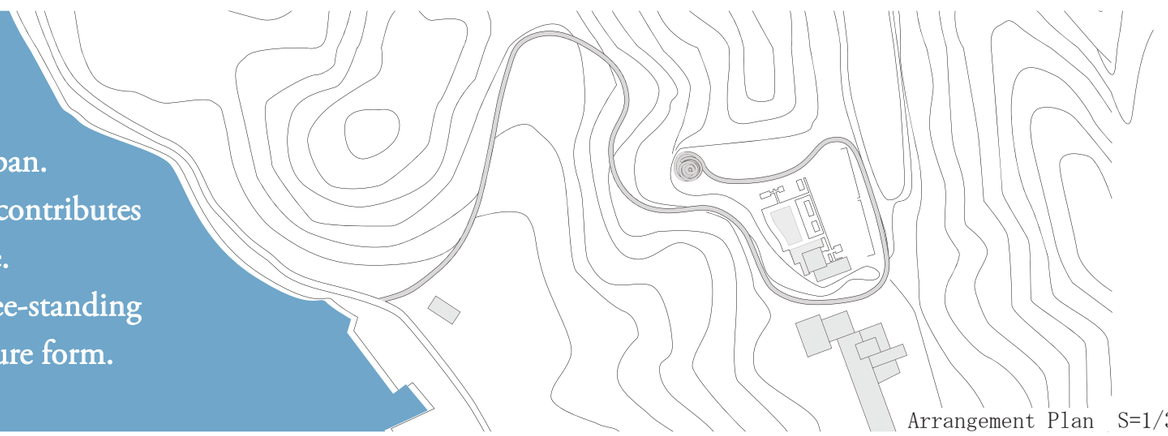
Ribbon Chapel

The chapel is midway on a hill enjoying a beautiful panoramic view of the Seto Inland Sea of Japan.
This Chapel, which stands in Onomichi, Hiroshima, Japan, widely opens up to the public, as it contributes to disseminating the Christian faith and currently mainly used for weddings by Christian Padrse.
A single spiral is very unstable. However, by entwining two spiral stairways, we realized a free-standing building of unprecedented composition and architecturally embodied the act of marriage in a pure form.

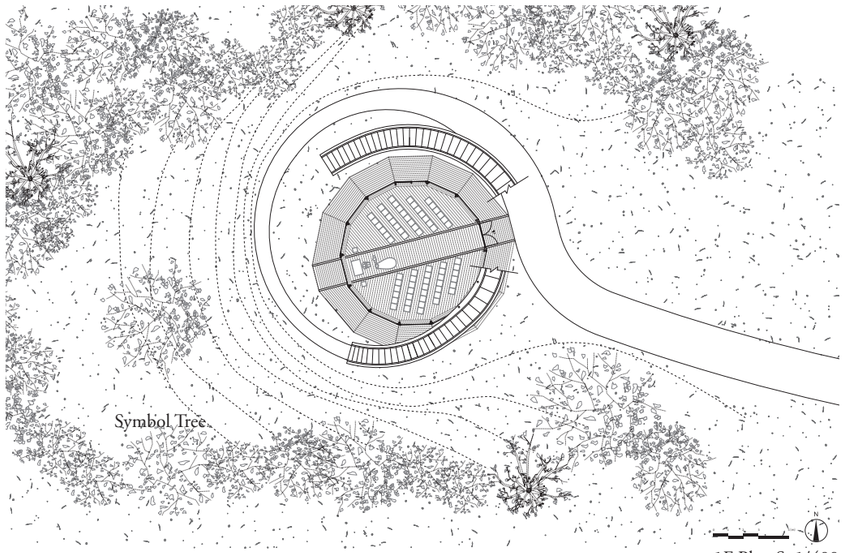


Arrangement Plan S=1/3000

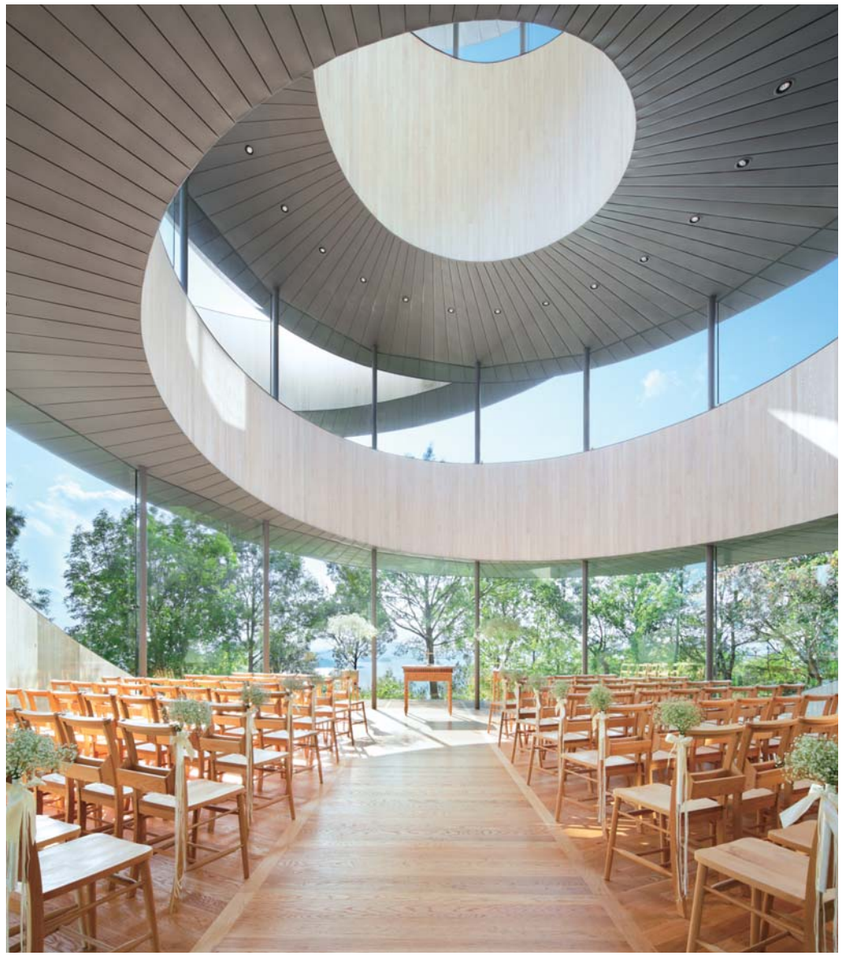
Circular plan that opens to all directions equally.

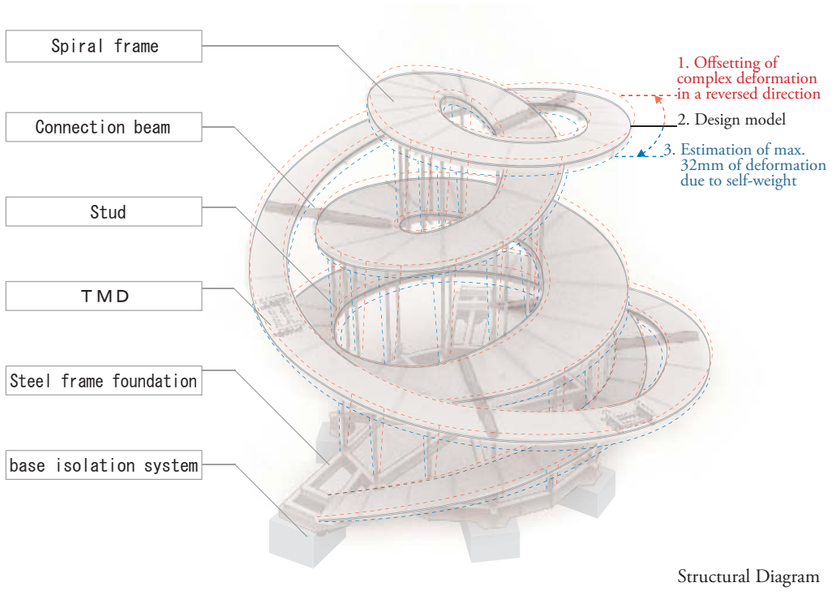
Surrounding Environment

The beautiful sceneries of surrounding islands could not be seen due to the abundant trees, but we did not want to cut down the trees to open up the views. We thought if the chapel stood as an independent object, then it would rather ruin the view. Instead we designed a chapel with viewing platform by just thinning out the surrounding trees, so that the chapel would stand as it peaks out from the midway of the mountain.



1F Plan S=1/400





Structural Diagram

Joining and Mutually Supporting Two Spirals

A single spiral is very unstable for it can sway side to side and also shake in the vertical direction. However, by joining two spiral stairways that support one another, we created a free-standing structure. Just as two lives go through twists and turns before uniting as one, the two spirals seamlessly connect at their 15.26m summit to form a single ribbon. Inside, the virgin road extends towards the pre-existing symbol tree, the altar that is watched over by the trees, and 80 seats are positioned with views of the ocean through the trees.

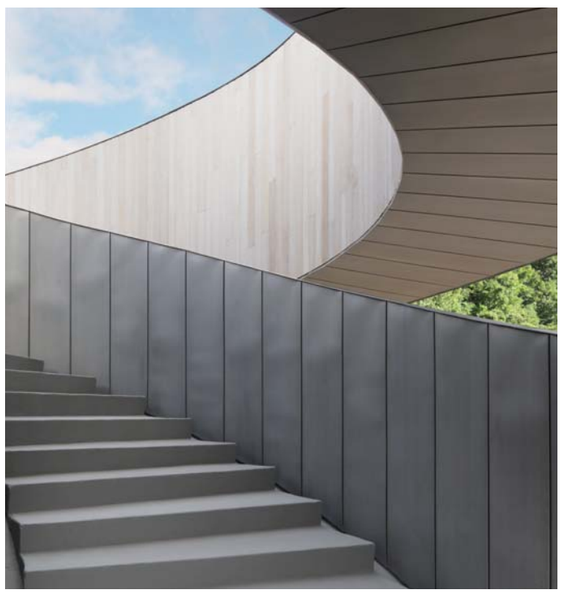
By connecting the four points in four directions where the two stairways approach closely together with coupling elements, we produced a three-dimensional hoop effect for restraining the outward swell and a three-dimensional brace effect for resisting horizontal forces - thereby making the two spirals mutually supporting and self-standing.

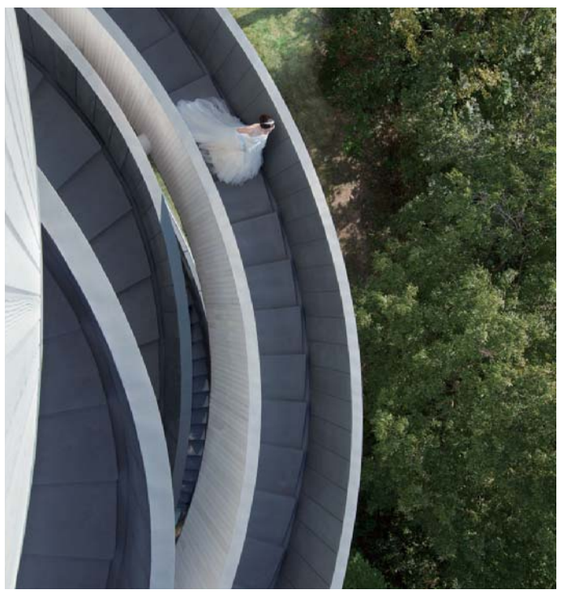
A Pure Architectural Form Composed of paths

In the process of walking the aisle, every step awakens memories and emotions. The simple building is composed only of paths, along which sceneries of ocean, mountains, sky, and distant islands successively appear and disappear. Although it is only a small building, we endeavored to accommodate the emotions of the bride and groom and the thoughts of the celebrants by extending the aisle to a total length of 160m and expanding the range of experiences.

A Ribbon that Corresponds to Place and Function by Changing the Width

Ordinarily, a building is composed of distinct elements: roof, wall, and floor. Here, however, the entwining stairways perform as roofs, eaves, walls, and floors to produce the building's spaces. The stairways widen in breadth in response to location and function, such as at the summit where the couple meets, in directions having fine views, and in places where the eaves must be deep to shield the interior from the sun.

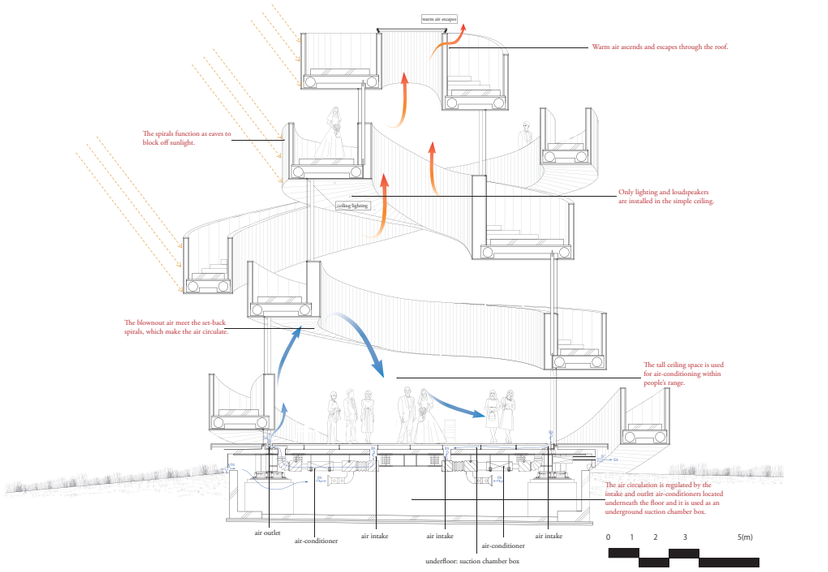




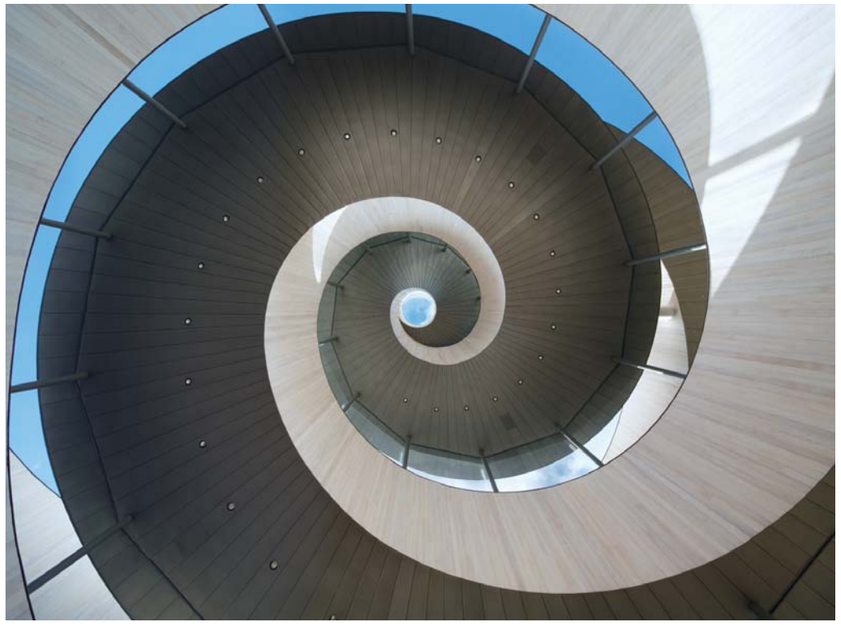
Air Conditioning System Using the Seismic Isolator Pit

Underfloor air conditioning was employed using the foundation pit that was needed for the seismic isolator system. The underfloor air conditioning vent first releases the air towards the ceiling that then reflects the air towards the people, creating an efficient and comfortable environment where the people do not feel the supply air directly. This also allowed the ceiling to only accommodate lighting and speakers, and spirals in pure form can be seen from the interior.

Perforated Floor Panel for Underfloor Air Conditioning Vent



Section S=1/200



Viewing the distant cityscape of Onomichi. By subtly peaking out from the dense trees,it becomes a symbol that harmonizes with the surrounding environment.

Project Data
Project Name : Ribbon Chapel
Location : Onomichi Hiroshima, Japan
Principal Use : Chapel
Site Area : 3,000 sqm
Total Floor Area : 72.2 sqm
Number of Floors : 1
Site Condition : Outside of Urban Planning Area
Main Structure : Steel
Foundation : Independent Footing/Foundation Seismic Isolation
Design Period : 2011.2-2012.12
Construction Period : 2013.1-2013.12

Exterior Finishes
Stairway
Liquid-applied membrane waterproofing on top of reinforced concrete staircase/Brush finish
Exterior Wall 1
Wood Paneling/t=17mm/W=80mm
Wood protection-coating (white)
Exterior Wall 2
Titanium Zinc Alloy/t=0.5/Flat joint
Eave
Titanium Zinc Alloy/t=0.5/Flat joint
Aperture
Tempered Glass
Upper Frame : Bent steel/t=2.3
Lower Frame : DGP metal fittings/SUS304
Entrance : Lattice pattern oak panel on Steel Door
Entrance Floor
Wooden Deck Flooring/t=20/Selangan Batu
Landscape
Western Turf and wildflower/sprouts from seed

Interior Finishes
Floor
Laminated flooring/t=19/W=90/Oak/Aqueous Urethane Clear Finish
Wall
Wooden Paneling/t=11/W=80/
Wood protection-coating (white)
Ceiling
Titanium Zinc Alloy/t=0.5/Flat joint
Handrail
Winded with Plastic Rattan
Alter
Oak Solid wood
Countertop : Marble/Bianco Carrara/t=24mm
Chairs
Original Furniture