



여의나루국제설계공모

Seoul Yeoui-Naru Ferry Terminal
DESIGN COMPETITION

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Yeoui-Naru, a Bridgehead to the Han River

One can frequently encounter the Han River when going back in history of this land. It was the lifeline of those who settled here, where water intake, shipping, and flooding were intertwined. In the late 20th century, intense flood control was implemented. Yeouido was a new urban space derived in the process, and the first modern planned city experimented in Korea.

Yeouido acquired the starting point position within the coordinates of Korea. It has become the core space of politics, economy and media. When estimating the size of territory, we always understand when explained in comparison to Yeouido. Yeouido is the beginning and center, and has become the reference point.

Today, the Han River is a space free from, or far from, water intake, shipping or flooding. Then the question is, what is the Han River now, and what will it become in the future? What we are trying to newly implement through the Han River is the value of culture, rather than the value of survival and function. Through the Han River we would like to question our identity and the identity of this city.

Yeouido in the 21st century is still a space of planning and experimentation. It will become a bridgehead, and a high-tech base that presents a new image of the Han River. Yeoui-Naru will influence all future projects related to the Han River. The issue this competition presents about the appearance of Yeoui-Naru therefore, does not hover over anchoring and embarkation. The question is about the future of the Han River. We are asking where this ship we have boarded is going.

Competition Professional Advisor Hyun Seo

(Professor, School of Architecture, Hanyang University)



1. Design Competition Rules

1. Design Competition Rules

1.1 Competition Title

Yeoui-Naru International Design Competition

1.2 Competition Purpose

The design competition, as the priority project of the 4 Core Projects of the Han River Cooperation Project, aims to create a ferry terminal which manages water transportation and various vessels including private and government vessels in an integrated manner. The site, one of the tourist attractions in Seoul, is able to display the natural and urban scenery of Seoul. Also, the current facilities on the site are convenient to use among those in the Han River zones and provide easy access to the citizens. In particular, it is expected to be an important site that domestic and foreign tourists visit. Therefore, this competition should contribute to the design of ferry terminal as a new spot on the Han River, where everyone can come and enjoy. This competition is also expected to maximize the scenery of the Han River as well as keep the original functions and roles of the ferry terminal.

1.3 Competition Outlines

Host & Order Institution	Seoul Metropolitan Government		
Location	Around the Yeouido Han River Park between the Mapo Bridge and the Wonhyo Bridge (Around Yeouido-dong 8, Yeongdeungpo-gu)		
Competition facilities size	Yeoui-Naru	Upper Part	- Office facilities (terminal and ticket office, etc.), convenient amenities - Size: G.F.A (Gross Floor Area) 2,100m ²
		Lower Part	- Steel pontoon with an area of approximately 2,400m ²
Construction Costs	KRW 27,500,000,000 (including overhead expenses and VAT)		
Design Costs	KRW 1,045,000,000 (including VAT)		
Design Period	10 months from the contraction date (but, can vary during the project promotion period)		

※ The site size can be changed during the design plan, but the facilities size should be designed under the given conditions.

1.4 Competition Type

This competition type is a standard open competition for Korean and international experts.

1.5 Languages and Units

- The official languages of this competition are Korean and English, and measuring units follow the SI metric system.
- In the event of a dispute over an interpretation between Korean and English, the Korean version will prevail over the English version.
- All submitted materials must be written in Korean or English and the English version should be written clearly without any dispute over interpretation. In the event of a dispute, the host's interpretation will prevail over any other interpretation.

1.6 Eligibility

- This competition is open to Korean and international experts in architecture, urban planning, landscape, civil engineering and other related studies. If entering as a group, the number of members for each group will be limited to a maximum of 5.
- One member of each group must be appointed as a representative. The representative has the authority to submit and receive any related documents and to acquire and relinquish any right for the design competition on behalf of the co-applicants.
- When signing the design contract, a related professional engineer and an architect will be included.
- An entrant who has an architect license that is not issued in Korea can enter the competition individually; however, if selected as the winner, to ensure that relevant laws are observed, the entrant must form a joint-supplier with a representative of a Korean architectural firm in order to sign the design contract.
- Members of the Juries and the Evaluation Committee, Operation Committee, Technical Committee, and any related person are not eligible to enter the competition.
- Individuals or groups in this design competition are not allowed to make more than one submission.

1.7 Competition Schedule

Classification	Date	Note
Announcement of Competition	09.02.2017(Thu) notice	- Website
Registration	09.02.2017(Thu) ~ 10.04.2017(Mon) by 17:00	- Only available on the website
Site Briefing	22.02.2017(Wed)	- Participation is not obligatory, but recommended. - Schedule may be changed depending on site conditions
1 st Receipt of Inquiry	23.02.2017(Thu) ~ 02.03.2017(Thu) by 17:00	- Only available on the website
1 st Inquiry Feedback	06.03.2017(Mon)	- Will be posted on the website
2 nd Receipt of Inquiry	31.03.2017(Fri) ~ 06.04.2017(Thu) by 17:00	- Only available on the website
2 nd Inquiry Feedback	10.04.2017(Mon)	- Will be posted on the website
Submission of Entries	17.05.2017(Wed) by 17:00	- Submit to: 11F, Public Development Center, Seoul Metropolitan Government
Technical Evaluation	24.05.2017(Wed)	- Technical review of non-compliance with the regulation and guidelines prior to the evaluation
Evaluation	29.05.2017(Mon) ~ 31.05.2017(Wed)	- A list of jury members will be posted on the website - Winner (1st place) and Runners-up (all other winners) are selected for the evaluation
Winner Announcement	01.06.2017(Thu)	- Will be posted on the website
Awards Ceremony and Exhibition	19.06.2017(Mon)	- Will be posted on the website

※ All dates and times follows Korean Standard Time (GMT +9). The Evaluation and winner announcement schedule may change, and all changes made will be posted on the “Let’s Design Seoul” website (<http://project.seoul.go.kr>).

1.8 Registration

Registration for the competition is only available on the website (<http://project.seoul.go.kr>) during the registration period: 09.02.2017(Thu) ~ 10.04.2017(Mon) by 17:00. Registration will be completed once entrants pay the registration fee, \$100 USD.

- The competition guidelines and other relevant information are available on the website. Only entrants who completed the registration will be able to post inquiries during the Inquiry Reception period.
- To register, go to the website, create an account and log in → competition → select the competition → follow the registration process. (Entrants will be provided a personal identification number (PIN) after completion of online registration)
- Once registration is completed, entrants cannot change the group representative. However, after cancellation of the representative, a re-registration of the representative is allowed.
- For those entering as a group, any of the members of the group can be changed before the registration deadline except for the representative.

1.9 Site Briefing

- Date: 22.02.2017(Wed) 10:30 am
- Location: In front of exit 2, Yeoui Naru Station
- Note: Participation in the briefing is not obligatory, but is recommended, because during the briefing, the elements that the host considers important, including the background and purpose of the competition and the concept of the special facilities and programs, will be explained in detail.

1.10 Inquiry Reception and Feedback

- Individual entrants or representatives of each group may upload inquiries on the website after completing registration. Email and phone inquiries will not be accepted.
- Only inquiries written in Korean and/or English and posted through an appropriate procedure during the 1st and 2nd Inquiry Reception period (1st : 23.02.2017(Thu) ~ 02.03.2017(Thu) by 17:00, 2nd : 31.03.2017(Fri) ~ 06.04.2017(Thu) by 17:00) are valid.
- Each feedback will be distributed through the website on 06.03.2017 (Mon) (1st feedback) and 10.04.2017(Mon) (2nd feedback). The feedback date may change and, if so, a notice will be posted on the website.
- The feedbacks will be regarded as an addition or amendment to the competition guidelines.

1.11 Supplementary Resources

- Entrants who complete the registration will be able to find additional resources necessary for the competition on the website (<http://project.seoul.go.kr>).
- All or part of the provided documents and materials cannot be used for any other purposes but this competition.
- All supplementary resources above, except the guidelines and other forms, are provided only in Korean.
- Additional resources may be provided, if necessary, and be posted on the website. All entrants must check this before submitting their entry.

1.12 Submission

- Each entrant (individual or group) can submit only one design, and it must be submitted both directly and online.
- When submitting by mail, pack and seal all items in one package and send it to the reception desk. The host is not responsible for any damage or loss that occurs during packing or delivery. Entrants will be notified by email whether the materials they submitted by mail arrived safely.
- For detailed guidelines for entry and submission, refer to 「3.Entry Guidelines」.

(A) Direct Submission

- By hand: All materials must arrive at the reception desk by 17.05.2017 (Wed) 10:00 ~ 17:00 (KST: GMP +9).
 - ※ Reception Desk Location :110, Sejong-daero, Jung-gu, Seoul, Seoul Metropolitan Government 11F (Public Development Center)
- By mail (including international mail), all mails and packages will be valid if postmarked by 17.05.2017(Mon) and must be received by the deadline (22.05.2017(Mon), by 18:00 (KST: GMT +9)). Any materials received after the deadline will not be accepted. The postmark must clearly indicate the date. For international mail, mark “No Commercial Value” to prevent unexpected delays and avoid unnecessary taxes.
 - ※ Address: (04524) 110, Sejong-daero, Jung-gu, Seoul, Republic of Korea Public Development Center, Seoul Metropolitan Government

(B) Online Submission

- Submit materials on “Let’s Design Seoul” (<http://project.seoul.go.kr>).
- Submission date: 15.05.2017(Mon) 00:00 ~ 17.05(Wed) 18:00 (KST: GMT +9)
- To submit online, go to the website and log in → My project → select the

competition → fill out the form for materials to be submitted. Use the same information that is used in the direct submission.

1.13 Anonymity

- All personal information submitted to the website will not be disclosed until the winner is announced. All documents that contain an entrant's personal information must be sealed when submitted.
- For a fair evaluation, all entrants must agree not to disclose entries until the winner is announced.
- The entrants's PIN must be marked on every documents and all materials submitted according to the guidelines.

1.14 Host

Seoul Metropolitan Government, as the host, takes the responsibility for the implementation of the competition.

1.15 Competition Administration

Competition Administration consists of the Operation Committee, Professional Advisor (PA), and Project Manager.

- Operation Committee Chairman Professor Ryu, Joong-suk
(Chungang University)
- PA(Professional Advisor) Professor Hyun, Seo
(Hanyang University)
- Project Manager Heerim Architects & Planners Co.,Ltd.,
CBRE Korea, Inc.

The Operation Committee directs competition administration. The PA supervises the registration of entrants, Q&A, submission of materials, and assists in the entire process of the evaluation with the Technical Evaluation Committee. The Project Manager checks the procedures of the competition, observing the schedule and regulations of the competition.

1.16 Technical Evaluation Committee

- The Technical Evaluation Committee consists of experts in river, architecture, civil engineering, and other related studies. The Technical Committee inspects submitted materials for any violation against the competitions rules, guidelines, and/or the law and provides a written technical evaluation to the Evaluation Committee.

- The date, procedure, standards, and criteria of the specific technical evaluation will be fixed by the Technical Evaluation Committee.

1.17 Jury Committee

- The Jury Committee consists of five juries, two of international ones and three domestic ones.
- A reserve jury (domestic) will be selected.
- Juries : Alejandro Zaera Polo (President, AZPML)
Choi Moongyu (Professor, Yonsei University)
Choi JeongKwon (Professor, Gachon University)
Park SunWoo (Professor, Korea national University of Arts)
Ryue Nishizawa (President, Ryue Nishizawa)
Reserve Jury : Shim Jaehyeon (Professor, Sejong University)
- At least five members of the committee juries must be present at the opening session, and a chief of the jury will be appointed during the session.
- The chief collects the opinions of all the juries and establishes the criteria for evaluation and selection of the winner. The chief determines details of the evaluation procedure with the agreement of the committee. Also, the chief writes the evaluation report on behalf of all the juries and delivers it to the host of the competition.
- Only the jury has the authority to evaluate or vote. However, if a jury is temporarily absent, the reserve jury votes on its behalf. The reserve jury may participate in the evaluation session equally with other juries, and a jury that is not present at the opening session will be disqualified and the reserve jury will be substituted for it.
- The PA (Professional Advisor) may participate in the evaluation session but does not have the right to evaluate or vote.
- Regardless of the evaluation procedure, based on a Jury Committee opinion, the Operation Committee may disqualify an entry or revoke the selection of the winner if any of the following occur:
 - An entrant submits two or more designs
 - An entrant does not follow the competition rules and requirements
 - An entrant who is not eligible for the competition submits a design
 - An entrant violates anonymity conditions
 - An entrant submits an existing design of someone else or himself or herself, or submits a design that seems to resemble an existing design

- The winner or any runner-up may not be selected, If result shows that the design is not suitable for the purpose of the competition or the level of the work is remarkably low.
 - Entrants cannot appeal against the results of an evaluation.
 - The evaluation period may be adjusted and if so, will be posted on the website.
- ※ To ensure transparency and fairness, the evaluation procedure will be observed by the civil audit ombudsman as an act of monitoring the cleanness of public project contracts in accordance with the『Seoul Civil Audit Ombudsman Management and Civil Audit Demand Regulations』 Section No.25.

1) Objectives and Criteria of Evaluation

- It aims to select the best design which is satisfies Section 1.2.
- The criteria of evaluation are taken from *〈Architecture Design Competition Guidelines〉* (Notification of Ministry of Land, Infrastructure and Transportation), *〈Local Government Design Competition Method of Management〉* (as prescribed by Ministry of Public Administration and Security), and *〈Seoul Public Buildings Design Criteria〉* and the Jury Committee of the design competition makes the decision.
- The Jury of the design competition decides any other necessary elements such as specific manner of evaluation, evaluation items, distribution of scoring, and etc.

[Main Considerations in the evaluation of the design competition (example)]

Evaluation Manner	Details	Scoring
Scenery and Design Plan	<ul style="list-style-type: none"> ○ Excellence in landmark design plan ○ Connection between surroundings and neighborhoods ○ Harmonious with the Han River and Citizens' Park ○ Adequacy of colors and materials 	35
Plan Layout and Design for Facilities Space	<ul style="list-style-type: none"> ○ Convenience and connection of indoor and outdoor facilities and space utilization ○ Connection between water and waterside facilities ○ Convenience of space utilization ○ Adequacy of circulation, functional division and introduced programs ○ Validity of expansion and standardization 	35
Safety and Technical Plan	<ul style="list-style-type: none"> ○ Excellence in eco-friendly design ○ Economy of cost effectiveness ○ Excellence in facility structure and construction methods ○ Maintenance and Structure safety and Appropriacy 	25
Others	<ul style="list-style-type: none"> ○ Plan for public enhancement and management of special conditions 	5

1.18 Selection of the Winner and Runner-ups

The final result of the evaluation will be posted on the website, and the winner and the runners-up will be notified individually.

※ The Winner Announcement date may be changed (expected: 01.06.2017), and if so, will be posted on the website.

Winner and Runner-ups

- Refer to the chart below for the runner-up classifications and prizes.

Classification		Guidelines	Prize (KRW)
The number of participating groups	The number of compensation groups		
2 or less	1	1/3 of compensation budget	33,300,000
3	2	4/10 of compensation budget	40,000,000
		3/10 of compensation budget	30,000,000
4	3	4/10 of compensation budget	40,000,000
		3/10 of compensation budget	30,000,000
		2/10 of compensation budget	20,000,000
5 or more	4	4/10 of compensation budget	40,000,000
		3/10 of compensation budget	30,000,000
		2/10 of compensation budget	20,000,000
		1/10 of compensation budget	10,000,000

※ The number of compensation groups exclude the winner and the winner has the right of basic and final design.

- If the recipient is a group entrant, the prize will be awarded to the representative.
- If an international entrants or a group (based on the nationality of the representative of the group) is selected as one of the runners-up, the prize money will be disbursed in USD according to the currency exchange rate on the day of disbursement (within 30 days from the award ceremony).
- The prize money includes expenses of all sorts such as related taxes, bank transfer fee, exchange fee, and flights to attend the award ceremony.
- The winner will be granted a priority right to negotiate and sign the design contract. The design contract must be concluded within 10 days from the winner announcement. This may be adjusted if the host has any changes in the project.
- If the winner waives the priority right, or if the priority negotiation is unsuccessful, the host can pass the right to the runner-up (2nd prize). In this event, the runner-up must return the prize money.

1.19 Design Contract

- The design contract will be implemented in accordance with Korean laws and Seoul Metropolitan Government Articles and Rules. It will include the schematic design, construction documents, design documents, and references which are necessary for construction consent, consideration, agreement, and confirmation for beginning construction.
- The contract is written in Korean and based on the Task Instruction that the host writes. The Task Instruction will be posted on the website before the registration deadline.
- If the winner is not qualified in the area of architecture, electricity, communication, or firefighting, which requires certified architects according to the Certified Architects Act, the winner should organize a joint supplier with certified architects (who operate their architectural firm according to the Certified Architects Act), and professional engineers (who operate a professional engineers' office according to the Professional Engineers Act) to co-sign the contract.
- If the winner signs the contract as a joint supplier, a consortium method-joint and share implementation, design execution (joint execution or assignment execution) should be decided. If a joint execution is set up, the participation rate of each member must be 5% or greater.
- Cost of construction for the project includes schematic design, construction documents as well as all expenses of design documents and references for each authorization and permission.
- The host may request the winner to make adjustments on the winning entry if there are some changes in budget, policy, project plan, or revision request by the jury. The winner has an obligation to accept the request and apply it to the contract.
- If the winning entry requires construction costs that exceed the estimated cost, the winner has an obligation to discuss this with the host and modify the design.
- If the host decides to discontinue the project, the host will disburse money for all actual expenses accrued until that day.
- The winner must be in compliance with all contents of the competition guidelines for the duration of the contract.

1.20 Copyrights and Publications

- All entries must be the original work of the entrant (individual or group) and avoid violating the copyrights of others. The entrants is responsible for any infringement, and the winner's prize may be forfeited.
- The entrant reserves all rights (including copyrights and ownership) for one's entry. Yet, the host may partially or totally use the following for all entries: photos, drawings, floor plans, etc. in manners of reproduction, exhibition, distribution, rental, and public transmission and derivatritives creation for the purpose of exhibiting, advertising, establishing the project plan, and creating derivative works without paying any royalties to the entrants as long as it does not make a profit from the above activities.

1.21 Return of the Entries

All designs and materials submitted must be reclaimed by entrants at the entrant's expense within 7 days from the winner announcement of the winner. The host may arbitrarily dispose of the unclaimed entries, and entrants cannot raise any appeal against this.

1.22 Conflicts and Disputes

The competition is governed by the relevant laws and regulations of Korea. If any dispute arises, arbitration for the dispute will be conducted by the appropriate court in Korea.



2. Design Guidelines

2. Design Guidelines

2.1 Work scope and site

1) Yeoui-Naru (Ferry Terminal)



[image 2-1] Yeoui-Naru work scope

- The planned location of Yeoui-Naru(Ferry Terminal) is in the existing concrete shore area, on the Han River surface adjacent to the waterfront.
- The Yeoui-Naru (Ferry Terminal) plan should take into account spatial connectivity with the multi-level interchange and the pier deck and planned Yeouijeong facility adjacent.
- Below is a reference for the object of the design competition.

ship types and specifications	Refer to Yeoui-Naru Design Guidelines (2.3) and Appendix		
Facilities to be included	Yeoui-Naru (Ferry Terminal)	upper part	Office facilities (terminal and ticket office, etc.), observatory, amenities, etc. Size : less than 2,100㎡ of G.F.A
		lower part	Steel pontoon with an area of approx. 2,400㎡
	Marina facilities		Floating pier, etc. for berthing (Total area of floating pier approx. 3,000㎡)

※ The entrant can suggest different area of lower part and marina facilities, secured a structural safety.

2) Optional – spatial planning (inclusion of pier deck, Yeoui Terrace, cultural complex facilities and multi-level interchange)



[Image 2-2] Spatial planning

- The possible scope of the space arrangement proposal must include “The 4 Core Projects of the Han-gang Collaboration Plan Yeoui-Naru (Ferry Terminal), Yeouijeong (Pier Deck), Yeouimaru (Yeoui Terrace), Ari Cultural Center) and multi-level interchange,” and the applicant can propose a complete spatial plan for Yeoui-Naru (Ferry Terminal) while considering the integrated design of, and connection with, Yeoui-Naru.
- The multi-level interchange can be proposed to directly connect the Yeoui-Naru Station on Subway Line 5 and Yeoui-Naru (Ferry Terminal).
- The following can be referred to for details of facilities that can be proposed in the spatial plan.

Offshore facilities		Land facilities	
Yeoui-Naru (Ferry Terminal)	Floating pavilion (Pier deck)	Yeoui-Marun (Yeoui Terrace)	Ari Cultural Center (Cultural complex)
Multi-use dock for public, tourism, transfer, leisure, etc.	Main cultural attraction facilities around the Han River waterside	Various amenity and tourist facilities around Yeouidong-ro	Exhibition/Experience space for Korean cultural tourism
On the Han River surface near the concrete shore area	Existing concrete shore area, adjacent to the waterfront	Yeouinaru Station area, around Yeouidong-ro	Wonhyo Bridge direction, around Yeouidong-ro
G.F.A 2,100㎡	G.F.A 7,000㎡	G.F.A 8,500㎡	G.F.A 8,000㎡
Object of design competition	Facilities that can be proposed in a space arrangement	Facilities that can be proposed in a space arrangement	Facilities that can be proposed in a space arrangement

2.2 Current site conditions

1) General

Location	The Yeouido Han-River Park area between Mapo Bridge and Wonhyo Bridge (Yeoidong-dong 8, Yeongdeungpo-gu area)
Land use	Urban area, Natural green area (lower than 4 levels), Overpopulation control area, Main landscape management area, Livestock restricted area (exception: pets and animals for security), Anticraft defense cooperation area (commissioned altitude: 77-257m), Waste landfill restricted area
Ownership	Yeoui-Naru (Ferry Terminal) : state land Pier deck: state land, city land Yeoui Terrace, Ari Cultural Center : city land
Urban planning facilities	River

2) Current state of site and surroundings

(1) Current facilities to be preserved

- A section of the tunnel for Subway Line 5, water pipes and storm sewer run through the site. As a result, hydrological facilities and subway ventilation facilities are located on the grounds of the site.
- The related facilities should be preserved in the spatial plan in accordance with the requests of the facilities management department.
- Refer to [Image 2-3 Current Facilities to be Preserved] in regards to the location and type of current facilities.



[Image 2-3] Current Facilities to be Preserved

(2) Current traffic infrastructure

- The Yeoui-Naru Station of Subway Line 5 is located near the site.
- Refer to [Image 2-4 Current Traffic Infrastructure] for details on city bus stops and routes located in Yeouidong-ro, south of the site.



[Image 2-4] Current Traffic Infrastructure

(3) Current facilities (other)

- 2 Convenience stores, 1 Han-gang Operation HQ Yeoui Information Center (office facilities) and 1 Han-gang Citizen's Park management office is located near the site as is Yeouido Parking Lot 2.
- Current facilities except retain facilities need not be taken into account when planning.

2.3 Design guidelines

1) General

- Applicants should design an upper building, lower pontoon, and marina facilities that respect the function of Yeoui-Naru (Ferry Terminal), the types and specifications of the vessels to be accommodated, etc. that is environment-friendly and suitable for civil, structural, mechanical, and electrical system designs.
- The design should leave room for expansion, taking future increases in ship and user demands into consideration.
- For comfortable and safety use of all the citizens including the disabled, barrier free plan should be reflected on the design plan.

(1) Ensure hydrological conditions and safety

- All facilities should be planned with respect to the design flood discharge of 200 years ($37,000\text{m}^3 / \text{sec}$) and the flood water level (14.86m EL.m).
- In accordance with the construction of the 4 core project facilities, the design scope should be within a range that does not involve modifications of the basic river plan (except minor changes).
※ The river width should not be reduced by more than 1% of the planned 1,286m.
- All facilities should secure a safe area for the Subway Line 5 tunnel.
※ Refer to the Tunnel Section and Tunnel Safety Area of Subway Line 5 in Appendix 4 [Status of Site Area].

2) Particulars of the vessels to be employed

- The facilities and marina facilities should be planned according to the type and specifications of the ships to be employed.
- The marina facilities should be designed so that five vessels of up to 700 tons can berth at the same time.
- Refer to the table below for the types and specifications of vessels to be introduced.

[Classification and Specifications of Vessel]

Classification			Capacity	Specifications	
				Total tons	length×width×draft(m)
Integrated management	Government vessel	Advertising boat	1 ship	700	60×12×2.5
			1 ship	200	40×10×2.5
			1 ship	25	20×5×1.0
		Maintenance boat	14 ships	10	15×4×1.5
	Subtotal		17 ships		
Transfer	Water Transportation	River bus	2 ships	200	40×10
		Water Taxi	1 ship	5	10×5×1.0
	Subtotal		3 ships		
Tourism and leisure	Tourism and leisure	Ferry	2 ships	400	60×12
		Private boat	20 ships	10	15×5×1.5
	Subtotal		22 ships		
Total			42 ships		

3) Functions and programs to be implemented

- Design marina facilities and facilities that fit the function of Yeoui-Naru (Ferry Terminal).
- The Han River viewing and observation space in Yeoui-Naru (Ferry Terminal) service and recreational facilities should be designed to allow easy and convenient access for all.

[Yeoui-Naru Facility and programs]

Classification	Purpose of facilities	G.F.A of facilities ¹⁾
Functional facilities	Office facilities vessel entry/departure declaration, ticket office, maintenance, terminal, etc.	Approx. 800m ²
Service and amenities	Amenities, lost children facilities, small shops, storage	Approx. 1,300m ²

1) Adjustable to within ± 5%

[Wharf facility and program]

Classification	Facility Types		Note
Basic facilities	Water facilities	Mooring facilities	Outer facilities (floating pier, etc), not including water transportation
	seaway, moorage, turning area, etc.	Floating pier, mooring post, etc.	
Functional facilities	Ship supply facilities	Office facilities	Not including storage facilities, upper and lower facilities, ship work facilities, management operation facilities, environment purification facilities, research facilities
	Water supply and power dispatch facilities, etc. (excluding refueling facilities)	Inbound/outbound report, ticket office, facilities management, terminal, etc.	
	Safety facilities	Security facilities	
	Route signs, fire prevention facilities, etc.	Fences, doors, etc.	
Service and recreation facilities	Recreation facilities	Park facilities	Not including welfare facilities, resting facilities, cultural education facilities, studio apartments
	Snack bar, restaurant, etc.	Rooftop observatory, walking trail, etc.	

4) Site planning

The layout of Yeoui-Naru (Ferry Terminal) and marina facilities should be planned with respect to future expansion possibilities, and the marina facilities, such as floating piers, should be planned with consideration for the stability of a berthing ship.

Layout plans should include the following:

(1) Layout of Yeoui-Naru (Ferry Terminal)

- Buildings and marina facilities shall be arranged to fit the docking area, on the existing concrete shore area, and on the surface of the Han River adjacent to the waterfront.

(2) Layout of marina facilities

- The marina facility layout should be planned with an appropriate distance from the bottom of the reservoir to minimize dredging and the drafts of the ships.
- Ships with a capacity of 100 tons or more shall be spaced more than 30 meters from the bottom of the reservoir.
- Separate marina facilities should be secured for ships with a capacity of 200 tons or more for stable berthing and mooring.
- Marina facilities for large ships (such as floating piers) should be placed so they do not disturb the harbor tranquility (less than 0.31 m) of small ships of less than 10 tons (management boats, water taxis, civilian vessels, etc.).

5) Civil Planning

(1) Flood prevention and water environment

- Avoid any form that may interfere with river flow and lead to a rise in water level in the event of a flood.

(2) Mooring type

- The mooring method and materials for the pontoon should be planned in consideration of stable berthing, maintenance, and the structural safety of the ships.
- If the pile mooring method is applied, it should be planned with respect to the current status of the Subway Line 5 tunnel section.

[Example of mooring type and material]

Classification		Mooring type	Material
Yeoui-Naru(Ferry Terminal)		Chain mooring	Steel
Marina facilities	More than 10tons	Pile mooring	Steel
	Less than 10tons	Pile mooring	Material other than steel is permitted

※ If structural safety and maintenance can be verified, other mooring methods and materials can be proposed.

5) Environmental planning

- Plans should actively reflect various factors to minimize GHG, such as energy saving plans and carbon emission reduction methods.
- In order to improve the cycle of resources, plans should reflect the principles of the 3Rs (Reduce waste, Reuse resources, and Recycle materials).
- The plan should comply with laws, regulations, and standards concerning the environment and energy performance of the Republic of Korea and the Seoul Metropolitan City.
- Consideration should be given to the relationship between the target site and the neighboring Bam-Island, so that an eco-friendly plan is developed.

6) Traffic planning

- In order to construct a Transit Oriented Development (TOD), the planning process should actively consider a linkage with public transportation around the site and the public parking lot.
- Circulation must be pedestrian-friendly, and include measures for the elderly and the disabled.
- The plan should include traffic circulation for services such as fire-fighting, first-aid, and vessel refueling in the case of an emergency.

- The plan should include traffic movement with respect to transfer circulation when amphibious buses are run in the future.

7) Design guidelines for space arrangement

The plan should be an integrated design that enables smooth and efficient linkages between the four core projects including Yeoui-Naru (Ferry Terminal).

- Damage to the existing topography and scenery of the Han River Park should be minimized to preserve the Han River's unique identity.
- Establish a layout plan accommodating the integrated design of the 4 core projects.

2.4 Estimated construction costs

- The estimated construction cost for this design contest is 27.5 billion won (including construction, civil engineering, and VAT).
- The allocation of the construction costs shall be considered within the feasible range considering the approximate cost of the division of the facilities listed below.
- Applicants are to submit a review of the approximate costs of construction in the design description.
- If the winning proposal exceeds the scope of the construction costs, the winner is obligated to change the design in consultation with the host.

[Yeoui-Naru Facilities]		
Yeoui-Naru (Ferry Terminal)	Upper structure (Building)	Building on the upper part of the pontoon Less than 2,100m ² of G.F.A Estimated construction cost: approximately 4 billion won (including VAT)
	Lower structure (Steel pontoon)	Facility for launching a marina Area approx. 2,400m ² Estimated construction cost: approximately 8.5 billion won (including VAT)
	Marina facilities (Floating pier)	Floating pier facilities etc. for berthing Area approximately 3,000m ² Estimated construction cost: approximately 10.5 billion won (including VAT)
	Other	Installation of a connecting bridge and other construction Estimated construction cost is approximately 4.5 billion won (including VAT)



3. Entry Guideline

3. Entry Guideline

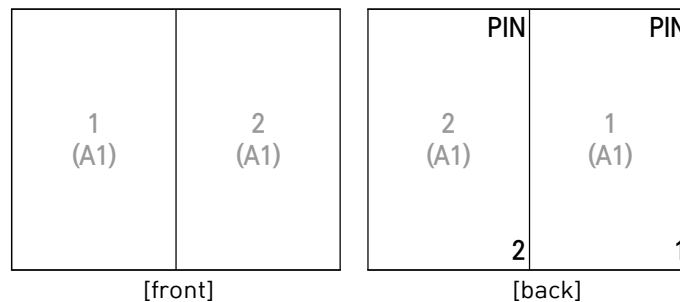
3.1 Submission

1) General Requirements

- All documents must be written in Korean, English or both; numbers in Arabic numerals; and the measuring in SI metric system.
- Scale and north arrow must be accurately indicated on each drawing.
- Three-dimensional expressions and colors can be used as in chart or diagrams.
- Submitted materials cannot be changed, modified or complimented.

2) Design Panels for Evaluation

- Submit two(2) drawing boards in A1 (width 594mm×length 841mm)
- The Design Panels must be in portrait orientation, so they can be exhibited side by side.
- Attach a 10mm-thick compressed foam board to each Design Panels without border for evaluation and exhibition.
- Mark PIN and Sheet Number on the back of the Design Panels following the instructions provided.
- Method of board arrangement is as below. (Two (2) A1 boards)



3) Design Description

- The Design Description should include the following items.
 - Cover (Form 3), Table of Contents
 - Three-dimensional Image (if necessary)
 - Architecture Summary, design description and facility area chart
 - Site plan, Plans, Elevations and Sections of main drawings
 - Plan and explanation of floating, and ship mooring facility
 - Relevant Regulations Review (Form 4)

- Construction Cost Estimation Review (Form 5)
- Discipline-specific focus of design, other focuses of design; Civil Engineering, Irrigation facility, traffic, landscape, sustainability plan
- Structural safety assurance method
- Design report must be written within 10, pages does not exceeding 12 pages, excluding the cover, table of contents and slip sheet, and print in A4(width 210mm×length297mm). Submit 15 copies of this.
- The cover must follow the provided format and contain the PIN.

4) USB flash drive

- Save the Design Panels for evaluation, Design Description, bird-eye view and perspective view in a USB flash drive and submit.
- Save the Design Panels in jpg format, Design Description in PDF (high quality print), and bird-eye view and perspective view in jpg.
- Set the resolution at the minimum of 300 dpi in order to maintain the original resolution.
- Contents of the files in the USB flash drive will be used for publication of the collections and booklets and must be identical to the original Design Panels and Design Description.
- Create a new folder, name it following as "PIN_name of the representative_english title of competition" format and put all files under it.

3.2 Entry Guide

1) Direct Submission

- (1) Location: 110, Sejong-daero, Jung-gu, Seoul, Republic of Korea
Public Development Center, Seoul Metropolitan Government 11F
- (2) Deadline: 17.05.2017(Wed) 10:00~17:00 (KST: GMT +9)
 - ※ If submitting by mail (including international mail), all mails and packages are valid if postmarked by 17.05.2017(Wed) and must be received by 22.05.2017(Mon) 18:00. All materials received after the deadline will not be accepted. The postmark must clearly indicate the date. Mark "No Commercial Value" to prevent unexpected delays and avoid unnecessary taxes.
- (3) List of Materials
 - ① Registration Form - Form 1
 - ② 2 copies of Design Panels for evaluation (A1, Portrait)
 - ③ 15 copies of Design Description (A4, Portrait) - Form 3, Form 4, Form 5
 - ④ Appointment of Representative (if group entry) (Form 6)

- ⑤ Joint Supply Standard Agreement (if group entry) (Form 7)
- ⑥ Oath (Form 8)
- ⑦ USB flash drive [Design panel(jpg), Design Specification (original file and a PDF version), aerial view and perspective view(jpg)]

(4) Note

- Check with the website before the submission if all requirements are met.
- Registration Form (Form 1) and other materials must be submitted to the reception desk. (For publication of the winning entries in the future, materials and Design Description must be submitted online as well.)
- Each entrant (individual or group) can only submit one design, either directly or by mail.
- When directly submitting, pack and seal the design panel, USB flash drive and the Registration Form separately, and mark the PIN at the upper right corner of each package.
- When submitting by mail, mark the PIN at the upper right corner of the design panel, USB flash drive and the Registration Form, pack and seal in one package and send it to the reception desk. The host is not responsible for any damage or loss occurred during packaging or delivery.
- Entrant can find on the website if submitted materials are safely received.

(5) Anonymity

During the competition period, anonymity must be maintained on all submitted materials. For this,

- Mark only PIN automatically generated at the time of registration or Panel Numbers on all submissions for anonymity.
- Do not put any symbol or code on all submitted materials that others may recognize who submitted that materials.

(6) PIN and Numbering of Panels

- Anonymity must be maintained on all submitted materials until the winner announcement. For this, entrants must mark PIN on all submitted materials. PIN is a combination of 2 alphabet letters and 5 numbers that is automatically issued to the entrant at completion of online registration and will be used during the entire competition period.
- Mark your PIN on the PIN section on the Registration Form (Form 1), at

the upper right corner of the back of each Design Panel, at the upper right corner of the back of the last page of the Design Description , on the USB flash drive and at the upper right corner of all packages.

- Mark your Panel Number at the lower right corner of the back of each design panel as shown below.
- Print in Arial/black/20pt. (Panel Number: 50pt.)/center alignment with line color: black, width: 1mm.

<PIN>

※ unit : mm (use the numbers in parentheses for Design Panels)

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2) Online Submission

- Submit materials on “Let’s Design Seoul” website(<http://project.seoul.go.kr>)
- Deadline: 15.05.2017(Mon)00:00 ~ 17.05.2017(Wed)18:00 (KST : GMT +9)
- To submit online, go to the website and login → My project → select the competition → fill out the form for materials to be submitted. Use the same information as used in the direct submission.

3.3 List of Forms

- Form 1. Registration Form
- Form 2. Power of Attorney, Verification of Employment
(if submitted by legal representative)
- Form 3. Design Description – Cover
- Form 4. Design Description Form – Relevant Regulations
and Criteria Review
- Form 5. Design Description Form – Construction Cost Estimation Review
- Form 6. Appointment of Representative

Form 7. Joint Supply Standard Agreement
(if entering in a group of 2 or more members)

Form 8. Oath

3.4 List of reference data

- data1. Architectural Drawing Set (dwg)
- data2. Current Site Photos

* The provided documents might be different from the real situation. Thus, the winner should adjust construction documents during Construction Document phase.

[Form 1]

Competition Registration Application

※ PIN				
※ Registration Number		(Leave as a blank)		
Repr esen tative	Name of Representative		Name of Company	(if necessary)
	Date of Birth		Telephone	
	E-mail			
	Address			

I hereby pledge to comply with all related laws and regulations and register for “Seoul Yeoui-Naru Ferry Terminal Design Competition”

2017 . . .

Applicant : (signature) (representative)

To the Mayor of Seoul Metropolitan Government

----- cut off line -----

Receipt for Registration

“Seoul Yeoui-naru Ferry terminal Design Competition”

※ Registration Number				Recipient
Name of Representative		Name of Company	(if necessary)	
Date of Birth		Telephone		
E-mail				
Address				

[Form 2]

Power of Attorney

Representative of Entrant	Name		Date of Birth	
	Address			
	Company name		Telephone	
Agent	Name		Date of Birth	
	Address			
	Company Name		Telephone	☎ : cell :

Hereby, the indicated person above shall be a representative of the entrant company and will be delegated all rights related to the "Seoul Yeoui-Naru Ferry Terminal Design Competition."

2017. . .

Applicant : (Seal)

To the Mayor of Seoul Metropolitan Government

Proof of Employment

Name		Social Security Number (Identification Number)	
Employer		Position	
Address			
Period of Employment			

Hereby, this document proves employment of the person indicated above.

2017. . .

Name of Company :

Address :

Representative : (Seal)

※Attach one (1) copy of personal identification card

※The signature used for the Power of Attorney must be identical to the stamp of the representative.

※The representative and/or the applicant are responsible for all issues incurred from proxy acceptance.

[Form 3]

**「Seoul Yeoui-naru Ferry terminal Design
Competition」**

Design Specification

2017. 05.

**Submit to: Seoul Metropolitan Government
(Public Development Center)**

[Form 4]

Relevant Regulations and Criteria Review

Classification	Relevant Regulations and Criteria	Adequacy
Basic River Plan and River Design Standard	<ul style="list-style-type: none"> - Compliance with design flood discharge and flood water level of the basic Han River Project (Paldang Dam~River mouth) (design flood discharge 37,000m³/s, flood water level EL14.86m) - Compliance with river design criteria when installing structures in the river (river facilities including bridges) - Obtain safety inspection on seepage erosion when installing floating facilities anchorings (stake, chain) 	
Port and Fishing Port Design Code	<ul style="list-style-type: none"> - Compliance with design conditions (design flow speed 3.2m/s, design wind speed when flooding 32.0m/s, design wave when flooding wave height 0.67m) - Compliance with floating facilities and marina criteria (Adequacy of river facilities (pontoon) size and structural safety) (Adequacy of marina facilities size and structural safety) 	
Korean Building Code (related to floating structures)	<ul style="list-style-type: none"> - Generals/Load/Material/Analysis/Design/Mooring, etc. Apply relevant features to entrant's design plan 	
Building Act Enforcement Decree (related to building directions of the stairs)	<ul style="list-style-type: none"> - The distance from each point of the dock hall to the nearest stairs should be under 50 m - Build at least two stairways directly to the outside of the dock 	
Building Act Enforcement Decree (related to partitions and fire-resistant structures)	<ul style="list-style-type: none"> - Compliance with Building Act Article 49 and its implementing ordinances Article 46 Fire Partitions - Apply fire-resistant materials to main structures regardless of total floor area size - Enforcement of this will not be relaxed even if the condition is satisfied (No exceptions permitted) 	
Building Act Enforcement Decree (related to installing building equipment)	<ul style="list-style-type: none"> - Compliance with relevant detail standard drawings for convenient facilities according to the Act on the Guarantee of Promotion of Convenience for Persons with Disabilities, Elderly People, Pregnant Woman, etc. - Compliance with footnote #2 of the Building Act Enforcement Decree when installing elevators and ramps for the disabled 	
Add If necessary	Add If necessary	
Add If necessary	Add If necessary	

- ※ 1. Apply Building Act, River Act, Harbor Act, Fishery Harbors Act, Act on the Guarantee of Promotion of Convenience for Persons with Disabilities, Elderly People, Pregnant Woman, etc., Port and Fishing Port Design Code, Korean Highway Bridge Design Code, Korean Building Code.
2. International standards or examples can be used if there are no domestic standards.
3. Items can be added depending on the entrant's design plan, but when adding pages, the maximum must be within two pages.

[Form 5]

Construction Costs Estimation Review

☐ Title of Construction: Yeoui-Naru Creation Construction

(Unit: thousand (KRW) including VAT)

Classification	Estimated Costs	Cost per m ²	Percentage (%)
Upper Structure (Building)			
Lower Structure (Steel pontoon)			
Marina Facilities (Floating pier)			
Others (necessary or suggested facilities)			
Total			

※ If other costs for unexpected construction and standards are necessary, please use the blank spaces of Form 5 to indicate this.

Appointment of Representative

☐ Title of Competition :

☐ Appointment of Representative :

① Company :

② Name : (Date of Birth :)

Hereby, the person indicated above is appointed as the representative with the agreement of the co-representative(s) and is delegated all rights related to the “Seoul Yeoui-Naru Ferry Terminal Design Competition.”

2017. . .

☐ Co-representative : (seal)

To the mayor of Seoul Metropolitan Government

※ This form is required only if there is any co-representative in the entrant company, and all co-representatives must submit this form individually.

Joint Supply Standard Agreement

Article 1 [Purpose]

This agreement is prescribed for the joint supply contract with the Joint Supplier(s) indicated below, who shall agree to share necessary finances, management, techniques, human resources and equipment to fulfill the contract.

1. Name of Contract:
2. Price of Contract
3. Name of host:

Article 2 [Joint Supplier]

Name, location and president of the Joint Supplier is as follows.

1. Name of Company:
2. Address:
3. Name of President:

Article 3 [Joint Supplier Members]

① Joint Supplier members are as follows

1. _____ (President: Address:)
2. _____ (President: Address:)

② Representative of the Joint Supplier(s) is _____

③ The representative of the Joint Supplier(s) represents the Joint Supplier(s) to the host and the third party, and has the right of management of assets and billing of the Joint Supplier(s).

Article 4 [Duration of Effect]

This agreement is effective with the signatures of the contracting parties until the completion of the contract. This agreement, however, remains effective if any duty and/or right remains with the host or a third party.

Article 5 [Duty]

Member(s) of the Joint Supplier(s) promises to utilize all necessary knowledge and techniques with diligence, dedication, and faith to fulfill the purpose stated in Article 1.

Article 6 [Responsibility]

Member(s) of the Joint Supplier(s) is responsible to fulfill the share of the duty on the contract to the host.

Article 7 [Subcontract]

Each member of the Joint Supplier may subcontract a part of their share with under their responsibilities.

Article 8 [Bank Account]

Referring to the 『Tender and Contract Execution Standard of Local Autonomous Entity』 chapter 3 “Joint Contract Management Code III-7,” the down payment and final payment will be paid to the bank account below.

1. Company (Representative of the Joint Supplier)

Bank:

Account Number:

Account Holder:

2. Company:

Bank:

Account Number:

Account Holder:

Article 9 [Share of Labor]

① Each member of the Joint Supplier is responsible for their share of labor as follows [Example]

A) ABC School: 00%

B) DEF Design: 00%

② Share of labor indicated in Term ① may be changed with occurrence of any of the following incidents. However, a member cannot impute one's entire share to another.

1. Contract price changed as a result of a change in the contents of the contract.

2. A member of the Joint Supplier is no longer able to fulfill the contract and further requests adjustment on their share with reasons, such as bankruptcy or dissolution.

Article 10 [Share of Expenses]

Member(s) of the Joint Supplier share a proportion of expenses necessary to fulfill the contract.

Article 11 [Mutual Responsibilities among the Members]

① If a member causes damage to the third party, in implementing its share of the contract, that member is to take the responsibility.

② If a member causes damage to another member, the members can discuss a settlement. If this is not possible, the members must follow the decision of the Operations Committee.

Article 12 [Limitation on Yielding Rights and Responsibilities]

Member(s) cannot yield their responsibilities and rights to a third party.

Article 13 [Withdrawal during the Contract]

①Member(s) of the Joint Supplier cannot withdraw until completion of the tender and the contract, unless any of the following occurs.

1. The host and all members agree

2. The member does not follow the contract without an appropriate reason, such as bankruptcy or dissolution, and further is excluded by the Joint Supplier with the agreement of the host.

② Other member(s) of the Joint Supplier obtain(s) consent from the host for a non-compliant to withdraw for failing to meet its obligations without legitimate reasons such as bankruptcy or dissolution.

③In case of Term 2, Article 11–Term 2 applies.

Article 14 [Defect Guarantee Responsibility]

Joint Suppliers are responsible for any defect, if found after dissolution.

Article 15 [Operation Committee]

① The Joint Supplier establishes an Operations Committee with the members and determines the rules and regulations to fulfill the contract.

②Any subject not indicated in this agreement may be determined by the Operations Committee.

A Joint Application Agreement shall be signed and as a proof, () copies shall be documented with each copy signed by participating members for recordkeeping.

2017. . .

Company Name

Representative

(seal)

Company Name

Representative

(seal)

Oath

Hereby, the applicant (or group) pledge, in registering for the “Seoul Yeoui-Naru Ferry Terminal Design Competition” to comply with all regulations and guidelines, submit documents and related evidential documents under the good faith principle, and should documents submitted be confirmed to have been completed by dishonest means or with a false entry, accept any disciplinary measures.

2017 . . .

Representative

(seal)

To the Mayor of Seoul Metropolitan City



4. Appendix

4. Appendix

4.1 The Han River Cooperation Plan Comprehensive Plan (Preceding research)

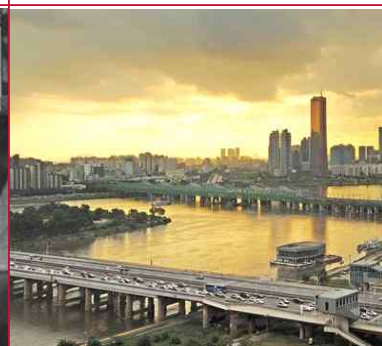
The Han River Cooperation Plan is one in which the government and City of Seoul collaborate to recover the nature of the Han River and to promote it as a tourism resource.

1) Background of the plan

- Seoul, as the capital city of South Korea, is the center of politics, economy, society, and culture. The Han River is located in the center of Seoul and functions as a symbolic space for citizens and contemporary history.
- The Han River is a natural and cultural heritage which occupies one fourth of the territory of South Korea. Its basin area is 26,018km² and basin population is 26,000,000.
- Situated in the center of the Korean peninsula, the Han River in the past served as the base of people's livelihood with traces of long history and culture. The river flowing through, Jeolla-do, Gyeongsang-do, and Chungcheong-do provides inland transportation of goods.

[Meaning of the Han River]

Natural and cultural heritage standing for our history and future	Symbolized space of modern and contemporary Korean history beyond Seoul	Citizens' everyday place and tourist attraction at the same time
<ul style="list-style-type: none"> •basin area: 26,018 km² •basin population: 26,000,000 •¼ of territory 	<ul style="list-style-type: none"> •Scarred by Korean War •The Han River miracle •Symbol of economic development (\$67 GDP in 1945 → \$28,000 in 2015) 	<ul style="list-style-type: none"> •Seoul landmark (The Han River (39.7%), The Namsan (35.7%) surveyed in 2012) •68,000,000 users annually •The Han River Total area 39.847km²(6.6% of Seoul)



- The current Han River, used by 68 million people annually, has become a familiar sauce and holds high value as a tourist attraction. Efforts are being made to promote tourism and services industry using the river to meet the rising demand as can be witnessed from 14 million foreign tourists, popular Korean Wave, and higher income of neighboring countries.
- However, the Han River lacks tourist attractions and convenient amenity for users and visitors. In order to overcome the shortage of cultural and convenient facilities, complex facilities should be built for users to obtain information and experience various entertainments so that it becomes an energetic space.

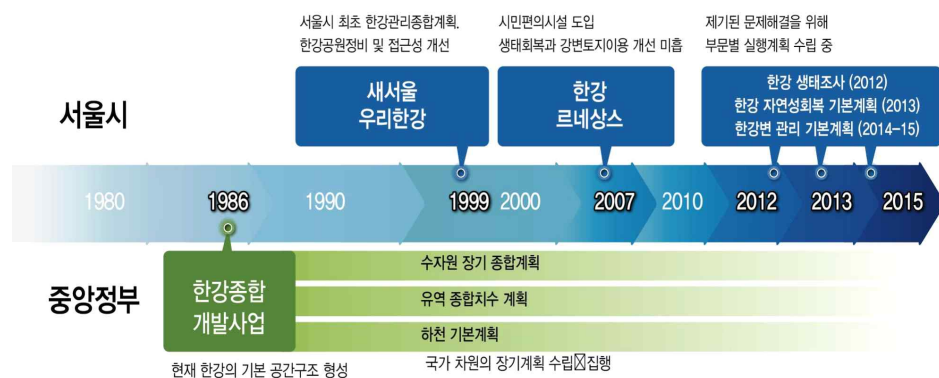
2) The Han River Management

(1) The central government

- The basic space of the current the Han River was formed through Han River Comprehensive Development Project in 1986.
- The “Water Resource Long-Term Comprehensive Plan,” “Comprehensive Basin Flood Control Plan,” and “River Basic Plan” are established and are being implemented as long-term national projects.

(2) City of Seoul

- New Seoul, Our Han River (1999)– First Han River Management Comprehensive Plan , The Han River Park Management and Accessibility Improvement
- The Han River Renaissance (2007)–Introduced citizens’ convenient facilities, ecosystem recovery, and riverside land use
- The Han River Ecological Research (2012)–The Han River Nature Basic Recovery Plan(2013), The Han Riverside Management Basic Plan (2015)



[Image 4-4] City of Seoul–The central government yearly Han River Development Project

3) Change of paradigm in the Han River(urban stream) Management

- The current paradigm of global urban stream management tries to solve the problems in an integrated manner by accommodating both economy as well as environmental needs; for example, flood control, water utilization, nature recovery, and multi-faceted waterside developments in the latter case.



[Image 4-5] Change of The Han River Management

4) The Han River Cooperation Plan to be Implemented

- Ecosystem improvement through cooperation between the central government and city of Seoul
- Long term and fundamental recovery of river-city connection
- Enhancement of waterside space

(1) 7 Zones Basic plan

Design specialized zones taking into consideration urban spatial structure, the city center system, a social activity area, the possibility of a connection between the Han River and urban space, and local resources.



[Image 4-6] The Han River 7 zones

- Zone 1 (Magok-Sangam): Ecology base eco-friendly waterside space, connection to the Magok area

- Zone 2 (Hapjeong–Dangsan): Korean Wave tourism, culture creation, connection between Dangin-ri and Hongdae
- Zone 3 (Yeoui–Ichon): Tourism/Nature based, water transportation base, connection between Noryangjin and Yongsan
- Zone 4 (Banpo–Hannam): Citizens' leisure space, symbolic green area axis, connection between city center and Seoul Arts Center
- Zone 5 (Apgujeong–Seongsu): Urban natural leisure space, water-friendly space, connection between the Apgujeong fashion district and commercial streets
- Zone 6 (Yeongdong–Jamsil–Ddukseom): Multiple cultures, water transportation base, international interchange of southeast area, connection to complex area
- Zone 7 (Pungnap–Amsa–Gwangjin): Ecology based, history/culture, Amsa/Pungnap, ecology/cultural resource connection

5) “Yeoui–Ichon Zone”–priority promotion zone

- Foster a base of mixed with ecology, culture, international finance
- Foster various cultural spaces and increase tourism resources through the improvement of accessibility



[Image 4-7] “Yeoui–Ichon Zone” Cooperation Plan

(1) Yeoui Zone Nature Recovery Project

- The entrance of the river, which has ecological potential, is promoted as a symbol of the nature recovery project.
- Main objectives of the project
 - improvement in natural shore protection
 - Encourage the widening of natural estuaries
 - Create an ecological forest that fits the characteristics of the river

-
- 모래톱 복원
- 갈대밭 등 식생습지 조성

[Image 4-8] Yeoui Zone Ecology Recovery Project

(2) Ichon Zone Nature Recovery Project

- Size : 97,100m²



[Image 4-9] Ichon Zone Ecology Recovery Project

- Overall objectives of the project
 - Shift bike lanes, create a natural river bank
 - Create a waterside swamp and a morass
 - Create a willow tree ecological forest
 - Obtain flooding control safety and create a waterside swamp in an area that has a high possibility of being a swamp

- Create a vegetation filter strip and a vegetation buffer
- Create a riverside paddy wetlands

(3) Yeoui Waterside Cultural Zone

- Yeoui Terrace-Plan Yunjung-ro walking deck and street amenities
- Pier-deck/ Ferry Terminal-Create infrastructures such as water transportation and cultural attractions for users of The Han River Park and ferry terminal
- Cultural facilities- Create cultural complexes, in which users can be informed about Korean culture through various channels, in preparation for an increasing number of tourists
- Public art space
 - Public art projects by employing elements to show characteristics of the Han River
 - Select themes by analyzing nature and site of the Yeoui-do Han River Park



[Image 4-10] Yeoui Waterside Cultural Zone

(4) Others

- Create a Han River forest
- Recover the natural shore in the Ichon Zone
- Improve impervious pavement
- Expand water transportation
- Park beltway transportation
- Pedestrian bridge connecting Yeoui-do to Noryangjin Fish Market

- Bam Island ecology observation deck
- Moving Stores – cultural-convenient amenities

4.2 “Yeoui Culture Naru” Basic Plan (4 core projects)

1) Site range

- Location: Yeoui-do Han River Park (around Subway Line 5 Yoeuinaru Station)
- Range Plan: about 250,000m² (between Mapo Bridge and Wonhyo Bridge)
- 4 core projects: Yeoui Terrace (G.F.A 8,500m²)



[Image 4-11] Surroundings of Yeoui Culture naru

These are the four core projects of the “Yeoui Culture Naru” to create Yeoui-Naru(Ferry Terminal), Yeouijeong (Pier deck), Yeouimaru (Yeoui Terrace), and Ari Cultural Center(Cultural Complex).

- Considering the spatial structure of Seoul and current projects, the “Yeoui-Ichon” zone was designated a priority site out of the 7 zones because it would benefit most from integrated and cooperative project execution.
- Four core projects in Yeoui-do on the Han River enjoying excellent cultural and space potentials are aimed to develop and specialize the site into a riverside cultural hub.
- The four objectives, obtaining irrigation safety, minimizing environmental effects, scenery consideration, and economic feasibility were complemented and developed.

2) Yeoui-Naru

- Yeoui-Naru, functioning as Ferry Terminal, is a hub of tourism and water transportation allowing people to experience and to use the Han River.

- It is a water transportation terminal where ferries, river buses, water taxis, and private vessels such as yachts and boats can be moored. It is large enough that a couple of ferries and about 20 private vessels can be moored.
- Five advertising boats, government vessels, and 14 management boats can be moored and it functions as a control tower and manages the government vessels.
- It creates a scenic tourist attraction on the waterfront commanding a fine view of the city and the nature.



[Image 4-12] Yeoui-Naru Plan

3) Yeouijeong

- Yeouijeong, functioning as a pier deck, is a waterside space from which to see and enjoy the Han River.
- Large restaurants and cafes with a river view and outdoor terraces allowing river experience will be created.
- It consists of stores selling specialized “Han River, Seoul” products, dinner cruise, and a resting area, providing space for unique experience.

4) Yeouimaru

- It functions as a waterside mall and contains restaurants, and tourism and culture shops.
- It consists of a cultural community, promotion shops, tourism sales, and F&B.
- A multi-modal hub will be created, providing easy access via public transportation such as subway.
- Solid ramps will provide connectivity to the subway system as well as among the four core projects.

5) Ari Cultural Center

- It functions as a cultural complex and consists of a permanent exhibition hall, a space that can be rented for exhibitions, and a children's science experience center.
- children's science experience center functions as a citizen's community center to create cultural art education as well as for various experience
- It created the Young Art Handcraft Workshop facility, as a new cultural complex connected with the Han River, architecture, and arts.

4.3 User population status of the site area

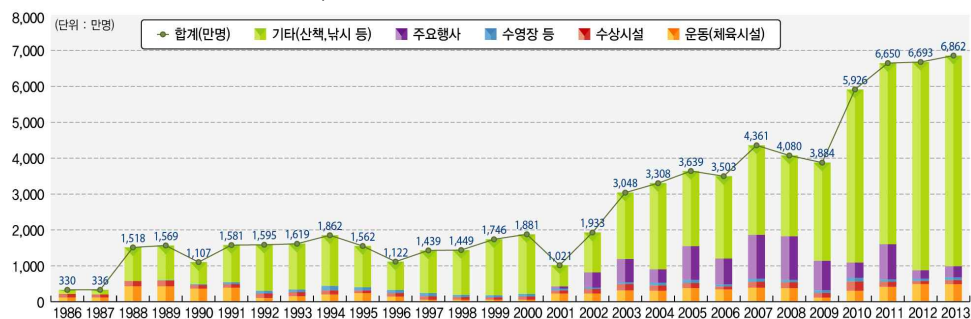
1) The Han River Park

- There were 6,862,000 users of The Han River Park in 2013, an increase of 1.8 times from (3,883,000) in 2009. On average, a user visits the park 6.6 times in a year.
- Yeoui-do Park is the most frequently used park out of 11 Hangang parks with 18.4 million users in 2015.
- The use rate is high in April, but there is not much seasonal difference and the number of users remains steady throughout the year.
- The number of the foreign tourists that visited the Han River were 706,000 in 2014. The number of tourists that visited Yeoui-do was 305,000 (43.2%) and its rate was the highest.
- The main modes of transportation used to approach the river side are bicycles (63.2%), walking (35.2%), and vehicles (1.6%).

[Change in the number of users of the Han River Parks]

(unit : ten thousand people/Year)							
Year	2009	2010	2011	2012	2013	2014	2015
Total	3,883	5,926	6,650	6,693	6,862	6,448	6,859

[Yearly Han River Users: based on activities]



Reference: Seoul Metropolitan Government Hangang Project Department

[Status of users of Yeoui Han River Park as of 2013]

General Usage	Sports facilities	Bicycles	Major events and Marathon	Specialized Parks	Others	Total
11,635,571	512,037	1,503,655	2,055,488	12,968,293	963,836	29,638,880 (43.2%*)

* Note : Users in the Han River Parks as of 2013,

*The percentage over the total number of users of the Han River

Reference : Seoul Metropolitan Government Hangang Project Department
(<http://hangang.seoul.go.kr>) (2014. 9.)

[Status of monthly users of the Yeoui-do Han River Park (average 2013~2015)]

Month	1	2	3	4	5	6	7	8	9	10	11	12	Total
Total	53	54	104	613	244	182	166	226	191	295	58	41	2,227
Percentage	2.4	2.4	4.7	27.5	11.0	8.2	7.5	10.1	8.6	13.2	2.6	1.8	100.0
	Winter (6.6%)		Spring (43.2%)			Summer (25.8%)			Fall (24.4%)			-	

[Status of domestic and foreign user of the Han River Parks]

Classification	2009	2010	2011	2012	2013	2014	2015	Total
Total	188,899	282,998	281,952	299,545	487,904	706,833	1,149,537	3,397,668
Percentage	5.6	8.3	8.3	8.8	14.4	20.8	33.8	100
Increasing rate	-	49.8	-0.37	6.24	62.8	44.8	62.6	-

[Status domestic and foreign user of each zone of the Han River Parks]

(unit : thousand people)

Classification	Gangseo	Nanji	Mangwon	Yanghwa	Yeoui-do	Ichon	Banpo	Jamwon	Dduksom	Jamsil	Gwangaru	Total
Users in 2014 (unit. ten thousand)	2,505	5,355	3,241	3,851	19,051	4,386	3,560	2,096	15,068	2,648	2,723	64,485
Domestic visitors (unit. ten thousand)	2,689	5,904	3,330	4,213	17,833	5,312	5,347	2,856	14,746	1,833	3,377	68,592 (Domestic: 67,442, Foreign: 1,150)
Foreign visitors (unit. ten thousand)	4	16	36	15	428	120	20	72	409	23	7	

Reference : The Han River visitors census (2015), Han River Project Department

[Foreign tourists and the Han River Activities Experience]

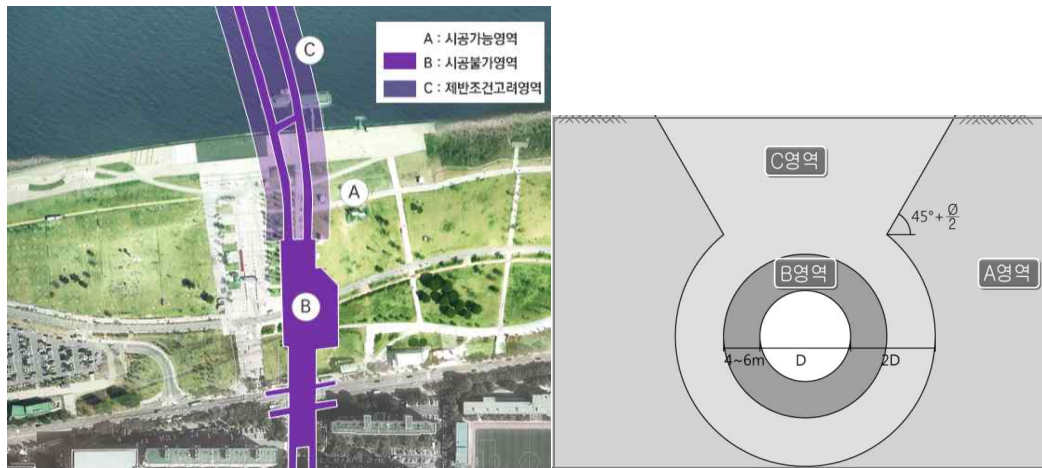


Reference: The Han River Comprehensive Project Visitors Survey, 2015, Korean Culture & Tourism Institute

4.4 Facilities status of the site area

1) Subway Line 5 (Underground excavation prevention zone)

- Based on the distance from the underground tunnel zone, the areas are divided into non-construction area, conditional construction area, and possible construction area.



〈Subway Line 5 underground tunnel section〉

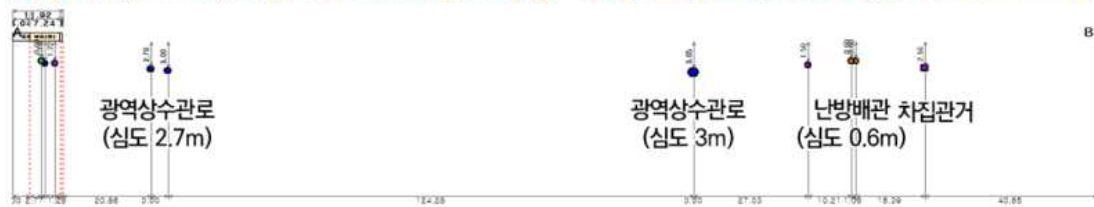
〈Safety zone applied from Seoul subway system〉

※D=around 8m

- A: Potential construction areas (Consider underground water level and explosion vibration)
 B: Non-construction area (Within 6m from the surface of tunnel)
 C: All circumstances condition consideration areas (Consider Load and ground conditions, etc.)

2) Status of Underground Utilities

- Water pipes for large urban area, district heating pipes, and intercepting sewer pass through the site longitudinally, and storm sewer and Subway Line 5 pass horizontally, creating a tunnel section.



Classification	size	Direction	Location	Note
Water pipes for large urban area	1,800mm ×2 rows	longitudinal	North side of the bank	Depth 2.7m Depth 3.0m
	2,600mm	longitudinal	Middle of the riverside	Depth 3.0m
District heating (Heating Piping)	710mm ×2 rows	longitudinal	Near river bank revetment	Depth 0.6m
Intercepting sewer	1.5×1.5m	longitudinal	Near river bank revetment	Depth 3.2m
	1.5×1.5m	horizontal	Northside of Subway Line 5	–
Storm sewer	4.0×3.0m	horizontal	Northside of Subway Line 5	–
Subway (Line 5)	–	horizontal	Between Seoul@, Samik Mokhwa@	–

3) Ground obstructions



[Image 4-18] Ground obstructions in the site

4.5 Other status and statistical data related to the Han River

1) General consideration of the Han River

- The Han River, flowing through the center of the Korean Peninsula, functions as the heart of the territory and an ecological center harmonious with the river and the mountains.
- The main institutions and facilities, which lead the Korean economy, are based on the Han riverside and many people, information and supplies go through this area.
- Seoul is the center of the Northeast Asian economies and a political, economic hub where 4 major powers of the region and the Pacific Rim, namely the US, China, Japan, and Russia, meet.
- Seoul is a global city, and the Han River, as a landmark or symbol of Seoul, is valuable.
- One of the first things foreigners see on their way to Seoul is the Han River, and it leaves a very strong first and last impression of the city.
- The Han River is related to the image of Seoul and quality of South Korea. The space quality of the Han River can contribute to enhancing the image of South Korea.

(1) The size of the Han River

- The flow extension: 494.44km
- The basin size: 25,953,6km² (about 23% of South Korean territory)
- Consists of 24 medium areas and 237 standard basins. The main stream is connected to 698 streams
- Relevant local government: 6 cities and provinces, 80 counties and cities (basin population: about 26,000,000)
- The Han River size in the city of Seoul
 - Stream extension in the city of Seoul: 41.5km
 - The length of the waterside: 78.7km
(Gangbuk: 32.8km, Gangnam: 45.9km)
 - The size of the stream area: total 39.847km²
(about 6.6% of administrative districts of Seoul)
 - The water zone: 30.892km²
 - The Han River Park riverside size: 8.955km²
(Gangbuk:2.939km², Gangnam:6.016km²)

(2) Hydrological Characteristics of the Han River

- The width of the Han River in Seoul ranges from 600m to 1,200m, which is very wide for an urban stream.¹⁾
- It has a high coefficient of river regime.
 - The coefficient of river regime is high in Korea because there is a lot of granite soil and heavy rains in the summer increase river discharge significantly.
 - 80~90% of Han River floods are concentrated during August and September, and major floods occur on average once every 4 years.
 - The coefficient of the Han River regime is very high at 393, and this requires high banks and wide riverbanks, minimizing accessibility to the river.

2) Current situation analysis

(1) Climate

- The climate of the Han riverside in the middle of South Korea is a high temperature and humid in the summer because of a southeast wind. In winter, it typically has a cold and dry continental climate because of the northwest monsoon.

1) Based on the width of low-water channel, the areas around Hannam Bridge, Seongsu Bridge, and Gwangjin Bridge are about 650m, and Banpo Bridge and Hanggang Bridge are 750m, and Jamsil Bridge, and Dongjak Bridge are about 900m, Mapo Bridge, and Wonhyo Bridge are about 1,200m. The width of the river including the riversides is about 700m (Yeongdong Bridge)~1,500m(around Wonhyo Bridge and Banghwa Bridge).

- The average temperature of Seoul for the 30 years from 1981 to 2010 was recorded as an annual average of 12.5 °C. The highest temperature was 38.4 °C (1994.7), the lowest temperature was -23.1 °C (1927.12).
- The annual average rainfall of Seoul is 1,450.5mm, which is higher than the national average of 1,349.6mm.
- The average rainfall in summer (June, July, August) is 892.1mm, which is about 61% of the annual rainfall, and the total rainfall in winter (December, January, February) is 67.3mm, which is about 5% of the annual rainfall. This shows a big rainfall difference between seasons.

[The Han River water system main climate reference (average for 30 years, 1981~2010)]

Classification	Temperature(°C)			Rainfall/Evaporation(mm)			Wind speed(m/s)		Humidity (%)
	Average	Max.	Min.	Rainfall	Daily max. rainfall	Evaporation	Average	Max.	Average
Seoul	12.5	38.4	-23.1	1,450.5	354.7	1,093.7	2.3	25.0	64.4
Incheon	12.1	38.9	-21.0	1,234.4	347.5	1,118.8	2.9	35.0	68.6
Gimpo (2014)	12.5	35.5	-12.8	809.0	63.0	-	5.1	32.0	60.0
Yangpyeong	11.5	37.6	-32.6	1,438.2	346.0	-	1.2	14.7	70.5
Chuncheon	11.1	36.8	-27.9	1,347.3	308.5	1,022.2	1.3	22.8	71.0

- The average water level of Hangang Bridge, as a main observation point of the Han River downstream, is 1.5m (3.57(EL.m)), the maximum rate of flow is 10,656.73m³/s, the minimum rate of flow is 121.54m³/s.

[The Han River water system main water level/ flux reference as of 2013]

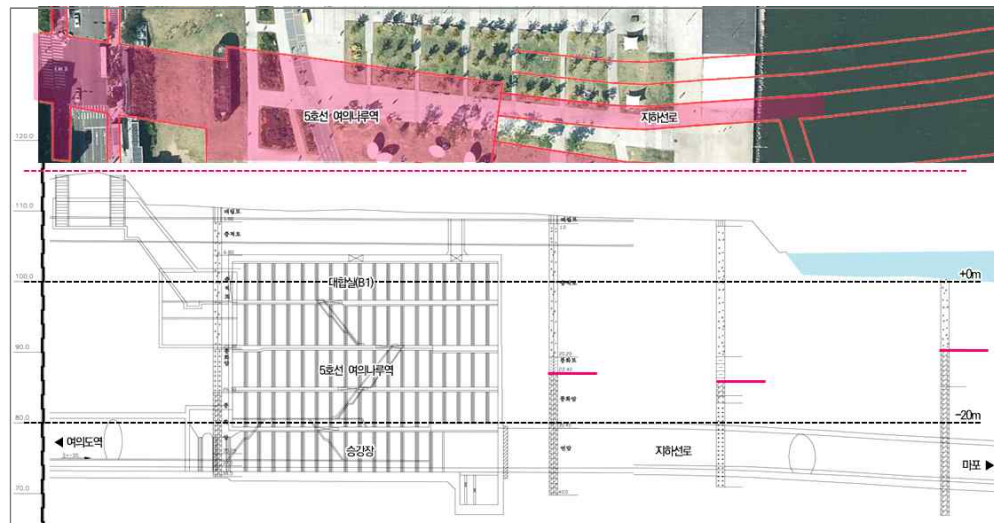
Classification	Gauge datum (EL.m)	Water level(m)			Flux(m³/s)			Regime coefficient (Calculation value)
		Lowest	Average	Highest	Maximum	Minimum	Annual average	
Haengju Bridge	0.803	1.68	2.53	5.79	-	-	-	-
Hangang Bridge	2.07	0.50	1.50	6.40	10,656.73	121.54	657.34	87.7
Yeongdong Bridge	1.747	0.96	2.09	8.48	-	-	-	-
Paldang Bridge	5.571	1.02	1.42	7.72	10,274.65	136.47	606.08	75.3

- Climate and Wave conditions
 - The annual average of wind and wind speed: 2.3m/sec, the maximum of wind and wind speed: 17.7m/sec
 - Wave height design of a wind wave, 3,000 cms is 0.31m, for 37,000 cms is 0.67m and the wave height design of a ship wave is 0.76m.

Classification	Wind and wind speed (m/sec)	Note	Classification	Wave height design(m)	Cycle(sec)	Note
Average	2.3	Seoul weather station (1978 ~2007)	Wind Wave	3,000cms	0.31	When calculating disturbance on usual day
Max.	17.7			37,000cms	0.67	
			Ship wave	0.76	2.57	

(2) Geological features

- Overall geological features of the Han River area are complicated and consist of 80% of igneous rocks and metamorphic rocks over several ages and 20% of sedimentary rocks and alluvium.
- The Han River basin in Seoul consists of mainly of gneiss. Conglomerate, sandstone, and shale are found in Gimpo which is an area of downstream.
- The weathered rocks are found at depths of -10m~-15m around target sites underground.



[Image 4-19] Ground obstructions in the site

(3) Stream Channel

- With respect to the characteristics of the main stream channels, river width (1,286m) and width of the low-water channel(1,052m) of the area between Mapo Bridge and Wonhyo Bridge are wide. The maximum water level based on the bank is determined to be within 18m~23m.
- The average river depth calculated from the average river bed height and average water level is approximately 5m~8m.

[Characteristics of river channels based on main sections as of 2000]

(unit:m)

Number	Location	River width	Width of low-water channel	Maximum of water depth *	Average of water depth **	Maximum of river bed height (EL.m)	Average of river bed height *** (Average of river bed height 2) (EL.m)	Representative diameter	Design flood stage (EL.m)	Levee height (Left/ Right shores) (EL.m)
1	Singok Weir	1,496	898	21.45	5.75	-9.80	0.33(-2.42)	0.017	10.95	12.86/12.88
2	Upper part of the Seongsan Bridge	1,082	907	17.95	5.69	-4.09	-0.08(-2.36)	0.050	13.62	13.8/15.1
3	Between Mapo Bridge and Wonhyo Bridge	1,286	1,052	22.08	5.36	-7.26	0.77(-1.79)	0.150	14.86	15.97/17.46
4	Between Hangang Railway and Hangang Bridge	1,039	763	23.24	7.83	-8.17	-0.02(-4.26)	0.280	15.33	18.0/18.5
5	Hannam Bridge	891	683	22.62	6.38	-6.45	1.63(-2.55)	0.660	16.57	19.4/18.1
6	Seongsu Bridge	967	646	20.38	5.73	-3.66	3.16(-1.89)	0.290	17.16	19.92/19.0
7	Jamsil Railway	1,129	1,019	20.94	4.41	-2.77	1.11(-0.57)	0.061	18.53	20.4/22.4

Notes * : Maximum water depth refers to the maximum depth which accommodates from the maximum river bed height (altitude of the riverbed where the river is the deepest) up to the design flood level.

** : Average water depth is the value calculated by subtracting average river bed height(2) from the gauge datum and average water depth at each measuring point. (ex. Hangang Bridge: (EL+)-2.07m+1.50m)

*** : An average of river bed height can be calculated higher because it contains islands and riversides, so the average of river bed height (2) is calculated based on (-) river bed height excluding islands and riversides of each measuring point.

Reference: Refer to Seoul Regional Construction and Management Administration, 2002, the Han River Maintenance Basic Plan (Supplementation) (Paldang Dam~downstream)