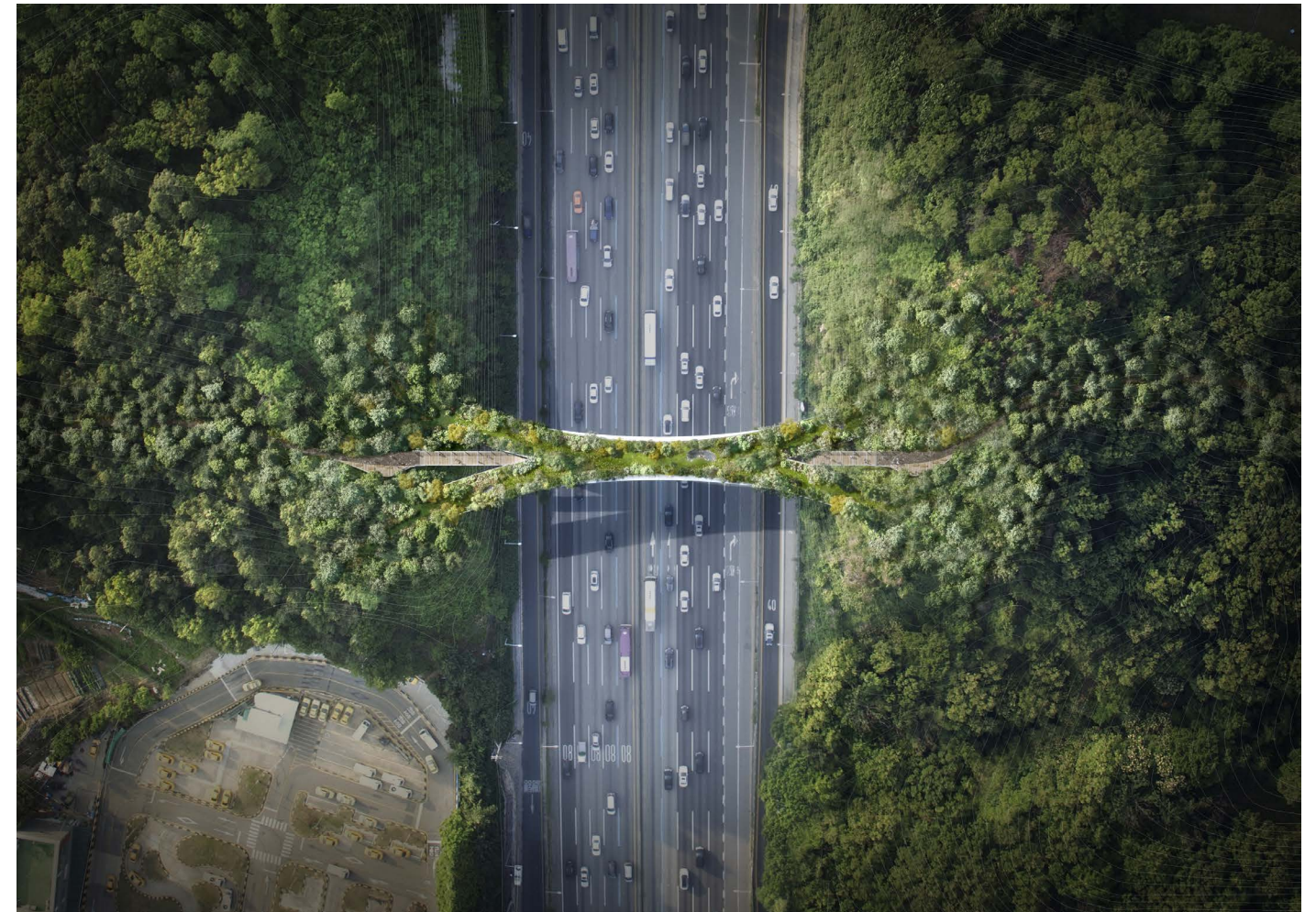
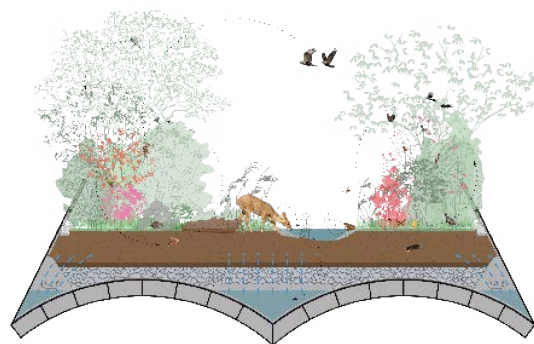




Cow Horse Bridge

Seoul, South Korea



Location
Seoul, Korea

Use
Bridge

Date
2017

Client
Seoul
Municipality

Length
107m

Height
31.7m

Structural Engineer
CNP Dongyang

Ecology Consultants
prof. Eunhee Lee
prof. Geunyoung Ahn
from Seoul Women's Univ.

Double arches with monocoque shell perform both structure and envelope.

The main purposes of Cow Horse Bridge, green connection bridge, is to restore completely disconnected green area of Gangnam by Gyeongbu Expressway and resolve issues on reduction of biological diversity due to disconnection of green and roadkill. We also expect this bridge to be a place where Seoul citizens can practically understand and learn the importance of ecological network and restoration method of wildlife habitats. Furthermore, this bridge can play a large role as a place where people can actually participate on this process.

Naturally connect this bridge to existing forest by planting similar planting species to adjacent natural forest and adopt potential vegetation which can induce ecological succession for stable formation of ecosystem. The entries of this bridge is widened as much as possible in form of Y for small animals, birds, and insects, which inhabit in Mt. Cow Sleeping and Horses Feed Park, to utilize the bridge without any sense of displacement and also planned

to plant necessary planting for their travel, resting, hiding, and inhabitation. In addition, walkway for human and route for wild animals are separated in order to minimize the possibility of exposure to human interference.

Under the principle of ecologically separating human walkway and green connecting road, two large arches cross in pair 105m above the road in section and this is a very effective structure with high lateral load resistance. Hanging in-between pair of arches, walkway is separated from green connection road and provide various and stereoscopic view to pedestrians. Handrail of walkway is designed with 1.8m high perforated metal for safety. Monocoque, shell structure, is an integral system of structure and skin without extra concrete load as it doesn't require additional external skin. Economic efficiency in construction is increased by using same geometry for both arches.