



**Statia**  
Petit Guyeau

**REVIEW OF THE SPATIAL  
DEVELOPMENT PLAN**



**Rho**

—  
**ADVISEURS  
VOOR  
LEEFRUIMTE**



# St. Eustatius

Petit Guyeau

Review of the Spatial Development Plan St. Eustatius

## identification

project number:  
44000957.20180112

project manager:  
ir. R.J.M.M. Schram

## Plan date

date:  
08-02-2018





## Table of contents

### Explanation

<b>Chapter 1</b>	<b>Introduction</b>	<b>7</b>
1.1	Why a review?	7
1.2	Planning area	7
1.3	Structure	8
1.4	Procedure	8
1.5	Digital and analogue	9
1.6	Legend	9
<b>Chapter 2</b>	<b>Project description</b>	<b>11</b>
2.1	Project content	11
2.2	Economic factors	14
<b>Chapter 3</b>	<b>Policy framework</b>	<b>15</b>
3.1	Strategic Development Plan	15
3.2	Spatial Development Plan	16
3.3	Nature Policy Plan	17
<b>Chapter 4</b>	<b>Environmental aspects</b>	<b>19</b>
4.1	Traffic	19
4.2	Sustainability	19
4.3	Erosion and water	20
4.4	Ecology	20
4.5	Archeology	21
<b>Chapter 5</b>	<b>Explanation to the regulations</b>	<b>22</b>

### Appendices to the explanation

Appendix 1	Archaeological Survey
------------	-----------------------

## Review of the regulations of the Spatial Development Plan for St. Eustatius



## Explanation



# Chapter 1 Introduction

## 1.1 Why a review?

On the eastern side of St. Eustatius, flanking the Quill lies the former plantation of 'Estate Guyeau'. This initiative proposes to develop this land, with an area of approximately 179,000 m<sup>2</sup>, for tourist and residential purposes. Estate Guyeau will be a high-quality development for villas, a large and small hotel and a marina. A development framework has been drawn up for the planning.

The first phase consists of the development of hotel 'Petit Guyeau', a small hotel at the entrance of the estate. This hotel offers 12 rooms and eight suites. Also included: a water treatment plant and some facilities for the hotel. The plot of this development concerns an area of approximately 3,100 m<sup>2</sup>.

Based on the current Spatial Development Plan (in Dutch, Ruimtelijk Ontwikkelingsplan; hereinafter referred to as ROP), a nature reserve now spans the area. Development is therefore not possible within this area. To enable the development of Estate Guyeau, a revision of the ROP is necessary.

## 1.2 Planning area

The planning area is located on the north side of the island of St. Eustatius, in the Dutch Caribbean. The area is situated on the road that runs around the east side of the Quill. The Knippenga Resort is located on the southwest side of the planning area. Vacant lots lie on the west side.



*Figure 1.1: Location of Petit Guyeau (source: Bing Maps)*



*Figure 1.2: Location of Petit Guyeau (source: Bing Maps)*

### **1.3 Structure**

This ROP review consists of an explanation, regulations and a zoning map. The zoning systematics of the ROP are followed. After reviewing, the project area is an integral part of the ROP, where the rules of the ROP apply unless specified otherwise in this review.

### **1.4 Procedure**

This review has its legal basis in the Island Ordinance “Eilandsverordening ruimtelijke ontwikkelingsplanning Sint Eustatius”. Under this regulation, the island government can review the spatial planning regulations of the Island. The review shall be adopted by the Island Council. The adoption is preceded by a careful procedure where everyone is given the opportunity, at a public hearing, to respond to the preliminary design of the review and to make their objections known.

The review is available for public inspection for 30 days. In this period, each person is given the opportunity to submit an objection. The period of public inspection shall be announced in advance in the regular appearing newspapers and news magazines, which are distributed within the island area.

This review is written in Dutch and has been translated into English. Should there be any differences between the Dutch and English version, the Dutch version prevails.

## 1.5 Digital and analogue

This ROP review has been composed digitally and is available for digital consultation. The review will be incorporated into the digital ROP. The ROP review will also be available in hard copy (on paper). The hard copy version will be adopted by the Island Council. It is this adopted review plan which is legally binding.

## 1.6 Legend

This review is structured as follows:

- Chapter 2 describes the development, content of the programme and economic impact of the development;
- Chapter 3 explains how the development fits within the current policy framework;
- Chapter 4 deals with the aspects of traffic, sustainability, erosion, water, ecology and archeology;
- Chapter 5 Chapter 5 explains briefly how this review adjusts or complements the regulation of the Spatial Development Plan;

The studies are included as annexes to this review.



## Chapter 2 Project Description

### 2.1 Project content

#### *Current situation*

On the northeast side of the island of St. Eustatius lies the former plantation of Estate Guyeau. The site is located about three kilometers east of Oranjestad and the island's international airport. On the south side Estate Guyeau is bordered by a narrow access road. The coastline of the Compagnie Bay forms the northern boundary. The site covers an area of 178,000 m<sup>2</sup> with a coastline of 318 meters. It is undeveloped in its current situation.



*Figure 2.1: Current situation planning area (source: SECAR)*



Figure 2.2: Intended development (source: Estate Guyeau)

The initiative proposes to develop the Estate Guyeau plan here. This means a high-quality resort with 45 villas, two hotels and a marina. The villas are designed as very luxury holiday homes and are, in addition to permanent residences, suitable for being rented out to third parties. This development is in line with the development of Knippenga, which sits on an adjacent plot. Estate Guyeau is a high-quality development that radiates luxury. Development proposals show a demand for luxurious accommodations in this part of the Caribbean.

### 2.1.1 Explanation of development

This review communicates the first phase of the development of Estate Guyeau. Namely, a small hotel development named Petit Guyeau. This luxury hotel includes 12 rooms and eight suites. During the realisation of Estate Guyeau, Petit Guyeau can also be used as a sales office. When the large hotel at Estate Guyeau is realised, the suites at Petit Guyeau can be converted into staff quarters. The general reception for the whole of Estate Guyeau can also be found in the large hotel building.

Petit Guyeau will be a complex that consists of several buildings. The main building contains the 12 hotel rooms and is connected to two smaller buildings, each housing four suites. One of these two buildings will be realised in the second building phase. In addition, there is another option for a third building in a third building phase. This third building will also include a further four suites, bringing the total number of suites at Petit Guyeau to 12. All buildings have a view of the sea. And all building phases are possible within this review. A sales office and a custodian apartment are also provided in the main building.

Basement areas below these buildings offer space for eight parking places. They also include charging stations for electric cars, technical and facility spaces, an energy wall and a storm shelter. In addition, two further buildings with technical space will be added. One of these buildings houses the clean water supply, including a clean water treatment facility. A meeting room is also included in this building. There will also be another building for diesel storage and the generators.

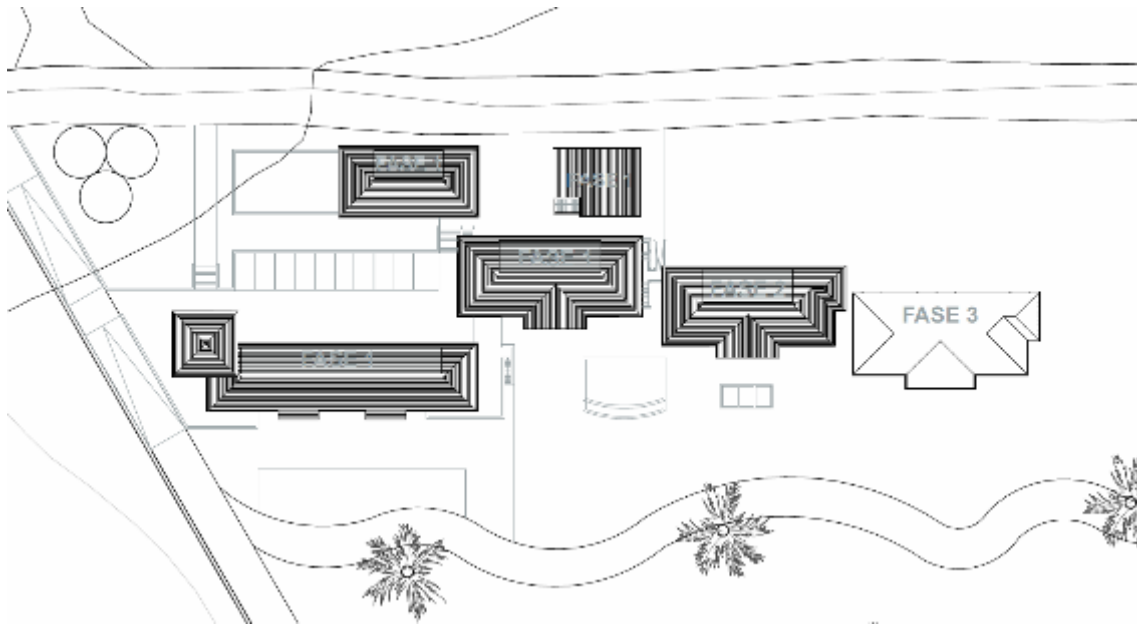


Figure 2.3: Petit Guyeau (source: Estate Guyeau)



Figure 2.4: Artist impression Petit Guyeau (source: Estate Guyeau)

### 2.1.2 Building starting points

The hotel has two floors with a roof and a basement, and an extension atop the tower. The maximum gutter height is 10.5 meters. The slope of the hotel's roof is, as with the villas, a maximum of 30 degrees. The single-floor outbuildings that house the technical facilities are covered with a roof.

The style of roofing along with the use of natural materials and colours gives the hotel a Caribbean yet modern appearance. The look and feel of the building is in line with that of the neighbouring Knippenga. The building is being built to withstand hurricanes.

## 2.2 Economic factors

The future growth of the island is laid out in the Strategic Development Plan (SDP). The word 'growth' refers to both economic growth (population, tourism, activity) and growth in relation to protecting and maintaining the natural beauty of the island. Ultimately, it is this beauty that also provides a source of income (tourism) to the island.

The tourism sector of the island is expected to grow. At the time the SDP was written up, it was clear that there was a shortage of hotel rooms; the assumption was that the number of hotel rooms would grow from 75 in 2012 to 300 hotel rooms in 2030.

In time, the whole Estate Guyeau will be developed. Petit Guyeau is the first step towards this development. The development of Estate Guyeau will ensure employment not only in the development phase, but also when the site is put into use. As such, it will make an important contribution to the desired economic development of the island. In total, Estate Guyeau will provide employment for approximately 300 employees during and after construction.

## Chapter 3 Policy framework

### 3.1 Strategic Development Plan

#### 3.1.1 Framework assessment

The Spatial Development Plan (in Dutch, Ruimtelijk Ontwikkelingsplan or ROP) is based on the pre-existing situation and the Strategic Development Plan (SDP). The SDP contains the vision on the desired spatial development of St. Eustatius and is leading in the assessments for new spatial initiatives. In the SDP, St. Eustatius focuses on achieving a higher level of prosperity and livability, through economic and demographic growth, facilities maintenance and the development of the spatial qualities of St. Eustatius. Cultural identity and a sense of security in a family environment are important building blocks in achieving a higher level of prosperity and quality of life.

#### 3.1.2 Analysis

Increasing the quality of life is at the forefront of the policy within the SDP. One of the ways to improve prosperity for both the island and its inhabitants is economic growth. Economic growth can be stimulated by strengthening the tourism sector.

From an economic standpoint, the most important pillars are the oil terminal and tourism. However, regarding tourism, St. Eustatius can play a much larger role. St. Eustatius has a unique history, a beautiful city, lush landscapes, breathtaking diving possibilities, unique flora and fauna and a strong position between the other Caribbean islands. To attract more tourism, there is a demand for an increased capacity in residences. There is no large hotel situated on the island at this time. Currently, St. Eustatius has five small hotels and a few holiday villas. At least 250 to 300 hotel rooms must be realised in order to put St. Eustatius squarely on the tourist map. With an increase in tourism comes the increased demand for other facilities, such as catering and shops. These create more employment on the island. Here, active marketing of the island as a tourist attraction is an important condition.

According to the SDP, to put St. Eustatius on the map as a tourist destination, a series of developments is needed:

- Expand the hotel capacity to at least 300 rooms;
- Develop Lower Town to increase tourist capacity, including opportunities for the mooring of yachts;
- Develop activities and facilities;
- Redevelop public buildings and other places in the historic centre;
- Stimulate an increase in retirees and build more second homes;
- Improve infrastructure;
- Improve accessibility by plane.

The unique nature of the island is one of the most important qualities of St. Eustatius. The development of cultivated areas has always taken place in the west of the island, whereas the eastern part of the island offers plentiful nature and an open appearance. The design for Estate Guyeau takes this into account by using sightlines as the starting point for the design.

Around the island lies the protected National Marine Park. This legal protection ensures the preservation of this coral reef.



### 3.1.3 Conclusion

The trend in development anticipates the need for increasing the accommodation capacity for tourists. This contributes to the objective of making St. Eustatius a more attractive tourist destination. Therefore, development of Petit Guyeau fits within the policy framework of the SDP.

## 3.2 Spatial Development Plan

The Spatial Development Plan (ROP) provides the spatial framework for both the current situation and new developments. Based on the ROP, the location of Petit Guyeau has been assigned as 'Nature – Mixed 4'.

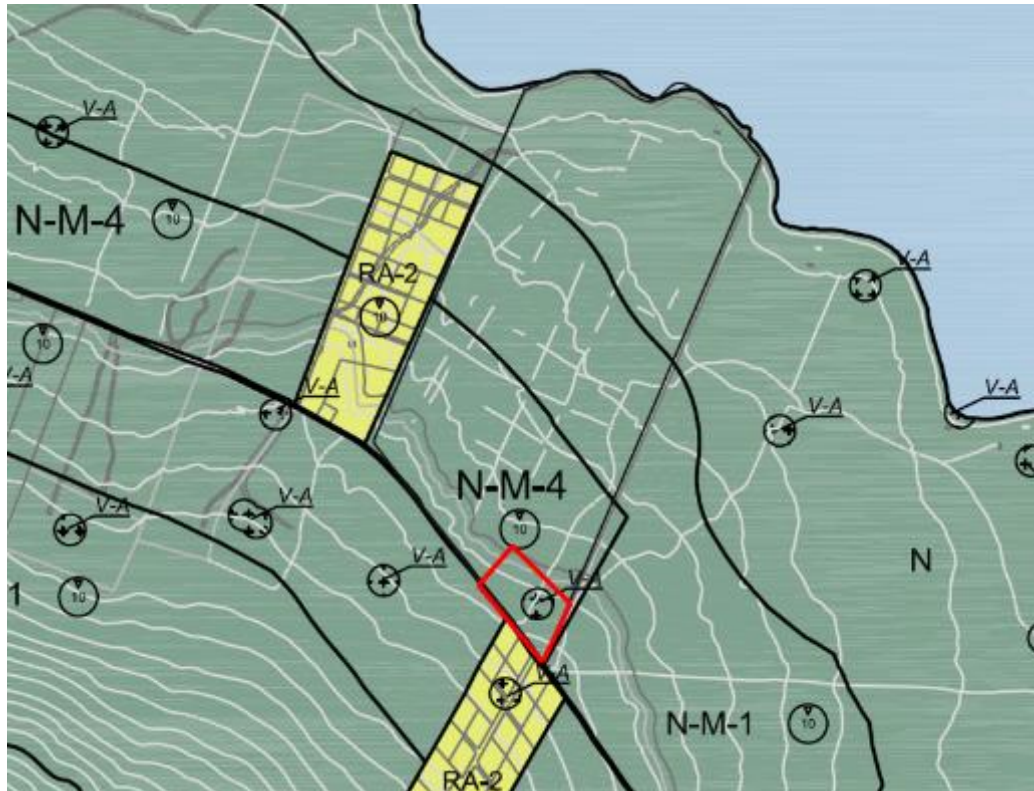


Figure 3.1: Adapted Spatial Development Plan

The areas designated as Nature – Mixed 4 are intended for: conservation; restoration; development; and the management of the scenic, natural and ecological advantages. For agricultural activities and dwellings alike. One location can be changed to another location through change permissions. For example, the location can be changed to enable initiatives with regard to hotels, resorts, recreational apartment complexes, guest houses, bed and breakfasts, residential accommodations and commercial premises belonging to the accommodation facilities. However, restrictions are mentioned here regarding the construction of any of these. One such restriction is a maximum of four residential recreation units per building. Because the development is based on residential recreation units that exceed the given maximum, the initiative does not fit within the possibility for an accommodation change. That is why this review has been prepared.

### 3.3 Nature Policy Plan

#### Nature Policy Plan, Caribbean Netherlands (2013-2017)

The Nature Policy Plan 2013-2017 provides a policy framework for the sound management and sustainable use of nature in the Caribbean Netherlands. Its aim is to ensure that the nature of the Caribbean Islands can be utilised in a sustainable way so that the ecological systems and ecosystem services are maintained. For the management of nature on St. Eustatius, St. Eustatius National Parks (STENAPA) has been appointed. This management organisation is responsible for the preparation and implementation of management plans.

On St. Eustatius, The Quill, Boven National Park and the St. Eustatius National Marine Park are designated as nationally protected areas.

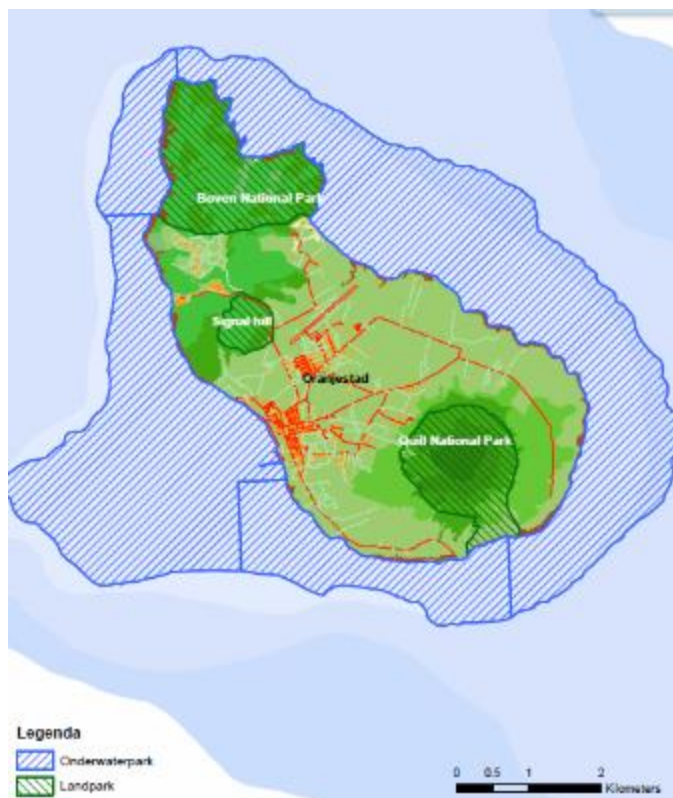


Figure 3.2: Protected areas on Sint Eustatius

The planning area is not located within a protected area. Therefore, the Nature Policy Plan does not form an obstacle to the development of Petit Guyeau. However, the planning area is near the underwater park and a land park. Attention is paid to this revision.





## Chapter 4 Environmental aspects

### 4.1 Traffic

The grounds of Estate Guyeau lie on the road to the Botanical Garden. This road connects to the Lodi Weg from Oranjestad and to the Mansionweg from Bay Brow. The area is therefore well connected to the main facility centers and tourist attractions. In the context of this development some improvements will be made to the road so that Estate Guyeau is easily accessible.

The amount of mixed traffic that this plan entails remains difficult to estimate at this moment. One aspect adding to the difficulty has to do with the various transport methods (scooter, car, shuttle bus, etc.) that will be used, while it is yet unclear how the distribution between these methods will take place. However, due to the limited scale of development, the amount of traffic will be low. The current road network is sufficient for this. Within the planned area, there are six covered and 28 non-covered parking spaces that will provide onsite parking.

### 4.2 Sustainability

Sustainability sits high on the agenda of St. Eustatius. The Solar Park was opened in November 2017, providing 46% of St. Eustatius' energy needs. Furthermore, the development of the waste recycling and incineration plants contribute to the sustainability of the island. Estate Guyeau also wants to contribute to this.

The first contribution is the facilitation of electric cars. Electric cars provide an efficient and environmentally friendly mode of transport, also given the short distances that are traveled on the island. In this way any nuisance caused by traffic will be limited in part. Electric cars are noiseless and have no polluting exhaust emissions.

Moreover, the dwelling roofs are covered with solar panels in the form of roof tiles. In a very environmentally appropriate way, energy is being generated on site.

Sustainable water management is also a starting point for development. Water flowing from the Quill is collected and made suitable for drinking. The wastewater is purified in a private septic tank to gray water, which is used for watering plants. Collecting systems are also installed in the roads so that the maximum amount of water can be collected.

### 4.3 Erosion and water

St. Eustatius is located in a hurricane area, which means that the island is subject to heavy and short-term rainfall. Compared to the current situation, the objective is to not increase the amount of water flowing from the site. To this end, area-wide technical measures have been taken into consideration.

In the project area, a water purification plant, among other things, is provided. Rainwater is collected in these tanks and purified into drinking water. This allows part of the rainwater to be collected. In addition, much green is provided in the area where the water can be absorbed into the soil.

During and after construction, measures will be taken to prevent erosion. For example, gabions are buried and the land is terraced, which helps to avoid the creation of large drainage surfaces. This prevents water run-off in heavy rain showers. Moreover, any foreign materials are prevented from entering the Marine Park. See also the paragraph below.

The previous section describes that sustainable water management is a starting point for development.

### 4.4 Ecology

The planning area lies between a number of national parks. South of the area are the Quill and Boven parks. The distance to these parks is relatively large. Moreover, the parks are confined by their differences in sea level. Partly because of the small-scale structure of Petit Guyeau, the presence of this park is not relevant.

The Statia National Marine Park is located to the north of the planning area. Petit Guyeau does not directly adjoin here. However, the advantages and value of this park must be taken into account. As described in section 4.3, measures are taken in the project to combat erosion. Sand and stones that flow into the sea can affect the existing reefs and corals. This is prevented with these measures.

The distance from Petit Guyeau to the Marine Park is significant (about 500 meters). Therefore, there will be no question of light or sound disruption. Hotel guests will also not enter this area in the Marine Park due to the rugged coastline. Therefore, the development does not lead to damage to the Marine Park.

The planning area itself does not form part of a protected nature reserve. However, it is currently undeveloped. The vegetation present consists of a mix of indigenous and exotic species. Indigenous species will be present in the area, such as iguanas. Given the scale, the development will not lead to damage to the area's ecological values. In the development of the area, where possible, the indigenous flora is maintained and replanted. This serves different purposes: a source for food for animal species; a suitable place for bird nests; enough shadow; and prevention of soil erosion.

## 4.5 Archeology

The objective of the Malta Convention is to preserve and protect archaeological values. As a result of this treaty, the preservation of archaeological heritage is taken into account in the context of spatial planning, as with all other interests that play a role in the preparation of the plan. It is known that the cultural heritage of St. Eustatius is one of the richest in the Caribbean (for all periods).

In December 2017, SECAR (St. Eustatius Center for Archaeological Research) carried out an archaeological survey for the development of Estate Guyeau on the site where Petit Guyeau is being built and at the location of the future marina. Literature research was carried out in combination with several excavations.

Plantations used to exist on the south side of Guyeau, adjoining the road. A high archaeological value is therefore estimated around this site. In the rest of the area no important archaeological finds are expected; this area seems to have been used mainly as a grazing area for animals or for the cultivation of sugar cane.

After the literary research, test strips were dug that together amount to 219.2 m<sup>2</sup>. This is 7.03% of the research area (Petit Guyeau). This percentage is based on the standard used in archaeological research in the Netherlands. A percentage of 7 to 10% provides enough information to be able to estimate the archaeological value and quality in the total research area, and whether further archaeological research is needed.

Only a few objects have been found in the dug-up strips. This concerns only such a small quantity, for which further archaeological research is not deemed necessary. Information on these objects can be found in the attached archaeological research. The only objects that have been found are a cistern (an underground water basin) and a stone wall.



*Figure 4.1: Discovered cistern (source: SECAR)*

The cistern will be given a place in the design. This will be returned to its former state. Furthermore, a sustainable tourist interpretation is being sought.

## Chapter 5 Explanation to the regulations

The review adjusts the following components of the Spatial Development Plan:

### Zoning map

The project area included in this review is equipped with a new zoning area, namely:

- Recreation – 3

### Regulations

In the Spatial Development Plan, a new article is added:

- Recreation – 3

Within the article Recreation – 3, the planned hotel is made possible. The regulations in this article are based, as much as possible, to the articles already included in the Spatial Development Plan for recreational use.

The rules for building on the grounds are largely the same as the existing rules of the “Recreation” article in the Spatial Development Plan. For instance, units may not hinder one another in their view of the sea. In addition to this, the number of floors is extended to three (either with or without a roof). With this regulation, the tower is made possible.

## Appendices to the explanation



## Appendix 1 Archeological Survey

# **An Archaeological Desk-based Assessment and Field Investigation of Guyeau, St. Eustatius, Caribbean Netherlands**



Fred van Keulen MA



An Archaeological Desk-based Assessment and Field Investigation of Guyeau, St. Eustatius, Caribbean Netherlands

SECAR archaeological report number 2017-04

**Date:** 23 December 2017

**Client**

Robert Proper  
Knippenga Estate  
St. Eustatius, Caribbean Netherlands

**Contractor**

St. Eustatius Center for Archaeological Research  
Big Stone Road  
St. Eustatius, Caribbean Netherlands  
info@secar.org  
+599 319 1631

**Author**

Fred van Keulen MA  
Archaeologist  
St. Eustatius Center for Archaeological Research  
fredjevankeulen@gmail.com  
+599 319 1631

**Field crew**

Ruud Stelten MA  
Josh Hutchings

## Table of Contents

Acknowledgements .....	4
1. Introduction.....	5
1.1 The reason and objective of this research .....	5
1.2 The research area .....	6
2. Landscape and Cultural-Historical Framework .....	7
2.1 Geology and geomorphology .....	7
2.2 Historical context.....	8
2.3 Archaeological expectation .....	14
3. Field Investigations, Test Trenches .....	15
3.1 Introduction.....	15
3.2 Results .....	17
3.3 Recommendations.....	26
Internet Pages .....	27
Bibliography.....	28
Appendix 1: Overview of trenches .....	30
Appendix 2: Overview of profiles .....	32
Appendix 3 Cistern Form .....	34

## **Acknowledgements**

SECAR would like to thank Josh and Chris; both subcontractors for NuStar, for lending us their total station and helping us map the research area.

# 1. Introduction

In November 2017, the St. Eustatius Center for Archaeological Research was asked to conduct an archaeological desk-based assessment and field investigation of Guyeau by Robert Proper. The plan is to construct a hotel across the street from Knippenga Estate.

According to the Monuments Law BES article 1: monuments can be movable and immovable property, which are at least 50 years old and that are perceived of general interest because of their beauty, artistic value, their meaning for science, the history of the country or the value for their people, including archaeological heritage. The definition of archaeological heritage is in this case: buildings, objects or remains that, independently or jointly, and whether or not in the context of the location, indicate human activities that took place in the past, that are older than fifty years (wetten.overheid.nl).

The first step in the archaeological process is a desk-based assessment of the planned area of construction. In a desk-based assessment the archaeological expectancy of the planned area for development is determined by using landscape and culture-historical data. Field investigations, performed by a survey and several test trenches, are conducted to determine the nature, size and locations of the archaeological heritage in the designated area.

## 1.1 The reason and objective of this research

The reason for this research is that development is going to take place in the area. On the plot of land that is discussed in this research, Robert Proper plans to expand Knippenga Estate by constructing a hotel on the land across the street from Knippenga (Fig. 1).



Figure 1: The planned development for the Guyeau property. The hotel is indicated by the red box. Source: Robert Proper.

The objective of this research is to predict the archaeological value of the piece of land by doing a desk-based assessment and to substantiate this by performing test trenches that will show the actual archaeological features that are still preserved. The outcome of this research will hopefully provide us with a detailed study of the spatial relationship between the archaeological structures.

## 1.2 The research area

The planned area for development is a piece of land on the eastern side of St. Eustatius, across the street from Knippenga Estate (Fig. 2). The planned area for construction that is discussed in this report is 104 meters long and 30 meters wide (Fig. 2). This area is only a small part of the complete property that will be developed in the future.



Figure 2: The piece of property that is up for the development. The hotel is in the bottom right corner on the northern side of the street. Source: Robert Proper.

## 2. Landscape and Cultural-Historical Framework

### 2.1 Geology and geomorphology

Within the Lesser Antilles there is an active volcanic arc and an arc of limestone islands (from Barbuda to Marie-Galante) on an old volcanic base. The Lesser Antilles is subdivided into the northern Leeward Islands and the southern Windward Islands. St. Eustatius is part of the active arc and is located in the northern part of the Leeward Islands. The island, located 17°28'-17°32' N and 62°56'-63°0' W, has a surface area of approximately 21 square kilometers (Fig. 8) (Roobol and Smith 2004, 36, 99; Westerman and Kiel 1961, 99).

St. Eustatius is comprised of three geomorphologic areas. The first area is the north-western part of the island, also known as the Northern Centers, which consists of an old volcanic landscape. The second one is the Quill volcano in the South. Finally, the third area is the plain between these two areas, also known as the "Cultuurvlakte" or agricultural plain (Westerman and Kiel 1961, 99).

Initially, the Quill and the Northern Centers were separated from each other. However, the deposits of volcanic eruptions have formed the flat part (Cultuurvlakte) between the Quill and the Northern Centers (Roobol and Smith 2004, 103; 249; 264).

The three geological units on Statia are the Northern Centers, the Quill and the White wall and Sugar Loaf formation in the south (Fig. 3).

The research area is located in the geological area of the Quill that predominantly consists of agglomerates, lapilli and tuffs (Fig. 3). The site lies in an area that is usually covered with trees, shrub vegetation such as the *Acasia* sp. and the invasive species, corallita, also known as *Antigonon leptopus*.

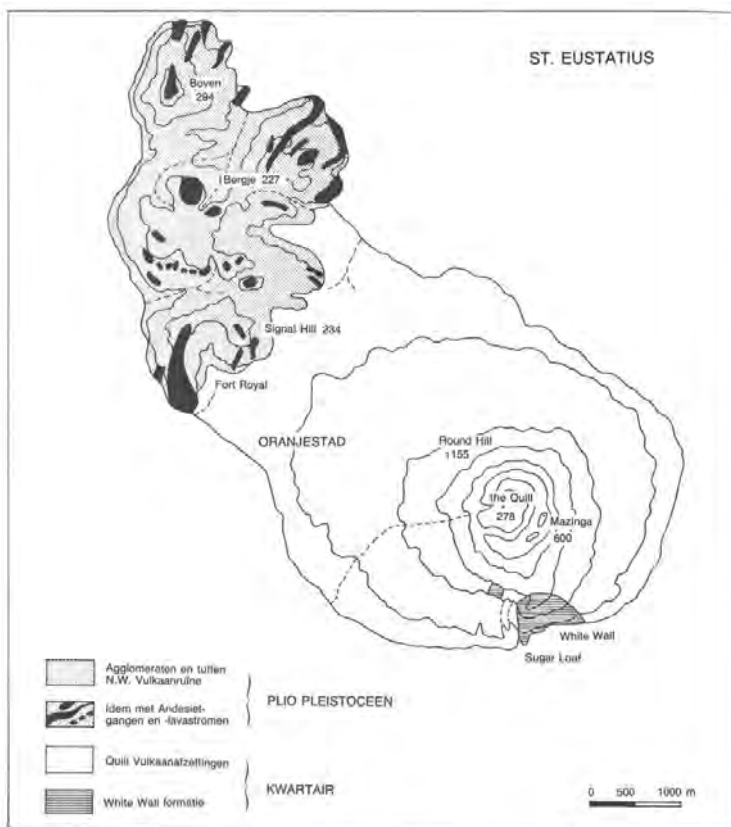


Figure 3: Schematic geological map of St. Eustatius (De Palm 1985, 182).

## 2.2 Historical context

From archaeological excavations it is known that indigenous people lived on the island during the 7<sup>th</sup> up until the 9<sup>th</sup> century AD. These people are known as Saladoid people. Earlier evidence of human presence is found sporadically around the island.

Christopher Columbus sailed by St. Kitts and St. Eustatius on November 13<sup>th</sup> in the year 1493. Columbus named the island *S. (Maria) de la niebe*; however, he did not land there. The Spanish were not interested in St. Eustatius and the other smaller Caribbean islands. The self proclaimed Spanish possessions in the Caribbean were extended over a too large area to be fully controlled. Therefore, the Spanish focused on holding their ports on the larger islands, the Greater Antilles.

When the Dutch revolted against Philip II, King of Spain, and started the Eighty Years' War (1568-1648), they began to take a leap into the unknown and crossed the Atlantic Ocean. One of the main products for which the Dutch crossed the Atlantic Ocean was salt (Goslinga 1979, 20; Klooster 1998, 26; Postma and Enthoven 2003, 30-1). The smaller Caribbean islands were, because they were not defended by the Spanish, interesting for the Netherlands and other European countries to colonize and obtain a stronghold in the Caribbean (Dalhuisen et al. 1997, 76). Additionally, the Caribbean was an area the Spanish silver fleets would sail past, and the smaller Caribbean islands were perfect to spy on these fleets and perform an attack (Goslinga 1971, 54).

Since the year 1624, Dutch ships had already dropped anchor at St. Eustatius (Knappert 1932, 2). In 1629 the French had constructed a fort on the island, but left soon after occupation due to a lack of good drinking water (Dalhuisen et al. 1997, 76; Attema 1976, 17; Hartog 1997, 24).

On April 25<sup>th</sup>, 1636, Pieter van Corselles and his 40 colonists took possession of St. Eustatius. They rebuilt the French fort and called it Fort Oranje. One of the reasons for the colonization of St. Eustatius might be the high demand for tobacco. Jan Snouck promoted the island by telling that "good tobacco could be planted and vast profits could be reaped" (Attema 1976, 16; Goslinga 1971, 262; Klooster 1998, 32).

In the next twenty years of the colonial life of St. Eustatius the colonists started planting sugar instead of tobacco. This cultivation of sugarcane required enslaved Africans to work the land (Attema 1976, 17; Goslinga 1971, 263). Therefore, in the following years there was an increase in the number of inhabitants on St. Eustatius. By the year of 1665 there were "330 whites and 840 negroes and indians" residing on the island (Hartog 1964, 223). The trade in commodities and enslaved people drew international merchants to the island (Attema 1976, 16). This prosperous trade caused other countries to be envious and this marked the beginning of the turbulent history of St. Eustatius. In the years between the 1665 up until 1713, the island changed flags fourteen times between the Dutch, the French and the English (Dalhuisen et al. 1997, 76).

By the year 1715, eleven sugar plantations were back in business (Goslinga 1985, 131). Still, the island would never develop into a "full-fledged plantation" economy because of the lack of fresh water on the island (Enthoven 2012, 246). Simply not enough rainwater could be conserved with the use of cisterns to irrigate sugarcane fields (Miller 2008, 30). Instead, Statia became an international trading hub for the exchange of commodities and slaves. From the late seventeenth century until the year 1729, slaves were the main commodity of trade. However, from 1730, sugar took over this position (Enthoven 2012, 293-4). The *kleine vaart*, the (illicit) inter-island trade between the many isles, was the main carrier for this commodity (Goslinga 1985, 189). St. Eustatius was in fact a "clearing station" for all the other islands that had to follow their countries monopoly system, which meant that a colony could only trade with its mother country (Hartog 1976, 40). The size of this illegal trade can be seen in the import and export numbers of sugar in St. Eustatius. In the



whole of 1779 the island produced 13,610 pounds of sugar, while it exported almost 25 million pounds of sugar (Goslinga 1985, 227). In that same year, 3551 ships dropped anchor at St. Eustatius to trade and there were 3056 people living on the island. It was during this time that St. Eustatius received the name “Diamond Rock” or “Golden Rock” (Goslinga 1985, 141; Hartog 1976, 41, 46).

When in 1776 the *Andrew Doria* was saluted by firing back the same amount of salutes it became the first nation that ‘recognized’ an American warship. The salute together with the ongoing trade with the American Rebels caused the English to declare war on the Dutch (Fourth Anglo-Dutch War 1780–1784). Therefore, on the 3rd of February, 1781, Rodney and his fleet sailed into the harbor of St. Eustatius and demanded the islands’ surrender (Hartog 1976, 86-7). Rodney plundered the island and even held the Dutch flag up for over a month to collect the booty from over more than 150 incoming ships (Goslinga 1985, 149).

St. Eustatius was returned to the Dutch in 1784 and the island once again knew a prosperous time. The recovery of the island, although short lived, can be seen in two things. First, the number of ships that dropped anchor in Orange Bay increased. During the year 1784, a total number of 2,100 ships had come to St. Eustatius, while in 1792, this was 3,500. Second, there was an increase in population size. In 1781, there were a total of 2,929 people living on the island. In the year 1789, there were a total of 8,102 people, of which 5,120 were enslaved Africans (Jordaan 2012, 2-3). In 1790 there were even 8,124 people residing on the island (Hartog 1976, 100).

The island’s trade declined after 1793, because the United Provinces were now at war with France (French Revolutionary Wars 1792-1802). After the French the island swapped another four times between the Dutch and the English until it permanently became Dutch in 1816.

It is known from historical records that a plantation was situated on the planned area for development. The first known map of St. Eustatius made by Alexander Lavaux, dates back to the year 1741 (Renkema 2016, 484). This map lists a plantation on the Guyeau area (number 43) (Fig. 4). In 1741, the plantation is owned by Pieter Hassel. Number 42 might also be on the property, since these houses did not necessarily depict a plantation.



Figure 4: First known map of St. Eustatius that dates back to the year 1741. The plantation that is owned by Pieter Hassel is indicated by the red box. Source: Algemeen Rijksarchief 4.MIKO 339.

A copy of this map with updated information on plantation owners, made by Reinier Ottens in 1775, shows Guyeau to be owned by the widow of Pieter Hassel. Furthermore, not only house number 43



is owned by the widow of Hassel, also number 42 belongs to her now. Both the numbers are shown by the red rectangular (Fig. 5).



Figure 5: Updated map of St. Eustatius that dates back to 1775. The houses that are on the Guyeau property are indicated by the red box. Source: SECAR collection.

Following the English conquest of Statia in 1781, a map was made by P.F. Martin which shows all plantations existing on the island at the time in great detail. Guyeau is indicated as being owned by John Cuvilliers and Widow Hazel (Fig. 6). The latter might be an English derivation of the name Hassel. From this map it appears that on the property of Widow Hazel there were multiple buildings, an animal mill, a slave village and provisioning grounds. On the property of John Cuvilliers a slave village is depicted.



Figure 6: Map made by P.F. Martin in 1781. Guyeau is outlined in green. Source: SECAR collection.

On the map of the island made by William Faden in 1795, no plantation is visible at Guyeau (Fig. 7). This map does show the stone wall boundaries, but no structures are depicted.





Figure 7: Figure 11. Map made by William Faden in 1795. Guyeau is indicated by the red box. Source: Schiltkamp & Smidt, West Indisch Plakaatboek (1979).

After 1812, a map was made by W. Blanken on which all existing plantations are depicted. Nearly all plantations are indicated as rectangles on this map. It shows the plantation on the property of Guyeau to be owned by Spencer (Fig. 8). Number 11 might also be on this property; however, the placement is a bit off and therefore uncertain.

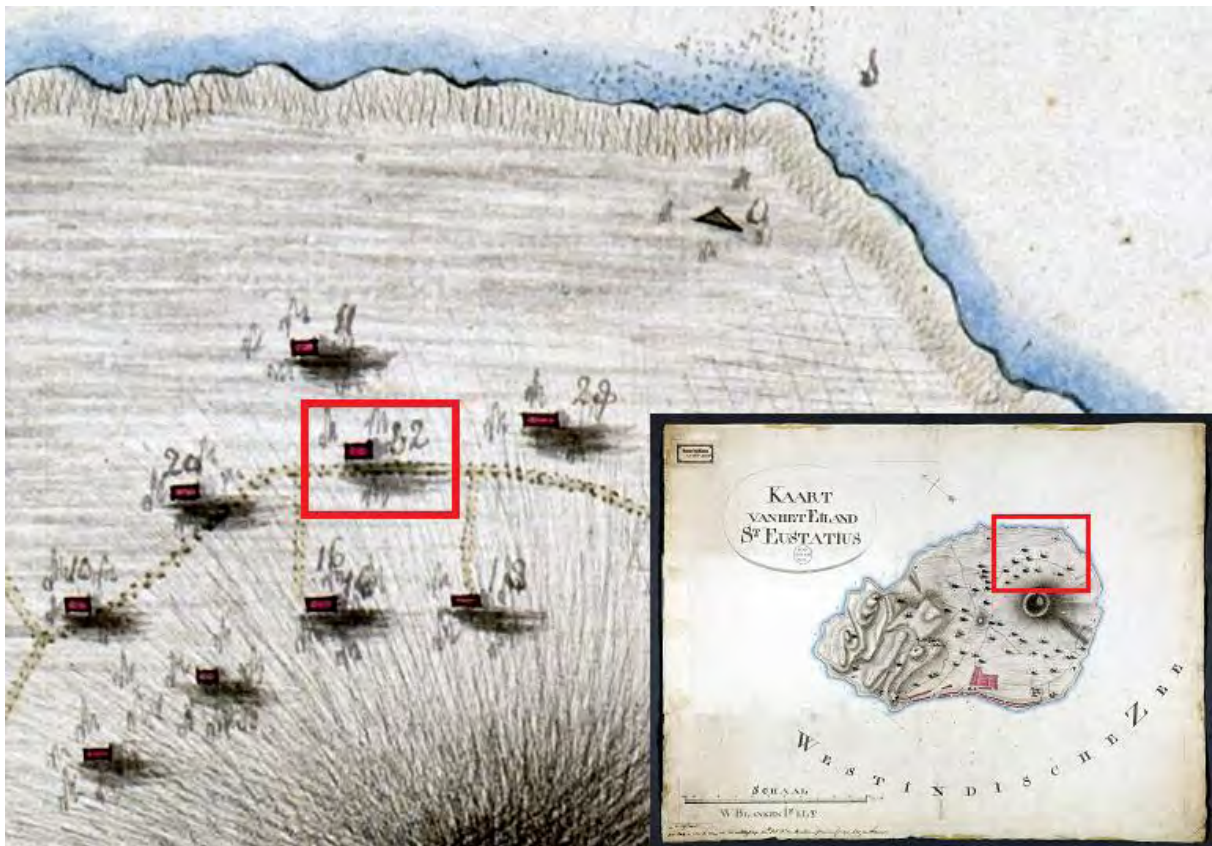


Figure 8: Map made by W. Blanken after 1812. The plantation on the Guyeau property is indicated by the red box. Source: Leiden University library, Leeszaal Bijzondere Collecties, signatuur COLLBN 002-10-030.



In 1829, Samuel Fahlberg, the Governor of the island at the time, made a map on which all plantations are depicted. This map now shows two plantations that are on the Guyeau property (Fig. 9). Both of them are indicated by two buildings. No information on the owners is shown on this map.

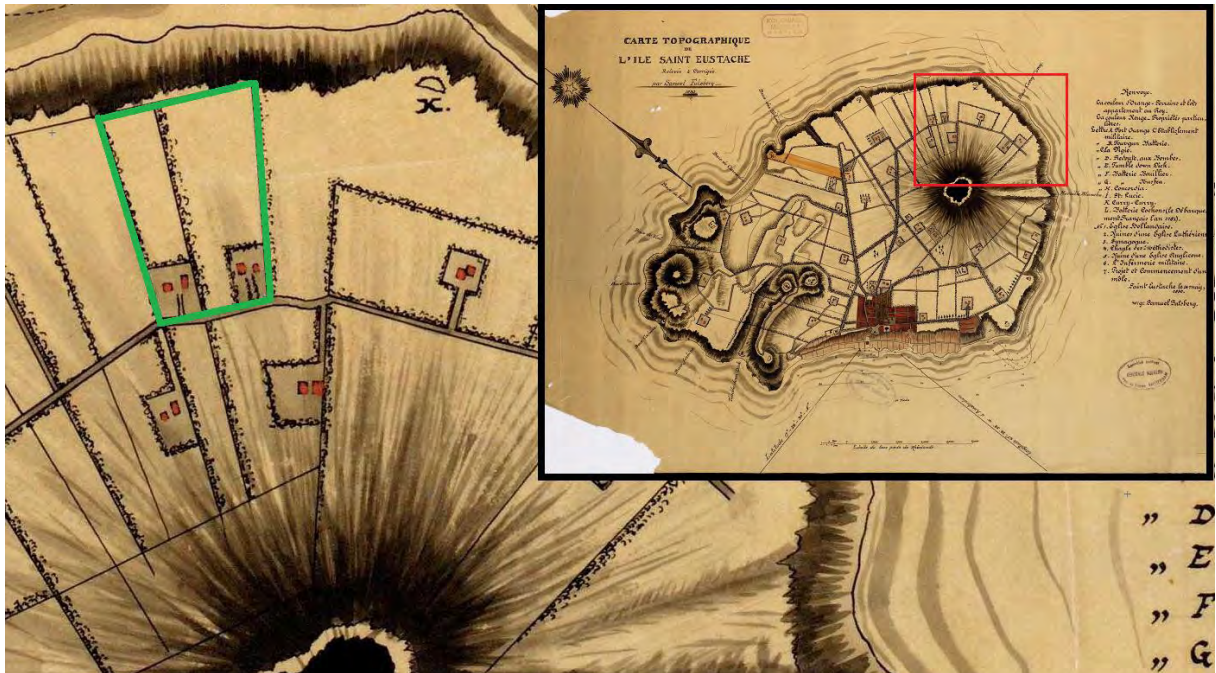


Figure 9: Map made by Samuel Fahlberg in 1829. Guyeau is outlined in green. Source: Algemeen Rijksarchief 4.MIKO 1706.

On the map made by A.H. Bisschop-Grevelink between 1839 and 1846, no buildings or structures are indicated (Fig. 10). This indicates that the possible multiple plantations that were on the Guyeau property fell out of use between 1829 and 1846. Only a cattle farm (L) that is located more towards English Quarter is depicted on the map.

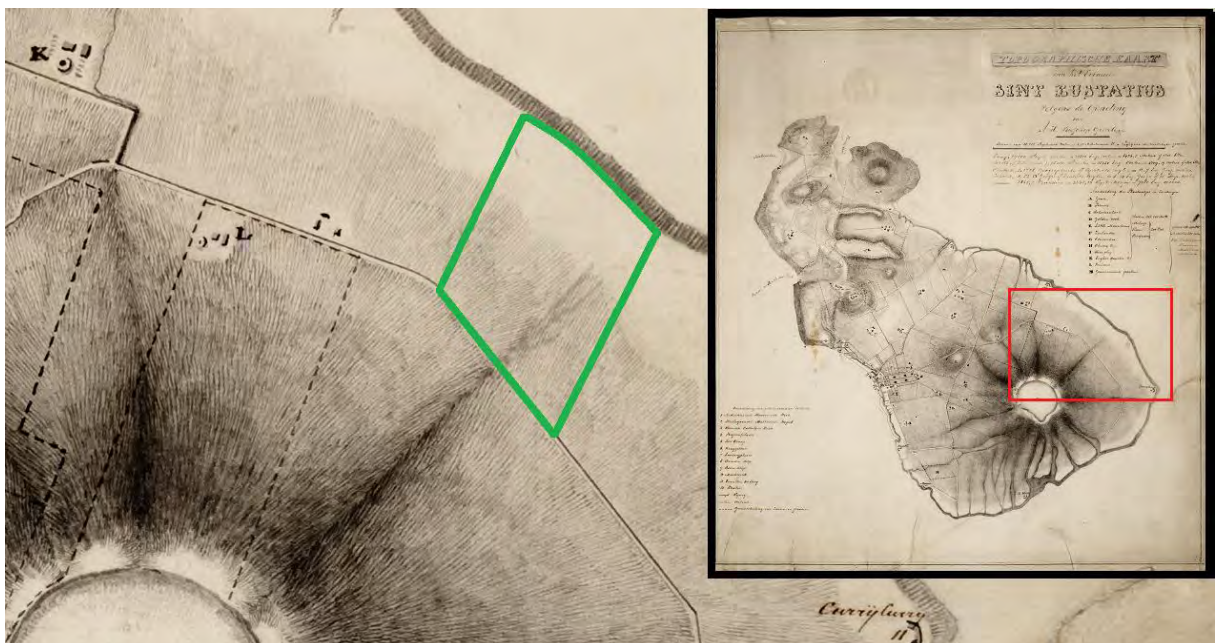


Figure 10: Map made by A.H. Bisschop-Grevelink between 1839 and 1846. Guyeau is outlined in green. Source: Algemeen Rijksarchief, 4.MIKO 645.



The J.V.D. Werbata map, published in 1915, does show some plantation remains in the research area, such as slave walls. However, these slave walls do not conform to the property boundaries. The area is indicated as Behind the Mountain on this map (Fig. 11).



Figure 11: Map made by J.V.D. Werbata, published in 1915. Guyeau is outlined in green. Source: Algemeen Rijksarchief 4.MIKO 2107.

The KLM aerocarto map of 1963 shows the research area in more detail: the cistern is indicated, as are all the stone pile walls located in the area (Fig. 12). On this map the area is indicated as Guyeau.

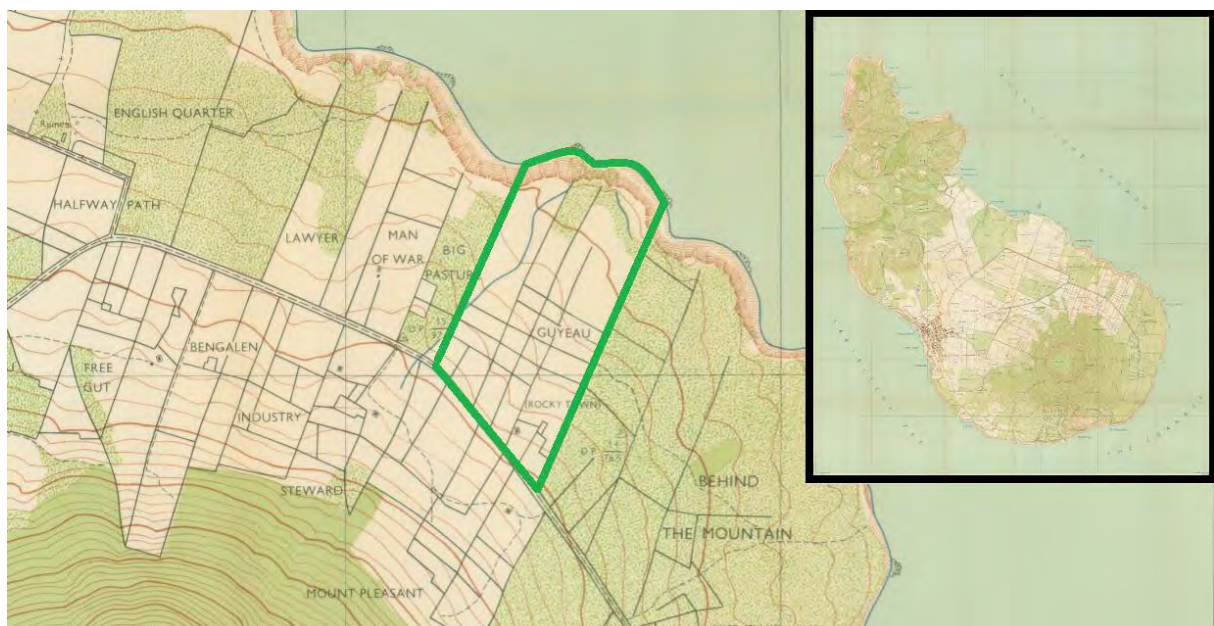


Figure 12: The KLM Aerocarto map of 1963. Guyeau is outlined in green. Source: KITLV library, request number D A 44, 11.

### **2.3 Archaeological expectation**

It is known from the previously discussed historical sources that at least one plantation can be found on the Guyeau property. Furthermore, the map that dates to 1781 shows a slave village on the piece of land that is owned by John Cuvilliers (Fig. 6). The archaeological expectation for this property is high in specific places, but most of the property seems to be used as meadow for animals or for the cultivation of sugar cane.

The research area that is discussed in this paper is only a fraction of the entire property as can be seen on Figure 1 and 2. The most detailed historic map of St. Eustatius, made by P.F. Martin in 1781, shows the research area to contain features identified by Gilmore (2004) as provisioning grounds (Fig. 6). Archaeological evidence of provisioning grounds was found by Stelten (2013) at Schotsenhoek plantation in the form of fence posts. Additional research on two sugar plantations (Fair Play and Benners) by SECAR and Leiden University have shown that Statian sugar plantations included many posts in ground structures, such as slave cabins, ditches, and fences that mark provisioning grounds. These provisioning grounds were used for the cultivation of crops, which provided the plantation with food.

Since the property is located in an area that is not accessed by many people on a daily basis and was covered by heavy vegetation, the expected integrity of the land is high. Therefore, organic and non-organic artifacts can be expected in situ.

In short, the archaeological expectation is high near the location of the plantation(s) and slave village and low for the rest of the property.

### 3. Field Investigations, Test Trenches

#### 3.1 Introduction

When the property was inspected for the first time the vegetation was already cleared (Fig. 13). The proposed area has been surveyed by the author and a stone pile wall together with a collapsed cistern has been observed. To determine the nature of the site, several test trenches were dug across the site with a tracked excavator (Fig. 14). During the excavating, an archaeologist from SECAR was constantly present to make sure that the test trenches were dug properly, to identify archaeological features and to make sure that no archaeological remains were destroyed.



Figure 13: The area that is up for development (Photo: SECAR Staff).





Figure 14: The tracked excavator excavating a trench (Photo: SECAR Staff).

The partially cleared research area has a total surface area of 3.120 m<sup>2</sup>. A total of five test trenches were excavated across the property. Test trench 1 was 35 m in length, test trench 2 was 42 m in length, test trench 3 was 35 m in length, test trench 4 was 15 m in length and test trench 5 was 10 m in length. The latter was shortened due to the discovery of a bee's nest that stopped us to continue working further with the excavator. Excavation was carried out using a 1.6 meter wide flat bucket. Two meter wide trenches are customary in the Netherlands; unfortunately a 2 meter wide bucket was unavailable. However, research has shown that wider trenches of, for example, 4 meters don't proportionally increase the number of discovered features (Haneca et al. 2016, 51).

Continuous trenches are the chosen pattern, as research has indicated that there is only a minimal difference in discovered features compared to other trench patterns. Continuous trenches, however, are the quickest and most cost-effective pattern and are therefore preferred. The first three test trenches were laid parallel to each other with a distance of 12 m in between the trenches. The last two trenches were laid on the other side of the cistern to get a complete coverage of the area. Trenches 4 and 5 are laid in line with test trench 2 and 3. Therefore, the test trenches are in a continuous pattern with the cistern dividing two trenches.

The test trenches comprise a total of 219.2 m<sup>2</sup> or 7.03% of the total research area. This is within the range that is customary in Dutch archaeology, which is 7% - 10% of the total research area (in France it is 10%, in England 5%). The 7% - 10% range generally provides sufficient information to make an estimate of the research area's archaeological potential, quality, and further research required (Haneca et al. 2016, 54). According to De Clercq et al. (2011), using sufficient coverage is essential to gain a good understanding of the extent and nature of human occupation in rural areas. Research has indicated that within test trench coverage in the range of 2.5% - 20%, the proportional difference in detected features does not vary; therefore 7% is deemed a sufficient area to be excavated (Haneca et al. 2016, 46).

A Leica TCRP 1203+ Total Station was used to map the trenches, the cistern and the stone pile wall. Additional data from the cistern is collected by using the form described in van Keulen *et al.* (2017). The form includes the geographical location, the overall measurements, the description of its materials and its function, and photographs. Measurements were being taken with the use of two tapers, one of 20 metres and one of 8 metres. A ladder was used to descend into the cistern. The scale of 0.5 metres and the north arrow were included in the photographs of the cisterns. Photographs were taken using a Nikon D5300 digital camera.

Plough zone artifacts were collected in 5 meter sections. Roughly one meter wide profile sections are recorded every 10/15 meters and drawn at a scale of 1:10. Sectioned features are drawn at a scale of 1:10. Artifacts are conserved and stored at the SECAR storage facility.

### 3.2 Results

The results of the test trenches have yielded less archaeological remains than previously anticipated. The map that dates to the year 1781 by P.F. Martin shows provisioning grounds on the spot on which the hotel is to be constructed. As mentioned before, the archaeological remains that appear the most at provisioning grounds are postholes. After excavating the trenches very few features and artifacts were found in the five trenches. An overview of the five trenches can be found in appendix 1. Below, these five trenches, the cistern and stone pile wall are plotted on Google Earth (Fig. 15).



Figure 15: Trench overview plotted on Google Earth.

Photographs of trench 1 to 5 are shown below (Fig. 16; Fig. 17; Fig. 18; Fig. 19; Fig. 20).





Figure 16: Trench number 1. From left to right: trench 1 looking north, trench 1 looking south. Photos: SECAR Staff.



Figure 17: Trench number 2. From left to right: trench 2 looking north, trench 2 looking south. Photos: SECAR Staff.





Figure 18: Trench number 3. From left to right: trench 3 looking north, trench 3 looking south. Photos: SECAR Staff.



Figure 19: Trench number 4. From left to right: trench 3 looking north, trench 3 looking south. Photos: SECAR Staff.





Figure 20: Trench number 5. From left to right: trench 5 looking north, trench 5 looking south. Photos: SECAR Staff.

Very few artifacts were found during the excavation of these test trenches. Only test trenches 1, 4 and 5 yielded artifacts. Trench 1 at 5-10 metres, starting at the south of the trench, contained a piece of petrified coral (Fig. 21). Trench 4 at 0-5 metres, starting at the south of the trench, contained a piece of yellow brick, slipped redware, salt glazed stoneware, shell, blue hand painted porcelain and red coarse earthenware (Fig. 22). Trench 4 at 5-10 metres, starting at the south of the trench, contained yellow bricks (Fig. 23). Trench 5 at 0-10 metres, starting at the south of the trench, contained yellow bricks and a piece of salt glazed stoneware (Fig. 24). Trench 5 at 5-10 metres, starting at the south of the trench, contained a red coarse earthenware bowl rim and the top of a salt glazed stoneware bottle (Fig. 25).



Figure 21 (Left): Piece of petrified coral. Figure 22 (Right): Yellow brick, slipped redware, salt glazed stoneware, shell, blue hand painted porcelain and red coarse earthenware. Photos: SECAR Staff.



Figure 23 (Left): Yellow bricks. Figure 24 (Right): Yellow bricks and salt glazed stoneware. Photos: SECAR Staff.



Figure 25: Piece of red coarse earthenware rim and the top of a salt glazed stoneware bottle. Photo: SECAR Staff.



For the total of five test trenches only four features were found in the soil (Fig. 26). Of these four features, only two features (feature 2 and 4) were deeper than 5 centimeters and could, therefore, be sectioned (Fig. 27).



Figure 26: Feature plans. Top row from left to right: feature 1 and 2. Bottom row from left to right: feature 3 and 4. Photos: SECAR Staff.



Figure 27: Sections of the features. From left to right: feature 2 and 4. Photos: SECAR Staff.

Profile drawings were made for trenches 1, 2, 3 and 4. A profile drawing of trench 5 was impossible due to the large amounts of rocks in the soil. Trench 1, 2 and 3 have two profile drawings of a meter wide. These profile drawings are enclosed in appendix 2. Photographs were taken before drawing the profiles (Fig. 28; Fig. 29; Fig. 30; Fig. 31; Fig. 32; Fig. 33; Fig. 34).





Figure 28 (Top left): Trench 1, profile 1, 2-3 m. Figure 29 (Right): Trench 1, profile 2, 32-33 m. Figure 30 (Bottom left): Trench 2, profile 1, 3-4 m. Photos: SECAR Staff.



Figure 31 (Top left): Trench 2, profile 2, 39-40 m. Figure 32 (Right): Trench 3, profile 2, 32-33 m. Figure 33 (Bottom left): Trench 3, profile 2, 3-4 m. Photos: SECAR Staff.





Figure 34: Trench 4, profile 5-6 m. Photo: SECAR Staff.

The only structure, besides the stone pile wall, that is found in the research area is a cistern. This cistern conforms to the typology made by van Keulen *et al.* (2017) and can be defined as a type 3, subtype i, cistern (Fig. 35). The form that contains all the measurements and descriptions can be found in appendix 3.

A type 3 cistern is a cistern that is ‘mostly underground’. This means that the basin is dug into the ground and that part of the cistern (usually the arch) is visible above ground. Type 3, subtype i, is a cistern with an opening that extends to one of its sides (Fig. 35). The opening is placed above a corner of the basin. The basin of the cistern, which is rectangular, is made of basalt stones that have been plastered for the containment of water. The basin could probably hold up to approximately 24,500 liters of water.

The extension towards one of the sides of the cistern is constructed of hewed basalt stones. This also applies to the front and the back of the cistern. The arch, which has collapsed into the cistern, is constructed of a combination between bricks and basalt stones. Only two other cisterns that can be found on this island conform to the same typology.

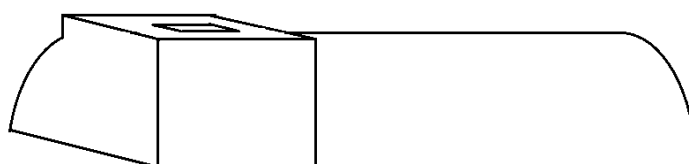


Figure 35: Schematic sketch of the type 3, subtype i, cistern.





Figure 36: The cistern at Guyeau, type 3i, seen from the west. Photo: SECAR Staff.



Figure 37: The cistern at Guyeau, type 3i, seen from the south. Photo: SECAR Staff.





Figure 38: The cistern at Guyeau, type 3i, seen from the east. Photo: SECAR Staff.

The water catchment is visible on the southern and western part of the cistern. A water inlet hole can be observed on the west side of the cistern. The cistern itself is in a poor condition, the roof has collapsed inside the cistern and the catchment area is completely broken. The basin is full of dirt and rocks but does not show large cracks.

### 3.3 Recommendations

The largest part of the research area contains little to no archaeological remains. Therefore, further archaeological research is deemed to be unnecessary. The cistern and the stone pile wall, however, are a different matter. There are three recommendations for the cistern. Firstly, the cistern could be incorporated into the plans and could be (partially) restored or left as a ruin to amplify the historic character of the property. Secondly, if the cistern is not to be incorporated into the design, coverage of the cistern with sand would be an option. By doing so, the cistern does not need to be destroyed. Thirdly, if this is not possible and the cistern is to be destroyed, further excavation is preferred to record all the possible archaeological information.

Further investigation of the stone pile wall is also recommended by clearing vegetation and creating an aerial photo mosaic.

## **Internet Pages**

<http://wetten.overheid.nl/BWBR0028429/2010-10-10>, accessed on 21 December 2017.

## Bibliography

Attema, Y., 1976. *St. Eustatius: a short history of the island and its monuments*. Zutphen: De Walburg Pers.

De Clercq W., M. Bats, P. Laloo, J. Sergeant and P. Crombé, 2011. Beware of the known: methodological issues in the detection of low density rural occupation in large-surface archaeological landscape-assessment in Northern-Flanders (Belgium), in G. Blancquaert, F. Malrain, H. Stäuble and J. Vanmoerkerke (eds.), *Understanding the past: a matter of surface-area. Acts of the XIIIth session of the EAA congress, Zadar 2007*. Oxford: BAR International Series 2194, 73-89.

Dalhuisen, L., R. Donk, R. Hoefte and F. Steegh, 1997. *Geschiedenis van de Antillen: Aruba, Bonaire, Curaçao, Saba, Sint Eustatius, Sint Maarten*. Zutphen: De Walburg Pers.

Enthoven, V., 2012. 'That Abominable Nest of Pirates': St. Eustatius and the North Americans, 1680–1780. *Early American Studies* 10(2), 239-301.

Gilmore, R.G., 2004. *The archaeology of New World slave societies: a comparative analysis with particular reference to St. Eustatius, Netherlands Antilles*. Ph.D. thesis, Institute of Archaeology, University College London.

Goslinga, C. Ch., 1971. *The Dutch in the Caribbean and on the Wild Coast, 1580-1680*. Assen: Van Gorcum.

Goslinga, C. Ch., 1979. *A short history of the Netherlands Antilles and Surinam*. The Hague: Martinus Nijhoff.

Goslinga, C. Ch. and M.J.L. van Yperen, 1985. *The Dutch in the Caribbean and in the Guianas 1680-1791*. Assen: Van Gorcum.

Hartog, J., 1964. *De Bovenwindse Eilanden: Sint Maarten – Saba – Sint Eustatius: Eens Gouden Rots, Nu Zilveren Dollars*. Aruba: De Wit N.V.

Hartog, J., 1976. *Geschiedenis van St. Eustatius*. Aruba: De Wit Stores N.V.

Hartog, J., 1997. *De forten, verdedigingswerken en geschutstellingen van Sint Eustatius en Saba: van Pieter van Corselles tot Abraham Heyliger 1636-1785*. Zaltbommel: Europese Bibliotheek.

Haneca, K., S. Debruyne, S. Vanhoutte and A. Eryvynck, 2016. Archaeologisch Vooronderzoek met Proefsleufen: Op zoek naar een optimale strategie. *Onderzoeksrapport agentschap Onroerend Erfgoed 48*. Agentschap Onroerend Erfgoed, Brussel.

Jordaan, H., 2012. *St. Eustatius after the British occupation of 1781: failing to adapt to a changing world?* (paper presented at the Dutch Atlantic Connections conference, University of Leiden, August 24–25, 2012).

van Keulen, F.J.T, M.L.P. Hoogland, D.J.G. Braekmans and R. Stelten, 2017. *The Island without Water: The cisterns of St. Eustatius in the colonial era*. Leiden (unpublished MA thesis University of Leiden).

Klooster, W., 1998. *Illicit Riches: Dutch Trade in the Caribbean, 1648-1795*. Leiden: KITLV Press.

Knappert, L., 1932. *Geschiedenis van de Nederlandsche Bovenwindsche Eilanden in de 18de Eeuw*. 's Gravenhage: Martinus Nijhoff.

Miller, D.R., 2008. *Breaking the Mold: Sugar Ceramics and the Political Economy of 18th Century St. Eustatius*. Virginia (Unpublished MA thesis College of William and Mary in Virginia).

Postma, J. and V. Enthoven (eds), 2003. *Riches from Atlantic Commerce: Dutch Transatlantic Trade and Shipping, 1585-1817*. Leiden: Brill.

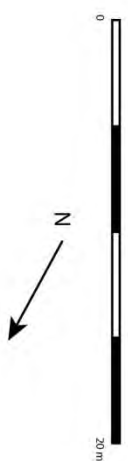
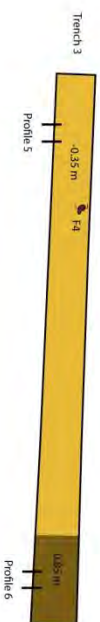
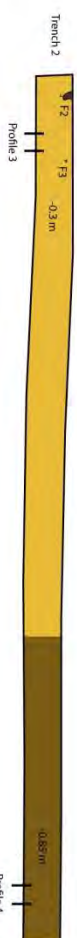
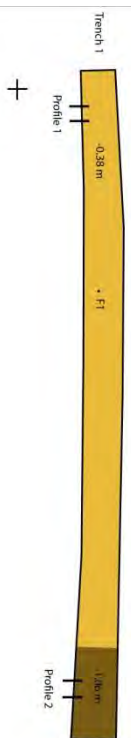
Renkema, W., 2016. *Kaarten van de Nederlanse Antilles: Curaçao, Aruba, Bonaire, Saba, Sint Eustatius en Sint Maarten tot 1900*. Leiden and Boston: Brill Hes & De Graaf.

Roobol, M.J. and A.L. Smith, 2004. *Volcanology of Saba and St. Eustatius, Northern Lesser Antilles*. Amsterdam: Royal Netherlands Academy of Arts and Sciences.

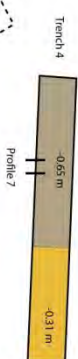
Stelten, R., 2013. *Archaeological excavations at Schotsenhoek Plantation, St. Eustatius, Caribbean Netherlands*. SECAR Intern Report.

Westerman, J.H. and H. Kiel, 1961. *The geology of Saba and St. Eustatius: with notes on the geology of St. Kitts, Nevis, and Montserrat (Lesser Antilles)*. Utrecht: Natuurwetenschappelijke Studiekring voor Suriname en de Nederlandse Antillen.

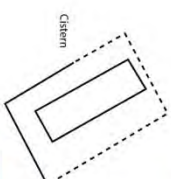
## **Appendix 1: Overview of trenches**



Petit Guyreau  
Excavated trenches and  
uncovered features  
Plan view  
RS & FVK  
13-12-2017



Stone pile wall



## **Appendix 2: Overview of profiles**

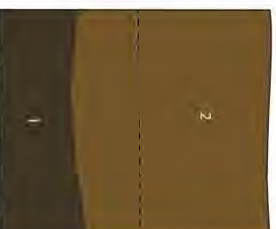
NNW

Profile 1



1. Yellowish brown light loamy sand with small to large rocks
2. Dark grey light sandy loam with small and medium-sized rocks and many roots

Profile 2



1. Dark greyish brown light sandy loam
2. Yellowish brown loamy sand with many medium-sized rocks and many roots below the dashed line

Profile 3



1. Yellowish brown light loamy sand with small to large rocks
2. Dark grey light sandy loam with small and medium-sized rocks and many roots

Profile 4



1. Yellowish brown light loamy sand
2. Very dark grey light sandy loam
3. Very dark grey light sandy loam with some roots

Profile 5



1. Yellowish brown light loamy sand
2. Brownish grey light sandy loam

Profile 6



1. Dark greyish brown light sandy loam, many roots and large rocks, very loose
2. Dark greyish brown light sandy loam, roots, very loose

Profile 7



1. Brownish grey light loamy sand, many large rocks
2. Dark grey sand with many rocks and roots

SSE





## **Appendix 3 Cistern Form**

<b>Context</b>	
Reference #	95
Site	'Petit' Guyeau
Location	Across the street from Knippenga Estate
GPS-Coordinates	17°29'8.03" N 62°57'13.53" W with an inaccuracy of 5 metres.
Photograph number	81-107

<b>Measurements</b>	
Height (complete exterior building)	0.77 m
Height (arch cistern)	0.60 m
Length (exterior)	7.10 m
Width (exterior)	3.70 m
Width (arch cistern)	2.11 m
Width (side or sides of cistern)	South: 0.98 m, North: 0.69 m
Length of arch circumference	2.25 m
Height (opening, outer dimensions)	-
Length (opening, outer dimensions)	1.08 m
Width (opening, outer dimensions)	0.96 m
Height (opening, inner dimensions)	0.07 m (Recessed)
Length (opening, inner dimensions)	0.87 m
Width (opening, inner dimensions)	- (Damaged)
Depth (interior until top arch)	3.25 m
Max water level height	2.54 m
Thickness dome	0.12 m
Length (interior)	5.32 m
Width (interior)	1.81 m
Capacity (interior)	24,458 liters
Length water catchment area	(Destroyed)
Width water catchment area	(Destroyed)
Height water catchment area	(Destroyed)
Length yellow bricks	0.18 m
Width yellow bricks	0.085 m
Thickness yellow bricks	0.035 m
Length red bricks	0.195 m
Width red bricks	0.09 m
Thickness red bricks	0.04 m
Water inlet 1 height	0.055 m (North)
Water inlet 1 width	0.10 m (North)
Water inlet 2 height	-
Water inlet 2 width	-
Water inlet 3 height	-
Water inlet 3 width	-

Materials	
Type of stone/brick	Basalt stone, yellow and red bricks
Type of lid	-
Sample of mortar taken	No

Description	
Exterior shape	Rectangular with straight corners
Interior shape	Rectangular with straight corners
Shape of opening	Square-like
Presence and number of steps Length, width and height of the stairs. Also the length of the steps.	-

Function	
Status (used/unused)	Unused
Wet/dry	Dry
Condition	Poor, roof collapsed into the cistern; multiple stones missing
Type of water collection	Water catchment
Method of water extraction	-
Type of associated building	-

Comments
Possibly additional water inlets, but these may have been destroyed.



## regulations



## Review of the regulations of the Spatial Development Plan St. Eustatius

I.

This review plan may be cited as 'Petit Guyeau'.

II.

On the grounds on which this review plan applies, the provisions and regulations of the Spatial Development Plan Sint Eustatius, as adopted on April 29, 2011, shall apply by analogy, provided that:

The following article is added to the regulations of the Spatial Development Plan:

### **Article 1      Recreation - 3**

#### **1.1 Zoning definitions**

- a. The zoning area 'Recreation-3' is to be used for hotels and restaurants and associated facilities;
- b. In the aforementioned functions, 1 commercial home is permitted per hotel;
- c. Apart from the listed functions, the associated utilities are also allowed. These are: roads, trails, greenery, playgrounds, waterways, ponds, water storage areas, pavements, gardens, parking facilities, public utilities and facilities for prevention of erosion.

#### **1.2 Building regulations**

Building in the zoning area "Recreation -3" is restricted by certain regulations. These are:

##### *1.2.1 Buildings*

- a. A building shall have:
  - 1. a maximum building height as is registered in the indication "maximum building height (m)"
  - 2. a maximum of three floors (either with or without a roof);
  - 3. distances to the plot boundary of at least 3m;
  - 4. distances to the road of at least 3m;
- b. the total built-up surface area may not exceed the "maximum building percentage" for the zoning area;

##### *1.2.2 Structures*

- a. A fence to demarcate plots and terrains shall have a building height of a maximum of 2 m;
- b. Other structures than fences shall have a building height of a maximum 5 m.

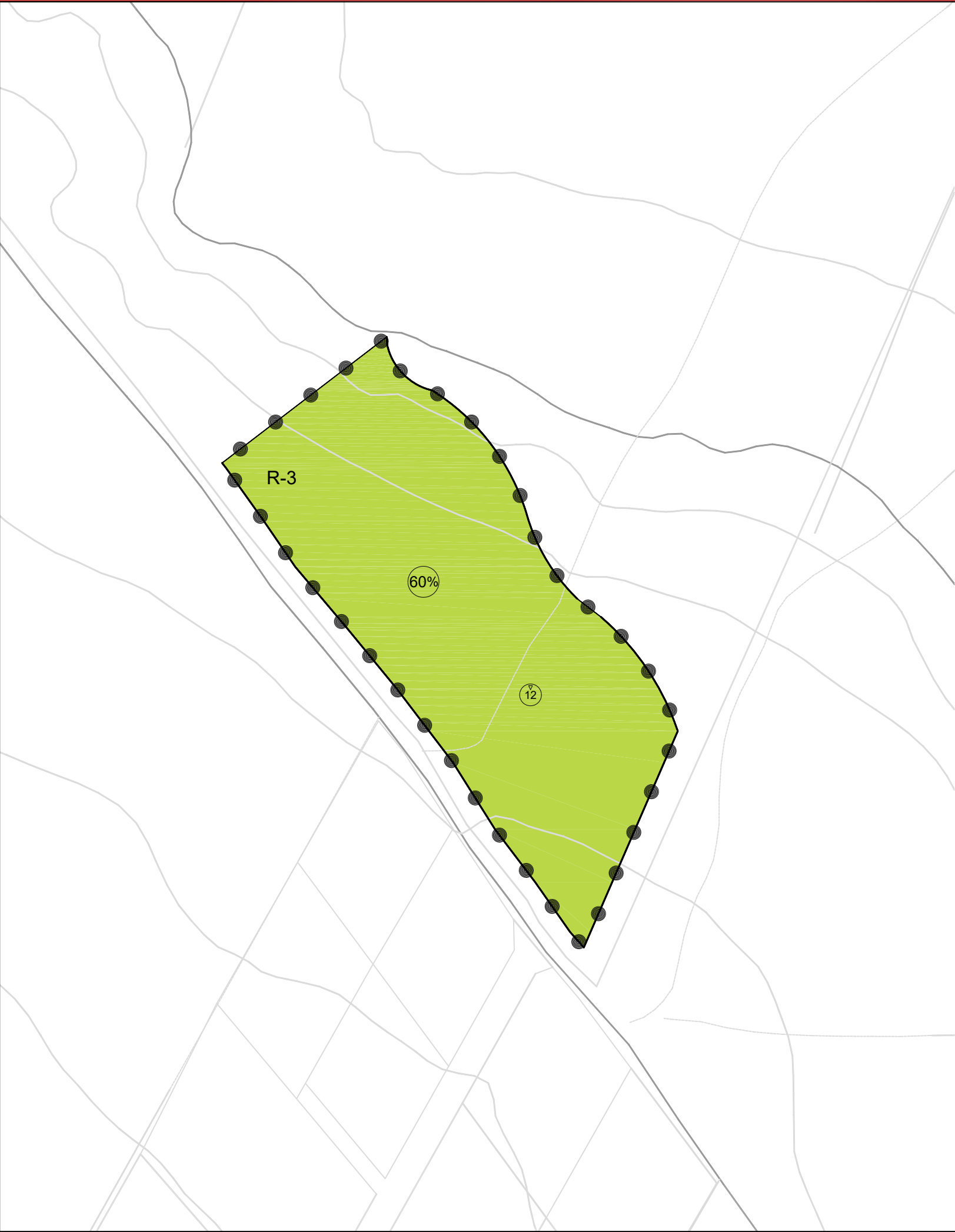
#### **1.3 Utilization regulation**

Use (whether or not by third parties) of buildings, other structures and terrains conflicting with the zoning and the regulations is prohibited. The Executive Council shall authorize exemption of this prohibition if so requested, only if there are no pressing reasons to restrict the most efficient use.

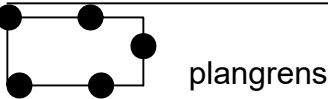




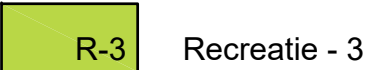




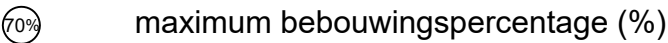
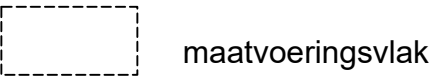
PLANGEBIED



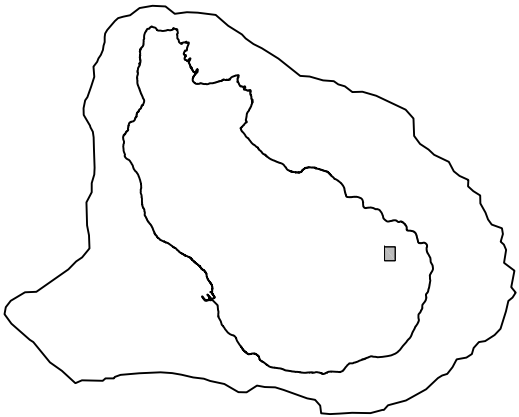
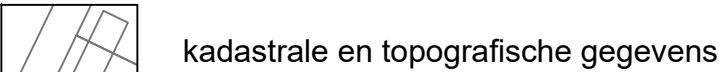
BESTEMMING



MAATVOERINGSAAANDUIDINGEN



VERKLARINGEN



Sint Eustatius  
Petit Guyeau

Herziening



project	20171873	
formaat	A3	vastgesteld
schaal	1:1000	ontwerp
kaart	1/1	voorontwerp
getekend	FJP	concept 29 januari 2018
idn	..	



Rho

ADVISEURS  
VOOR  
LEEFRUIMTE

w www.rho.nl  
e info@rho.nl