The Visual Green's Blind Side

Seonyudo Park + West Seoul Lake Park

Image Edited: Seo-Ahn landscape architects associate, and Johsungyong architect office. "Seonyudo Park, Seoul." Urban Design Institute of Korea Journal 6.2 (2002)

4.213/11.308 Ecological Urbanism Seminar
Fall 2014 Prof. Anne W Spirn
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CONTENTS

Abstract

The case study focuses on contemporary landscape approach towards reusing existing urban infrastructure. The study carefully looks into two public parks in Seoul, which both transformed a water purification plant to a park; Seounyudo Park and West Seoul Lake Park

Seonyudo Park, an award-winning landscape project, used to serve as Seounyu Water Purification Plant where it supplied Seoul's tap water for 22 years (1978-2000) and reinvented in 2002. Since then, Seounyudo Park has been spotlighted for its success not only engaging the public to the place, but also providing new perception to the city's development. To explain, the project pioneered to introduce a new development paradigm in Korea concentrating on ways to reuse the existing infrastructure as opposed to create the new.

Similarly, in 2009, the old Shin-wol Water Purification Plant (1959-2003) was revived as the West Seoul Lake Park. With the concept of "Water and Restoration", the park has been designed to keep the existing as much as possible and provide such as series of groves, sculpture park, sport facilities. Along with Seounyudo Park, the West Seoul Lake Park has a pivotal role to change the perspective towards urban infrastructure.

After researching the positive aspects of the projects, the case study further questions the approach of "adaptive reuse" and its necessity. This is driven by the fact that both projects merely took a "Picturesque" approach that missed out other possibilities. In order to discuss the potential opportunities, the study will also look into Portland's Willamette River Water Treatment Plant Park, which dealt more with ecological transformation and educational aspect.

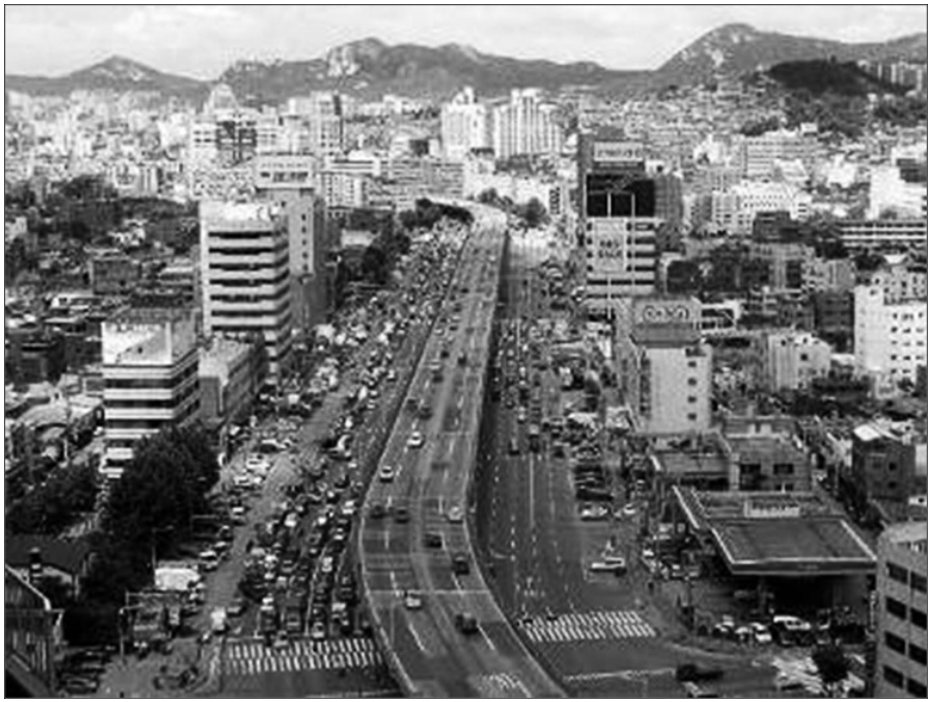
In conclusion, the case study questions the direction of urban landscape transformation and the scope of landscape architect. Reviving the existing infrastructure is the current paradigm and it is getting stronger. Given the opportunity, it is worth asking what optimal direction and how can we take it further?

Seo-Ahn landscape architects associate, and Johsungyong architect office. "Seonyudo Park, Seoul." Urban Design Institute of Korea Journal 6.2 (2002)

Background : Green Movement in Seoul

Before the two water purification plants became public parks, there was a very important river restoration project, Cheonggye-cheon that was highly influential to the city and its development. It was the main project that triggered Seoul's "Green Urbanism" movement. The project was part of Seoul's plan to revitalize the Gangbuk area in the early 2000s. The vision was to be revived as eco-friendly downtown, an area that combined historical, cultural, business, commercial and tourism needs of the city. Cheonggye-cheon River restoration project became the pilot project symbolizing the transformation of downtown and Seoul into a green city.

Interestingly, and ironically enough, the mayor who committed to remove the freeway was once in charge of building the freeway. It was Myungbak Lee, the mayor's masterpiece which lead him to be a successful mayor and further president of South Korea. The Cheonggye freeway began demolishing in 2005 and 95 percent of the concrete and asphalt were recycled. It was to create a pedestrian centric public space and introduce human-environmental friendly space. The restoration of Cheonggyecheon has not only improved the surrounding environments including air, water and noise, but also brought government's commitment to create an eco-friendly city into action, especially to readapt the old. Seonyudo Park, Nanjido World Cup Eco Park is the representative projects after the Cheonggyecheon project.



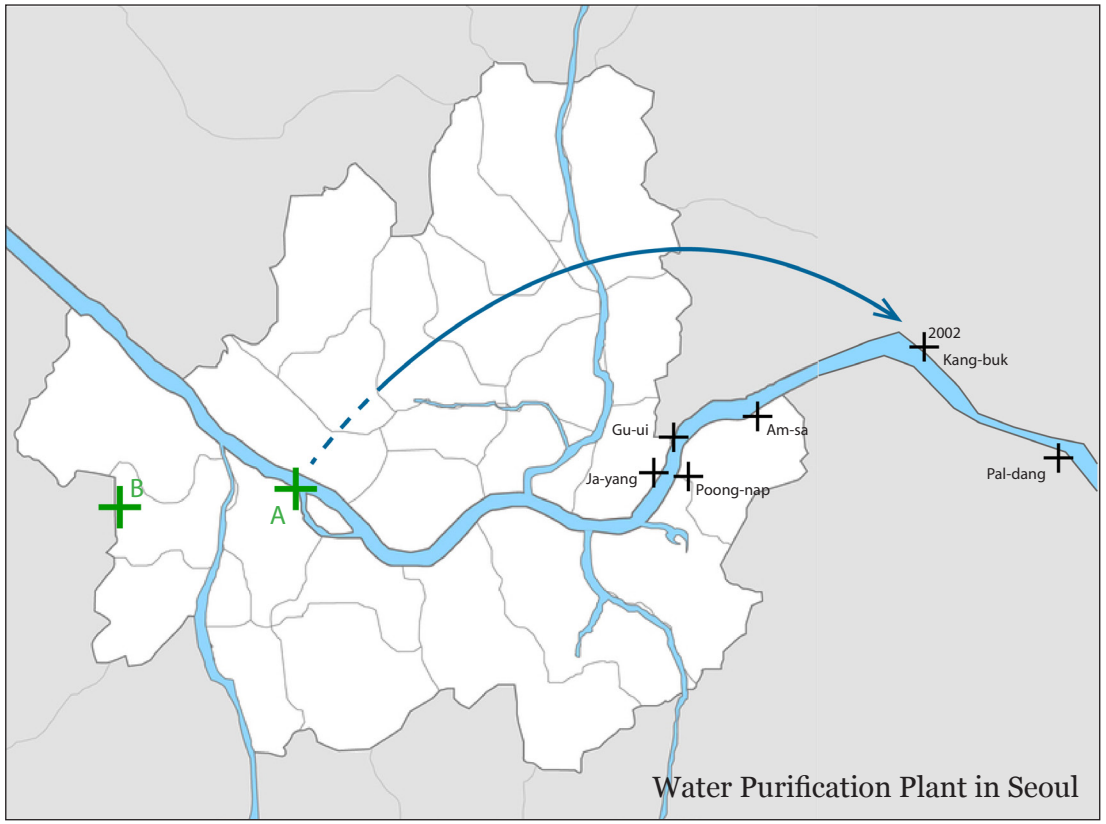
Cheonggye Expressway, 1976

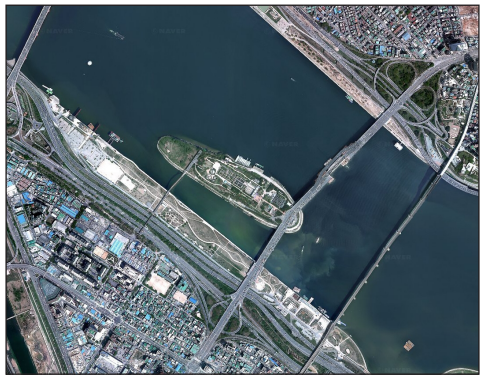
Cheonggye Expressway, 1976. Digital image. Gardenvisit.com. N.p., n.d. Web. <http://www.gardenvisit.com/garden/cheonggyecheon_river_reclamation>.

Cheonggyecheon River Restoration

Cheonggyecheon River Restoration, 2010. Digital image. Gardenvisit.com. N.p., n.d. Web. <www.gardenvisit.com/blog/2010/10/page/2/>.

Location

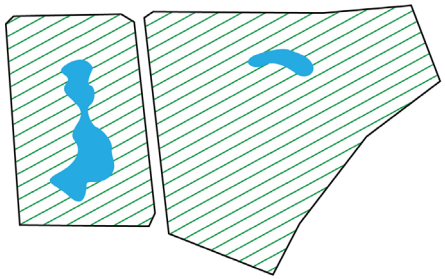




A
Seonyudo Island Park

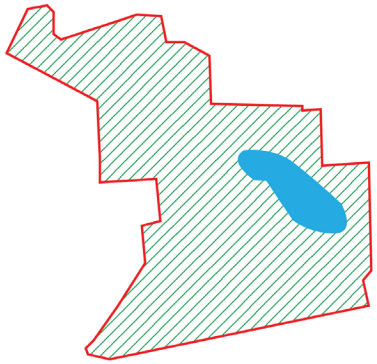
B
West Seoul Lake Park

Scale



Public Garden
97,000m² (24acres)
+
Boston Common
202,300m² (50acres)

A Seonyudo Park
110,407m² (27acres)



B West Seoul Lake Park
217,946m² (54acres)

(All diagrams created by the author)

Time-Line

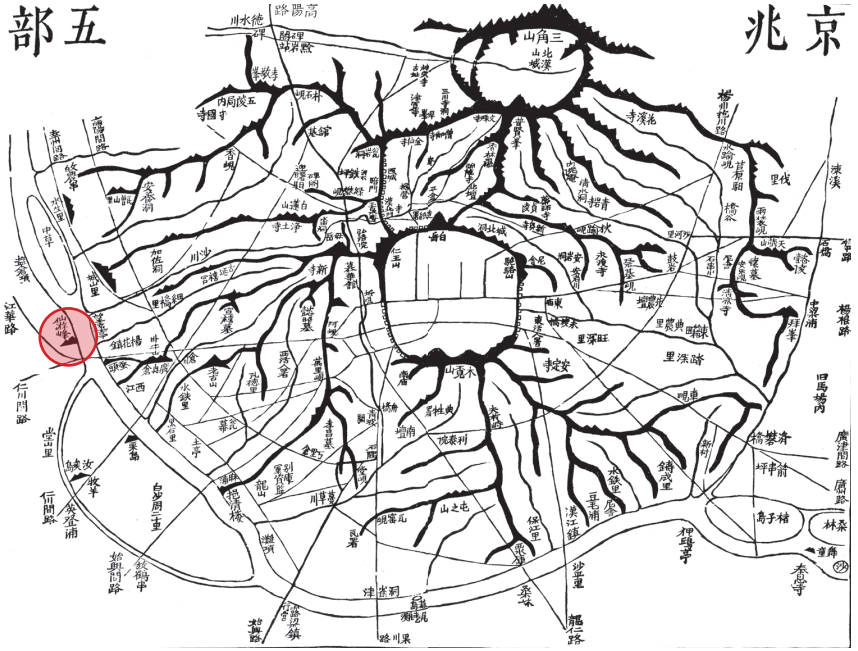
(Diagram created by the author)

Seonyu Island Park

Historically, Seonyu Island has been the site where the extraordinary view of Han River could be captured. Kyum Jae, the renowned landscape painter from Chosun Dynasty has depicted Han River and the mountain Inwang in his painting book, Kyung Kyo Myung Seung Chup. In it, the charm of Seounyu-bong can be found in the painting named Yang Hwa Hwan Do, Kum Sung Pyung Sa, and So Ak Who Wul.

Seonyu island has a dramatic change in terms of form and fuction throughout time. In Chosun Dynasty (1392-1897) Seonyu-bong has recorded to be infact a small mountain which was about approximately 40 meters high from the sea level. (Bong means peak, summit in Korean) However, in 1925, Seonyu-bong became a quarry during the Japanese colonial period in order to supply aggregate materials for Han River development and rock for building Yeouido Airport. After the huge development process, the small mountain turned into a flat sandy island with 7 meters tall concrete wall around it. From then the name of the place changed to Seonyu-island.

During 1978 - 2000, Seounyu-island served as a water purification plant which supplied 400,000 tons of tap water per day to Southwest region of Seoul. Later, the purification plant in Seonyu-island has been readapted to a public ecologial park. There are couple of reasons why the role of Seonyu water purification was replaced. Not only because the water purification plant became old and outdated, but also the level of contamination in Han River became too high to purify as a tap water. Seoul decided to replace it in Namyangju building a new Gangbuk water purification plant in 2002.



Daedongyeojido, 1861
The red indicates Seonyu Island

Kim, Jungho. Doseongdo, 1861. Digital image. GIS Seoul. N.p., n.d. Web. <http://gis.seoul.go.kr/Information/PavilionPopup.jsp?mg_id=20101221008&CAT_ID=20101221001&CAT_TYPE=1>.

a. Brief History of Seounyu Island

Chosun Dynasty
Seonyu-bong
(1742, Kyum Jae)

1925
Quarry

1962
Sandy field

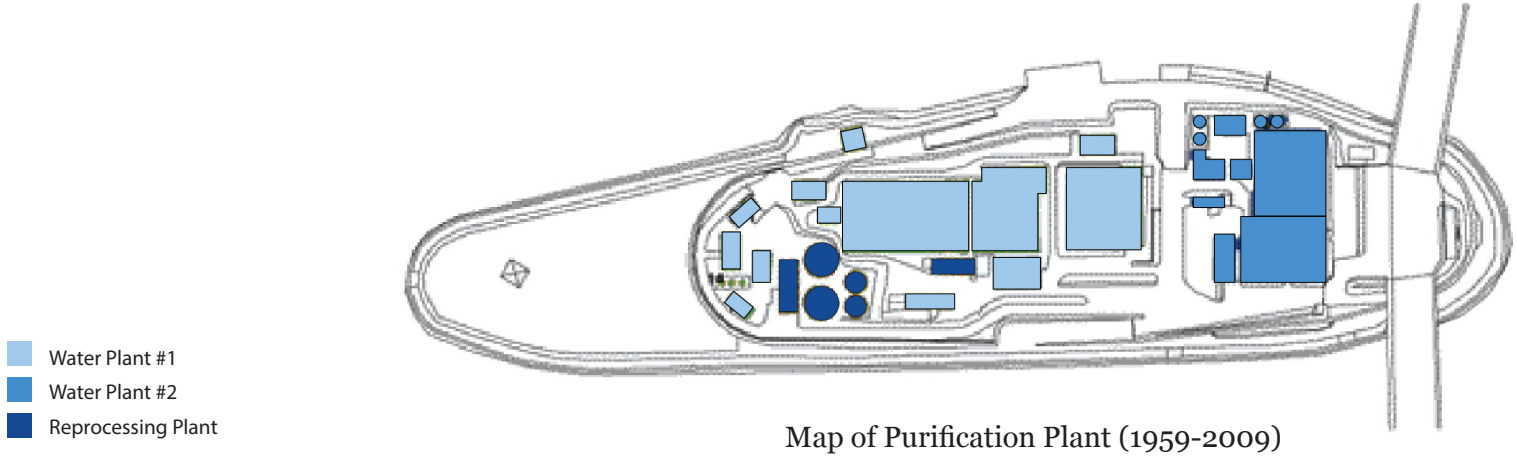
1968 - 1978
Seonyu Island

1978 - 1999
Purification Plant

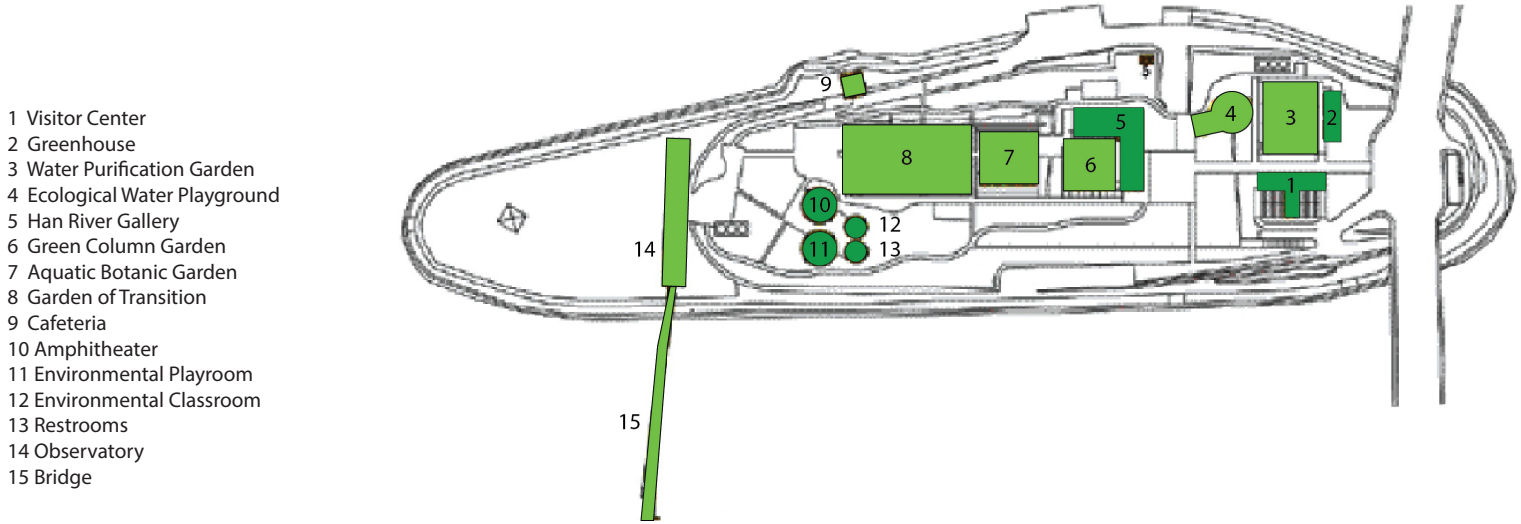
2002 - present
Seonyu Island Park

Fig 1. Kyum Jae. 1742. Digital image. N.p., n.d. Web. <http://artmuseums.kr>
Fig 2. Bangalore. 2013. Digital image. N.p., n.d. Web. <http://kannadigaworld.com/news/karnataka/42483>
Fig 3. Sandy Island. Digital image. N.p., n.d. Web. <http://blog.ohmynews.com/olives/archive/201006>
Fig 4, Fig5, Fig6. Seo-Ahn landscape architects associate, and Johsungyong architect office. "Seonyudo Park, Seoul." Urban Design Institute of Korea Journal 6.2 (2002)

Seonyu island park emerged from the plan to offer nature to the citizen of Seoul by rejuvenating Han River. As a part of “New Seoul, Our Hangang”project promoted by the city of Seoul, it is the effort to restore the ecology of Han River. A 469 meter long new pedestrian bridge ‘Seonyu-gyo’ has been created connecting Yangpyung-dong and Seonyu island. For its accomplishment, transforming an old water purification plant into an ecological plant by preserving the existing structure, Seounyu island park became a multiple award-winning project including Korean Architecture Institute Award 2003, American Landscape Architecture, and World Landscape Architects award in 2004. The project cost 16 billion US dollars.



Map of Purification Plant (1959-2009)



Map of Seonyudo Park (2009-present)

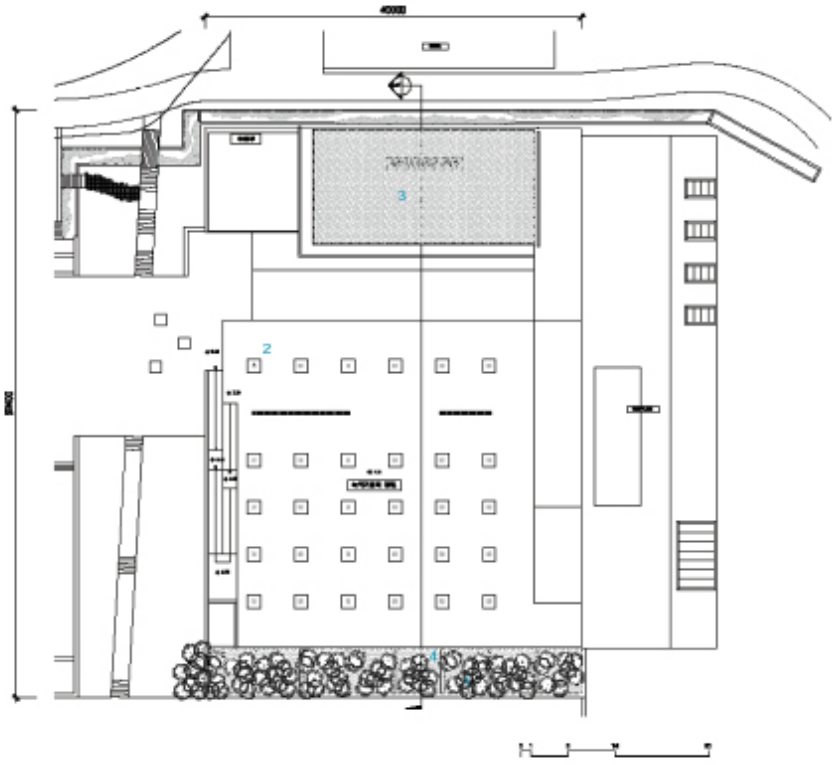
Edited: Seo-Ahn landscape architects associate, and Johsungyong architect office. “Seonyudo Park, Seoul.” Urban Design Institute of Korea Journal 6.2 (2002)

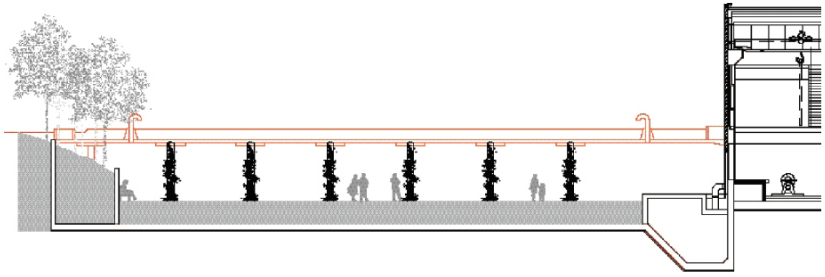
b. Garden of Green Columns / former Purification Plant

The top concrete slab of the clean water reservoir has been lifted off, leaving columns in full light. The Garden of green columns designed for visitors to relax and meditate with vines covering the existing columns. This is one of the popular features that intent to stimulate visitor's imagination by providing remnants of the past.

Seo-Ahn landscape architects associate, and Johsungyong architect office. "Seonyudo Park, Seoul." Urban Design Institute of Korea Journal 6.2 (2002)

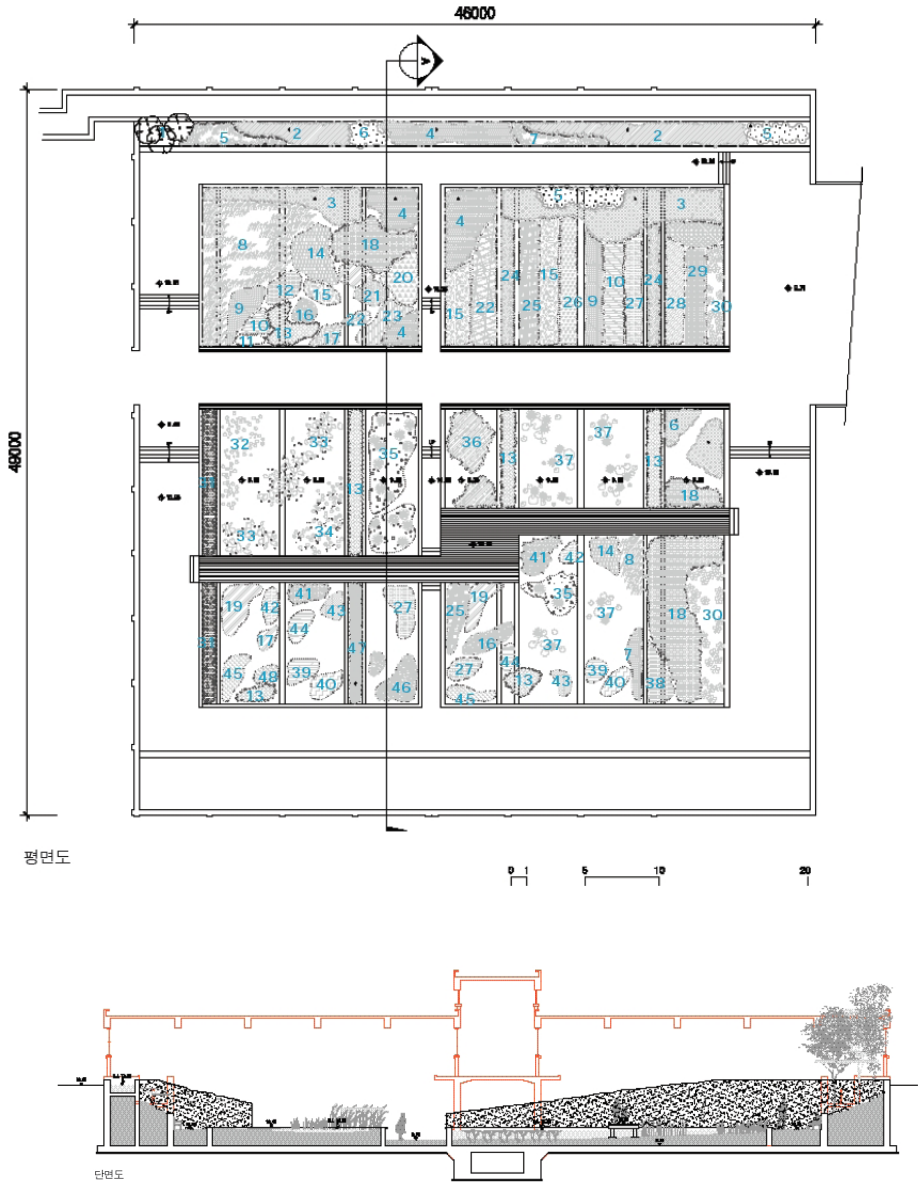
Before: tennis court above





c. Aquatic Botanic Garden / former Filter Basin

In the Aquatic botanic garden, there are various water plants that normally exist in rivers and swamps. One of the filter basins is divided into four water tank that allows different species to live independently. The water for the garden is supplied by natural flow from northern water canal and circulates interiorly. An interesting visual experience is made from the level difference between the visitor path and the garden.

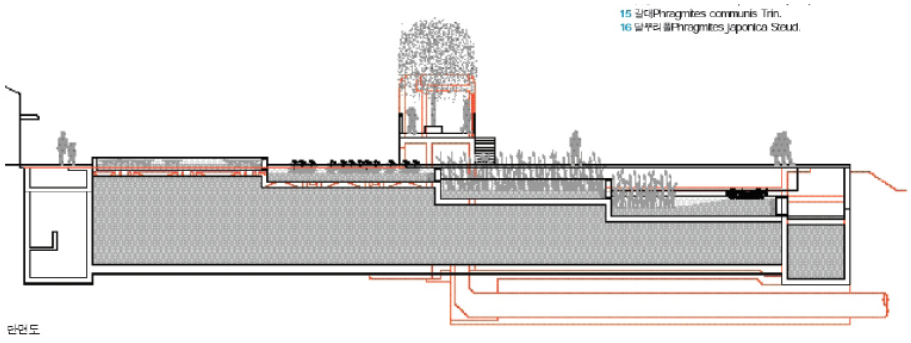


Seo-Ahn landscape architects associate, and Johsungyong architect office. “Seonyudo Park, Seoul.” Urban Design Institute of Korea Journal 6.2 (2002)

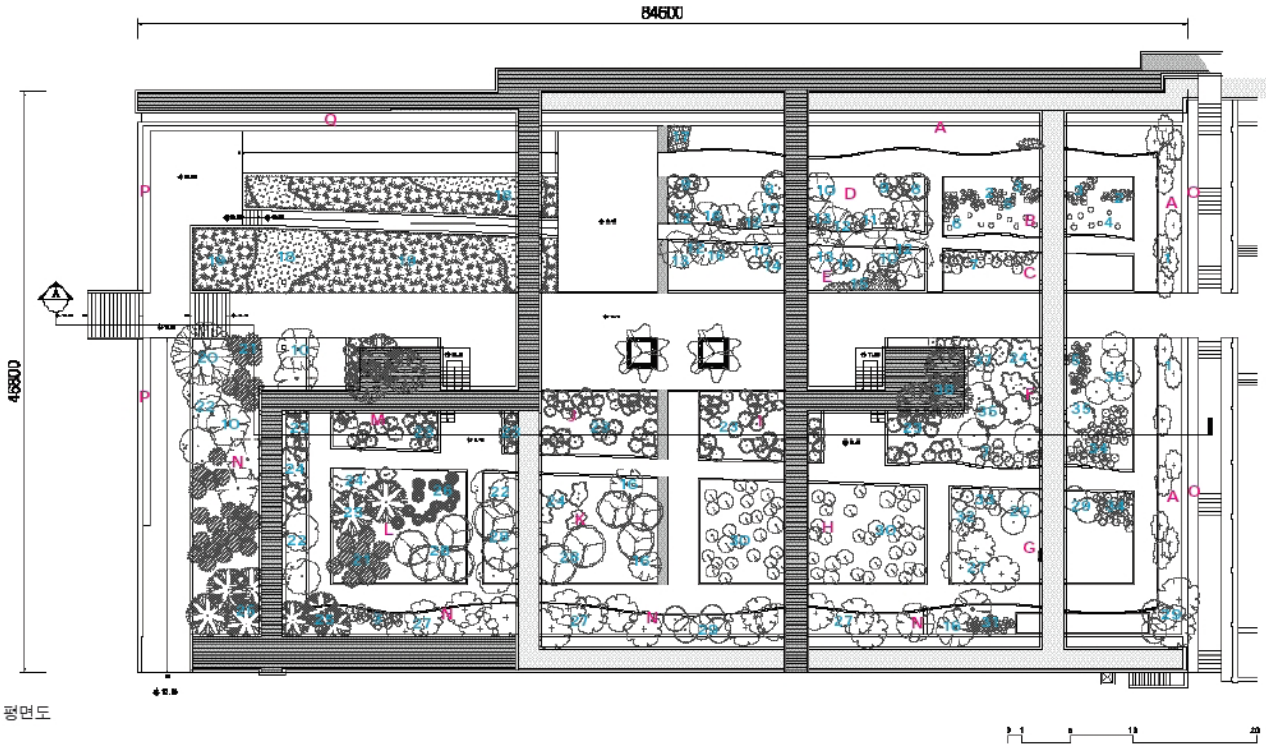
d. Water Purification Garden / former Settling Basin

The Water purification garden reuses the existing water purification basin and creates a stepped water tank. Each of the water tanks contains different types of water plant that purifies water such as water parsley, cattail, and reed. These plants absorb organic matter, nitrogen and phosphorus resulting clean water which flows into water playground and garden of green columns.

Seo-Ahn landscape architects associate, and Johsungyong architect office. "Seonyudo Park, Seoul." Urban Design Institute of Korea Journal 6.2 (2002)



e. Garden of Transition / former Settling Basin



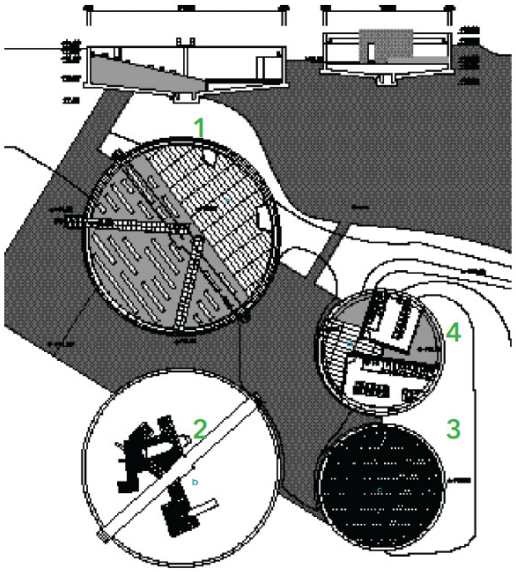
평면도

The garden of transition is the most well preserved place in Seonyu island park. Various types of vegetation garden such as aroma garden, vine garden, moss garden, and fern garden is placed on the lower structure of the former settling basin. Overall, it has interesting circulation paths that are narrow and multiple levels in order to provide a forest-like experience.

Seo-Ahn landscape architects associate, and Johsungyong architect office. "Seonyudo Park, Seoul." Urban Design Institute of Korea Journal 6.2 (2002)

f. Four Circular Spaces
/ former Concentrator + Regulator Tank

Large circular structures used to be the concentrator and regulator, where sediments from the water purification process disposed. These circular spaces transformed into four different uses; amphitheater, environmental playground, ecology classroom, and restrooms. From the ecology classroom, children can learn and experience different types of vegetation and creatures. Also the existing water pipe was used as a part of the playground.

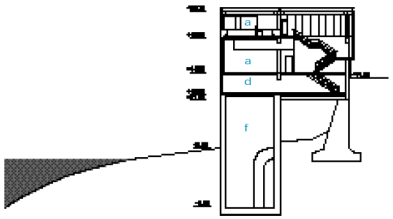


1 Amphitheater
2 Environmental Playground
3 Ecology Classroom
4 Restrooms

Seo-Ahn landscape architects associate, and Johsungyong architect office. "Seonyudo Park, Seoul." Urban Design Institute of Korea Journal 6.2 (2002)

g. Cafe Naru / former Intake Pump Station

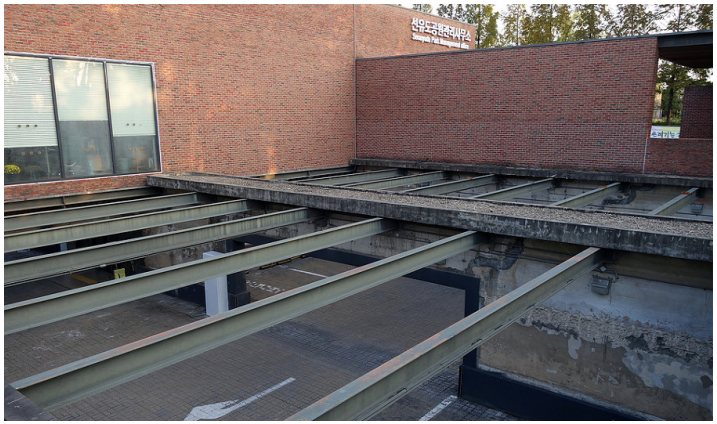
The water pump station had been neglected for many years due to the contamination of Han River. Now it is reborn as a cafe where visitors can have the panoramic view of Seoul including the Han River and the Worldcup stadium.



Seo-Ahn landscape architects associate, and Johsungyong architect office. "Seonyudo Park, Seoul." Urban Design Institute of Korea Journal 6.2 (2002)

h. Visitor's Center / former Rapid Filter Basin

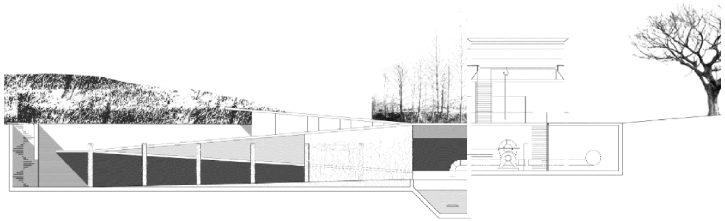
Renovated from the water filtration plant, the visitor's center provides introductory guide information of the park. The ground level receives natural sunlight through the sky light, welcoming visitors with a lounge and the park information counter. By removing the concrete slab, parking, maintenance office, and a mechanical room provided on the basement.



Seo-Ahn landscape architects associate, and Johsungyong architect office. "Seonyu-do Park, Seoul." Urban Design Institute of Korea Journal 6.2 (2002)

i. Han River Gallery / former Water Pump Station

Han River gallery is renovationed from a water pump station. Bricks and glasses wrap the existing structure to remind the past time. Oxidized steel plates and cedar show the passage of time. It has three levels; gallery and lounge on the first floor, special exhibition on the second, history and ecology gallery with the main entrance on the third.



Seo-Ahn landscape architects associate, and Johsungyong architect office. "Seonyu-do Park, Seoul." Urban Design Institute of Korea Journal 6.2 (2002)

West Seoul Lake Park

What is today the West Seoul Lake Park originated in 1959 as the Kimpo water purification plant. Until 1979, Kimpo water purification plant belonged to the city of Incheon. As the territory of Seoul become larger and as the water purification plant was near the border of the two cities, it then belong to the city of Seoul from 1979 having it renamed as Shinwol water purification plant. It used to serve 120,000 tons of tap water daily to Kangseo district. However, in October 2003, based on 'Seoul's water purification improvement project', the plant had closed after 45 years of serving clean water.

In the earlier stage of planning, city of Seoul investigated multiple ideas to replace the water purification plant: youth town, English learning center, affordable apartment district. Nevertheless, because of the constant noise coming from the Kimpo International Airport, which located approximately 8 km north, it was inappropriate for such development. Therefore, the city decided to create an ecological park that can improve the adjacent undeveloped residential area and revitalize the local neighborhood.

The industrial area, being inaccessible to the public for 50 years, was transformed into a place for relax, exhibition, and education space. One of the advantages of the park was having a large lake (18,000m^2) which is extremely rare to find in such a dense developed urban environment such as Seoul. The park was designed with collaboration between landscape architecture firm CTOPOS Design and architecture firm JIAN Architects. The project was to mingle the themes of culture, ecology, and communication with that of rebirth. The park is not only successful in terms of its use, but also renown being nominated as 2011 ASLA Professional Awards. The overall budget was 42 billion dollars.

Entrance of West Seoul lake park. Digital image. Seoul Metropolitan Government. N.p., n.d. Web. <http://parks.seoul.go.kr/template/default.jsp?park_id=lakepark>.

a. Brief History of West Seoul Lake

Kimpo purification plant. Digital image. Seoul Metropolitan Government news and report. N.p., n.d. Web. <http://spp.seoul.go.kr>.

1959 - 2003
Kimpo Purification Plant

Closed plant. Digital image. Seoul Metropolitan Government news and report. N.p., n.d. Web. <http://spp.seoul.go.kr>.

2003 - 2009
Close Plant

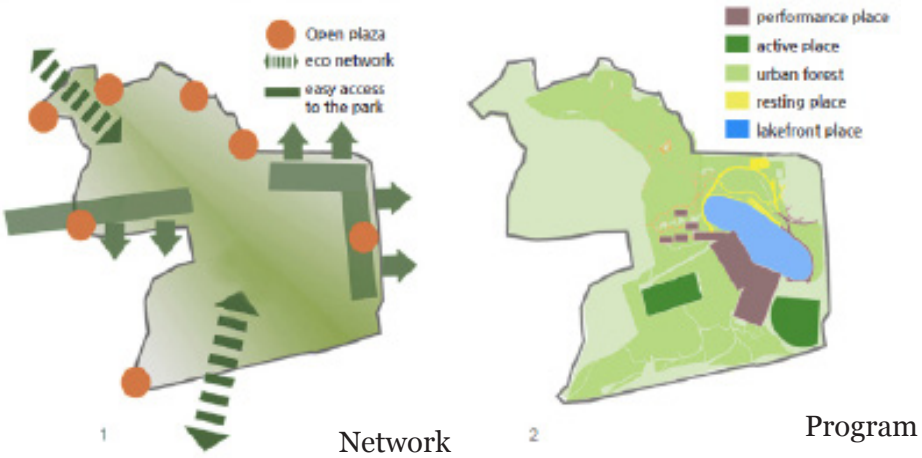
West Seoul lake park. Ctopos landscape architects. Web. < http://ctopos.co.kr/>

2009 - present
West Seoul Lake Park

b. Design Strategy

The core design concepts of the park were regeneration, ecology, and communication. The landscape architect intent to redefine the boundary of the existing water purification plant as it was highly disconnecting with the local community. Therefore, having multiple access points and visual connection was critical in order to allow connectivity with the city.

There were multiple set of achievements from the designer in different aspects. First, the park was designed to be an “open cultural art space” embodying the diverse identity of the area by placing different cultural zones to the public. Second, the park preserves the natural topography and scenery to create a space for “urban ecology”. Third, it was created as a “people’s park”, uniting visitors by featuring a variety of abundant park events and special programs. This is also a part of the goal to promote public-generated development. Forth, as being former water purification plant, it transforms as reusing the existing structure and introduces new eco-functional space.

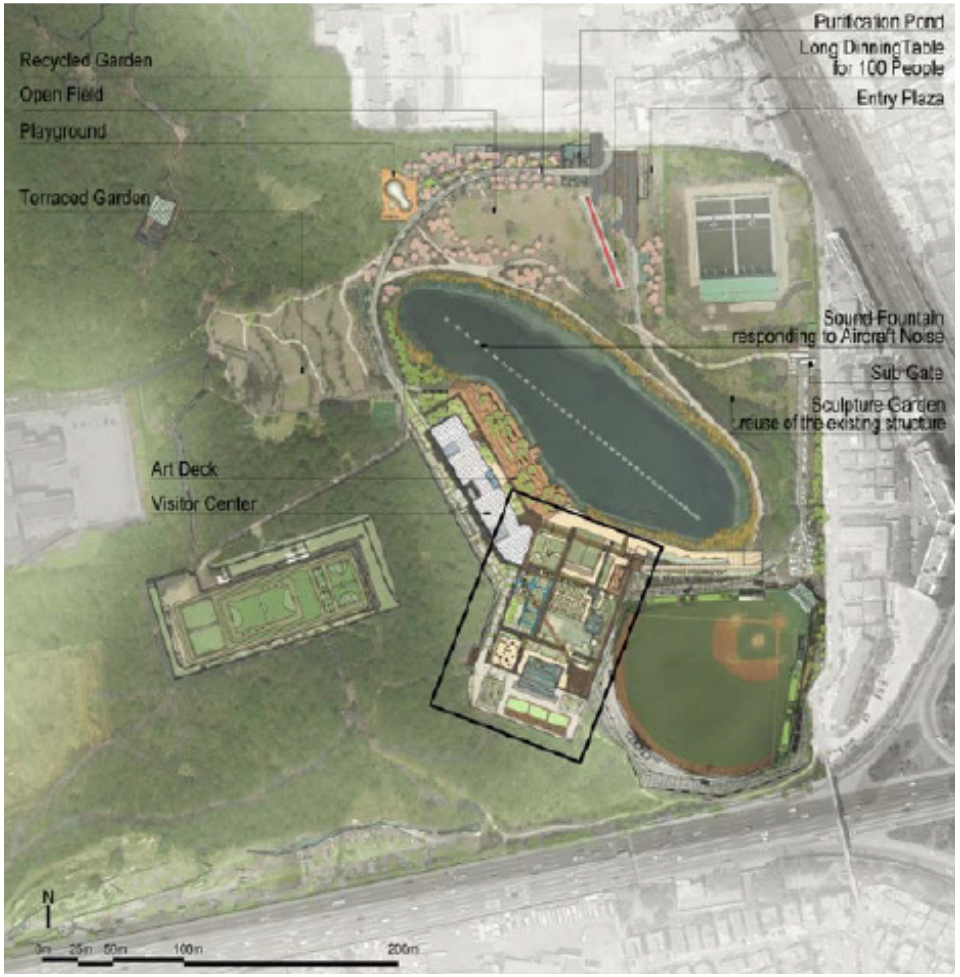


Network Program

Program Network Vegetation

Design strategy. Digital imgage. Ctopos landscape architects. Web. < http://ctopos.co.kr/>

b. Design Strategy



Master Plan

Master plan of West Seoul lake park. Digital imgage.
Ctopos landscape architects. Web. < http://ctopos.co.kr/>

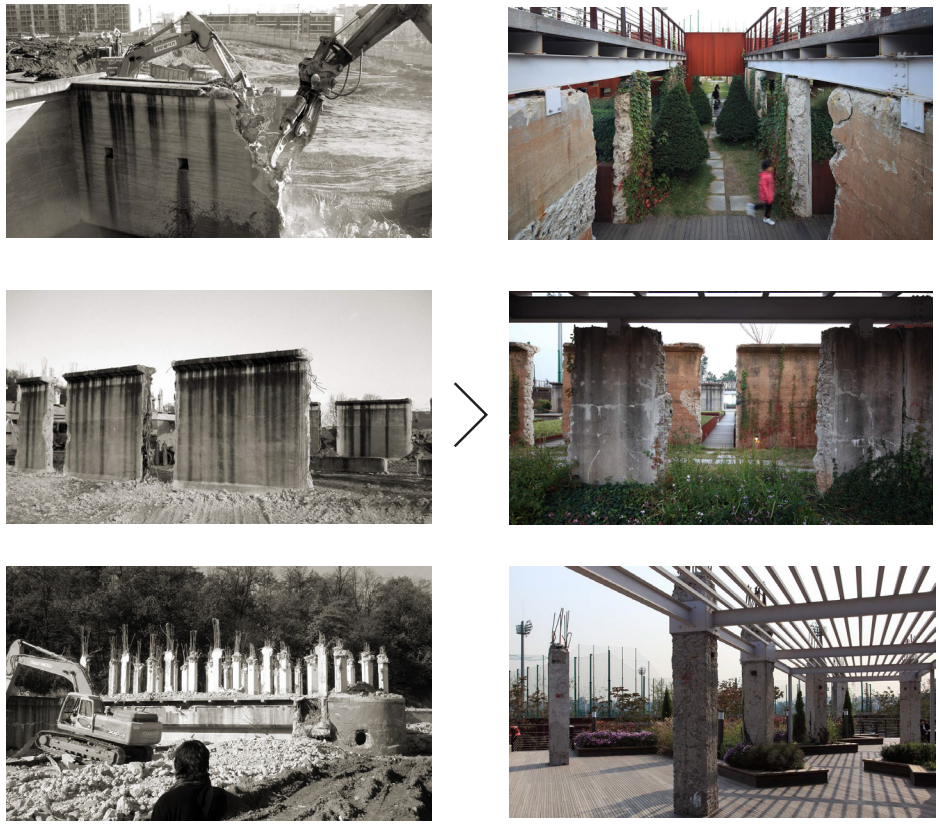
Map of the Park

Map of West Seoul lake park. Digital image. Seoul Metropolitan Government.
N.p., n.d. Web. <http://parks.seoul.go.kr/template/default.jsp?park_id=lakepark>.

c. Mondrian Plaza

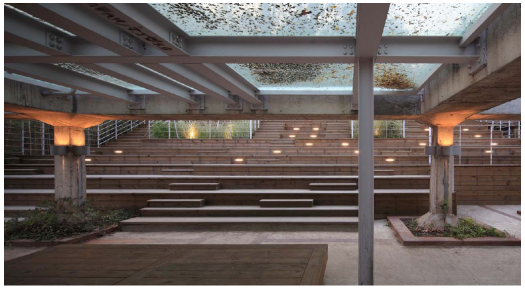
The foremost transformation concept was ‘rebirth’, which carries an idea to reuse the existing and improve it with a different approach. Typically a list of features of water purification facility includes water, pipes, reinforced steel concrete, cisterns, pumping equipment, filtering systems, a reservoir. The West Seoul Lake Park reused the materials from the old plant by such as recycling steel pipes and concrete. These old materials were then combined with new materials that matched with the old. The color scheme incorporated series of grays, dark brown, green.

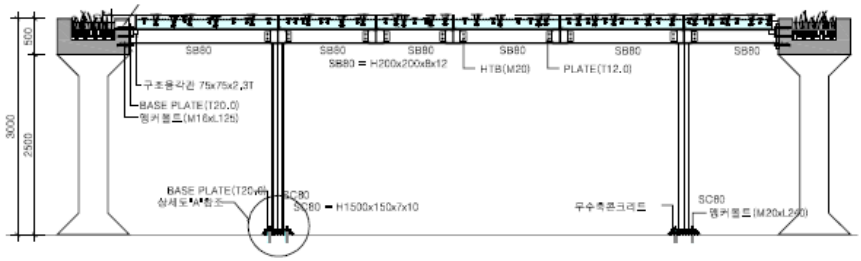
Among multiple visiting points, the biggest design achievement is the Mondrian Plaza, where the landscape designer uses simple grid to transform the existing water settling tanks. There are few old reinforced steel concrete walls and floors allowing visitors to trace the past. The new landscape was created of variety of scale with different materials. The old concrete structures blend in with new corten steel walls forming an array of various sizes of square gardens and courtyards.



Mondiran plaza. Digital imgage. Ctopos landscape architects. Web. < http://ctopos.co.kr/>

c. Mondrian Plaza, Settling Basin

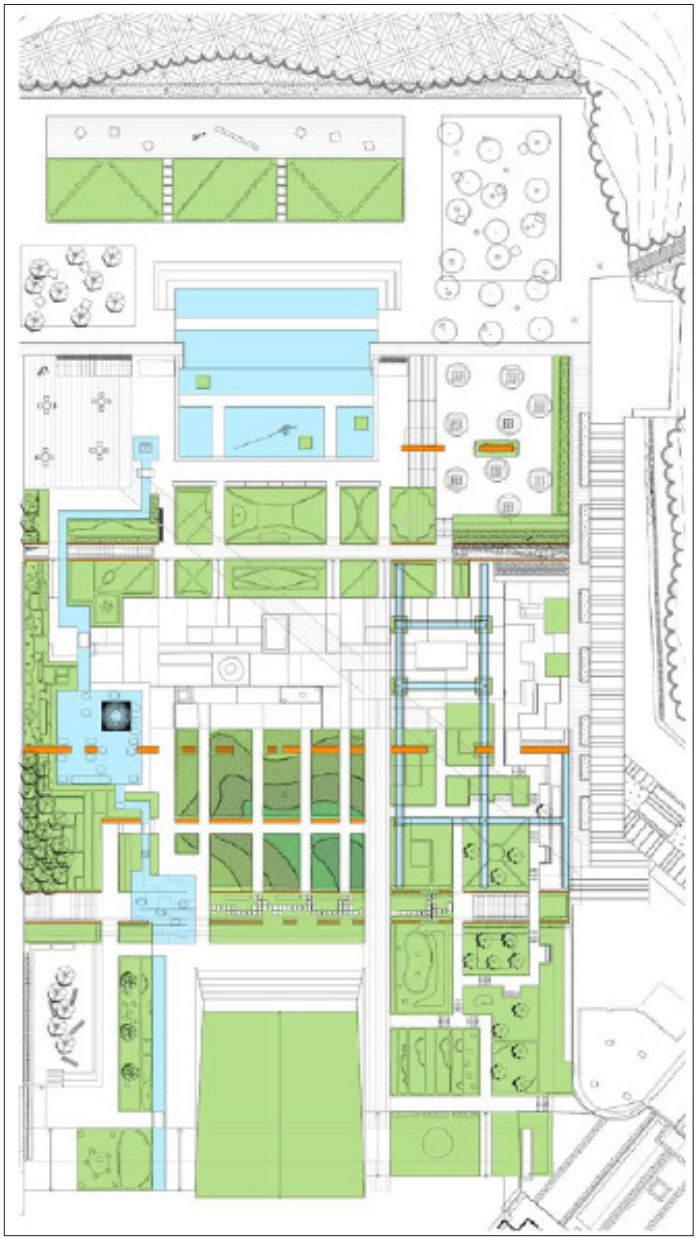




Mondiran plaza. Digital imgage. Ctopos landscape architects. Web. < http://ctopos.co.kr/>

c. Mondrian Plaza

Plan of Mondrian Plaza



Plan of Mondrian plaza. Digital imgage. Ctopos landscape architects. Web. < http://ctopos.co.kr/>

New Water Circulation System

Water circulation system. Digital imgage. Ctopos landscape architects. Web. < http://ctopos.co.kr/>

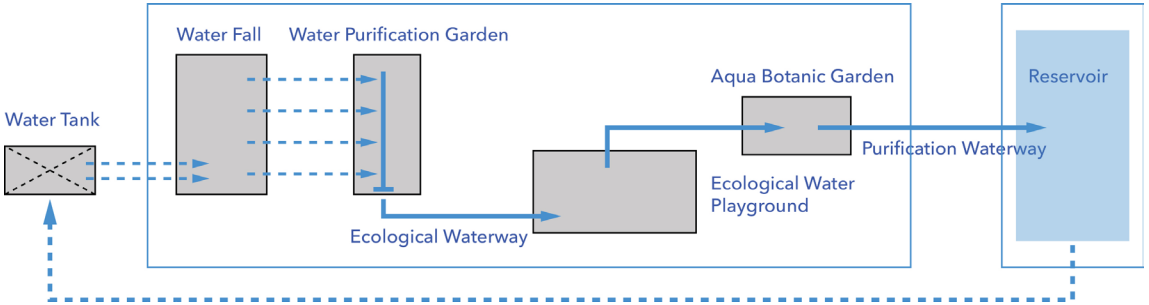


Diagram created by the author

A new type of water circulation system is created by transforming the existing water purification system. This creates a constant loop that supplies water to multiple landscape features including Water purification garden, Ecological waterway, Aqua botanic garden, Ecological water playground. It is designed to naturally flow back to the reservoir and also collect rain water as a part of water flow.

c. Mondrian Plaza

The park recycles and revives the city infrastructure without destroying it to create a unique space and scenic experience, significant as a contribution to urban renewal in which landscaping embraces rather than rejects culture, ecology, and the human inhabitants.

Mondrian plaza. Digital imgage. Ctopos landscape architects. Web. < http://ctopos.co.kr/>

d. Regeneration Garden

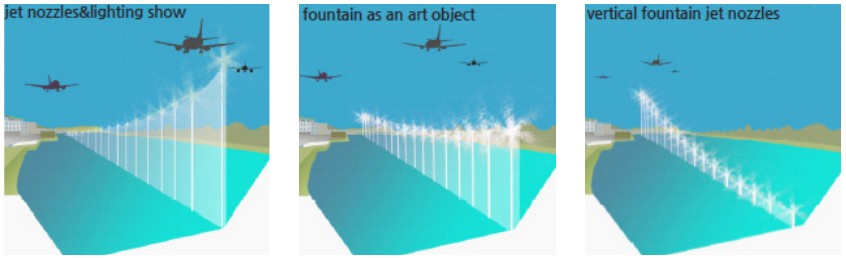
The regeneration garden consists of different types of approach that reuse existing facility structures, especially one meter diameter water pipes serve as bicycle rack and benches.

Regeneration garden. Digital imgage. Ctopos landscape architects. Web. < http://ctopos.co.kr/>

e. Central Lake

One of the main concern of the site to be a park was the periodic 1-2 minute roars from aircraft noise, that came from Kimpo international airport. One of the interesting approach that the landscape designer decided, which now is one of the most popular features, to modernize the circumstance and reinterpretate as an entertaining element. The sound fountain is an idea to change the perception of the negative and convert it as a visual pleasant event. 41 fountains sense the noise of air craft and automatically spews over 15 meters high water jets when the noise is over 81lb.

For lake viewing and to enjoy the small marine liife, there are observation decks as well as culture deck and plaza which gently connects the lake and the old water purification plant buildings.



Water fountain. Digital imgage. Ctopos landscape architects. Web. < http://ctopos.co.kr/>

Culture Deck. Digital image. Seoul Metropolitan Government. N.p., n.d. Web. <http://parks.seoul.go.kr/template/default.jsp?park_id=lakepark>.

Central lake. Digital image. Seoul Metropolitan Government. N.p., n.d. Web. <http://parks.seoul.go.kr/template/default.jsp?park_id=lakepark>.

f. Table for 100

The Table for 100 is a public table for people to have picnics and lunch. It is inspired by the existing concrete structure and to reinterpret the past.

Table for 100. Digital imgage. Ctopos landscape architects. Web. < http://ctopos.co.kr/>

g. Media Water Fall

The former settling basin is transformed as a water fall that has LED screen behind. The screen projects different kinds of art that represents Korean traditional colors with music. It spans 3 meters high and 40 meters wide.

Media water fall. Digital imgage. Ctopos landscape architects. Web. < http://ctopos.co.kr/>

The Replacement, Kangbuk Water Purification Plant

Then how is 520,000 tons of water replaced when two water purification plant no longer serve as water suppler?
It was the Kangbuk water purification plant that currently took over both water purification plants due to change of Seoul's water circulation system and the high level of contamination Han River. Kangbuk water purification plant was built in 1998 and further expanded its scale due to its larger role. It was the largest water treatment plant in Asia until recent and also recognized for the best water purification plant in Korea in 2005, 2008 and 2009, acquiring 99.64 points out of 100. However, question remains. If Kangbuk water purification plant replaced both Seonyu and Shinwol water plant, what type of water plant will be built when Kangbuk plant gets older?

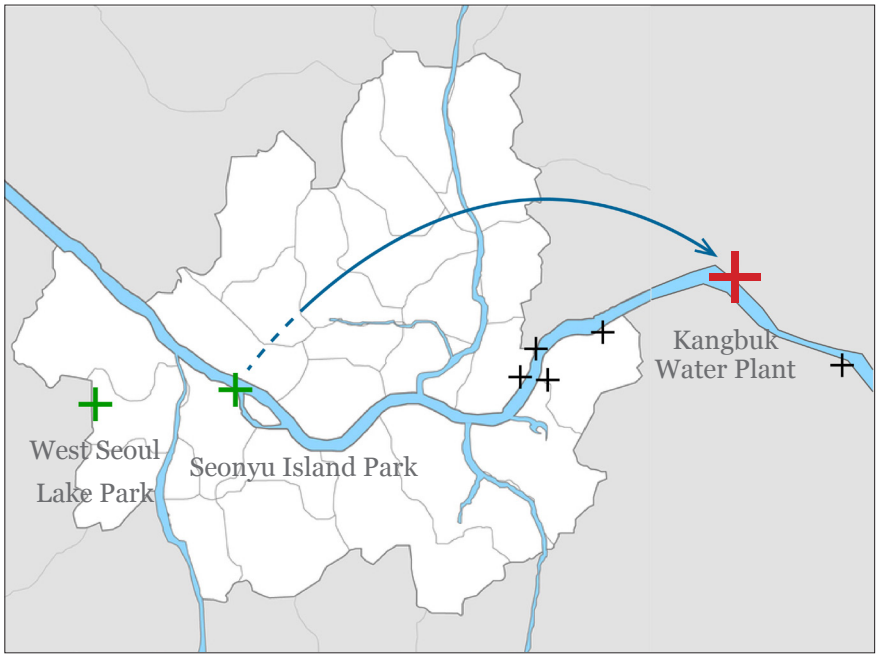


Diagram created by the author

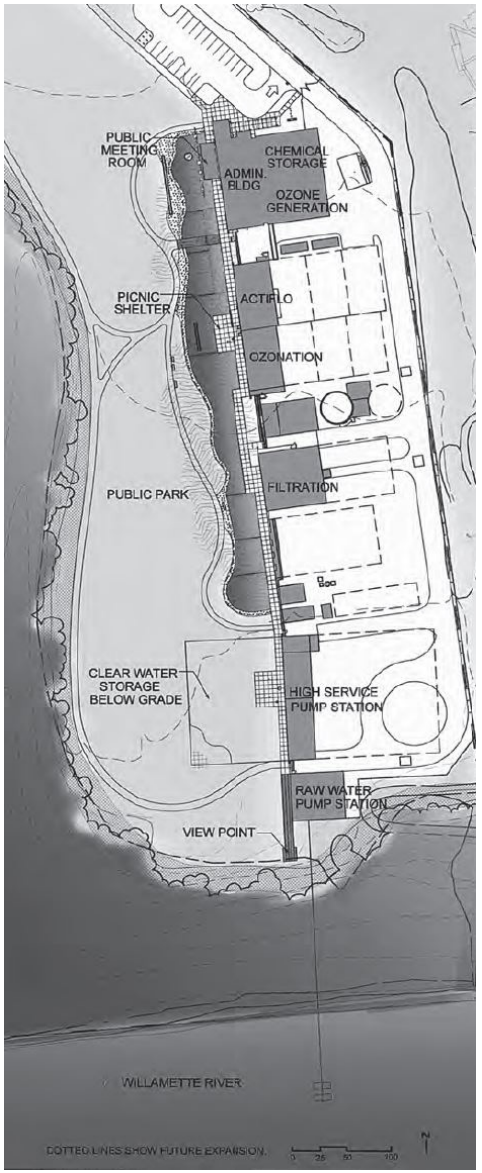
Kangbuk water purificaion plant. Digital imgage. Seoul waterworks management. Web. < http://e-arisu.seoul.go.kr/>

Willamette River Water Treatment Plant

Willamette River Water Treatment Plant is located on the banks of the Willamette River, 14 miles upstream from the Oregon City Falls and 28 miles upstream from Downtown Portland. It was built in 2002 with a new type of approach while having the same function serving 15 million gallons per day to the City of Wilsonville. It was Montgomery Watson Harza Global teamed up with Miller/Hull and landscape architect Bob/Maruse to create a project that attempt to bring "public" into the infrastructure. According to the city council, the plant was plan to become an asset, not a detriment, to the neighborhood in which it would be located. This attitude made the public works department to take a revolutionary approach.

In contrast with former water plants of Seounyu Island Park, West Seoul Lake Park and Kangbuk water plant, this water plant allows public interaction with the treatment process. It includes a public park, interpretive display, and an 800 foot concrete wall that runs perpendicular to the Willamette. Moreover, adjacent to the water plant, the water feature provides an educational opportunity and public amenity, by exposing the water purification process to visitors. The landscape architect Bob Maruse developed the idea of dividing the site with "garden wall" in which provides a bold form in the landscape and proclaims the importance of the place.

Wilsonville parks, trails and recreation. Digital imgage. City of Wilsonville. Web. < http://ci.wilsonville.or.us/DocumentCenter/Home/View/367>

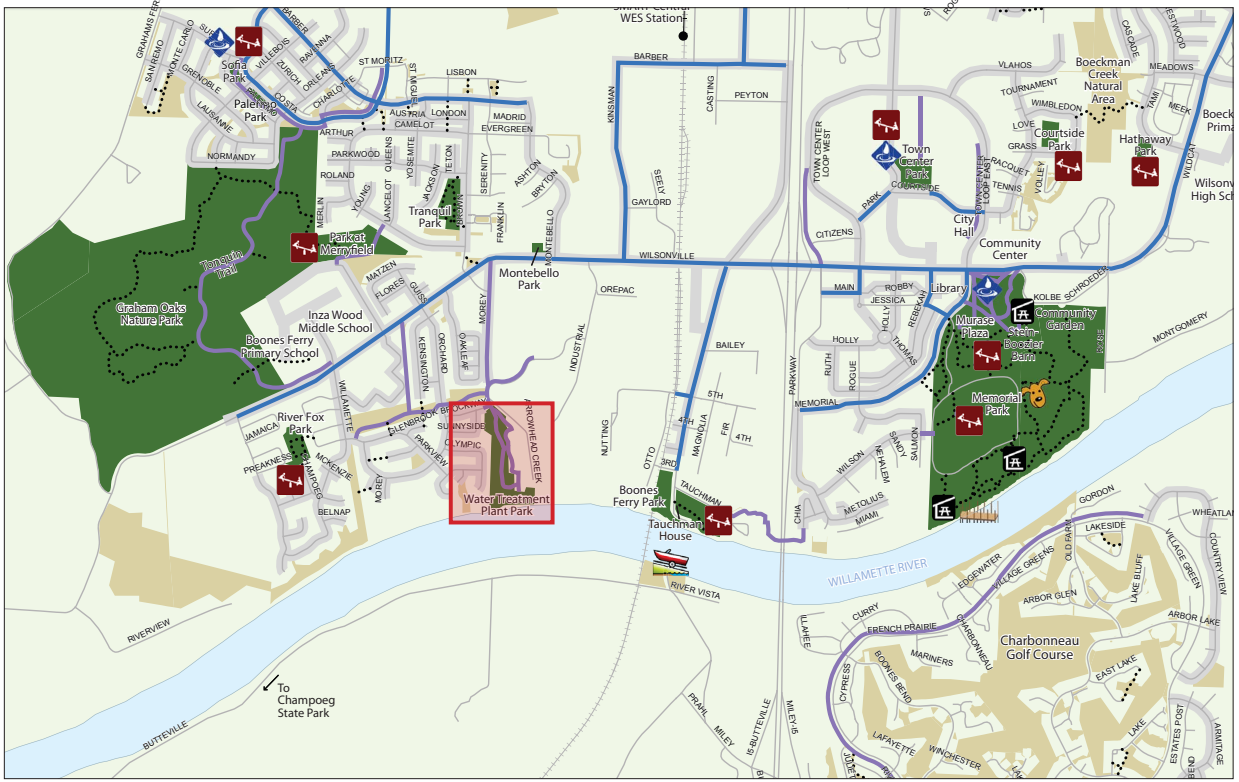


Sensenig, Chris. "Willamette River Water Treatment Plant-Wilsonville, Oregon [EDRA/Places Awards, 20004--Design]." Places 16.3 (2004).

In addition, this park was created through a community design process. In result, the west side is open to the public as a park and incorporates a number of community facilities and interpretive elements. These include a meeting room, laboratory and administrative building that is available for public use in the evenings. Also towards the river side, windows of the building allow residents to look into the treatment facility and the exhibit of the process of making safe drinking water from the river. This adds transparency aspect of the water treatment plant.

One of points that make the Willamette River Water Treatment Plant successful in terms of engaging with public realm is that it is part of the park and linked by trails. The picnic pavilions in water plant are linked by a path that terminates in a view point over the river, from where a trail through a natural area also provides public access to the river. The water plant is designed as public green space and trails to link the water treatment park to other parks and community in the city.

According to Montgomery Watson Harza, perceptions of the water quality in the town have risen now that the public can see where its water is coming from. For many successful aspects and its potential, the Willamette River Water Treatment Plant was recognized as AIA Seattle Chapter Honor Award in 2002.



Wilsonville parks, trails and recreation. Digital imgage. City of Wilsonville.
Web. < http://ci.wilsonville.or.us/DocumentCenter/Home/View/367>

Wilsonville river treatment plant. Digital imgage.
Murase associates landscape architect. Web. < http://murase.com>

Conclusion

The two projects in Seoul are highly successful in both urban and local level to bring brutal infrastructure to public realm and increase social engagement. Ignited by Chenggyecheon restoration project, these two water plant parks accelerated Seoul's Green Urbanism wave. There are two important aspects to highlight. First, the city's attempt to capture historic memory and architect's attitude towards preservation should be highly recognized. Second, the strategies from Seoul and Wilsonville building new water treatment plants are in contrast though built in similar period.

First, both Seonyu Island Park and West Seoul Lake Park manage to readapt park in the old water purification plant. Rather than creating a conventional park, the city took an advantage of reusing the infrastructure, and this endeavor introduced a vision to the city being more public and ecological. The revitalization occurred in a larger scale by connecting the alienated site with the urban fabric. Moreover, taking Seonyu Island Park as a precedent, the West Seoul Lake Park advanced its ecological feature by adopting new water circulation system that naturally supplies water to the gardens. Nevertheless, one can also criticize of "museumification" of everything. Almost every garden and features attempt to retrofit the existing structure that some design intervention seemed rather superficial. It is also a part of an issue when the landscape architect takes a poetic move excessively that underestimate the larger urban impact of the project. According to the CTOPOS Landscape Architects, the West Seoul Lake Park landscape architect's design description, "The former columns that used to support large settling basin now support the sun, sky and stars. It is time to reward the columns to relief from the heaviness."

Second, the city of Seoul built Kangbuk water purification plant in order to replace two old water plants. It is much in larger scale with updated facilities. In contrast, the Willamette River Water Treatment Plant included interpretive features about the city's water system and designed to be part of the park. Although two water plants share a similar time frame, one explicitly focused on its own function; the other attempt to be multifunctional. As the city and the local community have managed to build a water plant that includes both education and recreation, the Willamette River Water Treatment Plant resulted having more dimension to the project.

Two Seoul's projects are exemplary projects in terms of increasing historical urban literacy as well as changing the way we relate to large-scale infrastructure. As the West Seoul Lake Park replicated Seonyu Island Park, it is clear that the notion and strategy is replicable. Yet, by comparing with the Willamette River Water Treatment Plant, we must question the followings: How can we encourage the government and developers to appreciate idea of civic infrastructure converting to public space? How can we balance between the aesthetical value and ecological function in such transformation? What other layer can be added to integrate with urban infrastructure besides education and recreation? What if these layers are abstracted from local context and have deeper relationship with the community?

Bibliography

Brown, Hillary. “Next Generation Infrastructure: Principles for Post-Industrial Public Works.” (2014).
Kim, Kwang-joong, ed. Seoul, twentieth century, growth and change of the last 100 years, 2003.
Newman, Peter, and Anne Matan. Green Urbanism in Asia: The Emerging Green Tigers.
World Scientific, 2013.
Puddy, Mark W. Making Nature Visible: Comparative Case Study of the Cedar River
Watershed Education Center and the Willamette River Water Treatment Plant. Diss.
University of Idaho, 2007.
Wright, Amalie. Future Park: Imagining Tomorrow’s Urban Parks. Csiro publishing, 2013.
Wu, Jianguo, and Jae-Eun Kim. Landscape ecology in Asian cultures. Springer, 2011.

Image Source

www.ctopos.co.kr (CTOPOS Landscape Architects)
www.e-arisu.seoul.go.kr (Seoul Waterworks Management’s Official Website)
www.gardenvisit.com
www.park.seoul.go.kr (Seoul’s Park’s Official Website)
www.murase.com (Murase Associates Landscape Architect)
www.wilsonvilleparksandrec.com (Wilsonville Park’s Official Website)