

EXPERIENCING A UNIFIED KOREA

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The Demilitarized Zone is a “Defacto Border barrier” dividing the Democratic People’s Republic of Korea (North Korea) and the Republic of Korea (South Korea). The DMZ was created in 1953¹ after a joint ceasefire resulting in a 4 kilometer wide and 260 kilometer long stretch of land² which became the division of two heavily militarized defense systems. This border barrier is the most heavily militarized border in the world with over one million landmines, a 249 kilometer 5 meters tall concrete wall³, nearly a 1000 kilometers of barbed wire fencing, hundreds of military barracks, propaganda towns, and two flagpoles surpassing 100 meters high⁴. The result is the one of the world’s most inhospitable zones restricted from civilian access and with only one connection point between the two countries at the joint security area (JSA). Since the 1950’s South Korea developed exponentially, going from one of the world’s least developed countries to one of the highest developed countries which created the term “Miracle on the Han River”⁵. Unfortunately, massive unprecedented growth brought mass ecological destruction throughout the country. Undeveloped forests have been harvested, marshes were drained and wildlife plunged as the country developed⁶. Ecological diversity has plummeted throughout the entire Korean peninsula other than within the DMZ. Some species are completely exterminated across the peninsula only to remain in this thin stretch of land dividing the two countries. The completion calls for observation platforms in the DMZ for a united Korea. Proposals have been made in 2011 for a joint national reserve for this stretch of land⁷; unfortunately none have yet to succeed. We designed and focused on the preservation of nature for our proposal. Our observation platform is designed as a system for a united Korean National park stretching from sea to sea; preserving nature and wildlife wrought from the destructive forces of war and industrialization.

Our site location for the observation platforms and trail is located near Pyongyang, North Korea going directly through the DMZ zone. Located centrally within the Korean peninsula, the site is well suited for the first trail within the DMZ Park due to its proximity to Seoul, Pyongyang, as well as the abundance of important military infrastructure in the surrounding region. Our trail would act as a link for two trails along the edge of the park following the historical militarized lines. Eventually dozens of these connector trails would go directly through the DMZ allowing hikers to weave from side to side to view natural marvels, endangered species, historical military structures, and pre division structures. After completion, the trail would make a full loop around the entire DMZ with connector trails running within, resulting in one of the largest hiking trails in the world comparable to the Appalachian Trail⁸. Military structures of importance would be kept and maintained similar to ww2 structures



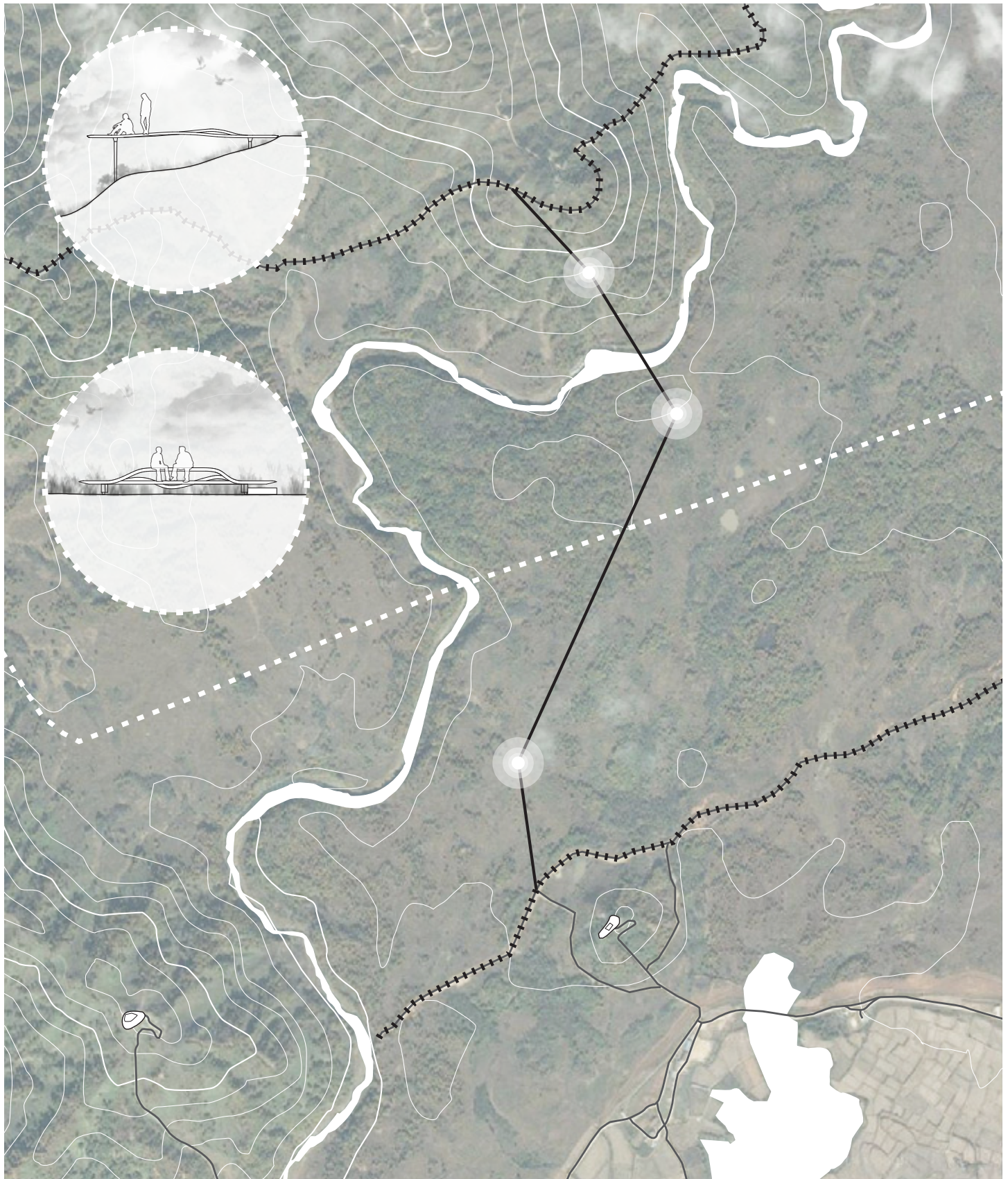
(Fig. 01) South Korean Military fencing during winter



(Fig. 02) North Korean Military defence showing strip clearing left of DMZ



(Fig. 03) Vegetation growing on chain link fence allowing vine growth



(Fig. 04) Site location showing trail and observation locations connecting the two edge trails in the DMZ Park

such as the “Atlantic Wall”⁹ for memorial purposes. Areas in need of open passage will have military defence structures fully removed. Due to the unfathomable scale, many areas would be left alone allowing nature to slowly erode away structures. Concrete bunkers will act as caves and wire fences will act as trellises for plants. Unfortunately “over one million landmines”¹⁰ still exist in the DMZ, and many were placed in unclearable locations like heavily forested and mountainous land. This is why select well marked trails linking the edge trails would be desperately needed in the Park.

Our proposed observation was created to be customizable, transformative, and with the possibility of mass production. Since we focused our design on the eventual development of trails linking a united Korea we needed a design that would be relatively simple to produce as well as customizable for the needs of the public and constraints of nature. We also weighed in the historical relevance that the DMZ military, comparing similar cases such as the Berlin wall¹¹ and the need of preservation. Simple gravel trails would be created in order to allow the smallest human impact within the park. Many animals have already found sanction within the DMZ. The “Amur Leopard, Siberian Musk Deer, Long-tailed Goral, and Asian Black Bear have been all nearly exterminated”¹¹ within the Korean peninsula other than a few select national parks and the DMZ. Other migratory species such as the red-crowned crane and white-naped crane can only winter and nest within the DMZ due to the wide destruction of marshlands and estuaries across the Koreas. These trails would be specifically designed and placed to avoid the remaining refuge of these critically endangered animals. Breeding locations and migratory paths would be located off the trails where the public would be unable to access allowing these safe havens to remain as it currently stands ensuring the necessary protection of these animals.

The observation platforms designed were meant to feel light, almost floating and playing with the sky. Design inspirations were compiled from “Sanaa’s serpentine pavilion in 2009”¹² and Richard Serra’s “East-West/West-East”¹³ sculpture in Qatar. Pre formed concrete panels would curve up and down creating seats, raised vantage points, and resting spots for human habitation. The construction of the curved slabs would be produced in shop with reusable forms poured with a 12 cm thickness with tapered edges. Reinforced with machine bent rebar to follow the forms curvature,



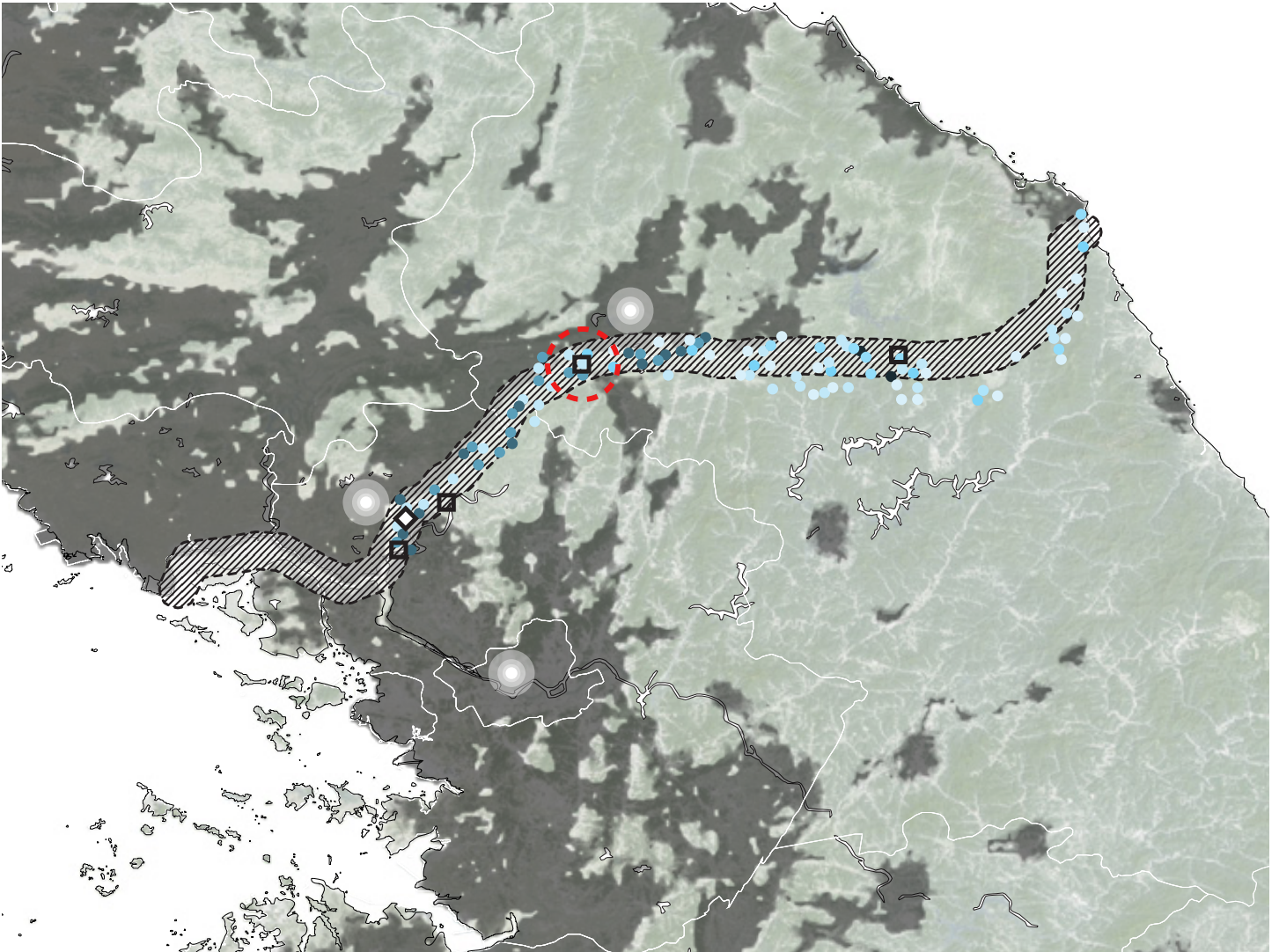
(Fig. 05) Important sections of the Atlantic Wall in their preserved state



(Fig. 06) The critically endangered white-naped crane walking



(Fig. 07) Less endangered species such as the Leopard cat thrive as well within the DMZ



(Fig. 08) DMZ map showing location of endangered species locations throughout the region



(Fig. 09) Richard Serra's East-West/ West-East sculpture in Qatar



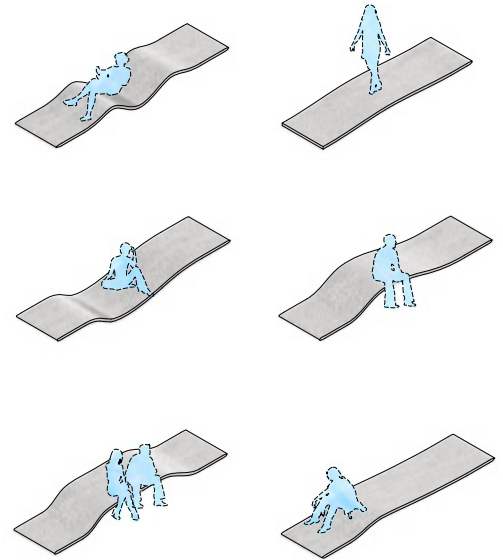
(Fig. 10) Sanaa's temporary Serpentine pavilion in London England 2009

these concrete panels would appear very light and would seem paper thin when approached due to the tapered construction. Three panels are needed to create one observation platform. The edge panels can be of any curvature to necessitate the needs while the center panel acts as the core for the observation where its curvature fluctuates by a 2 percent slope.

The core panel acts as the entry point for the observation where a step or ladder is located. The underside of the core panel also acts as an information artefact for the fully lifted observation platform. Trail maps, animal species information, Korean history are 3d printed into plastic moulds and then inserted into the concrete form to create indented text and diagrams within the concrete. The observation platforms also in result become informative nodes within and along the new DMZ Park. These nodes will help educate visitors on the fragility and importance of this new united park.

The concrete panels are fixed on steel I beams and two columns supported with a concrete foundation. In order to maintain the appearance of lightness the structure is clad in polished aluminum similar to the Chicago “Bean”¹⁴ monument located in Millennium Park. The reflectiveness of the cladding allows the concrete panels appear as though they are floating in the sky. The final result allows a blended view where trees, landscapes, snowscapes are reflected back to the pedestrian allowing the pale concrete panels to appear floating. There are no handrails with the final design in order to maintain the lightness and thinness of the concrete forms. This is an ideas competition where the grand part of the idea overshadows the building code requirements. Hand railings were designed and modeled with polished aluminum balusters and steel wire handrails but it still made the overall design seem heavy.

In order to expand the varsity of the observation platforms we designed the structure in three variants. The first is a flat observation deck that would raise the occupants half a meter above ground. This would be well suited for open marsh and grassland areas and would act more as a resting node for the trails. The second is a semi raised observation platform for slopes along the Korean mountain ranges. This observation platform would simply extend the trail over the steep slope enhancing the user’s views from lower trees and act as resting spots from narrow pathways. The third is the key observation which is the fully raised version. A ladder is needed to climb up the 2.5 meter structure which would give the public unprecedented views. The structure also acts as a canopy creating protection from the rain while the underside would have the information artefact piece. The raised observation platform would occur less frequently than the latter and mostly occur in



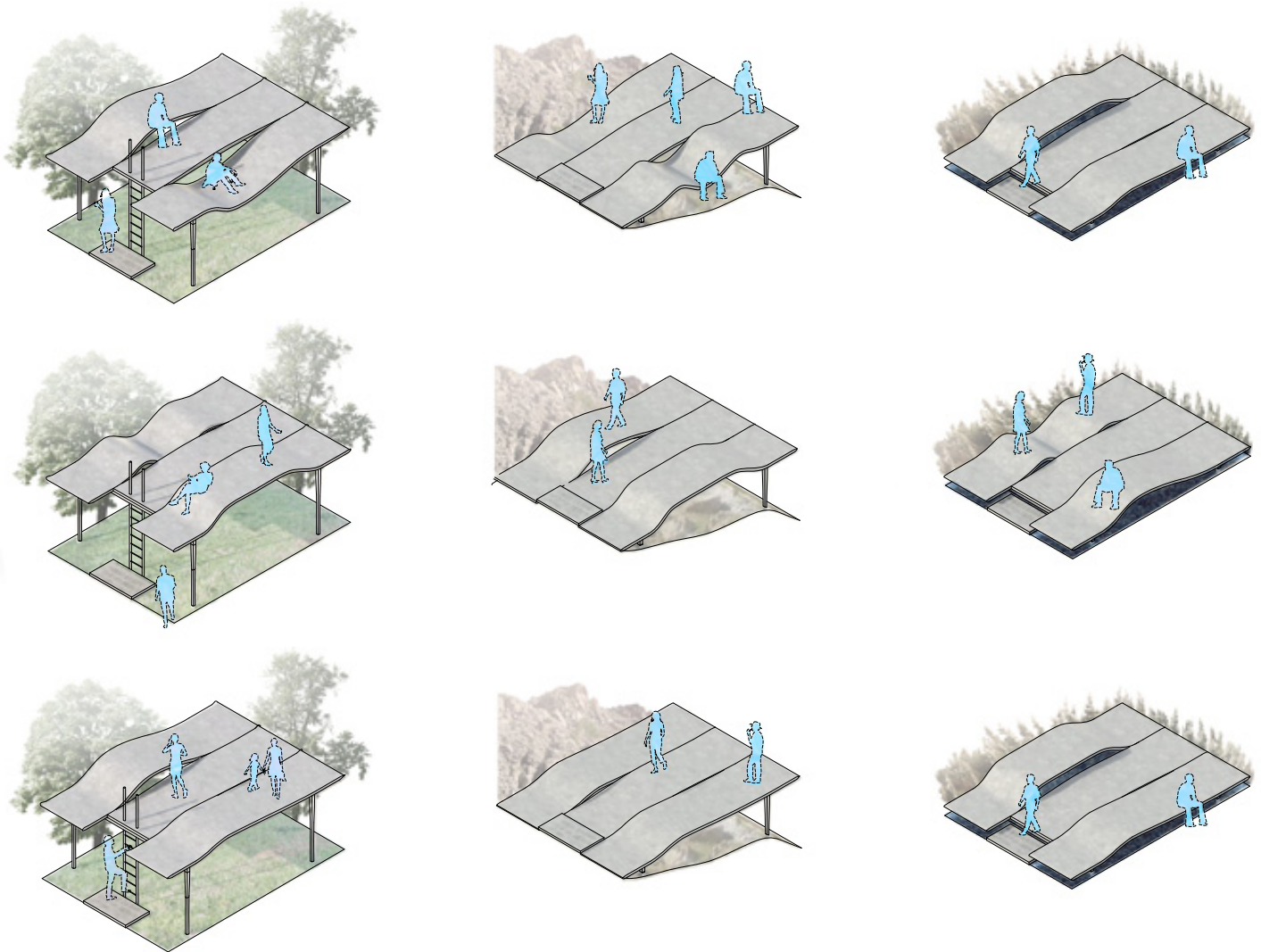
(Fig. 11) Different panel systems used in the observation platforms



(Fig. 12) 3d printed plastic mold to create concrete form. A similar system would be used for the information artefact



(Fig. 13) Information Artefact showing information along the DMZ trail and Key observation sites



(Fig. 14) Different Morphologies possible with the set of parts available



(Fig. 15) Flat overvation deck located in a marshy field



(Fig. 16) fully raised observation deck located on the edge of a forest

connection trails between the historical North and South Korean trails. The observation platform and trail is designed for a unified Korean keen on the idea of preserving this wildlife corridor and retaining its complex military history of the 20th century. The final completion of the trail would help a united Korea reconnect with its natural roots, understand its divided past and, and strive for a united strong future.



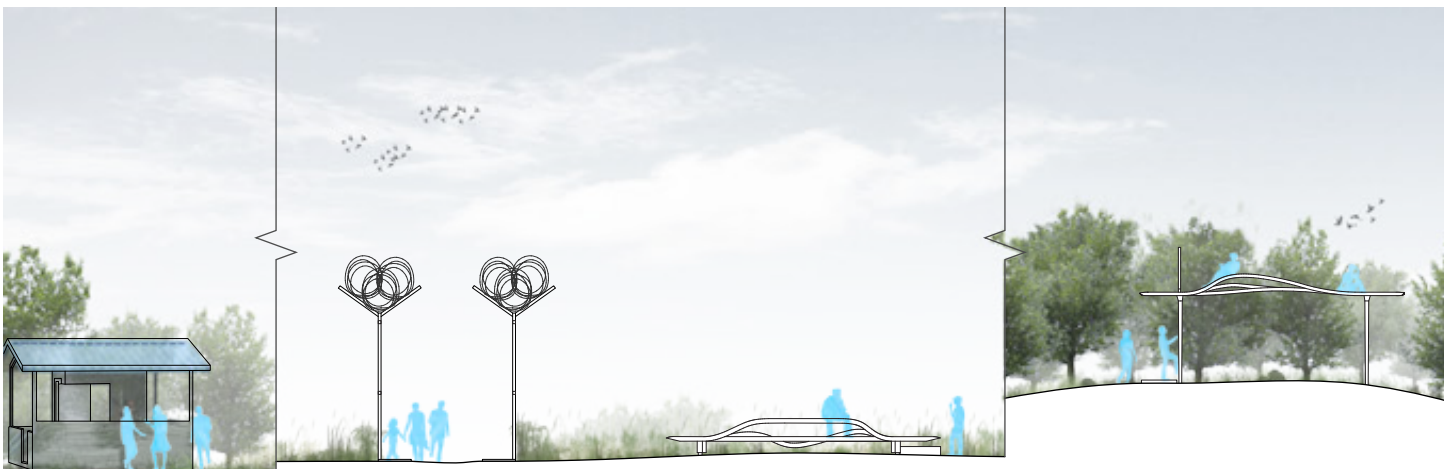
(Fig. 17) Fully raised observation deck with vantage point at the top



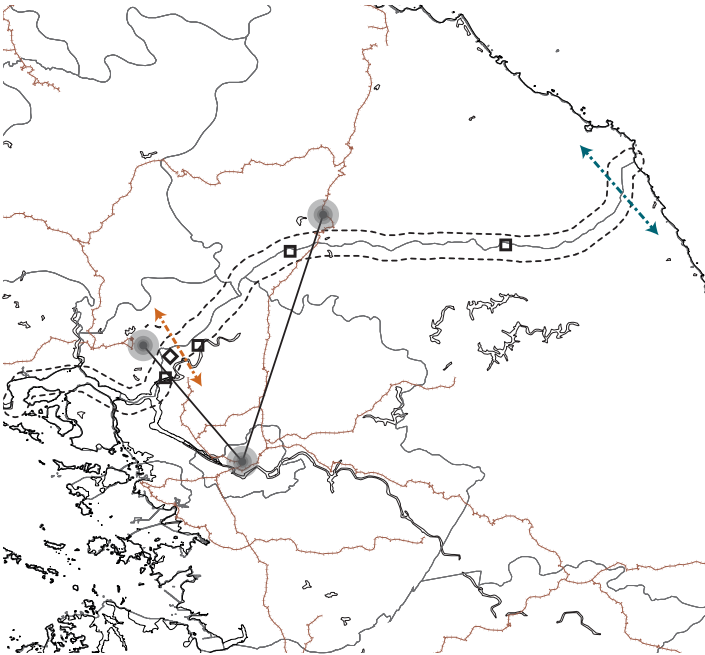
(Fig. 18) Semi raised observation deck with on a mountain slope in winter



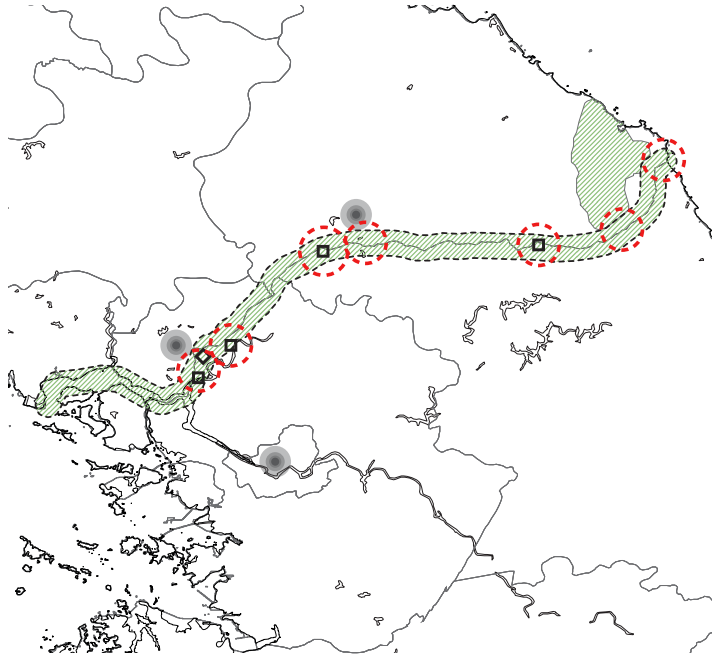
(Fig. 19) Before and after of the edge trails showing plant growth on wire fencing



(Fig. 20) experiential section showing trails and pathways



(Fig. 21) future transit links with the future DMZ park



(Fig. 22) Future DMZ park showing green scape and key points



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(Fig.13-22)

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