

Hills of Minneola  
Habitat Conservation Plan

for the

Sand Skink and  
Blue-tailed Mole Skink

Prepared By:

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## **Introduction**

Bio-Tech Consulting, Inc. has prepared this Habitat Conservation Plan (HCP) on behalf of Sunterra Communities, LLC(Applicant) to fulfill partial requirements of section 10(a)(1)(B) of the Endangered Species Act of 1973, as amended (87 stat. 884; 16 U.S.C. 1531 *et seq.*). The Applicant is proposing to construct a commercial center on 1,680-acre in Lake County, Florida (Figure 1). The project site is located in sand skink (*Neoseps reynoldsi*) and blue-tailed mole skink (*Eumeces egregious*) habitat as defined in the U.S. Fish and Wildlife Service (USFWS) *Species Conservation and Consultation Guide for the Sand Skink and Blue-tailed (Bluetail) Mole Skink*. The Applicant anticipates that 7.74 acres of the project site is occupied by skinks that will be impacted by this project, and is submitting this HCP in support of an incidental take permit (Permit) application for the sand skink and blue-tailed mole skink.

## **Purpose**

The Applicant proposes to clear, grade, and construct a housing, commercial, and institutional development called Hills of Minneola in Lake County (Appendix 1, Site Plan). Removal of vegetation and soil disturbance associated with this development will permanently alter 7.74 acres of skink and blue-tailed mole skink (hereafter collectively referred to as skinks) habitat (Figure 7). The Applicant anticipates take could occur as a result of construction activities causing direct injury to, or mortality of skinks, and harm in the form of permanent alteration of skink habitat. The proposed actions are otherwise legal and consistent with local, county, and State laws.

## **Permit Duration**

The Applicant would like to begin land clearing for construction as soon as this permit is issued. Once begun, construction will proceed in five phases. All impacts to sand skinks would be in Phase 1 and should be completed in 3 years. However, in case unforeseen delays occur, the Applicant is requesting Permit duration of 5 years.

## **Biological Goals**

The biological goal of this HCP is to offset impacts to the covered species associated with the proposed project through the conservation and/or preservation of sustainable skink populations. This goal will be achieved through the minimization of onsite impacts by beginning construction activities outside of the skink's breeding season, and providing mitigation through the purchase of credits at a USFWS-approved conservation bank.

## **Project Site Conditions**

A site assessment was conducted by ecologists of Bio-Tech Consulting, Inc., and is detailed in the attached Sand Skink Report (Appendix 2). Sand skinks were found in 10.99 acres of the site. However, only 7.74 acres of occupied sand skink habitat will be impacted by this project.

**Location:** The subject site is approximately 1,680 acres. The site is located on the north and south sides of Florida's Turnpike, north of Fosgate Road and south of Sugarloaf Mountain Road, within Sections 28, 29, 32 & 33, Township 21 South, Range 26 East and Sections 4, 5 & 9, Township 22 South, Range 26 East, Lake County, Florida (Figures 1, and 2). Parcel ID numbers are 292126000100003000, 322126000100000101, 322126000100001800, 042226000200000300, 042226000300000600, 092226010502100000, 092226010501400001, 092226010503900000, 092226010503900002.

**Topography:** Based upon review of the USGS Topographic Map (Clermont East Quad, Figure 3), the on-site elevations range from 82 feet to a maximum of 275 feet NGVD. Overall, the subject site elevations fluctuate throughout with the sharpest decline in elevation located along the eastern boundary and surrounding the on-site wetland areas.

**Surrounding Land Uses:** The site is located in Lake County, on the north and south sides of Florida's Turnpike, north of Fosgate Road and south of Sugarloaf Mountain Road. This area of the county is becoming highly developed. Surrounding land uses include residential, golf courses, and commercial development.

**Soils:** According to the Soil Survey of Lake County, Florida, prepared by the U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS), ten (10) soil types exist within the subject site (Figure 4). These soil types include the following:

- **Candler sand, 0 to 5 percent slopes (#8)**
- **Candler sand, 5 to 12 percent slopes (#9)**
- **Candler sand, 12 to 40 percent slopes (#10)**
- **Arents (#17)**
- **Lake sand, 0 to 5 percent slopes (#21)**
- **Lake sand, 5 to 12 percent slopes (#22)**
- **Lake sand, 12 to 22 percent slopes (#23)**
- **Ona-Ona, wet, fine sand, 0 to 2 percent slopes (#33)**
- **Placid and Myakka fine sands, depressional (#40)**
- **Tavares sand, 0 to 5 percent slopes (#45)**

The following presents a brief description of each of the soil types mapped for the subject property:

**Candler sand, 0 to 5 percent slopes (#8)** is a nearly level to gently sloping, excessively drained soil found on rolling uplands of the central ridge. The surface layer of this soil type generally consists of dark gray sand about 7 inches thick. The water table for this soil type is at a depth of

more than 120 inches. Permeability is very rapid throughout the profile of this soil type.

**Candler sand, 5 to 12 percent slopes (#9)** is a sloping to strongly sloping, excessively drained soil found on rolling uplands of the central ridge. Typically the surface layer of this soil type consists of dark gray sand about 5 to 6 inches thick. The water table for this soil type is at a depth of more than 120 inches. Permeability is very rapid throughout the profile of this soil type.

**Candler sand, 12 to 40 percent slopes (#10)** is a very steep, excessively drained sandy soil found on rolling uplands of the central ridge. Typically the surface layer of this soil type consists of dark gray sand about 3 inches thick. The water table for this soil type is at a depth of more than 120 inches. Permeability is very rapid throughout the profile of this soil type.

**Arents (#17)** consist of loamy soil material that has been mixed, reworked and leveled or shaped by earth-moving equipment. It is mostly 12 to 60 inches thick. The water table for this soil type is at a depth of 30 to 60 inches except in low-lying areas, where it is at a depth of 10 to 30 inches, and in a few dry areas, where it is at a depth of more than 60 inches.

**Lake sand, 0 to 5 percent slopes (#21)** is a nearly level to gently sloping, well drained to excessively drained soil. Typically the surface layer of this soil type consists of dark brown sand about 7 inches thick. The water table for this soil type is at a depth of more than 120 inches. Permeability is very rapid throughout the profile of this soil type.

**Lake sand, 5 to 12 percent slopes (#22)** is a sloping to strongly sloping, well drained to excessively drained soil. Typically the surface layer of this soil type consists of dark brown sand about 7 inches thick. The water table for this soil type is at a depth of more than 120 inches. Permeability is very rapid throughout the profile of this soil type.

**Lake sand, 12 to 22 percent slopes (#23)** is a moderately steep to steep, excessively drained soil. Typically the surface layer of this soil type is dark brown sand about 7 inches thick. The water table for this soil type is at a depth of more than 120 inches. Permeability is very rapid throughout the profile of this soil type.

**Ona fine sand (#33)** is a nearly level, poorly drained soil that has a layer stained with organic matter just below the surface. These soils usually occur on the flatwoods. The surface layer of this soil type generally consists of very dark gray fine sand about 6 inches thick. The water table for this soil type is normally at a depth of 10 to 40 inches for about 6 months, within a depth of 10 inches for 1 to 2 months, and below a depth of 40 inches the rest of the year. Permeability of this soil type is moderately rapid in the weakly cemented organic layers and rapid in all other layers.

**Placid and Myakka fine sands, depressional (#40)** are very poorly drained soils found in depressions mostly on the flatwoods. The surface layer of this soil type generally consists of black fine sand about 18 inches thick. Placid soil is ponded for at least 6 months during most years. Permeability of this soil type is rapid.

**Tavares sand, 0 to 5 percent slopes (#45)** is a nearly level to gently sloping soil, moderately well drained soil. It has a very dark grayish-brown sandy surface layer approximately 7 inches



thick. Below this layer are 4 levels of sand beginning at 7 inches, 25 inches, 34 inches, and 61 inches. The water table for this soil type is at a depth of 40 to 60 inches for more than 6 months out of the year and below 60 inches during dry periods. This soil type is rapidly permeable throughout.

The Florida Association of Environmental Soil Scientists (FAESS) considers inclusions present in component of Placid and Myakka sands, depressional (#40) to be hydric. This Association further considers inclusions present in Ona Fine Sand (#33) to be hydric. This information can be found in the Hydric Soils of Florida Handbook, Third Edition (March, 2000).

**Existing Vegetative Conditions:** The subject site currently supports six (6) land use types/vegetative communities (Figure 5). These land use types/vegetative communities were identified utilizing the Florida Land Use, Cover and Forms Classification System, Level III (FLUCFCS, FDOT, January 1999). The on-site upland land use types/vegetative communities are classified as Open Land (190), Live Oak (427), Coniferous Plantation (441), and Roads and Highways (814). The wetland/surface water land use types/vegetative communities found on the site are classified as Willows and Elderberry (618) and Wet Prairie (643). The following provides a brief description of the on-site land use types/vegetative communities:

### **Uplands:**

#### **190 – Open Land**

The northern portion of the site includes lands previously cleared of the natural vegetation and contains a storage structure and remnants of previous structures. Vegetation observed within this community includes bahiagrass (*Paspalum notatum*), bermudagrass (*Cynodon dactylon*), dog fennel (*Eupatorium capillifolium*), passionflower (*Passiflora incarnata*), lantana (*Lantana camara*), and cogongrass (*Imperata cylindrical*).

#### **441 – Coniferous Plantation**

A majority of the on-site uplands are dominated by planted slash pine (*Pinus elliottii*) and most consistent with the Coniferous Plantation FLUCFCS classification. Other vegetation observed within this community includes live oak (*Quercus virginiana*), laurel oak (*Quercus laurifolia*), Chinaberry (*Melia azedarach*), black cherry (*Prunus serotina*), camphor tree (*Cinnamomum camphora*), earpod tree (*Enterolobium contortisiliquum*), common persimmon (*Diospyros virginiana*), citrus (*Citrus* sp.), bahiagrass (*Paspalum notatum*), bermudagrass (*Cynodon dactylon*), dog fennel (*Eupatorium capillifolium*), Brazilian pepper (*Schinus terebinthifolius*), caesarweed (*Urena lobata*), muscadine (*Vitis rotundifolia*), passionflower (*Passiflora incarnata*), lantana (*Lantana camara*), prickly pear (*Opuntia humifusa*), saltbush (*Baccharis anquistifolia*), Virginia creeper (*Parthenocissus quinquefolia*), broomsedge (*Andropogon virginicus*), blackberry (*Rubus* sp.), American beautyberry (*Callicarpa americana*), greenbriar (*Smilax* sp.), cogongrass (*Imperata cylindrical*), natal grass (*Melinis repens*), guineagrass (*Urochloa maxima*), and bracken fern (*Pteridium aquilinum*).

#### **427 – Live Oak**

Several oak dominated areas scattered throughout the site are consistent with the Live Oak (427) FLUCFCS classification. Vegetation observed within this community includes live oak (*Quercus virginiana*), prickly pear (*Opuntia humifusa*), saw palmetto (*Serenoa repens*), wiregrass (*Aristida stricta*), gopher apple (*Licania michauxii*), reindeer lichen (*Cladonia rangiferina*), bracken fern (*Pteridium aquilinum*), and Florida rosemary (*Ceratiola ericoides*).

## **814 – Roads and Highways**

The central portion of the site includes the Hancock Road right-of-way and stormwater retention areas that are consistent with the Roads and Highways (814) FLUCFCS classification. A majority of these areas are stabilized by bahiagrass (*Paspalum notatum*), while some areas have been allowed to re-establish with opportunistic nuisance and exotic grasses and shrub species. Per SJRMWD Permit #145220-1, the Hancock Road right-of-way and retention areas will service a future four-land divided highway.

## **Wetlands**

### **618 – Willows and Elderberry**

The large wetland system located in the western portion of the site is consistent with the Freshwater Marsh (641) FLUCFCS classification. Vegetation observed within this community includes broomsedge (*Andropogon virginicus*), Carolina willow (*Salix caroliniana*), primrose willow (*Ludwigia peruviana*), elderberry (*Sambucus canadensis*), pickerelweed (*Pontederia cordata*), spikerush (*Eleocharis* sp.), marsh pennywort (*Hydrocotyle umbellata*), duckweed (*Lemna minor*), Cuban bulrush (*Scirpus cubensis*), blackberry (*Rubus* sp.), spatterdock (*Nuphar advena*), maidencane (*Panicum hemitomon*), and buttonbush (*Cephalanthus occidentalis*).

### **643 – Wet Prairie**

The two (2) small wetlands located in the northern portion of the site are consistent with the Wet Prairie (643) FLUCFCS classification. Vegetation observed within this community includes broomsedge (*Andropogon virginicus*), maidencane (*Panicum hemitomon*), buttonbush (*Cephalanthus occidentalis*), dog fennel (*Eupatorium capillifolium*), and scattered slash pine (*Pinus elliotii*) saplings.

**Wildlife:** Using methodologies outlined in the Florida’s Fragile Wildlife (Wood, 2001); Measuring and Monitoring Biological Diversity Standard Methods for Mammals (Wilson, et al., 1996); and Florida Fish and Wildlife Conservation Commission’s (FFWCC) Gopher Tortoise Permitting Guidelines (January 2017); an assessment for “listed” floral and faunal species was conducted at the subject property during November – December, 2017. This assessment included both direct observations and indirect evidence, such as tracks, burrows, tree markings and vocalizations that indicated the presence of species observed. The assessment focused on species that are “listed” by the FFWCC’s Official Lists - Florida’s Endangered Species, Threatened Species and Species of Special Concern (May 2017) that have the potential to occur in Lake County (See attached Table 1).

No plant species “listed” by either the state or federal agencies were identified on the subject property during the assessments conducted. The following is a list of those wildlife species identified during the evaluation of the site:

### **Reptiles and Amphibians**

black racer (*Coluber constrictor*)  
brown anole (*Anolis sagrei*)  
coachwhip (*Masticophis flagellum*)  
corn snake (*Pantherophis guttatus*)  
eastern diamondback rattlesnake (*Crotalus adamanteus*)

### **Florida sand skink (*Neoseps reynoldsi*)**

### **gopher tortoise (*Gopherus polyphemus*)**

green anole (*Anolis caroliniana*)  
six-lined racerunner (*Cnemidophorus sexlineatus sexlineatus*)

### **Birds**

Black Vulture (*Coragyps atratus*)  
Blue Jay (*Cyanocitta cristata*)  
Brown Thrasher (*Toxostoma rufum*)  
Carolina Chickadee (*Poecile carolinensis*)  
Chipping Sparrow (*Spizella passerina*)  
Eastern Towhee (*Pipilo erythrophthalmus*)  
Mourning Dove (*Zenaida macroura*)  
Northern Mockingbird (*Mimus polyglottos*)  
Northern Cardinal (*Cardinalis cardinalis*)  
Red-shouldered Hawk (*Buteo lineatus*)  
Turkey Vulture (*Cathartes aura*)

### **Mammals**

brown rat (*Rattus norvegicus*)  
common raccoon (*Procyon lotor*)  
coyote (*Canis latrans*)  
eastern cottontail (*Sylvilagus floridanus*)  
eastern gray squirrel (*Sciurus carolinensis*)  
feral pig (*Sus scrofa*)  
nine-banded armadillo (*Dasyus novemcinctus*)  
southeastern pocket gopher (*Geomys pinetis*)  
Virginia opossum (*Didelphis virginiana*)

Two (2) of the above wildlife species, the gopher tortoise (*Gopherus polyphemus*) and the Florida sand skink (*Neoseps reynoldsi*), are identified in the FFWCC’s Official Lists - Florida’s Endangered Species, Threatened Species and Species of Special Concern (May 2017). The

following provides a brief description of the species as they relate to the development of the project site.

Gopher tortoises, a candidate for listing by the Service and listed by the Florida Fish and Wildlife Conservation Commission (FWC) as a species of special concern, was found on the site. All gopher tortoises found on the site will be permitted through the FWC for relocation prior to site construction.

Although not observed, the eastern indigo snake (*Drymarchon corais couperi*) has the potential to occur on the site. The Lake Wales Ridge Conservation Bank provides good habitat for indigo snake and mitigation credits purchased for sand skinks will also benefit this species. The applicant will also follow the Standard Protection Measures for the Eastern Indigo Snake, U.S. Fish and Wildlife Service, August 12, 2013, during construction activities on the site.

No other endangered or threatened species of wildlife or plants have been observed, or are expected to occur on the site due to the disturbed nature of the existing land use types. No critical habitat has been designated for either sand skinks or blue-tailed mole skinks, so none will be adversely modified.

### **Sand Skink - (*Neoseps reynoldsi*)**

Bio-Tech Consulting, Inc. staff conducted a formal survey for the sand skink (*Neoseps reynoldsi*). The sand skink and bluetail mole skink are listed as “Threatened” by both the USFWS and FFWCC. These skinks exist in areas vegetated with sand pine (*Pinus clausa*) - rosemary (*Ceratiola ericoides*) scrub or longleaf pine (*Pinus palustris*) - turkey oak (*Quercus laevis*) associations. Habitat destruction is the primary threat to this species' survival. Citrus groves, residential, commercial, and recreational facilities have depleted the xeric upland habitat of the sand skink.

The sand skink is endemic to the sandy ridges of Central Florida, occurring in Polk, Highlands, Marion, Lake, Orange, Osceola and Putnam counties (Christman 1988, Telford 1998). Principal populations occur on the Lake Wales, Mount Dora and Winter Haven Ridges (Christman 1970; Christman 1992; Mushinsky and McCoy 1995).

### **Coverboard Survey**

The coverboard survey, which provides a measure of the relative risk of taking sand skinks, with similar risks to bluetail mole skinks assumed from sand skink results, was designed by the U.S. Fish and Wildlife Service's Sand and Bluetail Mole Skink Conservation Guidelines (April 4, 2012). Approximately 370 2'x2' coverboards (Figure 6) were distributed in suitable sand skink habitat (i.e., open sandy areas) found within the project site.

**Timing:**

Surveys should be conducted between March 1 and May 15. Coverboards were placed in the field on March 14, 2018.

**Duration:**

Surveys were conducted for a minimum of four (4) consecutive weeks within the time period described above. Coverboard monitoring began March 21 and finished April 12, 2018.

**Materials:**

Two foot by two foot (2' X 2') coverboards were utilized and were constructed of ½ inch thickness oriented strand board (OSB).

**Coverboard Placement:**

Approximately 370 coverboards (Figure 6) were placed within suitable habitat at a minimum density of 40 coverboards per acre. Coverboards were placed in areas of bare sand or sparse vegetation adjacent to leaf litter or other detritus, ensuring full contact of the coverboard with the soil surface. Raking or grading of the soil was needed to ensure full contact of the coverboard with the soil surface. Placement of soil from surrounding areas was also necessary under some coverboards where stems or roots prohibited full contact of the coverboard with the soil surface. While preparing coverboard sites, impacts to federally listed plants, if applicable, were minimized at all times.

**Sampling:**

Coverboards were lifted and checked for sand skink tracks a minimum of once per week. Upon lifting each coverboard, BTC staff checked for tracks and then lightly raked the top several inches of soil with fingers to expose skinks, if present. After checking for tracks and skinks, each coverboard was swiped to smooth the soil surface with the edge of the coverboard and replaced coverboard on the other side in order to prevent warping. In addition during each site visit BTC staff looked for tracks in sandy patches between coverboard locations.

**Coverboard Monitoring Dates**

<b>Sampling Day 1</b>	<b>Weather Conditions:</b> <b>Precip:</b> None	<b>Temp:</b> 67°F – High; 64°F – Low	<b>Cloud Cover:</b> 0%
<b>Date:</b> 3-21-2018		<b>Wind:</b> 17 mph W	
	<b>Time Start</b> 2:00 pm	<b>Time End</b> 5:00 pm	

<b>Observations:</b> Sand Skinks were identified in the two southern portions of the project site.

<b>Sampling Day 2</b>	<b>Weather Conditions:</b> <b>Precip:</b> None	<b>Temp:</b> 76°F – High; 69°F – Low	<b>Cloud Cover:</b> 90%
<b>Date:</b> 3-29-2018		<b>Wind:</b> 10 mph S	
	<b>Time Start</b> 9:00 am	<b>Time End</b> 12:00 pm	
<b>Observations:</b> Sand skinks were identified in all four survey areas on the site.			

<b>Sampling Day 3</b>	<b>Weather Conditions:</b> <b>Precip:</b> None	<b>Temp:</b> 81°F – High; 72°F – Low	<b>Cloud Cover:</b> 50%
<b>Date:</b> 4-4-2018		<b>Wind:</b> 8 mph SSE	
	<b>Time Start</b> 9:30 am	<b>Time End</b> 12:30 pm	
<b>Observations:</b> Sand skinks were identified in the northwestern and central survey areas on the project site.			

<b>Sampling Day 4</b>	<b>Weather Conditions:</b> <b>Precip:</b> None	<b>Temp:</b> 76°F – High; 71°F – Low	<b>Cloud Cover:</b> 0%
<b>Date:</b> 4-12-2018		<b>Wind:</b> 10 mph E	
	<b>Time Start</b> 10:00 am	<b>Time End</b> 1:00 pm	
<b>Observations:</b> Sands Skinks were identified in the northeastern and southern most survey areas on the project site.			



## **SURVEY RESULTS/ SUMMARY**

Suitable habitat exists with appropriate soils and elevation, it was recommended that a formal sand skink survey be conducted to verify presence or prove absence within the project site. Once the sand skink was identified to occupy the project site, this survey would determine the exact limits that sand skinks are utilizing within the project site. As such, BTC conducted a formal coverboard sand skink survey on the subject site pursuant to the USFWS's Sand and Bluetail Mole Skink Conservation Guidelines (February 6, 2012). The 2018 survey was conducted for five consecutive weeks, starting on March 14, 2018 and ending on April 12, 2018. Survey dates were chosen, whenever possible, for their optimal weather conditions (i.e., warm, sunny, dry conditions). In fact, due to drought conditions in much of Florida, inclement weather never played a role in 2018 sand skink survey season. Based on the results of the sand skink survey, it is BTC's conclusion that the sand skinks utilize the Live Oak (427) and Coniferous Plantations (441) communities located in the project site. Based on the results of the 2018 sand skink survey, BTC has determined that the sand skinks occupy approximately 10.99 acres (Figure 7).

### **Project Impacts to Listed Species**

Direct Impacts: Direct impacts are those effects caused by the proposed action, at the time of construction, and are reasonably certain to occur. Construction of the project will result in permanent impacts to 7.74 acres of suitable skink habitat. Mechanical operations within the project site during construction can kill or injure individual skinks and skink eggs. In addition, site preparation may alter microhabitat conditions such as soil moisture and compaction. Changes in surface drainage may inundate previously well drained soils causing skinks to migrate away and avoid the area. Development of this site will result in the permanent and complete loss of sand skink habitat.

Indirect Impacts: Indirect Impacts are those effects that result from the proposed action, and are reasonably certain to occur. The construction of additional development will increase the human population in the area surrounding the project site, further fragmenting and isolating skink populations.

Cumulative Impacts: Cumulative impacts to skinks will primarily result from future conversion of occupied skink habitat to residential and commercial development in Lake County. These future impacts would be regulated by the USFWS and would be mitigated as appropriate. The impacts of the proposed Hills of Minneola Property project to skinks as a whole is expected to be minimal because the large amount of existing development surrounding the project site has effectively isolated the on-site population of skinks.



## **Measures to Avoid, Minimize, and Mitigate for Impacts**

As part of the proposed action, this HCP is being proposed to avoid, minimize, and mitigate the potential take to the maximum extent practicable, and to ensure that this action does not reduce the potential for survival and recovery of the sand and blue-tailed mole skink, as mandated by requirements of 50 CFR Part 17.22(b)(2).

Avoidance and Minimization: To minimize impacts to the species, vegetation clearing and construction activities within the occupied habitat will be initiated outside of breeding season, if it is feasible to do so. High activity periods, which have been associated with the breeding season for these species, range from mid-February to early May, with egg-hatching typically occurring from June through July (USFWS 1999). There will not be enough uplands remaining on the site after development to make avoidance beneficial to sand skinks.

Mitigation: In order to mitigate for unavoidable impacts to the species, the Applicant will purchase conservation credits from the Lake Wales Ridge Conservation Bank located in Highlands County, Florida or another Service approved sand skink bank. This mitigation option involves the purchase of 2 acres of credits of occupied sand skink habitat for each acre of affected occupied sand skink habitat associated with the project site. Based upon this 2:1 ratio, the Applicant will need to purchase 15.48 conservation credits. Purchase of 15.48 conservation credits is expected to result in an overall benefit to the conservation/preservation of the skinks, and represents the maximum amount of mitigation that the Applicant is capable of contributing to benefit skinks.

## **Alternatives Analysis**

Alternative 1 – Project as proposed: The project would be constructed as proposed and would result in take of skinks by the permanent alteration of 7.74 acres of skink habitat. However, 15.48 acres of conservation credits will be purchased from the Lake Wales Ridge Conservation Bank in Polk County, or another Service approved sand skink bank, to help conserve and manage skink habitat in perpetuity. The proposed Hills of Minneola development will also fill an unmet housing, commercial, and institutional need in the area. The impacts of the proposed Hills of Minneola project to skinks as a whole is expected to be minimal because the large amount of existing development surrounding the project site has effectively isolated the on-site population of skinks.

Alternative 2 – Modified Project: As indicated on the attached exhibits, the occupied skink habitat is a small and isolated on this project. Modifying the project to conserve these areas would not provide viable long term protection for this small isolated population. Therefore, mitigation for the Hills of Minneola appears a more ecologically beneficial option than conserving small, fragmented areas of non-viable occupied habitat.



Alternative 3 – No project: The project would be abandoned and there would be no take of sand skinks from clearing or construction activities. However, site conditions would continue to degrade and become ultimately uninhabitable for skinks. Not developing the project site is economically undesirable for both the Applicant and the community and would adversely affect the areas housing, commercial, and institutional needs. The large amount of existing development surrounding the project site has effectively isolated the on-site population of skinks. Leaving the site undeveloped but unmanaged would cause degradation of the habitat and would not be beneficial to the survival of the species.

### **Monitoring and Reporting**

No monitoring or reporting is proposed or required. The biological goal of this HCP will be achieved when the Applicant has provided a receipt for the purchase of the appropriate conservation bank credits to the USFWS. Monitoring and reporting on the mitigation area is the responsibility of the Lake Wales Ridge Conservation Bank.

### **Changed and Unforeseen Circumstances**

Changed circumstances are defined as changes in circumstances affecting a species or geographic area covered by the HCP that can reasonably be anticipated by the Applicant and the USFWS, and that can be planned for. Unforeseen circumstance are defined as changes in circumstance affecting a species or geographic area covered by the HCP that could not reasonably have been anticipated by the Applicant and the USFWS at the time of the HCP's negotiation and development, and that result in a substantial adverse change in the status of the covered species.

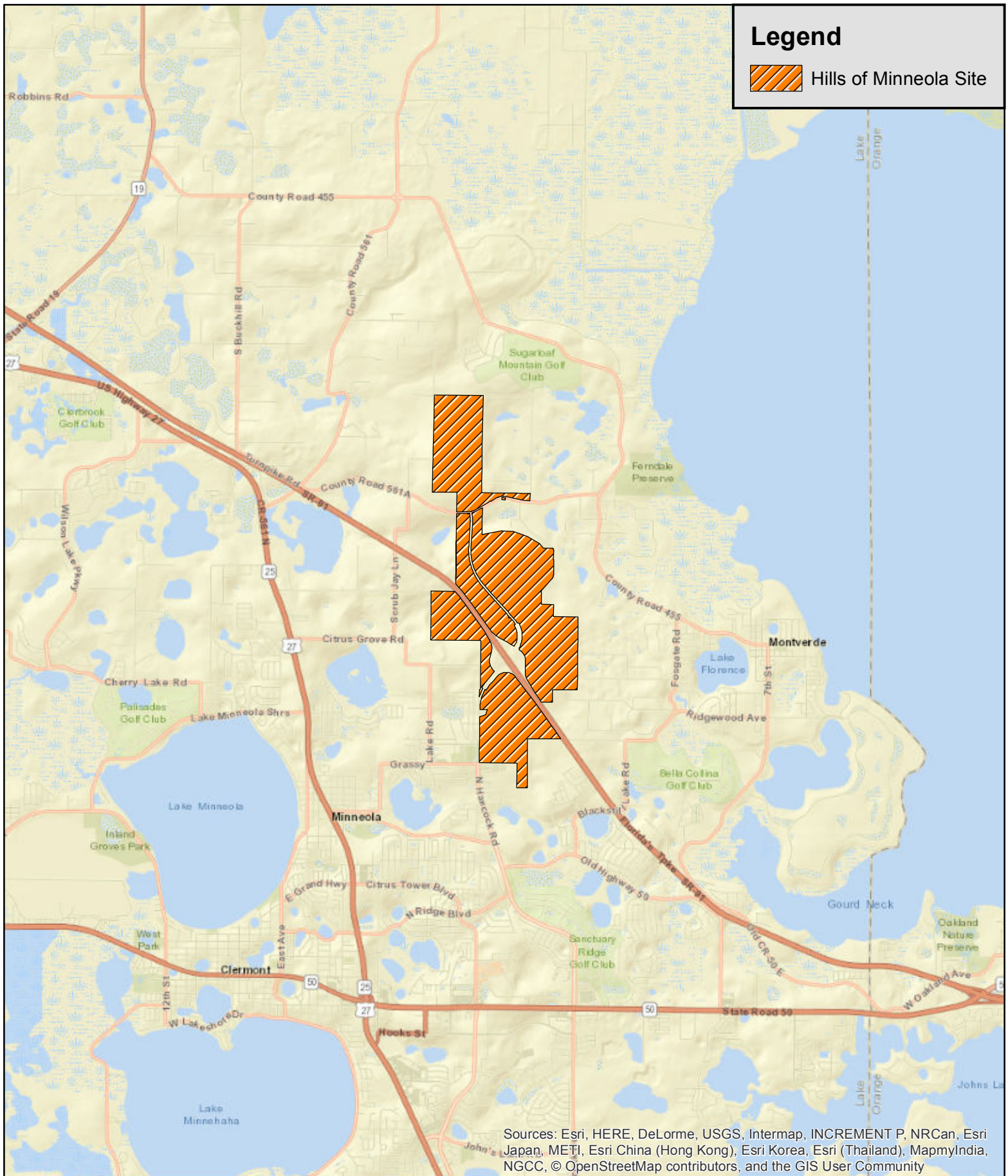
Changed and unforeseen circumstances are not expected because the surrounding land uses are not expected to vary from what is permitted under current zoning and Lake County Future Land Use Plans. However, should either changed or unforeseen circumstances arise, the Applicant and the USFWS contact office shall meet and together agree upon appropriate and reasonable measures for addressing such circumstances, within the rule of applicable law, and the Applicant shall implement said measures within an additional 30 working days unless a longer period of time is agreed to by the USFWS.

### **Literature Cited**

U.S. Fish and Wildlife Service (USFWS). 1999. *South Florida Multi-Species Recovery Plan*. Atlanta, Georgia.

**Legend**

 Hills of Minneola Site




Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

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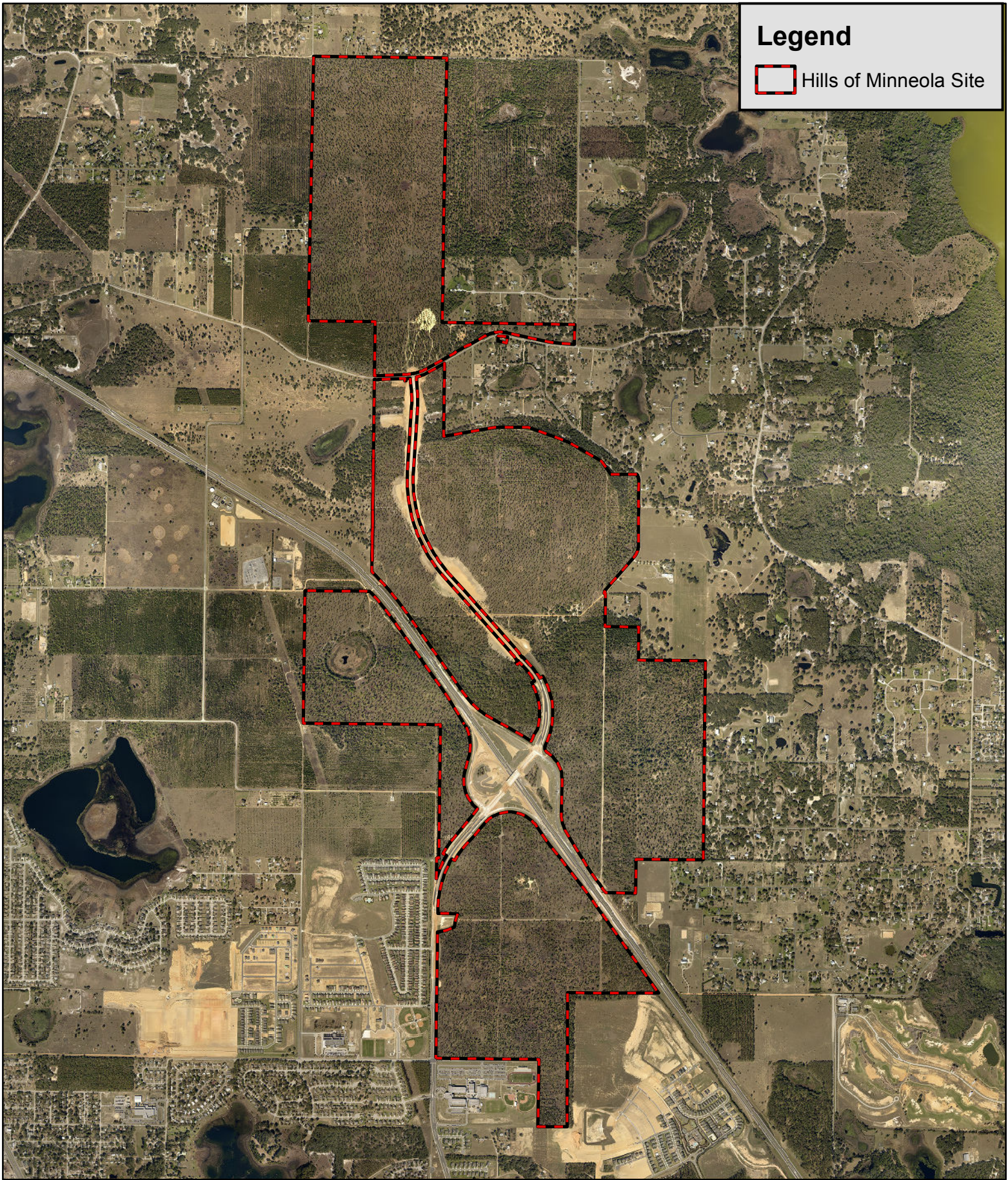
Hills of Minneola Site  
 Lake County, Florida  
 Figure 1  
 Location Map

0 0.5 1 2 Miles



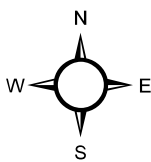
Project #: 163-63  
 Produced By: LPM  
 Date: 12/15/2017





**Legend**

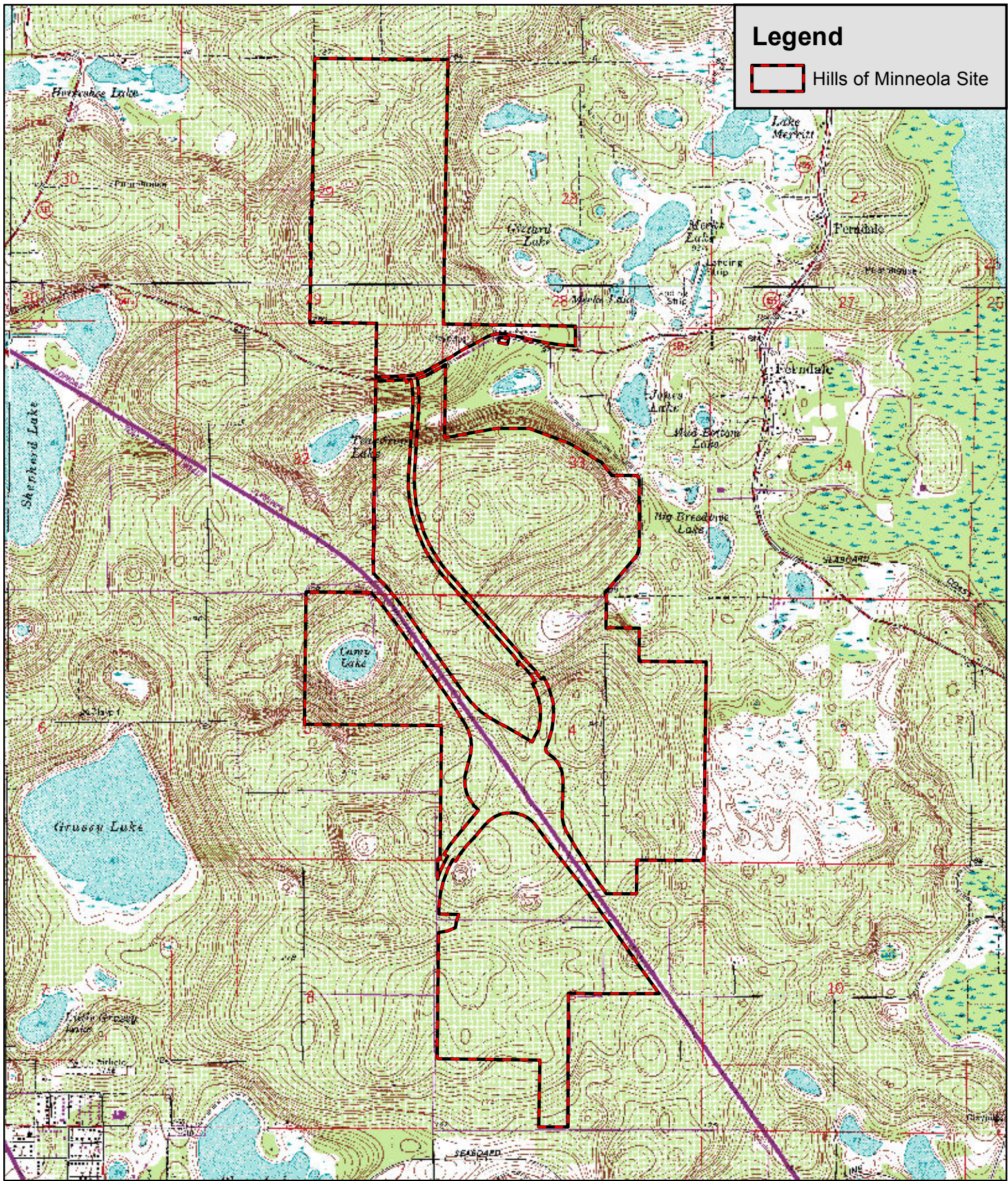
 Hills of Minneola Site



0 850 1,700 3,400 Feet

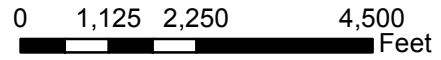
Project #: 163-63  
 Produced By: ODH  
 Date: 5/25/2018





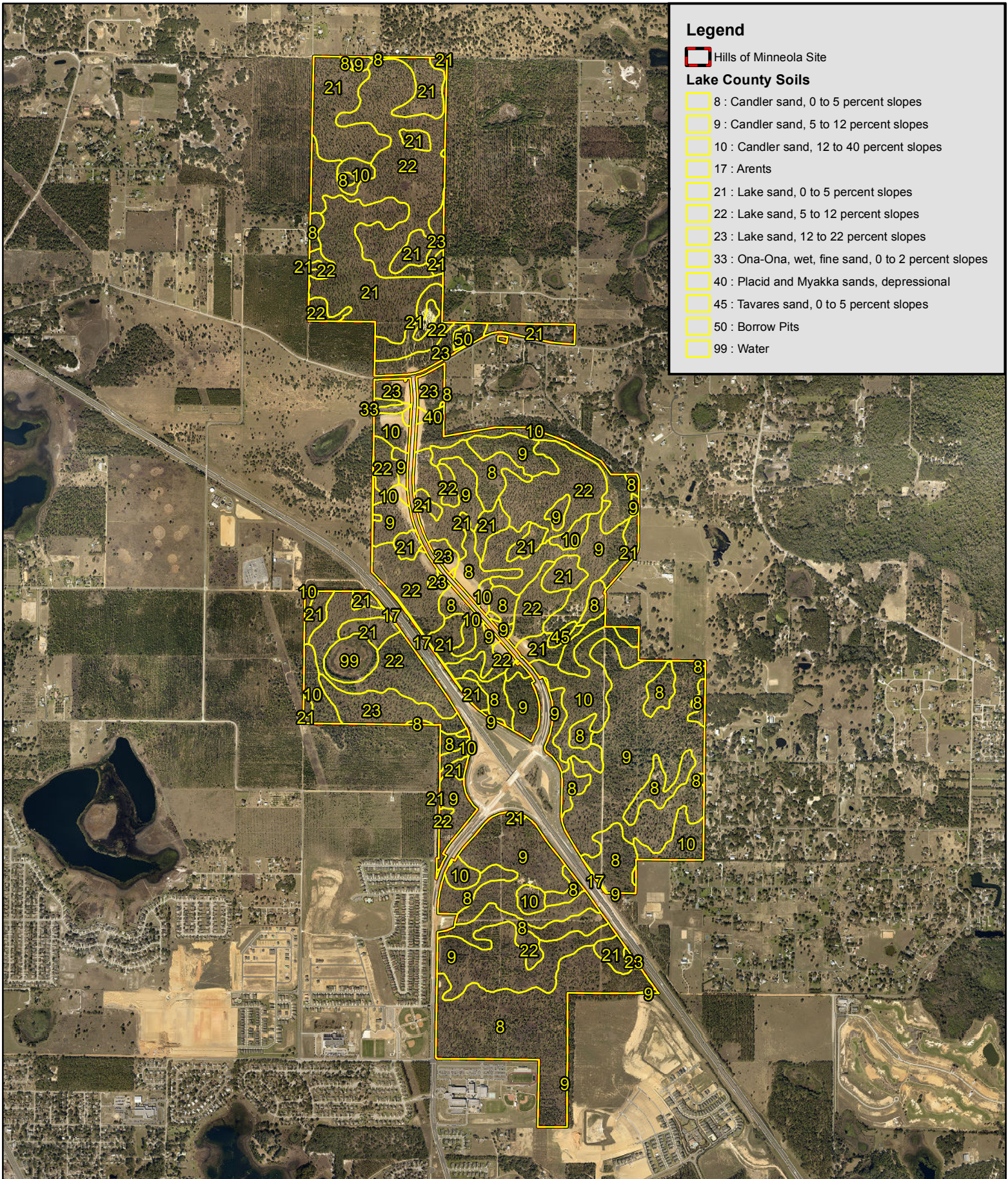
**Legend**  
 Hills of Minneola Site

Hills of Minneola Site  
 Lake County, Florida  
 Figure 3  
 USGS Topographic Map

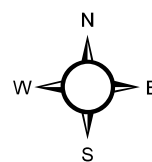


Project #: 163-63  
 Produced By: LPM  
 Date: 12/15/2017





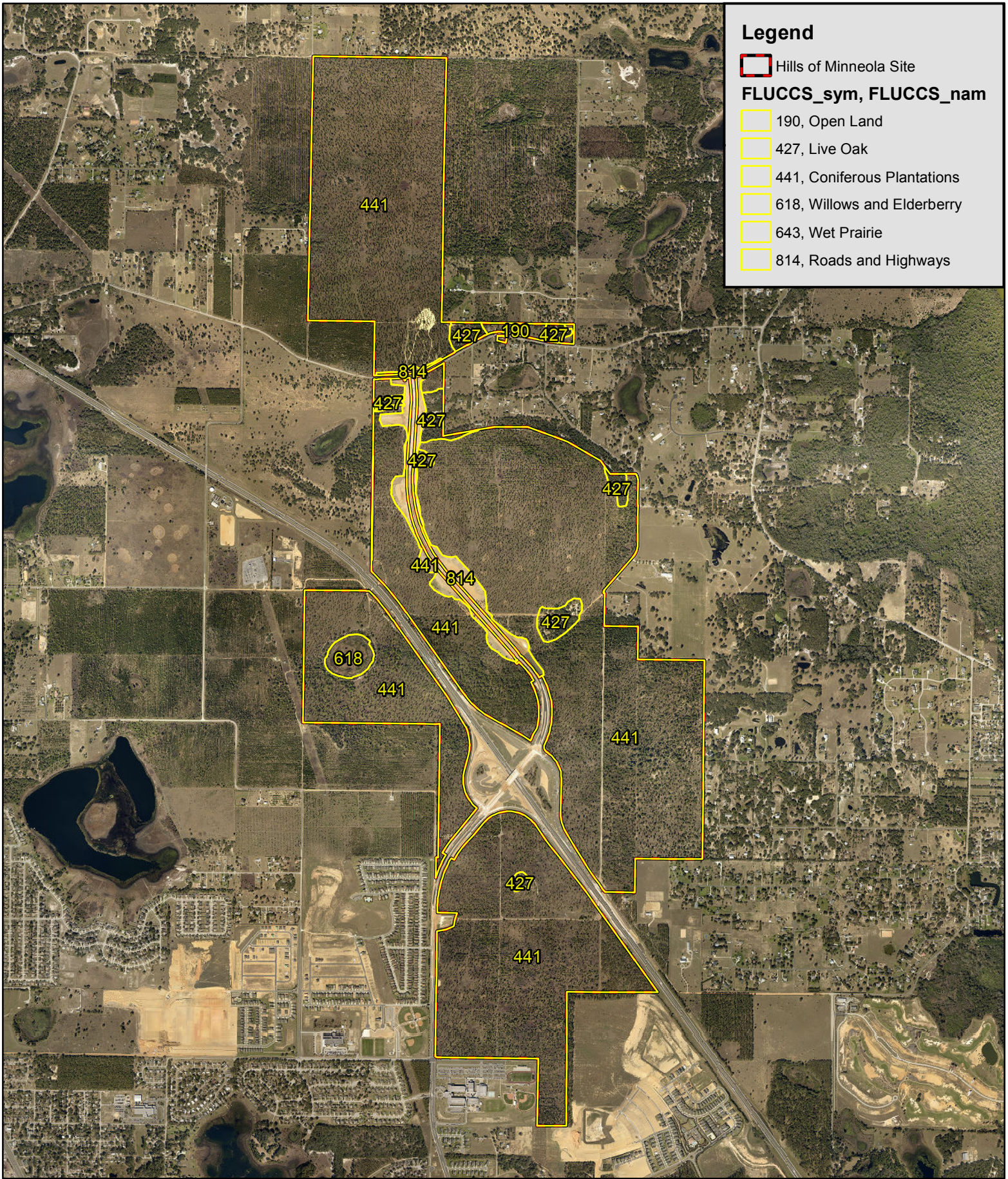
Hills of Minneola Site  
 Lake County, Florida  
 Figure 4  
 SSURGO Soils Map



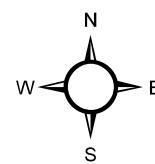
0 850 1,700 3,400  
 Feet

Project #: 163-63  
 Produced By: ODH  
 Date: 5/25/2018





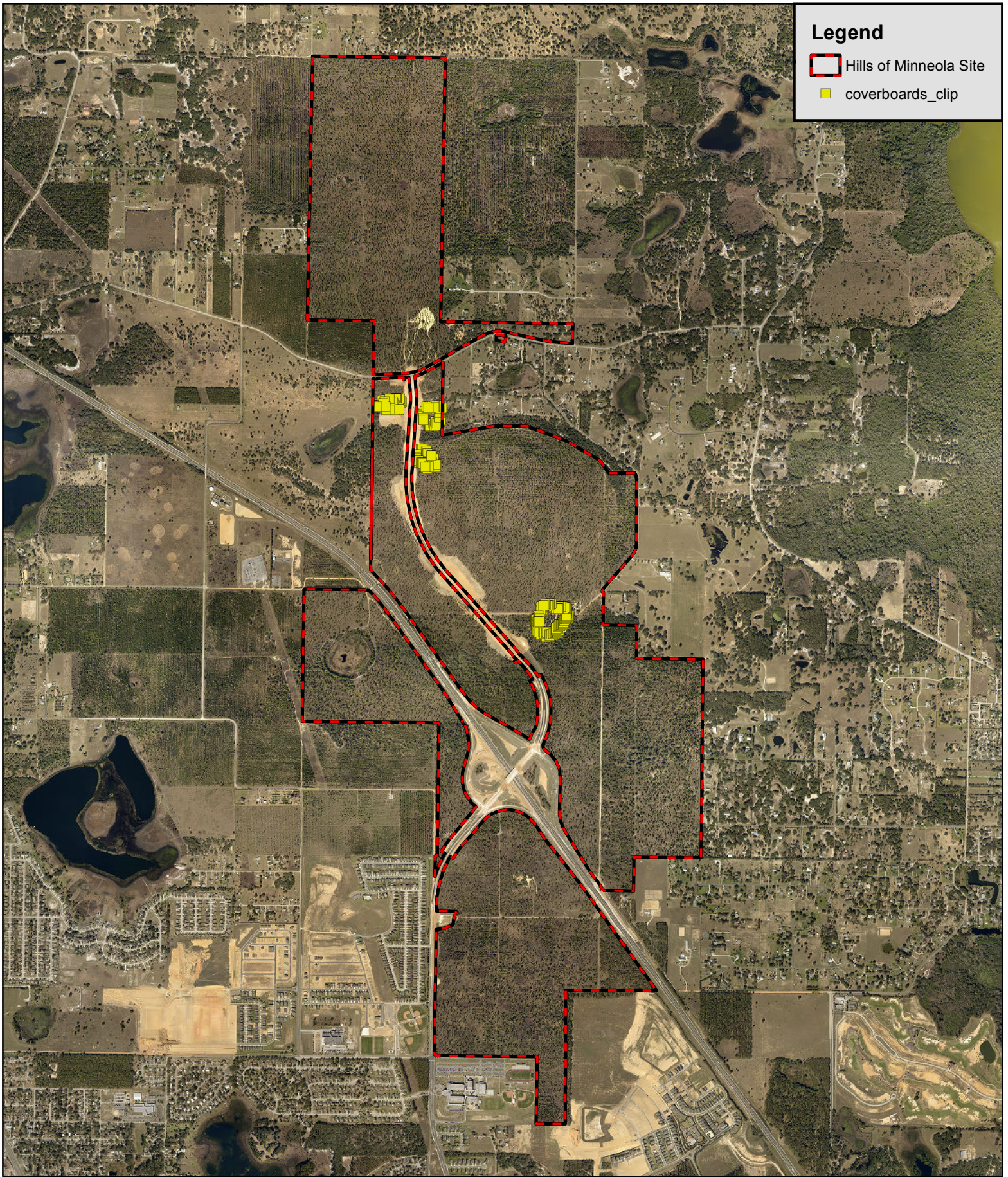
Hills of Minneola Site  
 Lake County, Florida  
 Figure 5  
 FLUCFCS Map



0 850 1,700 3,400 Feet

Project #: 163-63  
 Produced By: ODH  
 Date: 5/25/2018

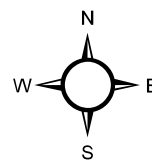




**Legend**

- Hills of Minneola Site
- coverboards\_clip

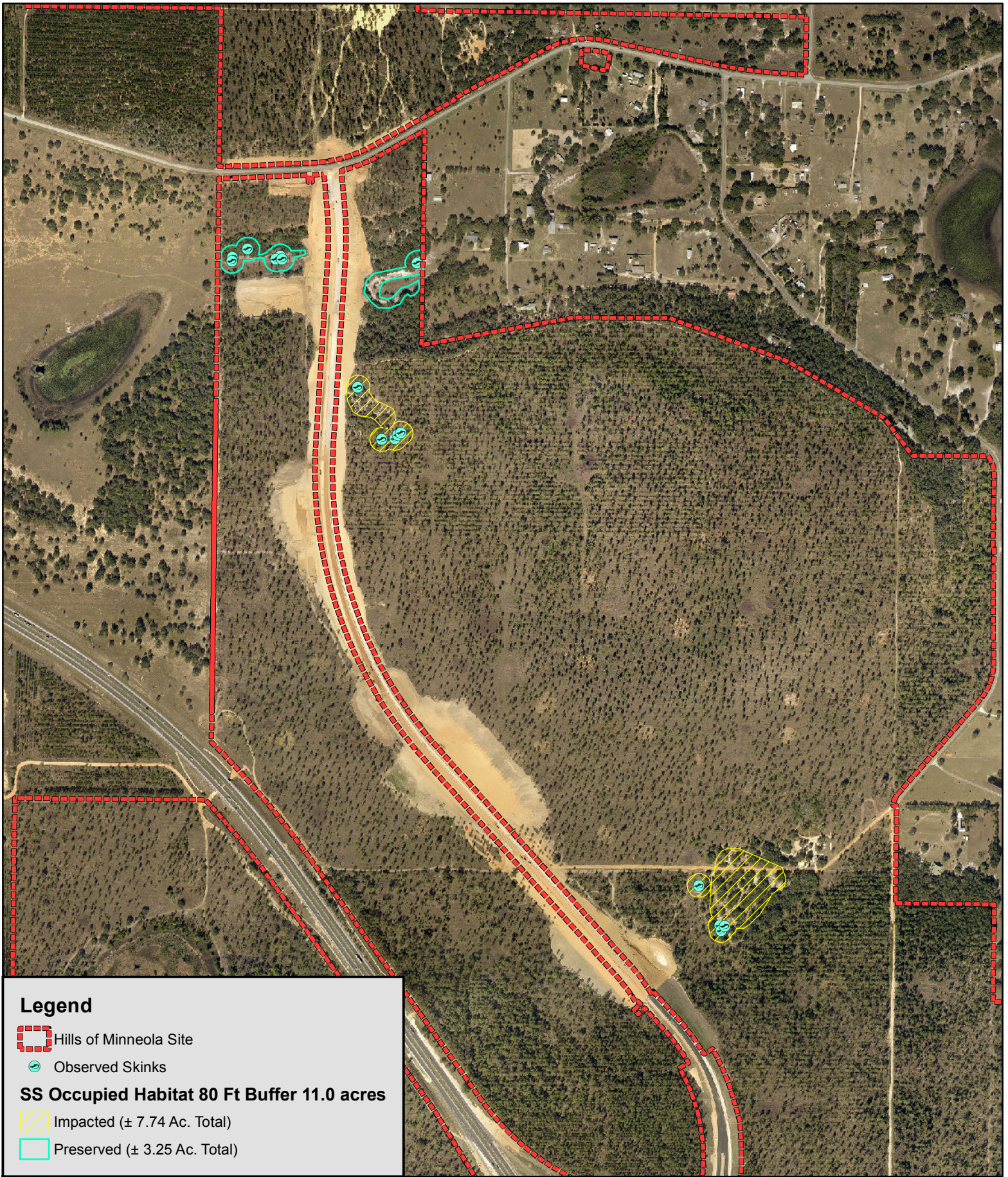
Hills of Minneola Site  
 Lake County, Florida  
 Figure 6  
 Coverboards Survey Map



0 850 1,700 3,400 Feet

Project #: 163-63  
 Produced By: ODH  
 Date: 5/25/2018





**Legend**

Hills of Minneola Site

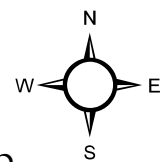
Observed Skinks

**SS Occupied Habitat 80 Ft Buffer 11.0 acres**

Impacted (± 7.74 Ac. Total)

Preserved (± 3.25 Ac. Total)

Hills of Minneola Site  
 Lake County, Florida  
 Figure 7  
 Sand Skink Occupied Habitat Map



1,000  
 Feet

Project #: 163-63  
 Produced By: JDH  
 Date: 10/2/2018



# **Appendix 1**

## **Hills of Minneola**

### **Site Plan**



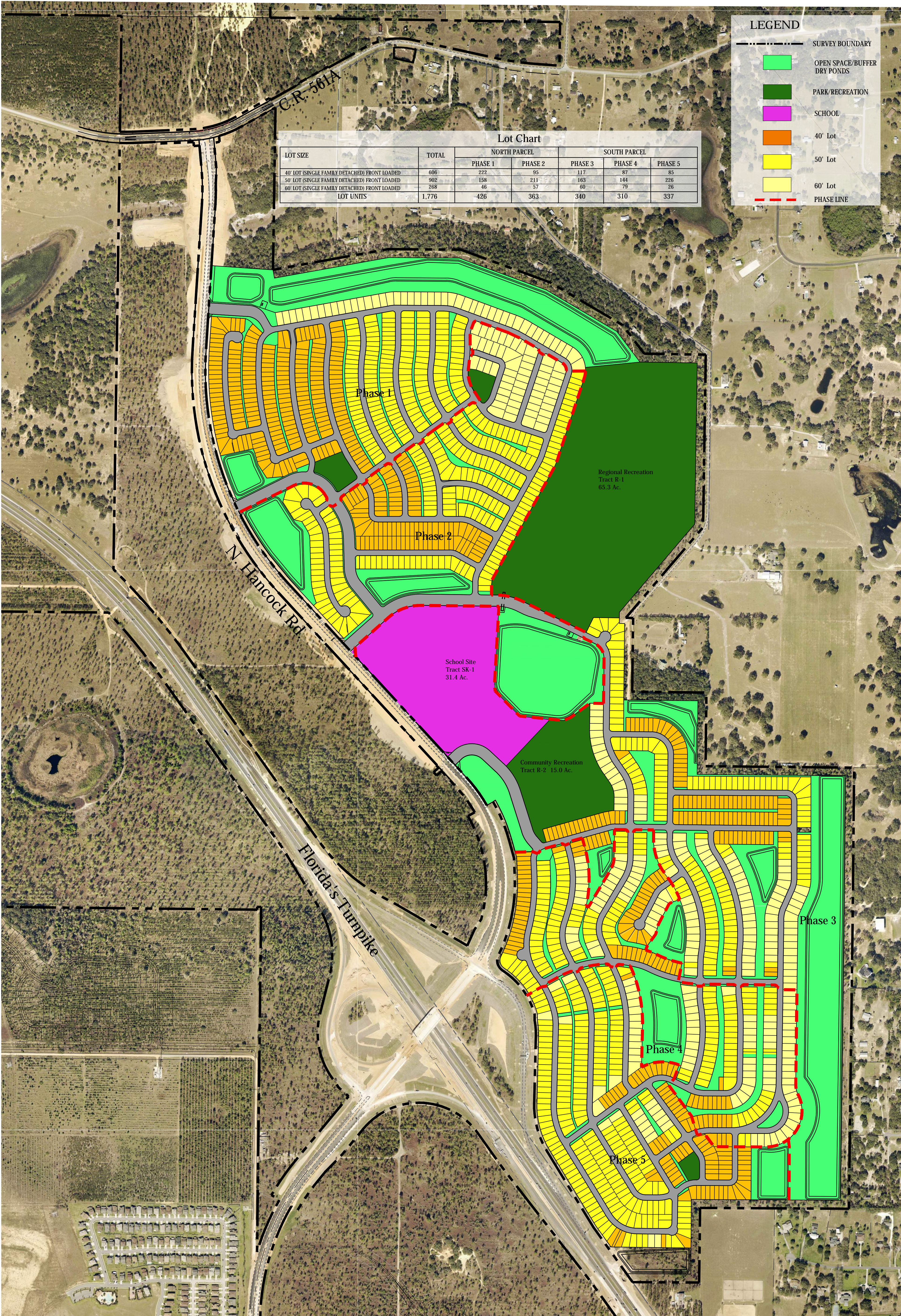


**Lot Chart**

LOT SIZE	TOTAL	NORTH PARCEL		SOUTH PARCEL		
		PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5
40 LOT (SINGLE FAMILY DETACHED) FRONT LOADED	606	222	95	117	87	85
50 LOT (SINGLE FAMILY DETACHED) FRONT LOADED	902	158	211	163	144	226
60 LOT (SINGLE FAMILY DETACHED) FRONT LOADED	268	46	57	60	79	26
<b>LOT UNITS</b>	<b>1,776</b>	<b>426</b>	<b>363</b>	<b>340</b>	<b>310</b>	<b>337</b>

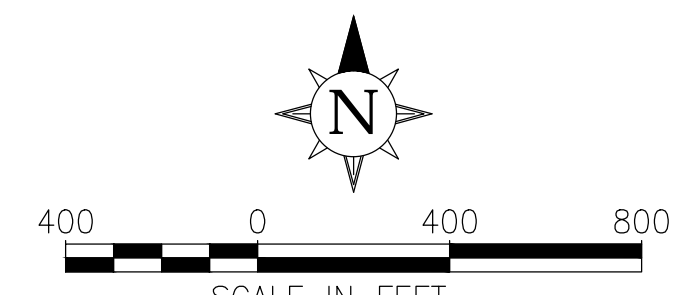
**LEGEND**

- SURVEY BOUNDARY
- OPEN SPACE/BUFFER DRY PONDS
- PARK/RECREATION
- SCHOOL
- 40' Lot
- 50' Lot
- 60' Lot
- PHASE LINE



Area 2 -Pod 7 Lot Layout

# The Villages at Minneola Hills



Z:\2017\17-195 SUNTERRA - HILLS OF MINNEOLA\CAD\PRELIMINARY\PS\P\EXHIBITS\17-195-COLORED LOT EXHIBIT