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Technical Proposal for Revitalising the Bamiyan Eastern Buddha Sep. 28, 2017

The international conference entitled “The Future of the Bamiyan Buddha Statues” (Organized by Islamic Republic of Afghanistan, UNESCO, and Tokyo University of the Arts) held on 27-29 September, 2017. At "Session 6: Technical Proposal Presentations for Revitalising the Eastern Buddha Statue,” we published Japan representative plan of the Bamiyan's Eastern Buddha Statue which was bombarded in 2001 with Tokyo National University of the Arts. On the plateau 1 km away from the Great Eastern Buddha, we planned the monument which reduced the size of the Great Buddha to one-third of the size, gathering plazas, museums and made technical suggestions. This presentation was also featured in the mass media. In this paper, the contents of the proposal will be reported.

During the international conference: Prof. Shigeyuki OKAZAKI and Prof. Kosaku MAEDA explaining Japan representative plan

Frontal view of the monument from the bottom of the Bamiyan Valley

Frontal view of the monument

The entrance of the staircase that leads to the museum and the top of the plateau is on the left side of the monument

The Location of the Reproduction

The two empty niches of the giant Buddha statues are carved into the Great Cliff soaring over 100 m. The statues, destroyed by the Taliban in 2001, were the parts of the numerous caves of Buddhist monasteries, temples and sanctuaries tucked away in these cliffs. These sites should be well protected and carefully preserved as cultural heritage for mankind. We propose to build 1/3 scale reproduction of Eastern Buddha and the museum in another place without reconstructing the Bamiyan Buddha statues in its original site. Although there are three candidate sites, in this paper we introduce site ① for our design proposal.

Three possible sites for the monument and the museum proposal

The Bamiyan Valley running across about 1 km in width lies at the foot of the Great Cliffs. On the opposite side of the valley, 40m to 50m high plateaus with about 45° of a scarp are located. These plateaus are planned to be the designated area for promoting and supporting artistic and cultural purposes.

We plan to reconstruct the Eastern Buddha and its niche, originally situated at the Great Cliff, at the tip of one of these plateaus of the other side of the river. This new site would be a part of the museum which will conserve and display the remains of the destroyed Buddha and other significant artifacts. Japan's previous proposal "Bamiyan Museum & Culture Center for People" was presented at the 12th Bamiyan Expert Working Group Meeting in Orvieto, Italy (10-11 December 2013). The zone called as Cave Garden is around 10 m lower than the zone where the museum complex is located. It is a flatland created by excavating original topography around 10m.

Many Buddhist caves will be reproduced in the Cave Garden. The structure of the caves will be made of reinforced concrete (RC) with monasteries and temples built inside. Aside from the entrance open space, the garden will be piled with earth to have more natural and gentle feeling of landscape.

The new museum proposal that is explained in this paper will also be covered and piled with the same type of the earth except for the exterior wall of the Eastern Buddha Niche. The entire embankment is compressed to a height of 10 m higher than the present ground level.

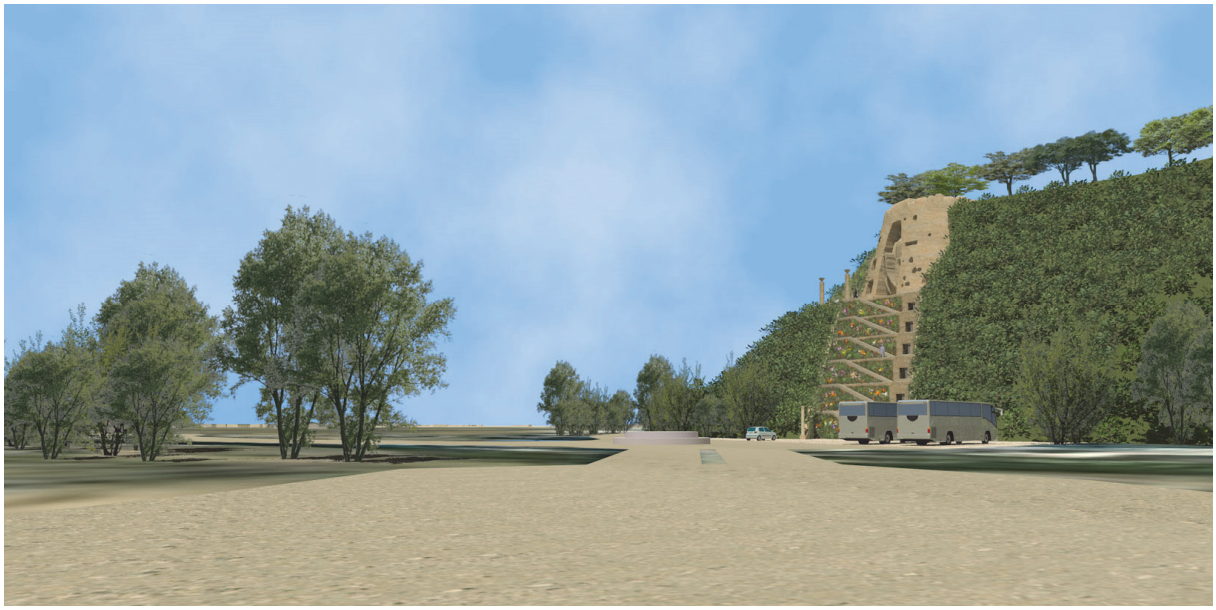
The Proportion of the Buddha Reproduction

While a full-scale reproduction is ideal, it is quite difficult to find a cliff or plateau that accommodates a 38 m tall huge statue and 41 m tall niche. Only a cliff that stands almost perpendicular to the ground, such as the Great Cliff would meet our needs. However, it is not feasible to build a 41 m high niche into the 40 m high south side of the Bamiyan Valley with its 45° slope. Alternatively, a stand-alone statue in front of the slope should also be ruled out considering the lack of harmony with the surrounding landscape.

The Buddha, as tall as a skyscraper, would literally stand out among the existing small-scale villages, rivers, roads and public squares in the existing area.

As a result of much deliberations and scrutiny using computer graphics, models and diagrams, we concluded to reproduce a 13 m-high Buddha that is reduced one-third of the original Eastern Buddha.

View of the monument from the tree-lined street on the Bamiyan Valley



View of the monument from the foot of the plateau

Composite photo of the proposed monument and the existing landscape

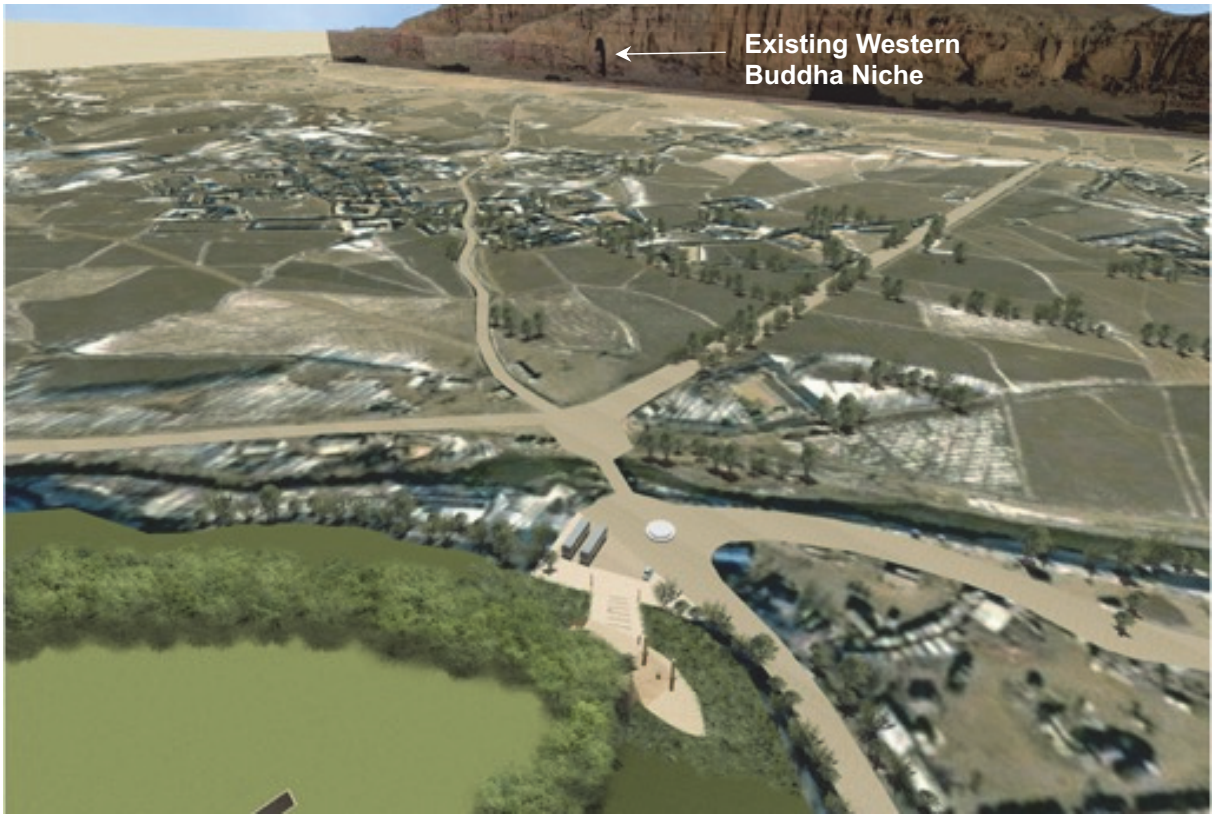
Orientation of Eastern Buddha Reproduction and the Axis to the Existing Western Buddha Niche
We plan to build a stairway from the foot of the plateau, along the slope ascending towards the Eastern Buddha reproduction on the top of the plateau.

The steps will be situated on the axis connecting the Eastern Buddha reproduction and the existing Western Buddha niche. In other words, when people descend the steps, they will descend towards the existing Western Buddha niche. On the other hand, the Eastern Buddha reproduction and its niche will face towards the empty niche of the Great Cliff in which the original Eastern Buddha was located.

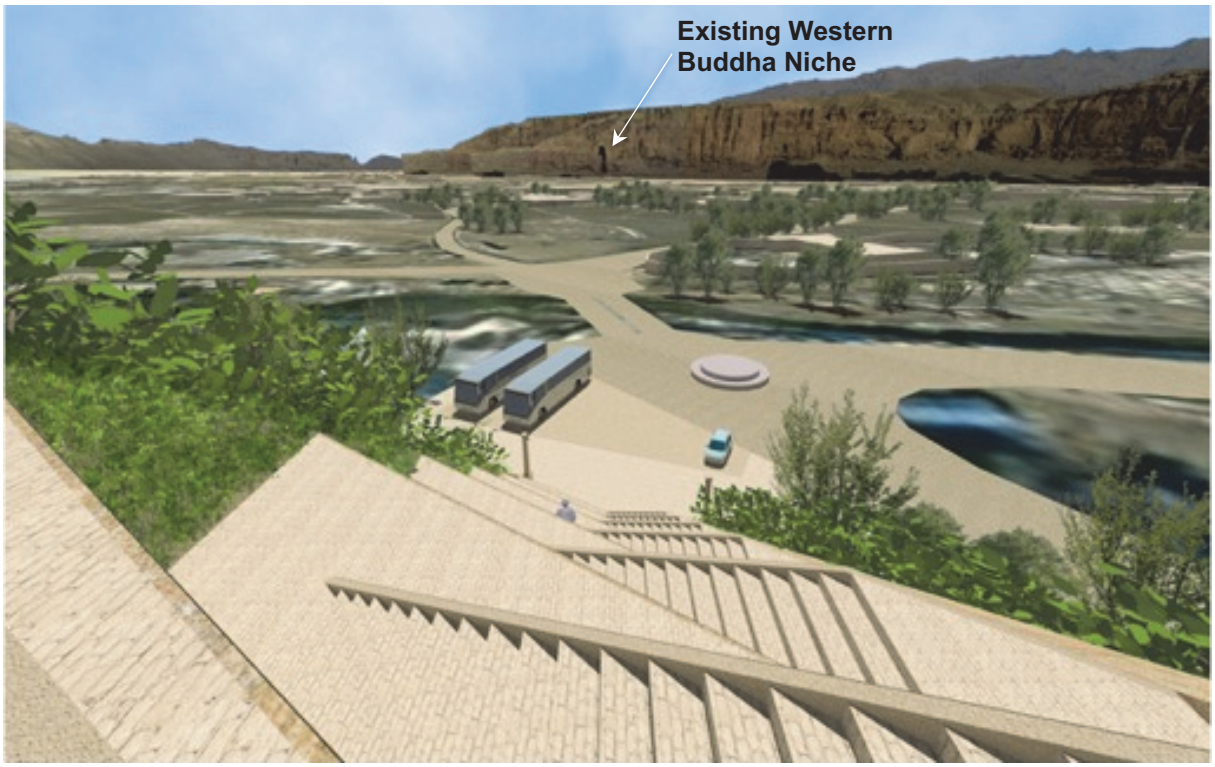
Site plan: The monument (a one-third scale of the Eastern Buddha statue) faces the original Eastern Buddha niche straight ahead. The Western Buddha niche is located on the axis of the outdoor steps. The underground museum is located behind the Eastern Buddha reproduction.

Bird's-eye view of the proposed monument from the north direction: A one-third scale of the Eastern Buddha is constructed on the platform halfway up the hillside. The outdoor steps connect the foot of the plateau and the platform.

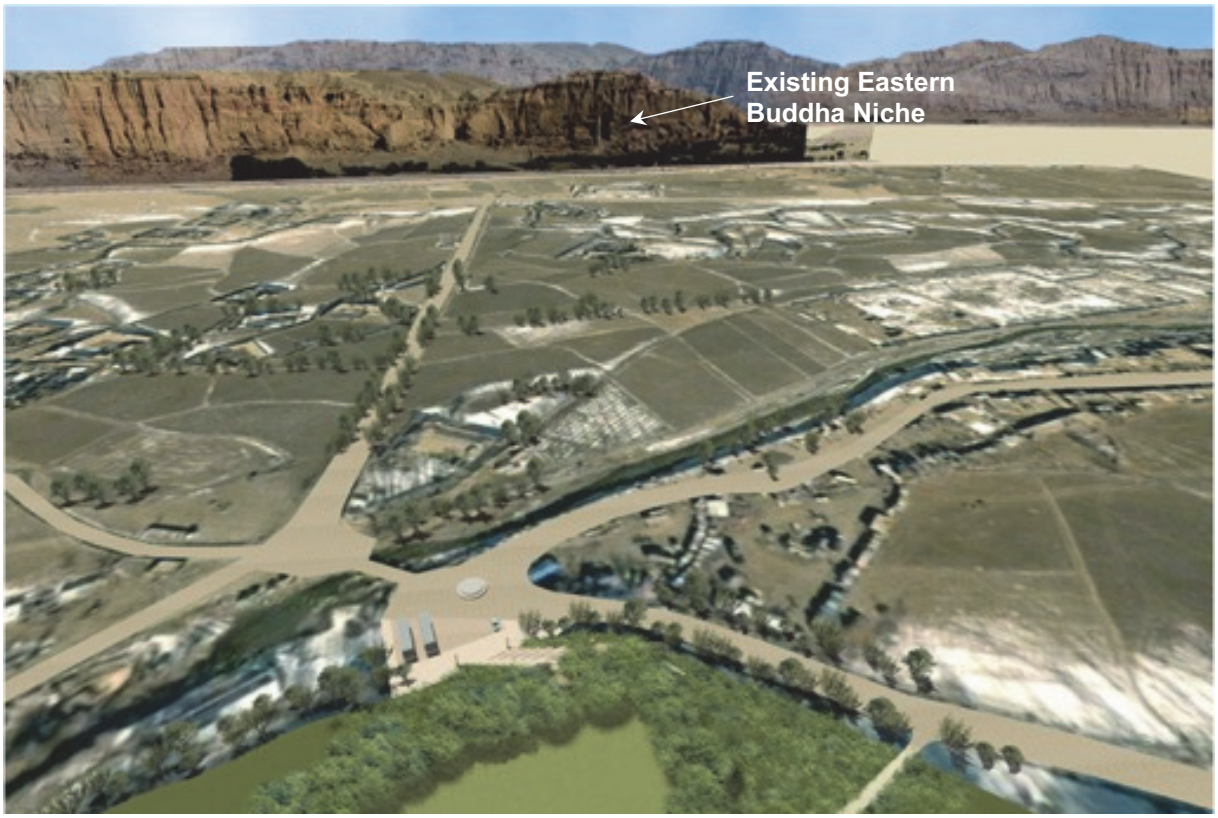
View of the monument from the parking at the foot of the plateau



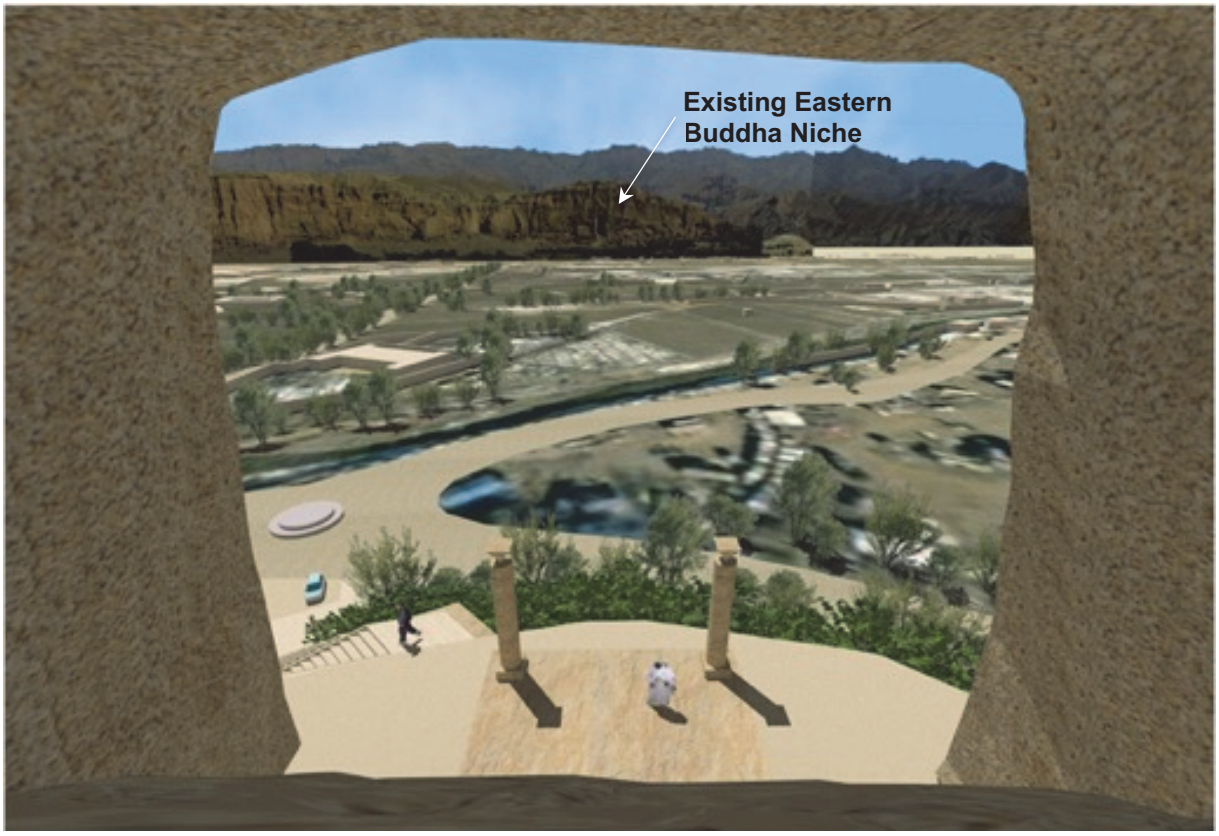
Bird's-eye view from the southeast direction: The Western Buddha niche is located on the axis



View of the outdoor steps, the Bamiyan Valley and the Great Cliff from the platform:
The existing Western Buddha niche is located on the axis of the steps.



Bird's-eye view from the southwest direction: The one-third scale Buddha faces the eastern Buddha directly.

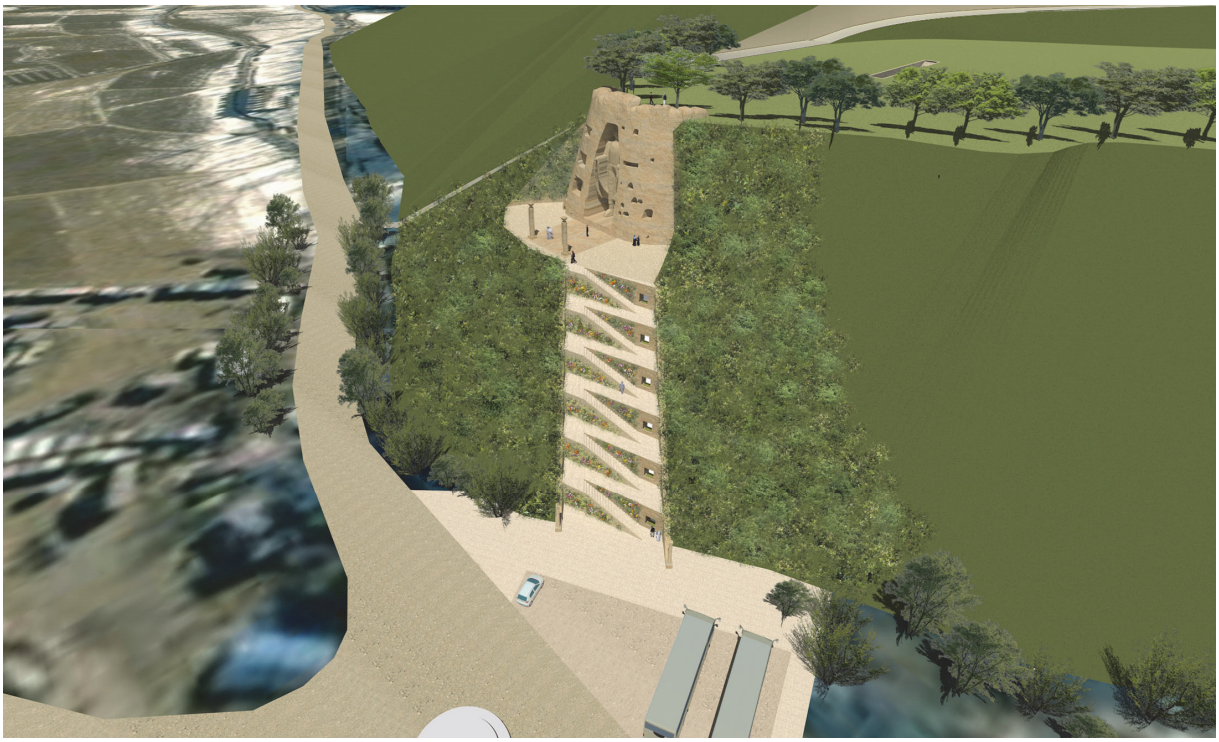


View of the Bamiyan Valley and the Great Cliff from the observatory on the top of the one-third scale Buddha

View of the Great Cliff from the platform: The Eastern Buddha niche is just opposite the one-third scale Buddha.

Waterlines and Water Supply Pipes

Waterlines will be crossing parallel to contour line of the slope in order to prevent the landslide on both sides of the steps and make the slope a lush greenery at the same time. From the waterlines, water supply pipes will be connected to each landing of the steps for raising trees and plants.



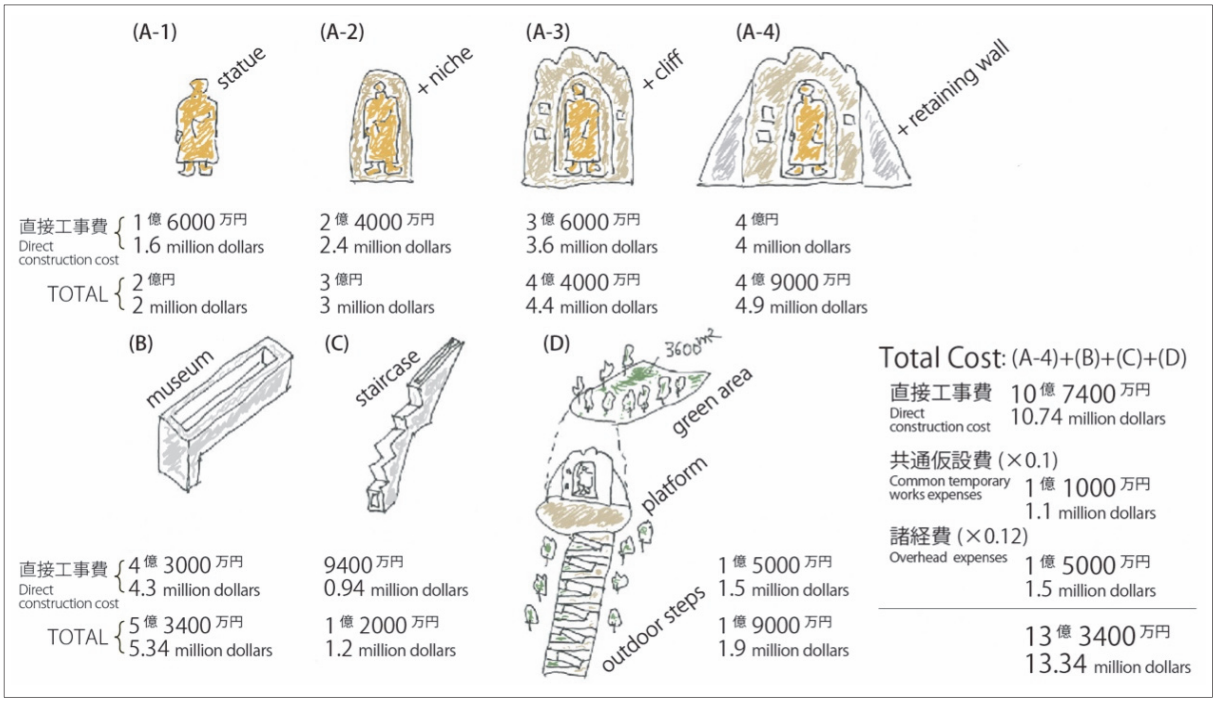
Bird's-eye view from the northwest direction

Water pipes on each landing of the outdoor steps to water plants

Materials, Structure and Construction of the Eastern Buddha Reproduction

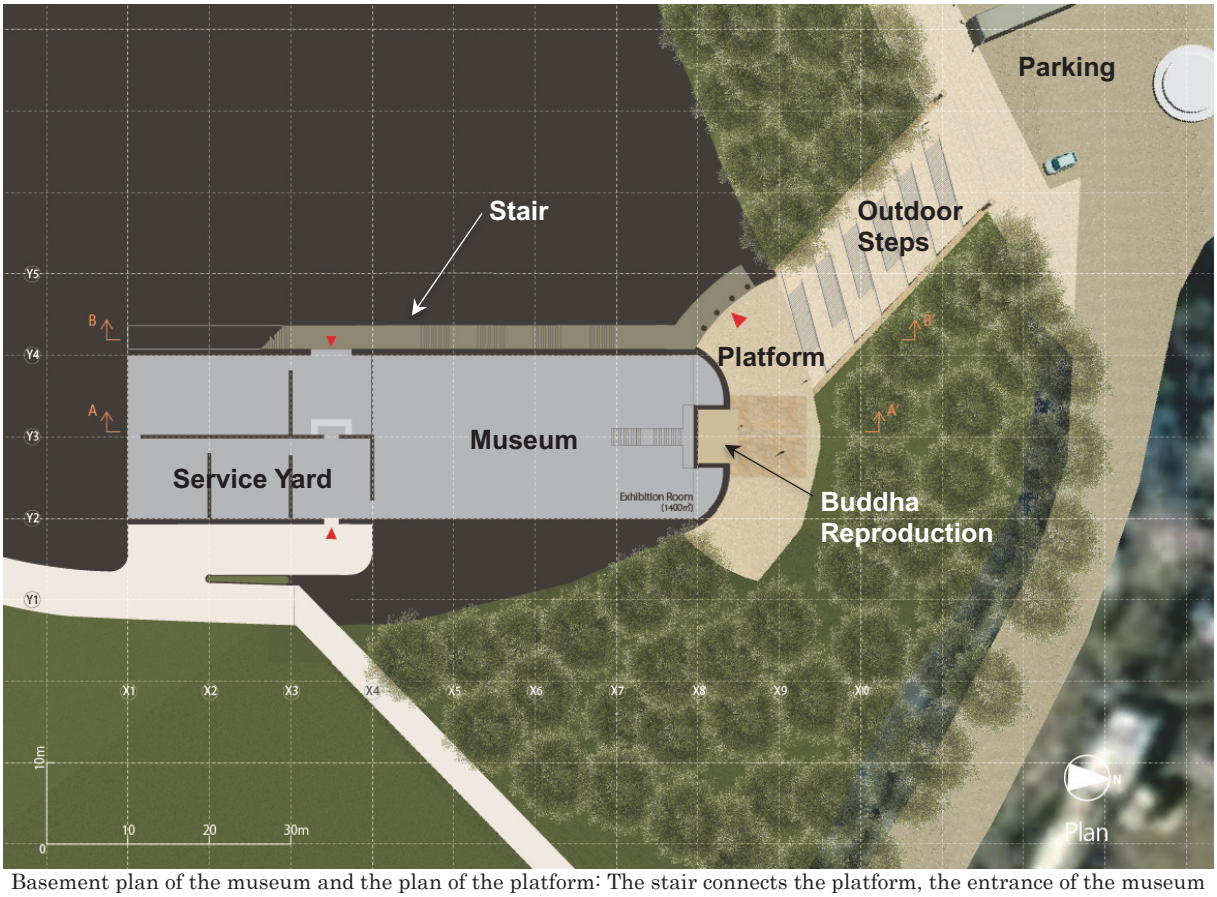
It is considerably complicated to build the statue inside the original existing niche using materials such as reinforced concrete. The original Buddha statues and the niches were simultaneously carved into the natural cliff. However, building a new Buddha statue is equivalent to rising new huge heavy structure in the empty existing niche. The Buddha reproduction seems like a cantilever structure rising from the ground, and probably will be supported from the back of niche. However, it is necessary to handle the vertical and horizontal forces of the ground during an earthquake. In addition, if surrounding walls in the niche support the horizontal force, precaution of surrounding walls against the horizontal force are required. In any case, we need to take into account that if the current state of the cliff allows us to perform these treatments against the vertical and horizontal forces. Furthermore, estimation cost of the reinforcement steps should also be considered.

Concerning the new Buddha reconstruction, we propose to use light-weight materials, such as Glass-Fiber Reinforced Concrete (GRC). The method of using GRC material is spraying concrete (containing glass fiber) onto a previously molded a 3D steel mesh. Therefore, a female mold of the Buddha statue is unneeded. This effort paved the way to create extraordinary new designs by the material. Recently, a latest innovation combining GRC with different materials such as glass and stone has been released.

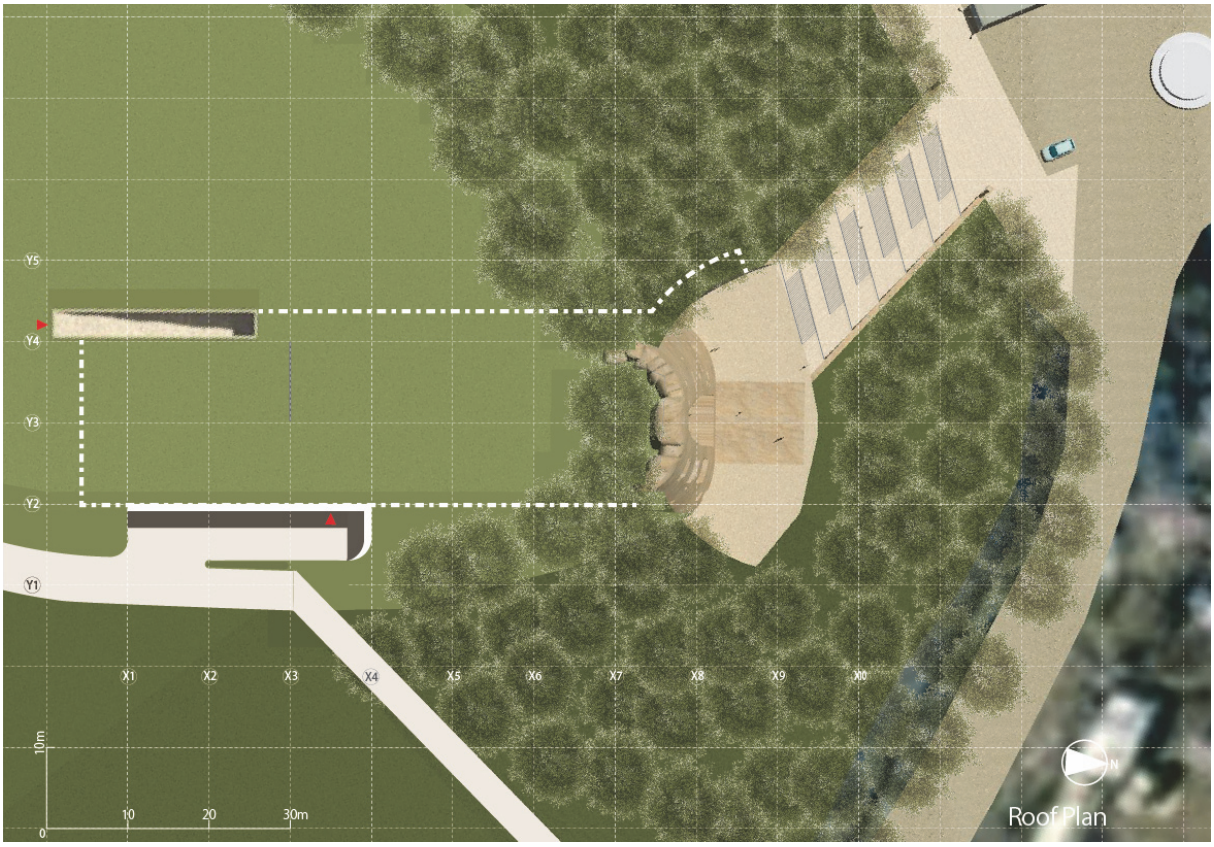


Cost estimate of the construction for each part

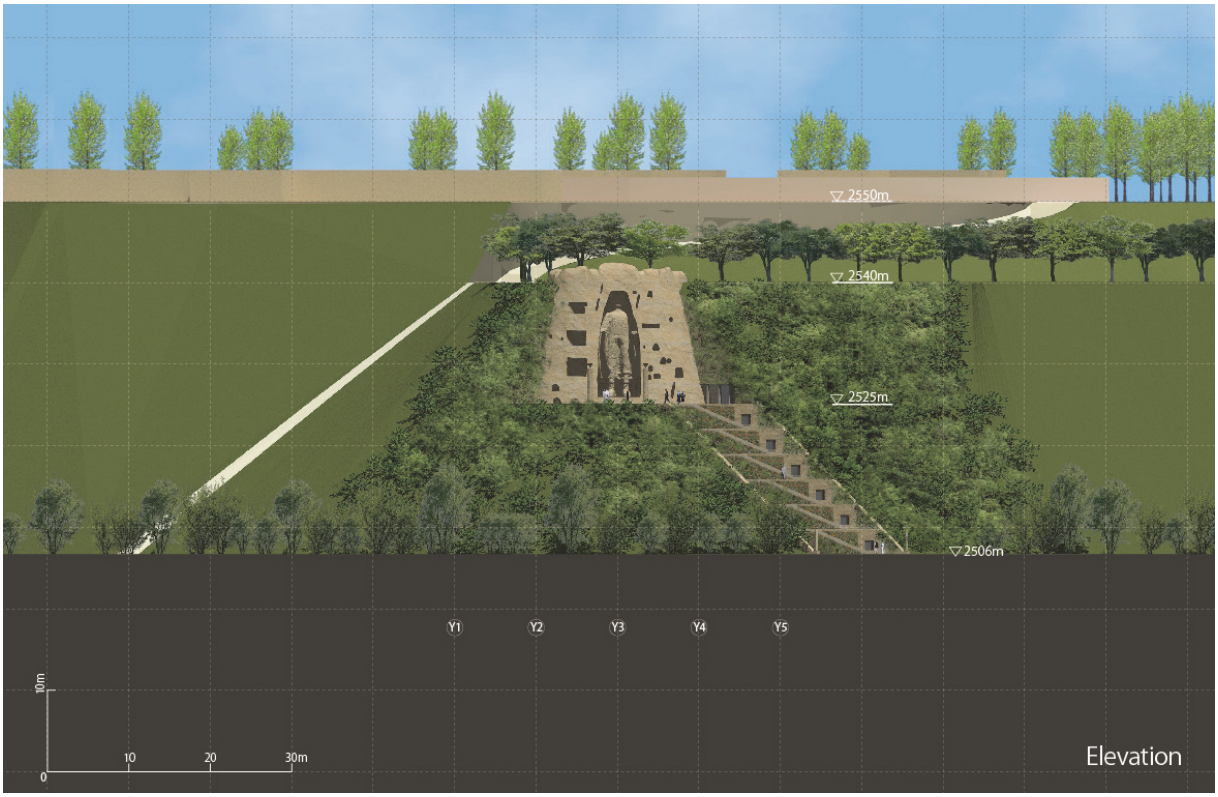
Plan of the Monument and the Museum



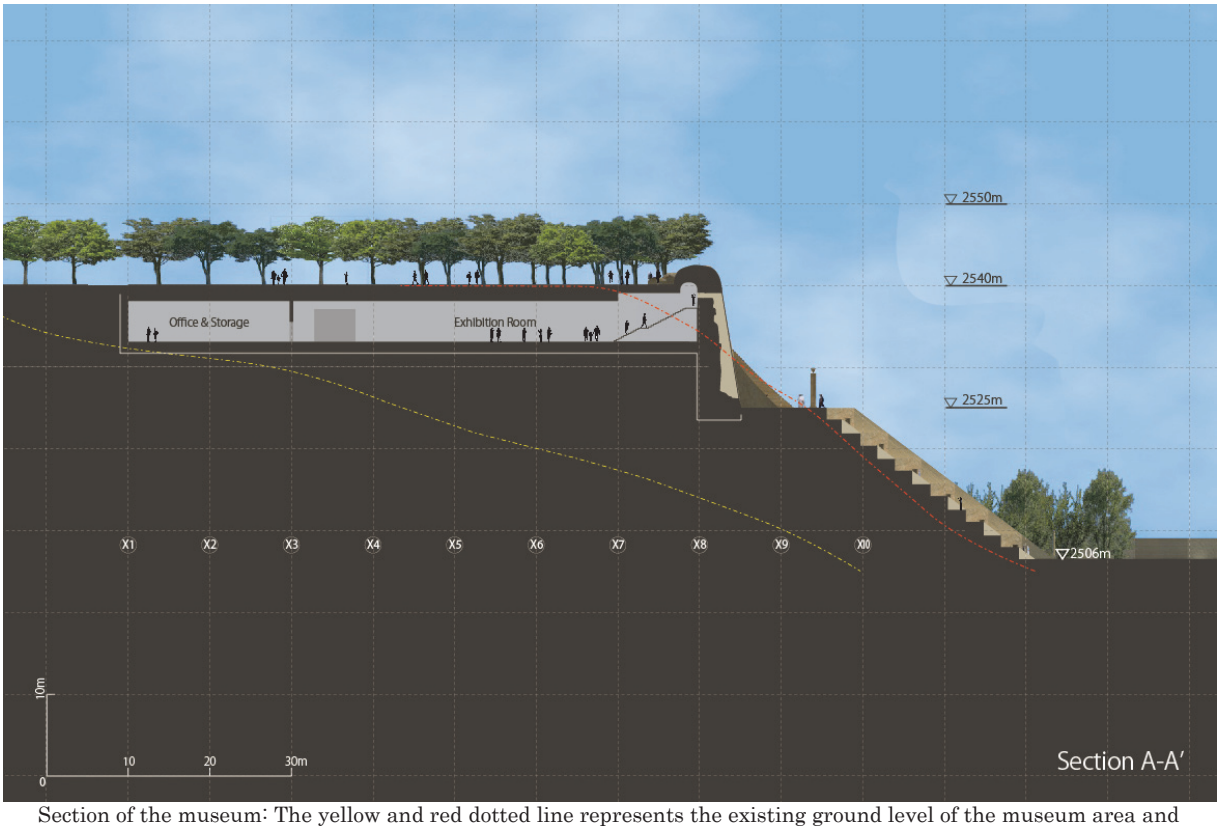
Basement plan of the museum and the plan of the platform: The stair connects the platform, the entrance of the museum and the top of the plateau.



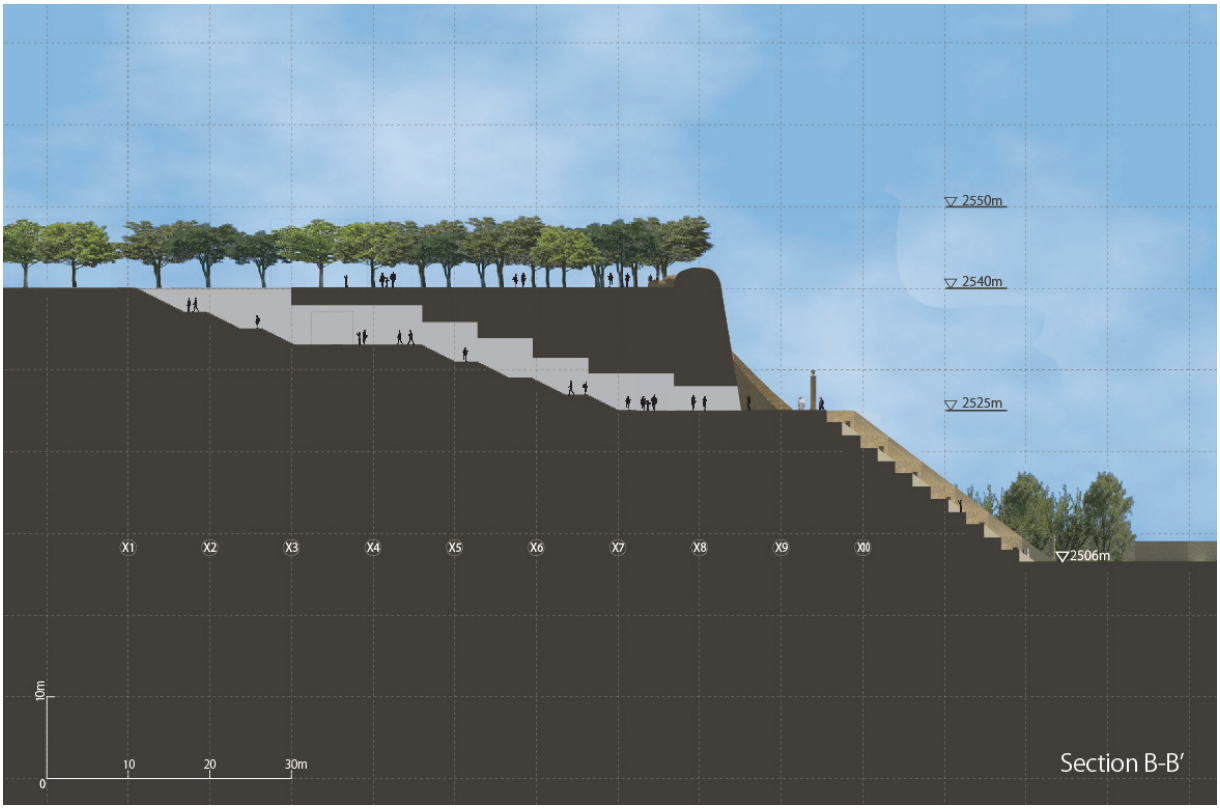
Plan from the top of the plateau



South-east elevation



Section of the museum: The yellow and red dotted line represents the existing ground level of the museum area and outdoor steps area respectively.



Section of the stair that connects the platform and the top of the plateau

Project Members

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