Bio-Tech Consulting Inc.
Environmental and Permitting Services

November 4, 2022

Jason Humm
Turnstone Group
1170 Peachtree St NE
Suite 1150
Atlanta, GA 30309

Proj: Mission Rise Property – Lake County, Florida
Section 2, Township 21 South, Range 25 East &
Sections 27 & 34, Township 20 South, Range 25 East
(BTC File #1433-01)

Re: Environmental Assessment Report

Dear Mr. Humm:

During October and November of 2022, Bio-Tech Consulting, Inc. (BTC) conducted an environmental assessment of the approximately 243-acre Mission Rise Property. This property is located on the east side of Silverwood Lane, south of Number 2 Road, within Section 2, Township 21 South, Range 25 East and Sections 27 & 34, Township 21 South, Range 25 East in Lake County, Florida (Figures 1, 2 & 3). This environmental assessment included the following elements:

- Review of soil types mapped within the site boundaries;
- Evaluation of land use types/vegetative communities present;
- Field review for occurrence of protected flora and fauna;
- Delineation of on-site wetland communities; and,
- Environmental constraints.

SOILS

According to the Soil Survey of Lake County, Florida, prepared by the U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS), eleven (11) soil types exist within the subject site (Figure 4). These soil types include the following:

Orlando: Main Office
3025 East South Street
Orlando, FL 32803

Jacksonville Office
11235 St Johns Industrial Pkwy N
Suite 2
Jacksonville, FL 32246

Tampa Office
6011 Benjamin Road
Suite 101-B
Tampa, FL 33634

Vero Beach Office
4445 North A1A
Suite 221
Vero Beach, FL 32963

Key West Office
1107 Key Plaza
Suite 259
Key West, FL 33040

Land & Aquatic Management
3825 Rouse Road
Orlando, FL 32817

407.894.5969
877.894.5969
407.894.5970 fax

info@bio-techconsulting.com www.bio-techconsulting.com

- **Sparr sand, 0 to 5 percent slopes (#1)**
- **Apopka sand, 0 to 5 percent slopes (#5)**
- **Candler sand, 0 to 5 percent slopes (#8)**
- **Arents (#17)**
- **Immokalee sand (#20)**
- **Kendrick sand, 5 to 8 percent slopes (#25)**
- **Myakka-Myakka, wet sands, 0 to 2 percent slopes (#28)**
- **Lochloosa sand (#30)**
- **Ocoee mucky peat, frequently flooded (Oe) (#31)**
- **Placid and Myakka fine sands, depressional (#40)**
- **Tavares sand, 0 to 5 percent slopes (#45)**

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

Sparr sand, 0 to 5 percent slopes (#1) consists of very deep, somewhat poorly drained, moderately slowly to slowly permeable soils on uplands of the coastal plain. They formed in thick beds of sandy and loamy marine sediments. Somewhat poorly drained; slow to moderately slow permeability in the subsoil. The water table is at depths of 20 to 40 inches for periods of 1 to 4 months. The water table is usually perched on the surface of the loamy layers but the loamy layers can also be saturated.

Apopka sand, 0 to 5 percent slopes (#5) is a nearly level to gently sloping, well drained sandy soil that has a sandy clay loam subsoil at a depth of about 55 inches. Typically, the surface layer of this soil type is dark gray sand about 6 inches thick. The water table for this soil type is at a depth of more than 84 inches. Permeability of this soil type is rapid in the sandy surface and subsurface layers and moderate or moderately rapid in the subsoil.

Candler sand, 0 to 5 percent slopes (#8) is a nearly level to gently sloping, excessively drained soil found on the rolling uplands of Florida's 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.

Arents (#17) are deeply disturbed soils consisting of loamy soil material that has been mixed, reworked and leveled or shaped by earth-moving equipment. These units are 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.

Immokalee sand (#20) is a nearly level, poorly drained soil that has a layer at a depth of 30 inches or more that is stained by organic matter. These soils usually occur in broad areas in the flatwoods

and in low areas between sand ridges and lakes, ponds and sloughs. The surface layer of this soil type generally consists of black sand about 4 inches thick. The water table for this soil type is normally at a depth of 10 to 40 inches. It is within a depth of 10 inches for 1 to 2 months during rainy seasons and falls below 40 inches during prolonged drought. Permeability of this soil type is moderate in the weakly cemented layer and rapid in the other layers.

Kendrick sand, 5 to 8 percent slopes (#25) is a sloping, well-drained soil that has a loamy subsoil. Typically, the surface layer of this soil type consists of very dark grayish brown sand. The water table for this soil type is at a depth of more than 120 inches. Permeability of this soil type is rapid in the surface and subsurface layers and moderate in the subsoil.

Myakka-Myakka, wet sands, 0 to 2 percent slopes (#28) is a nearly level, poorly drained hydric soil that has a layer stained by organic material at a depth of less than 30 inches. The water table is normally at a depth of 10-40 inches during extended dry seasons. The surface and subsurface layers and the layer at a depth of 56 to 85 inches have rapid permeability, low water available water capacity, and very low natural fertility.

Lochloosa sand (#30) is a nearly level to gently sloping, somewhat poorly drained soil that has a loamy subsoil. This soil is mainly found on the upland ridge and to a lesser extent on the flatwoods on knolls and ridges. Typically, the surface layer of this soil type is very dark gray sand about 7 inches thick. The water table for this soil type is at a depth of 40 to 60 inches for about 6 months and is below 60 inches during the rest of the year. Permeability of this soil type is rapid to a depth of about 33 inches and moderate below.

Ocoee mucky peat, frequently flooded (Oe) (#31) is a nearly level, very poorly drained organic soil that overlies sandy materials. The surface layer of this soil type generally consists of dark reddish brown peat about 7 inches thick. The water table for this soil type is at the surface, and the soils are covered with shallow water except during extended dry periods. Permeability of this soil type is rapid in the organic layers and very rapid in the sandy layers.

Placid and Myakka fine sands, depressional (#40) are very poorly drained hydric 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.

LAND USE TYPES/VEGETATIVE COMMUNITIES

The Mission Rise Property currently supports eight (8) land use types/vegetative communities. These land use types/vegetative communities were identified utilizing the Florida Land Use, Cover and Forms Classification System, Level III (FLUCFCS, FDOT, January 2004) (Figure 5). The on-site upland land use types/vegetative communities are classified as Residential, Low Density (110), Unimproved Pasture (212), Fallow Crop Land (261), Pine Flatwoods (411) and Live Oak (427). The on-site wetland/surface water land use types/vegetative communities are classified as Streams & Waterways (510), Reservoirs (530) and Freshwater Marsh (641). The following provides a brief description of the on-site land use types/vegetative communities:

Uplands:

110 Residential, Low Density

One (1) single-family home is located on the northwest corner of the property. This area is most consistent with the Residential, Low Density (110), FLUCFCS classification. Vegetation observed within this community type includes cabbage palm (*Sabal Palmetto*), Brazilian pepper (*Schinus terebinthifolia*), and slash pine (*Pinus ellottii*), bahia grass (*Paspalum notatum*), bermuda grass (*Cynodon dactylon*), common ragweed (*Ambrosia artemisiifolia*), and dogfennel (*Eupatorium capillifolium*).

212 Unimproved Pasture

The majority of uplands within the subject property consist of unmaintained pasture areas that are currently being utilized by cattle. These pasture areas also contain some remnant islands of trees and shrubs. This land use/vegetative community would be classified as Unimproved Pasture (212), per the FLUCFCS. Vegetative species observed within this community include a scattered canopy of camphor tree (*Cinnamomum camphora*) and longleaf pine (*Pinus palustris*); with an understory of bahiagrass (*Paspalum notatum*), carpet grass (*Axonopus fissifolius*), common ragweed (*Ambrosia artemisiifolia*), dog fennel (*Eupatorium capillifolium*), broomsedge (*Andropogon virginicus*), beggarticks (*Bidens alba*), meadow beauty (*Rhexia* sp.), and blackberry (*Rubus pensilvanicus*).

261 Fallow Crop Land (Citrus)

Throughout the site there are remnants of former citrus groves. Although the groves are no longer under management for citrus, these areas contain a variety of citrus trees (*Citrus spp.*) camphor tree (*Cinnamomum camphora*), longleaf pine (*Pinus palustris*), rose natalgrass (*Melinis repens*),

blackberry (*Rubus pensilvanicus*) and sandbur (*Cenchrus spp*). This area best meets the Fallow Crop Land (261) FLUCFCS classification.

411 Pine Flatwoods

A pine dominated upland system is present on the northern portion of the site. This area best meets the Pine Flatwoods (411) FLUCFCS classification. Vegetation observed within this land use type includes slash pine *(Pinus elliottii)*, gallberry *(Ilex glabra)*, poison ivy *(Toxicodendron radicans)*, saw palmetto *(Serenoa repens)*, broomsedge *(Andropogon virginicus)*, bracken fern *(Pteridium aquilinum)*, greenbriar *(Smilax* spp.*)*, wax myrtle *(Myrica cerifera)*, saltbush *(Baccharis halimifolia)*, rusty lyonia *(Lyonia ferruginea)*, muscadine grapevine *(Vitis rotundifolia)*, common ragweed *(Ambrosia* spp.*)*, dogfennel *(Eupatorium capillifolium)*, blackberry (*Rubus pensilvanicus*) and bahiagrass *(Paspalum notatum)*.

427 Live Oak

A portion of forested uplands are present in the north-central portion of the site. Vegetative species identified within this community type include live oak (*Quercus virginiana*), slash pine (*Pinus elliottii*), camphor tree (*Cinnamomum camphora*), citrus species (*citrus* spp.), cherry laurel (*Prunus laurocerasus)*, Brazilian pepper (*Schinus terebinthifolius*), musky mint *(Hyptis alata)*, saw palmetto (*Serenoa repens*), common pokeweed *(Phytolacca americana)*, beautyberry (*Callicarpa americana*), wild balsam apple (*Momordica balsamina*), Caesar's weed (*Urena lobata*), wax myrtle *(Myrica cerifera)*, poison ivy (*Toxicodendron radicans*), greenbriar vine *(Smilax spp.)*, blackberry (*Rubus pensilvanicus*) and resurrection fern *(Pleopeltis polypodiodes var. michauxiana)*,

<u>Wetlands/Surface Waters</u>:

510 Streams and Waterways

Two ditch systems were constructed during active agricultural management of the site. This land use/vegetative community is most consistent with the Streams and Waterways (510) FLUCFCS classification. Vegetation observed along the bank of these ditches includes Brazilian pepper (*Schinus terebinthifolia*), and cabbage palm (*Sabal palmetto*) along the raised edges in addition to dogfennel (*Eupatorium capillifolium*). Within the ditch itself exists sporadic aquatic vegetation such as Mexican primrose willow (*Ludwigia octovalvis*), pickerelweed (*Pontederia cordata*), water pennywort (*Hydrocotyle umbellata*), spatterdock (*Nuphar lutea*), lanceleaf arrowhead (*Sagittaria lancifolia*), cattail (*Typha latifolia*), duckweed (*Lemna valdiviana*), blackberry (*Rubus pensilvanicus*) and soft rush (*Juncus effusus*).

530 Reservoirs

There are two (2) borrow ponds present on the site. These are most consistent with the Reservoirs (530) FLUCFCS classification. Vegetation observed within this community type includes Mexican primrose willow (*Ludwigia octovalvis*), pickerelweed (*Pontederia cordata*), maidencane (*Panicum hemitomon*), wax myrtle (*Morella cerifera*), blackberry (*Rubus pensilvanicus*) and cogongrass (*Imperata cylindrica*).

641 Freshwater Marsh

Herbaceous wetlands are present throughout the site. These communities are most consistent with the Freshwater Marsh (641) FLUCFCS classification. Vegetative species observed within this community include Carolina willow (*Salix caroliniana*), laurel cherry (*Prunus laurocerasus*), wax myrtle (*Morella cerifera*), dahoon holly (*Ilex cassine var. cassine*), creeping primrose willow (*Ludwigia repens*), Mexican primrose willow (*Ludwigia octovalvis*), elderberry (*Sambucus nigra subsp. canadensis*), salt bush (*Atriplex pentandra*), ceasarweed (*Urena lobata*), buttonbush (*Cephalanthus occidentalis*), grapevine (*Vitis vinifera*), lemon bacopa (*Bacopa caroliniana*), swamp smartweed (*Persicaria hydropiperoides*), pickerel weed (*Pontederia cordata*), southern watergrass (*Luziola fluitans*), torpedograss (*Panicum repens*), sand cordgrass (*Spartina bakeri*), maidencane (*Panicum hemitomon*), blue maidencane (*Amphicarpum muehlenbergianum*), sawgrass (*Cladium jamaicense*), yellow-eyed grass (*Xyris caroliniana*), bermudagrass (*Cynodon dactylon*), blackberry (*Rubus cuneifolius*), pennywort (*Centella asiatica*), cattail (*Typha domingensis*), water lily (*Nymphaea* sp.), red ludwigia (*Ludwigia repens*), angle pipewort (*Eriocaulon decangulare*), pink sundew (*Drosera capillaris*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*Osmunda regalis*), and meadowbeauty (*Rhexia* sp.).

PROTECTED SPECIES

Utilizing 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 (April 2008 – revised July 2020), an assessment for "listed" floral and faunal species occurring within the subject site boundaries was conducted on October 20th & November 1st, 2022. The cursory survey, which covered approximately 75% of the subject site's suitable habitat, 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 (June 2021) that have the potential to occur in Lake County (Table 1).

No plant species listed by either The Florida Department of Agriculture (FDA) or U.S. Fish and Wildlife Service (USFWS) was identified on the project site during the assessment conducted. However, two (2) fern species were identified that are listed as "commercially exploited" by the Florida Department of Agriculture and Consumer Services (FDACS). The harvesting of these species, cinnamon fern (*Osmunda cinnamomea*) and royal fern (*Osmunda regalis*), for commercial gain, is not allowed. However, the listing of these species poses no restrictions towards the development of the subject site. The following is a list of those wildlife species identified during the evaluation of the site:

Reptiles and Amphibians
brown anole (*Norops sagrei*)
eastern racer (*Coluber constrictor*)
Florida leopard frog (*Lithobates sphenocephalus sphenocephalus*)
gopher tortoise (*Gopherus polyphemus*)
green anole (*Anolis carolinensis*)
oak toad (*Anaxyrus quercicus*)
six-lined racerunner (*Cnemidophorus sexlineatus*)

Birds
American Coot (*Fulica americana*)
American Crow (*Corvus caurinus*)
Anhinga (*Anhinga anhinga*)
Black Vulture (*Coragyps atratus*)
Cattle Egret (*Bubulcus ibis*)
Common Ground Dove (*Columbina passerine*)
Fish Crow (*Corvus ossifragus*)
Gray Catbird (*Dumetella carolinensis*)
Great Blue Heron (*Ardea herodias*)
Great Egret (*Ardea alba*)
Mourning Dove (*Zenaida macroura*)
Northern Cardinal (*Cardinalis cardinalis*)
Northern Mockingbird (*Mimus polyglottos*)
Pileated Woodpecker (*Dryocopus pileatus*)
Red-shouldered Hawk (*Buteo lineatus*)
Sandhill Crane (*Antigone canadensis*)
Snowy Egret (*Egretta thula*)
Swallow-tailed Kite (*Elanoides forficatus*)
Tufted Titmouse (*Baeolophus bicolor*)
Yellow-rumped Warbler (*Setophaga coronata*)

Mammals
eastern cottontail (*Sylvilagus floridanus*)
eastern gray squirrel (*Sciurus carolinensis*)
marsh rabbit (*Sylvilagus palustris*)
nine-banded armadillo (*Dasypus novemcinctus*)
northern raccoon (*Procyon lotor*)
Virginia opossum (*Didelphis virginiana*)
white-tailed deer (*Odocoileus virginianus*)
wild boar (*Sus scrofa*)

Two (2) of the above wildlife species, the gopher tortoise (*Gopherus polyphemus*) and Sandhill Crane (*Antigone canadensis*), were identified in the FFWCC's Official Lists - Florida's Endangered Species, Threatened Species and Species of Special Concern (June 2021). The following provides a brief description of wildlife species as they relate to the development of the site.

Gopher Tortoise (Gopherus polyphemus)
State Listed as "Threatened" by FFWCC

Numerous gopher tortoise burrows (*Gopherus polyphemus*) have been identified within the on-site upland areas. Currently the gopher tortoise is classified as a "Category 2 Candidate Species" by the U.S. Fish and Wildlife Service (USFWS), and as of September 2007, is now classified as "Threatened" by FFWCC, and as "Threatened" by FCREPA. The basis of the "Threatened" classification by the FFWCC for the gopher tortoise is due to habitat loss and destruction of burrows. Gopher tortoises are commonly found in areas with well-drained soils associated with xeric pine-oak hammock, scrub, pine flatwoods, pastures and abandoned citrus groves. Several other protected species known to occur in Lake County have a possibility of occurring in this area, as they are gopher tortoise commensal species. However, none of these species were observed during the survey conducted.

The subject site was surveyed for the existence of gopher tortoises through the use of pedestrian and vehicular transects (Figure 9). The cursory survey covered approximately 90% of the suitable habitat present within the subject site boundaries and those properties within 25-feet. A total of one-hundred twelve (112) active/inactive gopher tortoise burrows were observed and recorded using GPS technology. Based on one-hundred twelve (112) potentially occupied burrows, it is estimated that approximately sixty-eight (68) burrows may be inhabited by a gopher tortoise. This number was calculated using the factored occupancy rate of 0.614 (Auffenburg-Franz 1982). Therefore, for the purpose of estimating costs associated with the subject project, as many as sixty-eight (68) gopher tortoises are estimated to occupy these burrows.

The FFWCC provides three (3) options for developers that have gopher tortoises on their property. These options include: 1) avoidance (i.e., maintain at least a 25-foot distance from construction activities), 2) preservation of habitat, and 3) off-site relocation. As such, resolution of the gopher tortoise issue will need to be permitted through FFWCC prior to any construction activities.

Florida Sandhill Crane (Antigone canadensis pratensis)
State Listed as "Threatened" by FFWCC

Two (2) adult Sandhill Cranes were observed flying across the limits of the subject site. The Florida Sandhill Crane is a subspecies of Sandhill Crane that occurs exclusively and is resident to Florida (Stys 1997). Of the six (6) subspecies of Sandhill Crane, the Greater Sandhill Crane *(Grus canadensis tabida)* is the only other subspecies of Sandhill Crane that occurs regularly in Florida (Stys 1997). This subspecies is a winter migrant, arriving in Florida during late fall (October/November) and leaving in late February (Stys 1997). Since the Florida Sandhill Crane and Greater Sandhill Crane cannot be distinguished from one another in the field, Stys (1997) recommends conducting surveys between May and September to validate the presence of this protected species. Due to the time of year the recent survey was conducted (January-February), it cannot be assumed that the observed cranes were the State listed subspecies.

Although the cranes were observed flying through the site, no nests were identified within or in close proximity to the subject site. If nesting does occur, FFWCC typically requires a 400-foot buffer around nests in order to prevent nest disturbance and potential nest abandonment. Since cranes do not re-use the same nest year after year this 400-foot buffer is only temporary during the nesting season (i.e., anytime from January through June). Since no nests were observed on-site or nearby, there will be no development constraints unless a nest is found.

Indigo Snake (Drymarchon couperi)
Federally Listed as "Threatened" by USFWS

The indigo snake *(Drymarchon couperi)* is a federally listed threatened species. The basis for this listing was a result of dramatic population declines caused by over-collecting for the domestic and international pet trade as well as mortalities caused by rattlesnake collectors who gassed gopher tortoise burrows to collect snakes. Since its listing, habitat loss and fragmentation by residential and commercial expansion have become much more significant threats to the eastern indigo snake. This species is widely distributed throughout central and south Florida and primarily occurs in sandhills habitat in northern Florida and southern Georgia.

No evidence of indigo snakes was observed within the subject site during the wildlife survey conducted by BTC. However, the site does contain gopher tortoise burrows and habitat to support this species. Thus, based upon the USFWS's August 2013 Consultation Key for the Eastern Indigo

Snake, the site is located within Lake County and will result in the removal of greater than 25 acres of eastern indigo snake habitat and greater that 25 gopher tortoise, a key determination would result in a finding of "may affect." Based on the required permit conditions that would allow the above finding, a survey specific to indigo snakes may be required. The survey can be accomplished from October 1st thru April 30 for a minimum of five (5) surveys with 2 days of optimal weather (overnight low temperature above 60º F). At a minimum, the federal permit (if applicable) will be conditioned for the use of the USFWS's "Standard Protection Measures for the Eastern Indigo Snake." It will also be conditioned "such that all gopher tortoise burrows, active or inactive, will be excavated prior to site manipulation in the vicinity of the burrow. If an eastern indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity." Any permit will also be conditioned "such that holes, cavities, and snake refugia other than gopher tortoise burrows will be inspected each morning before planned site manipulation of a particular area, and, if occupied by an eastern indigo snake, no work will commence until the snake has vacated the vicinity of proposed work." As long as the above mentioned "Standard Protection Measures" are adhered to, the development activities associated with the subject site would result in a key determination of "may affect, but not likely to adversely affect" (NLAA) the eastern indigo snake.

It should also be noted that Indigo snake mitigation may be purchased in lieu of conducting the indigo snake survey. Additionally, during site clearing, the USFWS may also require following the recommendations in the Service's Standard Protection Measures for the Eastern Indigo Snake which may include posting eastern indigo snake identification signage and educational material at the site.

Bald Eagle (Haliaeetus leucocephalus)
State protected by F.A.C. 68A-16.002 and federally protected by both the Migratory Bird Treaty Act (*1918*) *and the Bald and Golden Eagle Protection Act* (*1940*)

In August of 2007, the US Fish and Wildlife Service (USFWS) removed the Bald Eagle from the list of federally endangered and threatened species. Additionally, the Bald Eagle was removed from FFWCC's imperiled species list in April of 2008. Although the Bald Eagle is no longer protected under the Endangered Species Act, it is still protected under the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and FFWCC's Bald Eagle rule (Florida Administrative Code 68A-16.002 Bald Eagle (*Haliaeetus Leucocephalus*).

In May of 2007, the USFWS issued the National Bald Eagle Management Guidelines. In April of 2008, the FFWCC adopted a new Bald Eagle Management Plan that was written to closely follow the federal guidelines. In November of 2017, the FFWCC issued "A Species Action Plan for the Bald Eagle" in response to the sunset of the 2008 Bald Eagle Management Plan. Under the USFWS's management plans, buffer zones are recommended based on the nature and magnitude

of the project or activity. The recommended protective buffer zone is 660 feet or less from the nest tree, depending on what activities or structures are already near the nest. As provided within the above referenced Species Action Plan, the USFWS is the regulating body responsible for issuing permits for Bald Eagles. In 2017, the need to obtain a State permit (FFWCC) for the take of Bald Eagles or their nests in Florida was eliminated following revisions to Rule 68A-16.002, F.A.C.. A USFWS Bald Eagle "Non-Purposeful Take Permit" is not needed for any activity occurring outside of the 660-foot buffer zone. No activities are permitted within 330 feet of a nest without a USFWS permit.

In addition to the on-site evaluation for "listed" species, BTC conducted a review of the FFWCC Eagle Nest Locator (2016-2017) and the Audubon's EagleWatch (2020-2021) database for any recorded Bald Eagle nests on or in the vicinity of the subject site. This review revealed one (1) Bald Eagle nests (Nest ID#: LA220) located within the subject site boundary. Bald eagle nest OS075 was located and the nest appeared to be in good condition, see Figure 9. There were signs of recent activity (bones, carcasses, feathers, droppings, etc.) found within the vicinity of the nest. Based on the condition of the LA220 nest, it is assumed the nest is active during the current nesting season. No other nests were located on the subject site. Should any new bald eagle nest be found prior to or during construction, the US Fish and Wildlife Service National Bald Eagle Management Guidelines should be implemented.

In order to develop any lots that exist within the 660' buffer, a Non-Purposeful Take Permit will be required by the USFWS. As part of this application, a number of Minimization Measures will be required (i.e., the implementation of Bald Eagle Monitoring Guidelines (USFWS 2007), maintaining a minimum distance of 100' from the nest and scheduling of construction activities within the buffers to occur outside of nesting season (October – May). Additionally, if activities are to occur within 330' of the nest, two (2) Conservation Measures will be required. One (1) of these measures is a $42,000 contribution to the Bald Eagle Management Fund to support bald eagle monitoring and research. The second measure is the providing of financial assurance (surety bond) in the amount of $50,000 to USFWS or alternate measures such as the granting a conservation easement over the 330' buffer zone of an active or alternate Bald Eagle nest within the same or an adjacent county, or within the same core nesting area, etc. *It should be stated that the issuance of the Non-Purposeful Take Permit is at the discretion of the USFWS and is not guaranteed.* If issued, the permit can be extended annually if work within the 660' buffer continues. The conservation measures are only required to be provided once (i.e., $42,000 contribution). The $50,000 surety bond is released once the nesting pair returns to the nest the following nesting season. If they do not, the bond is kept by USFWS as the nest is considered taken.

As touched upon previously, if a Non-Purposeful Take Permit has been issued by USFWS, monitoring of the Bald Eagle nest must be implemented according to the Bald Eagle Monitoring

Guidelines (USFWS 2007). Per these guidelines initial monitoring is to be conducted beginning October 1 until positive direct or indirect evidence that the Bald Eagles have returned to the nesting territory is observed. This is to be conducted for a minimum of 2 hours per day once a week. (It should be noted that if no nesting activity is observed by February 1, monitoring may cease as the nest will be determined as inactive for the current nesting season.) Once nesting behavior has commenced, monitoring of the nest increases to a minimum of 4 hours per day 3 days per week. This monitoring sequence continues through 4 weeks post-hatching. Beginning the fifth week post-hatching, monitoring of the nest/young is reduced to 4 hours per day once a week. This continues until fledging occurs of May 15th, whichever occurs first. The estimated annual cost for monitoring of a Bald Eagle's nest – based on typical nesting behavior and timeline – is approximately $30,000 per year.

USFWS CONSULTATION AREAS

The U.S. Fish and Wildlife Service has established "consultation areas" for certain listed species. Generally, these consultation areas only become an issue if USFWS consultation is required, which is usually associated with permitting through the U.S. Army Corps of Engineers. The reader should be aware that species presence and need for additional review are often determined to be unnecessary early in the permit review process due to lack of appropriate habitat or other conditions. However, the USFWS makes the final determination.

Consultation areas are typically very regional in size, often spanning multiple counties where the species in question is known to exist. Consultation areas by themselves do not indicate the presence of a listed species. They only indicate an area where there is a potential for a listed species to occur and that additional review might be necessary to confirm or rule-out the presence of the species. The additional review typically includes the application of species-specific criteria to rule-out or confirm the presence of the species in question. Such criteria might consist of a simple review for critical habitat types. In other cases, the review might include the need for species-specific surveys using established methodologies that have been approved by the USFWS.

The following paragraphs include a list of the USFWS Consultation Areas associated with the subject site. Also included, is a brief description of the respective species habitat and potential for additional review:

Florida Sand Skink (Neoseps reynoldsi)
Federally Listed as "Threatened" by USFWS

The project site falls within the Florida Sand Skink Consultation Area for the United States Fish and Wildlife Service (USFWS). The Florida sand skink is listed as "Threatened" by the USFWS. The Florida sand skink exists in areas vegetated with sand pine *(Pinus clausa)* - rosemary

(Ceratiola ericoides) scrub or a long leaf pine *(Pinus palustris)* - turkey oak *(Quercus laevis)* association. 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 Florida sand skink. All properties within the limits of this consultation area that are located at elevations greater than 80' and contain suitable (moderate-to-well drained soils) soils are believed by USFWS to be areas of potential Florida sand skink habitat.

The results of the most recent pedestrian survey October & November of 2022 showed no evidence (i.e. sinusoidal tracks) that indicate the presence of the Florida sand skink. However, the entire site is located at an elevation that exceeds the 80-foot above sea level requirement, with portions of the site consisting of moderately well to excessively drained soils (appropriate soil types for the Florida sand skink), and areas of suitable vegetation/habitat for the Florida sand skink. Due to these factors, it is advisable to conduct a formal sand skink survey, as it may be required by federal, state, and/or local government permitting agencies. The survey will need to be conducted between March 1 and May 15, in which 2' x 2' boards will be placed in the open sandy areas at a density of approximately 40 boards per acre and checked once per week for four (4) consecutive weeks. The main objective of the survey is to determine whether sand skinks inhabit the project site.

***Florida Scrub-Jay* (*Aphelocoma coerulescens*)**
Federally Listed as "Threatened" by USFWS

Currently the Florida Scrub-Jay is listed as threatened by the USFWS. Florida Scrub Jays are largely restricted to scattered, often small and isolated patches of sand pine scrub, xeric oak, scrubby flatwoods, and scrubby coastal stands in peninsular Florida (Woolfenden 1978a, Fitzpatrick et al. 1991). They avoid wetlands and forests, including canopied sand pine stands. Optimal Scrub-Jay habitat is dominated by shrubby scrub, live oaks, myrtle oaks, or scrub oaks from 1 to 3 m (3 to 10 ft.) tall, covering 50% to 90 % of the area; bare ground or sparse vegetation less than 15 cm (6 in) tall covering 10% to 50% of the area; and scattered trees with no more than 20% canopy cover (Fitzpatrick et al. 1991).

No Florida Scrub-Jays were observed on the project site during the cursory wildlife survey conducted by BTC. As minimal habitat exists within the limits of the site, it is not anticipated that a formal survey would be required by the USFWS or another agency to determine if any Florida Scrub-Jays utilize any portions of the site.

***Everglade Snail Kite* (*Rostrhamus sociabilis*)**
Federally Listed as "Endangered" by USFWS

The subject site falls within the USFWS Consultation Area for the Everglade Snail Kite. Currently the Everglade Snail Kite is listed as "Endangered" by the USFWS. Everglade Snail Kites are similar in size to Red-shouldered Hawks. All Everglade Snail Kites have deep red eyes and a white rump patch. Males are slate gray, and females and juveniles vary in amounts of white, light brown, and dark brown, but the females always have white on their chin. Everglade Snail Kites vocalize mainly during courtship and nesting. They may occur in nearly all of the wetlands of central and southern Florida. They regularly occur in lake shallows along the shores and islands of many major lakes, including Lakes Okeechobee, Kissimmee, Tohopekaliga (Toho) and East Toho. They also regularly occur in the expansive marshes of southern Florida such as Water Conservation Areas 1, 2, and 3, Everglades National Park, the upper St. John's River marshes and Grassy Waters Preserve.

No Everglade Snail Kites were observed during the wildlife survey conducted by BTC. As there is suitable habitat within the limits of the subject site, a formal survey may be required by the USFWS or another agency to determine if any Everglade Snail Kites utilize any portions of the site.

ENVIRONMENTAL CONSTRAINTS

Permitting through Lake County, the St. Johns River Water Management District (SJRWMD), and the Florida Department of Environmental Protection (FDEP) would be required to develop the project site. The site resides in the Southern Ocklawaha River drainage basin (Figure 8).

St. Johns River Water Management District (SJRWMD)

An Environmental Resource Permit (ERP) will be required through the St. Johns River Water Management District (SJRWMD) for all wetland and/or other surface water impacts (both direct and secondary) in association with the proposed development plan. Impacts to the project's wetland and/or other surface water communities would be permittable by SJRWMD as long as the issues of elimination and reduction of wetland impacts have been addressed and as long as the mitigation offered is sufficient to offset the functional losses incurred via the proposed impacts.

Florida Department of Environmental Protection (FDEP)

Section 404 of the Clean Water Act (CWA) requires that federal authorization be obtained for all activities that propose the placement of dredged or fill material in "Waters of the United States" (WOTUS). The regulatory program established by CWA Section 404 is jointly implemented by the United States Environmental Protection Agency (EPA) and the United States Army Corps of Engineers (USACE) and applies to regulated activities associated with development, water resource projects (dams, levees, etc.), infrastructure, and mining. Guidelines that outline the

conditions under which the implementing agency may, or may not, issue a permit are described in CWA Section 404(b)(1) Guidelines. Included in those guidelines is the mandate that discharges of dredged or fill material into WOTUS are not permissible if (a) a practicable alternative exists that is less damaging to the aquatic environment, or (2) the nation's waters would be significantly degraded. Under that mandate, in most cases, the applicant's burden to justify impacts to jurisdictional wetlands includes an alternative sites analysis, in which the applicant is required to justify that the subject site is the most viable in the vicinity for the project, and will result in lesser environmental impacts compared to alternative site locations. The applicant is then required to demonstrate on-site avoidance and minimization of impacts, to the maximum practicable extent, while allowing for the project purpose.

CWA Section 404(b)(1) Guidelines also define conditions under which a State may assume the permitting authority under CWA Section 404. In December of 2020, the Florida Department of Environmental Protection (FDEP) assumed federal permitting authority for most wetland and surface water resources regulated exclusively under Section 404 of the Clean Water Act (CWA). The State 404 Program is a separate program and process from the existing State ERP Program described in the SJRWMD section above, and applies only to those waters not regulated under other federal legislation. Wetlands and surface water resources associated with tidal waters or traditional navigable waters are regulated under Section 10 of the Rivers and Harbors Act. For those waters ("retained waters"), including wetlands and/or other surface waters that fall within the 300-foot guideline established from the ordinary high-water mark or mean high tide line of the Section 10 waters, the USACE will retain federal permitting authority. It should be noted that regulated activities proposed in waters assumed by the State 404 Program are still required to meet all standards mandated under the CWA Section 404(b)(1) guidelines.

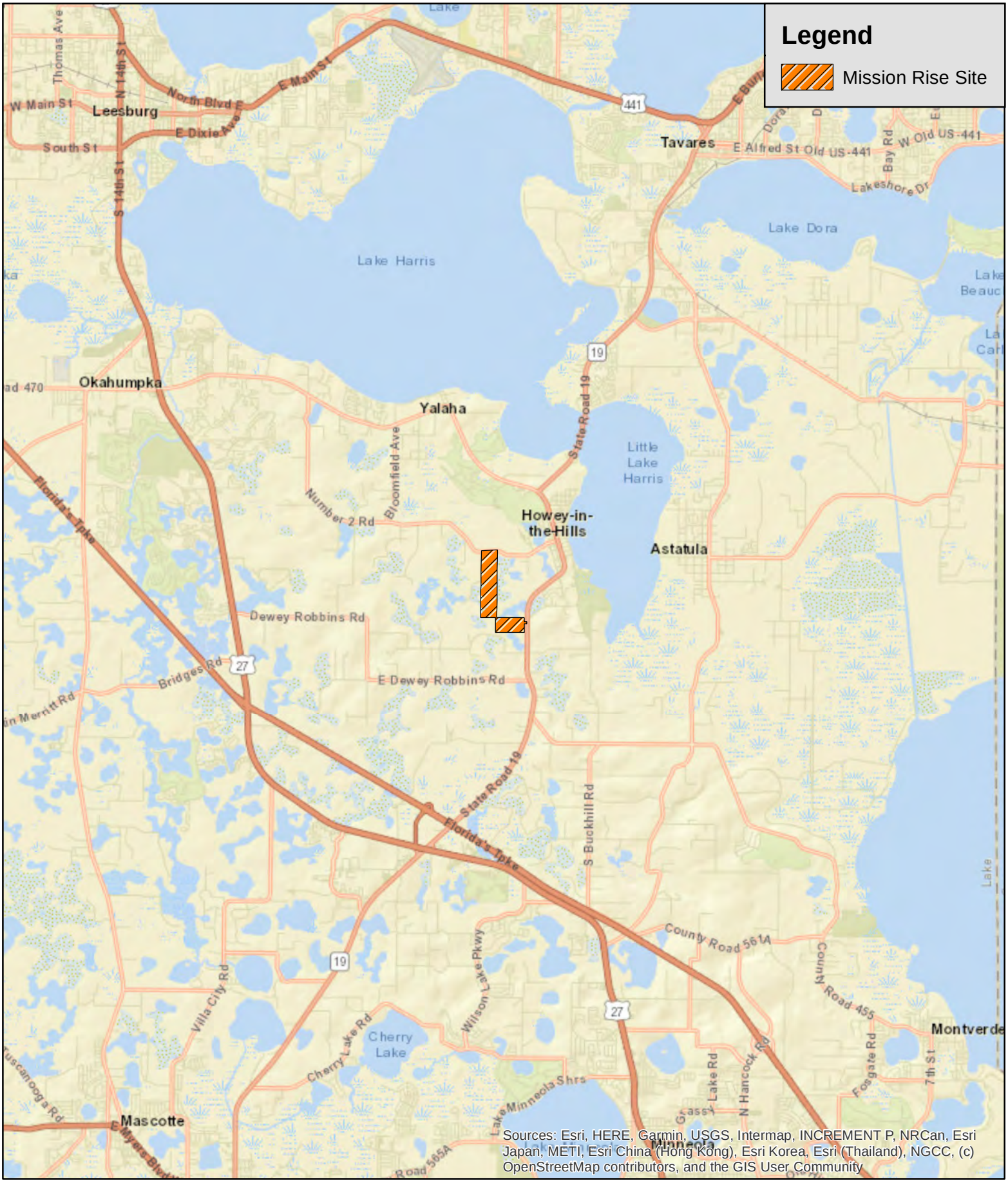
With respect to the subject site, no portions of the on-site wetlands are associated with Section 10 waters. Thus, as Section 10 waters are not anticipated to be impacted, the federal permitting authority would be "assumed" by the FDEP under Section 404. Currently, FDEP considers all wetland and/or surface water resources to be federally jurisdictional unless the applicant provides documentation proving otherwise.

The environmental limitations described in this document are based on observations and technical information available on the date of the on-site evaluation. This report is for general planning purposes only. The limits of any on-site wetlands/surface waters can only be determined and verified through field delineation and/or on-site review by the pertinent regulatory agencies. The wildlife surveys conducted within the subject property boundaries do not preclude the potential for any listed species, as noted on Table 1 (attached), currently or in the future. Should you have any questions or require any additional information, please do not hesitate to contact our office at (407) 894-5969. Thank you.

Regards,

Kate Groninger

Kate Groninger
Project Manager



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Environmental and Permitting Services
3025 E. South Street Orlando, FL 32803
Ph: 407-894-5969 Fax: 407-894-5970
www.bio-techconsulting.com

Mission Rise Site
Lake County, Florida
Figure 1
Location Map

N
W E
S

2
Miles

Project #:1433-01
Produced By: JDH
Date: 6/23/2022

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Mission Rise Site
Lake County, Florida
Figure 2
2020 Aerial Map

N
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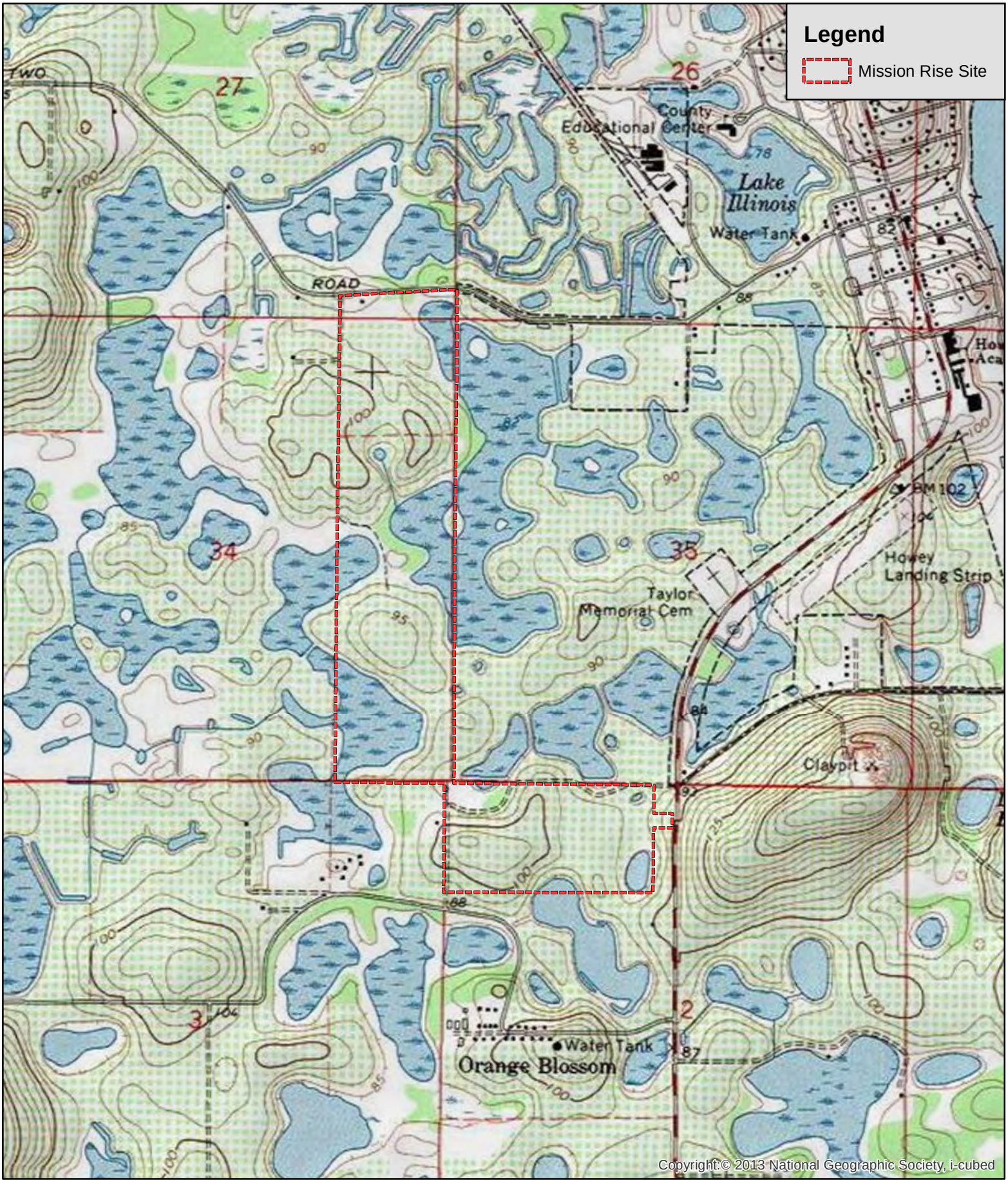
1,000
Feet

Project #:1433-01
Produced By: JDH
Date: 6/23/2022



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Mission Rise Site
Lake County, Florida
Figure 3
USGS Topographic Map

N
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1,500
Feet

Project #:1433-01
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Mission Rise Site
Lake County, Florida
Figure 4
SSURGO Soils Map

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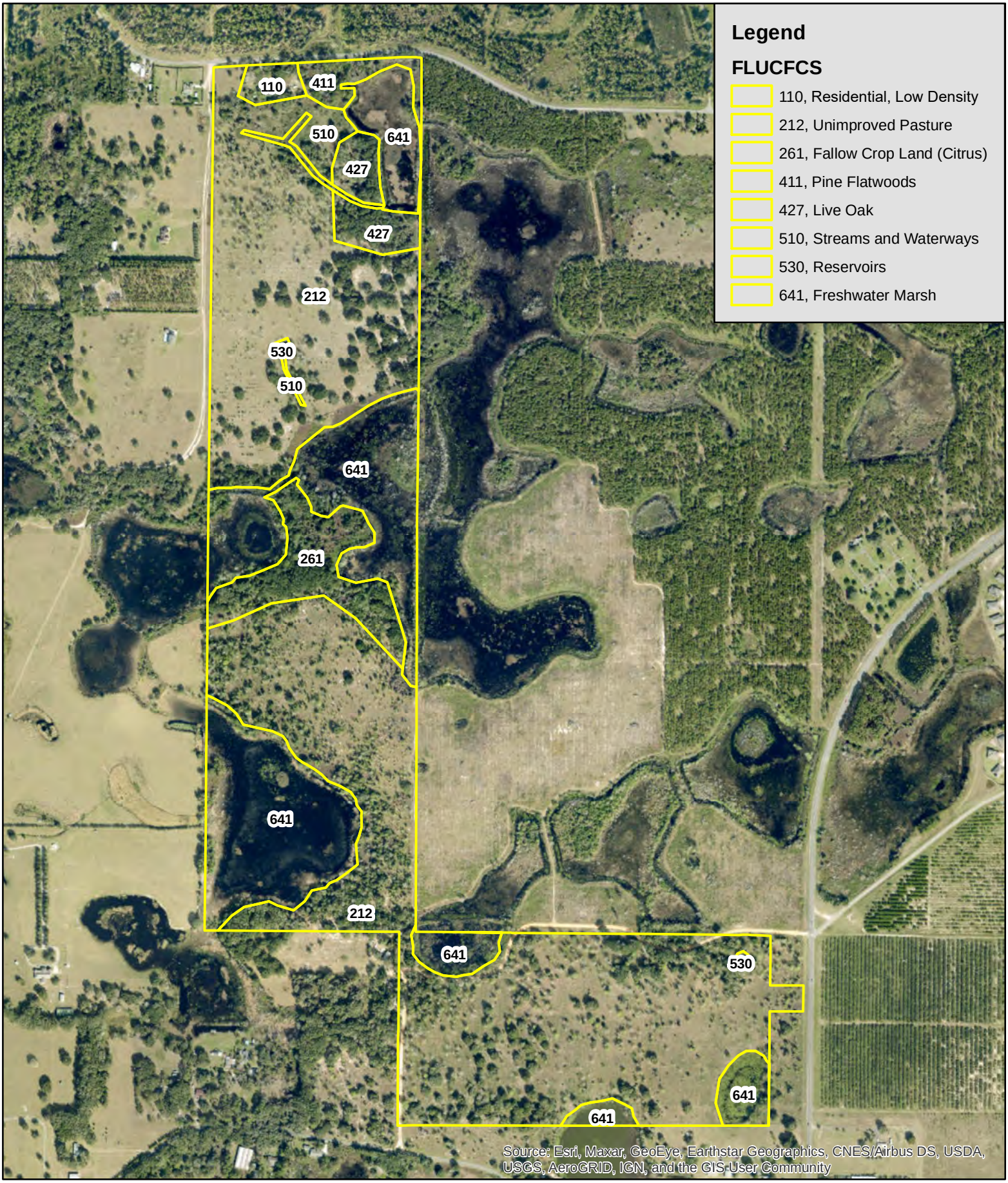
Project #:1433-01
Produced By: JDH
Date: 6/23/2022



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Mission Rise Site
Lake County, Florida
Figure 5
FLUCFCS Map

N
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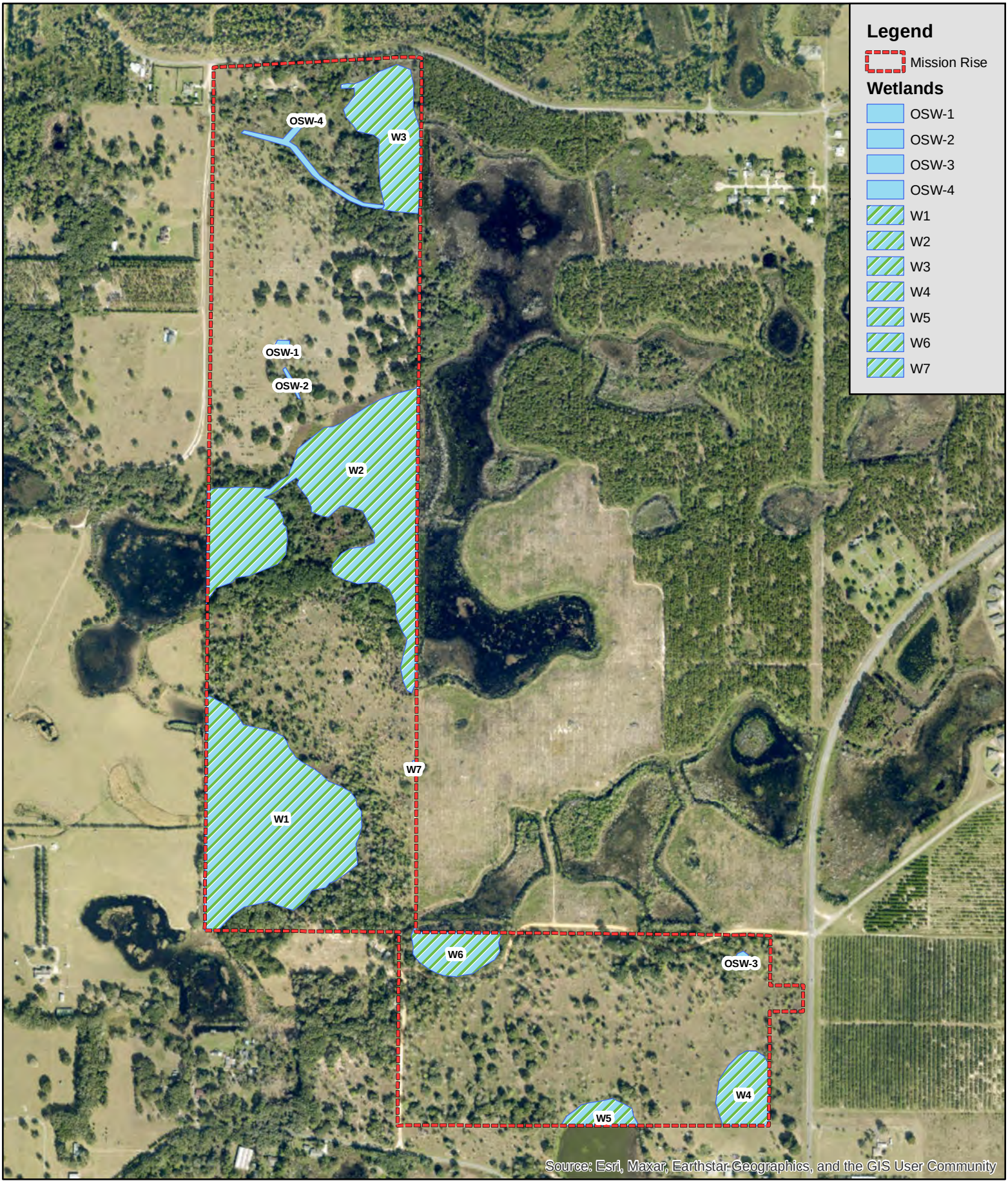
890
Feet

Project #:1433-01
Produced By:KLG
Date: 11/2/2022



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Mission Rise Site
Lake County, Florida
Figure 6
BTC Wetland Boundaries

N
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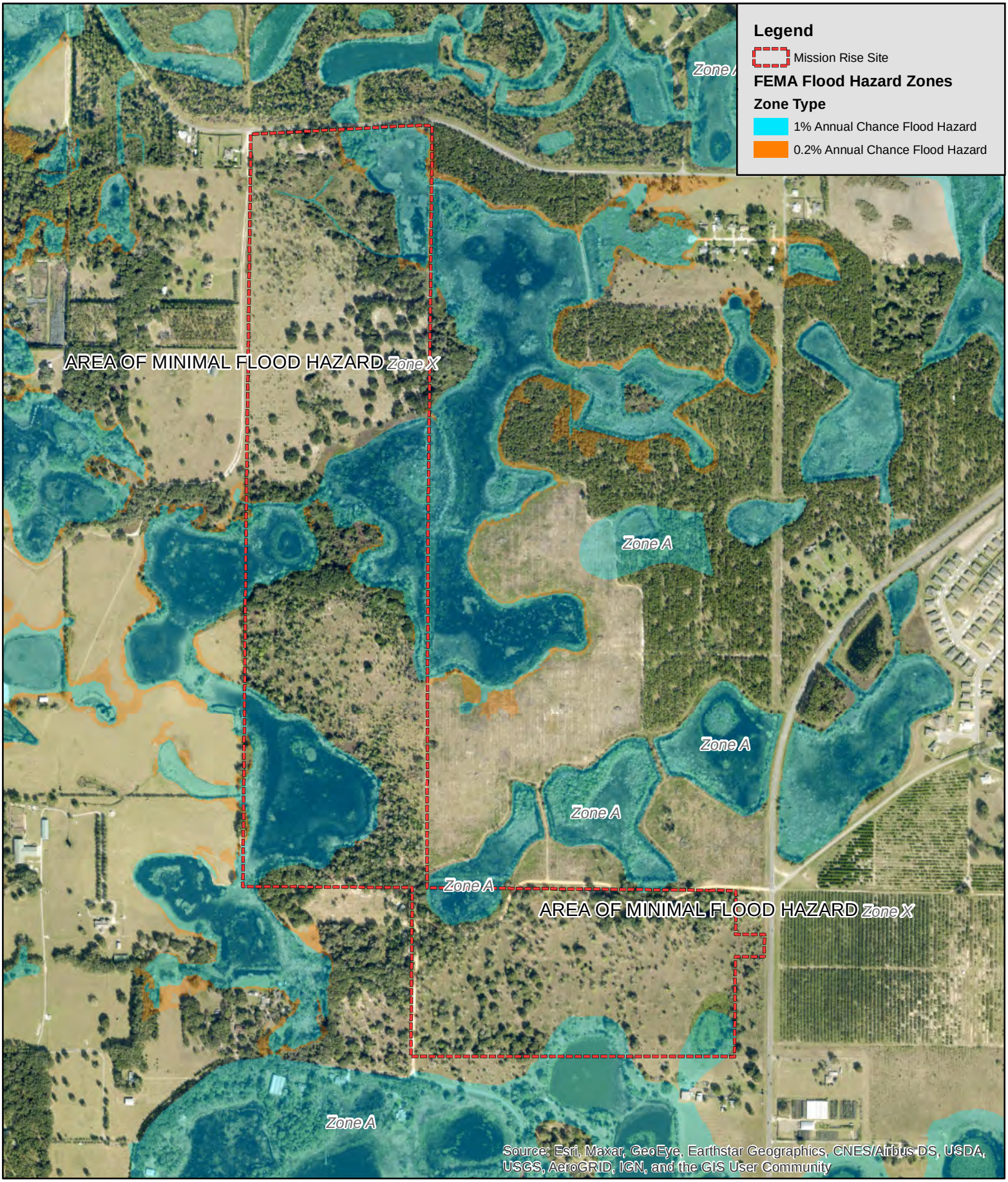
880
Feet

Project #:1433-01
Produced By:KLG
Date: 11/4/2022



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Mission Rise Site
Lake County, Florida
Figure 7
FEMA Flood Hazard Zones

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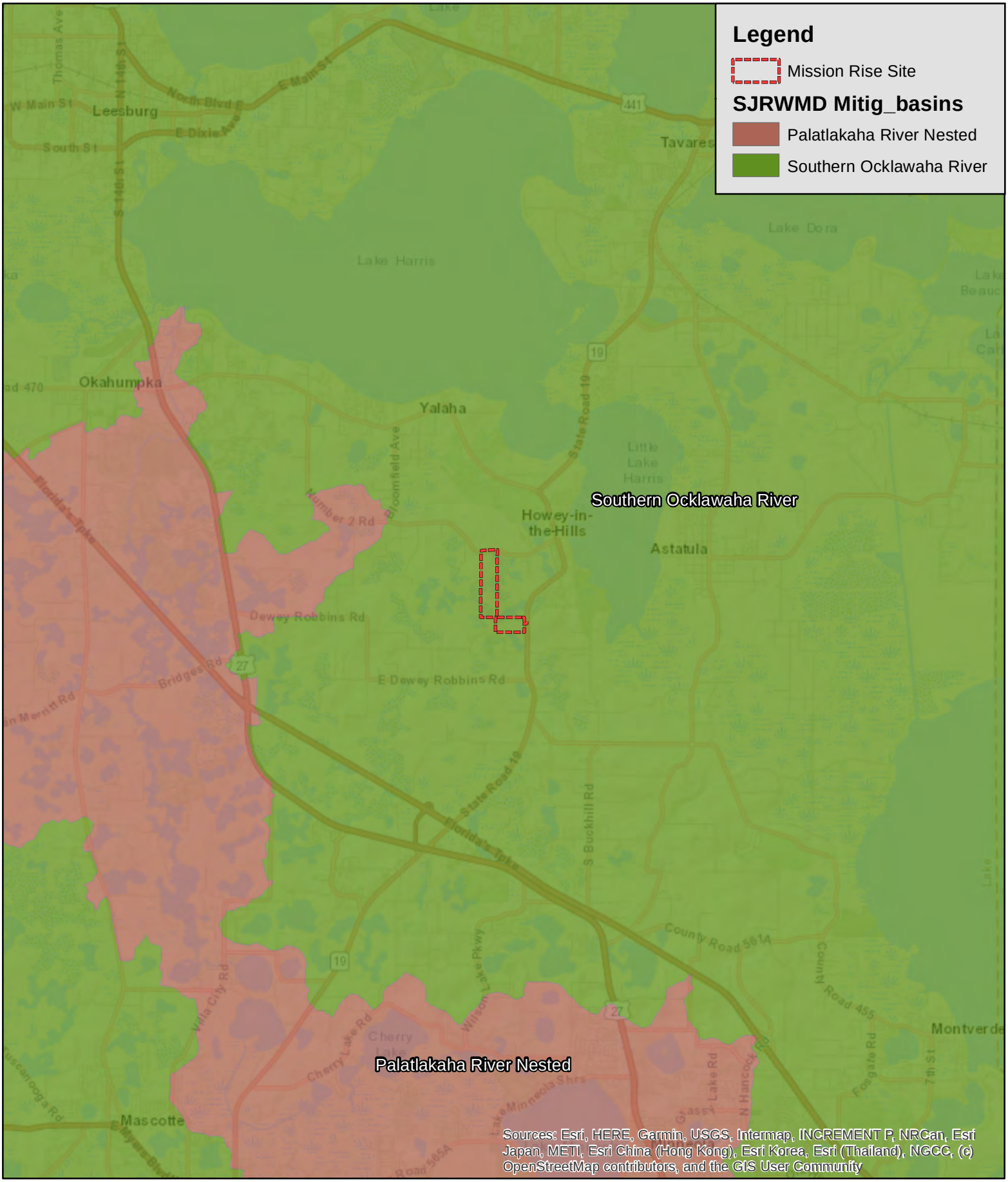
Feet

Project #:1433-01
Produced By: JDH
Date: 6/23/2022



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Mission Rise Site
Lake County, Florida
Figure 8
SJRWMD Mitigation Basins

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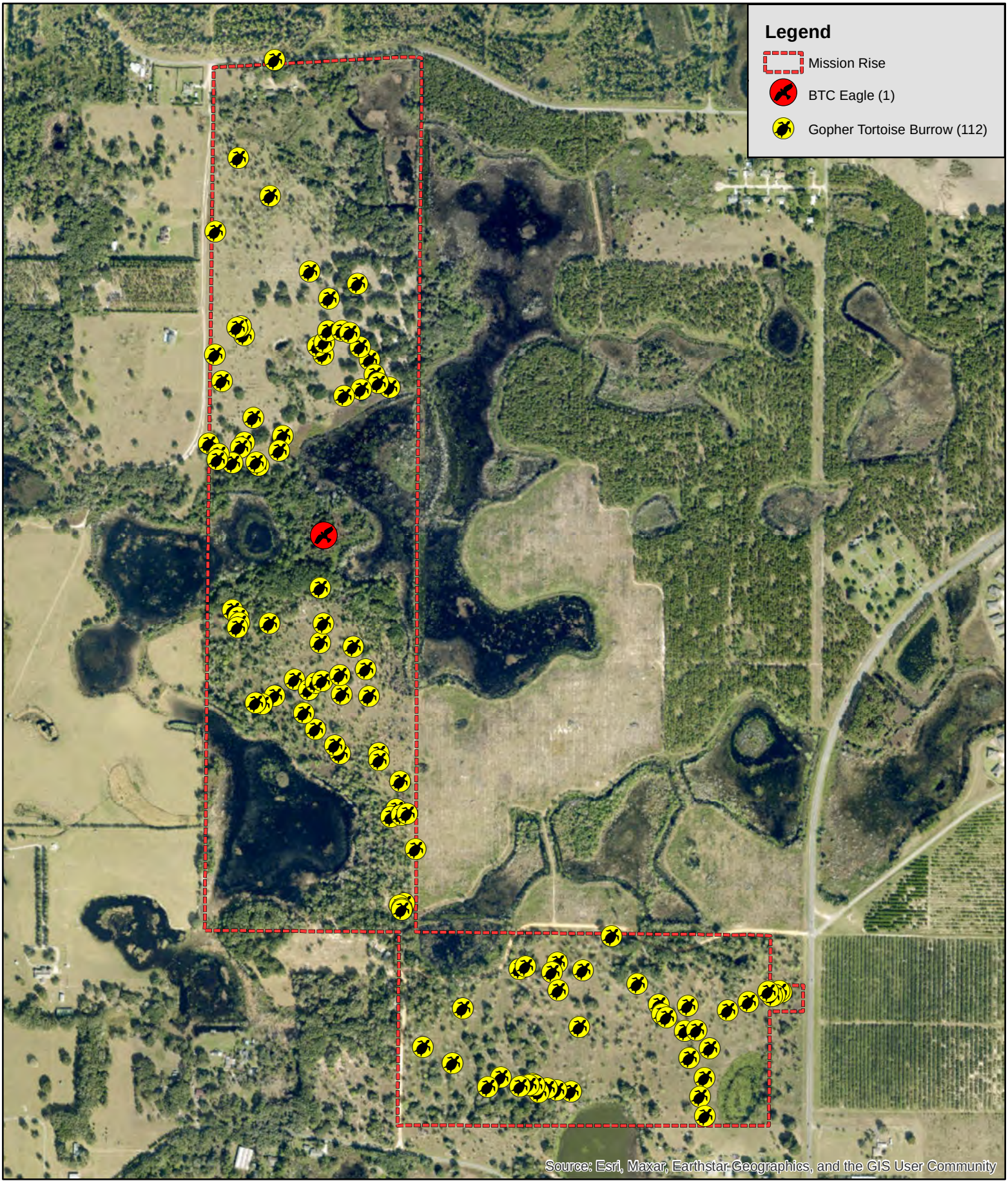
Miles

Project #:1433-01
Produced By: JDH
Date: 6/23/2022



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Mission Rise Site
Lake County, Florida
Figure 9
Wildlife Survey

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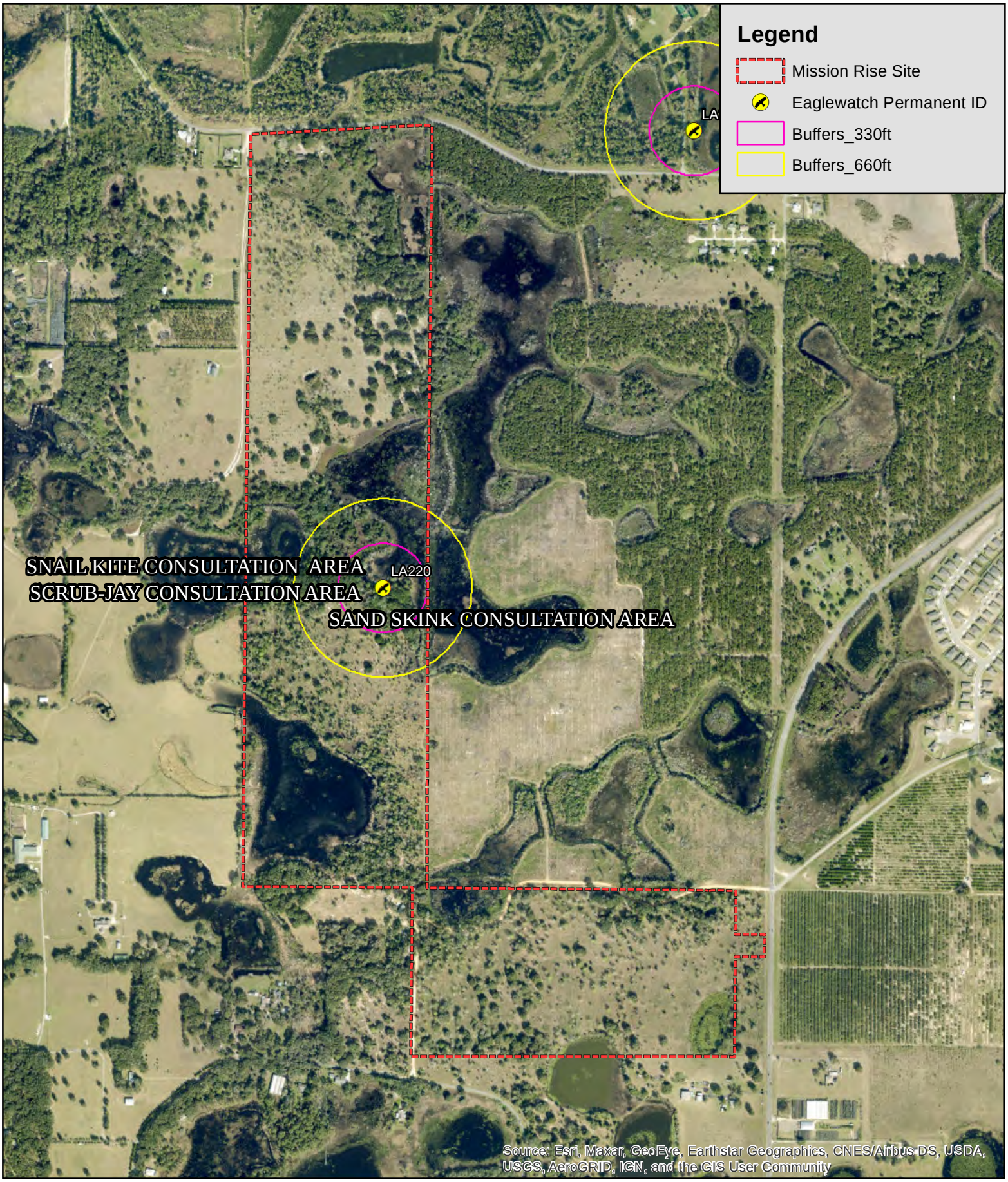
880
Feet

Project #:1433-01
Produced By:KLG
Date: 11/4/2022



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Mission Rise Site
Lake County, Florida
Figure 10
USFWS Consultation Areas

N
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1,000
Feet

Project #:1433-01
Produced By: JDH
Date: 6/23/2022

Table 1 :	Potentially Occuring Listed Wildlife and Plant Species in Lake County, Florida		
Scientific Name	**Common Name**	**Federal Status**	**State Status**
FISH			
Pteronotropis welaka	Bluenose Shiner	N	ST
REPTILES			
Alligator mississippiensis	American Alligator	SAT	FT(S/A)
Drymarchon corais couperi	Eastern Indigo Snake	LT	FT
Gopherus polyphemus	Gopher Tortoise	C	ST
Lampropeltis extenuata	Short-Tailed Snake	N	ST
Pituophis melanoleucus mugitus	Florida Pine Snake	N	ST
Plestiodon reynoldsi	Sand Skink	LT	FT
BIRDS			
Antigone canadensis pratensis	Florida Sandhill Crane	N	ST
Aphelocoma coerulescens	Florida Scrub-Jay	LT	FT
Athene cunicularia floridana	Florida Burrowing Owl	N	ST
Egretta caerulea	Little Blue Heron	N	ST
Egretta tricolor	Tricolored Heron	N	ST
Falco sparverius paulus	Southeastern American kestrel	N	ST
Grus americana	Whooping Crane	XN	FXN
Mycteria americana	Wood Stork	LT	FT
Picoides borealis	Red-Cockaded Woodpecker	LE	FE
MAMMALS			
Trichechus manatus	West Indian Manatee	LT	FT
VASCULAR PLANTS			
Bonamia grandiflora	Florida bonamia	LT	E
Carex chapmanii	Chapman's Sedge	N	T
Centrosema arenicola	Sand Butterfly Pea	N	E
Chionanthus pygmaeus	pygmy fringe tree	LE	E
Clitoria fragrans	scrub pigeon-wing	LT	E
Coelorachis tuberculosa	Piedmont Jointgrass	N	T
Coeleataenia abscissa	Cutthroat Grass	N	E
Cucurbita okeechobeensis	Okeechobee Gourd	LE	E
Eriogonum longifolium var *gnaphalifolium*	Scrub Buckwheat	LT	E
Hartwrightia floridana	Hartwrightia	N	T
Hasteola robertiorum	Florida Hasteola	N	E
Illicium parviflorum	Star Anise	N	E
Justicia cooleyi	Cooley's Water-Willow	LE	E
Lechea cernua	Nodding Pinweed	N	T
Matelea floridana	Florida Spiny-Pod	N	E
Monotropa hypopithys	Pinesap	N	E
Najas filifolia	Narrowleaf Naiad	N	T
Nemastylis floridana	Celestial Lily	N	E
Nolina brittoniana	Britton's Beargrass	LE	E
Paronychia chartacea ssp *chartacea*	Paper-Like Nailwort	LT	E
Pecluma plumula	Plume Polypody	N	E
Pecluma ptilota var. bourgeauana	Comb Polypody	N	E
Polygala lewtonii	Lewton's Polygala	LE	E
Polygonella myriophylla	Small's Jointweed	LE	E
Prunus geniculata	Scrub Plum	LE	E

Pteroglossaspis ecristata	Giant Orchid	N	T
Salix floridana	Florida Willow	N	E
Sideroxylon alachuense	Silver Buckthorn	N	E
Stylisma abdita	Scrub Stylisma	N	E
Vicia ocalensis	Ocala Vetch	N	E
Warea amplexifolia	Clasping Warea	LE	E
Warea carteri	Carter's Warea	LE	E

FEDERAL LEGAL STATUS

LE-Endangered: species in danger of extinction throughout all or a significant portion of its range.
LT-Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
SAT-Endangered due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.

C-Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
XN-Non-essential experimental population.
N-Not currently listed, nor currently being considered for listing as Endangered or Threatened.

STATE LEGAL STATUS - ANIMALS

FE- Listed as Endangered Species at the Federal level by the U. S. Fish and Wildlife Service
FT- Listed as Threatened Species at the Federal level by the U. S. Fish and Wildlife Service
FXN- Federal listed as an experimental population in Florida
FT(S/A)- Federal Threatened due to similarity of appearance
ST- State population listed as Threatened by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.
SSC-Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species. (SSC* for Pandion haliaetus (Osprey) indicates that this status applies in Monroe county only.)
N-Not currently listed, nor currently being considered for listing.

*** State protected by F.A.C. 68A-16.002 and federally protected by both the Migratory Bird Treaty Act (1918) and the Bald and Golden Eagle Protection Act (1940)*

STATE LEGAL STATUS - PLANTS

E-Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.

T-Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.
N-Not currently listed, nor currently being considered for listing.