AT FORT
Self-Analysis Report
SUOMENLINNA

27.9.2012

Governing Body of Suomenlinna

European Union
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CONTENTS

1. Introduction

The Governing Body of Suomenlinna (GBS), together with ICOMOS and ICCROM, organized an international 'Suomenlinna Seminar' in 1985. After this big event, GBS started international networking with other Nordic fortifications in 1992 and co-operated with the Cronstadt fortification in Russia in the end of the 1990s. Since 1998, Suomenlinna / GBS became a member of the European network ACCR (www.accr-europe.org), dealing with the reuse of historic sites. GBS participated in a few RenDoc meetings in the beginning of the 2000s. The meetings led to a NAVARCH- project dealing with the naval architecture and comparisons between Karlskrona, Chatham, Rochefort and Suomenlinna (2000-2002, Raphael Programme). From 1999 to 2001 GBS was the leading partner in the European heritage-laboratories project "TvF", dealing with brick deterioration, and for the Culture 2000-project "Modern re-uses for the historic architecture today. Architecture, garden, landscape: new exchange fields in Europe", (2001-2003). In 2008, an international round-table meeting was organised at Suomenlinna around the future of historic dockyards. GBS has been participating to the Nordic World Heritage sites annual meetings since 1995, when the first gathering happened in Suomenlinna. This year, the GBS is organising the Nordic World-Heritage Working Conference at Suomenlinna, in October with the theme of 'capacity and competence building'.

As a government agency GBS has been involved since 1973 in the conservation and development of the Suomenlinna fortification, a former military area. Throughout its existence, the GBS has worked in co-operation with the National Board of Antiquities' Suomenlinna department (until 2007) and the Helsinki prison. In the beginning, the viewpoints of these three collaborators – GBS as the developer, NBA as the antiquarian supervisor and the Prison as the contractor– varied a lot. But, after 20 years of collaboration each 'partner' has gone through an evolution ending up in a consensus, where heritage is the priority, demands of modern life are accepted, and the working methods fill both objectives. One could say that the restoration 'philosophy' at Suomenlinna has developed from 'Viollet-le-Duc to Cesare Brandi' in three decades.

During the last 40 years, due to the importance of the Suomenlinna as a national monument and its Word-Heritage status, the public financing has been relatively steady. But, since 2008 there has been a severe threat of abolishing the Governing Body in order to replace it, or merge it with another administration. These threats are related to the European economic crisis.

Suomenlinna has little experience of public-private partnership and when it comes to built heritage, it is not a practice common elsewhere in Finland either. Among many interesting issues listed in chapter 9, the At Fort-project is an opportunity for GBS staff to dive deeper into the subject of public-private partnership.

This report analyses the use and reuse of the site since 1973, in order to understand why some projects are more successful than others. Using the experience of the recent past is key to future development, in order not to 're-invent the wheel' every time. The reuses are treated by the type of use, and analysed according to four criteria. This approach is new and a method that can be expanded to financial issues, ecological sustainability and tourism as well.

This report is based on comments and discussions with Heikki Lahdenmäki, Head of planning at the Governing Body, and discussions with Maire Mattinen, the director. The text is written mainly by Tuija Lind, architect on the Governing Body. It is based on existing published material and statistics collected by Senja Enlund, Heikki Lahdenmäki and Leena Rautio, as well as by Minna Laine. The Governing Body's sales secretary Suvi Jäntti has written most of chapter 4.9, landscape planner Pekka Nevalainen and gardener Iina Johansson have written and made the research concerning chapters 5.1 and 5.2.

Jonas Eiring has revised the English text. The chapters 5.1 and 5.2 have been translated from Finnish to English by Multiprint Oy / Multidoc.

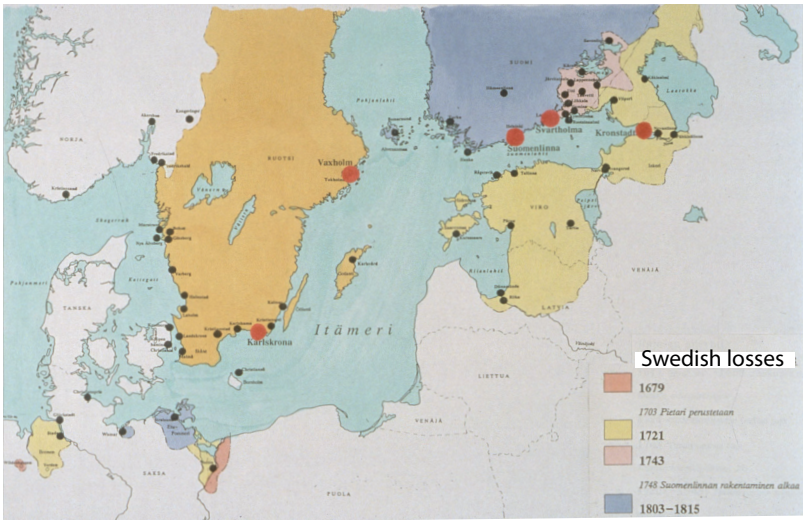
We welcome you to get to know Suomenlinna, and to exchange your experience and ideas with us.

2. General description of Suomenlinna

2.1 History

The building of Sveaborg, known today as Suomenlinna, could be considered as the swan song of Sweden's might. After suffering numerous military defeats in the 18th century and with the loss of their eastern fortification, Sweden had no longer supremacy over the Baltic Sea. After the Swedish naval base was moved from Stockholm to the southern town of Karlskrona, the Russian fleet based in St. Petersburg could readily expand in the Baltic. France, allied with Sweden, was equally concerned by the developments and offered to

subsidize the reorganization of the eastern frontier.



The fortification on the six islands just off the Helsinki coast in the middle of the 18th century was lead by a Swedish lieutenant colonel Augustin Ehrensvärd. His design was a low-profile bastion-type fortress made of local stone and bricks. Several of the works were casemated. The outline of the fortress is very irregular.

Another characteristic of the works of the 18th century worth mentioning is the multifunctional character of many of the buildings that include both defence-related elements and those of everyday life. Edifices designed to house weapons and guns also served as accommodation for soldiers and officers, as workshops and warehouses and places of worship. People lived in the casemates, where daylight entered through embrasures and the rooms were ventilated by loopholes.

The fortress was meant to ease the surveillance of the fairways leading into the berth of Helsinki, as well as to protect the naval base and the construction of a new archipelago fleet designed by Fredrik af Chapman. The construction of the seven-kilometre-long fortification was completed by the end of the 18th century. It was meant to hold 154 mortars and 1395 guns of which 456 were stored in the bunkers (information taken from Jyri Paulaharju's writings).

However, in 1808, when Russian troops besieged Sveaborg - Suomenlinna, only half of the positions were occupied. This could have been one of the reasons for the embarrassing surrender of the fortress. The annexation of Finland by Russia put an end to Sweden's supremacy in the Western Baltic and Sveaborg became a garrison. The construction of new barracks, church, hospital and other buildings was associated with the development of a city rather than a military base.

During the Crimean War, an Anglo-French fleet outside the firing range bombed the fortress for three days, causing substantial damage. The restoration began by building new ramparts with artillery emplacements facing the open sea. Without having to worry about defence, all the inhabitable places were progressively occupied. The parapets were covered with roofing, chimneys were installed, embrasures walled or closed with windows.

At the outbreak of World War I, Nikolai II undertook a significant modernisation of the dry dock. Consequently, Suomenlinna became yet again an important naval base.

In the post-war period when Finland gained its independence, modernisation continued by building anti-aircraft defences to protect Helsinki, the new capital since 1812. After World War II, the shipbuilding continued in the Suomenlinna dockyard as part of the war reparations to Russia. During the 20th century, the Finnish Army had units of the Naval forces, a coastal artillery placed at Suomenlinna until the 1970s. The Naval Academy headquarters are still at Suomenlinna. The historian and former Suomenlinna resident Mikko Härö writes about the 1960s, "In those days the inhabitants of Suomenlinna were divided into three groups: the army people, the dockyard (state-owned Valmet) people and a mixture of others, some kind of 'cultural' people."

2.2 Protective status

The two southernmost islands of Suomenlinna were protected as historical monuments by the Antiquities Act in 1919, immediately following the independence of Finland. In 1975 the Council of State gave a

decree on the principles of the restoration and further development of Suomenlinna, which resulted in the creation of the state agency GBS. The Act on the Governing Body dates from 1988 to “govern, administrate, maintain and restore the Suomenlinna site and its buildings”. Suomenlinna is a World-Heritage site since 1991. Since the master plan of Helsinki 2002, Suomenlinna has the status of ‘an area of significance’ in the sense of cultural history, architecture and landscape. The City of Helsinki Planning Department, with the co-operation of GBS and the National Board of Antiquities, has been working on the development plan of the fortress since 2004, but - mainly due to the lack of applications of protection - this work has not yet been accomplished.

Anecdote:
In 2007 a private owner managed to acquire the one and only grocery store on the islands, and decided to kick out the grocer-tenant (having in mind to transform the building into flats, with higher market value). We had no legal way to stop this process, and noticed that despite all the protective acts and statutes, we could not prevent this kind of speculation. Today, a new building for the grocery store is under construction.

3. Presentation of the Governing Body of Suomenlinna

3.1 History

The first half of 20th century and the 1960s were marked by the deterioration of the architectural elements. The Army continued to occupy the islands, but little money was set aside for maintenance. Before starting a review of the future of the site, it was necessary to wait for the Army’s announcement in 1962 that it would be leaving the site. Since that moment, the National Board of Antiquities (NBA), responsible for the restoration of the protected areas since the 1920s, started to anticipate the Army’s departure.

In fact, as long as the Army remained the landowner, it had been possible to sign agreements concerning the repair work and restoration of the site, but the possible sale of released plots of land or a new division of property would pose problems for the restoration works and could threaten the future development of an historic monument of prime importance. In an open letter to the Ministry of Education, the NBA proposed a ‘Lex Suomenlinna’ based on the indivisibility of the islands and their attribution to one single owner, the State.

In 1966, the city of Helsinki formed a commission charged with considering uses for Suomenlinna that would also reinforce the development of Helsinki. The work of the commission was published in 1969, proposing that the State be in charge of the restoration work and the city of Helsinki of integrating Suomenlinna into the general urban development: better maritime connections, municipal services and technical

infrastructures.

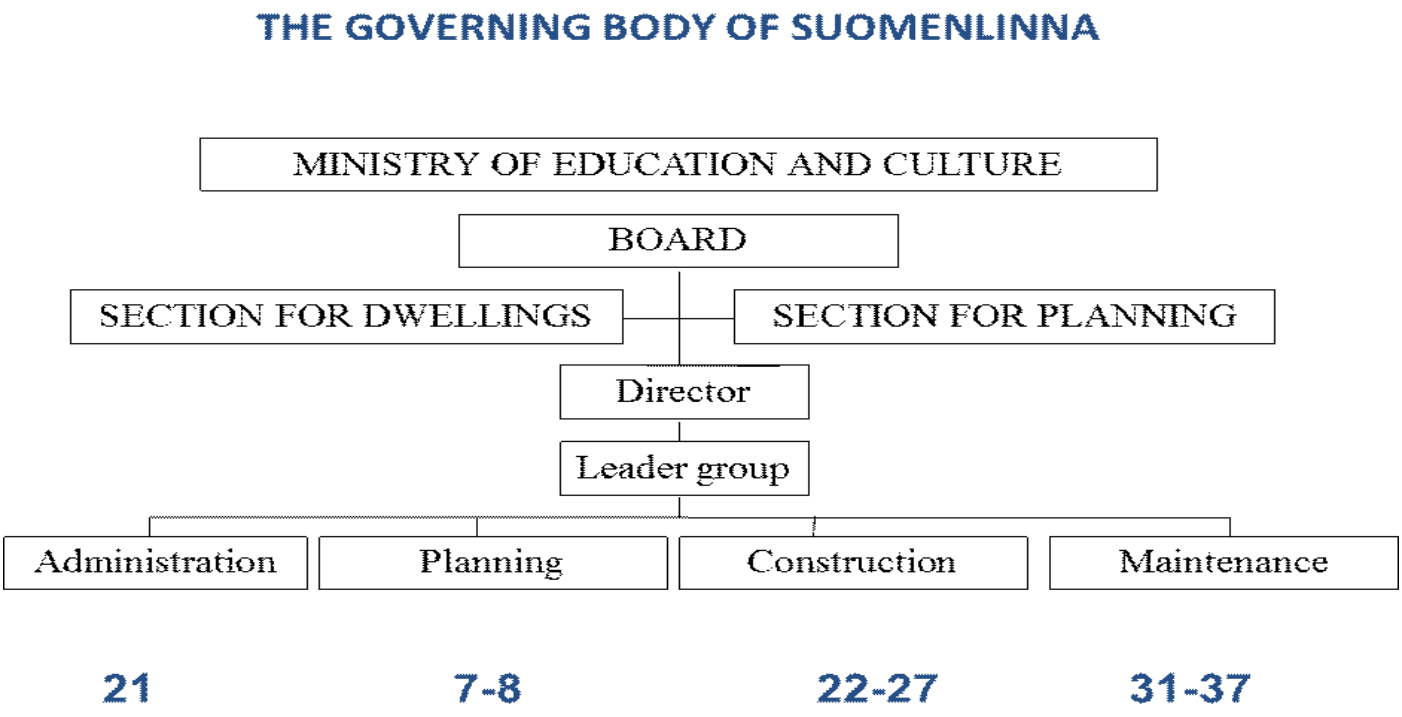
With these first guidelines secured, the Council of Ministers nominated a “Suomenlinna Commission” in 1969. The commission consulted a large number of specialists before delivering its conclusions in the form of a synthesis published as the first preliminary working document for the rehabilitation of the site. The emphasis was on the understanding of the site, its architectural importance and its past, but also on the community that lived there.

The execution of the programme for the revitalisation of Suomenlinna was the subject of an architectural competition organised between 1970 and 1971. A government decree in 1973 officially established the Governing Body of Suomenlinna. A working group, including the winners of the architectural competition supervised by the steering committee, was formed. The architects in question established a planning unit, which worked on the islands for the following eighteen months, consulting a large number of experts from all relevant disciplines. The result of this work was a second preliminary study, published in 1974 and entitled “The planning proposals for Suomenlinna”. It presented comprehensive and concrete proposals for the future of Suomenlinna in a fashion that had no previous equivalent in Finland.

In this ‘master plan’ or ‘management plan’ everything had been considered: the re-use or restoration of almost every single square metre. The project specified work for the next 20 years, including nearly 200 individual projects at a cost equivalent to 200 million Euros. Even if the obviously overblown plan from 1974 proposed a large number of new activities at Suomenlinna, the authors emphasised that they had presented what could be described as maximum intervention, and that only those activities deemed necessary and sustainable from the point of view of the historical environment should be realised. The priority remained the restoration of the walls and buildings in danger of collapsing, and in renovating the apartments.

The Governing Body of Suomenlinna was created to follow and execute the guidelines of this yearly updated master plan.

3.2 Organisation



The board consists of 11 members: Ministry of Education and Culture 1, chairman, National Board of Antiquities 1, City of Helsinki 2, Ministry of Finance 1, Ministry of Defence, Senate Properties 1, Ministry of Justice 1, inhabitants of Suomenlinna 2, and the director of GBS as board secretary. The head of planning unit is the secretary of the section for planning (9 members). The section for dwelling chooses the inhabitants (4 members).

Since 2011, the Governing Body’s new director, Maire Mattinen, is leading a development project analys-

ing the key processes of the Governing Body's mission. The results of this work may have organisational changes in the near future.

3.3 Financing

The total amount of money allocated for repairs, maintenance and restoration at Suomenlinna was about 12 million Euros in 2011. From this sum about two million comes from the Ministry of Justice and ten million from the Ministry of Education and Culture.

The two million from the Ministry of Justice goes to paying the salaries of approx. 60 inmates and 7 foremen at the prison, and the cost of some 10 restoration projects.

The ten million from the Ministry of Education and Culture is divided as follows:
- 2,2 (22%) million for investments (restoration and repair and building projects)
- 4,0 (40%) million for running costs and maintenance of the 80 ha area (this includes for example the heating cost, which amounts to 750,000€)
- 3,8 (38%) million for salaries (about 85 annual salaries).

In 2011 GBS received an income of 4.9 million Euros (92% from rents, 5% from contracts with the municipality).

4. Analysis of the (re)use of Suomenlinna

Suomenlinna's projects are divided according to the type of reuse (or use) and evaluated according to four criteria.

I **The physical preservation of the monument:** architectural or technical structure and cultural landscape. The conservation includes both details and the architectural unity. Since Suomenlinna is a World-Heritage site, its long-term preservation is a duty of first priority.

II The advantage of the project for the **local community**: inhabitants (850) and people working in Suomenlinna (300-500), and those closely related to the fortification.

A vital, heterogeneous community living and working inside the monument has proved to be a good way of ensuring the monument's maintenance. Without everyday life inside the fortress, it would be an open-air museum and not an urban neighbourhood of Helsinki, which could be considered as Helsinki's 'historic' or 'old town'.

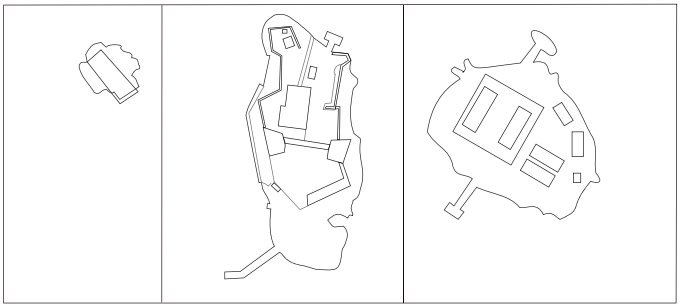
III **The impact** of the reuse project as a generator of restoration skills, preserving craft traditions and creating artistic or cultural quality.

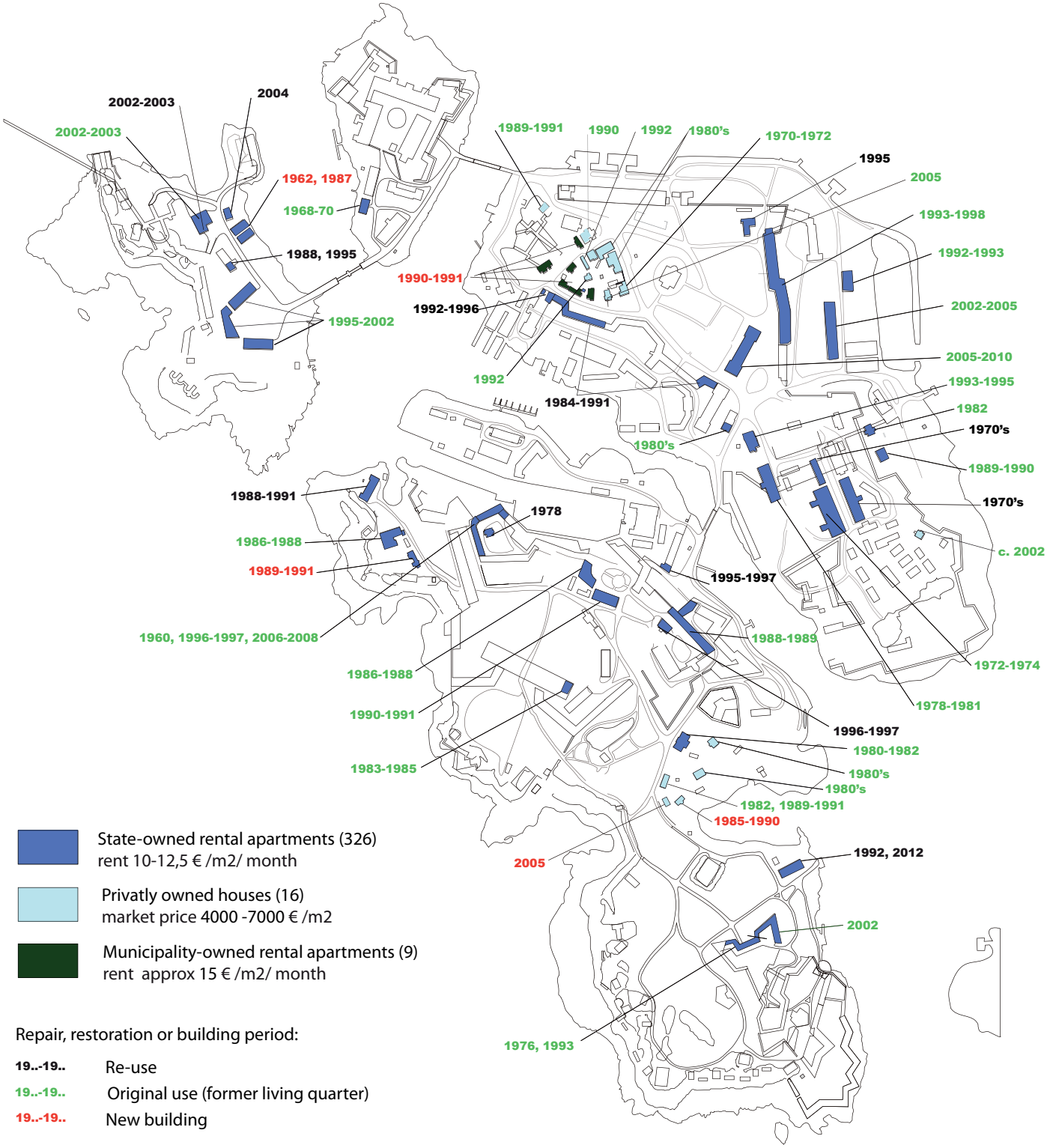
Suomenlinna has been a kind of a 'laboratory of restoration' during the past decades, where theory meets practice. If the realisations (when good) can be seen and used as examples, the work has had a wider impact. Some reuses promote the same thing.

The fortress's influence on Finnish cultural life has always been important. Through convenient reuse it continues today. The consumers of culture can be local, national or international, a specific target group or general tourists.

IV The impact of the project as **mediator of knowledge** related to the history of the site or fortifications in general, in the preservation of monuments and cultural landscape, and in a better understanding of World-Heritage sites.

Many of the important events of Finnish history since the 18th century have taken place at Suomenlinna and have left physical traces or empty places at the site. Finland is traditionally a country dominated by wooden architecture, which to a large extent has burnt without leaving any trace. In that context Suomenlinna is a rare example of stone architecture, with several historical layers preserved. Adults and children, local and foreign visitors, all have a lot to learn from the fortress about Finland's modern history. Suomenlinna can also show us what would have been lost if the site had not been protected, first as a monument then as a World-Heritage site.





State-owned rental apartments (326)
rent 10-12,5 € /m2/ month

Privatly owned houses (16)
market price 4000 -7000 € /m2

Municipality-owned rental apartments (9)
rent approx 15 € /m2/ month

Repair, restoration or building period:

19..-19.. Re-use

19..-19.. Original use (former living quarter)

19..-19.. New building

(Re)use as housing

21.9.2012/tl

4.1 As housing

Since 1974, every square metre suitable for housing has been converted to that (re)use.

I **Physical preservation of the monument**

1970s

During the 1970s there were nine housing projects in Suomenlinna. Two 18th-century bastions, one basement of an 18th century windmill, four 19th-century barracks (70 apartments) and individual houses were restored in accordance to a modern standard of living. All together 81 homes were modernised (including one private home).

In the case of masonry buildings, very little was left from former interiors since all the surfaces had been renewed (wall plasters, floors and ceilings). All the windows and doors had also been replaced with new wooden ones. The old stones on the ground floor had been replaced by new ones and façades plastered with new cement-based plaster. One of the two wooden buildings was also totally renewed both inside and out, while the other one did conserve it's facade.

1980s

During the 1980s there were altogether 10 private house-renovation projects and 8 state (GBS) projects whereas a bastion front of an 18th-century crownwork, one 18th-century wooden facade of a bastion and a casemated caponier, a former 18th-century guard room, and a wooden house with a core from the 18th century (the only wooden building left from that time at Suomenlinna). In these projects 9 private homes and 39 state-owned rental apartments were renovated.

Even though much more research time was put into the building survey, most of the inner surfaces and structures were removed to give place to new, in some cases all the windows and doors too. In four cases efforts were made to conserve Swedish stoves (tile stoves), wooden details and windows, some inside surfaces and structures and even some outside plaster.

1990s

Altogether 97 state-owned rental flats and 3 private homes were renovated in order to achieve a modern standard of living (new bathrooms and kitchens). Nine new municipally-owned apartments for city employees were also built. In these projects (one three-storey curtain wall one former officer's house, one former artillery laboratory, one storehouse – all already in housing re-use), all the bearing walls and lighter structures, architectural details, surface materials (including plaster, paintings, even wallpaper) both inside and outside the buildings (except in bathrooms and kitchens) were preserved. In the curtain wall building project professional restorers were used to conserve the patina of the stairway walls.

In the 1990s more and more lime-based mortars and traditional paints – which do not harm the older, preserved building materials – were used in the restoration works. Almost all the added materials were of same nature as traditional ones, which means long-lasting materials that can be repaired.

2000s

During the first decade of the 21st century, the state renovated 79 flats. One new private house was built and one was restored in a 'conservative' spirit. In all these projects, the attitude towards conservation of structures and materials was as 'conservative' as possible, also inside the apartments.

In one case, the large spaces the former living quarters in an 18th-century bastion were not divided according to the needs of a normal flat (were you normally have a few bedrooms). This meant three very large flats (between 128 and 171 m2), with only one bedroom. These flats were 'transformed' to professional flats, where people who live there also work and can deduct part of the rent for the working- space from taxes.

During the 2000s and beginning of 2010s the projects related to housing are individual apartment-repair projects. Some of them are minor but about 80 flats have had maintenance (painting or minor repair after the change of inhabitants) or real repair interventions. About 15 apartments have had problems due to humidity (either undetected water sources during the last repair work, or building mistakes, or a lack of maintenance or ventilation).

As a general remark, having inhabitants walking everywhere on the islands is useful for the maintenance of the monument, because they keep an eye on it. They report loose stones, broken streetlamps and fallen trees. They also report it if they see squatters or traces of vandalism. The presence of regular walkers brings security to remote parts of the fortress.

One of the important decisions made in the late 1970s was to bring modern intra-structure to Suomenlinna and to dig a tunnel under the sea. This caused a lot of damage to the bedrock and to the building structures, but it was, on the other hand, the only way to achieve a modern living standard needed to attract a heterogeneous population.

Bringing running water, building a sewage and central heating system, and renewing the electrical network unavoidably caused damage to the structures: holes in ceilings, floors and walls. The technical installations need space, and often renovated attics and cellars loose their original use, because they are full of pipes, plumbing and wires. At Suomenlinna, there has been an ambition to build up small new buildings near the old ones for all possible technical installations. The amount of damage to old structures depends on the talent of engineers and architects, and on their co-operation. At Suomenlinna we have been lucky enough to have several engineers specialised on old buildings.

II Local community

The inhabitants form the core of the local community (though people who work on the site and even very regular visitors also belong to the community). The more people there are, the better, because many services require a critical mass of users. Permanent inhabitants literally keep the monuments alive.

Since the official housing section chooses tenants for the 330 residences owned by the Governing Body of Suomenlinna, it is possible to influence the variety of the community – for instance to favour families with children, so that the kindergarten and school can continue to operate.

Quotation from the Suomenlinna website, suomenlinna.fi.
"Residential apartments at Suomenlinna are issued through a special application procedure. Each free apartment must be applied separately, and the Governing Body of Suomenlinna maintains no waiting list for apartments. Available apartments are announced on the notice board of the Governing Body and on this website. Application forms may be obtained from the customer service point of the Governing Body, or printed from this website at the time of the announcement. About 50 applications are usually submitted for each available apartment.
The allocation of apartments is based on the general instructions for leasing and applying for residential apartments at Suomenlinna. Tenants are selected by the housing department of the Governing Body, with particular priority given to persons who can assist in the care and services of the fortress. Residential apartments are not allocated on social grounds. A diversified population comprising various age groups, social groups and professional groups best serves the objective of maintaining the community structure that characterizes the old garrison town. This means that no waiting list can be applied in the allocation of residential apartments in Suomenlinna. The level of rents in Suomenlinna is reasonable, varying between 10 and 14 Euros per square meter, depending on the size and standard of fixtures and fittings in the dwelling."

III Impact of the reuse

After WWII, the traditional (and cheap and easy to use) lime-wash vanished little by little from European city façades. This ancient paint was replaced by modern products created by the paint industry, also in Finland. The only urban area in Finland that continued to be painted with lime paint was, and still is, Suomenlinna. This is not directly linked to housing projects, but maybe the fact that tenants (rather than owners, who would be able to choose building materials themselves) have lived in the buildings has contributed to the use of traditional materials.

The experience from a large number of carefully studied restorations and repair projects was used in a general guide of restorations (Asuntoremonttiopas). The guide specifies the type of building materials (paint, mortar, isolation, architectural details etc.), and has been a useful tool at other sites as well.

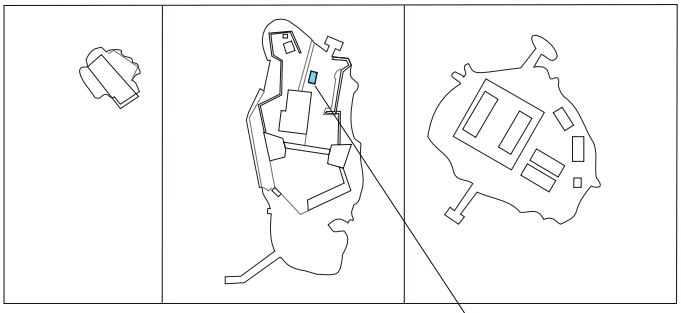
Many of the people working for the Governing Body live at Suomenlinna, something which may increase the responsibility towards the site's maintenance. Some active inhabitants with artistic or organisational skills have created associations producing quality festivals, where both the inhabitants and visitors can profit from their skills.

IV Mediator of knowledge

Having inhabitants living on site does not have a wide impact on the dissemination of knowledge, but having local children going to local school and learning - thanks to their teachers - what is a World-Heritage site, can (at least in theory) have some impact on future attitudes on cultural heritage.

4.2 As temporary accommodation

I Physical preservation of the monument



1975-1978, 2009-2010
SEN

1980's
5

2001-2002
2

1

1989-1992
SEN

2012-2013

1971

3

1971, 2011-2012

1971

2008-2009

1980-1982
4

Temporary stay

SEN Owned by Senate Properties

Repair, restoration or building period:

19..-19.. Re-use

19..-19.. Original use

19..-19.. New building

1 Naval Academy

2 Hostel

3 Prison

4 Artists' residence

5 Yacht-club keeper's residence

Summer use only

(Re)use as temporary accommodation

21.9.2012/tl

1970s
In 1971 an open prison was established on the site: eight temporary barracks to house about 90 inmates, a refectory and a sauna building. One wooden building from the 18th century was demolished to give space to these new installations.

The prison, with funds from the Ministry of Justice has been the site's contractor since the 1970s. While Governing Body has been the developer, the prison has carried out about 60 larger projects during these 40 years. In the light of the results, the symbiosis between prison and GBS has been very fruitful for the preservation of the fortress.

The prison area has gone through several repair campaigns and most of its buildings are already renovated or about to be demolished to give place to more permanent architecture and better conditions for the inmates.

Another important project in the frame of temporary accommodation is the dormitory building of the Naval Academy. Inside the building, the project followed the ideology of 1970s where almost everything was renewed, but the wooden windows and the outer plaster were partly conserved. The building has undergone many changes but using it for the same purpose as in the 18th century definitely helps to maintain the cohesion of its modest spatial and architectural values.

Many young Finnish men have attended the Naval Academy during their military service. For them Suomenlinna is an important place; they understand its value and can sometimes have influence on its preservation.

During the 1980s another dormitory building was renovated for the Naval Academy, following quite the same restoration philosophy as in the 1970s. An important Nordic-Art institution was located to Suomenlinna, with residences for its member artists built in a 18th- and 19th-century bastion wing. Apart from the roof structures and bearing walls, not much was preserved from the inner structures, even though the architectural design of the studios is good.

In the beginning of 2000s a long-planned project was realised: a school camp centre, serving as hostel when not used by school children. In this project, as much as possible of the old structures of a former school building from the beginning of 20th century was conserved.

II Local community
Some of prison foremen, as well as naval officers also live at Suomenlinna. This adds to the integration of these useful institutions with the local population. Both institutions have also given help – specially in former times – to events or sports activities for the inhabitants.

The artists' residence was an important 'opening' for the local community in the beginning, but had already less impact in the end of 1990s. As a discipline, contemporary art has not really made roots outside the studios at Suomenlinna.

The hostel has brought life to its surroundings, but has also been felt as a disturbance by the neighbours. The hostel has hosted - at least occasionally - people working at Suomenlinna, a very useful service for specialised professionals coming from further afield, due to the cheaper rates than those of city hotels.

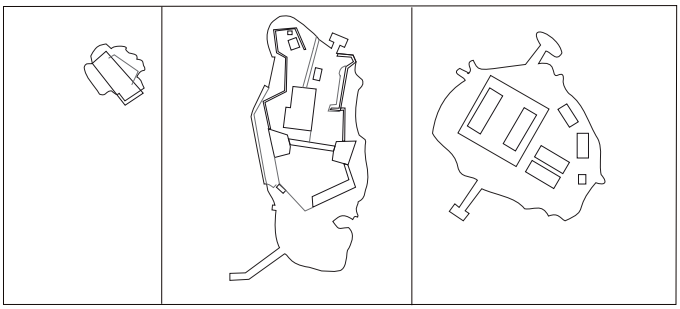
III Impact of the reuse
Since some years ago, the artists' residences have been opened for people from outside Nordic countries, and for writers. A residence in peaceful, historical surroundings is a good ground for any kind of creative work.

IV Mediator of knowledge
Some of prison inmates have gained restoration skills by working on the restoration sites. During the last six years four training courses have been organised for prisoners whereas some 15 men have gained a diploma.

Suomenlinna is an interesting place to teach history and cultural geography. The hostel's school camps take advantage of the situation. In 2011 about 30 school classes went on camp at Suomenlinna.

4.3 As office

I Physical preservation of the monument
Out of the eleven projects (1980 – 2012), three are new buildings, five have been 'conservative' and in the



Office use

SEN Owned by Senate Properties

GBS Office in Governing Body's use

Repair, restoration or building period:

19..-19.. Re-use

19..-19.. Original use

19..-19.. New building

(Re)use as office

21.9.2012/tl

one from the 1980s all possible was destroyed to give place to good quality new architecture. One project - the Governing Body offices - is a 'school example' of a reuse project, where the building has dictated the program, and where all the former historic layers have been preserved. And yet the building works very well as an office. This project proves that this kind of attitude or ideology is possible also in practice, not only in theory.

II Local community

Having office workers (with regular working hours for about eleven months per year) has been an important enabling factor for the availability of a lunch restaurant open all year round. This is important for people who work at Suomenlinna occasionally as well as for the inhabitants.

III Impact of the reuse

Having the office of GBS, the developer of the site and maintenance officer on site makes the development of the restoration skills and maintenance culture possible. Having the 'decision making' far from the 'executing' would have created a wider gap between theory and practice.

IV Mediator of knowledge

The GBS team dealing with the visitor management and situated in the visitor's centre of Suomenlinna has a role in everyday dissemination of knowledge on Suomenlinna as a world heritage site.

GBS office receives many professional visits and is a good example of Suomenlinna's restoration ideology, where the reuse respects existing building, and where even some of the buildings' spirit has been conserved.

4.4 As workshop

I Physical preservation of the monument

1970s

Two projects, a reconstitution of a ruined 18th-century hornwork and the reuse of an 18th-century bastion were initiated in the 1970s. The total reconstruction of the hornwork in it's 18th-century form was a way to conserve architectural cohesion of the defence of the so called Artillery Bay. The modernisation of some casemates included removing all the soil from the top of the bastion as well as all traces of former use of the casemates. These spaces have been used by Suomenlinna's Scout Group and some glass blowers.

Anecdote:

Also a small shed built by a local fisherman with recycled materials (panels of an important OSCE – Organization for Security and Cooperation in Europe – meeting held in Helsinki 1976 during the cold war) was created. When the fortress was still in active use, it had a lot of temporary, wooden constructions devoted to moments needs. This addition follows the same ideology.

1980s

There were six projects, of which four addressed artists and artisans, one for the maintenance of Suomenlinna. Two of the projects dealt with a 18th-century bastion and curtain, and in two artists' workshops were built in a 19th-century barracks and in a 19th-century bastion extension.

In these projects most parts of the exteriors were safeguarded. In one case some floors were preserved.

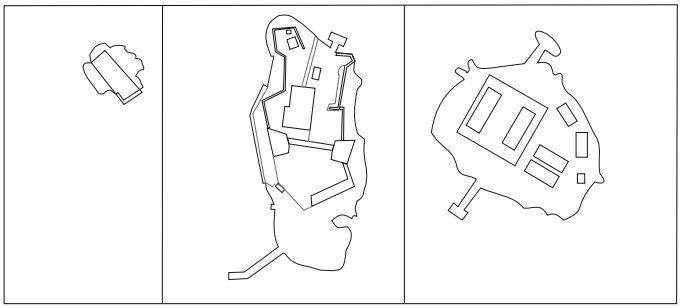
One of the projects from the 1980s was to replace the former dockyard offices with the offices of the National Board of Antiquity. The atmosphere of the former dockyard offices was kept. Today the space is occupied by private users, working mainly in the film industry.

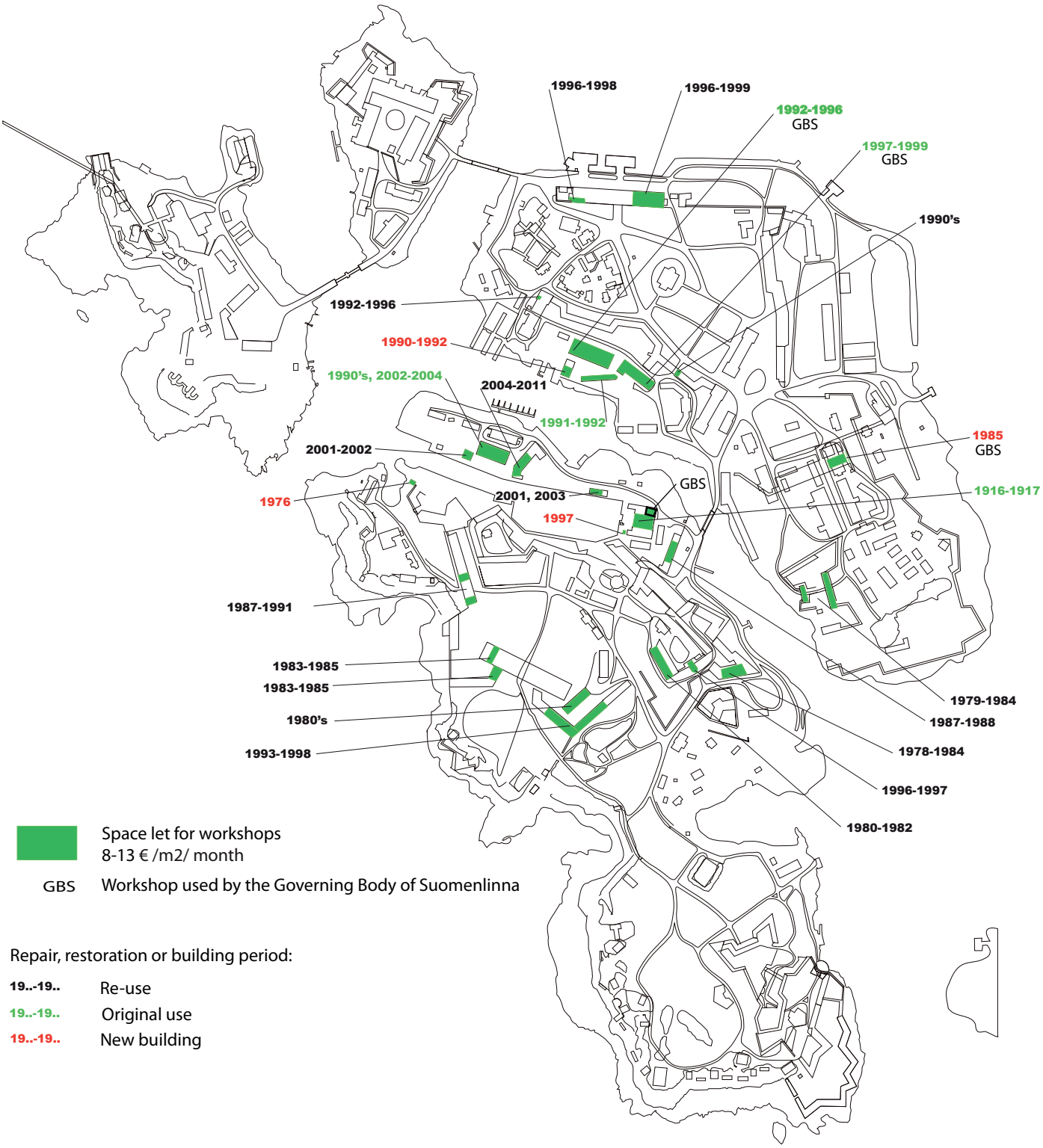
1990s

During the 1990s seven projects were dedicated to workshop reuse. Five of them related to repair work and restoration, one dedicated to music and a recording studio, one to a brewery, and two, with altogether 14 studios, let to a large variety of activities.

All of these workshops were planned in the way that as much as possible of the old structures, both inside and out, are conserved.

A temporary shed for mortar mixing was created in the dockyard area, an ugly-looking but indispensable shelter for this use, which, 15 years later (!), has not yet found a new home.





Space let for workshops
8-13 € /m2/ month

GBS Workshop used by the Governing Body of Suomenlinna

Repair, restoration or building period:

19..-19.. Re-use

19..-19.. Original use

19..-19.. New building

(Re)use as workshop for production, handicraft, repair work, arts and crafts, art, research

21.9.2012/tl

2000s
During the 2000s three projects all situated at the dockyard were realised: all of them with a very 'conservative' attitude. The basement of an old windmill was transformed into a blacksmith's workshop, a ship carpenter's workshop in an 18th-century bastion was modernised and a former Russian sauna-building was repainted, repaired and equipped with modern technical installations. This space for some years hosted the Historic Ships Register, a register vital for old ship preservation.

II Local community
Devoting spaces to workshop use, it increases the number of regular users of services and help in their survival. Some of these workshops are so established at Suomenlinna that the building it occupies is called by the name of the workshop. A case in point is a potter's workshop celebrating its 40 years in 2012, called 'Pot Viapori'. Together with the Suomenlinna school, some musicians working and living at Suomenlinna created an association called 'Suomenlinna phenomena', organising music lessons and concerts with the school children. Some years ago 80% of the 70 pupils of the Suomenlinna elementary school played some instrument.

Service traffic related to restoration works does disturb the inhabitants living close to depots and service zones.

III Impact of the reuse
The workshops related to restoration (carpentry, metalwork, painting) and situated at Suomenlinna have a major impact on the preservation of the fortress. Having workshops on site makes the work quicker and cheaper, and makes maintenance much easier.

Since the end of the 1990s a group of workshop occupants have gathered their forces into associations and for promoting the local artistic know-how (a shop, exhibitions, events, concerts) for the pleasure of locals and visitors.

IV Mediator of knowledge
The workshop use itself does not contribute to our (written) knowledge on fortifications, World-Heritage sites, or the discipline of restoration. Many of these workshops are open to customers, clients or visitors and by being open to the public promote the idea of 'preservation and maintenance through reuse'.

4.5 For education

I Physical preservation of the monument
There are eight buildings with educational use at Suomenlinna. The Naval Academy comprises four 18th- and 19th-century buildings. A kindergarten is using an 18th-century bastion of a crownwork. The elementary school for six first grades is located in a modern building (1959). The art school is working in an 18th-century casemated curtain and the prisoners have a classroom in a 19th-century artillery laboratory. The kindergarten and art school were installed in the beginning of the 1990s. A kindergarten has found suitable rooms in a narrow bastion of a crownwork. The architecture of this bastion allows for individual classrooms with privacy and a long corridor joining them all.

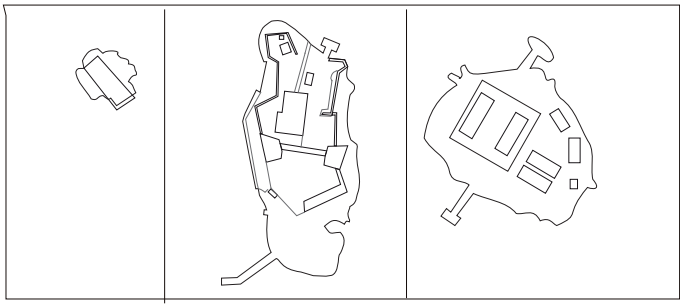
The modern school building shows that these additions are possible without spoiling any of the fortress's historic or architectural values, if the addition is modest enough. Here the word 'modest' is considered a value.

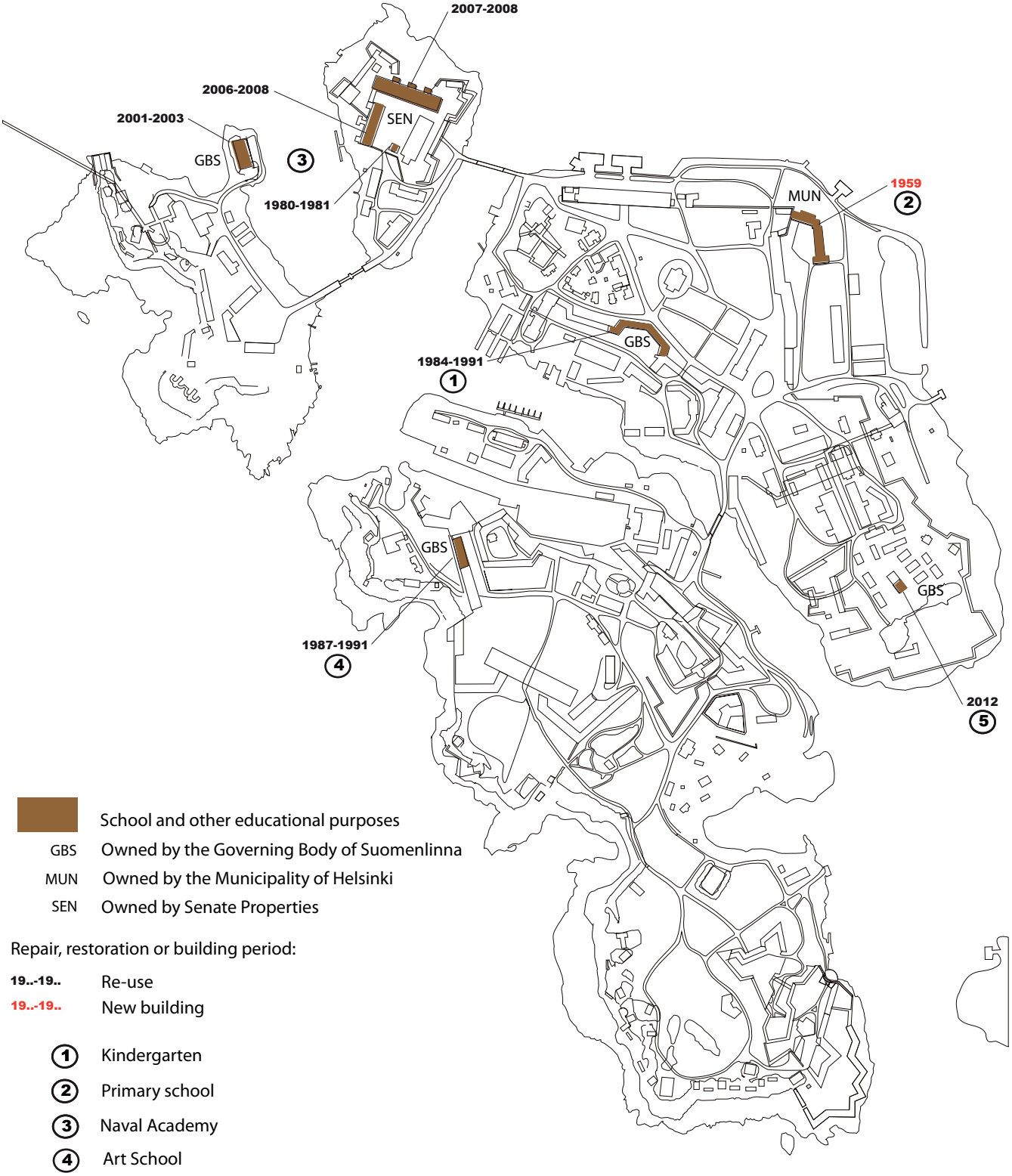
The restoration projects of these premises follow the customs of each decade. Unfortunately half of the buildings have had problems with damp, which has caused more demolitions than programmed in the first hand.

II Local community:
The kindergarten and elementary school are most important for the inhabitants. Having them on the islands avoids daily travelling to the city centre. The naval school keeps up the military tradition still making some inhabitants proud, with a family tradition in the defence forces. The art school is also an important part of Suomenlinna life and brings customers to the lunch restaurant in winter.

III Impact of the reuse
The Art School Maa prepares professional free-lance artists.

IV Mediator of knowledge
The Suomenlinna school teachers use the fortress for teaching Finnish history. They also promote the





School and other educational purposes

GBS Owned by the Governing Body of Suomenlinna

MUN Owned by the Municipality of Helsinki

SEN Owned by Senate Properties

Repair, restoration or building period:

19..-19.. Re-use

19..-19.. New building

1 Kindergarten

2 Primary school

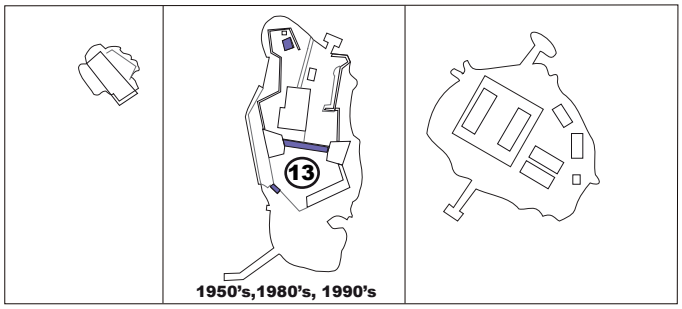
3 Naval Academy

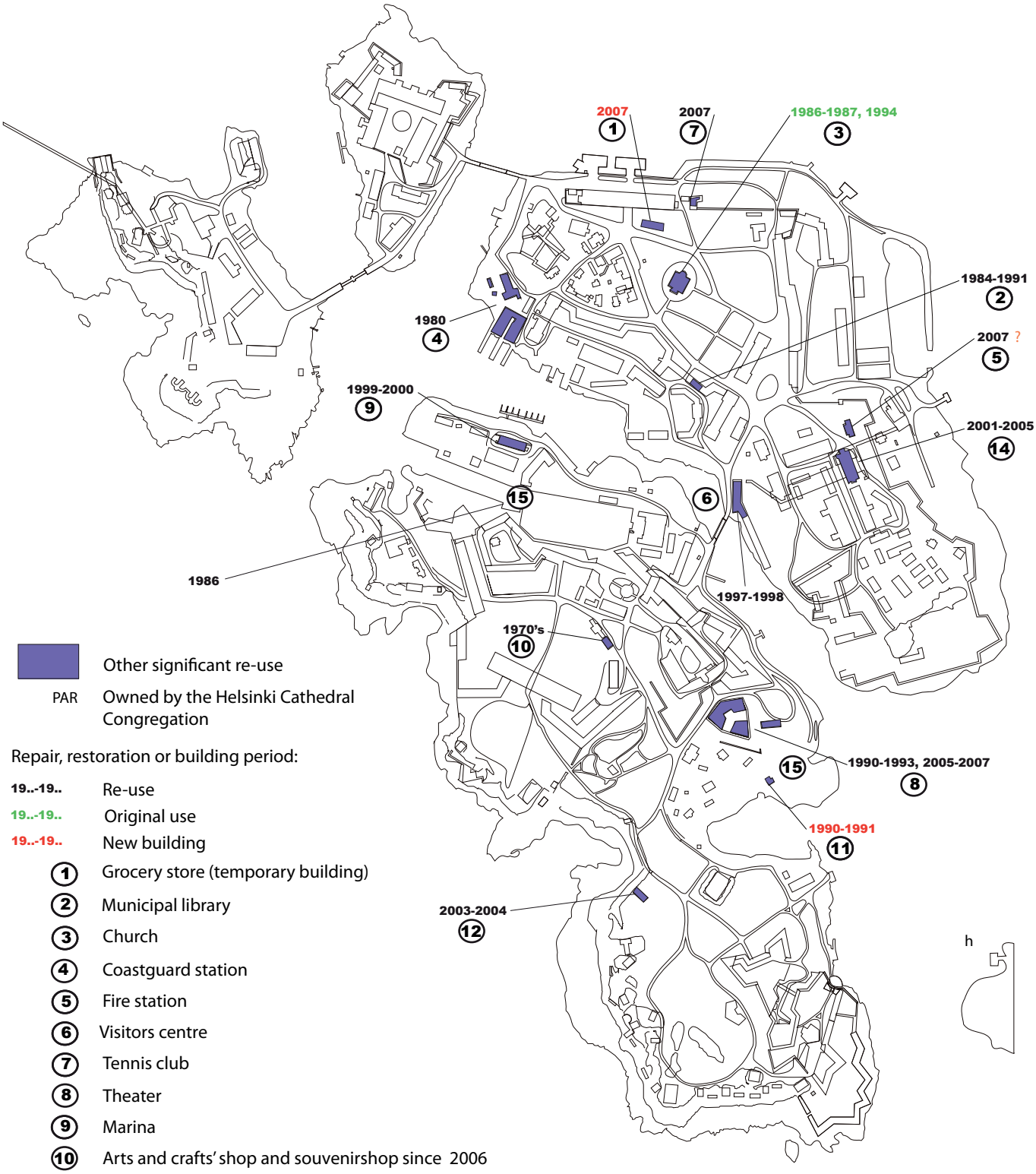
4 Art School

5 Classroom

(Re)use for education

21.9.2012/tl





Other significant re-use

PAR Owned by the Helsinki Cathedral Congregation

Repair, restoration or building period:

19..-19.. Re-use

19..-19.. Original use

19..-19.. New building

1. Grocery store (temporary building)
2. Municipal library
3. Church
4. Coastguard station
5. Fire station
6. Visitors centre
7. Tennis club
8. Theater
9. Marina
10. Arts and crafts' shop and souvenirshop since 2006
11. Winch house
12. Picnic shelter
13. Yacht club
14. Sports centre
15. Ship repair

Specific (re)use

21.9.2012/tl

World-Heritage aspect of the fortress to their pupils.

4.6 For specific(re)uses

I Physical preservation of the monument

Among these specific reuses there is no example of a type that has caused demolition, but the fact that the buildings have been used for specific purposes has in some cases literally saved them. If there had not been projects of reuse, many of these buildings would have deteriorated to such an extent that their restoration would have necessitated rebuilding.

If the very old tennis club at Suomenlinna had not used an 18th-century caponier as a modest clubhouse and dressing room, the caponier would have been in a poor shape. The same goes for the Coastguard station, a group of wooden buildings from 19th century along with boathouses from 1916, and the sports centre, a former artillery practice ground. The reuse project forced the restoration of the roofs before it became too late.

If the dockyard were not in active use, no one would maintain the cranes, the lock gates the pumping system. The structural preservation and restoration of this industrial area is due to its use.

The only case where restoration projects have caused damage is the summer theatre. This is not because of its reuse, but because of a decision dating back to the 1970s of bringing this part of the fortification to its original Swedish form. The Russian additions were removed, including a 19th-century roofing.

A fire brigade or fire station have always existed on the islands round the year. In 2003 the city of Helsinki decided to stop this activity during the winter months, when the visitor number decreases. The GBS tried to use the World-Heritage status as an argument to maintain this activity, but without success. There is a service tunnel leading to Suomenlinna, and which – in case of emergency – can be used by the fire brigade, but this takes an extra 10 to 15 minutes. If the fire takes place in the historic dockyard still in active use, these 15 minutes would be disastrous.

II Local community

Out of these reuses, the most important for the inhabitants is the grocery store and the library. The Coastguard station assists locals and visitors, and the fire brigade helps locals when accidents happen. The theatre has a tradition to invite all the inhabitants for the preview, and the sports centre has been welcomed both by the inhabitants and the people working in Suomenlinna. The church offers afternoon activities for children, a useful possibility for children and their parents.

III Impact of the reuse

Some of the ship-repair projects help in developing and maintaining ship-repair skills.
The theatre is considered as having a high artistic quality.

IV Mediator of knowledge

The Visitors' centre run by the GBS tourist team is the place where visitors can get all kind of everyday information, including knowledge on World Heritage and restoration.
The team is coordinating the operators offering services to visitors. This work includes the marketing of cultural events and exhibitions both on the web and in communication with visitors (the building had 270,000 visitors in 2011). The work is carried out in co-operation with the Ehrensvärd association, which is responsible for guiding activities at Suomenlinna.

The guided tours mainly promote the history of the site and of the fortification architecture, but also to some extent the reuse and restoration of the site. (30,000 visitors attended the guided tours in 2011)

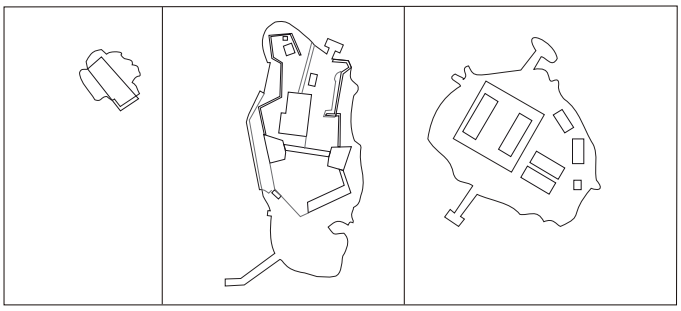
The theatre in a sense promotes the cultural reuse of the fortress. During its over 40 years of existence, some 700,000 people have come to the 18th century ravelin to see a play.

4.7 As museum of exhibition gallery

I Physical preservation of the monument

The first Suomenlinna museum, later the Ehrensvärd museum, was established already in the 1920s in an officer's 18th-century residence. In this way the building's inner structures were preserved, because in those days converting a place to a museum also meant conserving as much as possible. Almost all later additions have been gentle and the building is a good example of monument conservation.

Two projects from the 1980s, a military museum and a gallery for temporary exhibitions, preserved only



(Re)use as museum or exhibition gallery

21.9.2012/tl

the carcass of the old building after demolitions, made to provide space for technical infrastructure, new floors, wall surfaces, ceilings, windows and doors.

In the project of the new Suomenlinna museum dating from the end of the 1990s, situated in 18th century inventory chambers (a former fleet's winter storage), it was decided not to create a museum climate control inside the building. Therefore, as little as possible was destroyed.

II Local community

Information concerning the number of local inhabitants visiting the museums was not available at the time of writing this report. When the temporary exhibitions of the Suomenlinna museum concern ships, underwater archaeology, wars, or for example the Finnish civil war 1918-1919 they form a link with former or present inhabitants and their families.

III Impact of the reuse

Some temporary exhibitions in the Suomenlinna museum promote World-Heritage sites in general, some heritage preservation and one part of the museum presents Suomenlinna today from the point of view of the GBS organisation. (35,000 visitors in 2011)

A submarine as part of the military museum is an interesting example of how some enthusiastic people have managed to preserve the boat and in this sense promote the ideology of heritage conservation. (25,000 visitors in 2011)

IV Mediator of knowledge

The Suomenlinna museum is a short-cut to fortress history. In Suomenlinna museum's wide-screen film (in 8 languages) one can get a good idea of the 18th-century political situation in Northern Europe. The Ehrensvärd museum gives an idea of an 18th-century interior and helps to better understand the time when the fortress was built. The Museum of Finnish Customs offers exhibitions teaching Finnish history, often also related to Suomenlinna. The Military museum promotes the history of the Finnish armed forces. A private doll- and toy museum has a good collection, interesting also in the sense of sustainability: promoting the time when the toys served for several generations.

According to the GBS tourism team's statistics, 120,000 visitors entered a museum or an exhibition at Suomenlinna in 2011.

4.8 As restaurant and cafeteria

I Physical preservation of the monument

Since the restaurant and cafeteria reuse has to follow Finnish regulations of hygiene, it means that kitchens become entirely modern. There are severe regulations on ventilation and waste-water systems, and building them also causes a lot of damage to historic layers.

The oldest of the restaurants is a summer cafeteria built in the 1920s with only a modest kitchen. It has preserved its original structures relatively well. A project for a high-quality summer restaurant, built for a yacht club in the 1930s, literally protects the monument, since the restaurant and its roof covers the 18th-century curtain wall.

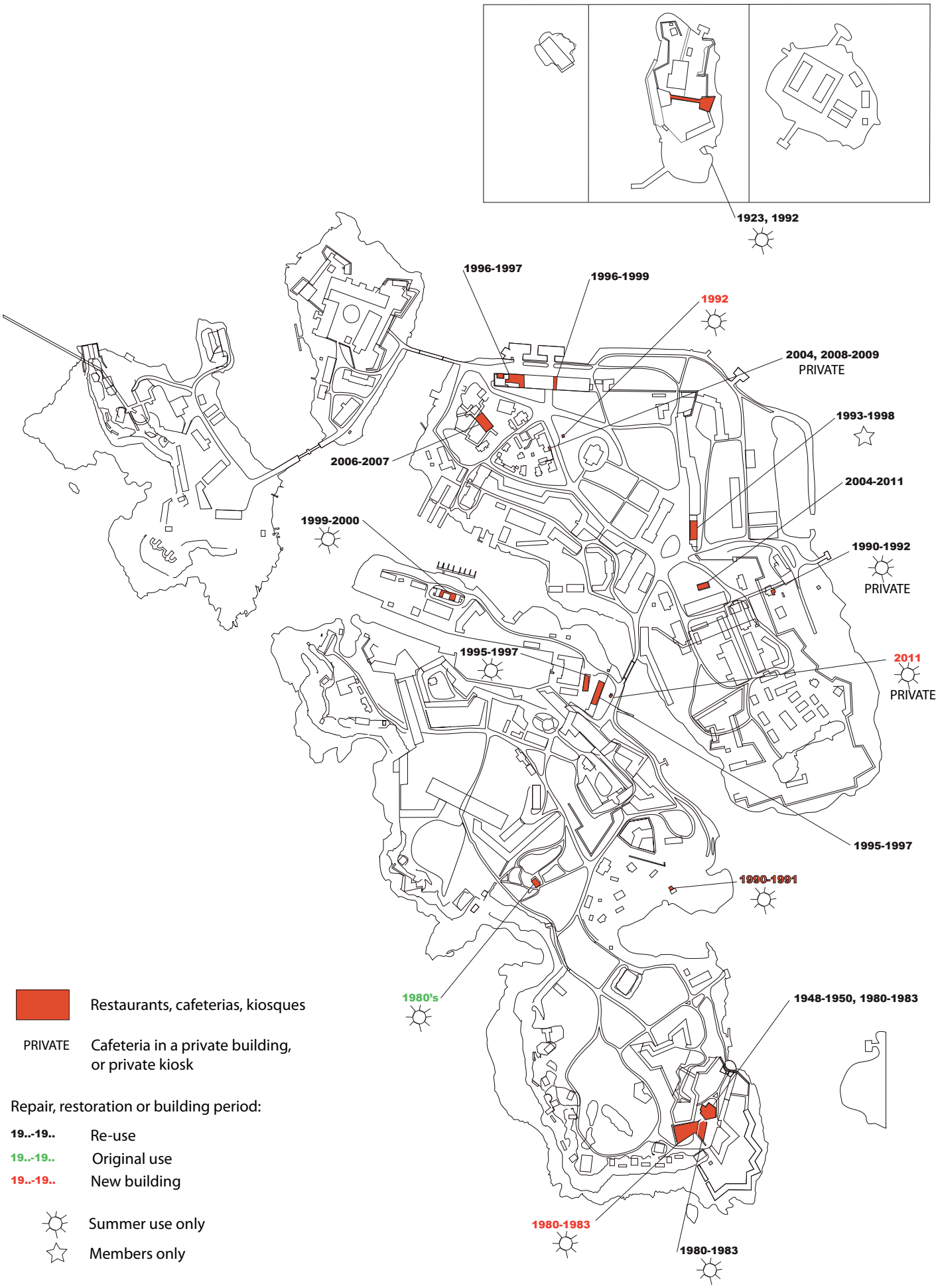
A highly ranked summer restaurant, built in the 1950s for the Helsinki Olympic Games and enlarged and renewed in the 1980s, was an example were the 18th-century architecture – covered with sand in the 19th century - was dug up, restored and rebuilt according to the 18th-century design. Suomenlinna has only two reconstructions and this is one of them.

During the 1990s and 2000s there were three reuse project (a brasserie, a bar-cafeteria in an ammunition foundry and a café in an icecellar); other projects have been restoration projects of already existing restaurants, cantines or cafés. All these projects have followed the ideology, developed during this period, of preserving as much as possible, especially the wall- and ceiling surfaces. This way of restoring has also preserved some of the atmosphere, a matter that could be worth using as a criterion when analysing the quality of restoration works.

4.9 As conference and banquet facilities

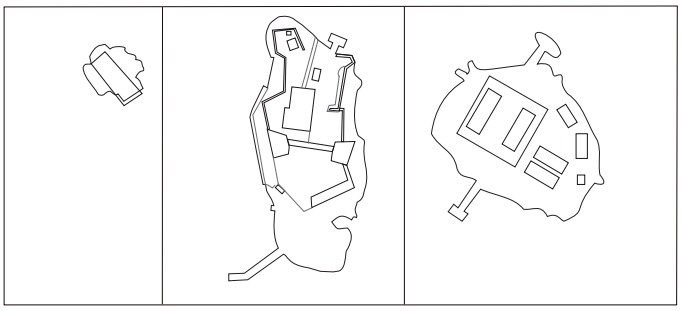
I Physical preservation of the monument

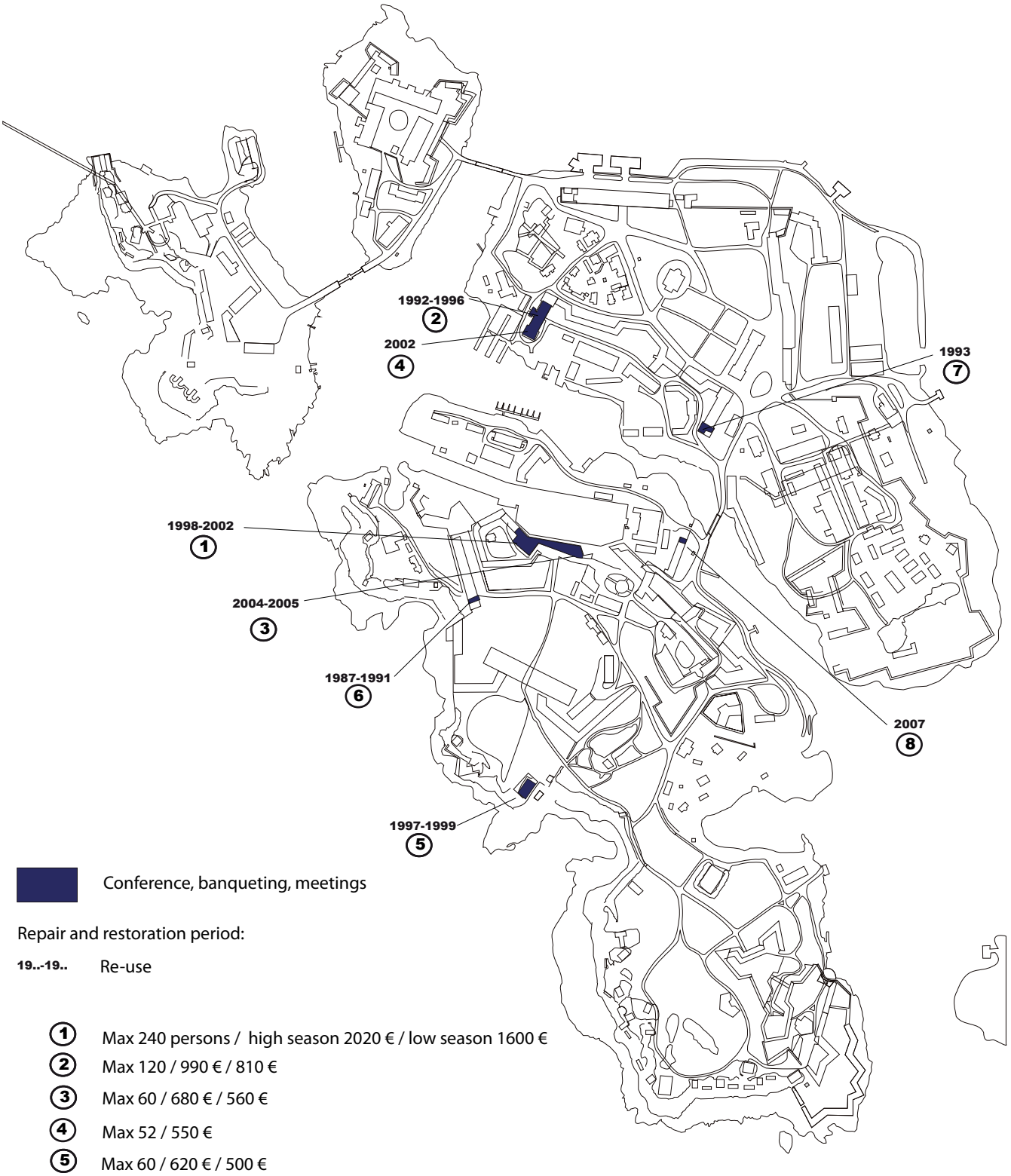
Apart from one project, all of these restorations date from the 1990s and 2000s. Talented architects, spe-



(Re)use as restaurant, cafeteria, kiosk

21.9.2012/tl





Conference, banqueting, meetings

Repair and restoration period:

19..-19.. Re-use

1. Max 240 persons / high season 2020 € / low season 1600 €
2. Max 120 / 990 € / 810 €
3. Max 60 / 680 € / 560 €
4. Max 52 / 550 €
5. Max 60 / 620 € / 500 €
6. Max 20 / 220 €
7. Max 54 / 410 €
8. Max 30 / 990 € / 470 €

(Re)use as conference or banqueting facilities, meeting rooms

21.9.2012/tl

cialised in restoration, have ensured good conservation of the existing buildings. All of them are situated in 18th-century parts of the fortification. Only in one project (a gun-powder magazine), the demolitions were larger than expected due to stagnant water which had to be drained away from the building.

Because of the floor plan of these often vaulted spaces (grain storage, ballast room, forgery, mill) the use for conferences, banqueting and concerts fits them well and does not require extended architectural changes.

II Local community

The use of these spaces does increase traffic and also causes noise. But when they are in cultural use, they are open to the general public and the inhabitants of Suomenlinna.

III Impact of the reuse

A long-lasting study on brick deterioration was carried out in one of these buildings. It was heated in stages: first to 15°C, and few years later to a more comfortable temperature. The study monitored the effects of the heating and climate changes on the brick vaults.

Having almost all the suitable space restored and equipped to conference and banqueting use means that there is no more spare room for artistic initiatives. This reduces the possibilities of experimental projects (theatre, dance, music) that are not sufficiently 'institutional' to have a sponsor agreement with GBS or to apply for financial support.

The point of view of the Governing Body's sales secretary Suvi Jäntti

Suomenlinna is a popular destination for conferences and celebrations. The Governing Body of Suomenlinna owns and lets nine conference and banqueting rooms of various sizes (from 12 to 240 people) and types, located in historical buildings in different parts of the fortress area.

The rental function is seen as a lucrative alternative to use the buildings in a way that supports the aim of preservation as well as opening the venues to the public (presentation) and increasing the overall number of visitators to Suomenlinna, particularly during the winter season.

The conference and banqueting facilities at Suomenlinna are open throughout the year and some 677 events were organised at these venues in 2011. The utilisation rate of the venues in 2011 was 28%. The peak periods for venue hire are from April to June and from August to October. The Suomenlinna church is one of the most popular*
wedding churches in Helsinki, and weddings account for about a third of all events at Suomenlinna. Winter use of the facilities is becoming increasingly popular every year.

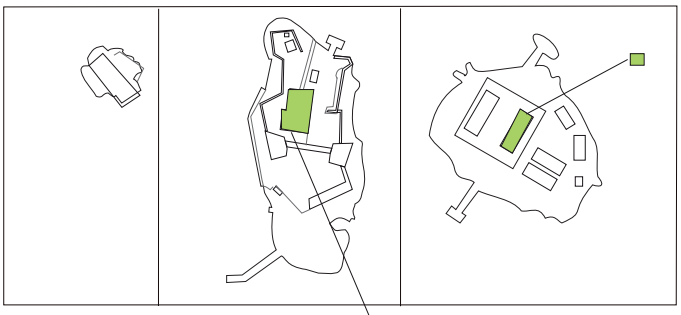
The facilities also host several larger events and regular festivals. The Governing Body of Suomenlinna supports events which are seen to be in line with the national monument and UNESCO World-Heritage site status and add value and enrich the cultural programme of Suomenlinna. These include the historical festival Les Lumières, the Jazz Festival, Christmas events and a Military music festival.

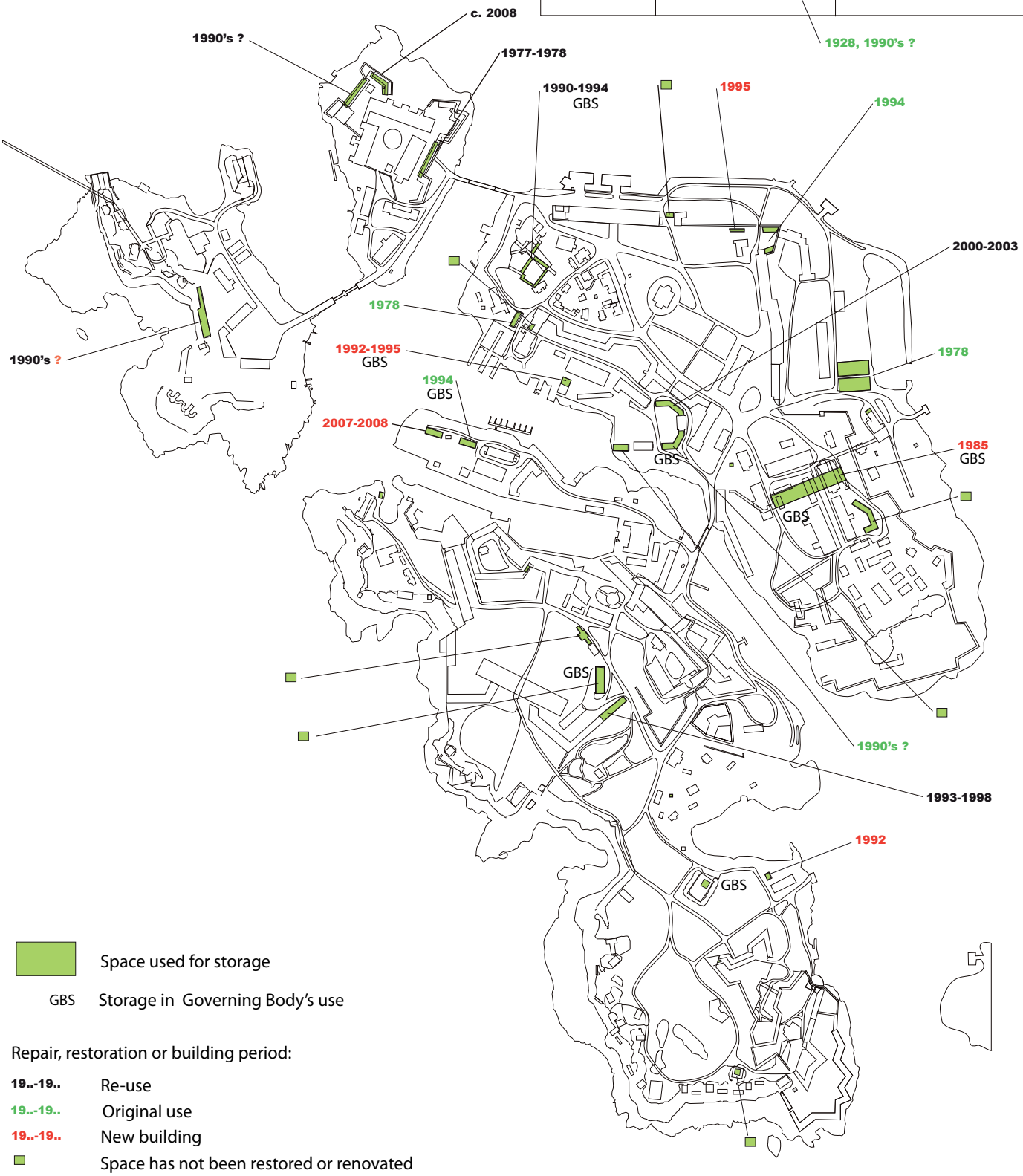
The Suomenlinna Governing Body has a sales service for renting the conference and banquet facilities with two full-time staff. The sales service takes care of customer service and related administration work, as well as participating in marketing and operations development. The sales service forms part of the GBS tourism team.

Suomenlinna has gained significance as a conference destination. The central location in the city of Helsinki, the beautiful island landscape and historical environment are all appealing factors. The fortress is a remarkable destination and its venues offer ideal settings also for high-ranking events. Having a company meeting or a training day in a smithery from the 18th century, combined with the ferry transport and outdoor activities in the fortress, is a nice and refreshing alternative for many companies. A wedding held in an old atmospheric granary or gunpowder magazine provides a romantic environment for many celebrating the most important day of their lives.

The venues as well as the outdoor activities at Suomenlinna have slightly stricter rules than those on the mainland. Rules for outdoor activities are created in order to protect the heritage site and preserving the peace of the residents. The venues naturally also have some rules for the protection of buildings. Generally these are, however, not seen as a hindrance and are well understood by the visitors.

** Utilisation rate is calculated using the days of use in relation to the theoretical maximum capacity. Days of maintenance (14 per year) are taken into consideration, as well as the case of venue 'Powder Magazine', which is closed during the winter months from January to March.*





Space used for storage

GBS Storage in Governing Body's use

Repair, restoration or building period:

19..-19.. Re-use

19..-19.. Original use

19..-19.. New building

Space has not been restored or renovated

(Re)use as storage or sheds

21.9.2012/tl

4.10 As storage or shed

Using a building or part of fortification for storage does not require much more than a non-leaking roof and some walls. Storage use requires few changes and is a good reason to maintain a building without high costs. From the point of view of physical preservation, storage is a good reuse.

Besides very common storage use for stocking building material, sawn timber and maintenance equipment, as well as boats in boat sheds, there have been two extensive underground projects in Suomenlinna. A compulsory civil defence shelter was constructed in the 1980s and provides important storage capacity for GBS, for stock that has to be kept in warm and dry conditions. Another project was realised in a cave, dug out between the wars, and dedicated to archives and a collection of building fragments, as well as objects collected since the 1920s.

It is indispensable to have the capacity to store recycled building material (stones, bricks, earth, metal).

5. Two reports concerning the repair work

These are two examples of information on finished work in an easily readable form. In order to gather the data, Iina Johansson and Pekka Nevalainen made interviews and investigated old minutes of meetings, reports and photographs. This way of reporting can be extended to other topics, such as masonry walls, gardens or, for example, constructions on the sea shore.

5.1. Stone pavements

Carefully detailed paved passages are an integral part of the Suomenlinna scenery. Originally, the cobbled roads were built for transporting heavy guns and shells to their positions for battle. The carefully placed stone pavements were also used to signify the value of central locations, such as the courtyard.
The road network is also important to the modern day Suomenlinna, since the historic area is a tourist attraction which can be explored by walking the streets and plazas. The pavements and the macadam roads enrich the Suomenlinna landscape and illustrate the island's history. The upkeep of the tradition of paving roads and the varying scenery is the starting point of repairing the road network and the stone pavements.
Traffic in Suomenlinna has changed significantly over the years. Roads that had originally been designed for horse carriages and pedestrians cannot withstand the pressure of motor vehicles Heavy maintenance traffic and the pulling and turning wheels of modern vehicles place a strain on the old stone pavements. This is why roads must often be repaired, especially in places where there are bends and slopes in the road.

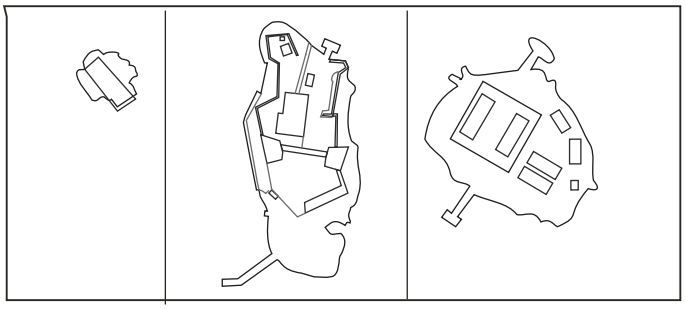
One of the problems that the road maintenance work is faced with is ground extrusion. The earth has risen due to ground extrusion from 50 cm to one metre outside the actual places where the earth has been filled. Sand that is used to grip the streets during the winter cumulates over the years and thus produces thicker layer of earth.
The building of a modern infrastructure in Suomenlinna poses its own challenges. The installation of water pipes, plumbing, and district heating have broken the historic surface layers. In installation work, the aim is that new cables, wires and pipes are installed in trenches that are as shallow as possible, in order to keep the historical surface layers and the bedrock intact.

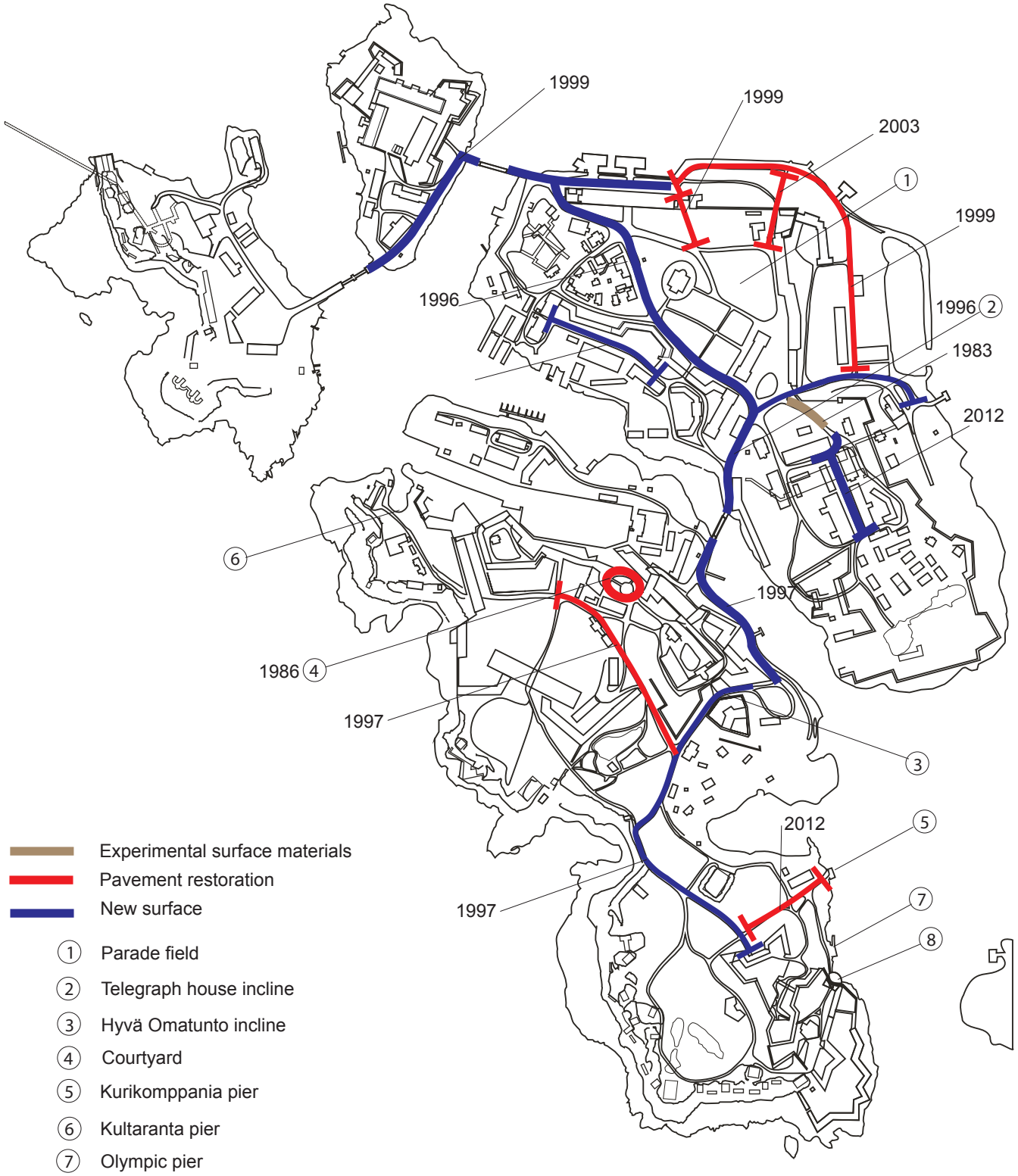
Suomenlinna's old paving materials include cobblestone, flagstone, cube stone and macadam roads. Cobblestones are roundish stones that are formed in nature. Flagstones are rectangular, and cube stones are cubic natural stones that are achieved by cutting or mechanical sawing.
Macadam roads are made from macadam and compacted by vibrating – the earliest form of paving, resembling asphalt.

History

The oldest paved plaza in Suomenlinna is the Courtyard. The pavement was built, at the, latest in connection with the building of the Ehrensvärd tomb in 1788, possibly already during the 1750s. A decorative paving, apparently characteristic of parade plazas, was used in the plaza.
Similar decorative paving was also planned later during the same century to be used in the Kultaranta pier. This was also the plan for the docks of the Bastion Adlerfelt and the Tenaille von Fersen gate.
A general Russian map from 1858 depicts the first precise view of the island's road network. The numerous cross sections examine the structure of the roads and the paving of the side gutters in detail. Many of the plans for the building of pavements have remained from the Russian era.

Cobblestones are the simplest of the various methods of stone paving. It was already widely used in medieval cities during the 1300s and the 1400s. The size of the cobblestones in Suomenlinna varies according to their purpose. The oldest pavement stones from the Swedish era, visible in casemates, are 20-35 cm in





Experimental surface materials
Pavement restoration
New surface

1 Parade field
2 Telegraph house incline
3 Hyvä Omatunto incline
4 Courtyard
5 Kurikomppania pier
6 Kultaranta pier
7 Olympic pier
8 King's Gate

The Suomenlinna stone pavements

25.9.2012/pn

diameter.
The later paving stones from the Russian era have been designed so that there are larger stones where the wheels run and the smaller stones are in the centre. The diameter of the stones is approx. 10-15 cm. The stones on the passages are only 5-8 cm in diameter, albeit, larger stones were used in later reparations. Cobblestone was widely used on plazas and along the bases of buildings.

Cut paving stone, mostly flagstone, was apparently already used in Suomenlinna to pave piers and the occasional passage way from the end of the 1800s. The stone has been cut to a regular shape, the size of approx. 15 x 12 x 18 centimetres.

A flagstone passage was built from the Noah's ark to the church, along the parade field on the southern edge of Iso Mustasaari island. The pavement presumably dates from Russian rule. This passage was probably considered to be very prestigious and practical because the hems of parade and clerical clothes needed to be protected from dirt.

Nowadays, flagstone has been used on the steep sections of the otherwise cobblestone main road, locations such as the Telegraph house incline and the Hyvä Omatunto incline. Even flagstone cannot withstand the pressure and weight of heavy traffic forever, and the stones need to be straightened from time to time.

The 1952 Olympics games in Helsinki also had an effect on Suomenlinna. This is when the road leading to the King's Gate and the Olympic pier — the current waterbus pier — was paved with slates in the 1950s fashion by the City of Helsinki's gardener, Bengt Schalin.

Cube stone is an anomaly among the paving stones in Suomenlinna. The stones are cubic and their edges are approx. 10 cm long. The curved pavement on the Kurikomppania pier is a good example of the use of cube stones. Cube stones have also been used in newer areas that have no historical significance, such as the areas in front of the maintenance ferry pier and the Visitor Centre.
The first cube stone pavement was commissioned by Honorary Counsellor of Construction Engineering Gravenhorst in 1885 in Hannover. Equal to flagstone, but significantly cheaper, cube stones gained ground, primarily at the cost of flagstone. The cubic shape of the cube stones allows for several different ways of laying the stones, such as fan-shaped paving, transverse paving, one-sided diagonal paving, one-sided diagonal paving with curved ends, two-sided diagonal paving and two-sided diagonal paving with curved ends.

Pekka Nevalainen, landscape designer GBS (translated by Multidoc)

5.2. Maintenance and repair of the Russian era ramparts

Russian rule
During the mid-1800s, the southeast edge of the Suomenlinna islands became part of the new marine defence line of the Helsinki outer islands. The line starting in Harakka continued through Länsi-Mustasaari, Susisaari, Kustaanmiekka and Vallisaari, all the way to Santahamina. The building of the ramparts and their canon batteries was completed in several phases. The casemates, gunpowder cellars and parts of the outer defences from the Swedish era (1748—1808) were connected to the new line with sand and peat covers. The ramparts (sandbanks) were stepped along the natural shapes of the landscape and as arms technology developed, old stations were changed and improved.

1850-54
: Building of the ramparts begins.

1853-56
: The Crimean war started an overall reform; after the war ended, the batteries were widened and raised.

The 1860s
: Storage for shells: at first, made from wood, then stone arched gunpowder magazines that were covered with earth by 1880.

The 1880s
: Renewing the ramparts and building emplacements and arched covered passages. The cur rent look of the ramparts is mainly based on plans from the 1880s.

1890-1900
: Building of the concrete and steel batteries in Länsi-Mustasaari; the Länsi-Mustasaari line of defence was used until the 1940s.

1914-18
: The First World War. The shapes of the ramparts were altered somewhat to accommodate new arms.

The Finnish garrison era

1918

The fortress is signed over to the Finnish state to be used by various units of the Finnish Defence Forces.

1918-20

The first botanical study in Suomenlinna (Ilmari Hiden, Tietoja Suomenlinnan kasvistosta. Helsinki 1921, (Information on the flora of Suomenlinna) among others); due to grazing, the identification of species is quite difficult on the ramparts.

The 1930s

The angular shapes of the ramparts can still be seen according to photographs. Suomenlinna has been opened to visitors.

1939-45

The Second World War. There are anti-aircraft stations on the ramparts.

1957-58

The second botanical inventory (Tapio Rintanen, Suomenlinnan kasvisto vuosina 1918-1920 ja 1957-1958. Helsinki 1958, (Suomenlinna flora in 1918-1920 and 1957-1958) among others).

There are no documents of the repairs that were made during the Finnish Defence Forces era or actual botanical maintenance programmes. At least, access to the ramparts was limited. According to aerial pictures from the 30s, trenches were dug on some of the sandbanks, apparently as an exercise.

1958-73

Kustaanmiekka and Susisaari islands assigned to the predecessor of the National Board of Antiquities. The operations during this time have not been charted.

Suomenlinna under civil administration

1972-73

Suomenlinna is assigned to the civil administration and the Governing Body of Suomenlinna is founded.

The 1970s

The original, angular shapes of the ramparts have grown visibly rounder and the erosion caused by the climate and recreational use accelerates. Some small-scale reparation attempts are accomplished, the possible documentation of which has not been charted.

1974

The Suomenlinna development plan (Suomenlinnan käyttösuunnitelmaehdotus) is completed.

1975

A Council of State decision in principle on the Suomenlinna repairs and future use.

1977-78

The ramparts passage paving tests are carried out on the Kustaanmiekka battery 1. By 1978, 5.5 km of paths have formed on the ramparts, of which, over 2 km have broken the rampart surface.

A mixture of silt, clay and gravel was selected as the paving material for the passages. Some of the paving from the end of the 70s has remained in place all the way to the 2000s.

1977-80

The third extensive botanical species study (Seppo Vuokko, Suomenlinnan maisema, kunnos tussuunnitelma, Helsinki 1987 (The Suomenlinna landscape, repair plan).

1979-85

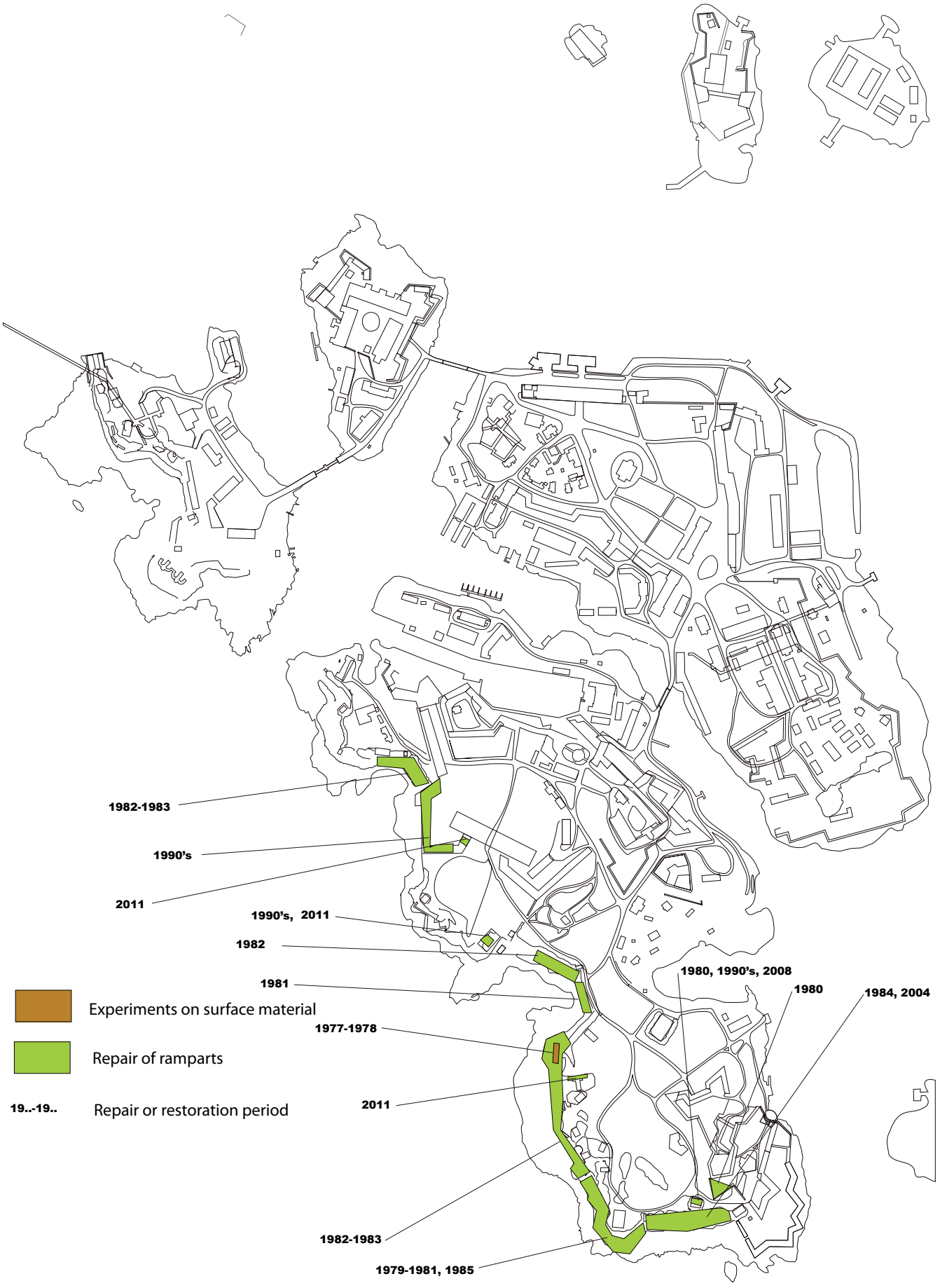
The relief work site, focusing on repairing the ramparts, is founded on October 1, 1979; extensive repairs along the entire rampart area. The importance of regular maintenance is understood.

The founding of the relief work site started a comprehensive programme to repair the ramparts that has continued to this day. The relief work site repaired the Kustaanmiekka batteries 1, 2, 3 and 4, and the Susisaari batteries 1 and 3. On Kustaanmiekka, battery number 3 was repaired twice: in 1979 and 1985. When the relief work site ran out of funding, the repair of battery 3 was partly unfinished and the work was completed by VAHO (the predecessor of the Criminal Sanctions Agency), according to plans made by Viatek Oy. Altogether, over a third of the ramparts were repaired as relief work starting from the worst eroded sectors of the area.

1987

The Suomenlinna landscape, repair plan (Suomenlinnan maisema, kunnostussuunnitelma) is published.

The publication was the most extensive and significant of the future plans that were started based on the 1974 Suomenlinna development plan. The publication planning team member Sauvo Henttonen (Oy Arkkitehtuuri & Maisema Ab) drafted specifications for the Kustaanmiekka rampart repairs. An application of the



Fortified landscape: Repair of ramparts

21.9.2012/ij, tl

technique using turf and peat -blocks in the reparations is also used in current erosion repairs. Three studies of the history of ramparts received from the National Board of Antiquities (written by Ulla-Riitta Kauppi, Ebba Brännbäck and Seppo Heiskanen) were part of the background material for the repair plans.

The 1990s

The maintenance of the repaired rampart sections is limited to burning over in the spring and mowing in specific places; there is no documentation on any minor repair work. Repairs are accomplished on Kustaanmiekka, at least A14, A31 and A33 and on Susisaari B29 and B51, for example. Other repairs carried out have not been charted.

1991

The fortress is added to the UNESCO World Heritage List.

The 2000s

The importance and need for regular maintenance is emphasised; annual mowing and burning over.

2004

Rampart path repairs on the Kustaanmiekka batteries 1 and 2 and repairing cannon sectors on battery 4 (carried out by the Governing Body of Suomenlinna in co-operation with the Suomenlinna Open prison).

2005

Founding of the Governing Body of Suomenlinna “Linnoitusmaiseman hoito” (Maintaining the fortress landcape) project: the aim of the project is to care for the landscape systematically and develop regular documentation and area-specific care instructions (maintenance cards).

2007

The ”Linnoitusmaiseman hoito” project continues in co-operation with Inkeri Vähä-Piikkiö from the City of Helsinki and Eeva Summanen from the National Board of Antiquities.
Scenery maintenance personnel attend a seminar on maintaining the landscape.
The Garden Art Society visits Suomenlinna. The maintenance cards for Kustaanmiekka are developed further.

2008

The Kustaanmiekka erosion damages are mapped in Tanja Auborg’s (Université Aix – Marseille, France) master’s thesis. The erosion damages of the Kustaanmiekka gunpowder magazines A31 and A33 are repaired by the Governing Body of Suomenlinna (Note! The same locations were also repaired at the turn of the century); the gunpowder magazines are fenced the following year and information on the problem of erosion is communicated more widely.

2009

Co-operation with the University of Helsinki is developed: a Master’s thesis on the Kustaan miekka meadow flora is started; three of the research sections are located on the ramparts.

2010

Laura Grandell’s master’s thesis is completed. A regular maintenance programme is imple mented on the Kustaanmiekka and Susisaari islands. The annual amount of the visitors in Suomenlinna is over 700 000. The progression of the erosion on the ramparts caused by weather conditions and constantly growing number of visitors is noted with concern.

2011

The Kustaanmiekka A14 erosion repairs experiment with a new method of repairing that binds earth better (burlap bags); repairs of the gunpowder magazine B29 and Polhem B51 on Susisaari use the same technique. Marjo Valin collects seedbank samples for her master’s thesis from the same areas that were used in the meadow flora study.

2012

A seminar and two field tours based on the flora and seedbank studies are held by Leena Linden and Ilpo Kuokka (University of Helsinki Department of Agricultural Sciences). The aim is to use the data in drafting more precise maintenance instructions. It is stated that soil that is too nutritious has been used in the repair work in Suomenlinna, at least from the 1950s onwards.

lina Johansson, gardener GBS (translated by Multidoc)

6. Enabling conditions of reuse

In Suomenlinna's case the conditions created during the 1970s for the conservation and reuse of Suomenlinna are very convenient. A monument of this size demands - besides long-term planning – reliable financing. Besides GBS, the establishment of the prison, a labour colony, has been a way to ensure that financing is continuous. In Suomenlinna there are about 200 buildings and perhaps six or seven kilometres of fortifications, providing endless work of restoration, repairs and maintenance. In the 1970s it was thought that there would be work for 20 years - and that the prison would only be a temporary solution to fulfil the restoration task. Now the work has been going on for 40 years and is still far from complete. We have learnt that a monument will never be 'ready', because the restoration of monuments is not a time-limited investment project, but a long-lasting process, where the nature of the work varies between repairs and maintenance, but the process never stops.

Since the 1970s the actions taken at Suomenlinna follow the ideology of 'preservation through development'. The use and reuse of the monument have never been in theoretical contradiction with its preservation.

The most visible activity (besides tourism) is related to maintenance and landscape work, restoration and construction. Apart from the inmates of the prison, the work is carried out by employees of the Governing Body of Suomenlinna, as well as by private enterprises.

Every individual project is part of the ensemble that forms the fortress of Suomenlinna. For this sake, the planning of the reuse of the site should be considered as a puzzle where every piece counts.

7. Redevelopment models for the multifunctional use of sites

The heterogeneous reuse of Suomenlinna was one of the main ideas of the 1970s master plan. Large areas should not be taken over by only one reuse, and there should be no fences or closed areas preventing visitors from seeing as much as possible.

In order to continue redeveloping Suomenlinna, attention must be paid to the fragile equilibrium that the preservation of an inhabited, reused and heavily visited monument presents. This means understanding the value(s) of the monument, the needs of the inhabitants and the tenants, while being aware of the interests and demands of the visitors and tourists.

The Governing Body, the Naval Academy and the Open prison are the largest employers of Suomenlinna. All the projects creating jobs or bringing regular workers or visitors to the site are vital to the site.

8. Governance models

The Governance model of GBS is a good model for successful decision making: one public administration responsible for the whole site (owner, developer, builder and maintainer). The GBS owns 98% of the land and of 85% of the buildings (totally 140,000 m2). The city and the Governing Body have a mutual agreement for the responsibility of the infrastructure (technical installations, roads and transport) and also for the areas considered as urban parks.

Jean-Noël Matthieu, former director of the ACCR-network, analyses the job creation on reused monuments in the book Reviving Monuments (p.46). He underlines the wide variety of jobs, from highly qualified professionals to technical personnel, that a reused monument can offer, and the possibility of using – as in the cases of NDW and Suomenlinna – social reintegration projects to cope with the mission of restoration task.

9. Continuation

9.1 Possible subjects to be discussed

- Governance models / financial sustainability
- Methods of fortified landscape maintenance
- Problems related to humidity in habited buildings
- Visitors, erosion and safety

Heikki Lahdenmäki: *"The number of visitors in Suomenlinna has been slowly increasing for several years. In 2011 there was again a new record with 778 000 visitors. 75% visit Suomenlinna during the summer season (May-September). The imbalance with the long (and cold) winter is prom inent. There are over 10 restaurants and cafeterias serving the visitors, inhabitants and workers in summer but hardly one in winter. We are trying to find reuse and activities which are not so weather dependent to ensure at least minimum service throughout the year. Question concern ing the threat of increasing erosion caused by mass tourism is important in some areas of Suomen linna and safety of the visitors must be taken care of as well."*

- Ecological sustainability, (district heating system, car free zones)
- Recycling building material
- Conference and banquet facilities
- Polluted land du to military use

9.2 Contributions

- Long-term planning
- Conservation methods and materials
- Cooperation with prison
- Reuse (and not to use)
- Involving the local community
- Cooperation with some NGO's
- Visitor management

9.3 Studio Suomenlinna – proposal for subjects

- As a main theme: The (enabling) conditions and results of Suomenlinna restoration. (presenting the GBS organisation, financing, premises and workshops, the staff, the evolution of the way to restore, and a lot of re-used spaces, also few cases where GBS supports the tenants to keep up with their activities because they serve the whole site or preserve it).

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