

# **APPLICATION FOR FEDERAL CONSISTENCY DETERMINATION**

**Proposed Aqua Fun Park  
Portion of Parcel 1 Apra Harbor  
Piti, Guam**

*Submitted by:*



*Submitted to:*

**Bureau of Statistics and Plans  
Coastal Zone Management Program  
Governor Ricardo J. Bordallo Complex – Adelup  
P.O. Box 2950  
Hagatna, Guam 96910**

**September 3 2019**

# **Proposed Aqua Fun Park**

## **Portion of Parcel 1**

### **Apra Harbor - Piti**

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September 3, 2019

**Tyrone Taitano**  
**Director**  
Bureau of Statistics and Plans  
P.O. Box 2950  
Hagatna, Guam 96932

**Attn: Edwin Reyes – Administrator, Guam Coastal Management Program**

**Subject: Federal Consistency Determination for Proposed Aqua Fun Park  
Portion of Parcel 1 Apra Harbor Piti**

**Hafa Adai Mr. Taitano,**

Please find enclosed a copy of the following document pertaining to the proposed Aqua Fun Park in Apra Harbor Piti.

1.) Federal Consistency Determination Application

By completing and operating the proposed project, additional day tour options will be added to the island's visitor industry day tour inventory. Specifically, the park will offer marine recreation at a unique floating recreational facility adjacent the Port Authority Beach in Piti. Additional details are included in this package.

An electronic copy will also be submitted shortly. We look forward to your review and response. If there are any questions please call me at 482-6088.

**Very respectfully,**



**Joel Sablan**  
ARC Environmental Services Inc.

attachments as noted

**GUAM COASTAL MANAGEMENT PROGRAM  
ASSESSMENT FORMAT**

DATE OF APPLICATION: September 3, 2019  
NAME OF APPLICANT: Myung K. Park, Eun Sung Corp  
ADDRESS: P.O. Box 8832 Tamuning, Guam 96931  
TELEPHONE NO. (671) 647-5787  
TITLE OF PROPOSED PROJECT: Aqua Fun Park

**COMPLETE FOLLOWING PAGES**

**FOR BUREAU OF PLANNING ONLY:**

DATE APPLICATION RECEIVED: \_\_\_\_\_  
OCRM NOTIFIED: \_\_\_\_\_ LC. AGENCY NOTIFIED: \_\_\_\_\_  
APPLICANT NOTIFIED: \_\_\_\_\_ PUBLIC NOTICE GIVEN: \_\_\_\_\_  
OTHER AGENCY REVIEW REQUESTED: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**DETERMINATION: ( ) CONSISTENT      ( ) NON-CONSISTENT      ( ) FURTHER INFORMATION  
REQUESTED**

OCRM NOTIFIED: \_\_\_\_\_ LIC. AGENCY NOTIFIED: \_\_\_\_\_  
APPLICANT NOTIFIED: \_\_\_\_\_  
ACTION LOG: 1. \_\_\_\_\_  
                  2. \_\_\_\_\_  
                  3. \_\_\_\_\_  
                  4. \_\_\_\_\_  
                  5. \_\_\_\_\_  
                  6. \_\_\_\_\_

**DATE REVIEW COMPLETED:** \_\_\_\_\_

## **GUAM COASTAL MANAGEMENT PROGRAM ASSESSMENT FORMAT**

### **DEVELOPMENT POLICIES (DP):**

#### **DP1. Shore Area Development**

- Intent: To insure environmental and aesthetic compatibility of shore area land uses.
- Policy: Only those uses shall be located within the Seashore Reserve which:
- enhance, are compatible with or do not generally detract from the surrounding coastal area's aesthetic and environmental quality and beach accessibility; or
  - can demonstrate dependence on such a location and the lack of feasible alternative sites.
- Discussion: The proposed project calls for the development and operation of a floating marine recreation day tour facility located east of the existing Port Authority Beach Park. (See Figure 1 Location/Vicinity Map). As proposed, the project would be call for minimal ground disturbance along the northern edge of the Rt. 18 causeway. The site is directly across from the Commercial Port of Guam as established by and negotiated with the Port Authority of Guam. Please refer to the project drawings in Appendix A.

#### **DP2. Urban Development**

- Intent: To cluster high impact uses such that coherent community design, function, infrastructure support and environmental compatibility are assured.
- Policy: Commercial, multi-family, industrial and resort-hotel zone uses and uses requiring high levels of support facilities shall be concentrated within urban districts as outlined on the Land Use Districting Map.
- Discussion: Not applicable. The proposed project does not involve a high impact use requiring careful location considerations. It is a mostly temporary day tour facility meant to be low impact and compatible with the area.

#### **DP3. Rural Development**

- Intent: To provide a development pattern compatible with environmental and infrastructure support suitability and which can permit traditional lifestyle patterns to continue to the extent practicable.
- Policy: Rural districts shall be designated in which only low density residential and agricultural uses will be acceptable. Minimum lot size for these uses should be one-half acre until adequate infrastructure including functional sewerage is provided.
- Discussion: Not Applicable. The proposed project does not include residential or agricultural uses.

#### **DP4. Major Facility Siting**

- Intent: To include the national interest in analyzing the siting proposals for major utilities, fuel and transport facilities.
- Policy: In evaluating the consistency of proposed major facilities with the goals, policies, and standards of the Comprehensive Development and Coastal Management Plans, the Territory shall recognize the national interest in the siting of such facilities including those associated with electric power production and transmission, petroleum refining and transmission, port and air installations, solid waste disposal, sewage treatment, and major reservoir sites.
- Discussion: The proposed project is not a new major facility siting effort. Rather it is a low impact temporary marine recreation day tour facility.

#### **DP 5. Hazardous Areas**

- Intent: Development in hazardous areas will be governed by the degree of hazard and the land use regulations.
- Policy: Identified hazardous lands, including flood plains, erosion-prone areas, air installations, crash and sound zones and major fault lines shall be developed only to the extent that such development does not pose unreasonable risks to the health, safety or welfare of the people of Guam, and complies with the land use regulations.
- Discussion: The proposed project does will be located along the shoreline. This location enjoys considerable protection from storm surge and is in the vicinity of the Harbor of Refuge and the Commercial Port of Guam. A Typhoon Contingency Plan has been developed (Appendix B) to address preparation for storm events.

#### **DP 6. Housing**

- Intent: To promote efficient community design placed where the resources can support it.
- Policy: The government shall encourage efficient design of residential areas, restrict such development in areas highly susceptible to natural and manmade hazards, and recognize the limitations of the island's resources to support historical patterns of residential development.
- Discussion: Not Applicable. The project does not include a housing component and will not negatively impact the implementation of policies to promote efficient community design.

#### **DP 7. Transportation**

- Intent: To provide transportation systems while protecting potentially impacted resources.
- Policy: The Territory shall develop an efficient and safe transportation system, while limiting adverse environmental impacts on primary aquifers, beaches, estuaries and other coastal resources.
- Discussion: Not Applicable. No new transportation element is being proposed. .

## **DP 8. Erosion and Siltation**

- Intent: To control development where erosion and siltation damage is likely to occur.
- Policy: Development shall be limited in areas of 15% or greater slope by requiring strict compliance with erosion, sedimentation, and land use districting guidelines, as well as other related land use standards for such areas.
- Discussion: The proposed project will involve temporarily working in erosion prone areas along the shoreline. As such, the applicant will include BMPs for stockpiling of materials, waste management, vegetation retention, work during favorable weather conditions, the use of filter fabrics, sand bags, silt curtains where applicable. The proposed project calls for minimal ground disturbance. The project will be required to receive approval through the Guam EPA during building permit processing.

## **RESOURCES POLICIES (RP):**

### **RP1. Air Quality**

- Intent: To control activities to insure good air quality.
- Policy: All activities and uses shall comply with all local air pollution regulations and all appropriate Federal air quality standards in order to ensure the maintenance of Guam's relatively high air quality.
- Discussion: The proposed project is very low impact and will not require substantial use of equipment or imply intensive site preparation. No standby generator is proposed.

### **RP2. Water Quality**

- Intent: To control activities that may degrade Guam's drinking, recreational, and ecologically sensitive waters.
- Policy: Safe drinking water shall be assured and aquatic recreation sites shall be protected through the regulation of uses and discharges that pose a pollution threat to Guam's waters, particularly in estuaries, reef and aquifer areas.
- Discussion: The proposed Aqua Fun Park marine recreation day tour operation will introduce human recreation activity in a specific controlled location (Figure 2). A perimeter barrier float system will contain the facility. On shore activities will be conducted to minimize the likelihood of waste or other materials from entering the marine environment. Toilet facilities at the adjacent Port Authority Beach Park will be renovated by the applicant for day use. A typhoon contingency plans have been drafted. To the greatest extent practical, assembly and disassembly of floating components will be conducted manually. An color example of the project layout is show in n Figure 3.

The Guam Water Quality Standards classification for marine waters at the site is M-3 Fair. Waters in this class are:

*Intended for general, commercial and industrial use, while allowing for protection of aquatic life, aesthetic enjoyment and compatible recreation with limited body contact. Specific intended uses include the following: shipping, boating, and berthing, industrial cooling water, and marinas (Guam EPA, 2001).*

### **RP3. Fragile Areas**

- Intent: To protect significant cultural areas, and natural marine and terrestrial wildlife and plant habitats.
- Policy: Development in the following types of fragile areas shall be regulated to protect their unique character.
- historical and archeological sites
  - wildlife habitats
  - pristine marine and terrestrial communities
  - limestone forests
  - mangrove stands and other wetlands
- Discussion: No special wildlife habitats, pristine marine or terrestrial communities, limestone forests, or other wetlands features are present on site. Three (3) small clusters of mangrove plants are present on the shoreline in front of the project site. These along with other shoreline species will be retained, to the greatest extent practical, to ensure stabilization. East of the project site, and south on the other side of the Rt. 18 causeway, there are considerable mangrove resources at the Harbor of Refuge and Sasa Bay Marine Preserve respectively. Appendix C is a marine survey completed for the project.

The proposed project is located on dredge spoils deposited following WWII (Figure 4). This fill material represents little potential for sub-surface cultural material. The closest historic properties included on the National Register of Historic Places (Guam) are present approximately 9,000 feet west of the subject site. Both properties are submerged vessels, one atop the other, the SMS Cormoran and the Tokai Maru. As proposed, the project will not adversely affect registered historic properties and a "No Historic Properties Affected" determination is therefore appropriate.

### **RP4. Living Marine Resources**

- Intent: To protect marine resources in Guam's waters.
- Policy: All living resources within the territorial waters of Guam, particularly corals and fish, shall be protected from over harvesting and, in the case of marine mammals, from any taking whatsoever.
- Discussion: The proposal is for a limited marine recreational day tour facility located in an area that does not support a particularly diverse community of natural resources and was formed through placement of dredge spoils after WWII. Refer to biological and marine surveys attached. Increased human use will likely add some turbidity to area waters when customers walk to the nearest float component and when they fall off. At the same time any fish in the area may be startled. Some fish take advantage of bottom disturbances for opportunistic feeding while others flee. A 5,400 SF (operations) area inland of the shoreline will need to be cleared. Much of the vegetation away from the shoreline has been machete cut recently. For stabilization reasons alone, clearing will be controlled. Minor digging for footings and slabs is proposed. No mass grading is required or proposed.

Shading of corals was considered a potential impact however no examples of live coral were identified in the footprint (footprint shifted east as avoidance) of the proposed floating park during surveys. The float system layout is contained with other project plans, drawings and diagrams in Appendix A. Disruption to potential sea turtle foraging and potential for anchor line entanglement was considered. Proposed anchor line material was changed from supple rope to rigid steel cable to greatly reduce any potential for entanglement. An inquiry with the Guam Department of Agriculture about documented use of the area by turtles yielded a negative response. Their periodic island survey database did not contain sightings of sea turtles in the area. Nevertheless, consideration was given to sea turtles and the number of rigid steel wire anchor lines will be held to a minimum. Recently, awareness of suntan oil use and introduction to marine waters has increased. Suggestions

to mitigate the effect of this facility will have on existing water quality (classified M3 Fair) will be considered.

No harvesting of marine resources is proposed or will be tolerated. Suggested BMPs resulting from coordination with the permitting and other regulatory agencies (USCOE, USFWS, NMFS, Guam DOAG DAWR, Guam EPA) will be utilized during the project to protect living marine resources in the project vicinity.

#### **RP5. Visual Quality**

- Intent: To protect the quality of Guam's natural scenic beauty
- Policy: Preservation and enhancement of, and respect for the island's scenic resources shall be encouraged through increased enforcement of and compliance with sign, litter, zoning, subdivision, building and related land-use laws. Visually objectionable uses shall be located to the maximum extent practicable so as not to degrade significant views from scenic overlooks, highways and trails.
- Discussion: The project will generally be visually compatible with the adjacent beach park. The low intensity nature of the project will not imply permanent impacts to the visual quality of the area.

#### **RP6. Recreation Areas**

- Intent: To encourage environmentally compatible recreational development.
- Policy: The Government of Guam shall encourage development of varied types of recreational facilities located and maintained so as to be compatible with the surrounding environment and land uses, adequately serve community centers and urban areas and protect beaches and such passive recreational areas as wildlife and marine conservation areas, scenic overlooks, parks and historical sites.
- Discussion: The proposed project is compatible with the adjacent beach park and surrounding marine environment which hosts the Commercial Port, the Harbor of Refuge and greater Apra Harbor.

#### **RP7. Public Access**

- Intent: To ensure the right of public access.
- Policy: The public's right of unrestricted access shall be ensured to all non-federally owned beach areas and all Territorial recreation areas, parks, scenic overlooks, designated conservation areas and their public lands; and agreements shall be encouraged with the owners of private and federal property for the provision of releasable access to and use of resources of public nature located on such land.
- Discussion: While a fence system is under consideration for security/safety purposes, the proposed Aqua Fun Park will not represent an obstacle to public access is available on either side of the subject site.

#### **RP8. Agricultural Lands**

- Intent: To stop urban types of development on agricultural land.
- Policy: Critical agricultural land shall be preserved and maintained for agricultural use.
- Discussion: Not applicable. The proposed project will not impact agricultural land in any way.

**FEDERAL CONSISTENCY  
SUPPLEMENTAL INFORMATION FORM  
Date: September 3, 2019**

Project/Activity Title or Description: Aqua Fun Park Apra Harbor Piti  
Location: Portion of Parcel 1 Apra Harbor Piti  
Other applicable area(s) affected, if appropriate: Not applicable.  
Est. Start Date: Spring 2019  
Est. Duration: N/A

**APPLICANT**

Name & Title: Myung K. Park, General Manager  
Address: PO Box 8832 Tamuning, Guam 96931

Telephone No. during business hours:

A/C: (671) 777-0011  
Fax: (671) 646-6789

**AGENT**

Name & Title: Joel Sablan  
Agency/Organization: ARC Environmental Services  
Address: PO Box 12331 Tamuning, Guam  
Zip: 96931

Telephone No. during business hours:

A/C: (671) 482-6088  
Fax: none

**CATEGORY OF APPLICATION (check one only)**

- ☐ I Federal Agency Activity  
☒ II Permit or License  
☐ III Grants & Assistance

**TYPE OF STATEMENT** (check one only)

- ☒ Consistency
- ☐ General Consistency (Category I only)
- ☐ Negative Determination (Category I only)
- ☐ Non-Consistency (Category I only)

**APPROVING FEDERAL AGENCY** (Categories II & III only)

|                 |                                     |
|-----------------|-------------------------------------|
| Agency:         | U.S. Army Corps of Engineers (ACOE) |
| Contact Person: | Ms. Karen Urelus                    |

Telephone No. during business hours: (671) 339-2108

**FEDERAL AUTHORITY FOR ACTIVITY**

Title of Law: Clean Water Act, Section 404

## OTHER TERRITORIAL APPROVALS REQUIRED

| Agency                    | Type of Approval       | Date of Application    | Status                |
|---------------------------|------------------------|------------------------|-----------------------|
| Guam EPA                  | 401Water Quality Cert  | Concurrent             | Pending               |
| Dept. of Public Works     | Building Permit        | Upon appvl. of permits | Pending other appvls. |
| US ACOE                   | Section 404            | Concurrent             | Pending               |
| Dept. Parks & Rec. (SHPO) | Section 106            | Future date            | Pending submission    |
| USFWS                     | Endangered Species Act | Concurrent             | Pending               |
| NMFS                      | Essential Fish Habitat | Concurrent             | Pending               |

September 3, 2019

**Tyrone Taitano**

**Director**

Bureau of Statistics and Plans

P.O. Box 2950

Hagatna, Guam 96932

**Attn: Edwin Reyes – Administrator, Guam Coastal Management Program**

**Subject: Certification Statement for the Proposed Aqua Fun Park Portion of  
Parcel 1 Apra Harbor Piti**

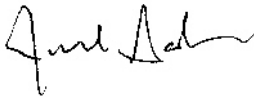
**Hafa Adai Mr. Taitano**

My client, Mr. Myung K. Park of Eun Sung Corporation, is proposing the development of floating inflatable marine recreation facility entitled Aqua Fun Park at the abovementioned location. Project drawings and photographs are appended to this application.

By completing and operating the proposed project, additional day tour options will be added to the island's visitor industry day tour inventory. Specifically, the park will offer marine recreation at a unique floating recreational facility adjacent the Port Authority Beach in Piti. Additional details are included in this package.

After evaluation of the project goals and the potential impacts that it may imply, we have come to the determination that the proposed activity complies with the enforceable policies of the Guam Coastal Management Program and will be conducted in a manner consistent with such Program.

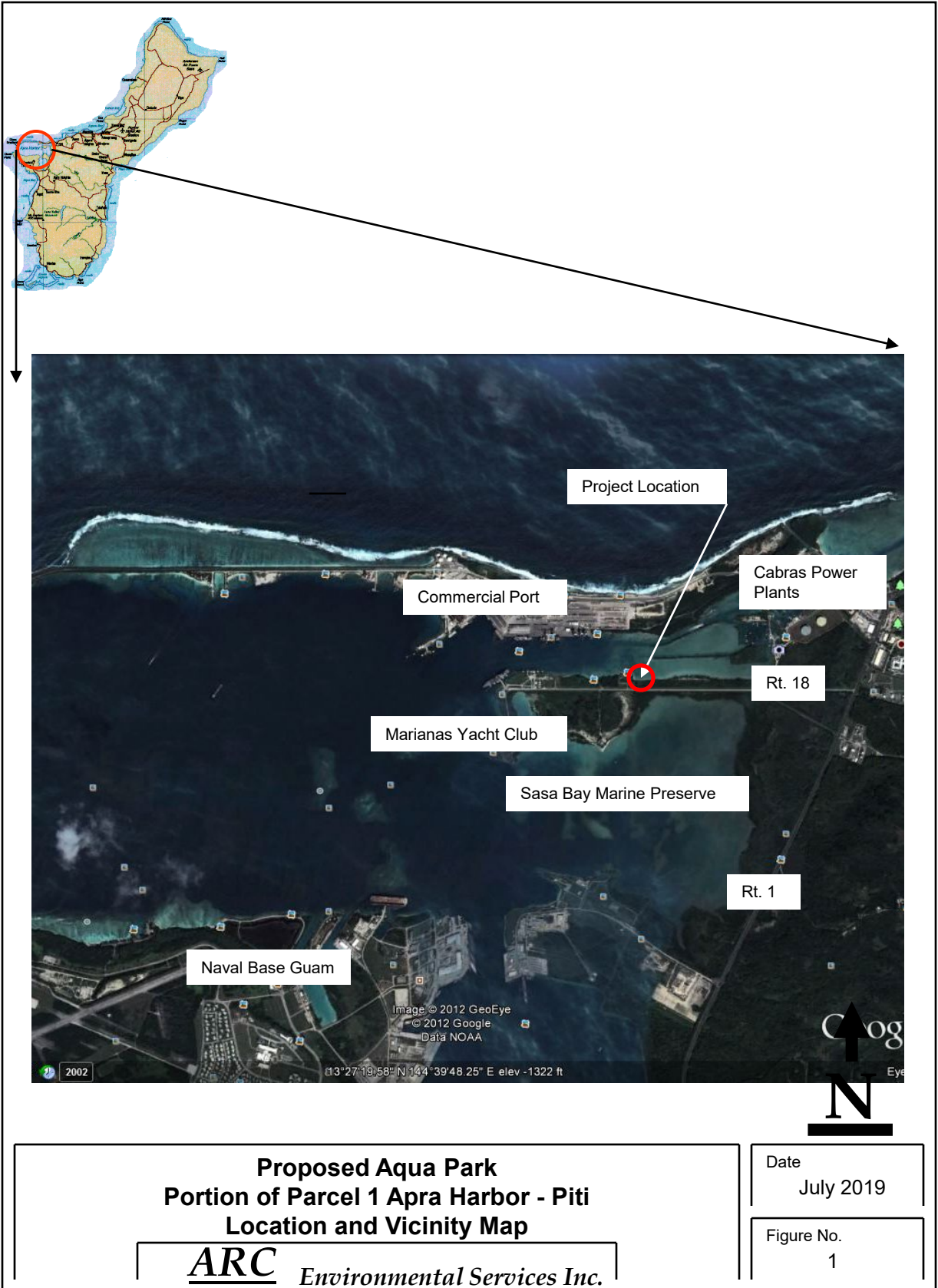
**Very respectfully,**

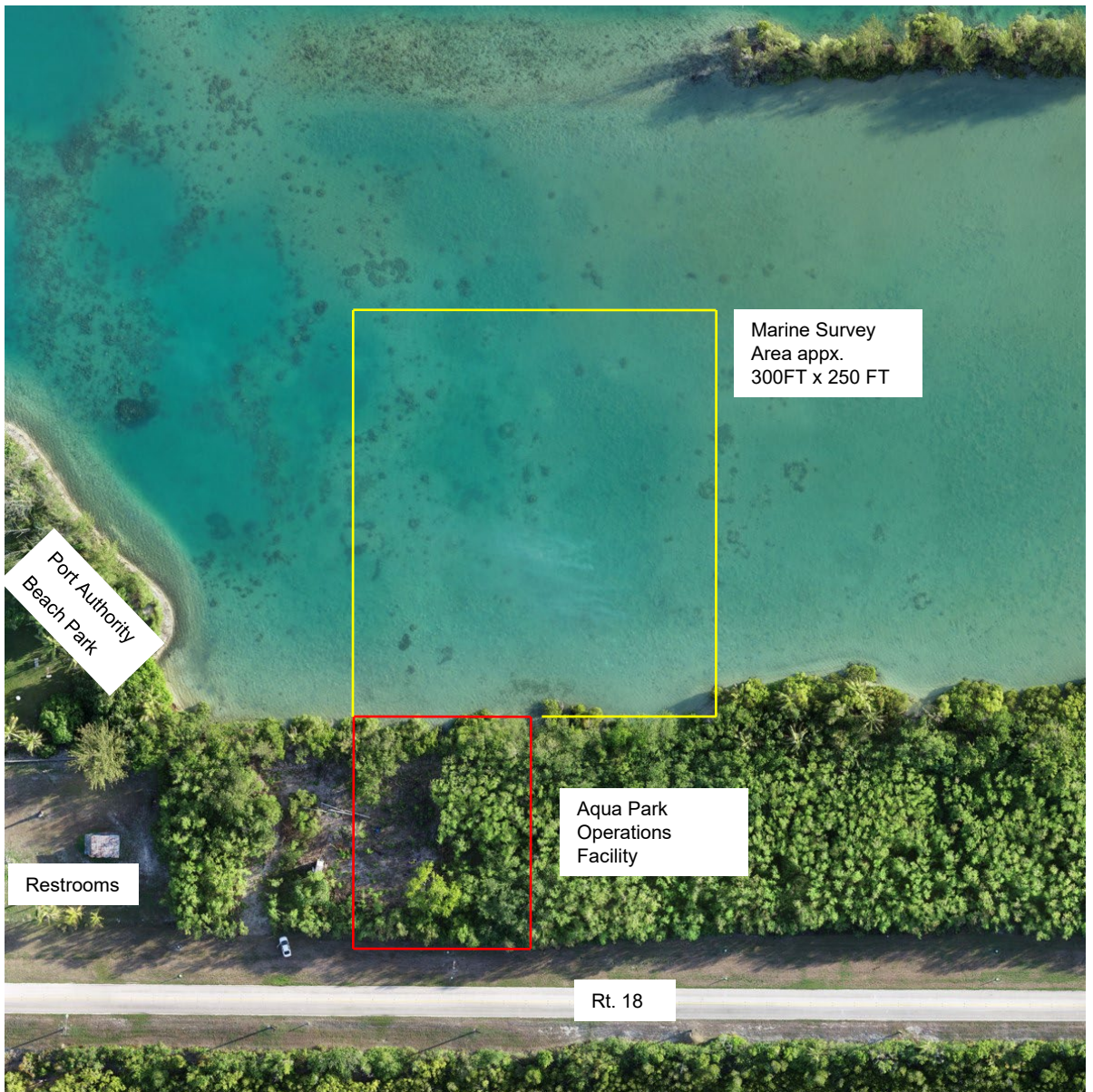


**Joel Sablan**

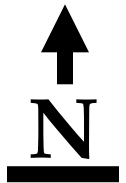
ARC Environmental Services Inc.

attachments as noted





NTS

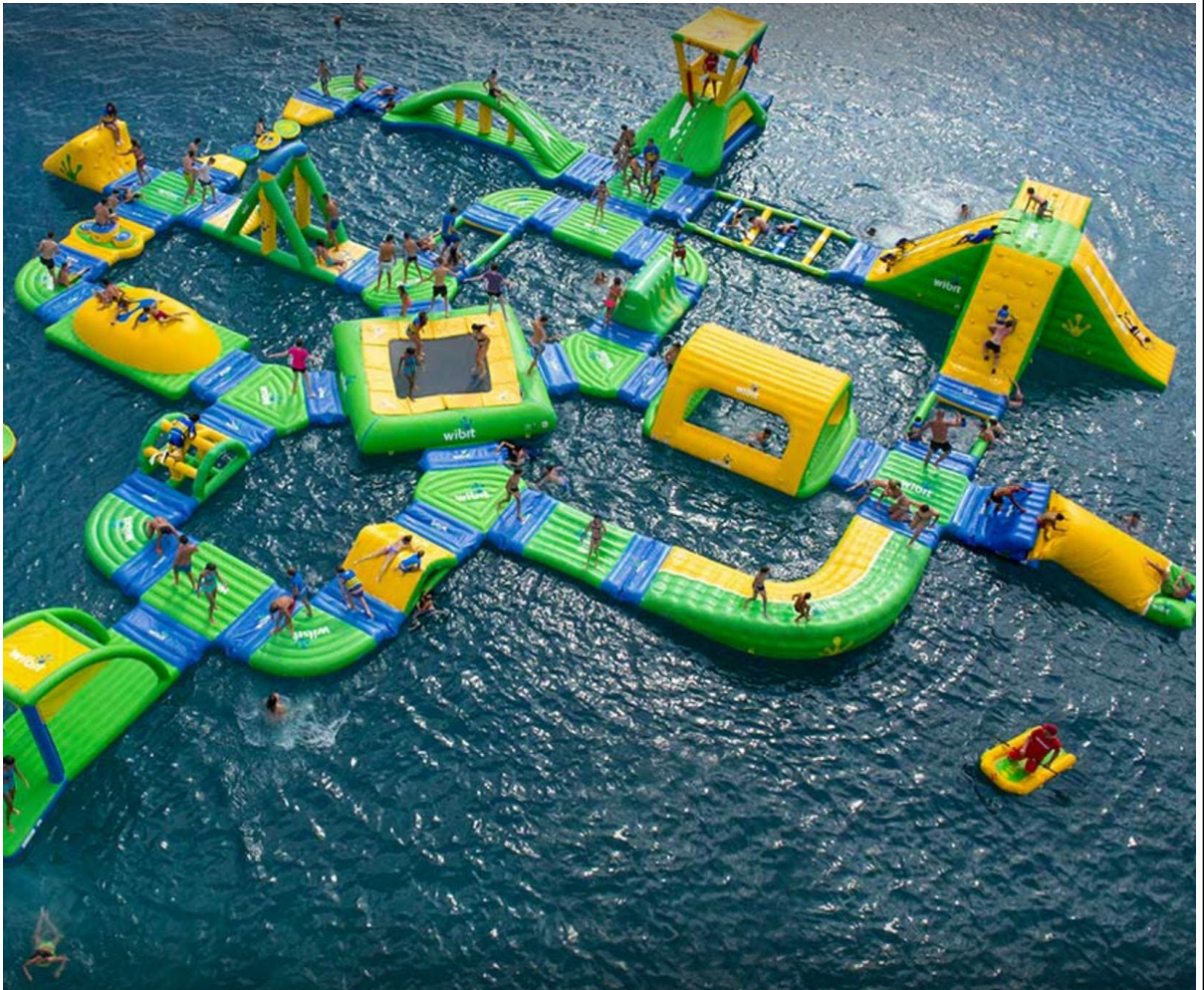


**Proposed Aqua Park  
Terrestrial and Marine Survey Limits**

**ARC** *Environmental Services Inc.*

Date  
July 2019

Figure No.  
2



**Example of General Aqua Park Concept**

**ARC**

*Environmental Services Inc.*

Date  
July 2019

Figure No.  
3

Cabras Island

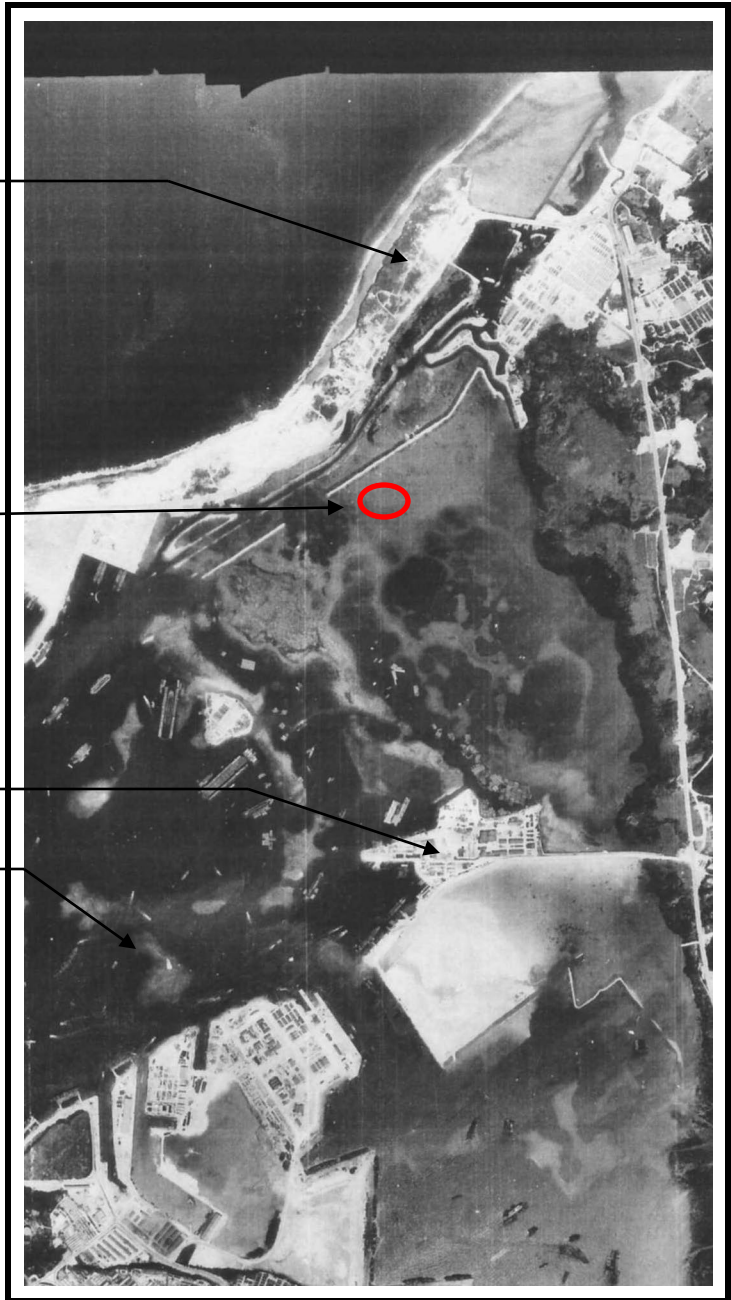
Approximate  
Location of Subject  
Property

Polaris Point

Apra Harbor

**1946 Aerial Photograph of Apra  
Harbor**

NOT TO SCALE



*Source: Micronesia Area Research Center – University of  
Guam*

**1946 Photo  
Apra Harbor - Piti**

**ARC**

*Environmental Services*

Date  
July 2019

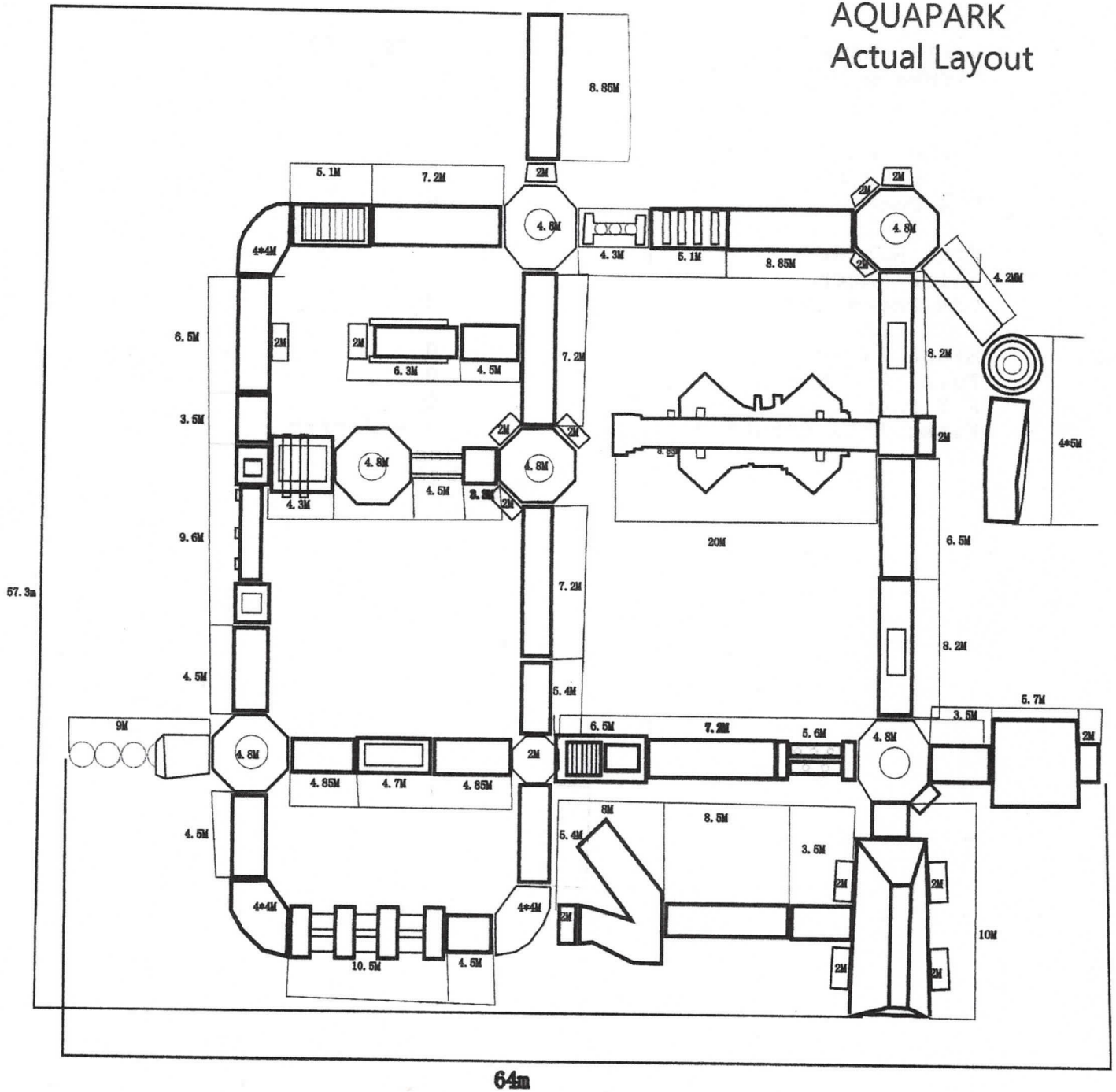
Figure No.  
4

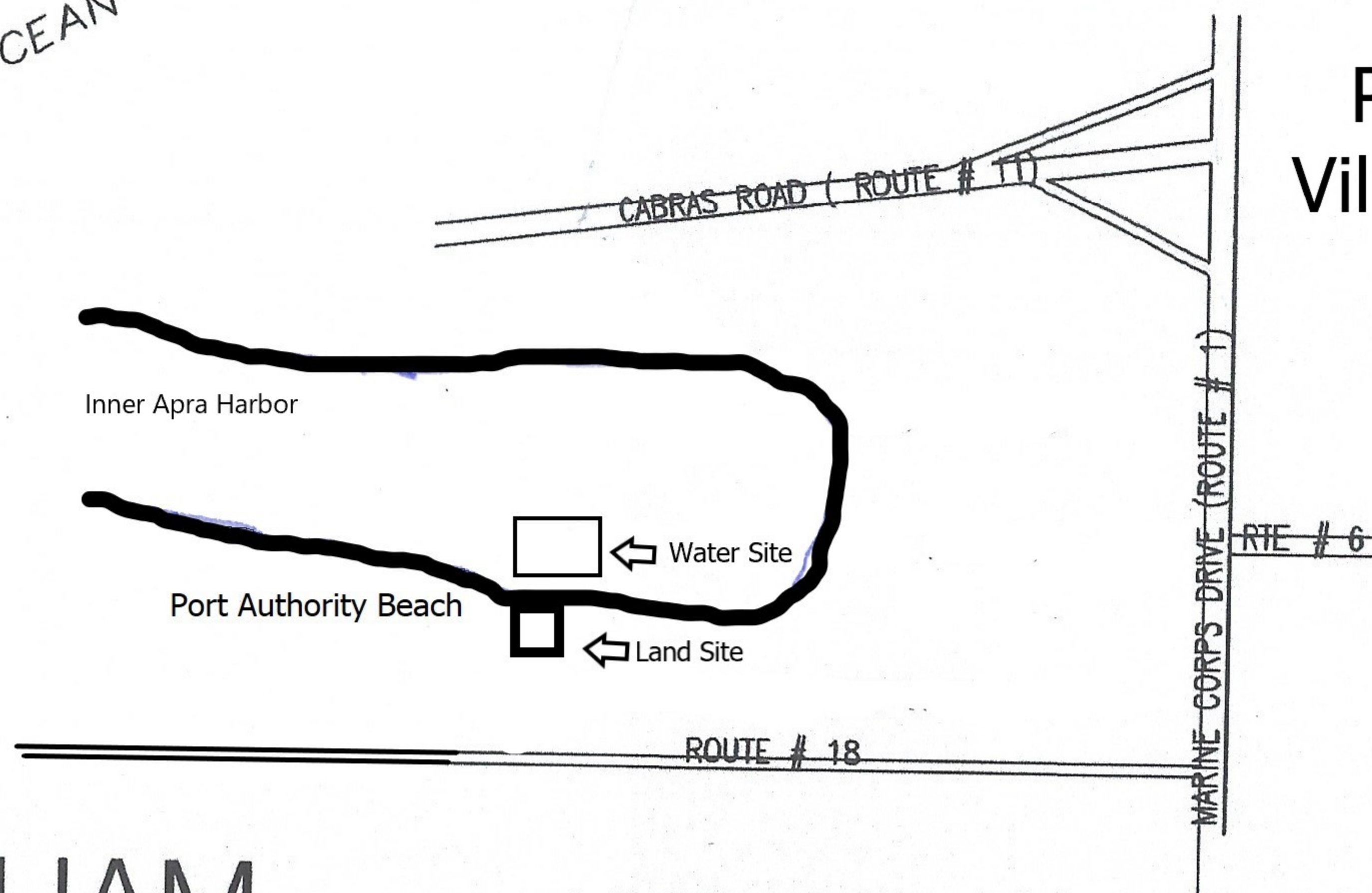
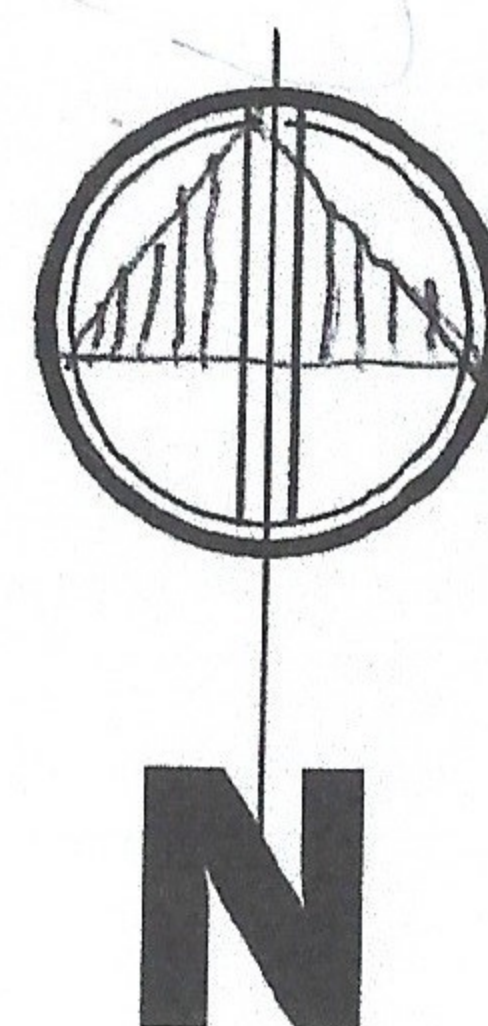
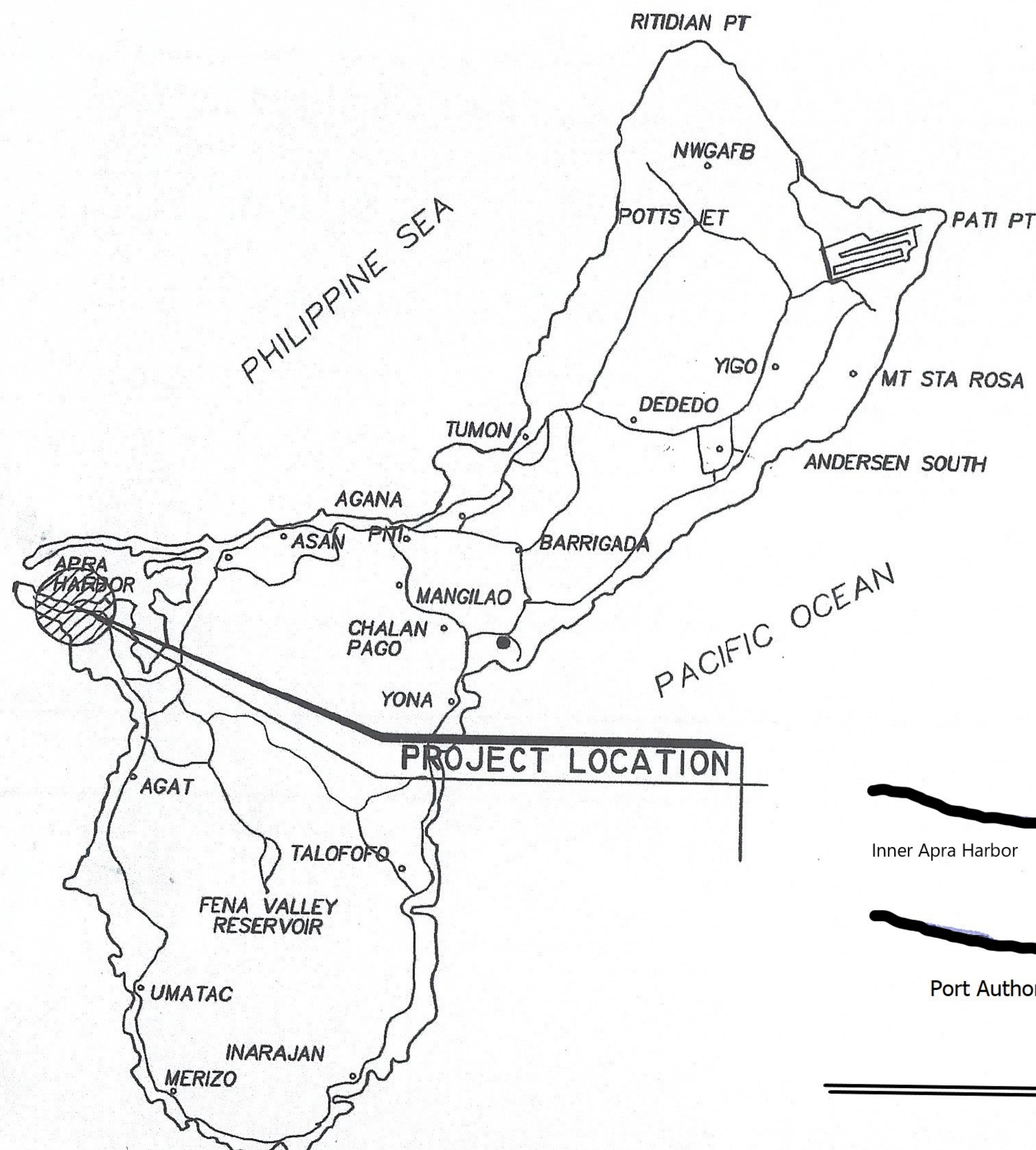
# Appendix A

## Plans, Drawings and Diagrams

## AQUAPARK

### Actual Layout





1 MAP OF GUAM  
C-1A NOT TO SCALE

2 VICINITY MAP  
C-1A NOT TO SCALE

REFERENCE (DA) POH 2019-85  
APPLICANT EUN SUNG CORPORATION  
LAT/LONG LAT. N 13° 27' 28.02"  
LONG. E 144° 40' 31.38"

LOCATION BEACH AREA, (PORTION OF PARCEL 1)

PAGE 1 OF 5

PROPOSED PROJECT INFLATABLE WATER PARK  
IN APRA HARBOR  
NEAR PITI  
COUNTY N/A  
STATE/TERRITORY GUAM

Inner Apra Harbor

## Water Site

PROPOSED 187'-0" X 209'-0"  
INFLATABLE WATER PARK

Inner Apra Harbor

10'-0" SAFETY  
PERIMETER MARKER

90.01'  
N89° 37' 10"E

↑  
MHWM

## Land Site

PROPOSED 69'-0" X 90'-0"  
TOTAL AREA TO BE OCCUPIED

PARCEL 1

EXISTING PUBLIC RESTROOMS

WALKWAY

WALKWAY

90.00'  
N89° 42' 36"W

NORTH

ROUTE NO. 18 (100 FT. R/W)

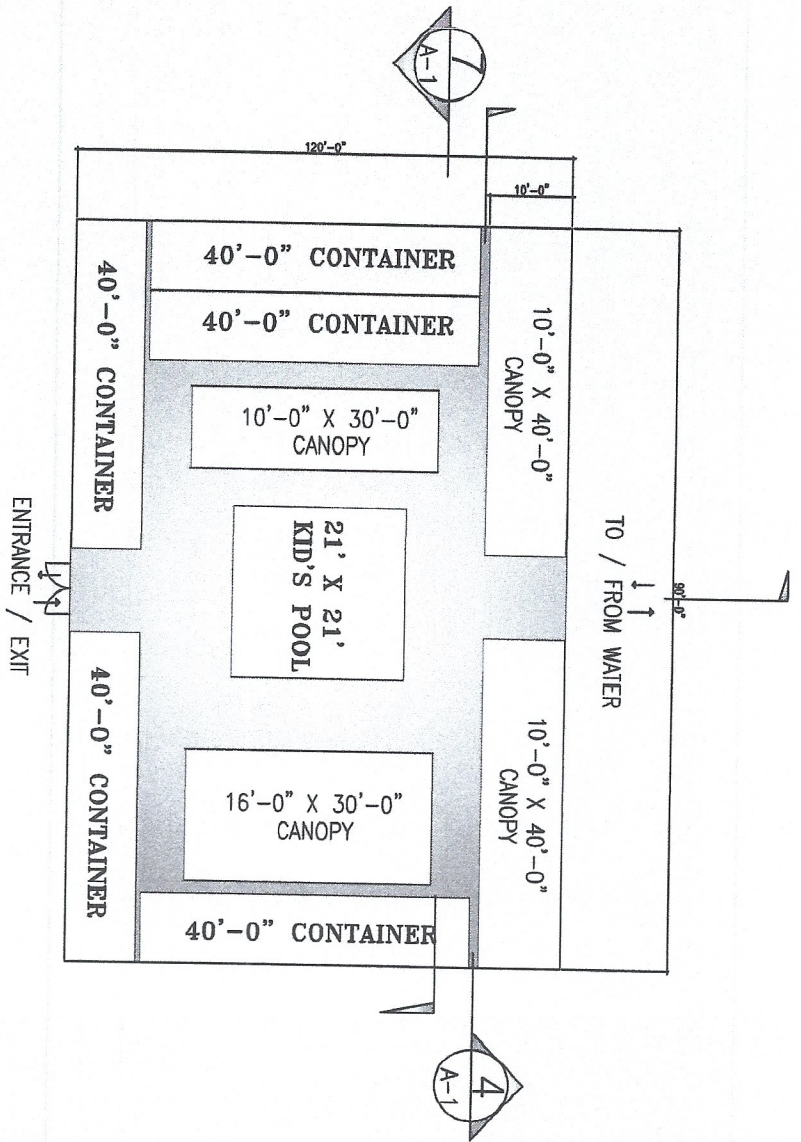
1  
C-1A

SITE DEVELOPMENT PLAN

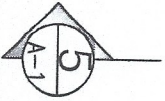
SCALE

REFERENCE NUMBER (DA) POH 2019-85  
APPLICANT EUN SUNG CORPORATION  
PROPOSED INFLATABLE WATER PARK  
LOCATION PORT BEACH AREA  
PAGE 2 OF 5

DATE AUG. 16, 2019



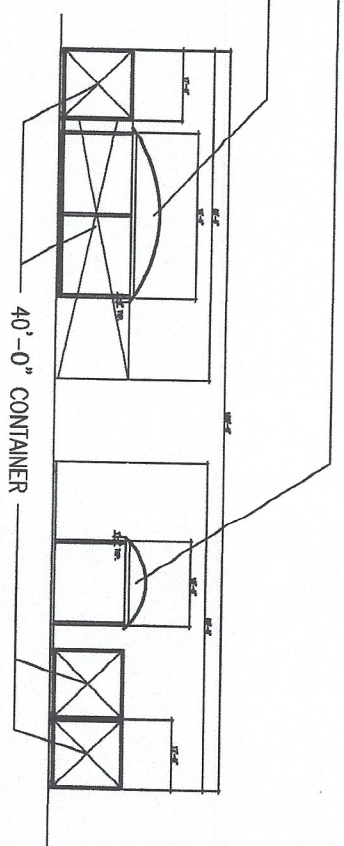
NOTE: ONLY UNDER THE CANOPY AREAS SHALL BE WITH 4" THICK CONCRETE FLOOR SLAB, OTHERWISE PLAIN SAND.



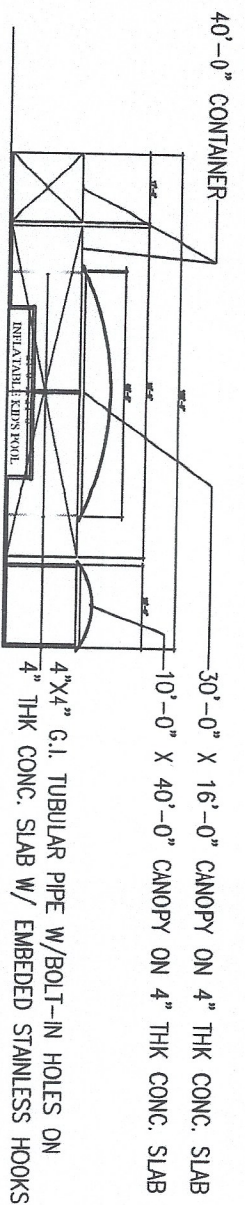
# 3 PLOT PLAN

SCALE 1/4" = 1'-0"

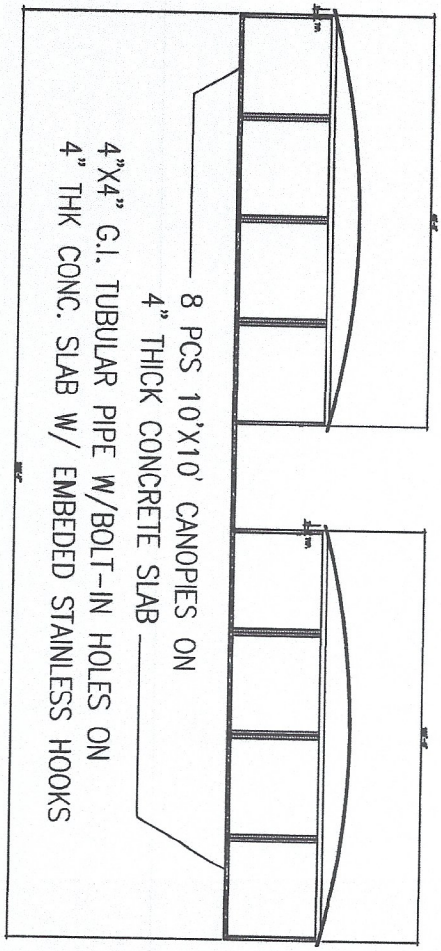
30'-0" X 10'-0" CANOPY ON 4" THK CONC. SLAB  
 30'-0" X 16'-0" CANOPY ON 4" THK CONC. SLAB



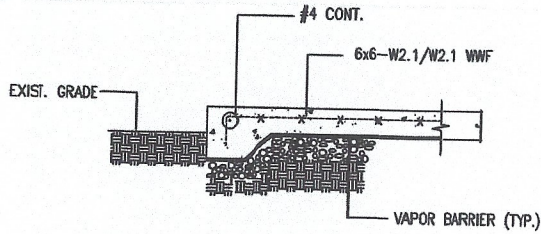
**7** SECTION ELEVATION  
 SCALE 1/4" = 1'-0"



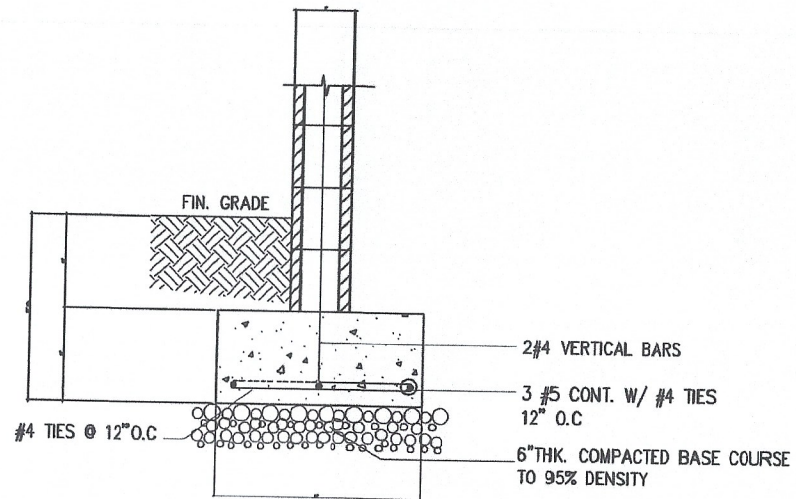
**5** SECTION ELEVATION  
 SCALE 1/4" = 1'-0"



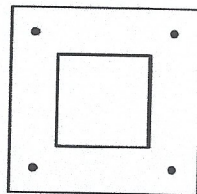
**4** SECTION ELEVATION  
 SCALE 1/4" = 1'-0"



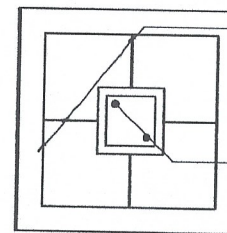
② SLAB FOOTING DETAIL  
SCALE 3/4"=1'-0"



① TYPICAL DETAIL OF COL. FTG.  
SCALE 3/4"=1'-0"



③ PLAN OF TUBULAR COL. (TYP.)

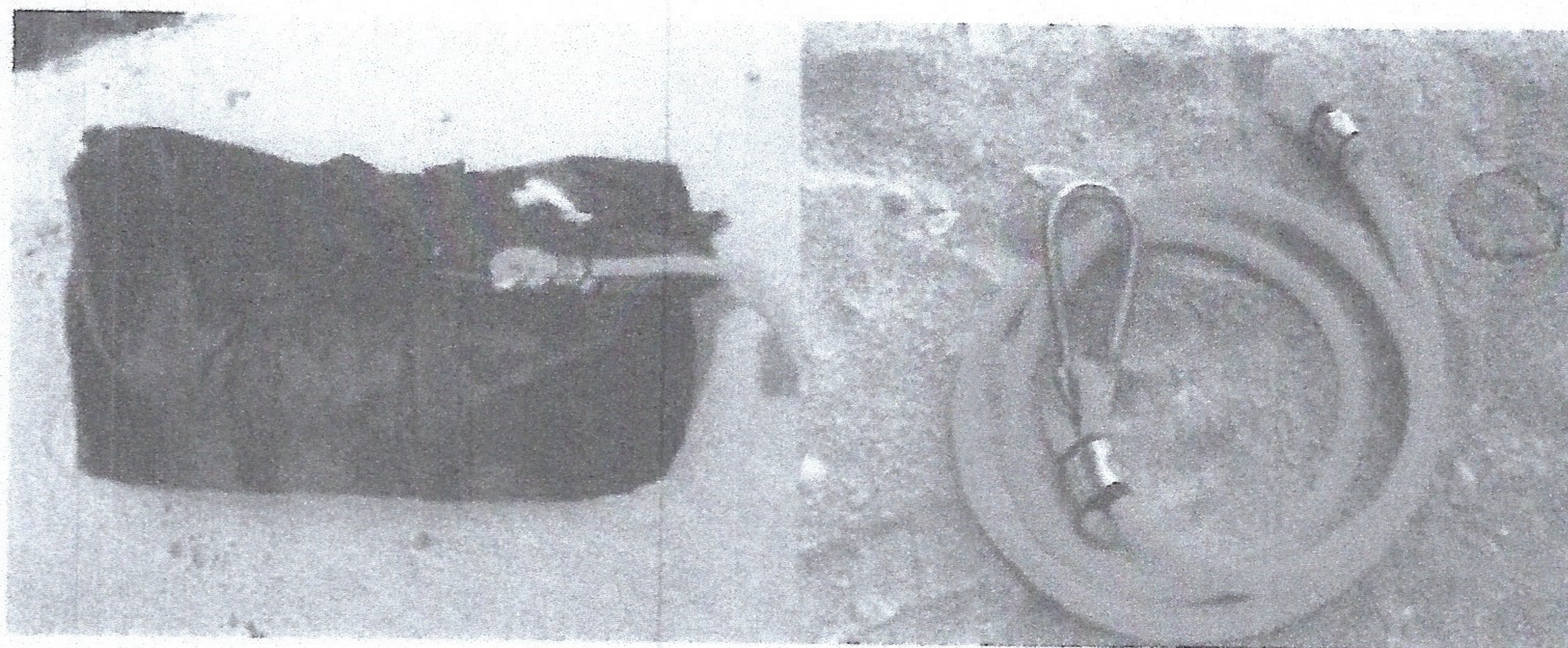


④ PLAN COL. FTG. (TYP.)

3 # 5 REBARS  
EACH WAY (TYPICAL)

8" X 8" CMU W/  
2 # 4 VERTICAL REBARS  
(TYPICAL)

Fixed of sandbag view the picture as below:



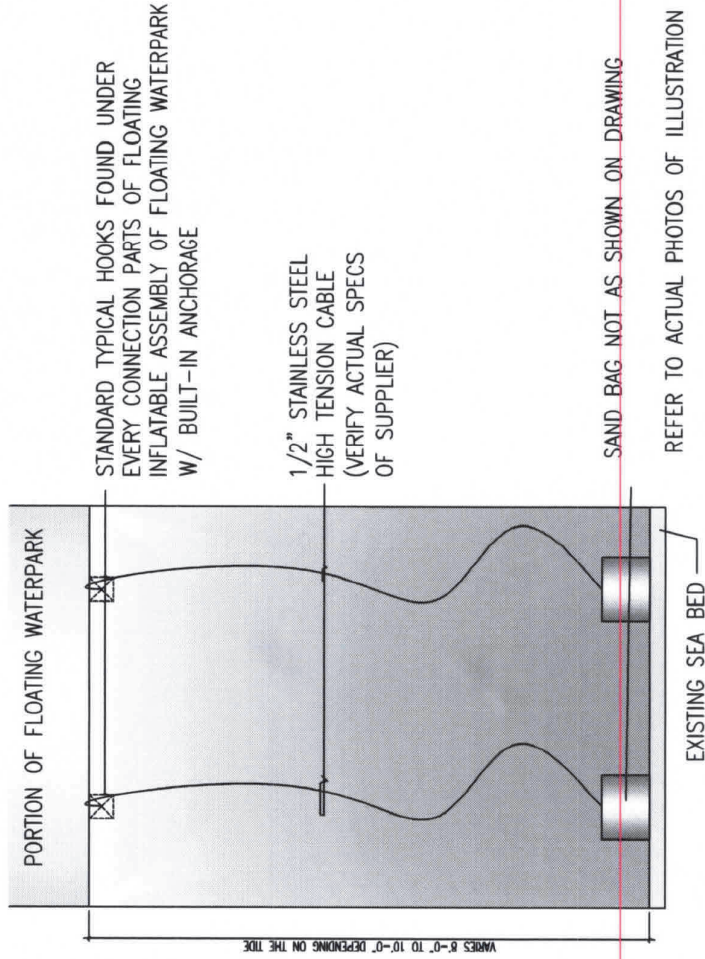
- A)inflate the water game items and fill up the sand bag
- B)connect the item and fix with sand bag
- C)check connection rope and adjust sand bag
- D)cover velcro flap

**Specifications of sandbag:**

**Size:**1m\*0.4m\*0.4m ;  
**Weight:**200KG;  
**Quantity :** 70Pcs;

**Specifications of sandbag:**

**Size:** 3.28 ft x 1.31 ft x 1.31 ft  
**Weight:** 440.92 lbs  
**Quantity:** 70 Pcs



SAND BAG NOT AS SHOWN ON DRAWING

REFER TO ACTUAL PHOTOS OF ILLUSTRATION

## 6 ANCHORAGE DETAIL

SCALE

NOT TO

A-1

### NOTE

#### SPECIFICATIONS OF SAND BAG

SIZE 3.28 FT X 1.3 FT X 1.3 FT  
WEIGHT 440 LBS.  
QUANTITY 70 PCS

1. INFLATE THE WATER GAME ITEMS AND FILL UP THE SAND BAG
2. CONNECT THE ITEM AND FIX WITH SAND BAG
3. CHECK CONNECTION ROPE AND ADJUST SAND BAG
4. COVER VELCRO FLAP

REFERENCE NUMBER DA POH 2019-85  
APPLICANT EUN SUNG CORPORATION  
PROPOSED PROJECT INFLATABLE WATER PARK  
LOCATION PORT BEACH AREA PORTION OF PARCEL 1  
PAGE 6 OF 6

# Appendix B

## Marine Survey

# **MARINE SURVEY REPORT**

## **Portion of Parcel 1**

### **Apra Harbor – Piti**



*Submitted by:*



**P.O. Box 12331**  
**Tamuning, Guam 96931**  
**(671) 969-6723**  
**[jsablan@arcguam.com](mailto:jsablan@arcguam.com)**

**July 2019**

# Marine Survey Report

## Proposed Aqua Park - Parcel 1Apra Harbor - Piti

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### Appendices

Appendix A – Photographs

## **1.0 INTRODUCTION**

The purpose of this survey is to identify benthic resources, and in particular any federally listed coral or other species, sea grass beds or other important benthic resources present on an approximately 1.75 acre portion of the marine environment seaward of the north side of Route 18 Apra Harbor Parcel 1 in Piti. This report will be combined with other site specific data to assist the project proponent with obtaining land use and development permits for a proposed floating inflatable water park facility (Aqua Park). This facility will include a 540 square foot day operations area along the shoreline and an approximately 1 acre rectangular area seaward of the operations facility. Early consideration of natural resources can help to mitigate (sighting alternatives, BMPs etc.), to the maximum extent practical, any impacts to special status species or important resources that may be present on site.

## **2.0 PROJECT SITE DESCRIPTION**

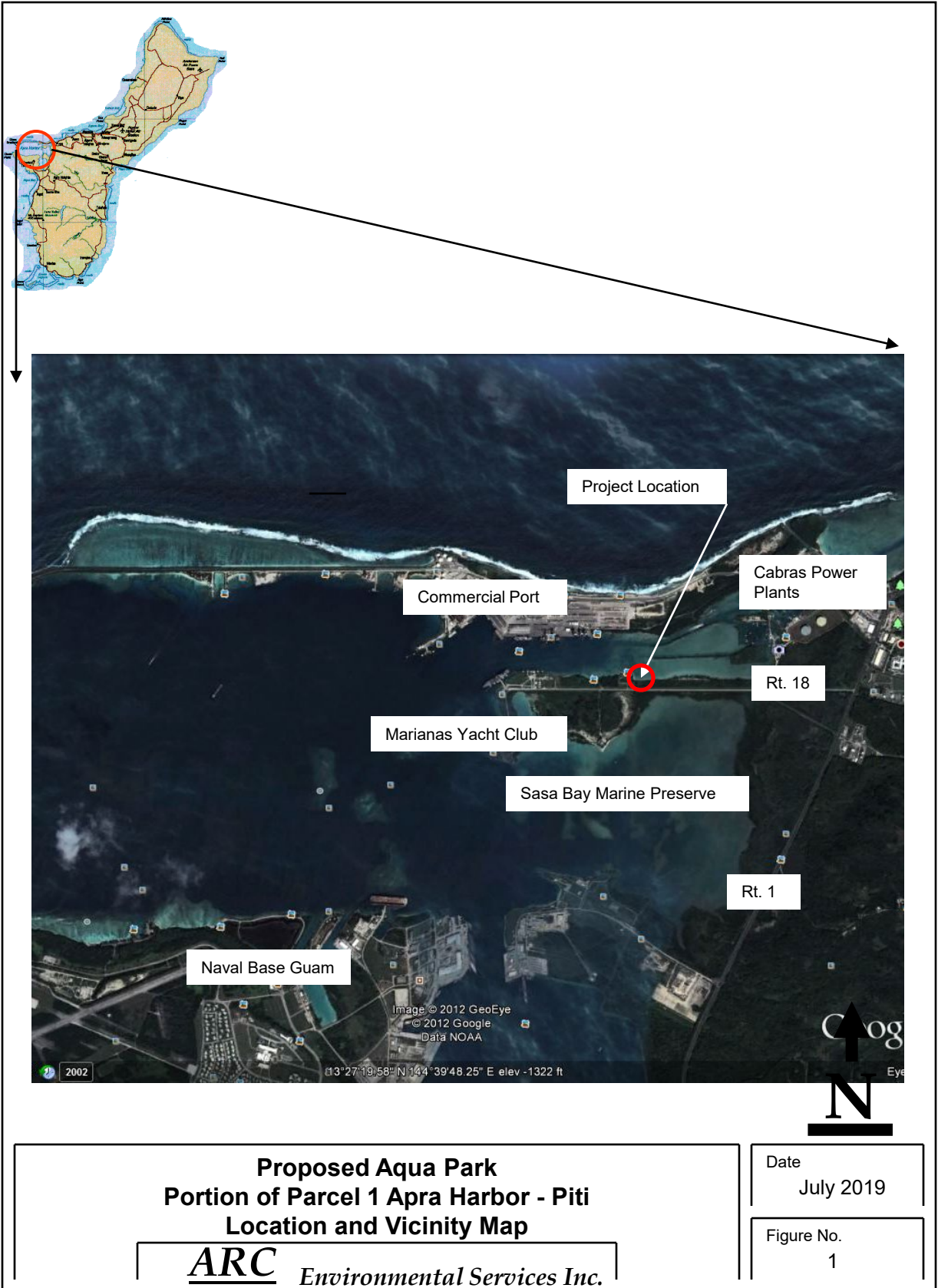
### **2.1 Background/Location**

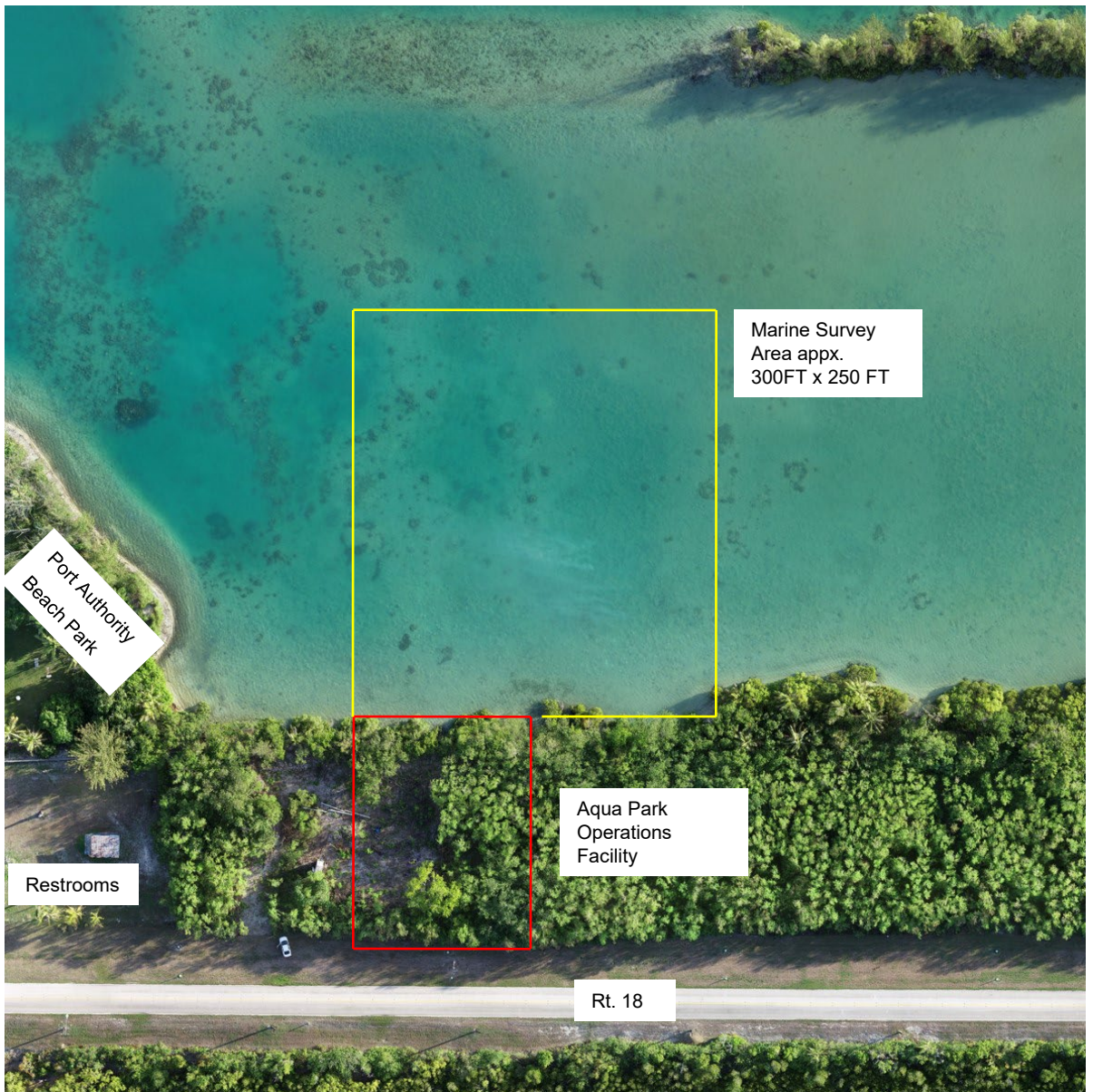
The proposed Aqua Park subject site is situated north of Route 18 and directly east of the Port Authority Beach in Piti. Figure 1 is a location and vicinity map of the subject site and surrounding area. The proposed operation will occupy a sub-portion (both terrestrial and marine) of the overall survey limits depicted in Figure 2. Landside facilities will include shipping container-based office and storage, canopies/gazebos and seating. This day facility will utilize the public restrooms located to the west at the Port Authority Beach. The Port Authority of Guam is the owner of the site and intends to lease use of the area to the project proponent Eunsung Corporation. Figure 3 depicts an example of the general concept of a similar floating marine park.

The marine portion of the proposed Aqua Park will occupy an area in front of the terrestrial operational footprint. Approximately 250 FT by 200 FT area inside of the yellow rectangle shown on Figure 2 will be utilized for the inflatable play facility that comprises Aqua Park. The Guam Commercial Port wharf is located 1,000 feet directly northwest of the subject site. The Port Harbor of Refuge and Aqua Marina are located 2,500 feet to the east. The Sasa Bay Marine Preserve and the Marianas Yacht Club are situated on the opposite side of the Route 18 causeway.

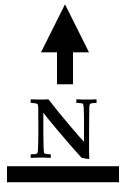
### **2.2 Existing Features**

The terrestrial portion of subject site (and property to the west) has been partially hand cleared and contains the remnants of a communications tower or antenna facility that was damaged in a recent typhoon. The area included in this survey is relatively flat and extends from the shoulder of Route 18, where a Navy utilities easement is present, north towards the shoreline. At the shoreline a drop in elevation of about six (6) feet is present. Coral fragments and rubble at the ground surface across the site support early aerial photographs which show that the entire length of the causeway west of Route 1 was developed from Apra Harbor dredge spoils. Figure 4 is a 1946 aerial showing what the area looked like shortly after WWII and prior to the construction of the Route 18 causeway.





NTS

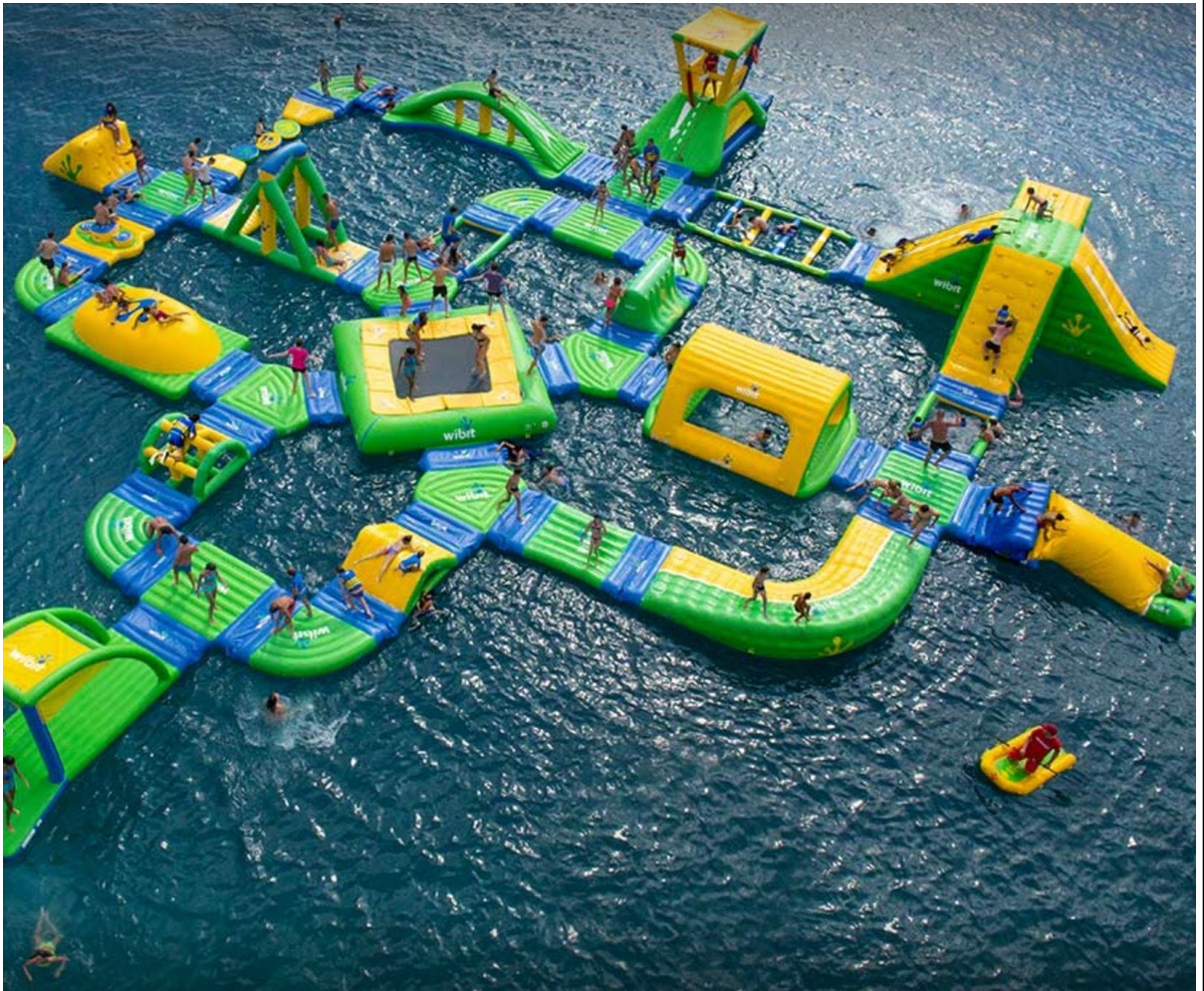


**Proposed Aqua Park  
Terrestrial and Marine Survey Limits**

**ARC** *Environmental Services Inc.*

Date  
July 2019

Figure No.  
2



**Example of General Aqua Park Concept**

**ARC**

*Environmental Services Inc.*

Date  
July 2019

Figure No.  
3

Cabras Island

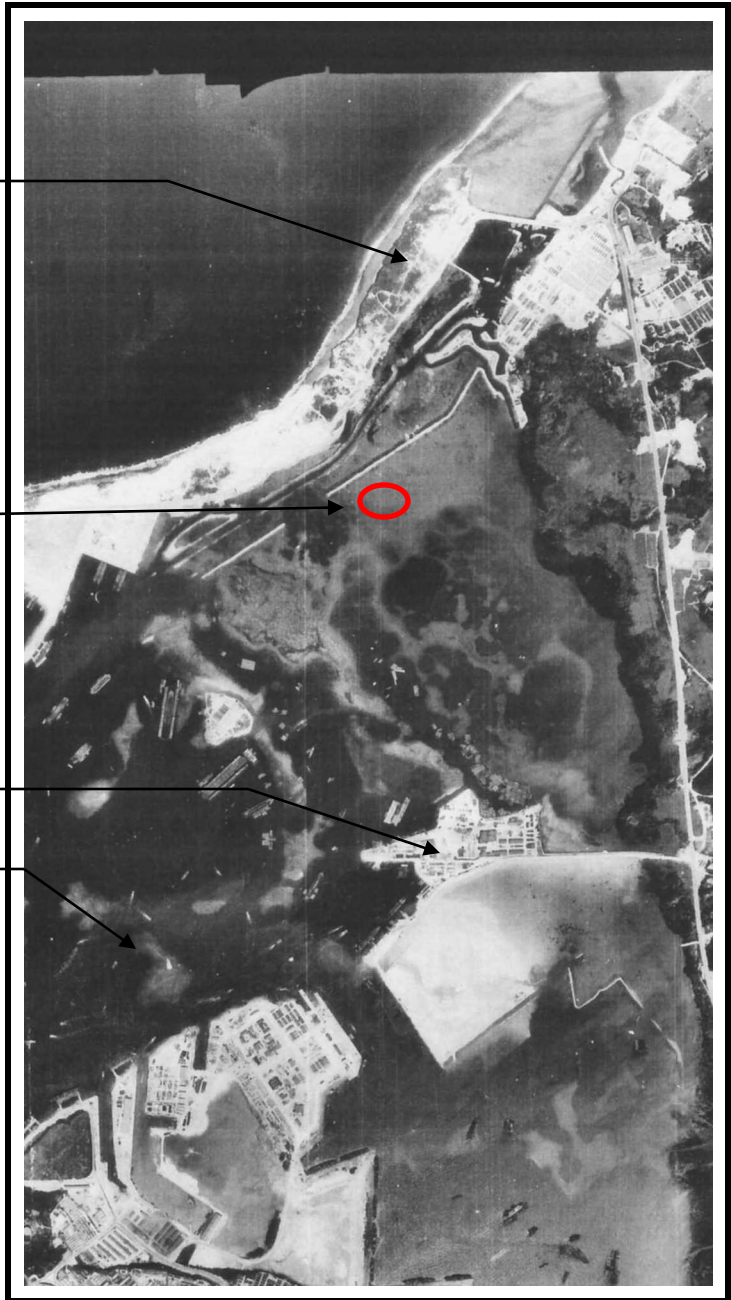
Approximate  
Location of Subject  
Property

Polaris Point

Apra Harbor

**1946 Aerial Photograph of Apra  
Harbor**

NOT TO SCALE



*Source: Micronesia Area Research Center – University of  
Guam*

**1946 Photo  
Apra Harbor - Piti**

**ARC**

*Environmental Services*

Date  
July 2019

Figure No.  
4

A narrow strip of vegetation remains along the six (6) foot high shoreline berm. Species consisted of plants tolerant of coastal conditions including *Pemphis acidula*, *Thespesia populnea*, *Talipariti tiliaceum* and *Xylocarpus moluccensis*. Small clusters of the mangrove species *Rhizophora mucronata* have also gained a foothold in the area. Significant mangrove resources are found further inland around the Harbor of Refuge as well as on the opposite side of the Rt. 18 causeway to the south in Sasa Bay.

## 2.3 Water Quality and Physical Characteristics

Water quality in the project vicinity appears to be impacted by large vessel movements that are transported, under certain tidal/current conditions, to surrounding areas including the project site. Compounding these conditions would be the absence of significant circulation and storm water inputs in the vicinity. Silty and at times mucky sand (containing a layer of dark organic material) was found to be present. Visibility in many areas around the survey footprint was greatly diminished and at times entirely obscured the view making intermittent dives downward necessary to survey the bottom in places. Visibility was best along the shoreline where movement provides some flushing effects. The 2001 Guam Water Quality Standards classify waters at the project site as "M-3." Waters in this class are considered "fair" and...

*Intended for general, commercial and industrial use, while allowing for protection of aquatic life, aesthetic enjoyment and compatible recreation with limited body contact. Specific intended uses include the following: shipping, boating, and berthing, industrial cooling water, and marinas (Guam EPA, 2001).*

The 2005 Guam Coastal Atlas categorizes benthic habitat in the area to be comprised of Uncolonized sand 90-100% (Burdick, 2005). A very narrow strip of Mud, Emergent Vegetation is shown as being present (refer to Figure 5).

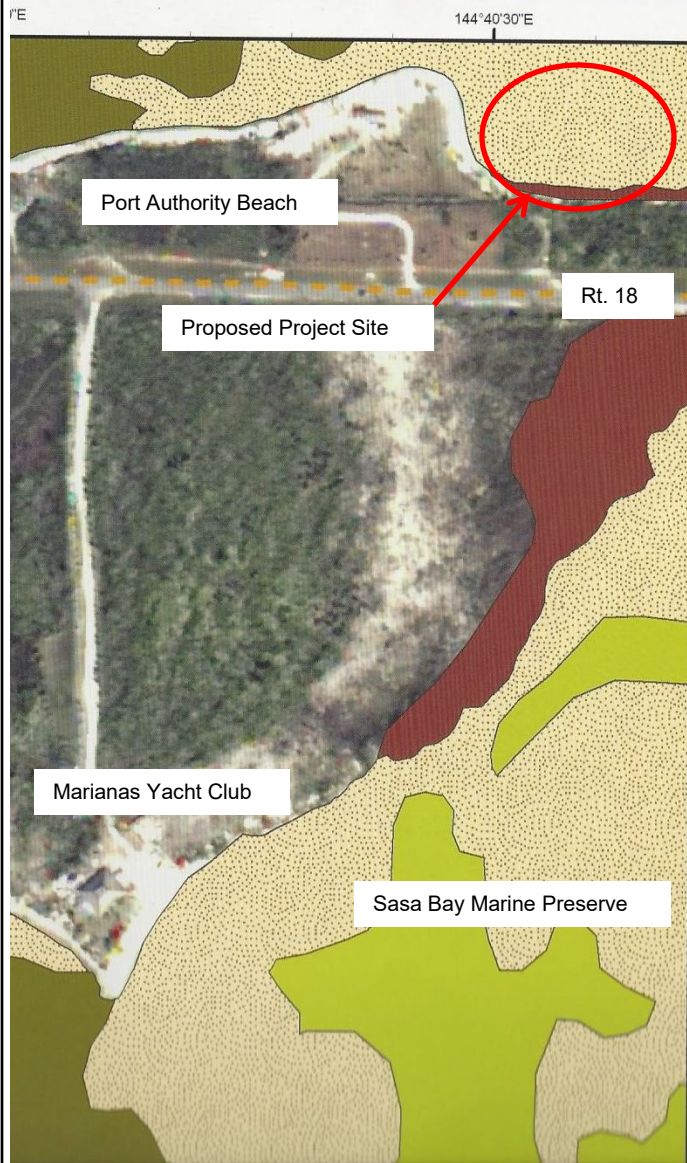
## 3.0 SURVEY RESULTS

### 3.1 Survey Methods

On June 2<sup>nd</sup>, a casual swim through the near shore Harbor waters was conducted to get a general sense of physical characteristics, visibility, marine resources/diversity and overall conditions. After scoping meetings with the Guam Department of Agriculture Division of Aquatic and Wildlife Resources (GDoA DAWR) staff and staff at the NOAA PIRO Guam Field Office, the marine portion of the proposed project was surveyed on 50-foot transects (as laid out using a transect tape and flagging hung from trees on the shoreline) from the shoreline seaward (north-south) for a distance of 300 feet.

On the morning of July 10<sup>th</sup> a survey of a 300 FT by 250 FT rectangular area was conducted using a total of six (6) north-south oriented 300 foot long transects spaced 50 feet apart. The oversized survey footprint was established to permit the smaller aqua park footprint, measuring approximately 220 by 200 feet, to be shifted to provide flexibility for resource avoidance purposes if necessary.

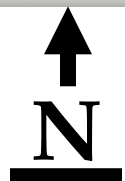
Two (2) staff using snorkeling gear, a transect tape, a camera and a writing slate for notes traversed each of the six (6) transects photographing representative features with a focus on potential live corals and sea grass beds (habitat) as well as any sea turtles, scalloped hammer



150 75 0  
1:4,000

#### Legend

- Marine Preserve Boundaries
- Mud, Emergent Vegetation 90%-100%
- Pavement, Macroalgae 10%-<50%
- Pavement, Turf 50%-<90%
- Sand, Uncolonized 90%-100%



### Proposed Aqua Park Site 2005 Guam Coastal Atlas – Benthic Habitat Map

**ARC** Environmental Services Inc.

Date  
July 2019

Figure No.  
5

head sharks or marine mammals. The following are potential species of concern relative to the proposed Aqua Park site as provided through consultation with NOAA PIRO staff and a review of NOAA website resources:

| <b>TABLE 1</b><br><b>Marine Protected Species of Concern</b> |                                              |               |
|--------------------------------------------------------------|----------------------------------------------|---------------|
| <b>Scientific Name</b>                                       | <b>Common Name</b>                           | <b>Status</b> |
| <i>Sphyrna lewini</i>                                        | Indo-West Pacific scalloped hammerhead shark | Threatened    |
| <i>Chelonia mydas</i>                                        | Central west Pacific green sea turtle        | Endangered    |
| <i>Eretmochelys imbricata</i>                                | Hawksbill sea turtle                         | Endangered    |
| <i>Acropora globiceps</i>                                    | Staghorn coral                               | Threatened    |
| <i>Acropora retusa</i>                                       | Staghorn coral                               | Threatened    |
| <i>Seriatopora aculeata</i>                                  | Club finger                                  | Threatened    |

Source: NOAA Fisheries Website July 2019

### 3.2 Site Observations

During the snorkel survey, notes on depth, bottom composition/cover and water clarity/notes was collected every 100 feet (starting at the shoreline) along the six (6) 300 foot long transects totaling twenty-four (24) stations. Table 2 below summarizes these observations.

| <b>TABLE 2</b><br><b>Site Observations by transect and Station</b> |             |                     |                                          |                                                                 |
|--------------------------------------------------------------------|-------------|---------------------|------------------------------------------|-----------------------------------------------------------------|
| <b>Tran. No.<br/>Station No.</b>                                   | <b>Time</b> | <b>Depth<br/>FT</b> | <b>Habitat/Benthic Characteristics</b>   | <b>Notes</b>                                                    |
| T1 S1                                                              | 0945        | 0.83                | Uncolonized coarse sand, coral fragments | Shoreline, moderate visibility                                  |
| T1 S2                                                              |             | 3.25                | Uncolonized silty fine sand              | Low visibility appx. 3 ft                                       |
| T1 S3                                                              |             | 5.0                 | Uncolonized silty fine sand              | Low visibility appx. 3 ft                                       |
| T1 S4                                                              |             | 4.75                | Uncolonized silty fine sand              | Low visibility appx. 3 ft                                       |
| T2 S1                                                              | 1015        | 0.83                | Uncolonized coarse sand, coral fragments | Shoreline, moderate visibility                                  |
| T2 S2                                                              |             | 3.25                | Uncolonized silty fine sand              | Few clusters <i>Halimeda</i> algae                              |
| T2 S3                                                              |             | 3.25                | Uncolonized silty fine sand              | Sulfidic scent on silty sand                                    |
| T2 S4                                                              |             | 3.25                | Uncolonized silty fine sand              | <i>Halimeda</i> & <i>Padina</i> algae covered boulders stations |
| T3 S1                                                              | 1050        | 0.91                | Uncolonized coarse sand                  | Shoreline improved visibility                                   |
| T3 S2                                                              |             | 3.25                | Uncolonized silty fine sand              | 2 sea cucumbers, low visibility                                 |
| T3 S3                                                              |             | 4.0                 | Uncolonized silty fine sand              | Low visibility appx. 3 ft                                       |
| T3 S4                                                              |             | 3.66                | Uncolonized silty fine sand              | Shallower at end of 300 transect                                |
| T4 S1                                                              | 1110        | 1.0                 | Uncolonized coarse sand, coral fragments | Shoreline, mangrove                                             |
| T4 S2                                                              |             | 3.25                | Uncolonized silty fine sand              | Low visibility appx. 3 ft                                       |
| T4 S3                                                              |             | 4.66                | Uncolonized silty fine sand              | Low visibility appx. 3 ft                                       |
| T4 S4                                                              |             | 4.42                | Uncolonized silty fine sand              | Low visibility appx. 3 ft                                       |
| T5 S1                                                              | 1125        | 1.08                | Uncolonized coarse sand                  | Shoreline, mangroves near                                       |
| T5 S2                                                              |             | 3.0                 | Uncolonized silty fine sand              | Low visibility appx. 3 ft                                       |
| T5 S3                                                              |             | 2.91                | Uncolonized silty fine sand              | 50% <i>Halimeda</i> cover                                       |
| T5 S4                                                              |             | 4.0                 | Uncolonized silty fine sand              | Low visibility, sand mounds                                     |
| T6 S1                                                              | 1140        | 1.0                 | Uncolonized coarse sand                  | Shoreline, mangrove                                             |
| T6 S2                                                              |             | 2.83                | Uncolonized silty fine sand              | Low visibility appx. 3 ft                                       |
| T6 S3                                                              |             | 3.0                 | Uncolonized silty fine sand              | Low visibility appx. 3 ft                                       |
| T6 S4                                                              |             | 3.58                | Uncolonized silty fine sand              | Low visibility appx. 3 ft                                       |

Notes: T1 S1=Transect 1 Station 1, first data collection point on shoreline. See Figure 4.

### 3.3 Findings

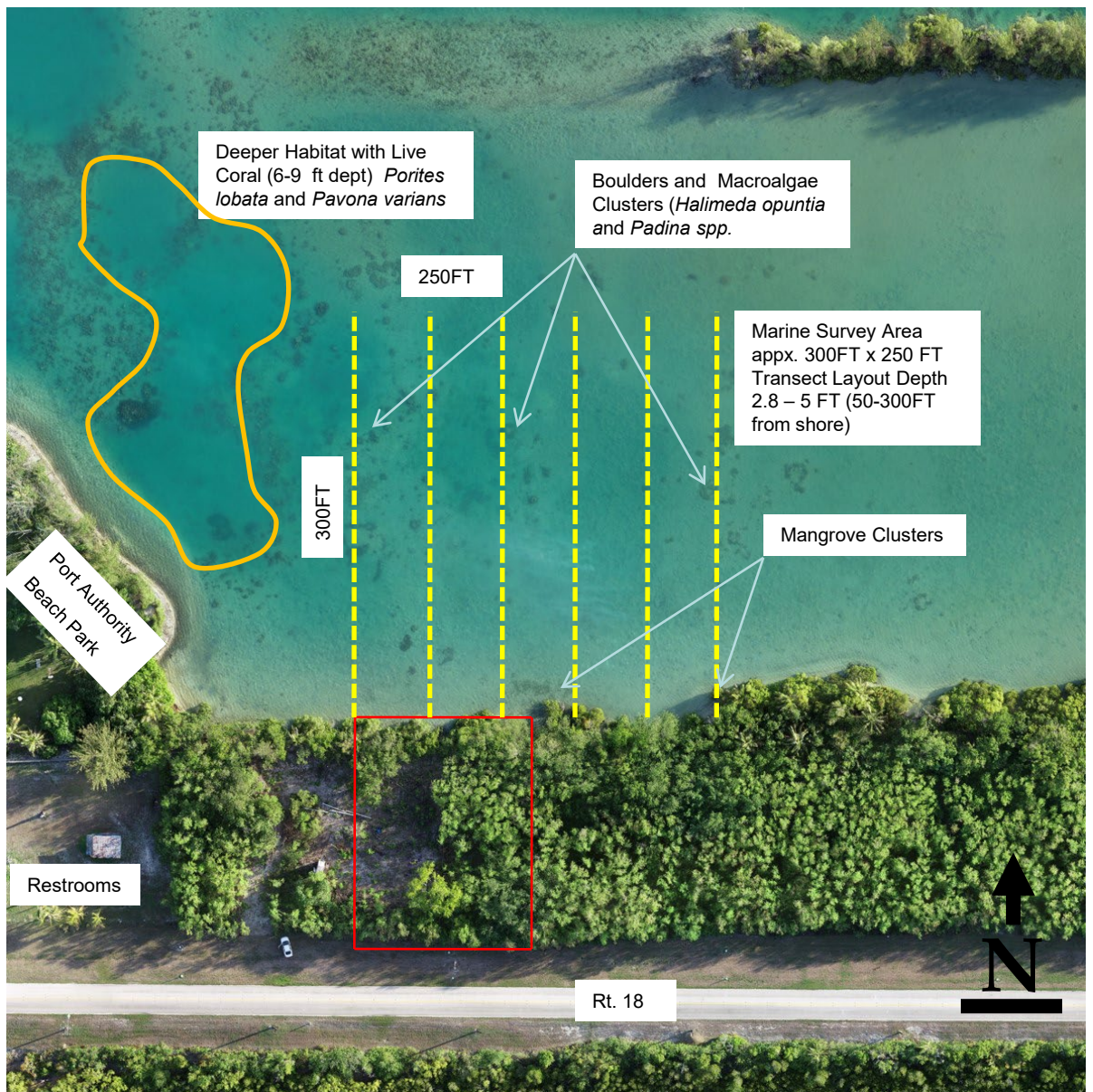
On July 13<sup>th</sup> a separate trip was made to re-take representative photographs (Appendix A) as our original camera was found to be damaged by salt water intrusion following the visit on the 10<sup>th</sup>. In addition to obtaining photos of the survey area, photos were also taken of a nearby deeper habitat west of the proposed Aqua Park footprint to record the only examples of live coral (*Porites lobata* and *Pavona venosa*) observed in the general vicinity. In this area, depths reached approximately 9 feet along an arc in front of the Port Authority Beach shoreline. This deeper habitat also contained approximately four (4) species of fish none of which were encountered in the shallower Aqua Park footprint. Figure 6 outlines this deeper habitat.

In general the proposed Aqua Park survey footprint was found to be without live coral of any species. From approximately 50 feet out to 300 feet from the shoreline silty mucky fine sand dominated. A handful of sea cucumbers were noticed. Numerous sand mounds, perhaps created by a species of blind shrimp, and observed to be used by gobies, were also very common in the deeper sections away from the shoreline.

The Numerous dark spots shown on Figure 6 were either found to be algae (*Halimeda opuntia* and/or *Padina spp.*) covered carbonate boulders up to 3 feet in diameter or separate colonies or mounds of *Halimeda* (see photos in Appendix A). In many cases these features were covered in a thin layer of sediment. A sponge species was recorded near the shoreline of Transect 2. Photos are included in appendix A.

No sea turtles, sharks, sea grass beds (*Enhalus acroroids*) used as forage for sea turtles or live coral were recorded on the six (6) 300 foot long transects. The only fish observed were very small unidentified juveniles in schools occasionally seen along the shoreline vegetation, extremely wary gobies noticed retreating into the vents at the top of the numerous sand mounds and a juvenile wrasse species observed at one of the *Halimeda* algae covered boulders. Sea cucumbers and crabs along the shoreline completed the list of marine fauna recorded. It can be assumed that various fish species such as emperors, snappers, trevallies, goatfish, mullet and various crustaceans would forage in the area but were either scared off, not present at the time or hidden out of sight.

The history of dredging and backfilling and other alterations to create land features, the re-suspension of silt and organic matter by large vessels at the commercial port, and diminished circulation in the area likely contribute to the turbid conditions and limited marine bio diversity encountered.



NTS

**Proposed Aqua Park  
Diagram of Appx. Survey Transects and  
Surrounding Features**

**ARC**

*Environmental Services Inc.*

Date  
July 2019

Figure No.  
6

## References and Field Guides

Burdick, David and Douglas Fenner. Field Identification Guide to the Threatened Corals of the U.S. Pacific Islands, Revised. 2016.

Burdick, David. Guam Coastal Atlas. November 2005.

Guam EPA. Guam Water Quality Standards, 2001 Revision. August 2001.

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Raulerson, L. and A. Rinehart. Trees and Shrubs of the Mariana Islands – Revised Edition. University of Guam Press. 2018.

Stemmermann, L. A Guide to Pacific Wetland Plants. Prepared for the U.S. Army Corps of Engineers, Honolulu District. 1981.

Stone, B.C. The Flora of Guam. Micronesica 6; 1-659. University of Guam. 1970.

# Appendix A

## Site Photographs

1A



1B



1A: View from the project site on Route 18, back towards Marine Corps Drive  
1B: Subject site from Route 18.

Date  
July 2019

Photo Plate  
1

2A



2B



2A: View of the shoreline portion of the subject site from the west at the Port Authority Beach.

2B: Interior western boundary of the site, coral fragments and generally flat topography with 5-6 foot drop to shoreline.

Date  
July 2019

Photo Plate  
2

**ARC** *Environmental Services*

3A



3B



3A: Large *Pemphis acidula* trees along shoreline.

3B: Mangrove plants (*Rhizophora mucronata*) are gaining a foothold along the shoreline.

Date

July 2019

Photo Plate

3

4A



4B



4A: *Pemphis acidula* extending into intertidal areas.

4B: Land crab (*Cardisoma carnifex*) burrow along shoreline berm.

Date

July 2019

Photo Plate

4

5A



5B



5A: Tying pink flagging to mark transects.

5B: Representative example of occasional brown algae *Padina* spp.

Date

July 2019

Photo Plate

5

6A



6B



6A: Close-up photo of *Halimeda opuntia* covered boulder. This algae was most abundant and was found encasing boulders and also as individual beds.

6B: Typical uncolonized sand that dominates with numerous sand mounds/vent holes.

Date

July 2019

Photo Plate

6

7A



7B



7A: Typical entrance atop one of the abundant sand mounds where gobies were seen taking refuge.

7B: Much clearer water along shoreline on a day 1 month prior during terrestrial survey.

Date  
July 2019

Photo Plate  
7

**ARC** *Environmental Services*

7A



7B



7A: Organic material collecting in a low spot.  
7B: Sediment covered macro algae *Halimeda opuntia*.

Date  
July 2019

Photo Plate  
8

7A



7B



7A: *Porites lobata* boulder coral off site to the west in water depth of 6-9 feet.

7B: Live coral in same deeper off site area, likely *Pavona venosa*.

Date

July 2019

Photo Plate

9

7A



7A: Off site (west) deeper habitat contained several fish species including what appear to be these juvenile flametail snapper *Lutjanus fulvus*.  
7B: Both types of macroalgae recorded on site.

Date  
July 2019

Photo Plate  
10

## Appendix C

# Typhoon Contingency Plan

# EMERGENCY STORM WEATHER PROCEDURE PLAN

## Aqua Fun Park (AFP)

### Port Authority Beach in Piti, Guam

### August 2019

#### 1.0 PURPOSE

- 1.1 To establish a procedure to address emergency bad weather situations at the located the Port Authority Beach area in Piti, Giam.
- 1.2 To identify specific activities to do before, during and after an emergency bad weather situation.

#### 2.0 SCOPE

- 2.1 This procedure applies to all personnel of the and other employees of involved in emergency preparedness and response teams.

#### 3.0 RESPONSIBILITY

- 3.1 The manager will be responsible in making sure that this procedure is followed. He/she may delegate the task to qualified personnel as needed. All employees of are responsible for knowing and following this procedure.

#### 4.0 PROCEDURE

##### 4.1 Typhoons

- 4.1.1 Refer to condition of readiness chart below

| Level | Wind speeds                                   | Time to hit Guam | Activities                                      |
|-------|-----------------------------------------------|------------------|-------------------------------------------------|
| COR 4 | Damaging wind speeds may arrive on the island | 72 hours         | Normal                                          |
| COR 3 | Damaging wind speeds may arrive on the island | 48 hours         | Secure the area                                 |
| COR 2 | 39 mph                                        | 24 hours         | Damaging wind speeds already occurring          |
| COR 1 | 39mphs                                        | 12 hours         | Mission essential vehicles only on the the road |

\* Damaging winds are sustained winds of 39mph or greater

- 4.1.2 During COR 4, the operations of AFP are still normal. All equipment and activities will be operating normally.

4.1.3 During COR 3, the AFP will be closed, and personnel will start securing the equipment. All land based equipment will be secured by tying it down. A Pick Up truck with driver will be on standby to move equipment. Canopies will be taken down tied up and secured on the ground. Shutters, and doors will be closed and locked.

- 4.1.4 During COR 3, the inflatable elements can be left in the water and secured on its anchors.
- 4.1.5 During COR 2, when removal from the water is necessary, the inflatable and non-inflatable elements will be disassembled by uncoupling, and disconnecting from each other, and then detached from the anchors. Anchors will be left in the water. The inflatable elements will then be slightly deflated and dragged to the shore by small boat or Jet Ski; or by adequate tether lines connected to the shore and pulled by pickup truck or similar utility vehicle. As element pieces may weigh 100, 200, to 400 lbs. This process may take from 2 to 5 hours. Adequate manpower must be available to move and transport the elements on the ground to enclosed or open storage areas for security during the storm.
- 4.1.6 During COR 2, only mission essential personnel will be on the premises of the AFP.
- 4.1.7 After the typhoon, the emergency preparedness and response team of the insurance company, the Government of Guam or FEMA will do the assessment and inspect the AFP for damage.
- 4.1.8 AFP management team will be the one to provide clearance to AFP personnel if the conditions are safe to re-assemble and install all land and water elements of the AFP operations.

#### 4.4 Other emergency

- 4.4.1 Other emergencies not listed in this procedure shall follow the general safety rule. Shut down all power generating equipment during the emergency and wait for the advice of the emergency preparedness and response team.

### 5.0 RELATED AND SUPPORT DOCUMENTATION

#### 5.1 Phone number list

#### 5.2 Emergency preparedness and response Team Members List