Westside Boulevard Extension 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 Toho Water Authority (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 an extension of Westside Boulevard on a 17-acre site in Osceola County, Florida (Figure 1). The project site contains suitable habitat for the threatened sand skink (*Plestiodon reynoldsi = Neoseps reynoldsi*) and blue-tailed mole skink (*Plestiodon egregious lividus*)(collectively referred to as skinks) as defined in the U.S. Fish and Wildlife Service's (USFWS) Species Conservation and Consultation Guide for the Sand Skink and Blue-tailed (Bluetail) Mole Skink. The Applicant has determined that 9.20 acres of the project site is occupied by skinks and that take of skinks will occur. This HCP is provided in support of the applicant's application for an incidental take permit (Permit) for the project.

Purpose

The Applicant proposes to construct an extension to Westside Boulevard in Osceola County. The project will connect the roadway extension to its current termini located north and south of the project site. The proposed works include land clearing and road building activities. The new roadway extension, approximately 0.56 mile in length, will consist of 2 northbound and 2 southbound paved travel lanes, a grassed median, sidewalks, a stormwater retention pond and spreader swales. The project will permanently alter and result in the loss of 9.20 acres of skink habitat (Figure 7). The roadway is being constructed to provide a vital connection for motor vehicle traffic from U.S. Highway 192 to the north and the Ronald Reagan Parkway to the south. The project will also allow the Applicant to access their existing conservation lands located east of the project site. The Applicant anticipates take of skinks could occur due to construction activities in the form of injuries and mortalities of skinks and the permanent alteration and loss 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 a single phase and is expected to be completed within twelve months. 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 and sand skink survey were conducted by Bio-Tech Consulting, Inc from March 4, 2023 through March 23, 2023. Sand skinks were found on 9.20 acres of the 17-acre site.

Location: This site is located in unincorporated Osceola County, south of Westside Boulevard and east of Tank Road within Section 19, Township 25 South, Range 27 East, Osceola County, Florida (**Figures 1 and 2**). Parcel ID numbers are 19-25-27-0000-0030-0000, 19-25-27-3160-000B-0020, 9-25-27-3160-000C-0040, 9-25-27-0000-0015-0000, 9-25-27-0000-0033-0000, 9-25-27-3160-000B-0030, and 9-25-27-3160-000B-0010,

Topography: Based upon review of the USGS Topographic Map (Lake Louisa SW Quad, **Figure 3**), the property elevations range from 115 feet to 130 feet NGVD. In general, it would appear that the subject parcel slopes gradually from west to east towards on and off-site wetlands and surface waters.

Surrounding Land Uses: This site is located in unincorporated Osceola County, south of Westside Boulevard and east of Tank Road. The site is surrounded by residential, commercial agricultural, utility and educational development.

Soils: According to the Soil Survey of Osceola County, Florida, prepared by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), four (4) soil types occur within the subject property boundaries (**Figure 4**). These soils include the following:

- Basinger fine sand, depressional, 0 to 1 percent slopes (#6)
- Candler sand, 0 to 5 percent slopes (#7)
- Candler sand, 5 to 12 percent slopes (#8)
- Smyrna fine sand, 0 to 2 percent slopes (#42)

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

Basinger fine sand, depressional, 0 to 1 percent slopes (#6) is a nearly level, poorly drained soil found in shallow depressions and poorly defined drainageways in the flatwoods. The surface layer of this soil type generally consists of black fine sand about 4 inches thick over 3 inches of dark gray fine sand that contains gray mottles. Water stands on the surface for 6 to 12 months during most years. Permeability of this soil type is very rapid throughout.

Candler sand, 0 to 5 percent slopes (#7) is a nearly level to gently sloping, excessively drained soil found on uplands. The surface layer of this soil type generally consists of dark grayish brown



sand about 3 inches thick. The water table for this soil type is at a depth of more than 72 inches, and no flood hazard exists. Water capacity is very low with permeability being very rapid in the upper 62 inches; capacity is low with a rapid permeability below 62 inches.

Candler sand, 5 to 12 percent slopes (#8) is a sloping to strongly sloping, excessively drained soil found on uplands. The surface layer of this soil type generally consists of dark grayish brown sand about 7 inches thick. The water table for this soil type is at a depth of more than 72 inches. Permeability of this soil type is very rapid in the upper 59 inches and is rapid below.

Smyrna fine sand, 0 to 2 percent slopes (#42) is a nearly level (0 to 2 percent slopes), poorly drained soil found in broad flat areas in the flatwoods. The surface layer of Smyrna fine sand is 7 inches of fine sand. The upper 4 inches is black, and the lower 3 inches is dark gray. The water table for this soil type is at a depth of less than 10 inches for 1 to 4 and between 10 and 40 inches for more than 6 months in most years. Permeability of this soil type is rapid in the surface and subsurface layers, moderate to moderately rapid in the upper subsoil, rapid in the next layer, and moderate to moderately rapid in the lower subsoil.

The Florida Association of Environmental Soil Scientists (FAESS) considers the main component in the Basinger fine sand, depressional, 0 to 1 percent slopes (#6) soil type associated with the site to be hydric. This FAESS also considers the inclusions present in the Smyrna fine sand, 0 to 2 percent slopes (#42) soil type associated with the site to be hydric. This information can be found in the <u>Hydric Soils of Florida Handbook</u>, Fourth Edition (March 2007).

Existing Vegetative Conditions: The Toho Water Authority Property currently supports three (3) 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 wetland/surface water land use types/vegetative communities on the site are classified as Reservoirs (530) and Wetland Forested Mixed (630). The following provides a brief description of the land use types/vegetative communities identified on the site.

Uplands:

190 Open Land

A majority of the site is a maintained grassy area which is most consistent with the Open Land (190) classification, per the FLUCFCS. This portion of the property contains several planted tree species along the boundary as well. Vegetative species observed include Bahia grass (*Paspalum notatum*), Bermuda grass (*Cynodon dactylon*), fountain grass (*Pennisetum setaceum*), laurel oak (*Quercus laurifolia*), southern magnolia (*Magnolia grandiflora*), queen palm (*Syagrus*)



romanzoffiana), cabbage palm (Sabal palmetto), American holly (Ilex opaca), beggars tick (Bidens alba), cogon grass (Imperata cylindrica), guinea grass (Panicum maximum), Caesar's weed (Urena lobata), lantana (Lantana spp.), and sword fern (Nephrolepis spp.).

Wetland/Surface Waters

530 Reservoir

There are two historic ponds within the project limits that were excavated from uplands before 1982. These excavated ponds are most consistent with the Reservoirs (530) classification, per the FLUCFCS. Vegetative species observed within the pond is sparse, but includes torpedograss (*Panicum repens*), alligator weed (*Alternanthera philoxeroides*), marsh pennywort (*Hydrocotyle umbellata*), Hydrilla (*Hydrilla verticillata*), duckweed (*Lemna* spp.), giant bulrush (*Schoenoplectus californicus*), soft rush (*Juncus effusus*), pickerelweed (*Pontederia cordata*), cattail (*Typha* spp.), maidencane (*Panicum hemitomon*), creeping primrose (*Ludwigia repens*), wax myrtle (*Morella cerifera*), and Peruvian primrosewillow (*Ludwigia peruviana*).

630 Wetland Forested Mixed

Two small areas of the project site along the east border represent a wetland most consistent with the Wetland Forested Mixed (630) FLUCFCS classification. These areas are consistent of mixed wetland forests communities in which neither hardwood or conifers achieve 66 percent dominance. Vegetative species identified within this community type consist of laurel oak (*Quercus laurifolia*), Lead Tree (Leucaena leucocephala), American elm (Ulmus americana), red maple (Acer rubrus), pond cypress (Taxodium ascendens), bald cypress (Taxodium distichum), slash pine (Pinus elliottii), Brazilian pepper (Schinus terebinthifolius), loblolly bay (Gordonia lasianthus), sweetbay (Magnolia virginia), cabbage palm (Sabal palmetto), Carolina willow (Salix caroliniana), Primrose willow (Ludwigia peruviana), elderberry (Sambucus nigra subsp. canadensis), strawberry guava (Psidium cattleianum), buttonbush (Cephalanthus occidentalis), winged sumac (Rhus copallinum), meadow-beauty (Rhexia mariana), maidencane (Panicum hemitomon), morning glory (Ipomaea spp.), broomsedge bluestem (Andropogon virginicus), wedelia (Sphagneticola trilobata), swamp fern (Blechnum serrulatum), resurrection fern (Pleopeltis polypodiodes var. michauxiana), royal fern (Osmunda regalis), bracken fern (Pteridium aquilinum), starrush white top (Rychospora colorata), greenbriar vine (Smilax spp.), and pepper vine (Ampelopsis arborea).

<u>Wildlife:</u> Using methodologies outlined in the <u>Florida's Fragile Wildlife</u> (Wood, 2001); <u>Measuring and Monitoring Biological Diversity Standard Methods for Mammals</u> (Wilson, et al., 1996); and Florida Fish and Wildlife Conservation Commission's (FFFWCC's) <u>Gopher Tortoise</u> <u>Permitting Guidelines</u> (July 2020); an assessment for "listed" floral and faunal species was



conducted at the site on December 21, 2022. This assessment included both direct observations and indirect evidence, such as tracks, burrows, tree markings and vocalizations which indicated the presence of species observed. The assessment focused on species that are "listed" by the FFWCC's Official Lists - <u>Florida's Endangered Species and Threatened Species</u> (June 2021) that have the potential to occur in Osceola County.

In addition, three (3) species identified are listed as commercially exploited by the FDACS. The harvesting of these species, cinnamon fern (*Osmundastrum cinnamomeum*), royal fern (*Osmunda regalis* var. *spectabilis*), and saw palmetto (*Serenoa repens*) for commercial gain is prohibited. The FDACS protection of listed plant species centers on preventing the illegal collection, transport and sale of the listed plants. The FDACS will issue permits for collection purposes. There are no regulations that prohibits the destruction of state-listed flora species as a result of proposed development activities.

Reptiles:

Brown anole (Norops sagrei)
Common box turrtle (Terrapene carolina)
Cuban tree frog (Osteopilus septentrionalis)
eastern black racer (Coluber constrictor)
Florida leopard frog (Lithobates sphenocephalus sphenocephalus)
gopher tortoise (Gopherus polyphemus)
sand skink (Neoseps reynoldsi)

Birds:

Black Vulture (*Coragyps atratus*)
Blue Jay (*Cyanocitta cristata*)
Carolina Wren (*Thryothorus ludovicianus*)
Mockingbird (*Mimus polyglottos*)
Mourning Dove (*Zenaida macroura*)
Turkey Vulture (*Cathartes aura*)

Mammals:

eastern cottontail (Sylvilagus floridanus)
eastern gray squirrel (Sciurus carolinensis)
nine-banded armadillo (Dasypus novemcinctus)
northern raccoon (Procyon lotor)
Virginia opossum (Didelphis virginiana)

Two (2) species was observed on the subject property during the site visit that are listed in the FFWCC's Official Lists - <u>Florida's Endangered Species</u>, <u>Threatened Species and Species of Special Concern</u> (January 2021). The listed species identified on site are the sand skink (*Noeseps*



reynoldsi) and the gopher tortoise (Gopherus polyphemus). The following provides a brief description of this specie and potential species as they relate to development of the property.

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.

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, were found on the site. All gopher tortoises found on the site will be permitted through the FWC for relocation prior to site construction.

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 250 (2'x2') coverboards were distributed in suitable sand skink habitat (i.e., open sandy areas) found within the property (**Figure 6**).

Timing:

Surveys should be conducted between March 1 and May 15. Coverboards were placed in the field on February 25, 2023.

Duration:



Surveys were conducted for a minimum of four (4) consecutive weeks within the time period described above. Coverboard monitoring began March 4, 2023 and finished March 23, 2023.

Materials:

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

Coverboard Placement:

Approximately 250 coverboards 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 only above the 80-foot contour. Coverboards were not placed below 80 feet NGVD. 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. During each monitoring event, BTC staff also looked for tracks in any sandy areas between coverboard locations.

Coverboard Monitoring Dates & Conditions:

Sampling Day 1	Weather Conditions:	Temp: 87°F – High;	Cloud Cover: 30-50%	
	Passing clouds	82°F – Low		
	Precip: None			
Date: 3-4-2023		Wind: 10-20 mph NE		
	Time Start 10:30 am	Time End 1:30 pm		
Observations: Sand skinks were observed throughout the project site.				



Sampling Day 2	Weather Conditions:	Temp: 80°F – High;	Cloud Cover: 0-20%	
	Sunny with passing clouds	74°F – Low		
	Precip: None			
Date: 3-10-2023		Wind: 10-15 mph NNE		
	Time Start 10:00 am	Time End 1:00 pm		
Observations: Sand skinks were observed throughout the project site.				

Sampling	Weather Conditions:	Temp: 75°F – High;	Cloud Cover:	
Day 3	Sunny	73°F – Low	0-20%	
	Precip: None			
Date: 3-16-2023		Wind: 5-10 mph W		
	Time Start 3:30 pm	Time End 5:30 pm		
Observations: Sand skinks were observed throughout the project site.				

Sampling	Weather Conditions:	Temp: 78°F – High;	Cloud Cover:	
Day 4	Sunny	67°F – Low	0-10%	
	Precip: None			
Date: 3-23-2023		Wind: 3-9 mph NNW		
	Time Start 9:30 am	Time End 12:30 pm		
Observations: Sand skinks were observed throughout the project site.				



SURVEY RESULTS

BTC conducted a coverboard sand skink survey on the property pursuant to the USFWS's <u>Sand and Bluetail Mole Skink Conservation Guidelines</u> (February 6, 2012). The 2023 survey was conducted for four (4) consecutive weeks, starting on March 4, 2023 and ending on March 23, 2023. Survey dates were chosen, whenever possible, for their optimal weather conditions (i.e., warm, sunny, dry conditions). Based on the results of the 2023 sand skink survey, BTC has determined that the sand skinks occupy approximately 9.20 acres (**Figure 7**).

Project Impacts to Listed Species

<u>Direct Impacts</u>: 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 9.20 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.

<u>Indirect Impacts</u>: 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.

<u>Cumulative Impacts</u>: Cumulative impacts to skinks will primarily result from future conversion of occupied skink habitat to residential development in Osceola County. These future impacts would be regulated by the USFWS and would be mitigated as appropriate. The impacts of the proposed Toho Water Authority 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 skink 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).

<u>Mitigation</u>: 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 Polk 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 18.41 conservation credits. Purchase of 18.41 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

<u>Alternative 1 – Project as proposed:</u> The project would be constructed as proposed and would result in take of skinks by the permanent alteration of 9.20 acres of skink habitat. However, 18.41 acres of conservation credits will be purchased from the Lake Wales Ridge Conservation Bank in Osceola County, or another Service approved sand skink bank, to help conserve and manage skink habitat in perpetuity. The proposed Toho Water Authority Project will also fill a needed cross-connection for access to and from US 192. The impacts of the proposed Toho Water Authority 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.

<u>Alternative 2 – Modified Project</u>: The project area contains a small isolated pockets of skink habitat. Avoiding these pockets would leave very small isolated sand skink areas that would not persist in the near future as well as compromising the project design.

<u>Alternative 3 – No project:</u> 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 transportation 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.

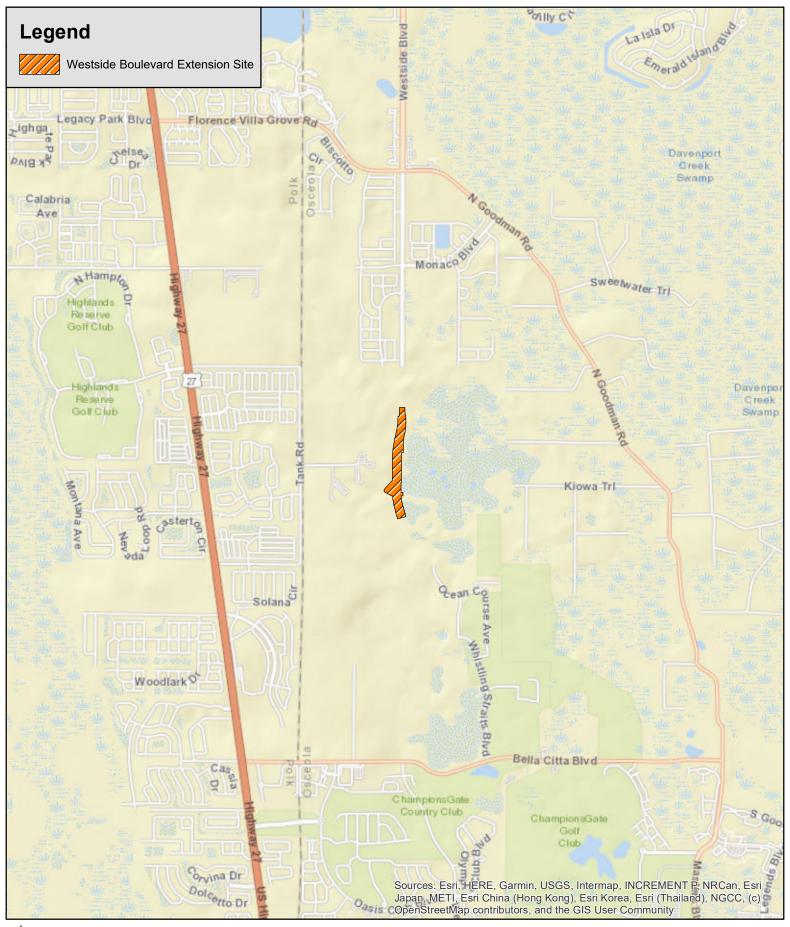
Changed and Unforeseen Circumstances

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 circumstances 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 Osceola 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.





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Westside Boulevard Extension Site Osceola County, Florida Figure 1 Location Map



0.5
Miles
Project #: 625-96
Produced By: JDH
Date: 10/7/2022



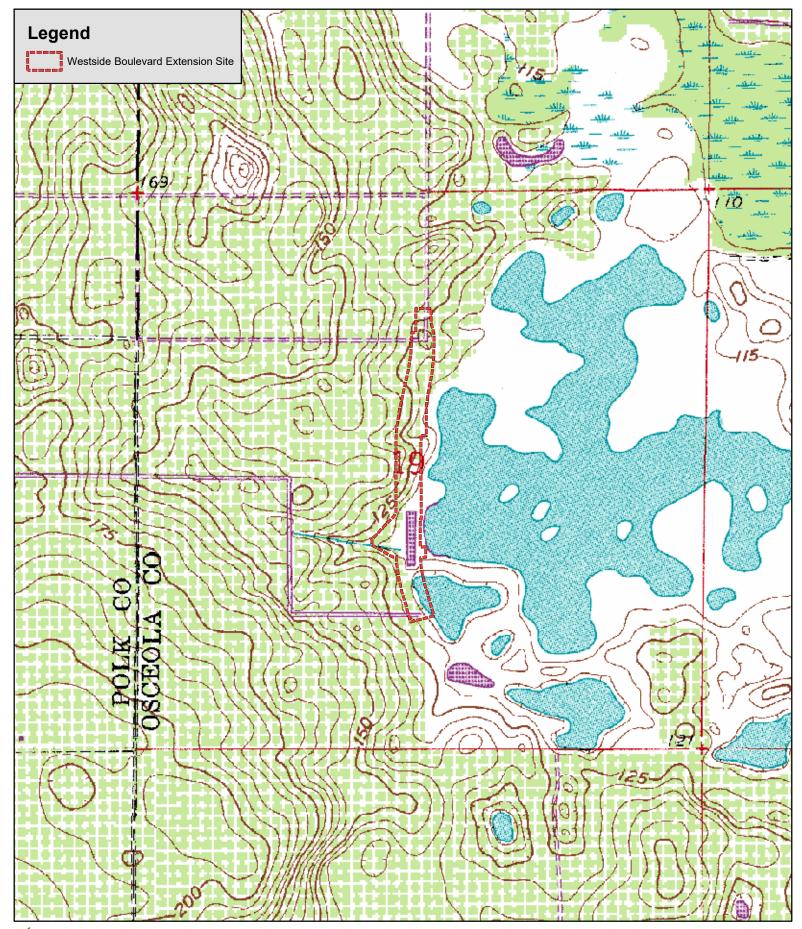


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Westside Boulevard Extension Site Osceola County, Florida Figure 2 2022 Aerial Map



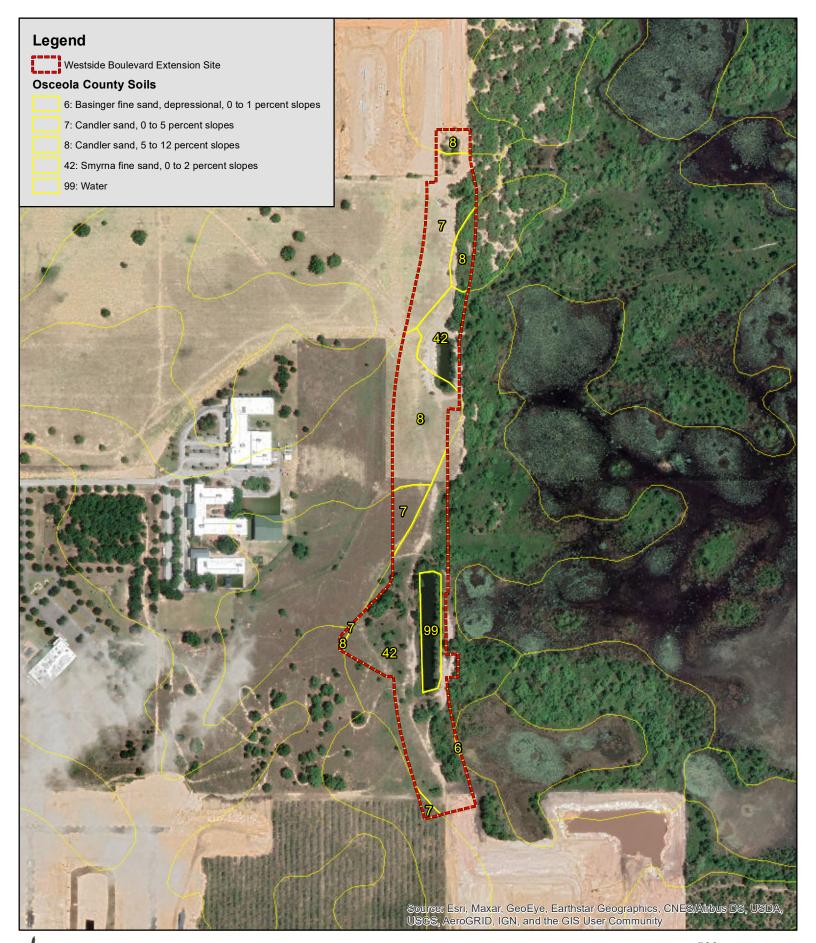
Feet Project #: 625-96 Produced By: JDH Date: 10/7/2022



Bio-Tech Consulting Inc. Environmental and Permitting Services 3025 E. South Street Orlando, FL 32803 Ph: 407-894-5969 Fax: 407-894-5970 www.bio-techconsulting.com Westside Boulevard Extension Site Osceola County, Florida Figure 3 USGS Topographic Map



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Project #: 625-96
Produced By: JDH
Date: 10/7/2022



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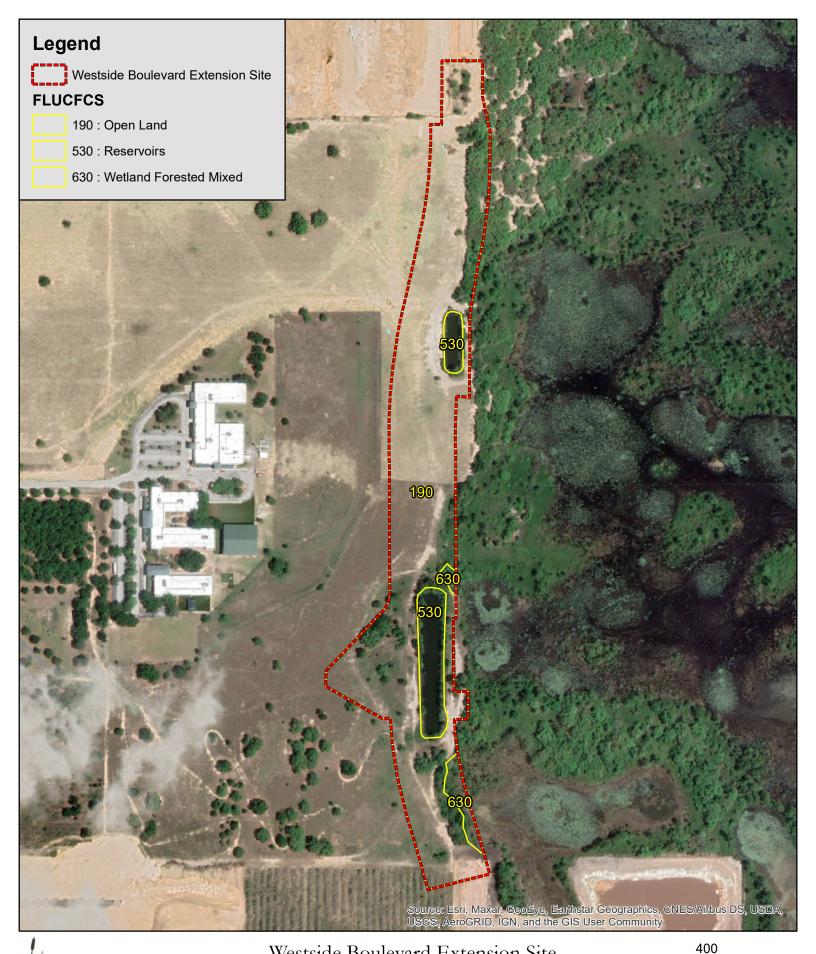
Westside Boulevard Extension Site Osceola County, Florida Figure 4 SSURGO Soils Map



500

Project #: 625-96 Produced By: JDH Date: 10/7/2022

∃Feet



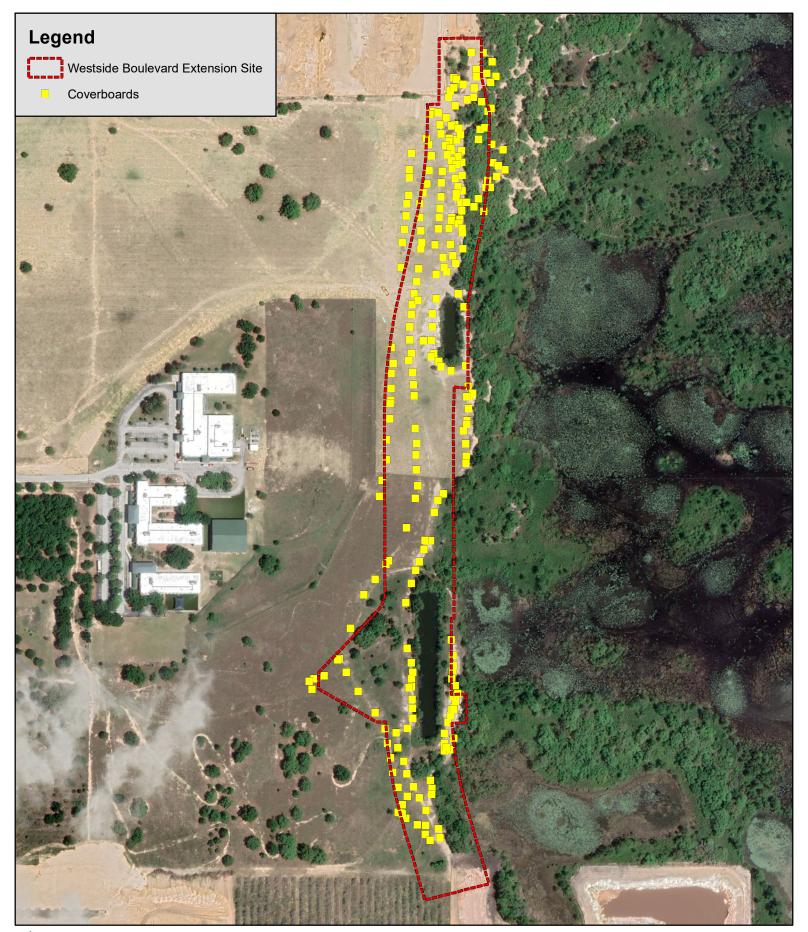


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Westside Boulevard Extension Site Osceola County, Florida Figure 5 FLUCFCS Map



Feet Project #: 625-96 Produced By: NTJ Date: 1/25/2023

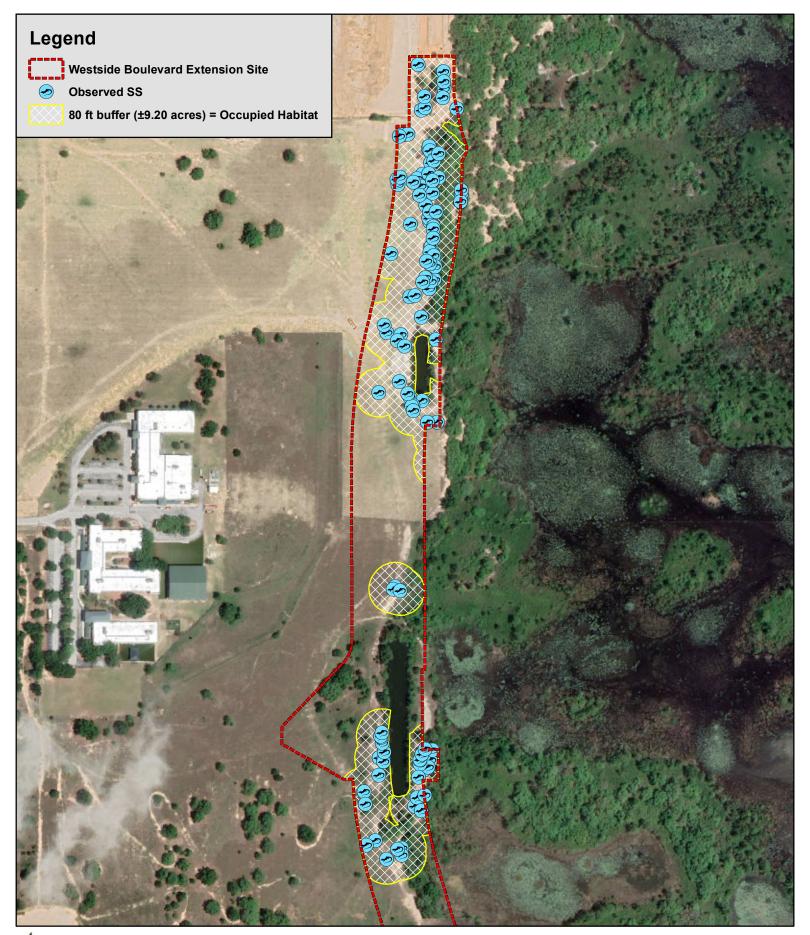


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Westside Boulevard Extension Site Osceola County, Florida Figure 6 Coverboard Survey Map



350 Feet Project #: 625-96 Produced By: ODH Date: 4/14/2023



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Westside Boulevard Extension Site Osceola County, Florida Figure 7 Sand Skink Updated Occupied Habitat



330
Feet
Project #: 625-96
Produced By: ODH

Date: 9/13/2023