

## Environmental Baseline Survey

# Albany West



### Submitted to:

The Bahamas Environment, Science & Technology (BEST) Commission  
Charlotte House, Charlotte & Shirley Streets, Nassau, The Bahamas.

### Submitted by:

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### On behalf of:

Albany Bahamas  
New Providence, The Bahamas

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## 1. EXECUTIVE SUMMARY

The objective of this EBS is to provide an accurate assessment of the potential environmental impacts of the proposed Phase 1 development of Albany West in Adelaide, New Providence. Baseline studies were conducted by CCS to support the preparation of the EBS in accordance with standards set by The Bahamas Environment Science and Technology (BEST) Commission. Mitigation measures for potentially adverse environmental impacts during the construction phase of the Project have been discussed to ensure that the development adheres to the best environmental practices.

The project site totals 16 acres of land located along South West Bay Road and South Ocean Boulevard in the Western district on the island of New Providence. The site is inclusive of the former South Ocean Resort and Casino and the Stuarts Cove Dive Shop. Phase 1A of the project entails the demolition of all infrastructure within the South Ocean waterfront property, inclusive of all above and below ground infrastructure on the property, minus the sea wall and necessary below ground utilities along South West Bay road (WSC water mains and BPL fuel lines). The realignment of South West Bay road is also proposed for Phase 1A of the project, and will entail the redirecting the current road alignment into the disturbed forests north of its current location. Phase 1B of the Albany West project entails the demolition of remaining infrastructure at the evacuated Stuart Cove site and adjacent lot, and the construction of condo units, club house and pool. This phase will also include the reclamation of the approximately 0.7 acre marina, and is estimated to utilize approximately 17,347 cu yards of uncompacted fill (~ compacted volume 30,000 cu yards). A golf cart path will be constructed to provide access from the current Albany west gate to the newly developed Albany West residential area and condos.

Prior to demolition activities for Phase 1 development, an Environmental Site Assessment identified potential environmental releases at the Stuart Cove' maintenance areas and boatyard. The hydrocarbon spill was remediated and a new containment area constructed since the ESA was conducted. Suspected Asbestos Containing Materials (ACM) and Lead in paint samples were collected from the South Ocean waterfront site on March 13, 2020, and returned results confirming the absence of these hazardous materials from the South Ocean site.

Project activities inclusive to the Albany West Phase 1 demolition and construction will overall have some temporary and short term negative impacts with relation to noise & dust generation, impacts to the physical environment and traffic in the local areas surrounding the Project site. The long term beneficial impacts related to the local and regional socioeconomics, aesthetics, fire hazards and invasive species management will outweigh the potential negative impacts of this project.

Recommendations to limit negative impacts to the surrounding environment including use of a turbidity screen and turbidity monitoring during the marina reclamation exercise, watering the site to limit dust propagation off site, the use of natural buffers to limit impacts to ambient noise levels, the complete removal of invasive plant species of the site to limit further spread and the use of public communication means to lessen the negative impacts of the project on neighboring residents to the project site. Full details of the Project's mitigation strategies for potential environmental impacts will be outlined in the Albany West Phase 1 Environmental Management Plan (EMP).

## 2. INTRODUCTION AND OBJECTIVES

### 2.1 Introduction

Caribbean Coastal Services Limited (CCS) was engaged by Albany Bahamas to provide an Environmental Baseline Survey (EBS) for Phase 1 of the proposed Albany West residential development on the island of New Providence, in Commonwealth of The Bahamas. Baseline studies were conducted by CCS to support the preparation of the EBS in accordance with standards set by The Bahamas Environment Science and Technology (BEST) Commission.

### 2.2 Objective of the Environmental Baseline Survey (EBS)

The objective of this EBS is to provide an accurate assessment of the potential environmental impacts of the proposed Phase 1 development of Albany West in Adelaide, New Providence (hereinafter referred to as the "Project"). For the purposes of this EBS, the assessment of the Adelaide environment is inclusive of biological, physical and socio-economic resources, as well as the processes that have the potential to be directly and/or indirectly impacted by the proposed Project. Mitigation measures for potentially adverse environmental impacts during the construction phase of the Project will be discussed to ensure that the development adheres to the best environmental practices. The evaluation of potential impacts on environmental resources is a critical step in the environmental compliance process in The Bahamas, as well as successful project planning and execution. An Environmental Management Plan (EMP) will be produced upon the approval of the EBS, to outline mitigation measures for the prevention and/or minimization of environmental impacts during the developmental and operational phases of the Project.

### 2.3 Scope of the EBS

The scope of this EBS covers the biological and physical footprint of the Project's site at Adelaide inclusive of the former South Ocean Resort and Casino and Stuart Cove's. Potential impacts associated with the proposed development and mitigation strategies to avoid or lessen such influences within and surrounding the Project area are limited to Phase 1 project activities.

## 3. GEOGRAPHIC SETTING

### 3.1 Location of Site

The Albany West site (25° 0'21.13"N, 77°31'23.43"W) is located in the South-Western district of the island of New Providence in the Central Bahamas. The project site is immediately west of the current Albany location, and immediately east of the Clifton Pier industrial areas, inclusive of Commonwealth Brewery and BPL Clifton Power Station.



Figure 1. Relative location of Nassau in the Bahamas Archipelago

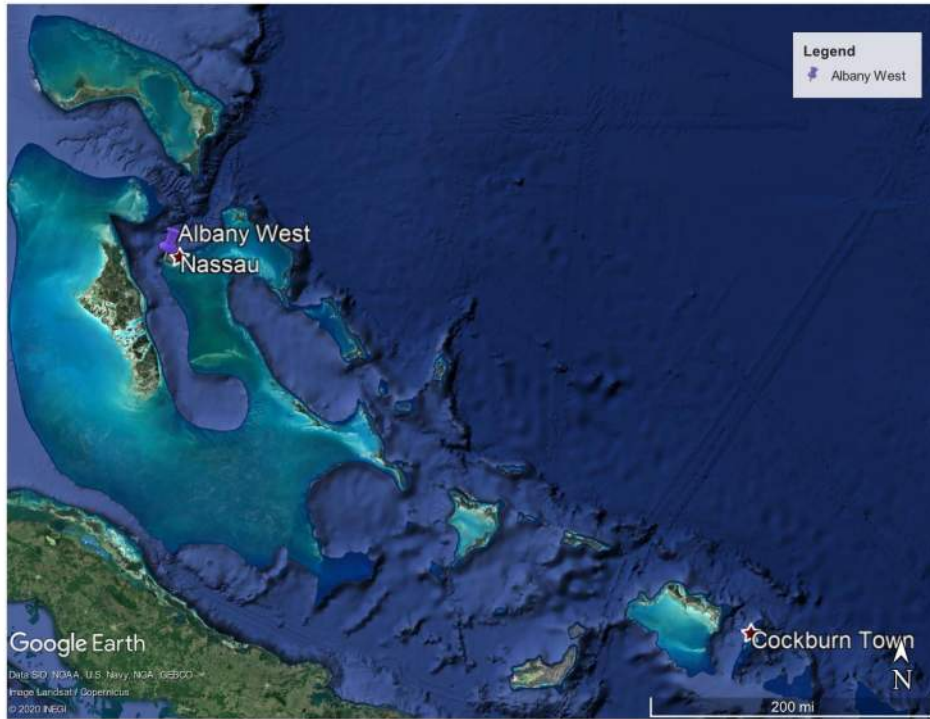
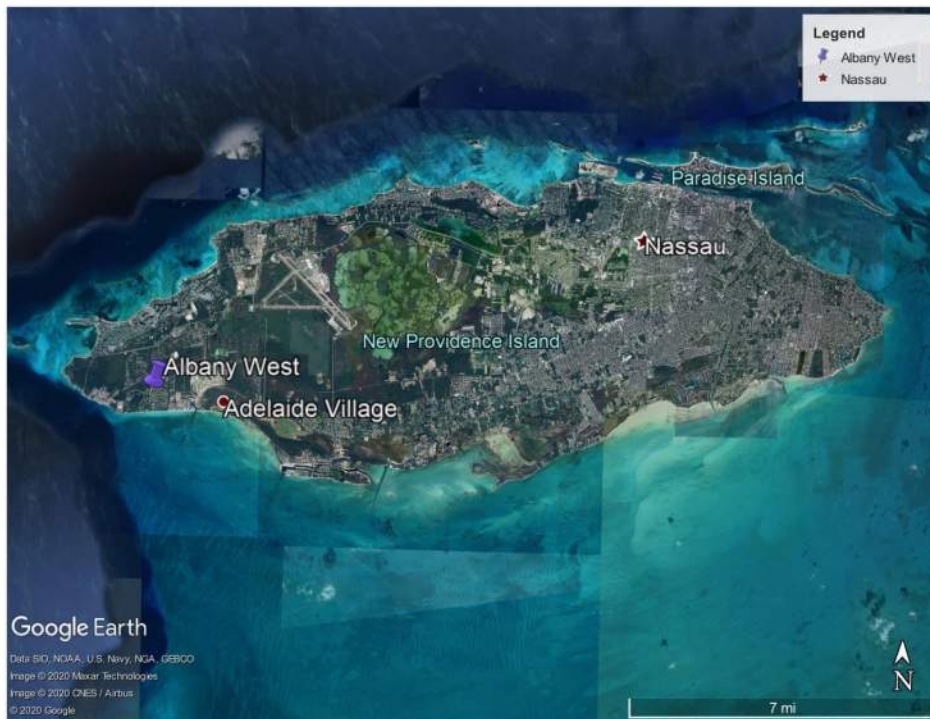


Figure 2. Relative location of Albany West on the island of New Providence



### 3.2 Site Description

The project site totals approximately 16 acres of land located along South West Bay Road and South Ocean Boulevard in the Western district on the island of New Providence. The site is inclusive of the former South Ocean Resort and Casino, the Stuarts Cove Dive Shop and vacant land north of South West Bay Road.

On the South Ocean property are derelict remains of the Resort's infrastructure, including six great houses along the sandy coastline used as accommodations for guests. Additional infrastructure remaining on the property include the welcoming courtyard with water fountain, concierge offices, paved roads and pathways, the pool, kitchen, poolside bar and restrooms.

All infrastructure on the South Ocean property is in great disrepair, showing signs of severe deterioration and structural damage. Collapsed ceilings, cracked floors and stairwells, peeling paint and rotted wood are evident throughout the former resort site. Utility houses, hotel rooms, bathrooms and kitchen areas on the property have been stripped of major operational equipment, furniture, fixtures and appliances.

Evidence of rodent infestation and termites are readily seen throughout the Great Houses. Areas once landscaped have become overgrown with weeds and exotic invasive plant species. The pool contains standing water littered with organic and inorganic debris, and is overgrown with algae. The coastal areas of the Resort is buffered with a seawall which is in good condition relative to the remainder of the property. Continued coastal erosion of the southern coastline has reduced the beach width along the property, with some coastal infrastructure now below the high tide mark.

Figure 3. Albany West Phase 1 footprint

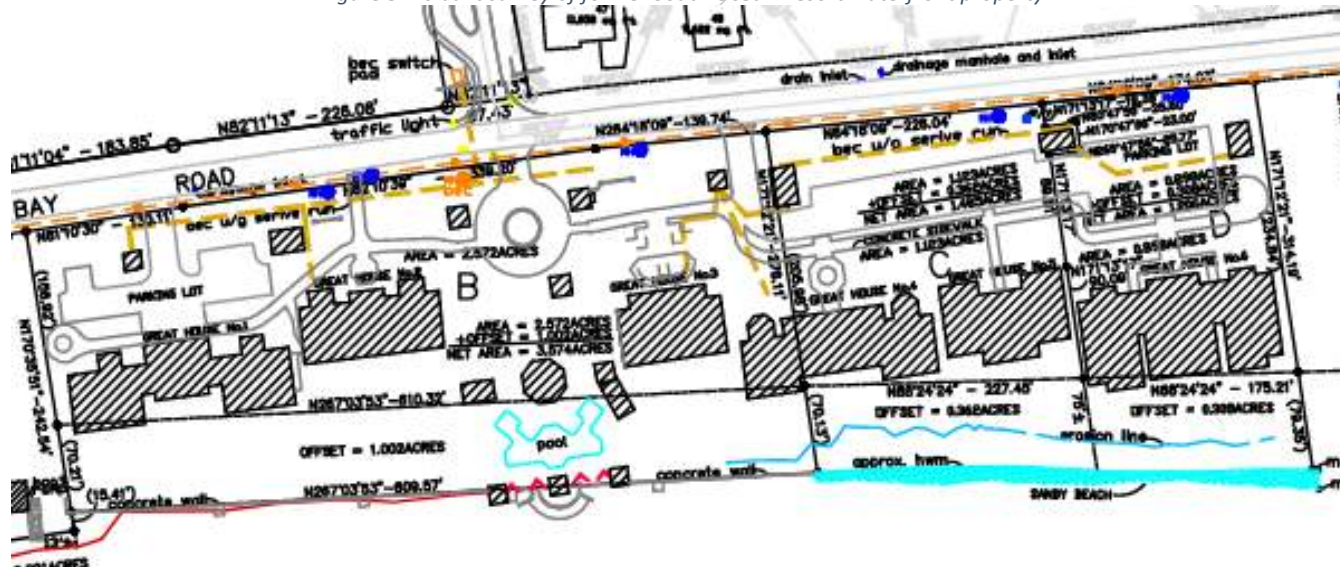




Figure 4. Site features at former South Ocean Resort waterfront property



Figure 5. As built survey of former South Ocean Resort waterfront property





*Figure 6. Water fountain within center courtyard at former South Ocean Resort*



*Figure 7. Exterior of pool kitchen at former South Ocean Resort*



*Figure 8. Interior of pool kitchen at former South Ocean Resort*



*Figure 9. Interior of pool kitchen at former South Ocean Resort*





Figure 10. Pool with stagnant water at the former South Ocean Resort



Figure 11. Upstairs interior of pool kitchen



Figure 12. Exterior of welcome kiosk at center courtyard



Figure 13. Interior of welcome kiosk at center courtyard





Figure 14. Southern shoreline along former South Ocean Resort waterfront property (facing east)



Figure 15. Southern shoreline along former South Ocean Resort waterfront property (facing west)





*Figure 16. Coastal infrastructure impacted by coastal erosion and sedimentation*



*Figure 17. Existing seawall in good condition along the southern shoreline of property*



To the west of the former South Ocean Resort is an approximately 2 acre lot with no current viable infrastructure or activity. The area was formally known as a fishing village for the area, and remnants of



a small boat ramp and wood structure remains on the site. The area is predominantly overgrown by invasive weedy vegetation.

*Figure 18. Weedy vegetation overgrowing vacant lot between for South Ocean waterfront property and Stuart Cove's*



*Figure 19. Property boundary between vacant lot and Stuart Cove's facility*



Immediately adjacent to the Fishing Village lot is the Stuart Cove's Dive Bahamas marina. The facility is world renowned for its scuba and shark diving tours, and has been a major tourist attraction to the immediate area near to the Albany West project site. The marina is equipped with 8 vessels used for transporting various tour groups to sites around New Providence. On site are the administrative offices building, welcome center and training area, small boutique shop, kitchen, restrooms and showers, and the operational, storage and maintenance areas.

Figure 20. Satellite image of Stuart Cove's facility



Figure 21. As built survey of Stuart Cove's facility

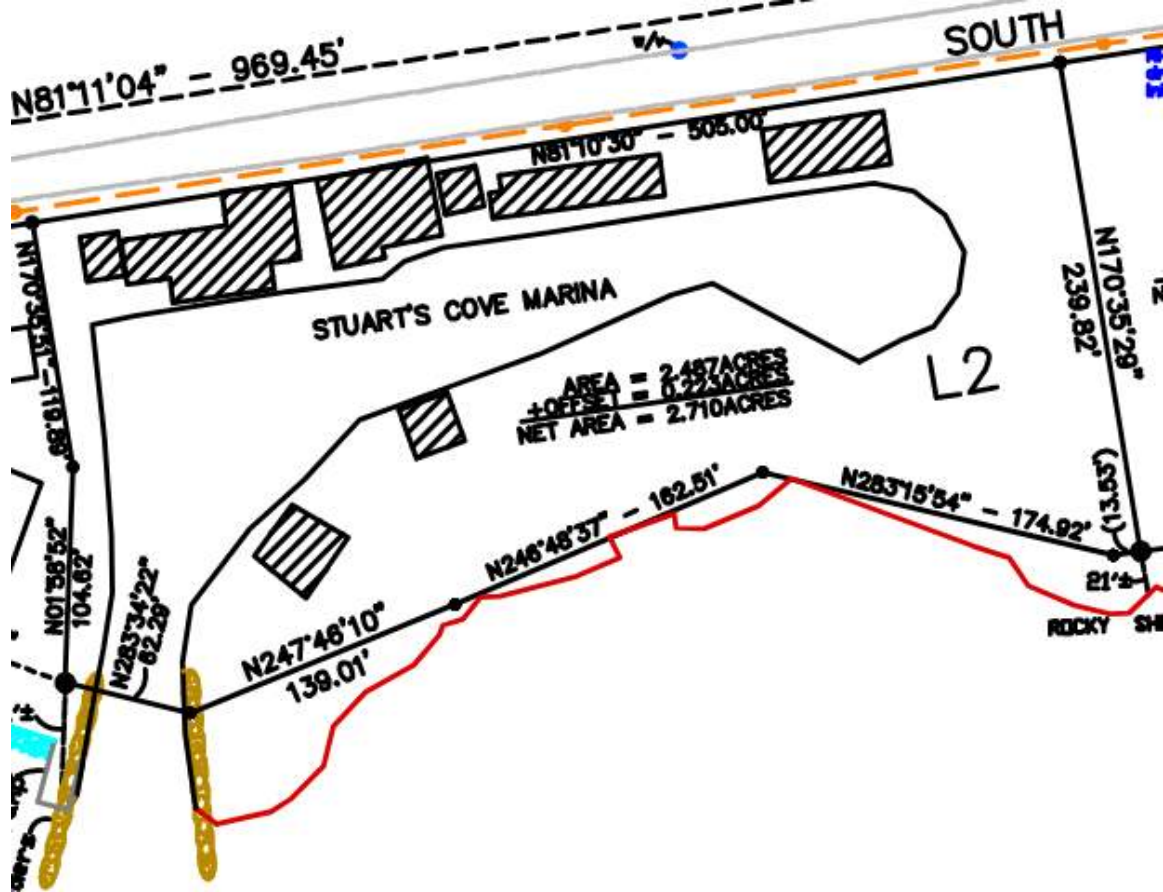




Figure 22 (a-c). Exterior features of Stuart Cove's facility





### 3.3 Areas of Influence

The immediate areas surrounding the project site are inclusive of the current Albany development, the South Ocean Estates residential community, and the Royal Estates condominiums west of Stuart Cove's. Other areas of influence include the residential (Adelaide, Lyford Cay, Mount Pleasant Village) recreational (Clifton Heritage Park, Jaws Beach, public beaches along SW coast, Primeval Forest) and industrial areas (BPL Clifton Pier Power Station, Commonwealth Brewery, Fuel companies) of South West New Providence.

## 4. BIOLOGICAL ASSESSMENT

### 4.1 Vegetation Habitats and Species

Floral surveys of the study site were conducted to include areas to be directly impacted by project activities during construction and operations. Walking releve surveys were conducted to generate comprehensive botanical lists for the sites and to delineate terrestrial habitat and their transition zones, assess the structure, composition and diversity of habitats within these areas.

#### Disturbed Forest

Undeveloped areas of the project site may have been impacted by land clearing activities on multiple occasions in the recent past. Land clearing removes the natural biodiversity resident in these areas, replacing them with more opportunistic, weedy and invasive species of plants. Although the forest may appear to recover its canopy and understory, the species composition of disturbed forests differ from naturally occurring old growth forests.

Previously cleared areas of forest on the property are dominated by species such as *Haematoxylum campechianum*, *Bursera simaruba*, *Leuceana leucocephala*, *Cassytha filiformis*, *Pisonia aculeata*, *Delonix regia*, *Jasminum fluminense* (invasive), *Casuarina equisetifolia* (invasive), *Schinus terebinthifolius* (invasive) and *Merremia tuberosa* (invasive).

Figure 23. Disturbed forest with Haul-back shrub prevalent



Figure 24. Disturbed vegetation overgrown by *Jasminum fluminense*



Figure 25. Disturbed forest exhibiting dieback and defoliation





## Landscaped/Overgrown Areas

The immediate areas surrounding the fairways, buildings, parking areas and golf carts paths constitute disturbed areas which were once landscaped and maintained when the Blue Shark Golf Course and South Ocean Resort were open and functional. Since closure of both facilities, these areas have become overgrown with weedy species, including exotic invasive species also found in disturbed forested areas on the property. Dominant invasive species groundcover occupying paved and previously landscaped areas of the South Ocean waterfront lot include *Wedelia trilobata*, *Jasminum fluminense*, *Schinus terebinthifolius*, *Scaveola taccada* and *Casuarina equisetifolia*.

Figure 26. Landscaped area overgrown by *Jasminum* and *Schinus*



Figure 27. Landscaped areas outside former South Ocean Hotel on golf course with overgrown weedy vegetation





Figure 28. Landscaped areas at former South Ocean Resort waterfront property overgrown with weedy and invasive species





## Coastal Shrub land

The southern coastal areas of the property transition from a rocky shoreline habitat towards the west to a sandy beach habitat towards the east. The rocky shoreline is devoid of a sandy dune, and vegetation found in this area are hardy and salt tolerant. Species observed in this habitat include *Coccoloba uvifera*, *Sesuvium portulacastrum*, *Mallotonia gnaphalodes* and *Casuarina equisetifolia*.

The sandier beach habitat along the eastern portions of the shoreline have been disturbed through human activity and weather events, and have lost its natural diversity of dune species atop and behind the dune crest. Dominating the sandy habitats seaward of the Great Houses include *Casuarina equisetifolia* (invasive), *Scaevola taccada* (invasive), *Coccoloba diversifolia* and *Sesuvium portulacastrum*.

Figure 29 (a-b). Coastal shrub land dominated by invasive species along southern shoreline of former South Ocean property





Figure 30. Sea purslane growing in coastal habitat along southern shore of former South Ocean Resort



**Albany West Floral Species List**

<b><u>Family</u></b>	<b><u>Genus</u></b>	<b><u>Species</u></b>	<b><u>Notes</u></b>
<b>Arecaceae</b>	Cocos	nucifera	exotic
<b>Fabaceae</b>	Desmanthus	virgatus	exotic
<b>Rhamnaceae</b>	Ziziphus	mauritiana	exotic
<b>Sapotaceae</b>	Manilkara	zapota	exotic
<b>Fabaceae</b>	Albizia	lebbeck	exotic, invasive
<b>Casuarinaceae</b>	Casuarina	equisetifolia	exotic, invasive
<b>Nyctaginaceae</b>	Jasminum	fluminense	exotic, invasive
<b>Goodeniaceae</b>	Scaevola	taccada	exotic, invasive
<b>Anacardiaceae</b>	Schinus	terebinthifolius	exotic, invasive
<b>Asteraceae</b>	Wedelia	trilobata	exotic, invasive
<b>Orchidaceae</b>	Oeceoclades	maculata	exotic, invasive
<b>Nyctaginaceae</b>	Bougainvillea	sp.	exotic, landscape
<b>Arecaceae</b>	Caryota	mitis	exotic, landscape
<b>Rubiaceae</b>	Ixora	coccinea	exotic, landscape
<b>Apocynaceae</b>	Nerium	oleandar	exotic, landscape
<b>Arecaceae</b>	Phoenix	dactylifera	exotic, landscape
<b>Apocynaceae</b>	Plumeria	sp	exotic, landscape
<b>Arecaceae</b>	Ptychosperma	elegans	exotic, landscape

<b>Areaceae</b>	Roystonea	regia	exotic, landscape
<b>Areaceae</b>	Syagrus	romanzoffiana	exotic, landscape
<b>Bignoniaceae</b>	Tabebuia	heterophylla	exotic, landscape
<b>Poaceae</b>	Zoysia	sp.	exotic, landscape
<b>Araceae</b>	Syngonium	podophyllum	exotic, landscape
<b>Malvaceae</b>	Bauhinia	variegata	exotic, landscape
<b>Zamiaceae</b>	Zamia	furfuraceae	exotic, landscape
<b>Fabaceae</b>	Delonix	regia	exotic, landscape
<b>Araliaceae</b>	Schefflera	arboricola	exotic, landscape
<b>Malvaceae</b>	Thespesia	populnea	exotic, landscape
<b>Asteraceae</b>	Bidens	alba	native
<b>Combretaceae</b>	Bucida	buceras	native
<b>Burseraceae</b>	Bursera	simaruba	native
<b>Fabaceae</b>	Canavalia	rosea	native
<b>Poaceae</b>	Cenchrus	incertus	native
<b>Chysobalanaceae</b>	Chysobalanus	icaco	native
<b>Polygonaceae</b>	Coccoloba	uvifera	native
<b>Combretaceae</b>	Conocarpus	erectus	native
<b>Moraceae</b>	Ficus	citrifolia	native
<b>Nyctaginaceae</b>	Guapira	obtusata	native
<b>Asteraceae</b>	Gundlachia	corymbosa	native
<b>Convolvulaceae</b>	Ipomoea	violacea	native
<b>Convolvulaceae</b>	Ipomoea	pes caprae	native
<b>Fabaceae</b>	Leucaena	leucocephala	native
<b>Fabaceae</b>	Mucuna	pruriens	native
<b>Aizoaceae</b>	Sesuvium	portulacastrum	native
<b>Surianaceae</b>	Suriana	maritima	native
<b>Polygonaceae</b>	Coccoloba	diversifolia	native
<b>Nyctaginaceae</b>	Pisonia	aculeata	native
<b>Vitaceae</b>	Cissus	tuberculata	native
<b>Areaceae</b>	Sabal	palmetto	native, landscape
<b>Malvaceae</b>	Ceiba	pentandra	native, protected
<b>Meliaceae</b>	Swietenia	mahagoni	native, protected



Figure 31. Invasive *Schinus terebinthifolius*



Figure 32. Invasive *Casuarina equisetifolia* and *Scaevola taccada* dominating coastal habitat.





Figure 33. Invasive ground cover *Wedelia trilobata*



#### 4.2 Avian Species List

The methodology employed the use of Transect and Point Count Surveys to assess the status of the avian diversity and population abundance. The South Ocean beachfront transect (Transect 6), included 6 Point counts to evaluation closely the behavior and trends of avian wildlife on site, and to highlight any indicators of breeding or nesting activities. At the beginning of the transect, the start time is recorded on the transect datasheet along with the Initial point count ID, name of Observer(s) and weather parameters such as temperature and cloud cover. Once commencement of a transect survey begins, all birds seen and heard were identified and recorded in the format of bird name abbreviations and tally numbers. A tally of vehicles on land and air were recorded if heard or seen in the vicinity of the area the transect survey was being conducted. The same was done for human traffic and domesticated animals. This was to account for any source of error that could interfere with accurate bird records due to difficulty hearing or seeing birds.

#### Albany West Phase 1 Avian Species List

Species			Type (Endemic, Resident, Migrant; Rare, Common, etc.)
	Common Name	Scientific Name	
1	American Kestrel	<i>Falco sparverius</i>	Common Resident
2	Bahama Mockingbird	<i>Mimus gundlachii</i>	Common Resident
3	Bahama Woodstar	<i>Calliphlox evelynae</i>	Endemic; Common
4	Bahama Yellowthroat	<i>Geothlypis rostrata</i>	Rare Endemic to New Providence

5	Bananaquit	<i>Coereba flaveola</i>	Common Resident
6	Common Ground Dove	<i>Columbina passerina</i>	Common Resident
7	Gray Catbird	<i>Dumetella carolinensis</i>	Common Winter Migrant
8	Green Heron	<i>Butorides virescens</i>	Common Resident
9	House Sparrow	<i>Passer domesticus</i>	Very Common; Introduced
10	Killdeer	<i>Charadrius vociferus</i>	Common Resident
11	La Sagra's Flycatcher	<i>Myiarchus sagrae</i>	Common Resident
12	Loggerhead Kingbird	<i>Tyrannus caudifasciatus</i>	Common Resident
13	Northern Mockingbird	<i>Mimus polyglottos</i>	Common Resident
14	Palm Warbler	<i>Dendroica palmarum</i>	Common Non-breeding Resident
15	Rudy Turnstone	<i>Arenaria interpres</i>	Common Non-breeding Resident
16	Smooth Billed Ani	<i>Crotophaga ani</i>	Common Resident
17	Spotted Sandpiper	<i>Actitis macularia</i>	Common Non-breeding Resident
18	Thick Billed Vireo	<i>Vireo crassirostris</i>	Common Breeding Resident



## 5. PROJECT DESCRIPTION

### 5.1 Project Details

The Project consists of a phased approach to the development of the former South Ocean Waterfront property, the Stuart Cove's property and the vacant lot along South West Bay road. Phase 1A of the project entails the demolition of all infrastructure within the South Ocean waterfront property, inclusive of all above and below ground infrastructure on the property, minus the sea wall and necessary below ground utilities along South West Bay road (WSC water mains and BPL fuel lines). Once demolition of all infrastructure is completed and solid waste disposed of in accordance with best practices and the Department of Environmental Health Services (DEHS), the vacant property will be sectioned into seven (7) lots to be sold as private properties on the newly developing Albany West location.

The realignment of South West Bay road is proposed for Phase 1A of the project, and will entail the redirecting the current road alignment into the disturbed forests north of its current location. The areas slated for the redirected road have been previously impacted by clearing and public dumping of trash, and partially serves as a parking area for Stuart Cove's facility. The realignment of the road will involve the removal of the BPL switch located at the entrance to South Ocean Estates, as well as the relocation of above ground power infrastructure to below ground for safety and aesthetics.

Phase 1B of the Albany West project entails the demolition of remaining infrastructure at the evacuated Stuart Cove site and adjacent lot, and the construction of condo units, club house and pool. This phase will also include the reclamation of the approximately 0.7 acre marina, and is estimated to utilize approximately 17,347 cu yards of uncompacted fill (~ compacted volume 30,000 cu yards). The reclamation will not include the entrance channel for the existing marina, only the marina basin proper. The dive company has intentions of moving from its current location and will relocate its business prior to commencement of demolition activities. Once demolition of all infrastructure is completed and solid waste disposed of in accordance with best practices and the Department of Environmental Health Services (DEHS), construction of condo units, a beach club and pool will commence.

A golf cart path will be constructed to provide access from the current Albany West gate to the newly developed Albany West residential area and condos. The path will follow the perimeter of the South Ocean Estates residential community bordering the existing Blue Shark Golf course, and lead to the entrance gate and security booth for Albany West. The golf cart path will enter the Albany West property through a subterranean path which will run beneath the newly directed road.

5.2 Master Plan

Figure 34. Albany West Phase 1 beachfront properties



Figure 35. Albany West Phase 1 golf cart path





## 6. ENVIRONMENTAL SITE ASSESSMENT

A site inspection was conducted to identify recognized environmental conditions on site which may indicate that an environmental release has occurred or has the potential to occur. Observations of the abandoned structures and equipment on the property were recorded, noting conditions such as staining on floors, storage containers with unknown contents, chemicals, odors, abandoned vehicles & equipment.

### *ESA - Recognized Environmental Conditions*

Item	Location	Notes
<b>Oil Drums</b>	Stuart Cove's Maintenance Area	55 gallon metal barrels containing possible petroleum products stored outdoors. Visible staining on ground beneath and surrounding barrels. No visible secondary containment area.
<b>Boat Yard</b>	Stuart Cove's Maintenance Area	Visible staining on ground in areas used for boat repair and maintenance. Potential sources include fuels, oils solvents, antifouling paint, degreasers, acidic/alkaline solutions and other by products e.g. heavy metals
<b>Septic Tank</b>	Stuart Cove's Maintenance Area	Proximity to marina basin increases potential for soak-away products entering marine environment.

Environmental Site Assessment – Stuart Cove’s Maintenance Area Photo Log

Figure 36. Stuart Cove's boat yard and maintenance area



Figure 37. Storage of suspected petroleum products in metal drums, visible staining on ground surrounding barrels.



Figure 38. Septic tank within close proximity to marina basin





## 7. DEMOLITION HAZARDS ASSESSMENT

The purpose of this Demolition Hazards Assessment (DHA) is to provide details regarding potential environmental impacts, mitigation measures and implementation & monitoring guidelines for the demolition of the Phase 1 elements as part of the development of Albany West.

The DHA considers potential impacts to the demolition crew, general public and surrounding terrestrial and marine environments during the demolition exercise. This DHA outlines proposed stages of the demolition exercise, which will assist in limiting potential negative impacts to the environment.

Proposed stages to the demolition exercise include an environmental site assessment, site preparation, soft stripping, demolition and site cleanup. The Phase 1 demolition activity will not require the use of explosives, and will be achieved using mechanical methods.

A demolition permit is required from the Buildings Control Division of the Ministry of Works & Urban Development before any demolition is undertaken. The application and supporting documents are passed to the following departments for processing:

- Civil Design Section
- Department of Physical Planning.
- Department of Environmental Health/BEST Commission
- Control Division of the Ministry of Works & Urban Development

The following documents must be supplied with demolition permit application (triplicates):

- Location plan
- Site plan
- Plan of building footprint
- Photographs of building elevations
- Approval letter from Agency based on the location or nature of the project

A Permit is processed within six to eight weeks following the submission of all documents and may vary based on external agency requirements.

### 7.1 Hazardous Materials

Legislative changes by the U.S. Environmental Protection Agency in 1979 and 1989 were enacted to ban the common and widespread use of hazardous lead and asbestos products in construction of homes and schools. Buildings constructed after these laws were enacted are deemed to have a lesser chance of containing lead and asbestos, however does not guarantee the complete exclusion these hazardous materials from the construction process.

Records indicate the construction date of the former South Ocean Resort waterfront property to be in the late 1980s. It was determined in consultation with BEST Commission that Asbestos and Lead testing be carried out on infrastructure to be demolished in Phase 1 of the Albany West development.

## 7.2 Asbestos and Lead Sampling and Analysis

Suspected Asbestos Containing Materials (ACM) and Lead in paint samples were collected from the South Ocean waterfront site on March 13, 2020. ACM and lead in paint samples were collected using full body PPE, inclusive of an N-100 face mask for respiratory protection from potential ACM during sample collection. Samples were collected from Great Houses 1, 3 & 4, the pool kitchen & bar, and the mechanical/pump room adjacent to Great House 2. A total of 10 ACM samples and 4 lead in paint samples were collected and shipped to EMSL labs for analyses. Analysis of asbestos samples were achieved using EPA 600/R-93/116 method using Polarized Light Microscopy. Lead samples were analyzed using Flame Atomic Absorption Spectroscopy (AAS).

### Results

#### Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)\*

Client Sample Description	Lab ID	Collected	Analyzed	Weight	Lead Concentration
Lead 1	202003285-0001	3/13/2020	3/20/2020	0.2628 g	<0.0080 % wt
Site: Building 2 Exterior					
Lead 2	202003285-0002	3/13/2020	3/20/2020	0.2700 g	<0.0080 % wt
Site: Pool Kitchen Exterior					
Lead 3	202003285-0003	3/13/2020	3/20/2020	0.2647 g	<0.0080 % wt
Site: Building 6					
Lead 4	202003285-0004	3/13/2020	3/20/2020	0.2543 g	<0.0080 % wt
Site: Pump House Exterior					

#### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos	
			% Fibrous	% Non-Fibrous	% Type	
Asbestos 1 042007595-0001	Pump House - Interior	Yellow Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 2-Drywall 042007595-0002	Building 2 - Bathroom - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose 5% Glass	80.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 2-Joint Compound 042007595-0002A	Building 2 - Bathroom - Drywall	White Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 3 042007595-0003	Pool Bar	White Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 4 042007595-0004	Pool Kitchen	Yellow Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 5-Drywall 042007595-0005	Building 6 - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 5-Joint Compound 042007595-0005A	Building 6 - Drywall	White Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 6 042007595-0006	Pool Kitchen - Pipe Tape	Black Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 7 042007595-0007	Pool Kitchen - Interior - Pipe Insulation	Black Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 8 042007595-0008	Pump House - Exterior - Pipe Insulation	Black Non-Fibrous Homogeneous	10% Cellulose	90.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 9-Drywall 042007595-0009	Pool Kitchen - Insulation Drywall	Brown/Gray Fibrous Homogeneous	20% Cellulose	80.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 10 042007595-0010	Building 6 - AC Vent Insulation	Pink Fibrous Homogeneous	95% Glass	5.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>



### Discussion

No asbestos was detected in the samples collected from the former South Ocean Resort waterfront property. Lead samples analyzed contained less than 0.008% lead concentration by weight, all falls within the allowable limits of lead concentration on paint established by the US EPA.

The absence of lead and asbestos within Phase 1A demolition material will not require the recommended abatement and disposal of these hazardous materials prior to demolition of the structure. Demolition waste from the project site will be disposed of according to best practices and regulations put forth by The Department of Environmental Health Services, BEST Commission and the Government of The Bahamas.

### 7.3 Asbestos and Lead Sampling – Photo Log

Figure 39(a-d). Sampling location Great House 6, samples taken from interior insulation and drywall (ACM), and interior wall paint (lead).

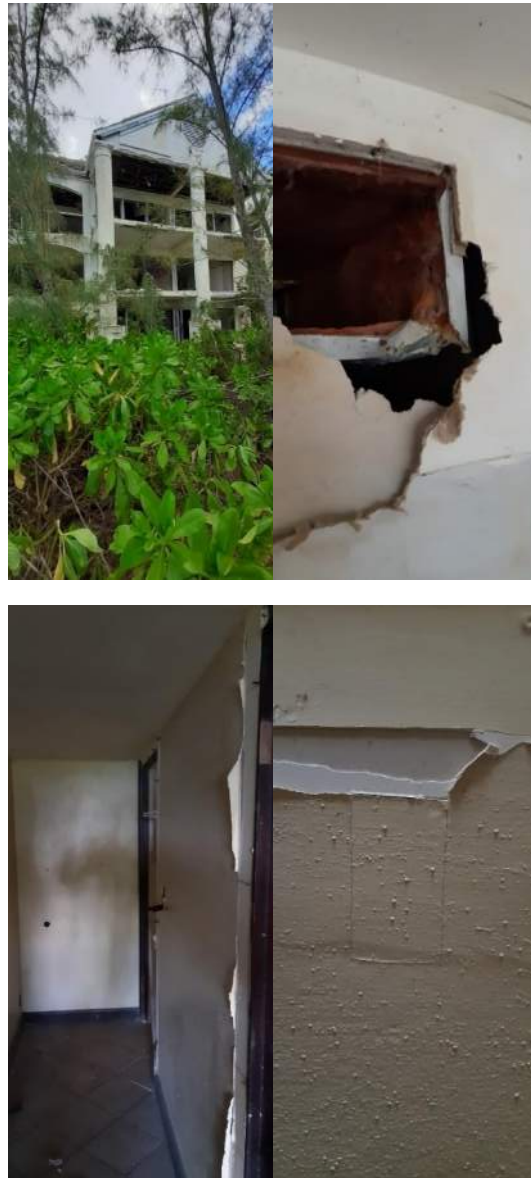


Figure 40(a-d). Sample location Pool Kitchen, ACM samples collected from pipe insulation and drywall, lead samples taken from exterior paint





Figure 41. Sample location Pool Bar, ACM samples collected from concrete roof tiles



Figure 42. Sample location Pump House, lead sample taken from exterior paint



Figure 43 (a-f). Lead sample exterior Pool Kitchen; ACM sample interior Pool Kitchen; ACM sample pipe insulation Pump House; ACM sample pipe insulation Pump House; ACM sample AC insulation Great House 2; ACM and lead sample interior Great House 2.





## 8. SUMMARY OF ENVIRONMENTAL IMPACTS

### 8.1 Methodology for the Environmental Baseline Survey

The impact analysis is a critical component of the EBS process as it evaluates the potential impacts resulting from the interaction between project related activities and the surrounding environment during construction and operations phases of the Project. Impacts are described as changes brought about to the surrounding environment as a result of project related activities. The surrounding environment for this EBS is inclusive of the physical, biological and socio-economic environment within the Project's area of influence. Environmental aspects considered in this analysis are listed below.

### 8.2 Land Use Impact

Within the areas slated for Phase 1 development of Albany West, the site of the former South Ocean resort has been abandoned for many years and continues to deteriorate. The adjacent lot to the east is undeveloped and unoccupied. The demolition of the infrastructure for the development of residential lots and condos, and the availability of additional recreational activities in the south western New Providence will have positive and long term impact on current land use of the area. It is likely that the project will have direct, positive, long term impacts to the local aesthetic of the area. It is likely that the project will have direct, positive, long term impacts to the current land use of the area.

### 8.3 Aesthetic Impact

Demolition of the unsightly property along South West Bay Drive will improve the aesthetic of the area. Neighboring residents in the South Ocean Estates and Royal Estates condominiums may experience temporary aesthetic impacts during demolition of South Ocean Resort and construction of condos, pool, clubhouse and the redirected South West Bay Drive, however these impacts will lessen with the completion of the demolition and construction activities. It is likely that the project will have direct, positive, long term impacts to the local aesthetic of the area.

### 8.4 Impacts to the Physical Environment

The impacts to the physical environment will be related to the demolition of standing structures, vegetation clearing, land reclamation and site grading. Stuart Cove's surrounding the marina and former South Ocean development will be demolished as a part of the land clearing activity.

Demolition will include removal of subterranean infrastructure remaining on the site, requiring digging, trenching and excavation activities. It is likely this portion of the project will have temporary and direct negative impacts to the onsite physical environment. At the completion of demolition, the site will be graded to prepare lots for sale and construction of condos and other infrastructure

Land reclamation will be necessary as a part of the Albany West construction. The former marina for the Stuart Cove's Dive Bahamas business will be filled with a combination of dredge material generated from excavation on another part of the property and purchased limestone based fill and rock. A total of 17,347 uncompacted cubic yards will be used to fill the marina. The marina entrance is approximately 40 feet wide and will remain open. Figure 98 shows an aerial image of the land reclamation site and Figures 99 and 100 shows photos of the land reclamation site.

The reclamation of the marina basin will have long term impacts to the physical environment on site, as the man made marine habitat will be changed to a compacted terrestrial site. Temporary

sedimentation impacts to local areas around the project site are possible, but will be mitigated against through the use of turbidity screen at the mouth of the marina basin.

The redirecting of the road will require removal of the current South West Bay in the immediate areas of the Phase 1 project site, and clearing, grading and construction of the new road. These construction activities will temporarily impact the physical environment in the immediate areas of the project site.

Figure 44<sup>1</sup> Aerial image of L-shaped marina with one opening. The yellow line shows the land reclamation limit.



Figure 45<sup>2</sup> Land reclamation site as a part of the Albany West Development.



<sup>1</sup> <https://www.flickr.com/photos/aerialcamera/37762001031>

<sup>2</sup> <http://www.sneakersandfins.com/north-america/the-bahamas/stuart-cove/>



Figure 46<sup>3</sup> Land reclamation site as a part of the Albany West development.



#### *8.4.1 Erosion and Sediment Impact*

During weather events where wind energy leads to increased turbulence, the visibility decreases in the marina at Stuart Cove's Dive Bahamas and the silt sediment on the benthos becomes suspended in the water column. Through tidal flushing the silt may be transported through the marina entrance. As a result, it can be expected that turbidity plumes in the immediate land reclamation area may flush beyond the marina entrance. This may temporarily negatively impact the adjacent beaches by reducing visibility on the beaches, and reducing their aesthetic value. These impacts are not expected to persist beyond the construction period. To help mitigate against this, a silt curtain will be installed across the marina entrance prior to the land reclamation activity.

#### *8.4.2 Beach Impact*

As mentioned previously, turbidity plumes as a result of depositing sediment in the marina may impact the adjacent beaches. The potential impact of increased turbidity in the area is reduced visibility, increased light attenuation, and decreased aesthetic value of the beaches adjacent to the property. The beach west of the marina entrance borders a private residence. Reducing the aesthetic value of this beach will have a negative socioeconomic impact. The beach east of the marina entrance borders the Albany West property boundary.

#### *8.4.3 Hydrological Impact*

The marina entrance was reportedly dredged at regular intervals by the previous land user to deepen the channel. This indicates sand is deposited fairly regularly in the area. The project activities will not impact this natural process.

#### *8.4.4 Air Quality Impacts*

Dust generated from demolition and construction activities during Phase 1 development are likely to have a negative impact on air quality in the local areas surrounding the project site. Mechanical demolition of structures, removal of solid waste from site, land clearing, road grading and general construction activities all are dust generating activities. It is likely that impacts to air quality will be Short Term for the duration of demolition and construction activities. The intensity if air quality impact is weather dependent, as rainfall and wind direction will influence the travel of dust form the project site into the surrounding areas.

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<sup>3</sup> Google Street View 2019

#### 8.4.5 Noise Impacts

Noise generated from demolition and construction activities during Phase 1 development are likely to have a negative impact on ambient sound levels in the local areas surrounding the project site. Mechanical demolition of structures, removal of solid waste from site, land clearing, road grading and general construction activities all are noise generating activities. It is likely that impacts to ambient noise levels will be Short Term for the duration of demolition and construction activities.

### 8.5 Biological Impacts

#### 8.5.1 Habitat Fragmentation

The terrestrial areas of the Phase 1 development of Albany West have all had previous developments of varying levels of scope and intensity. The former South Ocean Resort, the Stuart Cove's marina and parking areas and the adjacent vacant lot are all impacted sites retaining very little of the once naturally occurring vegetation, landscape and topography. The resort grounds, vacant lot, and Stuart Cove's parking area are overgrown by weedy invasive species, crowding out the native vegetation known to previously occupy these habitats. The land clearing activity during demolition of the project site will reduce source populations of invasive plant species along the south western shoreline, providing a direct, positive long-term benefit by fragmenting the invasive species populations, allowing the potential for native vegetation to return to the site naturally or via landscaping of Phase 1 development areas.

#### 8.5.2 Habitat Loss and Degradation Impact

Adding sediment to the marina will result in direct loss of an estimated 0.6 acres of benthic habitat. While the area is exposed to significant boat traffic on a daily basis as function of the area's current use, sparse seagrass (*Thalassia testudinum*) grows on the benthos which can be observed from the surface. Fine sand covers the benthos where seagrass does not grow. Mounds of brown cyanobacteria and algae covered sand can be observed throughout the sparse seagrass. Removing this habitat will not impact a significant amount of species despite the presence of seagrass because the area is of poor habitat quality.

Habitat quality as summarized in a 2019 study is a function of the "availability of food, habitat size and the ability of species to move through the area to forage, reproduce and avoid unfavorable environments or seasons"<sup>4</sup>. The marina is not a significant source of food as evidenced by the sparse seagrass and the presence of cyanobacteria. The area is also not a reliable shelter for species as a result of the marine traffic in the marina.

#### 8.5.3 Impacts on Special Ecological Features and Biodiversity

No special ecological features or biodiversity was observed during resources surveys of the areas within the Albany West Phase 1 project site.

#### 8.5.4 Marine Resources Impact

Demersal fish and other animal species were reportedly rarely observed in the area. This is not unexpected as the marina is used seven (7) days a week by several large vessels. As a result, reclaiming this area will not have an adverse impact on many demersal species.

Juvenile grunt species (*Haemulon sp.*) and damselfishes (*Abudefduf saxatilis*) were occasionally observed feeding on food scraps that would inadvertently fall in the marina during lunch periods near

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<sup>4</sup> Robert H.G. Jongman. 2019. [Connectivity and Ecological Networks](#). Reference Module in Earth Systems and Environmental Sciences. Encyclopedia of Ecology (Second Edition) Vol 1, 2019 Pg 366-376



the Stuart Cove's dive shop and grill. An example photo of these species is shown in Figure 6. Once the land reclamation activity begins these species will swim out of the marina away from the disturbance. These species are not resident in the marina. As a result, the impact of the land reclamation activity to these species will be negligible.

#### *8.5.5 Wildlife Impacts*

Resident and migratory birds who utilize the overgrown weedy vegetation for foraging will be temporarily impacted during land clearing and demolition activities as the noise, dust and heavy equipment will discourage their presence on the Project. These impacts are negligible as there are diverse foraging habitats surrounding the project site for birds to utilize during the demolition and construction phase of the project.

### 8.6 Fire, Flood and Hurricane Risk

The remaining infrastructure of the South Ocean Resort present a fire hazard to the surrounding environment, inclusive of the residential communities in close proximity to the site. The derelict buildings although stripped of most equipment and furniture, contains dry decaying wood, paper backed sheet rock and plaster tape, and densely overgrown vegetation with heavy leaf litter and debris. In its current state the property is a major fire risk to the area. Demolition of the relic infrastructure will provide a direct and beneficial impact to the local areas surrounding the site, having a permanent impact on fire risks related to the abandoned property.

### 8.7 Solid, Liquid & Hazardous Waste Impact

Solid waste generated during demolition and construction activities will be disposed of in accordance to best practices and regulation set forth by DEHS and the BEST Commission. An Asbestos Containing Material analysis and lead in paint analysis was conducted on building materials to be demolished, confirming the absence of both hazardous materials from the project site.

### 8.8 Energy Impacts

During the relocation of the road in Phase 1, Albany Bahamas will move the electrical wires below ground. This will reduce the impact of strong winds damaging the electrical system in the area resulting in cost savings for BPL and the neighboring community that relies on the same power grid as the Albany Bahamas project. The impact on energy will be a positive long term benefit.

### 8.9 Water and Wastewater Impact

During construction and operation WSC will be the main potable water supply. Potable restrooms will be made available on site that will be pumped by an independent contractor daily. The impact on water and wastewater is negligible.

### 8.10 Socio-Economic Impact

The socioeconomic impact is positive for the project. During construction approximately 100 temporary jobs will be generated in Phase 1A and approximately 300 in Phase 1B. As the project phases are rolled out additional jobs will be made available.

### 8.11 Cultural Impacts

#### *8.11.1 Losses of Archaeological, Historic and Paleontological Resources*

The project area for the Phase 1 development of Albany West is not suspected to possess archaeological, historic and paleontological resources on site, as the area has been previously developed and the site is impacted. In the event of discovery of cultural resources, management and

protection of the resource will be in partnership and accordance with recommendations set forth by AMMC.

#### *8.11.2 Community Service Impact*

The Phase 1 development of Albany West will rely on local community services on the area of South West New Providence. The existing Albany development is equipped with capacity for security, fire services, waste disposal, water and energy production, however transformers will power the residential lots (500kV per 3 lots) and condo units (two 1500 KVa units).

#### *8.11.3 Recreational Impacts*

The relocation of Stuart Cove's facility had been arranged prior to the acquisition of the property for the Albany West project. The relocation of the popular tourist attraction will impact recreational opportunities along South West Bay drive, although the construction of the condominiums pool and club house, and additional access to sandy beaches will provide recreational activities for guests of Albany West. Despite the relocation of the dive facility, there exist other options for recreation in the south west New Providence including the Primeval Forest National Park and the Clifton Heritage Park located less than a mile away from the Project site.

#### *8.11.4 Transportation Impacts*

The redirection of the South West Bay Drive will temporarily impact traffic traveling locally along South West Bay Drive past the project site. The existing road will remain open during construction of the new road, but may partially close where necessary during demolition activities, and utility relocation in the immediate area. Traffic delays or alternate routes may be utilized to manage traffic in the south west New Providence during these periods. As this area is frequently utilized by freight and fuel trucks traveling to and from the Clifton Pier Industrial areas, appropriate road signage and flagmen will be required to ensure safety of the motoring public traversing these areas.



9. SUMMARY TABLE OF POTENTIAL ENVIRONMENTAL IMPACTS

Albany West - Phase 1 Development																	
Project Component	Impacting Factor	Aspect															
		Physical			Coastal Processes		Biological					Socio-Economics			Cultural		
		Hydrology & Hydrogeology	Air Quality	Noise	Erosion & Sedimentation	Beach	Terrestrial Habitats	Marine Habitats	Birds	Terrestrial Flora	Marine Mammals	Marine Resources	Neighboring Communities	Relocation	Traffic	Economic	Archaeological, Historic & Paleontological Resources
<b>Demolition</b>	Land Clearing		x	x	x	x	x		x			x				x	
	Solid Waste Removal		x	x			x		x			x		x		x	
	Noise		x						x								
	Emissions		x						x								
	Discharges	x	x			x		x	x		x	x					
<b>Upland Construction</b>	Solid Waste Generation						x					x				x	
	Liquid & Hazardous	x					x	x		x		x					
	Discharges	x	x			x		x		x		x					
	Noise		x						x								
	Emissions		x						x								
<b>Road Realignment</b>	Reclamation							x				x					
	Land Clearing		x	x	x		x		x	x		x	x	x	x	x	x
	Solid Waste																
	Discharges	x	x				x			x							
	Noise		x						x								
	Emissions		x						x								
	Subterranean Infrastructure Installation		x	x	x		x					x		x		x	

Negligible/No impact	Minor Impact	Moderate Impact	Severe Impact	Beneficial Impact
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## 10. RECOMMENDATIONS AND MITIGATION STRATEGIES

### 10.1 Methodology

The following recommendations and mitigation strategies are a combination of best management practices used in previous experiences on similar developments. In accordance with these practices, a full-time environmental monitor will be on site during construction to ensure mitigation measures outlined in the Environmental Management Plan are always adhered to during development. Following construction, these practices should be taken on by a resident Environmental Manager.

### 10.2 Removal of Invasive Species

All invasive exotic species should be removed from the property. This is especially important in coastal areas where invasive Casuarina and Scaevola contribute towards coastal erosion of the shoreline on the property. After removal of coastal invasive species, the area should be supplemented with native dune species to assist with stabilizing and rebuilding the dune along the southern shoreline of the property.

### 10.3 Turbidity Monitoring during reclamation of marina basin

The reclamation of the marina basin will produce large amounts of turbidity in the immediate basin area. A turbidity screen will be utilized at the marina channel entrance to prevent sediment from impacting near shore areas adjacent to the project site. Turbidity monitoring is recommended prior to commencement of reclamation and periodically during this phase of the project.

### 10.4 Remediation of possible contamination

The maintenance and storage area of Stuart Cove's had visible staining of the ground from suspected petroleum products, and is also suspected of discharges into the ground from boat repair and maintenance chemicals, solvents and other hazardous materials. The hydrocarbons from the maintenance area were remediated by Engineers and Consultants Ltd (ECL), and a secondary containment area built for oil storage in the maintenance area. Recovered contaminated soil was disposed of at New Providence Ecological Park Ltd. (NPEPL). During demolition of the Stuart Cove's facility it is recommended that if hydrocarbon stained soil is observed during excavation in the maintenance areas, that further testing and remediation of potentially contaminated soil and ground water be conducted prior to construction in accordance with best practices and the DEHS/BEST Commission. Full details of the investigative and remediation procedures will be outlined in the project's EMP.

### 10.5 Public Awareness

Prior to demolition and construction activities in Phase 1 of the Albany West Project, public notices should be dispensed to the immediate stakeholders surrounding the project site to inform them of the proposed project activities, anticipated timelines, and to provide appropriate redress mechanisms for concerns related to the project activities. Residents of the South Ocean Estates and Royal Estate Condominiums will be directly impacted by project activities of Phase 1 development due to their proximity to the project site.

### 10.6 Mitigation of dust and noise

The spread of dust particles generated during the demolition and construction activities of Phase 1 development can be lessened through the limitation of speed of heavy equipment on site, wetting of the site and material stockpiles periodically throughout the work day, the erection of physical



barriers to contain the site, or leave in place natural vegetation buffers to attenuate sound and dust from the site.

## 11. Draft Environmental Management Plan ToR

The Environmental Management Plan (EMP) for Albany West will detail the best safety and environmental practices for construction and operation for each phase of the project. Phase 1A is involves the demolition of all infrastructure within the South Ocean waterfront property, inclusive of all above and below ground infrastructure on the property, minus the sea wall and necessary below ground utilities along South West Bay road (WSC water mains and BPL fuel lines). It also includes the realignment of South West Bay road. Phase 1B entails the demolition of remaining infrastructure at the evacuated Stuart Cove site and adjacent lot. A golf cart path will be constructed to provide access from the current Albany west gate to the newly developed Albany West residential area and condos.

The draft Terms of Reference for Phase 1A & B of the Albany West Project is shown below. The EMP will be submitted to the BEST Commission prior to commencement of demolition and construction for review and approval.

### **Draft Environmental Management Plan ToR**

#### **1 Executive Summary**

#### **2 Introduction**

2.1 Geographic Location

2.2 Purpose, Scope and Content

#### **3 Project Description**

#### **4 Master Plan**

#### **5 Environmental Regulatory Bodies and Standards**

#### **6 Environmental Management organization Structure**

6.1 Organization and Responsibilities Chart

#### **7 Environmental Management**

7.1 Potential Environmental Impacts

7.1.1 Land Use Impacts

7.1.2 Aesthetic Impacts

7.1.3 Erosion and Sediment Impacts

7.1.4 Beach Impacts

7.1.5 Hydrological Impacts

7.1.6 Air Quality Impacts

7.1.7 Noise Impacts

7.1.8 Habitat Fragmentation

7.1.9 Habitat Loss and Degradation

7.1.10 Impacts on Special features and Biodiversity

7.1.11 Marine Resource Impacts

7.1.12 Wildlife Impacts

7.1.13 Fire and Hurricane Risks

7.1.14 Solid Waste & Hazardous Waste Impacts

7.1.15 Water and Wastewater Impacts

7.1.16 Socio-economic Impacts

#### **8 Recommendations and Mitigation Strategies**

8.1 Geology

- Land Clearing
- Excavation
- Reclamation
- 8.2 Terrestrial Resource Management
- 8.3 Marine Resource Management
- 8.4 Air Quality Management
- 8.5 Water Quality Management
- 8.6 Energy Management
- 8.7 Invasive Species Management
- 8.8 Spill Management
- 8.9 Wastewater Management
- 8.10 Solids Waste Management
- 8.11 Hazardous Waste Management

## **9 Health and Safety**

- 9.1 Storm Management
- 9.2 Safety Hazards
- 9.3 Fire/ Explosion Risk
- 9.4 Accidents
- 9.5 Malfunctions

## **10 Public Consultation**

## **11 Environmental Education and Outreach**

## **12 Conclusion**

## **12. CONCLUSION**

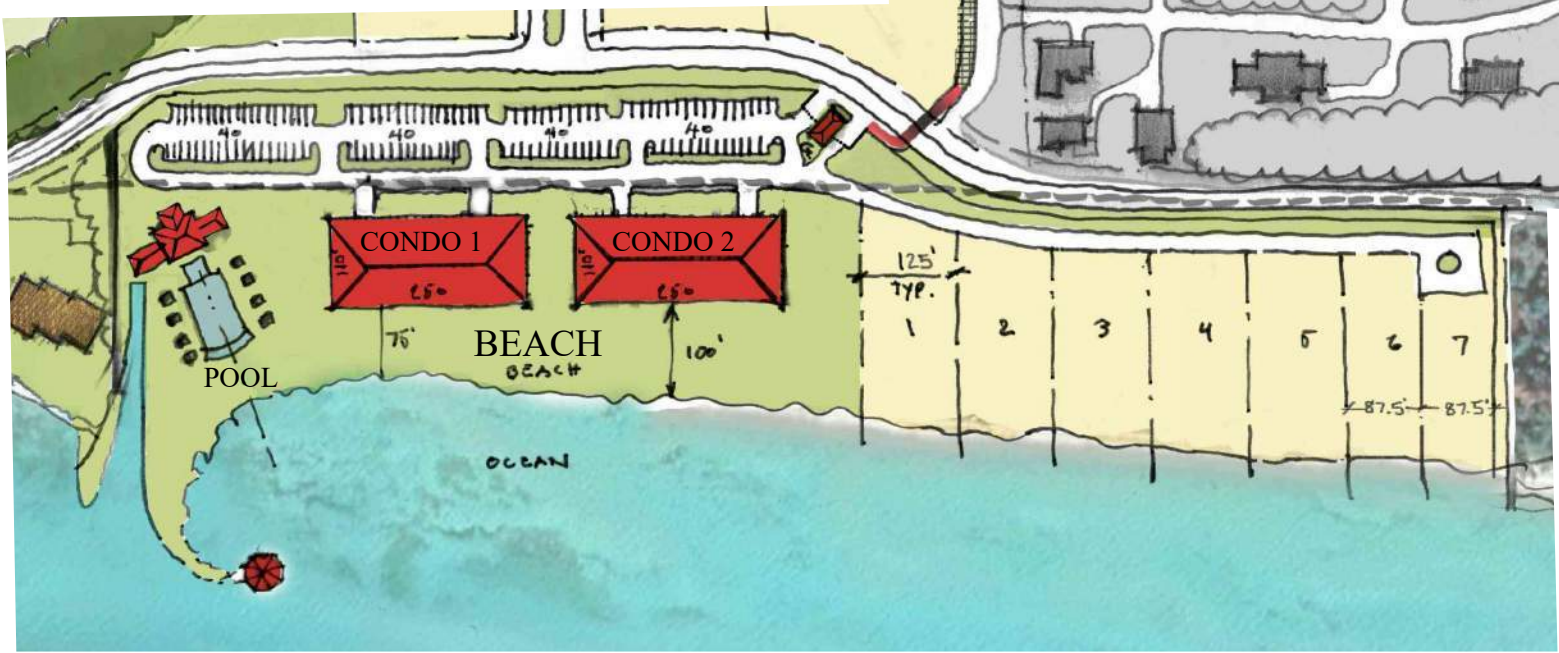
Project activities inclusive to the Albany West Phase 1 demolition and construction will overall have some temporary and short term negative impacts with relation to noise & dust generation, impacts to the physical environment and traffic in the local areas surrounding the Project site. The long term beneficial impacts related to the local and regional socioeconomics, aesthetics, fire hazards and invasive species management will outweigh the potential negative impacts of this project.

Recommendation to limit negative impacts to the surrounding environment including use of a turbidity screen and turbidity monitoring during the marina reclamation exercise, watering the site to limit dust propagation off site, the use of natural buffers to limit impacts to ambient noise levels, the complete removal of invasive plant species of the site to limit further spread and the use of public communication means to lessen the negative impacts of the project on neighboring residents to the project site.

## 13. APPENDICES

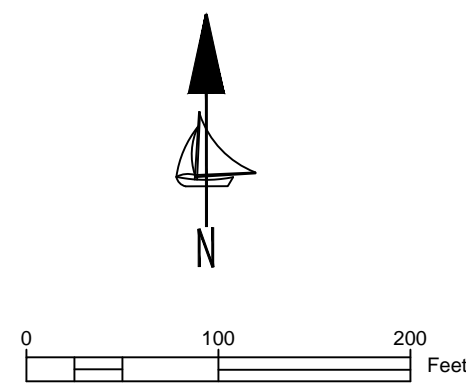


APPENDIX A – ALBANY WEST PHASE 1 MASTER PLAN

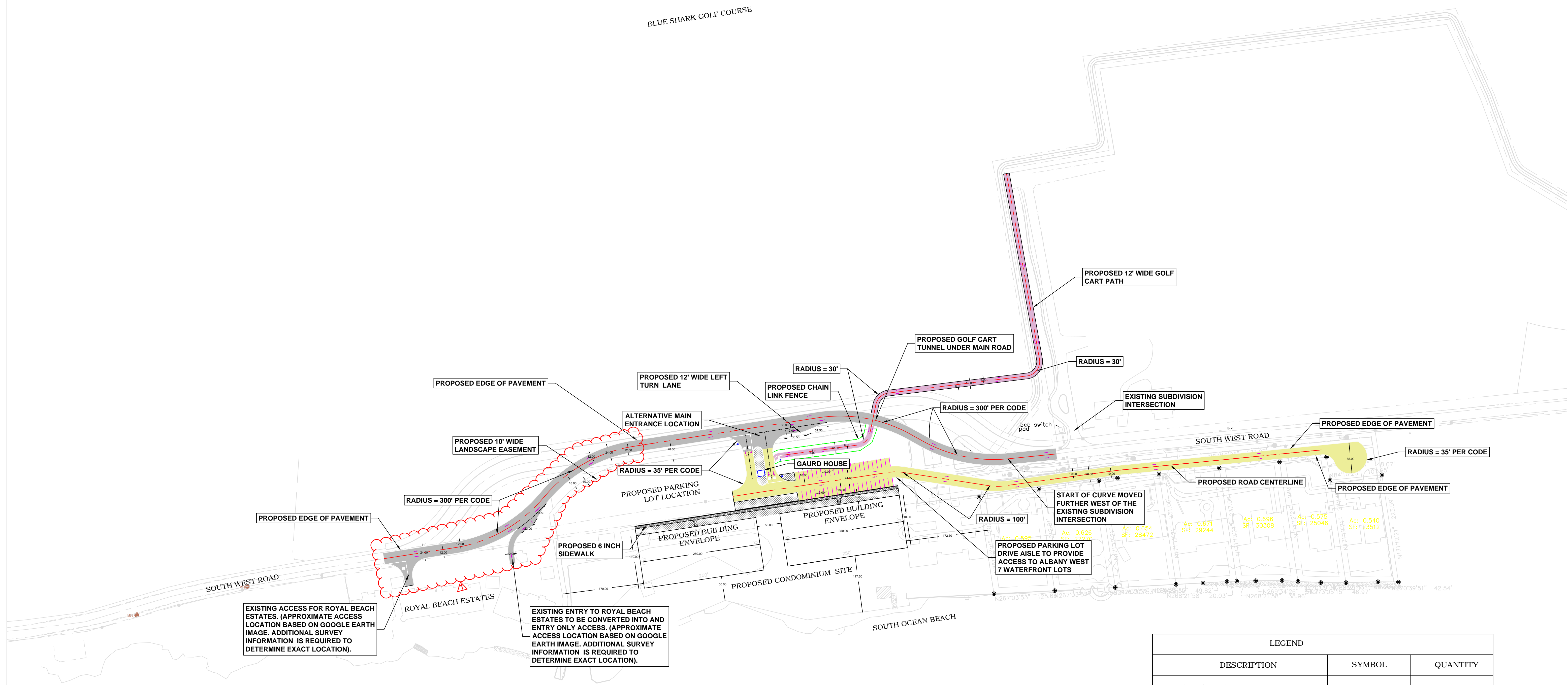








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EXISTING ACCESS FOR ROYAL BEACH ESTATES. (APPROXIMATE ACCESS LOCATION BASED ON GOOGLE EARTH IMAGE. ADDITIONAL SURVEY INFORMATION IS REQUIRED TO DETERMINE EXACT LOCATION).

EXISTING ENTRY TO ROYAL BEACH ESTATES TO BE CONVERTED INTO AND ENTRY ONLY ACCESS. (APPROXIMATE ACCESS LOCATION BASED ON GOOGLE EARTH IMAGE. ADDITIONAL SURVEY INFORMATION IS REQUIRED TO DETERMINE EXACT LOCATION).

LEGEND		
DESCRIPTION	SYMBOL	QUANTITY
NEW 2" THICK FDOT TYPE S1 ASPHALT PAVEMENT (MAIN ROAD) NEW ROAD CONSTRUCTION		40,680 SQFT
NEW 1.5" THICK FDOT TYPE S1 ASPHALT PAVEMENT (INTERNAL ROADS) NEW ROAD CONSTRUCTION		41,901 SQFT
NEW 1.5" THICK FDOT TYPE S1 ASPHALT PAVEMENT (GOLF CART PATH) NEW ROAD CONSTRUCTION		12,476 SQ FT
PROPOSED ROAD CENTERLINE		N/A
PROPOSED LANDSCAPED ISLANDS		9,497 SQFT
PROPOSED SIDEWALK PAVEMNET		1,158 SQFT

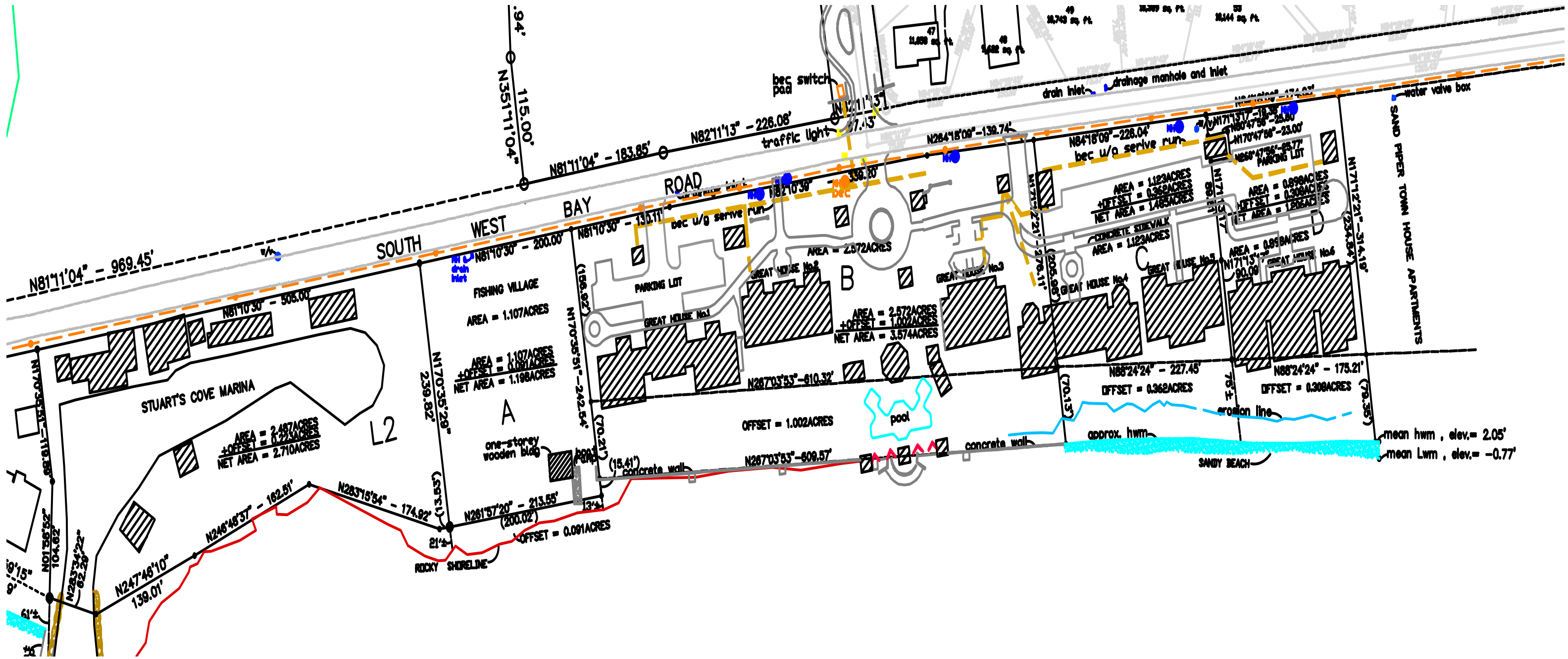
PROJECT NAME: ALBANY WEST (SOUTH OCEAN)  
LOCATION: NASSAU, THE BAHAMAS

DRAWING DESCRIPTION: ROAD LAYOUT 1 EXHIBIT

REV.	NO.	DATE (mm/dd/yyyy)	ISSUE DESCRIPTION
0		04-21-2020	ALBANY WEST ROAD LAYOUT EXHIBIT
1		04-29-2020	UPDATED ALBANY WEST ROAD LAYOUT EXHIBIT

Drawn PD	EX-01-AW
Checked KAS	
Appr. KAS	
Date	
Proj. No.	

APPENDIX B – AS BUILT SURVEY OF ALBANY WEST PHASE 1 PROPERTY



N81°11'04" - 969.45'

N81°10'30" - 505.00'

AREA = 2.497ACRES  
+ OFFSET = 0.223ACRES  
NET AREA = 2.710ACRES

FISHING VILLAGE  
AREA = 1.107ACRES

AREA = 1.107ACRES  
+ OFFSET = 0.081ACRES  
NET AREA = 1.188ACRES

one-storey wooden blog

ROAD

OFFSET = 1.002ACRES

AREA = 2.572ACRES  
+ OFFSET = 1.002ACRES  
NET AREA = 3.574ACRES

pool

AREA = 1.123ACRES  
+ OFFSET = 0.362ACRES  
NET AREA = 1.485ACRES

CONCRETE SIDEWALK  
AREA = 1.123ACRES

approx. hwm

AREA = 0.998ACRES  
+ OFFSET = 0.308ACRES  
NET AREA = 1.306ACRES

AREA = 0.998ACRES  
+ OFFSET = 0.308ACRES  
NET AREA = 1.306ACRES

mean Lwm, elev. = -0.77'

water valve box

mean hwm, elev. = 2.05'

mean Lwm, elev. = -0.77'

SAND PIPER TOWN HOUSE APARTMENTS



APPENDIX C – ASBESTOS AND LEAD ANALYSIS RESULTS

## COMPLETE LIST OF SAMPLES TO BE TESTED

### Lead and Asbestos Samples for Testing at EMSL Analytical, Inc.

Company Name: Caribbean Coastal Services

Contact Person: Gabrielle Neely, Jr. Environmental Scientist

E-mail: [gneely@caribbeancoastal.com](mailto:gneely@caribbeancoastal.com) / [mdaniels@caribbeancoastal.com](mailto:mdaniels@caribbeancoastal.com)

Office Location: Airport Industrial Park, Raphia Close East, Lot 57

Country: The Bahamas

Island / City: New Providence / Nassau

Phone: 1 (242) 327-5348

*Total samples to be tested: 14 (4 Lead & 10 Asbestos)*

Sample Number	Sample Location	Date Sampled	Time Sampled
1 Lead 1	Building 2 (exterior)	March 13, 2020	4:26 pm
2 Lead 2	Pool Kitchen (exterior)	March 13, 2020	3:36 pm
3 Lead 3	Building 6	March 13, 2020	3:00 pm
4 Lead 4	Pump house (exterior)	March 13, 2020	4:10 pm
Asbestos 1	Pump House (interior)	March 13, 2020	4:04 pm
Asbestos 2	Building 2 dry wall bathroom	March 13, 2020	4:20 pm
Asbestos 3	Pool Bar	March 13, 2020	3:21 pm
Asbestos 4	Pool Kitchen	March 13, 2020	3:27 pm
Asbestos 5	Building 6 drywall	March 13, 2020	3:00 pm
Asbestos 6	Pool Kitchen (interior) pipe tape	March 13, 2020	3:42 pm
Asbestos 7	Pool Kitchen (interior) pipe insulation	March 13, 2020	3:45 pm
Asbestos 8	Pump House (exterior) pipe insulation	March 13, 2020	4:00 pm
Asbestos 9	Pool Kitchen insulation drywall	March 13, 2020	3:50 pm
Asbestos 10	Building 6 AC vent insulation	March 13, 2020	3:00 pm



# EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077  
Phone/Fax: (800) 220-3675/(856) 786-5974  
<http://www.EMSL.com> / [cinnaslab@EMSL.com](mailto:cinnaslab@EMSL.com)

**EMSL Order:** 042007595  
**Customer ID:** MISC-ACCT  
**Customer PO:**  
**Project ID:** EMSL-PJF

**Attention:** Gabrielle Neely  
Airport Industrial Park, Raphia Close East, Lot 57  
Nassau, New Providence, CB-11524

**Phone:** (242) 327-4981  
**Fax:**  
**Received Date:** 03/20/2020 9:30 AM  
**Analysis Date:** 03/23/2020  
**Collected Date:** 03/13/2020

**Project:** Caribbean Coastal Services (EMSL-PJF)

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos	
			% Fibrous	% Non-Fibrous	% Type	
Asbestos 1 042007595-0001	Pump House - Interior	Yellow Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 2-Drywall 042007595-0002	Building 2 - Bathroom - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose 5% Glass	80.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 2-Joint Compound 042007595-0002A	Building 2 - Bathroom - Drywall	White Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 3 042007595-0003	Pool Bar	White Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 4 042007595-0004	Pool Kitchen	Yellow Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 5-Drywall 042007595-0005	Building 6 - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 5-Joint Compound 042007595-0005A	Building 6 - Drywall	White Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 6 042007595-0006	Pool Kitchen - Pipe Tape	Black Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 7 042007595-0007	Pool Kitchen - Interior - Pipe Insulation	Black Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 8 042007595-0008	Pump House - Exterior - Pipe Insulation	Black Non-Fibrous Homogeneous	10% Cellulose	90.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 9-Drywall 042007595-0009	Pool Kitchen - Insulation Drywall	Brown/Gray Fibrous Homogeneous	20% Cellulose	80.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>

EMSL maintains liability limited to cost of analysis. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method"), but augmented with procedures outlined in the 1993 ("final") version of the method. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. All samples received in acceptable condition unless otherwise noted. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. EMSL recommends gravimetric reduction for all non-friable organically bound materials prior to analysis. Estimation of uncertainty is available on request.

Initial report from: 03/23/2020 17:55:17





# EMSL Analytical, Inc.

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Phone/Fax: (800) 220-3675/(856) 786-5974  
<http://www.EMSL.com> / [cinnaslab@EMSL.com](mailto:cinnaslab@EMSL.com)

**EMSL Order:** 042007595  
**Customer ID:** MISC-ACCT  
**Customer PO:**  
**Project ID:** EMSL-PJF

**Attention:** Gabrielle Neely  
Airport Industrial Park, Raphia Close East, Lot 57  
Nassau, New Providence, CB-11524


**Phone:** (242) 327-4981  
**Fax:**  
**Received Date:** 03/20/2020 9:30 AM  
**Analysis Date:** 03/23/2020  
**Collected Date:** 03/13/2020


**Project:** Caribbean Coastal Services (EMSL-PJF)

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos	
			% Fibrous	% Non-Fibrous	% Type	
Asbestos 9-Joint Compound 042007595-0009A	Pool Kitchen - Insulation Drywall	White Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>
Asbestos 10 042007595-0010	Building 6 - AC Vent Insulation	Pink Fibrous Homogeneous	95% Glass	5.0% Non-fibrous (Other)	None Detected	<input checked="" type="checkbox"/>

No Asbestos Detected

 Between Expected Limit of Detection and Federal EPA Recommended Limit

 Above Federal EPA Recommended Limit

These guidance limits are typically used in most scenarios. More stringent local or project specific guidelines may apply.

**Analyst(s)**

Daniel Blake (13)

Samantha Rundstrom, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method"), but augmented with procedures outlined in the 1993 ("final") version of the method. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. All samples received in acceptable condition unless otherwise noted. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. EMSL recommends gravimetric reduction for all non-friable organically bound materials prior to analysis. Estimation of uncertainty is available on request.

Initial report from: 03/23/2020 17:55:17

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

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<http://www.EMSL.com>[cinnaminsonleadlab@emsl.com](mailto:cinnaminsonleadlab@emsl.com)

EMSL Order:	202003285
CustomerID:	MISC-ACCT
CustomerPO:	
ProjectID:	EMSL-PJF

Attn: **Gabrielle Neely**

Phone: (242) 327-4981

Fax:

Received: 03/20/20 11:00 AM

Collected: 3/13/2020

**Airport Industrial Park, Raphia Close East, Lot 57****Nassau, New Providence, CB-11524**Project: **Caribbean Coastal Services****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)\***

<i>Client Sample Description</i>	<i>Lab ID</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>Lead Concentration</i>
Lead 1	202003285-0001	3/13/2020	3/20/2020	0.2628 g	<0.0080 % wt
Site: Building 2 Exterior					
Lead 2	202003285-0002	3/13/2020	3/20/2020	0.2700 g	<0.0080 % wt
Site: Pool Kitchen Exterior					
Lead 3	202003285-0003	3/13/2020	3/20/2020	0.2647 g	<0.0080 % wt
Site: Building 6					
Lead 4	202003285-0004	3/13/2020	3/20/2020	0.2543 g	<0.0080 % wt
Site: Pump House Exterior					

Phillip Worby, Lead Laboratory Manager  
or other approved signatory

\*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, AIHA-LAP, LLC ELLAP 100194, A2LA 2845.01

Initial report from 03/23/2020 11:29:00

APPENDIX D – STUART COVE’S HYDROCARBON MITIGATION REPORT



**P.O. BOX EE - 16701  
NASSAU, BAHAMAS.**

**EMAIL:**

**TEL: (242)393-7283  
FAX: (242)393-7283  
ecl@batelnet.bs**

---

18<sup>th</sup> March, 2020

The Director.  
B.E.S.T. Commission.  
Charlotte House,  
Charlotte Street (North)  
Nassau, NP, Bahamas.

Attn.: Ms. Newbold.

Dear Director Newbold,

**STUART COVE'S DIVE BAHAMAS.(SCDB)2**

Further to our communication of yesterday, I wish to forward for your attention the following photographs displaying the areas at the Stuart Cove Dive Bahamas that are under mitigation.



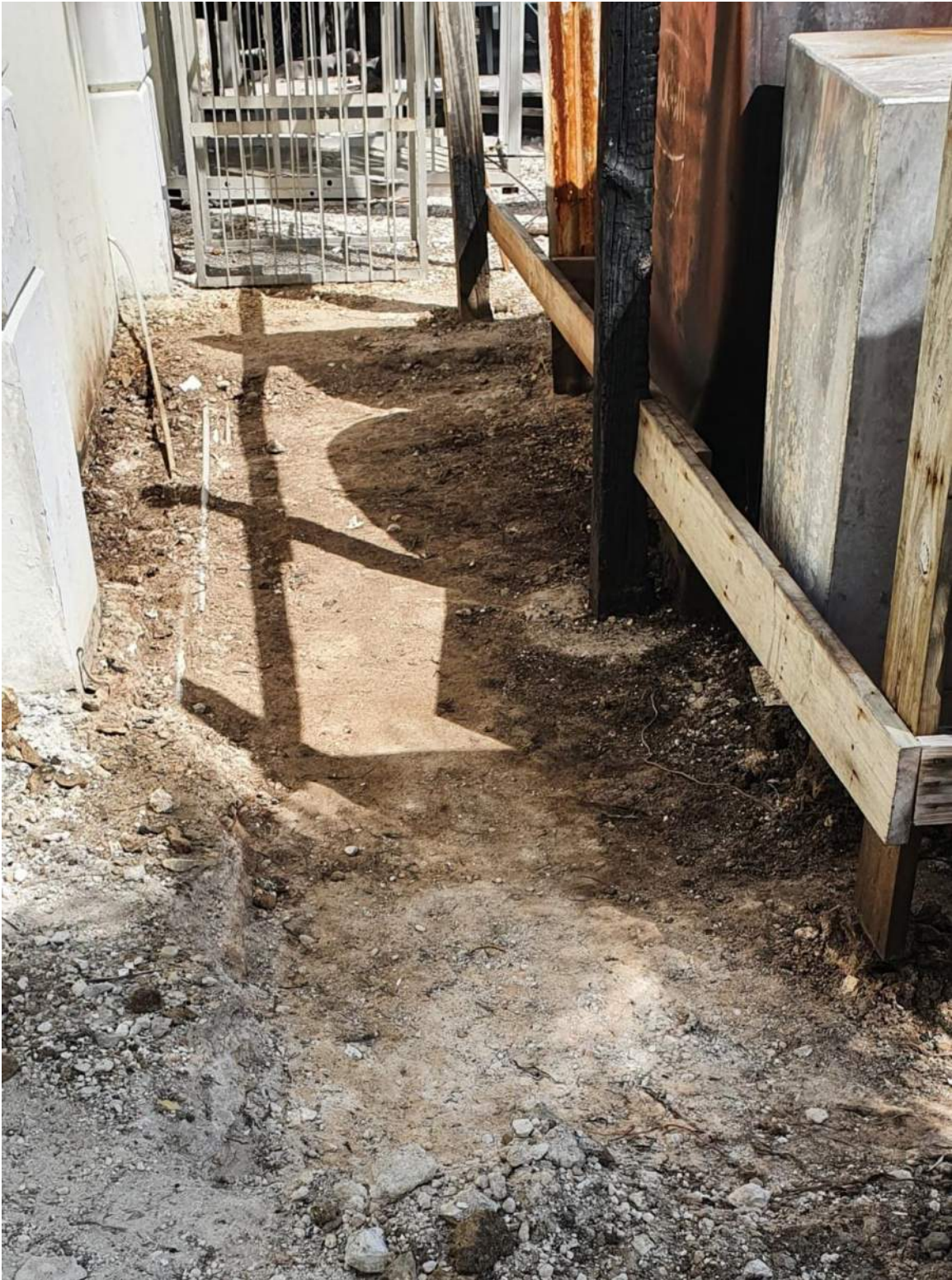
The above shows the area where 55 gallon drums of used oil were previously stored. The contaminated soil was removed and delivered to the NPEPL for remediation and safe disposal and fresh fill material placed in the void.



The above displays the plinth with lip that has been prepared for the new used oil and new oil area. A tote (275 gallons) will be placed here to receive used oils. Also a cradle (shown below) with new oil will be placed on this plinth.







The above shows the fuel storage area where some pcs has already been removed and delivered to NPEPL for remediation. The remainder will be removed and delivered to NPEPL when the tanks are removed and relocated to Coral Harbour. They anticipate the relocation to occur either Thursday or Friday depending on the crane availability.

SCDB anticipate a visit by B.E.S.T. sometime on Friday when they will show the above areas as well as the relocation site at Coral Harbour.