



ENGINEERING  
ENVIRONMENTAL  
ECOLOGICAL

December 4, 2020

Mr. Guy Urgo

[REDACTED]

**Subject: Ecological Due Diligence Assessment Report  
5510 and 5515 Surf Road  
Hollywood, Broward County, Florida  
E Sciences Project Number 2-1329-001**

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E Sciences, Incorporated (E Sciences) is pleased to submit this report summarizing our ecological due diligence assessment for the ±0.15-acre property located at 5510 and 5515 Surf Road in Hollywood, Broward County, Florida (see **Attachment 1 – Location Map**). The assessment was prepared in accordance with our proposal number 2-1329-P01 dated October 2, 2020.

#### **Background Information**

The property owner wishes to understand limitations on the use of the two subject parcels of land located on Hollywood Beach at the above-referenced addresses. A Florida Department of Environmental Protection (FDEP) Coastal Construction Control Line (CCCL) permit will be required for construction, as the site falls seaward of the CCCL (see **Attachment 1**). E Sciences was authorized to identify and map regulated resources (e.g. protected dune vegetation) and review FDEP and City of Hollywood (City) regulatory constraints on development resulting from the presence of protected dune vegetation.

While this evaluation was limited to a review of site development limitations related to dune vegetation growth and associated sand accretion, it should be noted that there are other site development limitations that would be imposed by the City, FDEP and other permitting entities.

## Assessment Methods

### *Desktop Review*

E Sciences conducted a desktop review of historical aerial photography from 2004 until the present to evaluate the trend of dune vegetation growth within the site over time (see **Attachment 2 – Historical Vegetation Map**). The present extent of vegetation was mapped in the field as described below.

### *Field Review*

E Sciences visited the subject site on November 20, 2020 to evaluate the current extent of protected dune vegetation. The physical extent of protected dune vegetation as defined by FDEP was delineated using a handheld Trimble GPS unit with decimeter accuracy. Visual estimates of differences in ground elevations between the vegetated vs. non-vegetated areas were also recorded.

## Findings

Two vegetative communities were identified within the site: native, herbaceous dune vegetation and native woody/shrub dune vegetation (see **Attachment 3 – Existing Vegetation Map**). The herbaceous community ( $\pm 0.06$  acres) consisted of species including sea oats (*Uniola paniculata*), railroad vine (*Ipomoea pes-caprae*), beach dune sunflower (*Helianthus debilis*), St. Augustine grass (*Stenotaphrum secundatum*), and beach elder (*Iva imbricata*). In addition to herbaceous species, one cabbage palm tree (*Sabal palmetto*) and three Australian pine (*Casuarina equisetifolia*) seedlings were observed within the herbaceous vegetative community. The shrub community ( $\pm 0.02$  acres) consisted of sea grape (*Coccoloba uvifera*) shrubs, with a small number of coconut palm (*Cocos nucifera*) trees also present (see **Photolog – Attachment 4**).

The majority (over 90% relative abundance) of species present in both vegetative communities consisted of desirable, native species that constitute protected dune vegetation per FDEP guidelines. Non-native or non-native/invasive species (i.e. non-protected species) were present in relatively low abundance (less than 10%), consisting of St. Augustine grass, coconut palm, Australian pine.

Ground elevations in both vegetative communities appeared to be one to five feet higher in elevation than the non-vegetated areas in the waterward direction; this may be indicative of sand accretion (i.e. dune formation) due to the presence of the vegetation.

## **Permitting Requirements**

Permitting through FDEP would require the implementation of design measures to avoid and minimize impacts to both native vegetation and the accreted sand (i.e. dunes) upon which the vegetation is growing, when the dunes are located east of the CCCL (as is the case with this site).

Since the buildable portion of the site consists almost entirely of native vegetation, site development would result in unavoidable impacts to the vegetated dune areas; these impacts will be subject to FDEP permitting regulations. FDEP typically requires that dune mitigation be performed on-site if space is available. However, since open spaces are not available to create vegetated dune areas, mitigation options would be limited to off-site dune restoration/plantings. Coordination with FDEP will be required to identify a potential off-site dune restoration area that may serve as mitigation for unavoidable on-site impacts. It is recommended that a pre-application meeting be scheduled with FDEP to discuss potential mitigation options.

E Sciences reviewed the City's Code of Ordinances, to identify development constraints associated with the dune vegetation and subsequent sediment trapping and dune accretion. The City code did not outline development constraints associated with dune vegetation or sand accretion. In addition E Sciences contacted the City's zoning department on December 3, 2020 to clarify that the City does not regulate dune/dune vegetation impacts and that they defer to FDEP regarding impacts to those resources.

## **Summary**

E Sciences verified the presence of  $\pm 0.08$  acres of protected herbaceous and woody/shrub vegetation with the subject site. The vegetated areas also appeared to be one to five feet higher in elevation when compared to adjacent non-vegetated areas. The presence of the vegetation appears to have resulted in the accretion of sand, or the formation of "sand dunes".

Through the process of permitting through FDEP, site plan design measures must be implemented to avoid and minimize impacts to vegetated dune areas. As on-site mitigation options are not available, coordination with FDEP will be required to identify viable options for off-site dune restoration to mitigate for on-site impacts.

Please note that the vegetative survey represents conditions encountered at the time of the survey. The potential exists for native dune vegetation to colonize previously unoccupied sandy areas within this project site between now and the time of permitting.

We appreciate the opportunity to provide you with this Ecological Due Diligence Assessment Report. If you have any questions concerning this report, please contact us at (954) 484-8500.

Sincerely,  
**E SCIENCES, INCORPORATED**



Brian Voelker  
Senior Scientist



Justin Freedman  
Associate

Attachments:

1. Location Map
2. Historical Vegetation Map
3. Existing Vegetation Map
4. Photolog

# Attachment 1

## Location Map



# Attachment 2

## Historical Vegetation Map



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PROJECT NUMBER: 2-1329-001

## Ecological Due Diligence Assessment

5510 and 5515 Surf Road  
Hollywood, Broward County, Florida

Historical Vegetation Map

SCALE: 1" = 20' DATE: 12/3/2020

FIGURE  
2

# Attachment 3

## Existing Vegetation Map



## Ecological Due Diligence Assessment

5510 and 5515 Surf Road  
Hollywood, Broward County, Florida

Existing Vegetation Map

SCALE: 1" = 20' DATE: 12/3/2020

FIGURE  
**3**

# Attachment 4

## Photolog

PHOTO DOCUMENTATION LOG



**Photo 1**

Overview of herbaceous and woody/shrub vegetative communities within the site, facing west. Note the increase in elevation within the vegetated areas relative to the non-vegetated areas in the foreground of the photo.



**Photo 2**

Overview of the herbaceous vegetative community within the site, facing north. Note the presence of native species such as sea oats (*Uniola paniculata*), railroad vine (*Ipomoea pes-caprae*), beach dune sunflower (*Helianthus debilis*), and beach elder (*Iva imbricata*).

PHOTO DOCUMENTATION LOG



**Photo 3**

Overview of shrub area along the west edge of the site, facing west. Note the presence of sea grape (*Coccoloba uvifera*) and coconut palm (*Cocos nucifera*).



**Photo 4**

Overview of the east edge of the herbaceous vegetative community, facing south. Note rise in elevation approaching the dune vegetation (approximately one to five feet).