

BKI, INC.

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July 11, 2017

Dan Winkler
Phoenix Park LLC
Commercial Building Corp.
P.O.Box 510247
Melbourne Beach, Florida 32951

Project: Phoenix Park, LLC
±15.6 acres (18.85 acres Brevard County Property Appraisers)
Section 20, Township 28 South, Range 38 East
Parcel ID #28-38-20-00-6, 28-38-20-00-5
Brevard County, Florida
BKI File No. 17010

Subject: Gopher Tortoise Survey

Dear Sirs:

B.K.I., Inc. Consulting Ecologists (BKI) has completed an updated gopher tortoise survey on the above-referenced site. This survey was conducted on July 5, 2017. The following is a discussion of our findings.

INTRODUCTION

This ±15.6 acre site is located in Section 20, Township 28 South, Range 38 East, Brevard County, Florida (*Figure 1*). The site is west of A1A in Melbourne Beach. This parcel's current land use is undeveloped and cleared. The site was an apartment community prior to the 2004 hurricane events. The site is adjacent to residential areas. There has been a large amount of disturbance from the parcel's historical conditions. The Brevard County Property Appraiser has a larger acreage for the site and the parcel boundaries seem slightly different than the early 90s survey that was supplied. The County GIS data indicates the parcel is 19.4 acres in size. For consistency the County's acreage will be used in the report.

**Mitigation/Conservation Bank Permitting * Land Management Plans * Environmental Assessments & Permitting
GIS/GPS Mapping * Wildlife Evaluations * Feasibility Studies * Wetland Assessments & Enhancements**

VEGETATIVE COMMUNITY

The land use according to St. Johns River Water Management District data is composed of several Land Use types including both uplands and wetlands (*Figure 2*). Codes describe what land uses are present onsite. Several land uses are indicated, especially on the periphery of the approximate site boundary, but may not actually be located on the parcel. **Table 1** includes a brief description and the approximate acreage of each land use type.

Table 1: Current land uses on the Light Findings parcel.

Code	Description	Acreage
4220	Brazilian Pepper	3.0
5340	Reservoir <10 acres	0.8
7400	Disturbed Land	15.6

There are three (3) land use types onsite. There is Brazilian pepper (4220 – 3.0 acres), cleared, disturbed land (7400 – 15.6 acres), and several stormwater ponds (5340 – 0.8 acres). Elevations onsite range from 2-16 feet NAVD. The tortoise burrows occur above the 10' elevation contour. A map of the available LIDAR elevation data is included as *Figure 3*.

SOILS

There are three (3) soil types found onsite (*Figure 4*). Many of the soil types feature substantial depth to the water table.

Palm Beach Sand (42) – (4.4 acres) is a nearly flat, excessively drained soil. The depth to the water table is typically more than 80 inches. This is not considered a hydric soil.

Pomello Sand (49) – (2.2 acres) is a nearly flat, moderately well drained soil. The depth to the water table is typically 24 to 42 inches. This is not considered a hydric soil.

Welaka Sand (72) – (12.8 acres) is a well-drained soil. The depth to the water table is greater than 80 inches. This is not considered a hydric soil.

Much of the site includes soils that can be suitable habitat for gopher tortoises.

GOPHER TORTOISE

Gopher tortoises are listed by Florida Fish and Wildlife Conservation Commission (FWC) as a Threatened species. FWC regulates the species (through Chapter 68A-27 FAC).

Suitable gopher tortoise habitat typically includes the following three (3) factors: well-drained loose soil in which to burrow, adequate low-growing herbs for food, and open sunlit sites for nesting. Frequently gopher tortoises will utilize rural or disturbed lands for nesting and foraging.

DESCRIPTION OF SURVEY METHODOLOGY

- Pedestrian surveys were conducted throughout the entire site (19+ acres). The entire parcel area was surveyed for the presence of gopher tortoise burrows. This survey was done to encompass all of the available habitat in which tortoises could reside onsite.
- The undeveloped land provides adequate tortoise habitat. Evidence of tortoise usage was observed and noted by all of the following indicators: active tortoise burrows, tortoise scat, and critter trails in and around the ground cover.

SURVEY RESULTS

As a result of the survey, 12 adult gopher tortoise burrows were identified within the parcel (*Figure 5*). These burrows were described as potentially active. Pink flags were placed above each burrow. The majority of the burrows were located within disturbed habitats including the large spoil piles located onsite. Additionally, two juvenile burrows were documented.

According to FWC regulations and calculations, the 12 burrows can represent that there are approximately 6 adult tortoises located onsite. The effective density of gopher tortoises on the parcel is slightly less than 1 gopher tortoise per acre according to FWC regulations.

FWC regulations require that *no taking* of gopher tortoises is allowed. All gopher tortoises must be relocated from potential development areas. If burrows remain *25 feet or farther* from the clearing or construction area, no permit is required. There cannot be any disturbance, clearing, or construction within 25 feet of any burrows. If burrows are going to be impacted, the tortoises must be relocated. GPS points were collected with a handheld unit.

Tortoise burrows within any potential clearing or construction area will have to be relocated.

A FWC Conservation Permit will need to be obtained for the site. Tortoises will be relocated to a long-term recipient site. The approximate cost of the FWC permit will be \$521. Additionally, approved recipient sites charge between \$700-800 per tortoise. It is estimated the total costs for relocation and permit fees will approximately \$7,500.

A survey is considered current for 90 days. The current survey will be valid through October 5, 2017.

If there are any questions or comments regarding the information included within this report, please feel free to contact me at (321) 952-7964 or via email at chrisharden@cfl.rr.com.

Sincerely,



Chris Harnden
Project Manager/ Ecologist

Attachments:

Figure 1 - Vicinity / Aerial View Map

Figure 2 - Land Use Map

Figure 3 - LIDAR Elevation Map

Figure 4 - NRCS Soils Survey Map

Figure 5 - Gopher Tortoise Burrow Location Map

Appendix A - GPS Burrow Locations



BK1, Consulting Ecologists
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Subject: Location Map
Project: 17010 Pheonix Park
Date: 07/05/17
Note: Aerial is the 2015 high resolution image

Figure
1



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Figure
 2

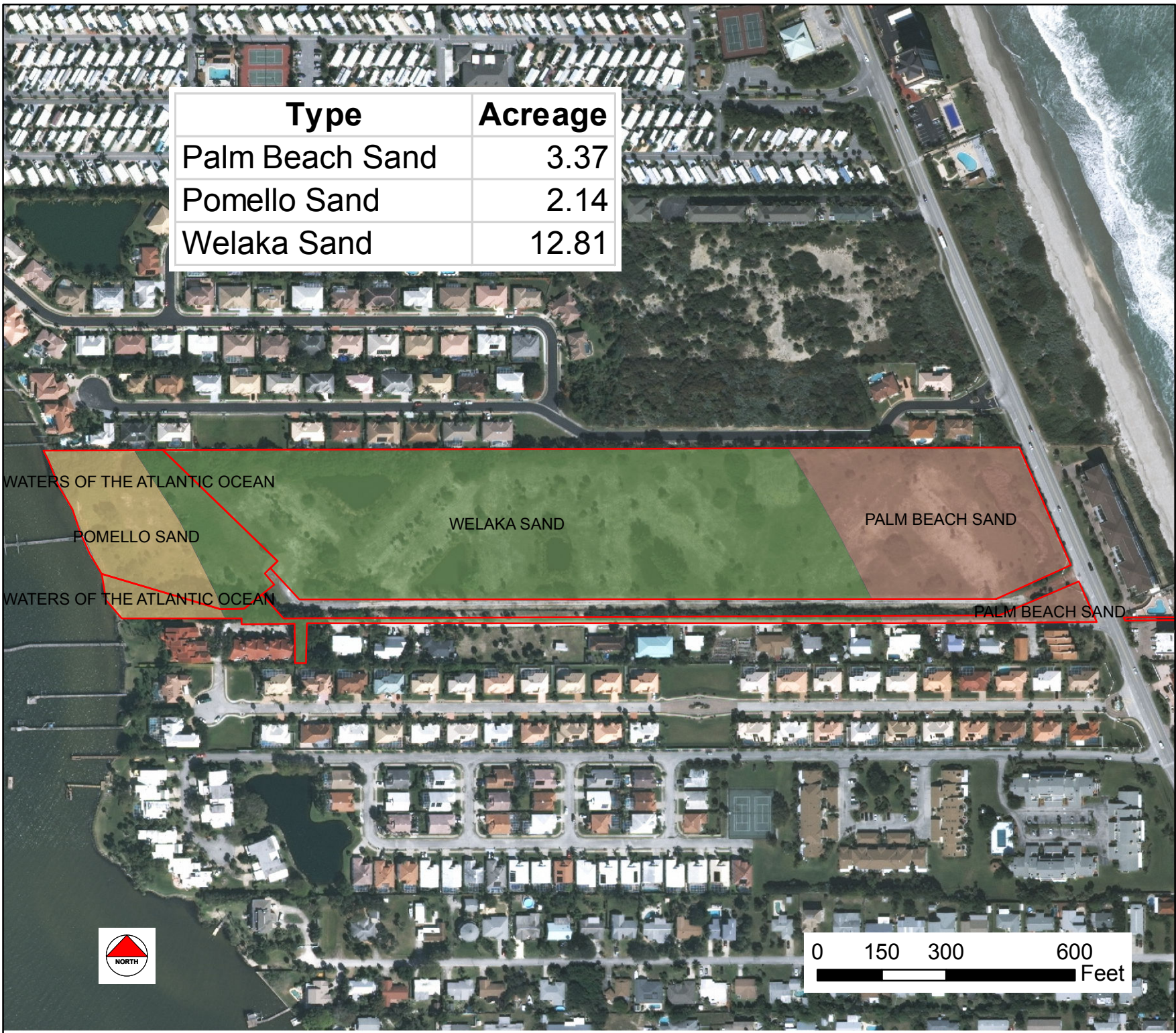


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Project: 17010 Pheonix Park
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Figure
3

Type	Acreage
Palm Beach Sand	3.37
Pomello Sand	2.14
Welaka Sand	12.81



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Figure
 4



BKI, Consulting Ecologists
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Subject: GT Burrow Location Map
 Project: 17010 Pheonix Park
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Figure
 5

Appendix A
GPS Burrow Locations

Name	Lat	Long
GT1	28.0363930	-80.5437010
GT2	28.0358670	-80.5438560
GT3	28.0365080	-80.5442310
GT4j	28.0365120	-80.5442520
GT5	28.0364920	-80.5442970
GT6	28.0364880	-80.5443660
GT7j	28.0363060	-80.5444300
GT8	28.0359240	-80.5440030
GT9	28.0357580	-80.5440610
GT10	28.0357440	-80.5442670
GT11	28.0357560	-80.5444290
GT12	28.0357710	-80.5445750
GT13	28.0365430	-80.5445800
GT14	28.0364310	-80.5452800