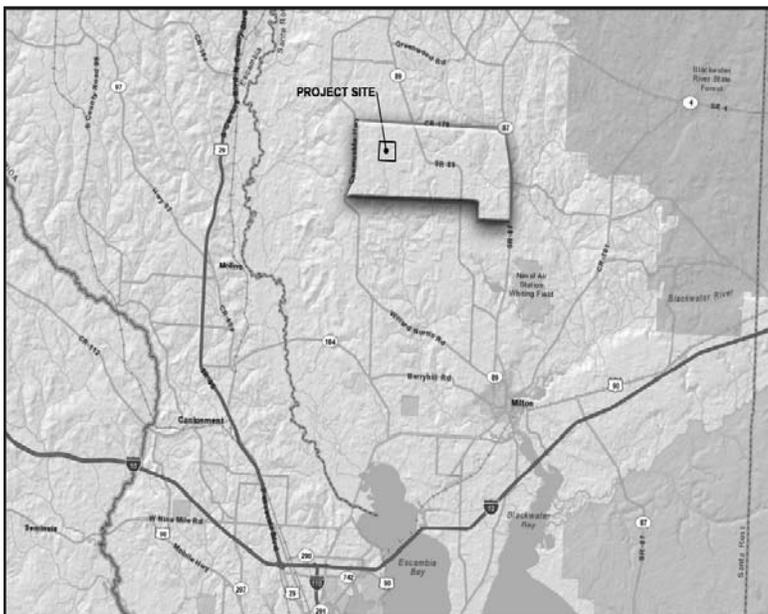




# Escambia County

## OLF-X Due Diligence Report

January 2014



Prepared for:  
**Escambia County**

Task Order Number: 25898.01

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# Executive Summary

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# Executive Summary

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The United States Navy, Escambia County, and Santa Rosa County have a long history of cooperation and progress. Beginning with the Naval Air Station (NAS) in Pensacola, the Navy has enjoyed a strong presence in northwest Florida. This presence, centered on naval aviation training, includes a multitude of facilities to provide instruction to thousands of student pilots. Throughout the years, training facilities have either been closed or reallocated as the Navy's needs change. Ellyson Field and Navy Outlying Field (OLF) Bagdad are two examples in Escambia and Santa Rosa Counties, respectively, which have been closed and purchased by private or public entities to create commercial or residential developments.

For many years, economic development leaders within Escambia County have searched for properties to create commerce parks to attract companies to the region. Located in northwest Pensacola near the intersection of U.S. Highway Alternate 90 (Nine Mile Rd.) and Interstate Highway 10, Navy OLF-8 has long been viewed as an ideal location for a potential commerce park. Escambia County leaders have been in discussions with the Navy for nearly two decades in regards to purchasing the property for the purpose of developing a commercial enterprise. In recent years, urban encroachment related to several new commercial and residential developments surrounding the airfield enticed the Navy to reconsider the option of liquidating the OLF-8 property through a land exchange proposal.

The purpose of this report is provide an overview of the due diligence process regarding the purchase of a partial Section of land in northern Santa Rosa County by Escambia County. The Santa Rosa property (OLF-X) would be designed to meet the requirements for an advanced helicopter outlying field for the Navy. Once the property is developed

and approved, OLF-X would be transferred to the Navy by Escambia County in exchange for the OLF-8 property.

The OLF-X property is located in northern Santa Rosa County, eleven miles northwest of NAS Whiting Field. The 601 acre property is currently owned by RMS Timberland, LLC and zoned as agricultural land. The current land use is dedicated to silviculture activities for the production of wood pulp related to the paper production industry. The property is generally characterized by flat terrain with well-drained soils. The property contains few threatened and endangered species and has no jurisdictional wetlands within its boundary ( cursory definition).

A Phase I Environmental Site Assessment found the parcel has no recognized areas of environmental concern. Although several parties hold surface and access rights related to any mineral deposits underneath the property, the two most prominent holders have relinquished those rights. Negotiations have begun with a group which holds rights to a small portion of the property roughly forty acres in size. No complications are anticipated in regards surface rights hindering site development. Essentially, the due diligence process suggests that an OLF-X property is ideal for development as site for a rotary-wing training airfield.

The proposed training facility holds several advantages over the existing OLF-8 airfield. First, the Navy will gain an airfield with no wetlands or topographic irregularities. This provides the Navy with an opportunity to utilize the entire site for training. As a result, the new advanced training facility could be designed to combine missions from multiple outlying airfields into one facility. Furthermore, because the new airfield is considerably closer to NAS Whiting Field than

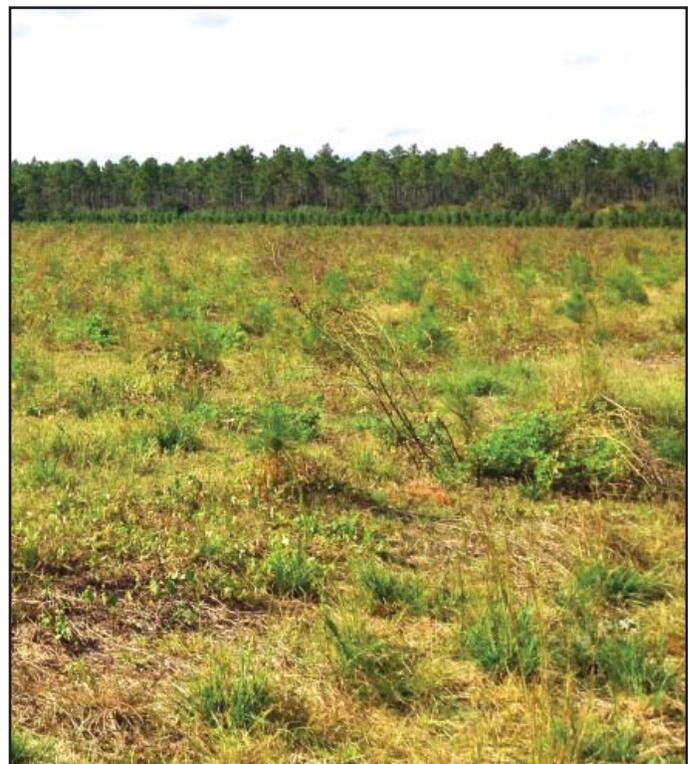
OLF-8, fuel and transportation costs associated with aircraft and support vehicles will be lower. Relocating the new airfield across County lines also strengthens the Navy’s mission within Santa Rosa County, which reduces potential threats to the local economy due to closures associated with the Base Realignment and Closure Commission. Finally, subsequent to the land swap, Escambia County would be able to develop a commerce park at the former OLF-8 site. The proposed commerce park has the potential to be one of the largest economic development projects in the State of Florida in the coming years. The commerce park location, with direct access to Interstate 10, provides an impeccable opportunity to capitalize on aerospace suppliers relocating to the region as part of the Airbus assembly facility currently under construction in Mobile, AL.

Conceptual layout of the proposed airfield is combination of two existing outlying field installations: OLF-8 and OLF-Spencer Field. The site design includes four asphalt runways, one in each cardinal direction. An infield area that houses a crash shack, fueling facility, and a crew change area is encircled by the runways. The runways form lanes to facilitate training maneuvers very similar to the existing training course at Spencer Field. Confined area landing and pinnacle landing training zones like those at OLF-8 are included in the northwest and southeast corners of the proposed airfield. Outside of buildings and hardscapes, the proposed airfield site will be grassed with bahiagrass to prevent erosion and prevent debris from interfering with the Navy’s training mission.

As part of the design and permitting process, several surveys and studies will be required. Additionally, the zoning and future land use category associated with the property will need to be adjusted to one appropriate for the proposed airfield. Santa Rosa County has initialized the process of creating a new zoning district and land use category titled “Military Installation.” Adoption of the rezoning request has been approved by Santa Rosa County. Approval of the Future Land Use category by the State of Florida must be completed prior to the environmental permitting. Furthermore, the design will have

to comply with State regulations for stormwater management, transportation, and utility design while meeting Navy requirements for an advanced helicopter training facility.

A critically important component of the proposed airfield is to ensure the combined design and construction costs are in the range of the appraised value of the existing OLF-8 airfield. Three appraisals and one independent appraisal were completed on the OLF-8 property to assess its current worth. Requirements preclude the Navy from accepting an exchange of property if they are relating equivalent . Upon acceptance, the Navy will take possession of the new OLF-X training facility and relinquish ownership of the OLF-8 site. Subsequently, Escambia County will redevelop the OLF-8 property as a “super-site” commerce park, providing opportunity to attract global companies to the region, providing thousands of local jobs while injecting millions of dollars into the local economy.



*OLF-X Property*

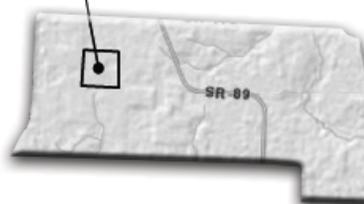
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**PROJECT SITE**





# Section 1: Overview

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# > Overview

The purpose of this section is provide an overview of the overall due diligence process. Included in this section is an historical account of negotiations and impact studies, existing flight operations associated with the Navy’s rotary-wing training program, and a study of the part of the Navy Program associated with the current land-swap proposal.

## History

Throughout the last 20 years, the United States Navy and Escambia County have been considering a transaction for Navy Outlying Field Eight (OLF-8) near Beulah, FL. In the past, relocating training activities associated with OLF-8 was not one of the Navy’s top priorities. With urban development encroaching upon the OLF-8 airfield, including the neighboring Heritage Oaks Commerce Park, the Navy has more recently begun to consider liquidating the property.

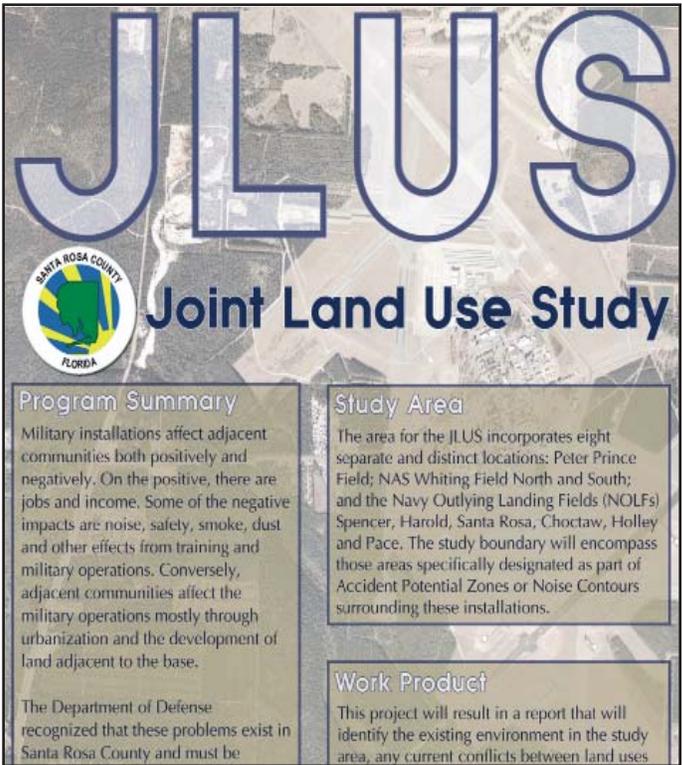
Since the early 1990’s, local governments in northwest Florida have taken aggressive steps to protect the economic stability of their military institutions. This proactive approach to protect local military assets began with the passing of the Defense Base Realignment and Closure (BRAC) Act of 1990. The BRAC process established the framework by which the Federal Government works to increase Department of Defense (DOD) efficiency through closing or realigning post-Cold War military installations. Since 1989, there have been five base closure rounds resulting in the closure of 350 military installations across the globe.

In northwest Florida, the economic impact associated with the military’s presence is significant. Local government agencies have invested heavily in efforts to protect military installations within the region. Local governments, including Santa Rosa

County, have been cognizant of encroachment of urban development upon local bases and instituted measures to discourage conflicts between a growing population and military assets.

## Santa Rosa County Joint Land Use Study

A Joint Land Use Study (JLUS) is a cooperative planning effort between local governments and military institutions. The JLUS program began as a DOD initiative that examines positive and negative impacts that military installations have on surrounding communities. The purpose of JLUS is to pinpoint methods to reduce operational impacts of a military installation on the surrounding land.



JLUS Promotional Flyer

One of the biggest challenges military installations face is urban development. The presence of a military base draws increased population to an

area through relocation of service personnel and the opportunity of civilian employment. Growing population is generally followed by an increase in the number of service-based employment opportunities, which further increases population numbers. However, encroachment related to urban development jeopardizes the capacity of military installations and degrades the quality of life of local residents through increased noise pollution and accident potential. Military operations are loud in nature and present safety concerns to nearby civilian populations due to the accident potential related to high-performance military aircraft. The JLUS process creates growth management strategies to manage growth and development in a manner suited with present and future military operations.

In 2003, Santa Rosa County finalized its own JLUS study to develop strategies to protect military installations in the County from encroachment, incompatible development and other activities that could conflict with the local military mission. The study examined current and future conditions associated with each individual military installation. Within the findings, the JLUS study created a land use plan and a set of land development regulations that will have the following effects:

- Protect the health, safety, and welfare of citizens through compatible land use.
- Ensure continued positive relations between the Navy and Santa Rosa County.
- Ensure the Navy continues operations and carries out its important missions.
- Ensure the viability of the installations and the related viability of a portion of Santa Rosa County's economic base.
- Prevent future encroachments that could jeopardize the capacity of the installations.
- Prevent encroachments that could negatively affect the quality of life for residents of Santa Rosa County.

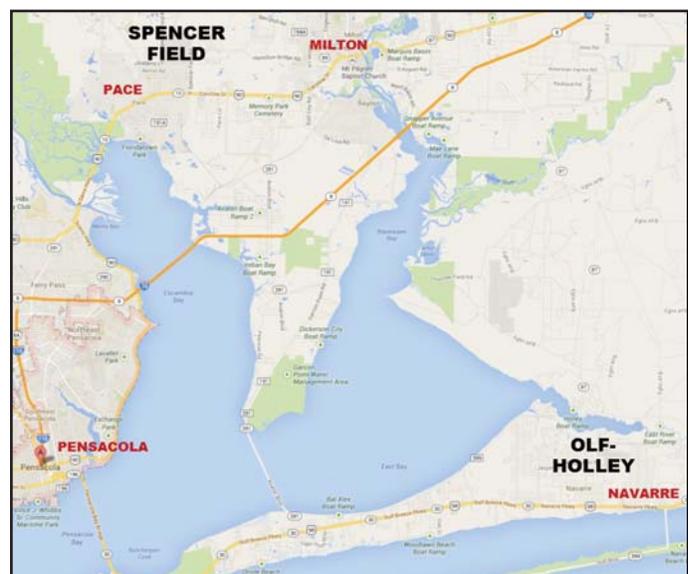
Two of the eight airfields examined as part of the Santa Rosa County JLUS are similar to the OLF-8 training course in Escambia County. Both Spencer Field in Pace and OLF-Holley in Navarre are threatened by urban encroachment. Both

airfields are surrounded by a limited number of large land tracts. Much of the land surrounding these installations is developed or has been subdivided for future residential development. As such, acquisition of these smaller parcels of land to protect the military's mission at these airfields would be difficult and costly. In both cases, the JLUS recommends relocation of the airfields in the future via a land swap to a location compatible with the military's mission. New town developments, master-planned communities, or commercial developments are recommended by the study as potential replacement projects for relocated airfield properties. The idea of a land swap to protect the Navy's mission in the region while also enhancing the local economy is not new.

### Ellyson Field

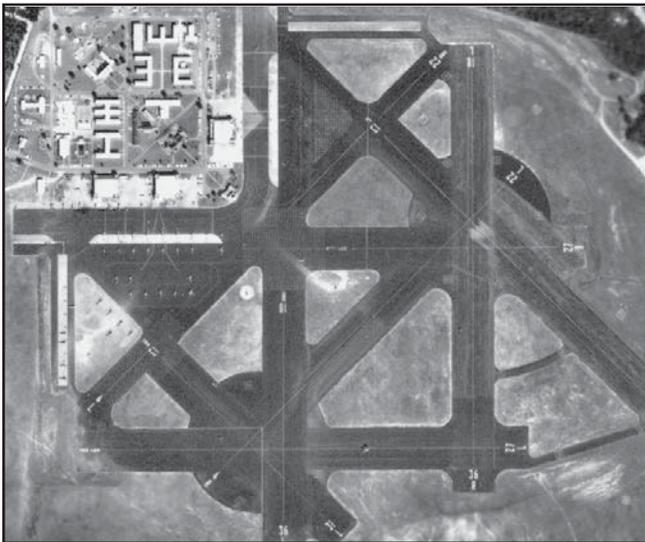
The Navy has a long history of developing, redeveloping, and relocating airfields and operations around northwest Florida as training needs change. Ellyson Field in Pensacola is a textbook example of the Navy's development practices in the region. Land to develop Ellyson Field was originally purchased as farmland in 1940. The site was developed as an outlying field in support of training operations at NAS Pensacola.

Ellyson was designated as a Navy Auxiliary Field during World War I, closed, and reopened as a



*Spencer Field/OLF-Holley Map*

full-fledged Naval Air Station during the Korean War. In support of the Korean War effort, Ellyson was the Navy's primary helicopter training facility and even conducted helicopter training for NASA's astronaut program. However, in the early 1970's, due to urban encroachment and conflicts with civilian aircraft flying from Pensacola Regional Airport (now Pensacola International Airport), the Base was transitioned to an education, training, and development center and eventually closed permanently. Several years subsequent to its closure, Escambia County purchased Ellyson Field and redeveloped it as a commerce park. Today, Ellyson Industrial Park is a vital part of the northwest Florida economy.



*Historical Ellyson Field Aerial Photograph*

Escambia County has a history of purchasing property for economic development and the creation of commerce and technology parks. In recent years, the County, along with the Greater Pensacola Chamber of Commerce, has been in discussions with the Navy regarding the purchase of OLF-8. Throughout the process, the Navy has been reluctant to consider the possibility of relinquishing the property because the outlying field near Beulah met their needs and was not threatened by urban encroachment. The Navy's position changed with the recent development of large parcels surrounding OLF-8. The Navy has led the initial effort to relocate the OLF-8 training facility to a more remote location via a land-swap arrangement.

## **Land-Swap Proposal**

The development of several large parcels adjacent to the OLF-8 training course has impacted Navy operations in Beulah. To the east, Heritage Oaks Commerce Park was proposed to promote commercial development in northwest Pensacola. Navy Federal Credit Union purchased and developed the entire commerce park, expanding its call center operation in northwest Florida. The Navy Federal project was so successful that the credit union purchased the adjacent 4-H Camp, which also borders the OLF-8 property. Navy Federal has plans to expand its operation by moving additional back office functions from its National Headquarters in Virginia to Escambia County. To the south, a 750-acre tract land was developed as Nature Trail subdivision with 659 single-family residential lots. Build-out of the subdivision has been accelerated by the expansion of the Navy Federal Campus. Bell Ridge and Keystone are additional single-family residential subdivisions developed to the south and west of the OLF-8 parcel in recent years.

Under the land-swap proposal, Escambia County would find, purchase, and develop an appropriate section of land. The developed parcel would be in the vicinity of Whiting Field, improving its overall efficiency of outlying field operations. Once the County develops the new airfield, it would be given to the Navy in exchange for the OLF-8 property. The Navy is allowed to make land exchanges of this sort if the value of the two properties are similar. As such, the budget to purchase, design, and construct the OLF-X site is based on an appraisal value of the OLF-8 parcel. If the two sites are not generally of the same value, the Navy will reject the land swap because the exchange would be viewed as having superfluous benefit.



*Ellyson Industrial Park Building*

Officials involved in the transaction believe that an exchange involving an active airfield owned by the federal government and land owned by a private or public developer has never been attempted. Although Navy staff is on-board and excited about the project, final approval for the exchange of land must be approved by the United States Congress.



*Navy Federal Credit Union Campus*

With state and local governmental organizations seeking to improve local economies and the threat of BRAC always looming, this exchange of property will be closely observed and may well set a precedent for similar projects in the future.

### Advantages

The move of OLF-8 to Santa Rosa County will be a win-win scenario for all parties involved. From the Navy’s perspective, relocation of the airfield will reduce the potential impact from urban development encroaching upon the outlying field. The fact that the proposed airfield is considerably closer to the training wing’s home base at Whiting Field will reduce fuel cost for both aircraft and ground support vehicles. Furthermore, the layout will provide the Navy a new outlying field with the capacity to utilize the entire property; designed to accommodate multiple missions on the same site.

In Santa Rosa County, an airfield with advanced training capability strengthens the County’s position with the Navy with regards to Base Realignment and Closure initiatives. Federal and civilian jobs associated with Whiting Field account for over 20 percent of all employment within the County. In

2003, nearly 3,000 military, civilian contractor, private industry personnel and students were affiliated with the naval air station. Additionally, the new airfield would provide a working example of community involvement and cooperation to strengthen the Navy’s mission in the entire region.

Finally, following successful completion of the land-swap and relocation of the airfield to Santa Rosa County, Escambia County will take possession of the property. The former OLF-8 site will be converted into a regionally competitive commerce park. Not only is the property one of the last available large tracts of land in Escambia County, it is located near the intersection of U.S. Highway 90-A and Interstate 10. The location is a vital selling point for potential commerce park occupants. With the AirBus manufacturing facility currently under construction fifty miles to the west in Mobile, AL, the commerce park is in an ideal location for use as a primary aviation supply site.



*OLF-8 and OLF-X distances to Whiting Field*

### CTW-5 Curriculum

Commander Training Wing FIVE (CTW-5) is based at Naval Air Station (NAS) Whiting Field near Milton, FL in Santa Rosa County. Whiting Field is one of two primary pilot training bases in the United States, the other being located in Corpus Christi, Texas. In addition to training naval pilots, Whiting Field is a joint training facility providing student instruction to Navy, Marine Corps, Coast Guard, and Air Force pilots. The Navy provides a



*OLF-8 Site*

manual of fixed wing and rotary wing procedures for the Commander Training Air Wing Five (CTW-5), which is included in **Appendix G**.



*CTW-5 Logo*

Whiting Field's mission includes fixed wing training using Beechcraft T-6 Texan airplanes and rotary-wing training utilizing TH-57 Sea Ranger helicopters. Student aviators receive primary and intermediate fixed-wing training and advanced training for rotary-wing aircraft. Training for different aircraft is split amongst the two airfields located at NAS Whiting. Students undergoing training for fixed-wing aircraft utilize Whiting Field North, while rotary-wing students train at Whiting Field South. Both aircraft use multiple outlying fields as part of their training regimen. However, with a few exceptions, outlying fields are generally designed for one air frame or the other.

Outlying fields play an important role in student training activities associated with Whiting Field.

Most aircraft training exercises occur at the various outlying fields. In fact, training missions at Whiting Field account for only eleven percent of the total flight exercises. Seven outlying fields are associated with rotary-wing training operations. Five of the seven outlying fields are located in Santa Rosa County:

- OLF-Choctaw.
- OLF-Harold.
- OLF-Pace.
- OLF-Santa Rosa.
- OLF-Spencer Field.

OLF-Duke Field, located in Okaloosa County is affiliated with Eglin Air Force Base, as is OLF-Choctaw.



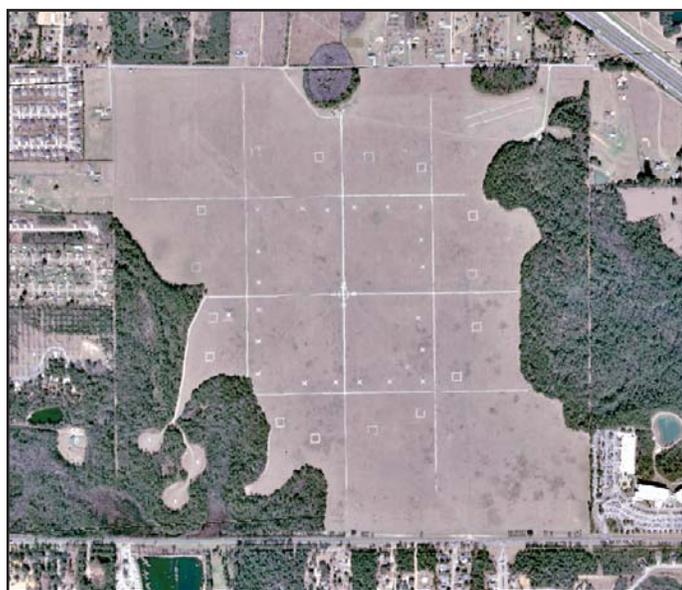
*TH-57 Sea Ranger Helicopter*

OLF-8 is located in western Escambia County on the outskirts of metropolitan Pensacola. Nearly twenty-three miles by air and thirty-three miles by surface roadways separate the OLF-8 site from Whiting Field. Travel time for support vehicles required for flight operations is nearly one hour each way. With the exception of OLF-Duke Field, travel distances linked to OLF-8 are virtually double those associated with other rotary-wing OLF locations. In fact, four of the seven OLF training sites are located within an eleven-mile radius of Whiting Field.

### **OLF-8 Geometry**

OLF-8 is comprised of 640 acres located near the intersection of Interstate 10 and Nine Mile Road. The property includes a combination of grassed airfield on uplands and pine tree stands in

topographic depressions. Topographic irregularities associated with the site are created by the adjacent Eleven Mile Creek watershed basin. From north to south, the site provides 75 feet of topographic relief with the lowest elevation located near the southwest corner of the property. All usable land with suitable topography has been cleared and grassed for airfield operations. However, nearly twenty-five percent of the site remains woodlands due to incompatible topography and wetlands. According to Escambia County's Geographic Information System (GIS) Department, the OLF-8 site possesses approximately 33 acres of wetlands. Recent evaluations suggest that approximately 425-450 acres of the parcel is developable upland area.



*OLF-8 Aerial Photograph*

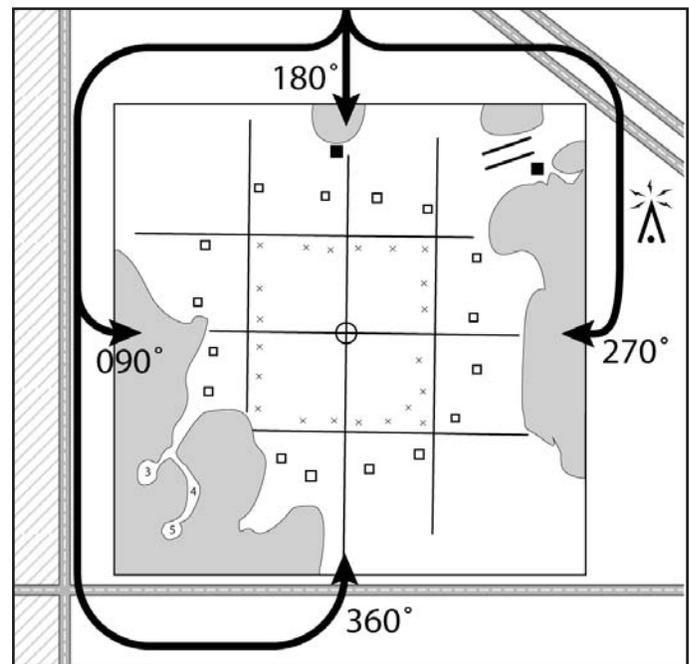
The OLF-8 airfield is defined by a series of white markings delineating specific operation areas. Two primary markings bisect the field into two sides, left and right of the centerline. The primary markings are oriented in the cardinal directions (N, S, E, and W) crossing at the field's center point. Traffic patterns are dictated by the prevailing winds at the time of training. All exercises are conducted on the downwind side of the field, while the upwind side is reserved as the low work area.

Each side of the airfield is divided into three lanes: normal approach, tactical, and autorotation. Standard lane exercises include normal and steep approaches; sliding landings are done at two

approach points. Three landing spots make up the tactical lane. Tactical lane exercises include the following training maneuvers:

- Quick stops,
- High speed approaches,
- Boost-off approaches,
- High speed, low level autorotations and,
- Section approaches.

Autorotations simulate landing safely in the event of power loss or other catastrophic emergency. All varieties of autorotation exercises, including 360-degree overhead, 180 and 90-degree offset approaches, are restricted to the autorotation lane.



*OLF-8 Layout and Traffic Patterns*

One advantage OLF-8 holds over other outlying fields is the ability to practice confined area landings (CAL's). CAL's train aviators to land rotary-wing aircraft in confined spaces, particularly in a landscape dominated by dense vegetation. As such, the configuration of OLF-8 takes advantage of the forested regions associated with its irregular topography to carve out zones for CAL training missions. CAL zones at the OLF-8 site are located in the southwest corner of the property.

Another training operation performed at OLF-8 is pinnacle landings. Similar to the CAL maneuver, pinnacle exercises simulate landing the aircraft in

a non-airport environment. In this case, pinnacle maneuvers simulate landing on a space elevated from the natural ground, such as a helipad on top of a fixed structure or building. The pinnacle landing pad is 50 feet square and rests twenty feet above existing grade on top of an earthen plateau. Pilots utilize a steep approach to descend upon CAL and pinnacle landing zones to avoid potential obstacles.



*OLF-8 Confined Area Landing Zones*



*OLF-8 Pinnacle Landing Pad*

Each OLF site is permitted a maximum number of aircraft operating at one time in specific patterns. Twelve aircraft may operate at any given time at OLF-8, six on each side of the centerline. Aircraft approach the OLF-8 site from the north and enter the field upstream of the prevailing wind direction. Aircraft may not operate at outlying fields without an Airfield Operations Duty Officer and a crash

crew on-site. A crash shack and operations building is located on the northern side of OLF-8. The northeast corner of the airfield houses fueling and crew-change areas. Fuel facilities consist of fuel pits, four concrete landing pads, and two gravel taxi-line markings.

Clearly, existing operations and the supporting course facilities at OLF-8 will have to be replaced at the new OLF-X site.

### **OLF-Spencer Field Geometry**

Like OLF-8, OLF-Spencer is approximately 640 acres in size. Spencer Field is located near Pace, FL approximately 10 miles southwest of Whiting Field. Specifically, the airfield is located north of U.S. Highway 90, west of County Road 197 (Chumuckla Hwy.). Unlike the outlying field in Escambia County, OLF-Spencer is relatively flat and contains no wetlands, although a small circular marshy area exists along the field's western boundary. The absence of wetlands and flat terrain allows the entire parcel to be utilized as a training course.

Spencer Field is one of the more elaborate outlying airfields specifically designed for rotary-wing aircraft. Asphalt runways can be found near the center of the property. A dedicated runway is provided for each cardinal direction and each intermediate direction (NE, SE, SW, and NW). As a result, exercises can be performed at OLF-Spencer regardless of wind direction on any given day. Aside from the asphalt runways, the airfield is predominately grassed and completely free of vertical obstructions.

Fourteen helicopters are allowed to conduct simultaneous aerial exercises at Spencer Field; five on each side of the centerline and four in the low-work area. This airfield is divided into left and right sides mirrored across the centerline. The field also includes an infield area, a "No Man's Land," and a low-work area. Like all outlying fields, exercises are conducted into the prevailing wind, with the touchdown area located on the downstream half of the airfield and the low-work area found on the

upwind half. The “No Man’s Land” is located along the centerline on the downwind half of the field. Only two specific exercises area allowed in “No Man’s Land”: (taxi re-splitting and “splitting the apex”) neither of which involves touchdown to the field.



Spencer Field Aerial Photograph

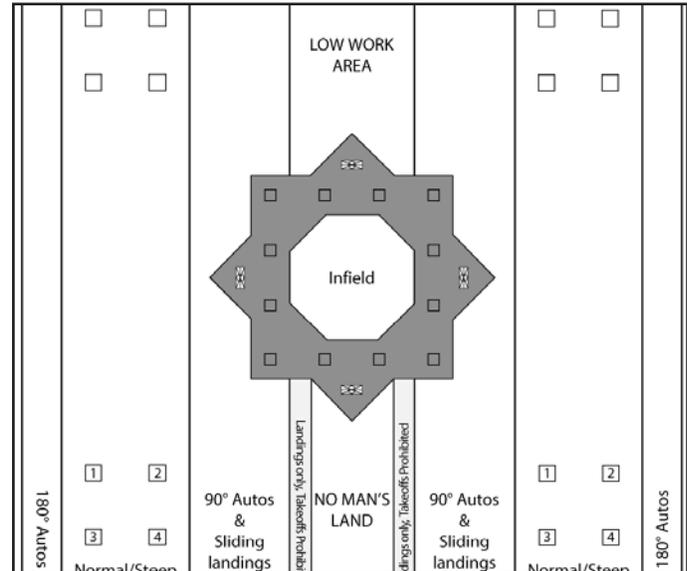
The field on either side of “No Man’s Land” is divided into three lanes:

- 90-degree autorotation lane,
- Normal lane,
- 180-degree autorotation lane.

The 90-degree autorotation lane is located adjacent to “No Man’s Land” and includes one of the asphalt runways. All maneuvers not specifically designated to other lanes are permitted in this autorotation lane. Four gravel landing markers in the shape of a square define the width of the normal lane. Normal lane exercises include normal and steep approach maneuvers. Located between the normal lane and the field boundary, the outside lane is reserved for 180-degree autorotation and engine failure simulations. No CAL or pinnacle landing zones are included in the design of Spencer Field.

Enclosed by the asphalt runways is a grassed area known as the infield. The infield includes the crash house, student-staging area (called “the Alamo”), and crew change and refueling areas. Two landing

pads are provided in the infield for refueling. Pilots are instructed to use one fuel pad or the other depending on the wind direction and lane configuration. An asphalt roadway provides access to the infield from the field boundary. Student pilots are specifically instructed to avoid landing on the access roadway leading to the infield.



Spencer Field Layout

## OLF-X Existing Conditions

The proposed OLF-X site is located in northern Santa Rosa County, three miles northeast of the Chumuckla community. The site is also eleven miles directly northwest of NAS Whiting Field. At 601 acres in size, the site comprises a majority of Section 32, Township 4 North, Range 29 West. RMS Timberlands, LLC is the current property owner. Existing land use is primarily wood pulp production through silviculture activities. Through a lease agreement, a local hunting club is allowed recreational access to the property. As such, several deer stands are located on the property and a small plot of land is cultivated for food production with the intent of attracting wildlife. A copy of the current hunting lease between RMS Timberland, LLC and the Chumuckla Hunting Club is included with this report as **Appendix M**.

Although the site has been used for a variety

of agricultural purposes throughout its history, silviculture activities have dominated for the last 50-60 years. Silviculture is defined as the active management and care of forest tree stands with the express intent of cultivation. As it relates to this site, silviculture activities have been primarily linked to providing wood pulp for the paper mill located in central Escambia County.



*Hunting Platform*

Existing timber stands on the property have been delineated by RMS Timberlands. As depicted in the Pine Stands Planting Table, a variety of pine tree types are found throughout the parcel. In addition to general silviculture activities, a portion of the site was used for varietal and growth experimentation.

Pine Stands Planting			
Stand ID	Description	Year Planted	Size (acres)
1	Loblolly Pine Plantation	2010	13
2	Longleaf Pine Plantation	1980	4
3 & 7	Loblolly Pine Plantation	2011	274
5	Loblolly Pine Plantation	2012	5
10	Loblolly Pine Plantation	2011	12
17 & 19	Slash Pine Plantation	1987	226
110	Site prepped but not planted	--	18
400	Food plots	--	6
421	Roads	--	2
439	Loblolly Pine Plantation	1985	11
486	Loblolly Pine Plantation	2002	27
487	Loblolly Pine Plantation	2004	10

A vast majority of the site is planted with loblolly and slash pine. About half the site contains mature trees; or trees defined as having a trunk diameter greater than twelve inches at chest height. Remaining sections of the site are covered with immature trees, have been cleared, or are used for agriculture.



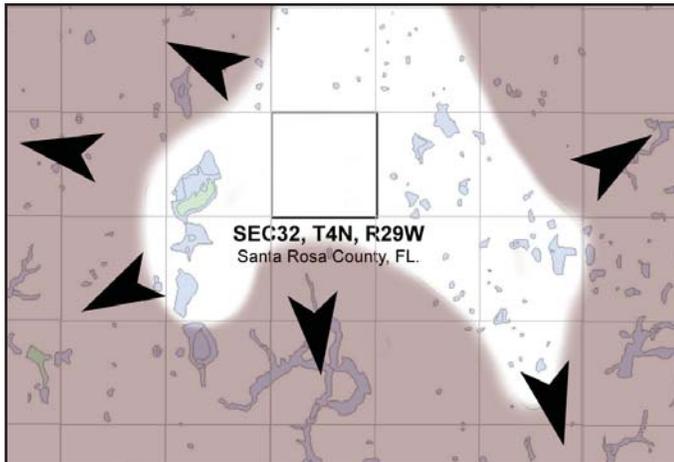
*Various Tree Stands*

Other than elevated platforms used for hunting, the site includes no structures. For reference, photographs from taken from a variety of vantage points are included in **Appendix F**.

### Topography

From a topographic perspective, the site is ideal for a rotary-wing airfield. Terrain associated with the site is relatively flat. Preliminary investigation reveals the site generally slopes from north to south, with a consistent natural grade less than one percent. Elevations range from nearly 220 feet to just below

200 feet. An examination of regional topography shows the site sits atop a ridgeline. Runoff from the surrounding area flows into watershed basins located east, south, and west of the site. The lowest point of the site is along the central portion of the southern site boundary. This area is the origin of a watershed that eventually becomes Pond Creek. Pond Creek flows southward eventually emptying into the Blackwater River at Bagdad.



*Regional Topography and Wetlands*

### **Surface and Access Rights**

Several parties have surface and access rights related to potential oil, gas, and mineral deposits underneath the property. One of the critical elements tied to the development of the site is the release of surface access rights associated with the parcel. As part of the agreement to release surface rights, all parties will retain their respective mineral rights.

Three major groups currently hold surface and mineral rights connected to the parcel. A large percentage of the property's mineral rights are held by two organizations: Exxon Mobil (XTO Energy, Inc.) and The Blackstone Group. At the present date, both parties have signed legal documents releasing their surface rights and right of access and entry linked to mineral rights for the subject property.

The remaining surface rights are tied to 40 acres in the southeast corner of the property. A family group consisting of seventeen individuals are listed as holders of these surface rights. Several members of

the family group recently participated in a discussion concerning their surface rights and how those rights relate to the property and the proposed airfield. The discussion was positive in nature and it is anticipated agreements can be reached with each member of the group in the coming months. It is important to note however, that all surface rights have not been vacated at the present time.

### **Soils**

Several borings were drilled across the site to investigate subsurface conditions. Sandy soils generally make up the subsurface cross-section, with some intermittent clay layers located at the full range of exploratory depth. Soils associated with the site are highly permeable. No standing water could be located on the site subsequent to a substantial rain event which occurred during a recent site visit. Only one of the borings encountered the water table, approximately twenty-seven feet below existing grade. According to the Santa Rosa County Soils Survey, the seasonal high water table is typically six to seven feet below existing grade.

Under a thin topsoil layer are loose sandy soils. The sandy soils associated with the property are ideal for subgrades for airfield pavements, foundations, and slabs. As a result, it is likely that little to no specialized fill material will be required to construct hardscapes associated with airfield pavements.

For more information related to soils on the subject property, please refer to **Section 3** of this due diligence report.

### **Wetlands**

Since the site is located along the top of a ridgeline, soils are generally dry in nature and the water table is well below existing grade. Additionally, no surficial water bodies or hydric soils were identified during the due diligence soils evaluation on the property. As a result, jurisdictional wetlands were not discovered within the property boundary during a preliminary investigation. More detailed

investigation will be required to verify this finding.

Additional information concerning wetlands on the subject property is presented in **Section 5** of this report.

### **Endangered Species**

A multitude of plant and animal species protected by federal and state governments are native to habitats that characterize the OLF-X site. According to the preliminary analysis, alteration of the original landscape has affected the naturally occurring variety of plants and wildlife associated with the site. Because of site alterations, it is unlikely any state-protected plant species would be located on the property. Even if state-protected plant species were located on the site, the State of Florida allows property owners to remove them without notification. No federally-protected plant species are found in Santa Rosa County.

In terms of protected wildlife, the federal government lists two protected species found in similar habitats in Santa Rosa County: The Eastern Indigo Snake and Red-Cockaded Woodpecker. Although the endangered woodpeckers may be associated with equivalent natural habitats, they are unlikely to be associated with this site due to silviculture activities. Likewise, no positive identification of the Eastern Indigo Snake has occurred in northwest Florida in nearly two decades.

Gopher Tortoises, Southeastern American Kestrels, and Florida Black Bears are three animal species protected by the State and also associated with ecosystems similar to the subject property. Of these, only evidence of Gopher Tortoises were found during the due diligence investigation. Further investigation to pinpoint and relocate all Gopher Tortoises will have to be conducted prior to development activities. It is important to note that making provisions for Gopher Tortoises populations is a relatively common practice in northwest Florida.

Protected species associated with the proposed airfield site is discussed in detail in **Section 5** of this

due diligence report.

### **Required Studies**

Several reports will be required to document existing conditions of the property. Below is a list of studies that will be required to be completed or finalized prior to the commencement of construction activities:

- Final Geotechnical Engineering Report,
- Final Phase I Environmental Site Assessment (ESA),
- Final Threatened and Endangered Species Survey,
- Final Jurisdictional Wetlands Delineation,
- Topographic Survey,
- Wetlands Survey.

The reports and surveys listed above are not only required as part of the permitting process, they are a vital element in the engineering design of the development. Geotechnical investigations describe existing soil conditions and determine the depth to groundwater. Soil constituents and their related permeability rate are critical elements in terms of structural design and stormwater management facilities. Additional information is also required for groundwater to establish final cover on the site.

Phase I ESA's are an essential element of any real estate commercial property purchase. Phase I studies reduce the risk and liability of owning and purchasing property. By examining both the underlying land and physical improvements to the property, the study identifies potential or existing environmental contamination issues. Likewise, a Threatened and Endangered Species Survey identifies plants and wildlife which are protected by federal and state governments. Should any protected species be linked to the property, appropriate protection or mitigation measures must be implemented.

Wetlands are one of the most critical elements of any ecosystem. Not only do wetlands provide habitat for a significant number of species, they play an important role in cleansing storm runoff.

Delineations establish the presence and limits of wetlands as defined by federal, state, and local regulations. A jurisdictional delineation identifies wetlands which are “waters of the United States” as defined by the United States Army Corps of Engineers. Subsequent to a delineation, a formal survey is conducted to record exact wetland boundary extents. Typically, buffers of varying width are established along wetland boundaries to prevent potential intrusion during the design and construction phase. As indicated above, no jurisdictional wetlands were identified on-site during preliminary evaluations.

To establish existing elevations of the natural ground, a topographical survey is performed. Topographic surveys expand upon information provided by boundary surveys. In addition to establishing existing grade, the survey locates other physical features associated with the site, such as structures, hardscapes, utilities and large trees. All existing site elements are represented by boundary, topographic, and wetlands survey. This background information helps to establish the most cost-effective design direction for the potential development.



*OLF-X Existing Zoning*

## **Zoning**

RMS Timberlands, LLC is the current property owner. According to the County records, the property is currently zoned as Agriculture-2. The purpose of the Agriculture-2 district is to provide suitable areas for agriculture and silviculture activities. Parcels within this zoning district are typically large parcels of land dedicated to the production of farmed products or fiber.

Subsequent to purchase of the property, the zoning designation must be modified prior to the commencement of construction activities (permitted uses linked to the property’s current zoning do not allow for the development of a military grade airfield). Currently, Santa Rosa County does not possess a zoning district related to military activities. All military institutions within Santa Rosa County were established prior to legislation of the State of Florida’s Growth Management Act in 1985. As such, all existing military facilities were categorized as a military overlay districts on the County’s Existing and Future Land Use Maps. Overlay districts are superimposed upon another district which supersedes, modifies, or supplements the underlying regulations.

To accommodate this development and other future military sites, Santa Rosa County’s Zoning Board is in the process of creating a “Military Installation” zoning district. A copy of the County’s proposed amendment to modify their Comprehensive Plan, Future Land Use Map, and Article 6 of the Land Development Code is included with this report as **Appendix K**. The new military zoning district was approved by the County’s Zoning Board in November by the Board of County Commissioners agenda for approval on December 12.

At the time of rezoning, the County will also adopt changes to the Article 11 of the Land Development Code (LDC). This change will establish airport overlay zones for the proposed airfield. All property owners within two miles of the site must be notified of the modifications to Article 11. The notification zone includes all parcels which will be covered by the Military Airport Influence Area overlay zone associated with the new airfield.

Upon County approval, documentation related to the new zoning district and future land use category will be submitted to the State of Florida for approval. County officials have indicated that they anticipate State approval of the new military district. Subsequent to State approval, the new zoning district and future land use category can be officially adopted into the County’s Comprehensive Plan. Pending any unanticipated delays, adoption

of the Ordinance is projected to happen in February of 2014. This date would be the earliest date the proposed airfield property could be rezoned as a Military Installation district.

## Permitting

As with any project, permitting will be required to ensure that the design meets the requirements established by federal, state, and local governments. Below is a current working list of permits which will be required for the development of the proposed airfield:

- Florida Department of Environmental Protection (FDEP) Environmental Resource Permit (ERP) Stormwater Permit
- FDEP Consumptive Use Permit
- Santa Rosa County Health Department Septic System Permit
- National Pollutant Discharge Elimination System (NPDES) Stormwater Permit
- Santa Rosa County Building Permit

An ERP stormwater permit will ensure that converting the site from a forested agriculture use to an airfield use will not generate additional runoff to regions downstream of the property. Stormwater management regulations require runoff be attenuated for a specific period of time to remove sediment and pollutants from the water column.



*Reviewing Permit Requirements*

State and local regulators require permits related to water and sewer services. Consumptive Use Permits are required to withdraw water from aquifers or surface waters for reasonable purposes. Groundwater, in this case, will be withdrawn from the Sand and Gravel Aquifer for the purpose of drinking water, fire protection, and irrigation

during the turf establishment period. Regulations have been established that set limits on the volume of water that can be withdrawn from the aquifer. The rules have been established to protect existing residential water supply, prevent salt water intrusion into the aquifer system, and guard against impacts to natural surface waters. Permits related to onsite sewage treatment and disposal systems, (also known as septic systems), are issued by the Florida Department of Health via the Santa Rosa County Health Department. These regulations were established to ensure that septic tank systems are designed to specific minimum standards, as required to protect water resources and public health.

The construction Contractor will be required to secure the final two permits. These include an NPDES permit and a County building permit. A NPDES permit is related to the Federal Clean Water Act and ensures that receiving water bodies are protected against pollution discharged from a development. A Stormwater Pollution Prevention Plan specific to the site development is required to be developed and maintained on the site by the Contractor as part of the NPDES permit. Additionally, the Santa Rosa County Building Department will require Building Permits for the construction of the new crash shack. Building permits and inspections ensure the structure is constructed according to plan and meets state and local building codes. Furthermore, the building-permit process certifies that utility connections (water, sewer, electrical, etc.) are properly designed and installed to the building.

## OLF-X Conceptual Geometry

An important part of the due diligence process was to establish the conceptual design standards for the proposed outlying field. The new course will have to meet the current and future needs of the Navy. During this preliminary process, several meetings were held with Navy staff to derive the conceptual layout of OLF-X. The conceptual outlying airfield generated by the meetings is a combination of the two outlying fields previously discussed: OLF-8 and Spencer Field.



In the Spencer Field precedent, the overall training arrangement will consist of three distinct lanes situated on either side of the centerline. Surrounding the infield, four asphalt runways are proposed in the shape of a square, aligned in each of the cardinal directions. Navy programming information indicates that each runway will be 1500 feet in length and 500 feet in width. Depending on the prevailing wind direction, one of the four asphalt runways will include a 90-degree autorotation lane. All training exercises not specifically designed for other parts of the airfield will be performed on this inside lane.

Outside the 90-degree autorotation lane is the normal training lane. The normal lane is delineated by four white field markings identical to those found at Spencer Field. Normal and steep approach landings are typically conducted in the normal lane. Between the normal lane and the property boundary is the 180-degree autorotation lane. This outer region of the field is dedicated to practicing 180-degree autorotation maneuvers and catastrophic-engine-failure landings.

According to Navy programming information, the design of the OLF-X site deviates from the Spencer Field precedent with training zones dedicated to confined area and pinnacle landings. Located near the southeast corner of the proposed airfield is an elevated plateau explicitly designed to conduct pinnacle-training maneuvers. Additionally, a stand of pine trees, approximately eight acres in size, in the northwest corner of the property, will be preserved from construction demolition. A circular area will be cleared in the middle of the preserved tree stand for student pilots to perform confined landing area training exercises.

The resultant airfield will feature the capability to conduct a multitude of training missions all in one location. With the rising cost of fuel and increased demand for time associated with advanced pilot training, the location of OLF-X in relation to Whiting Field further strengthens the Navy's mission in northwest Florida.

## Turfing

Upon completion of hardscape construction and establishment of final grade, programming information suggest that all residual pervious surfaces associated the site will be grassed. A well-established permanent vegetative cover will be required prior to transfer to the Navy. The turf will prevent erosion, dust and impediments loosed by aircraft propellers and rotors.

In northern Santa Rosa County, the predominant soils are sandy loams, and this site is largely composed of slopes of less than two percent. The grass species commonly used for this application is Bahiagrass – either Pensacola bahia or Argentine bahia. Both species are drought-tolerant.

Bahiagrass germinates when nighttime temperatures are above 70 degrees. Planting in April provides the longest and most ideal growing season. As an alternative, turf could be planted in October and overseeded with Italian ryegrass to protect the grass crop and prevent erosion through the offseason. Planting would be performed by seeding an established, graded site with grass seed broadcast at the rate of 50 pounds per acre, incorporated with an application of lime. An initial fertilizer application would follow the seeding once the grass has germinated. Approximately twelve weeks after the ground has warmed to an appropriate temperature, a second application of fertilizer would be placed, dependent upon rainfall.



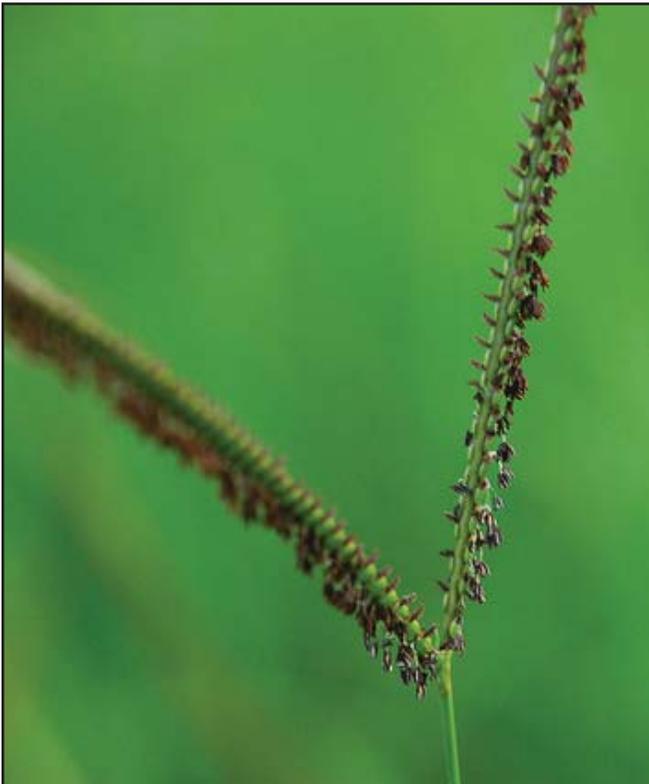
*Bahiagrass Pictorial*

## Irrigation

Irrigation would ensure a quick, vigorous growth, but would come with a high price. Wells, temporary hoses, and rain guns mounted on wheels, along with manual hourly movement would be required to water the site for approximately three months. Weed removal could be accomplished manually after the first three weeks. Depending on the volume of precipitation falling upon the site during the grow-in season, mowing would not be advisable for the first four months.

In a good season with enough rainfall and without catastrophic rain (8 inches + in one day), a reasonably full turf could be expected by the end of September. Considerably better turf could be expected after the following spring, especially after a third application of fertilizer.

For specific information regarding Bahiagrass, please see the attached University of Florida IFAS Information Sheets included with this report in **Appendix L**.



*Bahiagrass Seed Head*

## Construction Costs

After the major (conceptual) programmatic elements of the project were established, the due diligence team itemized all elements associated with the development into tangible components, as required to establish a probable opinion of cost. To include monetary values for the entire project, from start to finish, cost elements were grouped into two categories: construction cost and soft costs. Construction costs are components directly linked to expenses incurred by the construction Contractor. Soft costs are defined as those expenses related to development of the property not associated with the construction process. Soft costs include, but are not limited to, required studies, permitting fees, rezoning fees, design plan production, and closing costs.

At the time of this report, conceptual construction costs are estimated to be nearly \$4.8 million. Soft costs associated with the project are estimated to be approximately one million dollars.

For more detailed information regarding cost estimates associated with the proposed OLF-X rotary-winged advanced training facility, please refer to **Section 7** of this due diligence report.



*Construction Costs*

Section 2:  
Conceptual  
Design

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# Conceptual Design

The purpose of this section is to outline the criteria used to design elements associated with the OLF-X facility. The different components of the development shall be designed to meet federal, state, and local standards. The standards utilized to design the OLF-X advanced helicopter training facility are listed below.

- Department of Defense (DOD) United Facilities Criteria (UFC).
- Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), Latest Edition.
- American Association of State Highway and Transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Streets, Latest Edition.
- Florida Department of Transportation (FDOT) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways (The Florida Green Book).
- FDOT Design Standards, Latest Edition.
- FDOT Flexible Pavement Design Manual, Latest Edition.
- FDOT Standard Specifications for Road and Bridge Construction, Latest Edition.
- Florida Department of Environmental Protection (FDEP) Environmental Resource Permit (ERP) Applicant's Handbook, Volumes 1 and 2.
- Santa Rosa County Comprehensive Plan and Land Development Code.
- Recommended Standards for Water and Wastewater Facilities, Latest Edition (10 State Standards).
- Florida Administrative Code (FAC) 64E-6 - Standards for Onsite Sewage Treatment and Disposal Systems (OSTDS)
- Santa Rosa County Department of Health OSTDS Design Requirements.

## Roadways

Proposed roadways shall consist of pavements and structural material to support design traffic that



*OLF-X Site Access Map*

will utilize the proposed facilities. The conceptual design includes several asphaltic concrete and gravel roadways. Site access from Ard Field Rd. is provided via a dedicated easement paralleling A.D. Kelly Rd. A description of the access easement is included in this section. The entrance to the airfield site will be nearly 4600 feet east of Ard Field Rd. A.D. Kelly Rd. is currently a paved road in poor condition. The asphaltic concrete has lost its elastic capacity and is cracked and brittle. Additionally, A.D. Kelly Rd., despite being paved, is a farm road. The road is not a standard or consistent width, nor does the road follow a consistent horizontal alignment.

Demolition of the existing roadway will include complete removal of the existing asphalt. Existing base material will be tested in several locations to gage its structural integrity. Base and subgrade

material shall be added as required to ensure proper performance. Portions of the roadway will be widened to meet the standards for horizontal alignment and minimum width. Through discussions with Navy staff and professionals familiar with design on similar airfield project, no structural enhancements will be required in regards to supporting heavy military grade vehicles.



A.D. Kelly Road

Anticipated traffic includes small cars and trucks, 5 axle flatbed trailers, and fire protection vehicles.

Roadways on the airfield site shall be designed similarly to A.D. Kelly Rd. Site access roads shall be wide enough for two vehicles to safely pass. A normal crown will force runoff toward the outside edge of the road. All roadways associated with the project shall have a graded aggregate base course with a Limestone Bearing Ratio (LBR) value of 100 compacted to 98 percent modified Proctor density. Subgrades shall possess a LBR value of 40 compacted to 98 percent modified Proctor density. The geotechnical investigation revealed on-site soils may be used as subgrade material with offsite material added as required to meet compaction specifications.

Below is a preliminary list of roadway design criteria for proposed airfield roadways.

A.D. Kelly Road Design Criteria:

Material . . . . . Asphaltic Concrete

Type . . . . . SP 12.5 Flexible Pavement  
 Crown . . . . . Normal  
 Grade . . . . . 2.0 percent  
 Width . . . . . 20 feet  
 Shoulder . . . . . 4 feet  
 Thickness . . . . . 2 inches  
 Base . . . . . 6 inches  
 Subgrade . . . . . 12 inches

Site Access Roadways Design Criteria:

Material . . . . . Asphaltic Concrete  
 Type . . . . . SP 12.5 Flexible Pavement  
 Crown . . . . . Normal  
 Grade . . . . . 2.0 percent  
 Width . . . . . 20 feet  
 Shoulder . . . . . 4 feet  
 Thickness . . . . . 2 inches  
 Base . . . . . 6 inches  
 Subgrade . . . . . 12 inches

Gravel Roadways/Aprons Design Criteria:

Material . . . . . Sand & Gravel Mixture  
 Type . . . . . FDOT #57 Stone  
 Crown . . . . . Normal  
 Grade . . . . . 2.0 percent  
 Width . . . . . 12 feet  
 Shoulder . . . . . 4 feet  
 Thickness . . . . . 2 inches  
 Base . . . . . 4 inches  
 Subgrade . . . . . 10 inches

Description of 60 foot wide perpetual non-exclusive ingress/egress easement

(as prepared by Baskerville-Donovan, Inc.)

- 
- Commence at the southwest corner of Section 32, Township 4 North, Range 29 West, Santa Rosa County, Florida;
- Thence proceed North 03 degrees 36 minutes 35 seconds East along the west line of said Section 32 a distance of 27.49 feet to a point on the north line of a 60 foot wide ingress/egress easement, lying 30 feet north of the center line of A.D. Kelly Road and being the Point of Beginning;
- Thence departing the west line of said Section,

proceed South 87 degrees 06 minutes 07 seconds east along the north line of said easement a distance of 5256.00 feet to a point on the east line of said easement;

- Thence proceed South 02 degrees 53 minutes 53 seconds West along said east line a distance of 60.00 feet to a point on the south line of said easement;
- Thence proceed North 87 degrees 06 minutes 07 seconds West along said south line a distance of 5255.89 feet;
- Thence proceed North 87 degrees 05 minutes 40 seconds West along said south line a distance of 2098.37 feet to a point on the east right-of-way line of Ard Field Road (40' County maintained right-of-way), said point being on a curve concave easterly and having a radius of 1955.00 feet, a central angle of 01 degrees 45 minutes 58 seconds and a chord bearing and distance of North 08 degrees 16 minutes 27 seconds East, 60.26 feet;
- Thence proceed northerly along the arc of said curve a distance of 60.26 feet to a point on the north line of said easement;
- Thence proceed South 87 degrees 05 minutes 40 seconds East along said north line a distance of 2092.62 feet to the Point of Beginning.
- Lying in and being a portion of Sections 31 and 32, Township 4 North, Range 29 West and Sections 5 and 6, Township 3 North, Range 29 West, Santa Rosa County, Florida and containing 10.13 acres more or less.

**Asphalt Runways**

Proposed helicopter runways shall include pavements and structural material to support aircraft and vehicles. Runways permit helicopters to quickly land and roll to a stop. Similarly to vehicular roadways, no special structural enhancements will be required to accommodate aircraft and support vehicles. Final grades for the airfield site shall be designed to match the existing grades as closely as possible while staying within the maximum grades established in the criteria. In general, asphalt runways shall follow the grade of the site while also

directing runoff away from the infield area to the greatest extent possible.

Runways associated the project shall have a graded aggregate base course with a Limestone Bearing Ratio (LBR) value of 100 compacted to 98 percent modified Proctor density. Subgrades shall possess a LBR value of 40 compacted to 98 percent modified Proctor density. The geotechnical investigation revealed onsite soils may be used as subgrade material with offsite material added as required to meet compaction specifications.

Below is a preliminary list of runway design criteria for proposed airfield rotary-wing runways.

**Rotary-wing Runway Design Criteria:**

Material .....	Asphaltic Concrete
Type .....	SP 12.5 Flexible Pavement
Crown .....	Planar
Length .....	1500 feet
Width .....	500 feet
Long. Grade .....	1.0 percent (max)
Transverse Grade ...	1.5 percent (max)
Thickness .....	3 inches
Base .....	8 inches
Subgrade .....	12 inches
Overrun .....	75 feet @ 1.0 percent (min)
Shoulder .....	25 feet @ 2.0 percent (min)
Primary Surface ....	1650' x 300'
Clear Zone .....	400' x 300'
Accident Potential	
Zone (APZ) .....	800' x 300'

**Concrete Helipads**

Proposed helipads shall consist of pavements and structural material to support aircraft during fueling and crew change procedures. Helipads provide a location for helicopters to land and takeoff separate from the rotary-wing runways. The Navy and Marine Corps require a standard sized helipad 100 feet by 100 feet. Siting of helipads is based on mission requirements, overall facility development, approach-departure surfaces, and local wind conditions.

Rotary-wing Helipad Design Criteria:

Material .....	Concrete
Type .....	Rigid Pavement
Crown .....	Uncrowned
Width .....	100 feet
Length .....	100 feet
Long. Grade .....	1.0 percent (max)
Transverse Grade .....	1.5 percent (max)
Thickness .....	3 inches
Base .....	8 inches
Subgrade .....	12 inches
Overrun .....	75 feet @ 1.0 percent (min)
Shoulder .....	25 feet @ 2.0 percent (min)
Primary Surface .....	150' x 150'
Clear Zone .....	400' x 150'
Accident Potential Zone (APZ) .....	800' x 150'

**Stormwater Design**

Stormwater management systems ensure the airfield development and access roadways do not generate additional runoff that could cause flooding downstream. The designed should exceed critical storm retention volume and attenuation regulations for both state and local standards, whichever is greater. Stormwater management systems are planned for the airfield property and the easement encompassing A.D. Kelly Rd. Maintenance of the system associated with the airfield site and the easement shall be the responsibility of the Navy.

Conceptual design for stormwater management on the airfield site will include extremely wide and shallow dry retention areas. Wet retention areas are not conducive to airfield properties as they possess the potential to attract birds. Birds are an extreme detriment to aerial operations associated with military missions. As such, wet detention will not considered in the design of the stormwater management system.

Likewise, dry roadside ditches parallel to A.D. Kelly Rd. will be designed to treat and attenuate runoff from the roadway. Ditches will have a 4 to 1 side slope closest to the roadway and a 2 to 1 side slope closest to the easement boundary. All side slopes

will require coverage with solid sod to prevent sedimentation and erosion of the ditches. RCP will be used under driveways and roadways to connect swales.

Below is a list of stormwater design standards for the State of Florida and Santa Rosa County.

Water Quality Criteria:

- Retain and percolate the greater of the following volume requirements per the FDEP ERP Applicant’s Handbook – Volume II.
  - Runoff volume generated by the first one inch of rainfall from the contributing basin.
  - Runoff volume generated by the first one-half inch of rainfall from the entire project site.

Water Quantity Criteria:

- Attenuate the 25 year, 24 hour design storm event (NRCS Type III rainfall distribution) while limiting the rate of discharge from the site to pre-development conditions per requirements set forth in the FDEP ERP Applicant’s Handbook – Volume II (*developments with greater than 40 acres total land area*).
- Attenuate the critical duration storm up to and including the 100 year, 24 hour storm event (FDOT Zone 1 rainfall intensity duration curves) while limiting the discharge to pre-development discharge rate per the requirements set forth by Santa Rosa County’s LDC, Section 4.03.06 (f).

Pond Recovery Time Criteria:

- Retention system is designed to provide the capacity for the required treatment volume within 72 hours following a storm event per requirements set forth in the FDEP ERP Applicant’s Handbook – Volume II.
- Retention system is designed to ensure the one inch treatment volume recovers within 72 hours and the entire required treatment volume recovers in 360 hours following a storm event per requirements set forth in Santa Rosa County’s LDC, Section 4.03.06 (f).

## Crash House Design

This section outlines the minimum requirements and design criteria associated with the outlying field crash house. The crash house is the operational center of the outlying air field. Aircraft may not operate at outlying fields without an Airfield Operations Duty Officer and a crew manning the crash house.

Essentially, the crash house is a fire station that provides fire protection for the outlying field and provides a venue for fire prevention education and training. The crash house shall be designed to accommodate firefighting equipment, and the safety of firefighting personnel. The new crash house will house four fight fighters and four fuel change



*Spencer Field Crash House and Fuel Facility*

crewmembers during flight operations and numerous other functional requirements.

Similar to OLF-Spencer Field, the crash house will be centrally located in the middle of the infield. The Spence Field crash house at is considered the most efficient outlying field crash house due to its size and location within the airfield. According to Navy staff, Spencer Field's crash house is the model for future crash houses to emulate.

Design criteria for crash house facilities is outlined in UFC 4-730-10 (Fire Stations). Below is a summary of facilities which should be included in the new crash house. A memorandum further

describing the facilities listed below, including specific UFC specification sheets, is included with this report as **Appendix M**.

- Apparatus Bays and Apparatus Rooms.
- Personal Protective Equipment (PPE) Gear Storage Area.
- Firefighting Agent Storage Structure.
- Station Officer's Office.
- Information Technology (IT) Room.
- Day and Training Room (including Kitchen).
- Locker Room (including Bathrooms, Showers, and Changing Rooms).
- Fuel Change Crew Lounge and Recreational Room.
- General Administrative Offices.



Section 3:  
Preliminary  
Geotechnical  
Summary

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# Preliminary Geotechnical Summary

A geotechnical survey investigates surface, subsurface, and groundwater conditions. The survey preliminarily discusses foundation, subgrade preparation, and earthwork design. The site generally contains little topographic relief and well-drained soils. Furthermore, the property contains no wetlands and groundwater is well below the existing surface. From a geotechnical perspective, the site is ideal for development as a rotary-wing airfield.

## Soils Survey and Investigation

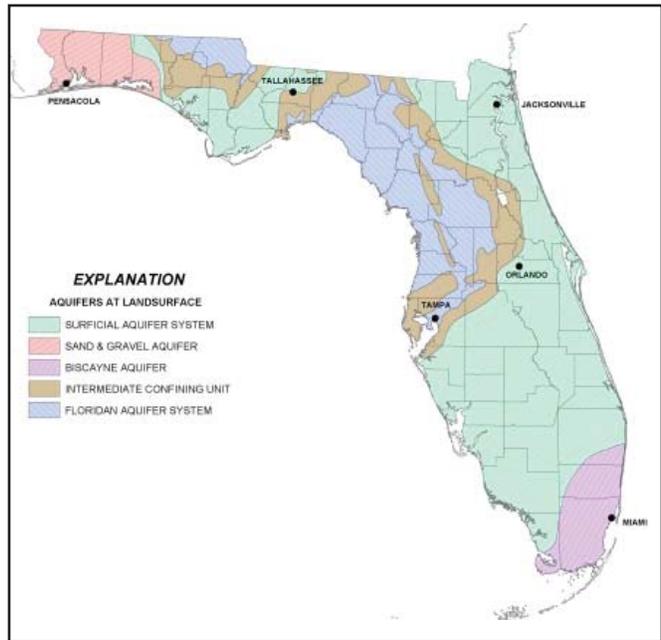
The United States Department of Agriculture (USDA) Natural Resources Conservation Services (NRCS) Soils Survey of Santa Rosa County defines eight individual soil types associated with the property. However, two soil types dominate the site, Lucy Loamy Sand and Red Bay Sandy Loam. All soils associated with the site are sandy in nature and, well drained. In fact, no standing water could be located after a significant rain event during a recent site visit. According to the Soils Survey, depth to seasonal high water table is greater than seventy inches across the site.

Land Form	Typical Saturated Permeability	Available Water Capacity	Freq. of Flooding / Ponding	Mean Annual Precipitation	Depth to Water Table / Restrictive Feature	Drainage Class
Lucy Loamy Sand	Moderately High to High (0.57 to 1.98 in/hr)	Moderate (Approx. 6.8")	None	65 to 73"	>80" / > 80"	Well Drained
Red Bay Sandy Loam	Moderately High to High (0.57 to 1.98 in/hr)	Moderate (Approx. 8.5")	None	65 to 73"	>80" / > 80"	Well Drained
Bonifay Loamy Sand	Moderately High to High (0.57 to 1.98 in/hr)	Low (Approx. 5.4")	None	65 to 73"	48 - 60" / > 80"	Well Drained
Dothan Fine Sandy Loam	Moderately High (0.20 to 0.57 in/hr)	Moderate (Approx. 7.4")	None	65 to 73"	36 - 60" / > 80"	Well Drained
Fuquay Loamy Sand	Mod. Low to Mod. High (0.06 to 0.20 in/hr)	Moderate (Approx. 6.2")	None	65 to 73"	48 - 72" / > 80"	Well Drained
Orangeburg Sandy Loam	Moderately High to High (0.57 to 1.98 in/hr)	Moderate (Approx. 7.3")	None	65 to 73"	>80" / > 80"	Well Drained
Tifton Sandy Loam	Moderately High (0.20 to 0.57 in/hr)	Moderate (Approx. 6.7")	None	65 to 73"	42 - 72" / > 80"	Well Drained
Troup Loamy Sand	Moderately High to High (0.57 to 1.98 in/hr)	Moderate (Approx. 6.1")	None	65 to 73"	>80" / > 80"	Somewhat Excessively Drained

OLF-X Soil Characteristics Table

A total of seven borings were drilled across the site to investigate subsurface conditions. Two deep borings were drilled to a depth of thirty feet below existing grade, while borings were drilled to a depth of ten feet. Groundwater was encountered in at a depth greater than 25 feet below existing grade in one deep boring.

Site reconnaissance revealed the presence of an existing water well located in the northeast corner of the property. Well records indicate the well was installed in 2001 to a depth of 200 feet below existing grade. Sandy soils were found in the upper 30 feet of the boring in addition to 100-200 feet below existing grade. Intermittent Clay layers were encountered from 30 to 100 feet below existing grade. The well boring first encountered groundwater 42 feet below existing grade.



Florida Aquifer Map



Existing Water Well System

Below surficial soils, the geological investigation of the site confirms the presence of the Citronelle Formation. The Citronelle Formation is highly permeable and is generally associated with the Sand and Gravel Aquifer. Sand and gravel layers mixed with layers of silt and clay define the general composition of the aquifer. The Sand and Gravel Aquifer is the primary source of drinking water in northwest Florida.

## Earthwork and Site Preparation

Most of the site is covered with a thin layer of topsoil, generally one to two inches in depth. Minor stripping of the site will be required to remove tree stumps and organic material. Loose sandy soils comprise the surficial layers underlying the topsoil. Sandy surficial soils found on the property are ideal for subgrades associated with pavements, foundations, and slabs. Soils associated with the site are considered excellent subgrade material for airfield pavements. However, stabilization will be required where unsuitable soils exist. As a result, minimal off-site materials should be needed for roadway base or stabilization. Structures proposed for the site may be supported by shallow, spread footing foundation systems.

For additional information, a copy of the complete Preliminary Geotechnical Engineering Report is included as **Appendix B**.

Section 4:  
Phase I  
Environmental  
Site Assessment  
Summary

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# Phase 1 Environmental Site Assessment Summary

Phase I Environmental Site Assessments (ESA's) identify Recognized Environmental Conditions (REC's) associated with the site. REC's are uncovered by analyzing information supplied by the property owner, regulatory agencies, local governments, historical and physical records, interviews, and site visits.

Unlike other studies, Phase I ESA depends heavily on the availability of data from multiple sources. If data needed to complete the report is absent, the thoroughness and value of the ESA is weakened.

## Historical Usage

Historical photographs show the site was utilized for agricultural purposes as early as the 1940's. The earliest available photographs depict a small agricultural field and farmhouse in the southeast corner of the site. Much of the site has been dedicated for silviculture purposes since the 1950's. Aerial photographs have consistently shown partially-wooded pastures with unpaved trails throughout of the site, which accurately describes the property in its present state. A hunting club currently leases the site for deer hunting. Several elevated platforms and one agricultural food plot on the property are linked with the hunting club.



*Deer/Wildlife Feeder*

## Records Review

Federal, state, and tribal databases were examined for environmental concerns. The regulatory review included but was not limited to the following information:

- Brownfield sites.
- Hazardous and/or petroleum substances.
- Remediation measures to protect public health from contaminants.
- Solid waste facilities.
- Underground storage tanks (leaking or otherwise).

Several local agencies were contacted to question whether they had environmental concerns with the site. For all concerns listed above, no environmental indicators were affiliated with the property or parcels surrounding the site within the specified search criteria.

## Site Reconnaissance

Authorized personnel toured the site to visually inspect the existing conditions. Generally inspectors were in search of physical objects representing signs of potential environmental concern including the following:

- Site operations, processes, and equipment.
- Storage of above ground chemical or waste.
- Storage of underground chemical or waste, drainage, or collection systems.
- Electrical transformers and/or polychlorinated biphenyls (PCB's).
- Hazardous material releases or signs of potential releases.
- Other notable surface features.



*OLF-X Electrical Transformer*

The only item of potential environmental concern discovered on or near the site was an electrical transformer. The transformer is affiliated with an electrical line providing power to a water well pump. Transformers are a potential environmental concern because they sometimes contain mineral oil, which may possess PCB's. Until 1979, PCB's were commonly used as a dielectric and coolant fluid in transformers and capacitors. Use of PCB's was banned because they were linked to cancer in

animals and can cause harm to humans. Although it's unclear whether the witnessed transformer contains PCB's, visual observation showed no sign of release of fluids from the transformer. Should the suspected transformer show signs of leakage in the future, Gulf Power Company, who maintains responsibility for the transformer, would be required to replace it with a new transformer.

### **Summary**

Based on a review of historical information; federal, state and local records; and visual inspection of the site, no Recognized Environmental Concerns are affiliated with this site or any of the surrounding parcels. As a result, development of the site should not be hindered due to potential environmental concerns.

For additional information, a copy of the complete Preliminary Phase I Environmental Site Assessment is included as **Appendix C**.



*OLF-X Electrical Power Lines*

Section 5:  
Threatened and  
Endangered  
Species and  
Wetlands  
Summary

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# Threatened & Endangered Species & Wetlands Summary

A review of historical records reveals that the site was likely dominated by vegetation typical of sandhill ridges located in Northern Florida, including Longleaf Pines and Turkey Oaks. However, the original ecosystem and animal habitat has been altered through pine plantation silviculture and agricultural activities. Pre-existing plant and animal habitats have been removed by rural development alterations to the site.

## Threatened and Endangered Plant Species

Threatened and Endangered (T&E) species are divided into those protected by the federal government and those protected by the state government. No research was conducted in regards to federally protected plant species since none are historically located within Santa Rosa County. However, Santa Rosa County is home to forty State protected plant species. It is unlikely State-protected species are located within the boundaries of the subject parcel because the site has been dramatically altered from its original state from silviculture and agricultural activities. Furthermore, regulations allow property owners the right to remove State-protected plant species without notification.

## Threatened and Endangered Animal Species

The U.S. Fish and Wildlife Service recognizes two federally-protected wildlife species located in Santa Rosa County and associated with the site's historical habitat: Eastern Indigo Snakes and Red-Cockaded Woodpeckers. Eastern Indigo Snakes (*Drymarchon couperi*) are closely associated with Gopher Tortoises and their burrows in drier habitats. However, it is unlikely the snake on the site will be found. It's the last positive identification in the panhandle of Florida was in the 1990's.

Typically supported by "old growth" longleaf pine stands, Red-Cockaded Woodpeckers' habitat is not associated with this site.

Florida Fish and Wildlife Conservation Commission (FWCC) lists three state protected species known to inhabit ecosystems historically associated with the site: Gopher Tortoise, Southeastern American Kestrels, and Florida Black Bears.



*Gopher Tortoise Burrow*

Gopher Tortoises (*Gopherus polyphemus*) are associated with well-drained sandy soils similar to the habitat found on the site. Gopher Tortoise burrows provide shelter and habitat for other wildlife. Since other species rely on the presence of the tortoise, it is considered a keystone species. Keystone species have a large effect on its habit relative to its population. A particular ecosystem may experience a dramatic shift if a keystone species is removed. cursory sampling of the site revealed twenty-one occupied tortoise burrows.

All gopher tortoises must be removed from the property prior to development to a pre-determined location. However, it should be noted that Navy outlying fields historically provide excellent gopher tortoise habitat.

Development of the site as an outlying field will likely recruit Gopher Tortoises from surrounding parcels. The presence of tortoises will not affect the military mission associated with the OLF site or be a nuisance to maintenance activities.

Southeastern American Kestrels (*Falco sparverius paulus*) and Florida Black Bears (*Ursus americanus floridanus*) are also listed as State-protected animals typically found in habitats similar to the subject parcel. However, the survey of the site did not uncover evidence of either species. Furthermore, the site does not contain specific habitats required for either the kestrel or the black bear mentioned in this section.



*Florida Black Bear*

## Wetlands

Jurisdictional wetlands regulated by the US Army Corps of Engineers and the Florida Department of Environmental Protection were not discovered within the boundaries of the subject parcel.

## Conclusion

Over time, the site has been altered from its original state through rural development. Since early last century, the site has been utilized for agricultural uses, primarily silviculture and food production. In its current state, the site possesses no jurisdictional wetlands and no threatened and endangered plant species. Additionally, only one threatened and endangered animal the gopher tortoise was spotted on the subject parcel. Any Gopher Tortoises on the site will have to be removed prior to construction even though their presence will have no effect on the military mission of the air field development.

For more detail information regarding the subject matter discussed in this Section, the complete Preliminary Threatened and Endangered Species Survey and Jurisdictional Wetland Delineation report is included in **Appendix D**.

Section 6:  
Property  
Appraisal  
Summary

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# Property Appraisal Summary

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One of the major logistical issues associated with the Navy land swap is the comparison of real estate value of the existing OLF-8 airfield property versus the post-development value of the proposed OLF-X airfield property in Santa Rosa County. Regulations prevent the United States Navy from accepting gifts without trading assets that are similar in value. As such, appraisals were conducted on both airfield sites to assess their current estimated value. A complete copy of the independent Real Estate Appraisals is included as **Appendix E** of this report and is summarized below.

OLF-8 is a 640 acre site located in northwest Pensacola. The property contains approximately 474 useable acres that do not possess wetlands or topographic anomalies. Prior to the recession in 2006, this region of metropolitan Pensacola was one of the fastest growing areas in Escambia County. Residential development has been moving towards the site for several years. Most residential construction surrounding the site was custom in nature with values exceeding \$250,000. Real estate construction has maintained slow growth, mimicking the slow overall growth of the nation's economy since the real estate downturn of 2006. However, demographic and income growth for the metropolitan region are expected to grow significantly in the next five years, particularly in the overall household incomes between \$75,000 and \$150,000.

Commercial growth in the area is expected to increase, bolstered by the expansion of Navy Federal Credit Union's corporate campus adjacent to the OLF-8 property. Furthermore, the Nine Mile Road intersection with Interstate 10 is expected to experience significant commercial growth in the future. As the first interchange east of the Florida-Alabama state line, this area has been underdeveloped to date but is expected to see rapid

growth in the form of service stations, motels, stores, and potentially major retail development. As a result of the rapid growth potential and existing population growth patterns, the Appraisal concludes the area surrounding the property should be one of the first to recover once the local economy begins to grow.

Based on the present and future economic conditions described and a comparison of similar properties recently sold or currently offered, the appraised "as-is" market value of the OLF-8 property is **\$4,750,000**. A review of the Escambia County property appraiser's records indicates the property holds an assessment value of \$5,377,950.

An appraisal of the OLF-X property in northern Santa Rosa County was also conducted. OLF-X is located approximately eleven miles northwest of NAS Whiting Field, or three miles northeast of the Chumuckla community. The site is 601 acres in size and possesses no unusable acreage. Appraisals for limited-market properties that have few potential buyers are difficult to evaluate. As such, appraisals for these "special-use properties" are typically based on Use value.

In estimating Use value, the appraisal considers both the market value and the use value of the property, particularly if the proposed use is highly specialized. Specialized properties show no demonstrable market value but its potential use is viable and is likely to continue. A Use value assessment for the OLF-X property is appropriate since the Navy has demonstrated an interest and need for an advanced training outlying field in the vicinity of Whiting Field. Based on comparable sales, the OLF-X property was previously shown to have a market value of \$1,880,000. Since no comparable sales of military training airfields exist in the region, preliminary opinions of estimated construction cost associated with the proposed airfield were utilized

to estimate the property's Use value. Additionally, financial costs associated with carrying the property and paying for the construction is included as part of the appraisal estimate.

Based on the market value, just Use value, and estimated finance costs described above, the appraised value of the OLF-X property is **\$6,825,000.**

Below is a summary of the appraised value of the OLF-X property.

Description	Value
Land Market Value	\$1,880,000
Probable Opinion of Construction Cost	\$4,700,000
Estimated Finance Cost	\$245,000
<b>TOTAL</b>	<b>\$6,825,000</b>

Property values illustrated by these independent appraisals are relative for the time period in which the appraisal was conducted. Future appraisals will be required to ensure the requirements set forth for the exchange of property discussed throughout this report are met. To complete the exchange of property between Escambia County and the U.S. Navy, the future market value of OLF-8 must be similar in value to the post-development appraised value of OLF-X.



OLF-X Site

Section 7:  
Engineers  
Opinion of  
Probable Cost

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# Engineers Opinion of Probable Cost

The purpose of this section is to provide an overview of expenses associated with the proposed airfield project. All components of the proposed development were considered when organizing the cost breakdown, not just elements tied to materials and construction. As a result, expenses are grouped into two categories: construction cost and soft costs. Construction costs are components directly linked to expenses incurred by the construction contractor. Construction costs for the access road A.D. Kelly Road are shown separately. The access road will be constructed on an easement and only have a secondary effect of the value of the property.

Soft costs are defined as those expenses related to development of the property not associated with the construction process. For example, soft costs include, but are not limited to, required studies, permitting fees, rezoning fees, design plans, closing costs and financing costs.

A summary of expenses related to development of the site is listed below. A complete cost breakdown depicting individual elements and their respective unit prices is included on the subsequent pages.

Soft Cost Estimate		
Item	Description	Cost
1.0	Topographic Survey	\$ 48,420.00
2.0	Final Geotechnical Survey	\$ 72,500.00
3.0	Environmental Survey & Services	\$ 105,300.00
4.0	Permitting & Zoning	\$ 24,910.00
5.0	Plan Production	\$ 292,063.94
6.0	Construction Inspection	\$ 292,063.94
7.0	Closing Costs	\$74,128.86
	15% Construction Contingency	\$ 136,408.01
	<b>TOTAL</b>	\$ 1,045,794.75

Conceptual Construction Cost Estimate		
Item	Description	Cost
1.0	General Conditions	\$ 123,750.00
2.0	Demolition	\$ 776,113.60
3.0	A.D. Kelly Rd. Improvements	\$ 203,566.76
4.0	OLF-X Site Improvements	\$ 3,068,911.67
	15% Construction Contingency	\$ 625,851.30
	<b>TOTAL</b>	\$ 4,798,193.33



Financial Costs

**OPINION OF CONCEPTUAL CONSTRUCTION COSTS**

**OLF-X, NAS WHITING FIELD**

APO Section 32, Township 4 North, Range 25 West  
 Santa Rosa County, Florida

**1.0 GENERAL CONDITIONS**

ITEM NO.	DESC	QUAN	UNIT	UNIT PRICE	EXT CST
G-01	Mobilization	1	EA	\$ 52,000.00	\$ 52,000.00
G-02	Demobilization	1	EA	\$ 20,000.00	\$ 20,000.00
G-03	Site Layout	1	LS	\$ 22,000.00	\$ 22,000.00
G-04	Maintenance of Traffic (Ard Field Rd.)	1	LS	\$ 4,000.00	\$ 4,000.00
G-05	Field Office, 600 Sf	1	EA	\$ 25,000.00	\$ 25,000.00
G-06	Project Sign	1	EA	\$ 750.00	\$ 750.00
<b>1.0 TOTAL</b>					<b>\$ 123,750.00</b>

**2.0 DEMOLITION**

ITEM NO.	DESC	QUAN	UNIT	UNIT PRICE	EXT CST
D-01	Erosion Control (SF w/ hay bales)(Site)	10,200	LF	\$ 7.00	\$ 71,400.00
D-02	Erosion Control (SF w/ hay bales)(Road)	4,800	LF	\$ 7.00	\$ 33,600.00
D-03	Ex. Asphalt Removal	5,000	SY	\$ 5.00	\$ 25,000.00
D-04	Clearing and Grubbing - Site	594	AC	\$ 1,065.00	\$ 632,610.00
D-05	Clearing and Grubbing - Roadway	6.6	AC	\$ 2,046.00	\$ 13,503.60
<b>2.0 TOTAL</b>					<b>\$ 776,113.60</b>

**3.0 A.D. KELLY RD. IMPROVEMENTS**

ITEM NO.	DESC	QUAN	UNIT	UNIT PRICE	EXT CST
<b>Roadway Improvements</b>					
R-01	Roadbed Grading	10,565	SY	\$ 1.50	\$ 15,847.50
R-02	Stabilized Subgrade, 12"	10,565	SY	\$ 1.25	\$ 13,206.25
R-03	Base Material - Sand-Clay, 3" Supp. to Existing Base Material	7,043	SY	\$ 5.75	\$ 40,499.17
R-04	Asphalt - Type SP-12.5, 2"	10,565	SY	\$ 7.70	\$ 81,349.64
R-05	Gravel Road Bed, 6" (Side Roads)	145	SY	\$ 15.00	\$ 2,173.33
R-06	Sand/Clay Base, 6" (Side Roads)	145	SY	\$ 5.75	\$ 833.11
<b>Subtotal:</b>					<b>\$ 153,909.01</b>

<b>Earthwork</b>						
R-07	Excavation and Finished Grading	6,440	CY	\$	5.25	\$ 33,810.00
	Bahia Grass Seed (35 lbs/ac) &					
R-09	Rye Grass Seed (150 lbs/ac)	4.17	AC	\$	230.00	\$ 959.10
R-10	Lime	4.17	AC	\$	45.00	\$ 187.65
R-11	Complete Fertilizer	4.17	AC	\$	100.00	\$ 417.00
R-12	Nitrogen (2nd Application)	4.17	AC	\$	50.00	\$ 208.50
					<b>Subtotal:</b>	\$ 35,582.25
<b>Signing and Marking</b>						
R-13	Roadway Signage - Stop Sign	1	EA	\$	250.00	\$ 250.00
R-14	Roadway Signage - Speed Limit	1	EA	\$	250.00	\$ 250.00
R-15	White Stop Bar, 24" wide	14	LF	\$	5.75	\$ 80.50
R-16	Yellow Solid, 6" Wide	100	LF	\$	0.85	\$ 85.00
					<b>Subtotal:</b>	\$ 665.50
<b>Drainage</b>						
R-17	RCP Drainage Pipe, 18"	150	LF	\$	33.00	\$ 4,950.00
R-18	MES, 18" Cross Drain	8	EA	\$	870.00	\$ 6,960.00
R-19	Rubble Rip Rap, 18" depth w/ 4" bedding stone & geotextile	10	SY	\$	150.00	\$ 1,500.00
					<b>Subtotal:</b>	\$ 13,410.00
					<b>3.0 TOTAL</b>	<b>\$ 203,566.76</b>

#### 4.0 OLF-X SITE IMPROVEMENTS

ITEM NO.	DESC	QUAN	UNIT	UNIT PRICE	EXT CST
<b>Earthwork Elements</b>					
S-01	Establishing Finished Grade	100,000	SY	\$ 1.00	\$ 100,000.00
	Bahia Grass Seed (35 lbs/ac) &				
S-02	Rye Grass Seed (150 lbs/ac)	579	AC	\$ 230.00	\$ 133,170.00
S-03	Turf Maintenance	1	LS	\$ 75,000.00	\$ 75,000.00
S-04	Lime	553	AC	\$ 45.00	\$ 24,885.00
S-05	Complete Fertilizer	553	AC	\$ 100.00	\$ 55,300.00
S-06	Nitrogen (2nd Application)	553	AC	\$ 50.00	\$ 27,650.00
				<b>Subtotal:</b>	\$ 416,005.00
<b>Temporary Irrigation</b>					
S-07	Irrigation Wells (200 gpm)	8	EA	\$ 12,000.00	\$ 96,000.00
S-08	Temp Power	1	LS	\$ 30,000.00	\$ 30,000.00
S-09	16 Rain Gun Assemblies	16	EA	\$ 3,200.00	\$ 51,200.00
S-10	3" Flex Hose and Fittings	19200	LF	\$ 2.25	\$ 43,200.00
S-11	Labor	1	LS	\$ 38,400.00	\$ 38,400.00
S-12	Salvage Cost of Equipment	1	LS	\$ (30,000.00)	\$ (30,000.00)
S-13	Contingency	1	LS	\$ 64,700.00	\$ 64,700.00
				<b>Subtotal:</b>	\$ 293,500.00

<b>Asphalt Airfield (4 Runways Total)</b>						
S-14	Asphalt - Type SP-12.5, 2"	90,000	SY	\$	7.70	\$ 693,000.00
S-15	Base Material - Sand-Clay, 6"	90,000	SY	\$	5.75	\$ 517,500.00
S-16	Stabilized Subgrade, 12"	90,000	SY	\$	0.75	\$ 67,500.00
S-17	Signage and Pavement Markings	1	LS	\$	1,000.00	\$ 1,000.00
<b>Subtotal:</b>						\$ 1,279,000.00
<b>Access Asphalt Roadways</b>						
S-18	Asphalt - Type SP-12.5, 2"	7,000	SY	\$	7.70	\$ 53,900.00
S-19	Base Material - Sand-Clay, 6"	7,000	SY	\$	5.75	\$ 40,250.00
S-20	Stabilized Subgrade, 12"	7,000	SY	\$	0.75	\$ 5,250.00
<b>Subtotal:</b>						\$ 99,400.00
<b>Access Gravel Roadways/Gravel Airfield Markings</b>						
S-21	Gravel Road Bed, 6" (Side Roads)	1449	SY	\$	15.00	\$ 21,733.33
S-22	Sand/Clay Base, 6" (Side Roads)	1449	SY	\$	5.75	\$ 8,331.11
<b>Subtotal:</b>						\$ 30,064.44
<b>Drainage</b>						
S-23	RCP Drainage Pipe, 18"	300	LF	\$	33.00	\$ 9,900.00
S-24	MES, 18" Cross Drain	16	EA	\$	870.00	\$ 13,920.00
S-25	Type D Ditch Bottom Inlet	10	EA	\$	3,000.00	\$ 30,000.00
S-26	Rubble Rip Rap, 18" depth w/ 4" bedding stone & geotextile	100	SY	\$	150.00	\$ 15,000.00
<b>Subtotal:</b>						\$ 68,820.00
<b>Site Improvement Elements</b>						
S-27	Fence: 8' high wood post & wire fence includes Sliding Gate	20290	LF	\$	10.00	\$ 202,900.00
S-28	Site Signage @ Entrance	1	EA	\$	250.00	\$ 250.00
S-29	Crash House Building	1,000	SF	\$	220.00	\$ 220,000.00
<b>Subtotal:</b>						\$ 423,150.00
<b>Utilities Elements - Water</b>						
S-30	Domestic Water Well with Tanks & Controls	1	EA	\$	10,000.00	\$ 10,000.00
S-31	Water Distribution Line, 4" PVC	120	LF	\$	10.00	\$ 1,200.00
S-32	PVC Fittings, 4"	4	EA	\$	245.00	\$ 980.00
S-33	Gate Valve, 4"	1	EA	\$	750.00	\$ 750.00
S-34	Water Service Connection, 1" PVC	25	LF	\$	150.00	\$ 3,750.00
S-35	Hydrant Assembly	1	EA	\$	3,000.00	\$ 3,000.00
<b>Subtotal:</b>						\$ 19,680.00
<b>Utilities Elements - Sewer</b>						
S-36	Sanitary Sewer Gravity Line, 8" PVC	100	LF	\$	25.00	\$ 2,500.00
S-37	Septic Tank & Drain Field System	1	LS	\$	4,000.00	\$ 4,000.00
<b>Subtotal:</b>						\$ 6,500.00

**Utilities Elements - Electrical**

## Underground Electric Service

S-38	Trenching, 16"W x 24"D	3,600	LF	\$	1.35	\$	4,860.00
S-39	Concrete, 4000 PSI	355	CY	\$	114.00	\$	40,470.00
S-40	PVC, 4" (qty. 2 w/ spacers)	7,200	LF	\$	13.15	\$	94,680.00
S-41	Cable, 15kV, 250MCM (qty. 3)	10,800	LF	\$	11.75	\$	126,900.00
S-42	Cable terminations	6	EA	\$	395.00	\$	2,370.00
S-43	Luminaire & Bracket Arm, ALUM, roadway, HPS, 1000W	2	EA	\$	1,350.00	\$	2,700.00
S-44	Electrical Service, Pole Mount, XFMR, meter, panel	1	EA	\$	7,500.00	\$	7,500.00
S-45	Connection to Water Pump, includes XFMR on closest pole, panel, controls	1	EA	\$	12,500.00	\$	12,500.00
							<b>Subtotal:</b>
							\$ 291,980.00

**Fuel Facility - Basic**

S-46	Concrete Truck Pad, 8" Fiber Reinforced (2 @ 80'x 20')	356	SY	\$	100.00	\$	35,555.56
S-47	Type D Curb	340	LF	\$	16.00	\$	5,440.00
S-48	Special Curb	36	LF	\$	25.00	\$	900.00
Asphalt Helipad (2 @ 100'x 100')							
S-49	Asphalt - Type SP-12.5, 2"	2,222	SY	\$	7.70	\$	17,111.11
S-50	Base Material - Sand-Clay, 6"	2,222	SY	\$	5.75	\$	12,777.78
S-51	Stabilized Subgrade, 12"	2,222	SY	\$	1.25	\$	2,777.78
S-52	Signage and Pavement Markings	1	LS	\$	500.00	\$	500.00
S-53	Grounding Apparatus	1	LS	\$	250.00	\$	250.00
							<b>Subtotal:</b>
							\$ 75,312.22

**Pinnacle Training Facility (1 mound only)**

S-54	Select Fill Material	4,300	CY	\$	10.00	\$	43,000.00
S-55	Type B Stabilized Subgrade, 12"	2,500	SY	\$	5.75	\$	14,375.00
S-56	Base Course - Sand/Clay, 6"	2,500	SY	\$	3.25	\$	8,125.00
							<b>Subtotal:</b>
							\$ 65,500.00

**4.0 TOTAL \$ 3,068,911.67****SUBTOTAL PROJECT (1.0-4.0) \$ 4,172,342.02****15% Construction Contingency \$ 625,851.30****TOTAL PROJECT \$ 4,798,193.33**

Land Cost 601.5 AC @ \$3,081 / AC \$ 1,853,221.50

\$ 6,651,414.83

**OPINION OF CONCEPTUAL SOFT COSTS**

**OLF-X, NAS WHITING FIELD**

APO Section 32, Township 4 North, Range 25 West  
 Santa Rosa County, Florida

**1.0 TOPOGRAPHIC SURVEY**

ITEM NO.	DESC	QUAN	UNIT	UNIT PRICE	EXT CST
1-01	Survey - Wooded Site	1	LS	\$ 48,420.00	\$ 48,420.00
1-02	Survey - Cleared Site ((\$32550.00 (for reference purposes))				
				<b>1.0 TOTAL</b>	<b>\$ 48,420.00</b>

**2.0 GEOTECHNICAL SURVEY**

ITEM NO.	DESC	QUAN	UNIT	UNIT PRICE	EXT CST
2-01	NEPA Upgrades	1	LS	\$ 50,000.00	\$ 50,000.00
2-02	Final Report	1	LS	\$ 22,500.00	\$ 22,500.00
				<b>2.0 TOTAL</b>	<b>\$ 72,500.00</b>

**3.0 ENVIRONMENTAL SURVEY & SERVICES**

ITEM NO.	DESC	QUAN	UNIT	UNIT PRICE	EXT CST
3-01	Jurisdictional Wetland Determination	1	LS	\$ 8,800.00	\$ 8,800.00
3-02	Threatened/Endangered Species Survey	1	LS	\$ 21,500.00	\$ 21,500.00
3-03	Gopher Tortoise relocation and Eastern Indigo Snake inspection	1	LS	\$ 75,000.00	\$ 75,000.00
				<b>3.0 TOTAL</b>	<b>\$ 105,300.00</b>

**4.0 PERMITTING & ZONING**

ITEM NO.	DESC	QUAN	UNIT	UNIT PRICE	EXT CST
<b>FDEP ERP Stormwater</b>					
4-01	Permitting Fee	1	LS	\$ 3,510.00	\$ 3,510.00
				<b>Subtotal:</b>	<b>\$ 3,510.00</b>
<b>SRC Development Services</b>					
4-02	Permitting Fee	1	LS	\$ 3,100.00	\$ 3,100.00
				<b>Subtotal:</b>	<b>\$ 3,100.00</b>
<b>Utility Permitting</b>					
4-03	Sewer (SRC Health Dept.)	1	LS	\$ 3,100.00	\$ 3,100.00
4-04	Water Well Syst. (Consumptive Use Permit)	1	LS	\$ 1,000.00	\$ 1,000.00
4-05	Building Permit	1	LS	\$ 1,000.00	\$ 1,000.00
4-06	Building Inspections	1	LS	\$ 10,000.00	\$ 10,000.00
				<b>Subtotal:</b>	<b>\$ 15,100.00</b>
<b>SRC Zoning</b>					
4-07	Rezoning Fee (Large-scale)	1	LS	\$ 1,600.00	\$ 1,600.00
4-08	Future Land Use Map Amendment	1	LS	\$ 1,600.00	\$ 1,600.00
				<b>Subtotal:</b>	<b>\$ 3,200.00</b>
				<b>4.0 TOTAL</b>	<b>\$ 24,910.00</b>

**5.0 PLAN PRODUCTION**

ITEM NO.	DESC	QUAN	UNIT	UNIT PRICE	EXT CST
<b>Plans Production</b>					
5-01	7.0% of Construction Cost (incl's roadways, stormwater, environmental protection, utility permit apps, zoning change apps, copies, coordination, correspondence)	1	LS	\$ 292,063.94	\$ 292,063.94
				<b>Subtotal:</b>	\$ 292,063.94
				<b>5.0 TOTAL</b>	\$ 292,063.94

**6.0 CONSTRUCTION INSPECTION**

ITEM NO.	DESC	QUAN	UNIT	UNIT PRICE	EXT CST
<b>CEI Services</b>					
6-01	7.0% of Construction Cost (incl's limited inspection, shop dwg review, documentation, communication, site meetings, certificates, and final close-out)	1	LS	\$ 292,063.94	\$ 292,063.94
				<b>Subtotal:</b>	\$ 292,063.94
				<b>6.0 TOTAL</b>	\$ 292,063.94

**7.0 CLOSING COSTS**

ITEM NO.	DESC	QUAN	UNIT	UNIT PRICE	EXT CST
7-01	Property Closing Costs (Total) (4% of property purchase)	1	LS	\$ 74,128.86	\$ 74,128.86
				<b>Subtotal:</b>	\$ 74,128.86
				<b>7.0 TOTAL</b>	\$ 74,128.86

**SUBTOTAL PROJECT (1.0-4.0) \$ 909,386.74**

**15% Contingency \$ 136,408.01**

**SOFT COST TOTAL \$ 1,045,794.75**



Section 8:  
Development  
Scope of Work

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# Development Scope of Work

Purchase of the property in Santa Rosa County will mark the beginning of time required to construct an outlying field and complete the land-swap agreement between the Navy and Escambia County. A Contract related to the release of the surface and access rights has been initialed with the two largest rights holders. The validity of the surface rights release lasts three years. Should transfer of property ownership to the federal government not be completed within three years, the Contract will be terminated and the surface rights reverted back to the original holders. Due to the time restrictions, the OLF-X property must be developed and the land-swap executed within three years (preliminarily estimated to be January 2017).

Several initial tasks should to be completed prior to design and construction. First, a topographic data should be added to the boundary survey. Numerous additional preliminary environmental surveys initialized during the due diligence process also should be finalized. An outline of required environmental studies is listed below.

- Final Geotechnical Engineering Report
- Final Phase I Environmental Site Assessment (ESA)
- Final Threatened and Endangered Species Survey
- Final Jurisdictional Wetlands Delineation

The initial jurisdictional wetland survey found no wetlands on the property. Should a different determination be made, wetlands should be included on the topographic survey. The final version of the Phase I ESA must comply with the National Environmental Policy Act (NEPA) of 1969 because of the federal nature of the project. NEPA legislation establishes national procedural requirements for all federal government agencies to preparing ESA's.

Subsequent to completion of required surveys and environmental studies, a land-swap agreement between the Navy and Escambia County must to be reached. Once the agreement is finalized and executed by both parties, it will require ratification by the United States Congress to become official. Upon authorization, the process of developing the OLF-X property in Santa Rosa County can begin.

The airfield site shall be designed to meet Navy program requirements for an advanced rotary-wing training facility. From the Navy's perspective, facilities associated with the new outlying field must meet both current and future training missions in addition to specific security specifications. The airfield design must also satisfy a variety of state and local regulations with regards to stormwater



*OLF-X Site*

management, transportation and utility design, and building construction.

Clearing the proposed airfield site of existing timber and stumps is estimated to last four to six months. Approximately forty-four percent of the site contains

medium to dense pine tree stands. Most mature pine stands have trunk diameters greater than six inches and possess some intrinsic salvage value. The rest of the site has been cleared to varying degrees. Approximately thirty-seven percent of the site has been cleared but contains mature stumps and minimal vegetation. The remainder of the site has been cleared and contains minimal stumps and vegetation. Sedimentation and erosion control measures must be installed and maintained throughout construction process, starting with clearing & grubbing.



*Typical Earthwork Construction*

Current estimations forecast design completion near the conclusion of 2014. Subsequent to design completion and permit approval, a Contractor will be selected to complete the construction of hardscapes prior to the 2015 growing season. One of the primary elements dictating the construction sequence is the establishment of turf grass. Bahiagrass will be utilized to establish the turf airfield because it is a low-maintenance grass ideal for infertile, sandy soils. Due to slow germination, bahiagrass takes longer to establish a uniform turf cover. Ideally, bahiagrass should be planted in the spring or early summer which enables it to establish a sustainable root system prior to the dormant season when temperatures cool.

Three opportunities exist to establish turf prior to termination of the surface rights Contracts. Ideally, turf should be planted in the spring providing the maximum grow-in period. Spring 2015 should be targeted as the primary date to install turf, with the spring 2016 held in contingency should the

construction process lag behind schedule. In either scenario, hardscape construction should be finalized by spring clearing the way for establishment of the turf airfield. Should the primary construction sequence materialize, the OLF-X development would be complete near the conclusion of 2015, a full year before the surface rights Contracts expire.

A more costly option involves planting turf in the fall. The primary drawback of turf establishment in the offseason is the requirement of an overseed layer. The overseed layer would prevent wind and rain erosion of the topsoil during the dormant months preceding the spring grow-in period.

Preliminary construction sequences are outlined in the following tables. Dates outlined in the table are conceptual and intended only for planning purposes.



*Typical Earthwork Construction*

## Sequence of Construction No. 1 \*

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Month	Description
December 2013	Purchase OLF-X
January 2014	Begin Environmental Studies
January 2014	Begin Topographic Survey
March 2014	Complete Environmental Studies
April 2014	Complete Topographic Survey
April 2014	Begin Site Development Design
April 2014	Begin Timber Clearing & Grubbing
June 2014	Complete OLF-X Design Criteria
October 2014	Complete Navy Land-Swap Agreement
October 2014	Complete Timber Clearing & Grubbing
November 2014	Complete Site Development Design
November 2014	Advertise for Contractor Bids
December 2014	Award Construction Contract
January 2015	Begin OLF-X Construction
April 2015	Begin Bahiagrass Planting
October 2015	End Bahiagrass Establishment
November 2015	Complete OLF-X Construction
January 2016	Complete Land-Swap
January 2017	Surface Rights Release Terminates **

\* All dates shown are approximate.

\*\* Release Contract terminates only if land-swap not complete

## Sequence of Construction No. 2 \*

Month	Description
December 2013	Purchase OLF-X
January 2014	Begin Environmental Studies
January 2014	Begin Topographic Survey
March 2014	Complete Environmental Studies
April 2014	Complete Topographic Survey
April 2014	Begin Site Development Design
April 2014	Begin Timber Clearing & Grubbing
October 2014	Complete Timber Clearing & Grubbing
January 2015	Complete OLF-X Design Criteria
June 2015	Complete Navy Land-Swap Agreement
July 2015	Complete Site Development Design
August 2015	Advertise for Contractor Bids
September 2015	Award Construction Contract
October 2015	Begin OLF-X Construction
April 2016	Begin Bahiagrass Planting
October 2016	End Bahiagrass Establishment
November 2016	Complete OLF-X Construction
December 2016	Complete Land-Swap
January 2017	Surface Rights Release Terminates **

\* All dates shown are approximate.

\*\* Release Contract terminates only if land-swap not complete

### Sequence of Construction No. 3 \*

Month	Description
December 2013	Purchase OLF-X
January 2014	Begin Environmental Studies
January 2014	Begin Topographic Survey
March 2014	Complete Environmental Studies
April 2014	Complete Topographic Survey
April 2014	Begin Site Development Design
April 2014	Begin Timber Clearing & Grubbing
October 2014	Complete Timber Clearing & Grubbing
January 2015	Complete OLF-X Design Criteria
January 2015	Complete Navy Land-Swap Agreement
March 2015	Complete Site Development Design
March 2015	Advertise for Contractor Bids
April 2015	Award Construction Contract
May 2015	Begin OLF-X Construction
October 2015	Begin Bahiagrass Planting and Overseed Application
October 2016	End Bahiagrass Establishment
November 2016	Complete OLF-X Construction
December 2016	Complete Land-Swap
January 2017	Surface Rights Release Terminates **

\* All dates shown are approximate.

\*\* Release Contract terminates only if land-swap not complete



# Appendix A: Conceptual Drawings

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Appendix B:  
Preliminary  
Geotechnical  
Report

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Appendix C:  
Phase I  
Environmental  
Site Assessment  
Report

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Appendix D:  
Threatened  
and Endangered  
Species and  
Wetlands Report

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Appendix E:  
Property  
Appraisal Report

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Appendix F:  
Site  
Photographs

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Appendix G:  
CTW-5 Rotary-Wing  
Aircraft Operating  
Procedures Manual  
(Relevant Sections)

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Appendix H:  
Santa Rosa County  
Joint Land  
Use Study  
(Relevant Sections)

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Appendix I:  
Abbreviated  
Summary  
of Rotary-Wing  
Maneuvers

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Appendix J:  
Crash House  
Criteria

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Appendix K:  
Military Installations  
Districts ZB Drafts

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Appendix L:  
Bahia grass for  
Florida Lawns

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# Appendix M: Hunt License

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