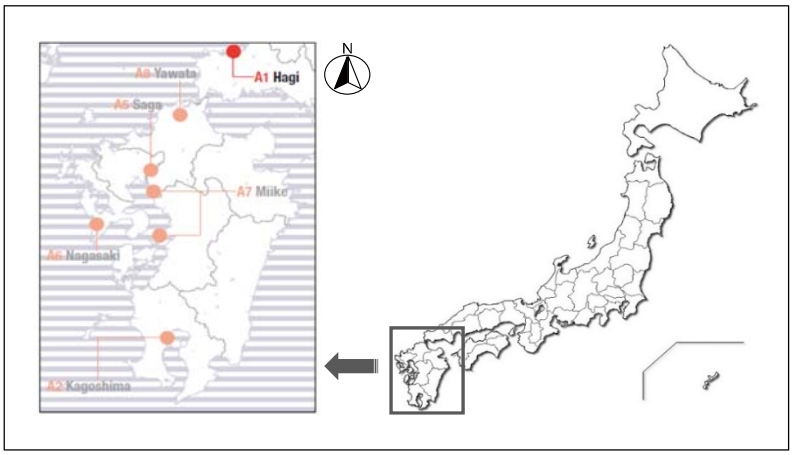
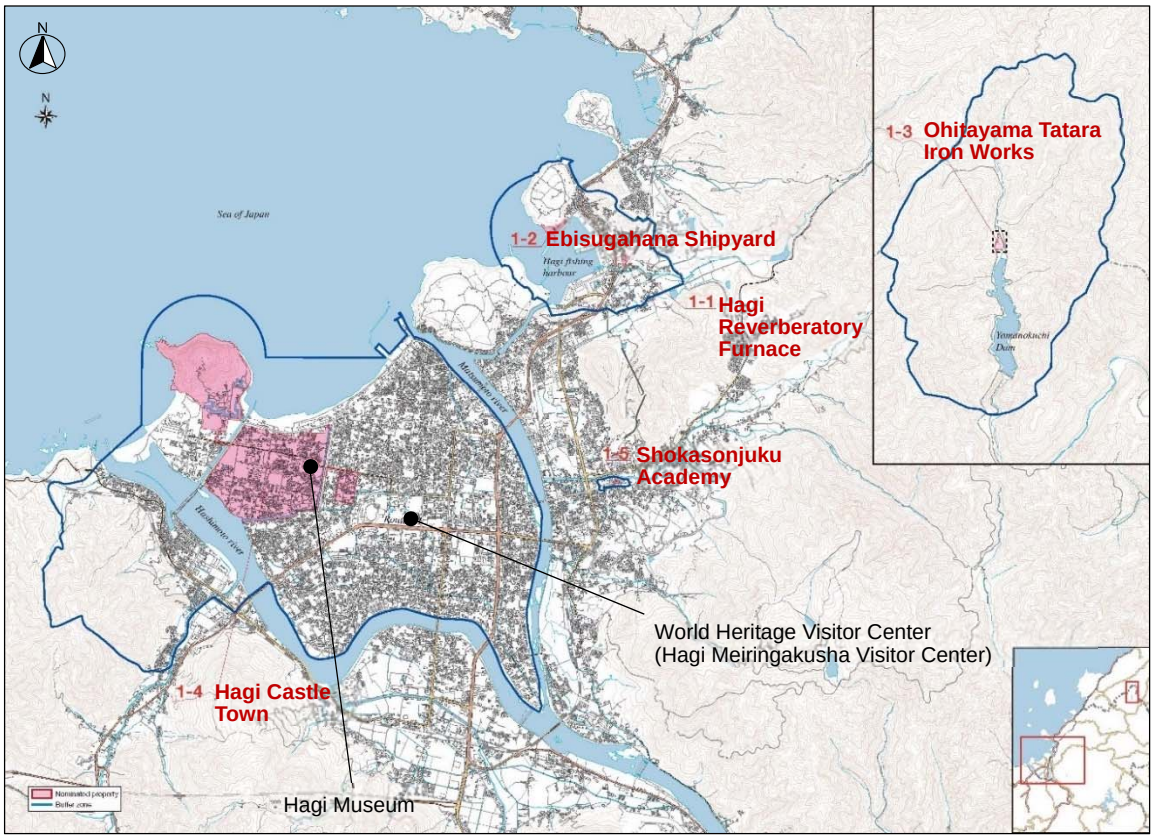
Component Part No. 1-2 of the "Sites of Japan's Meiji Industrial Revolution" Conservation, Restoration, Presentation and Public Utilization Plan for the Ebisugahana Shipyard (Area 1 Hagi) (Abstract)

Hagi City drew up a Conservation, Restoration, Presentation and Public Utilization Plan for the Ebisugahana Shipyard (hereinafter referred to as "Plan") in FY 2016 and 2017, which became a source of "Conservation Work Programme" pursuant to Recommendation b) in Decision: 39 COM 8B. 14 as adopted by the World Heritage Committee at its 39th session in 2015. The Plan comprises detailed measures for the conservation, restoration, presentation and public utilization of the component part of the "Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining" (hereinafter referred to as "Sites of Japan's Meiji Industrial Revolution"). This document provides an abstract of the Plan.

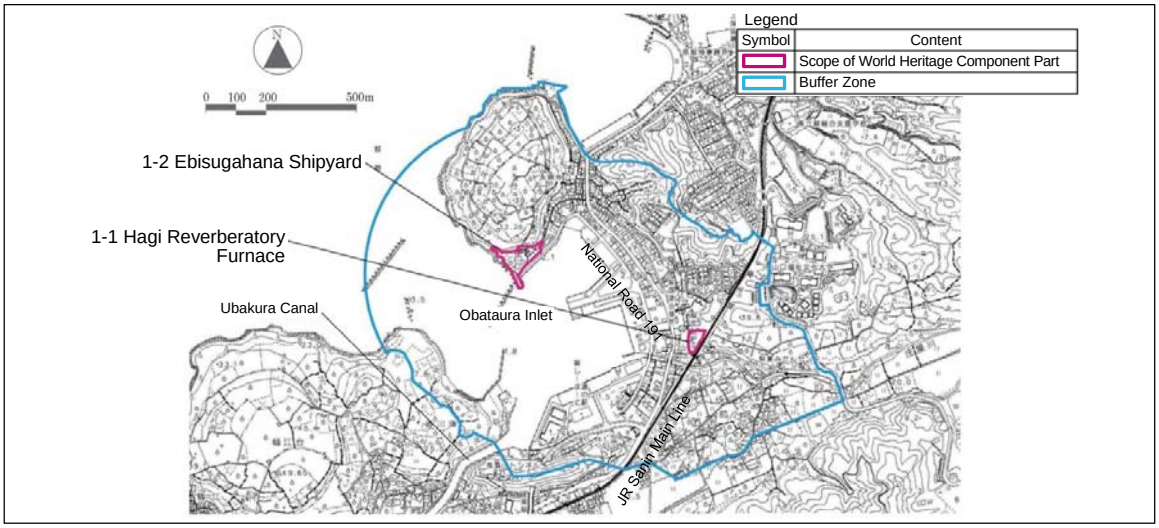
(1) Area 1 Hagi: Location



(2) Distribution of the component parts of the "Sites of Japan's Meiji Industrial Revolution in Area 1 Hagi



(3) Scope of the Plan (Scope of Ebisugahana Shipyard component part and buffer zone)



1. Vision

Maintain in a stable condition as archaeological remains embodying the process of trial and error in the shipbuilding field when Western technologies and traditional Japanese technologies were fused to build Western-style warships, and utilize the remains with consideration to the special features of the surrounding location, port facilities included.

The Ebisugahana Shipyard site is the remains of a shipyard where two Western-style wooden sailing vessels—the warships Heishin-Maru and Koshin-Maru—were built by the Hagi (Choshu) Clan using Western shipbuilding technologies from two different countries based on the limited information available in the period immediately after Japan was opened to the rest of the world. Concerned about maritime defense, the Hagi (Choshu) Clan's aim was to reinforce its military power. One of the five component parts of Area 1 Hagi, the shipyard illustrates the challenge phase of trial and error in the iron and steel manufacturing and ship-building fields. The process of historical changes and developments of the shipyard, while focused on the period between 1856 when the shipyard was opened to its closure in 1860, has its starting point in 1840, when the outbreak of the Opium Wars motivated the Hagi (Choshu) Clan to industrialize in order to strengthen its maritime defense, and extends through the subsequent preservation of the shipyard up to the present. To realize the theme outlined in the Vision, the necessary conservation, restoration, presentation and public utilization measures will proceed with a focus on the following four points.

(1) Study and restore exposed structures

The stone structures pf Nakanodai Breakwater, which was built before the shipyard and retains its original shape today with some restoration work, will be subjected to ongoing observation using a monitoring chart to check for changes or deterioration in the stone structures. Restoration work to date will be confirmed and additional repairs and restoration work undertaken where necessary, keeping the stone structures stable.

(2) Study and preserve underground structures

The city will conduct partial excavation surveys of the underground structures that remain from the shipyard's various work huts, confirming their location and scale. Their stability will then be maintained by covering them with an earth layer of an appropriate thickness. Planar markers of the location and

scale of the underground archaeological remains will be placed on the ground surface immediately above the earth layer as information deepening visitors' understanding.

(3) Identify the fusion of Western and traditional Japanese technologies

The Heishin-Maru is a Western-style warship built with Russian shipbuilding technology, whereas the Koshin-Maru employs Dutch technology. Where, in addition to clear identification in the historical documents, excavation surveys confirm archeological remains indicating shipbuilding technologies from two different countries or structures enabling understanding of the shipbuilding systems, information on the planar position and scale of these underground remains will be indicated to the greatest extent possible, increasing visitors' understanding of the site. The city will also install visiting paths and an observation deck in the site, so that visitors can learn about the shipbuilding systems employed while also getting an idea of the whole shipyard remains overlooked from a relatively high place, making it easy for visitors to get around and also enhancing their understanding.

(4) Maintain and improve the surrounding terrain and landscape

The landscape of the Ebisu Shrine Compound, of which buildings existed before the shipyard was open and maintained its form even after the shipyard closed, along with the hillside and forests spreading out behind it, and the appearance of the pretty fishing ports and villages that fringe the Obataura Inlet will be maintained, and improved where necessary.

2. Policy

The policy consisting of following six items has been set to actualize the vision:

(1) Promoting research and study

The city will undertake systematic excavation surveys to confirm the scope of the underground archeological remains related to the shipyard. To obtain the maximum results from the minimum survey scope, a ground probing radar survey will be conducted beforehand, narrowing the excavation survey scope accordingly. Artifacts will be studied from an archaeological and physico-chemical perspective.

In pursuing studies of related historical documents and other drawings, because there are insufficient historical materials to offer clues on shipbuilding methods and how to recreate the structures of the various work sheds, the city will continue to discover, collect, analyze, and research documents and photographs.

In addition, the city will conduct a field survey using 3D laser measurement and other methods on the stone structures of Nakanodai Breakwater as well as the stone structures that links with the northwestern side of the breakwater, using the results as basic materials for monitoring any changes or deterioration in stone structures and for conducting a survey of the restoration work to date on those structures.

A visitor survey will be undertaken to confirm their influence on the remains as well as visitor trends, and the city will also use a monitoring chart to observe the component part over time to identify any changes in structures or the surrounding landscape.

(2) Restoring the shipyard and related remains (preserving, reinforcing, and stabilizing materials and structure)

Underground archeological remains could be damaged by rock fall and landslides in the area north of the shipyard where steeply sloping land may slip. The city will therefore install the minimum necessary structures from the slope back to the foothills to prevent rock fall and hold back soil, keeping visitors safe as well as maintaining the stability of underground archaeological remains.

The stone structures of Nakanodai Breakwater and the exposed stone structures connecting to it to the northwest will be monitored to identify any changes or deterioration, and if the city determines that there is a high level of risk, the stone structures will be repaired or restored. If the scope of stone structures with such risk needs temporarily dismantling, it is generally to be restored to the stable state

before dismantling.

(3) Illustrating and explaining the unique industrial system of the component part and the Area

The city will install planar markers displaying the location and scale of underground archaeological remains to enhance understanding of the shipbuilding system. Explanation boards will clearly illustrate that system and the functions and structures of the various work sheds, with explanations also provided using virtual reality images and audio tours. Visiting paths will be built on the periphery of the shipyard to make it easier for visitors to get around the site, and an observation deck will be created to provide a view of the entire site.

(4) Arranging and improving landscape from a scenic perspective

Close to where the water intake for the shipyard is thought to have been located within the component part, trees and concrete structures still remain from houses that were built after the shipyard closed, but these are now obstructing the view of the water intake from within the site. The city will deal appropriately with them and restore and improve the landscape to close to the original landscape with no obstructions. The minimum facilities necessary to prevent terrain collapse will be installed in the hillside forest behind the shipyard ruins, respecting the natural forest and maintaining the rich natural landscape while also ensuring the safety of steeply sloping land that could potentially collapse.

In the buffer zone, the city will coordinate work conducted by the relevant organizations to maintain the fishing port scenery that stretches along Obataura Inlet. The city will set up the viewing spot in the site for Ubakura Canal on the opposite shore as the source of the earth used to build the shipyard, and will trim the vegetation around the adjoining Hagi Reverberatory Furnace, another component part, so that the furnace can be seen from the shipyard site.

(5) Employing the shipyard site as a cultural resource and source of information in the Area

The city will use the World Heritage Visitor Center (Hagi Meiringakusha Visitor Center) which it opened in March 2017 as the central facility for guidance and information dissemination in Area 1 Hagi, and the existing Hagi Museum in the Hagi Castle Town as the facility to conduct research and communicate academic and specialist information, with these two facilities serving as guidance and information communication satellite facility for the shipyard site. The city will also proactively provide explanations and information on archaeological findings to visitors during excavation of the Ebisugahana Shipyard site.

The city will conduct regular training sessions to facilitate the capacity building for current and new guides, as well as to deepen the awareness of other stakeholders in relation to the conservation and management of the World Heritage property.

(6) Implementing projects

The city will be responsible for managing and operating the projects included in the Plan, determining the appropriate content and schedule with consideration to the state of the component part and the wishes of owners and managers. It will also work together with the Government of Japan and with the Yamaguchi Prefectural Government to secure financial resources and the necessary specialist knowledge and personnel for implementation of the projects.

First, the city will continue systematically conducting excavation surveys as well as establishing a viewing paths to enhance visitors' understanding of the site and ensure their safety. Based on the survey results, the city will maintain the shipyard's underground remains in a stable state and install planar markers displaying their scale and location on the ground surface. Specific methods will be implemented based on guidance and advice from an expert committee, the Government of Japan, and Yamaguchi Prefectural Government.

3. Methods

(1) Research and study

(a) Excavation surveys

The city will conduct excavation surveys to verify the consistency between underground archaeological remains and the scale and structure of the work sheds as noted in old maps and documents, and it will also set out planar markers on the ground surface to display the accurate location and scale. The excavation surveys will embrace the entire shipyard site, but to make steady progress with planar displays of the structures alongside the surveys, three broad areas (I-III) as shown in Figure 1 will be delineated and excavation surveys and planar display work pursued in each.

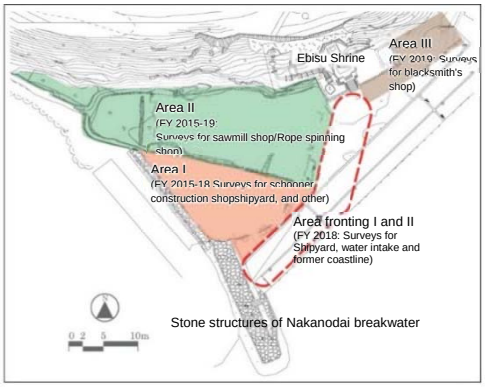


Figure 1: Excavation survey map

(b) Studying historical documents and drawings

"Copy of the Order to Build the Heishin-Maru"and Kansen ikken [Heishin-Maru production instructions and Ship, single item] for the Heishin-Maru and "Copy of a Series of Orders to Build Big Warships"for the Koshin-Maru are the basic documents, and the city will continue to study these, as well as identifying and collecting new historical documents. Studies will also be conducted of shipbuilding materials from Izu Heda and the Nagasaki Naval Training Institute as the source of production technology for the two ships, and circumstantial evidence will be gathered from the document that the Hagi (Choshu) Clan used as a textbook for Western-style warship construction in order to surmise the shipbuilding methods for the Heishin-Maru and the Koshin-Maru.

(c) Ground probing radar survey

Before launching excavation survey work, the city will conduct a non-destructive ground probing radar survey, narrowing the excavation survey scope.

(d) 3D laser survey

The city will conduct a 3D laser survey of stone structures starting with the exposed portion of the Nakanodai Breakwater, as well as a field survey of the underwater portion, creating the basic materials necessary for detailed monitoring, and also conducting a detailed examination of the restoration history of the exposed stone structures based on the results.

(e) Visitor surveys

The city will conduct a survey on visitor numbers, as well as regular surveys and observations of the behavior of regular visitors and their degree of understanding.

(f) Monitoring

The city is producing monitoring charts that comprehensively and systematically aggregate current information, and will regularly assess the state of the component part and the buffer zone and enhance the content of the monitoring chart accordingly. The city will present monitoring results in annual reports for confirmation and agreement at the Hagi Conservation Council, thereafter reporting to the National Committee of Conservation and Management for Sites of Japan's Meiji Industrial Revolution.

(2) Restoration of remains

(a) Preservation and restoration of underground and exposed remains

The city will cover the underground archaeological remains confirmed through the excavation surveys with a protective earth layer and place planar markers on the ground surface immediately above to show their location and scale. In areas outside the excavation survey scope, archaeological remains are to be kept stable underground.

(b) Restoration of exposed stone structures

According to the degree of urgency, the city will repair or restore stone structures which fixed-point observations reveal to be changing or deteriorating. If the scope which has changed temporarily needs dismantling, it is generally to be restored to the stable state before dismantling. In addition, to enhance fishing port functions, they city will consult with the organizations concerned and remove later modern structures and repaired portions that no longer have a relevant function, restoring to the original state.

(c) Harmonization of surrounding terrain and landscape

In the surrounding hillside forest area where steeply sloping land presents the danger of collapse, the city will cut down unnecessary trees, install rock fall prevention nets on the slope, and install gabions or large sandbags at the foot of the slope to keep visitors safe as well as to maintain the stability of underground archaeological remains.

(d) Repair of other constituent elements within the site

Hagi City will coordinate with the owners of the Ebisu Shrine to ensure that when repairs are carried out, appropriate methods are to be used which are in harmony with the shipyard site.

(3) Presentation and public utilization of the component part in light of shipbuilding system

(a) Zoning

The city has created the following zoning to promote presentation and public utilization as a means of increasing understanding of the Ebisugahana Shipyard remains (see Figure-3).

Zone name	Zone outline and features
Shipyard zone	Underground archaeological remains which were the shipyard work sheds and the exposed stone structures of the Nakanodai Breakwater. This zone will focus on stable maintenance of the remains and presentation and public utilization of the remains to promote understanding of the shipbuilding system.
Ebisu Shrine zone	Existing before the shipyard was set up and still a site of local worship today, the shrine is an important zone in terms of understanding the process of the historical changes and developments of the shipyard and the surrounding environment.
Landscape harmonization zone	The zone where the Ebisu Shrine and the landscape since the time before the shipyard was built can be seen. The mountain forests behind the shrine, the fishing ports and villages along Obataura Inlet, the Ubakura Canal on the opposite shore which sparked the construction of the shipyard, and other spots all fall within this zone, which requires unified harmonization.

(b) Planar markers for presentation of the underground archaeological remains

The city will place planar markers indicating the location and scale of the underground archaeological remains of the various work huts identified through excavation surveys on the surface above protective earth layer. Where the underground archaeological remains exist in good condition, another option may be to use a semi three-dimensional display method for physical presentation based on the results of the research and study of the remains.

(c) Installing viewing paths

The city will establish viewing paths, including an observation deck from which visitors can enjoy a perspective of the component part, based on a design and structure that gives full consideration to preservation of the remains, harmonization of the surrounding landscape, and the safety of visitors.

(d) Path

The city will establish Path A, from which visitors can stand on the shipyard site where underground archaeological remains are indicated with planar markers and look out, and Path B, which will enable visitors to gain a perspective of the stone structures of Nakanodai Breakwater and the periphery of the shipyard remains from a newly-installed observation deck.

Path A will enable visitors to understand the Western warship-building process and shipbuilding system as gleaned from the historical documents and from the results of excavation surveys.

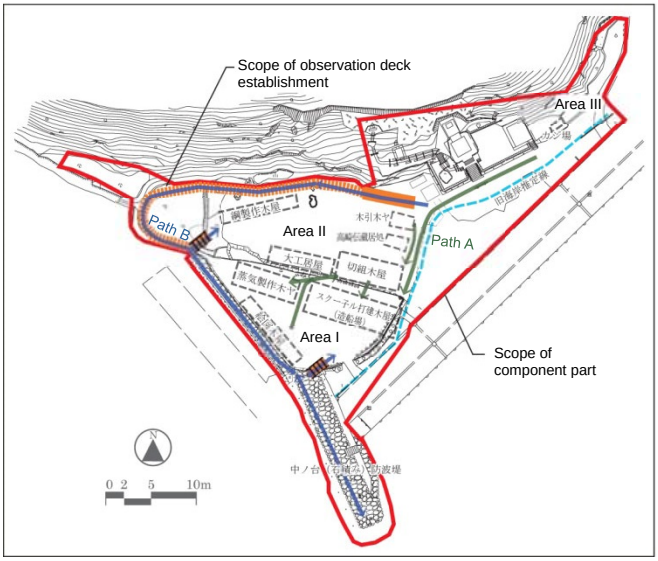


Figure 2: Path map

Path B will be an observation paths that enables visitors to understand locations and connections from a broader perspective, including the Hagi Reverberatory Furnace near the shipyard and the Ubakura Canal on the opposite shore.

(e) Terrain and environment maintenance

There appear to have been no major changes to the surrounding environment through to the present day. Hagi City will work to maintain that terrain with the exception of the minimum possible changes required for safety purposes. The city will also engage in regular cleanups of the rubbish which washes up on the shore, working to maintain and harmonize the environment around the component part with the help of local residents.

(f) Arranging and improving landscape and planting vegetation

Trees and concrete structures post-dating the establishment of the shipyard will be removed in conjunction with excavation surveys, ensuring views of the Obataura coast and the Ubakura Canal opposite. Planar markers for presentation of the underground archaeological remains will be installed on the ground surface, and new trees will not be planted in order to maintain those underground remains in a stable condition.

(g) Information facilities

The city will install a new information boards at a nearby crossroad to which visitors are directed by national road signs. An explanation board will outline the context of the shipyard site in terms of Sites of Japan's Meiji Industrial Revolution and Area 1 Hagi, as well as the process of historical changes and developments of the site.

(h) Management and convenience facilities

The city will ascertain trends in visitor numbers and install guide stations and toilets of an optimal scale to facilitate visitors' use of the shipyard site. There is currently no carpark adjoining the shipyard, but the city will consult with the related organizations owning the land with a view to putting in a carpark in future.

(i) Public Utilization facilities

The city will install information exhibition facilities in a nearby area, as there is not sufficient space onsite.

(4) Landscape conservation and harmonization in the buffer zone

The city will work to conserve landscape elements that have been maintained since before the shipyard

opened, including the buildings of Ebisu Shrine located in the north-east hillside of the component part and the verdant forest extending to the slope behind, and the sea surface of Obataura Inlet and the Ubakura Canal on the opposite shore to the southeast.

(5) Utilizing the shipyard site as a cultural resource and source of information in the Area

(a) Utilization measures as a source of information

At the World Heritage Visitor Center, the central guidance and information dissemination facility, the city will explain the Outstanding Universal Value of Sites of Japan's Meiji Industrial Revolution and the five component parts of Area 1 Hagi. Regular seminars and other events will also be held for local residents, guides, and visitors. The Hagi Museum, which is a more academic and specialist facility, will hold exhibitions of ancient documents and artifacts, as well as appointing a curator to explain exhibitions and engage in research, studying related ancient documents, and ensuring appropriate artifact management. Guides will also provide commentary at the actual shipyard, and visitors can also learn from explanation boards, pamphlets, and virtual reality images.

In addition, areas where excavation surveys are underway will generally be opened to the public, enabling visitors to view underground archaeological remains that are not normally visible. In the final stages of the excavations, the city will hold an in-situ study tour of the archaeological findings in the site and notify local residents of the results.

(b) Approaches to engagement with local community

The city will provide support to the group providing guides for the site part to take the necessary measures to promote understanding of the site, such as securing the number of necessary guides, advertising for new guides, and organizing seminars for the guides.

The city will encourage local engagement by holding lectures as well as drawing and photo competitions, and actively provide information to visitors and local residents using apps and websites.

When excavation surveys are conducted, the city will invite local residents to participate, using it as an opportunity to boost understanding of the site and awareness of the importance of its conservation and management.

4. Projects implementation

(1) Order of priorities

The implementation schedule will be as in Table 1.

The city began systematic excavation surveys in FY 2015 toward elucidating the character of the Ebisugahana Shipyard site and placing planar markers to present the locations and scale of the underground archaeological remains. The implementation schedule, including this current period, will comprise a short-term phase of five years, a medium-term phase from the sixth year onward, and a long-term phase as of the 10th year.

Over the short- and medium-term phases, the city will undertake phased excavation surveys in areas I-III and install planar markers indicating the location and scale of underground archaeological remains. When this work within the shipyard site has been completed, the city will consider the possibility of establishing guidance and convenience facility in the vicinity, taking into account the state of monitoring from a long-term perspective.

The city will prioritize excavation surveys and the ground probing radar survey to ensure that the results of studies and research are reflected immediately in restoration work and facility establishment and use, compiling the results of the survey conducted in the areas I to III within the shipyard site. At the same time, the city will also move ahead with the conservation and improvement of the surrounding terrain and the harmonization of the landscape, the establishment of observation paths, and the phased installation of planar markers, aiming to have this work completed over the medium-term. Given the above, priority will

be given to the following tasks:

- Undertaking excavation surveys (including the ground probing radar survey and 3D laser survey)
- Preserving and restoring underground archaeological remains and artifacts
- Installing rock fall prevention nets, etc.
- Installing planar markers showing the location and scale of underground archaeological remains
- Installing observation paths
- Selective removing of trees and structures post-dating the shipyard
- Installing signs and explanation boards

(2) Review of implementation schedule

After the scheduled medium-term period (up until 2023), the implementation schedule will be revised in line with the progress. However, if any new measures become necessary, the city will review the schedule without waiting for 2023.

Category	Project	Short term (2015 to 2019)	Medium term (2020 to 2023)	Long term (2024 onward)
(1) Research and study	(a) Excavation surveys			
	(b) Historical documents survey			
	(c) Ground probing radar survey			
	(d) 3D laser survey			
	(e) Visitor survey			
	(f) Monitoring			
(2) Restoring ruins	(a) Preserve and restore underground archaeological remains and artifacts			
	(b) Restore exposed stone structures			
	(c) Preserve surrounding terrain (install rock fall prevention nets, etc.)			
	(d) Restore other elements within the site			
(3) Public utilization in light of shipbuilding systems	(b) Install planar markers for presentation of the underground archaeological remains			
	(c) Install observation paths			
	(e) Maintain and correct terrain			
	(f) Improve landscape (manage trees, etc.) (selectively remove trees and structures post-dating the shipyard)			
	(g) Establish guidance and explanation facilities (install signs and explanation boards)			
	(h) Build management and utility facilities			
	(i) Build public utilization facilities			
(4) Landscape conservation and harmonization in the Buffer Zone				
(5) Utilizing the shipyard site as a cultural resource and source of information in the Area				

Table 1: Project implementation schedule

(3) Other

The city has carried out conservation and restoration work, etc. for the Ebisugahana Shipyard by securing necessary funds* making use of various subsidy programs available in FY2016 and FY2017, the first two years following inscription of the property on the World Heritage List. To ensure the smooth implementation of the project, it plans to continue such efforts to secure necessary funds in partnership with relevant institutions.

* Approximately 11 million yen was spent in FY2016 and 6 million yen has been budgeted for FY2017, both including costs incurred or earmarked for plan making and the presentation and public utilization of the component part, but excluding the cost for day-to-day maintenance.

The city will also secure and appropriately allocate the human and financial resources needed for the conservation, restoration, presentation and public utilization of the other four component parts in Area 1 Hagi, thereby working in conjunction with Shoin Shrine (religious corporation); the owner of the Shokasonjuku

Academy (Component Part 1-5), to ensure the smooth implementation of the projects in the Area as a whole.

5. Master Plan

The Ebisugahana Shipyard master/zoning plan and conceptional drawing after projects completion of the site are shown in Figures 3 and 4 below.

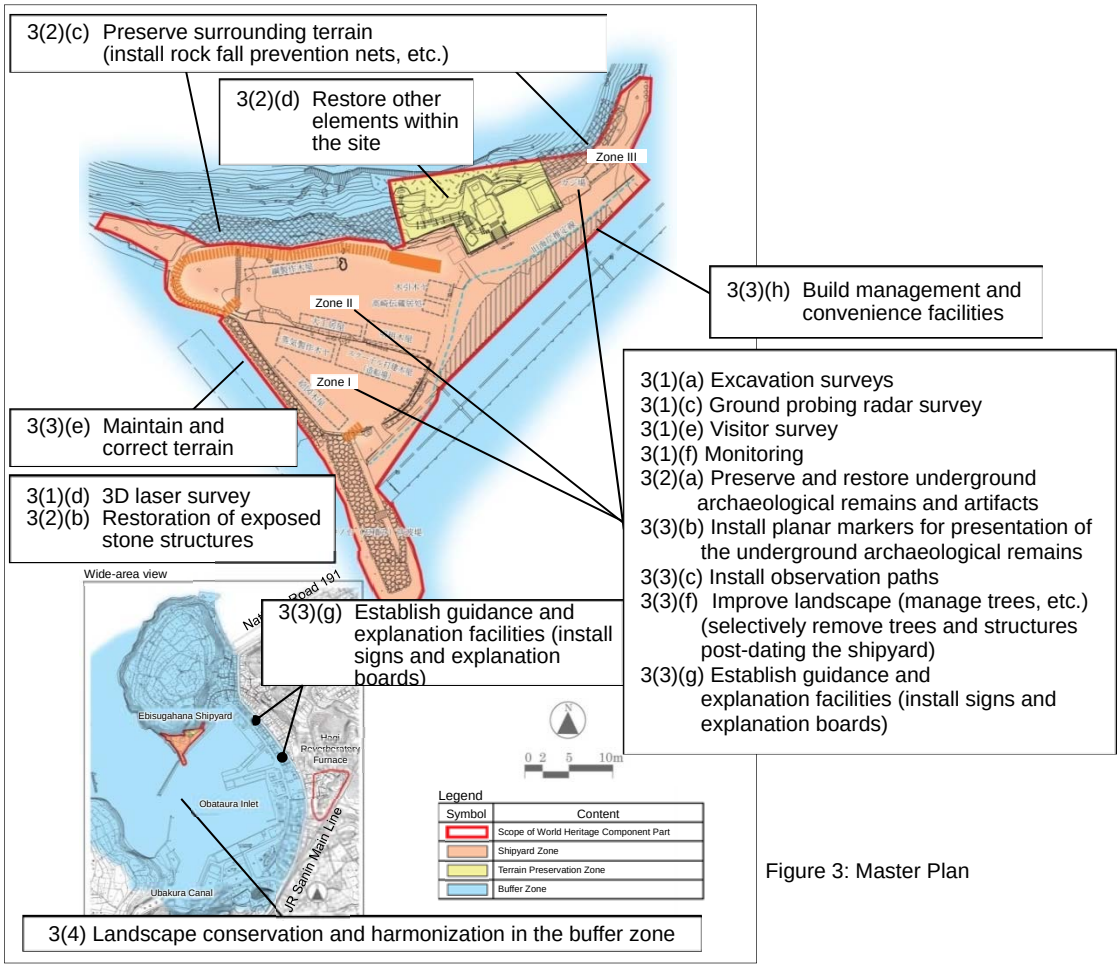


Figure 3: Master Plan

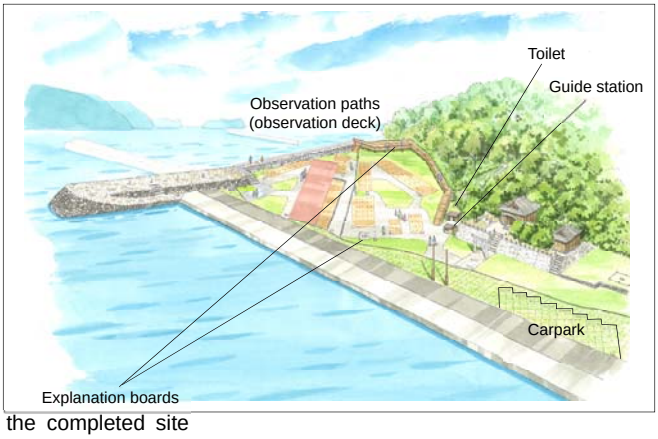


Figure 4: Conceptional drawing of the completed site