

Progress report on the urban planning project road construction plan in the vicinity of Shuseikan

Summary

This document reports the progress on the road construction plan in the vicinity of Shuseikan (Component Part 2-1), one of the Component Parts that comprises the “Sites of Japan’s Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining” inscribed on the World Heritage List.

We looked into the possibility of constructing a road outside of the Component Part along the seashore to the southeast of Shuseikan or in the hilly area to the northwest of it. Taking into account views from the Component Part, however, we have decided to construct an underground tunnel through the hilly area on the northwest side around the Component Part. Accordingly, the Kagoshima Prefectural Government is currently working toward an urban planning decision on the construction of the tunnel route within 2015.

The new road will run partly through the edge of the Buffer Zone as an underground tunnel in the hilly area to the northwest of the Component Part. It will have no adverse effect on the Outstanding Universal Value of the Component Part, in terms of views from inside the Component Part or on the Buffer Zone designed to protect the property’s setting.

Following the Prefectural Government’s decision of the aforementioned location of the new road on the urban planning as an official project, the Ministry of Land, Infrastructure, Transport, and Tourism will work on the detailed design, budget for the construction, and take other necessary courses of action in stages. During the process, we will decide whether a Heritage Impact Assessment (HIA) will need to be conducted according to prevailing circumstances, and submit a progress report again.

1. Summary of the urban planning decision to construct a new road

- (1) The new road (Figures 2 and 3) is to be planned as a bypass of National Route 10, which runs through part of the Component Part. The Kagoshima Prefectural Government is working toward an official decision to determine the route as an urban planning project within 2015.
- (2) The new bypass will be constructed as a tunnel through part of the Buffer Zone outside of the Component Part, and is principally outside of the Buffer Zone.
- (3) National Route 10 connects major cities in Eastern Kyushu, playing a significant role in the local economy, including industries, culture, and tourism. Topographical constraints along the route, however, have long been a cause of chronic traffic congestion during commuting hours. The new bypass will reduce traffic congestion, improve the mobility of vehicles, and ensure road safety through the smooth flow of traffic. Furthermore, since the bypass will help reduce traffic dramatically on Route 10, which runs through part of the Component Part, this project is also expected to reduce the adverse effects traffic may have on the Component Part.

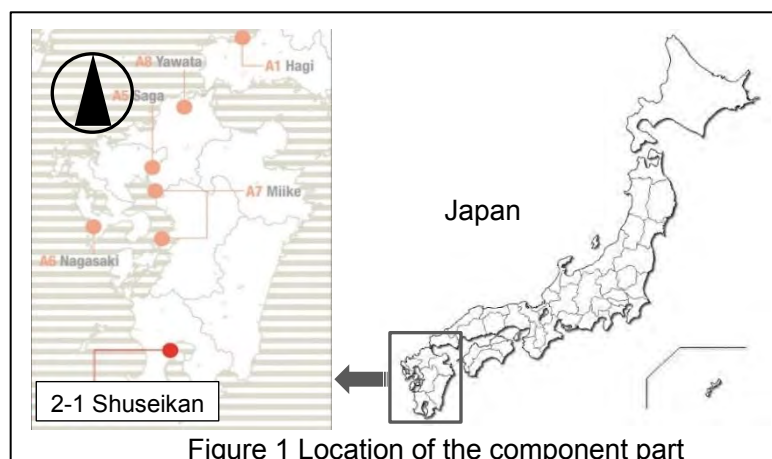


Figure 1 Location of the component part

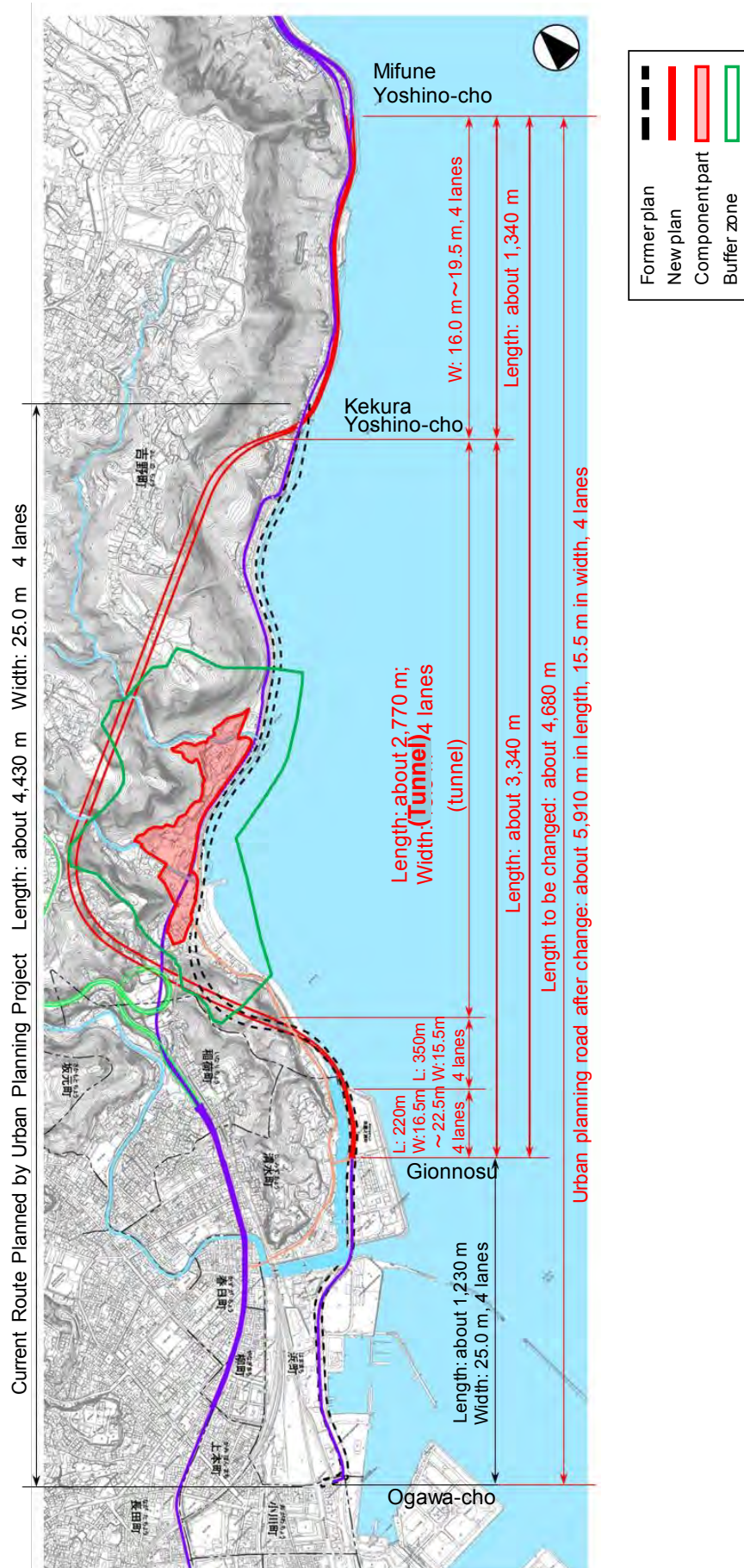


Figure 2: Planned Bypass Route to be Decided on the Urban Planning (wide area)

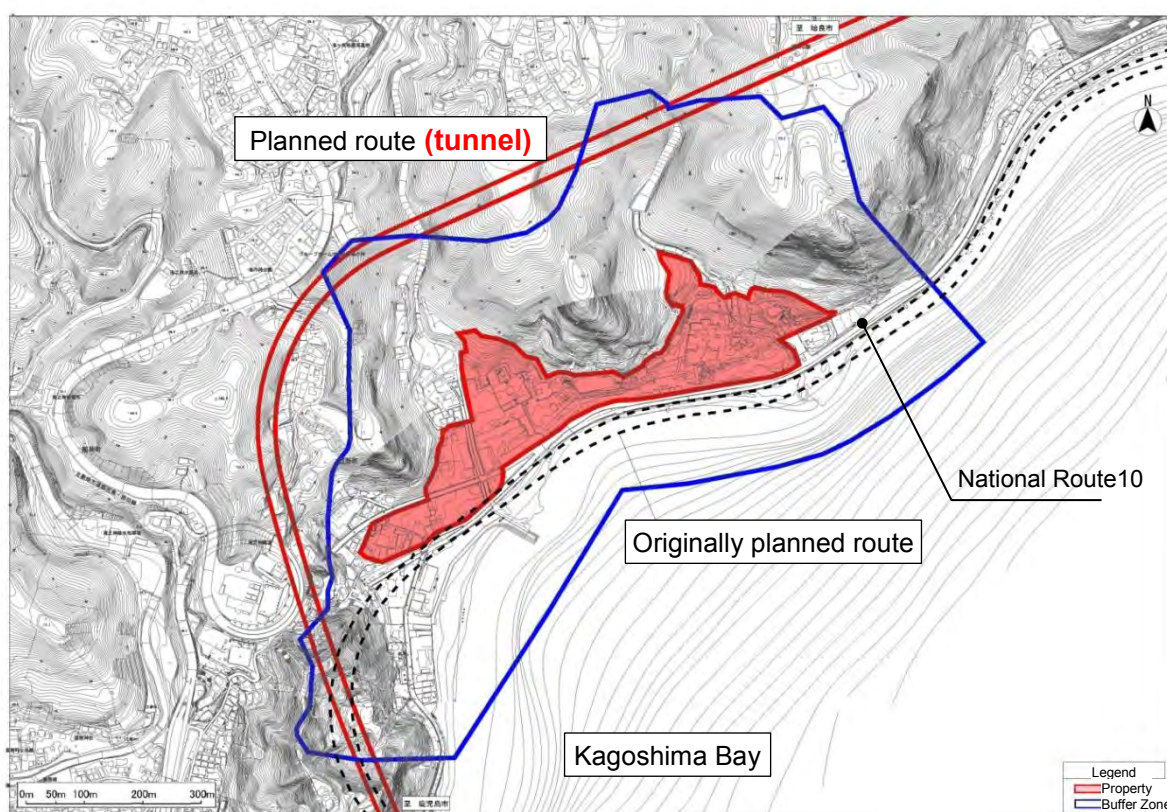


Figure 3: Planned Route to be Decided on the Urban Planning (detailed)

2. Outstanding Universal Value of the heritage sites

- (1) The Outstanding Universal Value of the “Sites of Japan’s Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining” is stated as follows: (Excerpts from the Statement of Outstanding Universal Value in the Decision adopted by the World Heritage Committee at its 39th session):

A series of industrial heritage sites, focused mainly on the Kyushu-Yamaguchi region of southwest of Japan, represent the first successful transfer of industrialisation from the West to a non-Western nation. The rapid industrialisation that Japan achieved from the middle of the 19th century to the early 20th century was founded on iron and steel, shipbuilding and coal mining, particularly to meet defence needs. The sites in the series reflect the three phases of this rapid industrialisation achieved over a short space of just over fifty years between 1850s and 1910.

The first phase in the pre-Meiji Bakumatsu isolation period, at the end of Shogun era in the 1850s and early 1860s, was a period of experimentation in iron making and shipbuilding. Prompted by the need to improve the defences of the nation and particularly its sea-going defences in response to foreign threats, industrialisation was developed by local clans through second hand knowledge, based mostly on Western textbooks, and copying Western examples, combined with traditional craft skills. Ultimately most were unsuccessful. Nevertheless this approach marked a substantial move from the isolationism of the Edo period, and in part prompted the Meiji Restoration.

The second phase from the 1860s accelerated by the new Meiji Era, involved the importation of Western technology and the expertise to operate it; while the third and final phase in the late Meiji period (between 1890 to 1910), was full-blown local industrialisation achieved with newly-acquired Japanese expertise and through the active adaptation of Western technology to best suit Japanese needs and social traditions, on Japan’s own terms. Western technology was adapted to local needs and local materials and organised by local engineers and supervisors.

- (2) Shuseikan is categorised as the remains from the first phase of the three that reflect the aforementioned Outstanding Universal Value of the “Sites of Japan’s Meiji Industrial Revolution,” that is, the period of experimentation in iron and steel making. In terms of shipbuilding, it belongs to the first phase as well as the second phase that was the beginning of industrialisation when Western technology was directly imported.
- (3) The elements (attributes) of Shuseikan that convey the Outstanding Universal Value of the “Sites of Japan’s Meiji Industrial Revolution” are the aboveground and underground remains of the reverberatory furnace, the Former Shuseikan Machinery Factory, the Former Kagoshima Foreign Engineers’ Residence, and the leat, as well as the underground archaeological remains of the Site of the Kagoshima Spinning Mill.

3. Adverse effect of the route proposed for the urban planning project on the Component Part and its Buffer Zone

(1) Impacts on the Component Part

- The new bypass that this urban planning project is to build will be an underground national route through the hilly area to the northwest of the Component Part. It will be away from the Component Part itself, and thus the route will have no adverse effect on the elements (attributes) of Shuseikan that convey the Outstanding Universal Value, or on any other physical elements (attributes) of the Component Part. Therefore, it will not damage the Outstanding Universal Value of Shuseikan, which is one of the component parts of the “Sites of Japan’s Meiji Industrial Revolution”.

(2) Impacts on the Buffer Zone

- In this project, the bypass will be constructed outside of the Component Part. Part of the route will be set out underground skirting the outer edge of the Component Part’s Buffer Zone, and its length will be very limited. The section running through the lush hills behind the Component Part will be built by the tunnelling method, and thus the new road will have no adverse effect on the Outstanding Universal Value in terms of views from inside the Component Part, or on the Buffer Zone designed to protect the setting of the Component Part.
- If any adverse effect unforeseen at the moment starts to loom on the Component Part or its Buffer Zone, we will look into it as an additional required task and take appropriate remedial actions.

4. Management process

- The road plan has been discussed by a committee consisting of scholars and experts. To determine the route, interviews have been conducted with relevant government agencies and a wide range of private citizens.
- The plan was also discussed by the “Shuseikan Conservation Council” organised in accordance with the “General Principles and Strategic Framework of the Conservation and Management of the Sites of Japan’s Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining.”
The “Shuseikan Conservation Council” is a body in which those engaging in the project exchange information and opinions, and make decisions regarding the “Conservation Management Plan, Shuseikan”, ways to improve approaches to implementation of the plan, and the monitoring for the state of conservation of the Component Part.
- The Kagoshima National Highway Office at the Kyushu Regional Development Bureau of the Ministry of Land, Infrastructure, Transport, and Tourism is also a member of the “Shuseikan Conservation Council” as the administrator of the road. As it moves ahead with the project in stages, the Council will continue to share information and conduct adequate discussions with the owner of the land, the Kagoshima Prefectural Government, and the Kagoshima City Government. It will also ask the “Industrial Heritage Expert Committee including Working Properties” organised by the Government of Japan (the Cabinet Secretariat) for advice as necessary.

5. Conclusions

- At the present moment, the route planned by the road construction project in the vicinity of the Component Part, Shuseikan will not have any adverse impact on the Outstanding Universal Value of the “Sites of Japan’s Meiji Industrial Revolution” inscribed on the World Heritage List nor on the Buffer Zone designed to protect the setting of the Component Part.
- The Kagoshima National Highway Office at the Kyushu Regional Development Bureau of the Ministry of Land, Infrastructure, Transport, and Tourism, the Kagoshima Prefectural Government, the Kagoshima City Government, and the Cabinet Secretariat of the Government of Japan will continue to meet for discussions at the “Shuseikan Conservation Council” as the construction plan progresses.

Heritage impact assessment report on the road bridge construction project in the vicinity of Mietsu Naval Dock

Executive Summary

This paper is a Heritage Impact Assessment report drawn up by the Government of Japan on the road bridge construction project at a site outside of and adjacent to the Buffer Zone of Mietsu Naval Dock, a Component Part (Component ID: 5-1) of the World Heritage property, the “Sites of Japan’s Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining.”

Because the elements (attributes) of Mietsu Naval Dock that hold the Outstanding Universal Value of the World Heritage property are of underground archaeological remains and the geographical features integrated therewith¹⁾, construction outside the property presents no potential direct impact. In addition, the impact on the landscape is minimized by the design changes that have been made based on the assessment of the impact on the views from the Component Part. Sustained discussions and collaborative work shall be made by and between the road administrator (Ministry of Land, Infrastructure, Transportation and Tourism) and the heritage administrator (Saga City).

1) Attributes: The elements that hold the Outstanding Universal Value (attributes) are documented for each Component Part in the paper submitted to the ICOMOS (International Council on Monuments and Sites) in November 2014, in response to the additional information request therefrom. Please refer to the attachment to this Heritage Impact Assessment report.

1 Introduction

- (1) The object of this Heritage Impact Assessment report is the Component Part, Mietsu Naval Dock (Component ID: 5-1), of the “Sites of Japan’s Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining,” which were inscribed on the World Heritage List in July 2015.
- (2) This Heritage Impact Assessment was conducted in accordance with the road bridge construction and urban development plans and so forth, and with reference to the items set out in the “Conservation Management Plan (CMP) of Mietsu Naval Dock” as a Component Part of the World Heritage property and the opinions of experts from both Japan and overseas.
- (3) In the process of formulating the above-mentioned plans and so forth, experts in the related fields including landscape engineering, transportation engineering, structural engineering, structure analyses, bridge engineering, ground engineering and so forth, participated in addition to experts in the road construction and cultural property conservation.
- (4) The central body of drawing up this Heritage Impact Assessment report is the Department of Industrial Heritage World Heritage Inscription, the Cabinet Secretariat of Japan.

2 Overview of the proposed project

- (1) The proposed project is the construction of the Hayatsue River Bridge (Fig.2,3), which is to be built at a site to the north of and adjacent to the Buffer Zone so as to constitute a part of the Ariake Coastal Road, the commencement of the work of which is scheduled for December 2015.
- (2) The construction work is to take place at a site outside of the area of the Component Part and outside of the Buffer Zone as well.
- (3) The newly constructed road section that includes the Hayatsue River Bridge is aimed at supporting the smooth urban activities in the Fukuoka-Saga Urban Development Zone, enhancing convenience for urban residents and ensuring a positive urban environment. It is expected that this project will contribute enormously to energizing the industry, economy and culture of the entire Ariake Sea Coastal Region by creating a wide operation zone through integration with other sections (Fig.2).

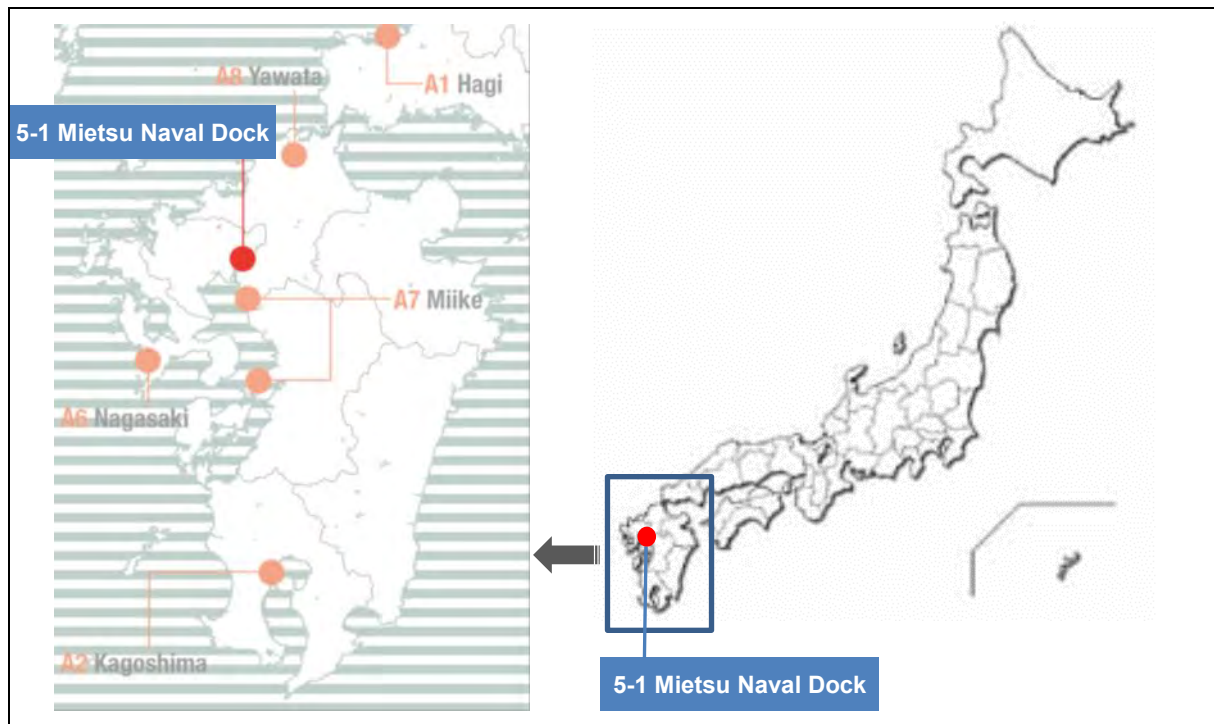


Fig.1: Saga Area Location Map

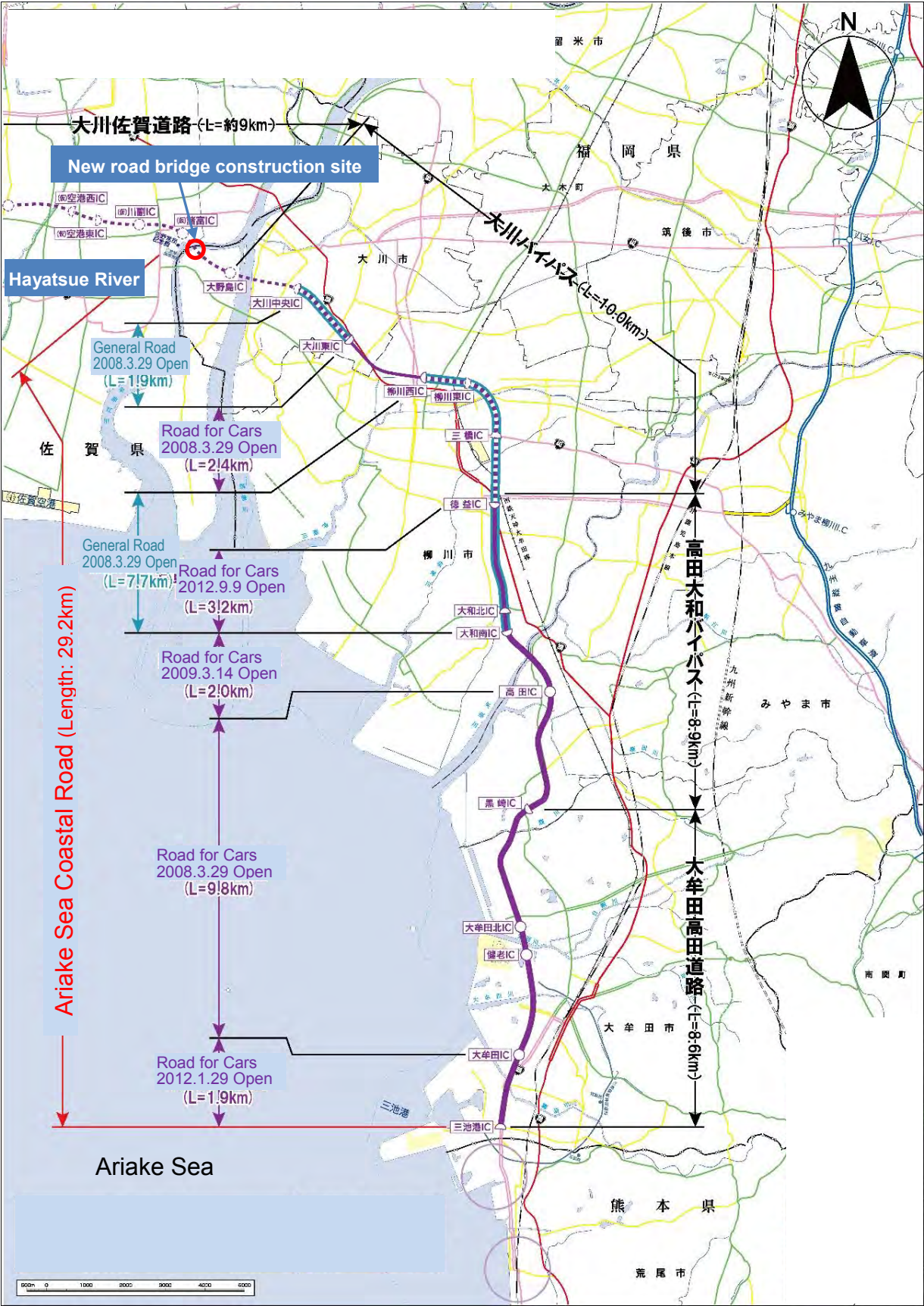


Fig.2: Ariake Sea Coastal Road Explanatory Overview

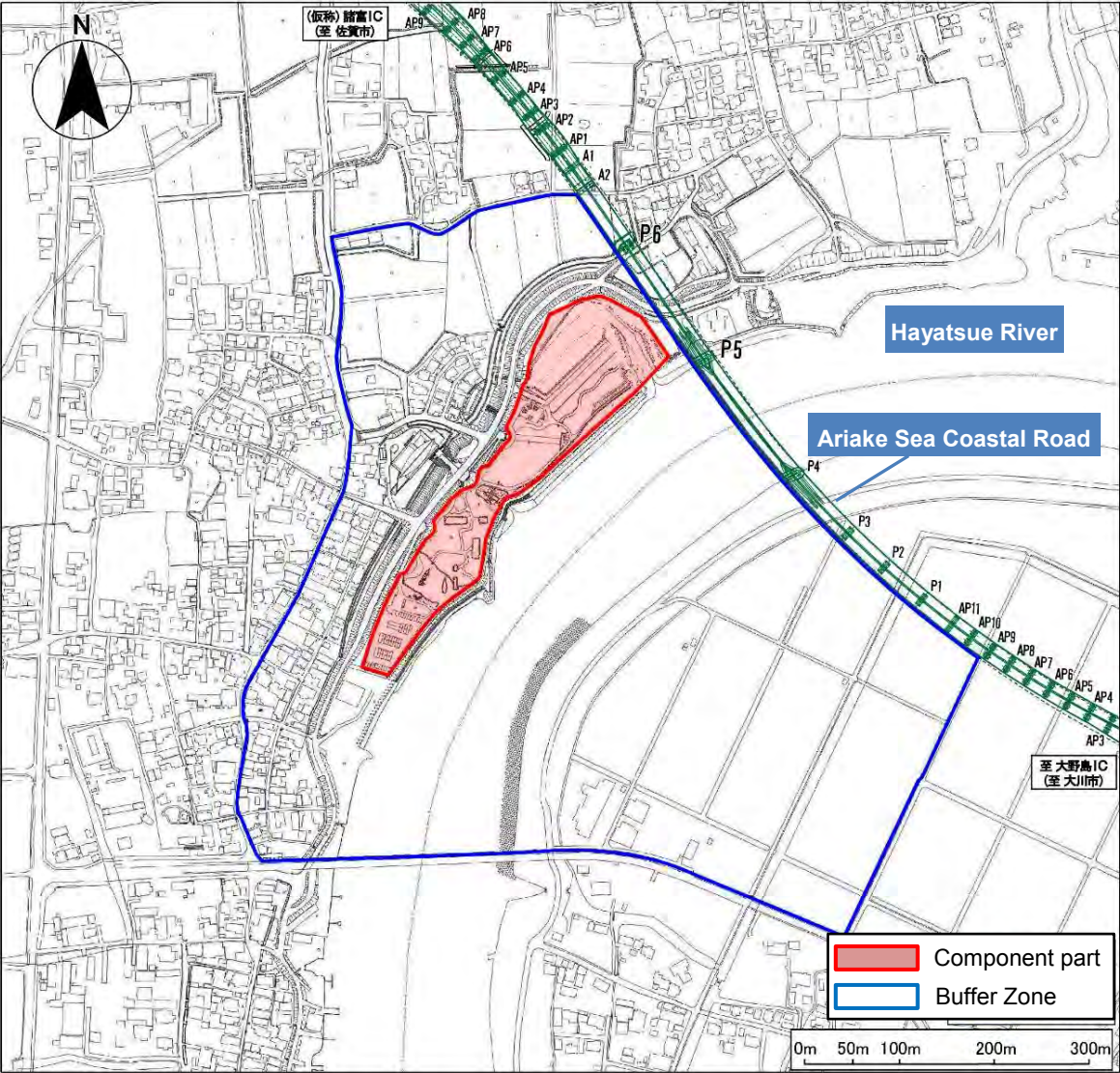


Fig.3: Hayatsue River Bridge Location Map

3 Heritage Values

- (1) The Outstanding Universal Value of the “Sites of Japan’s Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining” is stated as follows (excerpt from the Statement of Outstanding Universal Value in the Decision adopted by the World Heritage Committee at its 39th session)

A series of industrial heritage sites, focused mainly on the Kyushu-Yamaguchi region of southwest of Japan, represent the first successful transfer of industrialization from the West to a non-Western nation. The rapid industrialization that Japan achieved from the middle of the 19th century to the early 20th century was founded on iron and steel, shipbuilding and coal mining, particularly to meet defence needs. The sites in the series reflect the three phases of this rapid industrialisation achieved over a short space of just over fifty years between 1850s and 1910.

The first phase in the pre-Meiji Bakumatsu isolation period, at the end of Shogun era in the 1850s and early 1860s, was a period of experimentation in iron making and shipbuilding. Prompted by the need to improve the defences of the nation and particularly its sea-going defences in response to foreign threats, industrialization was developed by local clans through second hand knowledge, based mostly on Western textbooks, and copying Western examples, combined with traditional craft skills. Ultimately most were unsuccessful. Nevertheless this approach marked a substantial move from the isolationism of the Edo period, and in part prompted the Meiji Restoration.

The second phase from the 1860s accelerated by the new Meiji Era, involved the importation of Western technology and the expertise to operate it; while the third and final phase in the late Meiji period (between 1890 to 1910), was full-blown local industrialization achieved with newly-acquired Japanese expertise and through the active adaptation of Western technology to best suit Japanese needs and social traditions, on Japan’s own terms. Western technology was adapted to local needs and local materials and organised by local engineers and supervisors.

- (2) The Mietsu Naval Dock is a shipbuilding site in the first phase and the remains of the initial phase of the industrialisation where trial-and-error attempts were made in shipbuilding and repair. It equipped the oldest dry dock in Japan used for training and the repair of Western-style ships and operated from 1858 to 1871. The Mietsu Naval Dock was operated based on knowledge and technologies that were acquired at the Nagasaki Naval Training Institute, which was established by the Tokugawa Shogunate in 1855 after the opening of the country following the arrival of Commodore Perry. (The Nagasaki Naval Training Institute no longer exists.)
- (3) The elements (attributes) of Mietsu Naval Dock that hold the Outstanding Universal Value of

the World Heritage property are archaeological remains of the wooden dry dock (the shipbuilding/repair dock and metal work section), the training ground section and the small boat dock section as well as the geographical features integrated with those remains. The Conservation Management Plan of the Component Part sets out the daily maintenance of these elements (attributes) as follows:

[Management by Saga City and Saga City Board of Education]

Elements (attributes) of the Component Part that will be conserved and managed date to the period when Mietsu Naval Dock was in operation. These elements (attributes) provide direct evidence of activities relating to shipbuilding and repair work as part of Saga Clan's goal to modernize through its own independent efforts. They consist of both buried remains and geographical features, each of which is to be maintained and managed as follows.

As the Component Part has been designated as a National Historic Site based on the Law for the Protection of Cultural Properties, all conservation and management work will comply with the Plan for the National Historic Site Mietsu Naval Facility Site Property Management Plan, which sets out guidelines on dealing with such things as changes to the Component Part's current state in areas where there are historic remains. In addition to this, all work will be implemented in liaison and coordination with Saga City Board of Education, the site's administrator. ("Conservation Management Plan, Mietsu Naval Dock", pp. 83 –84.)

■Buried remains

•Shipbuilding/repair docks and metal works section:

Stone remains, furnace remains (1.2), ditch remains, double-stranded furnace (crucible furnace), scrap pit revetment remains (main dock area), revetment remains (dock entrance area), river side revetment remains, construction soil

•Training ground section: Construction soil

•Small boat docks section: Construction soil, embankment

All buried remains have been secured with a sufficiently thick protective layer of 60 - 100 cm from the current ground surface, and are being maintained and managed so that nothing can harm them. Therefore, as they will continue to be preserved in this good buried state, measures will be taken for conservation and management which seek to maintain their current state. In regard to remains that are made of wood in particular, such as revetment remains, other than for the purpose of surveys, these remains will be left unexposed so as to prevent deterioration.

■Geographical features

•Small boat docks section: Geographical features of inlet

The geographical features of the inlet give insights into the nature of small boat docks in the past. Therefore, in order to preserve this landscape, measures will be taken for

conservation and management which seek to maintain their current state on the assumption of the area's ongoing use as a fishing port.

- (4) Additionally, the regulations applied to the Buffer Zone are set out as follows: ("Conservation Management Plan, Mietsu Naval Dock", p. 87.)

5.4.1 Conditions of the Buffer Zone that are to be maintained (benchmark of regulation and protection)

The Buffer Zone contains land use divisions and geographical formations that evoke the landscape when Mietsu Naval Dock was in operation. In order to protect the surrounding area as the appropriate setting as the appropriate setting as seen from the Component Part, controls will be placed on the establishment of structures that obstruct the visibility of this setting.

5.4.2 Regulation and protection policy and overall plan in the Buffer Zone

In order to maintain the conditions set out in 5.4.1, which aims to protect the Component Part, conservation measures will be taken along with the setting of appropriate boundaries for the Buffer Zone.

In order that development activities which take place within the Buffer Zone do not harm the Component Part's value, appropriate regulations are to be put in place in accordance with the River Act, the City Planning Act, the Landscape Act, the Act Concerning Establishment of Agricultural Promotion Areas, and the Agricultural Land Act.

4 Assessment of the overall impact of the proposed construction work

- (1) The proposed construction work in no way makes adverse impacts on the buried remains or the geographical features integrated with those remains which constitute the elements (attributes) of the Outstanding Universal Value, and their integrity and authenticity, because the construction is to be carried out at a site outside of the Component Part.
- (2) The view from the Component Part has been examined as part of the assessment although it is not an element (attribute) of the Outstanding Universal Value. This is because the construction work is planned at a site adjacent to the Buffer Zone, for which the Conservation Management Plan sets out the consideration requirements concerning the conservation of the Buffer Zone landscape.
- (3) For the section of the Ariake Sea Coastal Road that includes the Hayatsue River Bridge, in March 2003, the Saga Prefectural and Saga City Governments began environmental assessment on the urban planning in accordance with the Environmental Impact Assessment Act. Through public hearings, deliberations by experts, public notices and access to the plan and so forth, which are all proceedings stipulated in the City Planning Act, Saga Prefecture made a decision on the urban planning in February 2008. The following assessment was

made on the “landscape”, which the Environmental Impact Assessment Act requires to include as an environmental assessment item:

In regard to the major view (landscape), a part of the bridge across the Hayatsue River will be visually noticeable, while the embankment part will be assimilated into the scenery of the main urban area, thus, not visually noticeable. In any case, neither are presumed to block the skyline.

- (4) Toward the inscription of the property on the World Heritage List, the “Advisory Committee for the Consortium for the World Heritage inscription of Modern Industrial Heritage (Kyushu-Yamaguchi)”, established in December 2008 with experts from both Japan and overseas, carried out site surveys at the Mietsu Naval Dock in April 2009 and April 2010. The statement, “The construction project of the Ariake Coastal Road does not make any impact on the values worthy of the World Heritage that the Mietsu Naval Dock holds,” was made by council member experts from overseas. Similar statements presuming no impact were made during the 3rd Advisory Committee meeting mentioned above held in April 2009.
- (5) In June 2009, the Ministry of Land, Infrastructure, Transport and Tourism and the Cultural Property Division of the Saga Prefectural Board of Education began collaborative studies and discussions on the design of the Hayatsue River Bridge. The Cultural Property Division of the Saga Prefectural Board of Education conducted archaeological surveys in the area including the periphery of the site where the construction of bridge piers was planned in parallel to discussions with the Ministry of Land, Infrastructure, Transport and Tourism. The results of the archaeological surveys at present are described below. The archaeological survey for the site where the construction of the P5 bridge pier was planned was judged not necessary because the site was within the water flow area and the existence of archaeological remains there was unlikely.
- (6) The P6 bridge pier is located in the north edge of the Buffer Zone of the Component Part. The construction site for this bridge pier is currently occupied by a community road, an irrigation channel and a housing area. In the archaeological surveys, remains were not found in the survey zone 1. In the survey zone 2, a landform gently inclined toward the north was found, but any archaeological remains of structures were not. (Fig.4) This survey zone 2 is the location of farmland and a water channel shown in pictorial materials drawn in the 18th century, from which the landform is thought to be a part of the vestige of the causeway or water channel that were built at the edge of the farmland. While roof tiles and 17th-century ceramicware were excavated from the periphery, none of artifacts related to the Mietsu Naval Facility Site were excavated. From the above-described results of the archaeological survey, the majority of the sites where the bridge piers are planned is thought to coincide with the farmland and water channel that existed before the construction of the Mietsu Naval Dock

(1858-1871), a consideration supported by the fact that no artifacts related to the Mietsu Naval Dock were excavated. Therefore, it is thought that construction of the bridge piers will have no impact on any archaeological remains related to the dock, which in any case would be outside the Component Part.

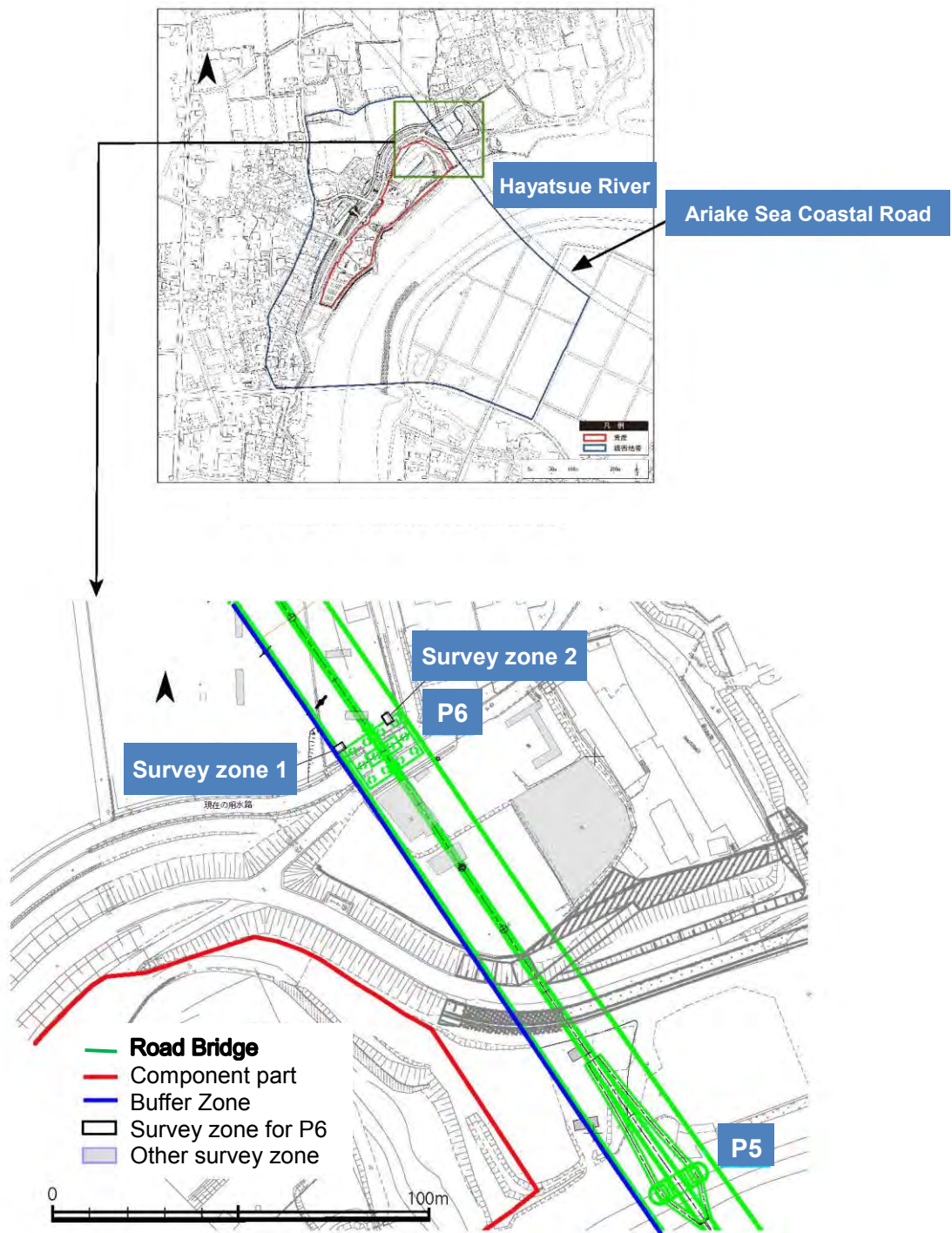


Fig. 4: Location Map of Archaeological Surveys Conducted in Conjunction with the Construction of the Bridge Piers for the Ariake Sea Coastal Road

- (7) In July 2009, the Fukuoka National Highway Office of the Kyushu Regional Development Bureau of Ministry of Land, Infrastructure, Transport and Tourism established a conference on “Discussions on the Basic Design” concerning the bridges across the Chikugo/Hayatsue rivers that included experts, and held a total of four meetings by July 2011. Based on the outcome of the conference and thorough consideration for the peripheral environment and landscape of the site, the Fukuoka National Highway Office drew up its basic policy on the design of the bridges as a “Design Concept.”
- (8) In order to develop the “Discussions on the Basic Design” conference and scrutinize technical matters comprehensively, the Fukuoka National Highway Office set up the “Ariake Sea Coastal Road, Chikugo/Hayatsue River Bridges Design Study Committee” (hereinafter referred to as “Committee”) in September 2011, together with the “Landscape Subcommittee” and “Ground/Structure Subcommittee” for intensive technical studies. A total of eight Committee meetings, five Landscape Subcommittee meetings, and four Ground/Structure Subcommittee meetings were held. In those meetings, in-depth discussions were conducted on the selection of the bridge types that fit the bridging conditions and the design of each bridge pier from the perspective of landscape, ground, and structure. In October 2014, a report was drawn up, and the process and outcome of the work were released to the public. In the selection of the recommended bridge type in June 2012, two open-houses were held to inform residents living along the road of the studies and works, in which mock-ups and display panels were used to facilitate understanding.
- (9) In the above Committee, six bridge types applicable to the bridging position: 1. Steel plate deck box girder bridge; 2. Steel arch bridge; 3. Cable-stayed bridge; 4. PC (Prestressed concrete) Rahmen box girder bridge; 5. Extradosed bridge; 6. PC Cable-stayed bridge (Fig. 5), were subjected to comprehensive evaluations from the standpoint of economy, landscape, structure, workability, maintainability and manageability. In January 2012, they were narrowed down to the following three types: 1. Steel plate deck box girder bridge; 2. Steel arch bridge; 3. Cable-stayed bridge.

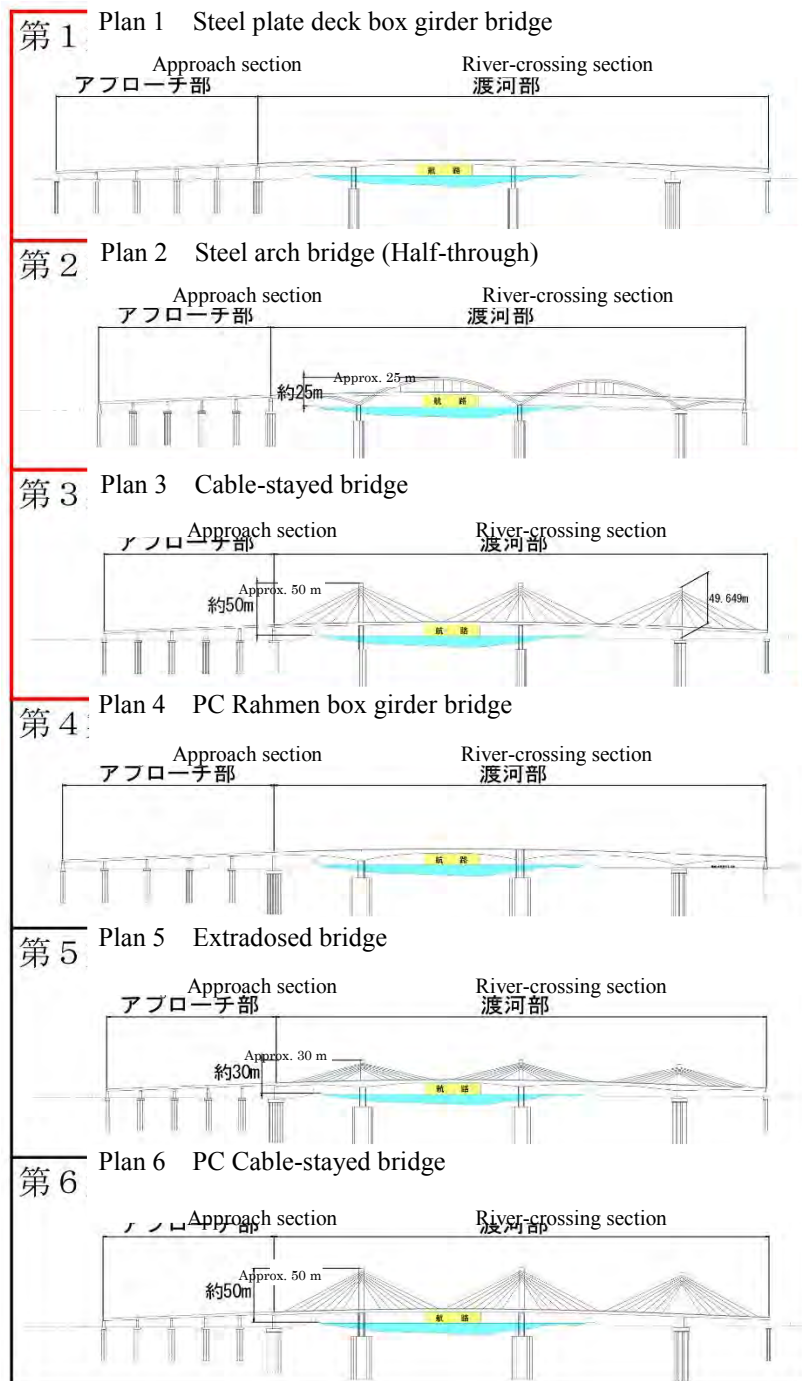


Fig. 5: Six Bridge Types Applicable to the Bridging Position

(10) In June 2012, the Committee assessed the impact on the landscape as follows in choosing the Steel arch type (Plan 2) as the recommended bridge type (Fig.6).

The steel arch bridge (Plan 2) is a lightweight steel-made bridge and its bridge pier structure can be made small by taking a half-through arch design. On account of those benefits, the visual

impact given by the bridge pier will be minimised. In addition, the section that crosses over the river near Mietsu Naval Dock is designed using girders with a constant cross-section and minimized height so as to mitigate visual impact.

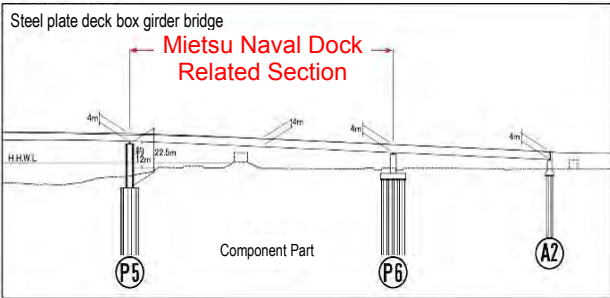
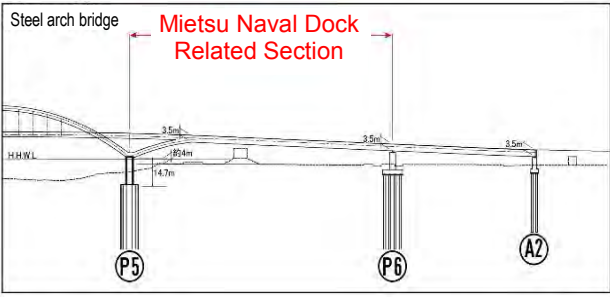
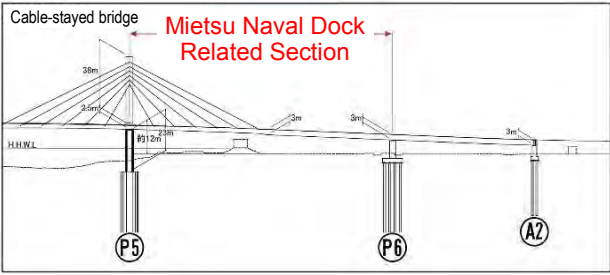
| Front cross-sectional view of the road bridge | Visual impact to Mietsu Naval Dock |
|---|---|
|  | <p>1. Steel plate deck box girder bridge</p> <p>Girder height is about 4 m, and the upper structure gives a greater sense of visual impact. Pier height is about 4 m, giving a greater sense of visual impact to Mietsu Naval Dock.</p> |
|  | <p>2. Steel arch bridge</p> <p>Girder height is controlled at about 3.5 m which mitigates the visual impact. Half-through type arch design contributes to keep pier height at about 4 m and reduce the visual impact.</p> |
|  | <p>3. Cable-stayed bridge</p> <p>While girder height is controlled at about 3 m, pier height is about 12 m with main tower (about 40 m) built on top of it, which gives a great sense of visual impact.</p> |

Fig. 6: Landscape Impact Assessment Conducted in the Selection of the Bridge Types

(11) History of main studies and works

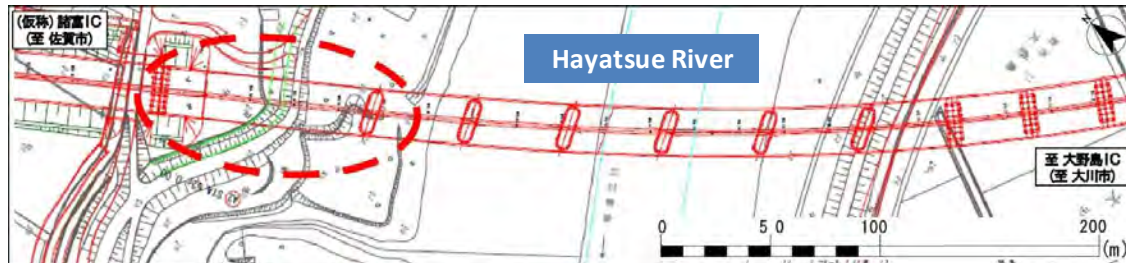
| Discussions on the basic design of the Chikugo/Hayatsue river bridges | |
|---|-------------------|
| 1st meeting | July 22, 2009 |
| 2nd meeting | February 9, 2010 |
| 3rd meeting | February 22, 2011 |
| 4th meeting | July 28, 2011 |

| Ariake Sea Coastal Road, Chikugo/Hayatsue River Bridges Design Study Committee | |
|--|-----------------------|
| 1st meeting | September 29, 2011 |
| 2nd meeting | December 1, 2011 |
| 3rd meeting | February 3, 2012 |
| Open House | February 6 –10, 2012 |
| 4th meeting | March 8, 2012 |
| Open House | June 23 –July 1, 2012 |
| 5th meeting | November 7, 2012 |
| 6th meeting | March 22, 2013 |
| 7th meeting | August 1, 2013 |
| 8th meeting | June 18, 2014 |
| Open House | October 5–10, 2014 |

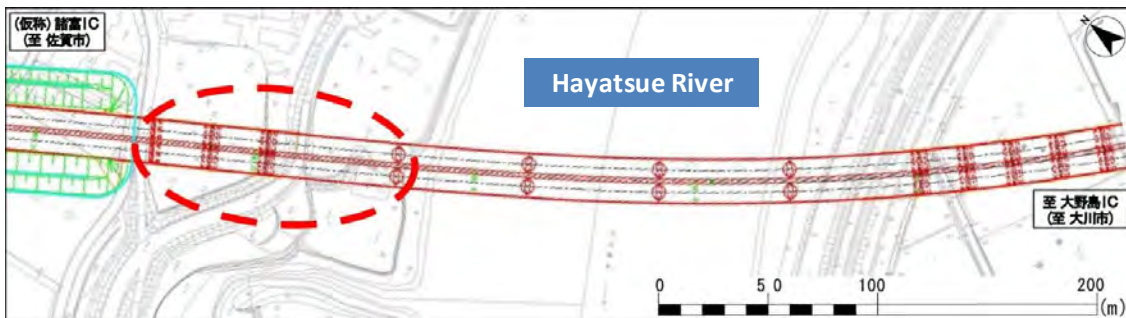
| Landscape Subcommittee | |
|-------------------------------|-------------------|
| 1st meeting | October 30, 2011 |
| 2nd meeting | December 28, 2011 |
| 3rd meeting | February 22, 2012 |
| 4th meeting | July 18, 2013 |
| 5th meeting | March 17, 2014 |
| Ground/Structure Subcommittee | |
| 1st meeting | November 17, 2011 |
| 2nd meeting | December 28, 2011 |
| 3rd meeting | July 23, 2013 |
| 4th meeting | March 18, 2014 |

- (12) As an additional measure to further alleviate the impact, the position of the bridge piers has been reviewed as well. As a result, by extending the span between the piers, two bridge piers located near the Component Part have been moved as follows: one has been moved into the water flow area where the probability of the existence of archaeological remains is zero (P5); the other to a position farther away from the Component Part (P6) (cf. the bottom figure in Fig.7).

Design in the Urban Planning in 2005-2007 (with embankment)



Design at the Beginning of the Project in 2008 (with bridge piers)



Present Design in 2015 (without bridge pier)

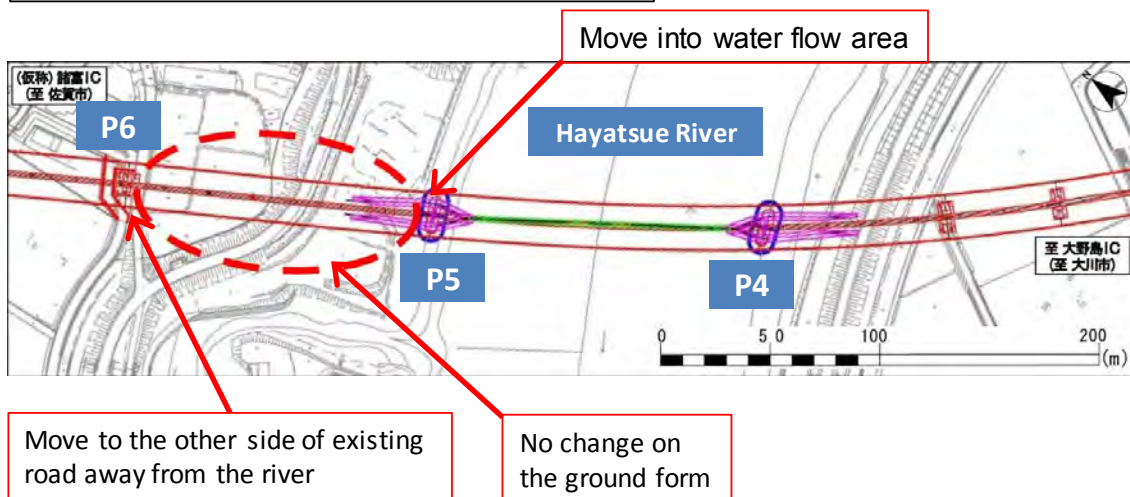


Fig.7: Review on the pier positions

(13) As a result of above-described design changes and so forth, the view from the Component Part to the bridge and its periphery has been improved as illustrated below (Fig. 8-1-8-5).

View location: Hayatsue River Bridge (Completion Drawing)

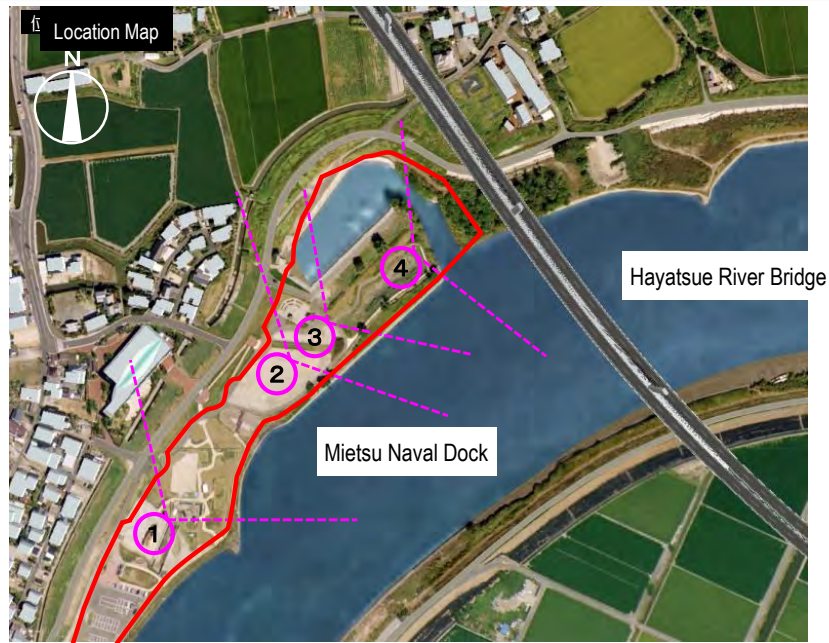


Fig. 8-1: View Point Location

Point 1. View from the Wooden Dry Dock
(Shipbuilding/Repair Dock and Metal Work Section)



Fig. 8-2: View from the Wooden Dry Dock (Shipbuilding/Repair Dock and Metal Work
Section)

Point 2. View from the Training Ground Section

Present



Completion Image



Fig. 8-3: View from the Training Ground Section

Point 3. View from the Small Boat Dock Section

Present



Completion Image



Fig. 8-4: View from the Small Boat Dock Section

Point 4. View from the Small Boat Dock Section

Present



Completion Image



Fig. 8-5: View from the Small Boat Dock Section

- (14) Based on the results of surveys on the environmental colors of the bridge site and its periphery, the color of the bridge was narrowed down based on three main characteristics of color: 1. hue (name of color); 2. value (lightness); and, 3. chroma (intensity). Studies were made utilizing an on-site check with painted plates and photomontage, and the color 5GY represented by Munsell color system code and considered to fit in well with a green zone (which has colors within the GY series) was found to match best. Thus, the bridge color matching up best with the characteristics of the location's environment was chosen.
- (15) According to guidelines set forth below in the “Conservation Management Plan, Mietsu Naval Dock” (page 21), the heritage administrator (Saga City) has been adequately discussing matters with the road administrator (Ministry of Land, Infrastructure, Transport and Tourism) to avoid any potential impact of the bridge on the Component Part.

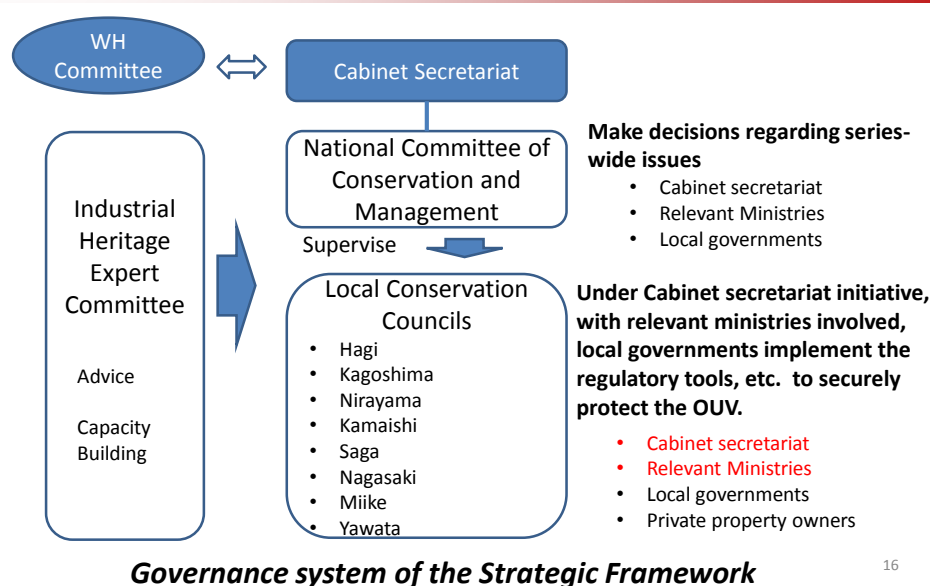
The northern area includes the river, agricultural land and embankment. And the Ariake Sea Coastal Road (planned construction), which will run through the northern area of the Component Part, is designated as the boundary. The road is the appropriate boundary to clearly show the change of views. Since the Ariake Sea Coastal Road will become a structure adjacent to the Buffer Zone, the design and colour of the bridge across the river should be carefully considered not to affect the value of the Component Part in discussion with the road administrator (Ministry of Land, Infrastructure, Transport and Tourism). (“Conservation Management Plan, Mietsu Naval Dock”, pp. 20-21)

5 Management Process

- (1) As mentioned above, thorough and in-depth discussions and studies on the impact of the Ariake Sea Coastal Road Hayatsue Bridge of which construction is planned in the vicinity of Mietsu Naval Dock and the measures to alleviate any impact have been made for many years among the road administrator (Ministry of Land, Infrastructure, Transport and Tourism), the heritage administrator (Saga City), experts, and others.
- (2) A local conservation council has been set up in each district under the managing framework of the World Heritage property, “Sites of Japan’s Meiji Industrial Revolution,” where information and opinions shall be communicated and decisions shall be made concerning conservation management of the heritage and related matters. It is certain from the scheme illustrated below that the “Saga Conservation Council” (one of the “Local Conservation Councils” indicated in the Fig.9) is a body capable of performing an adequate role in the process of implementing this road-bridge construction project.

Governance

- Governance system and Expertise



16

Fig. 9: Governance System of the Strategic Framework ²⁾

2) Additional Information of the Nomination Document submitted to the World Heritage Centre in November 2014)

- (3) Both the Fukuoka and the Saga National Highway Offices of the Kyushu Regional Development Bureau of Ministry of Land, Infrastructure, Transport and Tourism collaboratively participate in the Saga Conservation Council as the road administrator, appoint

themselves to maintain sufficient information-sharing and discussions with the heritage administrator for future construction work. In addition, the Council is arranged to obtain advice from the “Industrial Heritage Expert Committee (including Working Properties)” organized by the Government of Japan (the Cabinet Secretariat) when needed.

- (4) The “Saga Conservation Council” has made the assessment described below in past meetings, and the contents of this Heritage Impact Assessment report have been discussed during the November 16, 2015 meeting as well.

With regard to the construction of the Ariake Sea Coastal Road planned at a site outside of and adjacent to the Buffer Zone of the Mietsu Naval Dock, the road administrator, Ministry of Land, Infrastructure, Transport and Tourism shall proceed with road design with the bridge structure in which the landscape is also taken into account. At present, no factor that potentially impacts on the value of the Component Part has been found, thus the construction of the bridge does not constitute a major environmental threat.

6 Conclusion

- (1) The construction project of the Ariake Sea Coastal Road Hayatsue Bridge will not have any adverse impact on the Outstanding Universal Value, the integrity or authenticity of the World Heritage property, the “Sites of Japan’s Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining.”
- (2) The effort in design work to minimize the impact on the view from the Mietsu Naval Dock to the proposed bridge has been made through the expert studies and the discussions between the road administrator (Ministry of Land, Infrastructure, Transport and Tourism) and the heritage administrator (Saga City). The framework for continuous collaboration has been established as well.
- (3) As is stated above, the risk posed to the World Heritage Component Part by the project has been assessed at zero.

7 Cited References

Ariake Coastal Road Chikugo/Hayatsue River Bridges design study committee. (October 2014).
Report of the Ariake Coastal Road Chikugo/Hayatsue River Bridges design study committee
Saga Prefecture, and Fukuoka Prefecture. (November 2007). *Environmental Impact Assessment Report*

Attachment

The elements that hold the Outstanding Universal Value (attributes) of the “Sites of Japan’s Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining”

| Area 1 Hagi | Attributes |
|---|--|
| 1-1 Hagi Reverberatory Furnace | Twin chimneystacks and archaeological remains. |
| 1-2 Ebisugahana Shipyard | Breakwater-quay, and slipway and workshop area containing archaeology. |
| 1-3 Ohitayama Tataru Iron Works | Archaeological site of a traditional ironworks. |
| 1-4 Hagi Castle Town | Original layout of feudal planned Castle Town, containing hierarchical zones of deconstructed castle, moats, streets and differentiated residential districts. |
| 1-5 Shokasonjuku Academy | Small wooden academy buildings. |
| Area 2 Kagoshima | Attributes |
| 2-1 Shuseikan | Garden setting containing a technological ensemble: 2.1.1 Reverberatory Furnace – Lower masonry section. 2.1.2 Former Machinery Factory – Stone-built hybrid Western-Japanese style turnery building. 2.1.3 Foreign Engineers' Residence – British colonial style house. 2.1.4 Site of Spinning Mill – Buried archaeological evidence. 2.1.5 Water supply – Stone-lined leats. |
| 2-2 Terayama Charcoal Kiln | Traditional Japanese horseshoe-shaped masonry charcoal kiln. |
| 2-3 Sekiyoshi Sluice Gate of Yoshino Leat | Sekiyoshi Sluice Gate of Yoshino Leat – river catchment point and inflow end of the leat. |
| Area 3 Nirayama | Attributes |
| 3-1 Nirayama Reverberatory Furnaces | Two twin masonry and brick furnaces together with river and leat off take point, plus archaeological potential. |
| Area 4 Kamaishi | Attributes |
| 4-1 Hashino Iron Mining and Smelting Site | 4.1.1 Blast Furnaces – masonry lower sections of three furnaces. 4.1.2 River and Leat – natural watercourse and stone lined leats 4.1.3 Office – stone-built foundation. 4.1.4 Roasting Pits – archaeological, excavated. 4.1.5 Shrine – stone monuments in forest setting (wooden gate is ‘modern’). 4.1.6 Stone Quarry –cleaved stone outcrops. 4.1.7 Transport Network – ore pack-road and associated features. 4.1.8 Mining Site – opencast mine workings. 4.1.9 Forest – species restoration areas planned. |
| Area 5 Saga | Attributes |
| 5-1 Mietsu Naval Dock | Archaeological site incorporating buried, preserved, wooden dry dock, area of naval training ground and the site (currently used by fishing boats) of a traditional boat dock. |
| Area 6 Nagasaki | Attributes |
| 6-1 Kosuge Slip Dock | Intact masonry-faced quays, wharfs and slip dock elements including rails and hauling engine house (brick and timber built) containing original winch, steam engine and boiler. |
| 6-2 Mitsubishi No.3 Dry Dock | Landform dock structure, underground chamber with pumps and electric motors, still in operation. |
| 6-3 Mitsubishi Giant Cantilever Crane | Steel crane, still in operation. |

| | |
|-------------------------------------|--|
| 6-4 Mitsubishi Former Pattern Shop | Brick pattern shop. |
| 6-5 Senshokaku Guest House | Guest house, original contents and garden. |
| 6-6 Takashima Coal Mine | Shaft and archaeological foundations. |
| 6-7 Hashima Coal Mine | Island including artificial land apron, revetments and seawall, mineshafts, adits/levels and fragmentary primary mining facilities. |
| 6-8 Glover House and Office | House and garden. |
| Area 7 Miike | Attributes |
| 7-1 Miike Coal Mine and Miike Port | 7.1.1 Miyanojima Pit –Shaft, steel headframe, brick-built winding house (winding equipment in situ), buried archaeology of the Davey pump engine house and open, stone-lined, discharge channel. |
| | 7.1.2 Manda Pit –Two shafts, steel headframe, brick winding house (winding equipment in situ), brick fan houses, workshop and ancillary buildings and structures, standing and archaeological. |
| | 7.1.3 Coal Railway – Track bed, embankments and bridges. |
| | 7.1.4 Miike Port –Port design (‘hummingbird’ shape, enclosing channel, harbour and inner basin), breakwaters-groins, quays and lock-sluice ensemble (including engine houses and in situ equipment), customs house and railway track bed connection. Port still operational. |
| 7-2 Misumi West Port | Extensive stone quay frontage to reclaimed port land with drainage channels and bridges, roads, residential and commercial buildings, leading back to excavated mountainside. |
| Area 8 Yawata | Attributes |
| 8-1 The Imperial Steel Works, Japan | 8.1.1 First Head Office – Brick building and setting. 8.1.2 Repair Shop – steel framed building, including cranes, still in use. 8.1.3 Former Forge Shop –steel framed building. |
| 8-2 Onga River Pumping Station | Onga River Pumping Station – brick pumping station still in use. |

Progress report on the visitor facility (guidance facility) being constructed in the adjacent area of the Nirayama Reverberatory Furnaces

Outline

This is a progress report drawn up by the Government of Japan and describes the state of progress in construction of the visitor facility, or the guidance facility (hereinafter referred to as the “Guidance Facility”), which is under construction in the Buffer Zone adjacent to the Nirayama Reverberatory Furnaces (ID 3-1), one Component Part of the World Heritage property, “Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining.”

1. Introduction

The report describes the outline of the construction project of the Guidance Facility as a facility for providing information to visitors. It also represents the positioning of the Nirayama Reverberatory Furnaces in the Outstanding Universal Value of the “Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining.” Moreover, the report evaluates how the Guidance Facility construction project will impact the Outstanding Universal Value and clarifies the management process, and then come to a conclusion.

2. Outline of the Guidance Facility construction

- The Guidance Facility construction project is being carried out with the objective of constructing a main facility capable of more appropriately sending out information, including the positioning of the Nirayama Reverberatory Furnaces in the Outstanding Universal Value of the “Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining” as well as the findings of research studies made thus far.
- The building site for the Guidance Facility is located on the land adjacent to the southeast side of the Component Part, within the Buffer Zone.
- The building site had long been private land with two privately-owned buildings built on the site.
- To ensure that the Nirayama Reverberatory Furnaces will continue to be properly conserved in the future, the Izunokuni City government decided to take possession of the building site, held consultations with the landowner, and completed conversion of the site from private to public ownership in August 2014.
- Out of the two privately-owned buildings that had existed formerly, one was a private sales facility (partially three-story, steel-frame building). This building tended to significantly impair the front view of the Nirayama Reverberatory Furnaces due to aging of the building itself which was constructed in 1989 and deterioration of the environment.
- The other was a two-story, steel-frame building that was rented and utilised by the Izunokuni City government as the property's administration office engaged in such activities as the acceptance of visitors and the displaying exhibits. However, the building of approximately 70 m² in area used for service was small and inadequate to serve as a main facility capable of smoothly accepting visitors to the Component Part of the World Heritage property and properly providing information.
- In light of the situation described above, having examined possible utilization policies as the landowner, the Izunokuni City government decided to demolish both private buildings to launch the construction project of the new Guidance Facility.
- Outline of the new Guidance Facility is as follows:
 - One-story, steel-frame building
 - Building area 608.51 m², Total floor area 510.34 m²

- Height 7.3m, Height of the building's eaves 4.8m
- Museum utilities (exhibition room, multipurpose rooms, an office, restrooms)
- Costs of land acquisition and property compensation: 404,958 (thousand yen)
- Construction work cost (including production cost of exhibition): 475,200 (thousand yen)
- Demolition of the existing buildings completed: September 2015
- Construction started: September 2015 (under construction)
- Operation is scheduled to start: December 2016

3. Outstanding Universal Value as the World Heritage Sites and the Positioning of the Nirayama Reverberatory Furnaces

(1) The Outstanding Universal Value of the “Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining” is stated as follows. (Excerpt from the Statement of Outstanding Universal Value in the Decision adopted by the World Heritage Committee at its 39th session)

A series of industrial heritage sites, focused mainly on the Kyushu-Yamaguchi region of southwest of Japan, represent the first successful transfer of industrialization from the West to a non-Western nation. The rapid industrialisation that Japan achieved from the middle of the 19th century to the early 20th century was founded on iron and steel, shipbuilding and coal mining, particularly to meet defence needs. The sites in the series reflect the three phases of this rapid industrialization achieved over a short space of just over fifty years between 1850s and 1910.

The first phase in the pre-Meiji Bakumatsu isolation period, at the end of Shogun era in the 1850s and early 1860s, was a period of experimentation in iron making and shipbuilding. Prompted by the need to improve the defences of the nation and particularly its sea-going defences in response to foreign threats, industrialisation was developed by local clans through second hand knowledge, based mostly on Western textbooks, and copying Western examples, combined with traditional craft skills. Ultimately most were unsuccessful. Nevertheless this approach marked a substantial move from the isolationism of the Edo period, and in part prompted the Meiji Restoration.

The second phase from the 1860s accelerated by the new Meiji Era, involved the importation of Western technology and the expertise to operate it; while the third and final phase in the late Meiji period (between 1890 to 1910), was full-blown local industrialization achieved with newly-acquired Japanese expertise and through the active adaptation of Western technology to best suit Japanese needs and social traditions, on Japan's own terms. Western technology was adapted to local needs and local materials and organised by local engineers and supervisors.

Out of the three phases reflecting the Outstanding Universal Value of the “Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining”, the Nirayama Reverberatory Furnaces are one Component Part belonging to the first phase (a period of experimentation in iron making and shipbuilding in the pre-Meiji Bakumatsu isolation period, at the end of Shogun era in the 1850's and early 1860's) and represent the iron and steel making elements.

The elements (attributes) of the Nirayama Reverberatory Furnaces consist of three sections, (1) the reverberatory furnaces themselves, (2) the underground archaeological remains, and (3) the river section, which all contribute to the Outstanding Universal Value of the “Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining.”

4. Evaluation of the Overall Impact of the Guidance Facility Construction on the Component Part

- The construction of the Guidance Facility is underway outside of the Component Part area. Therefore, there

will be no physical effect on the three sections, (1) the reverberatory furnaces themselves, (2) the underground archaeological remains, and (3) the river section, which are elements (attributes) contributing to the Outstanding Universal Value of the “Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining.”

- The Guidance Facility being constructed meets the standards of size, height, colors of outer walls, etc. set forth in the Izunokuni City Landscape Ordinance.
- When drawing up the plan for the Guidance Facility, utmost consideration was given to its impact on the Component Part's landscape as follows. As a consequence, the surrounding environment including the front view of the Nirayama Reverberatory Furnaces will be significantly improved compared with the environment before the construction of the Guidance Facility.
 - Since the front view of the Nirayama Reverberatory Furnaces was significantly impaired by the private sales facility and the administration office that previously existed, Guidance Facility is being constructed in the westernmost area of the building site and in front of the Guidance Facility a green lawned area would be established for landscaping.
 - While the height of the sales facility previously existed was 12.7m, that of the Guidance Facility under construction is 7.3m, thereby leading to a considerable reduction in both height and volume of the building.
 - The outer walls of the conventional sales facility were mostly white with high brightness and had a lot of writing, signs, and so on representing the store name on their surfaces. On the other hand, with a view to harmonizing with the surrounding environment, the outer walls of the Guidance Facility being built are dark brown using corten steel without any writing or signs.
- The Guidance Facility is situated on the path visitors follow when moving from the parking lot to the Component Part. Therefore, exhibitions in the Guidance Facility should enable visitors to receive and fully understand information about the Nirayama Reverberatory Furnaces contributing to the Outstanding Universal Value of the World Heritage property before touring it.
 - As the Guidance Facility is characterized by its function of guiding visitors to the Reverberatory Furnaces and offering information and displaying exhibits to visitors beforehand, the basic policies for the exhibition are to arouse the interest of the visitors, to convey a viewpoint visitors are supposed to take when touring, and to deepen their understanding of the Component Part.
 - To reflect the latest findings of research studies in the exhibits, exhibition methods that can be updated will be employed.
 - Using approaches including theater direction positioned as a “three-dimensional theater of the reverberatory furnaces”, the exhibition is aimed at deepening the understanding of visitors visually.
- Decisions on the Guidance Facility, the contents of its exhibitions, etc. mentioned above were made under the guidance and advice of the Agency for Cultural Affairs of the Government of Japan during the decision-making process, reflecting discussion with experts and advice from the viewpoint of those experts who are members of the “Izunokuni City Historic Site, Etc. Maintenance Investigation Committee” and its relevant subcommittees, namely the “Nirayama Reverberatory Furnaces Maintenance Subcommittee” and the “Nirayama Reverberatory Furnaces World Heritage Subcommittee”.

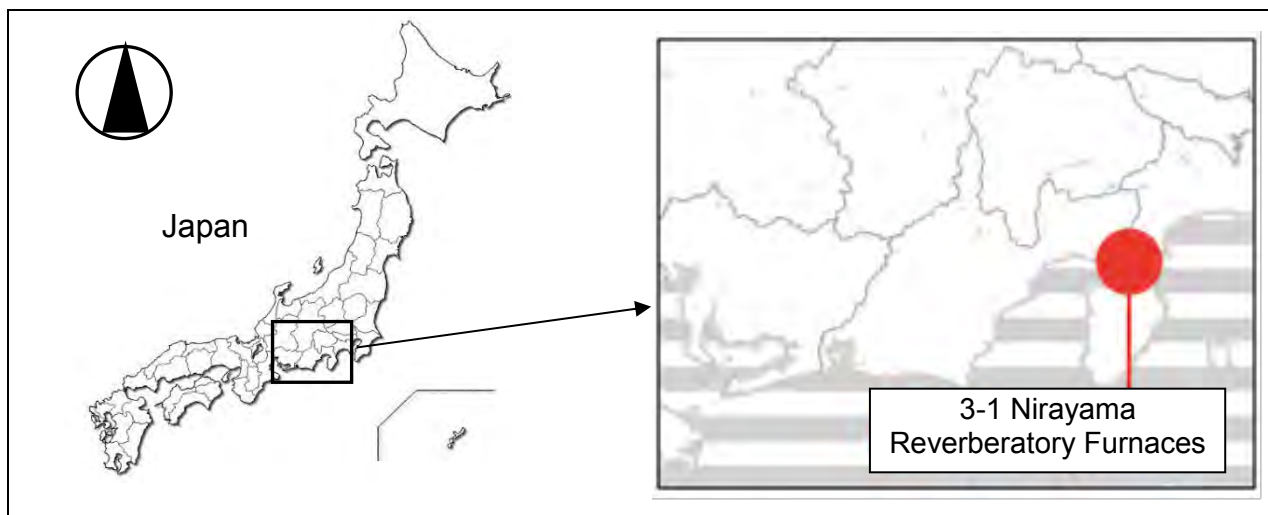
5. Management process

- As mentioned above, the Guidance Facility construction project is being carried out by Izunokuni City under the guidance and advice of the Agency for Cultural Affairs and based on full discussions such as those held at above mentioned expert committee meetings.

- At the same time, the construction project is approved by the “Nirayama Conservation Council” established under the “General Principles and Strategic Framework for Conservation Management of the ‘Sites of Japan’s Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining.’”¹ The “Nirayama Conservation Council” is an organisation to exchange information and opinions with relevant parties on any matters related to the “Conservation Management Plan, Nirayama Reverberatory Furnaces”, its implementation methods, improvement methods when an issue arises, and monitoring of the condition of the Component Part, and to render pertinent decisions.
- Thus, the Guidance Facility construction project is being carried out under proper management from the initial planning phase to the current implementation phase of the project.

6. Conclusion

- As mentioned above, the Guidance Facility construction project is of a great help in understanding the Nirayama Reverberatory Furnaces that contribute to Outstanding Universal Value of the “Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining”, and there is no problem with the evaluation of the overall impact of the Guidance Facility construction on the Component Part and the management process.
- Consequently, the Guidance Facility construction project will not have any negative impact on the Outstanding Universal Value of the “Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining.”
- Furthermore, implementing this project will greatly contribute to restriction of development in the adjacent area of the Reverberatory Furnaces as well as improvement of the landscape of the component part through efforts in taking the building site into public ownership and demolishing the aging buildings, and so on.



¹ Described in the “General Principles and Strategic Framework for Conservation Management of the ‘Sites of Japan’s Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining ’”; Conservation Management Plan (CMP) attached to the nomination document

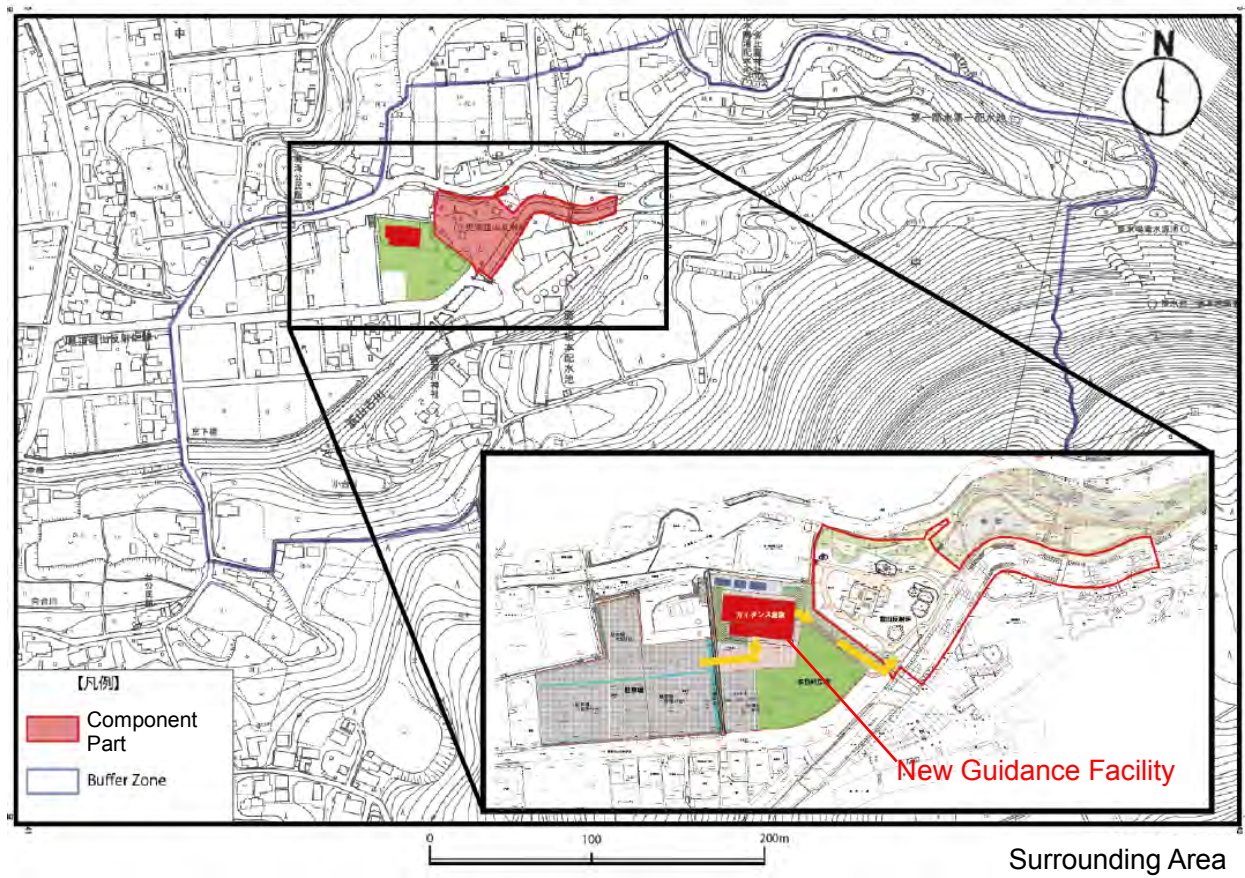


Figure 1: Location

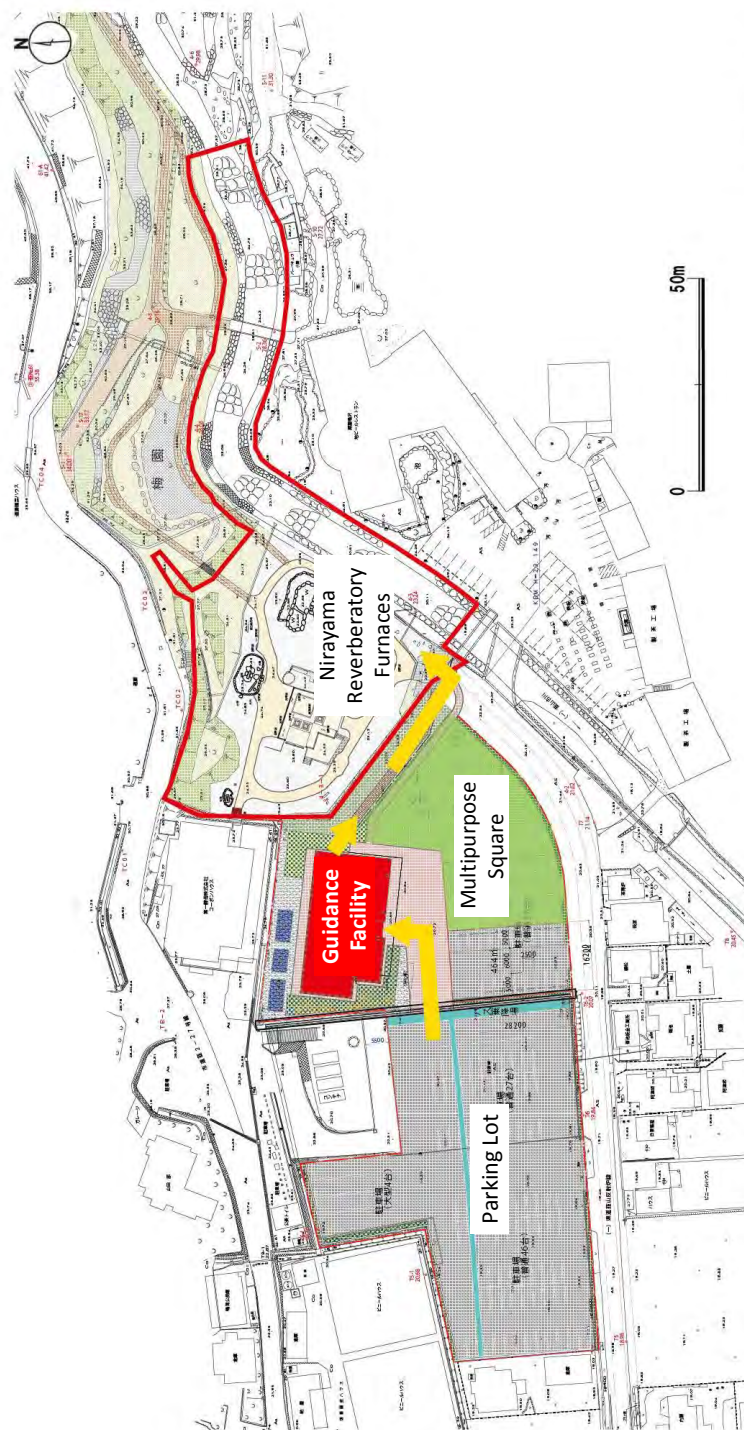
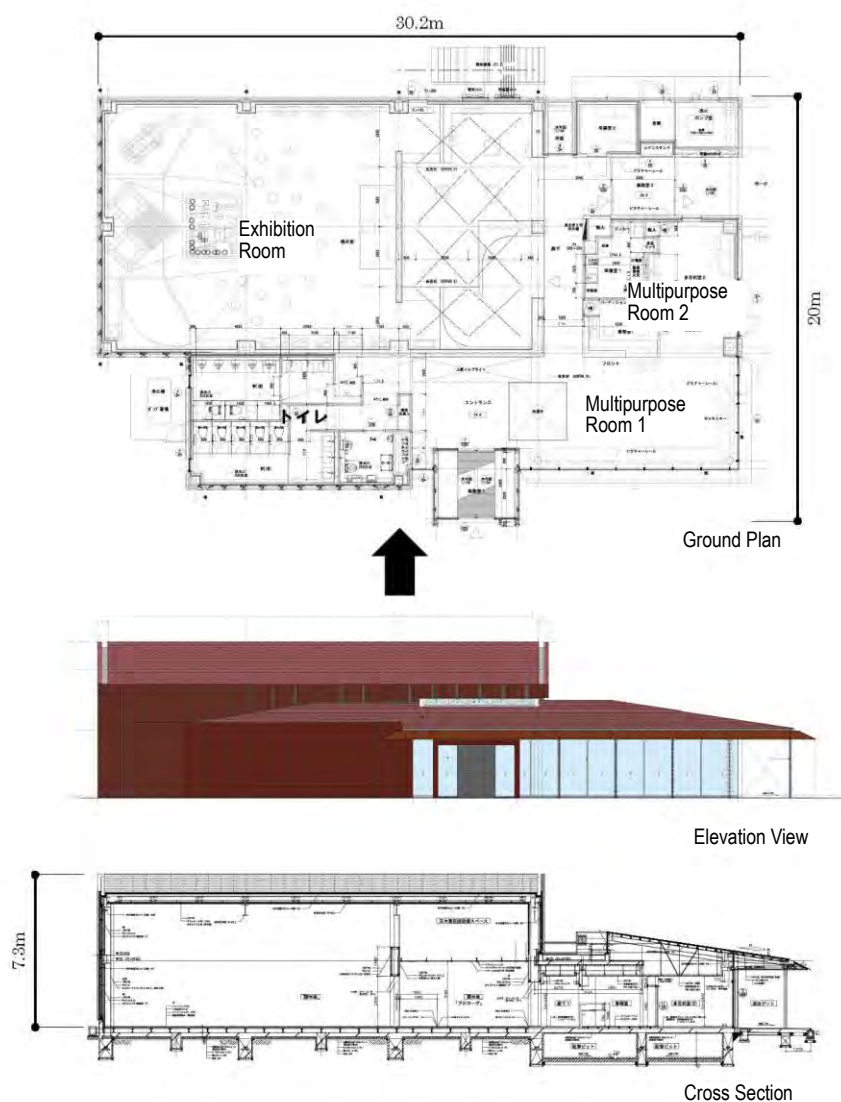


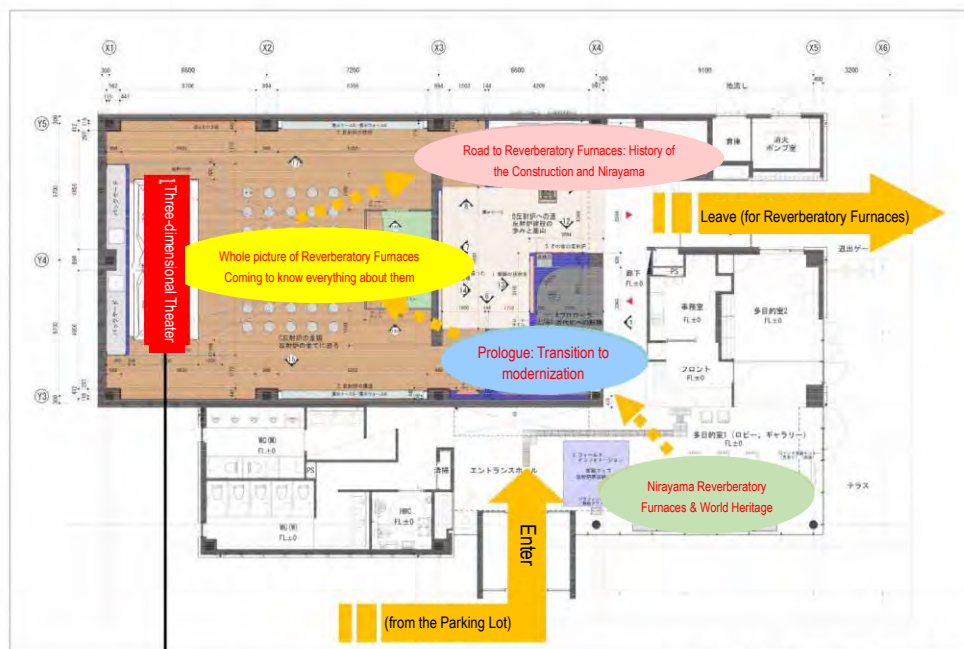
Figure 2: Layout of the Facilities in the Adjacent Area of the Component Part



【Outline of the Guidance Facility】

- One-story, steel-frame building
- Building area 608.51m², Total floor area 510.34 m²
- Height 7.3m, Height of the building's eaves 4.8m
- Museum utilities (exhibition room, multipurpose rooms, an office, toilets)
- Construction started: September 2015 (under construction)
- Operation is scheduled to start: December 2016

Figure 3: Plan, Elevation and Section of the Guidance Facility



Facility's line of flow and exhibition layout

Outline of "Three-dimensional Theater of the Reverberatory Furnaces"



- **Powerful direction utilizing architectural space**
Using architectural space, the history and technologies of the Nirayama Reverberatory Furnaces are represented with dynamic and powerful image contents.
- **Direction through a "media mix" approach**
Direction through media mix putting together image contents, modeling of the Reverberatory Furnaces, and lighting in the entire space enables visitors to experience the bodily sensation of the Reverberatory Furnaces.
- **Utilization of latest CG**
The image contents are produced in consultation with a variety of experts on history and technological history. The Nirayama Reverberatory Furnaces are revived with

Figure 4: Outline of the Exhibition in the Guidance Facility



Picture taken before launching the project (in November 2014)



Perspective drawing after completing the project

Figure 5: Comparison Before and After Construction Completion

Visitor centre/facility (guidance facility) opened in December 2016 at the Nirayama Reverberatory Furnaces

Background and Outline

The World Heritage Committee brought up Recommendations a) to h) on Decision: 39 COM 8B. 14 related to the World Heritage listings for the Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining. In Recommendation h), the Committee requested the Government of Japan to submit a state of conservation report in accordance with paragraph 172 of the Operational Guidelines for the Implementation of the World Heritage Convention on four development projects¹ for buffer zones and vicinities. The Government responded by submitting the state of conservation reports on three² of the four above projects on November 30, 2015, to the UNESCO World Heritage Centre.

This information augments the Progress Report on the Visitor Facility (Guidance Facility) being Constructed Adjacent to the Nirayama Reverberatory Furnaces that was submitted about a proposal to expand and build a visitor facility (Guidance Facility) in the buffer zone of Nirayama Reverberatory Furnaces (Area 3 Nirayama, Component part 3-1), presenting the current statuses of relevant facilities completed and opened in December 2016.

1. Background of new Guidance Facility construction

- The Guidance Facility construction project is being carried out with the objective of constructing a main facility for visitors capable of more appropriately sending out information, including the Outstanding Universal Value of the “Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining,” the positioning of the Nirayama Reverberatory Furnaces in the Value, and the findings of research studies made thus far.
- The construction of Guidance Facility started on August 1, 2015, and was completed on November 30, 2016. It opened on December 11, 2016.

2. Before and after construction of Guidance Facility

- Prior to the Guidance Facility construction, a privately owned three-story sales facility and a two-story administrative office building were adjacent to the area of World Heritage component parts, significantly impairing the front view of the Nirayama Reverberatory Furnaces. To construct the Guidance Facility, however, these two buildings were demolished, with the height and capacity of the new Guidance Facility being dramatically reduced. As shown in **Photograph 1**, the surrounding environment that includes the front view of the Nirayama Reverberatory Furnaces was improved significantly after construction of the Guidance Facility, which included a new lawn space out front.
- Further, before construction of the new Guidance Facility an administrative office covering around 70 m²

¹ World Heritage Committee Decision: 39COM 8B.14 4-h) presented a development plan with four project proposals. These were (1) Shuseikan road construction, (2) Mietsu Naval Dock road construction, (3) a new anchorage facility at Miike Port, and (4) upgrading or developing visitor facilities, requesting the Government of Japan to submit a report in accordance with Paragraph 172 of the Operational Guidelines of Implementation of the World Heritage Convention.

² Projects (1), (2) and (4) mentioned in Note 1.

was used in such activities as accepting visitors and displaying exhibits. The new Guidance Facility devotes about 230 m² to exhibits and a video area out of a total floor space of 510.34 m², significantly increasing and improving information to visitors.



Before construction (November 2014)



After construction (June 2017)

Photo 1: Before and after new Guidance Facility construction

3. Interpretation (exhibits)

- The Guidance Facility distributes pamphlets at the reception desk, information including the Outstanding Universal Value of overall World Heritage sites and the positioning of the Nirayama Reverberatory Furnaces.
- Information also encompasses videos and exhibits presenting the historical background to the construction of the Nirayama Reverberatory Furnaces, the cannon manufacturing process, and conservation efforts since operations were suspended through today. The content provides a full history of component parts.
- After gaining knowledge by seeing the videos and exhibits at the Guidance Facility, visitors can tour the Nirayama Reverberatory Furnaces with local guides to learn more (**Fig. 1**).
- The memorial inscription of the Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining on the World Heritage List near the entrance of Guidance Facility contributes to visitor understanding.

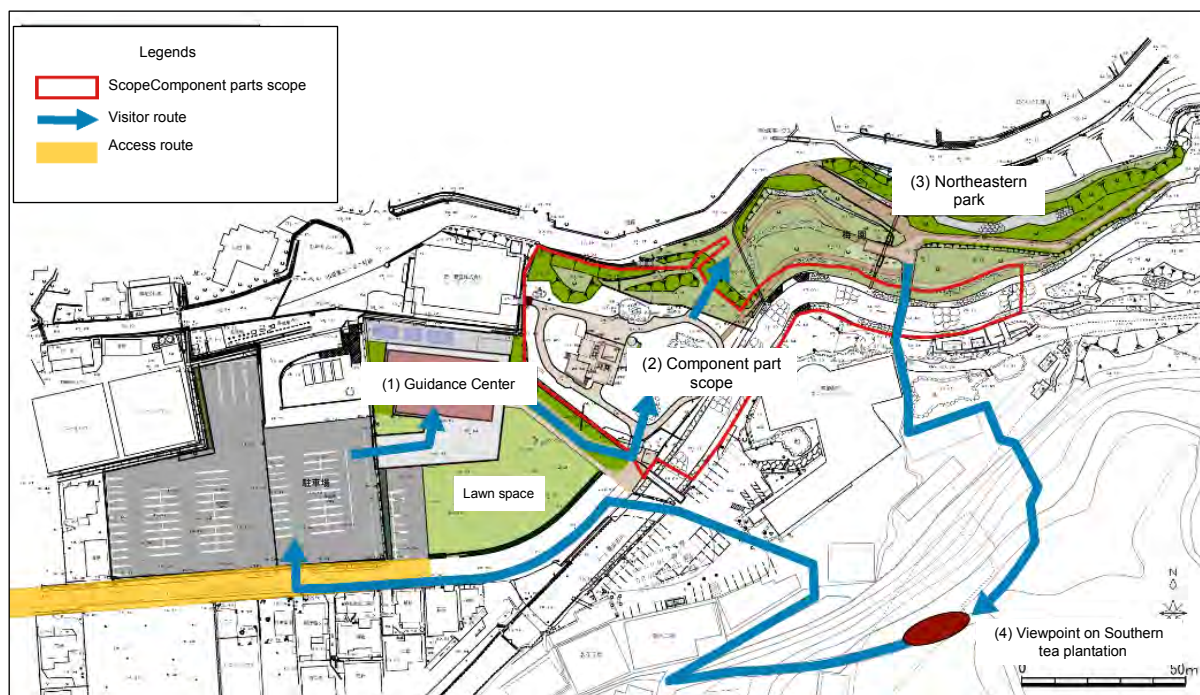


Figure 1 Visitor route



Photo 2: Exterior of Guidance Facility

Report on new Visitor Center in the buffer zone of Hagi Castle Town (Component Part 1-4, Area 1 Hagi)

The Government of Japan prepared this document on the new visitor center in the buffer zone of Hagi Castle Town (Component part 1-4) as a component part of the World Heritage property, Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining.

1. Introduction

This document first outlines the launch of the Visitor Center to provide visitors with information. It then clarifies the positioning of Area 1 Hagi and Hagi Castle Town in the Outstanding Universal Value of the Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining. It also clarifies an assessment of the impact opening of the Visitor Center on the Outstanding Universal Value and the prior consensus-building process related to this project.

2. Outline of the Visitor Center

(1) Background to opening of the Visitor Center

- The Visitor Center was opened as a prime facility for visitors to better convey the Outstanding Universal Value of the Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining, the positioning of five component parts in Area 1 Hagi in terms of the Outstanding Universal Value, their attributes, and other information.
- The Visitor Center opened on March 4, 2017, as part of Hagi Meiringakusha, a facility where tourists visiting Hagi City first encounter such information as city sightseeing spots, history and culture.
- The buildings of Hagi Meiringakusha are refurbished wooden buildings of Hagi City Meirin Elementary School, founded in 1885, whose classrooms are used as exhibitions spaces. It is also built on the area designated as a National Historic Site of Hagi Meirinkan, a school of the Hagi Clan.
- The four two-story school buildings were built in 1935. As shown in **Figure 4**, the No.1 (main) and No.2 school Buildings were restored on this occasion. As well as maintaining the initial exterior appearance of the old school, restoration included undertaking seismic reinforcement and repairing outdoor structures. The former school playground was converted into a parking area for the facility.
- As part of restorations to two old school buildings, the following facilities were set up in the main building out front. They included: A) Tourist Information Center, B) Exhibition room for Hagi Meirinkan, C) Exhibition room for Meirin Elementary School, D) Reproduction of elementary school classroom interior with furniture and fixtures, E) Information center for Hagi Geopark Concept¹. The east half of the second old school building (No. 2 Building) was refurbished as F) World Heritage Visitor Center, and the west half was turned into G) Bakumatsu Museum.

¹ **Hagi Geopark Concept:** In line with this concept, Hagi City is undertaking conservation, education, and local promotion initiatives with a view to certification as a Japanese Geopark in 2018.

The Bakumatsu Museum showcases such scientific and technological historical items as cannons and guns, as well as medical, astronomical and mechanical instruments from the end of the Edo period through the Meiji Restoration. It also serves to explain the historical background of five component parts in Area 1 Hagi of the Sites of Japan's Meiji Industrial Revolution.

- The outline of F) World Heritage Visitor Center is as follows:

| | |
|-----------------------|--|
| Structure: | Wooden two-story building |
| Building area: | 913.38 m ² (total floor area; 1,770.32 m ²) |
| Facilities: | Exhibition space and bathroom |
| Project costs: | Refurbishment costs for No. 2 Building: 731,490,000 yen (of which the costs for exhibition space of World Heritage Visitor Center were 135,570,000 yen) |
| Refurbishment period: | FY2015 to FY2016 |

- Hagi City is looking into repairing the third and fourth old school buildings (**Figure 4**).

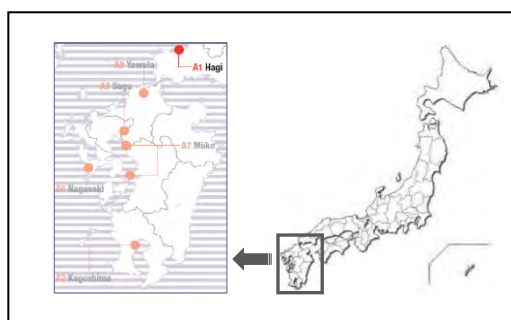


Figure 1: Location of Area 1 Hagi of Sites of Japan's Meiji Industrial Revolution



Figure 2: Front of refurbished World Heritage Visitor Center at Hagi Meiringakusha

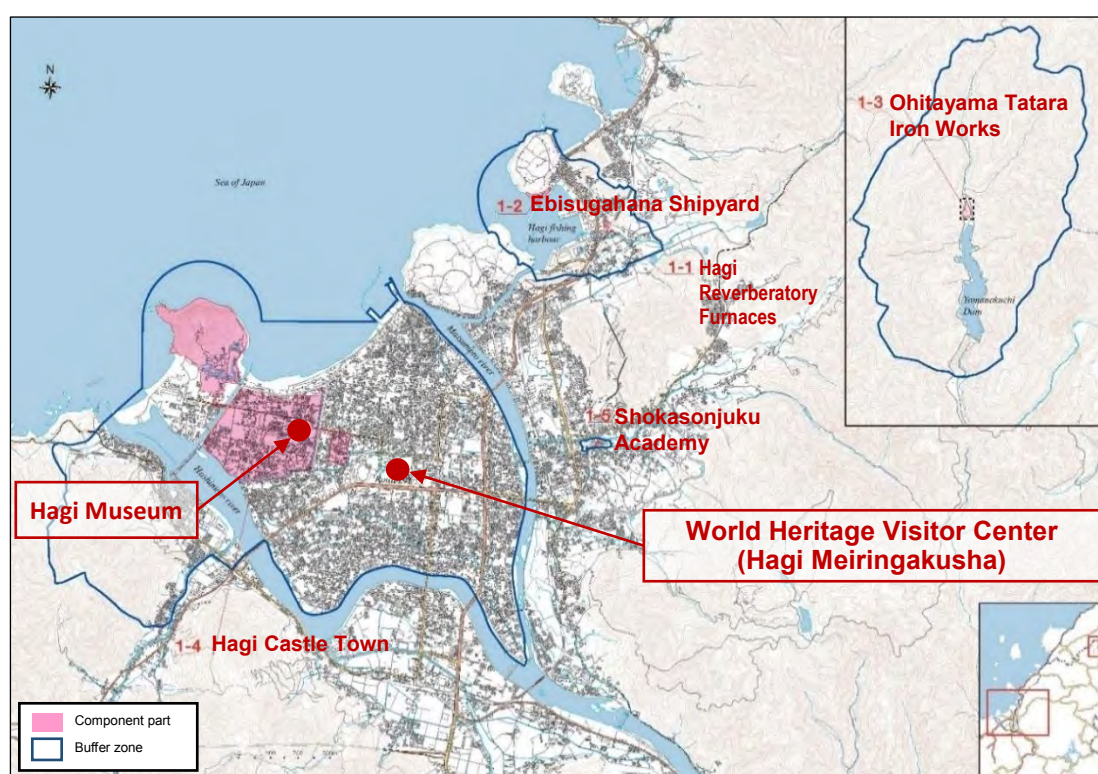


Figure 3 Location of component parts of Area 1 Hagi and the World Heritage Visitor Center



Figure 4 Four old wooden school buildings and World Heritage Visitor Center

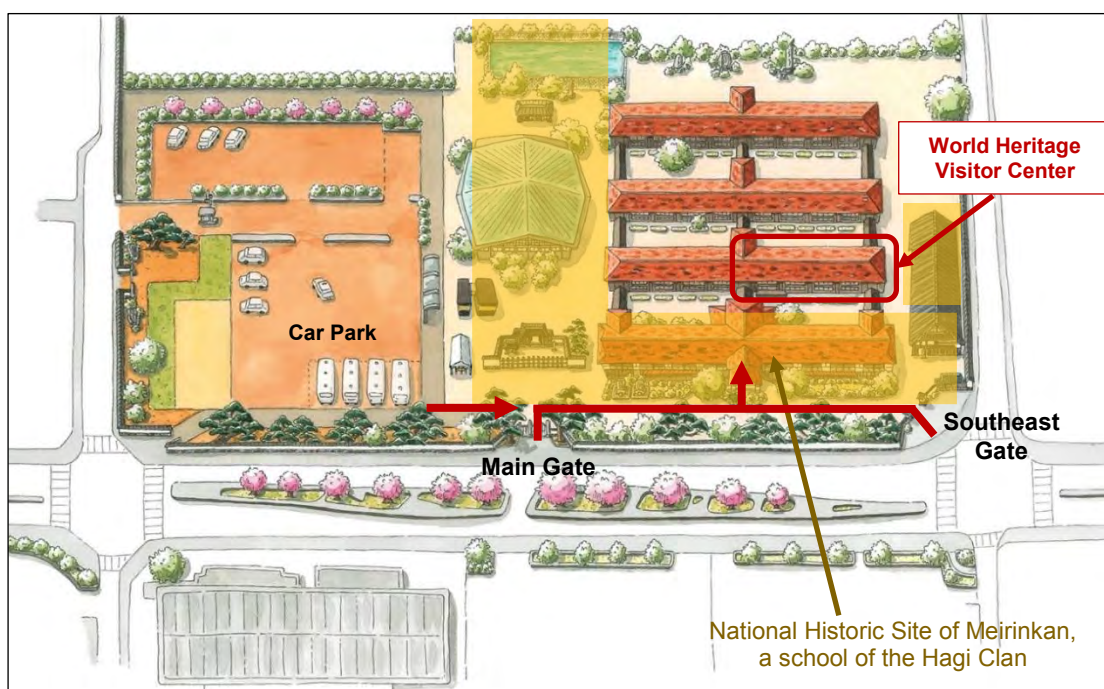


Figure 5 Site and building map of Hagi Meiringakusha, where World Heritage Visitor Center is located

- Overall route for Hagi Meiringakusha

Visitors to Hagi Meiringakusha pass through the main building (Building No.1) entrance from the main gate or the southeast gate and obtain tourist information at the A) Tourist Information Center. They will then tour B) Exhibition room for Hagi Meirinkan, C) Exhibition room for Meirin Elementary School, D) Reproduction of elementary school classroom interior with furniture and

fixtures, and E) Information center for Hagi Geopark Concept. They will go to Building No. 2 (which charges an entry fee) to visit F) the World Heritage Visitor Center and G) the Bakumatsu Museum.

1. Route for visitors coming by car

Park in car park ⇒ Walk ⇒ Main Building ⇒ Building No. 2

2. Route for visitors coming by foot

Enter from the Southeast Gate or the main gate ⇒ Main Building ⇒ Building No. 2

(2) Before and after opening

The following photographs show before and after the World Heritage Visitor Center opened. To open that facility, the old school building was seismically reinforced, the building interior and exterior was refurbished, and exhibition fixtures were installed in each classroom.







| | Before | After |
|--------------------|---|--|
| Exterior |  |  |
| Classroom interior |  |  |
| Corridor interior |  |  |

Figure 6 Old Meirin Elementary School exterior and interior

(3) Interpretation (exhibits)

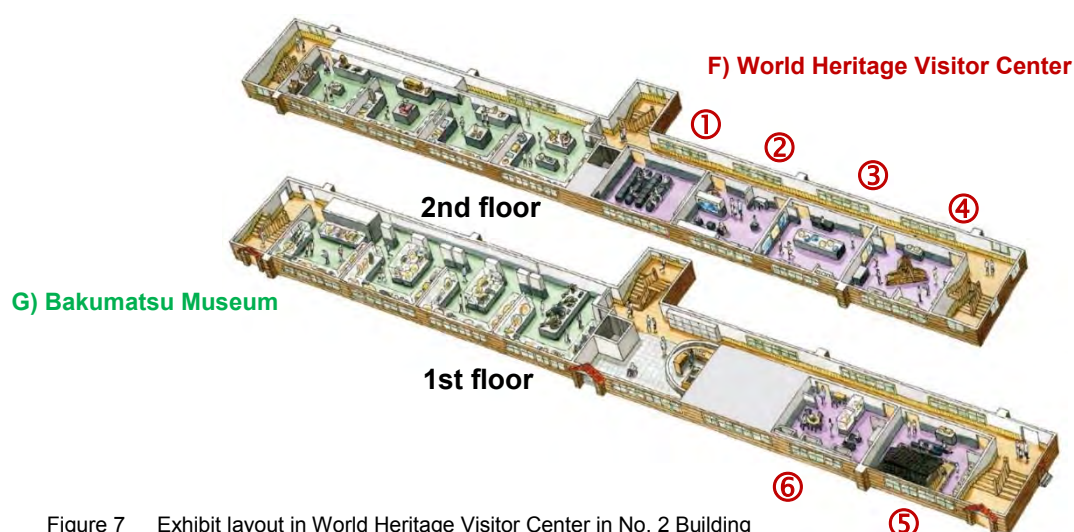
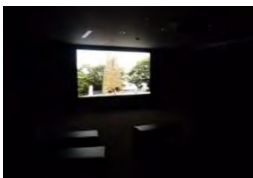





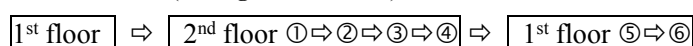


Figure 7 Exhibit layout in World Heritage Visitor Center in No. 2 Building

➤ Outlines of exhibits (see Figure 7 numbers)

| | |
|--|---|
| <p>① Hagi as the origin of the Meiji Restoration and the history of modernization of Japan</p> <p>Video presentation of how Hagi contributed to the Japan's modernization and industrial revolution.</p> |  |
| <p>② World Heritage Sites of Japan's Meiji Industrial Revolution</p> <p>Introducing the Outstanding Universal Value of the Sites of Japan's Meiji Industrial Revolution and the positioning of the 23 Component Parts and Area 1 Hagi.</p> |  |
| <p>③ Mid 19th century industrialization around the world and in Japan: A platform for experimentations</p> <p>Explaining Japan's situation at the time and how Hagi Castle Town was a place of experimentation early in the nation's industrialization.</p> |  |
| <p>④ Iron-making and shipbuilding - the challenges to modernization</p> <p>Explaining the Hagi Reverberatory Furnaces, Ebisugahana Shipyard, and Ohitayama Tataru Iron Works as symbolizing the independent modernization experiments of the Hagi (Choshu) Clan at the end of the Edo period.</p> |  |
| <p>⑤ Shoin Yoshida, a pioneer in engineering education</p> <p>Presenting Shoin Yoshida as a pioneering advocate of the importance of educating about engineering and head of the Shokasonjuku Academy in Hagi.</p> |  |
| <p>⑥ Meiji Industrialization and the Choshu Five</p> <p>Introducing the Choshu Five who contributed significantly to the industrialization of Japan.</p> |  |

➤ **Visitor route** (see **Figure 7** numbers)



➤ **Guides**

Locating several guides on each floor to explain exhibits to visitors.

3. The Outstanding Universal Value of the World Heritage property and positioning of Area 1 Hagi and Hagi Castle Town therein

The Outstanding Universal Value of the “Sites of Japan’s Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining” is stated as follows: (Excerpts from the Statement of Outstanding Universal Value in the Decision: 39COM 8B.14 adopted by the World Heritage Committee at its 39th session in 2015):

"A series of industrial heritage sites, focused mainly on the Kyushu-Yamaguchi region of south-west of Japan, represent the first successful transfer of industrialization from the West to a non-Western nation. The rapid industrialization that Japan achieved from the middle of the 19th century to the early 20th century was founded on iron and steel, shipbuilding and coal mining, particularly to meet defence needs. The sites in the series reflect the three phases of this rapid industrialisation achieved over a short space of just over fifty years between 1850s and 1910.

The first phase in the pre-Meiji Bakumatsu period, at the end of Shogun era in the 1850s and early 1860s, was a period of experimentation in iron making and shipbuilding. Prompted by the need to improve the defences of the nation and particularly its sea-going defences in response to foreign threats, industrialisation was developed by local clans through second hand knowledge, based mostly on Western textbooks, and copying Western examples, combined with traditional craft skills. Ultimately most were unsuccessful. Nevertheless this approach marked a substantial move from the isolationism of the Edo period, and in part prompted the Meiji Restoration.

The second phase from the 1860s accelerated by the new Meiji Era, involved the importation of Western technology and the expertise to operate it; while the third and final phase in the late Meiji period (between 1890 to 1910), was full-blown local industrialisation achieved with newly-acquired Japanese expertise and through the active adaptation of Western technology to best suit Japanese needs and social traditions, on Japan’s own terms. Western technology was adapted to local needs and local materials and organised by local engineers and supervisors."

Of the three phases reflecting the Outstanding Universal Value of the “Sites of Japan’s Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining, Area 1 Hagi has five component parts belonging to the first phase (experimentation in steel making and shipbuilding in the pre-Meiji Bakumatsu period from the 1850s to early 1860s). The World Heritage Visitor Center opened in the buffer zone of Hagi Castle Town as one of the component parts of the Area.

4. Impact of opening of World Heritage Visitor Center on Hagi Castle Town

- Opening the World Heritage Visitor Center made it possible to maintain two wooden school buildings built in 1935 as their exteriors were, at the center of the buffer zone of Hagi Castle Town. This enabled conservation of the historical landscape and the control of local development over the long term.

- The exterior of World Heritage Visitor Center is in keeping with that of the Meirin Elementary School wooden building. Restoration reversed much of the exterior dilapidation of the buildings with age.
- The location of World Heritage Visitor Center is on the National Historic Site of Hagi Meirinkan, a school of the Hagi Clan (**Figure 5**). The wooden school building was restored for the center, eliminating the need to construct a concrete structure, so underground archaeological remains can be preserved.
- For World Heritage Visitor Center exhibits, expert supervision by historical curators of the Hagi Museum (**Figure 3**) under the jurisdiction of Hagi City was augmented with instructions and guidance from the Cabinet Secretariat of the Government of Japan as needed.
- Hagi City set up an exploratory committee of 15 citizens to formulate a policy on using the old wooden school buildings as a tourist site and providing exhibition areas for historical and cultural artifacts. Restoration and refurbishment to open the World Heritage Visitor Center was in keeping with a policy determined through such a civic consensus.

5. Process for building a prior consensus relating to this project

- As mentioned in the above, the opening of World Heritage Visitor Center was in keeping with a civic policy decision, and specific exhibits were based on instructions and guidance from the Cabinet Secretariat and expert supervision.
- At the same time, installation was approved by the Hagi Conservation Council in line with the General Principles and Strategic Framework for the Conservation and Management of Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining. The Hagi Conservation Council is a decision-making institution that exchanges information and views with relevant stakeholders on such matters as the Hagi Area Conservation Management Plan for five component parts, formulating implementation methods and solutions if there are any issues, and monitoring the state of conservation of each component part.
- The opening of World Heritage Visitor Center in Hagi City was thus based on appropriate consensus building from the initial stage in determining policy through implementation of the project.

6. Conclusion

- As explained, the World Heritage Visitor Center opening project contributes significantly to understanding the Outstanding Universal Value of the Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining as a whole, as well as Area 1 Hagi and the five component parts included. The Center has presented no issues in terms of any adverse impact on cultural properties or the consensus building process.
- The World Heritage Visitor Center opening project thus poses no threat to the Outstanding Universal Value of the World Heritage Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining.
- Further, the project has contributed greatly to controlling development in the buffer zone and to conserving and improving the landscape.