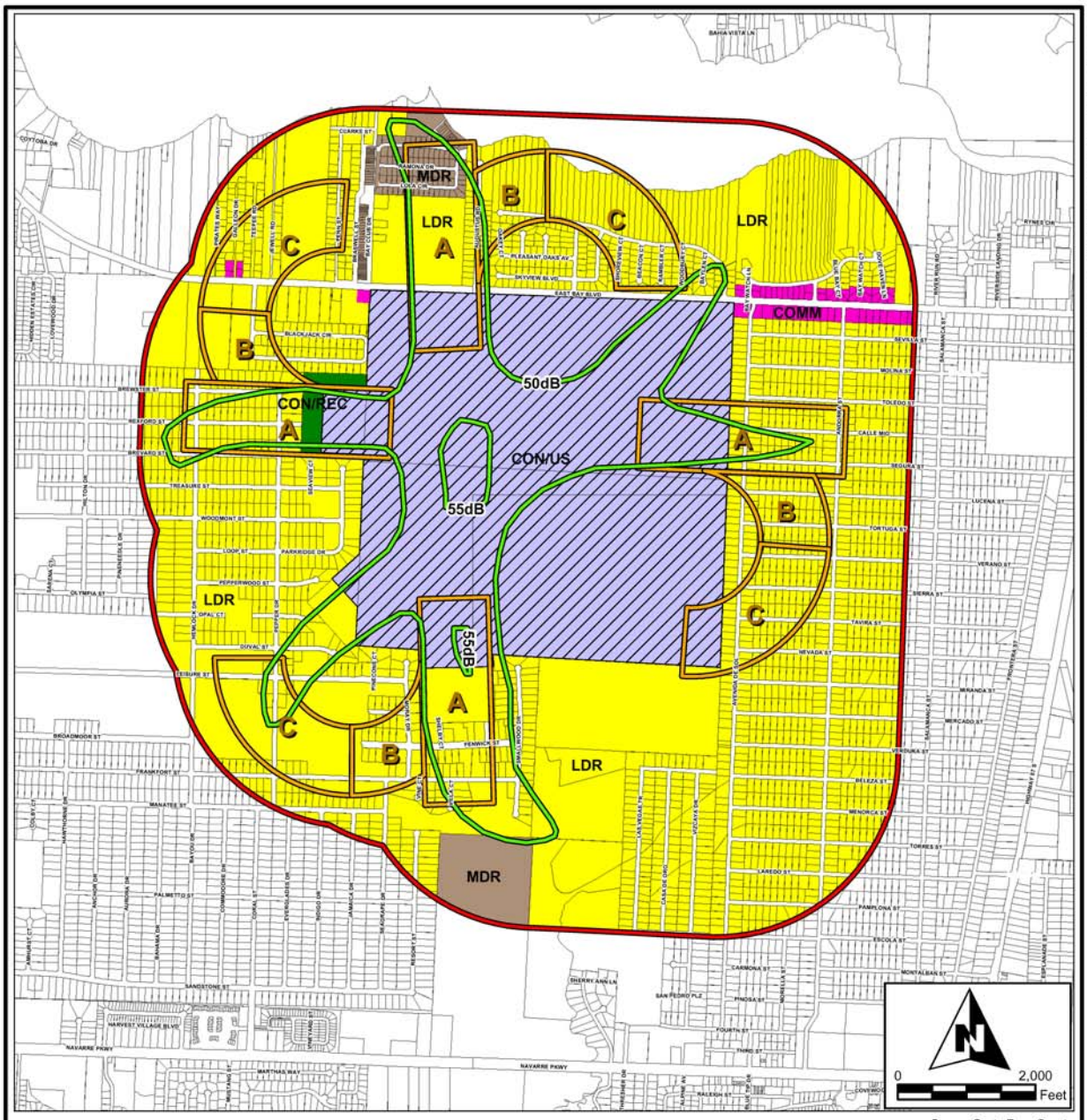
NWFWMD EXISTING LAND USE AND ENDANGERED SPECIES MAP
HOLLEY NOLF
SANTA ROSA COUNTY, FLORIDA
Map
5A-4



Source: Santa Rosa County

Legend

Noise Contour

APZ/Clear Zone

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

Holley NOLF

1/2 Mile Study Area

FUTURE LAND USE

Category

CONSERVATION/RECREATION
LOW DENSITY RESIDENTIAL
MEDIUM DENSITY RESIDENTIAL
COMMERCIAL
CONSERVATION/US GOVT

Airfield Ownership

US Navy

Field Aircraft

Airplane (fixed wing)

Airfield Primary Function

Flight Training

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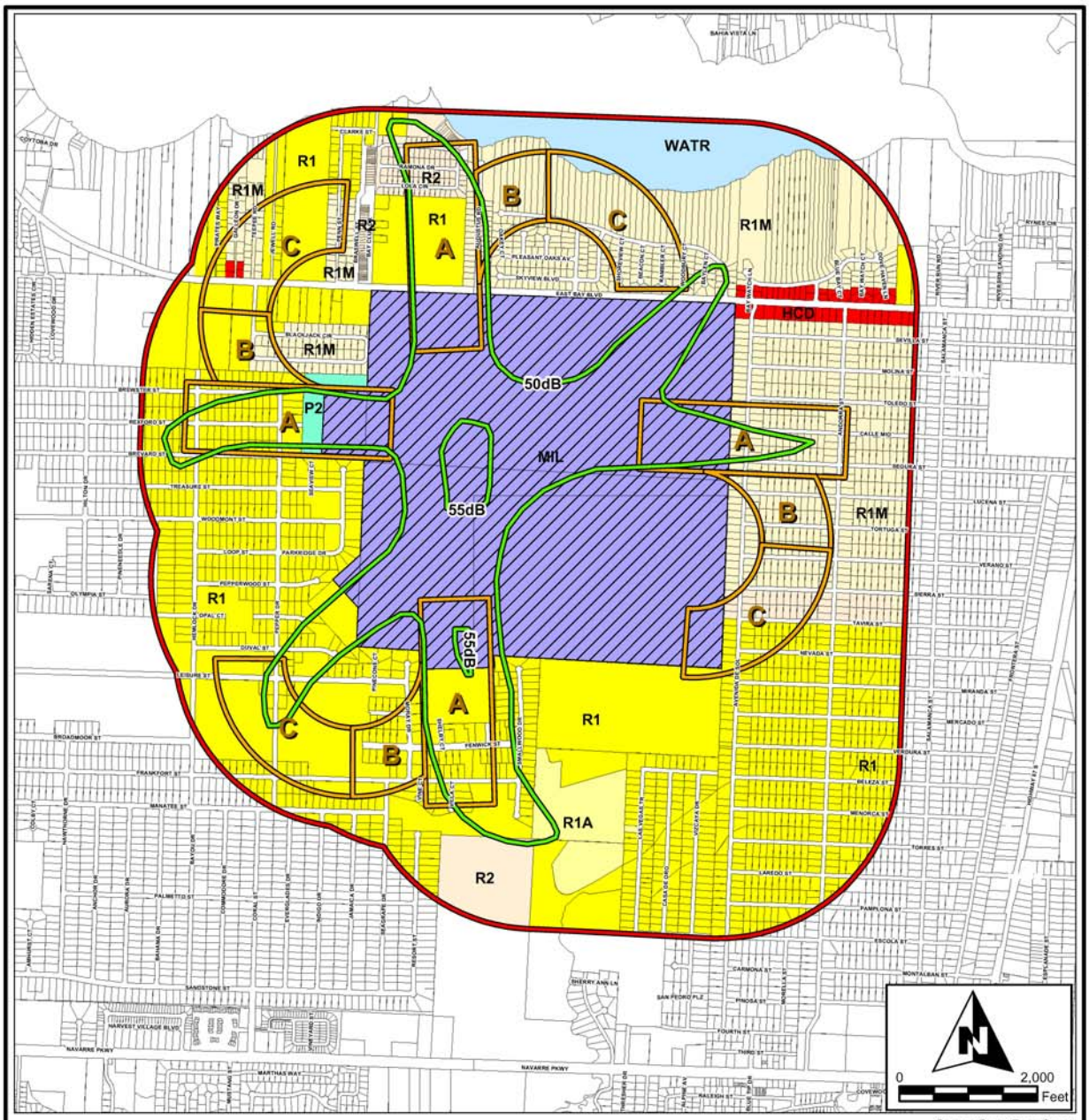
SANTA ROSA COUNTY FUTURE LAND USE MAP
HOLLEY NOLF
SANTA ROSA COUNTY, FLORIDA

Map 5A-5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WATR
R1
R1M
R2
R1A
HCD
MIL
50dB
55dB
A
B
C
P2
0
2,000
Feet
N
Source: Santa Rosa County
Legend
Noise Contour
APZ/Clear Zone
A - Clear Zone
B - APZ I
C - APZ II
Holley NOLF
1/2 Mile Study Area
ZONING
Category
Highway Commercial Development (HCD)
Active Park (P-2)
Single Family Residential (R-1)
Single Family Residential (R-1A)
Mixed Residential Subdivision (R-1M)
Medium Density Residential (R-2)
Military
Water Body
Airfield Ownership
US Navy
Field Aircraft
Airplane (fixed wing)
Airfield Primary Function
Flight Training
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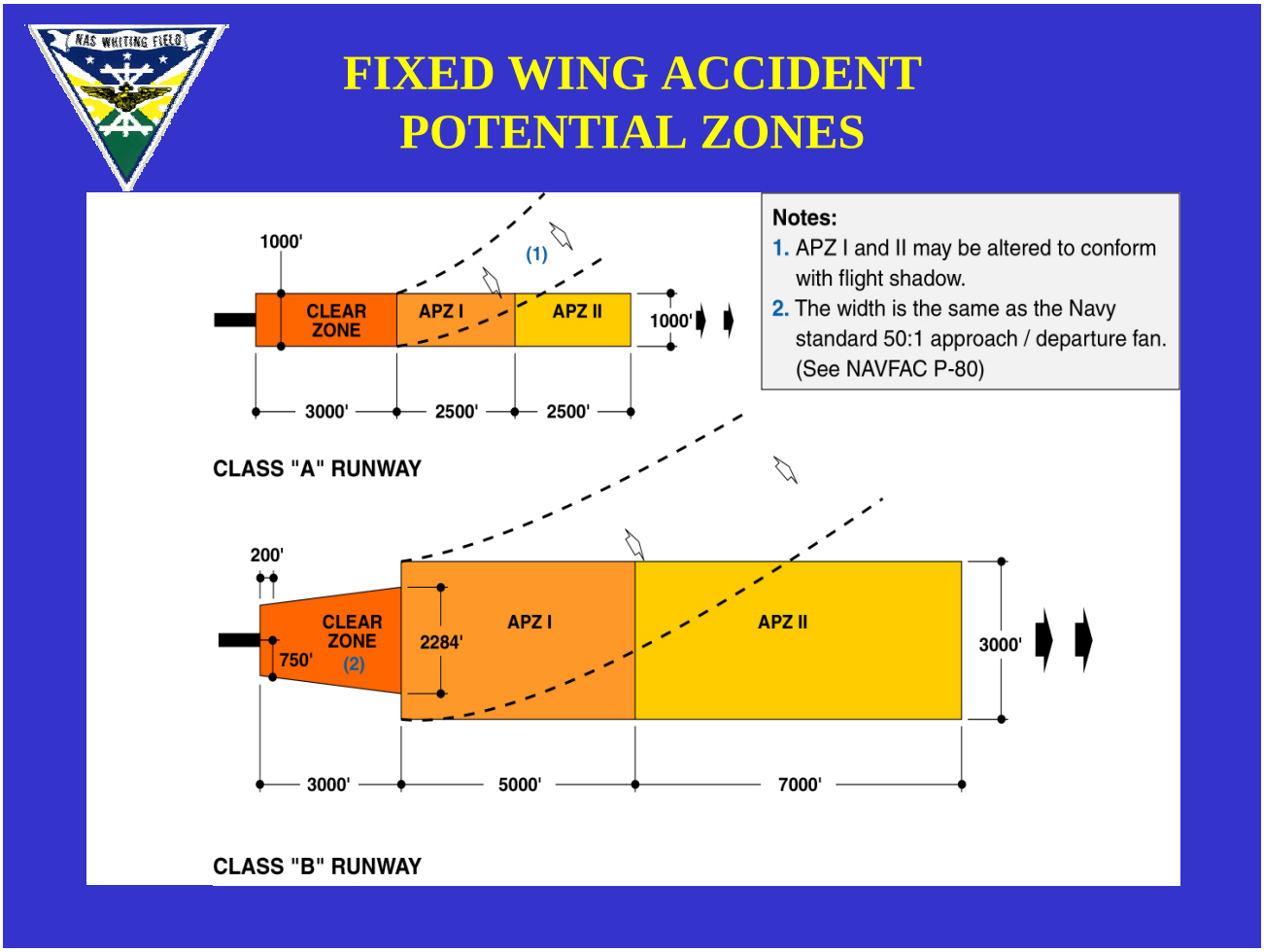
SANTA ROSA COUNTY ZONING MAP
HOLLEY NOLF
SANTA ROSA COUNTY, FLORIDA
Map
5A-6

APPENDIX 5B



Note: NOLF Holley applies Class "A" runway APZ and Clear Zone designations

FIGURE 5-1 ACCIDENT POTENTIAL ZONES FOR FIXED WING AIRCRAFT	Figure 5B-1